



# Oregon

Theodore R. Kubongoski, Governor

Department of Land Conservation and Development

635 Capitol Street, Suite 150

Salem, OR 97301-2540

(503) 373-0050

Fax (503) 378-5518

www.lcd.state.or.us



## NOTICE OF ADOPTED AMENDMENT

4/22/2010

TO: Subscribers to Notice of Adopted Plan  
or Land Use Regulation Amendments

FROM: Plan Amendment Program Specialist

SUBJECT: City of Madras Plan Amendment  
DLCD File Number 002-09

The Department of Land Conservation and Development (DLCD) received the attached notice of adoption. Due to the size of amended material submitted, a complete copy has not been attached. A Copy of the adopted plan amendment is available for review at the DLCD office in Salem and the local government office.

Appeal Procedures\*

DLCD ACKNOWLEDGMENT or DEADLINE TO APPEAL: Wednesday, May 05, 2010

This amendment was submitted to DLCD for review prior to adoption pursuant to ORS 197.830(2)(b) only persons who participated in the local government proceedings leading to adoption of the amendment are eligible to appeal this decision to the Land Use Board of Appeals (LUBA).

If you wish to appeal, you must file a notice of intent to appeal with the Land Use Board of Appeals (LUBA) no later than 21 days from the date the decision was mailed to you by the local government. If you have questions, check with the local government to determine the appeal deadline. Copies of the notice of intent to appeal must be served upon the local government and others who received written notice of the final decision from the local government. The notice of intent to appeal must be served and filed in the form and manner prescribed by LUBA, (OAR Chapter 661, Division 10). Please call LUBA at 503-373-1265, if you have questions about appeal procedures.

**\*NOTE:** The Acknowledgment or Appeal Deadline is based upon the date the decision was mailed by local government. A decision may have been mailed to you on a different date than it was mailed to DLCD. As a result, your appeal deadline may be earlier than the above date specified. NO LUBA Notification to the jurisdiction of an appeal by the deadline, this Plan Amendment is acknowledged.

Cc: Nick Snead, City of Madras  
Gloria Gardiner, DLCD Urban Planning Specialist  
Mark Radabaugh, DLCD Regional Representative  
Bill Holstrom, DLCD  
Angela Lazarean, DLCD Urban Planner  
Jon Jinings, DLCD Regional Representative  
Constance, Beaumont, DLCD  
Jon Skidmore, Jefferson County

<paa> Y





FORM **2**

**DLCD**

# Notice of Adoption

In person  electronic  mailed

**DEPT OF**

**APR 15 2010**

**LAND CONSERVATION  
AND DEVELOPMENT**  
For Office Use Only

This Form 2 must be mailed to DLCD within **5-Working Days after the Final Ordinance is signed** by the public Official Designated by the jurisdiction and all other requirements of ORS 197.615 and OAR 660-018-000

Jurisdiction: **Jefferson County / Madras**

Local file number: **10-PA-01**

Date of Adoption: **4-14-10**

Date Mailed: **3-14-10**

Was a Notice of Proposed Amendment (Form 1) mailed to DLCD?  Yes  No Date: 12-14-09

Comprehensive Plan Text Amendment

Comprehensive Plan Map Amendment

Land Use Regulation Amendment

Zoning Map Amendment

New Land Use Regulation

Other:

Summarize the adopted amendment. Do not use technical terms. Do not write "See Attached".

An amendment to the City of Madras & Jefferson County Comprehensive Plans and Zoning maps to expand the Madras UGB by approx. 36.91 acres for residential, public and semi-public purposes. Madras has also added a zoning compatibility table (Table 3-1) that lists Madras Comprehensive Land Use Plan Designations and corresponding City and County zones that are deemed compatible. The table is needed because the Madras Comprehensive Land Use Plan map, which applies to incorporated and unincorporated properties, and the city's zoning map are one in the same.

Does the Adoption differ from proposal? Yes

Slightly, in that when the original notice was sent to DLCD (12-14-09) the City proposed to justify the UGB expansion based on the Jefferson County School Facility Plan (SFP). It was the opinion of the local DLCD Field Representative that the SFP didn't fully comply with ORS 195.110. As such, the City choose to change the manner in which the 36.91 acre UGB expansion would be justified from the SFP need to the identified 20-year residential land need identified in the acknowledged Madras Urban Reserve Area Report.

Plan Map Changed from: **Only UGB expanded**

to: **Only UGB expanded**

Zone Map Changed from: **Only UGB expanded**

to: **Only UGB expanded**

Location: **East of existing Madras UGB, south of Ashwood Rd. See Findings Pg. 6** Acres Involved: **~ 36.91**

Specify Density: Previous: **N/A**

New: **N/A**

Applicable statewide planning goals:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>
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Was an Exception Adopted?  YES  NO

Did DLCD receive a Notice of Proposed Amendment...

45-days prior to first evidentiary hearing?

Yes  No

If no, do the statewide planning goals apply?

Yes  No

If no, did Emergency Circumstances require immediate adoption?

Yes  No

**DLCD file No.** \_\_\_\_\_

Please list all affected State or Federal Agencies, Local Governments or Special Districts:

Jefferson County & Oregon Department of Transportation

Local Contact: **Jon Skidmore**

Phone: (541) 475-4462 Extension:

Address: **85 SE "D" St.**

Fax Number: **541-325-5004**

City: **Madras**

Zip: **97741**

E-mail Address:

**Jon.Skidmore@co.jefferson.or.us**

## ADOPTION SUBMITTAL REQUIREMENTS

**This Form 2 must be received by DLCD no later than 5 days after the ordinance has been signed by the public official designated by the jurisdiction to sign the approved ordinance(s) per ORS 197.615 and OAR Chapter 660, Division 18**

1. This Form 2 must be submitted by local jurisdictions only (not by applicant).
2. When submitting, please print this **Form 2** on light green paper if available.
3. Send this Form 2 and One (1) Complete Paper Copy and One (1) Electronic Digital CD (documents and maps) of the Adopted Amendment to the address in number 6:
4. **Electronic Submittals: Form 2 – Notice of Adoption will not be accepted via email or any electronic or digital format at this time.**
5. The Adopted Materials must include the final decision signed by the official designated by the jurisdiction. The Final Decision must include approved signed ordinance(s), finding(s), exhibit(s), and any map(s).
6. **DLCD Notice of Adoption must be submitted in One (1) Complete Paper Copy and One (1) Electronic Digital CD via United States Postal Service, Common Carrier or Hand Carried to the DLCD Salem Office and stamped with the incoming date stamp.** (for submittal instructions, also see # 5)] **MAIL the PAPER COPY and CD of the Adopted Amendment to:**

**ATTENTION: PLAN AMENDMENT SPECIALIST  
DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT  
635 CAPITOL STREET NE, SUITE 150  
SALEM, OREGON 97301-2540**

7. Submittal of this Notice of Adoption must include the signed ordinance(s), finding(s), exhibit(s) and any other supplementary information (see ORS 197.615 ).

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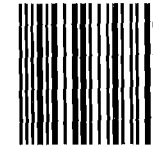
APR 15 2010

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**CITY OF MADRAS**

71 S.E. D Street  
Madras, OR 97741-1605  
(541) 475-2344

To:

ATTENTION: PLAN AMENDMENT SPEC  
DEPARTMENT OF LAND CONSERVATION  
AND DEVELOPMENT  
635 CAPITOL STREET NE, SUITE 150  
SALEM, OREGON 97301-2540

Label 107R, January 2008

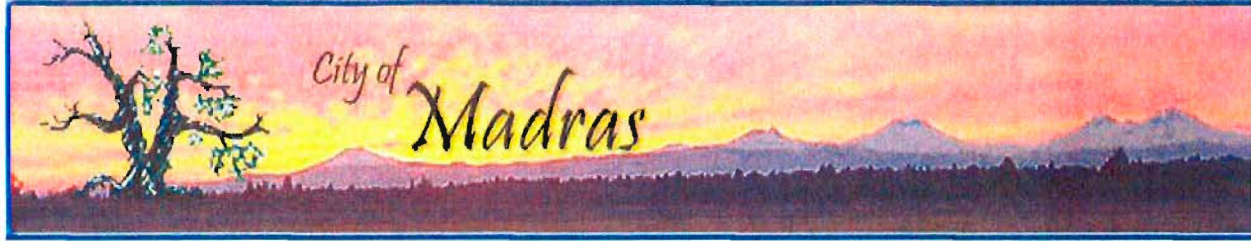
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Community Development Department  
71 S.E. D Street, Madras, OR, 97741  
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DEPT OF

APR 15 2010

LAND CONSERVATION  
AND DEVELOPMENT

15 2010

LAND CONSERVATION  
AND DEVELOPMENT

April 14, 2010

Plan Amendment Specialist  
Department of Land Conservation and Development  
635 CAPITOL Street NE, Suite 150  
Salem, OR, 97301-2540

Re: City of Madras Notice of Adoption of Comprehensive Plan Amendment to expand the City of Madras UBG by approximately 36.91 acres.

Enclosed is the Notice of Adoption of the Comprehensive Plan amendments to the Jefferson County Comprehensive Plan map, the City of Madras and Jefferson County Zoning Maps, and text amendment to the City of Madras Comprehensive Plan.

On April 13, 2010 the Madras City Council adopted Ordinance 832 amending the Madras Comprehensive Plan and Zoning map. Later on April 14, 2010 the Jefferson County Board of Commissioners adopted Final Order #0-039-10 which amended the Jefferson County Comprehensive Plan map and Zoning map. Per ORS 197.615 this Notice of Adoption is being sent to DLCD as required.

If you should have any questions please contact me at 54-323-2916.

Respectfully,

Nicholas Snead  
Community Development Director

Cc: Jefferson County Community Development Director, Jefferson County Administrator, Jefferson County Legal Counsel, City of Madras Administrator, City of Madras Attorney.

Enclosure: Notice of Adoption (JC File #01PA-10)

DLCD  
Notice of Adoption

DLCD File # Madras-002-09

City of Madras  
Adopting Ordinance



**ORDINANCE NO. 823**

**AN ORDINANCE ADOPTING FINDINGS FOR AN URBAN GROWTH BOUNDARY EXPANSION OF APPROXIMATELY 36.91 ACRES [JC FILE #10-PA-01], AMENDING THE CITY COMPREHENSIVE PLAN AND PLAN MAP, AND DECLARING AN EMERGENCY.**

**WHEREAS**, the Madras Urban Reserve Area (URA) was approved in July 2009 by the Oregon Department of Land Conservation and Development; and

**WHEREAS**, land in the Urban Reserve Area is first priority land for inclusion in the Urban Growth Boundary pursuant to ORS 197.298; and

**WHEREAS**, the Madras Urbanization Study (April 2007) and the Madras Urbanization Study Addendum (August 2007) identified the need for residentially zoned land for housing and public/semi-public uses outside the existing UGB; and

**WHEREAS**, the City of Madras has initiated the Urban Growth Boundary amendment process to try to meet this need; and

**WHEREAS**, in order to facilitate the transition of rural zoning to urban zoning in the urban growth area, text amendments are proposed for Section IV (Land Use Element) of the Madras Comprehensive Plan that identify county zones allowed on land that is designated for future urban use on the Comprehensive Plan Map; and

**WHEREAS**, it is also being proposed that the Madras Comprehensive Plan be amended to include a table that presents the City zones and County zones that correspond, and are allowed under City Comprehensive Plan designations; and

**WHEREAS**, the City of Madras Comprehensive Plan and Zone Map are being amended to expand the Madras Urban Growth Boundary (UGB) to include 36.91 acres from the Madras Urban Reserve Area (URA); and

**WHEREAS**, a joint public hearing of the City of Madras Planning Commission and Jefferson County Planning Commission was held on February 11, 2010 to consider findings, and accept any written and oral testimony from the public on the proposed 36.91 acre Urban Growth Boundary Expansion; and

**WHEREAS**, after considering the Findings of Fact, and written and oral testimony from the public, both the City Planning Commission and Jefferson County Planning Commission took formal action to recommend to the City Council and Jefferson County Board of Commissioners that the proposed Urban Growth Boundary Expansion be approved; and

**WHEREAS**, the City Planning Commission's recommendation to approve the Urban Growth Boundary Expansion was forwarded to the Madras City Council during a joint public hearing with the Jefferson County Board of Directors on March 29, 2010; and

**WHEREAS**, after considering the Findings of Fact, and all written and oral testimony from the public, the Madras City Council took formal action to approve the Urban Growth Boundary Expansion [JC File #10-PA-01], and forward a recommendation to the Jefferson County Board of Commissioners that the Commissioners approve the Urban Growth Boundary Expansion as proposed.

**NOW, THEREFORE**, the City of Madras ordains as follows:

**SECTION 1: FINDINGS FOR URBAN GROWTH BOUNDARY EXPANSION**

The "Findings of Fact" and its attachments, as submitted to the City Planning Commission and Madras City Council for consideration, are hereby adopted as Exhibit "A" and made a part of this ordinance.

**SECTION 2: AMENDMENTS TO THE CITY COMPREHENSIVE PLAN AND PLAN MAP**

The proposed text amendments to Section IV (Land Use Element) of the Madras Comprehensive Plan that identifies county zones allowed on land that is designated for future urban use on the Comprehensive Plan Map shall hereby be adopted.

The Madras Comprehensive Plan shall be amended to add a table that presents the City zones and County zones that correspond and are allowed under City comprehensive plan designations.

The City Comprehensive Plan and Zone Map shall be amended to reflect the expansion of the Madras Urban Growth Boundary to include 36.91 acres from the Madras Urban Reserve Area (Attached Exhibit "B").

**SECTION 3: SEVERABILITY CLAUSE**

A determination of invalidity or unconstitutionality by a court of competent jurisdiction of any clause, sentence, paragraph, section or part, of this Ordinance shall not affect the validity of the remaining parts of this Ordinance.

**SECTION 4: CORRECTIONS**

This Ordinance may be corrected by order of the City Council to cure editorial and clerical errors.

**SECTION 5: SAVINGS CLAUSE**

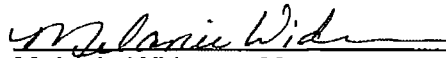
A prosecution which is pending on the effective date of this Ordinance and which arose from a violation of an ordinance repealed by this Ordinance, or a prosecution which is started within one year after the effective date of this Ordinance arising from a violation of an ordinance repealed by this Ordinance, shall be tried and determined exactly as if the ordinance had not been repealed.

**SECTION 6: EMERGENCY CLAUSE**

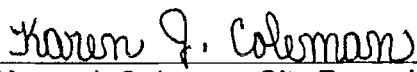
The City Council of the City of Madras, having reviewed the Comprehensive Plan of the City of Madras, and the need for enactment of ordinances to regulate land use within the City does hereby determine that this ordinance is necessary for the immediate preservation of the public peace, health, and safety of the citizens of the City of Madras and an emergency is hereby declared to exist, and this Ordinance shall become in full force and effect from and after the date it is enacted and signed by the Mayor.

**ADOPTED** by the City Council of the City of Madras and signed by the Mayor  
this 13<sup>th</sup> day of April, 2010.

Ayes: 3  
Nays: 1  
Abstentions: 0  
Absent: 2  
Vacancies: 0

  
Melanie Widmer, Mayor

ATTEST:

  
Karen J. Coleman, City Recorder



BEFORE THE BOARD OF COUNTY COMMISSIONERS OF THE STATE OF OREGON  
FOR THE COUNTY OF JEFFERSON

AN ORDINANCE AMENDING THE JEFFERSON )  
COUNTY COMPREHENSIVE PLAN MAP TO )  
EXPAND THE MADRAS URBAN GROWTH )  
BOUNDARY BY APPROXIMATELY 37 ACRES )  
AND DECLARING AN EMERGENCY (10-PA-01) )

**0-039-10**

Ordinance No. \_\_\_\_\_

**WHEREAS**, Jefferson County worked with the City of Madras and other stakeholders to establish a 50-year Urban Reserve Area surrounding the City of Madras; and

**WHEREAS**, the Madras Urban Reserve Area (URA) was acknowledged in February 2010 by the Oregon Department of Land Conservation and Development; and

**WHEREAS**, land in the Urban Reserve Area is first priority land for inclusion in the Urban Growth Boundary (UGB) pursuant to ORS 197.298 and the land proposed for UGB expansion is within the URA; and

**WHEREAS**, the Madras Urbanization Study (April 2007) and the Madras Urbanization Study Addendum (August 2007) identified the need for residentially zoned land for housing and public/semi-public uses outside the existing UGB; and

**WHEREAS**, a joint public hearing of the City of Madras Planning Commission and Jefferson County Planning Commission was held on February 11, 2010 to consider findings and accept any written and oral testimony from the public on the proposed approximate 37 acre Urban Growth Boundary Expansion; and

**WHEREAS**, after considering the Findings of Fact, and written and oral testimony from the public, both the Jefferson County Planning Commission and the City of Madras Planning Commission took formal action to recommend to the Jefferson County Board of Commissioners and the Madras City Council that the proposed UGB expansion be approved; and

**WHEREAS**, the County Planning Commission's recommendation to approve the Urban Growth Boundary Expansion was forwarded to the Board of County Commissioners during a joint public hearing with the Madras City Council on March 29, 2010; and

**WHEREAS**, after considering the Findings of Fact, and all written and oral testimony from the public, the Jefferson County Board of Commissioners voted 2 – 0 to approve the proposed Comprehensive Plan Map amendment and City of Madras Urban Growth Boundary expansion.

**NOW, THEREFORE**, the Jefferson County Board of Commissioners hereby ORDAINS as follows:

**1. Adoption of Findings**

The Findings of Fact and Conclusions in the attached Findings Document and Staff Report are hereby adopted and incorporated herein by reference as the basis for the decisions to adopt the amendments to the Jefferson County Comprehensive Plan Map.

**2. Amendment to the Jefferson County Comprehensive Plan Map**

The amendment to the Jefferson County Comprehensive Plan Map contained in the attached Exhibit A is hereby adopted and by this reference incorporated herein as if fully set forth.

**3. Severability**


The provisions of this ordinance are severable. If any section, subsection, sentence, clause or phrase of this ordinance or any exhibit thereto is, for any reason, held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance or exhibits thereto.

**4. Effective Date**

These amendments being necessary for immediate implementation, an emergency is declared to exist, and the specified amendments shall therefore take place and be effective on April 14, 2010.

DATED this 14<sup>th</sup> day of April, 2010.

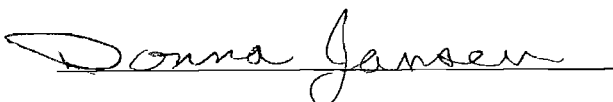
BOARD OF COMMISSIONERS:

  
 \_\_\_\_\_  
 Wayne Fording, Commission Chair

  
 \_\_\_\_\_  
 Mike Ahern, Commissioner

  
 \_\_\_\_\_  
 John Hatfield, Commissioner

Attest:

  
 \_\_\_\_\_

# City of Madras Comprehensive Plan Amendment

## Proposed Amendments to Madras Comprehensive Plan, Madras and Jefferson County Comprehensive Plan Maps, and Madras Zoning Map

### FINDINGS

City of Madras Planning Commission  
Jefferson County Planning Commission

Prepared for:

Jefferson County  
66 S.E. "D" Street  
Madras, OR 97741



City of Madras  
71 S.E. "D" Street  
Madras, OR 97741



Prepared by:



Angelo Planning Group  
921 SW Washington, Suite 468  
Portland, Oregon 97205

February 2010



### **City of Madras Planning Commission**

Shelly	Tack	Chair
Lynn	Kowaleski	Vice-Chair
Alan	Hurley	Commissioner
Kasey	Cousens	Commissioner
Richard	Ladeby	Commissioner
Joe	Krenowicz	Commissioner

### **City of Madras City Council**

Melanie	Widmer	Mayor
Tom	Brown	Councilor
Walt	Chamberlain	Councilor
Royce	Embanks Jr.	Councilor
Benjamin	Keeton	Councilor
Bob	McConnell	Councilor
Kevin	O'Meara	Councilor

### **Jefferson County Planning Commission**

Don	Martin	Chair
Evan	Thomas	Vice Chair
Dick	Dodson	Commissioner
Bob	Powers	Commissioner
Roy	Hyder	Commissioner
Kay	Moon	Commissioner
Jim	Martin	Commissioner

### **Jefferson County Board of Commissioners**

John	Hatfield	Commission Chair
Mike	Ahern	Commissioner
Wayne	Fording	Commissioner

### **Project Support and Consulting Team**

Angelo Planning Group	Land use planning, project management
Kittelson Associates	Transportation analysis
Jefferson County	Planning
City of Madras	Planning, technical support
Jefferson County School District 509-J	Planning, technical support

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- Appendix B: East Site Legal Description and Survey Map (20-acre parcel)
- Appendix C: Urban Reserve Area Management Agreement (URAMA) (January 2009)
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- Appendix E: Property Owner Consent Letters
- Appendix F: Transportation Planning Rule Analysis (Kittelsohn & Associates, January 2010)
- Appendix G: ODOT Letter Regarding Reasonably Likely Determination for US 97/J Street Improvements
- Appendix H: Urban Growth Area Management Agreement (UGAMA) (April 2006)

## I. Proposal Summary

<b>File No.:</b>	081-004
<b>Legislative Sponsor:</b>	Nick Snead, Community Development Director City of Madras 71 SE D Street Madras, OR 97741 (541) 475-3388 (541) 475-7061 Fax <a href="mailto:nsnead@ci.madras.or.us">nsnead@ci.madras.or.us</a>
<b>Planning Consultant:</b>	DJ Heffernan Angelo Planning Group 921 SW Washington, Suite 468 Portland, Oregon 97205 (503) 227-3664 (503) 227-3679 Fax <a href="mailto:dheffernan@angeloplanning.com">dheffernan@angeloplanning.com</a>
<b>Proposal:</b>	<ul style="list-style-type: none"> <li>• <b>To amend the Madras Comprehensive Plan</b> – to add a table that presents the City zones and County zones that correspond and are allowed under City comprehensive plan designations. (Table 3-1)</li> <li>• <b>To amend the Jefferson County and City of Madras Comprehensive Plan and Zoning Maps</b> – to expand the Madras Urban Growth Boundary (UGB) to include 36.91 acres from the Madras Urban Reserve Area (URA); to annex 20 acres of City-owned land (“east site,” Figure 4-1) to the City of Madras and apply City R-2, Multiple Family Residential zoning; to annex 16.22 acres of privately owned land plus 0.69 acres of land for County right-of-way (“west site,” Figure 4-1) to the City and retain existing County RL, Range Land, zoning.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• West site: tax map of 16.91-acre west site (outlined), directly east of the existing Madras UGB, south of Ashwood Road (Appendix A)</li> <li>• East site: survey map of 20-acre east site, east of the existing Madras UGB, south of Ashwood Road (Appendix B)</li> </ul>
<b>Legal Description:</b>	<p><b>West site:</b> 11S 14E 7 Lots 101 (12.28 acres), 102 (0.69 acres for right-of-way), and 200 (3.94 acres), entire lots</p> <p><b>East site:</b> 11S 14E 7 Lot 100 (20 acres), parcel of lot</p> <p>Legal description of Lot 100 parcel (east site): <i>A portion of Parcel 2 of Partition Plat No. 2002-12 as filed in the Jefferson County Clerk's Office, situated in the Northeast Quarter (NE ¼) of Section</i></p>

7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County Oregon, more particularly described as follows: Commencing at the Northwest corner of said Northeast Quarter, monumented with a 2 inch diameter brass cap, from which the Northeast corner of said Section 7 bears South 89°39'40" East a distance of 2640.53 feet; thence South 89°39'40" East along the North line of said Section 7 a distance of 599.997 feet; thence South 0°17'36" West a distance of 40.00 feet to the Northwest corner of said Parcel 2 of Partition Plat No. 2002-12; thence continuing South 0°17'36" West along the West line of said Parcel 2 a distance of 40.00 feet to the South right-of-way line of East Ashwood Road and the **True Point of Beginning of this Description**; thence South 0°17'36" East along said West line a distance of 935.13 feet to the Southeast corner of Parcel 1 of said Partition Plat No. 2002-17; thence leaving said West line South 89°39'40" East a distance of 931.70 feet; thence North 0°17'36" West a distance of 935.12 feet; to a point on the South right-of-way line of East Ashwood Road; thence North 89°39'40" West along said right-of-way line a distance of 931.70 feet to the **True Point of Beginning**.  
 Contains 20.00 acres more or less.  
**End of Description.** (Appendix B)

## II. Introduction

### ***Proposed Map Amendments***

The Madras Urban Reserve Area (URA) was approved by DLCD in July 2009, and was sized to provide urbanizable land for the next 50 years. Land from the URA is the first priority for inclusion in the UGB pursuant to ORS 197.298. The City of Madras is not currently in periodic review or evaluating its existing UGB for a 20-year land supply. The City, however, has initiated this UGB amendment and annexation process in order to begin to meet the land need identified by the *Madras Urbanization Study* (April 2007) and the *Madras Urbanization Study Addendum* (August 2007), prepared by ECONorthwest. The studies found a need for residentially zoned land for housing and public/semi-public uses outside the existing UGB.

There are two parts to the proposed Urban Growth Boundary (UGB) annexation: the east site and the west site. The City of Madras owns the east site. This land is proposed for annexation to the Madras UGB and city limits and for re-zoning as City Multi-Family Residential (R-2), a designation that will allow for a multi-family and single-family housing as well as public/semi-public uses typically sited on residentially zoned land. The 20-acre parcel is within the Yarrow Master Plan area.

In addition to the east site, there are another 16.91 acres of land in the proposed UGB and City annexation, referred to as the west site. The west site is comprised of three lots that provide County right-of-way, better connect the east site to the existing UGB, and contribute toward meeting the long-term need for residentially zoned land. The west site is privately owned and is not proposed for re-zoning at this time. Owners may apply for re-zoning when they are prepared to file land development applications in the future. It is expected that the west-site land also will provide the same range of needed housing types and public/semi-public uses as the east site when re-zoning is approved. Both the east and west sites will be designated Residential on the Plan Maps if this proposal is approved.

### ***Proposed Text Amendments***

In order to facilitate the transition of rural zoning to urban zoning in the urban growth area, text amendments are proposed for Section IV (Land Use Element) of the Madras Comprehensive Plan that identify county zones allowed on land that is designated for future urban use on the Comprehensive Plan map.

### III. Jefferson County and City of Madras Comprehensive Plan Amendments

Table 3-1 lists Madras Comprehensive Land Use Plan Designations and corresponding City and County zones that are deemed compatible. The table is needed because the Madras Comprehensive Land Use Plan map, which applies to incorporated and unincorporated properties, and the city's zoning map are one in the same. The table clarifies that unincorporated property may retain its county zoning when it is annexed into the UGB if the land is not immediately annexed into the city. Such properties may retain any of the listed County zones and be regulated under the County's land development ordinance consistent with adopted growth management policies and procedures that apply to all land inside the Madras UGB. When such land is ready for urban development, the owner may request city annexation and zoning that is consistent with the land use plan designation for their property. Practically speaking, the table simply allows rural zoning districts to be applied in the Madras urban growth area on an interim basis, even when the rural zone differs from the intended long range urban use for a subject property. The table does not alter anything in practice. County zoned properties that are inside the Madras UGB remain under county jurisdiction in all respects although they are subject to urban growth management policies and regulatory review procedures that have been jointly adopted by Jefferson County and the City of Madras. In this context, the conformity table serves as a zoning bridge between a property's planned urban future and its current unincorporated rural zoning.

**Table 3-1 Proposed Table for Corresponding City of Madras Comprehensive Plan Map Designations, City of Madras Zones, and Jefferson County Zones**

Plan Map Label	Designation	Description	City Zones	County Zones
R-1	Single-Family Residential	Land primarily for single-family homes, including manufactured home subdivisions, and for duplexes	R-1	EFU A-1, EFU A-2, RL, FM, RR-2, RR-5, RR-10, RR-20, ERD
R-2	Multi-Family Residential	Land for multi-family housing to be close to businesses and services and to buffer single-family residential and commercial uses. Manufactured homes and neighborhood commercial uses are allowed.	R-2	EFU A-1, EFU A-2, RL, FM, RR-2, RR-5, RR-10, RR-20, ERD
R-3	Planned Residential Development	Land for primarily residential development that allows site design flexibility to promote creativity and protection of scenic and natural resources	R-3	EFU A-1, EFU A-2, RL, RR-2, RR-5, RR-10, RR-20, ERD
C-1	Corridor Commercial	Land for primarily motor vehicle-oriented uses located along major roadways	C-1	CC, ERD
C-2	Downtown Commercial	Land for a mixture of smaller scale businesses that supports redevelopment, higher density, public spaces, and other elements of pedestrian orientation	C-2	CC, ERD

<b>Plan Map Label</b>	<b>Designation</b>	<b>Description</b>	<b>City Zones</b>	<b>County Zones</b>
C-3	Community Commercial	Land for primarily motor vehicle-oriented uses but on a smaller scale than Corridor Commercial	C-3	SC, CC, ERD, EFU A-1, EFU A-2, RL
NC	Neighborhood Commercial	Land for small-scale commercial uses in residential areas that includes public spaces and promotes transportation options	NC	SC, ERD EFU A-1, EFU A-2, RL
I	Industrial	Land for industrial uses where industrial uses already exist in the city and in the Madras Industrial Park	I	EFU A-1, EFU A-2, RL, FM, PM, CI, IR, ERD
O/S	Open Space	Land where parks, open space, or public uses already exist or is otherwise publicly owned	OS/PF	EFU A-1, EFU A-2, RL, FM, PM
A/D	Airport Development	Land adjacent to airport facilities for future commercial and industrial uses, particularly those that rely on air transportation	A/D	EFU A-1, EFU A-2, AM, ERD

<b>County Zones:</b>	
AM	Airport Management
CC	County Commercial
CI	County Industrial
EFU A-1, EFU A-2, RL	Exclusive Farm Use Zones
ERD	Existing Rural Development
FM	Forest Management
IR	Industrial Reserve
PM	Park Management
RR-2, RR-5, RR-10, RR-20	Rural Residential
SC	Service Community





## V. Conformance with Statewide Land Use Goals

### **Goal 1: Citizen Involvement**

*To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.*

**Response:** The proposed amendments have been reviewed during a series of public meetings and hearings in order to allow for consideration by public officials and public feedback.

The Jefferson County School District 509-J (“JCS D” or “District”) Board (“Board”) was generally briefed by the Superintendent about the 2009 Long Range Facility Plan at the December 14, 2009 School Board meeting where the need for the updated plan was discussed. The draft plan was brought to them first for formal review at a Board meeting on January 11, 2010. After the School Board reviewed the enrollment forecast, location and conditions of existing schools, and future potential school locations, they adopted the plan on January 25, 2010.

The proposed Madras Land Use Element Comprehensive Plan amendment and amendments to the Jefferson County and City of Madras Comprehensive Plan Maps and Zoning Maps were presented and reviewed in a series of meetings in early 2010.

A public hearing was scheduled before the Madras and Jefferson County Planning Commissions (joint) on February 11, 2010. Notice of the hearing was published in the January 13, 2010 Madras Pioneer. The public notice published in the newspaper was also posted at the Madras City Hall, Jefferson County Annex, US Postal Service Office, and the Jefferson County Library 20 days prior to the February 11, 2010 Planning Commission meeting.

Additionally, property owners within 750 feet of the properties proposed to be included in the Madras UGB were notified of the proposed land use action. Adjacent property owners were notified that the file was available for review at the Jefferson County Community Development Department at 85 SE “D” Street and that copies of any information would be provided at a cost of .25/page. The agenda for the Planning Commission was posted at Madras City Hall, Jefferson County Annex, US Postal Service Office, and the Jefferson County Library 7 days prior to the February 11, 2010 joint Planning Commission meeting.

As discussed above the City proposes to include four (4) properties that total 36.91 acres into the City of Madras Urban Growth Boundary. This constitutes a potential “land use change” that would typically require notice to affected property owners. ORS 227.186 (Measure 56 notice) requires property owners to be notified of legislative acts relating to comprehensive plan, land use planning or zoning proposed by the City. Additionally, the proposed Comprehensive Plan amendment is limited to the four properties identified on page 1. As such, a city-wide notice is not needed rather notice to the individual properties is required.

The City owns property, has a signed Consent to Annex agreement or a letter from a property owner acknowledging the proposed Comprehensive Plan amendment that verify that property owners are aware of the proposed land use action and a Measure 56 notice is not needed. Specifically, the City holds title and owns Tax Lot 100 and therefore is aware and consents to the proposed re-zone to a portion of the property it owns that represents a "land use change" that may limit use. Additionally, the City of Madras has signed consent forms from the property owners of tax lots 101 and 200. Jefferson County owns tax lot 102 and has provided a letter acknowledging and supporting the proposed land use action. As such, a formal notice as required by ORS 227.186 is not necessary as the affected property owners are aware of the proposed Comprehensive Plan amendment. More over, the ensuing annexation and re-zoning of 20 acres of tax lot 100 is limited to City owned property.

45-day notice to DLCD was sent to DLCD staff on December 14, 2009. On January 13, 2010 DLCD Field Representative, Mark Radabaugh, notified the City of Madras that the contents of the 45-day notice was incomplete. Later that day, City staff submitted the requested information to DLCD making the notice complete. The materials submitted on January 14, 2010 are noted as the Addendum to the notice.

The UGB expansion area is drawn from the Madras Urban Reserve Area (URA), which was developed through an intensive participatory process. A Technical Advisory Committee (TAC) and Project Advisory Committee (PAC) were formed to provide guidance for the project. The TAC was comprised of staff from project team members, including Jefferson County, the City of Madras, ECONorthwest, Kittelson & Associates, David Evans & Associates, Ball Janik, LLP, and Angelo Planning Group. The PAC included representatives of the City of Madras, Jefferson County, Jefferson County School District 509-J, local farmers, housing advocates, Oregon Department of Transportation (ODOT) Region 4, and the Department of Land Conservation and Development (DLCD).

**Findings:**

- According to both their Comprehensive Plans and code, the City of Madras and Jefferson County Planning Commissions serve as their official citizen planning committees.
- Adoption of the Madras Urban Reserve Area (URA) complied with Goal 1.
- Materials were made available to the public at Madras City Hall and the Jefferson County Community Development Department.
- Measure 56 notice was not issued as the proposed post-acknowledgment plan amendments are property specific and do not propose additional regulations to the properties proposed to be annexed and, in the case of the east site, re-zoned to Multi-Family Residential (R-2).
- 45-day notice of proposed plan amendments was sent to the Department of Land Conservation and Development (DLCD) on December 14, 2009 prior to the start of hearings held by County and City Planning Commissions and legislative bodies. On January 13, 2010 the City of Madras provided supplemental information to DLCD vial email.

- Notices of the public meetings were published in the City's local newspaper, including contact information for the City and County.

**Conclusion:** The proposed text and map amendments comply with State requirements for citizen involvement per Statewide Land Use Planning Goal 1.

**Goal 2: Land Use Planning**

*To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.*

**Response:**

***Proposed Map Amendments***

The Madras City Council adopted the Madras Urban URA and related provisions in October 2008 and the Jefferson County Board of Commissioners in November 2008. DLCD acknowledged and approved the URA and related amendments in July 2009, with stipulations that some of the proposed amendments to the Jefferson County development code be modified. Pursuant to ORS 197.298, the first priority for land to be included in a UGB is land designated as an urban reserve. Therefore, the land in the Madras URA is the first priority for UGB expansion when there is a demonstrated need for land in the next 20 years, as was found by the *Madras Urbanization Study and Addendum*.

The proposed UGB amendment and annexation area is currently zoned Range Land by the County. Upon annexation to the UGB and Madras city limits, City R-2, Multiple Family Residential, zoning is being requested for the east site. The west site is proposed to be annexed to the city and to retain its existing County zoning, but the land is designated for multi-family residential use on the Plan Map.

Land zoned Range Land has been included in the Madras URA to meet long-term land needs and because of sewer service advantages over other areas around the existing UGB and because exception land alone would not meet land needs for the city over the next 50 years. Land in Study Areas 3 and 4 of the Madras URA - east and southeast of the city – consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation. Land in the URA is subject to joint management under the terms of the City's and County's Urban Growth Area Management Agreement (UGAMA) once it is added to the City's UGB. Response and findings related to the UGAMA are provided later in this report.

Local criteria are relied upon to prioritize land from the URA to be included in the UGB. Local criteria are found in Goal 14 (Urbanization) policies in the Madras Comprehensive Plan. The criteria require a Master Planned Community (MPC) plan or Area Master Plan (AMP), proposed urban zoning, an annexation program, sufficient public facilities, financing prospects, and protection for natural resources and natural hazard areas for the proposed UGB amendment area. Policy14J requires the following.

*J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

- 1. The proposed urban zoning or land use program for the subject properties that address an identified urban land need;*
- 2. An annexation program for all subject properties;*
- 3. Evidence that public facilities required by OAR 660-011-000 that are necessary to serve the expansion area can be served either by system improvements outlined in adopted public facility master plans or by supplemental improvements that augment adopted public facility master plans;*
- 4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need;*
- 5. Evidence that providers of other crucial public facilities (e.g. schools, parks and recreation, emergency services and health care) are able to meet the projected demand for their services;*
- 6. Evidence that financing for constructing needed public improvements is available so that the expansion area can be developed as planned within the planning horizon;*
- 7. Evidence that development in areas subject to natural hazards are protected from these hazards;*
- 8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.*

These criteria are addressed later in the report section on the Madras Comprehensive Plan, Goal 14.

The *Madras Urbanization Study* (ECONorthwest, April 2007) and *Madras Urbanization Study Addendum* (ECONorthwest, August 2007) identify a shortage of residentially zoned land to meet single-family and multi-family housing needs and public/semi-public use needs in the next roughly 20 years. The needed number of housing units and acreage for residential uses is summarized in Table 4-18 of the August 2007 *Madras Urbanization Study Addendum* (Table 5-1).

These needs are compared to the available land supply in the existing UGB in Table 6-4 in the study (Table 5-2) in order to determine whether there is a surplus or deficit of land for residential, public and semi-public, and employment uses. The table documents a shortage of land zoned R-2 (Multiple Family Residential) and land zoned R-1 (Single Family Residential) inside the existing UGB as well as a need for roughly 350 acres of public and semi-public uses over the course of the next 15-20 years. These public/semi-public uses tend to be related to residential uses and are typically allowed and sited on residentially zoned land.

The proposed UGB amendment addresses part of the residential and public use land need presented above. Annexing 20 acres of the proposed amendment that are owned by the City (the east site) and rezoning it R-2 allows the City to fulfill its agreement with Jefferson County School District (JCSD) and provide land for a potential school site, which could address the need for a new school or replacement school as identified in the JCSD 2009 Long Range Facility Plan. The remainder of the land need identified in the urbanization studies will be addressed during the City's next cycle of periodic review.

**Table 5-1: Housing Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Table 4-18. Forecast of needed housing units and residential land, Madras, 2007-2027 and 2007-2057							
Housing Type	New DU	Percent	Density (DU/net res ac)	Net Res. Acres	Net to Gross Factor	Gross Res. Acres	Density (DU/gross res ac)
<b>Needed Units, 2007-2027</b>							
<b>Single-family types</b>							
Single-family detached	1,791	61%	4.8	373.1	25%	497.5	3.6
Manufactured	206	7%	5.5	37.4	25%	49.8	4.1
Condo/Townhomes	206	7%	9.0	22.8	15%	26.9	7.7
Subtotal	2,202	75%	5.4	410.5		574.2	3.8
<b>Multi-family</b>							
Multi-family	734	25%	14.0	52.4	15%	61.7	11.9
Subtotal	734	25%	14.0	52.4		61.7	11.9
<b>Total</b>	<b>2,936</b>	<b>100%</b>	<b>6.3</b>	<b>462.9</b>		<b>635.8</b>	<b>4.6</b>
<b>Needed Units, 2007-2057</b>							
<b>Single-family types</b>							
Single-family detached	5,516	61%	4.6	1,149.1	25%	1,532.1	3.6
Manufactured	633	7%	5.5	115.1	20%	143.8	4.4
Condo/Townhomes	633	7%	9.0	70.3	15%	82.7	7.7
Subtotal	6,781	75%	5.4	1,334.5		1,758.7	3.9
<b>Multi-family</b>							
Multi-family	2,260	25%	14.0	161.5	10%	179.4	12.6
Subtotal	2,260	25%	14.0	161.5		179.4	12.6
<b>Total</b>	<b>9,042</b>	<b>100%</b>	<b>6.3</b>	<b>1,495.9</b>		<b>1,938.1</b>	<b>4.7</b>
Source: ECONorthwest							
Note: Gross acres calculated by dividing net acres by (1-net to gross factor). For example, for single-family detached, $477.1/(1-.75) = 636.1$ . Conversely, $636.1 \times .75 = 477.1$							

**Table 5-2. Land Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Plan Designation	Land Demand		Supply 2007	Surplus (deficit)	
	2007-2027	2007-2057		2007-2027	2007-2057
<b>Residential</b>					
R-1	451.9	1,355.7	398.1	(53.8)	(957.6)
R-2	46.1	136.2	23.5	(22.5)	(114.6)
R-3	148.0	444.0	242.8	94.8	(201.2)
RR5	0.0	0.0	32.7	32.7	32.7
RR10	0.0	0.0	47.5	47.5	47.5
RL	0.0	0.0	38.7	38.7	38.7
Public/Semi-public uses on res land	359.3	770.7	0.0	(359.3)	(770.7)
<b>Subtotal (Residential)</b>	<b>1,004.2</b>	<b>2,708.6</b>	<b>783.3</b>	<b>(220.9)</b>	<b>(1,925.3)</b>
<b>Commercial (Retail &amp; Services)</b>					
C-1	230.6	768.1	80.2	(150.4)	(677.9)
NC	28.6	90.4	4.9	(23.7)	(85.4)
CC	0	0	32.6	32.6	32.6
<b>Subtotal Commercial</b>	<b>259.2</b>	<b>848.5</b>	<b>117.7</b>	<b>(141.5)</b>	<b>(730.8)</b>
<b>Industrial</b>					
I	251.4	749.9	296.9	45.5	(452.9)

Notes: all public and semi-public land needs were allocated to residential zones

### ***Proposed Text Amendments***

As discussed above, the proposed UGB amendment and annexation is based on the buildable lands inventory and needs analysis performed by ECONorthwest in 2007 and for the Madras URA. The proposed table of corresponding City land use designations and City and County zones (Table 3-1) is proposed to facilitate the transition of land from rural to urban and the annexation of land in the URA to the Madras UGB and city limits.

### **Findings:**

- The proposed UGB amendment and annexation is drawn from land in the adopted Madras URA, which is the first priority land to be included in the UGB pursuant to state statute.
- The east site and west site are currently zoned Range Land by the County. Range land was included in the Madras URA because of sewer service advantages it had over other land surrounding the UGB and because including only exception land in the URA would not have provided enough land for the projected growth needs of the next approximately 50 years.
- The proposed annexation area meets some of the need for residentially zoned land outside the existing UGB over the next 20 years, as established in the 2007 *Madras Urbanization Study* and addendum. The studies found the need for more than 200 acres of land for housing and related public/semi-public uses.

**Conclusion:** The proposed map and text amendments comply with State requirements for land use planning per Statewide Land Use Planning Goal 2.

**Goal 3: Agricultural Lands**

*To preserve and maintain agricultural lands.*

**Response:** The entire Madras URA includes land zoned for rural residential, range land, and agricultural uses, as shown in Table 5-3.

**Table 5-3: Exception and Resource Land in the Madras URA**

Land Type	Zones	Acres
Exception Land	RR2, RR5, RR10 (Rural Residential)	1,709
Non-prime Resource Land	RL (Range Land)	2,038
Prime Resource Land	A1 (Agricultural)	68
	<b>Total</b>	<b>3,815</b>

Prime agricultural land makes up less than 2% of the total URA. When prime agricultural land is included, it is only when it is adjacent to the existing UGB, surrounded by exception land or non-prime resource land, and/or will be more easily served with public facilities – sewer service, in particular. The rest of the URA is comprised of rural residential and range land. Rangeland was included in the URA because of serviceability advantages it has over other land surrounding the Madras UGB and because all the exception (rural residential) land adjacent to the Madras UGB would not fulfill the city's estimated land needs for the next 50 years.

The proposed UGB amendment and annexation area is currently zoned Range Land by the County. Upon annexation to the UGB and Madras city limits, City R-2, Multiple Family Residential, zoning is being requested for the east site. The west site is proposed to be annexed to the city and to retain its existing County zoning, but the land is designated for multi-family residential use on the Plan Map.

As explained above, land zoned Range Land has been included in the Madras URA to meet land needs and because of sewer service advantages over other areas around the existing UGB and because exception land alone would not meet land needs for the city over the next 50 years. Land in Study Areas 3 and 4 of the URA consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation.

Pursuant to ORS 197.298(a), the first priority of land to be included in the UGB is land in a URA. Beyond that, local criteria can be relied upon to prioritize land from the URA to be included in the UGB. Local criteria are found in Goal 14 (Urbanization) policies in the Madras Comprehensive Plan. The criteria require a Master Planned Community (MPC) plan or Area Master Plan (AMP), proposed urban zoning, an annexation program, sufficient public facilities, financing prospects, and protection for natural resources and natural hazard areas for the proposed UGB amendment area. These policies are addressed in more detail in the response and findings for Madras Comprehensive Plan Goal 14.



Land in the URA is subject to joint management under the terms of the City's and County's Urban Growth Area Management Agreement (UGAMA) once it is added to the City's UGB. Response and findings related to the UGAMA are provided later in this report.

**Findings:**

- The proposed UGB amendment and annexation area is land from the Madras URA, top priority land for inclusion in the UGB pursuant to ORS 197.298(a).
- Some of the non-prime resource land (zoned Range Land) is easier to serve with sewer than other areas around the existing Madras UGB, based on public facility analysis done during the development of the URA. Land in Study Areas 3 and 4 of the URA consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation.

**Conclusion:** The proposed map amendments comply with State requirements for agricultural lands per Statewide Land Use Planning Goal 3.

**Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces**

*To protect natural resources and conserve scenic and historic areas and open spaces.*

**Response:** The land being proposed for inclusion in the Madras UGB is currently located within the Madras URA, jointly managed by Jefferson County and the City of Madras pursuant to the terms of the Urban Reserve Area Management Agreement (URAMA), adopted in January 2009 (Appendix C). Pursuant to the URAMA, the County processes land use decisions in the URA. In addition, conversion plans must be submitted to the City for land divisions in the URA.

Madras Comprehensive Plan policy language regarding protection of open space, scenic, wildlife, and cultural resources was adopted as part of amendments to Goal 14 (Urbanization) concurrent with the adoption of the Madras URA.

*J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

- 8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.*

The land in the proposal does not include floodways, floodplains, significant habitat, or cultural resources that are identified in the Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files. The only resources cited in Policy 14 J (8) that may apply to the site are open spaces. Open space will be a required part of school or multi-family residential development that occurs in the UGB amendment area. However, this proposal itself is not a development or entitlement proposal and, therefore, is not required to specify precisely where such open space will be designated.

**Findings:**

- Recently adopted amendments to Goal 14 of the City's Comprehensive Plan require identification of protective measures for significant open space, scenic, historic, cultural and natural resources in proposed UGB expansion areas. The Jefferson County Comprehensive Plan and Goal 5 inventory does not identify natural, scenic, or cultural resources in the proposed UGB amendment and annexation area.
- Open space designations will be made as part of development entitlement for the proposed UGB amendment and annexation.

**Conclusion:** The proposed map amendments comply with State requirements for open space, scenic and historic areas, and natural resources per Statewide Land Use Planning Goal 5.

**Goal 6: Air, Water and Land Resource Quality**

*To maintain and improve the quality of the air, water and land resources of the state.*

**Response:** According to the U.S. Environmental Protection Agency (EPA) and the Oregon Department of Environmental Quality (ODEQ) there are no federally designated air quality management areas or federally designated hazardous waste sites in the Madras URA. Of Environmental Cleanup Sites reported on ODEQ's website, there are no sites identified in the URA.<sup>1</sup> Further, R-2 zoning is proposed for the UGB amendment area to be brought in to the city, allowing residential uses and other compatible uses. These uses tend to produce less noise, air, land, and water pollution than commercial and industrial uses, which typically manufacture goods, produce by-products, and generate more vehicle traffic.

**Findings:**

- There are not federal- or state-registered environmental quality sites within the proposed UGB amendment and annexation area.
- The amendment and annexation area is needed and planned for residential and related uses, which tend to have fewer adverse air, water, and land quality impacts than commercial or industrial uses.

**Conclusion:** The proposed map amendments comply with State requirements for air, water and land resources per Statewide Land Use Planning Goal 6.

**Goal 7: Areas Subject to Natural Hazards**

*To protect people and property from natural hazards.*

**Response:** Primary potential natural hazards in Madras include steep slopes, floodway and floodplain, and wildfire. Statewide Goal 7 is reinforced in Madras Comprehensive Plan

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<sup>1</sup> Air quality management areas, hazardous waste sites, and environmental cleanup sites can be searched on the U.S EPA's and ODEQ's websites at: <http://www.deq.state.or.us/air/planning/index.htm>, <http://www.epa.gov/superfund/sites/siteinfo.htm>, and <http://www.deq.state.or.us/lq/ecsi/ecsi.htm>.

policies (Goal 14) by requiring protection from natural hazards be demonstrated for proposed UGB amendments.

*J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

*7. Evidence that development in areas subject to natural hazards are protected from these hazards;*

There are not steep slopes (slopes greater than 25%), floodway, or floodplain land in the proposed annexation area. Fire protection service for the proposal area is currently provided by Jefferson County Fire Protection District #1, and will continue to be provided by that district if the land is annexed to the city. Area in the district is subject to a Community Wildfire Protection Plan (CWPP) that Jefferson County completed in 2005 in collaboration with the fire district and federal agencies.

**Findings:**

- There are not steep slopes (slopes greater than 25%), floodway, or floodplain land in the proposed UGB expansion and annexation area.
- Jefferson County Fire Protection District #1 provides fire protection service to the proposed amendment and annexation area. The area is subject to the Community Wildfire Protection Plan (CWPP) developed and adopted by the County, the fire district, and federal agencies.

**Conclusion:** The proposed map amendments comply with State requirements for areas subject to natural hazards per Statewide Land Use Planning Goal 7.

**Goal 10: Housing**

*To encourage the availability of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density.*

**Response:** This proposal provides land for housing and related public and semi-public uses. The *Madras Urbanization Study Addendum* (August 2007) shows that there is a shortage of residentially zoned land inside the existing UGB for growth over the next 20 years (Table 5-2).

The proposed annexation to the Madras UGB and city limits addresses this need by including 36.91 acres of land from the URA for residential and public/semi-public uses. It is proposed that the east site be re-zoned from County RL (Range Land) zoning to City R-2 (Multi-Family Residential) zoning.

These proposed amendments are not part of a periodic review work program and the next periodic review process will ensure that the UGB does include enough land to meet all the land needs that are projected for the next 20 years as shown in Table 5-2.

**Findings:**

- The *Madras Urbanization Study* and *Addendum* found a need for residentially zoned land for housing and public/semi-public uses outside the existing UGB for growth expected over the next 20 years.
- The remainder of land needs determined by the urbanization studies will be addressed during the next City of Madras periodic review.

**Conclusion:** The proposed map amendments comply with State requirements for housing per Statewide Land Use Planning Goal 10.

**Goal 11 Public Facilities and Services**

*To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.*

**Goal Requirements**

**Urban Facilities and Services** – Refers to key facilities and to appropriate types and levels of at least the following: police protection; sanitary facilities; storm drainage facilities; planning, zoning and subdivision control; health services; recreation facilities and services; energy and communication services; and community governmental services.

**A. Goal 11 Planning Guidelines**

5. A public facility or service should not be provided in an urbanizable area unless there is provision for the coordinated development of all the other urban facilities and services appropriate to that area.

**Response:** According to terms of the UGAMA between Jefferson County and the City of Madras, the City will be the primary service provider for land within its UGB, in particular coordinating police, sewer, stormwater, land use, recreation, energy, and governmental services. City urbanization regulations amended with the adoption of the Madras URA require either a Master Planned Community (MPC) plan or Area Master Plan (AMP) for UGB amendments in Madras for areas over five acres (Madras Comprehensive Plan Policy 14 I). Both MPC plans and AMPs must show “appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas” and how proposed land uses will integrate with existing development.

Transportation facilities are addressed in more detail in the response and findings for Statewide Goal 12 next in this report.

The adopted Yarrow Master Plan applies to the east site. This land is proposed for annexation both to the Madras UGB and city limits. It is also proposed that the east site be re-zoned to R-2 upon annexation so that it can provide land for uses such as urban levels of housing and related public/semi-public uses. These uses are similar to and compatible with surrounding development of residential and public uses. The east site is tangent to the existing UGB and is bordered by Ashwood Road, a County collector road, which lends itself to the extension of services from inside the existing UGB and city limits. Sufficient water

and sewer service can be provided to the east site given existing and planned systems, and this is documented in the service provider letters from Deschutes Valley Water District and the City of Madras Public Works (Appendix D).

Pursuant to Madras Comprehensive Plan Urbanization Policy 14 I: “An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas.” It is proposed to annex the west site to the Madras UGB and city limits. While it is also proposed that the site retain its existing County Range Land (RL) zoning until the owners are ready to propose development, the site is surrounded by land designated for residential and public/semi-public uses, and its future designation as residential allows housing and compatible public/semi-public uses that can be: “integrated with the existing urban development pattern.” (Madras Comprehensive Plan Urbanization Policy 14 I (2)) Further, the proposed addition of a table showing Madras and County zones that correspond with Madras land use designations to the Madras Comprehensive Plan Section IV, Land Use Element (Table 3-1), will facilitate the transition of existing County zoning for the west site to appropriate City zoning.

The west site is comprised of three lots – Lots 101 and 200 that total 16.22 acres and are privately owned and Lot 102 that is 0.69 acres designated for County right-of-way. Lots 101 and 200 are both adjacent to Ashwood Road, a County collector, and will not require additional public roads for sufficient internal or local circulation. At the time of proposed development, proposed land division or planned development plans must show an internal circulation system that satisfies City code requirements and street standards. The west site is adjacent to the existing Madras UGB and is bordered by Ashwood Road, which lends itself to the extension of services from inside the existing UGB and city limits. As with the east site, sufficient water and sewer service can be provided to the west site given existing and planned systems, as stated in service provider letters (Appendix D).

The County has not identified historic, scenic, or natural resources on the west site. City open space requirements for subdivisions or planned developments will apply to the site at the time of proposed development.

Finally both MPC plans and AMPs must have documented approval from a majority of landowners pursuant to Madras Comprehensive Plan Policy 14 I (3). Specifically, the City of Madras owns Tax Lot 100 and as the applicant, consents to the proposed UGB expansion to include 20 acres of Tax Lot 100 and the re-zoning of the property from Range Land (RL) to Multi-Family Residential (R-2). Tax Lot 102 is dedicated to Jefferson County for Ashwood right-of-way and consent for UGB expansion and re-zoning is not needed as inclusion in the UGB and re-zoning will not change how the right-of-way can be used. Consent from other landowners is provided in Appendix E.

### **B. Goal 11 Implementation Guidelines**

*5. Additional methods and devices for achieving desired types and levels of public facilities and services should include but not be limited to the following: (1) tax incentives and disincentives; (2) land use controls and ordinances; (3) multiple use and joint*

*development practices; (4) fee and less-than-fee acquisition techniques; and (5) enforcement of local health and safety codes.*

**Response:** The proposed land use designations and zoning for the annexation area – the east site and the west site – is appropriate for the type and level of public facilities and services that can be extended to the area. It is proposed to bring the west site into the Madras UGB and city limits but to retain its existing County Range Land (RL) zoning until landowners are ready to propose development. The site is surrounded by land planned for or developed as predominantly residential development. It is well situated for extension of urban facilities and services when they are needed. The proposed addition of a land use and zoning designation table to Section IV (Land Use Element) of the Madras Comprehensive Plan (Table 3-1) establishes the City and County zoning designations that correspond to City land use designations, and will guide the transition from County zoning to appropriate City zoning once a land use action is proposed.

It is proposed that the east site be re-zoned to R-2 upon annexation so that it can provide land for uses such as urban levels of housing and related public/semi-public uses. These uses are similar to and compatible with surrounding development. The east site is tangent to the existing UGB and is bordered by Ashwood Road, a County collector road, which lends itself to the extension of services from inside the existing UGB and city limits. In that vein, service providers have determined that sufficient water and sewer service can be provided to the east and west sites given existing and planned systems (Appendix D).

The east site is part of the approved Yarrow Master Plan, a plan that envisions a variety of housing and then an internal circulation system, open space, public uses (including a school), and a small-scale commercial area to serve the primary residential uses.

Once the properties are annexed into the city limits and developed, wastewater and domestic water services will need to be extended to each developed property. The property owner will fund the extension of wastewater and domestic water services to their properties. Extension of these facilities will be completed as required in the City of Madras Wastewater Master Plan and the Deschutes Valley Water District Master Plan.

As previously discussed, this proposal is not a development proposal that offers entitlements for construction. Subsequent to this land use action, the property owner will be required to obtain development approvals (e.g. Site Plan Review, Conditional Use, or Subdivision). Any development approval will require public facilities to be extended to the subject property at the expense of the applicant.

**OAR 660-011-0010**

***The Public Facility Plan***

*(1) The public facility plan shall contain the following items:*

*(a) An inventory and general assessment of the condition of all the significant public facility systems which support the land uses designated in the acknowledged comprehensive plan;*



- (b) A list of the significant public facility projects which are to support the land uses designated in the acknowledged comprehensive plan. Public facility project descriptions or specifications of these projects as necessary;*
- (c) Rough cost estimates of each public facility project;*
- (d) A map or written description of each public facility project's general location or service area;*
- (e) Policy statement(s) or urban growth management agreement identifying the provider of each public facility system. If there is more than one provider with the authority to provide the system within the area covered by the public facility plan, then the provider of each project shall be designated;*
- (f) An estimate of when each facility project will be needed; and*
- (g) A discussion of the provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of each public facility project or system.*

*(2) Those public facilities to be addressed in the plan shall include, but need not be limited to those specified in OAR 660-011-0005(5). Facilities included in the public facility plan other than those included in OAR 660-011-0005(5) will not be reviewed for compliance with this rule.*

*(3) It is not the purpose of this division to cause duplication of or to supplant existing applicable facility plans and programs. Where all or part of an acknowledged comprehensive plan, facility master plan either of the local jurisdiction or appropriate special district, capital improvement program, regional functional plan, similar plan or any combination of such plans meets all or some of the requirements of this division, those plans, or programs may be incorporated by reference into the public facility plan required by this division. Only those referenced portions of such documents shall be considered to be a part of the public facility plan and shall be subject to the administrative procedures of this division and ORS Chapter 197.*

#### **OAR 660-011-0015**

##### **Responsibility for Public Facility Plan Preparation**

*(1) Responsibility for the preparation, adoption and amendment of the public facility plan shall be specified within the urban growth management agreement. If the urban growth management agreement does not make provision for this responsibility, the agreement shall be amended to do so prior to the preparation of the public facility plan.*

*(2) The jurisdiction responsible for the preparation of the public facility plan shall provide for the coordination of such preparation with the city, county, special districts and, as necessary, state and federal agencies and private providers of public facilities.*

**Response:** The Oregon Administrative Rule (OAR) that implements Goal 11 is OAR 660-011. The rule establishes requirements for the planning and provision of public facilities in Oregon. Pursuant to OAR 660-011-0005(5), a public facility “includes water, sewer, and transportation facilities, but does not include buildings, structures or equipment incidental to the direct operation of those facilities.” Transportation facilities are addressed in detail in the response and findings for Goal 12 in this report.

The City of Madras is responsible for the planning and provision of sewer service in the proposed annexation area, and Deschutes Valley Water District (DVWD) for the planning and provision of sewer service in the area. The City and DVWD master plans for sewer and water provide an inventory and assessment of existing facilities, a list and map of planned projects, a timeline for their implementation, and a discussion of costs and financing mechanisms.

The City Public Works Director has submitted a letter that is included with this report (Appendix D) that affirms there is sufficient capacity in existing and planned sewer infrastructure to serve the east and west sites in the proposed annexation area. Similarly, the DVWD General Manager has prepared a statement that there is sufficient capacity in existing and planned water infrastructure to serve the proposed annexation area (Appendix D).

**Findings:**

- Implementation of public facilities and services in Madras is primarily regulated by land use plans and ordinances and public facility master plans, which are elements of the City Comprehensive Plan.
- The City of Madras will be the primary provider of urban facilities and services in the proposed UGB amendment and annexation area. The City will be able to coordinate service to the area with facilities and services already provided to adjacent land within the existing UGB.
- The approved Yarrow Master Plan applies to the east site and shows an internal transportation network and sites for housing and a school.
- The City of Madras Public Works Director and DVWD General Manager have provided letters that verify that there is sufficient capacity in existing and planned sewer and water infrastructure to serve the proposed annexation area.
- When development occurs on the properties to be included in the Madras UGB, the property owner will be responsible for cost to extend sewer and domestic water facilities to development.

**Conclusion:** The proposed map and text amendments comply with Goal 11 for public facilities and services subject to OAR 660, Division 11.

**Goal 12 Transportation**

*To provide and encourage a safe, convenient and economic transportation system.*

**660-012-0060**

**Plan and Land Use Regulation Amendments**

*(1) Where an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation would significantly affect an existing or planned transportation facility, the local government shall put in place measures as provided in section (2) of this rule to assure that allowed land uses are consistent with the identified function, capacity, and performance standards (e.g. level of service, volume to capacity ratio, etc.) of the facility. A plan or land use regulation amendment significantly affects a transportation facility if it would:*

- (a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);*
- (b) Change standards implementing a functional classification system; or*
- (c) As measured at the end of the planning period identified in the adopted transportation system plan:*

- (A) Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;*

- (B) Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan; or*

- (C) Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.*

- (2) Where a local government determines that there would be a significant effect, compliance with section (1) shall be accomplished through one or a combination of the following:*

- (a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.*

- (b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.*

- (c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.*

- (d) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.*

- (e) Providing other measures as a condition of development or through a development agreement or similar funding method, including transportation system management measures, demand management or minor transportation improvements. Local governments shall as part of the amendment specify when measures or improvements provided pursuant to this subsection will be provided.*

**Response:** Reflecting Statewide Goal 12 and the Transportation Planning Rule, UGB amendment applications must provide the following pursuant to Madras Goal 14 policies:

- 4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need; (Madras Comprehensive Plan Policy J-4)*

City R-2 (Multi-Family Residential) zoning is proposed for the east site of the UGB amendment and annexation area. The zone allows multi-family and single-family housing outright and then allows associated uses such as schools, libraries, and community centers conditionally. The minimum lot size for single-family housing is 7,500 square feet and for

multi-family 10,000 square feet for the first two units and 2,000 square feet per each additional unit.

The east site is adjacent to Ashwood Road, an existing road built to County standards as a collector road. Ashwood Road borders the site to the north and provides primary access and connectivity to the proposed lands. Ashwood Road serves the Deer Creek Correctional Institute and other rural uses to the east of the site. To the immediate west Ashwood Road serves Juniper Hills Park and the Jefferson County Middle School, and further west transitions into B Street and connects to US 97 and the City's downtown core. A recently constructed extension of City View to J Street connects the parcel to the southern City limits, and Bean Drive connects toward the northern portion of the City. Table 1 summarizes key characteristics of the existing roadway facilities (Appendix F).



The transportation analysis for annexing and re-zoning the east site to R-2 was based on the assumptions below. Given that schools generate more peak hour traffic than housing alone, two scenarios were developed for Transportation Planning Rule (TPR) analysis that involved both housing and a school. The difference in the scenarios represents the typical range of an elementary school site, 5-10 acres.<sup>2</sup> The enrollment assumption roughly approximates the average elementary school enrollment in Jefferson County School District 509-J. A maximum housing density of 11.6 units/acre was derived from standards for lot and building size, parking, setbacks, and infrastructure for multi-family residential uses in the R-2 zone.

1. **5-acre school site** – 174 multi-family units on 15 acres and a 350-student elementary school.
2. **10-acre school site** – 116 multi-family units on 10 acres and a 350-student elementary school.

The analysis found that all the study intersections operate acceptably in the planning horizon<sup>3</sup> with and without the proposed annexation and re-zoning of the east site, except the intersections of US 97 and J Street. These intersections exceed volume-to-capacity (v/c) standards in 2025 *with or without* the proposed annexation and re-zoning. Because the proposal increases traffic at these intersections, even if minimally, the proposal is deemed to have a “significant effect”; it would further degrade the performance of the failing intersections.

Improvements for the US 97/J Street intersection have been included in an amendment to the Madras TSP and in the ODOT 2010-2013 Draft STIP. The improvements involve realignment of northbound US 97 onto Adams Drive and two new traffic signals at the new J Street intersections, and would allow the US 97/J Street intersections to operate within adopted v/c standards. ODOT has deemed these improvements to be “reasonably likely” in the planning horizon and, thus, no significant would occur with the proposed annexation and re-zoning (Appendix G).

#### Findings:

- Transportation analysis for the east site of the proposed UGB amendment and annexation area assumed that the area would be developed with a combination of housing and a school. This was because there is the potential for a school to be located on the site and schools generate more traffic, thus creating a “worse case” set of scenarios for the analysis.
- Transportation analysis showed that all the study intersections would perform within adopted operational standards at the end of the planning horizon with or without the proposed annexation and re-zoning of the east site, except the intersections of US 97 and J Street. These intersections exceed adopted standards and the proposed annexation and re-zoning produce a “significant effect” on the intersections.

<sup>2</sup> An elementary school is the type of school needed in Madras according to the 2009 Long Range Facility Plan.

<sup>3</sup> Consistent with individual TSPs and a 15-year minimum pursuant to the Oregon Highway Plan, the planning horizon for City facilities is 2020, for County facilities is 2027, and for State facilities is 2025.

However, improvements for the intersections that are included in the Madras TSP and the 2010-2013 Draft STIP have been deemed “reasonably likely” to occur in the planning horizon, thus mitigating the proposal’s significant effect.

**Conclusion:** The proposed map amendments comply with Goal 12 and OAR 660-015-0060.

**Goal 13 Energy Conservation**  
*To conserve energy.*

**Response:** The east site of the UGB amendment and annexation area is part of the Yarrow Master Plan area. The master plan includes a range of land uses so that residents can meet many daily needs within the neighborhood. The plan designates land predominantly for housing, but for parks and open space, a school, other community services, and commercial services as well. This mix of uses will provide for these daily needs and reduce the need to drive outside the neighborhood to access these uses.

All public improvements within the Yarrow Master Plan area are required to be constructed to City of Madras standards, which includes the provision of sidewalks. The Master Plan also includes planned open space which will be accessed by a multi-use trail system that will connect to existing multi-use trails in the City of Madras. This supports the use of non-motorized transportation and the conservation of fuel resources. This proposed UGB amendment and annexation does not provide all of the land needed to implement the master plan but provides part of it.

The west site is not part of the Yarrow Master Plan but will be subject to internal circulation and multi-modal standards when a land division or planned unit development is proposed. Like the east site, the west site is adjacent to Ashwood Road.

While water service was projected to be of similar cost to provide to all the study areas that comprise the Madras URA, there were differences in relative cost for providing sewer service given the need for pumping in some of the study areas. The proposed UGB amendment and annexation area is part of a study area and a drainage area where no pumping or limited pumping would be required for sewer service. This minimizes the amount of energy needed to provide that service.

All residential development within the Yarrow Master Plan area are required be built to Earth Advantage/Energy Star standards and receive certification as stated in the Codes, Covenants, and Restrictions (CC&R’s) recorded for the development. Such requirement reduces energy consumption of each dwelling constructed in the Master Plan area and thereby conserves energy consumption which in part satisfies the Goal 13 requirements.

**Findings:**

- The approved Yarrow Master Plan that applies to the east site of the proposed UGB amendment and annexation area proposes a variety of uses that will allow residents to take care of day-to-day needs without always having to drive out of the

neighborhood to do so. The plan also indicates multi-use paths and a continuous network of sidewalks to promote walking and bicycling. This supports fuel and energy conservation.

- Providing sewer service to the proposal area requires less pumping and, therefore, infrastructure, energy, and cost than other parts of the URA and other areas around the existing UGB.
- The CC&R's recorded for the Yarrow Master Plan area require energy conservation by requiring future development to meet or exceed Earth Advantage/Energy Star standards.

**Conclusion:** The proposed map amendments comply with State requirements for energy conservation per Statewide Land Use Planning Goal 13.

#### **Goal 14 Urbanization**

*To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.*

*(2) Orderly and economic provision of public facilities and services;*

**Response:** The proposed map amendments respond to the need for more residentially zoned land as determined in the adopted *Madras Urbanization Study and Addendum*. The studies analyzed the potential for development inside the existing UGB and found that in addition to development that the existing UGB can accommodate, approximately 220 acres of land is needed outside the UGB for residential and related public/semi-public uses over the years until 2027. These studies provided the basis for the Madras URA and URAs are enabled by statewide rules that address orderly and efficient land use as well as an orderly and efficient *process* for amending UGBs when needed.

This proposed map amendment draws strictly from land in the URA, which is the first priority land to be included in the UGB pursuant to ORS 197.298 and Madras plan policies.

The proposed text amendments (Section III) contribute to orderly and efficient transition from rural to urban land use by clearly establishing the ways that Jefferson County and City of Madras zones correspond to Madras Comprehensive Plan designations.

Transportation, water, and sewer services are among the critical public facilities that must be provided for the proposed UGB amendment area. As discussed in the narrative and findings for Goals 11 and 12 above, these services can be provided to the UGB amendment area relying on planned capital improvements.

**Transportation** – Transportation analysis shows that all study intersections perform within adopted operational standards at the end of the planning horizon, with or without the proposed annexation and re-zoning of the east site, except for the intersections at US 97 and J Street. An analysis shows the performance of those intersections, as they are currently designed, exceed mobility standards with and without the proposed annexation and re-

zoning. Unless the intersections can be improved, the proposed annexation and re-zoning produce a “significant effect” on them by making worse an already failing condition.

Proposed improvements to the “J” Street and US 97 intersections are included in the Madras TSP. Those improvements also are listed in the 2010-2013 Draft STIP, in effect programming the necessary state resources for them. On that basis, ODOT has determined the “J” Street/US 97 intersection improvements are “reasonably likely” to occur in the planning horizon (Appendix G). With those planned improvements in place, the affect of the proposed annexation is mitigated and the proposal will not have a significant effect.

**Water** – During the development of the Madras URA, Deschutes Valley Water District (DVWD) reported that there would be no supply constraint for urban development in the URA. Significant expansion of the District’s distribution system would be necessary to serve urban demand in each part of the URA, and the water service study found that the marginal cost differences between the URA study areas were insignificant. Existing and planned facilities will provide sufficient water service to the area, as confirmed by Deschutes Valley Water District in a service provided letter (Appendix D).

**Sewer** – Public facility analysis conducted in developing the Madras URA showed that sewer service to the eastern study areas in the URA would be more cost-efficient because no pumping or limited pumping would be required as compared to areas to the north, south, and west. For the proposed UGB amendment area, existing and planned sewer facilities will provide sufficient service to the area according to City of Madras Public Works (Appendix D).

**Findings:**

- The proposed map amendments address the residential land need established in the Madras urbanization studies. It draws from the Madras URA, which is the first priority land to be included in the UGB when land need is demonstrated.
- The text amendments facilitate the transition between County zoning and City land use designations and zoning.
- Water service can be provided to the proposal area using the existing and planned water facilities that are identified in the Deschutes Valley Water District’s water master plan. Providing water service was not found to be significantly different in cost between different parts of the URA in studies done in developing the Madras URA.
- Studies conducted for the URA found that drainage areas in the eastern and southeastern parts of the URA were easier to serve in that they needed no pumping or minimal pumping of sewage when compared to other parts of the URA. Sewer service can be provided to the proposal area using the existing City of Madras sewer master plan.
- Sufficient transportation facilities and service can be provided to the proposed UGB amendment area given “reasonably likely” construction of improvements to the intersections of US 97/J Street before 2025.

**Conclusion:** The proposed map and text amendments comply with State requirements for orderly and economic urbanization and provision of public facilities and services per Statewide Land Use Planning Goal 14.

## VI. Conformance with Oregon Revised Statutes (ORSs)

### ORS 197

**197.298 Priority of land to be included within urban growth boundary.** (1) *In addition to any requirements established by rule addressing urbanization, land may not be included within an urban growth boundary except under the following priorities:*

(a) *First priority is land that is designated urban reserve land under ORS 195.145, rule or metropolitan service district action plan.*

(b) *If land under paragraph (a) of this subsection is inadequate to accommodate the amount of land needed, second priority is land adjacent to an urban growth boundary that is identified in an acknowledged comprehensive plan as an exception area or nonresource land. Second priority may include resource land that is completely surrounded by exception areas unless such resource land is high-value farmland as described in ORS 215.710.*

(c) *If land under paragraphs (a) and (b) of this subsection is inadequate to accommodate the amount of land needed, third priority is land designated as marginal land pursuant to ORS 197.247 (1991 Edition).*

(d) *If land under paragraphs (a) to (c) of this subsection is inadequate to accommodate the amount of land needed, fourth priority is land designated in an acknowledged comprehensive plan for agriculture or forestry, or both.*

(2) *Higher priority shall be given to land of lower capability as measured by the capability classification system or by cubic foot site class, whichever is appropriate for the current use.*

(3) *Land of lower priority under subsection (1) of this section may be included in an urban growth boundary if land of higher priority is found to be inadequate to accommodate the amount of land estimated in subsection (1) of this section for one or more of the following reasons:*

(a) *Specific types of identified land needs cannot be reasonably accommodated on higher priority lands;*

(b) *Future urban services could not reasonably be provided to the higher priority lands due to topographical or other physical constraints; or*

(c) *Maximum efficiency of land uses within a proposed urban growth boundary requires inclusion of lower priority lands in order to include or to provide services to higher priority lands. [1995 c.547 §5; 1999 c.59 §56]*

**Response:** The proposed UGB amendment and annexation area is solely comprised of land from the Madras URA, which is the first priority of land to be included within the UGB pursuant to ORS 197.298(1)(a). There is sufficient land in the Madras URA to provide for the land needs estimated for the next 20 years in the *Madras Urbanization Study Addendum* (ECONorthwest, August 2007) and presented below.

The proposed UGB amendment and annexation provides land to meet a portion of the need for residentially zoned land over the next roughly 20 years (Table 6-1). The City's next periodic review process will ensure that the Madras UGB includes enough land to meet the remaining land needs projected to 2027.



**Table 6-1: Housing Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Plan Designation	Land Demand		Supply	Surplus (deficit)	
	2007-2027	2007-2057	2007	2007-2027	2007-2057
<b>Residential</b>					
R-1	451.9	1,355.7	298.1	(53.8)	(957.6)
R-2	46.1	136.2	23.5	(22.5)	(114.6)
R-3	148.0	444.0	242.8	94.8	(201.2)
RR5	0.0	0.0	32.7	32.7	32.7
RR10	0.0	0.0	47.5	47.5	47.5
RL	0.0	0.0	38.7	38.7	38.7
Public/Semi-public uses on res land	358.3	770.7	0.0	(358.3)	(770.7)
<b>Subtotal (Residential)</b>	<b>1,004.2</b>	<b>2,708.6</b>	<b>783.3</b>	<b>(220.9)</b>	<b>(1,925.3)</b>
<b>Commercial (Retail &amp; Services)</b>					
C-1	230.6	758.1	80.2	(150.4)	(677.9)
NC	28.6	90.4	4.8	(23.7)	(85.4)
CC	0	0	32.6	32.6	32.6
<b>Subtotal Commercial</b>	<b>259.2</b>	<b>848.5</b>	<b>117.7</b>	<b>(141.5)</b>	<b>(730.8)</b>
<b>Industrial</b>					
I	251.4	749.9	286.9	45.5	(452.9)

Notes: all public and semi-public land needs were allocated to residential zones

**197.610 Local government notice of proposed amendment or new regulation; exceptions; report to commission.** (1) A proposal to amend a local government acknowledged comprehensive plan or land use regulation or to adopt a new land use regulation shall be forwarded to the Director of the Department of Land Conservation and Development at least 45 days before the first evidentiary hearing on adoption. The proposal forwarded shall contain the text and any supplemental information that the local government believes is necessary to inform the director as to the effect of the proposal. The notice shall include the date set for the first evidentiary hearing. The director shall notify persons who have requested notice that the proposal is pending.

(2) When a local government determines that the goals do not apply to a particular proposed amendment or new regulation, notice under subsection (1) of this section is not required. In addition, a local government may submit an amendment or new regulation with less than 45 days' notice if the local government determines that there are emergency circumstances requiring expedited review. In both cases:

(a) The amendment or new regulation shall be submitted after adoption as provided in ORS 197.615 (1) and (2); and

(b) Notwithstanding the requirements of ORS 197.830 (2), the director or any other person may appeal the decision to the board under ORS 197.830 to 197.845.

(3) When the Department of Land Conservation and Development participates in a local government proceeding, at least 15 days before the final hearing on the proposed amendment to the comprehensive plan or land use regulation or the new land use regulation, the department shall notify the local government of:

(a) Any concerns the department has concerning the proposal; and

(b) Advisory recommendations on actions the department considers necessary to address the concerns, including, but not limited to, suggested corrections to achieve compliance with the goals.

(4) The director shall report to the Land Conservation and Development Commission on whether the director:

(a) Believes the local government's proposal violates the goals; and

(b) Is participating in the local government proceeding. [1981 c.748 §4; 1983 c.827.

*§7; 1985 c.565 §27; 1989 c.761 §20; 1999 c.622 §1]*

**Response:** Notice of the proposed map and text amendments was sent to the Department of Land Conservation and Development (DLCD) at least 45 days before the first evidentiary hearing on the proposal. Notice was sent to DLCD on December 14, 2009, which was more than 45 days before the first advisory hearing before the Jefferson County and City of Madras Planning Commissions on February 11, 2010. A notice addendum was submitted to DLCD on January 14, 2010. Further hearing dates have yet to be determined but DLCD provided comments on the proposal on January 29, 2010, more than 15 days prior to the final adoption hearing date.

DLCD comments address the map amendments. They call for a boundary locational analysis pursuant to OAR 660-024-0060 and a “reasonably likely” determination from OODT for the proposed 20-acre rezoning. The locational analysis is not necessarily applicable because the proposed map amendment draws from an adopted and acknowledged URA. Part of the idea behind URAs is to create a 20- to 50-year reserve of land for urbanization all at once so that the process for subsequent UGB amendments can be streamlined. For cities or regions that do not have URAs, it is understood that the locational analysis established in -0060 would definitely be applicable and needed.

As to the “reasonably likely” determination, ODOT rendered an affirmative determination on February 2, 2010. DLCD comments acknowledge that the set of needed improvements at the intersections of US 97/J Street is in the current draft STIP. Including them in the final STIP signifies a financial commitment to the improvements and thus makes a clear finding for “reasonably likely.”

**197.626 Expanding urban growth boundary or designating urban or rural reserves subject to periodic review.** *A metropolitan service district that amends its urban growth boundary to include more than 100 acres, or that amends the district's regional framework plan or land use regulations implementing the plan to establish urban reserves designated under ORS 195.145 (1)(b), a city with a population of 2,500 or more within its urban growth boundary that amends the urban growth boundary to include more than 50 acres or that designates urban reserve under ORS 195.145, or a county that amends the county's comprehensive plan or land use regulations implementing the plan to establish rural reserves designated under ORS 195.141, shall submit the amendment or designation to the Land Conservation and Development Commission in the manner provided for periodic review under ORS 197.628 to 197.650. [1999 c.622 §14; 2001 c.672 §10; 2003 c.793 §4; 2007 c.723 §7]*

**Response:** The City of Madras has coordinated with Jefferson County regarding the proposed map and text amendments. The amendments to the City and County Comprehensive Plans are post-acknowledgement plan amendments. However, the adoption process for the amendments will follow periodic review procedures pursuant to ORS 197. As part of periodic review procedures, the proposed amendments are subject to review by DLCD and approval by LCDC. DLCD and LCDC will conduct their review process upon adoption of the proposed amendments by the Madras City Council and Jefferson County Board of Commissioners.

**Findings:**

- The proposed UGB amendment and annexation area is entirely comprised of land from the Madras URA, the first priority of land to be included in the UGB pursuant to ORS 197.298(1)(a).
- There are 36.91 acres in the proposed UGB amendment and annexation. This meets some of the estimated need for residentially zoned land outside the existing UGB projected to 2027 by urbanization studies. The proposed R-2 zoning for the 20-acre parcel (east site) allows housing and public/semi-public uses such as parks and schools. Other land needs for the next 20 years will be addressed during the next periodic review cycle.
- Notice of the first advisory hearing on February 11, 2010 was sent to DLCD on December 14, 2009, more than 45 days before the advisory and evidentiary hearings. A notice addendum was filed on January 13, 2010.
- The City of Madras and Jefferson County have coordinated this proposed set of amendments.
- This proposal is a post-acknowledgement plan amendment (PAPA) but will follow procedures for periodic review. DLCD review and LCDC approval of the amendment will be necessary for the proposal if it is adopted by both the Madras City Council and Jefferson County Board of Commissioners.

**Conclusion:** The proposed map and text amendments comply with applicable State requirements for urban reserve area planning, plan amendments, and UGB amendments pursuant to ORS 197.

## **VII. Conformance with the Urban Growth Area Management Agreement (UGAMA)**

### **4. UGA ADMINISTRATION RESPONSIBILITIES**

- 4.1. *The City shall have responsibility for administration and decision making authority regarding all land use application within the UGB except applications for amendments to the UGB, as provided in Section 6.*
- 4.2. *The City shall have responsibility for annexation of land in the UGB. Lands outside the UGA shall not be annexed unless the UGB is also amended to include the territory to be annexed.*

### **6. PROCESS FOR URBAN GROWTH BOUNDARY AMENDMENTS**

- 1.1 *Amendments to the UGB, including amendments to the City's and County's comprehensive plan maps, may be initiated by the City, the County, or a property owner(s).*
- 1.2 *An application to amend the UGB shall be filed with the City Community Development Department along with the applicable City and County plan amendment fees. The City shall forward a copy of the application to the County Community Development Department, together with the County's plan amendment fee, within five working days of the date the application is filed.*
- 1.3 *The City and County Planning Commission shall each conduct a public hearing regarding the application. At their discretion, the Planning Commissions may hold a joint hearing rather than separate hearings.*
- 1.4 *The recommendation of the City and County Planning Commissions shall be forwarded to City Council, who shall hold a public hearing to consider the proposed amendment to the UGB. The decision of the City Council shall be forwarded to the County Board of Commissioners.*
- 1.5 *The Board of Commissioners shall conduct a public hearing and make a final decision on whether the UGB should be amended.*
- 1.6 *If the City and County disagree on the proposed amendments, a joint hearing of the City Council and Board of County Commissioners may be held to attempt to resolve the differences. Both jurisdictions may also request a dispute resolution process to resolve the differences.*
- 1.7 *If the governing bodies are not able to come to mutual agreement there shall be no change to the UGB.*

**Response:** The Urban Growth Area Management Agreement (UGAMA) (Appendix H) was adopted by the City of Madras and Jefferson County on April 5, 2006. Pursuant to UGAMA terms for UGB amendments, the City is an eligible applicant for a UGB amendment application (Section 6.1). The UGB amendment application and appropriate fees were forwarded to the Jefferson County Community Development Department within five working days of being initially filed (Section 6.2).

Hearings by the Madras Planning Commission and Jefferson County Planning Commission were first held jointly on February 11, 2010. The Madras City Council and Jefferson County

Board of Commissioners held a joint public hearing on March 29, 2010 to review their recommendations from their respective Planning Commissions. On March 29, 2010, the Madras City Council approved the proposed Comprehensive Plan amendments and forwarded it's recommendation that evening to the Jefferson County Board of Commissioners who then approved the proposed Comprehensive Plan amendment. All of the public hearings before the Planning Commissions, Madras City Council, and Jefferson County Board of Commissioners were conducted in a manner consistent with the provisions of the UGAMA.

It is proposed to annex both the east site and west site to the Madras UGB and city limits, and it is proposed to re-zone only the east site at this time. Regardless, if both sites are brought into the UGB and city limits, Madras will assume land use administration and decision making authority for the sites pursuant to Section 4.1 of the UGAMA.

**Findings:**

- The City is an eligible applicant for a UGB amendment application.
- Appropriate UGB amendment application materials and fees were forwarded to the Jefferson County Community Development Department in the prescribed amount of time.
- The proposal will be heard jointly by the County and City Planning Commissions and then separately by the County Board of Commissioners and City Council.
- Madras assumes administrative responsibility for any land annexed to its UGB and city limits.

**Conclusion:** The proposed map amendments comply with applicable local requirements for UGB amendments per the UGAMA between Jefferson County and the City of Madras, adopted April 5, 2006.

## VIII. Conformance with the Jefferson County Comprehensive Plan

### Goal 14: Urbanization

**Policy 1:** *Changes to urban growth boundaries, the establishment of new urban growth boundaries or urban reserve areas, incorporation of a new city, or annexation of land into a city which is not in an established urban growth boundary requires an amendment to this Plan and the Zoning Map. The following factors should be used in considering such proposals:*

- A. *Demonstrated need to accommodate long-range urban population consistent with a 20- to 50-year population forecast coordinated with the cities;*
- B. *Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks or open space;*
- C. *Orderly and economic provision of public facilities and services;*
- D. *Maximum efficiency of land uses within and on the fringe of the existing urban area.*
- E. *Comparative environmental, energy, economic and social consequences;*
- F. *Compatibility of the proposed urban uses with nearby agricultural activities on land outside the UGB; and*
- G. *Priority of land as required by ORS 197.298. Non-irrigated parcels may be added to the UGB before irrigated parcels that are in the same statutory priority.*

**Response:** The proposed change to the UGB fulfills some of the need for residentially zoned land outside the existing UGB as identified in the *Madras Urbanization Study and Addendum*. The urbanization studies found the need for approximately 220 acres of residentially zoned land – for residential and public/semi-public uses – over the next 15-20 years. This is land that was found to be needed outside the existing UGB once all residential land inside the existing UGB is built out. Although the studies found a land need primarily for residential uses, employment and public/semi-public uses also were also determined to need land inside and outside the existing UGB in the next 20-50 years.

The studies were the basis for adopting the Madras URA, which the County adopted in November 2008 and DLCD acknowledged in July 2009. The proposed UGB and map amendments draw strictly from land designated as URA, which is the first priority land to include in the UGB pursuant to ORS 197.298. The proposed residential zoning and expected primarily residential uses are compatible with residential development on the edges within the existing UGB, and provide a similar buffer to resource land outside the UGB.

The URA is comprised of land that is classified as “exception” land as well as land zoned by the County as Range Land (RL). Range land was included in the URA because: exception land could not meet all the land needs of the next 20-50 years on its own; range land is lower value resource land; and range land surrounding the existing UGB – particularly to the east and southeast – would be more easily served with sewer than other land surrounding the existing UGB.

The ability to serve land on the east and southeast of the existing UGB and to urbanize land that is not parcelized like the exception land in the URA, as well as the lower resource value of the land, offer more land use efficiency and cost-effectiveness and fewer impacts on prime resource land than initially bringing other land in the URA into the UGB. This gives land on the east comparative advantages in economic, energy, environmental, and social terms.

*Policy 2: The County shall cooperate with each city to determine where and when an urban growth boundary should be expanded.*

*2.1 Expansion of an existing urban growth boundary shall be in accordance with state requirements, including the priority of land to be included within the urban growth boundary. Non-irrigated land should have a higher priority for inclusion in the boundary than irrigated land.*

**Response:** Jefferson County and City of Madras staff have closely coordinated the proposed map amendments, and the first evidentiary hearing for the proposal will be a joint meeting of the County and City Planning Commissions. The two jurisdictions also worked closely together to adopt the Madras URA in 2008.

The proposed map amendments comply with applicable Statewide Planning Goals, statutes, and administrative rules as demonstrated in previous sections of this report. The proposed UGB amendment is comprised of land from the Madras URA, which is the first priority for inclusion in the UGB pursuant to ORS 197.298. The land is not irrigated.

**Findings:**

- The proposed UGB and map amendments provide some of the residentially zoned land that is needed outside the existing UGB in the next 15-20 years as found in Madras urbanization studies.
- The amendments draw only from non-irrigated land in the Madras URA, which is the first priority land to include in the UGB pursuant to state statute.
- Residential and related public/non-public uses will be compatible with residential development adjacent and inside the existing UGB, as it will with resource land outside the UGB that already borders residential uses just inside the UGB.
- The ability of the land in the proposed amendment area to be more easily served with sewer than other land in the URA or other land surrounding the existing UGB and to build more densely than developed exception land provides land use, energy, and investment efficiencies. Developing more efficiently and on low resource land instead of



high resource land also present social and environmental benefits when compared to other land surrounding the existing UGB.

- Jefferson County and City of Madras have collaborated on the proposed map amendments.
- The proposed map amendments comply with applicable Statewide Planning Goals, statutes, and administrative rules.

**Conclusion:** The proposed map amendments comply with applicable policies from the Jefferson County Comprehensive Plan.

## **IX. Conformance with the City of Madras Comprehensive Plan**

**GOAL 14 - To provide for an orderly and efficient transition from rural to urban land, and to provide for livable communities.**

*[Paragraph amended by Ordinance No. 781, Passed by Council on December 12, 2006]*

### **POLICIES**

**A. The City, in cooperation with Jefferson County, shall establish an Urban Growth Boundary.**

**B. The City, in cooperation with Jefferson County, shall mutually agree to a management plan for the Urban Growth Boundary area.**

**C. The City, in cooperation with Jefferson County, shall establish an Urban Growth Boundary revision process to be utilized in a proposed change of the Urban Growth Boundary.**

**D. The City, in cooperation with Jefferson County, shall support adoption of an Urban Reserve Area boundary that, when taken together with land supplies in the Urban Growth Boundary, may contain up to a 50-year supply of land for the City of Madras to support housing, economic development, public facility, recreation needs and other urban land needs.**

**E. The City, in cooperation with Jefferson County, shall give priority to land in designated urban reserve areas over other land when considering urban growth boundary amendments.**

**Response:** The Madras City Council approved the Madras URA in October 2008 and the Jefferson County Board of Commissioners in November 2008. DLCD and LCDC received the URA proposal for review in January 2009, and approved the proposal – but remanded sections of proposed County Zoning Ordinance amendments having to do with use restrictions in the URA – in July 2009. The land in the proposed UGB amendment that is the subject of this application is land entirely drawn from the Madras URA, land estimated to be needed for urbanization over the next 50 years.

**F. The City shall favor UGB amendments that involve land in locations that are suitable to address identified urban land needs in order to minimize buildable land supply shortages and address identified needs. Factors that will be considered when evaluating UGB additions include:**

- 1. Existing and planned capacity of the transportation system**
- 2. Existing and planned capacity of the city waste water treatment plant**
- 3. Existing and planned capacity of the city sanitary sewer conveyance system**
- 4. Existing and planned capacity of the Deschutes Valley Water District supply system**
- 5. Impacts on schools, parks, and public safety service providers**
- 6. Impacts on future operating costs for public facilities and services**

G. The City, in cooperation with Jefferson County, shall undertake an evaluation of the urban growth boundary land supply once every five years or more frequently if certified population growth rates exceed 3.2% in three consecutive years. In the event certified population growth rates fall below 3.2% for three consecutive years, the City and County may agree to postpone the evaluation of UGB land supply for up to three years.

H. During years when a comprehensive UGB land supply evaluation is not scheduled, individual applications for adding property to the UGB shall be limited to requests of less than 40 acres. UGB amendment applications must demonstrate consistency with applicable Oregon statutes and administrative rules and be accompanied by information that addresses Policy 14-J below. Applications that involve more than 5 acres also must comply with provisions of Policy 14-I.

I. The City, in cooperation with Jefferson County, shall encourage the development of complete, livable communities that include characteristics such as: a variety of lot sizes, dwelling unit types and ownership types, open spaces and other recreational amenities, a mix of land uses, school and community facilities, connected streets, proximity to downtown and other employment centers, and development that is scaled to the pedestrian and creates a sense of place. New growth areas of more than 5 acres that are added to the UGB shall should be planned and developed in accordance either with a master planned community development plan approved under the city Master Planned Community Overlay zone, or an Area Master Plan. The City encourages Master Planned Communities as a means to meet city housing needs as explained in other comprehensive plan documents. It may be appropriate, however, for the city to add new growth areas to the UGB that are planned and developed in accordance with an approved Area Master Plan. A majority of property owners subject to a Master Planned Community, or to an Area Master Plan, must consent to be included in the plan.

1. A Master Planned Community (MPC) Overlay may apply to large multi-phased development projects where the master plan is intended to guide future development patterns and serves to regulate the site-development approval process. A MPC requires generous open space and amenities, and encourages efficient use of land and public facilities and services, a variety of housing types, innovative designs and complete pedestrian-friendly communities. A MPC shall demonstrate efficient use of land consistent with an identified urban land need, show appropriate locations for transportation improvements, public facilities, and the protection of significant open space, scenic, historic, and natural resource areas. A MPC must show how planned land uses will be integrated with the existing urban development pattern. Physical barriers, such as highways, tend to disrupt complete communities and livability because they disconnect areas from downtown and result in an auto-oriented environment of sprawl along highway corridors.

2. An Area Master Plan (AMP) is appropriate for land added to the UGB where the approval of future urban development is expected to rely on conventional urban zoning and the application of codified development standards and review procedures. An AMP may be prepared for contiguous properties added to the UGB that are greater than 5 acres and are not subject to a MPC overlay. An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural

resource areas. An AMP must show how planned land uses will be integrated with the existing urban development pattern.

3. An approved Master Planned Community Plan or an Area Master Plan must include documentation that a majority of property owners support the conversion of land to the planned urban uses and also consent to annexation by the city of Madras using a voluntary annexation process that is outlined in the plan.

**Response:** The total area under consideration is 36.4 acres, which is less than the 40 acre maximum established for interim UGB annexation requests. The east site of the proposed UGB amendment and annexation area is part of the approved Yarrow Master Plan area. The plan designates land for predominantly residential land uses, which is compatible with adjacent development in the UGB, while also designating land for open space and park uses, community services including schools, and limited neighborhood commercial services. The conceptual plan also shows an internal transportation system that includes sidewalks and multi-use paths.

The east site is being proposed for both annexation to the UGB and Madras city boundaries. The site can be adequately served with water and sewer facilities given existing and planned facilities, according to the service providers (Appendix D). The site is not projected to have a significant adverse effect on surrounding transportation facilities given planned improvements for the intersections of US 97/J Street (Appendices F and G). Its proposed designation as Multi-family Residential is consistent with land needs identified in the 2007 urbanization studies and with residential zoning in the area.

Pursuant to Policy I-1: "An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas." It is proposed to annex the west site to the Madras UGB and city limits but to retain its existing County Range Land (RL) zoning until the owners are ready to propose development. The site is surrounded by land designated for residential and related uses, and its future land use and zoning designation must allow for residential and compatible public/semi-public uses in order to show that land uses on the west site can be: "integrated with the existing urban development pattern." (Policy I-2) The proposed addition of a table showing Madras and County zones that correspond with Madras land use designations to the Madras Comprehensive Plan Section IV, Land Use Element (Table 3-1), will facilitate the transition of existing County zoning to appropriate City zoning.

The west site is comprised of three lots – Lots 101 and 200 that total 16.22 acres and are privately owned and Lot 102 that is 0.69 acres designated for County right-of-way. Lots 101 and 200 are both adjacent to Ashwood Road, a County collector, and will not require additional public roads for sufficient internal or local circulation. At the time of proposed development, proposed land division or planned development plans must show an internal circulation system that satisfies City code requirements and street standards. The west site is adjacent to the existing Madras UGB and is bordered by Ashwood Road, which eases extension of services from inside the existing UGB and city limits to the west site. Water and sewer service providers have attested that existing and planned facilities will be sufficient to serve the west site (Appendix D).

The County has not identified historic, scenic, or natural resources on the west site. City open space requirements for subdivisions or planned developments will apply to the site at the time of proposed development.

**J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:**

- 1. The proposed urban zoning or land use program for the subject properties that address an identified urban land need;**
- 2. An annexation program for all subject properties;**
- 3. Evidence that public facilities required by OAR 660-011-000 that are necessary to serve the expansion area can be served either by system improvements outlined in adopted public facility master plans or by supplemental improvements that augment adopted public facility master plans;**
- 4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need;**
- 5. Evidence that providers of other crucial public facilities (e.g. schools, parks and recreation, emergency services and health care) are able to meet the projected demand for their services;**
- 6. Evidence that financing for constructing needed public improvements is available so that the expansion area can be developed as planned within the planning horizon;**
- 7. Evidence that development in areas subject to natural hazards are protected from these hazards;**
- 8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.**

**Response:**

***Zoning and Land Use Designations (Policy J1)***

The east site is proposed to be re-zoned to a City R-2 designation. This meets some of the need for residentially zoned land outside the existing UGB that is projected for the next 15-20 years. Residentially zoned land will provide for housing and public/semi-public uses. This land need is documented in the *Madras Urbanization Study Addendum* (ECONorthwest, August 2007). (See Table 5-2)

The west site is proposed to retain its existing County Range Land (RL) designation until the time when further land use action and development is proposed. Existing zoning will allow only limited development, and appropriate future designations for the site will be City residential designations given that City open space and residential zoning currently surround the site.

When rezoning is proposed for the west site and for other land being converted from rural to urban, the proposed text amendments (Table 3-1) will assist and regulate the rezoning that will occur when changing County zoning to City land use designations and zoning.

***Annexation Program (Policy J2)***

The City is the applicant for this proposal, and annexation program pursuant to Article 7 of its Zoning Ordinance is described later in this report.

***Goal 11 Public Facilities (Policy J3) and Transportation Planning Rule (Policy J4)***

Kittelson & Associates has performed the transportation analysis needed to deem whether the proposed UGB amendment constitutes a significant effect on the transportation system. Given that schools generate more peak hour traffic than housing alone, two scenarios were developed for Transportation Planning Rule (TPR) analysis that involved both housing and a school. Using these scenarios in a TPR analysis, it was found that the increase in traffic did constitute a significant effect on the US 97/J Street intersections. However, given improvements included in the City's amended TSP and Draft 2010-2013 STIP, the effect can be mitigated and removed.

Public facility analysis for establishing the Madras URA ranked drainage catchment areas around the existing UGB for sewer service costs and serviceability. Of the six study areas that comprised the preliminary and then final URA, Study Areas 3 and 4 on the east and southeast consistently ranked higher than other areas. This can, in part, be attributed to proximity to the new South Wastewater Treatment Plant (SWWTP) and being upslope of the plant. In particular, the proposed UGB amendment and annexation are located in Catchment Area 180 and bordering on Catchment Area 179. These areas ranked 8<sup>th</sup> and 12<sup>th</sup> out of 60 catchment areas, making them among the more cost-effective and serviceable areas of the URA.

As was also determined during the URA public facility analysis, Deschutes Valley Water District (DVWD) found that there would be insignificant differences in providing water service to the different parts of the URA. Water supply in the region is adequate to ample. Similarly, existing and planned sewer facilities provided by the City will be sufficient to serve the proposal area. (See service provider letters in Appendix D)

***Other Public Facilities (Policy J5)***

The east site has access to substantial park and recreation resources. Juniper Hills Park (County) and Bean Park (City) are nearby, as well as Jefferson County Middle School and its fields. The Yarrow Master Plan that applies to the site and surrounding land also designates open space and parks throughout the plan area.

The City reports that Mountain View Hospital and City public safety and emergency services are sufficient to provide services for the proposed UGB amendment and annexation area. The sites are served by the Jefferson County School District 509-J.

***Financing for Improvements (Policy J6)***

Financing for constructing the needed public improvements will be placed upon property owners. As demonstrated by the letters submitted by the City of Madras Public Works

Director and Deschutes Valley Water District General Manager, each respective utility has capacity to service the properties proposed to be included in the Madras UGB. To extend wastewater and domestic water services to the properties to be included in the UGB, each property owner will be responsible for extending services lines to their property, not withstanding the requirements for annexing their property into the Madras city limits.

Similarly, the Oregon Department of Transportation has determined the proposed UGB expansion will significantly affect the US 97/J Street intersection but that the design concept is established, the City has implemented System Development Charges to partially fund the improvements for this particular intersection and in the Draft State Transportation Improvement Plan (STIP) is funding for the intersection. With the design concept established and both funding sources identified, ODOT has determined that the US 97/ J Street intersection improvements are Reasonably Likely to Occur and therefore, impacts of the proposed UGB expansion are mitigated.

***Protection from Natural Hazards (Policy J7)***

There are not steep slopes (slopes greater than 25%), floodway, or floodplain in the proposed UGB expansion and annexation area. In fact, the proposed amendment and annexation are driven, in part, by the need to provide a school that is outside the floodway and floodplain of Willow Creek and its tributaries.

Fire protection service for the proposal area is currently provided by Jefferson County Fire Protection District #1, and will continue to be provided by that district if the land is annexed to the city. The area is subject to a Community Wildfire Protection Plan (CWPP) that Jefferson County completed in 2005 in collaboration with the fire district and federal agencies.

***Protection of Goal 5 Resources (Policy J8)***

The Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files do not identify floodways, floodplains, significant habitat, or cultural resources in the proposed UGB amendment and annexation area. The only resources cited above that may apply to the site are open spaces. While open space will be a required part of public use or residential development that occurs in this area, this proposal itself is not a development or entitlement proposal and, therefore, does not specify precisely where such open space will be designated.

**Findings:**

- Amendments to zoning and land use designations are planned and proposed. The proposed City land use designation is residential and City zoning designation R-2 (Multiple Family Residential). A need for about 22 acres of land outside the existing UGB zoned R-2 was determined in the *Madras Urbanization Study Addendum*.
- Proposed text amendments facilitate the transition from urban to rural zoning, from County zoning to City land use designations and zoning.
- Existing and planned transportation facilities – including improvements for the US 97/J Street intersections in the Madras TSP and the 2010-2013 Draft STIP, which ODOT has deemed reasonably likely – will allow the study intersections to operate



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within adopted standards both in the case of the proposal area being annexed and rezoned and not.

- Existing and planned water and sewer facilities will be sufficient to serve the proposal area.
- The proposed UGB amendment and annexation area has access to nearby parks, a middle school, and a high school. Rezoning the 20-acre east site to R-2 will allow for residential and public/semi-public uses there.
- Financing of wastewater and domestic water services will be placed upon property owners once the properties are annexed and developed in a manner that is consistent with the service providers facility plans.
- In terms of natural hazards, there are not slopes greater than 25%, floodway, or floodplain in the proposed UGB expansion and annexation area. The proposed amendments and annexation are based, in part, on the need to provide a school that is outside the floodway and floodplain of Willow Creek and its tributaries. Fire protection service for the proposal area is and will be provided by Jefferson County Fire Protection District #1.
- There are not floodways, floodplains, habitat, or cultural resources that are identified in the Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files in the proposal area. Open space will be provided pursuant to Madras zoning ordinance (MZO) in which 30% of a Master Planned Community must be open space (MZO Section 3.12(D)(4)).

**Conclusion:** The proposed map and text amendments comply with the relevant policies of the Madras Comprehensive Plan.

## **X. Conformance with the City of Madras Community Development Code**

### ***City of Madras Zoning Ordinance***

#### **ARTICLE 7: ANNEXATION**

**SECTION 7.1: PURPOSE** - *The purpose of this section is to:*

- A. Implement the policies of the City of Madras Comprehensive Plan;*
- B. Provide for City review of all annexation requests for a determination of the availability of facilities and services as related to the proposal;*
- C. Provide for dissemination of public information and for sufficient time for public review;*
- D. Provide for City and County coordination of a request for an annexation; and*
- E. Provide for an expedited process by establishing procedures whereby the annexation and zoning, if applicable, may be considered concurrently.*

**SECTION 7.2: APPLICATION PROCEDURE.** *Annexation is a land use decision and is subject to applicable provisions of the City of Madras Comprehensive Plan, Oregon Revised Statutes, and Oregon Administrative Rules. In addition, the procedures below shall be followed:*

- A. The Planning Commission shall conduct a public hearing after notification of all property owners with two hundred fifty feet (250') outside of the boundary(ies) of the proposed annexation. The Planning Commission shall review the proposal for compliance with the annexation policies contained in this Ordinance and make a recommendation to the City Council, based on:*
  - 1. The annexation proposal which meets the application requirements; and*
  - 2. The Planning Commission shall conduct a public hearing to determine a recommendation to the City Council to approve, approve with conditions or modifications, or disapprove the feasibility of the annexation proposal based on the criteria set forth in Section 7.4 below; and*
  - 3. The Planning Commission shall state its recommendation and the reasons therefore in writing to the City Council.*
- B. Upon receipt of the Planning Commission recommendation, the City Council shall conduct a public hearing and consider an Ordinance declaring the requested lands to be annexed to the City of Madras.*
  - 1. The City Council shall review the record of the Planning Commission hearing their recommendation and shall determine whether to approve, approve with conditions or modifications, or disapprove the feasibility of the proposed annexation in accordance with the criteria set forth in Section 7.4 below.*
  - 2. The City Council may conduct additional public hearings to assist their making a determination.*
  - 3. The City Council shall state its determination and the reasons therefore in writing.*

**Response:** The City of Madras sent public hearing notice to the surrounding property owners on February 1, 2010. The City and County Planning Commissions held their first public hearing on February 11, 2010. The City Planning Commission decided upon a recommendation to approve the proposed Comprehensive Plan amendment (10-PA-01) at its hearing on February 11, 2010 and forwarded it to the Madras City Council. The City

Council is held a public hearing jointly with the Jefferson County Board of Commissioners on March 29, 2010. The City of Madras has not provided notice to affected property and adjacent property owners, or noticed the public hearings for the annexation of 20 acres of the proposed Comprehensive Plan amendment to expand the Madras UGB by approximately 36.91 acres.

**SECTION 7.3: ANNEXATION APPLICATION.** *The petitioner for annexation shall complete an application form provided by the Community Development Department. The application fee, established by Resolution of the City of Madras City Council, shall be submitted with the application. The application shall include:*

- A. *A map demonstrating that the proposed annexation is contiguous to the City Limits;*
- B. *Specific information on each parcel within the proposed annexation area:*
  - 1. *Current assessed valuation shown on Jefferson County Assessor's tax rolls.*
  - 2. *Acreage of both public and private property to be annexed.*
  - 3. *Map and tax lot(s) number.*
- C. *Names and ages of all residents and list of registered voters in the proposed annexation area.*
- D. *Addresses of all parcels within the proposed annexation area.*
- E. *Consent to Annexation forms, provided by the City of Madras, with notarized signatures of all property owners and electors within the proposed annexation area.*
- F. *Written findings, which address the following:*
  - 1. *Existing land uses within annexation area.*
  - 2. *Existing zoning within the annexation area.*
  - 3. *Existing improvements:*
    - a. *water system*
    - b. *streets*
    - c. *sanitary sewer*
    - d. *storm drainage*
  - 4. *Special Districts within the area:*
    - a. *water districts*
    - b. *irrigation districts*
    - c. *fire district*
    - d. *school district*
    - e. *other*
  - 5. *Urban services, the present availability of urban service systems to the proposed annexation area, their capacity and cost of extension and/or improvement to urban standards:*
    - a. *sanitary sewers - streets - parks*
    - b. *storm drainage - water*
    - c. *fire - power*
    - d. *schools - police*
- G. *Compliance with all applicable policies of the City of Madras Comprehensive Plan.*

**Response:** The City is initiating and applying for the proposed annexation. Maps of the west site and east site in the proposed UGB amendment and annexation area are included in this report as Figure 4-1. Parcel size and other parcel information is presented in Section I, Proposal Summary. The City owns the taxlot where the east site is located. The 20-acre parcel that is being created from the taxlot has been surveyed. The west site is comprised of three taxlots, two taxlots that are privately owned and one small taxlot (0.69 acres) that is

County right-of-way. Re-zoning is not proposed for this site at this time as there are no immediate development plans. However, this site does better connect the east site to the existing UGB and will be suitable for residential uses and compatible public/semi-public uses, for which Madras urbanization studies have found a long-term need.

The property proposed to be included in the UGB amendment and annexed currently is vacant and not in active use. It is land under Jefferson County jurisdiction and zoned Range Land (RL). There are not water, sewer, or storm water facilities and services extended to the site yet, but they can be extended using existing City facility master plans. The Deschutes Valley Water District (DVWD) provides water service to the area and can provide facilities and service to the site, to be financed primarily by development applicants. The same is true for sewer and storm water facilities and service, for which the City of Madras is the service provider. As part of its agreement with JCSD, the City will extend water and sewer to the edge of the east site. There is an irrigation district in the region – the Central Oregon Irrigation District – but the proposal area is not irrigated nor is it proposed to be.

There is a County collector road – Ashwood Road – along the northern border of the area that will not need improvements according to transportation analysis conducted for this proposal. (See Appendix F)

Jefferson County Fire Protection District #1 currently provides service for the area and will continue to do so. Public safety responsibility for the area will be transferred from the County to the City. In terms of parks and recreation, there are two parks and a middle school close to the site, and the Yarrow Master Plan, which includes and surrounds the east site, includes the 30% of parks and open space required by local code (MZO Section 3.12(D)(4)).

As addressed in the previous section of this report, the application complies with the applicable policies of the Madras Comprehensive Plan.

**SECTION 7.4: ANNEXATION CRITERIA.** *Lands may be annexed only if the City Council finds that the following criteria are met:*

- A. The property is contiguous to the City limits.*
- B. The property is located within the City's Urban Growth Boundary.*
- C. The annexation meets at least one of the following purposes:*
  - 1. To serve lands needing City water or sewer to alleviate a present or potential health hazard; or*
  - 2. To provide land to accommodate future urban development; or*
  - 3. To provide land for provision of needed transportation or utility facilities; or*
  - 4. To ensure that lands adjacent to the City are developed in a manner consistent with City standards.*
- D. The petitioner has adequately addressed infrastructure supply and demand issues. The annexation is considered timely in that an adequate level of urban services and infrastructure can be provided upon annexation or a plan is in place for the provision of such services or infrastructure in a reasonable period of time.*
- E. The proposed annexation complies with the City's Comprehensive Plan. If the Comprehensive Plan does not control the annexation, or substantial changes in*

*conditions have occurred which render the Comprehensive Plan inapplicable to the annexation, the proposed annexation complies with current Statewide Planning Goals.*

*F. The City is capable of extending City services to the area proposed for annexation without negatively impacting existing systems and the City's ability to adequately serve all areas within the existing City limits.*

*G. The proposed annexation is compatible with the existing topography, potential for future land division, natural hazards and other related considerations.*

**Response:** The proposal area is adjacent to the Madras city limits and is simultaneously seeking to be annexed to the Madras UGB and to the city. The proposed UGB amendment and annexation area provides land for future urban development, specifically for a needed school and housing as demonstrated by the *Madras Urbanization Study Addendum* (ECONorthwest, 2007). The east site of the proposal area is part of the Yarrow Master Plan area that the City has approved and found to be consistent with City development goals and standards.

The proposal area can be served by water and sewer using existing water and sewer master plans and being financed by the City and developers of the sites. Ashwood Road on the north side of the proposal area is a County collector road and does not need improvements in order to serve the area. Planned improvements for US 97/J Street are the only improvements needed in the vicinity in order to mitigate any potential significant effects associated with this proposal (Appendix F). Internal circulation and transportation facilities will need to be shown in future development applications.

## **SECTION 8.2: ZONE/PLAN MAP AMENDMENTS**

### **A. Amendment to the Zone/Plan Map**

1. *Amendment to the Zone/Plan Map may be initiated by the Planning Commission, City Council, Community Development Director, Land Use Periodic Review, or by application of the property owner.*
2. *If the application is for a change of a quasi-judicial or legislative nature:*
  - a. *the Planning Commission shall conduct a public hearing on the proposed amendment at its earliest practical meeting date after the proposal is submitted and shall follow the adopted rules for quasi-judicial hearings;*
  3. *b. the Planning Commission shall provide a recommendation to the City Council based on findings-of-fact;*
  4. *c. The City Council shall hold a public hearing and review the recommendation of the Planning Commission, along with any public testimony on the issue. The City Council must take final action on an amendment request and amendments shall be made by ordinance.*
3. *An application for a zone change for land annexed to the city that is subject to an approved Master Planned Community Plan or an approved Area Master Plan may be considered as an administrative action per Article 9.3.*

**B. Criteria for Amendments: The burden of proof is upon the applicant. The applicant shall show the proposed change is:**

1. *In conformity with all applicable state statutes.*
2. *In conformity with the applicable Statewide Planning Goals; and*
3. *In conformity with the Madras Comprehensive Plan, Zoning and Land Use Ordinance, and policies; and*
4. *In conformity with an approved Master Planned Community Plan or Area Master Plan, if applicable to the underlying properties; and*
5. *That there is a change of circumstances or further studies justifying the amendment or mistake in the original zoning.*

**Response:** This application is being initiated by the City Community Development Department/Director. Also pursuant to the terms of the UGAMA between the County and the City, the City forwarded the UGB amendment application and appropriate fees to the Jefferson County Community Development Department within five working days of being initially filed.

This application is being processed pursuant to legislative procedures and will receive full review by the public, the City Planning Commission, and the City Council. Hearings by the Madras Planning Commission and Jefferson County Planning Commission will be held first jointly on February 11, 2010. The Madras City Council will review the City Planning Commission's recommendation at a hearing on February 11, 2010, and will forward its decision to the County Board of Commissioners for a hearing on March 29, 2010.

As demonstrated by the previous findings, the proposed comprehensive plan, comprehensive plan map, and zoning map amendments comply with applicable Statewide Planning Goals, State statutes, and Madras Comprehensive Plan policies.

**Findings:**

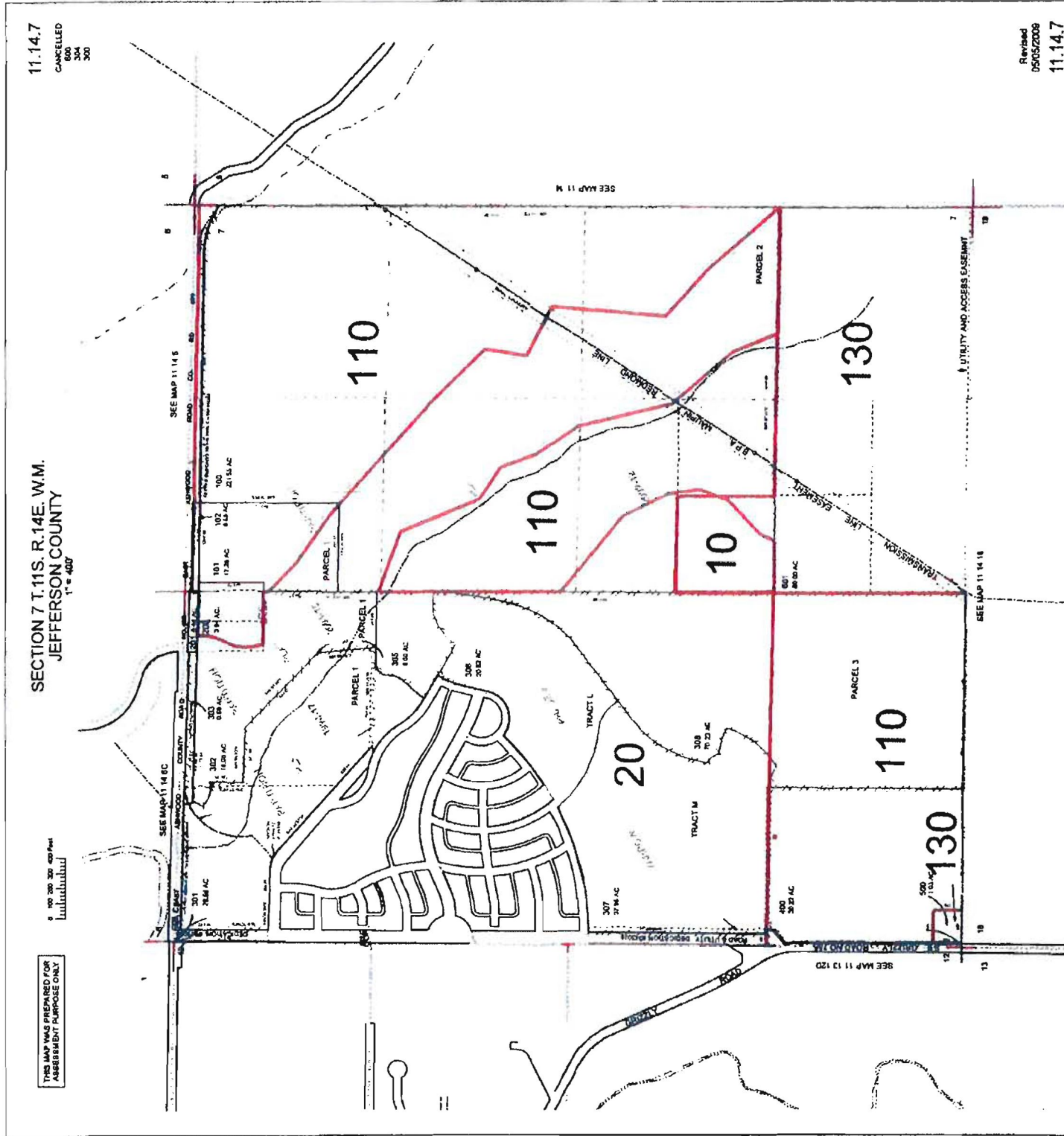
- The City has followed procedures for providing notice and holding public hearings for the proposal. Notice to adjacent property owners was mailed On February 1, 2010 to all properties within 750 feet of the properties proposed to be included in the Madras UGB. A joint City and County Planning Commission hearing was held on February 11, 2010 and then a joint hearing before the Madras City Council and Jefferson County Board of Commissioners was held on March 29, 2010. The City Council and County Board of Commissioners heard the proposal on March 29, 2010 and approved the proposal on March 29, 2010.
- The City of Madras has initiated this proposal. It owns the east site of the proposed UGB amendment and annexation area and has an agreement with Jefferson County School District 509-J to exchange this land for land downtown upon annexation and re-zoning.
- The proposed UGB amendment and annexation area provides land needed for residential and public/semi-public uses, specifically for a needed school and housing as demonstrated by the *Madras Urbanization Study Addendum* (ECONorthwest, 2007).
- All service providers – the City of Madras, Jefferson County, Deschutes Valley Water District, Jefferson County Fire Protection District #1, Jefferson County School District 509-J – have capacity to serve the proposal area given implementation of existing water and sewer master plans, planned improvements to US 97/J Street intersections, and financing from future proposed development.

- The east site of the proposed UGB amendment and annexation area is part of the approved Yarrow Master Plan area, and the west site fulfills the requirements for an Area Master Plan. The set of proposed map and text amendments in this application comply with applicable Statewide Planning Goals, State statutes, and Madras Comprehensive Plan policies.

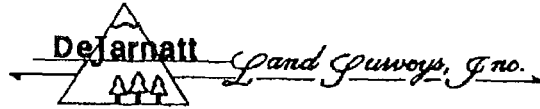
**Conclusion:** The proposed map and text amendments comply with the relevant provisions of the Madras Zoning Ordinance.



**Appendix A: West Site Tax Map (3 lots, 16.91 acres)**



**Appendix B: East Site Legal Description and Survey  
Map (20-acre parcel)**



63885 N. Hwy. 97 ▲ Bend, OR 97701 ▲ (541) 382-4192

December 16, 2009  
City of Madras  
Job# 09077

**PROPERTY DESCRIPTION FOR A 20.00 ACRE TRACT OF LAND FOR  
SCHOOL DISTRICT 509-J**

A portion of Parcel 2 of Partition Plat No. 2002-12 as filed in the Jefferson County Clerk's Office, situated in the Northeast Quarter (NE ¼) of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County, Oregon, more particularly described as follows:

Commencing at the Northwest corner of said Northeast Quarter, monumented with a 2 inch diameter brass cap, from which the Northeast corner of said Section 7 bears South 89°39'40" East a distance of 2640.53 feet; thence South 89°39'40" East along the North line of said Section 7 a distance of 599.97 feet; thence South 00°17'36" West a distance of 40.00 feet to the Northwest corner of said Parcel 2 of Partition Plat No. 2002-12; thence continuing South 00°17'36" West along the West line of said Parcel 2 a distance of 40.00 feet to the South right-of-way line of East Ashwood Road and the **True Point of Beginning of this Description**; thence South 00°17'36" East along said West line a distance of 935.13 feet to the Southeast corner of Parcel 1 of said Partition Plat No. 2002-17; thence leaving said West line South 89°39'40" East a distance of 931.70 feet; thence North 00°17'36" West a distance of 935.12 feet to a point on the South right-of-way line of East Ashwood Road; thence North 89°39'40" West along said right-of-way line a distance of 931.70 feet to the **True Point of Beginning**.

Containing 20.00 acres more or less.

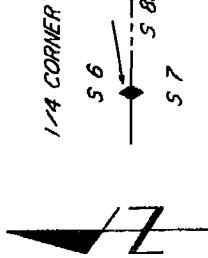
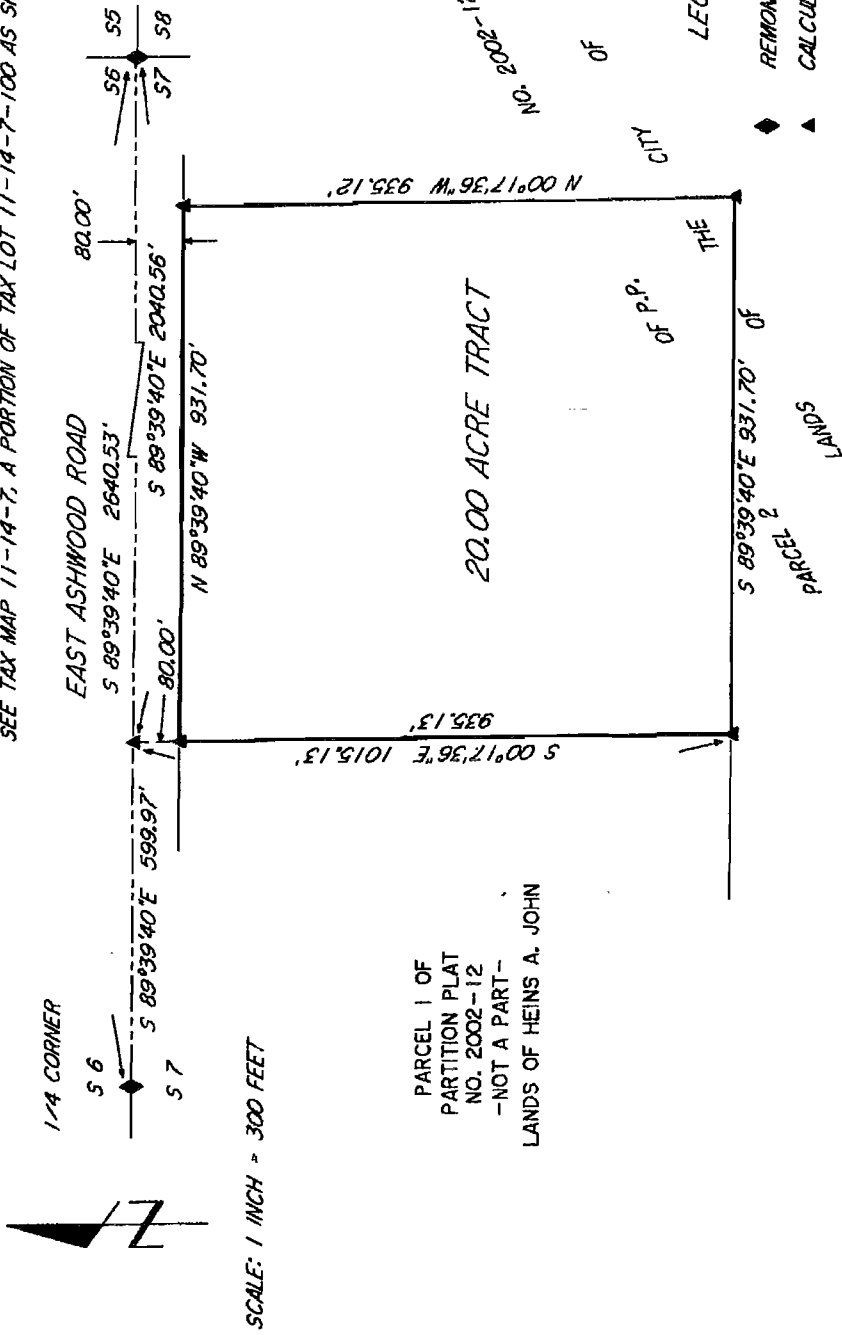
**End of Description.**

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

*Gary L. DeJarnatt*  
OREGON  
JULY 17, 1985  
GARY L. DEJARNATT  
2208

Renews: 12/31/2009

**MAP FOR PROPERTY DESCRIPTION FOR SCHOOL DISTRICT 509-J**  
 A PORTION OF THE NE 1/4 OF SEC. 7, T. 11 S., R. 14 E., W.M., JEFFERSON COUNTY, OREGON.  
 SEE TAX MAP 11-14-7, A PORTION OF TAX LOT 11-14-7-100 AS SHOWN HEREON



SCALE: 1 INCH = 300 FEET

PARCEL 1 OF  
 PARTITION PLAT  
 NO. 2002-12  
 -NOT A PART-  
 LANDS OF HEINS A. JOHN

**LEGEND:**

- ◆ REMONUMENTED PUBLIC LAND CORNER.
- ▲ CALCULATED CORNER POSITION.
- P.P. PARTITION PLAT.

REGISTERED  
 PROFESSIONAL  
 LAND SURVEYOR

*Gary L. DeJarnatt*

OREGON  
 JULY 17, 1986V  
 GARY L. DEJARNATT  
 2208

RENEWS: 12/31/2009

PREPARED BY:

DEJARNATT LAND SURVEYS, INC.

63885 NORTH HWY 97 DATE: DECEMBER 16, 2009  
 BEND, OREGON 97701 SHEET 1 OF 1  
 PHONE: 541-382-4192 JOB # 09077  
 08029 COORD FILE: 08029G SCREEN FILE



**Appendix C: Urban Reserve Area Management  
Agreement (URAMA) (January 2009)**

M-014-09

### Urban Reserve Area Management Agreement

This agreement is entered into by the City of Madras, an incorporated municipality of the State of Oregon, hereby referred to as the "City" and Jefferson County, a political subdivision of the State of Oregon, hereby referred as "County".

#### A. RECITALS

WHEREAS, the City of Madras and Jefferson County are authorized pursuant to Oregon Revised Statutes (ORS) Chapter 190 to enter into an Intergovernmental Management Agreement for the performance of functions which either governmental entity has the authority to perform; and

WHEREAS the City and County have previously entered into an intergovernmental agreement on April 5, 2006 setting forth their respective rights and responsibilities with respect to the Urban Growth Boundary (UGB); and

WHEREAS, the Management Agreement also constitutes a cooperative agreement under ORS Chapter 195; and

WHEREAS the City and County consider it mutually advantageous to establish this Urban Reserve Area Management Agreement (URAMA) for the purpose of facilitating the future conversion of lands in the Urban Reserve Area (URA) from rural to urban land uses.

#### B. INTENT OF AGREEMENT

1. To establish standards and procedures for review and action on proposed land use actions and related matters noted within this agreement pertaining to implementation of the Comprehensive Land Use Plan and Zoning Regulations as adopted by the City and County for the Urban Reserve Area (URA); and
2. To affirm Jefferson County's jurisdictional authority for current planning activities, land use decisions, building permitting, public improvements, and code enforcement within the URA ; and
3. To provide assistance to property owners in the URA by laying out a clear and cooperative process designed to make decisions on land use applications in a timely and consistent manner; and
4. To clarify planning and zoning intents and to satisfy the requirements of OAR Chapter 660, Division 21 relating to Urban Reserve Areas.



### C. DEFINITIONS

1. City: City of Madras.
2. Board: the Jefferson County Board of Commissioners.
3. Council: the Madras City Council.
4. County: Jefferson County.
5. Land Use Decision: A Land Use Decision is defined by ORS 197.015
6. Urban Reserve Area: has the same meaning as set forth in OAR 660-021-0010(1), and means land outside of an Urban Growth Boundary identified as highest priority of inclusion in the Urban Growth Boundary when urbanizable land is needed in accordance with the requirements of Statewide Planning Goal 14.
7. Urban Growth Boundary: The boundary line which separates lands to be urbanized and eventually incorporated into the City of Madras from the surrounding rural lands under the County's jurisdiction.
8. Conversion Plan: has the same meaning as set forth in JCZO Section 105.

### D. AGREEMENT

Compliance with OAR Chapter 660, Division 21. In accordance with the applicable requirements of Chapter 660, Division 21, City and County agree as follows:

1. As required by OAR 660-021-0040(2)(e):
  - (a) The County shall ensure that conversion plans are required and processed as part of tentative land division decisions in the URA as outlined in the Jefferson County Zoning Ordinance (JCZO) Section 703.2(O).
  - (b) The County shall prohibit certain uses in the URA, including plan or zoning map amendments that allow a minimum lot size less than ten acres as outlined in JCZO Section 323.3.
2. As required by OAR 660-021-0050(1):
  - (a.) Jefferson County shall have authority and jurisdictional responsibility for current planning activities, land use decisions, building permitting, and code enforcement within the URA.

- (b.) Upon inclusion of property from the URA within the Urban Growth Boundary, the property shall be subject to the Urban Growth Management Area Agreement.

3. Designation of service responsibility, as required by OAR 660-021-0050(2) is as follows:

Service	Existing Service Provider	Future Urban Service Provider
Sanitary Trash Disposal	No Public Service Provider	No Public Service Provider
Sanitary Sewer	No Public Service Provider	City of Madras
Water	Deschutes Valley Water District	Deschutes Valley Water District
Fire Protection	Jefferson County Fire District #1	Jefferson County Fire District #1
Parks	Jefferson County	City of Madras
Recreation	Madras Aquatic Center District	Madras Aquatic Center District
Transportation	Jefferson County	City of Madras
Storm Water	Jefferson County	City of Madras

- (a.) The local government or special district responsible for services (including sanitary trash disposal, sanitary sewer, water, fire protection, parks, transportation, storm water) for areas within the URA are designated and shown on the map(s) attached hereto and incorporated herein as Exhibit "1A".

4. As required by OAR 660-0210-0050(3), the terms and conditions under which service responsibility will be transferred or expanded, for areas where the provider of service is expected to change over time, is described in Exhibit "1B" attached hereto and incorporated herein.
5. As required by OAR 660-0210-0050(4), procedures for notification and review of land use actions to ensure involvement by all affected local governments and special districts:
- (a) Within the URA, the County shall process all land use applications for comprehensive plan amendments, zone changes, and other applications affecting land use (including conditional uses, Planned Unit Developments (PUDs), subdivisions and partitions) in a manner that is consistent with the procedures set forth in the Jefferson County Comprehensive Plan and Zoning Ordinance for the respective land use actions.
- (b) Prior to acceptance of a land division application within the URA, the County shall require the applicant to submit a conversion plan to the City of Madras as outlined in JCZO Section 703.2(O).

The intent of the conversion plan is that it:

1. Is not an engineered plan.
2. May be amended from time to time by property owners submitting a new conversion plan to the City and County.
3. Does not constitute a separate land use decision, as it is part of a land division decision.
4. Must be recorded with the County Clerk so that future buyers of newly-created parcels in the URA will become aware, prior to purchase, that roads and utility easements will be required when the property is further developed after annexation.
5. Serves a guide to placement of structures in the building permitting process.

The City shall review the conversion plan and work with the property owner to ensure that the locations of planned roads and rights-of-way, and the locations of future easements for water, sewer, and storm water facilities that will adequately serve the site when developed at an urban density; are protected. The City may recommend that the conversion plan be approved, denied, or be approved with conditions.

Within 15 days of receiving a conversion plan for review, the City will forward its comments to both the applicant and the County, and the applicant is required to include the conversion plan and City comments with their tentative land division application to the County.

The County shall review the conversion plan as part of the tentative land division application, and approve, deny, or approve with conditions. A condition of approval for the land division decision shall be that the property owner record the conversion plan with the final plat at the County Clerk's Office.

The County agrees to consult conversion plans prior to building permit approval of structures in the URA, where applicable.

The City or County may charge a separate fee for review of conversion plans.

- (c) Notice of all land use applications within the URA shall be sent to the City of Madras Community Development Department and to any other affected City agencies and other applicable special service districts for review and comment prior to a decision by the County. Such agencies shall be given ten business days in which to provide comments on the land use application.

- (d) In making its decision, the County shall consider all comments received under Section (c) above.
- (e) The City, and agency, or any other special service district that provides comments on land use applications shall be mailed written notice of the land use decision and shall have standing to appeal the County's decision.

#### E. AMENDMENT AND TERMINATION

1. This agreement may be amended at any time by mutual agreement of both parties, after public hearing and adoption by both the City Council and the Board of Commissioners.
2. Any modifications to this agreement shall be consistent with the City and County Comprehensive Plans, the Urban Growth Area Management Agreement for the City of Madras and the statewide planning goals.
3. This agreement may be terminated by either party under the following procedure:
  - a. Written notice of intent to terminate this Agreement shall be sent to the other party at least forty-five (45) days prior to taking any action, including the publication of public hearing notices in order to provide ample time for resolution of differences, or amendment to comprehensive plans.
  - b. A public hearing shall be held by the party considering termination. The party considering termination shall give the other party at least 20 days prior notice of the scheduled hearing date. The 20 day period shall be used by both parties to seek resolution of differences. Both parties shall also request a collaborative conflict resolution process to resolve differences that remain.
  - c. Public notice of hearings shall be in accordance with applicable statutes and local ordinances.
  - d. This agreement is necessary for compliance with, at minimum, statewide planning Goals 2 and 14. Unless the Urban Reserve Area is no longer an overlay zone in the County, this agreement may not be terminated without adoption of a new agreement.

#### F. TIME OF EFFECTIVENESS

This agreement shall not become effective until properly executed by both the City and the County. Upon execution, this agreement shall supersede all previous Urban Reserve Area Management Agreements.

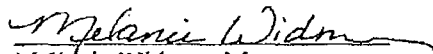
G. SEVERABILITY

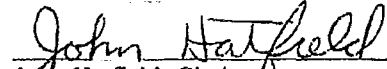
The Provisions within this agreement are severable. If any section, sentence, clause or phrase of this agreement is adjudged by a court of competent jurisdiction to be invalid, said invalidity shall not impair or affect the validity of the remaining portions of the agreement.

ADOPTED this 28<sup>th</sup> of January, 2009.

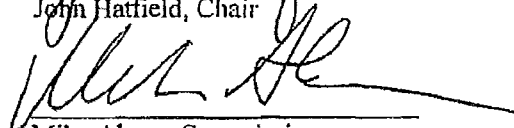
CITY OF MADRAS, OREGON

JEFFERSON COUNTY, OREGON

  
Melanic Widmer, Mayor

  
John Hatfield, Chair

Date: 1-27-2009

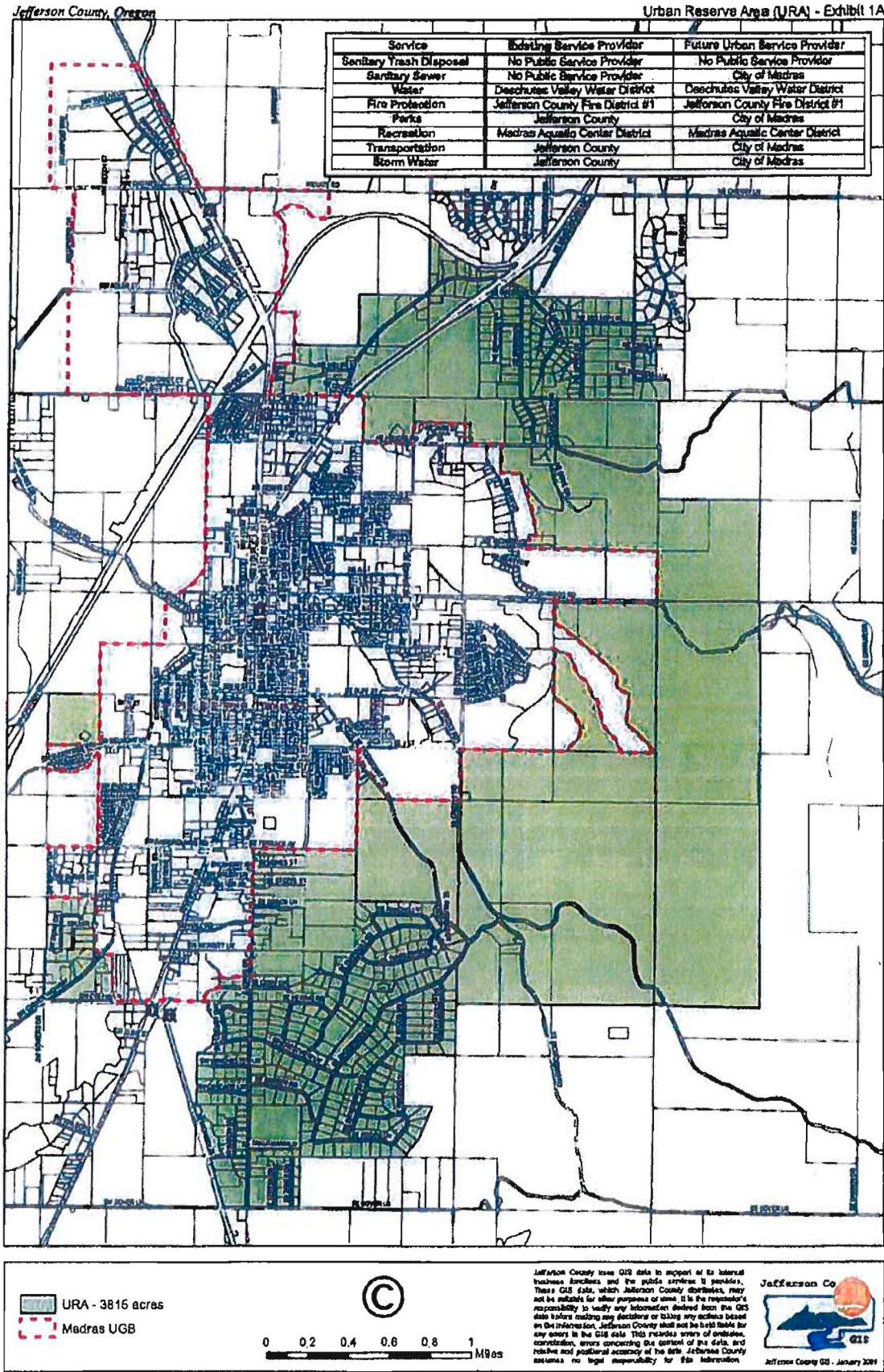
  
Mike Ahern, Commissioner

ATTEST:

  
Wayne Fording, Commissioner

Date: January 28, 2009





014-09

**EXHIBIT 1B**  
**URBAN SERVICE TRANSITION POLICIES**

Terms and Conditions under which Service Responsibility will be transferred or expanded.

- A. **Special Districts.** The City shall agree to the formation of any special district within the Urban Reserve Area prior to the approval of the formation of the district by Jefferson County. This provision shall not apply to County-wide service districts formed under ORS Chapter 451.
- B. **Service Expansion Plans.** Service expansion plans shall be consistent with the Madras Comprehensive Plan. As the future provider of, sanitary sewer, storm water and potable water services, the City shall prepare, and from time to time, update utility expansion plans. These plans shall provide a basis for the extension of services within the Urban Growth Boundary, and as such shall be referred to Jefferson County for information and comment.
- C. **Transition Policies Relating to Service Responsibility**
1. **Sanitary Sewer Service .** There will be no public provider of sanitary sewer service until City services are available, except in the case of a state mandate due to a health hazard. At the time of annexation, the City will require hook-up to City sanitary sewer services. There shall be no special sanitary sewer districts created in the Urban Reserve Area. Nothing in this provision shall limit the ability of individuals to provide septic services (i.e. septic sewer systems) on their own private property within the Urban Reserve Area.
  2. **Potable Water Service.** The City of Madras and Deschutes Valley Water District shall be the public providers of water in this area, unless new districts are expanded or created through mutual agreement by the City and the County. Nothing in this provision shall limit the ability of individuals to provide services on their own private property within the Urban Reserve Area.
  3. **Fire Protection.** The Jefferson County Fire District #1 provides fire protection services to property within the Urban Reserve Area, the Urban Growth Boundary, and the City limits.
  4. **Parks.** Jefferson County provides parks services within the Urban Reserve Area. The City of Madras provides parks services within the city limits and the Urban Growth Boundary. The City of Madras will provide these services as park properties as they are included within the city's limits unless agreed otherwise.
  5. **Recreation.** The Madras Aquatic Center is separate recreation district that serves Jefferson County.. The Madras Aquatic Center District will continue to provide aquatic recreational services when property is included in the City of Madras Urban Growth Boundary and city limits.



6. **Transportation and Street Improvements.** Jefferson County provides transportation services on county roads within the Urban Reserve Area. Upon annexation from the UGA, the City of Madras will accept all paved Jefferson County roads that have a pavement condition index (PCI) of 70 or above. If the PCI is below 70, the county may structurally overlay the road to raise the PCI above 70 at which time the City shall be obligated to accept jurisdiction of such road. Jefferson County policies for road design and construction standards to be used in the Urban Growth Boundary and Urban Reserve Area are outlined in the Jefferson County Code, Sections 12.18.070 and 12.18.080. Per Jefferson County ordinances, the Jefferson County Public Works Director may require roads to be constructed to City of Madras standards.

The Oregon Department of Transportation provides transportation services on state highways within the Urban Reserve area. The Oregon Department of Transportation retains jurisdiction and maintenance responsibilities on all state highways after incorporation into the UGB and annexation except in special cases where jurisdiction is transferred to the City or County by a specific agreement.

7. **Storm Water Management.** Jefferson County provides public storm water management services to property where required within the Urban Reserve Area. The City will provide storm water management services to property within the city limits. Transition of public storm water management services will follow transition of road maintenance responsibilities.

**Jefferson County Code Section 12.18.070 :**

**12.18.070 Roads within an urban growth boundary.**

Roads within an urban growth boundary (UGB) or urban reserve shall, at the discretion of the Jefferson County director of public works, conform to the design and construction specifications of the city contained within the UGB boundary and shall be subject to review and approval of that city's director of public works and the Jefferson County director of public works. (Ord. O-69-07 § 1 Exh. A (part), 2007; Ord. O-110-02 § 2 Exh. B (part), 2002)

**12.18.080 Roads within one mile of an urban growth boundary.**

At the discretion of the Jefferson County director of public works, design and construction standards and specifications for roads within one mile of a UGB may be modified to accommodate future reconstruction to city standards. Roads in zones contiguous to the UGB of Madras, Culver or Metolius may be required to be constructed in accordance with Section 12.18.070 of this chapter if, in the opinion of the director of public works, such roads would become connected to the city road system. (Ord. O-69-07 § 1 Exh. A (part), 2007; Ord. O-110-02 § 2 Exh. B (part), 2002)



**Appendix D: Water and Sewer Service Provider Letters**



*S.E. D Street, Madras, OR, 97741 - 541-475-3388*

## **MEMORANDUM**

Date: January 26, 2010

To: Jefferson County Planning Commission  
Madras Planning Commission  
Jon Skidmore, Jefferson County Community Development Director

Cc: Nick Snead, City of Madras Community Development Director

From: Gus Burrell, City of Madras Public Works Director

### **Overview:**

The City of Madras (City) has filed a post-acknowledgement plan amendment application with Jefferson County to expand the current Madras Urban Growth Boundary (UGB) by approximately 37 acres and re-zone 20 of the 37 acres from Range Land (RL) to Multi-Family Residential (R-2) as shown in the attached map. To complete this land use action the City is required demonstrate that public facilities (i.e. wastewater, domestic water, stormwater, and transportation) can be extended to serve the area proposed to be included in the Madras UGB. The City provides wastewater and stormwater service and the properties proposed to be included in the Madras UGB are located within the planning boundaries of the City of Madras Wastewater and Stormwater Master Plans.

### **Wastewater:**

The properties proposed to be included in the Madras UGB are located within the study area of the City of Madras' Wastewater Master Plan. Figure 5-2B (attached) identifies a planned 8 inch wastewater service line to be constructed in the Ashwood right-of-way that would service the properties proposed to be included in the Madras UGB. Additionally, the City constructed a 10 inch wastewater service line to Oregon Department of Corrections Deer Ridge Correctional facility in Ashwood Road adjacent to the properties proposed to be included in the Madras UGB (see attached drawing).

When the proposed properties are developed, the City will require the property owner to extend wastewater service in accordance with City standards. Based on the planned improvements in the Madras Wastewater Master Plan, the existing wastewater facilities in Ashwood Road, the City of Madras has capacity to provide wastewater service to the properties proposed to be included in the Madras UGB at the time of development.

### **Stormwater:**

The properties proposed to be included in the Madras UGB are located within the study area of the City of Madras' Stormwater Master Plan. Figure IV-5 (attached) identifies a planned 12 inch

*An Equal Opportunity Provider*  
Page 1 of 2

stormwater service line to be constructed in Ashwood Road adjacent to the properties proposed to be included in the Madras UGB. Furthermore, Design Criteria (1) in the City of Madras Stormwater Master Plan in Section IV, requires"

*"Any property development or redevelopment shall include stormwater facilities designed to handle runoff from all tributary areas for the 24-hour, 25-year design storm event. The facilities shall limit the peak discharge from the development in a 24-hour, 25-year design storm to the estimated pre-development peak flow rate in a 24-hour, 10-year design storm."*

Considering the planned stormwater facilities identified in the City of Madras Stormwater Master Plan and the existing stormwater design standards for development, the City has capacity to provide stormwater service to the properties proposed to be included in the Madras UGB.

**Conclusion:**

The City of Madras has capacity to serve the properties proposed to be included in the Madras UGB with wastewater and stormwater service. Should there be any questions, please contact me at 541-475-2622.

Sincerely,

Gus Burrell, P.E.  
City of Madras  
Public Works Director  
71 SE "D" Street  
Madras, OR, 97741  
541-475-2622

Attachments: Figure 5-2B Wastewater Collection System  
Phase 1B Segment 2 Wastewater Improvements  
Figure IV-5 Stormwater System Improvements

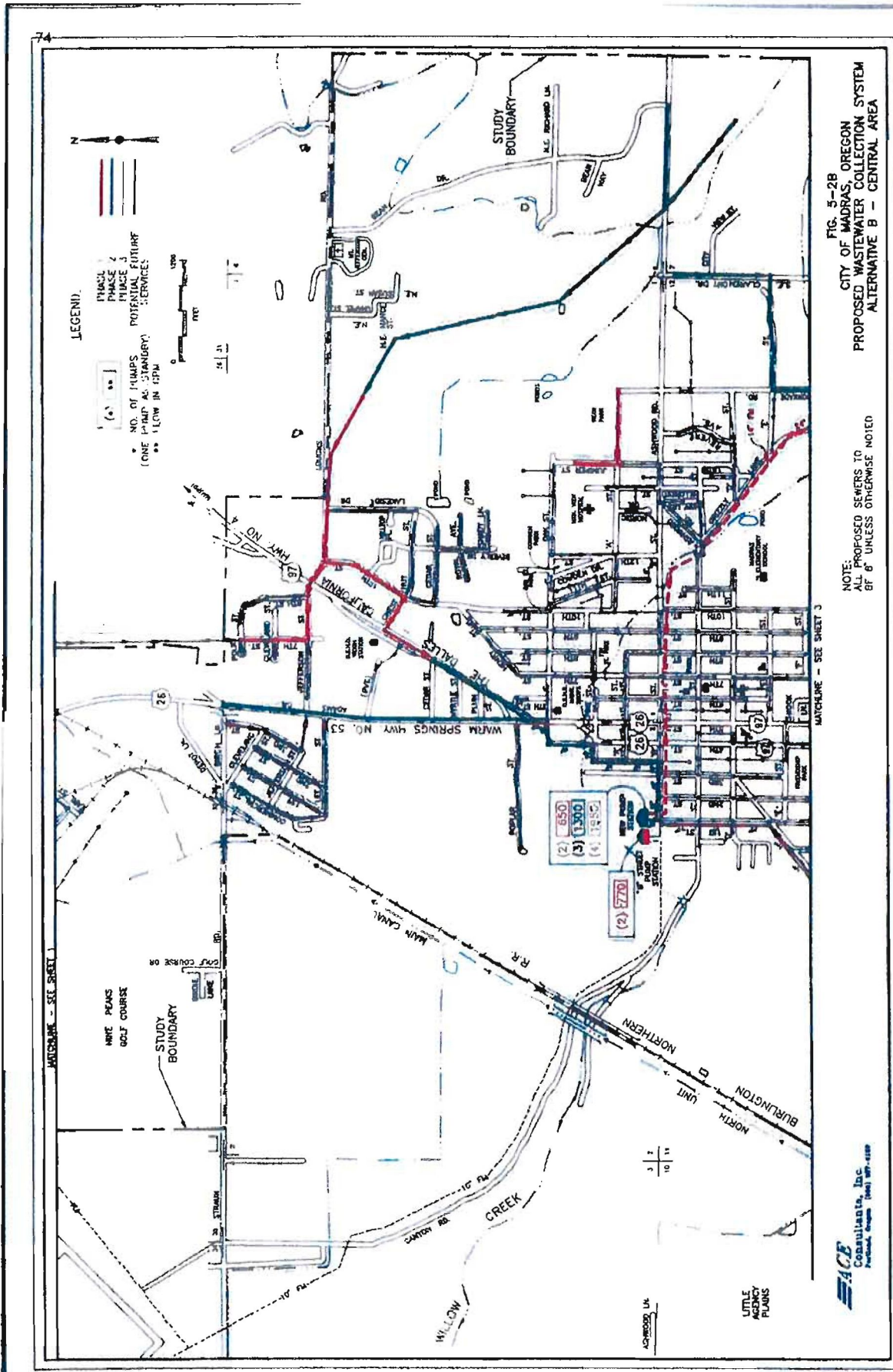
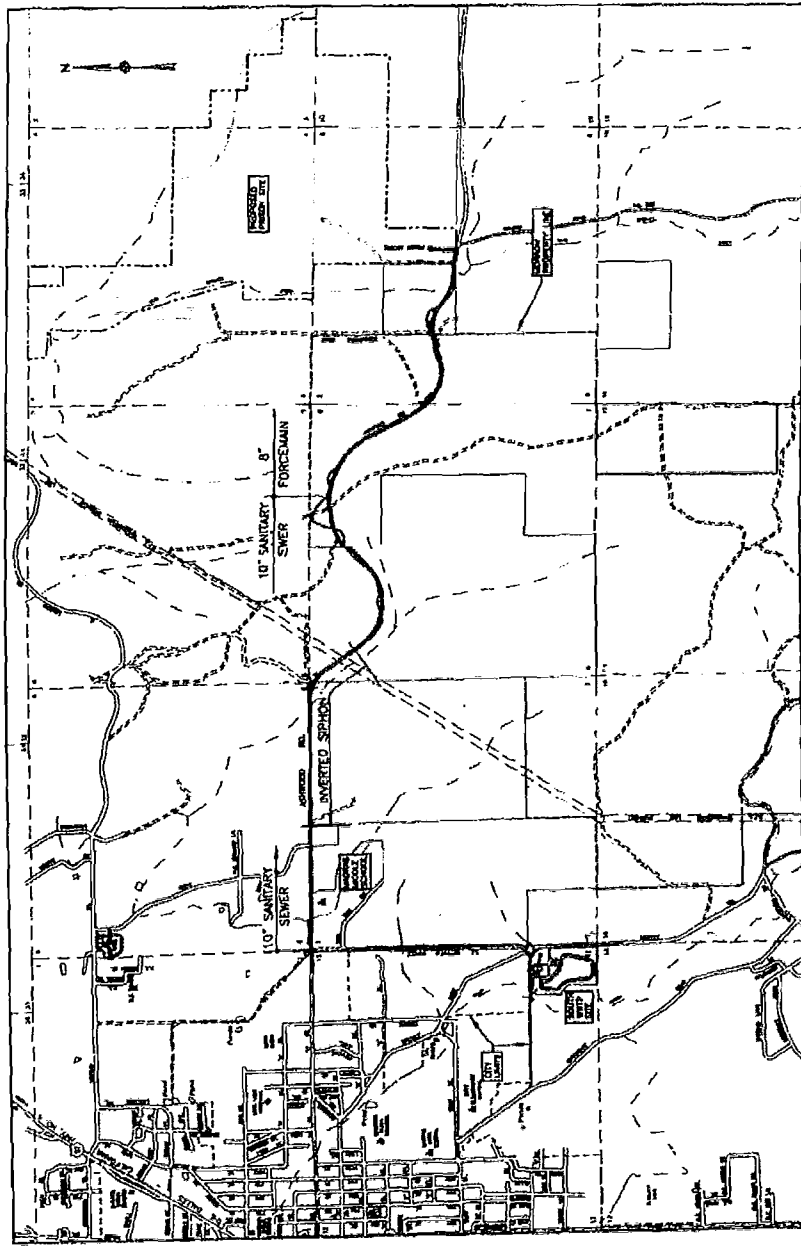


FIG. 5-2B  
 CITY OF MADRAS, OREGON  
 PROPOSED WASTEWATER COLLECTION SYSTEM  
 ALTERNATIVE B - CENTRAL AREA

NOTE: PROPOSED SEWERS TO  
 ALL 8' UNLESS OTHERWISE NOTED

ACE  
 Consultants, Inc.  
 Portland, Oregon (503) 251-1100

**CITY OF MADRAS, OREGON**  
**PHASE 1B SEGMENT 2 WASTEWATER SYSTEM IMPROVEMENTS**  
**ASHWOOD ROAD FORCEMAIN & SANITARY SEWER**



**LIST OF DRAWINGS**

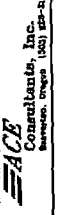
1	COVER SHEET
2	GENERAL NOTES AND AMENDMENTS
3	PHASE 1B SEGMENT 2 WASTEWATER SYSTEM IMPROVEMENTS - 1/4\"/>

**ATTENTION :**  
 DESIGNER HAS REVIEWED THIS DRAWING AND HAS FOUND IT TO BE IN ACCORDANCE WITH THE CITY OF MADRAS, OREGON, ORDINANCE NO. 823, AS AMENDED. THE CITY ENGINEER HAS REVIEWED THIS DRAWING AND HAS FOUND IT TO BE IN ACCORDANCE WITH THE CITY OF MADRAS, OREGON, ORDINANCE NO. 823, AS AMENDED.



DATE: 5/2/04  
 SHEET NO. 14  
 COVER SHEET

PHASE 1B SEG 2 WASTEWATER SYSTEM IMPROVEMENTS  
 CITY OF MADRAS, OREGON



DATE	NO.	BY	REVISION	DATE	BY	REVISION



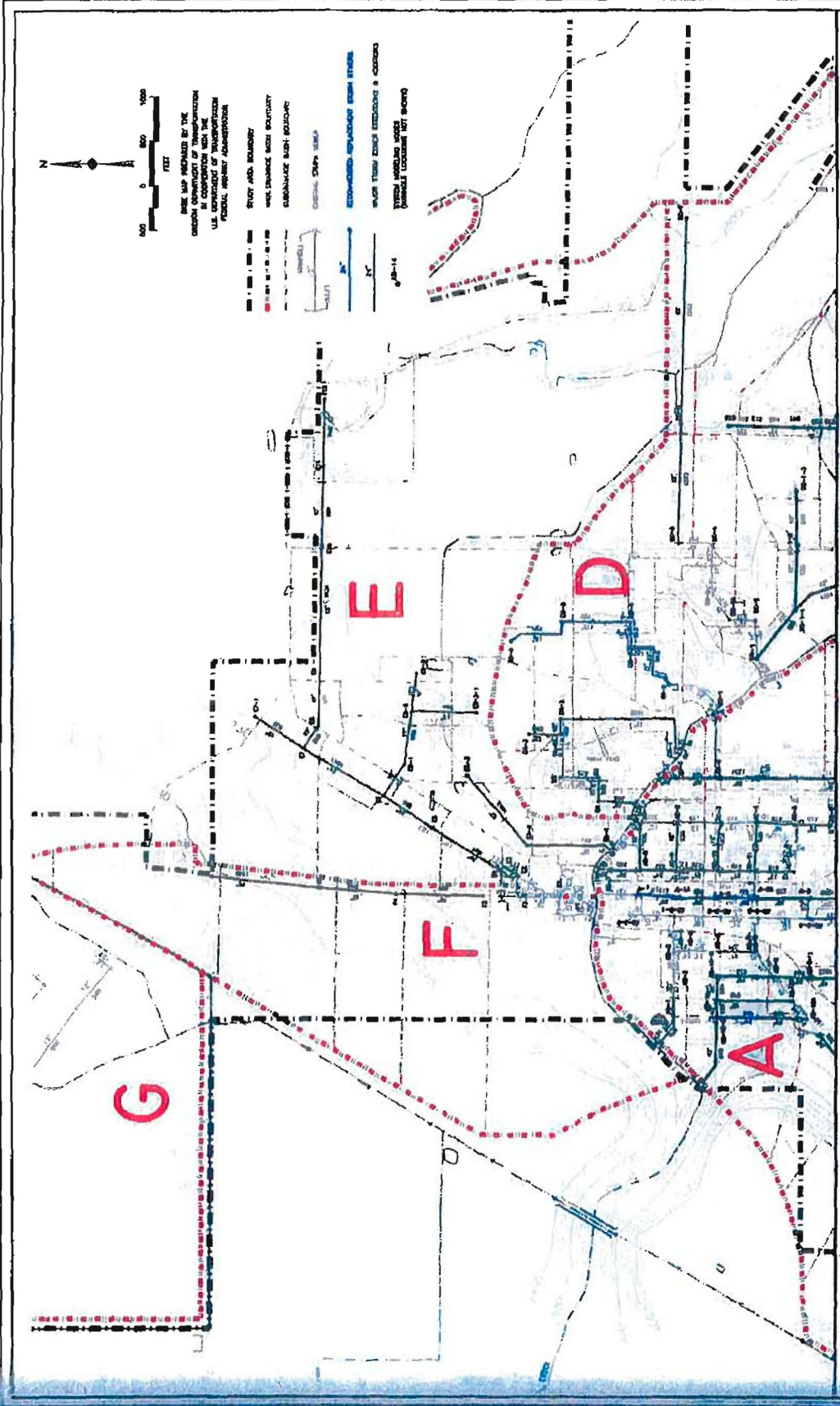


FIGURE N-5  
 CITY OF MADRAS, OREGON  
 STORMWATER SYSTEM MASTER PLAN  
 STORMWATER SYSTEM IMPROVEMENTS - CENTRAL AREA

ACE  
 Consultants, Inc.  
 1000 NE Oregon Street, Madras, OR 97554  
 Phone: (503) 762-2222  
 Fax: (503) 762-2223  
 Website: www.aceconsultants.com

**Nick Snead**

**From:** Edson at DVWD [edson@dvwd.org]  
**Sent:** Tuesday, January 26, 2010 11:15 AM  
**To:** Nick Snead  
**Subject:** RE: Domestic water service availability

-->

Hi Nick-

DVWD should be able to serve that property. Naturally, the mainline upgrades and/or extensions would have to be paid for by the developer. When there is an engineered plan for the required infrastructure, I will be happy to do an estimate for the waterworks portion to be installed by DVWD.

Feel free to call if you need more information.

Edson Pugh, P.E.

General Manager

Deschutes Valley Water District

881 SW Culver Hwy.

Madras, OR 97741

Ph. # (541) 475-3849

**From:** Nick Snead [mailto:nsnead@ci.madras.or.us]  
**Sent:** Monday, January 25, 2010 8:45 AM  
**To:** Ed Pugh  
**Subject:** Domestic water service availability  
**Importance:** High

Ed,

3/30/2010

77 Exhibit to Ordinance No. 823

Good morning! You may have heard the City is proposing to expand the Urban Growth Boundary by approximately 37 acres and annex 20 acres into the City for the Jefferson County School District. The property proposed to be annexed is south of Ashwood Road. I have attached a map to quickly orient you to the property. I am wondering if DVWD domestic water service is available or if not, what facility improvements would future development be responsible for constructing? This email is a formal request and I would like to put your response in the record to demonstrate (hopefully) that water service is available and/or the facility improvements needed to serve the area proposed to be in the Madras UGB.

Let me know if you have any questions. Call me at 541-323-2916 if needed.

Take care,

*"One may walk over the highest mountain one step at a time"* -John Wanamaker-

Nicholas S. Snead

Director

Community Development Department

City of Madras

(541) 475-3388

Email: [nsnead@ci.madras.or.us](mailto:nsnead@ci.madras.or.us)

Visit the City of Madras at <http://ci.madras.or.us/>

No virus found in this incoming message.

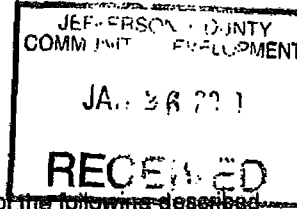
Checked by AVG - [www.avg.com](http://www.avg.com)

Version: 8.5.432 / Virus Database: 271.1.1/2644 - Release Date: 01/25/10 07:36:00



## **Appendix E: Property Owner Consent Letters**

CITY OF MADRAS  
PROPERTY OWNER  
CONSENT TO ANNEXATION



The undersigned property owner(s) hereby consents to the annexation of the following described property to the City of Madras, Jefferson County, Oregon.

(Legal description of property):

Map #11-14-7, Tax Lot #101  
(See Attached Exhibit "B")

The undersigned property owner hereby gives express, continuing, written consent to annexation of the property described herein to the City of Madras; and does hereby agree to execute such separate, further or additional application, petition, and consent as may be hereafter required by the City, or the laws of the State, as now or hereafter enacted for such annexation. This consent is given in consideration of City services that either have been or will be applied to the described property. The undersigned intends this consent to comply with all requirements of law for annexation of the property described. The undersigned and City intend that this consent shall constitute a covenant running with the land, binding on the undersigned and the undersigned's heirs, successors, or assigns.

The undersigned represents that the undersigned is the owner of this property and has the right to consent to its annexation.

DATED this 9th day of October, 20 03.

Signature: [Handwritten Signature]  
Typed Name: Albert L. Zenke

Signature: \_\_\_\_\_  
Typed Name: \_\_\_\_\_

Address: Springview Farms, LLC  
2519 E. Ashwood Road  
Madras, Oregon 97741

STATE OF OREGON )  
County of Jefferson )

Personally appeared before me this 10th day of October, 20 03 the above named

Albert L. Zenke  
(List name of individual(s) having signature notarized)

and acknowledged the foregoing instrument to be a voluntary act.



Karen J. Coleman  
Notary Public for Oregon  
My Commission Expires: 9-14-2004

After Recording Return to:

City of Madras  
71 S.E. "D" Street  
Madras, Oregon 97741

Jefferson County Official Records  
Kathleen B. Marston, County Clerk  
2003-005431



\$41.00

00016189200300054310030036 10/13/2003 04:08:44 PM

D-ANXCON Cnt=1 Est=2 KATE

\$15.00 \$11.00 \$10.00 \$5.00



**EXHIBIT "B"****MAP #11-14-7, TAX LOT #101  
ALBERT L. ZEMKE****PARCEL I: Northeast quarter, Northeast quarter of the Southeast quarter, North half of the Northwest quarter of the Southeast quarter, Southeast quarter of the Northwest quarter of the Southeast quarter of Section 7, Township 11 South, Range 14 East of the Willamette Meridian Jefferson County Oregon, and the Southwest quarter of the Northwest quarter of the Southeast quarter.**

Jefferson County Official Records 2008-002279  
Kathleen B. Marston, County Clerk



\$56.00

00061426200800022790060062

06/17/2008 04:16:27 PM

D-ANXCON Cnt=1 Stn=2 KATE  
\$30.00 \$11.00 \$10.00 \$5.00

**RECORDED DOCUMENT**  
**STATE OF OREGON**  
**COUNTY OF JEFFERSON**

***DO NOT REMOVE THIS CERTIFICATE***

(This certificate constitutes a part of the original instrument in accordance with ORS 205.180(2). Removal of this certificate may invalidate this certificate and affect the admissibility of the original instrument into evidence in any legal proceeding.)

***KATHLEEN B. MARSTON***  
**JEFFERSON COUNTY CLERK**

CITY OF MADRAS  
PROPERTY OWNER  
CONSENT TO ANNEXATION

The undersigned property owner(s) hereby consents to the annexation of the following described property to the City of Madras, Jefferson County, Oregon.

(Legal description of property):

MAP #11-14-7, TAX LOT #200, MORE PARTICULARLY DESCRIBED  
ON ATTACHED EXHIBIT "A"

The undersigned property owner hereby gives express, continuing, written consent to annexation of the property described herein to the City of Madras; and does hereby agree to execute such separate, further or additional application, petition, and consent as may be hereafter required by the City, or the laws of the State, as now or hereafter enacted for such annexation. This consent is given in consideration of City services that either have been or will be applied to the described property. The undersigned intends this consent to comply with all requirements of law for annexation of the property described. The undersigned and City intend that this consent shall constitute a covenant running with the land, binding on the undersigned and the undersigned's heirs, successors, or assigns.

The undersigned represents that the undersigned is the owner of this property and has the right to consent to its annexation.

DATED this 28 day of May, 2008.

Signature: Dorothy Thomas

Typed Name: DOROTHY THOMAS

Signature: Evan W. Thomas by Dorothy Thomas his attorney-in-fact

Typed Name: EVAN W. THOMAS

Address: 2465 E. ASHWOOD ROAD

MADRAS, OREGON 97741

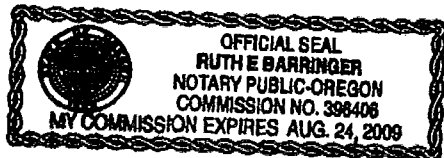
STATE OF OREGON )  
                          )ss.  
County of Jefferson )

Personally appeared before me this 28 day of May, 2008 the above  
named Dorothy Thomas & Dorothy Thomas Attorney-in-fact EVAN W. THOMAS  
(List name of individual(s) having signature notarized) and acknowledged the foregoing  
for RB

instrument to be a voluntary act.

Ruth E Barringer  
Notary - State of Oregon  
My Commission Expires: 24 Aug 2009

After Recording Return to:  
City of Madras  
71 S.E. "D" Street  
Madras, Oregon 97741



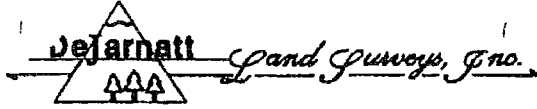


EXHIBIT "A"

63885 N. Hwy. 97 ▲ Bend, OR 97701 ▲ (541) 382-4192

City of Madras  
 May 13, 2008  
 Job # 08029B

Tax lot: 11-14-7-200

## CITY OF MADRAS ANNEXATION #2008-02

A Tract of land located in the Northeast One-Quarter of the Northwest One-Quarter (NE 1/4 – NW 1/4) and the Northwest One-Quarter of the Northeast One-Quarter (NW 1/4 – NE 1/4) of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County, Oregon, more particularly described as follows:

**Beginning** at a point on the North-South centerline of said Section 7 which bears South  $00^{\circ}17'35''$  East a distance of 80.01 feet from the North One-Quarter corner of said Section 7; thence leaving said North-South Section centerline and along the South right-of-way line of Ashwood Road as described in Warranty Deed recorded in Book 2005, Page 005605 of Jefferson County official records South  $89^{\circ}39'39''$  East a distance of 61.23 feet; thence leaving said right-of-way line South  $00^{\circ}17'35''$  East a distance of 424.32 feet; thence South  $89^{\circ}42'25''$  West a distance of 61.22 feet to a point on the North-South centerline of said Section 7 which bears South  $00^{\circ}17'35''$  East a distance of 505.00 feet from the North One-Quarter corner of said Section 7, being a point on the boundary of Parcel 1 of Partition Plat No. 2004-15 (recorded as MF# 2004-4735); thence along the boundary of said Parcel 1 South  $89^{\circ}42'25''$  West a distance of 354.87 feet; thence leaving said boundary 117.68 feet along a non-tangent curve to the right with a radius of 455.00 feet, the chord of which bears North  $07^{\circ}42'08''$  West a distance of 117.35 feet; thence North  $00^{\circ}17'35''$  West a distance of 18.24 feet; thence 123.03 feet along the arc of a tangent curve to the right with a radius of 240.00 feet, the chord of which bears North  $14^{\circ}23'32''$  East for a distance of 121.68 feet; thence 186.84 feet along the arc of a reverse curve to the left with a radius of 360.00 feet, the chord of which bears North  $14^{\circ}12'33''$  East for a distance of 184.75 feet to a point on said South right-of-way line; thence along said South right-of-way line the following two (2) courses and one (1) curve:

South  $88^{\circ}42'59''$  East a distance of 170.57 feet;  
 18.12 feet along the arc of a tangent curve to the left with a radius of 1099.00 feet, the chord of which bears South  $89^{\circ}11'19''$  East for a distance of 18.12 feet; South  $89^{\circ}39'39''$  East a distance of 104.28 feet to the point of beginning, the terminus of this description.

End of Description

*U. E. J.*

REGISTERED  
 PROFESSIONAL  
 LAND SURVEYOR

*Gary L. DeJarnatt*  
 OREGON  
 JULY 17, 1988  
 GARY L. DEJARNATT  
 2208

Renews: 12/31/2009

Page 1 of 1

08029B

85 Exhibit to Ordinance No. 823





### CONSENT TO ANNEXATION ONE-YEAR WAIVER

(I/We), the undersigned, do hereby waive the one-year requirement on the attached "Consent to Annexation" for the following described property and acknowledge that the consent shall remain in effect indefinitely.

(Metes and Bounds Description and Map to be Attached to the Consent to Annexation)

Map # 11-14-7 Tax Lot # 200

Signature: *Dorothy E Thomas, Dorothy Thomas*

Typed Name: DOROTHY THOMAS  
*Evan W Thomas by Dorothy E Thomas her*

Signature: *attorney-in-fact*

Typed Name: EVAN W. THOMAS

Address: 2465 E. ASHWOOD ROAD

MADRAS, OREGON 97741

STATE OF OREGON )  
                          )ss.  
County of Jefferson )

Personally appeared before me this 28 day of MAY 20 08, the above  
EVAN W THOMAS, by Dorothy Thomas his attorney-in-fact  
named DOROTHY E. THOMAS AKA DOROTHY THOMAS and acknowledged the foregoing  
(List name of individual(s) having signature notarized) Dorothy Thomas, Attorney-in-fact  
for EVAN W. THOMAS

instrument to be a voluntary act.

*Ruth E Barringer*  
Notary - State of Oregon  
My Commission Expires: 24 Aug 2009

After Recording Return to:  
City of Madras  
71 S.E. "D" Street  
Madras, Oregon 97741



**PETITION FOR ANNEXATION BY CONSENT  
PURSUANT TO ORS 222.170**

I We, Evan W. Thomas & Dorothy Thomas do hereby respectfully petition the City Council of the City of Madras to annex contiguous property to the City pursuant to ORS 222.170 (1)(a).

(Metes and Bounds Legal Description and Map Required)  
(These can be attached to the Consent to Annexation Form)

Map # <u>11-14-7</u>	Tax Lot # <u>200</u>
Map # _____	Tax Lot # _____
Map # _____	Tax Lot # _____
Map # _____	Tax Lot # _____

Attached hereto is the consent of the owner(s) of the property, and is incorporated herein as Exhibit "A". Petitioner hereby certifies that they are the owner(s) of said property as ownership is described in ORS 222.120(7). Petitioner further certifies to the City that they are the legal owner(s) of record and are the sole owners of the property.

Dated this 28 day of May, 20 08.

Signature: Dorothy Thomas

Typed or Printed Name: DOROTHY THOMAS  
Evan W. Thomas by Dorothy Thomas Inc

Signature: attorney in fact

Typed or Printed Name: EVAN W. THOMAS

Petition for Annexation by Consent

is annexed into the City and zoned for urban development.

- 3.3. Rural levels of development within the UGA shall be sited in such a way as to not interfere with urban levels of development and services when conversion from urbanizable land to urban lands occurs.
- 3.4. Extension of City services within the UGA may be permitted when approved by the City. Establishment or extension of sewer systems outside the UGB is prohibited except to mitigate a public health hazard in accordance with the provisions of OAR 660-011-0060.

#### **4. UGA ADMINISTRATION RESPONSIBILITIES**

- 4.1. The City shall have responsibility for administration and decision making authority regarding all land use applications within the UGA except applications for amendments to the UGB, as provided in Section 6.
- 4.2. The City shall have responsibility for annexation of lands in the UGA. Lands outside the UGA shall not be annexed unless the UGB is also amended to include the territory to be annexed.

#### **5. PROCESS FOR LAND USE APPLICATIONS WITHIN THE UGA**

- 5.1. Land Use applications shall be processed through the City Community Development Department.
- 5.2. Notice of all land use applications within the UGA shall be sent to the County Community Development Department and to any other affected County agencies and other applicable special service districts for review and comment prior to any decision by the City. Such agencies or districts shall be given ten business days in which to provide comments on the application.
- 5.3. In making its decision, the City shall consider all comments received under § 5.2.
- 5.4. The County, any agency or special service district that provides comments on the application shall be mailed a copy of the land use decision and shall have standing to appeal the City's decision.

#### **6. PROCESS FOR URBAN GROWTH BOUNDARY AMENDMENTS**

- 6.1. Amendments to the UGB, including amendments to the City's and County's comprehensive plan maps, may be initiated by the City, the County, or a property owner(s).
- 6.2. An application to amend the UGB shall be filed with the City Community Development Department along with the applicable City and County plan amendment fees. The City shall forward a copy of the application to the County Community Development Department, together with the County's plan amendment fee, within five working days of

the date the application is filed.

- 6.3. The City and County Planning Commissions shall each conduct a public hearing regarding the application. At their discretion, the Planning Commissions may hold a joint hearing rather than separate hearings.
- 6.4. The recommendation of the City and County Planning Commissions shall be forwarded to the City Council, who shall hold a public hearing to consider the proposed amendment to the UGB. The decision of the City Council shall be forwarded to the County Board of Commissioners.
- 6.5. The Board of Commissioners shall conduct a public hearing and make a final decision on whether the UGB should be amended.
- 6.6. If the City and County disagree on the proposed amendments, a joint meeting of the City Council and Board of County Commissioners may be held to attempt to resolve the differences. Both jurisdictions may also request a dispute resolution process to resolve the differences.
- 6.7. If the governing bodies are not able to come to mutual agreement there shall be no change to the UGB.

## **7. OTHER LAND USE ACTIVITIES**

- 7.1. The City and County agree to mutually review any proposed action on public improvement projects and similar programs, projects or proposals that apply to the UGA.
- 7.2. The City shall be responsible for public facilities planning within the UGA. The City shall coordinate with any affected County agency in the development of a public facilities plan for the UGA.
- 7.3. The County shall be responsible for administering the state Building Code and issuing building permits for all construction within the UGA, until such time as the City has its own state-approved building code program.

## **8. ROADS**

- 8.1. Public rights-of-way within the UGA shall be accepted by the City upon annexation of adjacent lands.
- 8.2. The City shall accept jurisdiction over County roads within the UGA that have a pavement condition index (PCI) of 70 or above. If the PCI is below 70, the County may structurally overlay the road to raise the PCI above 70, at which time the City shall accept jurisdiction over the road. Nothing contained in this subsection shall restrict the City from accepting jurisdiction over a road or public right-of-way within the UGA that does not meet such minimum standards.

- 8.3 When a parcel in the UGA is initially partitioned or subdivided and creation of a street is required, development shall proceed initially with streets to City road standards
- 8.4 Streets in subdivisions and PUDs shall be developed to the City's improvement standards
- 8.5 All unpaved county roads, excluding public usage roads, within the UGA shall be graded biannually by the County until the City has accepted jurisdiction over the road.

## **9. FEES**

- 9.1 Applications for land use permits, including all land use appeals within the UGA, shall be accompanied by a fee set by the City.
- 9.2 Applications for UGB Amendments shall be accompanied by fees set by the County in addition to any City fees.
- 9.3 System Development Charges for lands within the UGA will be collected by the County, prior to the issuance of building permits.

## **10. ENFORCEMENT**

The City shall be responsible for enforcement of land use regulations within the UGA.

## **11. AMENDMENT AND TERMINATION**

- 11.1 This agreement may be amended at any time by mutual agreement of both parties, after public hearing and adoption by both the City Council and the Board of Commissioners.
- 11.2 Any modifications to this agreement shall be consistent with the City and County Comprehensive Plans and the statewide planning goals.
- 11.3 This agreement may be terminated by either party under the following procedure:
  - a. Written notice of intent to terminate this Agreement shall be sent to the other party at least forty-five (45) days prior to taking any action, including the publication of public hearing notices in order to provide ample time for resolution of differences, or amendment to comprehensive plans.
  - b. A public hearing shall be held by the party considering termination. That party shall give the other party at least 20 days prior notice of the scheduled hearing date. The 20 day period shall be used by both parties to seek resolution of differences. Both parties shall also request a collaborative conflict resolution process to resolve differences that remain.
  - c. Public notice of hearings shall be in accordance with applicable statutes and local ordinances.

- e. This agreement is necessary for compliance with, at minimum, statewide planning Goals 2 and 14. If this agreement is terminated without adoption of a new agreement, jurisdiction and authority over all planning activities and land use decisions within the UGA shall revert to the County. Therefore, this agreement may not be terminated without adoption of a new agreement.

**12. TIME OF EFFECTIVENESS**


This agreement shall not become effective until properly executed by both the City and the County. Upon execution, this agreement shall supersede all previous Urban Growth Area Management Agreements.

**13. SEVERABILITY**

The Provisions within this agreement are severable. If any section, sentence, clause or phrase of this agreement is adjudged by a court of competent jurisdiction to be invalid, said invalidity shall not impair or affect the validity of the remaining portions of the agreement.

ADOPTED this 5<sup>TH</sup> day of April, 2006.

CITY OF MADRAS, OREGON



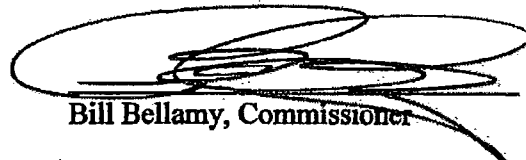
\_\_\_\_\_  
Rick Allen, Mayor

Date: 2-28-05

JEFFERSON COUNTY, OREGON

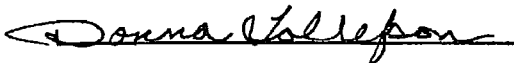


\_\_\_\_\_  
Walter Ponsford, Chair



\_\_\_\_\_  
Bill Bellamy, Commissioner

ATTEST:



\_\_\_\_\_  
Donna Vallejo



\_\_\_\_\_  
Mary Zenke, Commissioner

Date: April 5, 2006

DLCD  
Notice of Proposed Amendment  
(12-14-09)

# 1 DLCD Notice of Proposed Amendment

THIS FORM **MUST BE RECEIVED** BY DLCD AT LEAST **45 DAYS PRIOR TO THE FIRST EVIDENTIARY HEARING**  
PER ORS 197.610, OAR CHAPTER 660, DIVISION 18

For DLCD Use Only

Jurisdiction: **City of Madras and Jefferson County**

Date of First Evidentiary Hearing: **2/3/10**

Local File Number: **UGBE-09-1**

Date of Final Hearing: **TBD**

Is this a **REVISION** to a previously submitted proposal?  Yes  No Date submitted: **12/14/09**

Comprehensive Plan Text Amendment

Comprehensive Plan Map Amendment

Land Use Regulation Amendment

Zoning Map Amendment

New Land Use Regulation

Urban Growth Boundary Amendment

Transportation System Plan Amendment

Other:

Briefly Summarize Proposal. Do not use technical terms. Do not write "See Attached" (limit 500 characters):  
**The City of Madras and Jefferson County propose to adopt the Jefferson County School District 2009 Long Range Facility Plan as an element of their comprehensive plans. The City and County also propose to amend the Madras Urban Growth Boundary (UGB) to include a 20-acre site from the Madras Urban Reserve Area (URA) to be designated with City R-2 zoning. The site provides land for housing and/or a school. The need for land zoned R-2 is established in the 2007 Madras Urbanization Study. The Jefferson County School District's 2009 Long Range Facility Plan documents the need for a school facility in the proposed UGB expansion location. An assessment of transportation impacts is being prepared for the Oregon Department of Transportation (ODOT) to show that the proposed land use change can be accommodated by the existing Transportation System Plan (TSP).**

Has sufficient information been included to advise DLCD of the effect of proposal?  Yes, text is included

For Map Changes: Include 8½"x11" maps of Current and Proposed designation.  Yes, Maps included

Plan map changed from: **Resource/Range Land (Jefferson County)** To: **Residential/R-2 (City of Madras)**

Zone map changed from: **Range Land** To: **R-2**

Location of property (do not use Tax Lot): **East of existing Madras UGB, south of Ashwood Rd (Attachments A & B)**

Previous density: **Min. lot 40 ac (for non-farm dwelling)** New density: **Min. lot 4,000 sf/unit (for 2 units or 3 units)**

Acres involved: **20 acres**

Applicable statewide planning goals:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>
X	X	X	<input type="checkbox"/>	X	X	X	<input type="checkbox"/>	<input type="checkbox"/>	X	X	X	X	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Jefferson County School District, Deschutes Valley Water District, Oregon Department of Transportation**

Is an exception to a statewide planning goal proposed?  YES  NO Goals:

Affected state or federal agencies, local governments or special districts (It is jurisdiction's responsibility to notify these agencies. DLCD only records this information):

Local Contact: **Nick Snead, Community Development Dir.**

Phone: **(541) 475-3388**

Extension:

Address: **Hall 71 S.E. "D" Street**

City: **Madras**

Zip: **97741-1685**

Fax Number: **(541) 475-7061**

E-mail Address: **nsnead@ci.madras.or.us**



# SUBMITTAL REQUIREMENTS

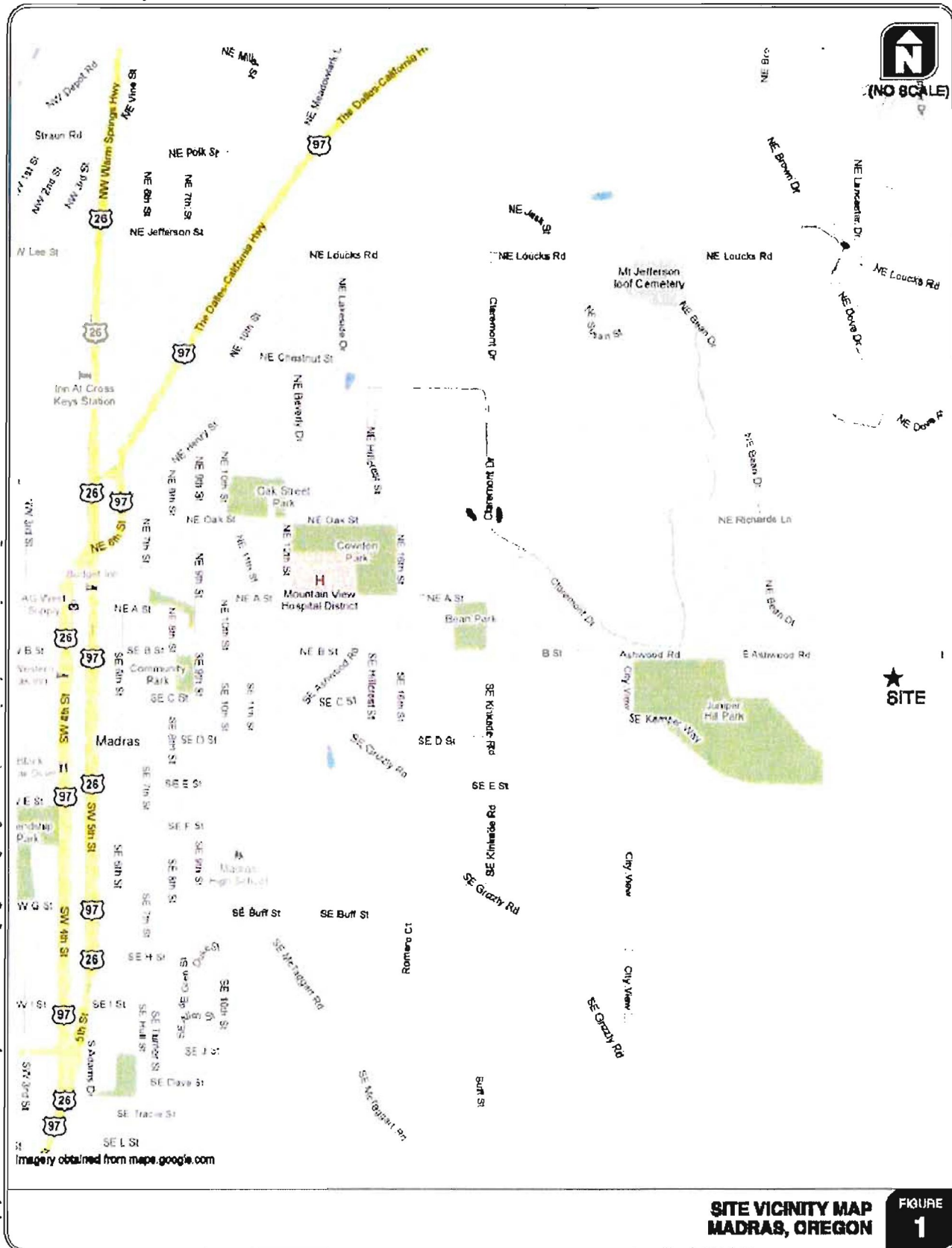
**This form must be received by DLCD at least 45 days prior to the first evidentiary hearing per ORS [197.610](#) and [OAR Chapter 660, Division 18](#)**

1. This form must be submitted by local jurisdictions only (not by applicant).
2. When submitting, please print this **form** on light **green paper**.
3. **Text:** Submittal of a proposed amendment to the text of a comprehensive plan or land use regulation must **include the text** of the amendment and any other information the local government believes is necessary to advise DLCD of the effect of the proposal. "Text" means the specific language being added to or deleted from the acknowledged plan or land use regulations. A general description of the proposal is not adequate. **Do not submit this form without supporting documentation.**
4. **Maps:** Submittal of a proposed map amendment must also include a map of the affected area showing existing and proposed plan and zone designations. The map should be legible and on 8½ x 11 inch paper. Please provide the specific location of property, such as an address and/or tax lot number. Include text regarding background and/or the justification for the change, such as the application accepted by the local government.
5. **Exceptions:** Submittal of proposed amendments that involve a goal exception must include the proposed language of the exception.
6. Unless exempt by [ORS 197.610\(2\)](#), proposed amendments must be received at the DLCD's Salem office at least 45 days before the first evidentiary hearing on the proposal. (The clock begins on the day DLCD **receives** your proposal.) The first evidentiary hearing is usually the first public hearing held by the jurisdiction's planning commission on the proposal.
7. If you have an electronic copy of the proposal, we would like you to submit one electronic copy [email, CD, or upload to DLCD (for submittal instructions, see # 4)] and **ONE PAPER COPY** of the proposed amendment to:

**ATTENTION: PLAN AMENDMENT SPECIALIST  
DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT  
635 CAPITOL STREET NE, SUITE 150  
SALEM, OREGON 97301-2540**

8. **Electronic Submittals:** **One** hard copy must be sent by mail or in person, by either email to [larry.french@state.or.us](mailto:larry.french@state.or.us). On the same day, please mail [1] hard copy to our office.
9. **Need More Copies?** You can now access these forms online at <http://www.lcd.state.or.us/>. Please print forms on **8-1/2x11 green paper only**. You may also call the DLCD Office at (503) 373-0050; or Fax your request to: (503) 378-5518; or Email your request to [larry.french@state.or.us](mailto:larry.french@state.or.us) .

Attachment A – Vicinity Map

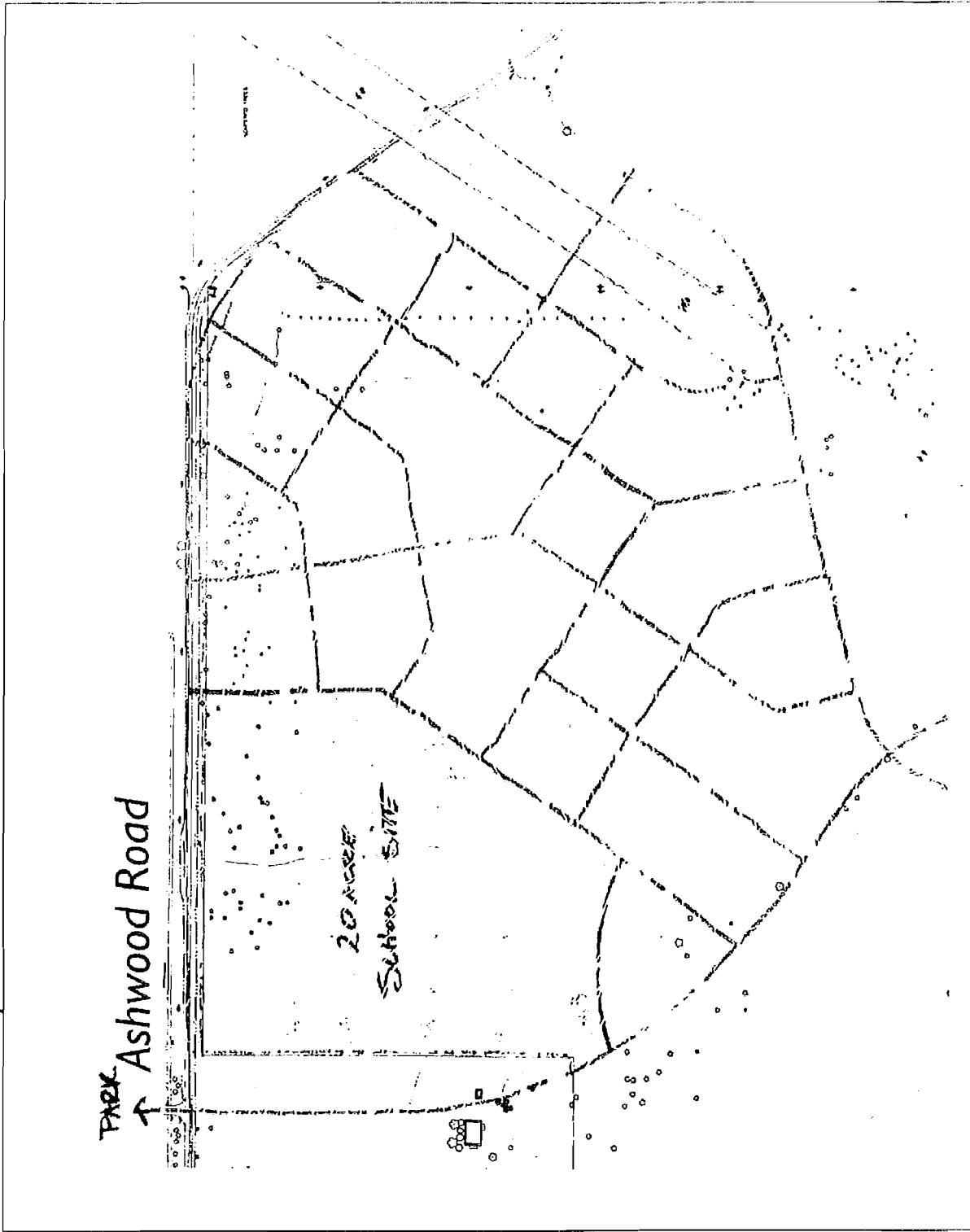


**SITE VICINITY MAP**  
**MADRAS, OREGON**

**FIGURE**  
**1**

Source: Google Maps  
Prepared by: Kittelson & Associates

Attachment B - Site Map



Source: City of Madras



**JEFFERSON COUNTY SCHOOL DISTRICT  
FACILITY PLAN 2009**

**September 2009 DRAFT**

Prepared by:

**Angelo**  
planning **O** group

921 SW Washington Street  
Suite 468  
Portland, Oregon 97205  
503-224-6974



# JEFFERSON COUNTY SCHOOL DISTRICT

## FACILITY PLAN 2009

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# JEFFERSON COUNTY SCHOOL DISTRICT

## FACILITY PLAN 2009

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Jefferson County (inc. Urban Reserves)  
City of Madras

##### **Appendix X: Full Conditions and Capacity Report for Existing Facilities**

Elementary school facility conditions report  
2000-2010 Long-Range Facility Plan

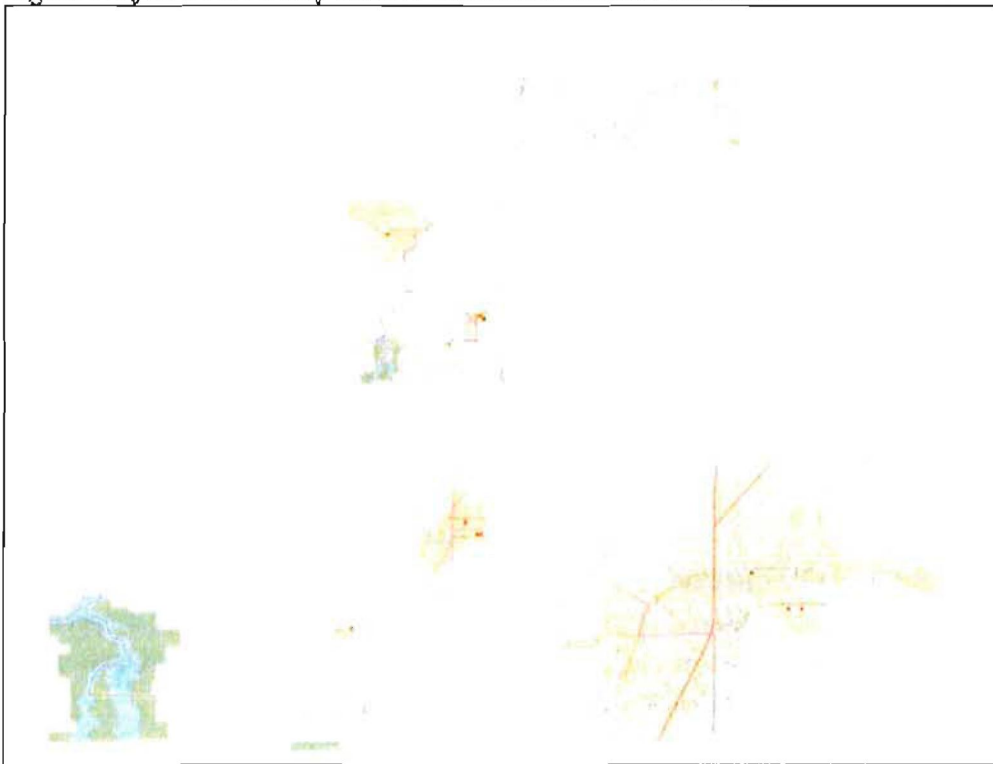


## Chapter 1: Introduction

### ***District Characteristics***

Jefferson County School District 509-J (JCSD or District) covers 1,470 square miles in Jefferson and Wasco counties. It serves cities of Madras and Metolius, the Warm Springs Indian Reservation, of the southeastern part of rural Wasco County, and most of unincorporated Jefferson County. Three other smaller school districts – Culver School District 4, Black Butte School District 41, and Ashwood School District 8 – serve small communities in the rest of Jefferson County. Figure 1-1 shows the District’s service boundaries.

**Figure 1-1: Jefferson County School District Attendance Boundaries**



Source: *Jefferson County School District* [Question: can we get a better map?]

In 2008, the District had total enrollment of around 2985 students. Elementary school students comprise about 48 percent of the District’s enrollment while middle school students and high





schools students account for approximately 23 and 29 percent respectively. The District employs around [redacted] teachers, support staff, and administrators.

Student enrollment in the District has been increasing steadily over the last decade although at a slower rate than the population as a whole. That trend has changed somewhat in the past few years with a faster increase in elementary enrollment. Chapter three provides more detail about the District's enrollment trends and forecast.

### **Student Enrollment and Distribution Patterns**

The District's enrollment is clustered in four areas. The largest concentration of students, and the area where most enrollment growth is expected to occur, is in Madras. Madras is the location for the District's only high school and middle school, as well as two elementary schools. The other areas of focus for the district include Warm Springs, Metolius, and Antelope. The District operates elementary school schools in Warm Springs and Metolius. There is a "satellite" school facility in Antelope serving southeastern Wasco County. Enrollment forecasts in Chapter 3 show that very little growth is anticipated in these outlying service areas. These schools will continue to serve the communities in which they are located and surrounding rural areas.

Going forward, the District will continue to adjust attendance boundaries to balance enrollment with capacity in its rural community schools and will expand capacity in Madras where most of the enrollment and population growth is projected to occur. A detailed enrollment forecast is presented in Chapter 3.

### **Funding for School Facilities**

As is the case with most school districts in Oregon, JCSD receives the majority of its operating budget from state and federal revenue sharing but has relied on local ad-valorem bond measures to finance capital expansion for school facilities. [Insert bond measure history]

### **Facilities**

The school district encompasses five elementary schools, one K-8 school, one middle school, and one high school. JCSD does not own the K-8 school in Antelope, whose enrollment is very small,



but this part of Wasco County is included in the district's attendance boundaries. Further, the District closed Westside Elementary School before the 2008-2009 school year; it retains ownership of the school facilities and land. Table 1-1 provides a summary of all District facilities, except for the K-8 school and including support facilities such as the administration center and maintenance and transportation facilities. As can be seen from the table, the District owns, operates and maintains over \_\_\_\_\_ square feet of building area.

**Table 1-1: District Facilities Site Acreage and Building Area, 2009**

Facility	Total Acreage	Total Building Area
Elementary Schools (5)	70 acres	234,500 square feet
Middle Schools (1)	23 acres	124,300 square feet
High Schools (1)	48 acres	138,366 square feet
Support Facilities & District Property	acres	square feet
<b>Totals</b>	<b>acres</b>	<b>square feet</b>

A facility assessment performed by the District in Summer 2009 and mapping of FEMA floodplains and floodways have been used to establish facility needs discussed in this plan. The following issues have been identified:

- ❑ Madras High School – Madras High School has capacity to serve the District for the next ten (10) years. It was recently renovated and expanded. However, the school does sit squarely in the floodplain and floodway of a Willow Creek side channel.
- ❑ Buff and Madras Elementary Schools – Currently, these schools combine to serve a full set of K-5 elementary school grade levels. Buff Elementary School lies outside of the Willow Creek floodplain but Madras Elementary School lies within it. Madras Elementary School environmental control systems need to be overhauled or replaced.
- ❑ Warm Springs Elementary School – Warm Springs Elementary School faces capacity and other building issues that led the District to recommend building a replacement school almost a decade ago. Replacing this school is the District's highest priority.
- ❑ Westside Elementary School – Westside Elementary School, amongst the oldest in the district, suffers from many major systems needs in addition to being located on a state highway, which causes safety concerns for students walking to school. The school was closed in June 2008 and its students transferred to Metolius, Buff, and Madras Elementary Schools.
- ❑ Other District facilities – The District's maintenance and transportation facilities are east of the high school and are also in the floodway and floodplain. District offices adjacent to Buff Elementary School are not in the mapped floodplain but staff have reported high water there.



While there are not facilities on them, the District also owns property on Loucks Road and has been involved in an exchange with the City of Madras for land in the Yarrow Master Plan site.

A detailed evaluation of the District's facilities is presented in Chapter 4.

### **Facility Plan Summary**

The District has developed facility plans in the past to address specific needs. This plan is intended to provide the basis for a more comprehensive assessment of facility needs that is integrated with local and regional land use planning. The plan also complies with recent amendments to ORS 195.010 that requires "large" school districts to prepare facility plans and link those plans with locally adopted land use plans. The Jefferson County School District 2009 Facility Plan includes the following elements:

- Chapter 2 - Policy Framework. This chapter identifies local land use policies and regulations that influence school facility decisions, as well as state rules that guide how school facilities are addressed from both a policy and development perspective. This chapter also includes the District's policies and criteria that it uses to guide expansion and investment decisions.
- Chapter 3 - Enrollment Projections. Student enrollment trends (both historic and future) are examined and summarized. The forecast methodology and results were peer-reviewed by Portland State University Population Research Center. The forecast was developed from approved county population forecasts and provides the basis for determining future school facility needs.
- Chapter 4 - Facility and Property Evaluation. This chapter provides a condition assessment of existing facilities. An overview of existing conditions of District facilities is presented, with an emphasis on school facilities. In addition, current enrollment figures are compared against estimated existing school capacity.
- Chapter 5 - School Facility Needs and Location Analysis. This chapter provides an analysis of school facility needs for each category of school, including the need to address condition problems with existing facilities and the need to expand capacity to meet projected enrollment growth.



- Chapter 6 – Recommendations. This chapter presents recommendations for addressing facility needs, including both short-range and long-range needs and financing strategies. It also presents recommendations for updating local plans and procedures consistent with the analysis and conclusions in this plan.



## Chapter 2: School Facility Planning Guidelines

This chapter reviews state and local planning requirements for preparing school facility plans. State criteria include statutory guidance for the preparation of school facility plans. Local requirements include adopted land use plans, policies, and implementing regulations that affect school locations. Jefferson County School District (JCSD) also has adopted policies that guide the location and development of primary and secondary school facilities. A summary of these planning requirements is presented here. State and federal laws and rules also require school districts that receive state and federal financial assistance to develop educational plans but those plans primarily focus on curriculum and student achievement needs. This planning document only deals with facility needs and does not address educational curriculum requirements.

### ***State Requirements for School Facility Planning***

Under Oregon law and planning rules, there are two levels of school facility planning that schools districts and local governments need to address. The first involves general land use planning requirements consistent with Oregon's Statewide Land Use Planning Goals. Under the goals, school facilities are addressed in Goal 11 – Public Facilities. The Goal requires that locally adopted land use plans include provisions for coordinating this public service and integrating the needs associated with that service into locally adopted land use plans. This includes documentation of an agreement between school service providers concerning service area boundaries, and allowances in local plans for the development of school facilities. Goal 2 – Land Use Planning, requires local land use plans to include a fact basis for school facilities that helps determine the need for future school facilities and estimates the amount of land needed to accommodate this use. Local governments also need to adopt land use regulations that govern development approval for school needs consistent with locally adopted land use plans.

Generally speaking, the locally adopted land use plans for the cities and counties that JCSD serves comply with state land use planning requirements for schools, and those jurisdictions have adopted regulations governing the development of school facilities. Appendix A includes a summary of local city and county planning policies and regulations that affect the location and approval of school facilities in Jefferson and Wasco Counties. The preparation of this plan, however, renders some planning assumptions in existing local plans obsolete. As such, recommendations for updating local



plans and procedures consistent with the analysis and conclusions in this plan are set forth in Chapter 6 – Recommendations.

The second level of school facility planning involves special facility planning requirements that apply to “large” school districts. In 1993, the Oregon Legislature enacted ORS 195.110 setting forth specific requirements for school facility planning. The legislation was updated in 2001 and 2007 by House Bill (HB) 3045 and Senate Bill (SB) 336. Presently, Oregon school districts with enrollments greater than 2,500 students are required to prepare facility plans that meet the requirements set forth in the law. A summary of the major planning requirements in the law is presented in Table 2-1, as well as other regulatory provisions. A copy of the ORS 195.110 is included in Appendix B.

**Table 2-1: Summary of Regulatory Provisions**

Reference	Provision
Oregon Revised Statutes (ORS) 195.110 (2)(a) and (4)	The city or county in which a “large” school district (more than 2,500 students) is located and that includes more than 10% of the district’s student population must adopt a long-term school facility plan as an element of its comprehensive plan. The plan is to be prepared by the district in consultation with the city or county. The district must appoint a representative to meet regularly with local planning staff.
ORS 195.110 (5)(a), (5)(b), and (6)	Required elements of a school facility plan include: <ul style="list-style-type: none"> <li>▫ Enrollment projections by school level</li> <li>▫ Identification of desirable school sites</li> <li>▫ Descriptions of improvements needed in existing schools</li> <li>▫ An analysis of potential measures to meet facility needs, including financial plans</li> <li>▫ An analysis of alternatives to new school construction and major renovation and measures to efficiently use school sites</li> <li>▫ An estimation of land needed for projected enrollment over the next 10 years and an analysis of meeting those land needs inside the UGB. If insufficient suitable land is available, then the district and the local jurisdiction must work together to meet the land need by means</li> </ul>



Reference	Provision
	<p>such as re-zoning land, assembling multiple lots or parcels, or expanding the UGB.</p> <ul style="list-style-type: none"> <li>▫ A 10-year capital improvement plan</li> <li>▫ A site acquisition program.</li> </ul>
ORS 195.110 (8)(b)	The school district must update the plan during the local jurisdiction's periodic review or more often according to an agreement between the district and the local jurisdiction.
ORS 195.110 (9)(a) and (13)	The school district may adopt objective criteria for determining school capacity in consultation with the local jurisdiction. Once adopted by the district, the local jurisdiction must use those criteria when reviewing comprehensive plan amendment and residential land use regulation amendment applications. The local jurisdiction may also use the criteria to deny a residential development application if the district identifies that there is insufficient capacity and the district and local jurisdiction have explored options to address this lack of capacity.
Statewide Planning Goal 11 (Public Facilities and Services)	<ul style="list-style-type: none"> <li>▪ "To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development."</li> <li>▪ This statewide planning goal provides the basis for public facilities plans to be coordinated between service providers and local jurisdictions and to, ultimately, incorporate public facilities plans into local jurisdictions' comprehensive plans.</li> </ul>
[Placeholder]	[To the District: are there any other policies or regulatory provisions that need to be identified here?]

### Local School Facility Planning Policies and Guidelines

School facility plans identify long-range needs for a school district's physical facilities, such as new schools, additional classrooms, alternative educational space, and supporting facilities and programs.



School Facility Plans also may include program strategies to meet identified needs. Planning for current and future needs requires balancing long-term educational facility needs with improving the quality of educational programming.

State, regional and local agencies are increasingly recognizing that school facility planning is important for growing communities. According to existing regulations, new school facilities serving urban school districts must be located within the Urban Growth Boundary (UGB). Population and employment growth continue to put pressure on schools to expand, while at the same time residential and commercial uses compete with school districts and other service providers for land within the existing UGB. In urban areas, schools and associated facilities often are constrained by surrounding development or ownership patterns on adjacent land. These factors make it important for districts to determine what facilities are currently needed and what facilities will be needed in the future. Planning for future facilities includes the identification of land for new or expanded schools, and planning the supporting infrastructure for transportation, municipal utilities, parks, and other related public investments that coincide with schools.

It is important to note that legislation governing school facility planning in the state requires that the facility plan be adopted by jurisdictions in which the school district is found, as an element of their comprehensive plans.<sup>1</sup> This affords school districts the opportunity to plan proactively for capital investment, including planning sites for future schools and enacting programs that help finance new school facilities.

In this vein, the following local facility planning policies are to be used by the District for assessing needs and identifying appropriate locations for school facilities.

### **School Facility Design and Location Policies**

The following policies shall guide the development of facility plans and decisions affecting the location of school facilities.

---

<sup>1</sup> Pursuant to ORS 195.100(3), this provision does not apply to jurisdictions that have less than 10% of the school district's population. In this case, Wasco County has less than 10% of Jefferson County School District's population and will not be required to adopt it as part of its Comprehensive Plan. There is nothing in the statute, however, preventing this.





Site Size Guidelines

Site size guidelines vary greatly depending on the context and the educational program desired for each school; however, the ranges in Table 2-2 are generally accepted for school facility planning.

**Table 2-2: School Site Guidelines**

School Type	Grade Levels	Site Size	Enrollment	Amenities
Elementary	K - 5	7 – 15 acres	300	15-18 classrooms, gym, playgrounds
Middle	6 - 8	10 – 20 acres	600 - 800	40-50 classrooms, gym, arts and enrichment rooms, science lab, sports fields
High	9 - 12	20 – 50 acres	800 - 1000	50-70 classrooms, science labs, computer labs, gyms, art and enrichment facilities, performing arts

Note that existing District school sites are on the larger end of the size ranges presented above, and that the smaller site sizes may be more appropriate in a high-density urban setting than in a low-density rural setting.

Minimum Site Suitability Criteria

In addition to the physical size of its school facilities and sites, the District has established the following site selection criteria to be used to inform the identification and selection of new sites for schools.

- **Land use condition:** The site must be unimproved land (not counting parks and open space) or land with improvements valued at less than \$50,000. This keeps costs down and avoids the need to use eminent domain. If in the future undeveloped land becomes scarce



within the UGB, this criterion may need to be revised to allow for consideration of redevelopment opportunities.

- **Size:** See size guidelines above for suitable site sizes by grade level. Aggregation of smaller parcels to meet these site sizes may be considered where feasible.
- **Environmental hazards / buildability:** The site must have sufficient level ground to accommodate the school building, parking, and playing fields without the need for excessive grading. This requires an area large enough for the building, parking areas, and playing fields with slopes of 5% or less. (In the case of an elementary school, for example, this would require at least 5 acres of flat land.) In addition, the building must not be located in a floodplain, so that schools can be safe from hazard and serve as a resource in times of emergency. Playing fields and parking may be located within a floodplain, however. (For an elementary school, this requires a minimum of 2.5 acres of land that is both flat and outside the floodplain.)
- **Zoning and existing uses:** The site must not be zoned for industrial use. Industrial areas are not suitable for locating schools. Elementary schools should be located in residential areas; middle and high schools can be located in areas with a mix of residential and commercial uses.
- **Serviceability:** Water and sewer systems to serve the site should be available by the time the school is expected to be built and should have sufficient capacity to serve the anticipated demand from the school facility.
- **Geographic distribution:** New schools should not be located within a half mile of existing schools of the same type and grade level. This supports the development of neighborhood schools and increases the efficiency of transporting children to schools. In addition, new schools should be located where they can best serve existing and future residential development.
- **Traffic safety:** New elementary school sites should not be located on a highway or arterial. Middle and high schools may locate on arterials if traffic conditions in the vicinity permit safe walking and biking to the site.



- **Availability:** The District will not consider sites that have approved development applications to be available for use as schools.

#### Additional School Siting Considerations

In addition to the minimum criteria listed above, the following considerations should also help guide school siting where multiple options exist:

- **Co-location:** To maximize the efficient use of school facilities, co-locating schools of different grade levels and/or schools with community or neighborhood parks is desirable.
- **Bus access:** For safety and traffic management reasons, sites with direct access from a collector street for buses transporting students from rural parts of the district are preferred.
- **Allowed use:** To minimize the time and cost associated with permitting, sites that are currently zoned in a manner that allows the school use outright or conditionally are preferred. Similarly, the project should not require rezoning properties in the vicinity of the school to avoid conflicting uses (e.g. adult businesses, taverns, and bars).
- **Walkable neighborhoods:** Sites that will provide for safe walking and biking routes from surrounding neighborhoods are preferred, especially for elementary schools.
- **Minimizing life-cycle costs:** Sites that allow for the use of design techniques that reduce life-cycle energy costs (e.g. passive solar, active solar, geothermal, landscaping, etc.) are preferred.
- **Planned uses:** Where a public agency or non-profit organization has long-term plans for the use of a site that do not include a school, these sites will be given a lower priority.



## Chapter 3: Enrollment Forecast

Three enrollment forecasts were prepared by Angelo Planning Group using three different data sources:

1. A short-range projection covering the 2009-10 school year through the 2018-19 school year was derived from existing enrollment, recent grade progression rates, and recent birth trends in the school district. This forecast is likely to best capture expected enrollment in the next 5 to 10 years.
2. A long-range forecast based on age-group population projections for Jefferson County from the Oregon Office of Economic Analysis (OEA) provides estimates in 5-year increments from 2000 to 2040. The OEA data is based on demographic trends and seems to be a fairly good fit with historic data (in years 2000 and 2005).
3. A second long-range forecast was generated based on the county's coordinated population forecast, prepared by the economic consulting firm EcoNorthwest, Inc (EcoNW). The EcoNW projections are based on past growth rates, and, having been prepared in 2007 at the height of a building boom, are likely to overestimate future population. This forecast is included in this chapter to represent the high end of the spectrum, but was not relied upon in the final enrollment forecasts used to project future facility needs.

These three projections for total enrollment are shown in Figure 3-1, along with historic enrollment data provided by the District. Enrollment forecasts and historic enrollment data broken down by grade level (elementary, middle school, and high school) are shown in Figures 3-2 through 3-4.



Figure 3-1: Actual & Projected Enrollment: Total Enrollment (Grades K - 12)

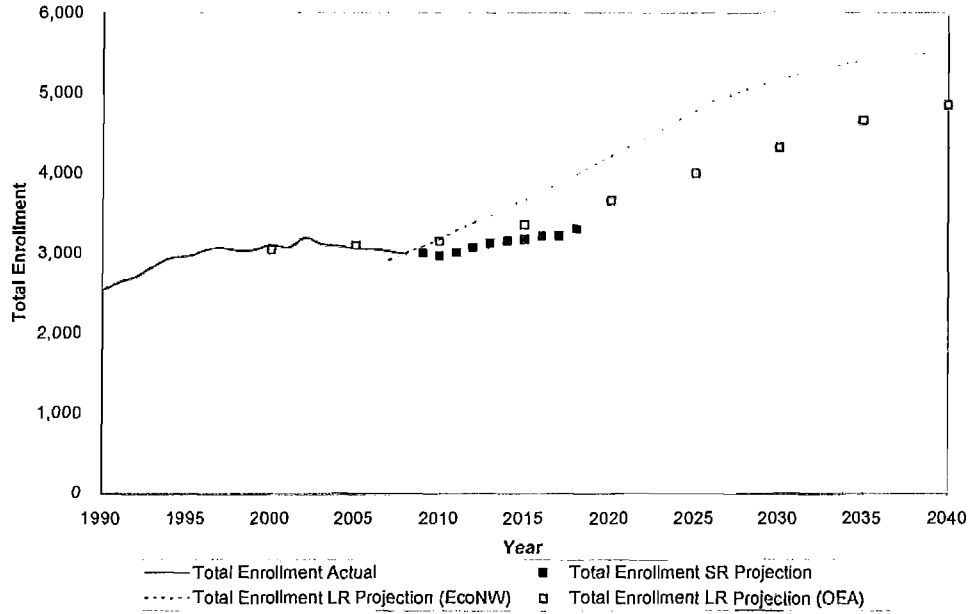


Figure 3-2: Actual & Projected Enrollment: Elementary School (Grades K - 5)

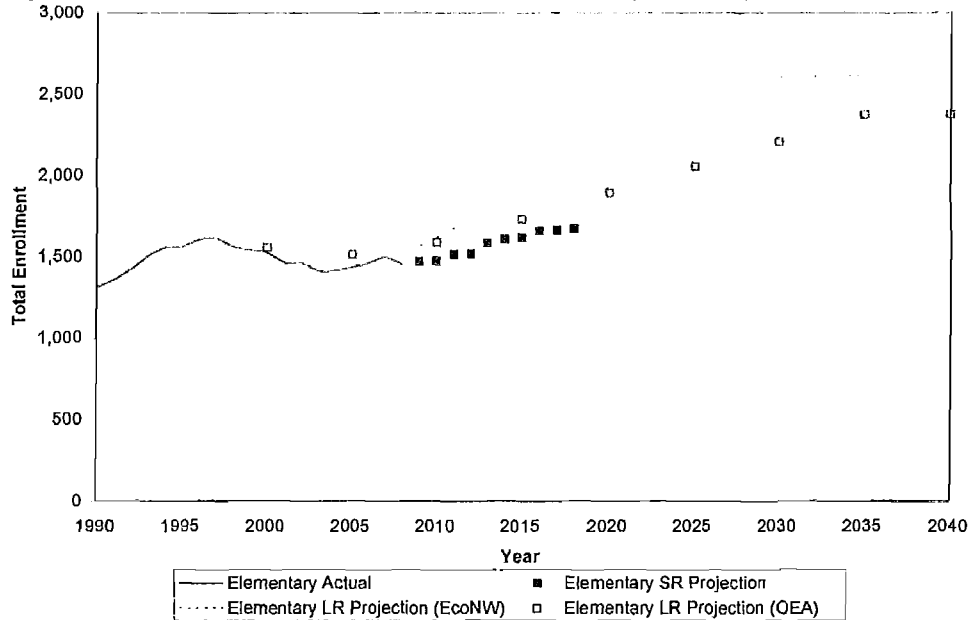




Figure 3-3: Actual & Projected Enrollment: Middle School (Grades 6 - 8)

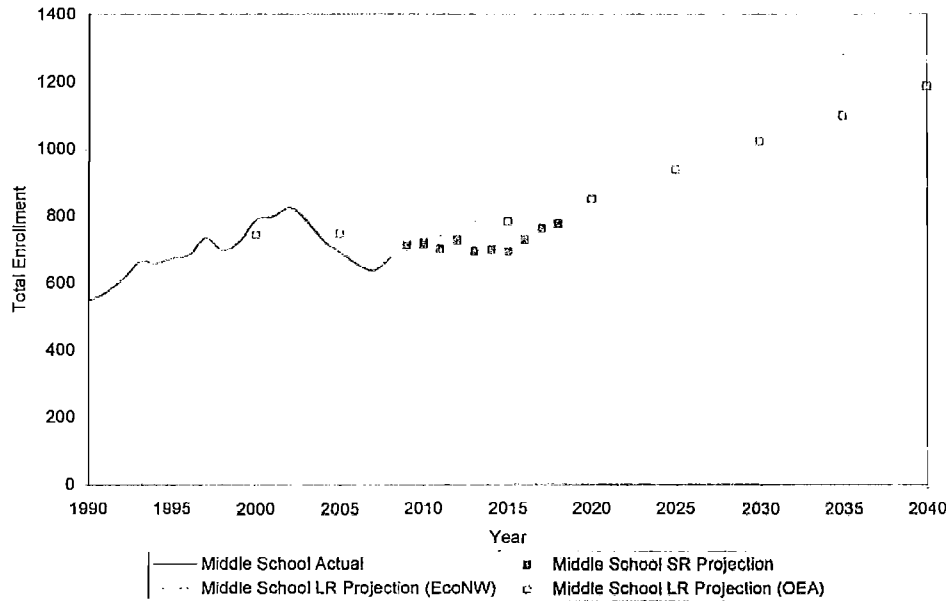
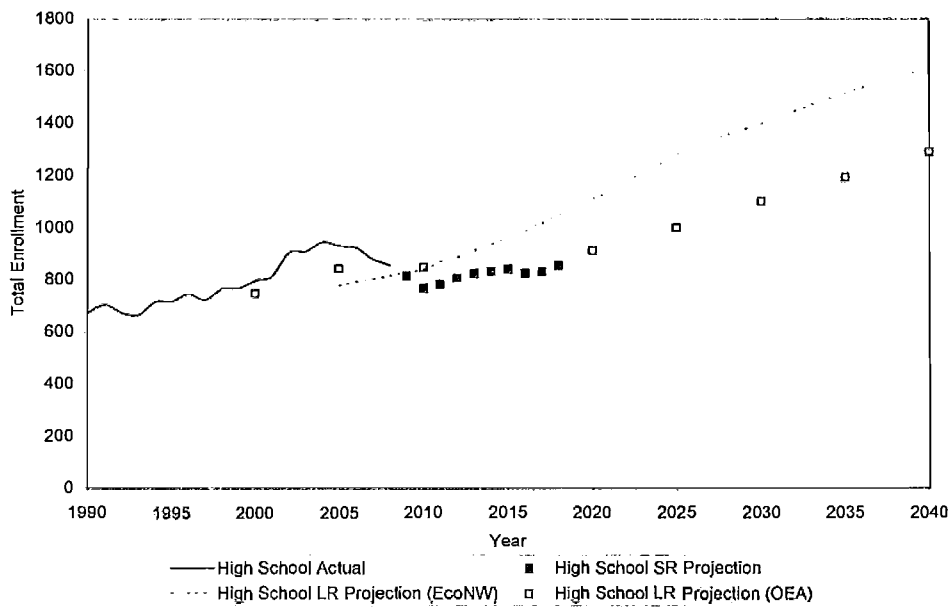


Figure 3-4: Actual & Projected Enrollment: High School (Grades 9 - 12)





A weighted average of the short-range and OEA long-range forecasts (weighting the short-range more heavily in the near-term and shifting gradually to give the OEA long-range forecast more weight) was calculated to provide the best estimate of future enrollment over the next 10 years. Table 3-1 below shows actual enrollment data for 2008, weighted averages of the short-range and OEA long-range projections for 2010 and 2015, and OEA long-range forecasts for 2020 through 2040.

**Table 3-1: Projected Enrollment by Grade Level**

Year	Elementary School	Middle School	High School	Total Enrollment
2008*	1,445	677	853	2,985
2010	1,487	715	773	2,979
2015	1,685	746	838	3,279
2020	1,898	850	911	3,659
2025	2,061	938	998	3,997
2030	2,210	1,021	1,099	4,329
2035	2,377	1,097	1,193	4,667
2040	2,378	1,187	1,289	4,854

\* 2008 data shown is actual enrollment provided by the school district.

Table 3-2 below shows the projected enrollment increases relative to actual 2008 enrollment by grade level based on the combined forecast described above.

**Table 3-2: Projected Change in Enrollment Compared to 2008**

Year	Elementary School	Middle School	High School	Total Enrollment
2010	32	38	-80	-6
2015	230	69	-15	294
2020	443	173	58	674
2025	606	261	145	1012
2030	755	344	246	1344
2035	922	420	340	1682
2040	923	510	436	1869



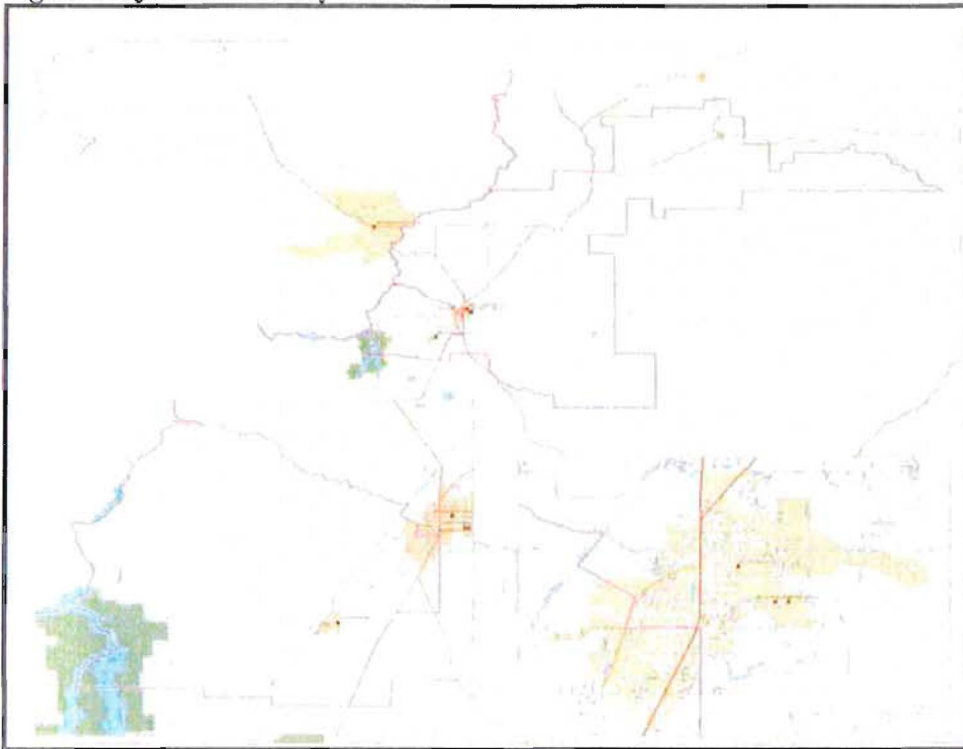
## Chapter 4: Existing School Facility Conditions

This chapter provides an overview of existing facility conditions in the Jefferson County School District with an emphasis on facility needs. The conditions described below are based on reports from District staff, including a written summary of elementary school conditions (Appendix [B](#)), as well as the District's 2000-2010 Long-Range Facility Plan (Appendix [C](#)).

### Schools

A summary of school facility data is presented below in Tables 4-1 and 4-2, and an excerpt of a map of attendance boundaries for elementary schools in the district is shown below in Figure 4-1.

**Figure 4-1: Jefferson County School District Attendance Boundaries**







## Madras High School

Madras High School is the District's only high school and is located on the east side of Madras in close proximity to Madras Elementary School, Buff Elementary School, and District offices. As called for in the 2000-2010 Facility Plan, Madras High School underwent major renovation and expansion that was completed in 2005. Total building area was increased from about 84,000 square feet to 138,000 square feet. The school was registered as having 838 students in 2008-2009 and the most recent figures available show the school has capacity for roughly \_\_\_\_ students. Staff reinforced this finding about available capacity, reporting that there are not crowding issues at the school. The 2000-2010 Long-Range Plan did not identify school replacement as a need, but rather expansion and the addition of a new performing arts facility.

Based on county-provided FEMA floodplain maps and Google Earth aerial photography, the high school site lies in the 100-year floodplain and, in part, in the floodway of a Willow Creek side channel, although the building itself lies outside the mapped floodway (see Figure 4-2 below).

Figure 4-2: Willow Creek 100-year Floodplain and Side Channel Floodway near Madras Elementary School and Madras High School



Note: 100-year floodplain is shown in light blue, floodway is shown in darker blue.



Staff report high water issues at the high school, Madras Elementary School, and District offices, which all are in the same Willow Creek side-channel area. Staff also report that the City has installed piping to help alleviate high water situations.

### **Jefferson County Middle School**

Jefferson County Middle School was built relatively recently (1995) on the east side of Madras, and no substantial service or conditions issues are reported for the facility. In particular, it features plenty of capacity; 2008-2009 enrollment (673 students) represents not even two-thirds of the school's capacity (see Table 4.1). The 2000-2010 Long-Range Facility Plan did not identify replacement or expansion needs, but did recommend potential modernization needs.

### **Big Muddy School**

The District does not own this school near Antelope in Wasco County, although it is technically included in the Jefferson School District service area. The school is a very small one; it is a K-8 facility that served 11 students in the 2008-2009 school year. No outstanding conditions or capacity issues are reported for the school.

### **Buff Elementary School**

The Buff facility has served as an annex facility in the past, and this school year is supplementing Madras School; the two facilities are in effect operated as one complete elementary school. Buff Elementary School is serving grade levels 3-5 this school year while Madras Elementary School serves grade levels K-2. The two sites are located in close proximity to each other and to Madras High School on the east side of Madras. Unlike Madras Elementary School and Madras High School, however, Buff Elementary School does not stand in the Willow Creek side channel floodplain (see Figure 4-3).

The school is not reported to have any major conditions issues. It was renovated in 2005, increasing its building area from approximately 34,000 square feet to 41,000 square feet. **Its 2008-2009 enrollment is below its reported capacity by approximately \_\_\_ students.** Buff Elementary School is one of three schools – the other two being Madras Elementary School and Metolius Elementary School – that have absorbed student population from Westside Elementary School after it closed in 2008. The opening of either a renovated Westside Elementary School or a new elementary school will alleviate future capacity issues at Buff Elementary School.





Figure 4-3: Buff Elementary and Willow Creek 100-year Floodplain and Side Channel Floodway



Note: 100-year floodplain is shown in light blue, floodway is shown in darker blue.

### Madras Elementary School

Madras Elementary School is located in close proximity to Madras High School and Buff Elementary School. It splits elementary school service with Buff Elementary School and serves only grade levels K-2. Given this shared service, the school had sufficient capacity in the 2008-2009 school year with an average class size that was comparable to Buff Elementary School and Metolius Elementary School (see Tables 4-1 and 4-2).

Madras Elementary School, however, lies in the Willow Creek floodplain as shown in Figure 4-2 above. District staff also report significant HVAC systems conditions issues. The school's boiler and heating system is in need of complete overhaul and its insulation must be replaced, involving asbestos remediation. In the 2000-2010 Long-Range Facility Plan, Madras Elementary School was rated in the worst repair behind Westside Elementary School and was recommended for closing along with expanding another school or opening a new school in its place. The plan also suggested that this site be considered as an opportunity for future expansion of Madras High School. Expanding Madras High School on this site, however, is inadvisable due to its location in the floodplain and the presence of the floodway running between the two buildings.

### Metolius Elementary School

As is shown in Figure 4-1, the attendance area boundary for Metolius Elementary School extends into southern Madras. The boundary runs along J Street and Adams and these students are bussed to the school in Metolius. Even with absorbing overflow attendance from south Madras, the school does not have any capacity issues. Its 2008-2009 enrollment was below its design and functional capacity (see Table 4-1).



A conditions assessment by the District did identify major systems needs for the school, including an update of the heating and plumbing systems (Attachment B). The District has not necessarily determined that these needs rise to the level of closing or replacing the school, but involve significant costs that the District needs to plan for.

### **Warm Springs Elementary School**

The Jefferson County School District operates Warm Springs Elementary School through lease agreements and memoranda of understanding with the Warm Springs Tribal Council.

The school has undergone a series of renovations since its original construction in 1938, and currently relies on four sets of modular classrooms; Warm Springs is the only school in the district with modular units. The school has a larger number of students than other schools in the district and also a larger average class size (see Tables 4-1 and 4-2).

The elementary school has been slated for replacement dating at least back to the 2000-2010 Long-Range Facility Plan. A Memorandum of School Construction and Lease Intent (April 2001) and a Memorandum of Understanding for Education of Tribal Students (June 2003) reiterate this need and suggests steps to take for the school's replacement. However, a new school has not yet been built.

### **Westside Elementary School**

Westside Elementary School was closed for the last full school year (2008-2009). Students that had previously attended the school were distributed among Metolius, Madras, and Buff Elementary Schools. As reported in the 2000-2010 Long-Range Facility Plan, the school facility itself was reported to have the worst conditions of elementary schools in the district. The most recent conditions assessment from the District (Attachment B) and the previous assessment for the 2000-2010 plan call out the need for boiler and heating system overhauls, insulation replacement and asbestos removal, and a plumbing system update in addition to addressing safety issues associated with its location on Highway 97.

The 2000-2010 facility plan identified as a priority selling the school site and making the site available for more appropriate uses given its location downtown on a major arterial. Sale proceeds would be directed to constructing a new school in a more suitable location. The process of updating the facility plan should be used to explore options for replacing Westside Elementary School, including rebuilding the school in its current location but with access reoriented away from the highway, as well as building a new school in a new location guided by the location criteria set forth in Chapter 2. It should be noted that an approved bypass for US 97 will reduce truck traffic and other heavy traffic from this roadway.



### **Other District Facilities**

District facilities also include administration offices and a set of maintenance and transportation facilities. All of these uses are located in the vicinity of Madras Elementary School, Madras High School, and Buff Elementary School. The administration offices are directly east of Buff Elementary School and the maintenance and transportation facilities are east of Madras High School. The maintenance and transportation site is squarely in the floodplain and floodway of the Willow Creek side channel. District offices are not in the floodway or floodplain (see Figure 4-3), however, staff report occasional high water issues at the offices. More information about the administration offices and maintenance and transportation facilities is presented below in Table 4-3.

The District also owns vacant property north and east of Madras, and has prospects for acquiring additional land. The following sections describe these sites.

### **Loucks Road Site**

The District owns a site on Loucks Road outright (Taxlot ID 11S, 14E, Section 6, Lot 1000). The property straddles the existing UGB. Of its 67.3 total acres, 24.8 acres are inside the UGB, and 42.5 acres are outside the UGB in Urban Reserve Area (URA). Land in the URA is first priority for being brought into the UGB.

### **Yarrow Master Plan School Site**

The District has a financial interest in a 20-acre site identified in the Yarrow Development Master Plan as a future school site. The site is outside but adjacent to the existing UGB, south of Ashwood Road and across from Juniper Hill County Park. The site is in the Madras Urban Reserve Area (URA), which is first priority land for inclusion in the UGB when it needs to be expanded. The District's interest in this site is linked to a land exchange with the City of Madras. Terms of the exchange include a condition that the City complete land use planning steps for the site so that the school district may develop it when the need for a new school arises. The Yarrow Master Plan calls for co-locating a city park on the site to serve Yarrow and urban areas to the north and west. The City is working to fulfill its obligation to complete planning for this site.

### **Calculating Capacity**

Table 4-1 reports both the design and functional capacity of schools in the district.

[Note: the statute requires that the District explain in detail its methodology for calculating school enrollment capacity and any changes to the methodology that have altered how the district previously estimated enrollment capacity at its schools.]



Table 4-1: Summary of Facility Data for Jefferson County School District

School	Grade Levels	Site Area (acres) <sup>1</sup>	Building Area (sq ft) <sup>2</sup>	Year Built, Renovated <sup>3</sup>	Number of Teaching Stations, Without Specialty Rooms <sup>4</sup>	Enrollment 2008-2009 <sup>5</sup>	Design Capacity/ Functional Capacity <sup>6</sup>	Capacity Surplus or (Deficit) (#)	Capacity Utilization (%)
Madras High School	9-12	48 acres	138,366	1964, 2003, 2005	36	838	[update]		
Jefferson County Middle School	6-8	23 acres	124,288	1995	51	673	1,058/1,058	385	64%
Big Muddy School	K-8					11			
Buff Elementary School	3-5	15 acres	41,554	1956, 1960, 2005	15	368	[update]		
Madras Elementary School	K-2	16 acres	52,428	1938, 1951	23, 19	356	575/475	119	75%
Metolius Elementary School	K-5	6.5 acres	31,080	1949, 2000	15, 12	277	375/300	23	92%
Warm Springs Elementary School	K-5	20 acres	54,945	1938, 1964, 1994, 1998, 2007	24, 20	454	[update]		
Westside Elementary School	Closed	12.5 acres	54,540	1938, 1998	Closed	Closed	500/425	Closed	Closed

<sup>1</sup> Reported by District staff

<sup>2</sup> From 2000-2010 Long-Range Facility Plan and "District Facts" Attachment (2007)

<sup>3</sup> From 2001-2002 Oregon Department of Education (ODE) School Facilities Report, "District Facts" Attachment (2007) to 2000-2010 Long-Range Facility Plan, and District website

<sup>4</sup> Reported by District staff

<sup>5</sup> From 2008-2009 ODE October 1 Enrollment Report

<sup>6</sup> Capacity Analysis Attachment (PowerPoint slide) to 2000-2010 Long-Range Facility Plan









**Table 4-2: Number of Classrooms and Class Size Data for Jefferson County School District Elementary Schools**

School	Average Class Size	Number of K-5 Classrooms
Buff Elementary School	23.5	15
Madras Elementary School	24	15
Metolius Elementary School	23	12
Warm Springs Elementary School	27.5	19

Source: Jefferson County School District

**Table 4-3: Other Jefferson County School District Facilities**

School	Site Area	Building Area
Administration Offices		
Maintenance and Transportation Facilities		

Source: Jefferson County School District



## Chapter 5: Facility Needs and Location Analysis

This chapter presents information about facility needs in the near term and long term for all types of school facilities. The analysis uses enrollment forecasts and facility conditions information from the previous chapters to establish existing and future facility needs. The school location criteria in Chapter 2 were used to evaluate different options for addressing these needs.

### ***School Facility Need Analysis***

#### **Existing Need**

This plan is intended to address needs both related to future enrollment growth and existing facility conditions. With regard to existing needs, the Warm Springs Elementary School, one of the oldest schools in the district, needs insulation, a new and larger cafeteria, and more capacity (Attachment X – conditions report). As discussed in Chapter 4, a replacement school on reservation land has been an identified need for at least nine years. Also as discussed in Chapter 4, Madras Elementary School and High School are in the floodplain and floodway of a Willow Creek side channel, and Madras Elementary School is in need of major systems overhauls. Westside Elementary School is currently closed, and is in need of major systems updates as well. The school faces serious safety issues because of its location and access on a state highway, however – as noted in Chapter 4 – some of the safety issues may be alleviated by the construction of the planned US 97 truck bypass west the highway’s existing location. The District’s facility needs related to age, condition, location, capacity, and hazards at its existing facilities are summarized in Table 5-1 below. The choices presented are not discrete and there are many possible combinations of solutions.

**Table 5-1: Existing Facility Needs**

<i>Facility</i>	<i>Action/Need</i>	<i>Location</i>
Westside Elementary	Upgrade or Replace	TBD
Madras Elementary	Upgrade/Protect or Replace	TBD
Warm Springs Elementary	Replace	In place
Metolius Elementary	Upgrade	In place
Buff Elementary	Expand or reuse	In place
Madras H.S.	Protect	In place
District Admin Offices	Protect or replace	TBD





### Future Need

Chapter 4 shows that existing facilities have capacity for current enrollment levels but the enrollment is projected to grow beyond that capacity within ten years for elementary grades. Table 5-2 compares current capacity with projected enrollment by grade level for the District. Figure 5-1 shows the projected enrollment year by year compared to existing capacity. The data indicate that elementary school capacity will be exceeded in the year 2020 by **more than 160** students. As shown in Figure 5-1, enrollment is projected to exceed capacity for the first time in the year 2017. This date is significant because it is within the 10-year planning horizon for which ORS 197.010 requires large school districts to develop plans to address deficiencies. Middle and High School capacity is projected to be sufficient for the next 10 years. Capacity constraints for those facilities are not projected to arise until sometime between 2030 and 2040.

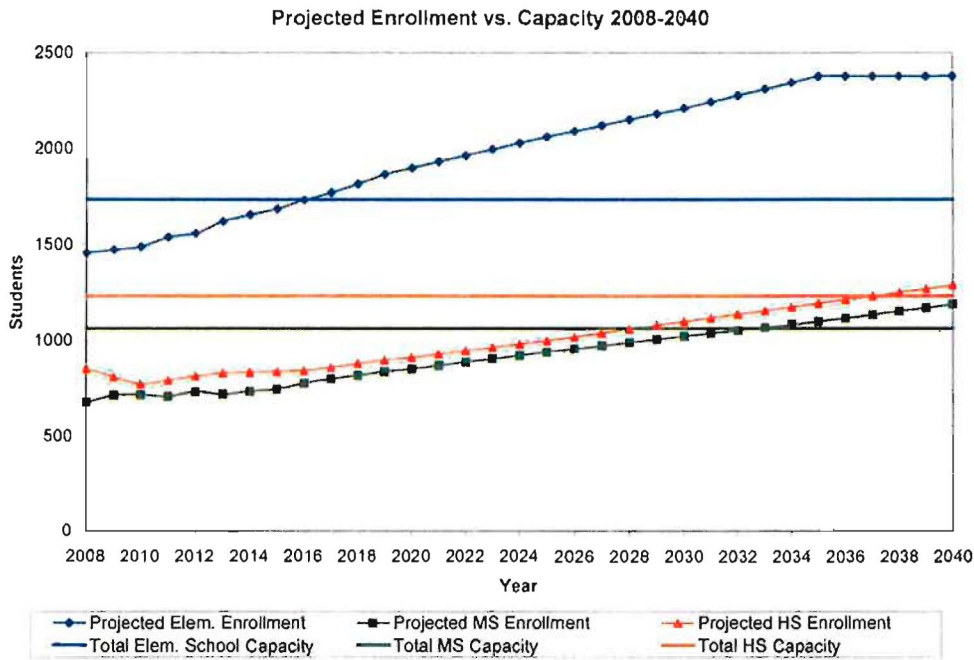
**Table 5-2: Projected Enrollment vs. Available Capacity**

Functional Capacity			2008/09	Projections						
			Actual	2010	2015	2020	2025	2030	2035	2040
Elementary School	1735	Enrollment	1455	1487	1685	1898	2061	2210	2377	2378
		Remaining Capacity	280	248	49	-163	-326	-475	-642	-643
Middle School	1062	Enrollment	677	715	746	850	938	1021	1097	1187
		Remaining Capacity	385	346	315	212	124	41	-35	-125
High School	1230	Enrollment	853	773	838	911	998	1099	1193	1289
		Remaining Capacity	377	457	392	319	232	131	37	-59

Source: Capacity numbers provided by JCSD; enrollment projections performed by Angelo Planning Group (see Chapter 3 for full enrollment projections and methodology).



Figure 5-1: Enrollment vs. Available Capacity



Source: Capacity numbers provided by JCSD; enrollment projections performed by Angelo Planning Group (see Chapter 3 for full enrollment projections and methodology).

### Options for Improving Existing Conditions

The previous analysis shows that most of the District's immediate facility needs relate to condition issues at its elementary schools. It may appear that the District has capacity to manage elementary enrollment levels for most of the next decade, but that assessment ignores serious problems with individual facilities and significant operating costs associated with managing elementary enrollment using busing to balance the distribution of available capacity. As noted above, the solutions are not necessarily discrete; there are interactive effects that need to be considered to develop solutions.

In addition, there is a persistent flood risk to Madras High School and Madras Elementary School that cannot be alleviated without significant investment in protective infrastructure. The problem is especially challenging because protecting these facilities from flood hazard may endanger other properties that are not currently threatened. The risk to school facilities is amplified because schools typically are used as places of refuge in times of emergency. These schools, however, are located in



the hazard zone for the natural disaster most likely to affect Madras making them unavailable in an emergency. It is inadvisable to expand either of these facilities unless they can be adequately protected from flood danger. Determining a course of action to address this problem is beyond the scope of this analysis and more work needs to be done to establish a reliable course of action.

The following discussion presents a series of possible solutions to address existing problems at school facilities; some solutions also will help the District meet forecast capacity needs.

### **Warm Springs Elementary School**

1. Replace and expand the existing elementary school.

The needs at Warm Springs Elementary School have been documented for years and replacing the school has long been a priority. Unlike other schools being considered for expansion, replacement or relocation, Warm Springs Elementary School either needs to be replaced on the existing site or replaced at another suitable site on the reservation. If the school cannot be rebuilt on the existing site, the location suitability criteria from Chapter 2 may help guide the selection of a new site.

### **Madras Elementary School**

1. Expand and protect the existing school or;
2. Close Madras Elementary School and;
  - a. Expand Buff Elementary School facilities to accommodate all elementary school grade levels at that location, or
  - b. Build a new elementary school at a new location in Madras that better serves the community's youngest students on one of the sites identified in the next section of this report.

As noted earlier, expanding this school is a significant problem because of its location in the Willow Creek floodplain. Furthermore, repairing the facility will be very expensive because of hazardous materials in the building. Moreover, the investment would be at risk of loss in a flood event. For these reasons, Alternative 2 seems the better choice. Expanding Buff Elementary School has the advantage of letting elementary students that live in southwest Madras continue to walk to school. That location may not, however, be in an ideal location to promote high walk rates because the school is pinched between US 97 and the Willow Creek floodplain. There simply is not as much residential development in this part of Madras compared to other parts of the city. If Buff



Elementary School is not expanded, it could be used to meet other District facility needs, such as for administrative offices, as a location for additional high school facilities, or as a special needs or enrichment school facility.

### **Westside Elementary School**

1. Re-build Westside Elementary School on the existing site but re-orient the building away from the highway.
2. Relocate the school to one of the sites identified inside the next section of this report.
3. If relocating the school:
  - a. Sell the school site and use the proceeds to finance other capital needs; or
  - b. Reserve/landbank the site for a future school or other District facilities (e.g. admin offices, special education needs).

The Westside Elementary school site has the advantage of being located south of downtown in an area with a grid street pattern and on the edge of a neighborhood where almost all students currently must either be bused or driven to school. As noted earlier, however, repairing this facility will be expensive because of hazardous materials in the building and the need to reorient the building away from the busy highway. In addition, the surrounding property to the north and east is zoned for commercial use and this part of Madras is expected to become more employment-oriented over time. That trend also may include mixed use development that could accommodate both employment and residential uses and provide much needed higher-density affordable housing. Until the redevelopment pattern for the area immediately south of the downtown becomes clearer – which may not happen until the truck by-pass is built – it is too early to judge whether the Westside Elementary site will meet the District’s aim to locate elementary schools in walkable neighborhoods. Given the depressed market for commercial property statewide, it may be in the District’s best interest to hold this property until development trends for the southern part of the city become clearer and preserve the school, possibly leasing the space on an interim basis.

### **Madras High School**

1. Protect the site from the flood hazard and keep the school in this location for the long term,  
or
2. Adopt a policy to relocate the high school at some point in the future to a location outside the floodplain:



- a. At the Loucks Road District Property (approximately 67 acres total, 25 acres inside the UGB, and 42 acres outside the UGB in the URA); or
- b. At another of the suitable sites of at least 20 acres that are identified in Figure 5-2.

### **Options for Adding Capacity**

The District also must address future growth in enrollment and, in particular, the situation in which elementary student enrollment is forecast to outstrip capacity as shown in Table 5-1 and Figure 5-1. The District could potentially accommodate the growing demand for elementary schools by using portables for the first few years in which the capacity of existing facilities is exceeded. Portable units could also accommodate the small over-runs in capacity forecast after 2030 for the middle school and high school. Portables are intended as a short-term solution, however, and at the very least the District will need to add permanent elementary school capacity to accommodate the growing student population by 2020 if not sooner.

The options for adding capacity are similar to those identified above for replacing existing capacity. A key element in increasing capacity is that new elementary school capacity should be constructed in Madras where most of the enrollment growth is expected to occur. The schools in Metolius and Antelope and the new school in Warm Springs (when constructed) have capacity to accommodate enrollment in their respective rural areas. Metolius Elementary also has enough capacity so that the school may continue to balance overflow enrollment from south Madras and the southern urban fringe. To meet its other elementary enrollment needs, the District needs to have two full size elementary schools in Madras. Options to meet this need include:

1. Locate two full size schools with one at Buff Elementary School and one at Westside Elementary School; or
2. Build one full-size elementary school either at Buff or Westside and one new elementary school on one of the sites reviewed in the next section; or
3. Build two new elementary schools on two of the sites reviewed in the next section.

### **Location Suitability Analysis for New Schools**

A number of different properties were evaluated against the site criteria established in Chapter 2 to determine their suitability for siting new elementary school facilities. The Buff Elementary School site was considered for expansion, and the Westside Elementary School site was considered for

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redevelopment. Eight properties inside the existing UGB that meet the District's minimum site suitability criteria (from Chapter 2) also were evaluated for siting a new school. Those sites are shown in Figure 5-2. Also included in the analysis is an evaluation of the two undeveloped sites that the District owns, both of which currently straddle the UGB. As the portion of the Loucks Road Site that is within the UGB meets the District's minimum criteria, that portion was included for consideration along with other properties within the existing UGB. Development on District owned land outside the UGB, however, may not proceed until that property is brought into the UGB.

- **Buff Elementary School Site** – *expanding and replacing Madras Elementary School*

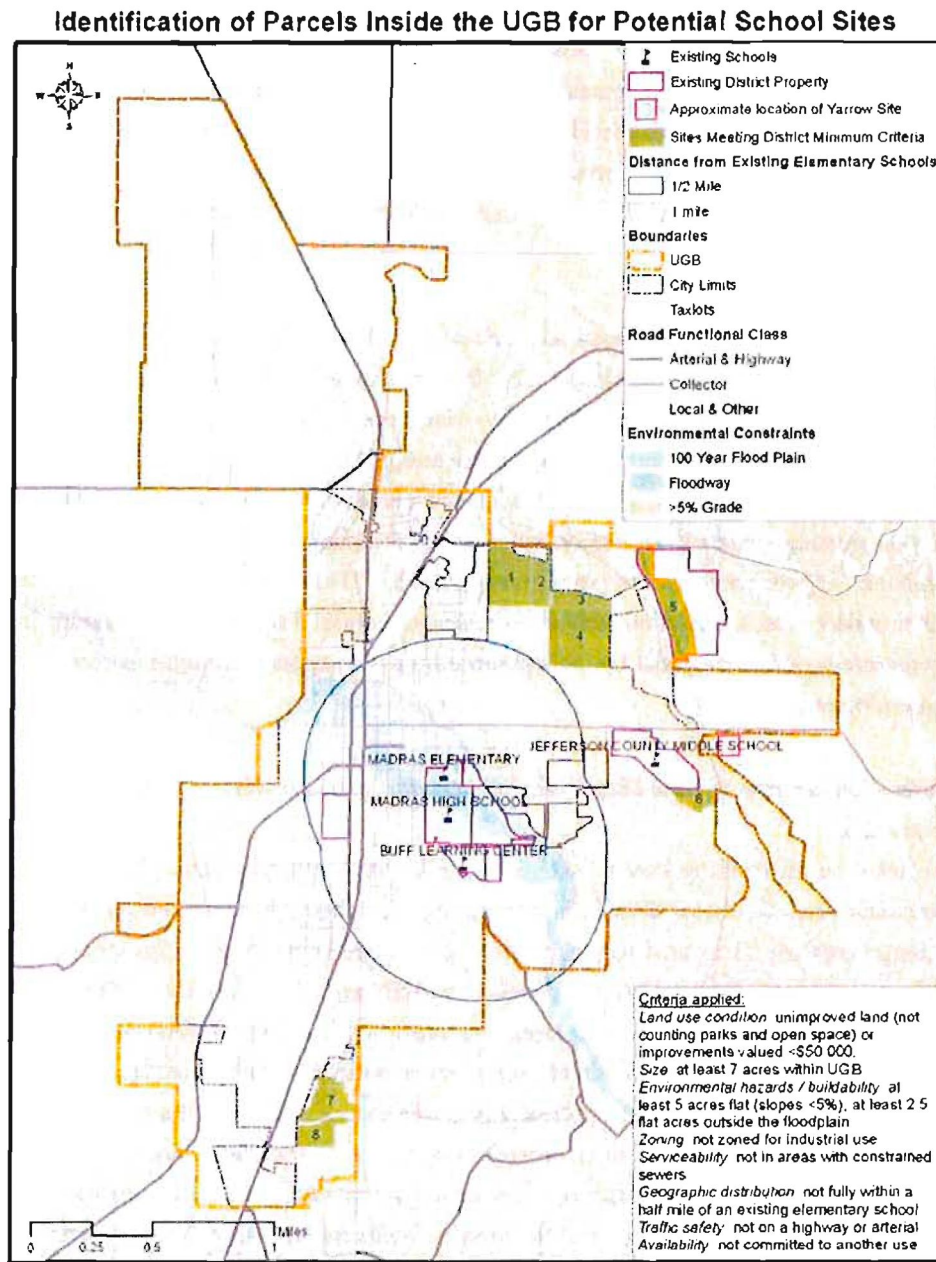
The site is already developed with a school. At 15 acres, the site is ample in size for an elementary school and can accommodate expanded facilities. However, only partially new construction would make it more difficult to incorporate. The site is relatively level and is outside of the Willow Creek system's floodway and floodplain. The site is already served with water and sewer, and is centrally located for the growing student population projected for the city of Madras. The school fronts local roads, which are appropriate for an elementary school. That coupled with adjacent residential development makes this a walkable school site. [Bus access?] Life-cycle cost-saving and energy efficiency features could more easily be incorporated into the expansion and new construction than the existing buildings.

- **Westside Elementary School Site** – *rebuilding existing school, or selling, or saving for relocation of other District facilities*

This site is also already developed with a school. Its site size – approximately 12 acres – is sufficient for an elementary school or a small middle school, although there is not a need for a middle school in the planning horizon. The site is relatively flat and outside floodways and floodplains. It is zoned for open space/public facilities and is surrounded by land zoned commercial on the north and east and residential on the west. The site is already served by water and sewer and is located west of Highway 97, making it walkable and suitable for serving students on the west side of Madras while posing a large barrier to students coming from any other part of Madras. The site is served by both a state highway and local streets, but its current orientation to the state highway presents serious safety concerns, although its proximity to such a major arterial allows it easy access to bus and other transportation services. Rebuilding or relocating this facility would allow for new construction and easier integration of life-cycle cost-saving features than would retrofitting existing development.



Figure 5-2: Potential School Sites Inside the UGB





- **Sites 1 and 2** –*Relocating Madras High School, or building a new elementary school*

Sites 1 and 2 are vacant land under common private ownership and together total 35.6 acres. Site 1, at 25.7 acres, is large enough on its own to accommodate a middle school or small high school. Site 2, at 9.9 acres, could potentially accommodate an elementary school. When aggregated, the sites present an opportunity for a large high school or for co-locating a park or other community facilities. Currently, no development applications have been submitted or are pending on the sites. They are relatively level sites, outside of local floodways and floodplains. They are zoned residential (R3) and are surrounded by residential zoning. They are just inside the border of the UGB and the city limits, and are adjacent to land that is already developed with housing and on the east with land in the URA that is expected mainly to provide land for housing. Their location would serve students in north, central, and east Madras. A collector (Loucks Road) runs along the northern border of the sites and all other adjacent roads are local roads. Loucks Road would need safety treatments to border an elementary school but otherwise the classification of the surrounding roads and surrounding residential development supports walking. New construction on the sites would allow for integration of life-cycle cost-saving features. Sewer service is problematic, however. The preferred service solution would be to connect to a south-flowing sewer trunk in **\_\_\_\_\_ road**, but that line is not in place. A significant amount of vacant land south of these sites must be developed before the sewer trunk would be extended to this site.

- **Sites 3 and 4** –*Relocate Madras High School, or build a new elementary school*

Sites 3 and 4 are located just to the southeast of Sites 1 and 2. They are inside the UGB and immediately inside the city limits. Like Sites 1 and 2, Sites 3 and 4 consist of vacant land under common private ownership. Site 3, at 8.5 acres, is potentially large enough to accommodate an elementary school, although its long, narrow shape could make it less than ideal. Site 4, at 40.2 acres is large enough to site a high school with room to spare or to co-locate multiple facilities. Both sites are also relatively flat and outside floodway and floodplain zones. The sites are zoned low-density residential (R1) and are surrounded by other residential zoning and development, in addition to open space zoning for open space and public facilities. As with Sites 1 and 2, the location of Sites 3 and 4 would most easily serve students in north, central, and east Madras. All adjacent roads are local roads; without direct access to a collector like Loucks Road, the sites may be more suitable for a neighborhood elementary school than a high school. The relatively gentle grades between the sites and residential areas to the west suggest that these are the most walkable connections and conditions. As with sites 1 and 2, sewer service is problematic. The preferred service solution would





be to connect to a south-flowing sewer trunk in **\_\_\_\_\_ road**, which is not in place. Vacant land south of these sites must be developed before the sewer trunk would be extended to this site.

- **Site 5/Loucks Road Site** –*Relocating Madras High School, or building new elementary school*

The District owns a property that is referred to in this plan as the Loucks Road site. Because the property is divided into parts inside and outside the UGB, for planning purposes it is essentially two sites. The portion within the Madras UGB (from here on referred to as Site 5), is about 25 acres; the rest of the Loucks Road property, which is located just outside of the UGB, is about 42 acres. Both sites are vacant and are not currently the subject of any submitted or pending development applications. Site 5 is of sufficient size for an elementary school and a park or other community facility, or for a middle school, or for a small high school. The shape of Site 5, however, would pose a design challenges for upper grade facilities. When taken as a whole, the property is large enough to co-locate a high school, and a middle school or elementary school, and other community facilities. The site as a whole is not constrained by slope, although significant slope is found to the east and west of it. There is no floodplain or floodway identified on the site. That part of the property within the UGB is zoned as Open Space, which would allow development of public facilities such as schools, while the rest of the site is zoned for rural uses – agriculture and range land. The whole site is surrounded by a combination of low-density rural and urban residential zoning (R1, RR2, RR5, and RR10), with existing rural subdivisions directly to the north and subdivisions within the UGB to the west. As with Sites 1, 2, 3, and 4, the site's location would serve students in north, central, and east Madras. Steeper slopes to the east and west may make the site less walkable from those directions but less so to the north and south. Residential zoning and a predominantly local road network in the area – with Loucks Road as the only higher classified road for now – can support walkability. New construction on the sites will allow for integration of life-cycle cost-saving features. Sewer service is a significant problem, however. The preferred service solution would be to connect to a south-flowing sewer trunk in **\_\_\_\_\_ road**, but that line is not in place. A significant amount of vacant land south of this site must be developed before the sewer trunk is extended to the northeastern most corner of the Madras UGB.

- **Site 6** – *building a new elementary school*

Site 6 is located southeast of the existing Jefferson County Middle School. It is made up of two parcels, both owned by the Bean Foundation, and both unimproved. The two parcels together total 8.4 acres. This makes it an appropriate size for an elementary school, especially because it is adjacent to the existing middle school, allowing for potential efficiencies and sharing of certain



facilities. The site is zoned residential (R3) and is mainly surrounded by residential zoning, including a developed subdivision to the west. Its eastern border lies along the UGB, and rural land on the other side of the UGB is zoned for low-value resource use (range land). Floodways or floodplains are not found on the site, nor are significant slopes. However, land to the west, south, and northeast is significantly sloped and may present challenges to the site's walkability despite predominantly residential zoning and local roads in the area that can make walking more viable. Site 6 is not located on a collector or arterial – the nearest collector is Ashwood Road adjacent to the north side of the middle school site. Yet this site is also relatively isolated in terms of a road system. Services are available. Like most of the other candidate sites, new construction on the sites will allow for integration of life-cycle cost-saving features.

- **Sites 7 and 8 – Relocating Madras High School, or building new elementary school**

Sites 7 and 8 are adjacent although separated by Hall Road. Site 7 is made up of 3 parcels, totaling 16.6 acres; Site 8 is a single parcel of 11.1 acres. All parcels in both sites are vacant and under common private ownership. Individually, either site could accommodate an elementary school. Site 7 also could provide for a small park along with a small elementary school facility. Combined, if Hall Road were not used as a through street, Sites 7 and 8 (27.7 acres total) could accommodate a small high school, or a middle school co-sited with an elementary school, or park, or other community facility. The sites are located between the city limits and the UGB in south Madras. The sites and land south of them are currently zoned by the County as County Commercial (CC), which does not allow schools, and they have been identified as possible sites for light industrial use. Currently there are no submitted or pending development applications for the sites. Sites 7 and 8 are flanked by Corridor Commercial (C1) zoning inside the city and residential zoning (RR5) outside the UGB and inside the URA, which allow schools at least conditionally and provide a student population. These sites would serve students in the south, west, and east portions of the Madras area. They are relatively flat and do not contain floodplain or floodway. The sites are close to but not adjacent to US 97, a major arterial, and are served by local roads – Hall Road and Merritt Lane. Services are available. Despite their location on local roads, commercial zoning to the west and south and steep slopes to the east where there is residential zoning call into question how much residential development will be within walking distance and how viable walking conditions will be. Like most of the other potential sites, though, new construction on the sites will allow for integration of life-cycle cost-saving features.



- **Yarrow Site** – *relocating Madras or Westside Elementary School, relocating Madras High School, or building new elementary school*

The Yarrow site includes as much as 20 acres that is identified in the approved Yarrow community master plan for school use. Its location directly south of Ashwood Road, a collector, which allows a higher level of access while also being part of a planned development that will include local roads toward which the school could be oriented. The site is outside but adjacent to the UGB in the URA and is first in line for UGB expansion given its master planned status. It could serve students from the north, east, and south parts of the Madras urban area. It is a vacant site that is relatively flat, although the southern part of the property rises up gradually to an upper plateau; the site does not intersect with floodways or floodplains. It is currently planned and zoned as range land in the County plan and is bordered by range land zoning on the east and City open space/public facility and residential (R3) zoning to the north and south. To the north is a large county park. Land to the northeast, east, and southeast is all zoned for open space/public facility and range land. This land also provides an opportunity for residential development in close proximity to the school site where it would provide a walkable environment using local roads and, with proper safety treatments, via Ashwood Road. Services are available. At 20 acres the site is large enough for an elementary school co-sited with other community facilities. Last, as with most of the other potential sites, new construction on the Yarrow site would allow for integration of life-cycle cost-saving energy features.



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## Chapter 6: Recommendations

This chapter presents combinations of the options outlined in Chapter 5 for addressing the existing and projected facility needs of Jefferson County School District. The combinations represent recommendation “packages” based on the findings of the locational analysis in Chapter 5.

Based on that information, the following recommendations and actions are proposed by the School Board:

### Immediate (1 to 5 years)

- Secure adoption of the Facility Plan and related implementation measures by local governments;
- Prepare and enact a district wide excise tax on new development to help finance school construction;
- Secure financing, select a site and then design and construct a replacement elementary school on Tribal Lands in Warm Springs;
- Secure financing, select a site, and then design and construct a replacement elementary school in Madras;
- Secure financing to assess and repair Metolius Elementary School;
- Secure funding to conduct a site search for a new elementary school in Madras;
- Secure funding for a study to determine how to address catastrophic flood hazard problems at Madras High School and the District’s Administration Building.

### Near Term (5 to 10 years)

- Secure a site and funding to construct a new elementary school in Madras;
- Secure funding to resolve flood hazard problems at Madras High School and the Administration Building.

[To be modified after consulting with the City, District staff, and the School Board. More detail on how to proceed may be included in the plan depending on the wishes of the Board.]



## Transmittal

**Date:** December 29, 2009  
**To:** Plan Amendment Specialist                      **From:** DJ Heffernan  
**Firm:** DLCD    **Phone:** (503) 227-3488  
**Address:** 635 Capitol Street NE, Suite 150              **E-mail:** dheffernan@angeloplanning.com  
Salem, OR 97301-2540  
**RE:** Proposed Jefferson County School District 2009 Long Range Facility Plan and  
Madras UGB Amendment and Annexation - **ADDENDUM**

---

This is an addendum to the original notice form. The proposed UGB amendment and annexation is being amended to add 16.91 acres that comprise two additional parcels that lie between tax lot 100 - the previous subject site - and the existing UGB.

Lots 101, 102, and 200 are proposed to be added to the Madras UGB and annexed to the city, but would not be rezoned at this time. Those parcels will retain their existing County zoning (Range Land) and will be considered for rezoning once the private landowners are prepared for further land use action. The additional land is intended for residential land use designation to help meet the need for residential and public/semi-public uses in Madras for the next 15-20 years, as determined in the *Madras Urbanization Study* (ECONorthwest, April 2007) and *Madras Urbanization Study Addendum* (ECONorthwest, August 2007).

Therefore, the entire subject site is now comprised of the following parcels in Township 11S, Range 14E, Section 7:

- 1) Parcel of Lot 100 – 20.0 acres
- 2) Lot 101 – 12.3 acres
- 3) Lot 201 – 0.69 acres (County right-of-way)
- 4) Lot 200 – 3.9 acres.

The attached maps show:

- 1) The taxlots for Section 7 (Attachment A); and
- 2) The survey map for the parcel in Lot 100 (Attachment B).

As described in the original notice form, the parcel in Lot 100 is proposed for annexation to the UGB and the city, with a change in zoning to from County Range Land (RL) to City Multi-Family Residential (R-2).

In addition to these map amendments, the following table is proposed for addition to the Land Use Element (Section IV) of the Madras Comprehensive Plan. The table lists city and county zoning districts that are allowed within the various land use plan designations that are used to depict future land uses on the Madras Comprehensive Plan map. The table is needed to clarify how City Comprehensive Plan designations correspond to City and County zoning designations.

Plan Map Label	Designation	Description	City Zones	County Zones
R-1	Single-Family Residential	Land primarily for single-family homes, including manufactured home subdivisions, and for duplexes	R-1	EFU A-1, EFU A-2, RL, FM, RR-2, RR-5, RR-10, RR-20, ERD
R-2	Multi-Family Residential	Land for multi-family housing to be close to businesses and services and to buffer single-family residential and commercial uses. Manufactured homes and neighborhood commercial uses are allowed.	R-2	EFU A-1, EFU A-2, RL, FM, RR-2, RR-5, RR-10, RR-20, ERD
R-3	Planned Residential Development	Land for primarily residential development that allows site design flexibility to promote creativity and protection of scenic and natural resources	R-3	EFU A-1, EFU A-2, RL, RR-2, RR-5, RR-10, RR-20, ERD
C-1	Corridor Commercial	Land for primarily motor vehicle-oriented uses located along major roadways	C-1	CC, ERD
C-2	Downtown Commercial	Land for a mixture of smaller scale businesses that supports redevelopment, higher density, public spaces, and other elements of pedestrian orientation	C-2	CC, ERD
C-3	Community Commercial	Land for primarily motor vehicle-oriented uses but on a smaller scale than Corridor Commercial	C-3	SC, CC, ERD, EFU A-1, EFU A-2, RL
NC	Neighborhood Commercial	Land for small-scale commercial uses in residential areas that includes public spaces and promotes transportation options	NC	SC, ERD, EFU A-1, EFU A-2, RL
I	Industrial	Land for industrial uses where industrial uses already exist in the city and in the Madras Industrial Park	I	EFU A-1, EFU A-2, RL, FM, PM, CI, IR, ERD
O/S	Open Space	Land where parks, open space, or public uses already exist or is otherwise publicly owned	OS/PF	EFU A-1, EFU A-2, RL, FM, PM
A/D	Airport Development	Land adjacent to airport facilities for future commercial and industrial uses, particularly those that rely on air transportation	A/D	EFU A-1, EFU A-2, AM, ERD

County Zones:	
AM	Airport Management
CC	County Commercial
CI	County Industrial
EFU A-1, EFU A-2, RL	Exclusive Farm Use Zones
ERD	Existing Rural Development

FM	Forest Management
IR	Industrial Reserve
PM	Park Management
RR-2, RR-5, RR-10, RR-20	Rural Residential
SC	Service Community

Please contact me with information requests or follow-up questions.

Thank you for your time and consideration.



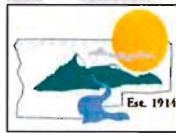
# **Jefferson County and City of Madras Comprehensive Plan Amendment**

## **Jefferson County and City of Madras Comprehensive Plan Map and Zoning Map Amendments - DRAFT**

City of Madras Planning Commission  
Jefferson County Planning Commission

Prepared for:

**Jefferson County**  
66 S.E. "D" Street  
Madras, OR 97741



**City of Madras**  
71 S.E. "D" Street  
Madras, OR 97741



Prepared by:



Angelo Planning Group  
921 SW Washington, Suite 468  
Portland, Oregon 97205

January 2010

## City of Madras Planning Commission

Shelly	Tack	Chair
		Vice-
Lynn	Kowaleski	Chair
Alan	Hurley	
Kasey	Cousens	
Richard	Ladeby	
Joe	Krenowicz	

## City of Madras City Council

Melanie	Widmer	Mayor
Tom	Brown	
Walt	Chamberlain	
Royce	Embanks Jr.	
Benjamin	Keeton	
Bob	McConnell	
Kevin	O'Meara	

## Jefferson County Planning Commission

Donald	Martin	Chair
Evan	Thomas	Vice Chair
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Bob	Powers	
Roy	Hyder	
Jim	Day	
Kay	Moon	

## Jefferson County Board of Commissioners

John	Hatfield	Chair
Mike	Ahern	
Wayne	Fording	

## Project Support and Consulting Team

Angelo Planning Group	Land use planning, project management
Kittelson Associates	Transportation analysis
Jefferson County	Planning
City of Madras	Planning, technical support
Jefferson County School District 509-J	Planning, technical support



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- Appendix A: West Site Tax Map (3 lots, 16.91 acres)
- Appendix B: East Site Legal Description and Survey Map (20-acre parcel)
- Appendix C: Jefferson County School District 509-J 2009 Long Range Facility Plan
- Appendix D: City of Madras and Jefferson County School District 509-J Land Exchange Agreement (September 2006)
- Appendix E: Urban Reserve Area Management Agreement (URAMA) (January 2009)
- Appendix F: Transportation Analysis
- Appendix G: Urban Growth Area Management Agreement (UGAMA) (April 2006)

## I. Proposal Summary

File No.:	081-004
Applicant:	<p>Nick Snead, Community Development Director  City of Madras  71 SE D Street  Madras, OR 97741  (541) 475-3388  (541) 475-7061 Fax  <a href="mailto:nsnead@ci.madras.or.us">nsnead@ci.madras.or.us</a></p> <p>Jon Skidmore, Community Development Director  Jefferson County  85 SE D Street  Madras, OR 97741  (541) 475-4462  (541) 325-5004 Fax  <a href="mailto:jon.skidmore@co.jefferson.or.us">jon.skidmore@co.jefferson.or.us</a></p>
Applicant's Representative:	<p>DJ Heffernan  Angelo Planning Group  921 SW Washington, Suite 468  Portland, Oregon 97205  (503) 227-3664  (503) 227-3679 Fax  <a href="mailto:dheffernan@angeloplanning.com">dheffernan@angeloplanning.com</a></p>
Request:	<ul style="list-style-type: none"> <li>• <b>To amend the Jefferson County and City of Madras Comprehensive Plans</b> – to incorporate the Jefferson County School District 509-J 2009 Long Range Facility Plan as an element of the Jefferson County Comprehensive Plan and the City of Madras Comprehensive Plan (Attachment A).</li> <li>• <b>To amend the Madras Comprehensive Plan</b> – to add a table that presents the City zones and County zones that correspond and are allowed under City comprehensive plan designations. (Table 3-1)</li> <li>• <b>To amend the Jefferson County and City of Madras Comprehensive Plan and Zoning Maps</b> – to expand the Madras Urban Growth Boundary (UGB) to include 36.91 acres from the Madras Urban Reserve Area (URA); to annex 20 acres of City-owned land (“east site,” Figure 4-1) to the City of Madras and apply City R-2, Multiple Family Residential zoning; to annex 16.22 acres of privately owned land plus 0.69 acres of land for County right-of-way (“west site,” Figure 4-1) and retain existing County RL, Range Land, zoning.</li> </ul>

<b>Location:</b>	<ul style="list-style-type: none"> <li>• West site: tax map of 16.91-acre west site (outlined), directly east of the existing Madras UGB, south of Ashwood Road (Appendix A)</li> <li>• East site: survey map of 20-acre east site, east of the existing Madras UGB, south of Ashwood Road (Appendix B)</li> </ul>
<b>Legal Description:</b>	<p><b>West site:</b> 11S 14E 7 Lots 101 (12.28 acres), 102 (0.69 acres for right-of-way), and 200 (3.94 acres), entire lots  <b>East site:</b> 11S 14E 7 Lot 100 (20 acres), parcel of lot</p> <p>Legal description of Lot 100 parcel (east site):  <i>A portion of Parcel 2 of Partition Plat No. 2002-12 as filed in the Jefferson County Clerk's Office, situated in the Northeast Quarter (NE ¼) of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County Oregon, more particularly described as follows: Commencing at the Northwest corner of said Northeast Quarter, monumented with a 2 inch diameter brass cap, from which the Northeast corner of said Section 7 bears South 89°39'40" East a distance of 2640.53 feet; thence South 89°39'40" East along the North line of said Section 7 a distance of 599.997 feet; thence South 0°17'36" West a distance of 40.00 feet to the Northwest corner of said Parcel 2 of Partition Plat No. 2002-12; thence continuing South 0°17'36" West along the West line of said Parcel 2 a distance of 40.00 feet to the South right-of-way line of East Ashwood Road and the <b>True Point of Beginning of this Description</b>; thence South 0°17'36" East along said West line a distance of 935.13 feet to the Southeast corner of Parcel 1 of said Partition Plat No. 2002-17; thence leaving said West line South 89°39'40" East a distance of 931.70 feet; thence North 0°17'36" West a distance of 935.12 feet; to a point on the South right-of-way line of East Ashwood Road; thence North 89°39'40" West along said right-of-way line a distance of 931.70 feet to the <b>True Point of Beginning</b>.  Contains 20.00 acres more or less.  <b>End of Description.</b> (Appendix B)</i></p>

## II. Introduction

The Madras Urban Reserve Area (URA) was approved by DLCD in July 2009, and was sized to provide urbanizable land for the next 50 years. Land from the URA is the first priority for inclusion in the UGB pursuant to ORS 197.298. The City of Madras is not currently in periodic review or evaluating its existing UGB for a 20-year land supply. The City, however, has initiated this UGB amendment and annexation process in order to abide by terms of an agreement it has with the Jefferson County School District 509-J (“JCSD” or the “District”).

In September 2006, the City of Madras and JCSD signed a land exchange agreement. The District owns property – “Friendship Park” – on Highway 97 that is basically too small to site a new school and is poorly located along a state highway. The agreement specified an exchange of this land in the city for 20 acres of land that the City owns just outside the existing UGB (Appendix D). This land is proposed for annexation to the Madras UGB and city limits and for re-zoning as City Multi-Family Residential (R-2), a designation that will allow for a multi-family and single-family housing as well as public/semi-public uses typically sited on residentially zoned land. The 20-acre parcel is within the Yarrow Master Plan area. The plan conceptually identifies a school site along its northern border with Ashwood Road.

The terms of the land exchange agreement concerning this land is cited below.

*... (T)he City has agreed to the following conditions as part of the property’s conveyance, all of which are to be completed within five (5) years:*

- (a) The City and its Planning Department will take such efforts as are reasonable and practicable to expand the Urban Growth Boundary for the City so that the parcel described in Exhibit “B” is within the Madras Urban Growth Boundary within five years of the signing of this Agreement, and that said property, when brought within the Urban Growth Boundary, shall be zoned to permit siting and construction of school facilities on said land; and*
- (b) At no cost to the School District, the City agrees to have sewer lines and water service lines adequate to accommodate a 600 student public school extended to the lot line of the parcel described in Exhibit “B”; and*
- (c) A Warranty Deed containing a legal description of the 20.0 acre parcel described in Exhibit “B” shall be signed by the appropriate representative for the City and placed in escrow, with instructions that allow the School District to removed the Deed for recording in favor of the School District as soon as the parcel described in Exhibit “B” can be legally partitioned from the other property owned by the City in which said parcel is located; and*
- (d) The City will cooperate with the School District to process and complete any necessary partitioning and other legal procedures to segregate the School’s parcel from the City’s contiguous real property so that the Warranty Deed may be lawfully recorded in the records of the Jefferson County Clerk.*

As part of the process of fulfilling its obligation under terms of this agreement, the City of Madras prepared an update to the Jefferson County School District 509-J Long Range Facility Plan. The facility plan, which the District has adopted, complies with ORS 195.110. The plan includes enrollment forecasts to 2025, an assessment of current conditions for



existing District facilities (Appendix C) and recommendations to address identified capacity problems. The plan recommends that Warm Springs Elementary School be re-built, that Metolius Elementary School undergo repairs, and that Westside Elementary School and Madras Elementary Schools either be renovated on site or replaced. The projections, assessments, and recommendations of the 2009 Long Range Facility Plan provide a basis for studying the efficacy of these alternative solutions to inform a potential bond measure campaign and possibly adopt an excise tax program.

In addition to the 20-acres of school district land, herein referred to as the east site, there are an additional 16.91 acres of land in the proposed UGB annexation, herein referred to as the west site. The west site is comprised of three lots that provide County right-of-way, better connect the east site to the existing UGB, and contribute toward meeting the long-term need for residentially zoned land. The west site is privately owned and is not proposed for re-zoning at this time; it will apply for re-zoning when the owners are prepared to file land development applications in the future. It is planned that the west-site land also will provide the same range of needed housing types and public/semi-public uses as the east site when re-zoning is approved.

In order to accommodate rural zoning in the urban growth area, text amendments are proposed for Chapter 2 of the Madras Comprehensive Plan that identify county zones allowed on land that is designated for urban residential use on the comprehensive plan map.

### III. Jefferson County and City of Madras Comprehensive Plan Amendments

- Language adopting the Jefferson County School District 509-J 2009 Long Range Facility Plan (Appendix C)
- Language amending Madras Comprehensive Plan Section IV, Land Use Element that identifies the appropriate location for this table.

**Table 3-1 Proposed Table for Corresponding City of Madras Comprehensive Plan Map Designations, City of Madras Zones, and Jefferson County Zones**

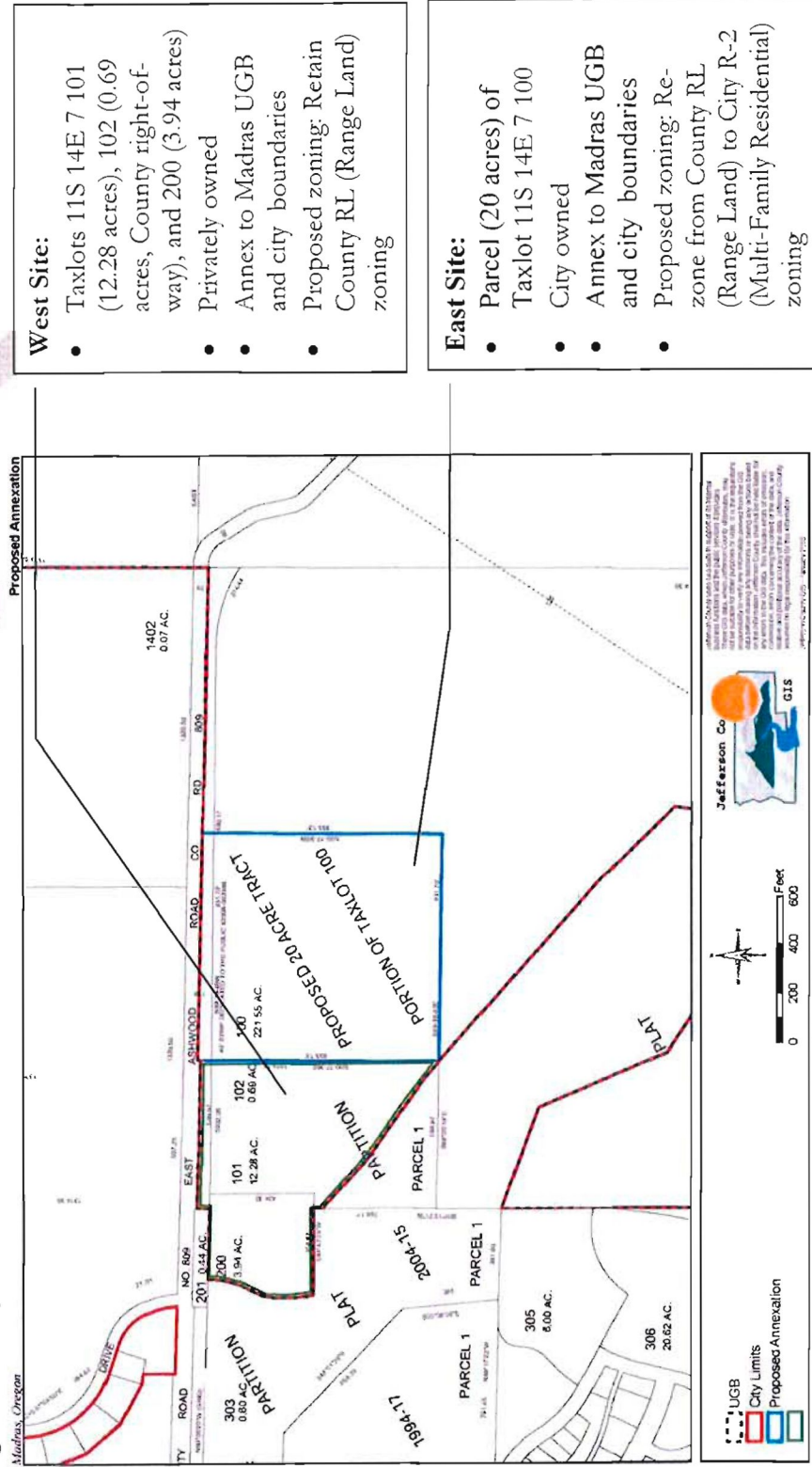
Plan Map Label	Designation	Description	City Zones	County Zones
R-1	Single-Family Residential	Land primarily for single-family homes, including manufactured home subdivisions, and for duplexes	R-1	EFU A-1, EFU A-2, RL, FM, RR-2, RR-5, RR-10, RR-20, ERD
R-2	Multi-Family Residential	Land for multi-family housing to be close to businesses and services and to buffer single-family residential and commercial uses. Manufactured homes and neighborhood commercial uses are allowed.	R-2	EFU A-1, EFU A-2, RL, FM, RR-2, RR-5, RR-10, RR-20, ERD
R-3	Planned Residential Development	Land for primarily residential development that allows site design flexibility to promote creativity and protection of scenic and natural resources	R-3	EFU A-1, EFU A-2, RL, RR-2, RR-5, RR-10, RR-20, ERD
C-1	Corridor Commercial	Land for primarily motor vehicle-oriented uses located along major roadways	C-1	CC, ERD
C-2	Downtown Commercial	Land for a mixture of smaller scale businesses that supports redevelopment, higher density, public spaces, and other elements of pedestrian orientation	C-2	CC, ERD
C-3	Community Commercial	Land for primarily motor vehicle-oriented uses but on a smaller scale than Corridor Commercial	C-3	SC, CC, ERD, EFU A-1, EFU A-2, RL
NC	Neighborhood Commercial	Land for small-scale commercial uses in residential areas that includes public spaces and promotes transportation options	NC	SC, ERD EFU A-1, EFU A-2, RL
I	Industrial	Land for industrial uses where industrial uses already exist in the city and in the Madras Industrial Park	I	EFU A-1, EFU A-2, RL, FM, PM, CI, IR, ERD
O/S	Open Space	Land where parks, open space, or public uses already exist or is otherwise publicly owned	OS/PF	EFU A-1, EFU A-2, RL, FM, PM

Plan Map Label	Designation	Description	City Zones	County Zones
A/D	Airport Development	Land adjacent to airport facilities for future commercial and industrial uses, particularly those that rely on air transportation	A/D	EFU A-1, EFU A-2, AM, ERD

County Zones:	
AM	Airport Management
CC	County Commercial
CI	County Industrial
EFU A-1, EFU A-2, RL	Exclusive Farm Use Zones
ERD	Existing Rural Development
FM	Forest Management
IR	Industrial Reserve
PM	Park Management
RR-2, RR-5, RR-10, RR-20	Rural Residential
SC	Service Community

# IV. Jefferson County and City of Madras Comprehensive Plan Map and Zoning Map Amendments

Figure 4-1: Proposed UGB Amendment and Annexation Area



## V. Conformance with Statewide Land Use Goals

### **Goal 1: Citizen Involvement**

*To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.*

**Response:** The proposed amendments have been reviewed during a series of public meetings and hearings in order to allow for consideration by public officials and public feedback.

The Jefferson County School District 509-J (“JCS D” or “District”) Board (“Board”) was briefed by the Superintendent about the 2009 Long Range Facility Plan in meetings [when, covered what]. The draft plan was brought to them first for formal review at a Board meeting on January 11, 2010. After [describe deliberations], they adopted the plan on DATE.

The proposed Madras Land Use Element Comprehensive Plan amendment and amendments to the Jefferson County and City of Madras Comprehensive Plan Maps and Zoning Maps were presented and reviewed in a series of meetings in early 2010.

#### ASK THE CITY FOR MEETING AND HEARING SCHEDULE AND INFO

Notice methods

Measure 56 notice

45-day notice to DLCD

December 14, 2009

Addendum

January [redacted], 2010

Info available on City website?

The UGB expansion area is drawn from the Madras Urban Reserve Area (URA), which was developed through an intensive participatory process. A Technical Advisory Committee (TAC) and Project Advisory Committee (PAC) were formed to provide guidance for the project. The TAC was comprised of staff from project team members, including Jefferson County, the City of Madras, ECONorthwest, Kittelson & Associates, David Evans & Associates, Ball Janik, LLP, and Angelo Planning Group. The PAC included representatives of the City of Madras, Jefferson County, Jefferson County School District 509-J, local farmers, housing advocates, Oregon Department of Transportation (ODOT) Region 4, and the Department of Land Conservation and Development (DLCD).

A combination of bi-weekly TAC teleconferences, public forums, PAC meetings, and meetings of the Madras Planning Commission and City Council, and Jefferson County Planning Commission and Board of Commissioners informed the final URA recommendation. Public events included the following:

- PAC Meeting 1 – May 2, 2007



- Public Meeting 1 – May 15, 2007
- PAC Meeting 2 – May 24, 2007
- PAC Meeting 3 – October 22, 2007
- Public Meeting 2 – November 6, 2007
- Joint City Council/County Commission Work Session – November 20, 2007
- PAC Meeting 4 – December 3, 2007
- Joint City/County Planning Commission advisory hearing – April 3, 2008
- Joint City/County Planning Commission advisory hearing – May 8, 2008
- County Planning Commission hearing – May 22, 2008
- City Planning Commission hearing – June 11, 2008
- City Council/County Commission evidentiary hearing – August 13, 2008
- City Council hearing/deliberations – September 9, 2008
- City Council hearing/1<sup>st</sup> ordinance reading – September 23, 2008
- City Council hearing/final adoption – October 7, 2008
- County Commission hearing – September 24, 2008

#### **Findings:**

- According to both their Comprehensive Plans and code, the City of Madras and Jefferson County Planning Commissions serve as their official citizen planning committees.
- Adoption of the Madras Urban Reserve Area (URA) complied with Goal 1.
- Members of the public have been able to participate in reviewing the proposed amendments. [DATES FOR MEETINGS, WORK SESSIONS AND HEARING]
- [WEBSITES AND OTHER PLACES MATERIALS ARE AVAILABLE]
- Measure 56 notice about upcoming County and City Planning Commissions and legislative hearings was mailed to [specify which property owners] on DATE.
- 45-day notice of proposed plan amendments was sent to the Department of Land Conservation and Development (DLCDD) on December 14, 2009 prior to the start of hearings held by County and City Planning Commissions and legislative bodies.
- Notices of the public meetings were published in the City's local newspaper, including contact information for the City and County. The paper also published articles [about what, if articles were published].
- ANY OTHER NOTICE AND PUBLIC ANNOUNCEMENT INFORMATION FOR ADOPTION HEARINGS?

**Conclusion:** The City of Madras has complied with State requirements for citizen involvement per Statewide Land Use Planning Goal 1.

#### **Goal 2: Land Use Planning**

*To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.*

**Response:** The state statute governing long-term school district facility planning – ORS 195.110 – was revised in 2007 and expanded the definition of which districts were subject to the planning requirements. The statute is addressed in more detail later in this report. The Jefferson County School District 509-J 2009 Long Range Facility Plan (Appendix C) includes elements pursuant to ORS 195.100(5)(a) such as enrollment forecasts, an assessment of existing facility conditions, and an analysis of options to meet forecasted needs. Given projected future need, the plan recommends that the District proceed with implementation of re-building a school on the Warm Springs Reservation and providing a new elementary school to replace substandard existing facilities in Madras. The 2009 Long Range Facility Plan was adopted by the JCSD Board on **DATE** and is now proposed for inclusion as an element in the Jefferson County and City of Madras Comprehensive Plans pursuant to ORS 195.110(2)(a).

The proposed UGB amendment and annexation is based on the buildable lands inventory and needs analysis performed by ECONorthwest in 2007 and for the Madras Urban Reserve Area (URA) adopted in 2008 and acknowledged by the Department of Land Conservation and Development (DLCD) in 2009. The proposed table of corresponding City land use designations and City and County zones (Table 3-1) facilitates the annexation of land in the URA to the Madras UGB and city limits.

#### ***Madras Urban Reserve Area***

The Madras City Council adopted the Madras Urban URA and related provisions in October 2008 and the Jefferson County Board of Commissioners in November 2008. DLCD acknowledged and approved the URA and related amendments in July 2009, with stipulations that some of the proposed amendments to the Jefferson County development code be modified. Pursuant to ORS 197.298, the first priority for land to be included in a UGB is land designated as an urban reserve. Therefore, the land in the Madras URA is the first priority for UGB expansion when there is a demonstrated need for land in the next 20 years, as was found by the Madras Urbanization Study and Addendum.

The URA and its related plan and code amendments were developed over the course of Spring 2007 to Summer 2008. They were developed using the guidance and input of a Technical Advisory Committee (TAC) and a Project Advisory Committee (PAC) as well as City and County Planning Commissioners, City Councilors, County Commissioners, and participating members of the public. These various elements of public involvement are described in more detail in the response and findings for Goal 1.

At the same time, amendments to the County and City's Comprehensive Plans and Development Codes were developed in order to implement the URA. Proposed amendments to the Madras Comprehensive Plan addressed Goal 14 (Urbanization) and recommended the following:

- Description of the Madras URA, its role in providing a 20- to 50-year land supply to the City, the cooperation between the City and the County in establishing a URA, its priority for inclusion in the City's UGB;

- Master planning provisions for areas added to the City's UGB, including cooperation with the County and new master planning requirements (Area Master Plans or AMPs); and
- UGB expansion proposal requirements including proposed zoning, an annexation program, adequate public facilities and transportation facilities, protection of cultural and natural resources, protection from natural hazard, and area property owner support.

Land in the URA is the first priority when designating land for a UGB expansion and the land in this proposed amendment to the UGB, Comprehensive Plan Maps, and Zoning Maps is drawn entirely from the adopted and acknowledged Madras URA. The selection of land from the URA is based on criteria that Madras adopted as a Goal 14 policy as part of adopting the URA.

*J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

- 1. The proposed urban zoning or land use program for the subject properties that address an identified urban land need;*
- 2. An annexation program for all subject properties;*
- 3. Evidence that public facilities required by OAR 660-011-000 that are necessary to serve the expansion area can be served either by system improvements outlined in adopted public facility master plans or by supplemental improvements that augment adopted public facility master plans;*
- 4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need;*
- 5. Evidence that providers of other crucial public facilities (e.g. schools, parks and recreation, emergency services and health care) are able to meet the projected demand for their services;*
- 6. Evidence that financing for constructing needed public improvements is available so that the expansion area can be developed as planned within the planning horizon;*
- 7. Evidence that development in areas subject to natural hazards are protected from these hazards;*
- 8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.*

These criteria are addressed later in the report section on the Madras Comprehensive Plan, Goal 14.



**Madras Urbanization Study - Residential Land**

The *Madras Urbanization Study* (ECONorthwest, April 2007) and *Madras Urbanization Study Addendum* (ECONorthwest, August 2007) identify a shortage of residentially zoned land to meet single-family and multi-family housing needs and public/semi-public use needs in the next roughly 20 years. The needed number of housing units and acreage for residential uses is summarized in Table 4-18 of the August 2007 *Madras Urbanization Study Addendum* (Table 5-1).

These needs are compared to the available land supply in the existing UGB in Table 6-4 in the study (Table 5-2) in order to determine whether there is a surplus or deficit of land for residential, public and semi-public, and employment uses. The table documents a shortage of land zoned R-2 (Multiple Family Residential) and land zoned R-1 (Single Family Residential) inside the existing UGB as well as a need for roughly 350 acres of public and semi-public uses over the course of the next 15-20 years. These public/semi-public uses tend to be related to residential uses and are usually allowed and sited on residentially zoned land.

**Table 5-1: Housing Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Table 4-18. Forecast of needed housing units and residential land, Madras, 2007-2027 and 2007-2057							
Housing Type	New DU	Percent	Density (DU/net res ac)	Net Res. Acres	Net to Gross Factor	Gross Res. Acres	Density (DU/gross res ac)
<b>Needed Units, 2007-2027</b>							
<b>Single-family types</b>							
Single-family detached	1,791	61%	4.8	373.1	25%	497.5	3.6
Manufactured	206	7%	5.5	37.4	25%	49.8	4.1
Condo/Townhomes	206	7%	9.0	22.8	15%	26.9	7.7
Subtotal	2,202	75%	5.4	410.5		574.2	3.8
<b>Multi-family</b>							
Multifamily	734	25%	14.0	52.4	15%	61.7	11.9
Subtotal	734	25%	14.0	52.4		61.7	11.9
<b>Total</b>	<b>2,936</b>	<b>100%</b>	<b>6.3</b>	<b>462.9</b>		<b>635.8</b>	<b>4.6</b>
<b>Needed Units, 2007-2057</b>							
<b>Single-family types</b>							
Single-family detached	5,516	61%	4.8	1,149.1	25%	1,532.1	3.6
Manufactured	633	7%	5.5	115.1	20%	143.8	4.4
Condo/Townhomes	633	7%	9.0	70.3	15%	82.7	7.7
Subtotal	6,781	75%	5.4	1,334.5		1,758.7	3.9
<b>Multi-family</b>							
Multifamily	2,260	25%	14.0	161.5	10%	179.4	12.6
Subtotal	2,260	25%	14.0	161.5		179.4	12.6
<b>Total</b>	<b>9,042</b>	<b>100%</b>	<b>6.3</b>	<b>1,495.9</b>		<b>1,938.1</b>	<b>4.7</b>

Source: ECONorthwest  
 Note: Gross acres calculated by dividing net acres by (1-net to gross factor). For example, for single-family detached,  $477.1/(1-.75) = 636.1$ . Conversely,  $636.1 \times .75 = 477.1$ .

**Table 5-2. Land Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Plan Designation	Land Demand		Supply	Surplus (deficit)	
	2007-2027	2007-2057	2007	2007-2027	2007-2057
<b>Residential</b>					
R-1	451.9	1,355.7	398.1	(53.8)	(957.6)
R-2	46.1	138.2	23.5	(22.5)	(114.6)
R-3	148.0	444.0	242.8	94.8	(201.2)
RR5	0.0	0.0	32.7	32.7	32.7
RR10	0.0	0.0	47.5	47.5	47.5
RL	0.0	0.0	38.7	38.7	38.7
Public/Semi-public uses on res land	358.3	770.7	0.0	(358.3)	(770.7)
<b>Subtotal (Residential)</b>	<b>1,004.2</b>	<b>2,708.6</b>	<b>783.3</b>	<b>(220.9)</b>	<b>(1,925.3)</b>
<b>Commercial (Retail &amp; Services)</b>					
C-1	230.6	758.1	80.2	(150.4)	(677.9)
NC	28.6	90.4	4.9	(23.7)	(85.4)
CC	0	0	32.6	32.6	32.6
<b>Subtotal Commercial</b>	<b>259.2</b>	<b>848.5</b>	<b>117.7</b>	<b>(141.5)</b>	<b>(730.8)</b>
<b>Industrial</b>					
I	251.4	749.9	296.9	45.5	(452.9)

Notes: all public and semi-public land needs were allocated to residential zones

The proposed UGB amendment of about 37 acres addresses part of the residential and public use land need presented above. Annexing 20 acres that are owned by the City (the east site) and rezoning it R-2 allows the City to fulfill its agreement with JCSD, dated September 2006 (Appendix D). The proposed UGB amendment provides land to meet part of the need for residentially zoned land. The remainder of the land need will be addressed during the City's next cycle of periodic review.

**Findings:**

- The 2009 Long Range Facility Plan was adopted by the Jefferson County School District Board on **DATE** and is now proposed for inclusion as an element in the Jefferson County and City of Madras Comprehensive Plans pursuant to ORS 195.110(2)(a).
- The JCSD 2009 Long Range Facility Plan includes an enrollment forecast and analysis of options for meeting projected needs, and recommends that a replacement school be built for the existing elementary school in Warm Springs and that Westside Elementary School and Madras Elementary School in Madras be renovated on site or re-built on new sites.
- The proposed UGB amendment and annexation is drawn from land in the adopted Madras URA and meets some of the need for residentially zoned land the next 20 years as established in the 2007 *Madras Urbanization Study* and addendum.

**Conclusion:** Jefferson County and the City of Madras have complied with State requirements for land use planning per Statewide Land Use Planning Goal 2.

**Goal 3: Agricultural Lands**

*To preserve and maintain agricultural lands.*

**Response:** The entire Madras URA includes land zoned for rural residential, range land, and agricultural uses, as shown in Table X.

**Table X: Exception and Resource Land in the Madras URA**

Land Type	Zones	Acres
Exception Land	RR2, RR5, RR10 (Rural Residential)	1,709
Non-prime Resource Land	RL (Range Land)	2,038
Prime Resource Land	A1 (Agricultural)	68
	<b>Total</b>	<b>3,815</b>

Prime agricultural land makes up less than 2% of the total URA. When prime agricultural land is included, it is only when it is adjacent to the existing UGB, surrounded by exception land or non-prime resource land, and/or will be more easily served with public facilities – sewer service, in particular. The rest of the URA is comprised of rural residential and range land. Rangeland was included in the URA because of serviceability advantages it has over other land surrounding the Madras UGB and because all the exception (rural residential) land adjacent to the Madras UGB would not fulfill the city’s estimated land needs for the next 50 years.

The proposed UGB amendment and annexation area is currently zoned Range Land by the County. Upon annexation to the UGB and Madras city limits, City R-2, Multiple Family Residential, zoning is being requested for the east site. The west site is proposed to be annexed to the city and to retain its existing County zoning.

As explained above, land zoned Range Land has been included in the Madras URA to meet land needs and because of sewer service advantages over other areas around the existing UGB and because exception land alone would not meet land needs for the city over the next 50 years. Land in Study Areas 3 and 4 of the URA consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation.

Pursuant to ORS 197.298(a), the first priority of land to be included in the UGB is land in a URA. Beyond that, local criteria can be relied upon to prioritize land from the URA to be included in the UGB. Local criteria are found in Goal 14 (Urbanization) policies in the Madras Comprehensive Plan. The criteria require a Master Planned Community (MPC) plan or Area Master Plan (AMP), proposed urban zoning, an annexation program, sufficient public facilities, financing prospects, and protection for natural resources and natural hazard areas for the proposed UGB amendment area. These policies are addressed in more detail in the response and findings for Madras Comprehensive Plan Goal 14.

Land in the URA is subject to joint management under the terms of the City's and County's Urban Growth Area Management Agreement (UGAMA) once it is added to the City's UGB. Response and findings related to the UGAMA are provided later in this report.

**Findings:**

- The proposed UGB amendment and annexation area is land from the Madras URA, top priority land for inclusion in the UGB pursuant to ORS 197.298(a).
- The adopted Madras URA includes primarily land that is "exception land" (zoned Rural Residential) or non-prime resource land because exception land alone cannot meet land needs for the next 50 years.
- Some of the non-prime resource land (zoned Range Land) is easier to serve with sewer than other areas around the existing Madras UGB, based on public facility analysis done during the development of the URA. Land in Study Areas 3 and 4 of the URA consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation.

**Conclusion:** Jefferson County and the City of Madras have complied with State requirements for agricultural lands per Statewide Land Use Planning Goal 3.

**Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces**

*To protect natural resources and conserve scenic and historic areas and open spaces.*

**Response:** The land being proposed for inclusion in the Madras UGB is currently located within the Madras URA, jointly managed by Jefferson County and the City of Madras pursuant to the terms of the Urban Reserve Area Management Agreement (URAMA), adopted in January 2009 (Appendix E). Pursuant to the URAMA, the County processes land use decisions in the URA. In addition, conversion plans must be submitted to the City for land divisions in the URA.

Madras Comprehensive Plan policy language regarding protection of open space, scenic, wildlife, and cultural resources was adopted as part of amendments to Goal 14 (Urbanization) concurrent with the adoption of the Madras URA.

**J.** *All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

- 8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.*

The land in the proposal does not include floodways, floodplains, significant habitat, or cultural resources that are identified in the Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files. The only resources cited in Policy 14(8) that may apply to the site are open spaces. Open space will be a required part of school or multi-family residential development that occurs in the UGB



amendment area. However, this proposal itself is not a development or entitlement proposal and, therefore, is not required to specify precisely where such open space will be designated.

**Findings:**

- Recently adopted amendments to Goal 14 of the City's Comprehensive Plan require identification of protective measures for significant open space, scenic, historic, cultural and natural resources in proposed UGB expansion areas. The Jefferson County Comprehensive Plan and Goal 5 inventory does not identify natural, scenic, or cultural resources in the proposed UGB amendment and annexation area.
- Open space designations will be made as part of development entitlement for the proposed UGB amendment and annexation.

**Conclusion:** Jefferson County and the City of Madras have complied with State requirements for open space, scenic and historic areas, and natural resources per Statewide Land Use Planning Goal 5.

**Goal 6: Air, Water and Land Resource Quality**

*To maintain and improve the quality of the air, water and land resources of the state.*

**Response:** According to the U.S. Environmental Protection Agency (EPA) and the Oregon Department of Environmental Quality (ODEQ) there are no federally designated air quality management areas or federally designated hazardous waste sites in the Madras URA. Of Environmental Cleanup Sites reported on ODEQ's website, there are no sites identified in the URA.<sup>1</sup> Further, R-2 zoning is proposed for the UGB amendment area to be brought in to the city, allowing residential uses and other compatible uses. These uses tend to produce less noise, air, land, and water pollution than commercial and industrial uses, which typically manufacture goods, produce by-products, and generate more vehicle traffic.

**Findings:**

- There are not federal- or state-registered environmental quality sites within the URA boundary recommendation and proposed UGB amendment and annexation area.
- The amendment and annexation area is needed and planned for residential and related uses, which tend to have fewer adverse air, water, and land quality impacts than commercial or industrial uses.

**Conclusion:** Jefferson County and the City of Madras have complied with State requirements for air, water and land resources per Statewide Land Use Planning Goal 6.

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<sup>1</sup> Air quality management areas, hazardous waste sites, and environmental cleanup sites can be searched on the U.S EPA's and ODEQ's websites at: <http://www.deq.state.or.us/aq/planning/index.htm>, <http://www.epa.gov/superfund/sites/siteinfo.htm>, and <http://www.deq.state.or.us/lq/ecsi/ecsi.htm>.

**Goal 7: Areas Subject to Natural Hazards**

*To protect people and property from natural hazards.*

**Response:** Primary potential natural hazards in Madras include steep slopes, floodway and floodplain, and wildfire. Statewide Goal 7 is reinforced in Madras Comprehensive Plan policies (Goal 14) by requiring protection from natural hazards be demonstrated for proposed UGB amendments.

*J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

*7. Evidence that development in areas subject to natural hazards are protected from these hazards;*

There are not steep slopes (slopes greater than 25%), floodway, or floodplain in the proposed UGB expansion area. In fact, the proposed amendment and annexation are driven, in part, by the need to provide a school that is outside the floodway and floodplain of Willow Creek and its tributaries.

Fire protection service for the proposal area is currently provided by Jefferson County Fire Protection District #1, and will continue to be provided by that district if the land is annexed to the city. Area in the district is subject to a Community Wildfire Protection Plan (CWPP) that Jefferson County completed in 2005 in collaboration with the fire district and federal agencies.

**Findings:**

- There are not steep slopes (slopes greater than 25%), floodway, or floodplain in the proposed UGB expansion and annexation area.
- Jefferson County Fire Protection District #1 provides fire protection service to the proposed amendment and annexation area. The area is subject to the Community Wildfire Protection Plan (CWPP) developed and adopted by the County, the fire district, and federal agencies.

**Conclusion:** Jefferson County and the City of Madras have complied with State requirements for areas subject to natural hazards per Statewide Land Use Planning Goal 7.

**Goal 10: Housing**

*To encourage the availability of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density.*

**Response:** This proposal provides land for housing and compatible public and semi-public uses. The *Madras Urbanization Study Addendum* (August 2007) shows that there is a shortage of land zoned R-2 (Multi-Family Residential) and R-1 (Single Family Residential) inside the

existing UGB in the next 20 years, in addition to roughly 350 acres of residentially zoned land needed for public and semi-public uses (Table 5-2).

The proposed annexation to the Madras UGB and city limits addresses this need by including 36.91 acres of land from the URA for residential and public/semi-public uses. It is proposed that the east site be re-zoned from County RL (Range Land) zoning to City R-2 (Multi-Family Residential) zoning. It is anticipated that this land will be used for a combination of housing and a school. The need for a new elementary school in Madras is established in the Jefferson County School District 509-J 2009 Long Range Facility Plan (Appendix C).

These proposed amendments are not part of a periodic review work program and the next periodic review process will ensure that the UGB does include enough land to meet all the land needs that are projected for the next 20 years as shown in Table 5-2.

**Findings:**

- The *Madras Urbanization Study* and *Addendum* found a need for about 22 acres of land zoned R-2 and 53 acres of land zoned R-1 outside the existing UGB in the next 20 years.
- The urbanization studies as well as the 2009 Long Range Facility Plan indicate the need for public uses on residentially zoned land, specifically one new elementary school in Madras. The proposed UGB amendment provides 36 acres for residential and public/semi-public uses. A majority of this land – 20 acres – is being made more readily available for development of these uses by proposing its annexation to the Madras UGB and city limits.
- The remainder of land needs determined by the urbanization studies will be addressed during the next City of Madras periodic review.

**Conclusion:** Jefferson County and the City of Madras have complied with State requirements for housing per Statewide Land Use Planning Goal 10.

**Goal 11 Public Facilities and Services**

*To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.*

**Goal Requirements**

**Urban Facilities and Services** – Refers to key facilities and to appropriate types and levels of at least the following: police protection; sanitary facilities; storm drainage facilities; planning, zoning and subdivision control; health services; recreation facilities and services; energy and communication services; and community governmental services.

## **A. Goal 11 Planning Guidelines**

5. A public facility or service should not be provided in an urbanizable area unless there is provision for the coordinated development of all the other urban facilities and services appropriate to that area.

**Response:** According to terms of the UGAMA between Jefferson County and the City of Madras, the City will be the primary service provider for land within its UGB, in particular coordinating police, sewer, stormwater, land use, recreation, energy, and governmental services. City urbanization regulations amended with the adoption of the Madras URA require either a Master Planned Community (MPC) plan or Area Master Plan (AMP) for UGB amendments in Madras for areas over five acres (Madras Comprehensive Plan Policy 14I). Both MPC plans and AMPs must show “appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas” and how proposed land uses will integrate with existing development.

Transportation facilities are addressed in more detail in the response and findings for Statewide Goal 12 next in this report.

The adopted Yarrow Master Plan applies to the east site, land proposed for annexation both to the Madras UGB and city limits. It is also proposed that the east site be re-zoned to R-2 upon annexation so that it can provide land for uses such as a school and urban levels of housing. These uses are similar to and compatible with surrounding development. The east site is tangent to the existing UGB and is bordered by Ashwood Road, a County collector road, which lends itself to the extension of services from inside the existing UGB and city limits. **SERVICE PROVIDER LETTERS**

**How do existing water and sewer plans fold in? Updates needed?**

Pursuant to Madras Comprehensive Plan Urbanization Policy 14I: “An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas.” It is proposed to annex the west site to the Madras UGB and city limits. While it is also proposed that the site retain its existing County Range Land (RL) zoning until the owners are ready to propose development, the site is surrounded by land designated for residential and related uses, and its future designation must allow for residential and compatible public/semi-public uses in order to show that land uses on the west site can be: “integrated with the existing urban development pattern.” (Madras Comprehensive Plan Urbanization Policy 14I(2)) Further, the proposed addition of a table showing Madras and County zones that correspond with Madras land use designations to the Madras Comprehensive Plan Section IV, Land Use Element (Table 3-1), will facilitate the transition of existing County zoning for the west site to appropriate City zoning.

The west site is comprised of three lots – Lots 101 and 200 that total 16.22 acres and are privately owned and Lot 102 that is 0.69 acres designated for County right-of-way. Lots 101 and 200 are both adjacent to Ashwood Road, a County collector, and will not require



additional public roads for sufficient internal or local circulation. At the time of proposed development, proposed land division or planned development plans must show an internal circulation system that satisfies City code requirements and street standards. The west site is adjacent to the existing Madras UGB and is bordered by Ashwood Road, which lends itself to the extension of services from inside the existing UGB and city limits.

#### **SERVICE PROVIDER LETTERS**

**How do existing water and sewer plans fold in? Updates needed?**

The County has not identified historic, scenic, or natural resources on the west site. City open space requirements for subdivisions or planned developments will apply to the site at the time of proposed development.

This application also proposes to adopt the Jefferson County School District 509-J 2009 Long Range Facility Plan as an element of the Jefferson County and City of Madras Comprehensive Plans, pursuant to ORS 195.110(2)(a). The Jefferson County School District 509-J Board adopted it on **DATE**. The plan (Appendix C) establishes school facility needs over the next 10-20 years and will facilitate coordination with financing opportunities and the provision of other public facilities and services. The 20-acre east site is the subject of an agreement between the City of Madras and the District (Appendix D). Upon annexation, re-zoning, and transfer of the land to the District, the land will be available to meet projected school facility needs, such as the need for rebuilding Westside Elementary School and/or Madras Elementary School on a new site in Madras. With Jefferson County Middle School and Madras High School nearby, the east and west sites will be adequately provided with school services.

Finally both MPC plans and AMPs must have documented approval from a majority of landowners pursuant to Madras Comprehensive Plan **Policy 14I(3)**.

**Documented consent of landowners?**

### **B. Goal 11 Implementation Guidelines**

*5. Additional methods and devices for achieving desired types and levels of public facilities and services should include but not be limited to the following: (1) tax incentives and disincentives; (2) land use controls and ordinances; (3) multiple use and joint development practices; (4) fee and less-than-fee acquisition techniques; and (5) enforcement of local health and safety codes.*

**Response:** The proposed land use designations and zoning for the annexation area – the east site and the west site – is appropriate for the type and level of public facilities and services that can be extended to the area. It is proposed to bring the west site into the Madras UGB and city limits but to retain its existing County Range Land (RL) zoning until landowners are ready to propose development. The site is surrounded by land planned for or developed as predominantly residential development. Given that the site will have little or no development for at least the short-term and its location adjacent to the existing Madras UGB and Ashwood Road, the site will not need many facilities or services for a while and is well situated for extension of facilities and services when they are needed. The proposed addition of a land use and zoning designation table to Section IV (Land Use Element) of the

Madras Comprehensive Plan (Table 3-1) establishes the City and County zoning designations that correspond to City land use designations, and will guide the transition from County zoning to appropriate City zoning once a land use action is proposed.

It is proposed that the east site be re-zoned to R-2 upon annexation so that it can provide land for uses such as a school and urban levels of housing. These uses are similar to and compatible with surrounding development. The east site is tangent to the existing UGB and is bordered by Ashwood Road, a County collector road, which lends itself to the extension of services from inside the existing UGB and city limits.

**SERVICE PROVIDER LETTERS, any changes to master plans?**

The site is part of the approved Yarrow Master Plan, a plan that overall features mostly a mixture of housing and then an internal circulation system, open space, public uses (including a school), and a small-scale commercial area to serve the residential uses.

**Funding for public facility improvements?**

**Findings:**

- The text amendment adopting the Jefferson County School District 509-J Long Range Facility Plan as an implementing element of the Madras Comprehensive Plan addresses goal requirements for coordinating land use planning with school districts and other urban service providers.
- The Jefferson County School District 509-J 2009 Long Range Facility Plan meets statutory requirements (ORS 195.110) and provides an updated capital improvement and financing plan for school district facilities in Madras.
- Implementation of public facilities and services in Madras is primarily regulated by land use plans and ordinances and public facility master plans, which are elements of the City Comprehensive Plan.
- The City of Madras will be the primary provider of urban facilities and services in the proposed UGB amendment and annexation area. The City will be able to coordinate service to the area with facilities and services already provided to adjacent land within the existing UGB.
- The approved Yarrow Master Plan applies to the proposal area and shows an internal transportation network and sites for housing and a school.
- **Updates to water and sewer plans or service provider letters saying existing infrastructure and plans sufficient?**
- **Funding for public facility improvements?**

**Conclusion:** The proposal complies with Goal 11 for public facilities and services subject to OAR 660, Division 11.

**Goal 12 Transportation - OAR 660-015-0060(12)**

*To provide and encourage a safe, convenient and economic transportation system.*

**660-012-0060**

**Plan and Land Use Regulation Amendments**

*(1) Where an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation would significantly affect an existing or planned transportation facility, the local government shall put in place measures as provided in section (2) of this rule to assure that allowed land uses are consistent with the identified function, capacity, and performance standards (e.g. level of service, volume to capacity ratio, etc.) of the facility. A plan or land use regulation amendment significantly affects a transportation facility if it would:*

- (a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);*
- (b) Change standards implementing a functional classification system; or*
- (c) As measured at the end of the planning period identified in the adopted transportation system plan:
  - (A) Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;*
  - (B) Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan; or*
  - (C) Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.**

*(2) Where a local government determines that there would be a significant effect, compliance with section (1) shall be accomplished through one or a combination of the following:*

- (a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.*
- (b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.*
- (c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.*
- (d) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.*
- (e) Providing other measures as a condition of development or through a development agreement or similar funding method, including transportation system management measures, demand management or minor transportation improvements. Local governments shall as part of the amendment specify when measures or improvements provided pursuant to this subsection will be provided.*

**Response:** Reflecting Statewide Goal 12 and the Transportation Planning Rule, UGB amendment applications must provide the following pursuant to Madras Goal 14 policies:

- 4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet*



transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need; (Madras Comprehensive Plan Policy 14J)

City R-2 (Multi-Family Residential) zoning is proposed for the east site of the UGB amendment and annexation area. The zone allows multi-family and single-family housing outright and then allows associated uses such as schools, libraries, and community centers conditionally. The minimum lot size for single-family housing is 7,500 square feet and for multi-family 10,000 square feet for the first two units and 2,000 square feet per each additional unit.

The east site is adjacent to Ashwood Road, an existing road built to County standards as a collector road.

More description of the surrounding system, from the analysis (Appendix F)

The transportation analysis for the annexation and re-zoning of the east site was based on assumptions of a combination of multi-family housing and a school. A mixture of housing and a school is anticipated for the proposed UGB amendment and annexation area. Specifically, the analysis assumed [describe assumptions].

Findings of transportation analysis (Appendix F)

**Findings:**

- Transportation analysis for the proposed UGB amendment and annexation area assumed that the area would be developed with [amount of] housing and a [specify type or size] school.
- Transportation analysis showed that [analysis findings]. The proposal does not change functional classifications of any roadways and nor the standards that apply to them. It complies with mobility standards established in IDENTIFY DOCUMENTS for IDENTIFY ROADS. Therefore, the proposed UGB amendment and annexation was found to have no significant effect on the surrounding transportation system.

**Conclusion:** The proposed Comprehensive Plan and Map amendment complies with Goal 12 and OAR 660-015-0060(12).

**Goal 13 Energy Conservation**

*To conserve energy.*

**Response:** The east site of the UGB amendment and annexation area is part of the Yarrow Master Plan area. The master plan includes a range of land uses so that residents can meet many daily needs within the neighborhood. The plan designates land predominantly for housing, but for parks and open space, a school, other community services, and commercial services as well. This mix of uses will provide for these daily needs and reduce the need to drive outside the neighborhood to access these uses. The subject of this application is part of that plan area- a 20-acre site for housing and a school.

The Yarrow Community Master Plan also includes [amount] miles of sidewalks and [amount] miles of multi-use paths. This supports the use of non-motorized transportation and the conservation of fuel resources. This proposed UGB amendment and annexation does not provide all of the land needed to implement the master plan but provides part of it.

The west site is not part of the Yarrow Master Plan but will be subject to internal circulation and multi-modal standards when a land division or planned unit development is proposed. Like the east site, the west site is adjacent to Ashwood Road.

The JCSD 509-J Facility Plan includes location policies that call for siting elementary school facilities in residentially zoned areas to promote walking to school within urban neighborhoods. This policy is included to reduce the need for bussing in urban areas.

While water service was projected to be of similar cost to provide to all the study areas that comprise the Madras URA, there were differences in relative cost for providing sewer service given the need for pumping in some of the study areas. The proposed UGB amendment and annexation area is part of a study area and a drainage area where no pumping or limited pumping would be required for sewer service. This minimizes the amount of energy needed to provide that service.

Last, the City of Madras has adopted energy conservation standards for building. Or is it Yarrow? Describe.

#### **Findings:**

- The approved Yarrow Master Plan that applies to the east site of the proposed UGB amendment and annexation area proposes a variety of uses that will allow residents to take care of day-to-day needs without always having to drive out of the neighborhood to do so. The plan also indicates multi-use paths and a continuous network of sidewalks to promote walking and bicycling. This supports fuel and energy conservation.
- Providing sewer service to the proposal area requires less pumping and, therefore, infrastructure, energy, and cost than other parts of the URA and other areas around the existing UGB.
- Local energy conservation (building) standards

**Conclusion:** The proposed UGB amendment and annexation complies with State requirements for energy conservation per Statewide Land Use Planning Goal 13.

#### **Goal 14 Urbanization**

*To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.*

*(2) Orderly and economic provision of public facilities and services;*



**Response:** Transportation, water, and sewer services are among the critical public facilities that must be provided for the proposed UGB amendment area. Also discussed in the narrative and findings for Goals 11 and 12, these services can be provided to the UGB amendment area according to existing facility plans [no updates needed?] and [transportation improvements required of developers?].

#### **Transportation – transportation analysis findings**

**Water** – During the development of the Madras URA, Deschutes Valley Water District (DVWD) reported that there would be no supply constraint for urban development in the URA. Significant expansion of the District’s distribution system would be necessary to serve urban demand in each part of the URA, and the water service study found that the marginal cost differences between the URA study areas were insignificant. Updated or existing plan can service the UGB amendment area?

**Sewer** – Public facility analysis conducted in developing the Madras URA showed that sewer service to the eastern study areas in the URA would be more cost-efficient because no pumping or limited pumping would be required as compared to areas to the north, south, and west. For the proposed UGB amendment and in particular, updates to the/the existing Madras Sanitary Sewer Service Master Plan have capacity to provide sewer service to the annexation area.

Schools are also another important public facility and service, and the Jefferson County School District 509-J 2009 Long Range Facility Plan determines the need for a new elementary school in Madras over the next 10-20 years. The Yarrow Master Plan that applies to the east site of the proposal area identifies land for schools. The proposed UGB amendment and annexation area of 20 acres will provide land that can accommodate a school and housing.

#### **Findings:**

- Water service can be provided to the proposal area using the existing and planned water facilities that are identified in the Deschutes Valley Irrigation District’s water master plan. Providing water service was not found to be significantly different in cost between different parts of the URA in studies done in developing the Madras URA.
- Sewer service can be provided to the proposal area using the existing sewer master plan. Studies did find, however, that drainage areas in the eastern and southeastern parts of the URA were easier to serve in that they needed no pumping or minimal pumping of sewage when compared to other parts of the URA.
- General transportation analysis findings
- The proposal provides land for a school site, and need for potentially one or two new elementary school sites in Madras was found in the Jefferson County School 509-J 2009 Long Range Facility Plan (Appendix C). The City owns the land being proposed for UGB expansion and annexation, and has an agreement with the

District to exchange the land with the District once it is annexed into the UGB and city limits and re-zoned (Appendix D). The site can serve as a replacement site for Madras or Westside Elementary School.

**Conclusion:** The proposal complies with State requirements for urbanization and orderly and economic provision of public facilities and services per Statewide Land Use Planning Goal 14.

## VI. Conformance with Oregon Revised Statutes (ORSs)

### ORS 195

**195.110 School facility plan for large school districts.** (1) *As used in this section, "large school district" means a school district that has an enrollment of over 2,500 students based on certified enrollment numbers submitted to the Department of Education during the first quarter of each new school year.*

(2) *A city or county containing a large school district shall:*

(a) *Include as an element of its comprehensive plan a school facility plan prepared by the district in consultation with the affected city or county.*

(b) *Initiate planning activities with a school district to accomplish planning as required under ORS 195.020.*

**Response:** Jefferson County School District 509-J registered 2,985 students enrolled in the 2008-2009 school year and, thus, qualifies as a "large school district" pursuant to ORS 195.110. This application proposes that the Jefferson County School District 509-J 2009 Long Range Facility Plan (Appendix C) be adopted as an element in the Jefferson County and City of Madras Comprehensive Plans. The City of Madras has coordinated with the District in developing the plan.

(3) *The provisions of subsection (2)(a) of this section do not apply to a city or a county that contains less than 10 percent of the total population of the large school district.*

(4) *The large school district shall select a representative to meet and confer with a representative of the city or county, as described in subsection (2)(b) of this section, to accomplish the planning required by ORS 195.020 and shall notify the city or county of the selected representative. The city or county shall provide the facilities and set the time for the planning activities. The representatives shall meet at least twice each year, unless all representatives agree in writing to another schedule, and make a written summary of issues discussed and proposed actions.*

**Response:** Jefferson County and the City of Madras are the jurisdictions in which most of the students in Jefferson County School District 509-J live. The District has met with the City at least twice this year in developing the facility plan, and the District and City have both worked with a consultant firm – Angelo Planning Group – to prepare the plan. The firm has worked on other school district facility plans in the state.

(5)(a) *The school facility plan must cover a period of at least 10 years and must include, but need not be limited to, the following elements:*

(A) *Population projections by school age group.*

(B) *Identification by the city or county and by the large school district of desirable school sites.*

(C) *Descriptions of physical improvements needed in existing schools to meet the minimum standards of the large school district.*

(D) *Financial plans to meet school facility needs, including an analysis of available tools to ensure facility needs are met.*

(E) *An analysis of:*

(i) *The alternatives to new school construction and major renovation; and*



*(ii) Measures to increase the efficient use of school sites including, but not limited to, multiple-story buildings and multipurpose use of sites.*

*(F) Ten-year capital improvement plans.*

*(G) Site acquisition schedules and programs.*

*(b) Based on the elements described in paragraph (a) of this subsection and applicable laws and rules, the school facility plan must also include an analysis of the land required for the 10-year period covered by the plan that is suitable, as a permitted or conditional use, for school facilities inside the urban growth boundary.*

**Response:** The Jefferson County School District 509-J 2009 Long Range Facility Plan features forecasts that extend to 2040 and programs for financing, acquisition, and capital improvement that cover a 10-year period. The plan (Appendix C) includes the required elements as follows:

- Chapter 3 – Enrollment forecasts
- Chapter 4 – Existing facility conditions and needed facility improvements
- Chapter 5 – Analysis of needed improvements, additional capacity, and potential school sites
- [REFERENCE when plan complete/updated] – 10-year financing, acquisition, and capital improvement programs.

The analysis of additional capacity considers the re-use and expansion of existing facilities. Ultimately, the plan does recommend re-building Warm Springs Elementary School on site and building a new elementary school in Madras (Chapter 6 – Recommendations). The locational analysis in Chapter 5 looks first at sites within the UGB, using the following criteria.

- Land use – unimproved land, except for parks and open space, or land with improvements valued <\$50,000.
- Size – at least 7 acres
- Environmental hazards/buildability – at least 5 acres flat (slopes <5%), at least 2.5 flat acres outside the floodplain.
- Zoning – not zoned for industrial use.
- Serviceability – not in areas with constrained sewers.
- Geographic distribution – not fully within a half mile of an existing elementary school.
- Traffic safety – not on a highway or arterial.
- Availability – not committed to another use, built or in the planning process.

Eight sites in the UGB were evaluated using these criteria and, while most of the sites performed well on some to most of the criteria, none of them met all of the criteria. In particular, the sites would not be easily served with sewer and transportation or, in the case of sites 7 and 8, they are not necessarily close to existing or planned residential neighborhoods and students.

*(6) If a large school district determines that there is an inadequate supply of suitable land for school facilities for the 10-year period covered by the school facility plan, the city*

*or county, or both, and the large school district shall cooperate in identifying land for school facilities and take necessary actions, including, but not limited to, adopting appropriate zoning, aggregating existing lots or parcels in separate ownership, adding one or more sites designated for school facilities to an urban growth boundary, or petitioning a metropolitan service district to add one or more sites designated for school facilities to an urban growth boundary pursuant to applicable law.*

**Response:** The eight sites in the UGB were evaluated using the criteria from the response above and none of them met all of the criteria, particularly serviceability criteria. Because issues such as zoning and parcel aggregation were not the reasons that the evaluation sites within the UGB failed to meet criteria, the District and City added the proposal area – a City-owned site outside and adjacent to the UGB – to the evaluation. It met the criteria.

The site is located within the Madras URA and complies with regulations for including land in the UGB, pursuant to ORS 197.298, which is addressed next in this report.

*(9)(a) In the school facility plan, the district school board of a large school district may adopt objective criteria to be used by an affected city or county to determine whether adequate capacity exists to accommodate projected development. Before the adoption of the criteria, the large school district shall confer with the affected cities and counties and agree, to the extent possible, on the appropriate criteria. After a large school district formally adopts criteria for the capacity of school facilities, an affected city or county shall accept those criteria as its own for purposes of evaluating applications for a comprehensive plan amendment or for a residential land use regulation amendment.*

*(b) A city or county shall provide notice to an affected large school district when considering a plan or land use regulation amendment that significantly impacts school capacity. If the large school district requests, the city or county shall implement a coordinated process with the district to identify potential school sites and facilities to address the projected impacts.*

*(11) The capacity of a school facility is not the basis for a development moratorium under ORS 197.505 to 197.540.*

*(12) This section does not confer any power to a school district to declare a building moratorium.*

*(13) A city or county may deny an application for residential development based on a lack of school capacity if:*

*(a) The issue is raised by the school district;*

*(b) The lack of school capacity is based on a school facility plan formally adopted under this section; and*

*(c) The city or county has considered options to address school capacity. [1993 c.550 §2; 1995 c.508 §1; 2001 c.876 §1; 2007 c.579 §1]*

**Response:** The facility plan establishes calculations for capacity in Chapter 4.

**INSERT/SUMMARIZE HERE IF DETERMINED**

When the Board approved and adopted the facility plan in January 2010, this included these capacity formulas. The County and City understand that these formulas must be used in



evaluating future amendments to comprehensive plans and land use regulations, and may be used in denying a residential development application but not in instituting a development moratorium.

#### **Findings:**

- Jefferson County School District 509-J is required to prepare a facility plan, and it has coordinated with the City of Madras in developing its 2009 Long Range Facility Plan (Appendix C). The plan was approved and adopted by the Jefferson County School District 509-J Board on **DATE**.
- Jefferson County and the City of Madras must adopt the facility plan as an element of their comprehensive plans and that has driven this proposal for an amendment to their comprehensive plans.
- The facility plan uses at least a 10-year horizon in projecting enrollment, estimating future facility needs, evaluating ways of addressing these needs, and preparing financing, acquisition, and capital improvement programs.
- The 2009 Long Range Facility Plan evaluated eight sites in the UGB using land use, site size, zoning, buildability, serviceability, geographic distribution, and traffic safety criteria in order to address land needed beyond existing facility sites. The sites were either difficult to serve with sewer or roads, or were not located near existing or planned residential neighborhoods.
- The plan evaluated one site in the Madras URA, adjacent to the existing UGB, that the City owns. The site met the land use, site size, zoning, buildability, serviceability, geographic distribution, and traffic safety criteria.
- **The adopted facility plan includes capacity criteria that the County and City must use in reviewing land use plan and regulation amendments.**

**Conclusion:** The proposal complies with State school district facility planning requirements in ORS 195.110.

#### **ORS 197**

**197.298 Priority of land to be included within urban growth boundary.** (1) *In addition to any requirements established by rule addressing urbanization, land may not be included within an urban growth boundary except under the following priorities:*

(a) *First priority is land that is designated urban reserve land under ORS 195.145, rule or metropolitan service district action plan.*

(b) *If land under paragraph (a) of this subsection is inadequate to accommodate the amount of land needed, second priority is land adjacent to an urban growth boundary that is identified in an acknowledged comprehensive plan as an exception area or nonresource land. Second priority may include resource land that is completely surrounded by exception areas unless such resource land is high-value farmland as described in ORS 215.710.*

(c) *If land under paragraphs (a) and (b) of this subsection is inadequate to accommodate the amount of land needed, third priority is land designated as marginal land pursuant to ORS 197.247 (1991 Edition).*

(d) *If land under paragraphs (a) to (c) of this subsection is inadequate to*

accommodate the amount of land needed, fourth priority is land designated in an acknowledged comprehensive plan for agriculture or forestry, or both.

(2) Higher priority shall be given to land of lower capability as measured by the capability classification system or by cubic foot site class, whichever is appropriate for the current use.

(3) Land of lower priority under subsection (1) of this section may be included in an urban growth boundary if land of higher priority is found to be inadequate to accommodate the amount of land estimated in subsection (1) of this section for one or more of the following reasons:

(a) Specific types of identified land needs cannot be reasonably accommodated on higher priority lands;

(b) Future urban services could not reasonably be provided to the higher priority lands due to topographical or other physical constraints; or

(c) Maximum efficiency of land uses within a proposed urban growth boundary requires inclusion of lower priority lands in order to include or to provide services to higher priority lands. [1995 c.547 §5; 1999 c.59 §56]

**Response:** The proposed UGB amendment and annexation area is solely comprised of land from the Madras URA, which is the first priority of land to be included within the UGB pursuant to ORS 197.298(1)(a). There is sufficient land in the Madras URA to provide for the land needs estimated for the next 20 years in the *Madras Urbanization Study Addendum* (ECONorthwest, August 2007) and presented below.

The proposed UGB amendment and annexation provides land to meet a portion of the need for residentially zoned land over the next roughly 20 years (Table 6-1). The City's next periodic review process will ensure that the Madras UGB includes enough land to meet the remaining land needs projected to 2027.

**Table 6-1: Housing Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Plan Designation	Land Demand		Supply 2007	Surplus (deficit)	
	2007-2027	2007-2057		2007-2027	2007-2057
<b>Residential</b>					
R-1	451.9	1,355.7	398.1	(53.8)	(957.6)
R-2	46.1	138.2	23.5	(22.5)	(114.6)
R-3	148.0	444.0	242.8	94.8	(201.2)
RR5	0.0	0.0	32.7	32.7	32.7
RR10	0.0	0.0	47.5	47.5	47.5
RL	0.0	0.0	38.7	38.7	38.7
Public/Semi-public uses on res land	358.3	770.7	0.0	(358.3)	(770.7)
<b>Subtotal (Residential)</b>	<b>1,004.2</b>	<b>2,708.6</b>	<b>783.3</b>	<b>(220.9)</b>	<b>(1,925.3)</b>
<b>Commercial (Retail &amp; Services)</b>					
C-1	230.6	758.1	80.2	(150.4)	(677.9)
NC	28.6	90.4	4.9	(23.7)	(85.4)
CC	0	0	32.6	32.6	32.6
<b>Subtotal Commercial</b>	<b>259.2</b>	<b>848.5</b>	<b>117.7</b>	<b>(141.5)</b>	<b>(730.8)</b>
<b>Industrial</b>					
I	251.4	749.9	296.9	45.5	(452.9)
Notes: all public and semi-public land needs were allocated to residential zones					

**197.610 Local government notice of proposed amendment or new regulation; exceptions; report to commission.** (1) A proposal to amend a local government acknowledged comprehensive plan or land use regulation or to adopt a new land use regulation shall be forwarded to the Director of the Department of Land Conservation and Development at least 45 days before the first evidentiary hearing on adoption. The proposal forwarded shall contain the text and any supplemental information that the local government believes is necessary to inform the director as to the effect of the proposal. The notice shall include the date set for the first evidentiary hearing. The director shall notify persons who have requested notice that the proposal is pending.

(2) When a local government determines that the goals do not apply to a particular proposed amendment or new regulation, notice under subsection (1) of this section is not required. In addition, a local government may submit an amendment or new regulation with less than 45 days' notice if the local government determines that there are emergency circumstances requiring expedited review. In both cases:

(a) The amendment or new regulation shall be submitted after adoption as provided in ORS 197.615 (1) and (2); and

(b) Notwithstanding the requirements of ORS 197.830 (2), the director or any other person may appeal the decision to the board under ORS 197.830 to 197.845.

(3) When the Department of Land Conservation and Development participates in a local government proceeding, at least 15 days before the final hearing on the proposed amendment to the comprehensive plan or land use regulation or the new land use regulation, the department shall notify the local government of:

(a) Any concerns the department has concerning the proposal; and

(b) Advisory recommendations on actions the department considers necessary to address the concerns, including, but not limited to, suggested corrections to achieve compliance with the goals.

(4) The director shall report to the Land Conservation and Development Commission on whether the director:

(a) Believes the local government's proposal violates the goals; and

(b) Is participating in the local government proceeding. [1981 c.748 §4; 1983 c.827 §7; 1985 c.565 §27; 1989 c.761 §20; 1999 c.622 §1]

**Response:** Notice of the proposed amendments to the Jefferson County and City of Madras Comprehensive Plan, Comprehensive Plan Maps, and Zoning Maps was sent to the Department of Land Conservation and Development (DLCD) at least 45 days before the first evidentiary hearing on the proposal. Notice was sent to DLCD on December 14, 2009 before the first advisory hearing before the Jefferson County and City of Madras Planning Commissions on February 3, 2010. Further hearing dates have yet to be determined but it is expected that DLCD will provide appropriate comment on the proposal at least 15 days prior to the final adoption hearing date.

DLCD comments/application revisions, once received

**197.626 Expanding urban growth boundary or designating urban or rural reserves subject to periodic review.** A metropolitan service district that amends its urban growth boundary to include more than 100 acres, or that amends the district's regional framework plan or land use regulations implementing the plan to establish urban reserves designated under ORS 195.145 (1)(b), a city with a population of 2,500



*or more within its urban growth boundary that amends the urban growth boundary to include more than 50 acres or that designates urban reserve under ORS 195.145, or a county that amends the county's comprehensive plan or land use regulations implementing the plan to establish rural reserves designated under ORS 195.141, shall submit the amendment or designation to the Land Conservation and Development Commission in the manner provided for periodic review under ORS 197.628 to 197.650. [1999 c.622 §14; 2001 c.672 §10; 2003 c.793 §4; 2007 c.723 §7]*

**Response:** The City of Madras is coordinating with Jefferson County regarding the proposed amendments to their Comprehensive Plans, Comprehensive Plan Maps, and Zoning Maps. Adoption of the UGB amendment involves amendments to the City and County Comprehensive Plans that are post-acknowledgement plan amendments. However, the adoption process for the amendments will follow periodic review procedures pursuant to ORS 197. As part of periodic review procedures, the proposed amendments are subject to review by DLCDC and approval by LCDC. DLCDC and LCDC will conduct their review process upon adoption of the proposed amendments by the Madras City Council and Jefferson County Board of Commissioners.

**Findings:**

- The proposed UGB amendment and annexation area is entirely comprised of land from the Madras URA, the first priority of land to be included in the UGB pursuant to ORS 197.298(1)(a).
- There are 36.91 acres in the proposed UGB amendment and annexation. This meets some of the estimated need for residentially zoned land outside the existing UGB projected to 2027 by urbanization studies. The proposed R-2 zoning for the 20-acre parcel (east site) allows housing and public/semi-public uses such as parks and schools. Other land needs for the next 20 years will be addressed during the next periodic review cycle.
- Notice of the first advisory hearing on February 3, 2010 was sent to DLCDC on December 14, 2009, more than 45 days before the advisory and evidentiary hearings.
- The City of Madras and Jefferson County are coordinating this proposed set of amendments.
- This proposal is a post-acknowledgement plan amendment (PAPA) but will follow procedures for periodic review. DLCDC review and LCDC approval of the amendment will be necessary for the proposal if it is adopted by both the Madras City Council and Jefferson County Board of Commissioners.

**Conclusion:** The proposed amendments to the City and County Comprehensive Plans, Comprehensive Plan Maps, and Zoning Maps comply with applicable State requirements for urban reserve area planning, plan amendments, and UGB amendments pursuant to ORS 197.

## **VII. Conformance with the Urban Growth Area Management Agreement (UGAMA)**

### **4. UGA ADMINISTRATION RESPONSIBILITIES**

- 4.1. *The City shall have responsibility for administration and decision making authority regarding all land use application within the UGB except applications for amendments to the UGB, as provided in Section 6.*
- 4.2. *The City shall have responsibility for annexation of land in the UGB. Lands outside the UGA shall not be annexed unless the UGB is also amended to include the territory to be annexed.*

### **6. PROCESS FOR URBAN GROWTH BOUNDARY AMENDMENTS**

- 1.1 *Amendments to the UGB, including amendments to the City's and County's comprehensive plan maps, may be initiated by the City, the County, or a property owner(s).*
- 1.2 *An application to amend the UGB shall be filed with the City Community Development Department along with the applicable City and County plan amendment fees. The City shall forward a copy of the application to the County Community Development Department, together with the County's plan amendment fee, within five working days of the date the application is filed.*
- 1.3 *The City and County Planning Commission shall each conduct a public hearing regarding the application. At their discretion, the Planning Commissions may hold a joint hearing rather than separate hearings.*
- 1.4 *The recommendation of the City and County Planning Commissions shall be forwarded to City Council, who shall hold a public hearing to consider the proposed amendment to the UGB. The decision of the City Council shall be forwarded to the County Board of Commissioners.*
- 1.5 *The Board of Commissioners shall conduct a public hearing and make a final decision on whether the UGB should be amended.*
- 1.6 *If the City and County disagree on the proposed amendments, a joint hearing of the City Council and Board of County Commissioners may be held to attempt to resolve the differences. Both jurisdictions may also request a dispute resolution process to resolve the differences.*
- 1.7 *If the governing bodies are not able to come to mutual agreement there shall be no change to the UGB.*

**Response:** The Urban Growth Area Management Agreement (UGAMA) (Appendix G) was adopted by the City of Madras and Jefferson County on April 5, 2006. Pursuant to UGAMA terms for UGB amendments, the City is an eligible applicant for a UGB amendment application (Section 6.1). The UGB amendment application and appropriate fees were forwarded to the Jefferson County Community Development Department within five working days of being initially filed (Section 6.2).

Hearings by the Madras Planning Commission and Jefferson County Planning Commission were first held jointly on February 3, 2010 and then separately on **DATE** and **DATE**



respectively. **OTHER PC HEARINGS?** The Madras City Council will review the City Planning Commission's recommendation at a hearing on **DATE**, and will forward its decision to the County Board of Commissioners for a hearing on **DATE** (Sections 6.3-6.5). **OTHER LEGISLATIVE HEARINGS?**

It is proposed to annex both the east site and west site to the Madras UGB and city limits, and it is proposed to re-zone only the east site at this time. Regardless, if both sites are brought into the UGB and city limits, Madras will assume land use administration and decision making authority for the sites pursuant to Section 4.1 of the UGAMA.

**Conclusion:** The proposed amendments to the City and County Comprehensive Plans, Comprehensive Plan Maps, and Zoning Maps comply with applicable local requirements for UGB amendments per the UGAMA between Jefferson County and the City of Madras, adopted April 5, 2006.

## VIII. Conformance with the City of Madras Comprehensive Plan

**Note: the highlighting in the policy text below indicates text that may not have been adopted by the City**

**GOAL 14** - *To provide for an orderly and efficient transition from rural to urban land, and to provide for livable communities.*

*[Paragraph amended by Ordinance No. 781, Passed by Council on December 12, 2006]*

### POLICIES

A. *The City, in cooperation with Jefferson County, shall establish an Urban Growth Boundary.*

B. *The City, in cooperation with Jefferson County, shall mutually agree to a management plan for the Urban Growth Boundary area.*

C. *The City, in cooperation with Jefferson County, shall establish an Urban Growth Boundary revision process to be utilized in a proposed change of the Urban Growth Boundary.*

D. *The City, in cooperation with Jefferson County, shall support adoption of an Urban Reserve Area boundary that, when taken together with land supplies in the Urban Growth Boundary, may contain up to a 50-year supply of land for the City of Madras to support housing, economic development, public facility, recreation needs and other urban land needs.*

E. *The City, in cooperation with Jefferson County, shall give priority to land in designated urban reserve areas over other land when considering urban growth boundary amendments.*

**Response:** The Madras City Council approved the Madras URA in October 2008 and the Jefferson County Board of Commissioners in November 2008. DLCD and LCDC received the URA proposal for review in January 2009, and approved the proposal – but remanded sections of proposed County Zoning Ordinance amendments having to do with use restrictions in the URA – in July 2009. The land in the proposed UGB amendment that is the subject of this application is land entirely drawn from the Madras URA, land estimated to be needed for urbanization over the next 50 years.

F. *The City shall favor UGB amendments that involve land in locations that are suitable to address identified urban land needs in order to minimize buildable land supply shortages and address identified needs. Factors that will be considered when evaluating UGB additions include:*

1. *Existing and planned capacity of the transportation system*
2. *Existing and planned capacity of the city waste water treatment plant*
3. *Existing and planned capacity of the city sanitary sewer conveyance system*



4. Existing and planned capacity of the Deschutes Valley Water District supply system
5. Impacts on schools, parks, and public safety service providers
6. Impacts on future operating costs for public facilities and services

**Response:**

G. The City, in cooperation with Jefferson County, shall undertake an evaluation of the urban growth boundary land supply once every five years or more frequently if certified population growth rates exceed 3.2% in three consecutive years. In the event certified population growth rates fall below 3.2% for three consecutive years, the City and County may agree to postpone the evaluation of UGB land supply for up to three years.

H. During years when a comprehensive UGB land supply evaluation is not scheduled, individual applications for adding property to the UGB shall be limited to requests of less than 40 acres. UGB amendment applications must demonstrate consistency with applicable Oregon statutes and administrative rules and be accompanied by information that addresses Policy 14-J below. Applications that involve more than 5 acres also must comply with provisions of Policy 14-I.

D I. The City, in cooperation with Jefferson County, shall encourage the development of complete, livable communities that include characteristics such as: a variety of lot sizes, dwelling unit types and ownership types, open spaces and other recreational amenities, a mix of land uses, school and community facilities, connected streets, proximity to downtown and other employment centers, and development that is scaled to the pedestrian and creates a sense of place. New growth areas of more than 5 acres that are added to the UGB shall ~~should~~ be planned and developed in accordance either with a master planned community development plan approved under the city Master Planned Community Overlay zone, or an Area Master Plan. The City encourages Master Planned Communities as a means to meet city housing needs as explained in other comprehensive plan documents. It may be appropriate, however, for the city to add new growth areas to the UGB that are planned and developed in accordance with an approved Area Master Plan. A majority of property owners subject to a Master Planned Community, or to an Area Master Plan, must consent to be included in the plan.

1. A Master Planned Community (MPC) Overlay may apply to large multi-phased development projects where the master plan is intended to guide future development patterns and serves to regulate the site-development approval process. A MPC requires generous open space and amenities, and encourages efficient use of land and public facilities and services, a variety of housing types, innovative designs and complete pedestrian-friendly communities. A MPC shall demonstrate efficient use of land consistent with an identified urban land need, show appropriate locations for transportation improvements, public facilities, and the protection of significant open space, scenic, historic, and natural resource areas. A MPC must show how planned land uses will be integrated with the existing urban development pattern. Physical barriers, such as highways, tend to disrupt complete communities and livability because they disconnect areas from downtown and result in an auto-oriented environment of sprawl along highway corridors.



2. An Area Master Plan (AMP) is appropriate for land added to the UGB where the approval of future urban development is expected to rely on conventional urban zoning and the application of codified development standards and review procedures. An AMP may be prepared for contiguous properties added to the UGB that are greater than 5 acres and are not subject to a MPC overlay. An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas. An AMP must show how planned land uses will be integrated with the existing urban development pattern.
3. An approved Master Planned Community Plan or an Area Master Plan must include documentation that a majority of property owners support the conversion of land to the planned urban uses and also consent to annexation by the city of Madras using a voluntary annexation process that is outlined in the plan.

**Response:** The total area under consideration is 36.4 acres, which is less than the 40 acre maximum established for interim UGB annexation requests. The east site of the proposed UGB amendment and annexation area is part of the approved Yarrow Master Plan area. The plan designates land for predominantly residential land uses, which is compatible with adjacent development in the UGB, while also designating land for open space and park uses, community services including schools, and limited neighborhood commercial services. The conceptual plan also shows an internal transportation system that includes sidewalks and multi-use paths.

For the east site:

Connections and improvements to the surrounding transportation network – transportation analysis results

Existing water and sewer master plans are adequate to address facilities and service in the proposed UGB amendment and annexation area.

The designation for medium density Residential use is consistent with an un-met land need and identified housing need in the 2005 Urbanization Report.

Pursuant to Policy 14I: “An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas.” It is proposed to annex the west site to the Madras UGB and city limits but to retain its existing County Range Land (RL) zoning until the owners are ready to propose development. The site is surrounded by land designated for residential and related uses, and its future land use and zoning designation must allow for residential and compatible public/semi-public uses in order to show that land uses on the west site can be: “integrated with the existing urban development pattern.” (Policy 14I(2)) The proposed addition of a table showing Madras and County zones that correspond with Madras land use designations to the Madras Comprehensive Plan Section IV, Land Use Element (Table 3-1), will facilitate the transition of existing County zoning to appropriate City zoning.

The west site is comprised of three lots – Lots 101 and 200 that total 16.22 acres and are privately owned and Lot 102 that is 0.69 acres designated for County right-of-way. Lots 101

and 200 are both adjacent to Ashwood Road, a County collector, and will not require additional public roads for sufficient internal or local circulation. At the time of proposed development, proposed land division or planned development plans must show an internal circulation system that satisfies City code requirements and street standards. The west site is adjacent to the existing Madras UGB and is bordered by Ashwood Road, which eases extension of services from inside the existing UGB and city limits to the west site.

The plan map designation of medium density residential (R-2) is consistent with an un-met land need and identified housing need in the 2005 Urbanization Report.

For the west site:

#### SERVICE PROVIDER LETTERS

How do existing water and sewer plans fold in? Updates needed?

The County has not identified historic, scenic, or natural resources on the west site. City open space requirements for subdivisions or planned developments will apply to the site at the time of proposed development.

J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:

1. The proposed urban zoning or land use program for the subject properties that address an identified urban land need;
2. An annexation program for all subject properties;
3. Evidence that public facilities required by OAR 660-011-000 that are necessary to serve the expansion area can be served either by system improvements outlined in adopted public facility master plans or by supplemental improvements that augment adopted public facility master plans;
4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need;
5. Evidence that providers of other crucial public facilities (e.g. schools, parks and recreation, emergency services and health care) are able to meet the projected demand for their services;
6. Evidence that financing for constructing needed public improvements is available so that the expansion area can be developed as planned within the planning horizon;
7. Evidence that development in areas subject to natural hazards are protected from these hazards;
8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.

**Response:**

#### *Zoning and Land Use Designations (Policy J1)*



The east site is proposed to be re-zoned to a City R-2 designation. This meets some of the need for residentially zoned land outside the existing UGB that is projected for the next 15-20 years. Residentially zoned land will provide for housing and public/semi-public uses. This land need is documented in the *Madras Urbanization Study Addendum* (ECONorthwest, August 2007). (See Table 5-2)

The west site is proposed to retain its existing County Range Land (RL) designation until the time when further land use action and development is proposed. Existing zoning will allow only limited development, and appropriate future designations for the site will be City residential designations given that City open space and residential zoning currently surround the site.

#### ***Annexation Program (Policy J2)***

The City is the applicant for this proposal, and annexation program pursuant to Article 7 of its Zoning Ordinance is described later in this report.

#### ***Goal 11 Public Facilities (Policy J3) and Transportation Planning Rule (Policy J4)***

Kittelson & Associates has performed the transportation analysis needed to deem whether the proposed UGB amendment constitutes a significant effect on the transportation system. The scoping memo concluded that, of two development scenarios allowed under proposed R-2 zoning, considered to be possible according to preliminary conversations about potential uses, and estimated for “worst-case” levels of potential traffic generation, the scenario that included both an elementary school and multi-family housing was found to generate more peak hour traffic than housing alone. Using this scenario in a Transportation Planning Rule (TPR) analysis for significant effect, it was found that the increase in traffic did not constitute a significant effect on the transportation system. Existing facilities and facilities identified in the Jefferson County and City of Madras Transportation System Plans (TSPs) that would likely be funded and built in the next 20 years are adequate to accommodate the projected growth in traffic without violating adopted performance standards.

Public facility analysis for establishing the Madras URA ranked drainage catchment areas around the existing UGB for sewer service costs and serviceability. Of the six study areas that comprised the preliminary and then final URA, Study Areas 3 and 4 on the east and southeast consistently ranked higher than other areas. This can, in part, be attributed to proximity to the new South Wastewater Treatment Plant (SWWTP) and being upslope of the plant. In particular, the proposed UGB amendment and annexation are located in Catchment Area 180 and bordering on Catchment Area 179. These areas ranked 8<sup>th</sup> and 12<sup>th</sup> out of 60 catchment areas, making them among the more cost-effective and serviceable areas of the URA.

As was also determined during the URA public facility analysis, Deschutes Valley Water District (DVWD) found that there would be insignificant differences in providing water service to the different parts of the URA. Water supply in the region is adequate to ample.

Implementation of existing water and sewer master plans will be sufficient to provide service for the proposal area. Or are updates needed?

## SERVICE PROVIDER LETTERS

### *Other Public Facilities (Policy J5)*

The Jefferson County School District 509-J 2009 Long Range Facility Plan includes enrollment projections for the next 20-25 years and compares the projected enrollment against the capacity and conditions of existing facilities. Even with shared uses or renovations, the plan recommends that a school be re-built on Warm Springs tribal land, that a new elementary school be built in Madras to replace substandard facilities, and that work be done to address flood hazards at Madras High School and the administration offices. It is projected in the plan that between 2025 and 2030, elementary school enrollment will exceed existing capacity by more than 400 students (Table 5-2, Appendix C).

As part of this proposal, it is requested that the adoption of the 2009 Long Range Facility Plan as an element of the County and City Comprehensive Plans be approved and acknowledged by DLCD.

The east site has access to substantial park and recreation resources. Juniper Hill Park (City/County) and Bean Park (City/County) are nearby, as well as Jefferson County Middle School and its fields. The Yarrow Master Plan that applies to the site and surrounding land also designates open space and parks throughout the plan area.

The City reports that Mountain View Hospital and City public safety and emergency services are sufficient to provide services for the proposed UGB amendment and annexation area.

### *Financing for Improvements (Policy J6)*

#### Financing?

For facility plan and other transportation, water, and sewer improvements

### *Protection from Natural Hazards (Policy J7)*

There are not steep slopes (slopes greater than 25%), floodway, or floodplain in the proposed UGB expansion and annexation area. In fact, the proposed amendment and annexation are driven, in part, by the need to provide a school that is outside the floodway and floodplain of Willow Creek and its tributaries.

Fire protection service for the proposal area is currently provided by Jefferson County Fire Protection District #1, and will continue to be provided by that district if the land is annexed to the city. The area is subject to a Community Wildfire Protection Plan (CWPP) that Jefferson County completed in 2005 in collaboration with the fire district and federal agencies.

### *Protection of Goal 5 Resources (Policy J8)*

The Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files do not identify floodways, floodplains, significant habitat, or cultural resources in the proposed UGB amendment and annexation area. The only resources cited above that may apply to the site are open spaces. While open space will be a required part of public use or residential development that occurs in this area,



this proposal itself is not a development or entitlement proposal and, therefore, does not specify precisely where such open space will be designated.

**Findings:**

- Amendments to zoning and land use designations are planned and proposed. The proposed City land use designation is residential and City zoning designation R-2 (Multiple Family Residential). A need for about 22 acres of land outside the existing UGB zoned R-2 was determined in the *Madras Urbanization Study Addendum*.
- Transportation analysis and results
- Implementation of existing water and sewer master plans will be sufficient to provide service for the proposal area, or are updates needed? Include/reference service provider letters.
- The proposed UGB amendment and annexation area has access to nearby parks and a middle school. Part of the proposal is to adopt the Jefferson County School District 509-J 2009 Long Range Facility Plan as an element of the Jefferson County and Madras Comprehensive Plans and annex the 20-acre site in order to fulfill an agreement between JCSD and the City and provide land for an elementary school that will be needed in the next 15-20 years.
- Financing – facility plan and other transportation, water, and sewer improvements
- In terms of natural hazards, there are not slopes greater than 25%, floodway, or floodplain in the proposed UGB expansion and annexation area. The proposed amendments and annexation are based, in part, on the need to provide a school that is outside the floodway and floodplain of Willow Creek and its tributaries. Fire protection service for the proposal area is and will be provided by Jefferson County Fire Protection District #1.
- There are not floodways, floodplains, habitat, or cultural resources that are identified in the Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files in the proposal area. Open space will be provided as part of school and residential development pursuant to District school site and facility criteria and Madras zoning ordinance (MZO) in which 30% of a Master Planned Community must be open space (MZO Section 3.12(D)(4)).

**Conclusion:** The proposed comprehensive plan, comprehensive plan map, and zoning map amendments comply with the relevant policies of the Madras Comprehensive Plan.

## **IX. Conformance with the City of Madras Community Development Code**

### **City of Madras Zoning Ordinance**

#### **ARTICLE 7: ANNEXATION**

**SECTION 7.1: PURPOSE** - *The purpose of this section is to:*

- A. Implement the policies of the City of Madras Comprehensive Plan;*
- B. Provide for City review of all annexation requests for a determination of the availability of facilities and services as related to the proposal;*
- C. Provide for dissemination of public information and for sufficient time for public review;*
- D. Provide for City and County coordination of a request for an annexation; and*
- E. Provide for an expedited process by establishing procedures whereby the annexation and zoning, if applicable, may be considered concurrently.*

**SECTION 7.2: APPLICATION PROCEDURE.** *Annexation is a land use decision and is subject to applicable provisions of the City of Madras Comprehensive Plan, Oregon Revised Statutes, and Oregon Administrative Rules. In addition, the procedures below shall be followed:*

- A. The Planning Commission shall conduct a public hearing after notification of all property owners with two hundred fifty feet (250') outside of the boundary(ies) of the proposed annexation. The Planning Commission shall review the proposal for compliance with the annexation policies contained in this Ordinance and make a recommendation to the City Council, based on:
  - 1. The annexation proposal which meets the application requirements; and*
  - 2. The Planning Commission shall conduct a public hearing to determine a recommendation to the City Council to approve, approve with conditions or modifications, or disapprove the feasibility of the annexation proposal based on the criteria set forth in Section 7.4 below; and*
  - 3. The Planning Commission shall state its recommendation and the reasons therefore in writing to the City Council.**
- B. Upon receipt of the Planning Commission recommendation, the City Council shall conduct a public hearing and consider an Ordinance declaring the requested lands to be annexed to the City of Madras.
  - 1. The City Council shall review the record of the Planning Commission hearing their recommendation and shall determine whether to approve, approve with conditions or modifications, or disapprove the feasibility of the proposed annexation in accordance with the criteria set forth in Section 7.4 below.*
  - 2. The City Council may conduct additional public hearings to assist their making a determination.*
  - 3. The City Council shall state its determination and the reasons therefore in writing.**

**Response:** The City of Madras sent public hearing notice to the surrounding property owners on **DATE**. The City and County Planning Commissions held their first public hearing on February 3, 2010. The City Planning Commission decided upon a



recommendation of [describe recommendation] at its hearing on DATE and forwarded it to the Madras City Council. The City Council is scheduled to hear the matter on DATE(S).

**SECTION 7.3: ANNEXATION APPLICATION.** *The petitioner for annexation shall complete an application form provided by the Community Development Department. The application fee, established by Resolution of the City of Madras City Council, shall be submitted with the application. The application shall include:*

- A. *A map demonstrating that the proposed annexation is contiguous to the City Limits;*
- B. *Specific information on each parcel within the proposed annexation area:*
  - 1. *Current assessed valuation shown on Jefferson County Assessor's tax rolls.*
  - 2. *Acreage of both public and private property to be annexed.*
  - 3. *Map and tax lot(s) number.*
- C. *Names and ages of all residents and list of registered voters in the proposed annexation area.*
- D. *Addresses of all parcels within the proposed annexation area.*
- E. *Consent to Annexation forms, provided by the City of Madras, with notarized signatures of all property owners and electors within the proposed annexation area.*
- F. *Written findings, which address the following:*
  - 1. *Existing land uses within annexation area.*
  - 2. *Existing zoning within the annexation area.*
  - 3. *Existing improvements:*
    - a. *water system*
    - b. *streets*
    - c. *sanitary sewer*
    - d. *storm drainage*
  - 4. *Special Districts within the area:*
    - a. *water districts*
    - b. *irrigation districts*
    - c. *fire district*
    - d. *school district*
    - e. *other*
  - 5. *Urban services, the present availability of urban service systems to the proposed annexation area, their capacity and cost of extension and/or improvement to urban standards:*
    - a. *sanitary sewers - streets - parks*
    - b. *storm drainage - water*
    - c. *fire - power*
    - d. *schools - police*
- G. *Compliance with all applicable policies of the City of Madras Comprehensive Plan.*

**Response:** The City is initiating and applying for the proposed annexation. Maps of the west site and east site in the proposed UGB amendment and annexation area are included in this report as Figure 4-1. Parcel size and other parcel information is presented in Section I, Proposal Summary. The City owns the taxlot where the east site is located. The 20-acre parcel that is being created from the taxlot has been surveyed. Annexing the parcel to the UGB and city limits and re-zoning it to R-2 will allow the City to honor a land exchange agreement between the City and JCSD, which needs to occur by 2011 pursuant to the terms of the agreement (Appendix D). The west site is comprised of three taxlots, two taxlots that

are privately owned and one small taxlot (0.69 acres) that is County right-of-way. Re-zoning is not proposed for this site at this time as there are no immediate development plans. However, this site does better connect the east site to the existing UGB and will be suitable for residential uses and compatible public/semi-public uses, for which Madras urbanization studies have found a long-term need.

The proposed UGB amendment and annexation area is currently vacant and not in active use. It is land under Jefferson County jurisdiction and zoned Range Land (RL). There are not water, sewer, or storm water facilities and services extended to the site yet, but they can be extended using existing City facility master plans [or with minor updates to the plans?]. The Deschutes Valley Water District (DVWD) provides water service to the area and can provide facilities and service to the site, to be financed primarily by development applicants. The same is true for sewer and storm water facilities and service, for which the City of Madras is the service provider. As part of its agreement with JCSD, the City will extend water and sewer to the edge of the east site. There is an irrigation district in the region – the Central Oregon Irrigation District – but the proposal area is not irrigated nor is it proposed to be.

There is a County collector road – Ashwood Road – along the northern border of the area that will/will not need improvements according to transportation analysis conducted for this proposal. Analysis results (Appendix F)

Jefferson County Fire Protection District #1 currently provides service for the area and will continue to do so. Public safety responsibility for the area will be transferred from the County to the City. In terms of parks and recreation, there are two parks and a middle school close to the site, and the Yarrow Master Plan, which includes and surrounds the east site, includes the 30% of parks and open space required by local code (MZO Section 3.12(D)(4)).

The proposal area is in the Jefferson County School District 509-J. This application is driven, in part, by the need for a new elementary school in Madras in the next 10-20 years, as determined in the 2009 Long Range Facility Plan (Appendix C). The east site will be able to accommodate both school and residential uses once it is annexed and zoned R-2 as proposed. Pursuant to ORS 195.110, the facility plan needs to be approved as an element of the Jefferson County and Madras Comprehensive Plans now that it has been adopted by the District Board.

As addressed in the previous section of this report, the application complies with the applicable policies of the Madras Comprehensive Plan.

**SECTION 7.4: ANNEXATION CRITERIA.** *Lands may be annexed only if the City Council finds that the following criteria are met:*

- A. The property is contiguous to the City limits.*
- B. The property is located within the City's Urban Growth Boundary.*
- C. The annexation meets at least one of the following purposes:*



1. To serve lands needing City water or sewer to alleviate a present or potential health hazard; or
2. To provide land to accommodate future urban development; or
3. To provide land for provision of needed transportation or utility facilities; or
4. To ensure that lands adjacent to the City are developed in a manner consistent with City standards.

D. The petitioner has adequately addressed infrastructure supply and demand issues. The annexation is considered timely in that an adequate level of urban services and infrastructure can be provided upon annexation or a plan is in place for the provision of such services or infrastructure in a reasonable period of time.

E. The proposed annexation complies with the City's Comprehensive Plan. If the Comprehensive Plan does not control the annexation, or substantial changes in conditions have occurred which render the Comprehensive Plan inapplicable to the annexation, the proposed annexation complies with current Statewide Planning Goals.

F. The City is capable of extending City services to the area proposed for annexation without negatively impacting existing systems and the City's ability to adequately serve all areas within the existing City limits.

G. The proposed annexation is compatible with the existing topography, potential for future land division, natural hazards and other related considerations.

**Response:** The proposal area is adjacent to the Madras city limits and is simultaneously seeking to be annexed to the Madras UGB and to the city. The proposed UGB amendment and annexation area provides land for future urban development, specifically for a needed school and housing as demonstrated by the Jefferson County School District 509-J 2009 Long Range Facility Plan (Appendix C) and the *Madras Urbanization Study Addendum* (ECONorthwest, 2007). The east site of the proposal area is part of the Yarrow Master Plan area that the City has approved and found to be consistent with City development goals and standards.

The proposal area can be served by water and sewer using existing water and sewer master plans and being financed by the City and developers of the sites. Ashwood Road on the north side of the proposal area is a County collector road and does/does not need improvements in order to serve the area. Transportation analysis results (Appendix F). Internal circulation and transportation facilities will need to be shown in future development applications.

## **SECTION 8.2: ZONE/PLAN MAP AMENDMENTS**

### **A. Amendment to the Zone/Plan Map**

1. Amendment to the Zone/Plan Map may be initiated by the Planning Commission, City Council, Community Development Director, Land Use Periodic Review, or by application of the property owner.
2. If the application is for a change of a quasi-judicial or legislative nature:
  - a. the Planning Commission shall conduct a public hearing on the proposed amendment at its earliest practical meeting date after the proposal is submitted and shall follow the adopted rules for quasi-judicial hearings;

3. b. the Planning Commission shall provide a recommendation to the City Council based on findings-of-fact;
4. c. The City Council shall hold a public hearing and review the recommendation of the Planning Commission, along with any public testimony on the issue. The City Council must take final action on an amendment request and amendments shall be made by ordinance.
3. An application for a zone change for land annexed to the city that is subject to an approved Master Planned Community Plan or an approved Area Master Plan may be considered as an administrative action per Article 9.3.

B. Criteria for Amendments: The burden of proof is upon the applicant. The applicant shall show the proposed change is:

1. In conformity with all applicable state statutes.
2. In conformity with the applicable Statewide Planning Goals; and
3. In conformity with the Madras Comprehensive Plan, Zoning and Land Use Ordinance, and policies; and
4. In conformity with an approved Master Planned Community Plan or Area Master Plan, if applicable to the underlying properties; and
5. That there is a change of circumstances or further studies justifying the amendment or mistake in the original zoning.

**Response:** This application is being initiated by the City Community Development Department/Director. Also pursuant to the terms of the UGAMA between the County and the City, the City forwarded the UGB amendment application and appropriate fees to the Jefferson County Community Development Department within five working days of being initially filed.

This application is subject to legislative procedure and will receive full review by the public, the City Planning Commission, and the City Council. Hearings by the Madras Planning Commission and Jefferson County Planning Commission will be held first jointly on February 3, 2010 and then separately on DATE and DATE respectively. The Madras City Council will review the City Planning Commission's recommendation at a hearing on DATE, and will forward its decision to the County Board of Commissioners for a hearing on DATE.

As demonstrated by the previous findings, the proposed comprehensive plan, comprehensive plan map, and zoning map amendments comply with applicable Statewide Planning Goals, State statutes, and Madras Comprehensive Plan policies.

**Findings:**

- The City has followed procedures for providing notice and holding public hearings for the proposal. Notice was mailed to number and type/distance from sites] property owners on DATE. A joint City and County Planning Commission hearing was held on February 3, 2010 and then separate hearings were held on DATE and DATE respectively. The City Council and County Board of Commissioners heard the proposal on DATES and approved the proposal on DATES respectively.



- The City of Madras has initiated this proposal. It owns the east site of the proposed UGB amendment and annexation area and has an agreement with Jefferson County School District 509-J to exchange this land for land downtown upon annexation and re-zoning.
- The proposed UGB amendment and annexation area provides land needed for residential and public/semi-public uses, specifically for a needed school and housing as demonstrated by the Jefferson County School District 509-J 2009 Long Range Facility Plan (Appendix C) and the *Madras Urbanization Study Addendum* (ECONorthwest, 2007).
- All service providers – the City of Madras, Jefferson County, Deschutes Valley Water District, Jefferson County Fire Protection District #1, Jefferson County School District 509-J – have capacity to serve the proposal area given: approval of the adoption of the Jefferson County School District 509-J 2009 Long Range Facility Plan as elements of the City and County Comprehensive Plans, **implementation of existing water and sewer master plans, transportation improvements?**, and financing from future proposed development.
- The east site of the proposed UGB amendment and annexation area is part of the approved Yarrow Master Plan area, and the west site fulfills the requirements for an Area Master Plan. The set of proposed Comprehensive Plan, Comprehensive Plan Map, and Zoning Map amendments in this application comply with applicable Statewide Planning Goals, State statutes, and Madras Comprehensive Plan policies.

**Conclusion:** The proposed comprehensive plan, comprehensive plan map, and zoning map amendments comply with the relevant provisions of the Madras Zoning Ordinance.

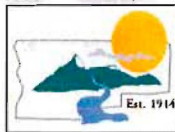
# **Jefferson County and City of Madras Comprehensive Plan Amendment**

## **Jefferson County and City of Madras Comprehensive Plan Map and Zoning Map Amendments - DRAFT**

City of Madras Planning Commission  
Jefferson County Planning Commission

Prepared for:

Jefferson County  
66 S.E. "D" Street  
Madras, OR 97741



City of Madras  
71 S.E. "D" Street  
Madras, OR 97741



Prepared by:



Angelo Planning Group  
921 SW Washington, Suite 468  
Portland, Oregon 97205

January 2010

## City of Madras Planning Commission

Shelly	Tack	Chair
		Vice-
Lynn	Kowaleski	Chair
Alan	Hurley	
Kasey	Cousens	
Richard	Ladeby	
Joe	Krenowicz	

## City of Madras City Council

Melanie	Widmer	Mayor
Tom	Brown	
Walt	Chamberlain	
Royce	Embanks Jr.	
Benjamin	Keeton	
Bob	McConnell	
Kevin	O'Meara	

## Jefferson County Planning Commission

Donald	Martin	Chair
Evan	Thomas	Vice Chair
Dick	Dodson	
Bob	Powers	
Roy	Hyder	
Jim	Day	
Kay	Moon	

## Jefferson County Board of Commissioners

John	Hatfield	Chair
Mike	Ahern	
Wayne	Fording	

## Project Support and Consulting Team

Angelo Planning Group	Land use planning, project management
Kittelson Associates	Transportation analysis
Jefferson County	Planning
City of Madras	Planning, technical support
Jefferson County School District 509-J	Planning, technical support



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- Appendix B: East Site Legal Description and Survey Map (20-acre parcel)
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## I. Proposal Summary

File No.:	081-004
Applicant:	<p>Nick Snead, Community Development Director  City of Madras  71 SE D Street  Madras, OR 97741  (541) 475-3388  (541) 475-7061 Fax  <a href="mailto:nsnead@ci.madras.or.us">nsnead@ci.madras.or.us</a></p> <p>Jon Skidmore, Community Development Director  Jefferson County  85 SE D Street  Madras, OR 97741  (541) 475-4462  (541) 325-5004 Fax  <a href="mailto:jon.skidmore@co.jefferson.or.us">jon.skidmore@co.jefferson.or.us</a></p>
Applicant's Representative:	<p>DJ Heffernan  Angelo Planning Group  921 SW Washington, Suite 468  Portland, Oregon 97205  (503) 227-3664  (503) 227-3679 Fax  <a href="mailto:dheffernan@angeloplanning.com">dheffernan@angeloplanning.com</a></p>
Request:	<ul style="list-style-type: none"> <li>• <b>To amend the Jefferson County and City of Madras Comprehensive Plans</b> – to incorporate the Jefferson County School District 509-J 2009 Long Range Facility Plan as an element of the Jefferson County Comprehensive Plan and the City of Madras Comprehensive Plan (Attachment A).</li> <li>• <b>To amend the Madras Comprehensive Plan</b> – to add a table that presents the City zones and County zones that correspond and are allowed under City comprehensive plan designations. (Table 3-1)</li> <li>• <b>To amend the Jefferson County and City of Madras Comprehensive Plan and Zoning Maps</b> – to expand the Madras Urban Growth Boundary (UGB) to include 36.91 acres from the Madras Urban Reserve Area (URA); to annex 20 acres of City-owned land (“east site,” Figure 4-1) to the City of Madras and apply City R-2, Multiple Family Residential zoning; to annex 16.22 acres of privately owned land plus 0.69 acres of land for County right-of-way (“west site,” Figure 4-1) and retain existing County RL, Range Land, zoning.</li> </ul>

<b>Location:</b>	<ul style="list-style-type: none"> <li>• West site: tax map of 16.91-acre west site (outlined), directly east of the existing Madras UGB, south of Ashwood Road (Appendix A)</li> <li>• East site: survey map of 20-acre east site, east of the existing Madras UGB, south of Ashwood Road (Appendix B)</li> </ul>
<b>Legal Description:</b>	<p><b>West site:</b> 11S 14E 7 Lots 101 (12.28 acres), 102 (0.69 acres for right-of-way), and 200 (3.94 acres), entire lots  <b>East site:</b> 11S 14E 7 Lot 100 (20 acres), parcel of lot</p> <p>Legal description of Lot 100 parcel (east site):  <i>A portion of Parcel 2 of Partition Plat No. 2002-12 as filed in the Jefferson County Clerk's Office, situated in the Northeast Quarter (NE ¼) of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County Oregon, more particularly described as follows: Commencing at the Northwest corner of said Northeast Quarter, monumented with a 2 inch diameter brass cap, from which the Northeast corner of said Section 7 bears South 89°39'40" East a distance of 2640.53 feet; thence South 89°39'40" East along the North line of said Section 7 a distance of 599.997 feet; thence South 0°17'36" West a distance of 40.00 feet to the Northwest corner of said Parcel 2 of Partition Plat No. 2002-12; thence continuing South 0°17'36" West along the West line of said Parcel 2 a distance of 40.00 feet to the South right-of-way line of East Ashwood Road and the <b>True Point of Beginning of this Description</b>; thence South 0°17'36" East along said West line a distance of 935.13 feet to the Southeast corner of Parcel 1 of said Partition Plat No. 2002-17; thence leaving said West line South 89°39'40" East a distance of 931.70 feet; thence North 0°17'36" West a distance of 935.12 feet; to a point on the South right-of-way line of East Ashwood Road; thence North 89°39'40" West along said right-of-way line a distance of 931.70 feet to the <b>True Point of Beginning</b>.  Contains 20.00 acres more or less.  <b>End of Description.</b> (Appendix B)</i></p>

## II. Introduction

The Madras Urban Reserve Area (URA) was approved by DLCD in July 2009, and was sized to provide urbanizable land for the next 50 years. Land from the URA is the first priority for inclusion in the UGB pursuant to ORS 197.298. The City of Madras is not currently in periodic review or evaluating its existing UGB for a 20-year land supply. The City, however, has initiated this UGB amendment and annexation process in order to abide by terms of an agreement it has with the Jefferson County School District 509-J (“JCS D” or the “District”).

In September 2006, the City of Madras and JCS D signed a land exchange agreement. The District owns property – “Friendship Park” – on Highway 97 that is basically too small to site a new school and is poorly located along a state highway. The agreement specified an exchange of this land in the city for 20 acres of land that the City owns just outside the existing UGB (Appendix D). This land is proposed for annexation to the Madras UGB and city limits and for re-zoning as City Multi-Family Residential (R-2), a designation that will allow for a multi-family and single-family housing as well as public/semi-public uses typically sited on residentially zoned land. The 20-acre parcel is within the Yarrow Master Plan area. The plan conceptually identifies a school site along its northern border with Ashwood Road.

The terms of the land exchange agreement concerning this land is cited below.

*... (T)he City has agreed to the following conditions as part of the property’s conveyance, all of which are to be completed within five (5) years:*

- (a) The City and its Planning Department will take such efforts as are reasonable and practicable to expand the Urban Growth Boundary for the City so that the parcel described in Exhibit “B” is within the Madras Urban Growth Boundary within five years of the signing of this Agreement, and that said property, when brought within the Urban Growth Boundary, shall be zoned to permit siting and construction of school facilities on said land; and*
- (b) At no cost to the School District, the City agrees to have sewer lines and water service lines adequate to accommodate a 600 student public school extended to the lot line of the parcel described in Exhibit “B”; and*
- (c) A Warranty Deed containing a legal description of the 20.0 acre parcel described in Exhibit “B” shall be signed by the appropriate representative for the City and placed in escrow, with instructions that allow the School District to removed the Deed for recording in favor of the School District as soon as the parcel described in Exhibit “B” can be legally partitioned from the other property owned by the City in which said parcel is located; and*
- (d) The City will cooperate with the School District to process and complete any necessary partitioning and other legal procedures to segregate the School’s parcel from the City’s contiguous real property so that the Warranty Deed may be lawfully recorded in the records of the Jefferson County Clerk.*

As part of the process of fulfilling its obligation under terms of this agreement, the City of Madras prepared an update to the Jefferson County School District 509-J Long Range Facility Plan. The facility plan, which the District has adopted, complies with ORS 195.110. The plan includes enrollment forecasts to 2025, an assessment of current conditions for

existing District facilities (Appendix C) and recommendations to address identified capacity problems. The plan recommends that Warm Springs Elementary School be re-built, that Metolius Elementary School undergo repairs, and that Westside Elementary School and Madras Elementary Schools either be renovated on site or replaced. The projections, assessments, and recommendations of the 2009 Long Range Facility Plan provide a basis for studying the efficacy of these alternative solutions to inform a potential bond measure campaign and possibly adopt an excise tax program.

In addition to the 20-acres of school district land, herein referred to as the east site, there are an additional 16.91 acres of land in the proposed UGB annexation, herein referred to as the west site. The west site is comprised of three lots that provide County right-of-way, better connect the east site to the existing UGB, and contribute toward meeting the long-term need for residentially zoned land. The west site is privately owned and is not proposed for re-zoning at this time; it will apply for re-zoning when the owners are prepared to file land development applications in the future. It is planned that the west-site land also will provide the same range of needed housing types and public/semi-public uses as the east site when re-zoning is approved.

In order to accommodate rural zoning in the urban growth area, text amendments are proposed for Chapter 2 of the Madras Comprehensive Plan that identify county zones allowed on land that is designated for urban residential use on the comprehensive plan map.

### III. Jefferson County and City of Madras Comprehensive Plan Amendments

- Language adopting the Jefferson County School District 509-J 2009 Long Range Facility Plan (Appendix C)
- Language amending Madras Comprehensive Plan Section IV, Land Use Element that identifies the appropriate location for this table.

**Table 3-1 Proposed Table for Corresponding City of Madras Comprehensive Plan Map Designations, City of Madras Zones, and Jefferson County Zones**

Plan Map Label	Designation	Description	City Zones	County Zones
R-1	Single-Family Residential	Land primarily for single-family homes, including manufactured home subdivisions, and for duplexes	R-1	EFU A-1, EFU A-2, RL, FM, RR-2, RR-5, RR-10, RR-20, ERD
R-2	Multi-Family Residential	Land for multi-family housing to be close to businesses and services and to buffer single-family residential and commercial uses. Manufactured homes and neighborhood commercial uses are allowed.	R-2	EFU A-1, EFU A-2, RL, FM, RR-2, RR-5, RR-10, RR-20, ERD
R-3	Planned Residential Development	Land for primarily residential development that allows site design flexibility to promote creativity and protection of scenic and natural resources	R-3	EFU A-1, EFU A-2, RL, RR-2, RR-5, RR-10, RR-20, ERD
C-1	Corridor Commercial	Land for primarily motor vehicle-oriented uses located along major roadways	C-1	CC, ERD
C-2	Downtown Commercial	Land for a mixture of smaller scale businesses that supports redevelopment, higher density, public spaces, and other elements of pedestrian orientation	C-2	CC, ERD
C-3	Community Commercial	Land for primarily motor vehicle-oriented uses but on a smaller scale than Corridor Commercial	C-3	SC, CC, ERD, EFU A-1, EFU A-2, RL
NC	Neighborhood Commercial	Land for small-scale commercial uses in residential areas that includes public spaces and promotes transportation options	NC	SC, ERD EFU A-1, EFU A-2, RL
I	Industrial	Land for industrial uses where industrial uses already exist in the city and in the Madras Industrial Park	I	EFU A-1, EFU A-2, RL, FM, PM, CI, IR, ERD
O/S	Open Space	Land where parks, open space, or public uses already exist or is otherwise publicly owned	OS/PF	EFU A-1, EFU A-2, RL, FM, PM

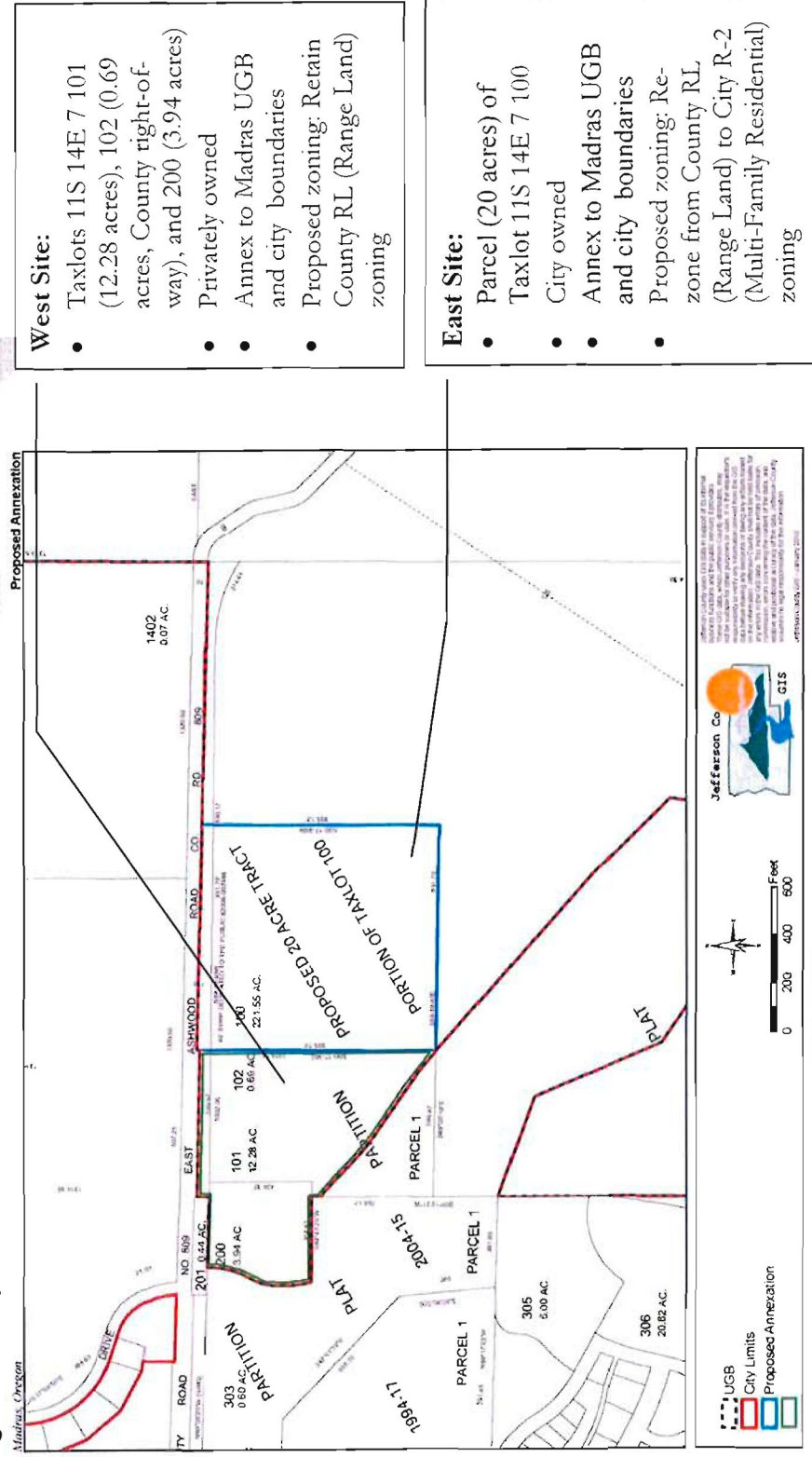
Plan Map Label	Designation	Description	City Zones	County Zones
A/D	Airport Development	Land adjacent to airport facilities for future commercial and industrial uses, particularly those that rely on air transportation	A/D	EFU A-1, EFU A-2, AM, ERD

County Zones:	
AM	Airport Management
CC	County Commercial
CI	County Industrial
EFU A-1, EFU A-2, RL	Exclusive Farm Use Zones
ERD	Existing Rural Development
FM	Forest Management
IR	Industrial Reserve
PM	Park Management
RR-2, RR-5, RR-10, RR-20	Rural Residential
SC	Service Community



# IV. Jefferson County and City of Madras Comprehensive Plan Map and Zoning Map Amendments

Figure 4-1: Proposed UGB Amendment and Annexation Area



## V. Conformance with Statewide Land Use Goals

### **Goal 1: Citizen Involvement**

*To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.*

**Response:** The proposed amendments have been reviewed during a series of public meetings and hearings in order to allow for consideration by public officials and public feedback.

The Jefferson County School District 509-J (“JCSD” or “District”) Board (“Board”) was briefed by the Superintendent about the 2009 Long Range Facility Plan in meetings [when, covered what]. The draft plan was brought to them first for formal review at a Board meeting on January 11, 2010. After [describe deliberations], they adopted the plan on DATE.

The proposed Madras Land Use Element Comprehensive Plan amendment and amendments to the Jefferson County and City of Madras Comprehensive Plan Maps and Zoning Maps were presented and reviewed in a series of meetings in early 2010.

#### ASK THE CITY FOR MEETING AND HEARING SCHEDULE AND INFO

Notice methods

Measure 56 notice

45-day notice to DLCD

December 14, 2009

Addendum

January \_\_, 2010

Info available on City website?

The UGB expansion area is drawn from the Madras Urban Reserve Area (URA), which was developed through an intensive participatory process. A Technical Advisory Committee (TAC) and Project Advisory Committee (PAC) were formed to provide guidance for the project. The TAC was comprised of staff from project team members, including Jefferson County, the City of Madras, ECONorthwest, Kittelson & Associates, David Evans & Associates, Ball Janik, LLP, and Angelo Planning Group. The PAC included representatives of the City of Madras, Jefferson County, Jefferson County School District 509-J, local farmers, housing advocates, Oregon Department of Transportation (ODOT) Region 4, and the Department of Land Conservation and Development (DLCD).

A combination of bi-weekly TAC teleconferences, public forums, PAC meetings, and meetings of the Madras Planning Commission and City Council, and Jefferson County Planning Commission and Board of Commissioners informed the final URA recommendation. Public events included the following:

- PAC Meeting 1 – May 2, 2007

- Public Meeting 1 – May 15, 2007
- PAC Meeting 2 – May 24, 2007
- PAC Meeting 3 – October 22, 2007
- Public Meeting 2 – November 6, 2007
- Joint City Council/County Commission Work Session – November 20, 2007
- PAC Meeting 4 – December 3, 2007
- Joint City/County Planning Commission advisory hearing – April 3, 2008
- Joint City/County Planning Commission advisory hearing – May 8, 2008
- County Planning Commission hearing – May 22, 2008
- City Planning Commission hearing – June 11, 2008
- City Council/County Commission evidentiary hearing – August 13, 2008
- City Council hearing/deliberations – September 9, 2008
- City Council hearing/1<sup>st</sup> ordinance reading – September 23, 2008
- City Council hearing/final adoption – October 7, 2008
- County Commission hearing – September 24, 2008

#### **Findings:**

- According to both their Comprehensive Plans and code, the City of Madras and Jefferson County Planning Commissions serve as their official citizen planning committees.
- Adoption of the Madras Urban Reserve Area (URA) complied with Goal 1.
- Members of the public have been able to participate in reviewing the proposed amendments. [DATES FOR MEETINGS, WORK SESSIONS AND HEARING]
- [WEBSITES AND OTHER PLACES MATERIALS ARE AVAILABLE]
- Measure 56 notice about upcoming County and City Planning Commissions and legislative hearings was mailed to [specify which property owners] on DATE.
- 45-day notice of proposed plan amendments was sent to the Department of Land Conservation and Development (DLCD) on December 14, 2009 prior to the start of hearings held by County and City Planning Commissions and legislative bodies.
- Notices of the public meetings were published in the City's local newspaper, including contact information for the City and County. The paper also published articles [about what, if articles were published].
- ANY OTHER NOTICE AND PUBLIC ANNOUNCEMENT INFORMATION FOR ADOPTION HEARINGS?

**Conclusion:** The City of Madras has complied with State requirements for citizen involvement per Statewide Land Use Planning Goal 1.

#### **Goal 2: Land Use Planning**

*To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.*



**Response:** The state statute governing long-term school district facility planning – ORS 195.110 – was revised in 2007 and expanded the definition of which districts were subject to the planning requirements. The statute is addressed in more detail later in this report. The Jefferson County School District 509-J 2009 Long Range Facility Plan (Appendix C) includes elements pursuant to ORS 195.100(5)(a) such as enrollment forecasts, an assessment of existing facility conditions, and an analysis of options to meet forecasted needs. Given projected future need, the plan recommends that the District proceed with implementation of re-building a school on the Warm Springs Reservation and providing a new elementary school to replace substandard existing facilities in Madras. The 2009 Long Range Facility Plan was adopted by the JCSD Board on **DATE** and is now proposed for inclusion as an element in the Jefferson County and City of Madras Comprehensive Plans pursuant to ORS 195.110(2)(a).

The proposed UGB amendment and annexation is based on the buildable lands inventory and needs analysis performed by ECONorthwest in 2007 and for the Madras Urban Reserve Area (URA) adopted in 2008 and acknowledged by the Department of Land Conservation and Development (DLCD) in 2009. The proposed table of corresponding City land use designations and City and County zones (Table 3-1) facilitates the annexation of land in the URA to the Madras UGB and city limits.

#### ***Madras Urban Reserve Area***

The Madras City Council adopted the Madras Urban URA and related provisions in October 2008 and the Jefferson County Board of Commissioners in November 2008. DLCD acknowledged and approved the URA and related amendments in July 2009, with stipulations that some of the proposed amendments to the Jefferson County development code be modified. Pursuant to ORS 197.298, the first priority for land to be included in a UGB is land designated as an urban reserve. Therefore, the land in the Madras URA is the first priority for UGB expansion when there is a demonstrated need for land in the next 20 years, as was found by the Madras Urbanization Study and Addendum.

The URA and its related plan and code amendments were developed over the course of Spring 2007 to Summer 2008. They were developed using the guidance and input of a Technical Advisory Committee (TAC) and a Project Advisory Committee (PAC) as well as City and County Planning Commissioners, City Councilors, County Commissioners, and participating members of the public. These various elements of public involvement are described in more detail in the response and findings for Goal 1.

At the same time, amendments to the County and City's Comprehensive Plans and Development Codes were developed in order to implement the URA. Proposed amendments to the Madras Comprehensive Plan addressed Goal 14 (Urbanization) and recommended the following:

- Description of the Madras URA, its role in providing a 20- to 50-year land supply to the City, the cooperation between the City and the County in establishing a URA, its priority for inclusion in the City's UGB;

- Master planning provisions for areas added to the City's UGB, including cooperation with the County and new master planning requirements (Area Master Plans or AMPs); and
- UGB expansion proposal requirements including proposed zoning, an annexation program, adequate public facilities and transportation facilities, protection of cultural and natural resources, protection from natural hazard, and area property owner support.

Land in the URA is the first priority when designating land for a UGB expansion and the land in this proposed amendment to the UGB, Comprehensive Plan Maps, and Zoning Maps is drawn entirely from the adopted and acknowledged Madras URA. The selection of land from the URA is based on criteria that Madras adopted as a Goal 14 policy as part of adopting the URA.

*J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

- 1. The proposed urban zoning or land use program for the subject properties that address an identified urban land need;*
- 2. An annexation program for all subject properties;*
- 3. Evidence that public facilities required by OAR 660-011-000 that are necessary to serve the expansion area can be served either by system improvements outlined in adopted public facility master plans or by supplemental improvements that augment adopted public facility master plans;*
- 4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need;*
- 5. Evidence that providers of other crucial public facilities (e.g. schools, parks and recreation, emergency services and health care) are able to meet the projected demand for their services;*
- 6. Evidence that financing for constructing needed public improvements is available so that the expansion area can be developed as planned within the planning horizon;*
- 7. Evidence that development in areas subject to natural hazards are protected from these hazards;*
- 8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.*

These criteria are addressed later in the report section on the Madras Comprehensive Plan, Goal 14.

**Madras Urbanization Study - Residential Land**

The *Madras Urbanization Study* (ECONorthwest, April 2007) and *Madras Urbanization Study Addendum* (ECONorthwest, August 2007) identify a shortage of residentially zoned land to meet single-family and multi-family housing needs and public/semi-public use needs in the next roughly 20 years. The needed number of housing units and acreage for residential uses is summarized in Table 4-18 of the August 2007 *Madras Urbanization Study Addendum* (Table 5-1).

These needs are compared to the available land supply in the existing UGB in Table 6-4 in the study (Table 5-2) in order to determine whether there is a surplus or deficit of land for residential, public and semi-public, and employment uses. The table documents a shortage of land zoned R-2 (Multiple Family Residential) and land zoned R-1 (Single Family Residential) inside the existing UGB as well as a need for roughly 350 acres of public and semi-public uses over the course of the next 15-20 years. These public/semi-public uses tend to be related to residential uses and are usually allowed and sited on residentially zoned land.

**Table 5-1: Housing Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Table 4-18. Forecast of needed housing units and residential land, Madras, 2007-2027 and 2007-2057							
Housing Type	New DU	Percent	Density (DU/net res ac)	Net Res. Acres	Net to Gross Factor	Gross Res. Acres	Density (DU/gross res ac)
<b>Needed Units, 2007-2027</b>							
<b>Single-family types</b>							
Single-family detached	1,791	61%	4.8	373.1	25%	497.5	3.6
Manufactured	206	7%	5.5	37.4	25%	49.8	4.1
Condo/Townhomes	206	7%	9.0	22.8	15%	26.9	7.7
Subtotal	2,202	75%	5.4	410.5		574.2	3.8
<b>Multi-family</b>							
Multi-family	734	25%	14.0	52.4	15%	61.7	11.9
Subtotal	734	25%	14.0	52.4		61.7	11.9
<b>Total</b>	<b>2,936</b>	<b>100%</b>	<b>6.3</b>	<b>462.9</b>		<b>635.8</b>	<b>4.6</b>
<b>Needed Units, 2007-2057</b>							
<b>Single-family types</b>							
Single-family detached	5,516	61%	4.8	1,149.1	25%	1,532.1	3.6
Manufactured	633	7%	5.5	115.1	20%	143.8	4.4
Condo/Townhomes	633	7%	9.0	70.3	15%	82.7	7.7
Subtotal	6,781	75%	5.4	1,334.5		1,758.7	3.9
<b>Multi-family</b>							
Multi-family	2,260	25%	14.0	161.5	10%	179.4	12.6
Subtotal	2,260	25%	14.0	161.5		179.4	12.6
<b>Total</b>	<b>9,042</b>	<b>100%</b>	<b>6.3</b>	<b>1,495.9</b>		<b>1,938.1</b>	<b>4.7</b>

Source: ECONorthwest  
 Note: Gross acres calculated by dividing net acres by (1-net to gross factor). For example, for single-family detached,  $477.1/(1-.75) = 636.1$ . Conversely,  $636.1 \times .75 = 477.1$ .



**Table 5-2. Land Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Plan Designation	Land Demand		Supply 2007	Surplus (deficit)	
	2007-2027	2007-2057		2007-2027	2007-2057
<b>Residential</b>					
R-1	451.9	1,355.7	398.1	(53.8)	(957.6)
R-2	46.1	138.2	23.5	(22.5)	(114.6)
R-3	148.0	444.0	242.8	94.8	(201.2)
RR5	0.0	0.0	32.7	32.7	32.7
RR10	0.0	0.0	47.5	47.5	47.5
RL	0.0	0.0	38.7	38.7	38.7
Public/Semi-public uses on res land	358.3	770.7	0.0	(358.3)	(770.7)
<b>Subtotal (Residential)</b>	<b>1,004.2</b>	<b>2,708.6</b>	<b>783.3</b>	<b>(220.9)</b>	<b>(1,925.3)</b>
<b>Commercial (Retail &amp; Services)</b>					
C-1	230.6	758.1	80.2	(150.4)	(677.9)
NC	28.6	90.4	4.9	(23.7)	(85.4)
CC	0	0	32.6	32.6	32.6
<b>Subtotal Commercial</b>	<b>259.2</b>	<b>848.5</b>	<b>117.7</b>	<b>(141.5)</b>	<b>(730.8)</b>
<b>Industrial</b>					
I	251.4	749.9	296.9	45.5	(452.9)

Notes: a) public and semi-public land needs were allocated to residential zones

The proposed UGB amendment of about 37 acres addresses part of the residential and public use land need presented above. Annexing 20 acres that are owned by the City (the east site) and rezoning it R-2 allows the City to fulfill its agreement with JCSD, dated September 2006 (Appendix D). The proposed UGB amendment provides land to meet part of the need for residentially zoned land. The remainder of the land need will be addressed during the City's next cycle of periodic review.

**Findings:**

- The 2009 Long Range Facility Plan was adopted by the Jefferson County School District Board on **DATE** and is now proposed for inclusion as an element in the Jefferson County and City of Madras Comprehensive Plans pursuant to ORS 195.110(2)(a).
- The JCSD 2009 Long Range Facility Plan includes an enrollment forecast and analysis of options for meeting projected needs, and recommends that a replacement school be built for the existing elementary school in Warm Springs and that Westside Elementary School and Madras Elementary School in Madras be renovated on site or re-built on new sites.
- The proposed UGB amendment and annexation is drawn from land in the adopted Madras URA and meets some of the need for residentially zoned land the next 20 years as established in the 2007 *Madras Urbanization Study* and addendum.

**Conclusion:** Jefferson County and the City of Madras have complied with State requirements for land use planning per Statewide Land Use Planning Goal 2.

**Goal 3: Agricultural Lands**

*To preserve and maintain agricultural lands.*

**Response:** The entire Madras URA includes land zoned for rural residential, range land, and agricultural uses, as shown in Table X.

**Table X: Exception and Resource Land in the Madras URA**

Land Type	Zones	Acres
Exception Land	RR2, RR5, RR10 (Rural Residential)	1,709
Non-prime Resource Land	RL (Range Land)	2,038
Prime Resource Land	A1 (Agricultural)	68
	<b>Total</b>	<b>3,815</b>

Prime agricultural land makes up less than 2% of the total URA. When prime agricultural land is included, it is only when it is adjacent to the existing UGB, surrounded by exception land or non-prime resource land, and/or will be more easily served with public facilities – sewer service, in particular. The rest of the URA is comprised of rural residential and range land. Rangeland was included in the URA because of serviceability advantages it has over other land surrounding the Madras UGB and because all the exception (rural residential) land adjacent to the Madras UGB would not fulfill the city’s estimated land needs for the next 50 years.

The proposed UGB amendment and annexation area is currently zoned Range Land by the County. Upon annexation to the UGB and Madras city limits, City R-2, Multiple Family Residential, zoning is being requested for the east site. The west site is proposed to be annexed to the city and to retain its existing County zoning.

As explained above, land zoned Range Land has been included in the Madras URA to meet land needs and because of sewer service advantages over other areas around the existing UGB and because exception land alone would not meet land needs for the city over the next 50 years. Land in Study Areas 3 and 4 of the URA consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation.

Pursuant to ORS 197.298(a), the first priority of land to be included in the UGB is land in a URA. Beyond that, local criteria can be relied upon to prioritize land from the URA to be included in the UGB. Local criteria are found in Goal 14 (Urbanization) policies in the Madras Comprehensive Plan. The criteria require a Master Planned Community (MPC) plan or Area Master Plan (AMP), proposed urban zoning, an annexation program, sufficient public facilities, financing prospects, and protection for natural resources and natural hazard areas for the proposed UGB amendment area. These policies are addressed in more detail in the response and findings for Madras Comprehensive Plan Goal 14.

Land in the URA is subject to joint management under the terms of the City's and County's Urban Growth Area Management Agreement (UGAMA) once it is added to the City's UGB. Response and findings related to the UGAMA are provided later in this report.

**Findings:**

- The proposed UGB amendment and annexation area is land from the Madras URA, top priority land for inclusion in the UGB pursuant to ORS 197.298(a).
- The adopted Madras URA includes primarily land that is "exception land" (zoned Rural Residential) or non-prime resource land because exception land alone cannot meet land needs for the next 50 years.
- Some of the non-prime resource land (zoned Range Land) is easier to serve with sewer than other areas around the existing Madras UGB, based on public facility analysis done during the development of the URA. Land in Study Areas 3 and 4 of the URA consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation.

**Conclusion:** Jefferson County and the City of Madras have complied with State requirements for agricultural lands per Statewide Land Use Planning Goal 3.

**Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces**

*To protect natural resources and conserve scenic and historic areas and open spaces.*

**Response:** The land being proposed for inclusion in the Madras UGB is currently located within the Madras URA, jointly managed by Jefferson County and the City of Madras pursuant to the terms of the Urban Reserve Area Management Agreement (URAMA), adopted in January 2009 (Appendix E). Pursuant to the URAMA, the County processes land use decisions in the URA. In addition, conversion plans must be submitted to the City for land divisions in the URA.

Madras Comprehensive Plan policy language regarding protection of open space, scenic, wildlife, and cultural resources was adopted as part of amendments to Goal 14 (Urbanization) concurrent with the adoption of the Madras URA.

**J.** *All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

- 8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.*

The land in the proposal does not include floodways, floodplains, significant habitat, or cultural resources that are identified in the Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files. The only resources cited in Policy 14(8) that may apply to the site are open spaces. Open space will be a required part of school or multi-family residential development that occurs in the UGB



amendment area. However, this proposal itself is not a development or entitlement proposal and, therefore, is not required to specify precisely where such open space will be designated.

**Findings:**

- Recently adopted amendments to Goal 14 of the City's Comprehensive Plan require identification of protective measures for significant open space, scenic, historic, cultural and natural resources in proposed UGB expansion areas. The Jefferson County Comprehensive Plan and Goal 5 inventory does not identify natural, scenic, or cultural resources in the proposed UGB amendment and annexation area.
- Open space designations will be made as part of development entitlement for the proposed UGB amendment and annexation.

**Conclusion:** Jefferson County and the City of Madras have complied with State requirements for open space, scenic and historic areas, and natural resources per Statewide Land Use Planning Goal 5.

**Goal 6: Air, Water and Land Resource Quality**

*To maintain and improve the quality of the air, water and land resources of the state.*

**Response:** According to the U.S. Environmental Protection Agency (EPA) and the Oregon Department of Environmental Quality (ODEQ) there are no federally designated air quality management areas or federally designated hazardous waste sites in the Madras URA. Of Environmental Cleanup Sites reported on ODEQ's website, there are no sites identified in the URA.<sup>1</sup> Further, R-2 zoning is proposed for the UGB amendment area to be brought in to the city, allowing residential uses and other compatible uses. These uses tend to produce less noise, air, land, and water pollution than commercial and industrial uses, which typically manufacture goods, produce by-products, and generate more vehicle traffic.

**Findings:**

- There are not federal- or state-registered environmental quality sites within the URA boundary recommendation and proposed UGB amendment and annexation area.
- The amendment and annexation area is needed and planned for residential and related uses, which tend to have fewer adverse air, water, and land quality impacts than commercial or industrial uses.

**Conclusion:** Jefferson County and the City of Madras have complied with State requirements for air, water and land resources per Statewide Land Use Planning Goal 6.

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<sup>1</sup> Air quality management areas, hazardous waste sites, and environmental cleanup sites can be searched on the U.S EPA's and ODEQ's websites at: <http://www.deq.state.or.us/aq/planning/index.htm>, <http://www.epa.gov/superfund/sites/siteinfo.htm>, and <http://www.deq.state.or.us/lq/ecsi/ecsi.htm>.

**Goal 7: Areas Subject to Natural Hazards**

*To protect people and property from natural hazards.*

**Response:** Primary potential natural hazards in Madras include steep slopes, floodway and floodplain, and wildfire. Statewide Goal 7 is reinforced in Madras Comprehensive Plan policies (Goal 14) by requiring protection from natural hazards be demonstrated for proposed UGB amendments.

*J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

*7. Evidence that development in areas subject to natural hazards are protected from these hazards;*

There are not steep slopes (slopes greater than 25%), floodway, or floodplain in the proposed UGB expansion area. In fact, the proposed amendment and annexation are driven, in part, by the need to provide a school that is outside the floodway and floodplain of Willow Creek and its tributaries.

Fire protection service for the proposal area is currently provided by Jefferson County Fire Protection District #1, and will continue to be provided by that district if the land is annexed to the city. Area in the district is subject to a Community Wildfire Protection Plan (CWPP) that Jefferson County completed in 2005 in collaboration with the fire district and federal agencies.

**Findings:**

- There are not steep slopes (slopes greater than 25%), floodway, or floodplain in the proposed UGB expansion and annexation area.
- Jefferson County Fire Protection District #1 provides fire protection service to the proposed amendment and annexation area. The area is subject to the Community Wildfire Protection Plan (CWPP) developed and adopted by the County, the fire district, and federal agencies.

**Conclusion:** Jefferson County and the City of Madras have complied with State requirements for areas subject to natural hazards per Statewide Land Use Planning Goal 7.

**Goal 10: Housing**

*To encourage the availability of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density.*

**Response:** This proposal provides land for housing and compatible public and semi-public uses. The *Madras Urbanization Study Addendum* (August 2007) shows that there is a shortage of land zoned R-2 (Multi-Family Residential) and R-1 (Single Family Residential) inside the

existing UGB in the next 20 years, in addition to roughly 350 acres of residentially zoned land needed for public and semi-public uses (Table 5-2).

The proposed annexation to the Madras UGB and city limits addresses this need by including 36.91 acres of land from the URA for residential and public/semi-public uses. It is proposed that the east site be re-zoned from County RL (Range Land) zoning to City R-2 (Multi-Family Residential) zoning. It is anticipated that this land will be used for a combination of housing and a school. The need for a new elementary school in Madras is established in the Jefferson County School District 509-J 2009 Long Range Facility Plan (Appendix C).

These proposed amendments are not part of a periodic review work program and the next periodic review process will ensure that the UGB does include enough land to meet all the land needs that are projected for the next 20 years as shown in Table 5-2.

**Findings:**

- The *Madras Urbanization Study* and *Addendum* found a need for about 22 acres of land zoned R-2 and 53 acres of land zoned R-1 outside the existing UGB in the next 20 years.
- The urbanization studies as well as the 2009 Long Range Facility Plan indicate the need for public uses on residentially zoned land, specifically one new elementary school in Madras. The proposed UGB amendment provides 36 acres for residential and public/semi-public uses. A majority of this land – 20 acres – is being made more readily available for development of these uses by proposing its annexation to the Madras UGB and city limits.
- The remainder of land needs determined by the urbanization studies will be addressed during the next City of Madras periodic review.

**Conclusion:** Jefferson County and the City of Madras have complied with State requirements for housing per Statewide Land Use Planning Goal 10.

**Goal 11 Public Facilities and Services**

*To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.*

**Goal Requirements**

**Urban Facilities and Services** – Refers to key facilities and to appropriate types and levels of at least the following: police protection; sanitary facilities; storm drainage facilities; planning, zoning and subdivision control; health services; recreation facilities and services; energy and communication services; and community governmental services.



## **A. Goal 11 Planning Guidelines**

*5. A public facility or service should not be provided in an urbanizable area unless there is provision for the coordinated development of all the other urban facilities and services appropriate to that area.*

**Response:** According to terms of the UGAMA between Jefferson County and the City of Madras, the City will be the primary service provider for land within its UGB, in particular coordinating police, sewer, stormwater, land use, recreation, energy, and governmental services. City urbanization regulations amended with the adoption of the Madras URA require either a Master Planned Community (MPC) plan or Area Master Plan (AMP) for UGB amendments in Madras for areas over five acres (Madras Comprehensive Plan Policy 14I). Both MPC plans and AMPs must show “appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas” and how proposed land uses will integrate with existing development.

Transportation facilities are addressed in more detail in the response and findings for Statewide Goal 12 next in this report.

The adopted Yarrow Master Plan applies to the east site, land proposed for annexation both to the Madras UGB and city limits. It is also proposed that the east site be re-zoned to R-2 upon annexation so that it can provide land for uses such as a school and urban levels of housing. These uses are similar to and compatible with surrounding development. The east site is tangent to the existing UGB and is bordered by Ashwood Road, a County collector road, which lends itself to the extension of services from inside the existing UGB and city limits. **SERVICE PROVIDER LETTERS**

**How do existing water and sewer plans fold in? Updates needed?**

Pursuant to Madras Comprehensive Plan Urbanization Policy 14I: “An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas.” It is proposed to annex the west site to the Madras UGB and city limits. While it is also proposed that the site retain its existing County Range Land (RL) zoning until the owners are ready to propose development, the site is surrounded by land designated for residential and related uses, and its future designation must allow for residential and compatible public/semi-public uses in order to show that land uses on the west site can be: “integrated with the existing urban development pattern.” (Madras Comprehensive Plan Urbanization Policy 14I(2)) Further, the proposed addition of a table showing Madras and County zones that correspond with Madras land use designations to the Madras Comprehensive Plan Section IV, Land Use Element (Table 3-1), will facilitate the transition of existing County zoning for the west site to appropriate City zoning.

The west site is comprised of three lots – Lots 101 and 200 that total 16.22 acres and are privately owned and Lot 102 that is 0.69 acres designated for County right-of-way. Lots 101 and 200 are both adjacent to Ashwood Road, a County collector, and will not require

additional public roads for sufficient internal or local circulation. At the time of proposed development, proposed land division or planned development plans must show an internal circulation system that satisfies City code requirements and street standards. The west site is adjacent to the existing Madras UGB and is bordered by Ashwood Road, which lends itself to the extension of services from inside the existing UGB and city limits.

#### **SERVICE PROVIDER LETTERS**

**How do existing water and sewer plans fold in? Updates needed?**

The County has not identified historic, scenic, or natural resources on the west site. City open space requirements for subdivisions or planned developments will apply to the site at the time of proposed development.

This application also proposes to adopt the Jefferson County School District 509-J 2009 Long Range Facility Plan as an element of the Jefferson County and City of Madras Comprehensive Plans, pursuant to ORS 195.110(2)(a). The Jefferson County School District 509-J Board adopted it on **DATE**. The plan (Appendix C) establishes school facility needs over the next 10-20 years and will facilitate coordination with financing opportunities and the provision of other public facilities and services. The 20-acre east site is the subject of an agreement between the City of Madras and the District (Appendix D). Upon annexation, re-zoning, and transfer of the land to the District, the land will be available to meet projected school facility needs, such as the need for rebuilding Westside Elementary School and/or Madras Elementary School on a new site in Madras. With Jefferson County Middle School and Madras High School nearby, the east and west sites will be adequately provided with school services.

Finally both MPC plans and AMPs must have documented approval from a majority of landowners pursuant to Madras Comprehensive Plan **Policy 14I(3)**.

**Documented consent of landowners?**

#### **B. Goal 11 Implementation Guidelines**

*5. Additional methods and devices for achieving desired types and levels of public facilities and services should include but not be limited to the following: (1) tax incentives and disincentives; (2) land use controls and ordinances; (3) multiple use and joint development practices; (4) fee and less-than-fee acquisition techniques; and (5) enforcement of local health and safety codes.*

**Response:** The proposed land use designations and zoning for the annexation area – the east site and the west site – is appropriate for the type and level of public facilities and services that can be extended to the area. It is proposed to bring the west site into the Madras UGB and city limits but to retain its existing County Range Land (RL) zoning until landowners are ready to propose development. The site is surrounded by land planned for or developed as predominantly residential development. Given that the site will have little or no development for at least the short-term and its location adjacent to the existing Madras UGB and Ashwood Road, the site will not need many facilities or services for a while and is well situated for extension of facilities and services when they are needed. The proposed addition of a land use and zoning designation table to Section IV (Land Use Element) of the



Madras Comprehensive Plan (Table 3-1) establishes the City and County zoning designations that correspond to City land use designations, and will guide the transition from County zoning to appropriate City zoning once a land use action is proposed.

It is proposed that the east site be re-zoned to R-2 upon annexation so that it can provide land for uses such as a school and urban levels of housing. These uses are similar to and compatible with surrounding development. The east site is tangent to the existing UGB and is bordered by Ashwood Road, a County collector road, which lends itself to the extension of services from inside the existing UGB and city limits.

**SERVICE PROVIDER LETTERS, any changes to master plans?**

The site is part of the approved Yarrow Master Plan, a plan that overall features mostly a mixture of housing and then an internal circulation system, open space, public uses (including a school), and a small-scale commercial area to serve the residential uses.

**Funding for public facility improvements?**

**Findings:**

- The text amendment adopting the Jefferson County School District 509-J Long Range Facility Plan as an implementing element of the Madras Comprehensive Plan addresses goal requirements for coordinating land use planning with school districts and other urban service providers.
- The Jefferson County School District 509-J 2009 Long Range Facility Plan meets statutory requirements (ORS 195.110) and provides an updated capital improvement and financing plan for school district facilities in Madras.
- Implementation of public facilities and services in Madras is primarily regulated by land use plans and ordinances and public facility master plans, which are elements of the City Comprehensive Plan.
- The City of Madras will be the primary provider of urban facilities and services in the proposed UGB amendment and annexation area. The City will be able to coordinate service to the area with facilities and services already provided to adjacent land within the existing UGB.
- The approved Yarrow Master Plan applies to the proposal area and shows an internal transportation network and sites for housing and a school.
- **Updates to water and sewer plans or service provider letters saying existing infrastructure and plans sufficient?**
- **Funding for public facility improvements?**

**Conclusion:** The proposal complies with Goal 11 for public facilities and services subject to OAR 660, Division 11.

**Goal 12 Transportation - OAR 660-015-0060(12)**

*To provide and encourage a safe, convenient and economic transportation system.*

**660-012-0060**

### **Plan and Land Use Regulation Amendments**

(1) *Where an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation would significantly affect an existing or planned transportation facility, the local government shall put in place measures as provided in section (2) of this rule to assure that allowed land uses are consistent with the identified function, capacity, and performance standards (e.g. level of service, volume to capacity ratio, etc.) of the facility. A plan or land use regulation amendment significantly affects a transportation facility if it would:*

*(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);*

*(b) Change standards implementing a functional classification system; or*

*(c) As measured at the end of the planning period identified in the adopted transportation system plan:*

*(A) Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;*

*(B) Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan; or*

*(C) Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.*

(2) *Where a local government determines that there would be a significant effect, compliance with section (1) shall be accomplished through one or a combination of the following:*

*(a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.*

*(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.*

*(c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.*

*(d) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.*

*(e) Providing other measures as a condition of development or through a development agreement or similar funding method, including transportation system management measures, demand management or minor transportation improvements. Local governments shall as part of the amendment specify when measures or improvements provided pursuant to this subsection will be provided.*

**Response:** Reflecting Statewide Goal 12 and the Transportation Planning Rule, UGB amendment applications must provide the following pursuant to Madras Goal 14 policies:

4. *Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet*

transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need; (Madras Comprehensive Plan Policy 14J)

City R-2 (Multi-Family Residential) zoning is proposed for the east site of the UGB amendment and annexation area. The zone allows multi-family and single-family housing outright and then allows associated uses such as schools, libraries, and community centers conditionally. The minimum lot size for single-family housing is 7,500 square feet and for multi-family 10,000 square feet for the first two units and 2,000 square feet per each additional unit.

The east site is adjacent to Ashwood Road, an existing road built to County standards as a collector road.

More description of the surrounding system, from the analysis (Appendix F)

The transportation analysis for the annexation and re-zoning of the east site was based on assumptions of a combination of multi-family housing and a school. A mixture of housing and a school is anticipated for the proposed UGB amendment and annexation area. Specifically, the analysis assumed [describe assumptions].

Findings of transportation analysis (Appendix F)

#### Findings:

- Transportation analysis for the proposed UGB amendment and annexation area assumed that the area would be developed with [amount of] housing and a [specify type or size] school.
- Transportation analysis showed that [analysis findings]. The proposal does not change functional classifications of any roadways and nor the standards that apply to them. It complies with mobility standards established in IDENTIFY DOCUMENTS for IDENTIFY ROADS. Therefore, the proposed UGB amendment and annexation was found to have no significant effect on the surrounding transportation system.

**Conclusion:** The proposed Comprehensive Plan and Map amendment complies with Goal 12 and OAR 660-015-0060(12).

#### **Goal 13 Energy Conservation**

*To conserve energy.*

**Response:** The east site of the UGB amendment and annexation area is part of the Yarrow Master Plan area. The master plan includes a range of land uses so that residents can meet many daily needs within the neighborhood. The plan designates land predominantly for housing, but for parks and open space, a school, other community services, and commercial services as well. This mix of uses will provide for these daily needs and reduce the need to drive outside the neighborhood to access these uses. The subject of this application is part of that plan area- a 20-acre site for housing and a school.



The Yarrow Community Master Plan also includes [amount] miles of sidewalks and [amount] miles of multi-use paths. This supports the use of non-motorized transportation and the conservation of fuel resources. This proposed UGB amendment and annexation does not provide all of the land needed to implement the master plan but provides part of it.

The west site is not part of the Yarrow Master Plan but will be subject to internal circulation and multi-modal standards when a land division or planned unit development is proposed. Like the east site, the west site is adjacent to Ashwood Road.

The JCSD 509-J Facility Plan includes location policies that call for siting elementary school facilities in residentially zoned areas to promote walking to school within urban neighborhoods. This policy is included to reduce the need for bussing in urban areas.

While water service was projected to be of similar cost to provide to all the study areas that comprise the Madras URA, there were differences in relative cost for providing sewer service given the need for pumping in some of the study areas. The proposed UGB amendment and annexation area is part of a study area and a drainage area where no pumping or limited pumping would be required for sewer service. This minimizes the amount of energy needed to provide that service.

Last, the City of Madras has adopted energy conservation standards for building. Or is it Yarrow? Describe.

**Findings:**

- The approved Yarrow Master Plan that applies to the east site of the proposed UGB amendment and annexation area proposes a variety of uses that will allow residents to take care of day-to-day needs without always having to drive out of the neighborhood to do so. The plan also indicates multi-use paths and a continuous network of sidewalks to promote walking and bicycling. This supports fuel and energy conservation.
- Providing sewer service to the proposal area requires less pumping and, therefore, infrastructure, energy, and cost than other parts of the URA and other areas around the existing UGB.
- Local energy conservation (building) standards

**Conclusion:** The proposed UGB amendment and annexation complies with State requirements for energy conservation per Statewide Land Use Planning Goal 13.

**Goal 14 Urbanization**

*To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.*

*(2) Orderly and economic provision of public facilities and services;*



**Response:** Transportation, water, and sewer services are among the critical public facilities that must be provided for the proposed UGB amendment area. Also discussed in the narrative and findings for Goals 11 and 12, these services can be provided to the UGB amendment area according to existing facility plans [no updates needed?] and [transportation improvements required of developers?].

#### **Transportation – transportation analysis findings**

**Water** – During the development of the Madras URA, Deschutes Valley Water District (DVWD) reported that there would be no supply constraint for urban development in the URA. Significant expansion of the District’s distribution system would be necessary to serve urban demand in each part of the URA, and the water service study found that the marginal cost differences between the URA study areas were insignificant. Updated or existing plan can service the UGB amendment area?

**Sewer** – Public facility analysis conducted in developing the Madras URA showed that sewer service to the eastern study areas in the URA would be more cost-efficient because no pumping or limited pumping would be required as compared to areas to the north, south, and west. For the proposed UGB amendment and in particular, updates to the/the existing Madras Sanitary Sewer Service Master Plan have capacity to provide sewer service to the annexation area.

Schools are also another important public facility and service, and the Jefferson County School District 509-J 2009 Long Range Facility Plan determines the need for a new elementary school in Madras over the next 10-20 years. The Yarrow Master Plan that applies to the east site of the proposal area identifies land for schools. The proposed UGB amendment and annexation area of 20 acres will provide land that can accommodate a school and housing.

#### **Findings:**

- Water service can be provided to the proposal area using the existing and planned water facilities that are identified in the Deschutes Valley Irrigation District’s water master plan. Providing water service was not found to be significantly different in cost between different parts of the URA in studies done in developing the Madras URA.
- Sewer service can be provided to the proposal area using the existing sewer master plan. Studies did find, however, that drainage areas in the eastern and southeastern parts of the URA were easier to serve in that they needed no pumping or minimal pumping of sewage when compared to other parts of the URA.
- General transportation analysis findings
- The proposal provides land for a school site, and need for potentially one or two new elementary school sites in Madras was found in the Jefferson County School 509-J 2009 Long Range Facility Plan (Appendix C). The City owns the land being proposed for UGB expansion and annexation, and has an agreement with the

District to exchange the land with the District once it is annexed into the UGB and city limits and re-zoned (Appendix D). The site can serve as a replacement site for Madras or Westside Elementary School.

**Conclusion:** The proposal complies with State requirements for urbanization and orderly and economic provision of public facilities and services per Statewide Land Use Planning Goal 14.

## VI. Conformance with Oregon Revised Statutes (ORSs)

### ORS 195

**195.110 School facility plan for large school districts.** (1) *As used in this section, "large school district" means a school district that has an enrollment of over 2,500 students based on certified enrollment numbers submitted to the Department of Education during the first quarter of each new school year.*

(2) *A city or county containing a large school district shall:*

(a) *Include as an element of its comprehensive plan a school facility plan prepared by the district in consultation with the affected city or county.*

(b) *Initiate planning activities with a school district to accomplish planning as required under ORS 195.020.*

**Response:** Jefferson County School District 509-J registered 2,985 students enrolled in the 2008-2009 school year and, thus, qualifies as a "large school district" pursuant to ORS 195.110. This application proposes that the Jefferson County School District 509-J 2009 Long Range Facility Plan (Appendix C) be adopted as an element in the Jefferson County and City of Madras Comprehensive Plans. The City of Madras has coordinated with the District in developing the plan.

(3) *The provisions of subsection (2)(a) of this section do not apply to a city or a county that contains less than 10 percent of the total population of the large school district.*

(4) *The large school district shall select a representative to meet and confer with a representative of the city or county, as described in subsection (2)(b) of this section, to accomplish the planning required by ORS 195.020 and shall notify the city or county of the selected representative. The city or county shall provide the facilities and set the time for the planning activities. The representatives shall meet at least twice each year, unless all representatives agree in writing to another schedule, and make a written summary of issues discussed and proposed actions.*

**Response:** Jefferson County and the City of Madras are the jurisdictions in which most of the students in Jefferson County School District 509-J live. The District has met with the City at least twice this year in developing the facility plan, and the District and City have both worked with a consultant firm – Angelo Planning Group – to prepare the plan. The firm has worked on other school district facility plans in the state.

(5)(a) *The school facility plan must cover a period of at least 10 years and must include, but need not be limited to, the following elements:*

(A) *Population projections by school age group.*

(B) *Identification by the city or county and by the large school district of desirable school sites.*

(C) *Descriptions of physical improvements needed in existing schools to meet the minimum standards of the large school district.*

(D) *Financial plans to meet school facility needs, including an analysis of available tools to ensure facility needs are met.*

(E) *An analysis of:*

(i) *The alternatives to new school construction and major renovation; and*

(ii) Measures to increase the efficient use of school sites including, but not limited to, multiple-story buildings and multipurpose use of sites.

(F) Ten-year capital improvement plans.

(G) Site acquisition schedules and programs.

(b) Based on the elements described in paragraph (a) of this subsection and applicable laws and rules, the school facility plan must also include an analysis of the land required for the 10-year period covered by the plan that is suitable, as a permitted or conditional use, for school facilities inside the urban growth boundary.

**Response:** The Jefferson County School District 509-J 2009 Long Range Facility Plan features forecasts that extend to 2040 and programs for financing, acquisition, and capital improvement that cover a 10-year period. The plan (Appendix C) includes the required elements as follows:

- Chapter 3 – Enrollment forecasts
- Chapter 4 – Existing facility conditions and needed facility improvements
- Chapter 5 – Analysis of needed improvements, additional capacity, and potential school sites
- [REFERENCE when plan complete/updated] – 10-year financing, acquisition, and capital improvement programs.

The analysis of additional capacity considers the re-use and expansion of existing facilities. Ultimately, the plan does recommend re-building Warm Springs Elementary School on site and building a new elementary school in Madras (Chapter 6 – Recommendations). The locational analysis in Chapter 5 looks first at sites within the UGB, using the following criteria.

- Land use – unimproved land, except for parks and open space, or land with improvements valued <\$50,000.
- Size – at least 7 acres
- Environmental hazards/buildability – at least 5 acres flat (slopes <5%), at least 2.5 flat acres outside the floodplain.
- Zoning – not zoned for industrial use.
- Serviceability – not in areas with constrained sewers.
- Geographic distribution – not fully within a half mile of an existing elementary school.
- Traffic safety – not on a highway or arterial.
- Availability – not committed to another use, built or in the planning process.

Eight sites in the UGB were evaluated using these criteria and, while most of the sites performed well on some to most of the criteria, none of them met all of the criteria. In particular, the sites would not be easily served with sewer and transportation or, in the case of sites 7 and 8, they are not necessarily close to existing or planned residential neighborhoods and students.

*(6) If a large school district determines that there is an inadequate supply of suitable land for school facilities for the 10-year period covered by the school facility plan, the city*



*or county, or both, and the large school district shall cooperate in identifying land for school facilities and take necessary actions, including, but not limited to, adopting appropriate zoning, aggregating existing lots or parcels in separate ownership, adding one or more sites designated for school facilities to an urban growth boundary, or petitioning a metropolitan service district to add one or more sites designated for school facilities to an urban growth boundary pursuant to applicable law.*

**Response:** The eight sites in the UGB were evaluated using the criteria from the response above and none of them met all of the criteria, particularly serviceability criteria. Because issues such as zoning and parcel aggregation were not the reasons that the evaluation sites within the UGB failed to meet criteria, the District and City added the proposal area – a City-owned site outside and adjacent to the UGB – to the evaluation. It met the criteria.

The site is located within the Madras URA and complies with regulations for including land in the UGB, pursuant to ORS 197.298, which is addressed next in this report.

*(9)(a) In the school facility plan, the district school board of a large school district may adopt objective criteria to be used by an affected city or county to determine whether adequate capacity exists to accommodate projected development. Before the adoption of the criteria, the large school district shall confer with the affected cities and counties and agree, to the extent possible, on the appropriate criteria. After a large school district formally adopts criteria for the capacity of school facilities, an affected city or county shall accept those criteria as its own for purposes of evaluating applications for a comprehensive plan amendment or for a residential land use regulation amendment.*

*(b) A city or county shall provide notice to an affected large school district when considering a plan or land use regulation amendment that significantly impacts school capacity. If the large school district requests, the city or county shall implement a coordinated process with the district to identify potential school sites and facilities to address the projected impacts.*

*(11) The capacity of a school facility is not the basis for a development moratorium under ORS 197.505 to 197.540.*

*(12) This section does not confer any power to a school district to declare a building moratorium.*

*(13) A city or county may deny an application for residential development based on a lack of school capacity if:*

*(a) The issue is raised by the school district;*

*(b) The lack of school capacity is based on a school facility plan formally adopted under this section; and*

*(c) The city or county has considered options to address school capacity. [1993 c.550 §2; 1995 c.508 §1; 2001 c.876 §1; 2007 c.579 §1]*

**Response:** The facility plan establishes calculations for capacity in Chapter 4.

**INSERT/SUMMARIZE HERE IF DETERMINED**

When the Board approved and adopted the facility plan in January 2010, this included these capacity formulas. The County and City understand that these formulas must be used in

evaluating future amendments to comprehensive plans and land use regulations, and may be used in denying a residential development application but not in instituting a development moratorium.

#### **Findings:**

- Jefferson County School District 509-J is required to prepare a facility plan, and it has coordinated with the City of Madras in developing its 2009 Long Range Facility Plan (Appendix C). The plan was approved and adopted by the Jefferson County School District 509-J Board on **DATE**.
- Jefferson County and the City of Madras must adopt the facility plan as an element of their comprehensive plans and that has driven this proposal for an amendment to their comprehensive plans.
- The facility plan uses at least a 10-year horizon in projecting enrollment, estimating future facility needs, evaluating ways of addressing these needs, and preparing financing, acquisition, and capital improvement programs.
- The 2009 Long Range Facility Plan evaluated eight sites in the UGB using land use, site size, zoning, buildability, serviceability, geographic distribution, and traffic safety criteria in order to address land needed beyond existing facility sites. The sites were either difficult to serve with sewer or roads, or were not located near existing or planned residential neighborhoods.
- The plan evaluated one site in the Madras URA, adjacent to the existing UGB, that the City owns. The site met the land use, site size, zoning, buildability, serviceability, geographic distribution, and traffic safety criteria.
- **The adopted facility plan includes capacity criteria that the County and City must use in reviewing land use plan and regulation amendments.**

**Conclusion:** The proposal complies with State school district facility planning requirements in ORS 195.110.

#### **ORS 197**

**197.298 Priority of land to be included within urban growth boundary. (1) In addition to any requirements established by rule addressing urbanization, land may not be included within an urban growth boundary except under the following priorities:**

*(a) First priority is land that is designated urban reserve land under ORS 195.145, rule or metropolitan service district action plan.*

*(b) If land under paragraph (a) of this subsection is inadequate to accommodate the amount of land needed, second priority is land adjacent to an urban growth boundary that is identified in an acknowledged comprehensive plan as an exception area or nonresource land. Second priority may include resource land that is completely surrounded by exception areas unless such resource land is high-value farmland as described in ORS 215.710.*

*(c) If land under paragraphs (a) and (b) of this subsection is inadequate to accommodate the amount of land needed, third priority is land designated as marginal land pursuant to ORS 197.247 (1991 Edition).*

*(d) If land under paragraphs (a) to (c) of this subsection is inadequate to*



accommodate the amount of land needed, fourth priority is land designated in an acknowledged comprehensive plan for agriculture or forestry, or both.

(2) Higher priority shall be given to land of lower capability as measured by the capability classification system or by cubic foot site class, whichever is appropriate for the current use.

(3) Land of lower priority under subsection (1) of this section may be included in an urban growth boundary if land of higher priority is found to be inadequate to accommodate the amount of land estimated in subsection (1) of this section for one or more of the following reasons:

(a) Specific types of identified land needs cannot be reasonably accommodated on higher priority lands;

(b) Future urban services could not reasonably be provided to the higher priority lands due to topographical or other physical constraints; or

(c) Maximum efficiency of land uses within a proposed urban growth boundary requires inclusion of lower priority lands in order to include or to provide services to higher priority lands. [1995 c.547 §5; 1999 c.59 §56]

**Response:** The proposed UGB amendment and annexation area is solely comprised of land from the Madras URA, which is the first priority of land to be included within the UGB pursuant to ORS 197.298(1)(a). There is sufficient land in the Madras URA to provide for the land needs estimated for the next 20 years in the *Madras Urbanization Study Addendum* (ECONorthwest, August 2007) and presented below.

The proposed UGB amendment and annexation provides land to meet a portion of the need for residentially zoned land over the next roughly 20 years (Table 6-1). The City's next periodic review process will ensure that the Madras UGB includes enough land to meet the remaining land needs projected to 2027.

**Table 6-1: Housing Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Plan Designation	Land Demand		Supply 2007	Surplus (deficit)	
	2007-2027	2007-2057		2007-2027	2007-2057
<b>Residential</b>					
R-1	451.9	1,355.7	398.1	(53.8)	(957.6)
R-2	46.1	138.2	23.5	(22.5)	(114.6)
R-3	148.0	444.0	242.8	94.8	(201.2)
RR5	0.0	0.0	32.7	32.7	32.7
RR10	0.0	0.0	47.5	47.5	47.5
RL	0.0	0.0	38.7	38.7	38.7
Public/Semi-public uses on res land	358.3	770.7	0.0	(358.3)	(770.7)
<b>Subtotal (Residential)</b>	<b>1,004.2</b>	<b>2,708.6</b>	<b>783.3</b>	<b>(220.9)</b>	<b>(1,925.3)</b>
<b>Commercial (Retail &amp; Services)</b>					
C-1	230.6	758.1	80.2	(150.4)	(677.9)
NC	28.6	90.4	4.9	(23.7)	(85.4)
CC	0	0	32.6	32.6	32.6
<b>Subtotal Commercial</b>	<b>259.2</b>	<b>848.5</b>	<b>117.7</b>	<b>(141.5)</b>	<b>(730.8)</b>
<b>Industrial</b>					
I	251.4	749.9	296.9	45.5	(452.9)
Notes: all public and semi-public land needs were allocated to residential zones					

**197.610 Local government notice of proposed amendment or new regulation; exceptions; report to commission.** (1) A proposal to amend a local government acknowledged comprehensive plan or land use regulation or to adopt a new land use regulation shall be forwarded to the Director of the Department of Land Conservation and Development at least 45 days before the first evidentiary hearing on adoption. The proposal forwarded shall contain the text and any supplemental information that the local government believes is necessary to inform the director as to the effect of the proposal. The notice shall include the date set for the first evidentiary hearing. The director shall notify persons who have requested notice that the proposal is pending.

(2) When a local government determines that the goals do not apply to a particular proposed amendment or new regulation, notice under subsection (1) of this section is not required. In addition, a local government may submit an amendment or new regulation with less than 45 days' notice if the local government determines that there are emergency circumstances requiring expedited review. In both cases:

(a) The amendment or new regulation shall be submitted after adoption as provided in ORS 197.615 (1) and (2); and

(b) Notwithstanding the requirements of ORS 197.830 (2), the director or any other person may appeal the decision to the board under ORS 197.830 to 197.845.

(3) When the Department of Land Conservation and Development participates in a local government proceeding, at least 15 days before the final hearing on the proposed amendment to the comprehensive plan or land use regulation or the new land use regulation, the department shall notify the local government of:

(a) Any concerns the department has concerning the proposal; and

(b) Advisory recommendations on actions the department considers necessary to address the concerns, including, but not limited to, suggested corrections to achieve compliance with the goals.

(4) The director shall report to the Land Conservation and Development Commission on whether the director:

(a) Believes the local government's proposal violates the goals; and

(b) Is participating in the local government proceeding. [1981 c.748 §4; 1983 c.827 §7; 1985 c.565 §27; 1989 c.761 §20; 1999 c.622 §1]

**Response:** Notice of the proposed amendments to the Jefferson County and City of Madras Comprehensive Plan, Comprehensive Plan Maps, and Zoning Maps was sent to the Department of Land Conservation and Development (DLCD) at least 45 days before the first evidentiary hearing on the proposal. Notice was sent to DLCD on December 14, 2009 before the first advisory hearing before the Jefferson County and City of Madras Planning Commissions on February 3, 2010. Further hearing dates have yet to be determined but it is expected that DLCD will provide appropriate comment on the proposal at least 15 days prior to the final adoption hearing date.

DLCD comments/application revisions, once received

**197.626 Expanding urban growth boundary or designating urban or rural reserves subject to periodic review.** A metropolitan service district that amends its urban growth boundary to include more than 100 acres, or that amends the district's regional framework plan or land use regulations implementing the plan to establish urban reserves designated under ORS 195.145 (1)(b), a city with a population of 2,500

*or more within its urban growth boundary that amends the urban growth boundary to include more than 50 acres or that designates urban reserve under ORS 195.145, or a county that amends the county's comprehensive plan or land use regulations implementing the plan to establish rural reserves designated under ORS 195.141, shall submit the amendment or designation to the Land Conservation and Development Commission in the manner provided for periodic review under ORS 197.628 to 197.650. [1999 c.622 §14; 2001 c.672 §10; 2003 c.793 §4; 2007 c.723 §7]*

**Response:** The City of Madras is coordinating with Jefferson County regarding the proposed amendments to their Comprehensive Plans, Comprehensive Plan Maps, and Zoning Maps. Adoption of the UGB amendment involves amendments to the City and County Comprehensive Plans that are post-acknowledgement plan amendments. However, the adoption process for the amendments will follow periodic review procedures pursuant to ORS 197. As part of periodic review procedures, the proposed amendments are subject to review by DLCD and approval by LCDC. DLCD and LCDC will conduct their review process upon adoption of the proposed amendments by the Madras City Council and Jefferson County Board of Commissioners.

**Findings:**

- The proposed UGB amendment and annexation area is entirely comprised of land from the Madras URA, the first priority of land to be included in the UGB pursuant to ORS 197.298(1)(a).
- There are 36.91 acres in the proposed UGB amendment and annexation. This meets some of the estimated need for residentially zoned land outside the existing UGB projected to 2027 by urbanization studies. The proposed R-2 zoning for the 20-acre parcel (east site) allows housing and public/semi-public uses such as parks and schools. Other land needs for the next 20 years will be addressed during the next periodic review cycle.
- Notice of the first advisory hearing on February 3, 2010 was sent to DLCD on December 14, 2009, more than 45 days before the advisory and evidentiary hearings.
- The City of Madras and Jefferson County are coordinating this proposed set of amendments.
- This proposal is a post-acknowledgement plan amendment (PAPA) but will follow procedures for periodic review. DLCD review and LCDC approval of the amendment will be necessary for the proposal if it is adopted by both the Madras City Council and Jefferson County Board of Commissioners.

**Conclusion:** The proposed amendments to the City and County Comprehensive Plans, Comprehensive Plan Maps, and Zoning Maps comply with applicable State requirements for urban reserve area planning, plan amendments, and UGB amendments pursuant to ORS 197.



## VII. Conformance with the Urban Growth Area Management Agreement (UGAMA)

### 4. UGA ADMINISTRATION RESPONSIBILITIES

- 4.1. *The City shall have responsibility for administration and decision making authority regarding all land use application within the UGB except applications for amendments to the UGB, as provided in Section 6.*
- 4.2. *The City shall have responsibility for annexation of land in the UGB. Lands outside the UGA shall not be annexed unless the UGB is also amended to include the territory to be annexed.*

### 6. PROCESS FOR URBAN GROWTH BOUNDARY AMENDMENTS

- 1.1 *Amendments to the UGB, including amendments to the City's and County's comprehensive plan maps, may be initiated by the City, the County, or a property owner(s).*
- 1.2 *An application to amend the UGB shall be filed with the City Community Development Department along with the applicable City and County plan amendment fees. The City shall forward a copy of the application to the County Community Development Department, together with the County's plan amendment fee, within five working days of the date the application is filed.*
- 1.3 *The City and County Planning Commission shall each conduct a public hearing regarding the application. At their discretion, the Planning Commissions may hold a joint hearing rather than separate hearings.*
- 1.4 *The recommendation of the City and County Planning Commissions shall be forwarded to City Council, who shall hold a public hearing to consider the proposed amendment to the UGB. The decision of the City Council shall be forwarded to the County Board of Commissioners.*
- 1.5 *The Board of Commissioners shall conduct a public hearing and make a final decision on whether the UGB should be amended.*
- 1.6 *If the City and County disagree on the proposed amendments, a joint hearing of the City Council and Board of County Commissioners may be held to attempt to resolve the differences. Both jurisdictions may also request a dispute resolution process to resolve the differences.*
- 1.7 *If the governing bodies are not able to come to mutual agreement there shall be no change to the UGB.*

**Response:** The Urban Growth Area Management Agreement (UGAMA) (Appendix G) was adopted by the City of Madras and Jefferson County on April 5, 2006. Pursuant to UGAMA terms for UGB amendments, the City is an eligible applicant for a UGB amendment application (Section 6.1). The UGB amendment application and appropriate fees were forwarded to the Jefferson County Community Development Department within five working days of being initially filed (Section 6.2).

Hearings by the Madras Planning Commission and Jefferson County Planning Commission were first held jointly on February 3, 2010 and then separately on **DATE** and **DATE**

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respectively. **OTHER PC HEARINGS?** The Madras City Council will review the City Planning Commission's recommendation at a hearing on **DATE**, and will forward its decision to the County Board of Commissioners for a hearing on **DATE** (Sections 6.3-6.5). **OTHER LEGISLATIVE HEARINGS?**

It is proposed to annex both the east site and west site to the Madras UGB and city limits, and it is proposed to re-zone only the east site at this time. Regardless, if both sites are brought into the UGB and city limits, Madras will assume land use administration and decision making authority for the sites pursuant to Section 4.1 of the UGAMA.

**Conclusion:** The proposed amendments to the City and County Comprehensive Plans, Comprehensive Plan Maps, and Zoning Maps comply with applicable local requirements for UGB amendments per the UGAMA between Jefferson County and the City of Madras, adopted April 5, 2006.



## VIII. Conformance with the City of Madras Comprehensive Plan

**Note: the highlighting in the policy text below indicates text that may not have been adopted by the City**

**GOAL 14** - *To provide for an orderly and efficient transition from rural to urban land, and to provide for livable communities.*

*[Paragraph amended by Ordinance No. 781, Passed by Council on December 12, 2006]*

### POLICIES

A. *The City, in cooperation with Jefferson County, shall establish an Urban Growth Boundary.*

B. *The City, in cooperation with Jefferson County, shall mutually agree to a management plan for the Urban Growth Boundary area.*

C. *The City, in cooperation with Jefferson County, shall establish an Urban Growth Boundary revision process to be utilized in a proposed change of the Urban Growth Boundary.*

D. *The City, in cooperation with Jefferson County, shall support adoption of an Urban Reserve Area boundary that, when taken together with land supplies in the Urban Growth Boundary, may contain up to a 50-year supply of land for the City of Madras to support housing, economic development, public facility, recreation needs and other urban land needs.*

E. *The City, in cooperation with Jefferson County, shall give priority to land in designated urban reserve areas over other land when considering urban growth boundary amendments.*

**Response:** The Madras City Council approved the Madras URA in October 2008 and the Jefferson County Board of Commissioners in November 2008. DLCD and LCDC received the URA proposal for review in January 2009, and approved the proposal – but remanded sections of proposed County Zoning Ordinance amendments having to do with use restrictions in the URA – in July 2009. The land in the proposed UGB amendment that is the subject of this application is land entirely drawn from the Madras URA, land estimated to be needed for urbanization over the next 50 years.

F. *The City shall favor UGB amendments that involve land in locations that are suitable to address identified urban land needs in order to minimize buildable land supply shortages and address identified needs. Factors that will be considered when evaluating UGB additions include:*

1. *Existing and planned capacity of the transportation system*
2. *Existing and planned capacity of the city waste water treatment plant*
3. *Existing and planned capacity of the city sanitary sewer conveyance system*



4. Existing and planned capacity of the Deschutes Valley Water District supply system
5. Impacts on schools, parks, and public safety service providers
6. Impacts on future operating costs for public facilities and services

**Response:**

G. The City, in cooperation with Jefferson County, shall undertake an evaluation of the urban growth boundary land supply once every five years or more frequently if certified population growth rates exceed 3.2% in three consecutive years. In the event certified population growth rates fall below 3.2% for three consecutive years, the City and County may agree to postpone the evaluation of UGB land supply for up to three years.

H. During years when a comprehensive UGB land supply evaluation is not scheduled, individual applications for adding property to the UGB shall be limited to requests of less than 40 acres. UGB amendment applications must demonstrate consistency with applicable Oregon statutes and administrative rules and be accompanied by information that addresses Policy 14-J below. Applications that involve more than 5 acres also must comply with provisions of Policy 14-I.

D I. The City, in cooperation with Jefferson County, shall encourage the development of complete, livable communities that include characteristics such as: a variety of lot sizes, dwelling unit types and ownership types, open spaces and other recreational amenities, a mix of land uses, school and community facilities, connected streets, proximity to downtown and other employment centers, and development that is scaled to the pedestrian and creates a sense of place. New growth areas of more than 5 acres that are added to the UGB shall ~~should~~ be planned and developed in accordance either with a master planned community development plan approved under the city Master Planned Community Overlay zone, or an Area Master Plan. The City encourages Master Planned Communities as a means to meet city housing needs as explained in other comprehensive plan documents. It may be appropriate, however, for the city to add new growth areas to the UGB that are planned and developed in accordance with an approved Area Master Plan. A majority of property owners subject to a Master Planned Community, or to an Area Master Plan, must consent to be included in the plan.

1. A Master Planned Community (MPC) Overlay may apply to large multi-phased development projects where the master plan is intended to guide future development patterns and serves to regulate the site-development approval process. A MPC requires generous open space and amenities, and encourages efficient use of land and public facilities and services, a variety of housing types, innovative designs and complete pedestrian-friendly communities. A MPC shall demonstrate efficient use of land consistent with an identified urban land need, show appropriate locations for transportation improvements, public facilities, and the protection of significant open space, scenic, historic, and natural resource areas. A MPC must show how planned land uses will be integrated with the existing urban development pattern. Physical barriers, such as highways, tend to disrupt complete communities and livability because they disconnect areas from downtown and result in an auto-oriented environment of sprawl along highway corridors.



2. An Area Master Plan (AMP) is appropriate for land added to the UGB where the approval of future urban development is expected to rely on conventional urban zoning and the application of codified development standards and review procedures. An AMP may be prepared for contiguous properties added to the UGB that are greater than 5 acres and are not subject to a MPC overlay. An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas. An AMP must show how planned land uses will be integrated with the existing urban development pattern.
3. An approved Master Planned Community Plan or an Area Master Plan must include documentation that a majority of property owners support the conversion of land to the planned urban uses and also consent to annexation by the city of Madras using a voluntary annexation process that is outlined in the plan.

**Response:** The total area under consideration is 36.4 acres, which is less than the 40 acre maximum established for interim UGB annexation requests. The east site of the proposed UGB amendment and annexation area is part of the approved Yarrow Master Plan area. The plan designates land for predominantly residential land uses, which is compatible with adjacent development in the UGB, while also designating land for open space and park uses, community services including schools, and limited neighborhood commercial services. The conceptual plan also shows an internal transportation system that includes sidewalks and multi-use paths.

For the east site:

Connections and improvements to the surrounding transportation network – transportation analysis results

Existing water and sewer master plans are adequate to address facilities and service in the proposed UGB amendment and annexation area.

The designation for medium density Residential use is consistent with an un-met land need and identified housing need in the 2005 Urbanization Report.

Pursuant to Policy 14I: “An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas.” It is proposed to annex the west site to the Madras UGB and city limits but to retain its existing County Range Land (RL) zoning until the owners are ready to propose development. The site is surrounded by land designated for residential and related uses, and its future land use and zoning designation must allow for residential and compatible public/semi-public uses in order to show that land uses on the west site can be: “integrated with the existing urban development pattern.” (Policy 14I(2)) The proposed addition of a table showing Madras and County zones that correspond with Madras land use designations to the Madras Comprehensive Plan Section IV, Land Use Element (Table 3-1), will facilitate the transition of existing County zoning to appropriate City zoning.

The west site is comprised of three lots – Lots 101 and 200 that total 16.22 acres and are privately owned and Lot 102 that is 0.69 acres designated for County right-of-way. Lots 101

and 200 are both adjacent to Ashwood Road, a County collector, and will not require additional public roads for sufficient internal or local circulation. At the time of proposed development, proposed land division or planned development plans must show an internal circulation system that satisfies City code requirements and street standards. The west site is adjacent to the existing Madras UGB and is bordered by Ashwood Road, which eases extension of services from inside the existing UGB and city limits to the west site.

The plan map designation of medium density residential (R-2) is consistent with an un-met land need and identified housing need in the 2005 Urbanization Report.

For the west site:

#### SERVICE PROVIDER LETTERS

How do existing water and sewer plans fold in? Updates needed?

The County has not identified historic, scenic, or natural resources on the west site. City open space requirements for subdivisions or planned developments will apply to the site at the time of proposed development.

J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:

1. The proposed urban zoning or land use program for the subject properties that address an identified urban land need;
2. An annexation program for all subject properties;
3. Evidence that public facilities required by OAR 660-011-000 that are necessary to serve the expansion area can be served either by system improvements outlined in adopted public facility master plans or by supplemental improvements that augment adopted public facility master plans;
4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need;
5. Evidence that providers of other crucial public facilities (e.g. schools, parks and recreation, emergency services and health care) are able to meet the projected demand for their services;
6. Evidence that financing for constructing needed public improvements is available so that the expansion area can be developed as planned within the planning horizon;
7. Evidence that development in areas subject to natural hazards are protected from these hazards;
8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.

Response:

*Zoning and Land Use Designations (Policy J1)*



The east site is proposed to be re-zoned to a City R-2 designation. This meets some of the need for residentially zoned land outside the existing UGB that is projected for the next 15-20 years. Residentially zoned land will provide for housing and public/semi-public uses. This land need is documented in the *Madras Urbanization Study Addendum* (ECONorthwest, August 2007). (See Table 5-2)

The west site is proposed to retain its existing County Range Land (RL) designation until the time when further land use action and development is proposed. Existing zoning will allow only limited development, and appropriate future designations for the site will be City residential designations given that City open space and residential zoning currently surround the site.

#### ***Annexation Program (Policy J2)***

The City is the applicant for this proposal, and annexation program pursuant to Article 7 of its Zoning Ordinance is described later in this report.

#### ***Goal 11 Public Facilities (Policy J3) and Transportation Planning Rule (Policy J4)***

Kittelson & Associates has performed the transportation analysis needed to deem whether the proposed UGB amendment constitutes a significant effect on the transportation system. The scoping memo concluded that, of two development scenarios allowed under proposed R-2 zoning, considered to be possible according to preliminary conversations about potential uses, and estimated for “worst-case” levels of potential traffic generation, the scenario that included both an elementary school and multi-family housing was found to generate more peak hour traffic than housing alone. Using this scenario in a Transportation Planning Rule (TPR) analysis for significant effect, it was found that the increase in traffic did not constitute a significant effect on the transportation system. Existing facilities and facilities identified in the Jefferson County and City of Madras Transportation System Plans (TSPs) that would likely be funded and built in the next 20 years are adequate to accommodate the projected growth in traffic without violating adopted performance standards.

Public facility analysis for establishing the Madras URA ranked drainage catchment areas around the existing UGB for sewer service costs and serviceability. Of the six study areas that comprised the preliminary and then final URA, Study Areas 3 and 4 on the east and southeast consistently ranked higher than other areas. This can, in part, be attributed to proximity to the new South Wastewater Treatment Plant (SWWTP) and being upslope of the plant. In particular, the proposed UGB amendment and annexation are located in Catchment Area 180 and bordering on Catchment Area 179. These areas ranked 8<sup>th</sup> and 12<sup>th</sup> out of 60 catchment areas, making them among the more cost-effective and serviceable areas of the URA.

As was also determined during the URA public facility analysis, Deschutes Valley Water District (DVWD) found that there would be insignificant differences in providing water service to the different parts of the URA. Water supply in the region is adequate to ample.

Implementation of existing water and sewer master plans will be sufficient to provide service for the proposal area. Or are updates needed?

## SERVICE PROVIDER LETTERS

### *Other Public Facilities (Policy J5)*

The Jefferson County School District 509-J 2009 Long Range Facility Plan includes enrollment projections for the next 20-25 years and compares the projected enrollment against the capacity and conditions of existing facilities. Even with shared uses or renovations, the plan recommends that a school be re-built on Warm Springs tribal land, that a new elementary school be built in Madras to replace substandard facilities, and that work be done to address flood hazards at Madras High School and the administration offices. It is projected in the plan that between 2025 and 2030, elementary school enrollment will exceed existing capacity by more than 400 students (Table 5-2, Appendix C).

As part of this proposal, it is requested that the adoption of the 2009 Long Range Facility Plan as an element of the County and City Comprehensive Plans be approved and acknowledged by DLCD.

The east site has access to substantial park and recreation resources. Juniper Hill Park (City/County) and Bean Park (City/County) are nearby, as well as Jefferson County Middle School and its fields. The Yarrow Master Plan that applies to the site and surrounding land also designates open space and parks throughout the plan area.

The City reports that Mountain View Hospital and City public safety and emergency services are sufficient to provide services for the proposed UGB amendment and annexation area.

### *Financing for Improvements (Policy J6)*

#### Financing?

For facility plan and other transportation, water, and sewer improvements

### *Protection from Natural Hazards (Policy J7)*

There are not steep slopes (slopes greater than 25%), floodway, or floodplain in the proposed UGB expansion and annexation area. In fact, the proposed amendment and annexation are driven, in part, by the need to provide a school that is outside the floodway and floodplain of Willow Creek and its tributaries.

Fire protection service for the proposal area is currently provided by Jefferson County Fire Protection District #1, and will continue to be provided by that district if the land is annexed to the city. The area is subject to a Community Wildfire Protection Plan (CWPP) that Jefferson County completed in 2005 in collaboration with the fire district and federal agencies.

### *Protection of Goal 5 Resources (Policy J8)*

The Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files do not identify floodways, floodplains, significant habitat, or cultural resources in the proposed UGB amendment and annexation area. The only resources cited above that may apply to the site are open spaces. While open space will be a required part of public use or residential development that occurs in this area,



this proposal itself is not a development or entitlement proposal and, therefore, does not specify precisely where such open space will be designated.

**Findings:**

- Amendments to zoning and land use designations are planned and proposed. The proposed City land use designation is residential and City zoning designation R-2 (Multiple Family Residential). A need for about 22 acres of land outside the existing UGB zoned R-2 was determined in the *Madras Urbanization Study Addendum*.
- Transportation analysis and results
- Implementation of existing water and sewer master plans will be sufficient to provide service for the proposal area, or are updates needed? Include/reference service provider letters.
- The proposed UGB amendment and annexation area has access to nearby parks and a middle school. Part of the proposal is to adopt the Jefferson County School District 509-J 2009 Long Range Facility Plan as an element of the Jefferson County and Madras Comprehensive Plans and annex the 20-acre site in order to fulfill an agreement between JCSD and the City and provide land for an elementary school that will be needed in the next 15-20 years.
- Financing – facility plan and other transportation, water, and sewer improvements
- In terms of natural hazards, there are not slopes greater than 25%, floodway, or floodplain in the proposed UGB expansion and annexation area. The proposed amendments and annexation are based, in part, on the need to provide a school that is outside the floodway and floodplain of Willow Creek and its tributaries. Fire protection service for the proposal area is and will be provided by Jefferson County Fire Protection District #1.
- There are not floodways, floodplains, habitat, or cultural resources that are identified in the Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files in the proposal area. Open space will be provided as part of school and residential development pursuant to District school site and facility criteria and Madras zoning ordinance (MZO) in which 30% of a Master Planned Community must be open space (MZO Section 3.12(D)(4)).

**Conclusion:** The proposed comprehensive plan, comprehensive plan map, and zoning map amendments comply with the relevant policies of the Madras Comprehensive Plan.



## **IX. Conformance with the City of Madras Community Development Code**

### **City of Madras Zoning Ordinance**

#### **ARTICLE 7: ANNEXATION**

**SECTION 7.1: PURPOSE** - The purpose of this section is to:

- A. Implement the policies of the City of Madras Comprehensive Plan;
- B. Provide for City review of all annexation requests for a determination of the availability of facilities and services as related to the proposal;
- C. Provide for dissemination of public information and for sufficient time for public review;
- D. Provide for City and County coordination of a request for an annexation; and
- E. Provide for an expedited process by establishing procedures whereby the annexation and zoning, if applicable, may be considered concurrently.

**SECTION 7.2: APPLICATION PROCEDURE.** Annexation is a land use decision and is subject to applicable provisions of the City of Madras Comprehensive Plan, Oregon Revised Statutes, and Oregon Administrative Rules. In addition, the procedures below shall be followed:

- A. The Planning Commission shall conduct a public hearing after notification of all property owners with two hundred fifty feet (250') outside of the boundary(ies) of the proposed annexation. The Planning Commission shall review the proposal for compliance with the annexation policies contained in this Ordinance and make a recommendation to the City Council, based on:
  - 1. The annexation proposal which meets the application requirements; and
  - 2. The Planning Commission shall conduct a public hearing to determine a recommendation to the City Council to approve, approve with conditions or modifications, or disapprove the feasibility of the annexation proposal based on the criteria set forth in Section 7.4 below; and
  - 3. The Planning Commission shall state its recommendation and the reasons therefore in writing to the City Council.
- B. Upon receipt of the Planning Commission recommendation, the City Council shall conduct a public hearing and consider an Ordinance declaring the requested lands to be annexed to the City of Madras.
  - 1. The City Council shall review the record of the Planning Commission hearing their recommendation and shall determine whether to approve, approve with conditions or modifications, or disapprove the feasibility of the proposed annexation in accordance with the criteria set forth in Section 7.4 below.
  - 2. The City Council may conduct additional public hearings to assist their making a determination.
  - 3. The City Council shall state its determination and the reasons therefore in writing.

**Response:** The City of Madras sent public hearing notice to the surrounding property owners on **DATE**. The City and County Planning Commissions held their first public hearing on February 3, 2010. The City Planning Commission decided upon a

recommendation of [describe recommendation] at its hearing on DATE and forwarded it to the Madras City Council. The City Council is scheduled to hear the matter on DATE(S).

**SECTION 7.3: ANNEXATION APPLICATION.** *The petitioner for annexation shall complete an application form provided by the Community Development Department. The application fee, established by Resolution of the City of Madras City Council, shall be submitted with the application. The application shall include:*

- A. *A map demonstrating that the proposed annexation is contiguous to the City Limits;*
- B. *Specific information on each parcel within the proposed annexation area:*
  - 1. *Current assessed valuation shown on Jefferson County Assessor's tax rolls.*
  - 2. *Acreage of both public and private property to be annexed.*
  - 3. *Map and tax lot(s) number.*
- C. *Names and ages of all residents and list of registered voters in the proposed annexation area.*
- D. *Addresses of all parcels within the proposed annexation area.*
- E. *Consent to Annexation forms, provided by the City of Madras, with notarized signatures of all property owners and electors within the proposed annexation area.*
- F. *Written findings, which address the following:*
  - 1. *Existing land uses within annexation area.*
  - 2. *Existing zoning within the annexation area.*
  - 3. *Existing improvements:*
    - a. *water system*
    - b. *streets*
    - c. *sanitary sewer*
    - d. *storm drainage*
  - 4. *Special Districts within the area:*
    - a. *water districts*
    - b. *irrigation districts*
    - c. *fire district*
    - d. *school district*
    - e. *other*
  - 5. *Urban services, the present availability of urban service systems to the proposed annexation area, their capacity and cost of extension and/or improvement to urban standards:*
    - a. *sanitary sewers - streets - parks*
    - b. *storm drainage - water*
    - c. *fire - power*
    - d. *schools - police*
- G. *Compliance with all applicable policies of the City of Madras Comprehensive Plan.*

**Response:** The City is initiating and applying for the proposed annexation. Maps of the west site and east site in the proposed UGB amendment and annexation area are included in this report as Figure 4-1. Parcel size and other parcel information is presented in Section I, Proposal Summary. The City owns the taxlot where the east site is located. The 20-acre parcel that is being created from the taxlot has been surveyed. Annexing the parcel to the UGB and city limits and re-zoning it to R-2 will allow the City to honor a land exchange agreement between the City and JCSD, which needs to occur by 2011 pursuant to the terms of the agreement (Appendix D). The west site is comprised of three taxlots, two taxlots that



are privately owned and one small taxlot (0.69 acres) that is County right-of-way. Re-zoning is not proposed for this site at this time as there are no immediate development plans. However, this site does better connect the east site to the existing UGB and will be suitable for residential uses and compatible public/semi-public uses, for which Madras urbanization studies have found a long-term need.

The proposed UGB amendment and annexation area is currently vacant and not in active use. It is land under Jefferson County jurisdiction and zoned Range Land (RL). There are not water, sewer, or storm water facilities and services extended to the site yet, but they can be extended using existing City facility master plans [or with minor updates to the plans?]. The Deschutes Valley Water District (DVWD) provides water service to the area and can provide facilities and service to the site, to be financed primarily by development applicants. The same is true for sewer and storm water facilities and service, for which the City of Madras is the service provider. As part of its agreement with JCSD, the City will extend water and sewer to the edge of the east site. There is an irrigation district in the region – the Central Oregon Irrigation District – but the proposal area is not irrigated nor is it proposed to be.

There is a County collector road – Ashwood Road – along the northern border of the area that will/will not need improvements according to transportation analysis conducted for this proposal. Analysis results (Appendix F)

Jefferson County Fire Protection District #1 currently provides service for the area and will continue to do so. Public safety responsibility for the area will be transferred from the County to the City. In terms of parks and recreation, there are two parks and a middle school close to the site, and the Yarrow Master Plan, which includes and surrounds the east site, includes the 30% of parks and open space required by local code (MZO Section 3.12(D)(4)).

The proposal area is in the Jefferson County School District 509-J. This application is driven, in part, by the need for a new elementary school in Madras in the next 10-20 years, as determined in the 2009 Long Range Facility Plan (Appendix C). The east site will be able to accommodate both school and residential uses once it is annexed and zoned R-2 as proposed. Pursuant to ORS 195.110, the facility plan needs to be approved as an element of the Jefferson County and Madras Comprehensive Plans now that it has been adopted by the District Board.

As addressed in the previous section of this report, the application complies with the applicable policies of the Madras Comprehensive Plan.

**SECTION 7.4: ANNEXATION CRITERIA.** *Lands may be annexed only if the City Council finds that the following criteria are met:*

- A. The property is contiguous to the City limits.*
- B. The property is located within the City's Urban Growth Boundary.*
- C. The annexation meets at least one of the following purposes:*

1. To serve lands needing City water or sewer to alleviate a present or potential health hazard; or
2. To provide land to accommodate future urban development; or
3. To provide land for provision of needed transportation or utility facilities; or
4. To ensure that lands adjacent to the City are developed in a manner consistent with City standards.

D. The petitioner has adequately addressed infrastructure supply and demand issues. The annexation is considered timely in that an adequate level of urban services and infrastructure can be provided upon annexation or a plan is in place for the provision of such services or infrastructure in a reasonable period of time.

E. The proposed annexation complies with the City's Comprehensive Plan. If the Comprehensive Plan does not control the annexation, or substantial changes in conditions have occurred which render the Comprehensive Plan inapplicable to the annexation, the proposed annexation complies with current Statewide Planning Goals.

F. The City is capable of extending City services to the area proposed for annexation without negatively impacting existing systems and the City's ability to adequately serve all areas within the existing City limits.

G. The proposed annexation is compatible with the existing topography, potential for future land division, natural hazards and other related considerations.

**Response:** The proposal area is adjacent to the Madras city limits and is simultaneously seeking to be annexed to the Madras UGB and to the city. The proposed UGB amendment and annexation area provides land for future urban development, specifically for a needed school and housing as demonstrated by the Jefferson County School District 509-J 2009 Long Range Facility Plan (Appendix C) and the *Madras Urbanization Study Addendum* (ECONorthwest, 2007). The east site of the proposal area is part of the Yarrow Master Plan area that the City has approved and found to be consistent with City development goals and standards.

The proposal area can be served by water and sewer using existing water and sewer master plans and being financed by the City and developers of the sites. Ashwood Road on the north side of the proposal area is a County collector road and does/does not need improvements in order to serve the area. Transportation analysis results (Appendix F). Internal circulation and transportation facilities will need to be shown in future development applications.

## **SECTION 8.2: ZONE/PLAN MAP AMENDMENTS**

### **A. Amendment to the Zone/Plan Map**

1. Amendment to the Zone/Plan Map may be initiated by the Planning Commission, City Council, Community Development Director, Land Use Periodic Review, or by application of the property owner.
2. If the application is for a change of a quasi-judicial or legislative nature:
  - a. the Planning Commission shall conduct a public hearing on the proposed amendment at its earliest practical meeting date after the proposal is submitted and shall follow the adopted rules for quasi-judicial hearings;



3. b. the Planning Commission shall provide a recommendation to the City Council based on findings-of-fact;
4. c. The City Council shall hold a public hearing and review the recommendation of the Planning Commission, along with any public testimony on the issue. The City Council must take final action on an amendment request and amendments shall be made by ordinance.
3. An application for a zone change for land annexed to the city that is subject to an approved Master Planned Community Plan or an approved Area Master Plan may be considered as an administrative action per Article 9.3.

B. *Criteria for Amendments: The burden of proof is upon the applicant. The applicant shall show the proposed change is:*

1. *In conformity with all applicable state statutes.*
2. *In conformity with the applicable Statewide Planning Goals; and*
3. *In conformity with the Madras Comprehensive Plan, Zoning and Land Use Ordinance, and policies; and*
4. *In conformity with an approved Master Planned Community Plan or Area Master Plan, if applicable to the underlying properties; and*
5. *That there is a change of circumstances or further studies justifying the amendment or mistake in the original zoning.*

**Response:** This application is being initiated by the City Community Development Department/Director. Also pursuant to the terms of the UGAMA between the County and the City, the City forwarded the UGB amendment application and appropriate fees to the Jefferson County Community Development Department within five working days of being initially filed.

This application is subject to legislative procedure and will receive full review by the public, the City Planning Commission, and the City Council. Hearings by the Madras Planning Commission and Jefferson County Planning Commission will be held first jointly on February 3, 2010 and then separately on DATE and DATE respectively. The Madras City Council will review the City Planning Commission's recommendation at a hearing on DATE, and will forward its decision to the County Board of Commissioners for a hearing on DATE.

As demonstrated by the previous findings, the proposed comprehensive plan, comprehensive plan map, and zoning map amendments comply with applicable Statewide Planning Goals, State statutes, and Madras Comprehensive Plan policies.

**Findings:**

- The City has followed procedures for providing notice and holding public hearings for the proposal. Notice was mailed to number and type/distance from sites property owners on DATE. A joint City and County Planning Commission hearing was held on February 3, 2010 and then separate hearings were held on DATE and DATE respectively. The City Council and County Board of Commissioners heard the proposal on DATES and approved the proposal on DATES respectively.



- 
- The City of Madras has initiated this proposal. It owns the east site of the proposed UGB amendment and annexation area and has an agreement with Jefferson County School District 509-J to exchange this land for land downtown upon annexation and re-zoning.
  - The proposed UGB amendment and annexation area provides land needed for residential and public/semi-public uses, specifically for a needed school and housing as demonstrated by the Jefferson County School District 509-J 2009 Long Range Facility Plan (Appendix C) and the *Madras Urbanization Study Addendum* (ECONorthwest, 2007).
  - All service providers – the City of Madras, Jefferson County, Deschutes Valley Water District, Jefferson County Fire Protection District #1, Jefferson County School District 509-J – have capacity to serve the proposal area given: approval of the adoption of the Jefferson County School District 509-J 2009 Long Range Facility Plan as elements of the City and County Comprehensive Plans, implementation of existing water and sewer master plans, transportation improvements?, and financing from future proposed development.
  - The east site of the proposed UGB amendment and annexation area is part of the approved Yarrow Master Plan area, and the west site fulfills the requirements for an Area Master Plan. The set of proposed Comprehensive Plan, Comprehensive Plan Map, and Zoning Map amendments in this application comply with applicable Statewide Planning Goals, State statutes, and Madras Comprehensive Plan policies.

**Conclusion:** The proposed comprehensive plan, comprehensive plan map, and zoning map amendments comply with the relevant provisions of the Madras Zoning Ordinance.

**From:** [Nick Snead](#)  
**To:** ["French, Larry"; "Mark Radabaugh"; "gloria.gardiner@state.or.us"; "Ana Jovanovic";](#)  
**CC:** ["Jon Skidmore"; "Tanya Cloutier"; "DJ Heffernan"; "Shayna Rehberg"; Mike Morgan;](#)  
**Subject:** Supplemental Information to DLCD File # Madras-002-09  
**Date:** Wednesday, January 13, 2010 4:48:45 PM  
**Attachments:** [DraftFacilityPlan\\_allchapters\\_Presented at 011110 School Board mtg.doc](#)  
[UGB amdmt Findings\\_011310\\_nick.doc](#)  
[10028Scoping.pdf](#)  
[Site Map.JPG](#)  
[UGB amdmt report v3.doc](#)  
[45 day notice of proposed amendment ADDENDUM memo v3.doc](#)

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To all,

I was contacted by Mark Radabaugh, DLCD, today where it was brought to my attention that information was missing from the 45-Day Notice of Proposed Plan Amendment submitted by DJ Heffernan of Angelo Planning Group on behalf of the City of Madras on December 14<sup>th</sup>, 2009. The intent of this email is to provide the missing information to make the Notice "complete" and also continue with the scheduled public hearings. There are a couple points I would like to make:

1. The documents attached to this email are in draft form and in most cases require approval from other organizations. That being said, we fully believe that any compliance issue identified by any participating organization can be resolved prior to the February 11<sup>th</sup> Joint City of Madras/Jefferson County Planning Commission hearing.
2. Please note initial Notice submitted to DLCD on Dec. 14<sup>th</sup>, 2009 stated that the first evidentiary hearing would be in February 3<sup>rd</sup>, 2010. That has been changed to allow the City and County Planning Commissions to meet jointly. They will meet on February 11<sup>th</sup>, 2010 at 7:00 PM at the Jefferson County Senior Center. Please be advised.

Additionally, the City of Madras has at great expense tried to follow all required local

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and state procedural requirements. There has been a lot background work completed to date. As a result, I believe any issues can be resolved in a timely manner. Please note that I will be out of the office January 14<sup>th</sup> & 15<sup>th</sup> and back in on January 19<sup>th</sup>. If have any urgent questions, comments, or concerns, please contact DJ Heffernan, Planning Consultant for the City of Madras at (503) 224-6974 or Jon Skidmore, Jefferson County Planning Director at 541-475- 475-4462.

Thanks and have a good day!

*"One may walk over the highest mountain one step at a time"* -John Wanamaker-

Nicholas S. Snead  
Director  
Community Development Department  
City of Madras  
(541) 475-3388  
Email: [nsnead@ci.madras.or.us](mailto:nsnead@ci.madras.or.us)

Visit the City of Madras at <http://ci.madras.or.us/>

# Final Findings

City of Madras & Jefferson County



# **City of Madras Comprehensive Plan Amendment**

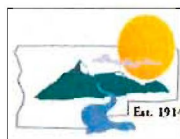
## **Proposed Amendments to Madras Comprehensive Plan, Madras and Jefferson County Comprehensive Plan Maps, and Madras Zoning Map**

### **FINDINGS**

City of Madras Planning Commission  
Jefferson County Planning Commission

Prepared for:

Jefferson County  
66 S.E. "D" Street  
Madras, OR 97741



City of Madras  
71 S.E. "D" Street  
Madras, OR 97741



Prepared by:



Angelo Planning Group  
921 SW Washington, Suite 468  
Portland, Oregon 97205

February 2010



## City of Madras Planning Commission

Shelly	Tack	Chair
Lynn	Kowaleski	Vice-Chair
Alan	Hurley	Commissioner
Kasey	Cousens	Commissioner
Richard	Ladeby	Commissioner
Joe	Krenowicz	Commissioner

## City of Madras City Council

Melanie	Widmer	Mayor
Tom	Brown	Councilor
Walt	Chamberlain	Councilor
Royce	Embanks Jr.	Councilor
Benjamin	Keeton	Councilor
Bob	McConnell	Councilor
Kevin	O'Meara	Councilor

## Jefferson County Planning Commission

Don	Martin	Chair
Evan	Thomas	Vice Chair
Dick	Dodson	Commissioner
Bob	Powers	Commissioner
Roy	Hyder	Commissioner
Kay	Moon	Commissioner
Jim	Martin	Commissioner

## Jefferson County Board of Commissioners

John	Hatfield	Commission Chair
Mike	Ahern	Commissioner
Wayne	Fording	Commissioner

## Project Support and Consulting Team

Angelo Planning Group	Land use planning, project management
Kittelson Associates	Transportation analysis
Jefferson County	Planning
City of Madras	Planning, technical support
Jefferson County School District 509-J	Planning, technical support

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- Appendix B: East Site Legal Description and Survey Map (20-acre parcel)
- Appendix C: Urban Reserve Area Management Agreement (URAMA) (January 2009)
- Appendix D: Water and Sewer Service Provider Letters
- Appendix E: Property Owner Consent Letters
- Appendix F: Transportation Planning Rule Analysis (Kittelson & Associates, January 2010)
- Appendix G: ODOT Letter Regarding Reasonably Likely Determination for US 97/J Street Improvements
- Appendix H: Urban Growth Area Management Agreement (UGAMA) (April 2006)

## I. Proposal Summary

<b>File No.:</b>	081-004
<b>Legislative Sponsor:</b>	Nick Snead, Community Development Director City of Madras 71 SE D Street Madras, OR 97741 (541) 475-3388 (541) 475-7061 Fax <a href="mailto:nsnead@ci.madras.or.us">nsnead@ci.madras.or.us</a>
<b>Planning Consultant:</b>	DJ Heffernan Angelo Planning Group 921 SW Washington, Suite 468 Portland, Oregon 97205 (503) 227-3664 (503) 227-3679 Fax <a href="mailto:dheffernan@angeloplanning.com">dheffernan@angeloplanning.com</a>
<b>Proposal:</b>	<ul style="list-style-type: none"> <li>• <b>To amend the Madras Comprehensive Plan</b> – to add a table that presents the City zones and County zones that correspond and are allowed under City comprehensive plan designations. (Table 3-1)</li> <li>• <b>To amend the Jefferson County and City of Madras Comprehensive Plan and Zoning Maps</b> – to expand the Madras Urban Growth Boundary (UGB) to include 36.91 acres from the Madras Urban Reserve Area (URA); to annex 20 acres of City-owned land (“east site,” Figure 4-1) to the City of Madras and apply City R-2, Multiple Family Residential zoning; to annex 16.22 acres of privately owned land plus 0.69 acres of land for County right-of-way (“west site,” Figure 4-1) to the City and retain existing County RL, Range Land, zoning.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• West site: tax map of 16.91-acre west site (outlined), directly east of the existing Madras UGB, south of Ashwood Road (Appendix A)</li> <li>• East site: survey map of 20-acre east site, east of the existing Madras UGB, south of Ashwood Road (Appendix B)</li> </ul>
<b>Legal Description:</b>	<p><b>West site:</b> 11S 14E 7 Lots 101 (12.28 acres), 102 (0.69 acres for right-of-way), and 200 (3.94 acres), entire lots</p> <p><b>East site:</b> 11S 14E 7 Lot 100 (20 acres), parcel of lot</p> <p>Legal description of Lot 100 parcel (east site): <i>A portion of Parcel 2 of Partition Plat No. 2002-12 as filed in the Jefferson County Clerk’s Office, situated in the Northeast Quarter (NE ¼) of Section</i></p>

7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County Oregon, more particularly described as follows: Commencing at the Northwest corner of said Northeast Quarter, monumented with a 2 inch diameter brass cap, from which the Northeast corner of said Section 7 bears South 89°39'40" East a distance of 2640.53 feet; thence South 89°39'40" East along the North line of said Section 7 a distance of 599.997 feet; thence South 0°17'36" West a distance of 40.00 feet to the Northwest corner of said Parcel 2 of Partition Plat No. 2002-12; thence continuing South 0°17'36" West along the West line of said Parcel 2 a distance of 40.00 feet to the South right-of-way line of East Ashwood Road and the **True Point of Beginning of this Description**; thence South 0°17'36" East along said West line a distance of 935.13 feet to the Southeast corner of Parcel 1 of said Partition Plat No. 2002-17; thence leaving said West line South 89°39'40" East a distance of 931.70 feet; thence North 0°17'36" West a distance of 935.12 feet; to a point on the South right-of-way line of East Ashwood Road; thence North 89°39'40" West along said right-of-way line a distance of 931.70 feet to the **True Point of Beginning**.  
Contains 20.00 acres more or less.  
**End of Description.** (Appendix B)



## II. Introduction

### ***Proposed Map Amendments***

The Madras Urban Reserve Area (URA) was approved by DLCD in July 2009, and was sized to provide urbanizable land for the next 50 years. Land from the URA is the first priority for inclusion in the UGB pursuant to ORS 197.298. The City of Madras is not currently in periodic review or evaluating its existing UGB for a 20-year land supply. The City, however, has initiated this UGB amendment and annexation process in order to begin to meet the land need identified by the *Madras Urbanization Study* (April 2007) and the *Madras Urbanization Study Addendum* (August 2007), prepared by ECONorthwest. The studies found a need for residentially zoned land for housing and public/semi-public uses outside the existing UGB.

There are two parts to the proposed Urban Growth Boundary (UGB) annexation: the east site and the west site. The City of Madras owns the east site. This land is proposed for annexation to the Madras UGB and city limits and for re-zoning as City Multi-Family Residential (R-2), a designation that will allow for a multi-family and single-family housing as well as public/semi-public uses typically sited on residentially zoned land. The 20-acre parcel is within the Yarrow Master Plan area.

In addition to the east site, there are another 16.91 acres of land in the proposed UGB and City annexation, referred to as the west site. The west site is comprised of three lots that provide County right-of-way, better connect the east site to the existing UGB, and contribute toward meeting the long-term need for residentially zoned land. The west site is privately owned and is not proposed for re-zoning at this time. Owners may apply for re-zoning when they are prepared to file land development applications in the future. It is expected that the west-site land also will provide the same range of needed housing types and public/semi-public uses as the east site when re-zoning is approved. Both the east and west sites will be designated Residential on the Plan Maps if this proposal is approved.

### ***Proposed Text Amendments***

In order to facilitate the transition of rural zoning to urban zoning in the urban growth area, text amendments are proposed for Section IV (Land Use Element) of the Madras Comprehensive Plan that identify county zones allowed on land that is designated for future urban use on the Comprehensive Plan map.

### III. Jefferson County and City of Madras Comprehensive Plan Amendments

Table 3-1 lists Madras Comprehensive Land Use Plan Designations and corresponding City and County zones that are deemed compatible. The table is needed because the Madras Comprehensive Land Use Plan map, which applies to incorporated and unincorporated properties, and the city's zoning map are one in the same. The table clarifies that unincorporated property may retain its county zoning when it is annexed into the UGB if the land is not immediately annexed into the city. Such properties may retain any of the listed County zones and be regulated under the County's land development ordinance consistent with adopted growth management policies and procedures that apply to all land inside the Madras UGB. When such land is ready for urban development, the owner may request city annexation and zoning that is consistent with the land use plan designation for their property. Practically speaking, the table simply allows rural zoning districts to be applied in the Madras urban growth area on an interim basis, even when the rural zone differs from the intended long range urban use for a subject property. The table does not alter anything in practice. County zoned properties that are inside the Madras UGB remain under county jurisdiction in all respects although they are subject to urban growth management policies and regulatory review procedures that have been jointly adopted by Jefferson County and the City of Madras. In this context, the conformity table serves as a zoning bridge between a property's planned urban future and its current unincorporated rural zoning.

**Table 3-1 Proposed Table for Corresponding City of Madras Comprehensive Plan Map Designations, City of Madras Zones, and Jefferson County Zones**

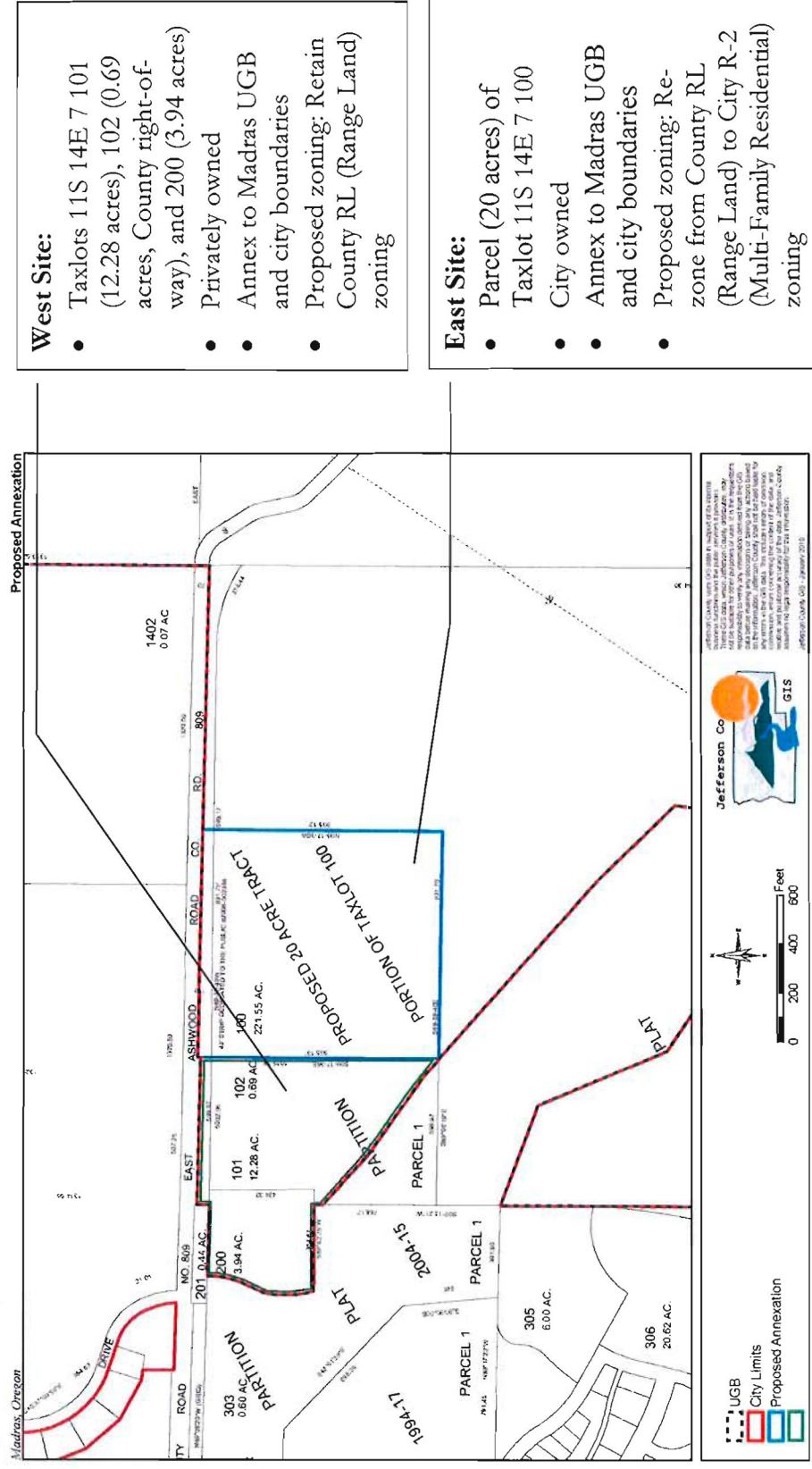
Plan Map Label	Designation	Description	City Zones	County Zones
R-1	Single-Family Residential	Land primarily for single-family homes, including manufactured home subdivisions, and for duplexes	R-1	EFU A-1, EFU A-2, RL, FM, RR-2, RR-5, RR-10, RR-20, ERD
R-2	Multi-Family Residential	Land for multi-family housing to be close to businesses and services and to buffer single-family residential and commercial uses. Manufactured homes and neighborhood commercial uses are allowed.	R-2	EFU A-1, EFU A-2, RL, FM, RR-2, RR-5, RR-10, RR-20, ERD
R-3	Planned Residential Development	Land for primarily residential development that allows site design flexibility to promote creativity and protection of scenic and natural resources	R-3	EFU A-1, EFU A-2, RL, RR-2, RR-5, RR-10, RR-20, ERD
C-1	Corridor Commercial	Land for primarily motor vehicle-oriented uses located along major roadways	C-1	CC, ERD
C-2	Downtown Commercial	Land for a mixture of smaller scale businesses that supports redevelopment, higher density, public spaces, and other elements of pedestrian orientation	C-2	CC, ERD

Plan Map Label	Designation	Description	City Zones	County Zones
C-3	Community Commercial	Land for primarily motor vehicle-oriented uses but on a smaller scale than Corridor Commercial	C-3	SC, CC, ERD, EFU A-1, EFU A-2, RL
NC	Neighborhood Commercial	Land for small-scale commercial uses in residential areas that includes public spaces and promotes transportation options	NC	SC, ERD EFU A-1, EFU A-2, RL
I	Industrial	Land for industrial uses where industrial uses already exist in the city and in the Madras Industrial Park	I	EFU A-1, EFU A-2, RL, FM, PM, CI, IR, ERD
O/S	Open Space	Land where parks, open space, or public uses already exist or is otherwise publicly owned	OS/PF	EFU A-1, EFU A-2, RL, FM, PM
A/D	Airport Development	Land adjacent to airport facilities for future commercial and industrial uses, particularly those that rely on air transportation	A/D	EFU A-1, EFU A-2, AM, ERD

County Zones:	
AM	Airport Management
CC	County Commercial
CI	County Industrial
EFU A-1, EFU A-2, RL	Exclusive Farm Use Zones
ERD	Existing Rural Development
FM	Forest Management
IR	Industrial Reserve
PM	Park Management
RR-2, RR-5, RR-10, RR-20	Rural Residential
SC	Service Community

## IV. Proposed Amendments to Madras Comprehensive Plan, Madras and Jefferson County Comprehensive Plan Maps, and Madras Zoning Map

Figure 4-1: Proposed UGB Amendment and Annexation Area



## V. Conformance with Statewide Land Use Goals

### **Goal 1: Citizen Involvement**

*To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.*

**Response:** The proposed amendments have been reviewed during a series of public meetings and hearings in order to allow for consideration by public officials and public feedback.

The Jefferson County School District 509-J (“JCSD” or “District”) Board (“Board”) was generally briefed by the Superintendent about the 2009 Long Range Facility Plan at the December 14, 2009 School Board meeting where the need for the updated plan was discussed. The draft plan was brought to them first for formal review at a Board meeting on January 11, 2010. After the School Board reviewed the enrollment forecast, location and conditions of existing schools, and future potential school locations, they adopted the plan on January 25, 2010.

The proposed Madras Land Use Element Comprehensive Plan amendment and amendments to the Jefferson County and City of Madras Comprehensive Plan Maps and Zoning Maps were presented and reviewed in a series of meetings in early 2010.

A public hearing was scheduled before the Madras and Jefferson County Planning Commissions (joint) on February 11, 2010. Notice of the hearing was published in the January 13, 2010 Madras Pioneer. The public notice published in the newspaper was also posted at the Madras City Hall, Jefferson County Annex, US Postal Service Office, and the Jefferson County Library 20 days prior to the February 11, 2010 Planning Commission meeting.

Additionally, property owners within 750 feet of the properties proposed to be included in the Madras UGB were notified of the proposed land use action. Adjacent property owners were notified that the file was available for review at the Jefferson County Community Development Department at 85 SE “D” Street and that copies of any information would be provided at a cost of .25/page. The agenda for the Planning Commission was posted at Madras City Hall, Jefferson County Annex, US Postal Service Office, and the Jefferson County Library 7 days prior to the February 11, 2010 joint Planning Commission meeting.

As discussed above the City proposes to include four (4) properties that total 36.91 acres into the City of Madras Urban Growth Boundary. This constitutes a potential “land use change” that would typically require notice to affected property owners. ORS 227.186 (Measure 56 notice) requires property owners to be notified of legislative acts relating to comprehensive plan, land use planning or zoning proposed by the City. Additionally, the proposed Comprehensive Plan amendment is limited to the four properties identified on page 1. As such, a city-wide notice is not needed rather notice to the individual properties is required.



The City owns property, has a signed Consent to Annex agreement or a letter from a property owner acknowledging the proposed Comprehensive Plan amendment that verify that property owners are aware of the proposed land use action and a Measure 56 notice is not needed. Specifically, the City holds title and owns Tax Lot 100 and therefore is aware and consents to the proposed re-zone to a portion of the property it owns that represents a “land use change” that may limit use. Additionally, the City of Madras has signed consent forms from the property owners of tax lots 101 and 200. Jefferson County owns tax lot 102 and has provided a letter acknowledging and supporting the proposed land use action. As such, a formal notice as required by ORS 227.186 is not necessary as the affected property owners are aware of the proposed Comprehensive Plan amendment. More over, the ensuing annexation and re-zoning of 20 acres of tax lot 100 is limited to City owned property.

45-day notice to DLCD was sent to DLCD staff on December 14, 2009. On January 13, 2010 DLCD Field Representative, Mark Radabaugh, notified the City of Madras that the contents of the 45-day notice was incomplete. Later that day, City staff submitted the requested information to DLCD making the notice complete. The materials submitted on January 14, 2010 are noted as the Addendum to the notice.

The UGB expansion area is drawn from the Madras Urban Reserve Area (URA), which was developed through an intensive participatory process. A Technical Advisory Committee (TAC) and Project Advisory Committee (PAC) were formed to provide guidance for the project. The TAC was comprised of staff from project team members, including Jefferson County, the City of Madras, ECONorthwest, Kittelson & Associates, David Evans & Associates, Ball Janik, LLP, and Angelo Planning Group. The PAC included representatives of the City of Madras, Jefferson County, Jefferson County School District 509-J, local farmers, housing advocates, Oregon Department of Transportation (ODOT) Region 4, and the Department of Land Conservation and Development (DLCD).

**Findings:**

- According to both their Comprehensive Plans and code, the City of Madras and Jefferson County Planning Commissions serve as their official citizen planning committees.
- Adoption of the Madras Urban Reserve Area (URA) complied with Goal 1.
- Materials were made available to the public at Madras City Hall and the Jefferson County Community Development Department.
- Measure 56 notice was not issued as the proposed post-acknowledgment plan amendments are property specific and do not propose additional regulations to the properties proposed to be annexed and, in the case of the east site, re-zoned to Multi-Family Residential (R-2).
- 45-day notice of proposed plan amendments was sent to the Department of Land Conservation and Development (DLCD) on December 14, 2009 prior to the start of hearings held by County and City Planning Commissions and legislative bodies. On January 13, 2010 the City of Madras provided supplemental information to DLCD vial email.

- Notices of the public meetings were published in the City's local newspaper, including contact information for the City and County.

**Conclusion:** The proposed text and map amendments comply with State requirements for citizen involvement per Statewide Land Use Planning Goal 1.

**Goal 2: Land Use Planning**

*To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.*

**Response:**

***Proposed Map Amendments***

The Madras City Council adopted the Madras Urban URA and related provisions in October 2008 and the Jefferson County Board of Commissioners in November 2008. DLCDC acknowledged and approved the URA and related amendments in July 2009, with stipulations that some of the proposed amendments to the Jefferson County development code be modified. Pursuant to ORS 197.298, the first priority for land to be included in a UGB is land designated as an urban reserve. Therefore, the land in the Madras URA is the first priority for UGB expansion when there is a demonstrated need for land in the next 20 years, as was found by the *Madras Urbanization Study and Addendum*.

The proposed UGB amendment and annexation area is currently zoned Range Land by the County. Upon annexation to the UGB and Madras city limits, City R-2, Multiple Family Residential, zoning is being requested for the east site. The west site is proposed to be annexed to the city and to retain its existing County zoning, but the land is designated for multi-family residential use on the Plan Map.

Land zoned Range Land has been included in the Madras URA to meet long-term land needs and because of sewer service advantages over other areas around the existing UGB and because exception land alone would not meet land needs for the city over the next 50 years. Land in Study Areas 3 and 4 of the Madras URA - east and southeast of the city – consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation. Land in the URA is subject to joint management under the terms of the City's and County's Urban Growth Area Management Agreement (UGAMA) once it is added to the City's UGB. Response and findings related to the UGAMA are provided later in this report.

Local criteria are relied upon to prioritize land from the URA to be included in the UGB. Local criteria are found in Goal 14 (Urbanization) policies in the Madras Comprehensive Plan. The criteria require a Master Planned Community (MPC) plan or Area Master Plan (AMP), proposed urban zoning, an annexation program, sufficient public facilities, financing prospects, and protection for natural resources and natural hazard areas for the proposed UGB amendment area. Policy14J requires the following.

J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:

1. The proposed urban zoning or land use program for the subject properties that address an identified urban land need;
2. An annexation program for all subject properties;
3. Evidence that public facilities required by OAR 660-011-000 that are necessary to serve the expansion area can be served either by system improvements outlined in adopted public facility master plans or by supplemental improvements that augment adopted public facility master plans;
4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need;
5. Evidence that providers of other crucial public facilities (e.g. schools, parks and recreation, emergency services and health care) are able to meet the projected demand for their services;
6. Evidence that financing for constructing needed public improvements is available so that the expansion area can be developed as planned within the planning horizon;
7. Evidence that development in areas subject to natural hazards are protected from these hazards;
8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.

These criteria are addressed later in the report section on the Madras Comprehensive Plan, Goal 14.

The *Madras Urbanization Study* (ECONorthwest, April 2007) and *Madras Urbanization Study Addendum* (ECONorthwest, August 2007) identify a shortage of residentially zoned land to meet single-family and multi-family housing needs and public/semi-public use needs in the next roughly 20 years. The needed number of housing units and acreage for residential uses is summarized in Table 4-18 of the August 2007 *Madras Urbanization Study Addendum* (Table 5-1).

These needs are compared to the available land supply in the existing UGB in Table 6-4 in the study (Table 5-2) in order to determine whether there is a surplus or deficit of land for residential, public and semi-public, and employment uses. The table documents a shortage of land zoned R-2 (Multiple Family Residential) and land zoned R-1 (Single Family Residential) inside the existing UGB as well as a need for roughly 350 acres of public and semi-public uses over the course of the next 15-20 years. These public/semi-public uses tend to be related to residential uses and are typically allowed and sited on residentially zoned land.

The proposed UGB amendment addresses part of the residential and public use land need presented above. Annexing 20 acres of the proposed amendment that are owned by the City (the east site) and rezoning it R-2 allows the City to fulfill its agreement with Jefferson County School District (JCSD) and provide land for a potential school site, which could address the need for a new school or replacement school as identified in the JCSD 2009 Long Range Facility Plan. The remainder of the land need identified in the urbanization studies will be addressed during the City's next cycle of periodic review.

**Table 5-1: Housing Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Housing Type	New DU	Percent	Density (DU/net res ac)	Net Res. Acres	Net to Gross Factor	Gross Res. Acres	Density (DU/gross res ac)
<b>Needed Units, 2007-2027</b>							
<b>Single-family types</b>							
Single-family detached	1,791	61%	4.8	373.1	25%	497.5	3.6
Manufactured	206	7%	5.5	37.4	25%	49.8	4.1
Condo/Townhomes	206	7%	9.0	22.8	15%	26.9	7.7
Subtotal	2,202	75%	5.4	410.5		574.2	3.8
<b>Multi-family</b>							
Multifamily	734	25%	14.0	52.4	15%	61.7	11.9
Subtotal	734	25%	14.0	52.4		61.7	11.9
<b>Total</b>	<b>2,936</b>	<b>100%</b>	<b>6.3</b>	<b>462.9</b>		<b>635.8</b>	<b>4.6</b>
<b>Needed Units, 2007-2057</b>							
<b>Single-family types</b>							
Single-family detached	5,516	61%	4.8	1,149.1	25%	1,532.1	3.6
Manufactured	633	7%	5.5	115.1	20%	143.8	4.4
Condo/Townhomes	633	7%	9.0	70.3	15%	82.7	7.7
Subtotal	6,781	75%	5.4	1,334.5		1,758.7	3.9
<b>Multi-family</b>							
Multifamily	2,260	25%	14.0	161.5	10%	179.4	12.6
Subtotal	2,260	25%	14.0	161.5		179.4	12.6
<b>Total</b>	<b>9,042</b>	<b>100%</b>	<b>6.3</b>	<b>1,495.9</b>		<b>1,938.1</b>	<b>4.7</b>

Source: ECONorthwest  
 Note: Gross acres calculated by dividing net acres by (1-net to gross factor). For example, for single-family detached,  $477.1/(1-.75) = 636.1$ . Conversely,  $636.1 \times .75 = 477.1$ .

**Table 5-2. Land Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Plan Designation	Land Demand		Supply	Surplus (deficit)	
	2007-2027	2007-2057	2007	2007-2027	2007-2057
<b>Residential</b>					
R-1	451.9	1,355.7	398.1	(53.8)	(957.6)
R-2	46.1	136.2	23.5	(22.5)	(114.6)
R-3	148.0	444.0	242.8	94.8	(201.2)
RR5	0.0	0.0	32.7	32.7	32.7
RR10	0.0	0.0	47.5	47.5	47.5
RL	0.0	0.0	38.7	38.7	38.7
Public/Semi-public uses on res land	358.3	770.7	0.0	(358.3)	(770.7)
<b>Subtotal (Residential)</b>	<b>1,004.2</b>	<b>2,708.6</b>	<b>783.3</b>	<b>(220.9)</b>	<b>(1,925.3)</b>
<b>Commercial (Retail &amp; Services)</b>					
C-1	230.6	758.1	80.2	(150.4)	(677.9)
NC	28.6	90.4	4.9	(23.7)	(85.4)
CC	0	0	32.6	32.6	32.6
<b>Subtotal Commercial</b>	<b>259.2</b>	<b>848.5</b>	<b>117.7</b>	<b>(141.5)</b>	<b>(730.8)</b>
<b>Industrial</b>					
I	251.4	749.9	296.9	45.5	(452.9)

Notes: all public and semi-public land needs were allocated to residential zones

***Proposed Text Amendments***

As discussed above, the proposed UGB amendment and annexation is based on the buildable lands inventory and needs analysis performed by ECONorthwest in 2007 and for the Madras URA. The proposed table of corresponding City land use designations and City and County zones (Table 3-1) is proposed to facilitate the transition of land from rural to urban and the annexation of land in the URA to the Madras UGB and city limits.

**Findings:**

- The proposed UGB amendment and annexation is drawn from land in the adopted Madras URA, which is the first priority land to be included in the UGB pursuant to state statute.
- The east site and west site are currently zoned Range Land by the County. Range land was included in the Madras URA because of sewer service advantages it had over other land surrounding the UGB and because including only exception land in the URA would not have provided enough land for the projected growth needs of the next approximately 50 years.
- The proposed annexation area meets some of the need for residentially zoned land outside the existing UGB over the next 20 years, as established in the 2007 *Madras Urbanization Study* and addendum. The studies found the need for more than 200 acres of land for housing and related public/semi-public uses.

**Conclusion:** The proposed map and text amendments comply with State requirements for land use planning per Statewide Land Use Planning Goal 2.



**Goal 3: Agricultural Lands**

*To preserve and maintain agricultural lands.*

**Response:** The entire Madras URA includes land zoned for rural residential, range land, and agricultural uses, as shown in Table 5-3.

**Table 5-3: Exception and Resource Land in the Madras URA**

Land Type	Zones	Acres
Exception Land	RR2, RR5, RR10 (Rural Residential)	1,709
Non-prime Resource Land	RL (Range Land)	2,038
Prime Resource Land	A1 (Agricultural)	68
	<b>Total</b>	<b>3,815</b>

Prime agricultural land makes up less than 2% of the total URA. When prime agricultural land is included, it is only when it is adjacent to the existing UGB, surrounded by exception land or non-prime resource land, and/or will be more easily served with public facilities – sewer service, in particular. The rest of the URA is comprised of rural residential and range land. Rangeland was included in the URA because of serviceability advantages it has over other land surrounding the Madras UGB and because all the exception (rural residential) land adjacent to the Madras UGB would not fulfill the city’s estimated land needs for the next 50 years.

The proposed UGB amendment and annexation area is currently zoned Range Land by the County. Upon annexation to the UGB and Madras city limits, City R-2, Multiple Family Residential, zoning is being requested for the east site. The west site is proposed to be annexed to the city and to retain its existing County zoning, but the land is designated for multi-family residential use on the Plan Map.

As explained above, land zoned Range Land has been included in the Madras URA to meet land needs and because of sewer service advantages over other areas around the existing UGB and because exception land alone would not meet land needs for the city over the next 50 years. Land in Study Areas 3 and 4 of the URA consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation.

Pursuant to ORS 197.298(a), the first priority of land to be included in the UGB is land in a URA. Beyond that, local criteria can be relied upon to prioritize land from the URA to be included in the UGB. Local criteria are found in Goal 14 (Urbanization) policies in the Madras Comprehensive Plan. The criteria require a Master Planned Community (MPC) plan or Area Master Plan (AMP), proposed urban zoning, an annexation program, sufficient public facilities, financing prospects, and protection for natural resources and natural hazard areas for the proposed UGB amendment area. These policies are addressed in more detail in the response and findings for Madras Comprehensive Plan Goal 14.

Land in the URA is subject to joint management under the terms of the City's and County's Urban Growth Area Management Agreement (UGAMA) once it is added to the City's UGB. Response and findings related to the UGAMA are provided later in this report.

**Findings:**

- The proposed UGB amendment and annexation area is land from the Madras URA, top priority land for inclusion in the UGB pursuant to ORS 197.298(a).
- Some of the non-prime resource land (zoned Range Land) is easier to serve with sewer than other areas around the existing Madras UGB, based on public facility analysis done during the development of the URA. Land in Study Areas 3 and 4 of the URA consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation.

**Conclusion:** The proposed map amendments comply with State requirements for agricultural lands per Statewide Land Use Planning Goal 3.

**Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces**

*To protect natural resources and conserve scenic and historic areas and open spaces.*

**Response:** The land being proposed for inclusion in the Madras UGB is currently located within the Madras URA, jointly managed by Jefferson County and the City of Madras pursuant to the terms of the Urban Reserve Area Management Agreement (URAMA), adopted in January 2009 (Appendix C). Pursuant to the URAMA, the County processes land use decisions in the URA. In addition, conversion plans must be submitted to the City for land divisions in the URA.

Madras Comprehensive Plan policy language regarding protection of open space, scenic, wildlife, and cultural resources was adopted as part of amendments to Goal 14 (Urbanization) concurrent with the adoption of the Madras URA.

*J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

- 8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.*

The land in the proposal does not include floodways, floodplains, significant habitat, or cultural resources that are identified in the Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files. The only resources cited in Policy 14 J (8) that may apply to the site are open spaces. Open space will be a required part of school or multi-family residential development that occurs in the UGB amendment area. However, this proposal itself is not a development or entitlement proposal and, therefore, is not required to specify precisely where such open space will be designated.

**Findings:**

- Recently adopted amendments to Goal 14 of the City's Comprehensive Plan require identification of protective measures for significant open space, scenic, historic, cultural and natural resources in proposed UGB expansion areas. The Jefferson County Comprehensive Plan and Goal 5 inventory does not identify natural, scenic, or cultural resources in the proposed UGB amendment and annexation area.
- Open space designations will be made as part of development entitlement for the proposed UGB amendment and annexation.

**Conclusion:** The proposed map amendments comply with State requirements for open space, scenic and historic areas, and natural resources per Statewide Land Use Planning Goal 5.

**Goal 6: Air, Water and Land Resource Quality**

*To maintain and improve the quality of the air, water and land resources of the state.*

**Response:** According to the U.S. Environmental Protection Agency (EPA) and the Oregon Department of Environmental Quality (ODEQ) there are no federally designated air quality management areas or federally designated hazardous waste sites in the Madras URA. Of Environmental Cleanup Sites reported on ODEQ's website, there are no sites identified in the URA.<sup>1</sup> Further, R-2 zoning is proposed for the UGB amendment area to be brought in to the city, allowing residential uses and other compatible uses. These uses tend to produce less noise, air, land, and water pollution than commercial and industrial uses, which typically manufacture goods, produce by-products, and generate more vehicle traffic.

**Findings:**

- There are not federal- or state-registered environmental quality sites within the proposed UGB amendment and annexation area.
- The amendment and annexation area is needed and planned for residential and related uses, which tend to have fewer adverse air, water, and land quality impacts than commercial or industrial uses.

**Conclusion:** The proposed map amendments comply with State requirements for air, water and land resources per Statewide Land Use Planning Goal 6.

**Goal 7: Areas Subject to Natural Hazards**

*To protect people and property from natural hazards.*

**Response:** Primary potential natural hazards in Madras include steep slopes, floodway and floodplain, and wildfire. Statewide Goal 7 is reinforced in Madras Comprehensive Plan

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<sup>1</sup> Air quality management areas, hazardous waste sites, and environmental cleanup sites can be searched on the U.S EPA's and ODEQ's websites at: <http://www.deq.state.or.us/aq/planning/index.htm>, <http://www.epa.gov/superfund/sites/siteinfo.htm>, and <http://www.deq.state.or.us/lq/ecsi/ecsi.htm>.

policies (Goal 14) by requiring protection from natural hazards be demonstrated for proposed UGB amendments.

*J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

*7. Evidence that development in areas subject to natural hazards are protected from these hazards;*

There are not steep slopes (slopes greater than 25%), floodway, or floodplain land in the proposed annexation area. Fire protection service for the proposal area is currently provided by Jefferson County Fire Protection District #1, and will continue to be provided by that district if the land is annexed to the city. Area in the district is subject to a Community Wildfire Protection Plan (CWPP) that Jefferson County completed in 2005 in collaboration with the fire district and federal agencies.

**Findings:**

- There are not steep slopes (slopes greater than 25%), floodway, or floodplain land in the proposed UGB expansion and annexation area.
- Jefferson County Fire Protection District #1 provides fire protection service to the proposed amendment and annexation area. The area is subject to the Community Wildfire Protection Plan (CWPP) developed and adopted by the County, the fire district, and federal agencies.

**Conclusion:** The proposed map amendments comply with State requirements for areas subject to natural hazards per Statewide Land Use Planning Goal 7.

**Goal 10: Housing**

*To encourage the availability of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density.*

**Response:** This proposal provides land for housing and related public and semi-public uses. The *Madras Urbanization Study Addendum* (August 2007) shows that there is a shortage of residentially zoned land inside the existing UGB for growth over the next 20 years (Table 5-2).

The proposed annexation to the Madras UGB and city limits addresses this need by including 36.91 acres of land from the URA for residential and public/semi-public uses. It is proposed that the east site be re-zoned from County RL (Range Land) zoning to City R-2 (Multi-Family Residential) zoning.

These proposed amendments are not part of a periodic review work program and the next periodic review process will ensure that the UGB does include enough land to meet all the land needs that are projected for the next 20 years as shown in Table 5-2.

**Findings:**

- The *Madras Urbanization Study* and *Addendum* found a need for residentially zoned land for housing and public/semi-public uses outside the existing UGB for growth expected over the next 20 years.
- The remainder of land needs determined by the urbanization studies will be addressed during the next City of Madras periodic review.

**Conclusion:** The proposed map amendments comply with State requirements for housing per Statewide Land Use Planning Goal 10.

**Goal 11 Public Facilities and Services**

*To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.*

**Goal Requirements**

**Urban Facilities and Services** – Refers to key facilities and to appropriate types and levels of at least the following: police protection; sanitary facilities; storm drainage facilities; planning, zoning and subdivision control; health services; recreation facilities and services; energy and communication services; and community governmental services.

**A. Goal 11 Planning Guidelines**

5. A public facility or service should not be provided in an urbanizable area unless there is provision for the coordinated development of all the other urban facilities and services appropriate to that area.

**Response:** According to terms of the UGAMA between Jefferson County and the City of Madras, the City will be the primary service provider for land within its UGB, in particular coordinating police, sewer, stormwater, land use, recreation, energy, and governmental services. City urbanization regulations amended with the adoption of the Madras URA require either a Master Planned Community (MPC) plan or Area Master Plan (AMP) for UGB amendments in Madras for areas over five acres (Madras Comprehensive Plan Policy 14 I). Both MPC plans and AMPs must show “appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas” and how proposed land uses will integrate with existing development.

Transportation facilities are addressed in more detail in the response and findings for Statewide Goal 12 next in this report.

The adopted Yarrow Master Plan applies to the east site. This land is proposed for annexation both to the Madras UGB and city limits. It is also proposed that the east site be re-zoned to R-2 upon annexation so that it can provide land for uses such as urban levels of housing and related public/semi-public uses. These uses are similar to and compatible with surrounding development of residential and public uses. The east site is tangent to the existing UGB and is bordered by Ashwood Road, a County collector road, which lends itself to the extension of services from inside the existing UGB and city limits. Sufficient water



and sewer service can be provided to the east site given existing and planned systems, and this is documented in the service provider letters from Deschutes Valley Water District and the City of Madras Public Works (Appendix D).

Pursuant to Madras Comprehensive Plan Urbanization Policy 14 I: “An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas.” It is proposed to annex the west site to the Madras UGB and city limits. While it is also proposed that the site retain its existing County Range Land (RL) zoning until the owners are ready to propose development, the site is surrounded by land designated for residential and public/semi-public uses, and its future designation as residential allows housing and compatible public/semi-public uses that can be: “integrated with the existing urban development pattern.” (Madras Comprehensive Plan Urbanization Policy 14 I (2)) Further, the proposed addition of a table showing Madras and County zones that correspond with Madras land use designations to the Madras Comprehensive Plan Section IV, Land Use Element (Table 3-1), will facilitate the transition of existing County zoning for the west site to appropriate City zoning.

The west site is comprised of three lots – Lots 101 and 200 that total 16.22 acres and are privately owned and Lot 102 that is 0.69 acres designated for County right-of-way. Lots 101 and 200 are both adjacent to Ashwood Road, a County collector, and will not require additional public roads for sufficient internal or local circulation. At the time of proposed development, proposed land division or planned development plans must show an internal circulation system that satisfies City code requirements and street standards. The west site is adjacent to the existing Madras UGB and is bordered by Ashwood Road, which lends itself to the extension of services from inside the existing UGB and city limits. As with the east site, sufficient water and sewer service can be provided to the west site given existing and planned systems, as stated in service provider letters (Appendix D).

The County has not identified historic, scenic, or natural resources on the west site. City open space requirements for subdivisions or planned developments will apply to the site at the time of proposed development.

Finally both MPC plans and AMPs must have documented approval from a majority of landowners pursuant to Madras Comprehensive Plan Policy 14 I (3). Specifically, the City of Madras owns Tax Lot 100 and as the applicant, consents to the proposed UGB expansion to include 20 acres of Tax Lot 100 and the re-zoning of the property from Range Land (RL) to Multi-Family Residential (R-2). Tax Lot 102 is dedicated to Jefferson County for Ashwood right-of-way and consent for UGB expansion and re-zoning is not needed as inclusion in the UGB and re-zoning will not change how the right-of-way can be used. Consent from other landowners is provided in Appendix E.

#### **B. Goal 11 Implementation Guidelines**

*5. Additional methods and devices for achieving desired types and levels of public facilities and services should include but not be limited to the following: (1) tax incentives and disincentives; (2) land use controls and ordinances; (3) multiple use and joint*

*development practices; (4) fee and less-than-fee acquisition techniques; and (5) enforcement of local health and safety codes.*

**Response:** The proposed land use designations and zoning for the annexation area – the east site and the west site – is appropriate for the type and level of public facilities and services that can be extended to the area. It is proposed to bring the west site into the Madras UGB and city limits but to retain its existing County Range Land (RL) zoning until landowners are ready to propose development. The site is surrounded by land planned for or developed as predominantly residential development. It is well situated for extension of urban facilities and services when they are needed. The proposed addition of a land use and zoning designation table to Section IV (Land Use Element) of the Madras Comprehensive Plan (Table 3-1) establishes the City and County zoning designations that correspond to City land use designations, and will guide the transition from County zoning to appropriate City zoning once a land use action is proposed.

It is proposed that the east site be re-zoned to R-2 upon annexation so that it can provide land for uses such as urban levels of housing and related public/semi-public uses. These uses are similar to and compatible with surrounding development. The east site is tangent to the existing UGB and is bordered by Ashwood Road, a County collector road, which lends itself to the extension of services from inside the existing UGB and city limits. In that vein, service providers have determined that sufficient water and sewer service can be provided to the east and west sites given existing and planned systems (Appendix D).

The east site is part of the approved Yarrow Master Plan, a plan that envisions a variety of housing and then an internal circulation system, open space, public uses (including a school), and a small-scale commercial area to serve the primary residential uses.

Once the properties are annexed into the city limits and developed, wastewater and domestic water services will need to be extended to each developed property. The property owner will fund the extension of wastewater and domestic water services to their properties. Extension of these facilities will be completed as required in the City of Madras Wastewater Master Plan and the Deschutes Valley Water District Master Plan.

As previously discussed, this proposal is not a development proposal that offers entitlements for construction. Subsequent to this land use action, the property owner will be required to obtain development approvals (e.g. Site Plan Review, Conditional Use, or Subdivision). Any development approval will require public facilities to be extended to the subject property at the expense of the applicant.

**OAR 660-011-0010**

**The Public Facility Plan**

*(1) The public facility plan shall contain the following items:*

*(a) An inventory and general assessment of the condition of all the significant public facility systems which support the land uses designated in the acknowledged comprehensive plan;*

- (b) A list of the significant public facility projects which are to support the land uses designated in the acknowledged comprehensive plan. Public facility project descriptions or specifications of these projects as necessary;*
- (c) Rough cost estimates of each public facility project;*
- (d) A map or written description of each public facility project's general location or service area;*
- (e) Policy statement(s) or urban growth management agreement identifying the provider of each public facility system. If there is more than one provider with the authority to provide the system within the area covered by the public facility plan, then the provider of each project shall be designated;*
- (f) An estimate of when each facility project will be needed; and*
- (g) A discussion of the provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of each public facility project or system.*

*(2) Those public facilities to be addressed in the plan shall include, but need not be limited to those specified in OAR 660-011-0005(5). Facilities included in the public facility plan other than those included in OAR 660-011-0005(5) will not be reviewed for compliance with this rule.*

*(3) It is not the purpose of this division to cause duplication of or to supplant existing applicable facility plans and programs. Where all or part of an acknowledged comprehensive plan, facility master plan either of the local jurisdiction or appropriate special district, capital improvement program, regional functional plan, similar plan or any combination of such plans meets all or some of the requirements of this division, those plans, or programs may be incorporated by reference into the public facility plan required by this division. Only those referenced portions of such documents shall be considered to be a part of the public facility plan and shall be subject to the administrative procedures of this division and ORS Chapter 197.*

#### **OAR 660-011-0015**

##### **Responsibility for Public Facility Plan Preparation**

*(1) Responsibility for the preparation, adoption and amendment of the public facility plan shall be specified within the urban growth management agreement. If the urban growth management agreement does not make provision for this responsibility, the agreement shall be amended to do so prior to the preparation of the public facility plan.*

*(2) The jurisdiction responsible for the preparation of the public facility plan shall provide for the coordination of such preparation with the city, county, special districts and, as necessary, state and federal agencies and private providers of public facilities.*

**Response:** The Oregon Administrative Rule (OAR) that implements Goal 11 is OAR 660-011. The rule establishes requirements for the planning and provision of public facilities in Oregon. Pursuant to OAR 660-011-0005(5), a public facility “includes water, sewer, and transportation facilities, but does not include buildings, structures or equipment incidental to the direct operation of those facilities.” Transportation facilities are addressed in detail in the response and findings for Goal 12 in this report.

The City of Madras is responsible for the planning and provision of sewer service in the proposed annexation area, and Deschutes Valley Water District (DVWD) for the planning and provision of sewer service in the area. The City and DVWD master plans for sewer and water provide an inventory and assessment of existing facilities, a list and map of planned projects, a timeline for their implementation, and a discussion of costs and financing mechanisms.

The City Public Works Director has submitted a letter that is included with this report (Appendix D) that affirms there is sufficient capacity in existing and planned sewer infrastructure to serve the east and west sites in the proposed annexation area. Similarly, the DVWD General Manager has prepared a statement that there is sufficient capacity in existing and planned water infrastructure to serve the proposed annexation area (Appendix D).

**Findings:**

- Implementation of public facilities and services in Madras is primarily regulated by land use plans and ordinances and public facility master plans, which are elements of the City Comprehensive Plan.
- The City of Madras will be the primary provider of urban facilities and services in the proposed UGB amendment and annexation area. The City will be able to coordinate service to the area with facilities and services already provided to adjacent land within the existing UGB.
- The approved Yarrow Master Plan applies to the east site and shows an internal transportation network and sites for housing and a school.
- The City of Madras Public Works Director and DVWD General Manager have provided letters that verify that there is sufficient capacity in existing and planned sewer and water infrastructure to serve the proposed annexation area.
- When development occurs on the properties to be included in the Madras UGB, the property owner will be responsible for cost to extend sewer and domestic water facilities to development.

**Conclusion:** The proposed map and text amendments comply with Goal 11 for public facilities and services subject to OAR 660, Division 11.

**Goal 12 Transportation**

*To provide and encourage a safe, convenient and economic transportation system.*

**660-012-0060**

**Plan and Land Use Regulation Amendments**

*(1) Where an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation would significantly affect an existing or planned transportation facility, the local government shall put in place measures as provided in section (2) of this rule to assure that allowed land uses are consistent with the identified function, capacity, and performance standards (e.g. level of service, volume to capacity ratio, etc.) of the facility. A plan or land use regulation amendment significantly affects a transportation facility if it would:*

- (a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);
  - (b) Change standards implementing a functional classification system; or
  - (c) As measured at the end of the planning period identified in the adopted transportation system plan:
    - (A) Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;
    - (B) Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan; or
    - (C) Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.
- (2) Where a local government determines that there would be a significant effect, compliance with section (1) shall be accomplished through one or a combination of the following:
- (a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.
  - (b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.
  - (c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.
  - (d) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.
  - (e) Providing other measures as a condition of development or through a development agreement or similar funding method, including transportation system management measures, demand management or minor transportation improvements. Local governments shall as part of the amendment specify when measures or improvements provided pursuant to this subsection will be provided.

**Response:** Reflecting Statewide Goal 12 and the Transportation Planning Rule, UGB amendment applications must provide the following pursuant to Madras Goal 14 policies:

- 4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need;  
(Madras Comprehensive Plan Policy J-4)

City R-2 (Multi-Family Residential) zoning is proposed for the east site of the UGB amendment and annexation area. The zone allows multi-family and single-family housing outright and then allows associated uses such as schools, libraries, and community centers conditionally. The minimum lot size for single-family housing is 7,500 square feet and for



multi-family 10,000 square feet for the first two units and 2,000 square feet per each additional unit.

The east site is adjacent to Ashwood Road, an existing road built to County standards as a collector road. Ashwood Road borders the site to the north and provides primary access and connectivity to the proposed lands. Ashwood Road serves the Deer Creek Correctional Institute and other rural uses to the east of the site. To the immediate west Ashwood Road serves Juniper Hills Park and the Jefferson County Middle School, and further west transitions into B Street and connects to US 97 and the City's downtown core. A recently constructed extension of City View to J Street connects the parcel to the southern City limits, and Bean Drive connects toward the northern portion of the City. Table 1 summarizes key characteristics of the existing roadway facilities (Appendix F).

The transportation analysis for annexing and re-zoning the east site to R-2 was based on the assumptions below. Given that schools generate more peak hour traffic than housing alone, two scenarios were developed for Transportation Planning Rule (TPR) analysis that involved both housing and a school. The difference in the scenarios represents the typical range of an elementary school site, 5-10 acres.<sup>2</sup> The enrollment assumption roughly approximates the average elementary school enrollment in Jefferson County School District 509-J. A maximum housing density of 11.6 units/acre was derived from standards for lot and building size, parking, setbacks, and infrastructure for multi-family residential uses in the R-2 zone.

1. **5-acre school site** – 174 multi-family units on 15 acres and a 350-student elementary school.
2. **10-acre school site** – 116 multi-family units on 10 acres and a 350-student elementary school.

The analysis found that all the study intersections operate acceptably in the planning horizon<sup>3</sup> with and without the proposed annexation and re-zoning of the east site, except the intersections of US 97 and J Street. These intersections exceed volume-to-capacity (v/c) standards in 2025 *with or without* the proposed annexation and re-zoning. Because the proposal increases traffic at these intersections, even if minimally, the proposal is deemed to have a “significant effect”; it would further degrade the performance of the failing intersections.

Improvements for the US 97/J Street intersection have been included in an amendment to the Madras TSP and in the ODOT 2010-2013 Draft STIP. The improvements involve realignment of northbound US 97 onto Adams Drive and two new traffic signals at the new J Street intersections, and would allow the US 97/J Street intersections to operate within adopted v/c standards. ODOT has deemed these improvements to be “reasonably likely” in the planning horizon and, thus, no significant would occur with the proposed annexation and re-zoning (Appendix G).

#### **Findings:**

- Transportation analysis for the east site of the proposed UGB amendment and annexation area assumed that the area would be developed with a combination of housing and a school. This was because there is the potential for a school to be located on the site and schools generate more traffic, thus creating a “worse case” set of scenarios for the analysis.
- Transportation analysis showed that all the study intersections would perform within adopted operational standards at the end of the planning horizon with or without the proposed annexation and re-zoning of the east site, except the intersections of US 97 and J Street. These intersections exceed adopted standards and the proposed annexation and re-zoning produce a “significant effect” on the intersections.

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<sup>2</sup> An elementary school is the type of school needed in Madras according to the 2009 Long Range Facility Plan.

<sup>3</sup> Consistent with individual TSPs and a 15-year minimum pursuant to the Oregon Highway Plan, the planning horizon for City facilities is 2020, for County facilities is 2027, and for State facilities is 2025.

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However, improvements for the intersections that are included in the Madras TSP and the 2010-2013 Draft STIP have been deemed “reasonably likely” to occur in the planning horizon, thus mitigating the proposal’s significant effect.

**Conclusion:** The proposed map amendments comply with Goal 12 and OAR 660-015-0060.

**Goal 13 Energy Conservation**  
*To conserve energy.*

**Response:** The east site of the UGB amendment and annexation area is part of the Yarrow Master Plan area. The master plan includes a range of land uses so that residents can meet many daily needs within the neighborhood. The plan designates land predominantly for housing, but for parks and open space, a school, other community services, and commercial services as well. This mix of uses will provide for these daily needs and reduce the need to drive outside the neighborhood to access these uses.

All public improvements within the Yarrow Master Plan area are required to be constructed to City of Madras standards, which includes the provision of sidewalks. The Master Plan also includes planned open space which will be accessed by a multi-use trail system that will connect to existing multi-use trails in the City of Madras. This supports the use of non-motorized transportation and the conservation of fuel resources. This proposed UGB amendment and annexation does not provide all of the land needed to implement the master plan but provides part of it.

The west site is not part of the Yarrow Master Plan but will be subject to internal circulation and multi-modal standards when a land division or planned unit development is proposed. Like the east site, the west site is adjacent to Ashwood Road.

While water service was projected to be of similar cost to provide to all the study areas that comprise the Madras URA, there were differences in relative cost for providing sewer service given the need for pumping in some of the study areas. The proposed UGB amendment and annexation area is part of a study area and a drainage area where no pumping or limited pumping would be required for sewer service. This minimizes the amount of energy needed to provide that service.

All residential development within the Yarrow Master Plan area are required be built to Earth Advantage/Energy Star standards and receive certification as stated in the Codes, Covenants, and Restrictions (CC&R’s) recorded for the development. Such requirement reduces energy consumption of each dwelling constructed in the Master Plan area and thereby conserves energy consumption which in part satisfies the Goal 13 requirements.

**Findings:**

- The approved Yarrow Master Plan that applies to the east site of the proposed UGB amendment and annexation area proposes a variety of uses that will allow residents to take care of day-to-day needs without always having to drive out of the

neighborhood to do so. The plan also indicates multi-use paths and a continuous network of sidewalks to promote walking and bicycling. This supports fuel and energy conservation.

- Providing sewer service to the proposal area requires less pumping and, therefore, infrastructure, energy, and cost than other parts of the URA and other areas around the existing UGB.
- The CC&R's recorded for the Yarrow Master Plan area require energy conservation by requiring future development to meet or exceed Earth Advantage/Energy Star standards.

**Conclusion:** The proposed map amendments comply with State requirements for energy conservation per Statewide Land Use Planning Goal 13.

#### **Goal 14 Urbanization**

*To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.*

*(2) Orderly and economic provision of public facilities and services;*

**Response:** The proposed map amendments respond to the need for more residentially zoned land as determined in the adopted *Madras Urbanization Study and Addendum*. The studies analyzed the potential for development inside the existing UGB and found that in addition to development that the existing UGB can accommodate, approximately 220 acres of land is needed outside the UGB for residential and related public/semi-public uses over the years until 2027. These studies provided the basis for the Madras URA and URAs are enabled by statewide rules that address orderly and efficient land use as well as an orderly and efficient *process* for amending UGBs when needed.

This proposed map amendment draws strictly from land in the URA, which is the first priority land to be included in the UGB pursuant to ORS 197.298 and Madras plan policies.

The proposed text amendments (Section III) contribute to orderly and efficient transition from rural to urban land use by clearly establishing the ways that Jefferson County and City of Madras zones correspond to Madras Comprehensive Plan designations.

Transportation, water, and sewer services are among the critical public facilities that must be provided for the proposed UGB amendment area. As discussed in the narrative and findings for Goals 11 and 12 above, these services can be provided to the UGB amendment area relying on planned capital improvements.

**Transportation** – Transportation analysis shows that all study intersections perform within adopted operational standards at the end of the planning horizon, with or without the proposed annexation and re-zoning of the east site, except for the intersections at US 97 and J Street. An analysis shows the performance of those intersections, as they are currently designed, exceed mobility standards with and without the proposed annexation and re-

zoning. Unless the intersections can be improved, the proposed annexation and re-zoning produce a “significant effect” on them by making worse an already failing condition.

Proposed improvements to the “J” Street and US 97 intersections are included in the Madras TSP. Those improvements also are listed in the 2010-2013 Draft STIP, in effect programming the necessary state resources for them. On that basis, ODOT has determined the “J” Street/US 97 intersection improvements are “reasonably likely” to occur in the planning horizon (Appendix G). With those planned improvements in place, the affect of the proposed annexation is mitigated and the proposal will not have a significant effect.

**Water** – During the development of the Madras URA, Deschutes Valley Water District (DVWD) reported that there would be no supply constraint for urban development in the URA. Significant expansion of the District’s distribution system would be necessary to serve urban demand in each part of the URA, and the water service study found that the marginal cost differences between the URA study areas were insignificant. Existing and planned facilities will provide sufficient water service to the area, as confirmed by Deschutes Valley Water District in a service provided letter (Appendix D).

**Sewer** – Public facility analysis conducted in developing the Madras URA showed that sewer service to the eastern study areas in the URA would be more cost-efficient because no pumping or limited pumping would be required as compared to areas to the north, south, and west. For the proposed UGB amendment area, existing and planned sewer facilities will provide sufficient service to the area according to City of Madras Public Works (Appendix D).

#### **Findings:**

- The proposed map amendments address the residential land need established in the Madras urbanization studies. It draws from the Madras URA, which is the first priority land to be included in the UGB when land need is demonstrated.
- The text amendments facilitate the transition between County zoning and City land use designations and zoning.
- Water service can be provided to the proposal area using the existing and planned water facilities that are identified in the Deschutes Valley Water District’s water master plan. Providing water service was not found to be significantly different in cost between different parts of the URA in studies done in developing the Madras URA.
- Studies conducted for the URA found that drainage areas in the eastern and southeastern parts of the URA were easier to serve in that they needed no pumping or minimal pumping of sewage when compared to other parts of the URA. Sewer service can be provided to the proposal area using the existing City of Madras sewer master plan.
- Sufficient transportation facilities and service can be provided to the proposed UGB amendment area given “reasonably likely” construction of improvements to the intersections of US 97/J Street before 2025.



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**Conclusion:** The proposed map and text amendments comply with State requirements for orderly and economic urbanization and provision of public facilities and services per Statewide Land Use Planning Goal 14.

## VI. Conformance with Oregon Revised Statutes (ORSs)

### ORS 197

**197.298 Priority of land to be included within urban growth boundary.** (1) In addition to any requirements established by rule addressing urbanization, land may not be included within an urban growth boundary except under the following priorities:

(a) First priority is land that is designated urban reserve land under ORS 195.145, rule or metropolitan service district action plan.

(b) If land under paragraph (a) of this subsection is inadequate to accommodate the amount of land needed, second priority is land adjacent to an urban growth boundary that is identified in an acknowledged comprehensive plan as an exception area or nonresource land. Second priority may include resource land that is completely surrounded by exception areas unless such resource land is high-value farmland as described in ORS 215.710.

(c) If land under paragraphs (a) and (b) of this subsection is inadequate to accommodate the amount of land needed, third priority is land designated as marginal land pursuant to ORS 197.247 (1991 Edition).

(d) If land under paragraphs (a) to (c) of this subsection is inadequate to accommodate the amount of land needed, fourth priority is land designated in an acknowledged comprehensive plan for agriculture or forestry, or both.

(2) Higher priority shall be given to land of lower capability as measured by the capability classification system or by cubic foot site class, whichever is appropriate for the current use.

(3) Land of lower priority under subsection (1) of this section may be included in an urban growth boundary if land of higher priority is found to be inadequate to accommodate the amount of land estimated in subsection (1) of this section for one or more of the following reasons:

(a) Specific types of identified land needs cannot be reasonably accommodated on higher priority lands;

(b) Future urban services could not reasonably be provided to the higher priority lands due to topographical or other physical constraints; or

(c) Maximum efficiency of land uses within a proposed urban growth boundary requires inclusion of lower priority lands in order to include or to provide services to higher priority lands. [1995 c.547 §5; 1999 c.59 §56]

**Response:** The proposed UGB amendment and annexation area is solely comprised of land from the Madras URA, which is the first priority of land to be included within the UGB pursuant to ORS 197.298(1)(a). There is sufficient land in the Madras URA to provide for the land needs estimated for the next 20 years in the *Madras Urbanization Study Addendum* (ECONorthwest, August 2007) and presented below.

The proposed UGB amendment and annexation provides land to meet a portion of the need for residentially zoned land over the next roughly 20 years (Table 6-1). The City's next periodic review process will ensure that the Madras UGB includes enough land to meet the remaining land needs projected to 2027.

**Table 6-1: Housing Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Plan Designation	Land Demand		Supply 2007	Surplus (deficit)	
	2007-2027	2007-2057		2007-2027	2007-2057
<b>Residential</b>					
R-1	451.9	1,355.7	398.1	(53.8)	(957.6)
R-2	46.1	138.2	23.5	(22.5)	(114.6)
R-3	148.0	444.0	242.8	94.8	(201.2)
RR5	0.0	0.0	32.7	32.7	32.7
RR10	0.0	0.0	47.5	47.5	47.5
RL	0.0	0.0	38.7	38.7	38.7
Public/Semi-public uses on res land	358.3	770.7	0.0	(358.3)	(770.7)
<b>Subtotal (Residential)</b>	<b>1,004.2</b>	<b>2,708.6</b>	<b>783.3</b>	<b>(220.9)</b>	<b>(1,925.3)</b>
<b>Commercial (Retail &amp; Services)</b>					
C-1	230.6	758.1	80.2	(150.4)	(677.9)
NC	28.6	90.4	4.9	(23.7)	(85.4)
CC	0	0	32.6	32.6	32.6
<b>Subtotal Commercial</b>	<b>259.2</b>	<b>848.5</b>	<b>117.7</b>	<b>(141.5)</b>	<b>(730.8)</b>
<b>Industrial</b>					
I	251.4	749.9	296.9	45.5	(452.9)

Notes: a.) public and semi-public land needs were allocated to residential zones

**197.610 Local government notice of proposed amendment or new regulation; exceptions; report to commission.** (1) A proposal to amend a local government acknowledged comprehensive plan or land use regulation or to adopt a new land use regulation shall be forwarded to the Director of the Department of Land Conservation and Development at least 45 days before the first evidentiary hearing on adoption. The proposal forwarded shall contain the text and any supplemental information that the local government believes is necessary to inform the director as to the effect of the proposal. The notice shall include the date set for the first evidentiary hearing. The director shall notify persons who have requested notice that the proposal is pending.

(2) When a local government determines that the goals do not apply to a particular proposed amendment or new regulation, notice under subsection (1) of this section is not required. In addition, a local government may submit an amendment or new regulation with less than 45 days' notice if the local government determines that there are emergency circumstances requiring expedited review. In both cases:

(a) The amendment or new regulation shall be submitted after adoption as provided in ORS 197.615 (1) and (2); and

(b) Notwithstanding the requirements of ORS 197.830 (2), the director or any other person may appeal the decision to the board under ORS 197.830 to 197.845.

(3) When the Department of Land Conservation and Development participates in a local government proceeding, at least 15 days before the final hearing on the proposed amendment to the comprehensive plan or land use regulation or the new land use regulation, the department shall notify the local government of:

(a) Any concerns the department has concerning the proposal; and

(b) Advisory recommendations on actions the department considers necessary to address the concerns, including, but not limited to, suggested corrections to achieve compliance with the goals.

(4) The director shall report to the Land Conservation and Development Commission on whether the director:

(a) Believes the local government's proposal violates the goals; and

(b) Is participating in the local government proceeding. [1981 c.748 §4; 1983 c.827

§7; 1985 c.565 §27; 1989 c.761 §20; 1999 c.622 §1]

**Response:** Notice of the proposed map and text amendments was sent to the Department of Land Conservation and Development (DLCD) at least 45 days before the first evidentiary hearing on the proposal. Notice was sent to DLCD on December 14, 2009, which was more than 45 days before the first advisory hearing before the Jefferson County and City of Madras Planning Commissions on February 11, 2010. A notice addendum was submitted to DLCD on January 14, 2010. Further hearing dates have yet to be determined but DLCD provided comments on the proposal on January 29, 2010, more than 15 days prior to the final adoption hearing date.

DLCD comments address the map amendments. They call for a boundary locational analysis pursuant to OAR 660-024-0060 and a “reasonably likely” determination from OODT for the proposed 20-acre rezoning. The locational analysis is not necessarily applicable because the proposed map amendment draws from an adopted and acknowledged URA. Part of the idea behind URAs is to create a 20- to 50-year reserve of land for urbanization all at once so that the process for subsequent UGB amendments can be streamlined. For cities or regions that do not have URAs, it is understood that the locational analysis established in -0060 would definitely be applicable and needed.

As to the “reasonably likely” determination, ODOT rendered an affirmative determination on February 2, 2010. DLCD comments acknowledge that the set of needed improvements at the intersections of US 97/J Street is in the current draft STIP. Including them in the final STIP signifies a financial commitment to the improvements and thus makes a clear finding for “reasonably likely.”

**197.626 Expanding urban growth boundary or designating urban or rural reserves subject to periodic review.** *A metropolitan service district that amends its urban growth boundary to include more than 100 acres, or that amends the district's regional framework plan or land use regulations implementing the plan to establish urban reserves designated under ORS 195.145 (1)(b), a city with a population of 2,500 or more within its urban growth boundary that amends the urban growth boundary to include more than 50 acres or that designates urban reserve under ORS 195.145, or a county that amends the county's comprehensive plan or land use regulations implementing the plan to establish rural reserves designated under ORS 195.141, shall submit the amendment or designation to the Land Conservation and Development Commission in the manner provided for periodic review under ORS 197.628 to 197.650. [1999 c.622 §14; 2001 c.672 §10; 2003 c.793 §4; 2007 c.723 §7]*

**Response:** The City of Madras has coordinated with Jefferson County regarding the proposed map and text amendments. The amendments to the City and County Comprehensive Plans are post-acknowledgement plan amendments. However, the adoption process for the amendments will follow periodic review procedures pursuant to ORS 197. As part of periodic review procedures, the proposed amendments are subject to review by DLCD and approval by LCDC. DLCD and LCDC will conduct their review process upon adoption of the proposed amendments by the Madras City Council and Jefferson County Board of Commissioners.

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**Findings:**

- The proposed UGB amendment and annexation area is entirely comprised of land from the Madras URA, the first priority of land to be included in the UGB pursuant to ORS 197.298(1)(a).
- There are 36.91 acres in the proposed UGB amendment and annexation. This meets some of the estimated need for residentially zoned land outside the existing UGB projected to 2027 by urbanization studies. The proposed R-2 zoning for the 20-acre parcel (east site) allows housing and public/semi-public uses such as parks and schools. Other land needs for the next 20 years will be addressed during the next periodic review cycle.
- Notice of the first advisory hearing on February 11, 2010 was sent to DLCD on December 14, 2009, more than 45 days before the advisory and evidentiary hearings. A notice addendum was filed on January 13, 2010.
- The City of Madras and Jefferson County have coordinated this proposed set of amendments.
- This proposal is a post-acknowledgement plan amendment (PAPA) but will follow procedures for periodic review. DLCD review and LCDC approval of the amendment will be necessary for the proposal if it is adopted by both the Madras City Council and Jefferson County Board of Commissioners.

**Conclusion:** The proposed map and text amendments comply with applicable State requirements for urban reserve area planning, plan amendments, and UGB amendments pursuant to ORS 197.



## **VII. Conformance with the Urban Growth Area Management Agreement (UGAMA)**

### **4. UGA ADMINISTRATION RESPONSIBILITIES**

- 4.1. *The City shall have responsibility for administration and decision making authority regarding all land use application within the UGB except applications for amendments to the UGB, as provided in Section 6.*
- 4.2. *The City shall have responsibility for annexation of land in the UGB. Lands outside the UGA shall not be annexed unless the UGB is also amended to include the territory to be annexed.*

### **6. PROCESS FOR URBAN GROWTH BOUNDARY AMENDMENTS**

- 1.1 *Amendments to the UGB, including amendments to the City's and County's comprehensive plan maps, may be initiated by the City, the County, or a property owner(s).*
- 1.2 *An application to amend the UGB shall be filed with the City Community Development Department along with the applicable City and County plan amendment fees. The City shall forward a copy of the application to the County Community Development Department, together with the County's plan amendment fee, within five working days of the date the application is filed.*
- 1.3 *The City and County Planning Commission shall each conduct a public hearing regarding the application. At their discretion, the Planning Commissions may hold a joint hearing rather than separate hearings.*
- 1.4 *The recommendation of the City and County Planning Commissions shall be forwarded to City Council, who shall hold a public hearing to consider the proposed amendment to the UGB. The decision of the City Council shall be forwarded to the County Board of Commissioners.*
- 1.5 *The Board of Commissioners shall conduct a public hearing and make a final decision on whether the UGB should be amended.*
- 1.6 *If the City and County disagree on the proposed amendments, a joint hearing of the City Council and Board of County Commissioners may be held to attempt to resolve the differences. Both jurisdictions may also request a dispute resolution process to resolve the differences.*
- 1.7 *If the governing bodies are not able to come to mutual agreement there shall be no change to the UGB.*

**Response:** The Urban Growth Area Management Agreement (UGAMA) (Appendix H) was adopted by the City of Madras and Jefferson County on April 5, 2006. Pursuant to UGAMA terms for UGB amendments, the City is an eligible applicant for a UGB amendment application (Section 6.1). The UGB amendment application and appropriate fees were forwarded to the Jefferson County Community Development Department within five working days of being initially filed (Section 6.2).

Hearings by the Madras Planning Commission and Jefferson County Planning Commission were first held jointly on February 11, 2010. The Madras City Council and Jefferson County

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Board of Commissioners held a joint public hearing on March 29, 2010 to review their recommendations from their respective Planning Commissions. On March 29, 2010, the Madras City Council approved the proposed Comprehensive Plan amendments and forwarded its recommendation that evening to the Jefferson County Board of Commissioners who then approved the proposed Comprehensive Plan amendment. All of the public hearings before the Planning Commissions, Madras City Council, and Jefferson County Board of Commissioners were conducted in a manner consistent with the provisions of the UGAMA.

It is proposed to annex both the east site and west site to the Madras UGB and city limits, and it is proposed to re-zone only the east site at this time. Regardless, if both sites are brought into the UGB and city limits, Madras will assume land use administration and decision making authority for the sites pursuant to Section 4.1 of the UGAMA.

**Findings:**

- The City is an eligible applicant for a UGB amendment application.
- Appropriate UGB amendment application materials and fees were forwarded to the Jefferson County Community Development Department in the prescribed amount of time.
- The proposal will be heard jointly by the County and City Planning Commissions and then separately by the County Board of Commissioners and City Council.
- Madras assumes administrative responsibility for any land annexed to its UGB and city limits.

**Conclusion:** The proposed map amendments comply with applicable local requirements for UGB amendments per the UGAMA between Jefferson County and the City of Madras, adopted April 5, 2006.

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## VIII. Conformance with the Jefferson County Comprehensive Plan

### Goal 14: Urbanization

*Policy 1: Changes to urban growth boundaries, the establishment of new urban growth boundaries or urban reserve areas, incorporation of a new city, or annexation of land into a city which is not in an established urban growth boundary requires an amendment to this Plan and the Zoning Map. The following factors should be used in considering such proposals:*

- A. *Demonstrated need to accommodate long-range urban population consistent with a 20- to 50-year population forecast coordinated with the cities;*
- B. *Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks or open space;*
- C. *Orderly and economic provision of public facilities and services;*
- D. *Maximum efficiency of land uses within and on the fringe of the existing urban area.*
- E. *Comparative environmental, energy, economic and social consequences;*
- F. *Compatibility of the proposed urban uses with nearby agricultural activities on land outside the UGB; and*
- G. *Priority of land as required by ORS 197.298. Non-irrigated parcels may be added to the UGB before irrigated parcels that are in the same statutory priority.*

**Response:** The proposed change to the UGB fulfills some of the need for residentially zoned land outside the existing UGB as identified in the *Madras Urbanization Study and Addendum*. The urbanization studies found the need for approximately 220 acres of residentially zoned land – for residential and public/semi-public uses – over the next 15-20 years. This is land that was found to be needed outside the existing UGB once all residential land inside the existing UGB is built out. Although the studies found a land need primarily for residential uses, employment and public/semi-public uses also were also determined to need land inside and outside the existing UGB in the next 20-50 years.

The studies were the basis for adopting the Madras URA, which the County adopted in November 2008 and DLCD acknowledged in July 2009. The proposed UGB and map amendments draw strictly from land designated as URA, which is the first priority land to include in the UGB pursuant to ORS 197.298. The proposed residential zoning and expected primarily residential uses are compatible with residential development on the edges within the existing UGB, and provide a similar buffer to resource land outside the UGB.

The URA is comprised of land that is classified as “exception” land as well as land zoned by the County as Range Land (RL). Range land was included in the URA because: exception land could not meet all the land needs of the next 20-50 years on its own; range land is lower value resource land; and range land surrounding the existing UGB – particularly to the east and southeast – would be more easily served with sewer than other land surrounding the existing UGB.

The ability to serve land on the east and southeast of the existing UGB and to urbanize land that is not parcelized like the exception land in the URA, as well as the lower resource value of the land, offer more land use efficiency and cost-effectiveness and fewer impacts on prime resource land than initially bringing other land in the URA into the UGB. This gives land on the east comparative advantages in economic, energy, environmental, and social terms.

*Policy 2: The County shall cooperate with each city to determine where and when an urban growth boundary should be expanded.*

*2.1 Expansion of an existing urban growth boundary shall be in accordance with state requirements, including the priority of land to be included within the urban growth boundary. Non-irrigated land should have a higher priority for inclusion in the boundary than irrigated land.*

**Response:** Jefferson County and City of Madras staff have closely coordinated the proposed map amendments, and the first evidentiary hearing for the proposal will be a joint meeting of the County and City Planning Commissions. The two jurisdictions also worked closely together to adopt the Madras URA in 2008.

The proposed map amendments comply with applicable Statewide Planning Goals, statutes, and administrative rules as demonstrated in previous sections of this report. The proposed UGB amendment is comprised of land from the Madras URA, which is the first priority for inclusion in the UGB pursuant to ORS 197.298. The land is not irrigated.

**Findings:**

- The proposed UGB and map amendments provide some of the residentially zoned land that is needed outside the existing UGB in the next 15-20 years as found in Madras urbanization studies.
- The amendments draw only from non-irrigated land in the Madras URA, which is the first priority land to include in the UGB pursuant to state statute.
- Residential and related public/non-public uses will be compatible with residential development adjacent and inside the existing UGB, as it will with resource land outside the UGB that already borders residential uses just inside the UGB.
- The ability of the land in the proposed amendment area to be more easily served with sewer than other land in the URA or other land surrounding the existing UGB and to build more densely than developed exception land provides land use, energy, and investment efficiencies. Developing more efficiently and on low resource land instead of

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high resource land also present social and environmental benefits when compared to other land surrounding the existing UGB.

- Jefferson County and City of Madras have collaborated on the proposed map amendments.
- The proposed map amendments comply with applicable Statewide Planning Goals, statutes, and administrative rules.

**Conclusion:** The proposed map amendments comply with applicable policies from the Jefferson County Comprehensive Plan.

## IX. Conformance with the City of Madras Comprehensive Plan

**GOAL 14** - To provide for an orderly and efficient transition from rural to urban land, and to provide for livable communities.

*[Paragraph amended by Ordinance No. 781, Passed by Council on December 12, 2006]*

### POLICIES

A. *The City, in cooperation with Jefferson County, shall establish an Urban Growth Boundary.*

B. *The City, in cooperation with Jefferson County, shall mutually agree to a management plan for the Urban Growth Boundary area.*

C. *The City, in cooperation with Jefferson County, shall establish an Urban Growth Boundary revision process to be utilized in a proposed change of the Urban Growth Boundary.*

D. The City, in cooperation with Jefferson County, shall support adoption of an Urban Reserve Area boundary that, when taken together with land supplies in the Urban Growth Boundary, may contain up to a 50-year supply of land for the City of Madras to support housing, economic development, public facility, recreation needs and other urban land needs.

E. The City, in cooperation with Jefferson County, shall give priority to land in designated urban reserve areas over other land when considering urban growth boundary amendments.

**Response:** The Madras City Council approved the Madras URA in October 2008 and the Jefferson County Board of Commissioners in November 2008. DLCD and LCDC received the URA proposal for review in January 2009, and approved the proposal – but remanded sections of proposed County Zoning Ordinance amendments having to do with use restrictions in the URA – in July 2009. The land in the proposed UGB amendment that is the subject of this application is land entirely drawn from the Madras URA, land estimated to be needed for urbanization over the next 50 years.

F. The City shall favor UGB amendments that involve land in locations that are suitable to address identified urban land needs in order to minimize buildable land supply shortages and address identified needs. Factors that will be considered when evaluating UGB additions include:

1. Existing and planned capacity of the transportation system
2. Existing and planned capacity of the city waste water treatment plant
3. Existing and planned capacity of the city sanitary sewer conveyance system
4. Existing and planned capacity of the Deschutes Valley Water District supply system
5. Impacts on schools, parks, and public safety service providers
6. Impacts on future operating costs for public facilities and services



G. The City, in cooperation with Jefferson County, shall undertake an evaluation of the urban growth boundary land supply once every five years or more frequently if certified population growth rates exceed 3.2% in three consecutive years. In the event certified population growth rates fall below 3.2% for three consecutive years, the City and County may agree to postpone the evaluation of UGB land supply for up to three years.

H. During years when a comprehensive UGB land supply evaluation is not scheduled, individual applications for adding property to the UGB shall be limited to requests of less than 40 acres. UGB amendment applications must demonstrate consistency with applicable Oregon statutes and administrative rules and be accompanied by information that addresses Policy 14-J below. Applications that involve more than 5 acres also must comply with provisions of Policy 14-I.

I. The City, in cooperation with Jefferson County, shall encourage the development of complete, livable communities that include characteristics such as: a variety of lot sizes, dwelling unit types and ownership types, open spaces and other recreational amenities, a mix of land uses, school and community facilities, connected streets, proximity to downtown and other employment centers, and development that is scaled to the pedestrian and creates a sense of place. New growth areas of more than 5 acres that are added to the UGB shall ~~should~~ be planned and developed in accordance either with a master planned community development plan approved under the city Master Planned Community Overlay zone, or an Area Master Plan. The City encourages Master Planned Communities as a means to meet city housing needs as explained in other comprehensive plan documents. It may be appropriate, however, for the city to add new growth areas to the UGB that are planned and developed in accordance with an approved Area Master Plan. A majority of property owners subject to a Master Planned Community, or to an Area Master Plan, must consent to be included in the plan.

1. A Master Planned Community (MPC) Overlay may apply to large multi-phased development projects where the master plan is intended to guide future development patterns and serves to regulate the site-development approval process. A MPC requires generous open space and amenities, and encourages efficient use of land and public facilities and services, a variety of housing types, innovative designs and complete pedestrian-friendly communities. A MPC shall demonstrate efficient use of land consistent with an identified urban land need, show appropriate locations for transportation improvements, public facilities, and the protection of significant open space, scenic, historic, and natural resource areas. A MPC must show how planned land uses will be integrated with the existing urban development pattern. Physical barriers, such as highways, tend to disrupt complete communities and livability because they disconnect areas from downtown and result in an auto-oriented environment of sprawl along highway corridors.

2. An Area Master Plan (AMP) is appropriate for land added to the UGB where the approval of future urban development is expected to rely on conventional urban zoning and the application of codified development standards and review procedures. An AMP may be prepared for contiguous properties added to the UGB that are greater than 5 acres and are not subject to a MPC overlay. An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural

resource areas. An AMP must show how planned land uses will be integrated with the existing urban development pattern.

3. An approved Master Planned Community Plan or an Area Master Plan must include documentation that a majority of property owners support the conversion of land to the planned urban uses and also consent to annexation by the city of Madras using a voluntary annexation process that is outlined in the plan.

**Response:** The total area under consideration is 36.4 acres, which is less than the 40 acre maximum established for interim UGB annexation requests. The east site of the proposed UGB amendment and annexation area is part of the approved Yarrow Master Plan area. The plan designates land for predominantly residential land uses, which is compatible with adjacent development in the UGB, while also designating land for open space and park uses, community services including schools, and limited neighborhood commercial services. The conceptual plan also shows an internal transportation system that includes sidewalks and multi-use paths.

The east site is being proposed for both annexation to the UGB and Madras city boundaries. The site can be adequately served with water and sewer facilities given existing and planned facilities, according to the service providers (Appendix D). The site is not projected to have a significant adverse effect on surrounding transportation facilities given planned improvements for the intersections of US 97/J Street (Appendices F and G). Its proposed designation as Multi-family Residential is consistent with land needs identified in the 2007 urbanization studies and with residential zoning in the area.

Pursuant to Policy I-1: “An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas.” It is proposed to annex the west site to the Madras UGB and city limits but to retain its existing County Range Land (RL) zoning until the owners are ready to propose development. The site is surrounded by land designated for residential and related uses, and its future land use and zoning designation must allow for residential and compatible public/semi-public uses in order to show that land uses on the west site can be: “integrated with the existing urban development pattern.” (Policy I-2) The proposed addition of a table showing Madras and County zones that correspond with Madras land use designations to the Madras Comprehensive Plan Section IV, Land Use Element (Table 3-1), will facilitate the transition of existing County zoning to appropriate City zoning.

The west site is comprised of three lots – Lots 101 and 200 that total 16.22 acres and are privately owned and Lot 102 that is 0.69 acres designated for County right-of-way. Lots 101 and 200 are both adjacent to Ashwood Road, a County collector, and will not require additional public roads for sufficient internal or local circulation. At the time of proposed development, proposed land division or planned development plans must show an internal circulation system that satisfies City code requirements and street standards. The west site is adjacent to the existing Madras UGB and is bordered by Ashwood Road, which eases extension of services from inside the existing UGB and city limits to the west site. Water and sewer service providers have attested that existing and planned facilities will be sufficient to serve the west site (Appendix D).

The County has not identified historic, scenic, or natural resources on the west site. City open space requirements for subdivisions or planned developments will apply to the site at the time of proposed development.

J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:

1. The proposed urban zoning or land use program for the subject properties that address an identified urban land need;
2. An annexation program for all subject properties;
3. Evidence that public facilities required by OAR 660-011-000 that are necessary to serve the expansion area can be served either by system improvements outlined in adopted public facility master plans or by supplemental improvements that augment adopted public facility master plans;
4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need;
5. Evidence that providers of other crucial public facilities (e.g. schools, parks and recreation, emergency services and health care) are able to meet the projected demand for their services;
6. Evidence that financing for constructing needed public improvements is available so that the expansion area can be developed as planned within the planning horizon;
7. Evidence that development in areas subject to natural hazards are protected from these hazards;
8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.

**Response:**

***Zoning and Land Use Designations (Policy J1)***

The east site is proposed to be re-zoned to a City R-2 designation. This meets some of the need for residentially zoned land outside the existing UGB that is projected for the next 15-20 years. Residentially zoned land will provide for housing and public/semi-public uses. This land need is documented in the *Madras Urbanization Study Addendum* (ECONorthwest, August 2007). (See Table 5-2)

The west site is proposed to retain its existing County Range Land (RL) designation until the time when further land use action and development is proposed. Existing zoning will allow only limited development, and appropriate future designations for the site will be City residential designations given that City open space and residential zoning currently surround the site.

When rezoning is proposed for the west site and for other land being converted from rural to urban, the proposed text amendments (Table 3-1) will assist and regulate the rezoning that will occur when changing County zoning to City land use designations and zoning.

***Annexation Program (Policy J2)***

The City is the applicant for this proposal, and annexation program pursuant to Article 7 of its Zoning Ordinance is described later in this report.

***Goal 11 Public Facilities (Policy J3) and Transportation Planning Rule (Policy J4)***

Kittelson & Associates has performed the transportation analysis needed to deem whether the proposed UGB amendment constitutes a significant effect on the transportation system. Given that schools generate more peak hour traffic than housing alone, two scenarios were developed for Transportation Planning Rule (TPR) analysis that involved both housing and a school. Using these scenarios in a TPR analysis, it was found that the increase in traffic did constitute a significant effect on the US 97/J Street intersections. However, given improvements included in the City's amended TSP and Draft 2010-2013 STIP, the effect can be mitigated and removed.

Public facility analysis for establishing the Madras URA ranked drainage catchment areas around the existing UGB for sewer service costs and serviceability. Of the six study areas that comprised the preliminary and then final URA, Study Areas 3 and 4 on the east and southeast consistently ranked higher than other areas. This can, in part, be attributed to proximity to the new South Wastewater Treatment Plant (SWWTP) and being upslope of the plant. In particular, the proposed UGB amendment and annexation are located in Catchment Area 180 and bordering on Catchment Area 179. These areas ranked 8<sup>th</sup> and 12<sup>th</sup> out of 60 catchment areas, making them among the more cost-effective and serviceable areas of the URA.

As was also determined during the URA public facility analysis, Deschutes Valley Water District (DVWD) found that there would be insignificant differences in providing water service to the different parts of the URA. Water supply in the region is adequate to ample. Similarly, existing and planned sewer facilities provided by the City will be sufficient to serve the proposal area. (See service provider letters in Appendix D)

***Other Public Facilities (Policy J5)***

The east site has access to substantial park and recreation resources. Juniper Hills Park (County) and Bean Park (City) are nearby, as well as Jefferson County Middle School and its fields. The Yarrow Master Plan that applies to the site and surrounding land also designates open space and parks throughout the plan area.

The City reports that Mountain View Hospital and City public safety and emergency services are sufficient to provide services for the proposed UGB amendment and annexation area. The sites are served by the Jefferson County School District 509-J.

***Financing for Improvements (Policy J6)***

Financing for constructing the needed public improvements will be placed upon property owners. As demonstrated by the letters submitted by the City of Madras Public Works

Director and Deschutes Valley Water District General Manager, each respective utility has capacity to service the properties proposed to be included in the Madras UGB. To extend wastewater and domestic water services to the properties to be included in the UGB, each property owner will be responsible for extending services lines to their property, notwithstanding the requirements for annexing their property into the Madras city limits.

Similarly, the Oregon Department of Transportation has determined the proposed UGB expansion will significantly affect the US 97/J Street intersection but that the design concept is established, the City has implemented System Development Charges to partially fund the improvements for this particular intersection and in the Draft State Transportation Improvement Plan (STIP) is funding for the intersection. With the design concept established and both funding sources identified, ODOT has determined that the US 97/ J Street intersection improvements are Reasonably Likely to Occur and therefore, impacts of the proposed UGB expansion are mitigated.

***Protection from Natural Hazards (Policy J7)***

There are not steep slopes (slopes greater than 25%), floodway, or floodplain in the proposed UGB expansion and annexation area. In fact, the proposed amendment and annexation are driven, in part, by the need to provide a school that is outside the floodway and floodplain of Willow Creek and its tributaries.

Fire protection service for the proposal area is currently provided by Jefferson County Fire Protection District #1, and will continue to be provided by that district if the land is annexed to the city. The area is subject to a Community Wildfire Protection Plan (CWPP) that Jefferson County completed in 2005 in collaboration with the fire district and federal agencies.

***Protection of Goal 5 Resources (Policy J8)***

The Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files do not identify floodways, floodplains, significant habitat, or cultural resources in the proposed UGB amendment and annexation area. The only resources cited above that may apply to the site are open spaces. While open space will be a required part of public use or residential development that occurs in this area, this proposal itself is not a development or entitlement proposal and, therefore, does not specify precisely where such open space will be designated.

**Findings:**

- Amendments to zoning and land use designations are planned and proposed. The proposed City land use designation is residential and City zoning designation R-2 (Multiple Family Residential). A need for about 22 acres of land outside the existing UGB zoned R-2 was determined in the *Madras Urbanization Study Addendum*.
- Proposed text amendments facilitate the transition from urban to rural zoning, from County zoning to City land use designations and zoning.
- Existing and planned transportation facilities – including improvements for the US 97/J Street intersections in the Madras TSP and the 2010-2013 Draft STIP, which ODOT has deemed reasonably likely – will allow the study intersections to operate

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within adopted standards both in the case of the proposal area being annexed and re-zoned and not.

- Existing and planned water and sewer facilities will be sufficient to serve the proposal area.
- The proposed UGB amendment and annexation area has access to nearby parks, a middle school, and a high school. Rezoning the 20-acre east site to R-2 will allow for residential and public/semi-public uses there.
- Financing of wastewater and domestic water services will be placed upon property owners once the properties are annexed and developed in a manner that is consistent with the service providers facility plans.
- In terms of natural hazards, there are not slopes greater than 25%, floodway, or floodplain in the proposed UGB expansion and annexation area. The proposed amendments and annexation are based, in part, on the need to provide a school that is outside the floodway and floodplain of Willow Creek and its tributaries. Fire protection service for the proposal area is and will be provided by Jefferson County Fire Protection District #1.
- There are not floodways, floodplains, habitat, or cultural resources that are identified in the Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files in the proposal area. Open space will be provided pursuant to Madras zoning ordinance (MZO) in which 30% of a Master Planned Community must be open space (MZO Section 3.12(D)(4)).

**Conclusion:** The proposed map and text amendments comply with the relevant policies of the Madras Comprehensive Plan.



## **X. Conformance with the City of Madras Community Development Code**

### ***City of Madras Zoning Ordinance***

#### **ARTICLE 7: ANNEXATION**

**SECTION 7.1: PURPOSE** - *The purpose of this section is to:*

- A. Implement the policies of the City of Madras Comprehensive Plan;*
- B. Provide for City review of all annexation requests for a determination of the availability of facilities and services as related to the proposal;*
- C. Provide for dissemination of public information and for sufficient time for public review;*
- D. Provide for City and County coordination of a request for an annexation; and*
- E. Provide for an expedited process by establishing procedures whereby the annexation and zoning, if applicable, may be considered concurrently.*

**SECTION 7.2: APPLICATION PROCEDURE.** *Annexation is a land use decision and is subject to applicable provisions of the City of Madras Comprehensive Plan, Oregon Revised Statutes, and Oregon Administrative Rules. In addition, the procedures below shall be followed:*

- A. The Planning Commission shall conduct a public hearing after notification of all property owners with two hundred fifty feet (250') outside of the boundary(ies) of the proposed annexation. The Planning Commission shall review the proposal for compliance with the annexation policies contained in this Ordinance and make a recommendation to the City Council, based on:
  - 1. The annexation proposal which meets the application requirements; and*
  - 2. The Planning Commission shall conduct a public hearing to determine a recommendation to the City Council to approve, approve with conditions or modifications, or disapprove the feasibility of the annexation proposal based on the criteria set forth in Section 7.4 below; and*
  - 3. The Planning Commission shall state its recommendation and the reasons therefore in writing to the City Council.**
- B. Upon receipt of the Planning Commission recommendation, the City Council shall conduct a public hearing and consider an Ordinance declaring the requested lands to be annexed to the City of Madras.
  - 1. The City Council shall review the record of the Planning Commission hearing their recommendation and shall determine whether to approve, approve with conditions or modifications, or disapprove the feasibility of the proposed annexation in accordance with the criteria set forth in Section 7.4 below.*
  - 2. The City Council may conduct additional public hearings to assist their making a determination.*
  - 3. The City Council shall state its determination and the reasons therefore in writing.**

**Response:** The City of Madras sent public hearing notice to the surrounding property owners on February 1, 2010. The City and County Planning Commissions held their first public hearing on February 11, 2010. The City Planning Commission decided upon a recommendation to approve the proposed Comprehensive Plan amendment (10-PA-01) at its hearing on February 11, 2010 and forwarded it to the Madras City Council. The City

Council is held a public hearing jointly with the Jefferson County Board of Commissioners on March 29, 2010. The City of Madras has not provided notice to affected property and adjacent property owners, or noticed the public hearings for the annexation of 20 acres of the proposed Comprehensive Plan amendment to expand the Madras UGB by approximately 36.91 acres.

**SECTION 7.3: ANNEXATION APPLICATION.** *The petitioner for annexation shall complete an application form provided by the Community Development Department. The application fee, established by Resolution of the City of Madras City Council, shall be submitted with the application. The application shall include:*

- A. A map demonstrating that the proposed annexation is contiguous to the City Limits;*
- B. Specific information on each parcel within the proposed annexation area:
  - 1. Current assessed valuation shown on Jefferson County Assessor's tax rolls.*
  - 2. Acreage of both public and private property to be annexed.*
  - 3. Map and tax lot(s) number.**
- C. Names and ages of all residents and list of registered voters in the proposed annexation area.*
- D. Addresses of all parcels within the proposed annexation area.*
- E. Consent to Annexation forms, provided by the City of Madras, with notarized signatures of all property owners and electors within the proposed annexation area.*
- F. Written findings, which address the following:
  - 1. Existing land uses within annexation area.*
  - 2. Existing zoning within the annexation area.*
  - 3. Existing improvements:
    - a. water system*
    - b. streets*
    - c. sanitary sewer*
    - d. storm drainage**
  - 4. Special Districts within the area:
    - a. water districts*
    - b. irrigation districts*
    - c. fire district*
    - d. school district*
    - e. other**
  - 5. Urban services, the present availability of urban service systems to the proposed annexation area, their capacity and cost of extension and/or improvement to urban standards:
    - a. sanitary sewers - streets - parks*
    - b. storm drainage - water*
    - c. fire - power*
    - d. schools - police***
- G. Compliance with all applicable policies of the City of Madras Comprehensive Plan.*

**Response:** The City is initiating and applying for the proposed annexation. Maps of the west site and east site in the proposed UGB amendment and annexation area are included in this report as Figure 4-1. Parcel size and other parcel information is presented in Section I, Proposal Summary. The City owns the taxlot where the east site is located. The 20-acre parcel that is being created from the taxlot has been surveyed. The west site is comprised of three taxlots, two taxlots that are privately owned and one small taxlot (0.69 acres) that is

County right-of-way. Re-zoning is not proposed for this site at this time as there are no immediate development plans. However, this site does better connect the east site to the existing UGB and will be suitable for residential uses and compatible public/semi-public uses, for which Madras urbanization studies have found a long-term need.

The property proposed to be included in the UGB amendment and annexed currently is vacant and not in active use. It is land under Jefferson County jurisdiction and zoned Range Land (RL). There are not water, sewer, or storm water facilities and services extended to the site yet, but they can be extended using existing City facility master plans. The Deschutes Valley Water District (DVWD) provides water service to the area and can provide facilities and service to the site, to be financed primarily by development applicants. The same is true for sewer and storm water facilities and service, for which the City of Madras is the service provider. As part of its agreement with JCSD, the City will extend water and sewer to the edge of the east site. There is an irrigation district in the region – the Central Oregon Irrigation District – but the proposal area is not irrigated nor is it proposed to be.

There is a County collector road – Ashwood Road – along the northern border of the area that will not need improvements according to transportation analysis conducted for this proposal. (See Appendix F)

Jefferson County Fire Protection District #1 currently provides service for the area and will continue to do so. Public safety responsibility for the area will be transferred from the County to the City. In terms of parks and recreation, there are two parks and a middle school close to the site, and the Yarrow Master Plan, which includes and surrounds the east site, includes the 30% of parks and open space required by local code (MZO Section 3.12(D)(4)).

As addressed in the previous section of this report, the application complies with the applicable policies of the Madras Comprehensive Plan.

**SECTION 7.4: ANNEXATION CRITERIA.** *Lands may be annexed only if the City Council finds that the following criteria are met:*

- A. The property is contiguous to the City limits.*
- B. The property is located within the City's Urban Growth Boundary.*
- C. The annexation meets at least one of the following purposes:*
  - 1. To serve lands needing City water or sewer to alleviate a present or potential health hazard; or*
  - 2. To provide land to accommodate future urban development; or*
  - 3. To provide land for provision of needed transportation or utility facilities; or*
  - 4. To ensure that lands adjacent to the City are developed in a manner consistent with City standards.*
- D. The petitioner has adequately addressed infrastructure supply and demand issues. The annexation is considered timely in that an adequate level of urban services and infrastructure can be provided upon annexation or a plan is in place for the provision of such services or infrastructure in a reasonable period of time.*
- E. The proposed annexation complies with the City's Comprehensive Plan. If the Comprehensive Plan does not control the annexation, or substantial changes in*

*conditions have occurred which render the Comprehensive Plan inapplicable to the annexation, the proposed annexation complies with current Statewide Planning Goals.*

*F. The City is capable of extending City services to the area proposed for annexation without negatively impacting existing systems and the City's ability to adequately serve all areas within the existing City limits.*

*G. The proposed annexation is compatible with the existing topography, potential for future land division, natural hazards and other related considerations.*

**Response:** The proposal area is adjacent to the Madras city limits and is simultaneously seeking to be annexed to the Madras UGB and to the city. The proposed UGB amendment and annexation area provides land for future urban development, specifically for a needed school and housing as demonstrated by the *Madras Urbanization Study Addendum* (ECONorthwest, 2007). The east site of the proposal area is part of the Yarrow Master Plan area that the City has approved and found to be consistent with City development goals and standards.

The proposal area can be served by water and sewer using existing water and sewer master plans and being financed by the City and developers of the sites. Ashwood Road on the north side of the proposal area is a County collector road and does not need improvements in order to serve the area. Planned improvements for US 97/J Street are the only improvements needed in the vicinity in order to mitigate any potential significant effects associated with this proposal (Appendix F). Internal circulation and transportation facilities will need to be shown in future development applications.

## **SECTION 8.2: ZONE/PLAN MAP AMENDMENTS**

### **A. Amendment to the Zone/Plan Map**

1. *Amendment to the Zone/Plan Map may be initiated by the Planning Commission, City Council, Community Development Director, Land Use Periodic Review, or by application of the property owner.*
2. *If the application is for a change of a quasi-judicial or legislative nature:*
  - a. *the Planning Commission shall conduct a public hearing on the proposed amendment at its earliest practical meeting date after the proposal is submitted and shall follow the adopted rules for quasi-judicial hearings;*
  - b. *the Planning Commission shall provide a recommendation to the City Council based on findings-of-fact;*
  - c. *The City Council shall hold a public hearing and review the recommendation of the Planning Commission, along with any public testimony on the issue. The City Council must take final action on an amendment request and amendments shall be made by ordinance.*
3. *An application for a zone change for land annexed to the city that is subject to an approved Master Planned Community Plan or an approved Area Master Plan may be considered as an administrative action per Article 9.3.*

**B. Criteria for Amendments:** *The burden of proof is upon the applicant. The applicant shall show the proposed change is:*

1. *In conformity with all applicable state statutes.*
2. *In conformity with the applicable Statewide Planning Goals; and*
3. *In conformity with the Madras Comprehensive Plan, Zoning and Land Use Ordinance, and policies; and*
4. *In conformity with an approved Master Planned Community Plan or Area Master Plan, if applicable to the underlying properties; and*
5. *That there is a change of circumstances or further studies justifying the amendment or mistake in the original zoning.*

**Response:** This application is being initiated by the City Community Development Department/Director. Also pursuant to the terms of the UGAMA between the County and the City, the City forwarded the UGB amendment application and appropriate fees to the Jefferson County Community Development Department within five working days of being initially filed.

This application is being processed pursuant to legislative procedures and will receive full review by the public, the City Planning Commission, and the City Council. Hearings by the Madras Planning Commission and Jefferson County Planning Commission will be held first jointly on February 11, 2010. The Madras City Council will review the City Planning Commission's recommendation at a hearing on February 11, 2010, and will forward its decision to the County Board of Commissioners for a hearing on March 29, 2010.

As demonstrated by the previous findings, the proposed comprehensive plan, comprehensive plan map, and zoning map amendments comply with applicable Statewide Planning Goals, State statutes, and Madras Comprehensive Plan policies.

**Findings:**

- The City has followed procedures for providing notice and holding public hearings for the proposal. Notice to adjacent property owners was mailed On February 1, 2010 to all properties within 750 feet of the properties proposed to be included in the Madras UGB. A joint City and County Planning Commission hearing was held on February 11, 2010 and then a joint hearing before the Madras City Council and Jefferson County Board of Commissioners was held on March 29, 2010. The City Council and County Board of Commissioners heard the proposal on March 29, 2010 and approved the proposal on March 29, 2010.
- The City of Madras has initiated this proposal. It owns the east site of the proposed UGB amendment and annexation area and has an agreement with Jefferson County School District 509-J to exchange this land for land downtown upon annexation and re-zoning.
- The proposed UGB amendment and annexation area provides land needed for residential and public/semi-public uses, specifically for a needed school and housing as demonstrated by the *Madras Urbanization Study Addendum* (ECONorthwest, 2007).
- All service providers – the City of Madras, Jefferson County, Deschutes Valley Water District, Jefferson County Fire Protection District #1, Jefferson County School District 509-J – have capacity to serve the proposal area given implementation of existing water and sewer master plans, planned improvements to US 97/J Street intersections, and financing from future proposed development.

- 
- The east site of the proposed UGB amendment and annexation area is part of the approved Yarrow Master Plan area, and the west site fulfills the requirements for an Area Master Plan. The set of proposed map and text amendments in this application comply with applicable Statewide Planning Goals, State statutes, and Madras Comprehensive Plan policies.

**Conclusion:** The proposed map and text amendments comply with the relevant provisions of the Madras Zoning Ordinance.



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**Appendix A: West Site Tax Map (3 lots, 16.91 acres)**

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**Appendix B: East Site Legal Description and Survey  
Map (20-acre parcel)**

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**Appendix C: Urban Reserve Area Management  
Agreement (URAMA) (January 2009)**

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## **Appendix D: Water and Sewer Service Provider Letters**

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## **Appendix E: Property Owner Consent Letters**

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**Appendix F: Transportation Planning Rule Analysis  
(Kittelson & Associates, January 2010)**



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**Appendix G: ODOT Letter Regarding Reasonably Likely  
Determination for US 97/J Street Improvements**

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**Appendix H: Urban Growth Area Management  
Agreement (UGAMA) (April 2006)**

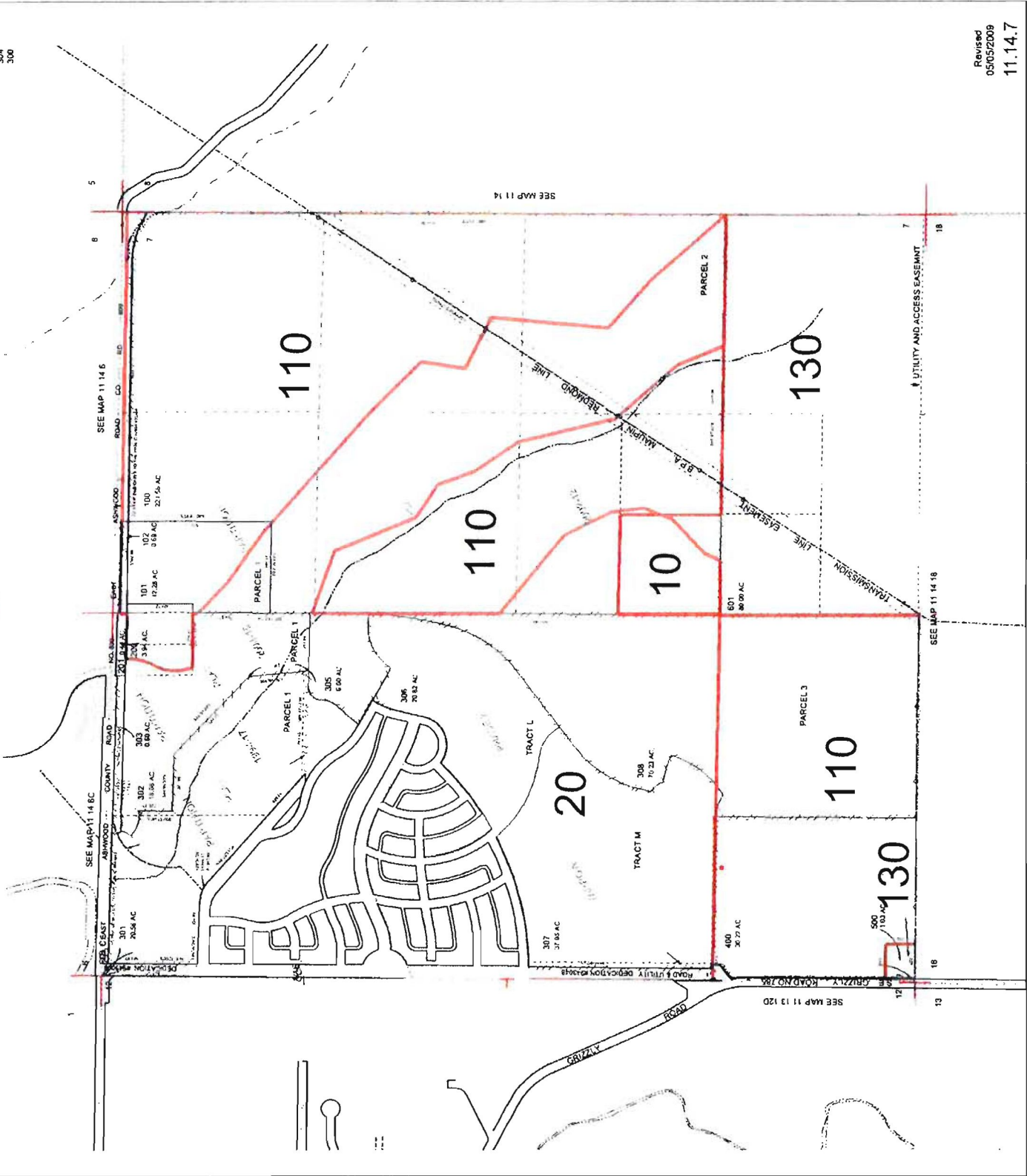
**Appendix A: West Site Tax Map (3 lots, 16.91 acres)**

11.14.7  
CANCELLED  
600  
304  
300

SECTION 7 T.11S. R.14E. W.M.  
JEFFERSON COUNTY

0 100 200 300 400 Feet  
1" = 400'

THIS MAP WAS PREPARED FOR  
ASSESSMENT PURPOSE ONLY



Revised  
05/05/2009  
11.14.7

**Appendix B: East Site Legal Description and Survey  
Map (20-acre parcel)**



63885 N. Hwy. 97 ▲ Bend, OR 97701 ▲ (541) 382-4192

December 16, 2009  
City of Madras  
Job# 09077

**PROPERTY DESCRIPTION FOR A 20.00 ACRE TRACT OF LAND FOR  
SCHOOL DISTRICT 509-J**

A portion of Parcel 2 of Partition Plat No. 2002-12 as filed in the Jefferson County Clerk's Office, situated in the Northeast Quarter (NE ¼) of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County, Oregon, more particularly described as follows:

Commencing at the Northwest corner of said Northeast Quarter, monumented with a 2 inch diameter brass cap, from which the Northeast corner of said Section 7 bears South 89°39'40" East a distance of 2640.53 feet; thence South 89°39'40" East along the North line of said Section 7 a distance of 599.97 feet; thence South 00°17'36" West a distance of 40.00 feet to the Northwest corner of said Parcel 2 of Partition Plat No. 2002-12; thence continuing South 00°17'36" West along the West line of said Parcel 2 a distance of 40.00 feet to the South right-of-way line of East Ashwood Road and the **True Point of Beginning of this Description**; thence South 00°17'36" East along said West line a distance of 935.13 feet to the Southeast corner of Parcel 1 of said Partition Plat No. 2002-17; thence leaving said West line South 89°39'40" East a distance of 931.70 feet; thence North 00°17'36" West a distance of 935.12 feet to a point on the South right-of-way line of East Ashwood Road; thence North 89°39'40" West along said right-of-way line a distance of 931.70 feet to the **True Point of Beginning**.

Containing 20.00 acres more or less.

**End of Description.**

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

*Gary L. DeJarnatt*

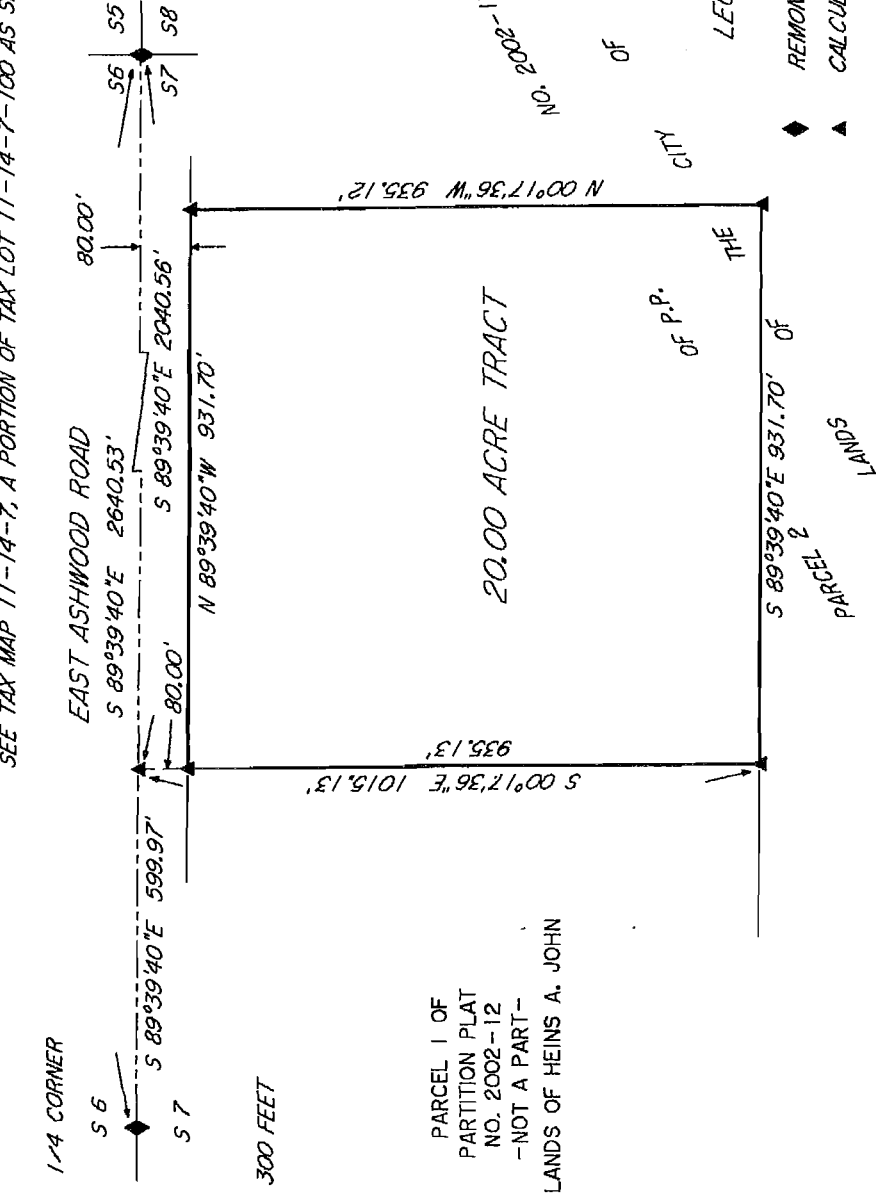
OREGON  
JULY 17, 1988  
GARY L. DEJARNATT  
2208

Renews: 12/31/2009



**MAP FOR PROPERTY DESCRIPTION FOR SCHOOL DISTRICT 509-J**

A PORTION OF THE NE 1/4 OF SEC. 7, T. 11 S., R. 14 E., W.M., JEFFERSON COUNTY, OREGON.  
SEE TAX MAP 11-14-7, A PORTION OF TAX LOT 11-14-7-100 AS SHOWN HEREON



SCALE: 1 INCH = 300 FEET

PARCEL 1 OF  
PARTITION PLAT  
NO. 2002-12  
-NOT A PART-  
LANDS OF HEINS A. JOHN

**LEGEND:**

- ◆ REMONUMENTED PUBLIC LAND CORNER.
- ▲ CALCULATED CORNER POSITION.
- P.P. PARTITION PLAT.

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

*Gary L. DeJarnatt*

OREGON  
JULY 17, 1986  
GARY L. DEJARNATT  
2208

RENEWS: 12-31-2009

PREPARED BY:

DEJARNATT LAND SURVEYS, INC.

63885 NORTH HWY 97 DATE: DECEMBER 16, 2009  
BEND, OREGON 97701 SHEET 1 OF 1  
PHONE: 541-382-4192 JOB # 09077  
08029 COORD FILE, 080296 SCREEN FILE

11.14.7

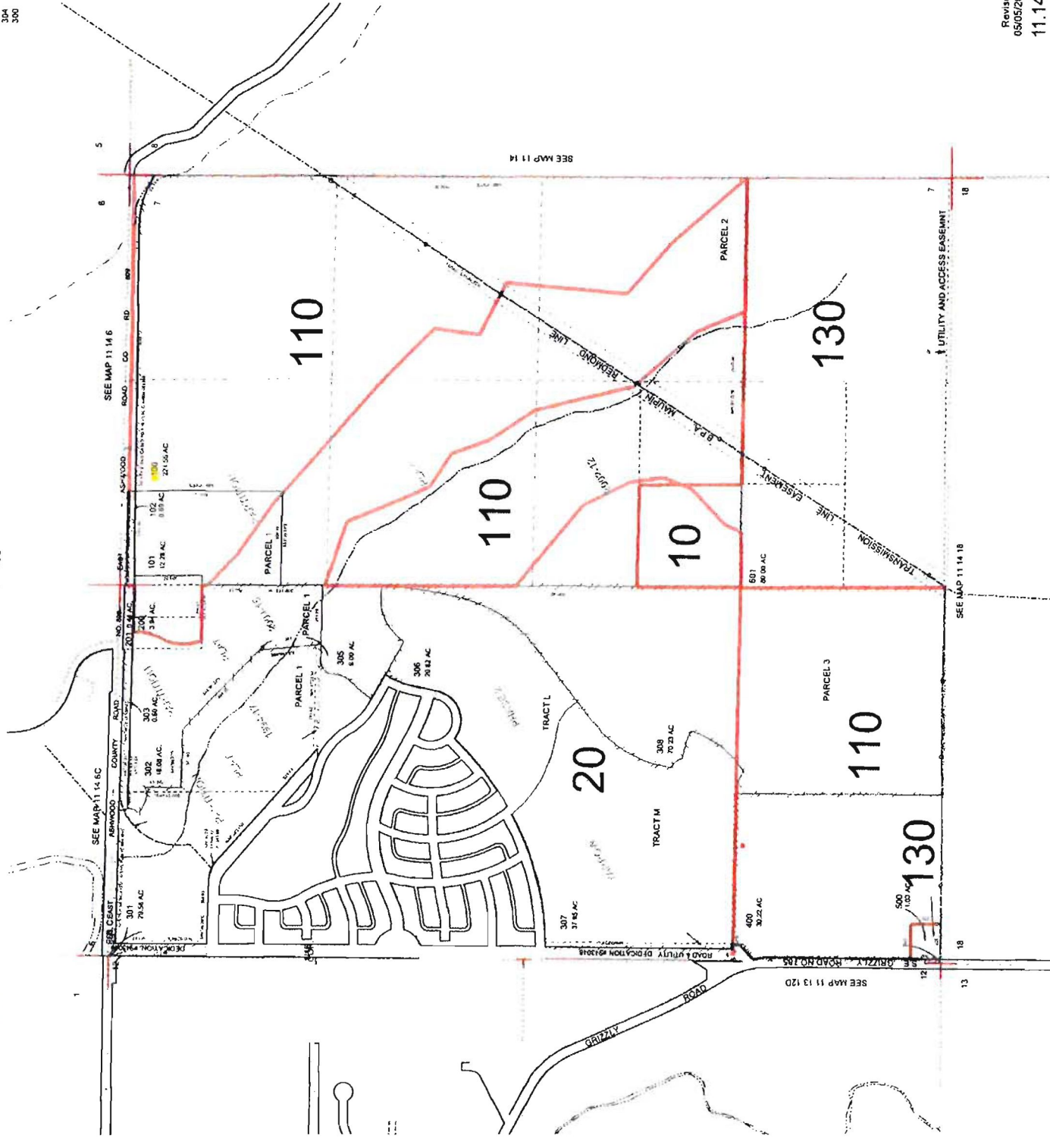
CANCELLED  
800  
304  
300

SECTION 7 T.11S. R.14E. W.M.  
JEFFERSON COUNTY

1" = 400'

THIS MAP WAS PREPARED FOR  
ASSESSMENT PURPOSE ONLY

0 100 200 300 400 Feet



Revised  
05/05/2009  
11.14.7

**Appendix C: Urban Reserve Area Management  
Agreement (URAMA) (January 2009)**

M-014-09

### **Urban Reserve Area Management Agreement**

This agreement is entered into by the City of Madras, an incorporated municipality of the State of Oregon, hereby referred to as the "City" and Jefferson County, a political subdivision of the State of Oregon, hereby referred as "County".

#### **A. RECITALS**

WHEREAS, the City of Madras and Jefferson County are authorized pursuant to Oregon Revised Statutes (ORS) Chapter 190 to enter into an Intergovernmental Management Agreement for the performance of functions which either governmental entity has the authority to perform; and

WHEREAS the City and County have previously entered into an intergovernmental agreement on April 5, 2006 setting forth their respective rights and responsibilities with respect to the Urban Growth Boundary (UGB); and

WHEREAS, the Management Agreement also constitutes a cooperative agreement under ORS Chapter 195; and

WHEREAS the City and County consider it mutually advantageous to establish this Urban Reserve Area Management Agreement (URAMA) for the purpose of facilitating the future conversion of lands in the Urban Reserve Area (URA) from rural to urban land uses.

#### **B. INTENT OF AGREEMENT**

1. To establish standards and procedures for review and action on proposed land use actions and related matters noted within this agreement pertaining to implementation of the Comprehensive Land Use Plan and Zoning Regulations as adopted by the City and County for the Urban Reserve Area (URA); and
2. To affirm Jefferson County's jurisdictional authority for current planning activities, land use decisions, building permitting, public improvements, and code enforcement within the URA ; and
3. To provide assistance to property owners in the URA by laying out a clear and cooperative process designed to make decisions on land use applications in a timely and consistent manner; and
4. To clarify planning and zoning intents and to satisfy the requirements of OAR Chapter 660, Division 21 relating to Urban Reserve Areas.

**C. DEFINITIONS**

1. City: City of Madras.
2. Board: the Jefferson County Board of Commissioners.
3. Council: the Madras City Council.
4. County: Jefferson County.
5. Land Use Decision: A Land Use Decision is defined by ORS 197.015
6. Urban Reserve Area: has the same meaning as set forth in OAR 660-021-0010(1), and means land outside of an Urban Growth Boundary identified as highest priority of inclusion in the Urban Growth Boundary when urbanizable land is needed in accordance with the requirements of Statewide Planning Goal 14.
7. Urban Growth Boundary: The boundary line which separates lands to be urbanized and eventually incorporated into the City of Madras from the surrounding rural lands under the County's jurisdiction.
8. Conversion Plan: has the same meaning as set forth in JCZO Section 105.

**D. AGREEMENT**

Compliance with OAR Chapter 660, Division 21. In accordance with the applicable requirements of Chapter 660, Division 21, City and County agree as follows:

1. As required by OAR 660-021-0040(2)(e):
  - (a) The County shall ensure that conversion plans are required and processed as part of tentative land division decisions in the URA as outlined in the Jefferson County Zoning Ordinance (JCZO) Section 703.2(O).
  - (b) The County shall prohibit certain uses in the URA, including plan or zoning map amendments that allow a minimum lot size less than ten acres as outlined in JCZO Section 323.3.
2. As required by OAR 660-021-0050(1):
  - (a.) Jefferson County shall have authority and jurisdictional responsibility for current planning activities, land use decisions, building permitting, and code enforcement within the URA.

- (b.) Upon inclusion of property from the URA within the Urban Growth Boundary, the property shall be subject to the Urban Growth Management Area Agreement.

3. Designation of service responsibility, as required by OAR 660-021-0050(2) is as follows:

Service	Existing Service Provider	Future Urban Service Provider
Sanitary Trash Disposal	No Public Service Provider	No Public Service Provider
Sanitary Sewer	No Public Service Provider	City of Madras
Water	Deschutes Valley Water District	Deschutes Valley Water District
Fire Protection	Jefferson County Fire District #1	Jefferson County Fire District #1
Parks	Jefferson County	City of Madras
Recreation	Madras Aquatic Center District	Madras Aquatic Center District
Transportation	Jefferson County	City of Madras
Storm Water	Jefferson County	City of Madras

- (a.) The local government or special district responsible for services (including sanitary trash disposal, sanitary sewer, water, fire protection, parks, transportation, storm water) for areas within the URA are designated and shown on the map(s) attached hereto and incorporated herein as Exhibit "1A".

4. As required by OAR 660-0210-0050(3), the terms and conditions under which service responsibility will be transferred or expanded, for areas where the provider of service is expected to change over time, is described in Exhibit "1B" attached hereto and incorporated herein.

5. As required by OAR 660-0210-0050(4), procedures for notification and review of land use actions to ensure involvement by all affected local governments and special districts:

- (a) Within the URA, the County shall process all land use applications for comprehensive plan amendments, zone changes, and other applications affecting land use (including conditional uses, Planned Unit Developments (PUDs), subdivisions and partitions) in a manner that is consistent with the procedures set forth in the Jefferson County Comprehensive Plan and Zoning Ordinance for the respective land use actions.
- (b) Prior to acceptance of a land division application within the URA, the County shall require the applicant to submit a conversion plan to the City of Madras as outlined in JCZO Section 703.2(O).



The intent of the conversion plan is that it:

1. Is not an engineered plan.
2. May be amended from time to time by property owners submitting a new conversion plan to the City and County.
3. Does not constitute a separate land use decision, as it is part of a land division decision.
4. Must be recorded with the County Clerk so that future buyers of newly-created parcels in the URA will become aware, prior to purchase, that roads and utility easements will be required when the property is further developed after annexation.
5. Serves a guide to placement of structures in the building permitting process.

The City shall review the conversion plan and work with the property owner to ensure that the locations of planned roads and rights-of-way; and the locations of future easements for water, sewer, and storm water facilities that will adequately serve the site when developed at an urban density; are protected. The City may recommend that the conversion plan be approved, denied, or be approved with conditions.

Within 15 days of receiving a conversion plan for review, the City will forward its comments to both the applicant and the County, and the applicant is required to include the conversion plan and City comments with their tentative land division application to the County.

The County shall review the conversion plan as part of the tentative land division application, and approve, deny, or approve with conditions. A condition of approval for the land division decision shall be that the property owner record the conversion plan with the final plat at the County Clerk's Office.

The County agrees to consult conversion plans prior to building permit approval of structures in the URA, where applicable.

The City or County may charge a separate fee for review of conversion plans.

- (c) Notice of all land use applications within the URA shall be sent to the City of Madras Community Development Department and to any other affected City agencies and other applicable special service districts for review and comment prior to a decision by the County. Such agencies shall be given ten business days in which to provide comments on the land use application.

M-014-09

- (d) In making its decision, the County shall consider all comments received under Section (c) above.
- (e) The City, and agency, or any other special service district that provides comments on land use applications shall be mailed written notice of the land use decision and shall have standing to appeal the County's decision.

#### **E. AMENDMENT AND TERMINATION**

1. This agreement may be amended at any time by mutual agreement of both parties, after public hearing and adoption by both the City Council and the Board of Commissioners.
2. Any modifications to this agreement shall be consistent with the City and County Comprehensive Plans, the Urban Growth Area Management Agreement for the City of Madras and the statewide planning goals.
3. This agreement may be terminated by either party under the following procedure:
  - a. Written notice of intent to terminate this Agreement shall be sent to the other party at least forty-five (45) days prior to taking any action, including the publication of public hearing notices in order to provide ample time for resolution of differences, or amendment to comprehensive plans.
  - b. A public hearing shall be held by the party considering termination. The party considering termination shall give the other party at least 20 days prior notice of the scheduled hearing date. The 20 day period shall be used by both parties to seek resolution of differences. Both parties shall also request a collaborative conflict resolution process to resolve differences that remain.
  - c. Public notice of hearings shall be in accordance with applicable statutes and local ordinances.
  - d. This agreement is necessary for compliance with, at minimum, statewide planning Goals 2 and 14. Unless the Urban Reserve Area is no longer an overlay zone in the County, this agreement may not be terminated without adoption of a new agreement.

#### **F. TIME OF EFFECTIVENESS**

M-014-09

This agreement shall not become effective until properly executed by both the City and the County. Upon execution, this agreement shall supersede all previous Urban Reserve Area Management Agreements.

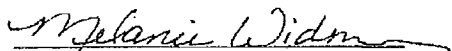
**G. SEVERABILITY**

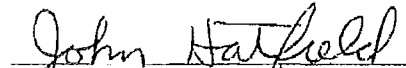
The Provisions within this agreement are severable. If any section, sentence, clause or phrase of this agreement is adjudged by a court of competent jurisdiction to be invalid, said invalidity shall not impair or affect the validity of the remaining portions of the agreement.

ADOPTED this 28<sup>TH</sup> of January, 2009.

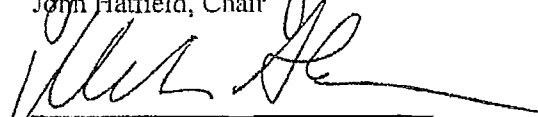
**CITY OF MADRAS, OREGON**


**JEFFERSON COUNTY, OREGON**

  
Mellanie Widmer, Mayor

  
John Hatfield, Chair

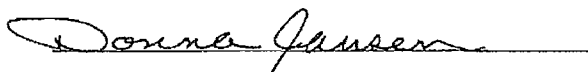
Date: 1-27-2009

  
Mike Ahern, Commissioner

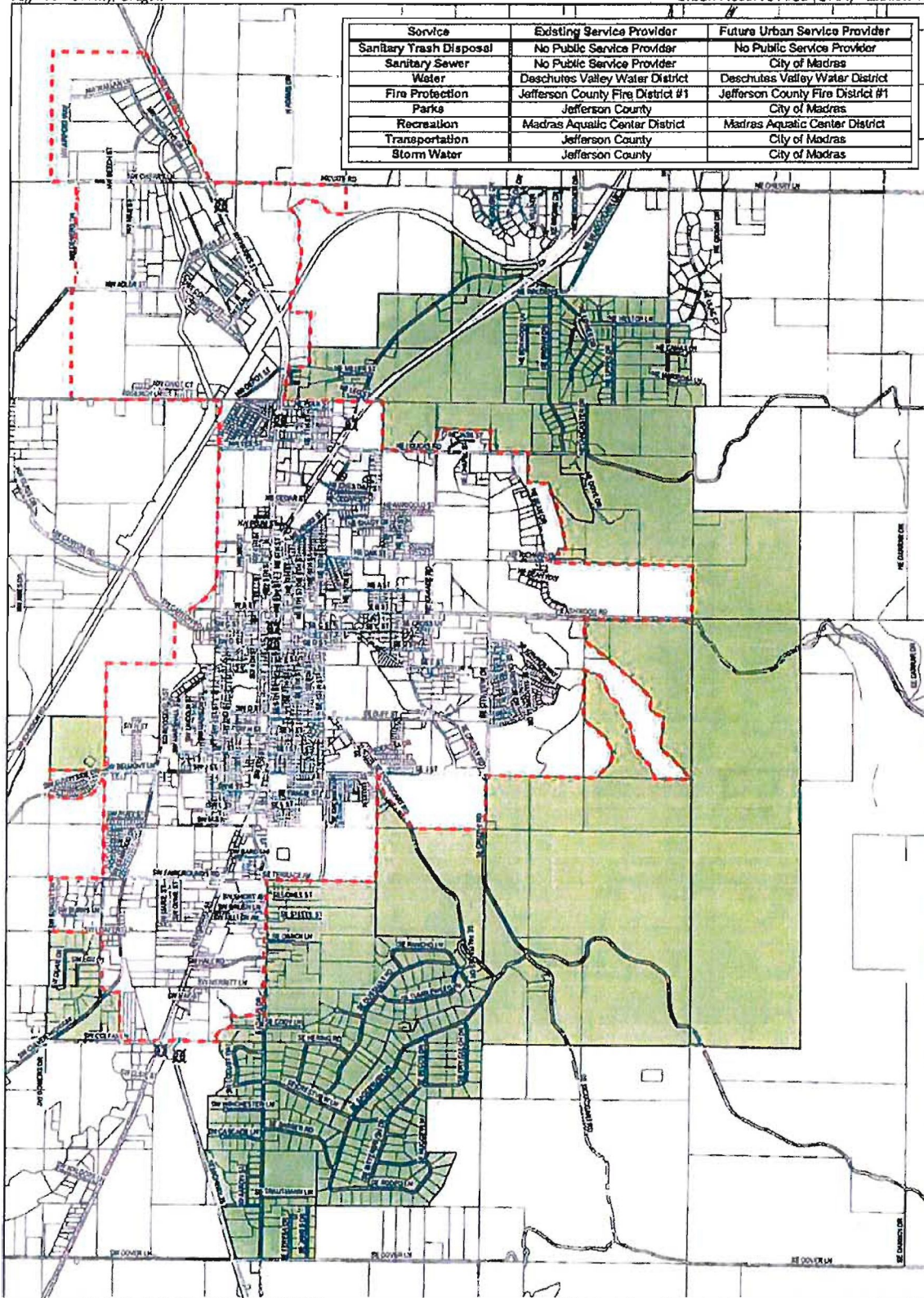
  
Wayne Fording, Commissioner

ATTEST:

Date: January 28, 2009



Service	Existing Service Provider	Future Urban Service Provider
Sanitary Trash Disposal	No Public Service Provider	No Public Service Provider
Sanitary Sewer	No Public Service Provider	City of Madras
Water	Deschutes Valley Water District	Deschutes Valley Water District
Fire Protection	Jefferson County Fire District #1	Jefferson County Fire District #1
Parks	Jefferson County	City of Madras
Recreation	Madras Aquatic Center District	Madras Aquatic Center District
Transportation	Jefferson County	City of Madras
Storm Water	Jefferson County	City of Madras



URA - 3815 acres

Madras UGB

0 0.2 0.4 0.6 0.8 1 Miles

Jefferson County uses GIS data in support of its internal business functions and the public services it provides. These GIS data, which Jefferson County distributes, may not be suitable for other purposes of use. It is the user's responsibility to verify any information derived from the GIS data before making any decisions or taking any actions based on the information. Jefferson County shall not be held liable for any errors in the GIS data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. Jefferson County assumes no legal responsibility for the information.

Jefferson County GIS  
Jefferson County OR - January 2009

-014-09

M-014-09

**EXHIBIT 1B**  
**URBAN SERVICE TRANSITION POLICIES**

Terms and Conditions under which Service Responsibility will be transferred or expanded.

- A. Special Districts. The City shall agree to the formation of any special district within the Urban Reserve Area prior to the approval of the formation of the district by Jefferson County. This provision shall not apply to County-wide service districts formed under ORS Chapter 451.
- B. Service Expansion Plans. Service expansion plans shall be consistent with the Madras Comprehensive Plan. As the future provider of, sanitary sewer, storm water and potable water services, the City shall prepare, and from time to time, update utility expansion plans. These plans shall provide a basis for the extension of services within the Urban Growth Boundary, and as such shall be referred to Jefferson County for information and comment.
- C. Transition Policies Relating to Service Responsibility
  1. Sanitary Sewer Service . There will be no public provider of sanitary sewer service until City services are available, except in the case of a state mandate due to a health hazard. At the time of annexation, the City will require hook-up to City sanitary sewer services. There shall be no special sanitary sewer districts created in the Urban Reserve Area. Nothing in this provision shall limit the ability of individuals to provide septic services (i.e. septic sewer systems) on their own private property within the Urban Reserve Area.
  2. Potable Water Service. The City of Madras and Deschutes Valley Water District shall be the public providers of water in this area, unless new districts are expanded or created through mutual agreement by the City and the County. Nothing in this provision shall limit the ability of individuals to provide services on their own private property within the Urban Reserve Area.
  3. Fire Protection. The Jefferson County Fire District #1 provides fire protection services to property within the Urban Reserve Area, the Urban Growth Boundary, and the City limits.
  4. Parks. Jefferson County provides parks services within the Urban Reserve Area. The City of Madras provides parks services within the city limits and the Urban Growth Boundary. The City of Madras will provide these services as park properties as they are included within the city's limits unless agreed otherwise.
  5. Recreation. The Madras Aquatic Center is separate recreation district that serves Jefferson County.. The Madras Aquatic Center District will continue to provide aquatic recreational services when property is included in the City of Madras Urban Growth Boundary and city limits.

6. Transportation and Street Improvements. Jefferson County provides transportation services on county roads within the Urban Reserve Area. Upon annexation from the UGA, the City of Madras will accept all paved Jefferson County roads that have a pavement condition index (PCI) of 70 or above. If the PCI is below 70, the county may structurally overlay the road to raise the PCI above 70 at which time the City shall be obligated to accept jurisdiction of such road. Jefferson County policies for road design and construction standards to be used in the Urban Growth Boundary and Urban Reserve Area are outlined in the Jefferson County Code, Sections 12.18.070 and 12.18.080. Per Jefferson County ordinances, the Jefferson County Public Works Director may require roads to be constructed to City of Madras standards.

The Oregon Department of Transportation provides transportation services on state highways within the Urban Reserve area. The Oregon Department of Transportation retains jurisdiction and maintenance responsibilities on all state highways after incorporation into the UGB and annexation except in special cases where jurisdiction is transferred to the City or County by a specific agreement.

7. Storm Water Management. Jefferson County provides public storm water management services to property where required within the Urban Reserve Area. The City will provide storm water management services to property within the city limits. Transition of public storm water management services will follow transition of road maintenance responsibilities.

**Jefferson County Code Section 12.18.070 :**

**12.18.070 Roads within an urban growth boundary.**

Roads within an urban growth boundary (UGB) or urban reserve shall, at the discretion of the Jefferson County director of public works, conform to the design and construction specifications of the city contained within the UGB boundary and shall be subject to review and approval of that city's director of public works and the Jefferson County director of public works. (Ord. O-69-07 § 1 Exh. A (part), 2007; Ord. O-110-02 § 2 Exh. B (part), 2002)

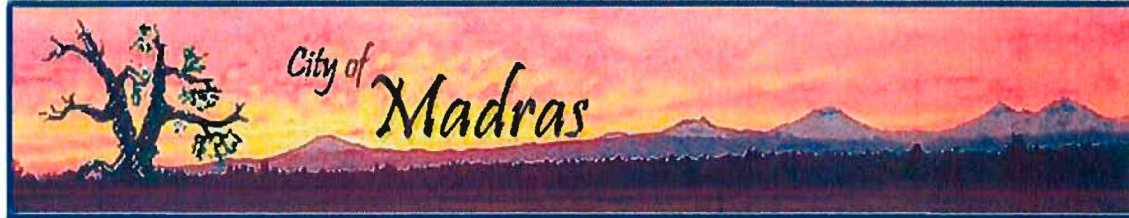
**12.18.080 Roads within one mile of an urban growth boundary.**

At the discretion of the Jefferson County director of public works, design and construction standards and specifications for roads within one mile of a UGB may be modified to accommodate future reconstruction to city standards. Roads in zones contiguous to the UGB of Madras, Culver or Metolius may be required to be constructed in accordance with Section 12.18.070 of this chapter if, in the opinion of the director of public works, such roads would become connected to the city road system. (Ord. O-69-07 § 1 Exh. A (part), 2007; Ord. O-110-02 § 2 Exh. B (part), 2002)



---

**Appendix D: Water and Sewer Service Provider Letters**



*S.E. D Street, Madras, OR, 97741 - 541-475-3388*

## **MEMORANDUM**

Date: January 26, 2010

To: Jefferson County Planning Commission  
Madras Planning Commission  
Jon Skidmore, Jefferson County Community Development Director

Cc: Nick Snead, City of Madras Community Development Director

From: Gus Burrell, City of Madras Public Works Director

---

### **Overview:**

The City of Madras (City) has filed a post-acknowledgement plan amendment application with Jefferson County to expand the current Madras Urban Growth Boundary (UGB) by approximately 37 acres and re-zone 20 of the 37 acres from Range Land (RL) to Multi-Family Residential (R-2) as shown in the attached map. To complete this land use action the City is required demonstrate that public facilities (i.e. wastewater, domestic water, stormwater, and transportation) can be extended to serve the area proposed to be included in the Madras UGB. The City provides wastewater and stormwater service and the properties proposed to be included in the Madras UGB are located within the planning boundaries of the City of Madras Wastewater and Stormwater Master Plans.

### **Wastewater:**

The properties proposed to be included in the Madras UGB are located within the study area of the City of Madras' Wastewater Master Plan. Figure 5-2B (attached) identifies a planned 8 inch wastewater service line to be constructed in the Ashwood right-of-way that would service the properties proposed to be included in the Madras UGB. Additionally, the City constructed a 10 inch wastewater service line to Oregon Department of Corrections Deer Ridge Correctional facility in Ashwood Road adjacent to the properties proposed to be included in the Madras UGB (see attached drawing).

When the proposed properties are developed, the City will require the property owner to extend wastewater service in accordance with City standards. Based on the planned improvements in the Madras Wastewater Master Plan, the existing wastewater facilities in Ashwood Road, the City of Madras has capacity to provide wastewater service to the properties proposed to be included in the Madras UGB at the time of development.

### **Stormwater:**

The properties proposed to be included in the Madras UGB are located within the study area of the City of Madras' Stormwater Master Plan. Figure IV-5 (attached) identifies a planned 12 inch

stormwater service line to be constructed in Ashwood Road adjacent to the properties proposed to be included in the Madras UGB. Furthermore, Design Criteria (1) in the City of Madras Stormwater Master Plan in Section IV, requires"

*"Any property development or redevelopment shall include stormwater facilities designed to handle runoff from all tributary areas for the 24-hour, 25-year design storm event. The facilities shall limit the peak discharge from the development in a 24-hour, 25-year design storm to the estimated pre-development peak flow rate in a 24-hour, 10-year design storm."*

Considering the planned stormwater facilities identified in the City of Madras Stormwater Master Plan and the existing stormwater design standards for development, the City has capacity to provide stormwater service to the properties proposed to be included in the Madras UGB.

**Conclusion:**

The City of Madras has capacity to serve the properties proposed to be included in the Madras UGB with wastewater and stormwater service. Should there be any questions, please contact me at 541-475-2622.

Sincerely,

Gus Burrell, P.E.  
City of Madras  
Public Works Director  
71 SE "D" Street  
Madras, OR, 97741  
541-475-2622

Attachments: Figure 5-2B Wastewater Collection System  
Phase 1B Segment 2 Wastewater Improvements  
Figure IV-5 Stormwater System Improvements

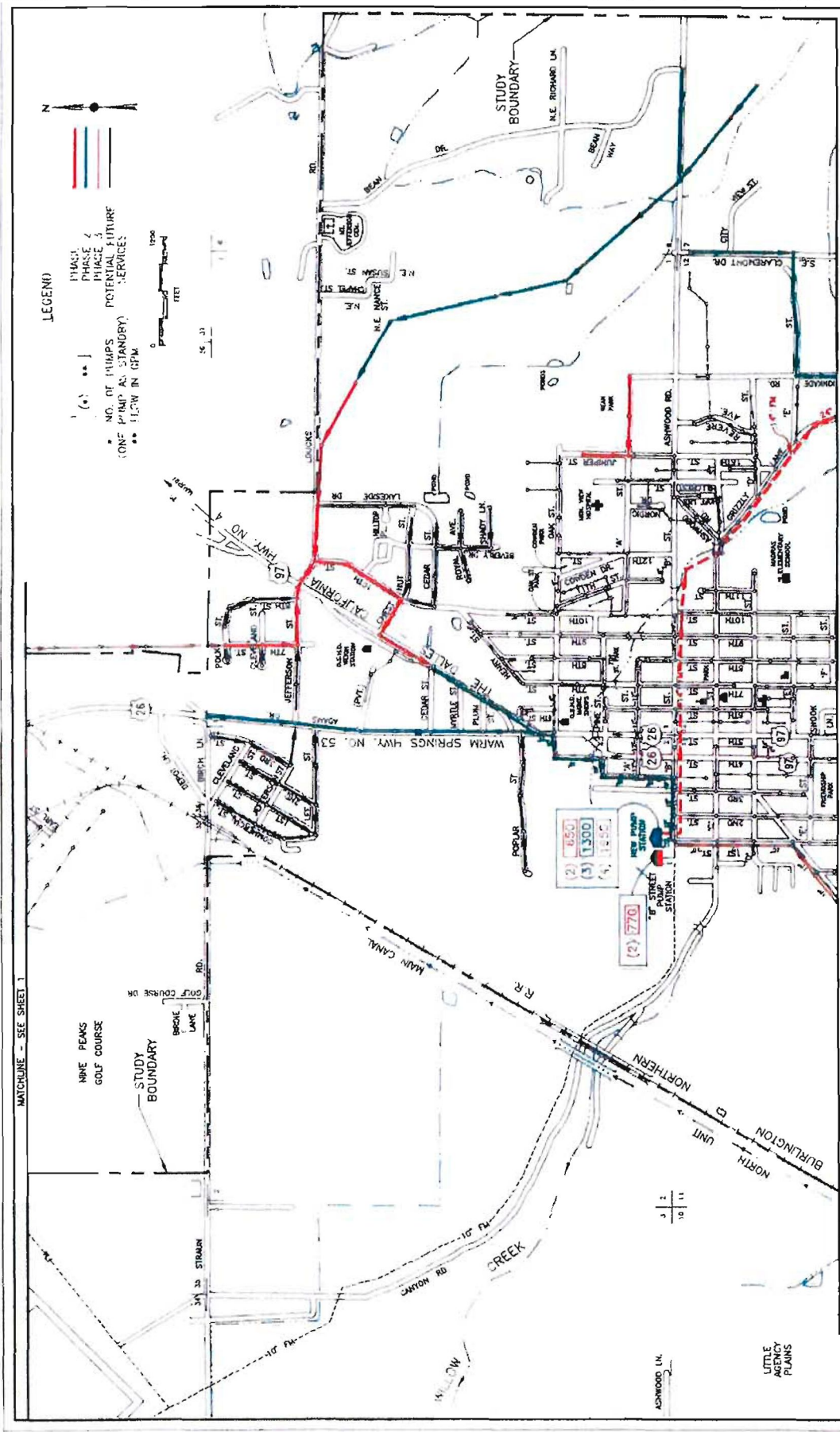


FIG. 5-2B  
 CITY OF MADRAS, OREGON  
 PROPOSED WASTEWATER COLLECTION SYSTEM  
 ALTERNATIVE B - CENTRAL AREA

NOTE:  
 ALL PROPOSED SEWERS TO  
 BE 8" UNLESS OTHERWISE NOTED.

FACE  
 Consultants, Inc.  
 Portland, Oregon (503) 887-8289

MATCHLINE - SEE SHEET 1

MATCHLINE - SEE SHEET 3





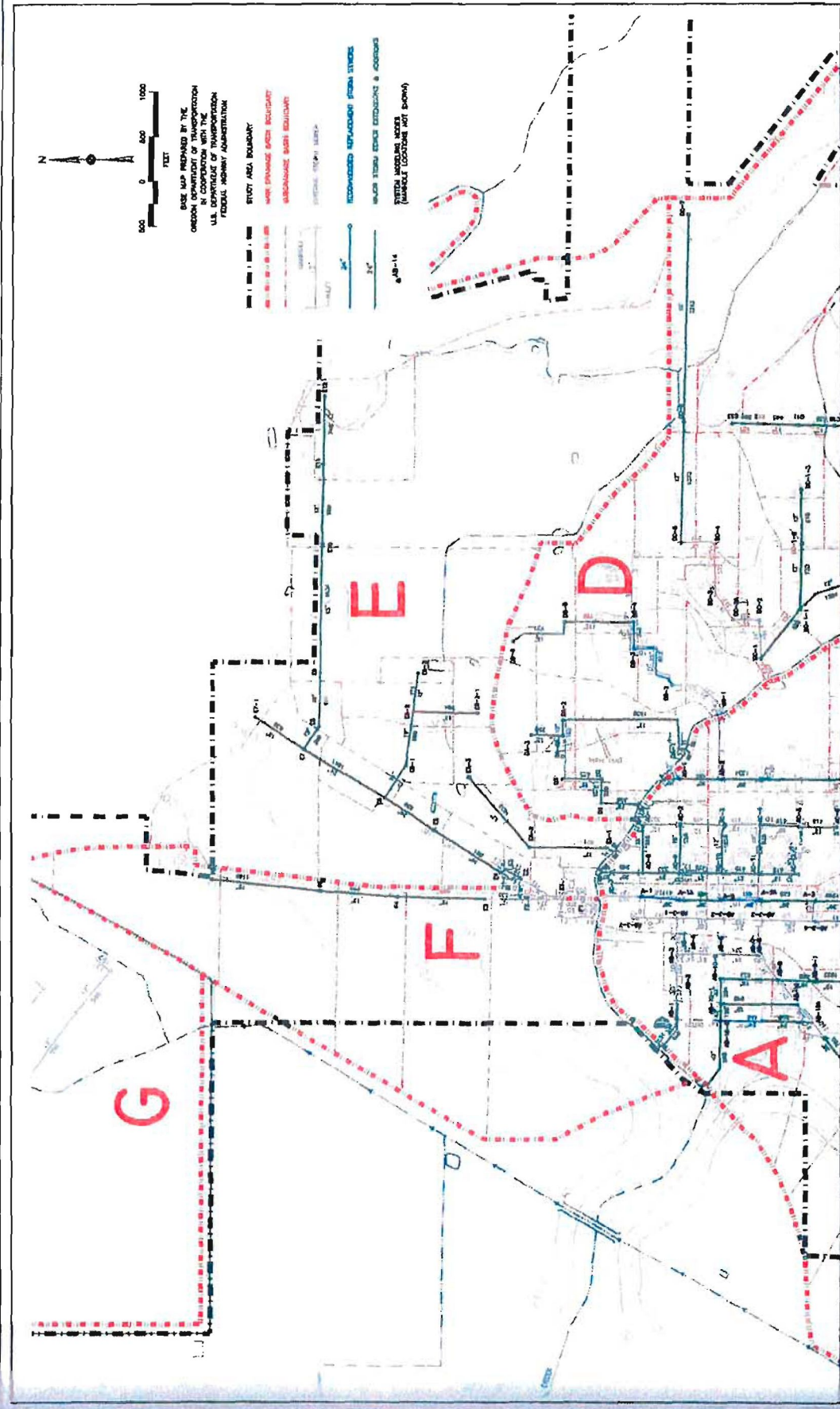


FIGURE IV-5  
 CITY OF MADRAS, OREGON  
 STORMWATER SYSTEM MASTER PLAN  
 STORMWATER SYSTEM IMPROVEMENTS - CENTRAL AREA

MATCH LINE - SEE FIGURE IV-3B





**Nick Snead**

**From:** Edson at DVWD [edson@dvwd.org]  
**Sent:** Tuesday, January 26, 2010 11:15 AM  
**To:** Nick Snead  
**Subject:** RE: Domestic water service availability

-->

Hi Nick-

DVWD should be able to serve that property. Naturally, the mainline upgrades and/or extensions would have to be paid for by the developer. When there is an engineered plan for the required infrastructure, I will be happy to do an estimate for the waterworks portion to be installed by DVWD.

Feel free to call if you need more information.

Edson Pugh, P.E.

General Manager

Deschutes Valley Water District

881 SW Culver Hwy.

Madras, OR 97741

Ph. # (541) 475-3849

**From:** Nick Snead [mailto:nsnead@ci.madras.or.us]  
**Sent:** Monday, January 25, 2010 8:45 AM  
**To:** Ed Pugh  
**Subject:** Domestic water service availability  
**Importance:** High

Ed,

3/30/2010

Good morning! You may have heard the City is proposing to expand the Urban Growth Boundary by approximately 37 acres and annex 20 acres into the City for the Jefferson County School District. The property proposed to be annexed is south of Ashwood Road. I have attached a map to quickly orient your to the property. I am wondering if DVWD domestic water service is available or if not, what facility improvements would future development be responsible for constructing? This email is a formal request and I would like to put your response in the record to demonstrate (hopefully) that water service is available and/or the facility improvements needed to serve the area proposed to be in the Madras UGB.

Let me know if you have any questions. Call me at 541-323-2916 if needed.

Take care,

*"One may walk over the highest mountain one step at a time"* -John Wanamaker-

Nicholas S. Snead

Director

Community Development Department

City of Madras

(541) 475-3388

Email: [nsnead@ci.madras.or.us](mailto:nsnead@ci.madras.or.us)

Visit the City of Madras at <http://ci.madras.or.us/>

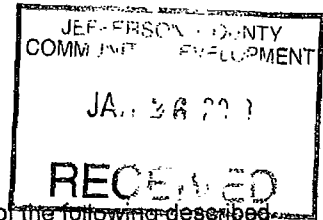
No virus found in this incoming message.  
Checked by AVG - [www.avg.com](http://www.avg.com)  
Version: 8.5.432 / Virus Database: 271.1.1/2644 - Release Date: 01/25/10 07:36:00

3/30/2010

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## **Appendix E: Property Owner Consent Letters**

CITY OF MADRAS  
PROPERTY OWNER  
CONSENT TO ANNEXATION



The undersigned property owner(s) hereby consents to the annexation of the following described property to the City of Madras, Jefferson County, Oregon.

(Legal description of property):

Map #11-14-7, Tax Lot #101  
(See Attached Exhibit "B")

The undersigned property owner hereby gives express, continuing, written consent to annexation of the property described herein to the City of Madras; and does hereby agree to execute such separate, further or additional application, petition, and consent as may be hereafter required by the City, or the laws of the State, as now or hereafter enacted for such annexation. This consent is given in consideration of City services that either have been or will be applied to the described property. The undersigned intends this consent to comply with all requirements of law for annexation of the property described. The undersigned and City intend that this consent shall constitute a covenant running with the land, binding on the undersigned and the undersigned's heirs, successors, or assigns.

The undersigned represents that the undersigned is the owner of this property and has the right to consent to its annexation.

DATED this 9th day of October, 20 03.

Signature: *Albert L. Zemke*  
Typed Name: Albert L. Zemke  
  
Signature: \_\_\_\_\_  
Typed Name: \_\_\_\_\_  
  
Address: Springview Farms, LLC  
2519 E. Ashwood Road  
Madras, Oregon 97741

STATE OF OREGON )  
                                  )  
County of Jefferson )

Personally appeared before me this 10th day of October, 20 03 the above named

Albert L. Zemke  
(List name of individual(s) having signature notarized)

and acknowledged the foregoing instrument to be a voluntary act.



*Karen J. Coleman*  
Notary Public for Oregon  
My Commission Expires: 9-14-2004

After Recording Return to:

City of Madras  
71 S.E. "D" Street  
Madras, Oregon 97741

Jefferson County Official Records      2003-005431  
Kathleen B. Marston, County Clerk



00016169200300054310030036      \$41.00  
10/13/2003 04:08:44 PM

D-ANXCON    Cnt=1    Stn=2    KATE  
\$15.00 \$11.00 \$10.00 \$5.00



**EXHIBIT "B"**

**MAP #11-14-7, TAX LOT #101  
ALBERT L. ZEMKE**

**PARCEL I: Northeast quarter, Northeast quarter of the Southeast quarter, North half of the Northwest quarter of the Southeast quarter, Southeast quarter of the Northwest quarter of the Southeast quarter of Section 7, Township 11 South, Range 14 East of the Willamette Meridian Jefferson County Oregon, and the Southwest quarter of the Northwest quarter of the Southeast quarter.**



Jefferson County Official Records  
Kathleen B. Marston, County Clerk

2008-002279



\$56.00

00061426200800022790060062

06/17/2008 04:16:27 PM

D-ANXCON Cnt=1 Stn=2 KATE  
\$30.00 \$11.00 \$10.00 \$5.00

**RECORDED DOCUMENT**  
**STATE OF OREGON**  
**COUNTY OF JEFFERSON**

***DO NOT REMOVE THIS CERTIFICATE***

(This certificate constitutes a part of the original instrument in accordance with ORS 205.180(2). Removal of this certificate may invalidate this certificate and affect the admissibility of the original instrument into evidence in any legal proceeding.)

***KATHLEEN B. MARSTON***  
**JEFFERSON COUNTY CLERK**



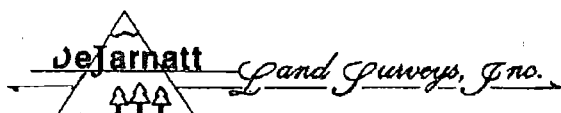


EXHIBIT "A"

63885 N. Hwy. 97 ▲ Bend, OR 97701 ▲ (541) 382-4192

City of Madras  
May 13, 2008  
Job # 08029B

Tax lot: 11-14-7-200

**CITY OF MADRAS ANNEXATION #2008-02**

A Tract of land located in the Northeast One-Quarter of the Northwest One-Quarter (NE 1/4 – NW 1/4) and the Northwest One-Quarter of the Northeast One-Quarter (NW 1/4 – NE 1/4) of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County, Oregon, more particularly described as follows:

**Beginning** at a point on the North-South centerline of said Section 7 which bears South 00°17'35" East a distance of 80.01 feet from the North One-Quarter corner of said Section 7; thence leaving said North-South Section centerline and along the South right-of-way line of Ashwood Road as described in Warranty Deed recorded in Book 2005, Page 005605 of Jefferson County official records South 89°39'39" East a distance of 61.23 feet; thence leaving said right-of-way line South 00°17'35" East a distance of 424.32 feet; thence South 89°42'25" West a distance of 61.22 feet to a point on the North-South centerline of said Section 7 which bears South 00°17'35" East a distance of 505.00 feet from the North One-Quarter corner of said Section 7, being a point on the boundary of Parcel 1 of Partition Plat No. 2004-15 (recorded as MF# 2004-4735); thence along the boundary of said Parcel 1 South 89°42'25" West a distance of 354.87 feet; thence leaving said boundary 117.68 feet along a non-tangent curve to the right with a radius of 455.00 feet, the chord of which bears North 07°42'08" West a distance of 117.35 feet; thence North 00°17'35" West a distance of 18.24 feet; thence 123.03 feet along the arc of a tangent curve to the right with a radius of 240.00 feet, the chord of which bears North 14°23'32" East for a distance of 121.68 feet; thence 186.84 feet along the arc of a reverse curve to the left with a radius of 360.00 feet, the chord of which bears North 14°12'33" East for a distance of 184.75 feet to a point on said South right-of-way line; thence along said South right-of-way line the following two (2) courses and one (1) curve:

South 88°42'59" East a distance of 170.57 feet;  
18.12 feet along the arc of a tangent curve to the left with a radius of 1099.00 feet, the chord of which bears South 89°11'19" East for a distance of 18.12 feet; South 89°39'39" East a distance of 104.28 feet to the point of beginning, the terminus of this description.

End of Description

*E. E. J.*

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

*Gary L. DeJarnatt*

OREGON  
JULY 17, 1986  
GARY L. DEJARNATT  
2 2 0 8

Renews: 12/31/2009



**CONSENT TO ANNEXATION  
ONE-YEAR WAIVER**

(I/We), the undersigned, do hereby waive the one-year requirement on the attached "Consent to Annexation" for the following described property and acknowledge that the consent shall remain in effect indefinitely.

(Metes and Bounds Description and Map to be Attached to the Consent to Annexation)

Map # 11-14-7 Tax Lot # 200

Signature: *Dorothy E Thomas, Dorothy Thomas*

Typed Name: DOROTHY THOMAS  
*Evan W Thomas by Dorothy E Thomas Resi*

Signature: *attorney-in-fact*

Typed Name: EVAN W. THOMAS

Address: 2465 E. ASHWOOD ROAD

MADRAS, OREGON 97741

STATE OF OREGON )  
County of Jefferson )ss.

Personally appeared before me this 28 day of MAY 2008, the above named EVAN W THOMAS, by Dorothy Thomas his attorney-in-fact and acknowledged the foregoing DOROTHY E. THOMAS AKA DOROTHY THOMAS (List name of individual(s) having signature notarized) Dorothy THOMAS, Attorney-in fact for EVAN W. THOMAS

instrument to be a voluntary act.

*Ruth E Barringer*

Notary - State of Oregon  
My Commission Expires: 24 Aug 2009

After Recording Return to:  
City of Madras  
71 S.E. "D" Street  
Madras, Oregon 97741



PETITION FOR ANNEXATION BY CONSENT  
PURSUANT TO ORS 222.170

I/We, EVAN W. THOMAS & Dorothy THOMAS, do hereby respectfully petition the City Council of the City of Madras to annex contiguous property to the City pursuant to ORS 222.170 (1)(a).

(Metes and Bounds Legal Description and Map Required)  
(These can be attached to the Consent to Annexation Form)

Map # <u>11-14-7</u>	Tax Lot # <u>200</u>
Map # _____	Tax Lot # _____
Map # _____	Tax Lot # _____
Map # _____	Tax Lot # _____

Attached hereto is the consent of the owner(s) of the property, and is incorporated herein as Exhibit "A". Petitioner hereby certifies that they are the owner(s) of said property as ownership is described in ORS 222.120(7). Petitioner further certifies to the City that they are the legal owner(s) of record and are the sole owners of the property.

Dated this 28 day of May, 20 08.

Signature: Dorothy Thomas

Typed or Printed Name: DOROTHY THOMAS

Evan W. Thomas by Dorothy Thomas Trs

Signature: attorney in fact

Typed or Printed Name: EVAN W. THOMAS

Petition for Annexation by Consent



**JEFFERSON County Assessor's Summary Report**  
**Real Property Assessment Report**  
 FOR ASSESSMENT YEAR 2009

January 25, 2010 2:07:49 pm

<b>Account #</b>	13274	<b>Tax Status</b>	ASSESSABLE
<b>Map #</b>	111407-00-00101	<b>Acct Status</b>	CANCELLED
<b>Code - Tax #</b>		<b>Subtype</b>	NORMAL
<b>Legal Descr</b>	See Record		
<b>Mailing Name</b>	LINCICOME MADRAS DEVELOPMENT, LLC	<b>Deed Reference #</b>	See Record
<b>Agent</b>		<b>Sales Date/Price</b>	See Record
<b>In Care Of</b>		<b>Appraiser</b>	
<b>Mailing Address</b>	63227 SERVICE RD BEND, OR 97701		
<b>Prop Class</b>	550	<b>MA</b>	<b>SA</b>
		<b>NH</b>	<b>Unit</b>
<b>RMV Class</b>	500	05	60 000 -9922-0

Situs Address(s)		Situs City			
<b>Value Summary</b>					
Code Area	AV	RMV	RMV Exception	CPR %	
0020 Land	219	4,400	Land	0	
Impr.	0	0	Impr.	0	
<b>Code Area Total</b>	<b>219</b>	<b>4,400</b>		<b>0</b>	
<b>Grand Total</b>	<b>219</b>	<b>4,400</b>		<b>0</b>	

Land Breakdown											
Code Area	ID#	RFD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Irr Class	Irr Size
0020	1	R		RL	Farm Use Zoned	100	A	4.00	TD2		
<b>Grand Total</b>								<b>4.00</b>			<b>0.00</b>

Improvement Breakdown										
Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex% MS Acct #	Trended RMV		
<b>Grand Total</b>							<b>0</b>	<b>0</b>		

Code Area		Exemptions/Special Assessments/Potential Liability								
Type										
0020		NOTATION(S): POTENTIAL TAX LIABILITY								

**Comments:** SPLIT CODE WITH #13134 Combined with account #13134

**JEFFERSON County Assessor's Summary Report**  
**Real Property Assessment Report**  
 FOR ASSESSMENT YEAR 2009

January 25, 2010 2:07:27 pm

Account # 13134  
 Map # 111407-00-00101  
 Code - Tax # 0020-13274  
 0110-13134

Tax Status ASSESSABLE  
 Acct Status ACTIVE  
 Subtype NORMAL

Legal Descr See Record

Mailing Name JOHN, HEINZ A.

Deed Reference # 2009-741

Agent

Sales Date/Price 03-02-2009 / \$350,000.00

In Care Of

Appraiser COX, DON

Mailing Address

3879 LADERA VISTA RD  
 FALLBROOK, CA 92028

Prop Class 551 MA SA NH Unit  
 RMV Class 501 05 60 000 9922-1

Situs Address(s)		Situs City
ID# 1	2519 E ASHWOOD RD	MADRAS

Value Summary					
Code Area		AV	RMV	RMV Exception	CPR %
0020	Land	225	4,460	Land	0
	Impr.	0	0	Impr.	0
<b>Code Area Total</b>		225	4,460		0
0110	Land	6,016	79,020	Land	0
	Impr.	166,480	218,540	Impr.	0
<b>Code Area Total</b>		172,496	297,560		0
<b>Grand Total</b>		172,721	302,020		0

Land Breakdown											
Code Area	ID#	RFD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Irr Class	Irr Size
0020	3	R		RL	Farm Use Zoned	100	A	4.00	TD2		
								<b>Code Area Total</b>	4.00		0.00
0110	2	R		RL	Farm Site	100	A	1.00	MHS		
0110	1	R		RL	Farm Use Zoned	100	A	7.28	TD2		
								<b>Code Area Total</b>	8.28		0.00
								<b>Grand Total</b>	12.28		0.00

Improvement Breakdown												
Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV			
0110	1	1962	142	One story with basement	100	3,718			185,200			
0110	2	1962	300	Farm Bldg/Res Gp	100	2,400			30,390			
0110	3	1962	300	Farm Bldg/Res Gp	100	128			850			
0110	4	1962	300	Farm Bldg/Res Gp	100	400			2,100			
								<b>Grand Total</b>	6,646	218,540		

Code Area		Exemptions/Special Assessments/Potential Liability									
Type											
0020		NOTATION(S): POTENTIAL TAX LIABILITY									
0110		NOTATION(S): POTENTIAL TAX LIABILITY									

Comments: SPLIT CODE WITH #13274

11.14.7  
CANCELLED  
800  
304  
300

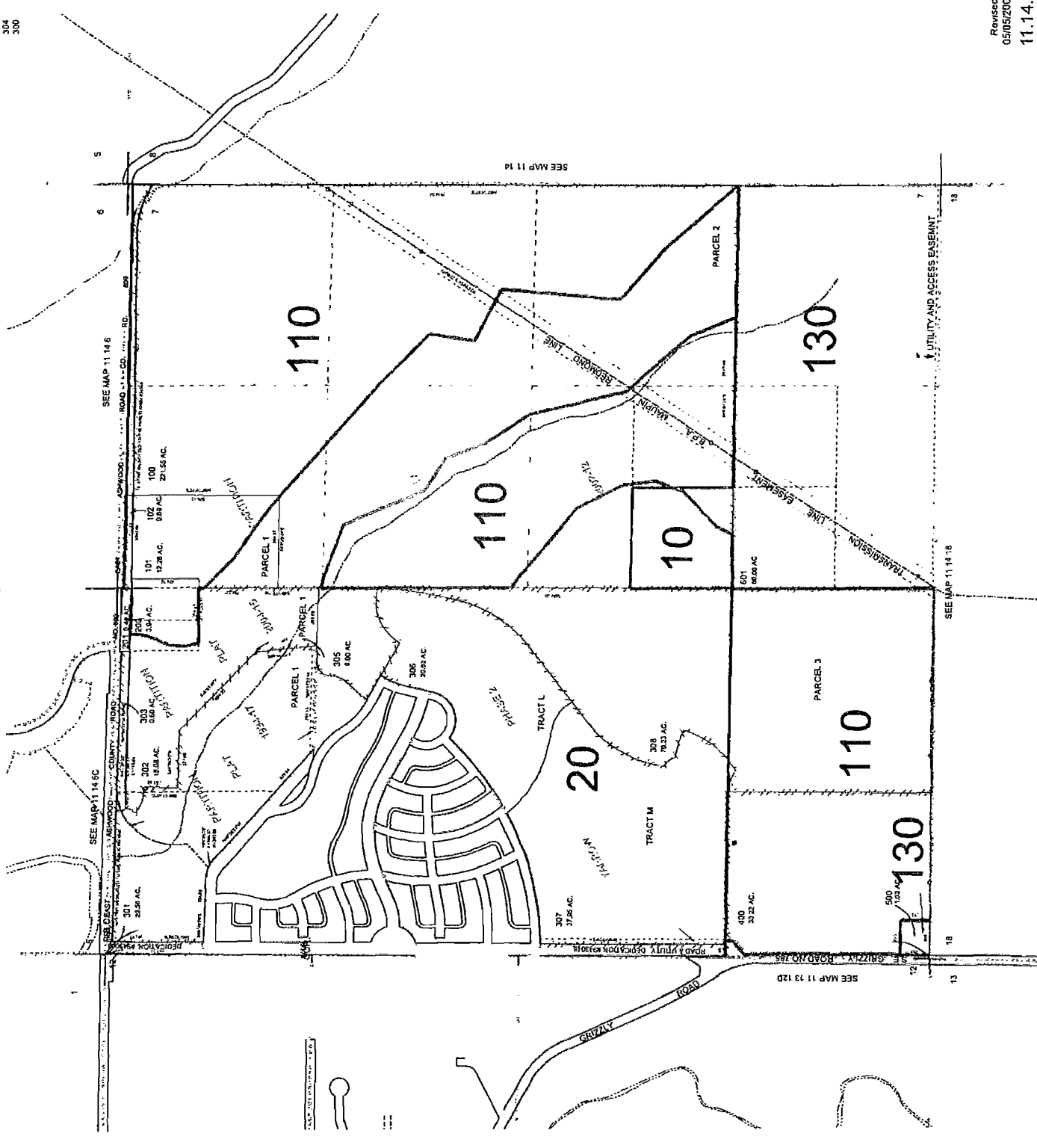
SECTION 7 T.11S. R.14E. W.M.  
JEFFERSON COUNTY

1" = 400'

THIS MAP WAS PREPARED FOR  
ASSESSMENT PURPOSE ONLY

0 100 200 300 400 Feet

Revised  
05/05/2009  
11.14.7



SEE MAP 11 14 6

SEE MAP 11 14 6 C

SEE MAP 11 14

SEE MAP 11 13 12 D

SEE MAP 11 14 18

**JEFFERSON County Assessor's Summary Report**  
**Real Property Assessment Report**  
 FOR ASSESSMENT YEAR 2009

January 25, 2010 2:06:46 pm

<b>Account #</b>	2602	<b>Tax Status</b>	ASSESSABLE
<b>Map #</b>	111407-00-00200	<b>Acct Status</b>	ACTIVE
<b>Code - Tax #</b>	0110-2602	<b>Subtype</b>	NORMAL
<b>Legal Descr</b>	Metes & Bounds - See legal report for full description.		
<b>Mailing Name</b>	THOMAS, EVAN W & DOROTHY E	<b>Deed Reference #</b>	See Record
<b>Agent</b>		<b>Sales Date/Price</b>	See Record
<b>In Care Of</b>		<b>Appraiser</b>	COX, DON
<b>Mailing Address</b>	2465 E ASHWOOD R		
	MADRAS, OR 97741		

<b>Prop Class</b>	401	<b>MA</b>	<b>SA</b>	<b>NH</b>	<b>Unit</b>
<b>RMV Class</b>	401	05	52	000	1857-1

Situs Address(s)	Situs City
ID# 2465 E ASHWOOD RD	MADRAS

Code Area	Value Summary			
	AV	RMV	RMV Exception	CPR %
0110	Land 81,960	130,790	Land	0
	Impr. 131,050	211,530	Impr.	0
<b>Code Area Total</b>	<b>213,010</b>	<b>342,320</b>		<b>0</b>
<b>Grand Total</b>	<b>213,010</b>	<b>342,320</b>		<b>0</b>

Code Area	ID#	RFD	Ex	Plan Zone	Value Source	Land Breakdown			Irr Class	Irr Size
						TD%	LS	Size		
0110	1	R		RL	Market	100	A	3.94		
<b>Grand Total</b>								<b>3.94</b>		<b>0.00</b>

Code Area	ID#	Yr Built	Stat Class	Description	Improvement Breakdown		Total Sq. Ft.	Ex% MS Acct #	Trended RMV
					TD%				
0110	1	1956	142	One story with basement	100		4,173		210,280
0110	2		300	Farm Bldg/Res Gp	100		224		1,250
<b>Grand Total</b>							<b>4,397</b>		<b>211,530</b>

Jefferson County Official Records  
Kathleen B. M... on, County Clerk

2005-00026



\$36.00

00028548200500002620020028

01/18/2005 02:31:06 PM

D-WD Cnt=1 Stn=2 KATE  
\$10.00 \$11.00 \$10.00 \$5.00

Send tax statements to:

*City of MADRAS*  
*71 SE D. ST.*  
*MADRAS, OR. 97741*

After recording Return to:

City of Madras  
71 SE D Street  
Madras OR 97741

WARRANTY DEED  
(Statutory Form)  
(ORS 93.850)

MORROW PROPERTIES, INC., an Oregon corporation, Grantor, conveys and warrants to the CITY OF MADRAS, an Oregon municipality, Grantee, the following described real property, situate in Jefferson County, Oregon, free from encumbrances except as specifically set forth:

Parcel 1 of Partition Plat No. 2004-06, recorded April 15, 2004, as Instrument No. 2004-1610, Jefferson County, Oregon.

SUBJECT TO:

1. 2004-2005 taxes, a lien in an amount to be determined, but not yet payable.
2. As disclosed by tax roll the premises herein described have been zoned or classified for farm use. At any time that said land is disqualified for such use, the property may be subject to additional taxes or penalties and interest.
3. The property lies within the boundaries of Deschutes Valley Water District and is subject to any charges or assessments levied by said District, and pipeline easements in connection therewith.
4. Rights of the public in and to that portion of the herein described premises lying within the boundaries of roads or highways.
5. Right of way, if any, of Public Usage Road No. 3053 as shown on tax assessor map but which the Grantor declares may be closed or vacated by prior Federal or County governmental action.
6. Mineral reservation by the United States of America as disclosed in Deed recorded April 28, 1983, Fee No. 147453.
7. Reservation by the United States of America for power line as disclosed in Deed, recorded April 28, 1983, Fee No. 147453.

The true consideration for this conveyance is an exchange of real property between the Grantee and Grantor.

-1- WARRANTY DEED\\Server1\Kathy\Morrow\Morrow Properties - Warranty\_Deed.wpd

**GLENN, SITES & REEDER, LLP**  
ATTORNEYS AT LAW

205 S.E. Fifth Street, Madras, OR 97741 Ph. (541) 475-2272  
Fax: (541) 475-3944

8. Reservation by the United States of America for power line as disclosed in Deed, recorded April 28, 1983, Fee No. 147453.
9. Easement, including the terms and provisions thereof, for electrical transmission lines granted to Central Electric Cooperative, Inc., recorded April 28, 1983, Fee No. 147456.
10. Easement, including the terms and provisions thereof, for communication lines, granted to Pacific Northwest Bell Telephone Company, recorded April 28, 1983, Fee No. 147458.
11. Easements as shown on Partition Plat 2004-06, for utility and access.

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES AND TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

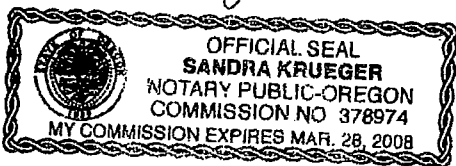
Dated this 4<sup>th</sup> day of January, ~~2004~~ <sup>2005</sup> Jan

MORROW PROPERTIES, INC:

By: Andrew J. Morrow  
 ANDREW J. MORROW, President

STATE OF OREGON            )  
   ) ss.  
 County of Jefferson        )

Personally appeared ANDREW J. MORROW, who being duly sworn, did say that he is the President of MORROW PROPERTIES, INC., an Oregon corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation by authority of its Board of Directors, and he acknowledged said instrument to be its voluntary act and deed, before me this 4<sup>th</sup> day of January, ~~2004~~ <sup>2005</sup> ss



Sandra Krueger  
 Notary Public for Oregon  
 My commission expires: 3-28-08



11	14	7		100			10/110 28/28/130
TWP. S.	RGE. E.	SEC	1/4	TAX LOT NUMBER	TYPE	SPEC. INT. IN REAL PROP.	CODE AREA NUMBER
MAP NUMBER				ACCOUNT NUMBER		FORMERLY PART OF T.L. NO.	

**OFFICIAL RECORD OF DESCRIPTIONS  
OF REAL PROPERTY** 4566-1  
**JEFFERSON COUNTY ASSESSOR'S OFFICE**

INDENT EACH NEW COURSE TO THIS POINT	ADDITIONAL DESCRIPTION AND RECORD OF CHANGE	DATE OF ENTRY ON THIS CARD	DEED RECORD		ACRES REMAINING
			VOL.	PG.	
	2833 + 2836/13275/13276	Page 1			
T11S R14E WM					
Sec 7, NE $\frac{1}{4}$ ; NE $\frac{1}{4}$ SE $\frac{1}{4}$ ; SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ ; NW $\frac{1}{4}$ SE $\frac{1}{4}$	Exchange D		26	540	230.00
Exc: Co Rd 809	1.82 Zemke, Emma dth cert	2 4 77	57	159	228.18
	Annexation to DVW	02/08/88	#881533		
	Annexation Resolution	02/08/88	# 87-6		
	Oregon Corner Restoration Record	02/15/85	#883293		
	Oregon Corner Restoration Record	02/13/85	#883294		
	Oregon Corner Restoration Record	12/01/89	#892748		
Zemke to Zemke, TR	B&S Dd	03/16/92	921244		
Oregon Corner Restoration Record		1/04/95	#950029		
Zemke, AC	DC	5-22-97	971966		
**Also: TL 600- 10 Ac. (The SW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 7, T.11S, R.14E, W.M. All in Code 13					
Morrow Prop, Inc. to Zemke, AL Trustee of Zemke, AC Trust	WD	10-15-97	974254		
Boundary Adjust.	BA 97-14	4-15-98	981538		
Code Totals					
#2836- Code 13=	10 AC.				
#2833- Code 11=	228.18 AC.				
Total	238.18 AC				238.18
Zemke, AL Succ Trustee of Zemke, AC Trust to Springview Farms, LLC	BS	5-7-01	2001814		

11	14	7		100			10/20 110 130
TWP. S.	RGE. E.	SEC.	1/4	TAX LOT NUMBER	TYPE	SPEC. INT. IN REAL PROP.	CODE AREA NUMBER
MAP NUMBER				ACCOUNT NUMBER			

**OFFICIAL RECORD OF DESCRIPTIONS  
OF REAL PROPERTY  
JEFFERSON COUNTY ASSESSOR'S OFFICE**

FORMERLY PART OF T.L. NO. \_\_\_\_\_

INDENT EACH NEW COURSE TO THIS POINT	2833/2836	ADDITIONAL DESCRIPTION AND RECORD OF CHANGE	DATE OF ENTRY ON THIS CARD	DEED RECORD		ACRES REMAINING
				VOL.	PG.	
Exc. 0.45 Survey Adj.						
Exc. 0.60 <sup>60</sup> 10' Road Ded.						
Exc. 13.43 AC. Parcel 1 of PP 2002-12						
New Desc. for this TL Parcel 2 of PP 2002-12			PP 12-30-02	20025926		223.7
Affidavit of Correction PP 2002-12			2-5-03	20030589		
Code Totals Code 110 = 213.7 AC. Code 130 = 10.0 AC. Total 223.7 AC.						
Springview Farms, LLC to City of Madras			WD 1-2-03	20030022		
Code change 58.56 acres annexed into City of Madras, Ordinance #711 Code 10 = 8.44 Acres Code 20 = 58.56 Acres Code 110 = 155.14 Acres Code 130 = 1.56 Acres			01-13-04			223.7

# JEFFERSON COUNTY ASSESSOR'S NAME LEDGER

Printed on 01-13-10

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00100

Effective Date 22-Jan-2000 12:00 AM Transaction ID 110303 Entry Date 22-Jan-2000 Recorded Date 22-Jan-2000 Sale Date 22-Jan-2000

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	108982	2001	HISTORICAL - BOR	U	1900	8880	1	20011814		CONVERSION NAME CHANGE	

Name Changes      Status      Name      Ownership Type      Ownership %  
 D      SPRINGVIEW FARMS, LLC      OWNER

Effective Date 18-Dec-2002 12:00 AM Transaction ID 110304 Entry Date 18-Dec-2002 Recorded Date 18-Dec-2002 Sale Date 18-Dec-2002

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	108983	2003	HISTORICAL - BOR	U	1900	8881	1	20030022		CONVERSION NAME CHANGE	

Name Changes      Status      Name      Ownership Type      Ownership %  
 D      MADRAS, CITY OF      OWNER

Effective Date 15-Sep-2005 12:00 AM Transaction ID 91591 Entry Date 15-Sep-2005 Recorded Date 15-Sep-2005 Sale Date 15-Sep-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	90058	2005	ASSESSOR'S FILE		2005	543	1	CONVERSION-2		CONVERSION	

Size Changes      Code      +/-      Size      Alternate Size      Code Area Deleted      Move to Acct      Move to Code  
 0110      213.70      Acres

Size Totals      Code      Acres      SqFt  
 0110      213.70      0.00

Effective Date 23-Oct-2007 11:59 AM Transaction ID 386939 Entry Date 22-Oct-2007 Recorded Date 22-Oct-2007 Sale Date

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
-----	------------	----------	-----------------	------	-------	-------	-----	-----------	----	-----------	-------------

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00100

1 462117 2008 ASSESSOR AF 2007 117 1 SIZE CHANGE  
 PP #2002-12, INCORRECT ACREAGE ENTERED ON THIS ACCOUNT. SHOULD BE 155.14 ACRES.

Size Changes Code 0110 +/- Size -58.56 Acres Alternate Size Code Area Deleted Move to Acct Move to Code  
 0.00

Size Totals Code 0110 Acres 155.14 SqFt 0.00

Active Date 28-Aug-2008 9:16 AM Transaction ID 397519 Entry Date 11-Jul-2008 Recorded Date 25-Jun-2008 Sale Date

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	513340	2008	CLERK - BOR	U	2008	2388	2		SIZE CHANGE	
PUBLIC ROAD DEDICATION, JOB #08029C - CITY OF MADRAS, 11-14-07 TAX LOT 100, ACCOUNT #2833, (SPLIT CODE AREA 110) CONVEYS TO THE PUBLIC FOR ROAD, 2.15 ACRES.										

Size Changes Code 0110 +/- Size -2.15 Acres Alternate Size Code Area Deleted Move to Acct Move to Code  
 0.00

Size Totals Code 0110 Acres 152.99 SqFt 0.00

Add:  
 Public Road Dedication

A portion of Parcel 2 of Partition Plat No. 2002-12 as filed in the Jefferson County Clerk's Office, situated in the Northeast Quarter (NE 1/4) of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County, Oregon, more particularly described as follows:

Commencing at the Northwest corner of said Northeast Quarter, monumented with a 2 inch diameter brass cap, from which the Northeast corner of said Section 7 bears South 89°39'40" East a distance of 2640.53 feet; thence South 89°39'40" East long the Northline of said Section 7 a distance of 599.97 feet; thence South 00°17'36" West a distance of 40.00 feet to the Northwest corner of said Parcel 2 of Partition Plat No. 2002-12 and the True Point of Beginning of this Description; thence continuing South 00°17'36" West along the West line of said Parcel 2 a distance of 40.00 feet; thence South 89°39'39" East a distance of 1690.17 feet; thence 374.44 feet along the arc of a 600.00 foot radius curve to the right, with a central angle of 35°45'24" the long chord bears South 71°04'57" East a distance of 368.40 feet to the East line of

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00100

said Northeast Quarter; thence North 00°00'43" East along the East line of said Northeast Quarter a distance of 132.03 feet; thence North 64°59'31" West a distance of 12.90 feet; thence 34.51 feet along the arc of a 710.00 foot radius to the left, with a central angle of 2°47'07" the longchord bears North 62°36'48" West a distance of 34.51 feet to the North line of said Parcel 2; thence North 89°39'40" West along said North line a distance of 1998.01 feet to the True Point of Beginning.

Containing 2.15 acres more or less.

Effective Date 04-May-2009 12:43 PM Transaction ID 432733 Entry Date 04-May-2009 Recorded Date 04-May-2009 Sale Date  
 COMBINING SPLIT CODES INTO ONE REAL ACCOUNT NUMBER #2833. REAL ACCOUNT NUMBERS #2836, #13275, & Sale Price  
 #13276 CANCELLED.

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
4	565927	2009	ASSESSOR	AF	2009	130	1		COMBINATION - TO	1114070000100 1114070000100 1114070000100

Size Changes	Code	+/- Size	Alternate Size	Code Area Deleted	Move to Acct	Move to Code
	0130	1.56 Acres	0.00			
	0010	8.44 Acres	0.00			
	0020	58.56 Acres	0.00			

Size Totals	Code	Acres	SqFt
	0110	152.99	0.00
	0130	1.56	0.00
	0010	8.44	0.00
	0020	58.56	0.00

11	14	7		101			20 110	OFFICIAL RECORD OF DESCRIPTIONS OF REAL PROPERTY COUNTY ASSESSOR'S OFFICE			
TWP.	RGE.	SEC.	1/4	1/16	PARCEL NUMBER	Type	Spec. Int. In REAL PROP.	CODE AREA NUMBER	FORMERLY PART OF 11 14 7 100		
MAP NUMBER			TAX LOT NUMBER								

Indant each new course to this point	13134	DESCRIPTION AND RECORD OF CHANGE	Date Recorded	Ref# or		Acres Remaining
				Vol.	PG.	
		T11S R14E Sec. 7				
		Partition Plat 2002-12 Parcel 1	PP 12-30-02	20025926		13.43
		Affidavit of Correction PP 2002-12	2-5-03	20030589		
		Code change 4.0 acres annexed into City of Madras Ordinance #711 Code 20 = 4.0 acres Code 110 = 9.43 acres	01-13-04			13.43
		Springview Farms, LLC to Zemke, AL	BS 02-28-05	20050974		
		Zemke, AL to Lincicome Madras Development, LLC	WD 6-1-05	20052823		



# JEFFERSON COUNTY ASSESSOR'S NAME LEDGER

Printed on 01-13-10

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00101

Effective Date 25-Feb-2005 12:00 AM Transaction ID 143182 Entry Date 25-Feb-2005 Recorded Date 25-Feb-2005 Sale Date 25-Feb-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	141861	2005	HISTORICAL - BOR	U	1900	41759	1	20050974		CONVERSION NAME CHANGE	

Name Changes Status Name Ownership Type Ownership %  
 D ZEMKE, ALBERT L OWNER

Effective Date 31-May-2005 12:00 AM Transaction ID 143183 Entry Date 31-May-2005 Recorded Date 31-May-2005 Sale Date 31-May-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	141862	2005	HISTORICAL - BOR	U	1900	41760	1	20052823		CONVERSION NAME CHANGE	

Name Changes Status Name Ownership Type Ownership %  
 D LINCICOME MADRAS DEVELOPMENT, LLC OWNER

Effective Date 15-Sep-2005 12:00 AM Transaction ID 101054 Entry Date 15-Sep-2005 Recorded Date 15-Sep-2005 Sale Date 15-Sep-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	91793	2005	ASSESSOR'S FILE		2005	2680	1	CONVERSION-1		CONVERSION	

Size Changes Code +/- Size Alternate Size Code Area Deleted Move to Acct Move to Code  
 0110 9.43 Acres

Size Totals Code Acres SqFt  
 0110 9.43 0.00

Effective Date 19-Sep-2006 2:46 PM Transaction ID 258092 Entry Date 25-Jul-2006 Recorded Date 20-Jul-2006 Sale Date 23-Jun-2006  
 Sale Price 39,021

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00101

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	304491	2006	CLERK - BOR	WD	2006	4457	1		SEGREGATION - FROM	1114070000102
LESS 0.69 AC TO TAX LOT 102										

Size Changes Code 0110 +/- Size -0.69 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 8.74 SqFt 0.00

Effective Date 03-Aug-2007 9:49 AM Transaction ID 344875 Entry Date 12-Jun-2007 Recorded Date 11-Jun-2007 Sale Date 11-Jun-2007

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
2	409850	2007	CLERK - BOR	PLA	2007	3081	1		SIZE CHANGE	
SURVEY ADJUSTMENT										

Size Changes Code 0110 +/- Size 0.14 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 8.88 SqFt 0.00

3 409855 2007 CLERK - BOR PLA 2007 3081 1 SIZE CHANGE  
 MINUS 0.60 ACRES FROM 11-14-07 101 TO 11-14-07 200, ACCOUNT #13134 TO #2602.

Size Changes Code 0110 +/- Size -0.60 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 8.28 SqFt 0.00

4 410273 2007 CLERK - BOR PLA 2007 3081 1 TLC  
 LINCICOME MADRAS DEVELOPMENT LLC, CONVEY TO EVAN W THOMAS & DOROTHY THOMAS, 0.60 ACRES,  
 PERFECTION DEED, DOC #2007-3808. NOTE: THIS ACCOUNT #13134 IS A SPLIT CODE WITH ACCOUNT #13274.

**TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST**

11  
14 0 0 00101  
Size Totals Code 0110 Acres 8.28 SqFt 0.00

6 410346 2007 CLERK - BOR PLA 2007 3081 1 TLC  
PERFECTION DEED, LINCICOME MADRAS DEVELOPMENT LLC TO LINCICOME MADRAS DEVELOPMENT LLC, DOC. #2007-3810

Size Totals Code 0110 Acres 8.28 SqFt 0.00

8 410383 2007 CLERK - BOR PLA 2007 3081 1 TLC  
EASEMENT: 11-14-07 200 TO 11-14-07 101, EVAN W THOMAS & DOROTHY THOMAS TO LINCICOME MADRAS DEVELOPMENT LLC, DOC. #2007-3813.

Size Totals Code 0110 Acres 8.28 SqFt 0.00

**Effective Date 12-May-2008 12:00 AM Transaction ID 392383 Entry Date 12-May-2008 Recorded Date 12-May-2008 Sale Date 12-May-2008**  
SPLIT CODE COMBINATION DONE BY SDF

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
461	480848	2008	ASSESSOR		2008	52	1		COMBINATION - TO	1114070000101

Size Changes Code 0020 +/- Size 4.00 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 8.28 SqFt 0.00  
Code 0020 4.00 SqFt 0.00

**Effective Date 10-Mar-2009 9:01 AM Transaction ID 430942 Entry Date 05-Mar-2009 Recorded Date 04-Mar-2009 Sale Date 02-Mar-2009**  
Sale Price 350,000

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	557756	2009	CLERK - BOR	WD	2009	741	1		NAME CHANGE	

TOWNSHIP 11 RANGE 14 SECTION 07 1/4 0 1/16 0 TAXLOT 00101 SPECIAL INTEREST

Name Changes      Status    Name      Name Type      Ownership Type      Ownership %  
 D    LINCICOME MADRAS DEVELOPMENT, LLC    OWNER  
 A    JOHN, HEINZ A.                            OWNER

Size Totals      Code      Acres      SqFt  
 0110                    8.28            0.00  
 0020                    4.00            0.00



Jefferson County Official Records  
Kathleen B. Marston, County Clerk

2009-000741



\$36.00

00066601200900007410020021

03/04/2009 03:26:23 PM

D-WD Cnt=1 Stn=2 KATE  
\$10.00 \$11.00 \$10.00 \$5.00

After recording return to:  
FIRST OREGON TITLE COMPANY  
116 SE D Street, Ste A  
MADRAS, OR 97741

Until a change is requested all  
tax statements shall be sent to  
the following address:  
Heinz A. John  
3879 Ladera Vista Road  
Pallbrook, CA 92028

Escrow No. 0011105TD  
Title No. 11105

### WARRANTY DEED

Lincicone Madras Development, LLC,  
Grantor(s) hereby grant, bargain, sell, warrant and convey to:  
Heinz A. John  
Grantee(s) and grantee's heirs, successors and assigns the following described  
real property, free of encumbrances except as specifically set forth herein in  
the County of JEFFERSON and State of Oregon, to wit:  
SEE EXHIBIT A WHICH IS MADE A PART HEREOF BY THIS REFERENCE  
Acct# 13134/13274 Map# 11-14-7 101

SUBJECT TO: all those items of record and those apparent upon the land, if  
any, as of the date of this deed and those shown below, if any:  
and the grantor will warrant and forever defend the said premises and every  
part and parcel thereof against the lawful claims and demands of all persons  
whomsoever, except those claiming under the above described encumbrances.

The true and actual consideration for this conveyance is \$ 350,000.00.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE  
SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER SECTIONS 2, 3 AND 5 TO  
22 OF CHAPTER 424, OREGON LAWS 2007 (MEASURE 49 (2007)). THIS INSTRUMENT DOES  
NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF  
APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS  
INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH  
THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF  
LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN  
ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO  
DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED  
IN ORS 30.930 AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS,  
IF ANY, UNDER SECTIONS 2, 3 AND 5 TO 22 OF CHAPTER 424, OREGON LAWS 2007  
(MEASURE 49 (2007)).

Dated this 2<sup>nd</sup> day of March, 2009.

Lincicone Madras Development, LLC  
BY: [Signature]  
James Mitch Cole, Member

State of Oregon  
County of JEFFERSON Deschutes

This instrument was acknowledged before me on March 2<sup>nd</sup>, 2009 by Mitch Cole.

[Signature]  
(Notary Public for Oregon)

My commission expires 6/19/2010



First Oregon Title Company

11

**EXHIBIT "A"**

Legal Description:

A parcel of land containing 12.28 acres, more or less, being a portion of Parcel 1 of Partition Plat No. 2002.12 located in the Northeast One-quarter of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County, Oregon, being more particularly described as follows:

Commencing at a point on the north-south centerline of said Section 7 which bears South  $00^{\circ}17'35''$  East a distance of 80.01 feet from the North One-quarter corner of said Section 7, thence leaving said north-south section centerline and along the south right-of-way line of Ashwood road as described in Warranty Deed recorded as instrument No. 2005-005605 of Jefferson County official records South  $89^{\circ}39'39''$  East a distance of 61.23 feet to the true Point of Beginning of this description; thence continuing along said right-of-way line South  $89^{\circ}39'39''$  East a distance of 538.68 feet to a point on the east boundary of said Parcel 1; thence along said east boundary South  $00^{\circ}17'35''$  East a distance of 935.15 feet to the Southeast corner of said Parcel 1; thence along the south boundary of said Parcel 1 North  $89^{\circ}40'13''$  West a distance of 599.90 feet to the southwest corner of said Parcel 1, being a point on said north-south section centerline; thence along said north-south section centerline North  $00^{\circ}17'35''$  West a distance of 510.26 feet to a point which bears South  $00^{\circ}17'35''$  East a distance of 505.00 feet from the North One-quarter corner of said Section 7; thence leaving said north-south section centerline North  $89^{\circ}42'25''$  East a distance of 61.22 feet thence North  $00^{\circ}17'35''$  West a distance of 424.32 feet to the point of beginning.



**JEFFERSON COUNTY ASSESSOR**  
**REAL PROPERTY ASSESSMENT REPORT**  
**FOR ASSESSMENT YEAR 2009**

Jan 13, 2010

ACCOUNT # 15964  
MAP 1114070000102  
CODE - TAX # 0010 - 15964

TAX STATUS NONASSESSABLE  
ACCNT STATUS ACTIVE  
SUBTYPE NORMAL

MAILING NAME OREGON DEPARTMENT OF CORRECTIONS  
AGENT  
IN CARE OF ATTN: COMMUNITY DEVELOPMENT MGR  
MAILING ADDRESS

DEED REFERENCE # 2006-4457 (SOURCE ID: )  
SALES DATE/PRICE 06-23-2006 / \$39,021.00

1793 13TH ST SE  
SALEM, OR 97302

PROP CLASS 960 MA SA NH UNIT  
RMV CLASS 400 05 52 000 68912-1

SITUS ADDRESS(S)	SITUS CITY
ID #	

VALUE SUMMARY					
CODE AREA		AV	RMV	RMV EXCEPTION	CPR %
0010	LAND	0	64,550	LAND	
	IMPR.	0	0	IMPR.	
	TOTAL	0	64,550	TOTAL	0
	GRAND TOTAL	0	64,550	GRAND TOTAL	0

LAND BREAKDOWN										
CODE AREA	ID #	RFD	PLN ZN	VALUE SOURCE	TD%	LS	SIZE	LND CLS	IRR CLASS	IRR SIZE
0010		R	1	RL	Market	100	A	0.69		
							TOTAL	0.69	TOTAL	0.00

# JEFFERSON COUNTY ASSESSOR'S NAME LEDGER

Printed on 01-13-10

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00102

Effective Date 19-Sep-2006 2:46 PM Transaction ID 258092 Entry Date 25-Jul-2006 Recorded Date 20-Jul-2006 Sale Date 23-Jun-2006  
 Sale Price 39,021

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
2	304496	2006	CLERK - BOR	WD	2006	4457	1			SEGREGATION - TO	1114070000101
0.69 AC FROM TAX LOT 101											

Name Changes	Status	Name	Name Type	Ownership Type	Ownership %
A		STATE OF OREGON	OWNER	OWNER	
A		DEPARTMENT OF CORRECTIONS	OWNER	OWNER	

Size Changes	Code	+/- Size	Acres	Alternate Size	Code Area Deleted	Move to Acct	Move to Code
	0010	0.69	Acres	0.00			

Size Totals	Code	Acres	SqFt
	0010	0.69	0.00

Effective Date 20-Sep-2006 3:50 PM Transaction ID 289393 Entry Date 20-Sep-2006 Recorded Date 20-Sep-2006 Sale Date

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	321990	2006	ASSESSOR	CONV	2006	139	1			TAX STATUS CHANGE TO NON-ASSESSABLE	

ROAD

Size Totals	Code	Acres	SqFt
	0010	0.69	0.00

Jefferson County Official Records  
Kathleen B. Marston, County Clerk

2006-004457



\$41.00

00044474200600044570030031

07/20/2006 02:32:09 PM

D-WD                      Cnt=1    Str=2    KATE  
\$15.00 \$11.00 \$10.00 \$5.00

Space above this line for Recording Office Use

After recording, return to:  
Oregon Department of Corrections  
Attn: Community Development Manager  
1793 13<sup>th</sup> Street SE  
Salem, OR 97302-2595

Send Tax statements to:  
(same)

**WARRANTY DEED**  
(ORS 93.850)

Lincicome Madras Development, LLC, an Oregon limited liability company, Grantor, conveys and warrants to **STATE OF OREGON**, by and through its DEPARTMENT OF CORRECTIONS, Grantee, its successors and assigns, the real property described in Exhibit A (the "Property") free of encumbrances, except for easements, conditions, and restrictions contained in the public record, and except as specifically set forth herein (none).

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 197.352. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930 AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 197.352.

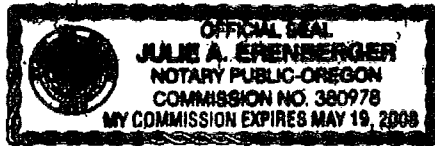
The true consideration for this conveyance is \$39,021.00.

Dated this 23 day of June, 2006.

[Signature], Grantor  
by James Mitch Cole, Managing Member of  
Lincicome Madras Development, LLC

STATE OF OREGON )  
County of Deschutes ) ss.

This instrument was acknowledged and executed before me on this 23<sup>rd</sup> day of June, 2006,  
by James Mitch Cole, Managing Member of Lincicome Madras Development, LLC.



[Signature]  
Notary Public for Oregon  
My Commission expires: 5/19/08

**ACCEPTED BY:**

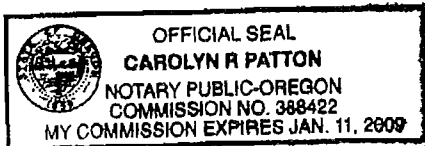
The State of Oregon, acting by and through  
its Department of Corrections

By: [Signature]

As: Dept. of Corrections, Community Manager

STATE OF OREGON )  
County of Marion ) ss.

This instrument was acknowledged before me on this 30<sup>th</sup> day of June, 2006,  
by BOBBI BURTON as the Community Manager and  
authorized representative of the Oregon Department of Corrections, acting under authority  
granted to him/her by the State of Oregon.



[Signature]  
Notary Public for Oregon  
My Commission expires: 1-11-09

**EXHIBIT A**

Legal Description for Warranty Deed  
ASHWOOD ROAD

Section 7 (East Property)

A 60.00-foot wide strip of land, lying 60.00 on the south side of the following described centerline, over land located in the northwest 1/4 of the northeast 1/4 of Section 7 of Township 11 South and Range 14 East of the Willamette Meridian, Jefferson County, Oregon, described in the Warranty Deed recorded at 2005-002823 of the Jefferson County Official Records:

Beginning at Engineer's Centerline Station 5+00, on the section line between Sections 6 and 7 of Township 11 South and Range 14 East of the Willamette Meridian, Jefferson County, Oregon, which bears North 89°39'17" West 1481.20 feet from the 1/4 corner between said Sections 6 and 7; thence South 89°39'17" East 138.33 feet, along the section line between said Sections 6 and 7; thence leaving said section line, 17.02 feet along the arc of a 1039.00 foot radius curve right (the long chord of which bears South 89°11'08" East 17.01 feet); thence South 88°43'00" East 1205.50 feet; thence 17.13 feet along the arc of a 1039.00 foot radius curve left (the long chord of which bears South 89°11'20" East 17.13 feet); thence South 89°39'40" East 2394.42 feet; thence 633.14 feet along the arc of a 660.00 foot radius curve right (the long chord of which bears South 62°10'44" East 609.14 feet); thence South 34°41'49" East 774.75 feet; thence 1709.82 feet along the arc of a 1000.00 foot radius curve left (the long chord of which bears South 83°40'47" East 1509.02 feet); thence North 47°20'15" East 542.88 feet; thence 2560.21 feet along the arc of a 1400.00 foot radius curve right (the long chord of which bears South 80°16'24" East 2218.09 feet); thence South 27°53'03" East 943.15 feet; thence 1158.98 feet along the arc of an 850.00 foot radius curve left (the long chord of which bears South 66°56'44" East 1071.26 feet); thence North 73°59'34" East 585.08 feet; thence 368.57 feet along the arc of a 340.00 foot radius curve right (the long chord of which bears South 74°57'06" East 350.79 feet); thence South 43°53'47" East 305.17 feet; thence 254.87 feet along the arc of a 340.00 foot radius curve left (the long chord of which bears South 65°22'17" East 248.94 feet); thence South 86°50'46" East 596.74 feet; thence 122.81 feet along the arc of a 660.00 foot radius curve right (the long chord of which bears South 81°30'56" East 122.63 feet); thence South 76°11'06" East 271.44 feet to engineer's centerline station 151+00, the terminus for this description, from which the 1/4 corner between Sections 9 and 10 bears North 89°14'59" East 2049.79 feet.

The parcel of land to which this description applies contains 30,016 square feet, more or less.

This description may include areas that are preexisting public right-of-way or easements, which are retained, and included herein to provide a clearer record of title in the future.

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

OREGON  
JULY 18, 1980  
JERRY C. POWELL  
1919

RENEWS 12-31-2006

11	14	7		200		11	
TWP. S.	RGE. E.	SEC.	1/4	TAX LOT NUMBER	TYPE	SPEC INT. IN REAL PROP.	CODE AREA NUMBER
MAP NUMBER				ACCOUNT NUMBER		FORMERLY PART OF T.L. NO.	

\* OFFICIAL RECORD OF DESCRIPTIONS  
 OF REAL PROPERTY 4568  
 4569-1  
 JEFFERSON COUNTY ASSESSOR'S OFFICE

INDENT EACH NEW COURSE TO THIS POINT	2602	ADDITIONAL DESCRIPTION AND RECORD OF CHANGE	DATE OF ENTRY ON THIS CARD	DEED RECORD		ACRES REMAINING
				VOL.	PG.	
		THIS R14E WM				
		Sec 7, The N 475 ft of the E 400 ft of the NE 1/4 NW 1/4.	WD	21	389	
			WD	25	530	4.63
		Exc: Co Rd No 809				0.27
		Code Change Rural Madras Sanitary Dist	9 5 78	0	81 78	
		Dissolution of Rural Madras Sanitary District	9-2-81	0-94	-81	
		Oregon Corner Restoration Record	02/13/85	#883	294	
		Oregon Corner Restoration Record	12/01/89	#892	748	
		Oregon Corner Restoration Record	1/04/95	#950	029	
		Easement inside 11 14 7 TL 302 for this tax lot (Granted to Thomas, E & D) Included in a Warranty Deed worked on 11 14 7 TL 302.	WD 07-28-05	2005	4126	





# JEFFERSON COUNTY ASSESSOR'S NAME LEDGER

Printed on 01-13-10

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00200

Effective Date 15-Sep-2005 12:00 AM Transaction ID 91368 Entry Date 15-Sep-2005 Recorded Date 15-Sep-2005 Sale Date 15-Sep-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	95429	2005	ASSESSOR'S FILE		2005	840	1	CONVERSION-2	CONVERSION	

Size Changes Code 0110 +/- Size 4.36 Acres Alternate Size Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 4.36 SqFt 0.00

Effective Date 02-Aug-2006 11:03 AM Transaction ID 260793 Entry Date 28-Jul-2006 Recorded Date 27-Jul-2006 Sale Date 30-Jul-1999

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	287865	2006	CLERK - BOR	POA	2006	4616	1		TLC	
POWER OF ATTORNEY THOMAS, EVAN W TO THOMAS, DOROTHY E										

Size Totals Code 0110 Acres 4.36 SqFt 0.00

Effective Date 20-Sep-2006 8:55 AM Transaction ID 267880 Entry Date 08-Aug-2006 Recorded Date 08-Aug-2006 Sale Date 27-Jul-2006  
 Sale Price 78,000

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	304449	2006	CLERK - BOR	BSD	2006	4876	1		SEGREGATION - FROM	1114070000201
LESS 0.44 TO TAX LOT 201										

Size Changes Code 0110 +/- Size -0.44 Acres Alternate Size Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 3.92 SqFt 0.00

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00200

Effective Date 03-Aug-2007 9:49 AM Transaction ID 344875 Entry Date 07-Mar-2007 Recorded Date 06-Mar-2007 Sale Date 06-Mar-2007

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP	
1	409810	2007	CLERK - BOR	PLA	2007	1222	1			SIZE CHANGE		
			SURVEY ADJUSTMENT									

Size Changes	Code	+/-	Size	Alternate Size	Code	Area Deleted	Move to Acct	Move to Code
	0110	0.02	Acres	0.00				

Size Totals	Code	Acres	SqFt
	0110	3.94	0.00

3 409814 2007 CLERK - BOR PLA 2007 1222 1 SIZE CHANGE  
 MINUS 0.60 ACRES TRANSFERRED FROM 11-14-07 200 TO 11-14-07 302 (ACCNT. #16953 WHICH HAS A SPLIT CODE #13341).

Size Changes	Code	+/-	Size	Alternate Size	Code	Area Deleted	Move to Acct	Move to Code
	0110	-0.60	Acres	0.00				

Size Totals	Code	Acres	SqFt
	0110	3.34	0.00

8 410329 2007 CLERK - BOR PLA 2007 1222 1 TLC  
 PERFECTION DEED, EVAN W THOMAS & DOROTHY THOMAS TO EVAN W THOMAS & DOROTHY THOMAS, DOC. #2007-3806.

Size Totals	Code	Acres	SqFt
	0110	3.34	0.00

Effective Date 03-Aug-2007 9:49 AM Transaction ID 344875 Entry Date 12-Jun-2007 Recorded Date 11-Jun-2007 Sale Date 11-Jun-2007

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP	
1	409849	2007	CLERK - BOR	PLA	2007	3081	1			SIZE CHANGE		
			ADD: 0.60 ACRES FROM 11-14-07 101 TO 11-14-07 200, ACCOUNT #13134 TO ACCOUNT #2602.									

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00200

Size Changes Code 0110 +/- Size 0.60 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 3.94 SqFt 0.00

Add:

A parcel of land containing 3.94 acres, more or less, located in a portion of the Northwest One-quarter (NW 1/4) and a portion of the Northeast One-Quarter (NE 1/4) of Section 07, Township 11 South, Range 14 East, Willamette Meridian, City of Madras, Jefferson County, Oregon, being more particularly described as follows: Beginning at a point on the north-south centerline of said Section 07 which bears South 00°17'35" East a distance of 80.01 feet from the North One-quarter corner of said Section 07; thence leaving said north-south section centerline and along the south right-of-way line of Ashwood Road as described in Warranty Deed recorded in Book 2005, Page 005605 of Jefferson County official records South 89°39'39" East a distance of 61.23 feet; thence leaving said right-of-way line South 00°17'35" East a distance of 424.32 feet; thence South 89°42'25" West a distance of 61.22 feet to a point on the north-south centerline of said Section 07 which bears South 00°17'35" East a distance of 505.00 feet from the North One-quarter corner of said Section 07, being a point on the boundary of Parcel 1 of Partition Plat No. 2004-15 (recorded as MF#2004-4735); thence along the boundary of said Parcel 1 South 89°42'25" West a distance of 354.87 feet; thence leaving said boundary 117.68 feet along a non-tangent curve to the right with a radius of 455.00 feet, the chord of which bears North 07°42'08" West a distance of 117.35 feet; thence North 00°17'35" West a distance of 18.24 feet; thence 123.03 feet along the arc of a tangent curve to the right with a radius of 240.00 feet, the chord of which bears North 14°23'32" East for a distance of 121.68 feet; thence 186.84 feet along the arc of a reverse curve to the left with a radius of 360.00 feet, the chord of which bears North 14°23'32" East for a distance of 184.75 feet to a point on said south right-of-way line; thence along said south right-of-way line the following two (2) courses and one (1) curve:

South 88°42'59" East a distance of 170.57 feet  
 18.12 feet along the arc of a tangent curve to the left with a radius of 1099.00 feet, the chord of which bears South 89°11'19" East for a distance of 18.12 feet; South 89°39'39" East a distance of 104.28 feet to the point of beginning, the terminus of this description. description.

5 410313 2007 CLERK - BOR PLA 2007 3081 1 TLC  
 PERFECTION DEED, EVAN W THOMAS & DOROTHY THOMAS TO EVAN W THOMAS & DOROTHY THOMAS, DOC.  
 #2007-3807

Size Totals Code 0110 Acres 3.94 SqFt 0.00

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00200

7 410367 2007 CLERK - BOR PLA 2007 3081 1 TLC  
 EASEMENT: 11-14-7 200 TO 11-14-7 101, EVAN W THOMAS & DOROTHY THOMAS TO LINCICOME MADRAS  
 DEVELOPMENT LLC, DOC. #2007-3813.

Size Totals Code 0110 Acres 3.94 SqFt 0.00

Effective Date 10-Dec-2007 8:59 AM Transaction ID 385901 Entry Date 17-Oct-2007 Recorded Date 16-Oct-2007 Sale Date 02-Oct-2007  
 BEING RECORDED TO CORRECT LEGAL DESCRIPTION

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	467235	2008	CLERK - BOR	EAS	2007	5207	1			TLC	

Size Totals Code 0110 Acres 3.94 SqFt 0.00

Effective Date 10-Dec-2007 12:09 PM Transaction ID 388093 Entry Date 07-Dec-2007 Recorded Date 06-Dec-2007  
 RIGHT OF WAY EASEMENT IN FAVOR OF PACIFIC POWER RECORDED 12/6/07 2007-5940

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	467270	2008	CLERK - BOR	EAS	2007	5940	1			TLC	

Size Totals Code 0110 Acres 3.94 SqFt 0.00

Jefferson County Official Records  
Kathleen B. Marston, County Clerk

007-003807



\$36.00

00054239200700038070020025

07/23/2007 10:29:17 AM

D-BSD Cnt=1 SIn=2 KATE  
\$10.00 \$11.00 \$10.00 \$5.00

-Space below for Recorder's use only-

### BARGAIN AND SALE DEED

KNOW ALL MEN BY THESE PRESENTS THAT, Evan W Thomas and Dorothy Thomas, as husband and wife, Grantor(s), for and in consideration of the sum of **ZERO and 00/100 Dollars** to it paid by the grantee herein, do hereby grant, bargain, sell and convey unto Evan W Thomas and Dorothy Thomas, as husband and wife, Grantee(s), the described tract of land in County of Jefferson and State of Oregon, more particularly described as follows:

**See Attached Legal Description as Tract 'B'**

TO HAVE AND TO HOLD the granted premises unto the said Grantee, its heirs and assigns forever.

WITNESS their Hand and Seal this 20<sup>th</sup> day of June, 2007.

*Evan W. Thomas by Dorothy Thomas*  
attorney-in-fact

This instrument will not allow use of the property described in this instrument in violation of applicable land use laws and regulations. Before signing or accepting this instrument, the person acquiring fee title to the property should check with the appropriate city or county planning department to verify approved uses and to determine any limits on lawsuits against Farming or Forest practices as defined in ORS 30.930.

By: Evan W Thomas

*Dorothy E. Thomas*  
By: Dorothy Thomas

STATE OF OREGON  
COUNTY OF ~~DESCHUTES~~ JEFFERSON

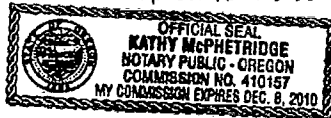
*Dorothy Thomas, Attorney-in-fact for*

I, certify that I know or have satisfactory evidence that Evan W Thomas and Dorothy Thomas and is the person(s) who appeared before me, and said person(s) acknowledged that he/she signed this instrument and acknowledged it to be his/her free and voluntary act for the uses and purposes mentioned in the instrument.

Dated: 6/20/07

*Kathy McPhetridge*  
Public for the State of OREGON  
My Commission Expires: 12-08-10

Until a change is requested all tax statements  
Should be sent to the following address:



Evan W Thomas and Dorothy Thomas

After Recording Please Return to:

Same as above

Escrow No.

First Oregon Title Company

10328 | 10329

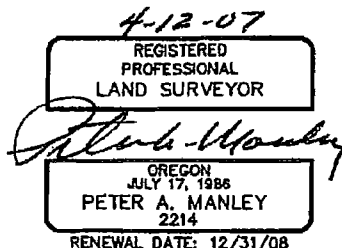
**TRACT B**

A parcel of land containing 3.94 acres, more or less, located in a portion of the Northwest One-quarter (NW1/4) and a portion of the Northeast One-Quarter (NE1/4) of Section 07, Township 11 South, Range 14 East, Willamette Meridian, City of Madras, Deschutes County, Oregon, being more particularly described as follows:

Beginning at a point on the north-south centerline of said Section 07 which bears South 00°17'35" East a distance of 80.01 feet from the North One-quarter corner of said Section 07; thence leaving said north-south section centerline and along the south right-of-way line of Ashwood Road as described in Warranty Deed recorded in Book 2005, Page 005605 of Jefferson County official records South 89°39'39" East a distance of 61.23 feet; thence leaving said right-of-way line South 00°17'35" East a distance of 424.32 feet; thence South 89°42'25" West a distance of 61.22 feet a point on the north-south centerline of said Section 07 which bears South 00°17'35" East a distance of 505.00 feet from the North One-quarter corner of said Section 07, being a point on the boundary of Parcel 1 of Partition Plat No. 2004-15 (recorded as MF#2004-4735); thence along the boundary of said Parcel 1 South 89°42'25" West a distance of 354.87 feet; thence leaving said boundary 117.68 feet along a non-tangent curve to the right with a radius of 455.00 feet, the chord of which bears North 07°42'08" West a distance of 117.35 feet; thence North 00°17'35" West a distance of 18.24 feet; thence 123.03 feet along the arc of a tangent curve to the right with a radius of 240.00 feet, the chord of which bears North 14°23'32" East for a distance of 121.68 feet; thence 186.84 feet along the arc of a reverse curve to the left with a radius of 360.00 feet, the chord of which bears North 14°12'33" East for a distance of 184.75 feet to a point on said south right-of-way line; thence along said south right-of-way line the following two (2) courses and one (1) curve:

South 88°42'59" East a distance of 170.57 feet  
18.12 feet along the arc of a tangent curve to the left with a radius of 1099.00 feet, the chord of which bears South 89°11'19" East for a distance of 18.12 feet;  
South 89°39'39" East a distance of 104.28 feet to the point of beginning, the terminus of this description.

**Subject to:** All easements, restrictions and right-of-ways of record and those common and apparent on the land.



April 11, 2007  
S:\Land Projects\051213-Cole subd in Madras\docs\TRACT B(2).doc  
Thomas to Thomas



---

**Appendix F: Transportation Planning Rule Analysis  
(Kittelsohn & Associates, January 2010)**



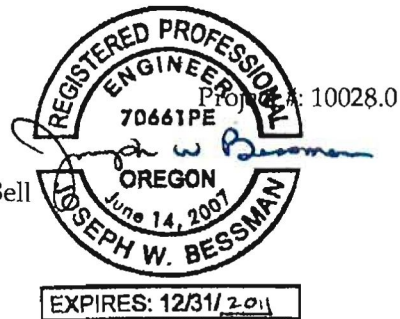
## KITTELSON & ASSOCIATES, INC.

TRANSPORTATION ENGINEERING / PLANNING

354 SW Upper Terrace Drive, Suite 101, Bend, Oregon 97702 • 541 312 8300 • 541 312 4585

### MEMORANDUM

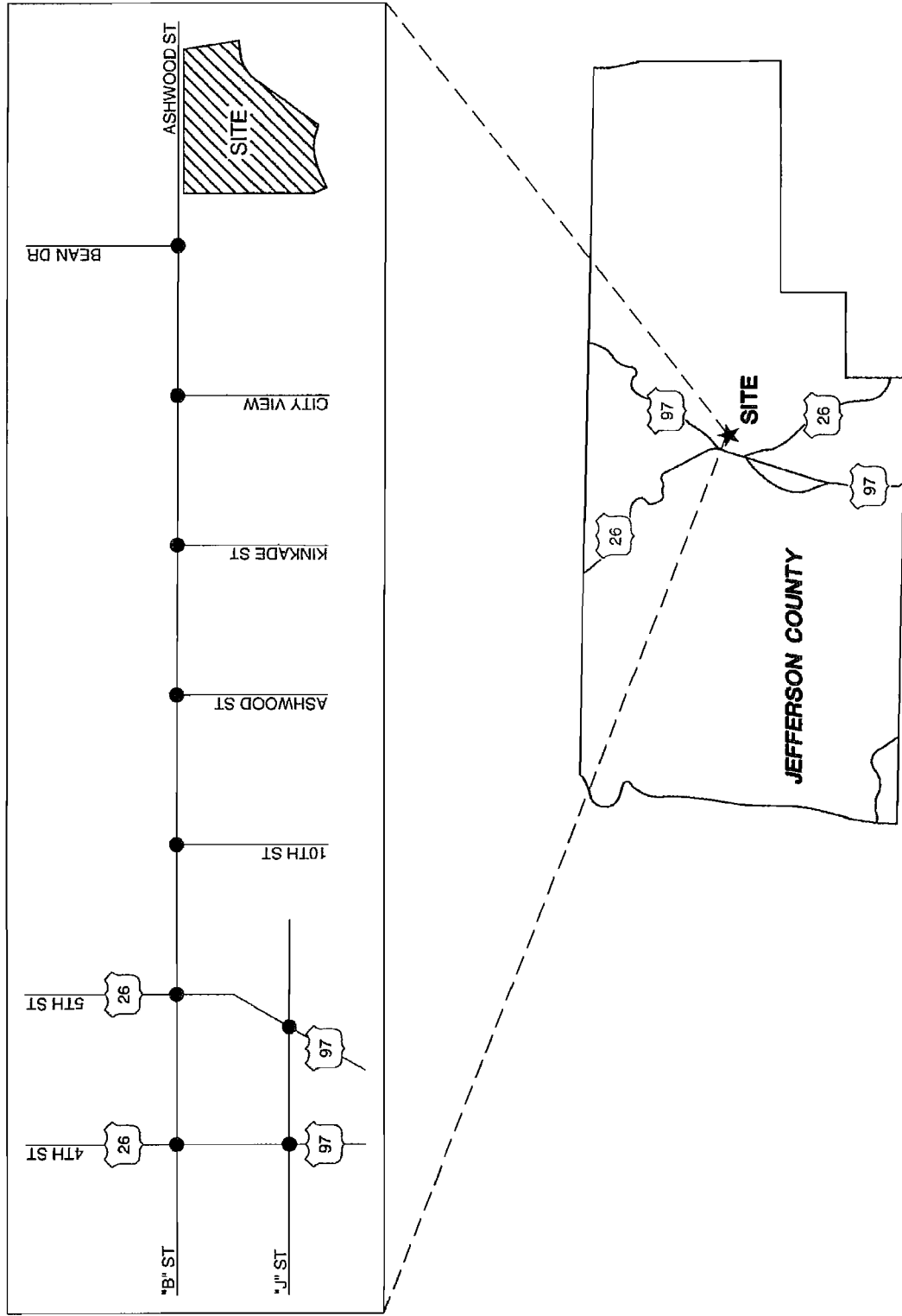
**Date:** January 22, 2010  
**To:** Nick Snead, City of Madras  
**From:** Chris Brehmer, P.E. & Joe Bessman, P.E. & Matt Bell  
**Project:** Madras Elementary School UGB Amendment  
**Subject:** Transportation Planning Rule Analysis



The purpose of this memorandum is to document compliance with the Transportation Planning Rule for the proposed rezone of 20 acres of land located in Jefferson County from *Range Land* (RL) zoning to *Multiple Family Residential* (R-2) zoning. This memorandum was prepared to address the requirements identified within Oregon Administrative Rule (OAR) 660-12-0060 (Transportation Planning Rule, TPR), which contains the applicable criteria for a zone change analysis. The intent of the TPR is to ensure the transportation system can accommodate the change of uses to the adopted system plan and that any resultant significant affects are mitigated.

The land included in the proposed rezone is generally located south of Ashwood Road, east of Jefferson County Middle School, and south of the existing Juniper Hills County Park near Bean Drive. The property is within the Yarrow development and its rezone to accommodate a school was identified as part of the original Yarrow Concept Plan. The location of the property is generally shown in Figure 1, and the identification of the 20-acre future school property on the Yarrow Concept Plan is illustrated in Figure 2. No specific development plans or entitlements are being pursued as part of this zone change.

This study determined that, with the exception of the US 97/J Street intersections, all of the study area intersections operate acceptably with the existing and proposed zoning in the horizon analysis period. The US 97/J Street intersections exceed ODOT mobility standards with or without the proposed rezone. The additional trips associated with the rezone create an incremental impact on the intersection, creating a Significant Effect. The City's Transportation System Plan (TSP) Amendment previously identified a mitigation plan for this intersection and, with the planned improvements in place, the transportation system will operate acceptably with the existing zoning and will continue to operate acceptably with the proposed rezone. Assuming that the Oregon Department of Transportation (ODOT) is able to make a Reasonably Likely determination for the J Street improvements in the TSP, no unmitigated significant effects will occur with the proposed rezone. The study methodology, findings, and recommendations are detailed herein.



LEGEND

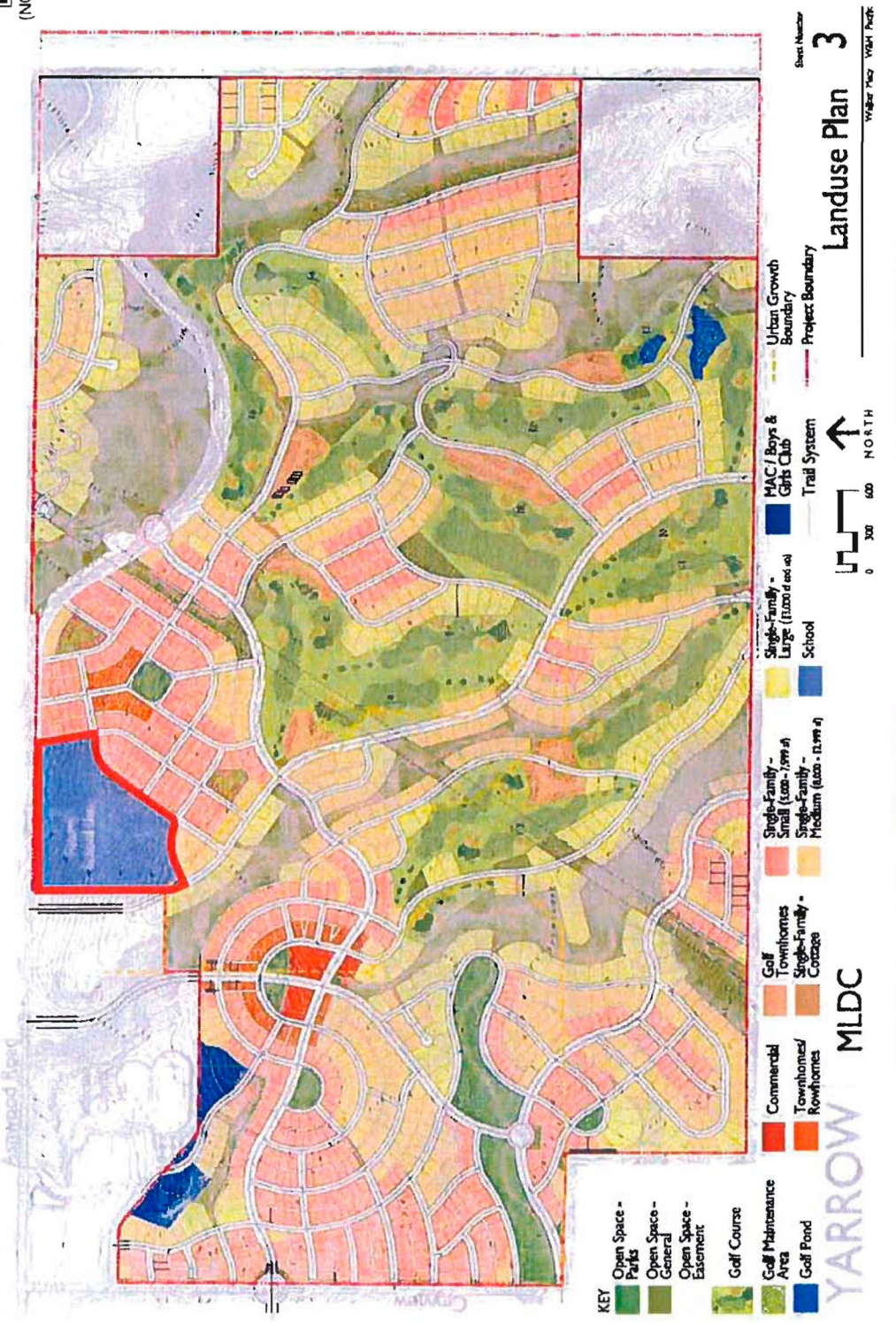
- - STUDY INTERSECTIONS

FIGURE 1  
SITE VICINITY MAP  
MADRAS, OREGON

K:\Vt\_Bandproj\11a10028 - Madras Elementary and Middle Schools\dwg\figs\10028fig2.dwg Jan 22, 2010 - 10:42am - mball Layout Tab: Fig01



(NO SCALE)



**LEGEND**

█ - PROPERTY BOUNDARY

**YARROW CONCEPTUAL MASTER PLAN  
MADRAS, OREGON**

**FIGURE 2**

K:\H\_Band\projfile\10028 - Madras Elementary and Middle Schools\dwg\stlgs\10028fig2.dwg Jan 22, 2010 - 10:42am - mbell Layout Tab: Fig02



## **BACKGROUND**

The City of Madras, in partnership with the Jefferson County School District is proposing the UGB amendment and rezone to accommodate a potential future elementary school site. Jefferson County School District currently operates two elementary schools within the Madras City limits that served approximately 1,060 kindergarten through fifth grade students during the 2008 school year. The recent closure of the Westside Elementary School due to budget shortfalls has split Madras kindergarten through fifth grade students between Madras Elementary School (kindergarten through 2<sup>nd</sup> grade) and Buff Elementary School (3<sup>rd</sup> through 5<sup>th</sup> grades).

Future building needs and the current location of Buff Elementary School within a 100-year floodplain has created a need for the School District to look at alternative future sites. The location of the proposed land within the Yarrow neighborhood is expected to help accommodate future growth along Madras' east side, and the adjacent Jefferson County Middle School and Juniper Hills Park ball fields are expected to be complementary uses. A new school is not proposed for construction or entitlements at this time; the purpose of the zone change is to accommodate the long-term educational infrastructure needs in the City.

## **EXISTING TRANSPORTATION INFRASTRUCTURE**

The existing transportation infrastructure assessment is provided herein to assist the City of Madras with the planning and prioritization of maintenance and infrastructure improvements within the study area. The existing conditions analysis is intended to identify operational and geometric conditions surrounding the site to ensure the necessary right-of-way will be available to accommodate needed system interconnectivity and accessibility, and to ensure existing transportation safety needs are addressed.

### ***Roadway Facilities***

As illustrated in Figure 2, Ashwood Road borders the site to the north and provides primary access and connectivity to the proposed lands. Ashwood Road serves the Deer Creek Correctional Institute and other rural uses to the east of the site. To the immediate west Ashwood Road serves Juniper Hills Park and the Jefferson County Middle School, and further west transitions into B Street and connects to US 97 and the City's downtown core. A recently constructed extension of City View to J Street connects the parcel to the southern City limits, and Bean Drive connects toward the northern portion of the City. Table 1 summarizes key characteristics of the existing roadway facilities.

**Table 1**  
Existing Transportation Facilities and Roadway Designations

Roadway	Functional Classification	Number of Lanes	Posted Speed	Sidewalks	Bicycle Lanes	On-Street Parking
Ashwood - B Street	Major Collector	2-Lanes	25-45 mph	Partial <sup>2</sup>	Yes	Partial <sup>1</sup>
City View	Major Collector	2-Lanes	25 mph	Yes	Yes	No
Bean Drive	Minor Collector	2-Lanes	25 mph	No	No	No
Kinkade	Minor Collector	2-Lanes	25 mph	Partial <sup>2</sup>	No	No
Ashwood - C Street	Major Collector	2-Lanes	25 mph	Partial <sup>2</sup>	No	No
10 <sup>th</sup> Street	Major Collector	2-Lanes	25 mph	Yes	No	Yes
J Street	Major Collector	2-Lanes	25 mph	Yes	Yes	No

<sup>1</sup> On-street parking is provided along sections of roadway within the City limits.

<sup>2</sup> Sidewalks are located on one side of the street only.

### ***Pedestrian and Bicycle Facilities***

Sidewalks are currently provided along the south side of Ashwood Road primarily where frontage improvements have been completed. As shown in Table 1, sidewalks are generally provided along a majority of the roadways within the site vicinity, with the exception of Bean Drive, where pedestrians may rely on the multi-use path within Juniper Hills Park.

Bicycle lanes are provided on both sides of Ashwood Road and extend west to the City center. Bicycle lanes are also provided on both sides of City View Road, which connect to J Street and the City center to the south.

Review of the project vicinity identified that pedestrian and bicycle connectivity and roadway crossing treatments should be considered to connect the existing Jefferson County Middle School with the Juniper Hills Park. Additional connections to the Yarrow neighborhood should also be provided concurrent with development, including appropriate pedestrian crossing treatments along Ashwood Road. These connections could help encourage non-vehicular trips between the complementary uses and increase pedestrian and bicyclist safety.

### ***Transit Facilities***

Limited transit service is available throughout the site vicinity through services provided by the Cascades East Transit (Reference 1). Cascades East provides community connections from Madras to Redmond, Culver, and the Metolius City Hall on two trips in the morning and two trips during the afternoon period. Fares on the intercommunity connections are \$5.00 per day. Curb to curb on-call transit service is also available through Cascades East Transit Mondays through Friday with reservations. These services are available within a five-mile radius of the town center, and the fare for on-demand service is currently \$1.25 per trip. In addition, the Central Oregon Intergovernmental Council (COIC) also provides bus rides to Medicaid eligible clients within a nine-county area throughout Central Oregon.



### **Existing Traffic Counts**

Historical traffic counts were obtained at City of Madras intersections from May 2007. Review of the manual turning movement counts showed that during the critical evening peak hour B Street near its intersection with 10<sup>th</sup> Street carries approximately 145 vehicles in the eastbound direction and approximately 275 vehicles in the westbound direction during the evening peak hour. It was also noted that of the westbound vehicles approximately 20 percent were expected to travel south on City View with the remainder continuing westbound along Ashwood Road - B Street.

Figure 3 provides a summary of the historical year 2007 existing weekday p.m. peak hour turning-movement counts, which are rounded to the nearest five vehicles per hour. No historical traffic count data was available for the Ashwood Road/Bean Drive intersection, so new counts were conducted in January of 2010. The new traffic count showed similar but slightly lower through volumes along Ashwood Road as compared to the historical 2007 counts. Accordingly, it is expected that the 2006/2007 counts continue to reflect the existing roadway conditions. A summary of the existing traffic volumes throughout the study area is shown in Figure 3. Attachment "1" contains the traffic count worksheets used in this study as provided by City staff.

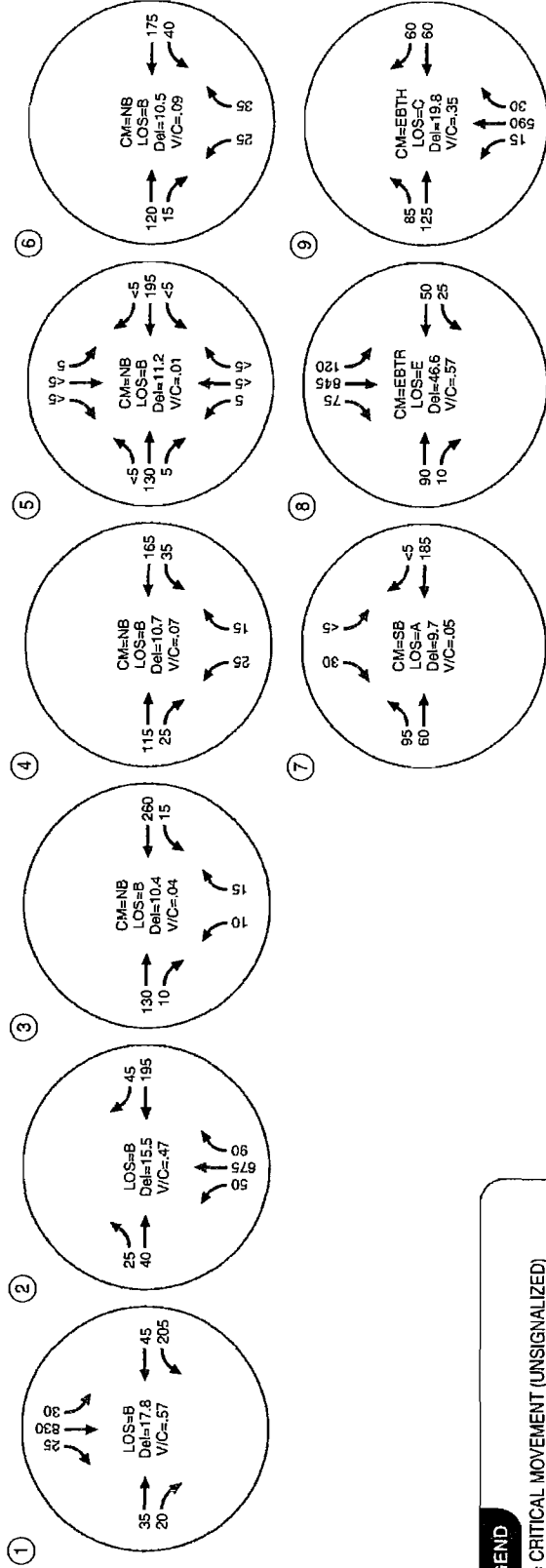
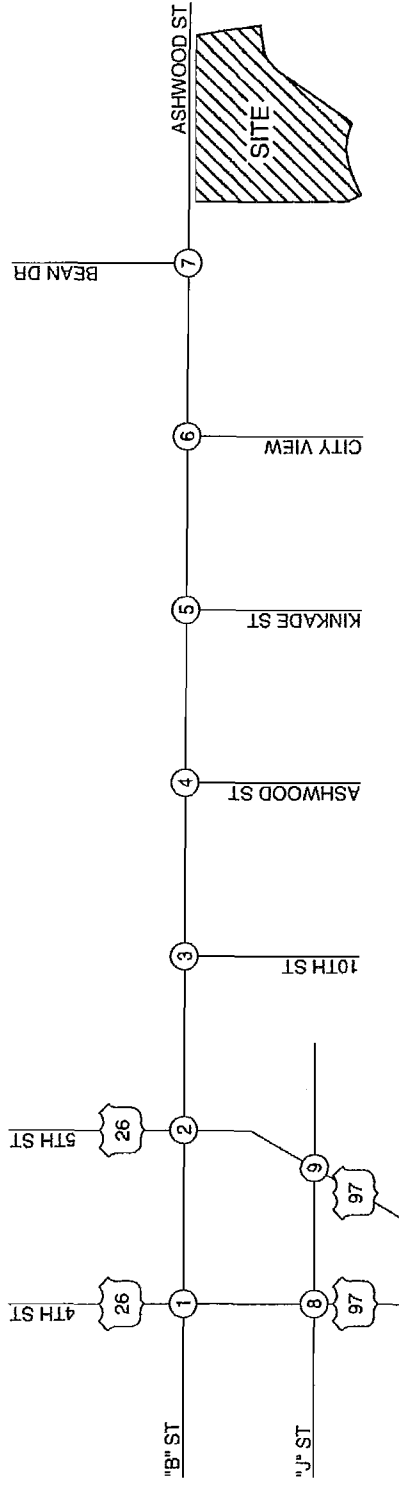
### **Current Levels of Service and Performance Standards**

Intersection performance thresholds vary throughout the study area based on the roadway jurisdiction. Jefferson County traffic study requirements included within the County's TSP (Reference 2) identify that a Level of Service "C" or higher should be maintained at all County intersections. The City of Madras TSP (Reference 3) identifies a target Level of Service (LOS) "D" for signalized intersections, LOS "E" for unsignalized intersections (or LOS F with a volume-to-capacity ratio below 0.95). ODOT mobility standards included within the Oregon Highway Plan (add subsequent updates, Reference 4) require a volume-to-capacity ratio of less than 0.90 on the stop-controlled minor street approaches at the J Street intersections and a volume-to-capacity ratio of 0.80 at the signalized B Street intersections and future signalized J Street intersections.<sup>1</sup>

Intersection operations were reviewed to identify current capacity and safety constraints on the roadway network. Field review of the study area identified that all of the intersections are uncontrolled in the east-west direction along B Street - Ashwood Road and are stop-sign controlled along the north-south minor-street approaches. Relevant intersection performance standards for the study area intersections are summarized below in Table 2.

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<sup>1</sup> Per the Oregon Highway Plan, US 26/US 97 are classified as Statewide Highways, Freight Routes, and part of the National Highway System and contain a posted speed of 30 miles per hour through the study area. Unsignalized highway mobility standards are based on a District/Local Interest Road in a non-Metropolitan Planning Organization (MPO) outside of Special Transportation Areas where the non-freeway posted speed is less than 35 mph. Signalized highway mobility standards are based on a Freight Route along a Statewide Highway in a non-MPO outside of STAs where the posted speed is less than 35 mph.



**LEGEND**  
 CM = CRITICAL MOVEMENT (UNSIGNALIZED)  
 LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)  
 Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

EXISTING TRAFFIC CONDITIONS  
 WEEKDAY PM PEAK HOUR  
 MADRAS, OREGON  
 FIGURE 3

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**Table 2** Summary of Intersection Performance Standards

Intersection	Jurisdiction	Traffic Control <sup>1</sup>	Performance Standard	Horizon Period
Ashwood Road/ Bean Drive	Jefferson County	TWSC	LOS C	Year 2027
Ashwood Road/ City View	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ Kinkade Road	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ Ashwood Road	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ 10 <sup>th</sup> Street	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ US 97 Northbound	ODOT	Signalized	v/c < 0.80	Year 2025
B Street/ US 97 Southbound	ODOT	Signalized	v/c < 0.80	Year 2025
J Street/ US 97 Northbound	ODOT	TWSC	v/c < 0.90	Year 2025
J Street/ US 97 Southbound	ODOT	TWSC	v/c < 0.90	Year 2025

<sup>1</sup>TWSC: Two-way stop-controlled (unsignalized)

Results of the existing conditions intersection operations during the weekday p.m. peak hour are illustrated in Figure 3. As shown in the figure, all of the study area intersections currently operate acceptably. It was noted that the J Street intersection with Southbound US 97 (4<sup>th</sup> Street) meets mobility standards but operates with high delays (Level of Service "E") along the stop-controlled east-west approaches. *Existing conditions level-of-service worksheets are included in Attachment "2".*

### **Existing Conditions Summary**

The following transportation system improvement needs were identified based on review of the existing system conditions. Since mitigation of these existing deficiencies is not applicable to or caused by the proposed zone change, it is recommended that these safety and performance improvements be provided by the City of Madras as part of the City's regular maintenance or incorporated into the City's Capital Improvement Plans.

- Pedestrian and bicycle connectivity and roadway crossing treatments should be considered as part of future planning efforts to connect the existing Jefferson County Middle School with the Juniper Hills Park. Additional connections to the Yarrow neighborhood should also be provided concurrent with development, including appropriate pedestrian crossing treatments along Ashwood Road. These connections could help encourage non-vehicular trips between the complementary uses and increase pedestrian and bicyclist safety.
- All of the study area intersections operate acceptably, although the Southbound US 97 (4<sup>th</sup> Street)/J Street intersection operates with high minor-street delay at a Level of Service "E".

## **TRANSPORTATION PLANNING RULE COMPLIANCE**

The applicable criteria for zone change analyses are found within Oregon Administrative Rule (OAR) 660-12-0060, also known as the Transportation Planning Rule (TPR, Reference 5). The TPR is intended to require that any changes to the adopted and recognized Transportation System Plan show consistency and compliance with the stated goals of the plan, the development and regular updates of which are a mandated requirement for cities. The overall purpose of a city's TSP is to 1) provide a safe, convenient, and economic transportation system that encourages and supports the availability, safety, convenience, and efficiency of a variety of transportation choices for moving people that balance vehicular use with other transportation modes, including walking, bicycling, and transit in order to avoid principal reliance upon any one mode of transportation; and 2) to protect existing and planned facilities for their identified functions.

The City's applicable Transportation System Plan was completed in 2001, with updates completed for the J Street connection with the US 97 in 2005 (Reference 6). The initial plan provides an assessment of roadway classifications throughout the City and potential intersection treatments at a sampling of collector and arterial intersections along with associated planning level improvement costs, and is the applicable planning document related to the City's Ashwood – B Street intersections. The J Street amendment reviewed improvement options specific to the US 97 intersections and is considered the relevant planning document for the J Street intersections.

The City's adopted TSP does not include a specific assessment of the long-term intersection needs at any of the City intersections along B Street-Ashwood, as the TSP focused on the more critical intersections along the US 97/US 26 corridor through downtown Madras. The intent of this zone change analysis is to provide an assessment of the long-term system needs that should be considered for inclusion within the City's TSP (as summarized within the *Existing Zoning* section). In addition, to support the proposed zone change this report also includes an assessment of additional impacts that could occur with future development resulting from this zone change (as included within the *Proposed Zoning* section).

All analyses assess year 2020 conditions on City facilities and year 2027 conditions on County facilities for consistency with the adopted TSP horizon years. ODOT's US 97 intersections with J Street are assessed under year 2025 conditions, consistent with the TSP Update and meeting the minimum 15-year planning horizon required for consistency with the Oregon Highway Plan (Section 1F.2). ODOT's intersections with B Street are also assessed under year 2025 conditions for consistency with the 15-year minimum planning horizon identified in the State's TSP, the Oregon Highway Plan (the City TSP assesses only 2020 conditions at B Street).

### ***Reasonably Likely Transportation Improvements***

Transportation Planning Rule analyses allow the inclusion of planned improvements in the horizon analysis period for which a funding mechanism has been identified. The funding mechanism could be an established local Capital Improvement Project, local projects contained within a City's Systems Development Charge (SDC) list, or funded ODOT Statewide Transportation Improvement Program (STIP) projects. No funded improvements affect the study area intersections.

The US 97/J Street improvements are identified in the City's TSP Amendment as a needed facility improvement and included within the ODOT 2010-2013 Draft STIP list. Improvement plans include realignment of northbound US 97 onto Adams Drive and two new traffic signals at the new J Street intersections. A request for a "Reasonably Likely" determination for the planned improvements has been sent to ODOT and is pending approval. *Attachment "3" includes an illustration of the planned J Street Improvements.*

### **Existing Zoning Conditions (Future Horizon Period)**

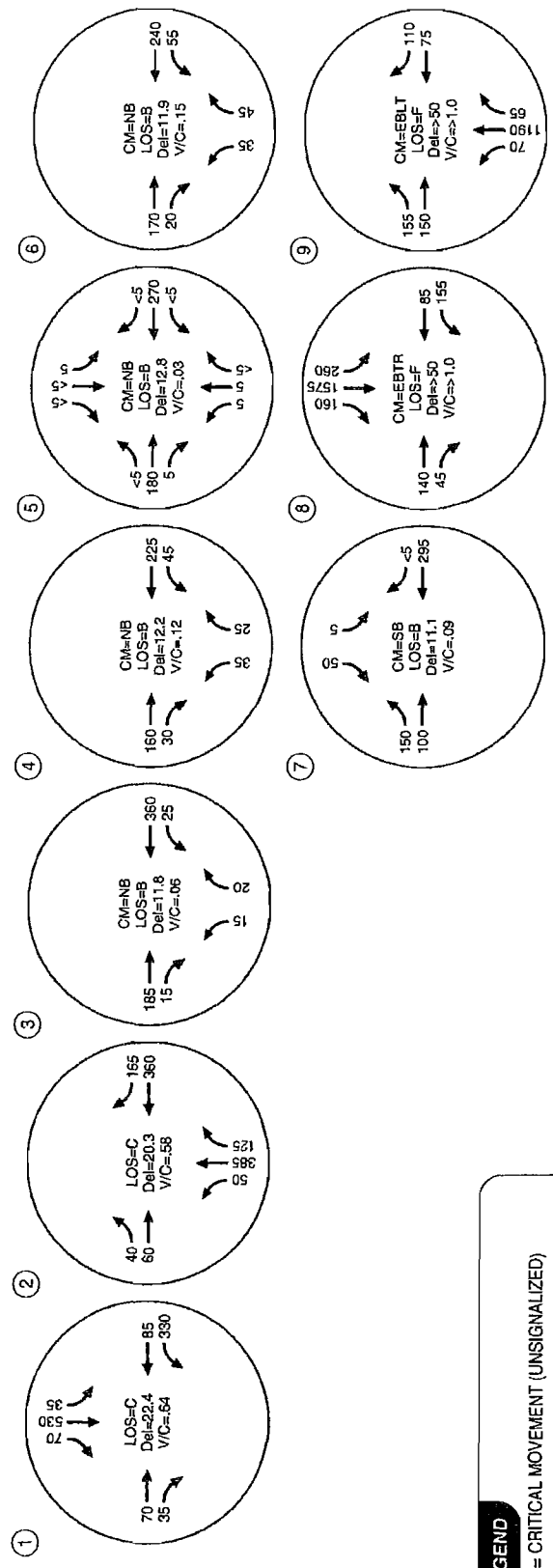
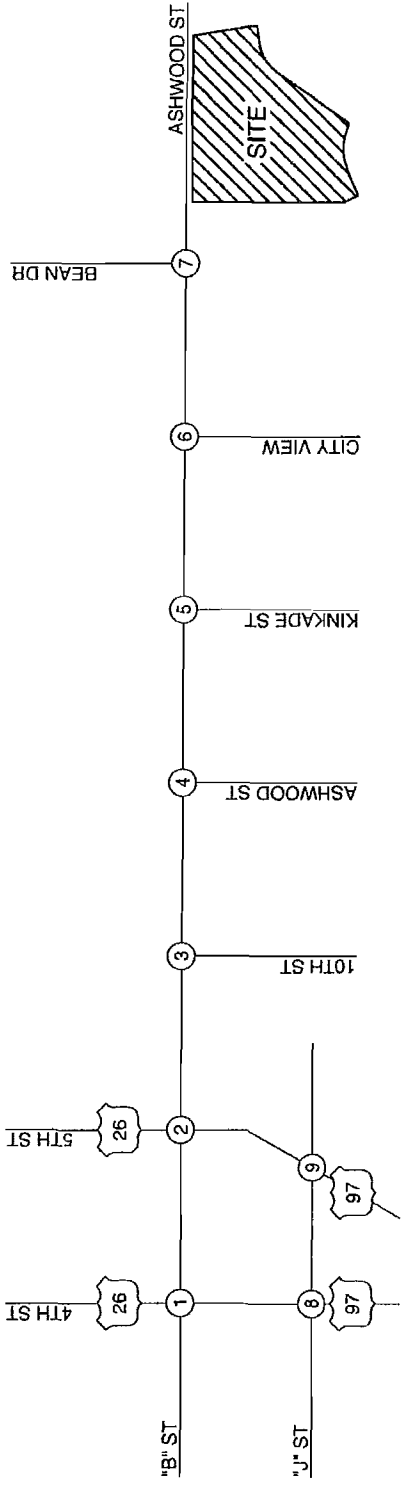
An analysis was conducted for the horizon years as identified in the applicable City, County, and State TSPs. The existing zoning assessment was prepared to identify how the study area's transportation system operates in the horizon year with build-out of the subject parcel as currently zoned (without the impact of the proposed rezone). This analysis will supplement the City's TSP efforts along this segment of Ashwood Road and will provide a basis for comparison to potential future conditions with the proposed zone change.

Review of the City's TSP (TSP Technical Memorandum #3, Reference 7) shows that future horizon volumes were developed through the application of an annual three percent growth rate for all turning and through movements to and from City facilities. ODOT facilities were assessed using a two percent annual growth rate for through movements along US 97/US 26. County facilities were assessed with a 3.2 percent growth rate through 2011 and 2.5 percent annual growth from 2012 through 2027.

To identify the existing trip generation potential of the subject property, review of the County zoning, allowable land uses, and site constraints was conducted. The existing *Range Land* zoning is one of three designations for Exclusive Farm Use (EFU) lands within Jefferson County. The *RL* zoning is intended to preserve predominantly non-irrigated agricultural lands for livestock grazing, and the *RL* zoning requires that non-farm residences contain a minimum of 40 acres. A variety of non-residential uses are permitted within the *RL* zoning, though these uses require more acreage than the 20-acres proposed for the rezone and all are considered low intensity uses. Accordingly, under the existing zoning the trip generation potential is severely limited, and for analysis purposes it was conservatively assumed to be none.

### **Intersection Level-of-Service Analysis**

Figure 4 illustrates the weekday p.m. peak hour traffic volumes inclusive of regional growth and potential site build-out with the existing zoning. These volumes were used to conduct an operational analysis at each of the study intersections to determine the horizon year levels of service. As shown, all of the study intersections are forecast to operate at acceptable levels of service with exception of the US 97/J Street intersections, which exceed ODOT mobility standards. With the planned J Street improvements in place both the US 97 Northbound and Southbound intersections with J Street are forecast to operate acceptably. *Attachment "4" contains the horizon period existing zoning level-of-service worksheets.*



**LEGEND**  
 CM = CRITICAL MOVEMENT (UNSIGNALIZED)  
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 Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

**HORIZON YEAR EXISTING RL ZONING CONDITIONS WEEKDAY PM PEAK HOUR MADRAS, OREGON**  
 FIGURE 4

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### **Proposed Zoning Conditions (Future Horizon Period)**

Future horizon year conditions were developed based on the same methodology used to assess the existing zoning conditions. The proposed zoning conditions also include the incremental increase in trips that could be generated with the *Multiple Family Residential (R-2)* zoning, as described below.

The *Multiple Family Residential (R-2)* zoning category provides for higher-density single-family uses and attached residential uses, including apartments and townhomes. The R-2 zoning also allows parks and community centers as outright uses. Schools, churches, libraries, and other government buildings are allowed as conditional uses.

The City of Madras zoning provisions, as contained within Ordinance 723 (Reference 8), were reviewed to identify density ranges and allowable uses within the R-2 zoning. Conditional uses are typically not considered as part of a zone change analysis. However, as the intent of the rezone is to ultimately allow for a new school this specific conditional use was reviewed to ensure that a reasonable development scenario considers the potential impact of a school.

Review of the City zoning provisions identified the following outright allowable uses in the R-2 zoning:

- Single family residential
- Multi-family residential
- Public park, recreation areas, community centers

Based on the uses shown above, multi-family residential was identified as the most intense outright land use category from a trip generation perspective. Review of the required building space, parking allocations, lawn space, and typical road and infrastructure allocations identified a resultant reasonable maximum density of 11.6 attached residential units per acre, or approximately 232 total attached residential units on 20-acres. *Additional details on the development of residential densities are included in Attachment "5".*

Conversations with the project team identified that a future school would likely comprise ten acres of the overall land, with a minimum of five acres dedicated to the elementary school. Any additional lands would be retained for residential uses. The most likely school type would be an elementary school given the regional needs and recent closure of the Westside Elementary site. A new elementary school could be expected to serve an enrollment of approximately 350 students (historical records from the closed Westside Elementary School showed an enrollment of 325 students).

Accordingly, in addition to consideration of build-out of the 20-acres with residential uses, this provides two additional R-2 development scenarios to consider:

1. 116 attached residential units on ten acres (11.6 units/acre \* 10 acres = 116 units) and a 350-student elementary school
2. 174 attached residential units on fifteen acres (11.6 units/acre \* 15 acres = 174 units) and a 350-student elementary school on the remaining five acres.

While a ten acre school site is more typical, the minimum five-acre site provides a reasonable worst-case development scenario resulting in a more conservative analysis. The two scenarios forwarded for consideration include build-out of the parcel with residential and build-out of 15-acres with residential and 5-acres with a new school.

## **R-2 Zoning Trip Generation Potential**

Trip generation estimates were prepared for both R-2 zoning scenarios to determine which land use combination resulted in a higher overall trip generation potential during the critical weekday evening commute period (one hour between 4:00 and 6:00 p.m.). Trip generation estimates for each of the scenarios were prepared based on surveys of similar sites. Residential trip generation estimates were prepared based on data contained within ITE's standard reference *Trip Generation, 8<sup>th</sup> Edition*, using the *Apartment* land use category (Land Use Code 220, Reference 9).

Trip generation estimates for the elementary school were prepared using surveys of schools within the City of Bend to better approximate local elementary school trends. The surveys of the Bend locations contain slightly lower trip generation rates than national surveys of elementary schools (0.13 trips/student versus 0.15 trips/student), but are expected to better reflect local characteristics of Central Oregon schools than the national data due to similarities in weather characteristics, mode splits, and after school activities.

All of the elementary school surveys were conducted in early fall at each of the five school sites and include an account of after school activities and public use of the adjacent ballfields. Because the evening commute period analysis of the school primarily reflects faculty trips (student trips typically occur in the afternoon), the increased student walking ratios during fair weather conditions are not expected to impact the results. The study found that the increased public use of the ballfields due to the fair weather likely results in a higher than typical trip rate. While the Bend Elementary School surveys were conducted at locations within developed residential neighborhoods, it is assumed that the City of Madras Urban Growth Boundary area will be fully developed by the horizon year providing similar characteristics at the proposed location. It was also noted that the surrounding neighborhoods have already been master planned, with portions of the roadway infrastructure for the first development phases already in place. *Attachment "6" contains the Bend-La Pine Elementary School Trip Generation study.*

While the location of the elementary school is expected to support the surrounding Yarrow neighborhood, complement with the adjacent middle school, recreational facility, and benefit from the adjacent Juniper Hills Park ballfields, additional trip discounts were not applied to the trip rates obtained from the Bend-La Pine School District facilities. Mixed-use incentives provided in Section 6 of the TPR were also omitted from the analysis, though the densities and integrated uses planned within the Yarrow development are expected to comply with the applicable definitions of a mixed-use pedestrian friendly neighborhood. Table 3 summarizes the trip generation potential of the two potential land use scenarios.

**Table 3** R-2 Scenarios Trip Generation Potential

Land Use	ITE Code	Size	Weekday PM Peak Hour		
			Total	In	Out
Proposed R-2 Zoning: Residential Only Scenario					
Apartments (20 acres)	220	232 Units	145	94	51
Proposed R-2 Zoning: Residential Plus Elementary School Scenario					
Apartments (15 acres)	220	174 Units	113	74	39
Elementary School (5 acres)	N/A	350 Students	46	25	21
Total Trips			159	99	60

As shown in Table 3, future development of the 20-acres with an elementary school (comprising five acres) and residential uses (comprising 15 acres) provides a reasonable worst-case development scenario. This scenario was found to generate 14 more weekday p.m. peak hour trips than build-out of residential uses alone and was used to assess the incremental system impacts associated with the proposed rezone.

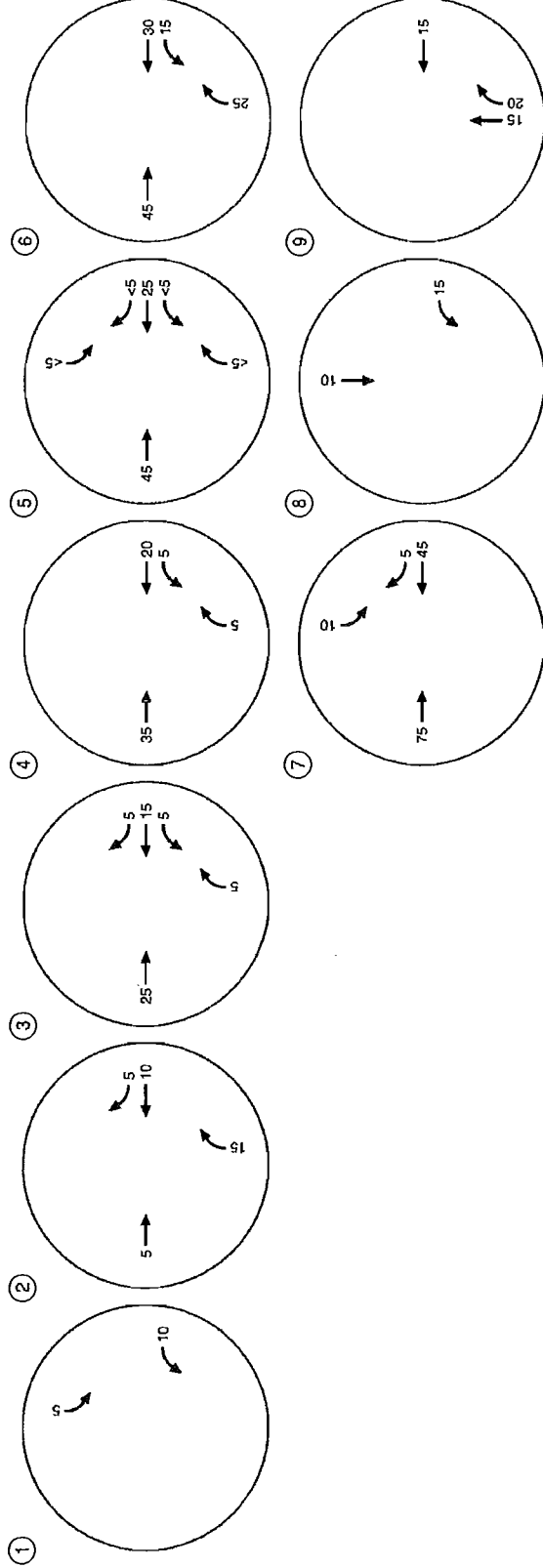
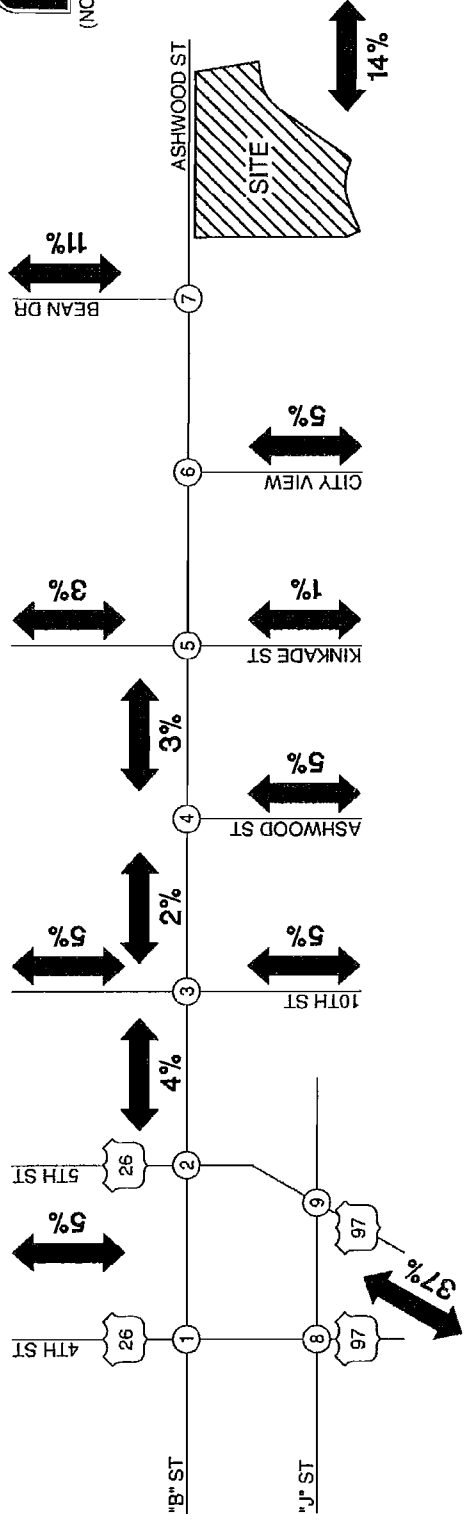
***Trip Distribution and Trip Assignment***

The estimated trip distribution pattern of primary site-generated trips associated with the UGB amendment was determined through review of existing traffic patterns, likely school faculty/employee housing, and residential destinations. The trip distribution patterns were separated by residential and school trips, with the resultant trip distribution pattern illustrated in Figure 5. As shown, the pattern highlights that the majority of trips would be headed west toward the City center and US 97 corridor. Trips destined toward US 97 are expected to distribute onto the available parallel routes (Loucks, City View, or B Street) based on their ultimate travel destination.

The difference between the Range Land zoning trip generation potential (assumed to be none) and the proposed Multiple Family Residential (R-2) zoning trips (shown in Table 4) during the critical weekday p.m. peak hour was assigned to the roadway network based on the trip distribution patterns and routing. These incremental trips were added to the existing zoning traffic volumes, with the resultant volumes illustrated in Figure 7.

***Study Area Intersections***

Based on a review of the potential increase in trips with the proposed zoning, the following intersections of collector and arterial roadways were identified as study intersections due to their potential for being significantly affected by the proposed zone change. Scoping materials and conversations with the affected jurisdiction staff provided concurrence on the study area. *The City of Madras roadway classification map is included in Attachment "7" and the scoping letter is included as Attachment "8".*



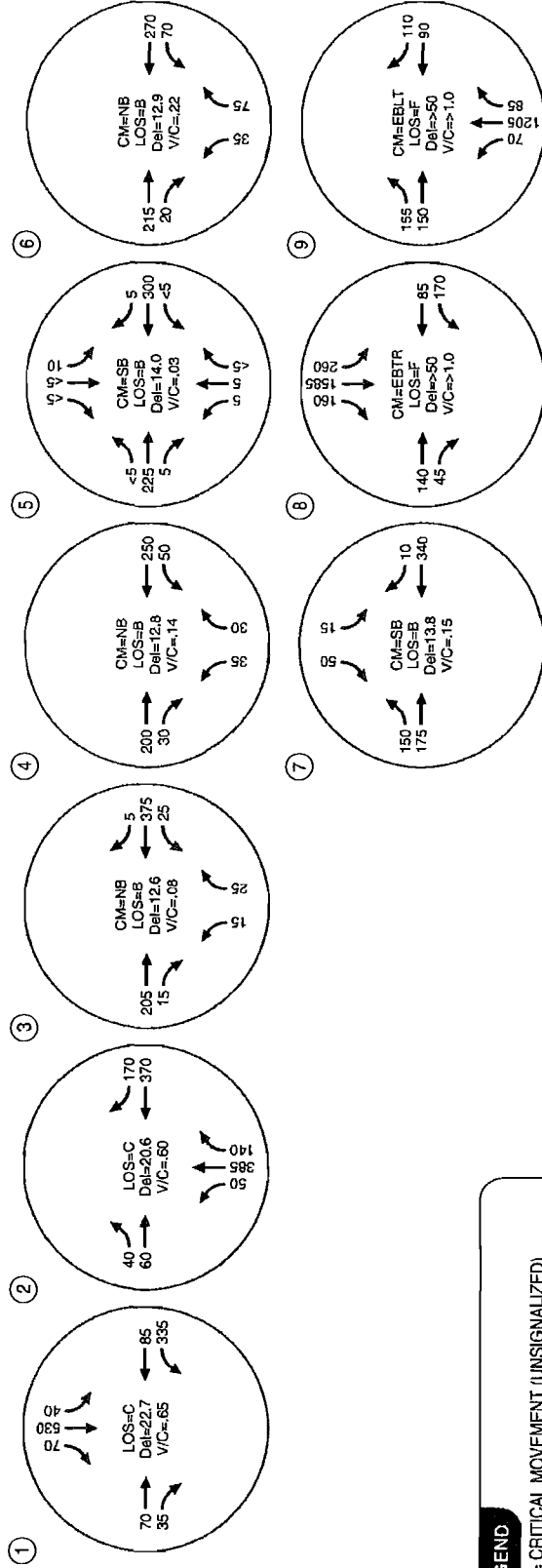
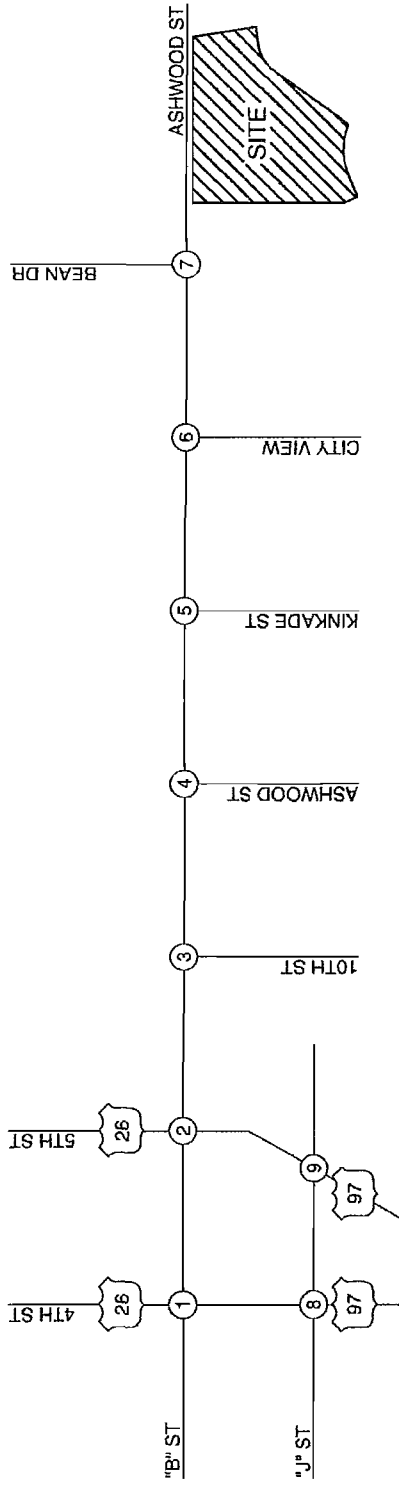
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- TRIP DISTRIBUTION PERCENTAGE  
 XX%

ESTIMATED TRIP DISTRIBUTION PATTERN AND SITE GENERATED TRIPS WEEKDAY PM PEAK HOUR MADRAS, OREGON

FIGURE 5

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**LEGEND**  
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 LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)  
 Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

HORIZON YEAR PROPOSED R-2 ZONING CONDITIONS  
 WEEKDAY PM PEAK HOUR  
 MADRAS, OREGON  
 FIGURE 6

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- Ashwood Road/Bean Drive (could be impacted by up to 137 additional weekday p.m. peak hour trips, a 46 percent increase from existing volume)
- Ashwood/City View (could be impacted by up to 119 additional weekday p.m. peak hour trips, a 34 percent increase from existing volume)
- B Street/Kinkade Road (could be impacted by up to 76 additional weekday p.m. peak hour trips, a 22 percent increase from existing volume)
- B Street/Ashwood (could be impacted by up to 66 additional weekday p.m. peak hour trips, an 18 percent increase from existing volume)
- B Street/10<sup>th</sup> Street (could be impacted by up to 55 additional weekday p.m. peak hour trips, a 12 percent increase from existing volume)
- US 97 Northbound/B Street (exceeds ODOT's 300 daily trip threshold)
- US 97 Southbound/B Street (exceeds ODOT's 300 daily trip threshold)
- US 97 Northbound (Fifth Street)/J Street (exceeds ODOT's 300 daily trip threshold)
- US 97 Southbound (Fourth Street)/J Street (exceeds ODOT's 300 daily trip threshold)

It should be noted that additional assessment of localized queuing and operations during the school peak periods may be required in the future as part of the entitlements process when a specific site plan is available. However, as the purpose of the Transportation Planning Rule is to provide consistency with the adopted Transportation System Plan only the weekday p.m. peak hour operations (design hour) are summarized herein for TPR purposes.

### **Intersection Level of Service Analysis**

The weekday p.m. peak hour turning-movement volumes shown in Figure 5 were used to conduct an operational analysis at each study intersection to determine the horizon year levels of service. As shown, with the application of regional growth and the incremental trip generation potential of the proposed R-2 zoning all of the study intersections are forecast to operate at acceptable levels of service during the weekday p.m. peak hour with exception of the US 97/J Street intersections. With the planned J Street improvements in place, both the US 97 northbound and southbound intersections with J Street are shown to operate acceptably. *Attachment "9" contains the horizon year level-of-service worksheets.*

### **TRANSPORTATION PLANNING RULE COMPLIANCE**

OAR Section 660-12-0060 sets forth the relative criteria for evaluating plan and land use regulation amendments. Table 4 summarizes the TPR criteria and their applicability to the proposed rezone application.



**Table 4** Summary of Criteria in OAR 660-012-0060

Section	Criteria	Applicable?
1	Describes how to determine if a proposed land use action results in a significantly affects transportation facilities.	Yes <i>See response below</i>
2	Describes measures for complying with Criteria #1 where a significant effect is identified.	Yes <i>See response below</i>
3	Describes measures for complying with Criteria #1 and #2 without assuring that the allowed land uses are consistent with the function, capacity and performance standards of the facility	No
4	Determinations under Criteria #1, #2, and #3 are coordinated with other local agencies.	Yes <i>See response below</i>
5	Indicates that the presence of a transportation facility shall not be the basis for an exception to allow development on rural lands.	No (Lands are part of a master plan area)
6	Indicates that local agencies should credit developments that provide a reduction in trips.	No (No concurrent site plan)
7	Outlines requirements for a local street plan, access management plan, or future street plan for commercial areas.	No (Commercial lands are not proposed)
8	Defines a mixed-use, pedestrian-friendly neighborhood	No (No concurrent site plan)

As shown, there are eight criteria that apply to Plan and Land Use Regulation Amendments. Of these, Criteria #1, #2, and #4 are applicable to the proposed land use action. Applicable sections of these criteria are provided below in italics with a corresponding response shown in standard font.

*OAR 660-12-0060 (1) Where an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation would significantly affect an existing or planned transportation facility, the local government shall put in place measures as provided in section (2) of this rule to assure that allowed land uses are consistent with the identified function, capacity, and performance standards (e.g. level of service, volume to capacity ratio, etc.) of the facility. A plan or land use regulation amendment significantly affects a transportation facility if it would:*

*(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);*

*(b) Change standards implementing a functional classification system; or*

*(c) As measured at the end of the planning period identified in the adopted transportation system plan:*

*(A) Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;*

**Response:** Based on the incremental traffic increase from RL to R-2 zoning, the functional classification of all the adjacent roadways will not be affected with the proposed zone change.

*(B) Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan; or*

**Response:** The intersections of US 97/J Street performs below the minimum acceptable performance standard in the City of Madras TSP and the OHP with the existing zoning.

*(C) Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.*

**Response:** The performance of the US 97/J Street intersections are degraded with the incremental trips from the proposed rezone, and therefore a *Significant Effect* occurring with the proposed rezone.

OAR 660-12-0060 (2) *Where a local government determines that there would be a significant effect, compliance with section (1) shall be accomplished through one or a combination of the following:*

*(a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.*

*(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.*

*(c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.*

*(d) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.*

*(e) Providing other measures as a condition of development or through a development agreement or similar funding method, including transportation system management measures, demand management or minor transportation improvements. Local governments shall as part of the amendment specify when measures or improvements provided pursuant to this subsection will be provided.*

**Response:** The J Street intersections are significantly affected. An amendment to the City's Transportation System Plan identifies the long-term needs at these intersections, but at the time the TSP amendment was approved a funding mechanism was not simultaneously adopted. However, because the J Street improvements are located on US 97 and under the

jurisdiction of ODOT additional steps are required to provide a *Reasonably Likely* determination.

*OAR 660-12-0060 (4) Determinations under sections (1)-(3) of this rule shall be coordinated with affected transportation facility and service providers and other affected local governments.*

*(a) In determining whether an amendment has a significant effect on an existing or planned transportation facility under subsection (1)(c) of this rule, local governments shall rely on existing transportation facilities and services and on the planned transportation facilities, improvements and services set forth in subsections (b) and (c) below.*

*(b) Outside of interstate interchange areas, the following are considered planned facilities, improvements and services:*

*(D) Improvements to state highways that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when ODOT provides a written statement that the improvements are reasonably likely to be provided by the end of the planning period.*

*(e) For purposes of this section, a written statement provided pursuant to paragraphs (b)(D), (b)(E) or (c)(A) provided by ODOT, a local government or transportation facility provider, as appropriate, shall be conclusive in determining whether a transportation facility, improvement or service is a planned transportation facility, improvement or service. In the absence of a written statement, a local government can only rely upon planned transportation facilities, improvements and services identified in paragraphs (b)(A)-(C) to determine whether there is a significant effect that requires application of the remedies in section (2).*

**Response:** A formal request has been provided to ODOT for a *Reasonably Likely* determination for the J Street improvements. The J Street improvements are included in the City of Madras TSP Amendment, conceptual design and cost estimates have been completed, and the project is included on the Draft 2010-2013 STIP, expected for approval in October 2010. Pending the anticipated receipt of the *Reasonably Likely* letter from the ODOT Region Manager the ability to assume completion of the J Street improvements as part of the horizon year transportation system will be conclusive.

## **PROJECT FINDINGS AND RECOMMENDATIONS**

### ***Existing Transportation System Findings and Recommendations***

Findings of the existing transportation system review and analysis are summarized below.

- All of the study area intersections currently operate acceptably. The Southbound US 97 (4<sup>th</sup> Street)/J Street intersection meets City and ODOT operational standards but operates with high peak hour delays on the stop-controlled east-west approaches.
- No marked pedestrian crossings or continuous sidewalks are provided between the Jefferson County Middle School/Yarrow and Juniper Hills Park.

Recommendations from the existing conditions assessment are provided below. The City of Madras should incorporate these recommendations into their scheduled maintenance plans or assess the priority of the improvements based on the potential system safety and performance benefit. The identified improvements are currently needed regardless of the proposed zone change.

- Pedestrian and bicycle connectivity and roadway crossing treatments should be considered as part of future planning efforts to connect the existing Jefferson County Middle School with the Juniper Hills Park. Additional connections to the Yarrow neighborhood should also be provided concurrent with development, including appropriate pedestrian crossing treatments along Ashwood Road. These connections could help encourage non-vehicular trips between the complementary uses and increase pedestrian and bicyclist safety.

### **Transportation Planning Rule Findings and Recommendations**

Key findings from the Transportation Planning Rule Analysis are summarized below.

- The proposed 20-acre rezone from the County's *Rangeland* zoning to the City's *Multiple Family Residential* zoning could generate an additional 159 weekday p.m. peak hour trips.
- With exception of the US 97/J Street intersections, all of the study area intersections operate acceptably with the existing and proposed zoning in the horizon analysis period.
- With or without the proposed rezone the US 97/J Street intersections exceed ODOT mobility standards. The additional trips associated with the rezone create an incremental impact on the intersection, creating a *Significant Effect*.
- The City's Transportation System Plan Amendment was prepared to identify the system improvement needs to address the J Street needs. Identified improvements include a realignment of Northbound US 97 (5<sup>th</sup> Street) east onto Adams Drive and two new signalized intersections along J Street for both northbound and southbound highway traffic. With the planned improvements in place the transportation system will operate acceptably with the existing zoning and will continue to operate acceptably with the proposed rezone.
- A request for a *Reasonably Likely* determination has been provided to ODOT. With a *Reasonably Likely* determination for the J Street improvements, no unmitigated significant effects will occur with the proposed rezone.
- Interconnectivity should be reviewed with subsequent Yarrow development (including within the subject parcel) to provide direct and convenient multimodal access to the potential school site. Additionally, pedestrian treatments should be considered between Yarrow, Juniper Hills Park, the adjacent recreational facility, and Jefferson County Middle School.

Please let us know if you have any questions regarding this zone change analysis at (541) 312-8300.

### **ATTACHMENTS:**

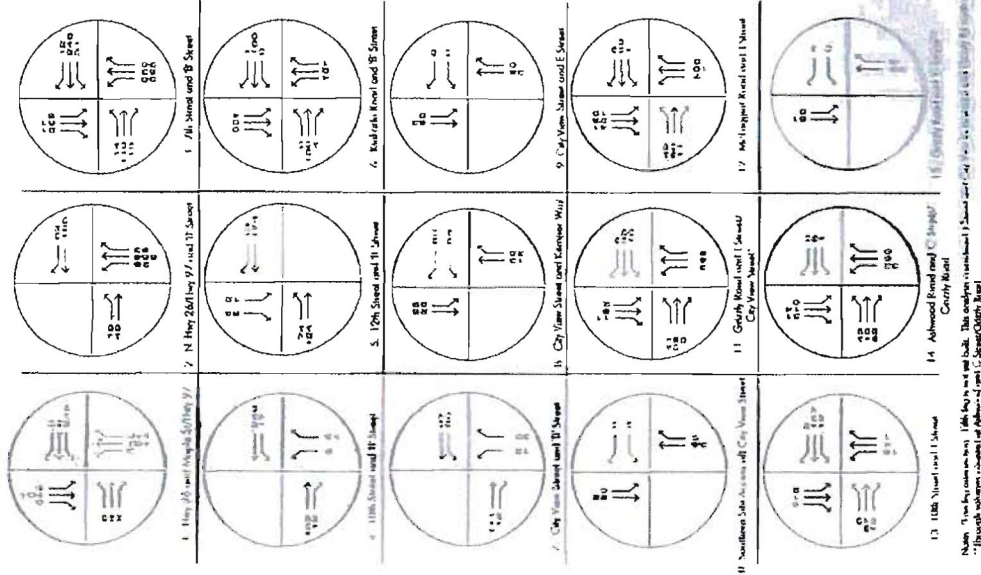
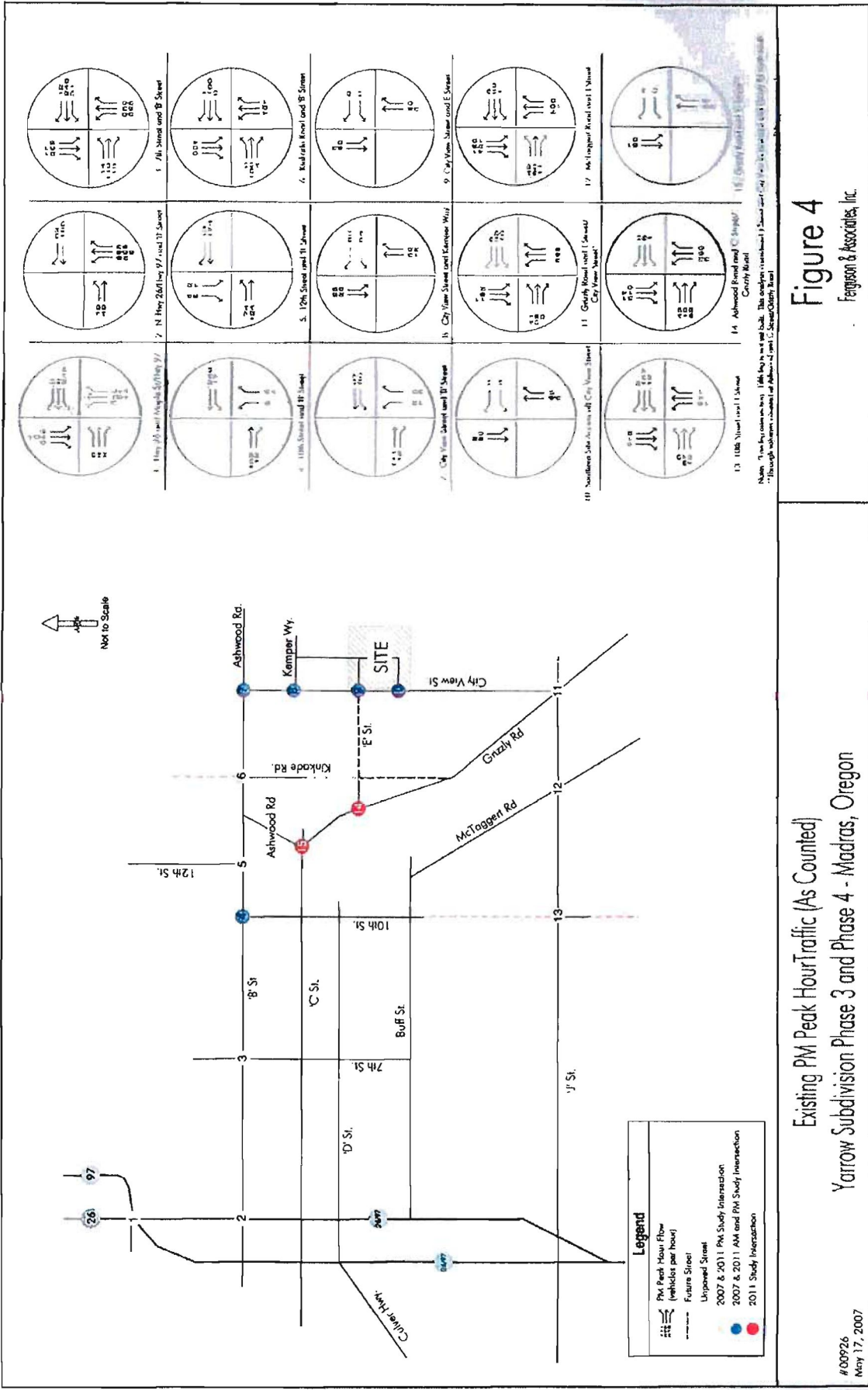
1. Historical Turning Movement Count Data
2. Existing Conditions Level of Service Worksheets
3. J Street Concept Map
4. Horizon Year (Existing *RL* Zoning) Level of Service Worksheets
5. R-2 Residential Density Development
6. Bend-La Pine Elementary School Trip Generation Study
7. City of Madras Roadway Classification Map
8. Project Scoping Letter
9. Horizon Year (Proposed R-2 Zoning) Level of Service Worksheets

### **REFERENCES:**

1. Cascades East Transit. <http://www.cascadeseasttransit.com>. January 2010.
2. City of Madras & Kittelson & Associates, Inc. *City of Madras Transportation System Plan*. 2001.
3. Jefferson County & Kittelson & Associates, Inc. *Jefferson County Transportation System Plan*. 2005.
4. Oregon Department of Transportation. *1999 Oregon Highway Plan*. March 1999.
5. Department of Land Conservation and Development. Oregon Administrative Rule 660-12-0060, <http://arcweb.sos.state.or.us/banners/rules.htm>.
6. City of Madras & Kittelson & Associates, Inc. *City of Madras Transportation System Plan Update*. 2006.
7. Kittelson & Associates, Inc. *Technical Memorandum #3: Year 2020 Operations Analysis*. May 2001.
8. City of Madras. Ordinance 723, [http://ci.madras.or.us/agendas/agendas\\_ordinances.shtml](http://ci.madras.or.us/agendas/agendas_ordinances.shtml). February 2005.
9. Institute of Transportation Engineers. *Trip Generation, 8<sup>th</sup> Edition*. 2008.

**Attachment "1"**  
Manual Turning  
Movement Counts





**Figure 4**  
Ferguson & Associates, Inc.

Existing PM Peak Hour Traffic (As Counted)  
Yarrow Subdivision Phase 3 and Phase 4 - Madras, Oregon

#00926  
May 17, 2007

**TRAFFIC COUNT SUMMARY FORM**

<b>Project Title:</b> Madras	<b>Condition:</b> 2003 Existing	<b>Weather:</b>
<b>Project No.:</b> ODOT0000-0408	<b>Count Date:</b> 1/28/2003	<b>Road Surface:</b>
<b>Location:</b> OR	<b>Count Period:</b> 4:00-6:00 PM	<b>Traffic Control:</b> Two-way Stop
<b>NS Street:</b> Hwy 97/5th Street	<b>Growth Rate:</b> NA	<b>Intersect. type:</b> 4-Leg
<b>EW Street:</b> B Street	<b># Compounding Years:</b> NA	<b>Counted by:</b> Traffic Smithy

**APPROACH VOLUMES**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-MIN Total	HOURLY Total	
16:00 16:15	2	13	0	0	52	20	5	141	23	0	0	0	256	984	0:00
16:15 16:30	4	11	0	0	44	6	12	133	26	0	0	0	236	1014	0:00
16:30 16:45	5	8	0	0	41	10	12	164	18	0	0	0	258	1035	16:30
16:45 17:00	2	6	0	0	37	12	11	143	23	0	0	0	234	1013	0:00
17:00 17:15	7	10	0	0	61	12	12	161	23	0	0	0	286	964	0:00
17:15 17:30	4	12	0	0	31	8	7	151	44	0	0	0	257	678	0:00
17:30 17:45	1	12	0	0	40	12	5	142	24	0	0	0	236	421	0:00
17:45 18:00	2	1	0	0	19	11	6	133	13	0	0	0	185	185	0:00
													<b>1948</b>		

Actual PM peak hour period is from: 16:30 to 17:30

**ACTUAL PEAK HOUR VOLUME**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-Min Total	Hourly Total
16:30 16:45	5	8	0	0	41	10	12	164	18	0	0	0	258	
16:45 17:00	2	6	0	0	37	12	11	143	23	0	0	0	234	
17:00 17:15	7	10	0	0	61	12	12	161	23	0	0	0	286	
17:15 17:30	4	12	0	0	31	8	7	151	44	0	0	0	257	
<b>TOTAL</b>	<b>18</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>170</b>	<b>42</b>	<b>42</b>	<b>619</b>	<b>108</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>1035</b>
Mvmnt PHF	0.64	0.75	#DIV/0!	#DIV/0!	0.70	0.88	0.88	0.94	0.61	#DIV/0!	#DIV/0!	#DIV/0!	Int	
Approach PHF		0.79			0.73			0.95		#DIV/0!			PHF->	0.90

The PM peak hour used is from: 16:30 to 17:30

**VOLUME FOR PEAK HOUR USED**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-Min Total	Hourly Total
16:30 16:45	5	8	0	0	41	10	12	164	18	0	0	0	258	
16:45 17:00	2	6	0	0	37	12	11	143	23	0	0	0	234	
17:00 17:15	7	10	0	0	61	12	12	161	23	0	0	0	286	
17:15 17:30	4	12	0	0	31	8	7	151	44	0	0	0	257	
<b>TOTAL</b>	<b>18</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>170</b>	<b>42</b>	<b>42</b>	<b>619</b>	<b>108</b>	<b>0</b>	<b>0</b>	<b>0</b>		<b>1035</b>
Mvmnt PHF	0.64	0.75	#DIV/0!	#DIV/0!	0.70	0.88	0.88	0.94	0.61	#DIV/0!	#DIV/0!	#DIV/0!	Int	
Approach PHF		0.79			0.73			0.95		#DIV/0!			PHF->	0.90

**ACTUAL PEAK HOUR LINK VOLUMES**

16:30 to 17:30

TIME	NORTH OF INT.		SOUTH OF INT.		WEST OF INT.		EAST OF INT.	
	NB	SB	NB	SB	WB	EB	WB	EB
16:30 16:45	179	0	194	0	53	13	51	26
16:45 17:00	157	0	177	0	48	8	49	29
17:00 17:15	180	0	196	0	73	17	73	33
17:15 17:30	163	0	202	0	38	16	39	56
<b>TOTAL</b>	<b>679</b>	<b>0</b>	<b>769</b>	<b>0</b>	<b>212</b>	<b>54</b>	<b>212</b>	<b>144</b>

**LINK VOLUMES FOR PEAK HOUR USED**

16:30 to 17:30

TIME	NORTH OF INT.		SOUTH OF INT.		WEST OF INT.		EAST OF INT.	
	NB	SB	NB	SB	WB	EB	WB	EB
16:30 16:45	179	0	194	0	53	13	51	26
16:45 17:00	157	0	177	0	48	8	49	29
17:00 17:15	180	0	196	0	73	17	73	33
17:15 17:30	163	0	202	0	38	16	39	56
<b>TOTAL</b>	<b>679</b>	<b>0</b>	<b>769</b>	<b>0</b>	<b>212</b>	<b>54</b>	<b>212</b>	<b>144</b>

COMMENTS:

**TRAFFIC COUNT SUMMARY FORM**

<b>Project Title:</b> Madras	<b>Condition:</b> 2003 Existing	<b>Weather:</b>
<b>Project No.:</b> ODOT0000-0408	<b>Count Date:</b> 1/28/2003	<b>Road Surface:</b>
<b>Location:</b> OR	<b>Count Period:</b> 4:00-6:00 PM	<b>Traffic Control:</b> Two-way Stop
<b>NS Street:</b> Hwy 97/4th Street	<b>Growth Rate:</b> NA	<b>Intersect. type:</b> 4-Leg
<b>EW Street:</b> B Street	<b># Compounding Years:</b> NA	<b>Counted by:</b> Traffic Smithy

**APPROACH VOLUMES**

TIME		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-MIN Total	HOURLY Total	
16:00	16:15	0	9	5	50	8	0	0	0	0	4	170	5	251	953	0:00
16:15	16:30	0	10	4	49	6	0	0	0	0	9	141	6	225	966	0:00
16:30	16:45	0	8	5	46	3	0	0	0	0	6	166	4	238	974	16:30
16:45	17:00	0	0	4	43	10	0	0	0	0	6	167	9	239	930	0:00
17:00	17:15	0	9	0	54	8	0	0	0	0	9	181	3	264	869	0:00
17:15	17:30	0	7	4	42	4	0	0	0	0	7	164	5	233	605	0:00
17:30	17:45	0	2	4	40	5	0	0	0	0	9	130	4	194	372	0:00
17:45	18:00	0	1	4	21	5	0	0	0	0	4	141	2	178	178	0:00
														<b>1822</b>		

Actual PM peak hour period is from: 16:30 to 17:30

**ACTUAL PEAK HOUR VOLUME**

TIME		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-Min Total	Hourly Total
16:30	16:45	0	8	5	46	3	0	0	0	0	6	166	4	238	
16:45	17:00	0	0	4	43	10	0	0	0	0	6	167	9	239	
17:00	17:15	0	9	0	54	8	0	0	0	0	9	181	3	264	
17:15	17:30	0	7	4	42	4	0	0	0	0	7	164	5	233	
<b>TOTAL</b>		<b>0</b>	<b>24</b>	<b>13</b>	<b>185</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>678</b>	<b>21</b>		<b>974</b>
Mvmt	PHF	#DIV/0!	0.67	0.65	0.86	0.63	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.78	0.94	0.58	Int	
Approach	PHF		0.71			0.85		#DIV/0!				0.94		PHF->	0.92

The PM peak hour used is from: 16:30 to 17:30

**VOLUME FOR PEAK HOUR USED**

TIME		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-Min Total	Hourly Total
16:30	16:45	0	8	5	46	3	0	0	0	0	6	166	4	238	
16:45	17:00	0	0	4	43	10	0	0	0	0	6	167	9	239	
17:00	17:15	0	9	0	54	8	0	0	0	0	9	181	3	264	
17:15	17:30	0	7	4	42	4	0	0	0	0	7	164	5	233	
<b>TOTAL</b>		<b>0</b>	<b>24</b>	<b>13</b>	<b>185</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>678</b>	<b>21</b>		<b>974</b>
Mvmt	PHF	#DIV/0!	0.67	0.65	0.86	0.63	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.78	0.94	0.58	Int	
Approach	PHF		0.71			0.85		#DIV/0!				0.94		PHF->	0.92

**ACTUAL PEAK HOUR LINK VOLUMES**

16:30 to 17:30

TIME	NORTH OF INT.		SOUTH OF INT.		WEST OF INT.		EAST OF INT.		
	NB	SB	NB	SB	WB	EB	WB	EB	
16:30	16:45	0	176	0	217	7	13	49	14
16:45	17:00	0	182	0	214	19	4	53	6
17:00	17:15	0	193	0	235	11	9	62	18
17:15	17:30	0	176	0	210	9	11	46	14
<b>TOTAL</b>		<b>0</b>	<b>727</b>	<b>0</b>	<b>876</b>	<b>46</b>	<b>37</b>	<b>210</b>	<b>52</b>

**LINK VOLUMES FOR PEAK HOUR USED**

16:30 to 17:30

TIME	NORTH OF INT.		SOUTH OF INT.		WEST OF INT.		EAST OF INT.		
	NB	SB	NB	SB	WB	EB	WB	EB	
16:30	16:45	0	176	0	217	7	13	49	14
16:45	17:00	0	182	0	214	19	4	53	6
17:00	17:15	0	193	0	235	11	9	62	18
17:15	17:30	0	176	0	210	9	11	46	14
<b>TOTAL</b>		<b>0</b>	<b>727</b>	<b>0</b>	<b>876</b>	<b>46</b>	<b>37</b>	<b>210</b>	<b>52</b>

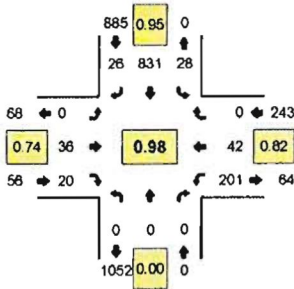
COMMENTS:

Type of peak hour being reported: User-Defined

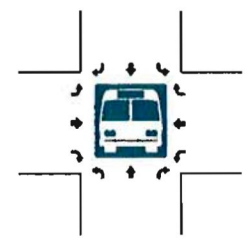
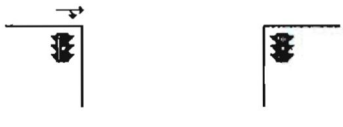
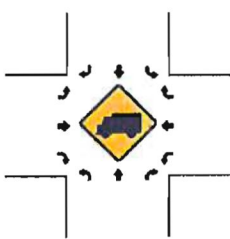
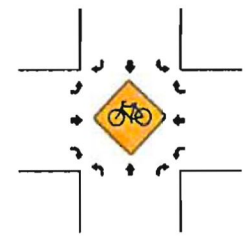
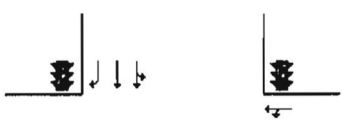
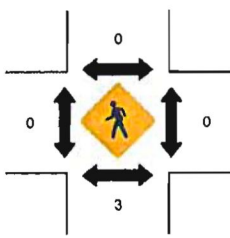
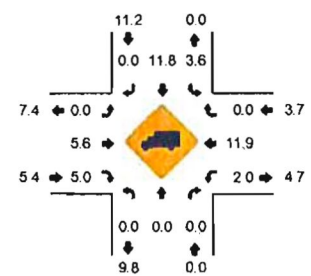
Method for determining peak hour: Total Entering Volume

**LOCATION:** 4th St – B St  
**CITY/STATE:** Madras, OR

**QC JOB #:** 10274001  
**DATE:** 8/7/2007



**Peak-Hour: 4:15 PM – 5:15 PM**  
**Peak 15-Min: 4:50 PM – 5:05 PM**



5-Min Count Period Beginning At	4th St (Northbound)			4th St (Southbound)			B St (Eastbound)			B St (Westbound)			Total	Hourly Totals
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
4:00 PM	0	0	0	1	72	0	0	5	2	10	3	0	93	
4:05 PM	0	0	0	5	81	2	0	0	3	11	2	0	104	
4:10 PM	0	0	0	1	62	4	0	3	0	13	1	0	84	
4:15 PM	0	0	0	3	85	4	0	3	3	29	1	0	128	
4:20 PM	0	0	0	4	84	1	0	0	2	12	2	0	85	
4:25 PM	0	0	0	2	44	4	0	3	1	17	8	0	77	
4:30 PM	0	0	0	3	61	1	0	5	2	20	2	0	94	
4:35 PM	0	0	0	2	71	3	0	2	3	22	7	0	110	
4:40 PM	0	0	0	2	68	1	0	3	0	15	2	0	91	
4:45 PM	0	0	0	1	71	1	0	1	0	18	4	0	94	
4:50 PM	0	0	0	4	74	1	0	4	2	18	2	0	105	
4:55 PM	0	0	0	5	72	0	0	2	3	12	5	0	99	1164
5:00 PM	0	0	0	0	64	3	0	5	1	21	3	0	97	1168
5:05 PM	0	0	0	1	72	5	0	5	3	10	5	0	101	1165
5:10 PM	0	0	0	1	85	2	0	3	0	9	3	0	103	1184
5:15 PM	0	0	0	0	68	3	0	0	1	10	1	0	81	1137
5:20 PM	0	0	0	4	57	2	0	4	3	7	1	0	78	1130
5:25 PM	0	0	0	1	73	2	0	1	2	13	1	0	93	1148
5:30 PM	0	0	0	0	61	1	0	1	4	15	5	0	87	1139
5:35 PM	0	0	0	1	80	0	0	2	0	5	4	0	92	1121
5:40 PM	0	0	0	3	49	4	0	5	0	9	5	0	75	1105
5:45 PM	0	0	0	3	57	3	0	4	0	3	3	0	73	1084
5:50 PM	0	0	0	3	66	4	0	2	2	4	1	0	82	1081
5:55 PM	0	0	0	1	57	2	0	2	2	8	1	0	73	1035
Peak 15-Min Flowrates	Northbound			Southbound			Eastbound			Westbound			Total	
All Vehicles	0	0	0	36	840	16	0	44	24	204	40	0	1204	
Heavy Trucks	0	0	0	4	88	0	0	0	0	0	4	0	96	
Pedestrians		4			0			0			0		4	
Bicycles														
Railroad														
Stopped Buses														

Comments:

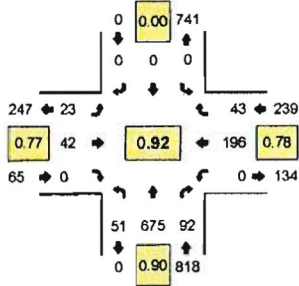


Type of peak hour being reported: User-Defined

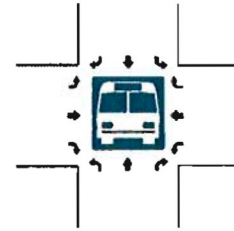
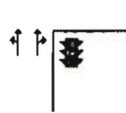
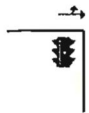
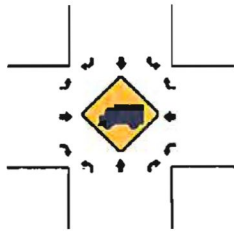
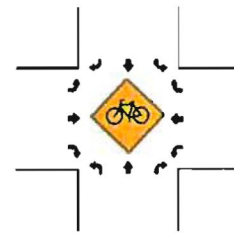
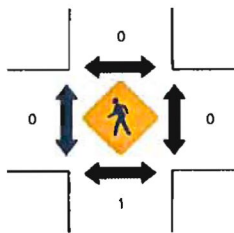
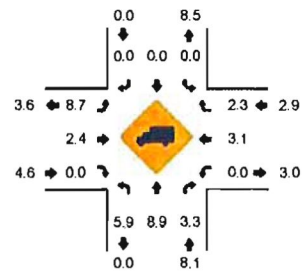
Method for determining peak hour: Total Entering Volume

LOCATION: 5th St – B St  
CITY/STATE: Madras, OR

QC JOB #: 10274002  
DATE: 8/7/2007

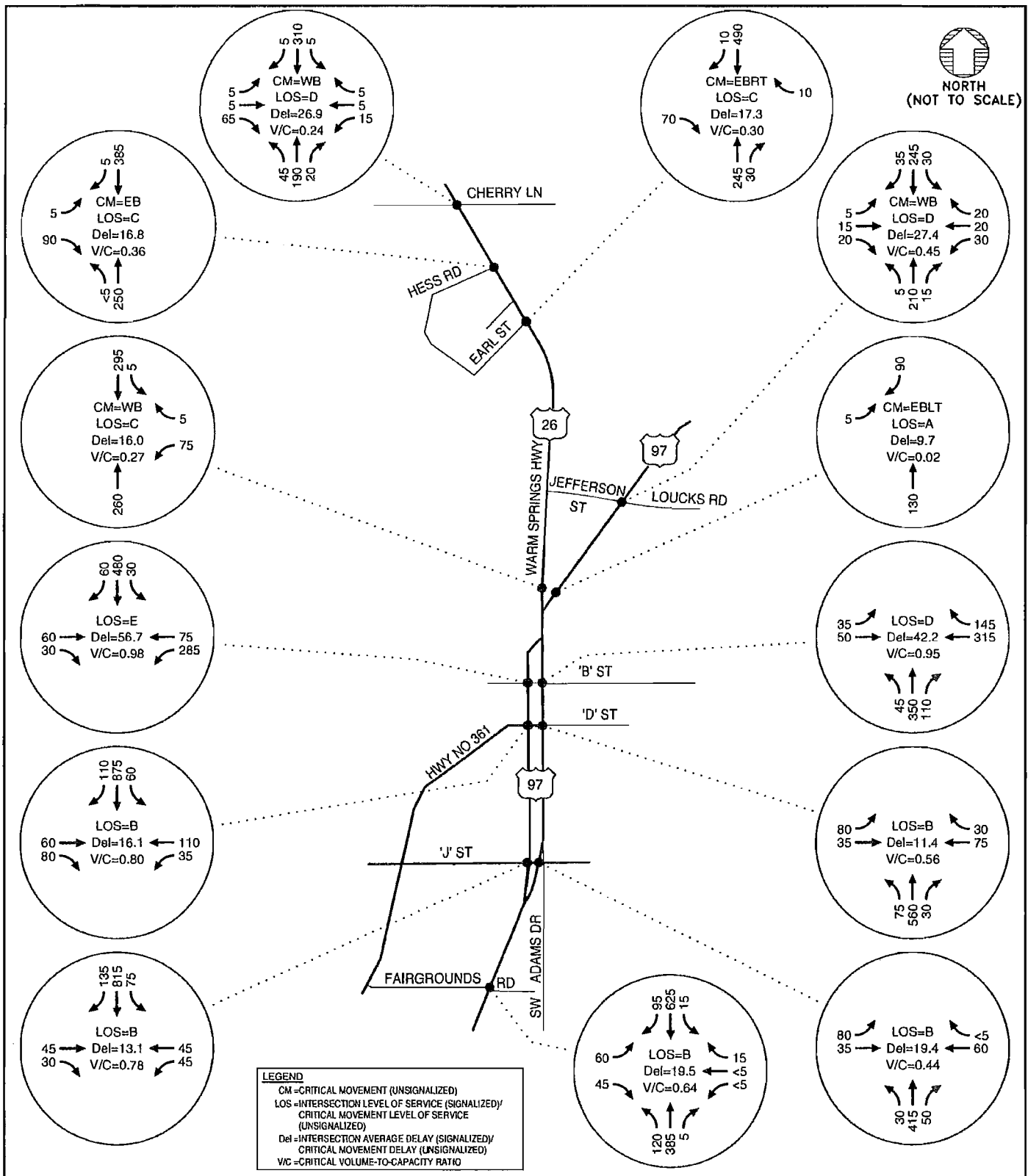


Peak-Hour: 4:15 PM -- 5:15 PM  
Peak 15-Min: 4:25 PM -- 4:40 PM

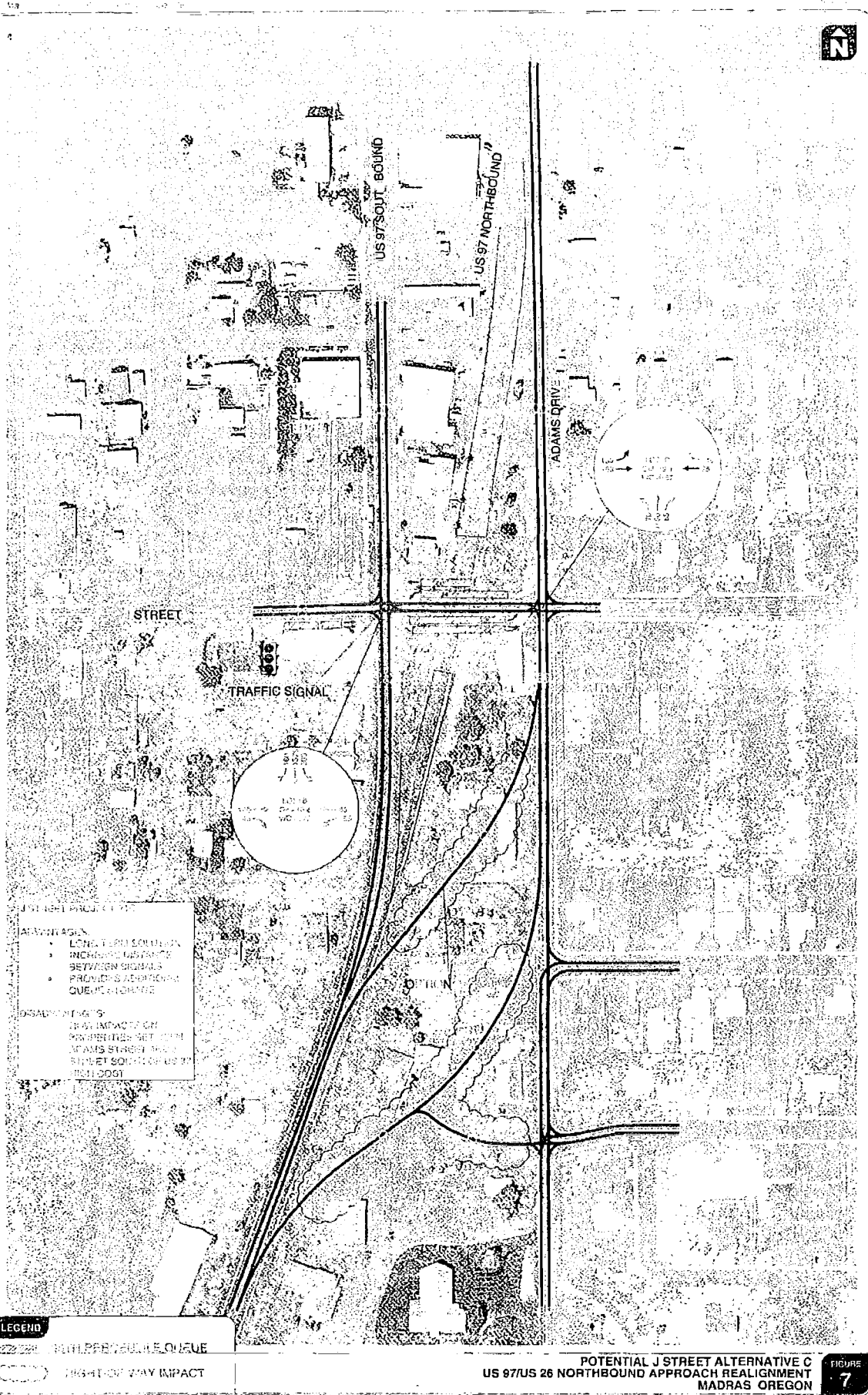


5-Min Count Period Beginning At	5th St (Northbound)			5th St (Southbound)			B St (Eastbound)			B St (Westbound)			Total	Hourly Totals
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
4:00 PM	1	53	3	0	0	0	5	1	0	0	11	3	77	
4:05 PM	2	56	6	0	0	0	0	4	0	0	10	2	80	
4:10 PM	4	59	8	0	0	0	2	4	0	0	18	3	98	
4:15 PM	4	51	6	0	0	0	2	5	0	0	24	4	98	
4:20 PM	3	47	7	0	0	0	2	1	0	0	13	2	75	
4:25 PM	2	59	7	0	0	0	0	3	0	0	14	4	89	
4:30 PM	5	48	9	0	0	0	5	6	0	0	22	7	102	
4:35 PM	3	76	3	0	0	0	2	2	0	0	23	6	115	
4:40 PM	2	50	9	0	0	0	0	6	0	0	13	6	88	
4:45 PM	4	57	6	0	0	0	1	0	0	0	19	3	90	
4:50 PM	8	72	7	0	0	0	2	3	0	0	12	2	106	
4:55 PM	9	51	8	0	0	0	1	6	0	0	16	3	98	1110
5:00 PM	6	60	5	0	0	0	3	5	0	0	16	1	96	1129
5:05 PM	1	43	10	0	0	0	3	2	0	0	14	2	75	1124
5:10 PM	4	61	15	0	0	0	2	3	0	0	8	3	96	1122
5:15 PM	4	45	9	0	0	0	2	0	0	0	8	4	72	1098
5:20 PM	4	49	3	0	0	0	2	4	0	0	8	1	71	1094
5:25 PM	3	59	9	0	0	0	0	2	0	0	12	2	87	1092
5:30 PM	3	59	10	0	0	0	1	0	0	0	12	4	89	1079
5:35 PM	5	66	3	0	0	0	2	2	0	0	9	4	91	1055
5:40 PM	1	54	2	0	0	0	4	2	0	0	5	0	68	1037
5:45 PM	2	47	6	0	0	0	3	4	0	0	6	2	70	1017
5:50 PM	0	50	7	0	0	0	3	0	0	0	3	5	68	979
5:55 PM	3	54	4	0	0	0	3	2	0	0	6	6	78	961
Peak 15-Min Flowrates	Northbound			Southbound			Eastbound			Westbound			Total	
All Vehicles	40	732	76	0	0	0	28	44	0	0	236	68	1224	
Heavy Trucks	4	68	8	0	0	0	4	0	0	0	12	4	100	
Pedestrians		0			0			0			0		0	
Bicycles														
Railroad														
Stopped Buses														

Comments:



## YEAR 2020 TRAFFIC CONDITIONS - WEEKDAY PM PEAK "WITH IMPROVEMENT" SCENARIO



AIRWAY DESIGN  
 • LENGTHEN SOUTHBOUND  
 RIGHT-OF-WAY BETWEEN  
 SIGNALS  
 • PROVIDE APPROACH  
 QUEUE ALIGNMENT

CONSIDERATIONS:  
 • TRAFFIC IMPACTS ON  
 ADAMS STREET FROM  
 SOUTHBOUND APPROACH  
 • IMPACTS ON US 97  
 SOUTHBOUND

**LEGEND**

WITH PREVIOUS QUEUE  
 RIGHT-OF-WAY IMPACT

**POTENTIAL J STREET ALTERNATIVE C**  
**US 97/US 26 NORTHBOUND APPROACH REALIGNMENT**  
**MADRAS OREGON**

FIGURE  
**7**



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**Attachment "2"**  
Existing Conditions Level  
of Service Worksheets

-----  
 Kittleison & Associates, Inc. - Project #10029  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour  
 -----

-----  
 Kittleison & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour  
 -----

Scenario Report

Scenario: PM  
 Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact Fee: Default Impact Fee  
 Trip Generation: PM  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: PM

Impact Analysis Report  
Level Of Service

Intersection	Base Del/V C	Future Del/V C	Change in
# 1 "B" Street/4th Street	B 17.8 0.567	E 17.8 0.567	+ 0.000 D/V
# 2 "B" Street/5th Street	B 15.5 0.472	B 15.5 0.472	+ 0.000 D/V
# 3 "B" Street/10th Street	B 10.4 0.020	B 10.4 0.020	+ 0.000 D/V
# 4 "B" Street/Ashwood	B 10.7 0.049	B 10.7 0.049	+ 0.000 D/V
# 5 "B" Street/Kinkade Road	B 11.2 0.008	B 11.2 0.008	+ 0.000 D/V
# 6 "B" Street/City View	B 10.5 0.050	B 10.5 0.050	+ 0.000 D/V
# 7 "B" Street/Bean Drive	A 9.7 0.080	A 9.7 0.080	+ 0.000 D/V
# 8 "J" Street/4th Street	E 46.6 0.550	E 46.6 0.550	+ 0.000 D/V
# 9 "J" Street/5th Street	C 17.6 0.350	C 17.6 0.350	+ 0.000 D/V























Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Base Volume Alternative)

\*\*\*\*\*  
 Intersection #9 "J" Street/5th Street  
 \*\*\*\*\*

Average Delay (sec/veh): 5.8 Worst Case Level Of Service: C 1.6

Street Name: "J" Street 5th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
 Rights: Include Include Include Include  
 Lanes: 0 1 0 1 0 0 0 0 1 0 1 0 0 0 0 1 0

Volume Module:  
 Base Vol: 14 588 28 0 0 0 86 124 0 0 60 59  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bsz: 14 588 28 0 0 0 86 124 0 0 60 59  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHF Volume: 15 619 29 0 0 0 91 131 0 0 63 62  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Final Volume: 15 619 29 0 0 0 91 131 0 0 63 62

Critical Gap Module:  
 Critical Gap: 4.2 XXXX XXXX XXXX XXXX 7.1 6.5 XXXX XXXX 6.5 6.2  
 FollowUpTime: 2.3 XXXX XXXX XXXX XXXX 3.5 4.0 XXXX XXXX 4.0 3.3  
 Capacity Module:  
 Conflict Vol: 0 XXXX XXXX XXXX XXXX XXXX 371 678 XXXX XXXX 663 324  
 Potent Cap.: 1578 XXXX XXXX XXXX XXXX XXXX 590 377 XXXX XXXX 384 721  
 Move Cap.: 1578 XXXX XXXX XXXX XXXX XXXX 467 373 XXXX XXXX 380 721  
 Volume/Cap: 0.01 XXXX XXXX XXXX XXXX 0.19 0.35 XXXX XXXX 0.17 0.09

Level Of Service Module:  
 2Way5Chg: 0.0 XXXX XXXX XXXX XXXX XXXX 0.7 1.5 XXXX XXXX XXXX XXXX  
 Control Del: 7.3 XXXX XXXX XXXX XXXX 14.6 19.8 XXXX XXXX XXXX XXXX  
 LOS by Move: A + + + + + B C + + + + +  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Queue: 0.0 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 1.0  
 Shrd Condel: 7.3 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 14.7  
 Shared LOS: A + + + + + + + + + + + B  
 Approach Del: XXXXX + 17.6 14.7  
 Approach LOS: + + + + + + + + + + + B

Note: Queue reported is the number of cars per lane.  
 \*\*\*\*\*

Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Base Volume Alternative

\*\*\*\*\*  
 Intersection #9 "J" Street/5th Street  
 \*\*\*\*\*

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R  
 HevVeh: 9% 0% 0% 0%  
 Grade: 0% 0% 0% 0%  
 Peds/Hour: 0 0 0 0  
 Pedestrian Walk Speed: 4.00 feet/sec  
 Lane Width: 12 feet 12 feet 12 feet 12 feet  
 Time Period: 0.25 hour

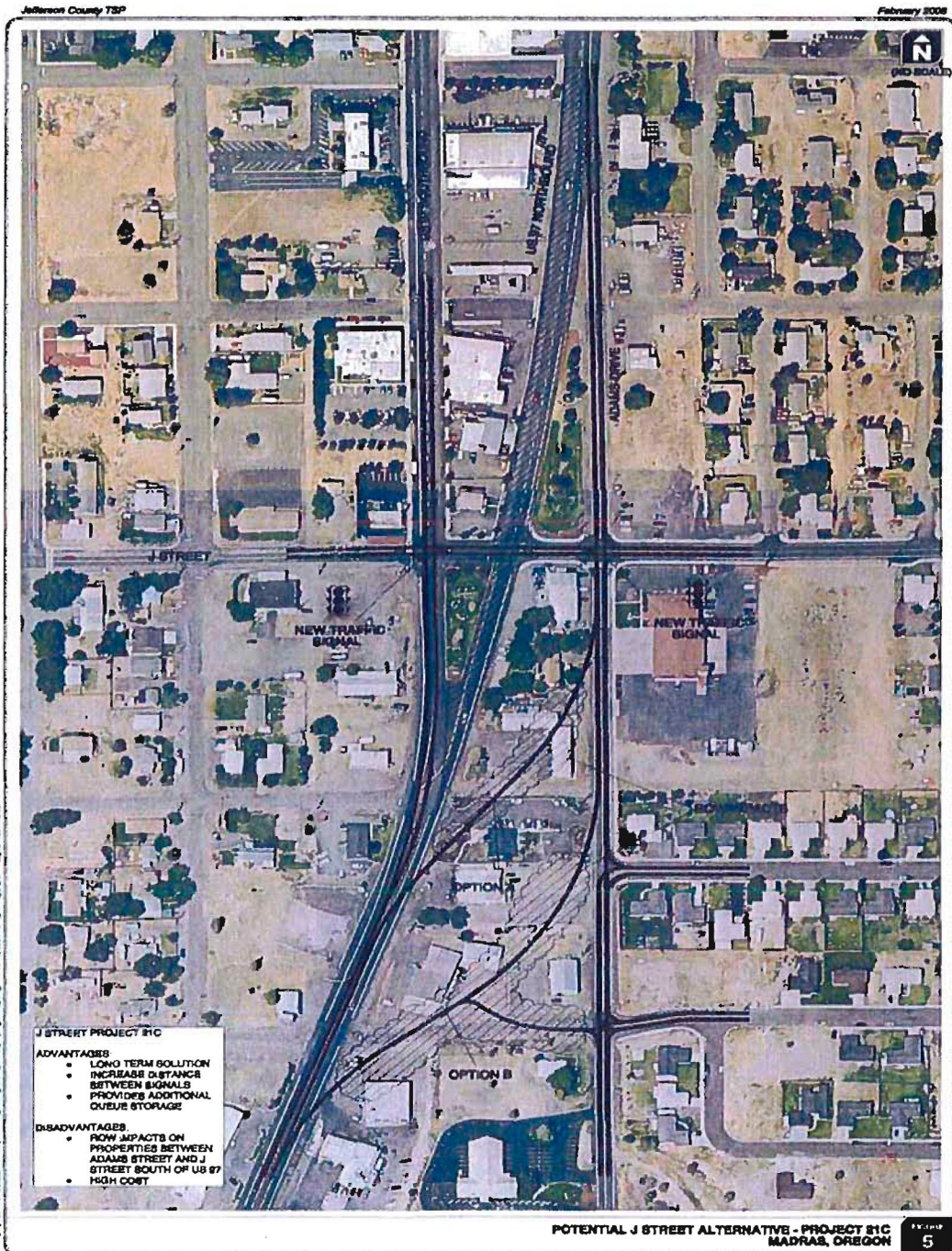


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**Attachment "3"**  
J Street Conceptual  
Improvement Illustration



**US97 @ J Street (Madras) Project**  
Alternative Concepts of US97 Realignment Shown

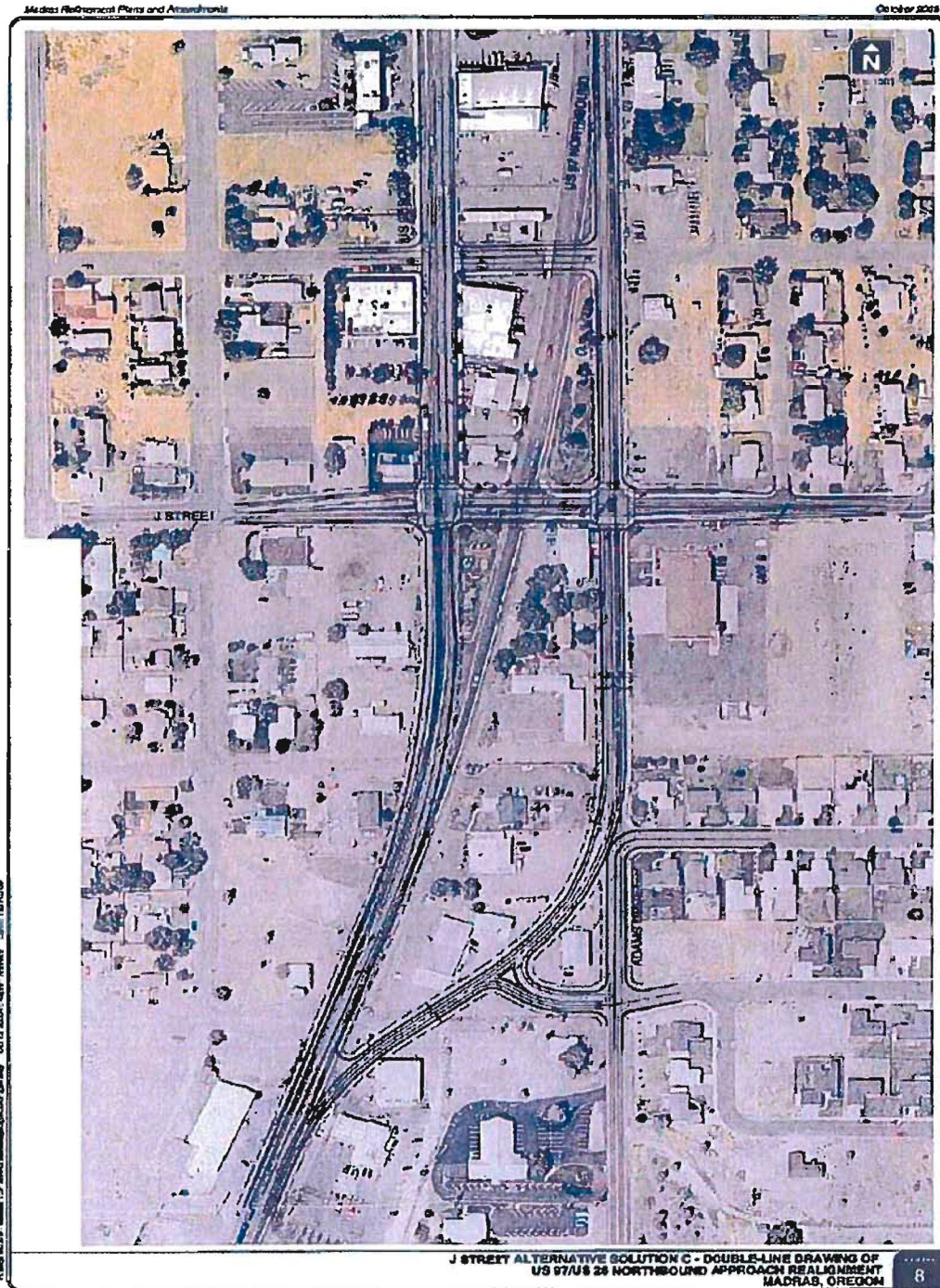






### US97 @ J Street (Madras) Project

Conceptual Drawing of Signalized Intersections @ J Street US97 Option B Realignment Shown



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**Attachment "4"**  
Existing RL Zoning LOS  
Worksheets

Scenario: PM  
 Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact Fee: Default Impact Fee  
 Trip Generation: PM  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: PM

Impact Analysis Report  
 Level Of Service

Intersection	Base Del/V/ LOS Veh C	Future Del/V/ LOS Veh C	Change in
# 1 "B" Street/4th Street	C 22.4 0.636	C 22.4 0.636	+ 0.000 D/V
# 2 "B" Street/5th Street	C 20.3 0.581	C 20.3 0.581	+ 0.000 D/V
# 3 "B" Street/10th Street	B 11.8 0.038	B 11.8 0.038	+ 0.000 D/V
# 4 "B" Street/Ashwood	B 12.2 0.084	B 12.2 0.084	+ 0.000 D/V
# 5 "B" Street/Kinkade Road	B 12.8 0.016	B 12.8 0.016	+ 0.000 D/V
# 6 "B" Street/City View	B 11.9 0.088	B 11.9 0.088	+ 0.000 D/V
# 7 "B" Street/Bean Drive	B 11.1 0.143	B 11.1 0.143	+ 0.000 D/V
# 8 "J" Street/4th Street	F OVRF 4.790	F OVRF 4.750	+ 0.000 D/V
# 9 "J" Street/5th Street	F 287.2 1.476	F 287.2 1.476	+ 0.000 D/V

Kittelson & Associates, Inc. - Project #10028  
Madras Elementary School UGB Amendment - Madras, Oregon  
Background Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #1 "B" Street/4th Street  
\*\*\*\*\*  
Cycle (sec): 100 Critical Vol./Cap. (X): 0.636  
Loss Time (sec): 8 Average Delay (sec/veh): 22.4  
Optimal Cycle: 41 Level of Service: C  
\*\*\*\*\*

Street Name: "B" Street 4th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Split Phase Split Phase Permitted Permitted  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  
Lanes: 0 0 0 0 0 1 0 1 0 0 0 1 0 0 0 0 0 0

Volume Module:  
Base Vol: 0 0 0 35 528 69 0 69 35 328 86 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 35 528 69 0 69 35 328 86 0  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 0 0 35 528 69 0 69 35 328 86 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 0 0 0 37 556 73 0 73 37 345 91 0  
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 0 0 0 37 556 73 0 73 37 345 91 0  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Volume: 0 0 0 37 556 73 0 73 37 345 91 0

Saturation Flow Module:  
Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
Adjustment: 1.00 1.00 1.00 0.84 0.84 0.84 1.00 0.96 0.96 0.70 0.70 1.00  
Lanes: 0.00 0.00 0.00 0.11 1.67 0.22 0.00 0.66 0.34 0.79 0.21 0.00  
Final Sat.: 0 0 0 162 2443 319 0 1109 562 965 233 0

Capacity Analysis Module:  
Vol/Sat: 0.00 0.00 0.00 0.23 0.23 0.23 0.03 0.07 0.07 0.36 0.36 0.00  
Crit Moves: + + + + +  
Green/Cycle: 0.00 0.00 0.00 0.36 0.36 0.36 0.00 0.56 0.56 0.56 0.56 0.00  
Volume/Cap: 0.00 0.00 0.00 0.64 0.64 0.64 0.00 0.12 0.12 0.64 0.64 0.00  
Delay/Veh: 0.0 0.0 0.0 28.0 28.0 28.0 0.0 10.3 10.3 16.9 16.9 0.0  
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
AdjDel/Veh: 0.0 0.0 0.0 28.0 28.0 28.0 0.0 10.3 10.3 16.9 16.9 0.0  
LOS by Move: A A A C C C C A B B B A A  
HCM2kAvgQ: 0 0 0 10 10 10 0 2 2 9 9 0

Kittelson & Associates, Inc. - Project #10028  
Madras Elementary School UGB Amendment - Madras, Oregon  
Background Traffic Conditions, Weekday PM Peak Hour

\*\*\*\*\*  
Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*





Kittelson & Associates, Inc. - Project #10028  
Madras Elementary School UGS Amendment - Madras, Oregon  
Background Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report HCM2000 Queue Method  
2000 HCM Operations Method  
Future Volume Alternative

Intersection #1 "B" Street/4th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L T R L T R L T R L T R  
Green/Cycle: 0.00 0.00 0.00 0.36 0.36 0.00 0.56 0.56 0.56 0.56 0.56 0.00  
ArrivalType: 3 3 3  
ProgFactor: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Q1: 0.0 0.0 0.0 8.1 8.1 8.1 0.3 1.4 1.4 8.2 8.2 0.0  
UpstreamVC: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.58 0.58 0.00  
UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.79 0.79 0.00  
EarlyArrAdj: 0.00 0.00 0.00 1.00 1.00 1.00 0.00 1.00 1.00 0.46 0.46 0.00  
Q2: 0.0 0.0 0.0 1.6 1.6 1.6 0.0 0.1 0.1 0.8 0.8 0.0  
HCM2KQueue: 0.0 0.0 0.0 9.7 9.7 9.7 0.0 1.6 1.6 9.0 9.0 0.0  
70thFactor: 1.20 1.20 1.20 1.18 1.18 1.18 1.20 1.20 1.20 1.18 1.18 1.70  
HCM2K70thQ: 0.0 0.0 0.0 11.5 11.5 11.5 0.0 1.9 1.9 10.7 10.7 0.0  
85thFactor: 1.60 1.60 1.60 1.52 1.52 1.52 1.60 1.58 1.58 1.52 1.52 1.60  
HCM2K85thQ: 0.0 0.0 0.0 14.8 14.8 14.8 0.0 2.5 2.5 13.8 13.8 0.0  
90thFactor: 1.80 1.80 1.80 1.65 1.65 1.65 1.80 1.77 1.77 1.65 1.65 1.80  
HCM2K90thQ: 0.0 0.0 0.0 16.0 16.0 16.0 0.0 2.8 2.8 14.9 14.9 0.0  
95thFactor: 2.10 2.10 2.10 1.85 1.85 1.85 2.10 2.05 2.05 1.86 1.86 2.10  
HCM2K95thQ: 0.0 0.0 0.0 18.0 18.0 18.0 0.0 3.2 3.2 16.8 16.8 0.0  
98thFactor: 2.70 2.70 2.70 2.17 2.17 2.17 2.70 2.59 2.59 2.20 2.20 2.70  
HCM2K98thQ: 0.0 0.0 0.0 21.1 21.1 21.1 0.0 4.0 4.0 19.9 19.9 0.0

Kittelson & Associates, Inc. - Project #10028  
Madras Elementary School UGS Amendment - Madras, Oregon  
Background Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report  
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 "B" Street/5th Street  
Cycle (sec): 100 Critical Vol./Cap. (X): 0.581  
Loss Time (sec): 8 Average Delay (sec/veh): 20.3  
Optimal Cycle: 37 Level of Service: C  
Street Name: "B" Street 5th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L T R L T R L T R L T R  
Control: Split Phase Split Phase Permitted Permitted  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  
Lanes: 0 1 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 1 0

Volume Module:  
Base Vol: 52 385 127 0 0 40 58 0 0 362 167  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 52 385 127 0 0 40 58 0 0 362 167  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 52 385 127 0 0 40 58 0 0 362 167  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 52 405 134 0 0 42 61 0 0 362 173  
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vol: 55 405 134 0 0 42 61 0 0 381 176  
SCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Volume: 55 405 134 0 0 42 61 0 0 381 176

Saturation Flow Module:  
Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
Adjustment: 0.84 0.84 0.84 1.00 1.00 1.00 0.75 0.75 1.00 1.00 0.96  
Lanes: 0.16 1.37 0.45 0.00 0.00 0.00 0.41 0.59 0.00 0.00 0.32  
Final Sat.: 270 2002 660 0 0 536 777 0 0 1146 529

Capacity Analysis Module:  
Vol/Sat: 0.20 0.20 0.20 0.00 0.00 0.00 0.08 0.08 0.00 0.00 0.33  
Crit Moves: 0.35 0.35 0.35 0.00 0.00 0.00 0.57 0.57 0.00 0.00 0.57  
Green/Cycle: 0.58 0.58 0.58 0.00 0.00 0.00 0.14 0.14 0.00 0.00 0.58  
Volume/Cap: 27.5 27.5 27.5 0.0 0.0 0.0 10.0 10.0 0.0 0.0 14.6  
Delay/Veh: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
User DelAdj: 27.5 27.5 27.5 0.0 0.0 0.0 10.0 10.0 0.0 0.0 14.6  
AdjDel/Veh: 8 8 8 0 0 0 1 1 0 0 11  
LOS by Move: C C C A A A B B A A B  
HCM2KAVGQ: 8 8 8 0 0 0 1 1 0 0 11



Level Of Service Detailed Computation Report (Permitted Left Turn Sat Adj):  
 2000 HCM Operations Method  
 Future Volume Alternative

\*\*\*\*\*  
 Intersection #2 "B" Street/5th Street  
 Approach: North South East West  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Cycle Length, C: 100 XXXXX XXXXX  
 Actual Green Time Per Lane Group, G: 57.18 XXXXX XXXXX  
 Effective Green Time Per Lane Group, g: 57.18 XXXXX XXXXX  
 Opposing Effective Green Time, go: 57.18 XXXXX XXXXX  
 Number Of Opposing Lanes, No: 1 XXXXX  
 Number Of Lanes In Lane Group, N: 1 XXXXX  
 Adjusted Left-Turn Flow Rate, Vlt: XXXXX  
 Proportion of Left Turns in Lane Group, Plt: XXXXX  
 Proportion of Left Turns in Opp Flow, Pito: XXXXX  
 Left Turns Per Cycle, LTC: 1.17 XXXXX  
 Adjusted Opposing Flow Rate, Vo: 557 XXXXX  
 Opposing Flow Per Lane Per Cycle, VoLc: 15.47 XXXXX  
 Opposing Platoon Ratio, Rpo: XXXXX  
 Lost Time Per Phase, tl: XXXXX  
 Eff grn until arrival of left-turn car, gf: 4.00 XXXXX  
 Opposing Queue Ratio, qro: 18.14 XXXXX  
 Eff grn blocked by opposing queue, qn: 0.43 XXXXX  
 Eff grn while left turns filter thru, gu: 12.20 XXXXX  
 Max opposing cars arriving during gg-gf, n: 39.04 XXXXX  
 Proportion of Opposing Thru & RT cars, ptho: 0.00 XXXXX  
 Left-turn Saturation Factor, fs: 1.00 XXXXX  
 Proportion of Left Turns in Shared Lane, pl: XXXXX  
 Through-car Equivalents, e1: XXXXX  
 Single Lane Through-car Equivalents, e12: 2.41 XXXXX  
 Minimum Left Turn Adjustment Factor, fmin: XXXXX  
 Single Lane Left Turn Adjustment Factor, fm: 0.05 XXXXX  
 Left Turn Adjustment Factor, flt: 0.75 XXXXX  
 \*\*\*\*\*

Level Of Service Detailed Computation Report (HCM2000 Queue Method):  
 2000 HCM Operations Method  
 Future Volume Alternative

\*\*\*\*\*  
 Intersection #2 "B" Street/5th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Green/Cycle: 0.35 0.35 0.35 0.00 0.00 0.00 0.57 0.57 0.00 0.00 0.57 0.57  
 ArrivalType: 3 3 3 3  
 ProgFactor: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Q1: 7.1 7.1 7.1 0.0 0.0 0.0 1.3 1.3 0.0 0.0 0.0 0.0  
 UpstreamVC: 0.00 0.00 0.00 0.00 0.00 0.00 0.12 0.12 0.00 0.00 0.00 0.00  
 UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 1.00 1.00 0.00 0.00 0.00 0.00  
 EarlyArrAdj: 1.00 1.00 1.00 0.00 0.00 0.00 0.62 0.62 0.00 0.00 0.00 0.00  
 Q2: 1.3 1.3 1.3 0.0 0.0 0.0 0.1 0.1 0.0 0.0 0.0 0.0  
 HCM2Queue: 8.4 8.4 8.4 0.0 0.0 0.0 1.4 1.4 0.0 0.0 0.0 0.0  
 70thFactor: 1.18 1.18 1.18 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.18  
 HCM2k70thQ: 9.9 9.9 9.9 0.0 0.0 0.0 1.7 1.7 0.0 0.0 0.0 13.3  
 85thFactor: 1.53 1.53 1.53 1.60 1.60 1.60 1.59 1.59 1.60 1.60 1.60 1.51  
 HCM2k85thQ: 12.9 12.9 12.9 0.0 0.0 0.0 2.3 2.3 0.0 0.0 0.0 17.0  
 90thFactor: 1.66 1.66 1.66 1.80 1.80 1.80 1.77 1.77 1.80 1.80 1.80 1.63  
 HCM2k90thQ: 14.0 14.0 14.0 0.0 0.0 0.0 2.5 2.5 0.0 0.0 0.0 18.4  
 95thFactor: 1.88 1.88 1.88 2.10 2.10 2.10 2.05 2.05 2.10 2.10 2.10 1.82  
 HCM2k95thQ: 15.8 15.8 15.8 0.0 0.0 0.0 2.9 2.9 0.0 0.0 0.0 20.5  
 98thFactor: 2.22 2.22 2.22 2.70 2.70 2.70 2.60 2.60 2.70 2.70 2.70 2.12  
 HCM2k98thQ: 18.7 18.7 18.7 0.0 0.0 0.0 3.7 3.7 0.0 0.0 0.0 23.9  
 \*\*\*\*\*

Kittelson & Associates, Inc. - Project #1002B  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Background Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 "B" Street/10th Street  
 Average Delay (sec/vsh): 0.9 Worst Case Level Of Service: E (11.8)  
 Street Name: "B" Street 10th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include Include  
 Lanes: 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0

Volume Module:  
 Base Vol: 13 0 18 0 0 0 0 183 17 24 360 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 13 0 18 0 0 0 0 183 17 24 360 0  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 13 0 18 0 0 0 0 183 17 24 360 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
 PHF Volume: 15 0 21 0 0 0 0 215 20 28 424 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Final Volume: 15 0 21 0 0 0 0 215 20 28 424 0

Critical Gap Module:  
 Critical Gap: 6.4 6.5 6.2 XXXXX XXXX XXXX XXXX XXXX 4.1 XXXX XXXXX  
 FollowUpTim: 3.5 4.0 3.3 XXXXX XXXX XXXX XXXX XXXX 2.2 XXXX XXXXX  
 Capacity Module:  
 Conflict Vol: 705 705 225 XXXX XXXX XXXX XXXX XXXX XXXX 735 XXXX XXXXX  
 Potential Cap: 406 363 819 XXXX XXXX XXXX XXXX XXXX XXXX 1344 XXXX XXXXX  
 Move Cap: 399 356 819 XXXX XXXX XXXX XXXX XXXX XXXX 1344 XXXX XXXXX  
 Volume/Cap: 0.04 0.00 0.03 XXXX XXXX XXXX XXXX XXXX 0.02 XXXX XXXX

Level Of Service Module:  
 2Way5thQ: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 0.1 XXXX XXXXX  
 Control Del: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 7.7 XXXX XXXXX  
 LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap: XXXX 568 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shared Queue: XXXX 0.2 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shrd ConDel: XXXX 11.8 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shared LOS: A B XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
 Approach Del: 11.8 XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
 Approach LOS: B XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX

Note: Queue reported is the number of cars per lane.

Kittelson & Associates, Inc. - Project #1002B  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Background Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 "B" Street/Ashwood  
 Average Delay (sec/veh): 2.0 Worst Case Level Of Service: E (12.2)  
 Street Name: "B" Street Ashwood  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include Include  
 Lanes: 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0

Volume Module:  
 Base Vol: 33 0 24 0 0 0 0 162 32 46 227 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 33 0 24 0 0 0 0 162 32 46 227 0  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 33 0 24 0 0 0 0 162 32 46 227 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
 PHF Volume: 39 0 28 0 0 0 0 191 38 54 267 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Final Volume: 39 0 28 0 0 0 0 191 38 54 267 0

Critical Gap Module:  
 Critical Gap: 6.4 6.5 6.2 XXXXX XXXX XXXX XXXX XXXX 4.1 XXXX XXXXX  
 FollowUpTim: 3.5 4.0 3.3 XXXXX XXXX XXXX XXXX XXXX 2.2 XXXX XXXXX  
 Capacity Module:  
 Conflict Vol: 585 585 209 XXXX XXXX XXXX XXXX XXXX XXXX 228 XXXX XXXXX  
 Potential Cap: 477 426 836 XXXX XXXX XXXX XXXX XXXX XXXX 1352 XXXX XXXXX  
 Move Cap: 462 408 836 XXXX XXXX XXXX XXXX XXXX XXXX 1352 XXXX XXXXX  
 Volume/Cap: 0.08 0.00 0.03 XXXX XXXX XXXX XXXX XXXX 0.04 XXXX XXXX

Level Of Service Module:  
 2Way5thQ: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 0.1 XXXX XXXXX  
 Control Del: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 7.8 XXXX XXXXX  
 LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap: XXXX 569 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shared Queue: XXXX 0.4 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shrd ConDel: XXXX 12.2 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shared LOS: A B XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
 Approach Del: 12.2 XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
 Approach LOS: B XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX

Note: Queue reported is the number of cars per lane.



Kittelston & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Background Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 "B" Street/Bean Drive

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: E (11.1)

Street Name: "B" Street Bean Drive  
 Approach: North Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include  
 Lanes: 0 0 0 0 0 1 0 0 1 0 0 0 0 0 0 1 0

Volume Module:  
 Base Vol: 0 0 0 3 0 48 149 99 0 0 293 2  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 0 0 0 3 0 48 149 99 0 0 293 2  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 0 0 0 3 0 48 149 99 0 0 293 2  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
 PHF Volume: 0 0 0 4 0 56 175 116 0 0 345 2  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 FinalVolume: 0 0 0 4 0 56 175 116 0 0 345 2

Critical Gap Module:  
 Critical Gap: 6.4 6.5 6.2 4.1 6.4 6.2 4.1 6.4 6.2 4.1 6.4 6.2  
 FollowUpTime: 3.5 4.0 3.3 2.2 3.5 4.0 3.3 2.2 3.5 4.0 3.3 2.2

Capacity Module:  
 Conflict Vol: 813 813 346 347 813 346  
 Potent Cap.: 351 315 702 1223 351 315 702 1223  
 Move Cap.: 312 270 702 1223 312 270 702 1223  
 Volume/Cap: 0.01 0.00 0.08 0.14 0.01 0.00 0.08 0.14

Level Of Service Module:  
 2Way5thQ: 6.4 6.5 6.2 4.1 6.4 6.2 4.1 6.4 6.2 4.1 6.4 6.2  
 Control Del: 6.4 6.5 6.2 4.1 6.4 6.2 4.1 6.4 6.2 4.1 6.4 6.2  
 LOS by Move: A A A A A A A A A A A A  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: 654 654 654 654 654 654 654 654  
 Shared Queue: 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3  
 Shrd ConDel: 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1  
 Shared LOS: B B B B B B B B  
 ApproachDel: 11.1 11.1  
 ApproachLOS: B B

Note: Queue reported is the number of cars per lane.

Kittelston & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Background Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 "J" Street/4th Street

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F (XXXX)

Street Name: "J" Street 4th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled  
 Rights: Include Include Include  
 Lanes: 0 0 0 0 0 1 0 1 0 0 0 0 1 0 0 0

Volume Module:  
 Base Vol: 0 0 0 260 1575 160 0 140 45 155 85 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 0 0 0 260 1575 160 0 140 45 155 85 0  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 0 0 0 260 1575 160 0 140 45 155 85 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHF Volume: 0 0 0 274 1658 168 0 147 47 163 84 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 FinalVolume: 0 0 0 274 1658 168 0 147 47 163 84 0

Critical Gap Module:  
 Critical Gap: 4.2 6.4 6.2 4.1 6.4 6.2 4.1 6.4 6.2 4.1 6.4 6.2  
 FollowUpTime: 2.3 3.5 4.0 3.3 2.3 3.5 4.0 3.3 2.3 3.5 4.0 3.3

Capacity Module:  
 Conflict Vol: 0 1597 1597 0 1597 1597 0 1597 1597 0 1597 1597  
 Potent Cap.: 334 334 334 334 334 334 334 334  
 Move Cap.: 31 334 31 334 31 334 31 334  
 Volume/Cap: 0.17 0.47 0.17 0.47 0.17 0.47 0.17 0.47

Level Of Service Module:  
 2Way5thQ: 6.4 6.5 6.2 4.1 6.4 6.2 4.1 6.4 6.2 4.1 6.4 6.2  
 Control Del: 6.4 6.5 6.2 4.1 6.4 6.2 4.1 6.4 6.2 4.1 6.4 6.2  
 LOS by Move: A A A A A A A A A A A A  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: 39 39 39 39 39 39 39 39  
 Shared Queue: 22.6 22.6 22.6 22.6 22.6 22.6 22.6 22.6  
 Shrd ConDel: 1973 1973 1973 1973 1973 1973 1973 1973  
 Shared LOS: F F F F F F F F  
 ApproachDel: 1973.1 1973.1  
 ApproachLOS: F F

Note: Queue reported is the number of cars per lane.

Kittelson & Associates, Inc. - Project #10028  
Madras Elementary School UGB Amendment - Madras, Oregon  
Background Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

\*\*\*\*\*  
Intersection #9 "J" Street/5th Street  
\*\*\*\*\*  
Average Delay (sec/veh): 56.2 Worst Case Level Of Service: E [287.2]

Street Name: "J" Street 5th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 1 0 1 0 0 0 1 0 1 0 0 0 0 1 0

Volume Module:  
Base Vol: 70 1190 65 0 0 0 155 150 0 0 75 110  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 70 1190 65 0 0 0 155 150 0 0 75 110  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 70 1190 65 0 0 0 155 150 0 0 75 110  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 74 1253 68 0 0 0 163 158 0 0 78 116  
Reducer Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Volume: 74 1253 68 0 0 0 163 158 0 0 79 116

Critical Gap Module:  
Critical Gp: 4.2 xxx xxxxxx xxxxxx xxxxxx 7.1 6.5 xxxxxx xxxxxx 6.5 6.2  
FollowUpTim: 2.3 xxx xxxxxx xxxxxx xxxxxx 3.5 4.0 xxxxxx xxxxxx 4.0 3.3

Capacity Module:  
Conflict Vol: 0 xxx xxxxxx xxxxxx xxxxxx 813 1468 xxxxxx xxxxxx 1434 661  
Potential Cap: 1578 xxx xxxxxx xxxxxx xxxxxx 299 129 xxxxxx xxxxxx 135 466  
Move Cap: 1578 xxx xxxxxx xxxxxx xxxxxx 111 122 xxxxxx xxxxxx 128 466  
Volume/Cap: 0.05 xxx xxxxxx xxxxxx xxxxxx 1.48 1.29 xxxxxx xxxxxx 0.62 0.25

Level Of Service Module:  
2Way95thQ: 0.1 xxx xxxxxx xxxxxx xxxxxx 11.8 10.2 xxxxxx xxxxxx xxxxxx  
Control Del: 7.4 xxx xxxxxx xxxxxx xxxxxx 326.7 246 xxxxxx xxxxxx xxxxxx  
LOS by Move: A + + + + + F F + + + +  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap: xxx xxxxxx xxxxxx xxxxxx xxxxxx 225  
Shared Queue: 0.1 xxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx 6.8  
Shrd ConDel: 7.4 xxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx xxxxxx 74.9  
Shared LOS: A + + + + + F F + + + + +  
Approach LOS: xxxxxx 28'.2 14.9 F  
\*\*\*\*\*

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

Traffic 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, PORTLAN:



**Attachment "5"**  
R-2 Residential Density  
Development

**Derivation of Potential Residential Density** (based on provisions within City Ordinance 723)

5 acres \* 43,560 SF/acre = 217,800 SF

217,800 SF – 25% roads, offsets, easements = 163,350 SF Usable

- Assuming 18 units per typical apartment structure

**First two units**

= 10,000 SF (first two units) + (2 units \* 200 SF lawn/unit) + (2 units \* 300 SF parking/unit)

= 11,000 SF

**16 Additional units**

= 16 units \* 200 lawn + 16 units \* 300 parking + 16 units \* 2,000 SF/unit

= 40,000 SF

**18 Unit Apartment Building**

= 11,000 SF + 40,000 SF

= 51,000 SF

**Total Buildings**

= 163,350 / 51,000 = 3 Buildings

- Assuming final building has more than 18 units to utilize remaining land

= 163,350 SF – 51,000 SF/Building \* 3 Buildings

10,350 SF = (x units \* 200 SF lawn/unit + x \* 300 parking/unit + x \* 2,000 SF/unit)

x = 4 units

**Total Residential Units**

= 3 Buildings \* 18 units per building + 4 units

= 58 units multifamily units, or 11.6 units per acre per five acres

**= 232 apartment units on 20 acres or 174 units on 15 acres**

**Attachment "6"**  
Bend-La Pine Trip  
Generation Study



**KITTELSON & ASSOCIATES, INC.**

TRANSPORTATION ENGINEERING / PLANNING

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## MEMORANDUM

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**Date:** October 14, 2008 Project #: 9140  
**To:** John M. Rexford  
Bend-La Pine Schools  
520 NW Wall Street  
Bend, Oregon 97701-2699  
**From:** Joe Bessman, P.E.  
**Subject:** Elementary School Trip Generation Study

---

### **PURPOSE**

The purpose of this memorandum is to summarize measured trip generation rates for elementary schools in Bend during the weekday p.m. peak hour of adjacent street traffic. Standard reference manuals contain trip generation data for elementary schools during the weekday a.m. peak hour (7:00 to 9:00 a.m.) and during the afternoon school peak hour (2:00 to 4:00 p.m.), but no data is available for the evening commute period. This time period is commonly used to assess off-site impacts of schools to the transportation system.

This study identifies elementary school trip generation data during the weekday p.m. peak hour of adjacent street traffic, and was prepared based on surveys of four elementary schools located within Bend. The study methodology and resultant trip generation rates are summarized herein.

### **AVAILABLE ELEMENTARY SCHOOL DATA**

As defined within *Trip Generation, 7<sup>th</sup> Edition*, elementary schools serve grades kindergarten through fifth or sixth grade, are typically centrally located within residential communities to facilitate access, and provide bus service to students within specific geographic boundaries. The ITE land use category for elementary schools includes both public and private elementary schools within the dataset, although data for this study was collected exclusively at public schools.

As identified within the Trip Generation manual, school bus utilization may vary significantly between elementary schools, and may result in varying trip rates between school sites. Potential factors for school bus utilization could include the proximity of bus service, service boundaries, transportation infrastructure, crime, income, or other factors. School bus utilization data was not collected as the purpose of this trip generation study is to identify characteristics specific to the Bend-La Pine School District, and specifically to elementary schools within the City of Bend.

Available data contained within the standard reference materials includes elementary school surveys during the weekday p.m. peak hour of the generator only. This coincides with the end of

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the school day, which typically occurs between 2:00 p.m. and 4:00 p.m. However, the critical off-site transportation analysis period typically coincides with the evening commute period (4:00 to 6:00 p.m.), which does not occur simultaneously with elementary school peak trip generation. No standard data is available within the ITE manual related to elementary school trip characteristics during the weekday evening commute period, when limited after-school activities or staff trips represent the primary uses.

As part of new elementary school projects for the City of Hillsboro School District, trip generation studies were conducted at several locations during the critical weekday p.m. commute period (4:00 to 6:00 p.m.). These studies showed that the schools' trip generation rates during the evening commute period were approximately 30 percent of the peak school trip rates that occurred in the afternoon. Given the unique characteristics of Bend (population, service boundaries, and bus ridership), a trip generation study was conducted to assess trip generation rates applicable to local conditions.

### TRIP GENERATION STUDY

Four school sites were selected for analysis throughout the City of Bend. School sites selected were those that were in operation for at least two years, were centrally located within residential communities, include typical school hours and amenities, contain defined attendance boundaries, and include configurations that would allow the separation of trips from those associated with surrounding uses. The school sites selected for the survey, data collection dates, street address, and year 2008/2009 enrollment data are identified in Table 1. *The attachments include the school attendance boundary map illustrating the location of the elementary schools and the areas served.*

**Table 1**  
**Elementary School Characteristics**

School Name	Data Collection Dates	School Enrollment	Street Address
Pine Ridge Elementary	Tuesday September 16, 2008	540	19840 SW Hollygrape St Bend, Oregon 97702
R E Jewell Elementary	Tuesday September 16, 2008	557	20550 Murphy Rd Bend, Oregon 97702
Juniper Elementary	Tuesday September 16, 2008	509	1300 NE Norton Ave Bend, Oregon 97701
Elk Meadow Elementary	Tuesday September 16, 2008	568	60880 Brookwood Blvd Bend, Oregon 97702

Each of the ingress/egress points at the school sites were videotaped on September 16, 2008, two weeks after the start of school to ensure that school attendance patterns had normalized. It should be noted that many of the schools are situated adjacent to public parks, and trips associated with the ball fields or adjacent parks could not be entirely separated. During the surveys, the weather was sunny with a high temperature of 90 degrees. Accordingly, it is expected that the trip generation studies are conservatively high given the higher usage of the adjacent ball fields than during the majority of the school year. As trips during the evening commute period likely reflect

low levels of student trips to and from the school, the potential impact of weather on student mode choice is not expected to have a significant impact on the measured trip generation rates.

Intersection traffic counts were simultaneously conducted at nearby collector and arterial intersections to identify the time period with peak traffic volumes on the adjacent roadway system. Given the relatively low school volumes, this hour represents the time period when the combination of site-generated traffic and roadway volumes are expected to peak. The peak hour of adjacent street traffic identified in the study typically occurred just prior to the 5:00 to 6:00 p.m. period, with exception of counts collected near Juniper Elementary which identified an earlier peak hour between 4:25 and 5:25 p.m.

### TRIP GENERATION RESULTS

Videotapes collected at the school ingress/egress points were manually reviewed in five-minute increments coinciding with the peak hour of adjacent street traffic. Trip rates on a per-student basis were calculated at each of the four school sites, and a weighted average was applied to generate a local elementary school trip generation rate on a per-student basis. A summary of the trip generation data for each school is provided in Table 2 and Figure 1, and worksheets from the data collection efforts are included in the attachments.

**Table 2**  
**Measured Trip Generation Rates (Weekday PM Peak Hour)**

School Name	Student Enrollment	Weekday PM Peak Hour of Adjacent Street Traffic	Trips Per Student	% Trips In	% Trips Out
Pine Ridge Elementary	540	4:50 to 5:50 p.m.	0.16	40	60
R E Jewell Elementary	557	4:25 to 5:25 p.m.	0.09	68	32
Juniper Elementary	509	4:25 to 5:25 p.m.	0.15	52	48
Elk Meadow Elementary	568	4:55 to 5:55 p.m.	0.12	58	42
Weighted Average Trip Generation Rate			0.13 <sup>1</sup>	55%	45%

<sup>1</sup>The weighted average is calculated by dividing the sum of all trips or trip ends by the sum of all independent variable units (total school trips / total student enrollment).

Based on the resultant trip generation rates, trip generation rates for elementary schools within the Bend La Pine School District were identified as 0.13 trips per student during the weekday p.m. peak hour of adjacent street traffic, with 55 percent of the trips inbound and 45 percent of the trips outbound. This local trip rate is approximately half of the national trip rate of 0.28 trips per student during the weekday peak hour of generator (2:00 to 4:00 p.m. time period).

We trust that the information contain herein adequately summarizes the trip generation characteristics of elementary schools within the City of Bend. Please let us know if you have any questions or need any additional information to review the analysis findings.

Attachments: Traffic count worksheets  
School Attendance Area Map

## Elementary School (520)

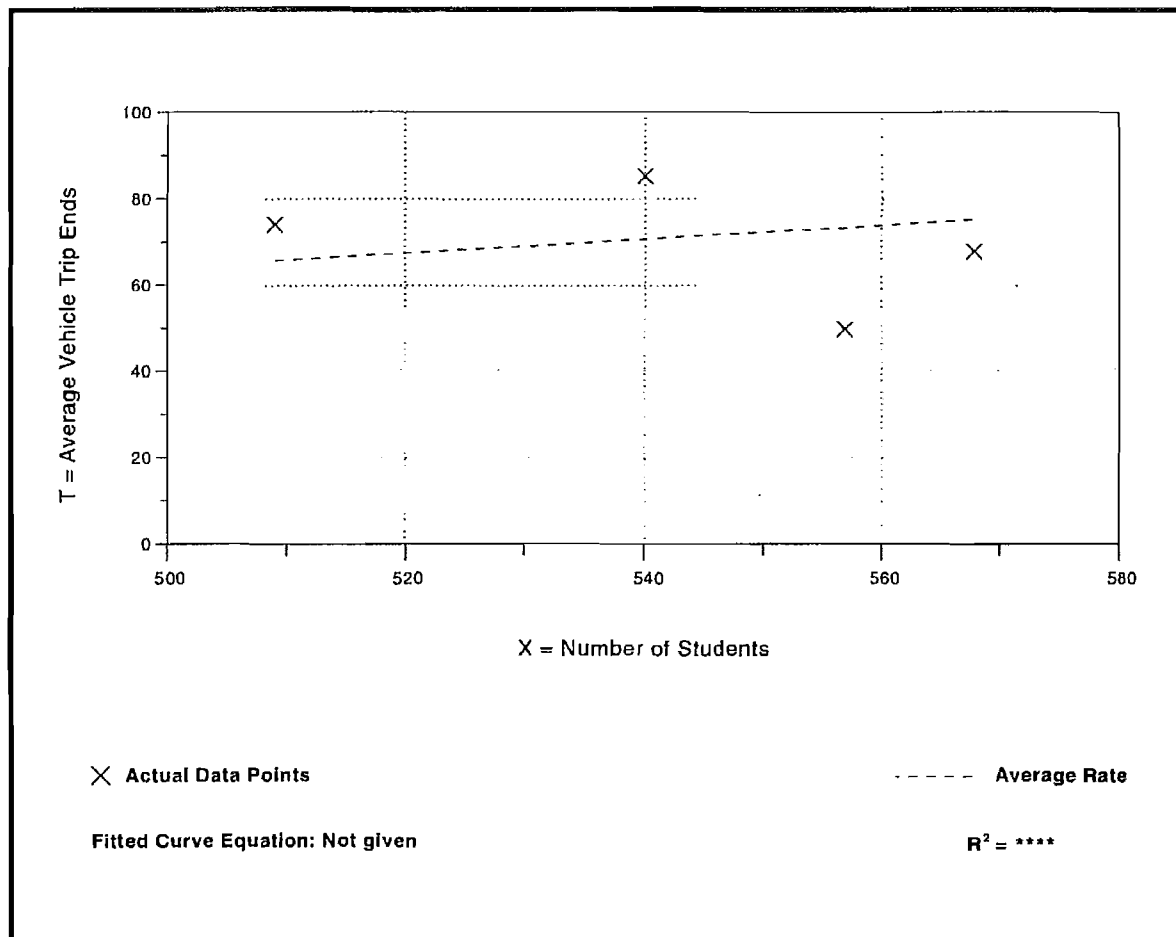
Average Vehicle Trip Ends vs: **Students**  
 On a: **Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**

Number of Studies: 4  
 Average Number of Students: 544  
 Directional Distribution: 55% entering, 45% exiting

### Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.13	0.09 - 0.16	0.03

### Data Plot and Equation







QUALITY COUNTS REPORT

School: Junior Elementary  
 Information: NE 12th St - NE Norman Ave  
 City/State: Bend OR  
 CC-Link: 10382202  
 Date: 9/16/2008  
 Comments:

PEAK HOUR START 4:25 PM  
 PEAK HOUR END 5:35 PM  
 PEAK 15-MIN START 4:55 PM  
 PEAK 15-MIN END 5:10 PM  
 PHF 0.57

PEAK-HOUR VOLUMES NBThru 0 MBRight 0 SBLft 1 SBThru 1 SBRght 0 EBLft 34 EBThru 0 EBRght 0 WBLft 0 WBThru 0 WBRght 0 NBLLeaving 19 NBLLeaving 0 SBLLeaving 0 SBRLeaving 0 EBLLeaving 0 EBRLeaving 0 WBLLeaving 0 WBRLeaving 0 NBLLeaving 0

PERCENT HEAVY VEHICLES NBThru 0 MBRight 0 SBLft 0 SBThru 0 SBRght 0 EBLft 0 EBThru 0 EBRght 0 WBLft 0 WBThru 0 WBRght 0 NBLLeaving 0 SBLLeaving 0 SBRLeaving 0 EBLLeaving 0 EBRLeaving 0 WBLLeaving 0 WBRLeaving 0

PEAK-HOUR VOLUMES - PEDESTRIANS North 0 East 0 West 0

PEAK 15-MIN FLOW-RATES NBThru 0 MBRight 0 SBLft 0 SBThru 0 SBRght 0 EBLft 0 EBThru 0 EBRght 0 WBLft 0 WBThru 0 WBRght 0 NBLLeaving 0 SBLLeaving 0 SBRLeaving 0 EBLLeaving 0 EBRLeaving 0 WBLLeaving 0 WBRLeaving 0  
 All Vehicles 64  
 Heavy Trucks 0  
 Pedestrians 0

ALL-VEHICLE VOLUMES NBThru 0 MBRight 0 SBLft 0 SBThru 0 SBRght 0 EBLft 0 EBThru 0 EBRght 0 WBLft 0 WBThru 0 WBRght 0 NBLLeaving 0 SBLLeaving 0 SBRLeaving 0 EBLLeaving 0 EBRLeaving 0 WBLLeaving 0 WBRLeaving 0  
 Time Period 4:25 PM 4:30 PM 4:35 PM 4:40 PM 4:45 PM 4:50 PM 4:55 PM 5:00 PM 5:05 PM 5:10 PM 5:15 PM 5:20 PM  
 NB Left 0 0 0 0 0 0 0 0 0 0 0 0  
 NB Right 0 0 0 0 0 0 0 0 0 0 0 0  
 SB Left 0 0 0 0 0 0 0 0 0 0 0 0  
 SB Right 0 0 0 0 0 0 0 0 0 0 0 0  
 EB Left 0 0 0 0 0 0 0 0 0 0 0 0  
 EB Right 0 0 0 0 0 0 0 0 0 0 0 0  
 WB Left 0 0 0 0 0 0 0 0 0 0 0 0  
 WB Right 0 0 0 0 0 0 0 0 0 0 0 0  
 Hourly Totals 2 1 1 1 1 1 1 1 1 1 1 1

HEAVY-VEHICLE VOLUMES NBThru 0 MBRight 0 SBLft 0 SBThru 0 SBRght 0 EBLft 0 EBThru 0 EBRght 0 WBLft 0 WBThru 0 WBRght 0 NBLLeaving 0 SBLLeaving 0 SBRLeaving 0 EBLLeaving 0 EBRLeaving 0 WBLLeaving 0 WBRLeaving 0  
 Time Period 4:25 PM 4:30 PM 4:35 PM 4:40 PM 4:45 PM 4:50 PM 4:55 PM 5:00 PM 5:05 PM 5:10 PM 5:15 PM 5:20 PM  
 NB Left 0 0 0 0 0 0 0 0 0 0 0 0  
 NB Right 0 0 0 0 0 0 0 0 0 0 0 0  
 SB Left 0 0 0 0 0 0 0 0 0 0 0 0  
 SB Right 0 0 0 0 0 0 0 0 0 0 0 0  
 EB Left 0 0 0 0 0 0 0 0 0 0 0 0  
 EB Right 0 0 0 0 0 0 0 0 0 0 0 0  
 WB Left 0 0 0 0 0 0 0 0 0 0 0 0  
 WB Right 0 0 0 0 0 0 0 0 0 0 0 0

PEDESTRIAN VOLUMES South East West Total  
 Time Period 4:25 PM 0 0 0 0  
 4:30 PM 0 0 0 0  
 4:35 PM 0 0 0 0  
 4:40 PM 0 0 0 0  
 4:45 PM 0 0 0 0  
 4:50 PM 0 0 0 0  
 4:55 PM 0 0 0 0  
 5:00 PM 0 0 0 0  
 5:05 PM 0 0 0 0  
 5:10 PM 0 0 0 0  
 5:15 PM 0 0 0 0  
 5:20 PM 0 0 0 0













QUALITY CONTROL REPORT

Site: R E J...  
Contract: ...  
Date: ...

TEST START: 4:45 PM  
TEST END: 5:15 PM  
TEST DURATION: 30 MIN

PERCENT RECOVERY: ...

PERCENT RECOVERY: ...

PERCENT RECOVERY: ...

PERCENT RECOVERY: ...

PERCENT RECOVERY: ...

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PERCENT RECOVERY: ...

QUALITY COUNTS REPORT

\*\*\*\*\*

School: R.E. Jewell Elementary  
 Intersection: North Access Dwy - Fulton Blush Ave  
 City/State: Bend OR 97701  
 CC/Job#: 1032702  
 Date: 8/16/2008  
 Comments:

PEAK HOUR START 4:45 PM  
 PEAK HOUR END 5:45 PM  
 PEAK 15-MIN START 5:05 PM  
 PEAK 15-MIN END 5:20 PM  
 PHF 0.6

PEAK-HOUR VOLUMES NBThru 11 NBRight 2 SBThru 0 SBRight 0 EBThru 0 EBRight 0 WBThru 0 WBRight 12 NBLLeaving 17 SBLLeaving 13 WBLLeaving 18

PERCENT HEAVY VEHICLES NBThru 0 NBRight 9.1 SBThru 0 SBRight 0 EBThru 0 EBRight 0 WBThru 0 WBRight 0 NBLLeaving 0 SBLLeaving 0 WBLLeaving 0

PEAK-HOUR VOLUMES - PEDESTrians South 0 East 0 West 0

PEAK 15-MIN FLOWRATES NBThru 0 NBRight 16 SBThru 0 SBRight 0 EBThru 0 EBRight 0 WBThru 0 WBRight 12 NBLLeaving 17 SBLLeaving 13 WBLLeaving 18

ALL-VEHICLE VOLUMES Time Period NBThru NBRight NBLLeaving SBThru SBRight SBLLeaving EBThru EBRight EBLeaving WBThru WBRight WBLLeaving Hourly Totals

HEAVY-VEHICLE VOLUMES Time Period NBThru NBRight NBLLeaving SBThru SBRight SBLLeaving EBThru EBRight EBLeaving WBThru WBRight WBLLeaving Hourly Totals

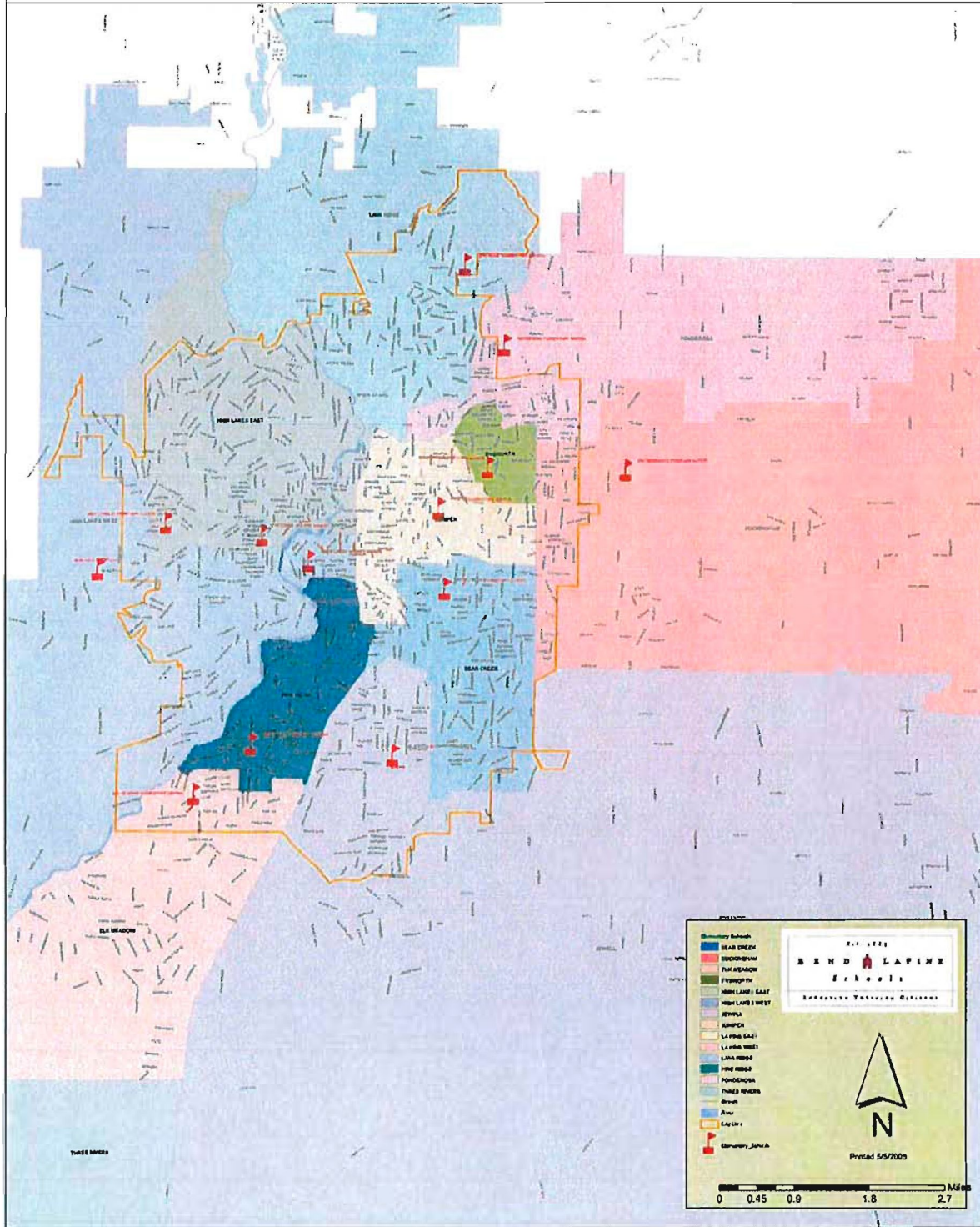
PEDESTRIAN VOLUMES Time Period South East West Total





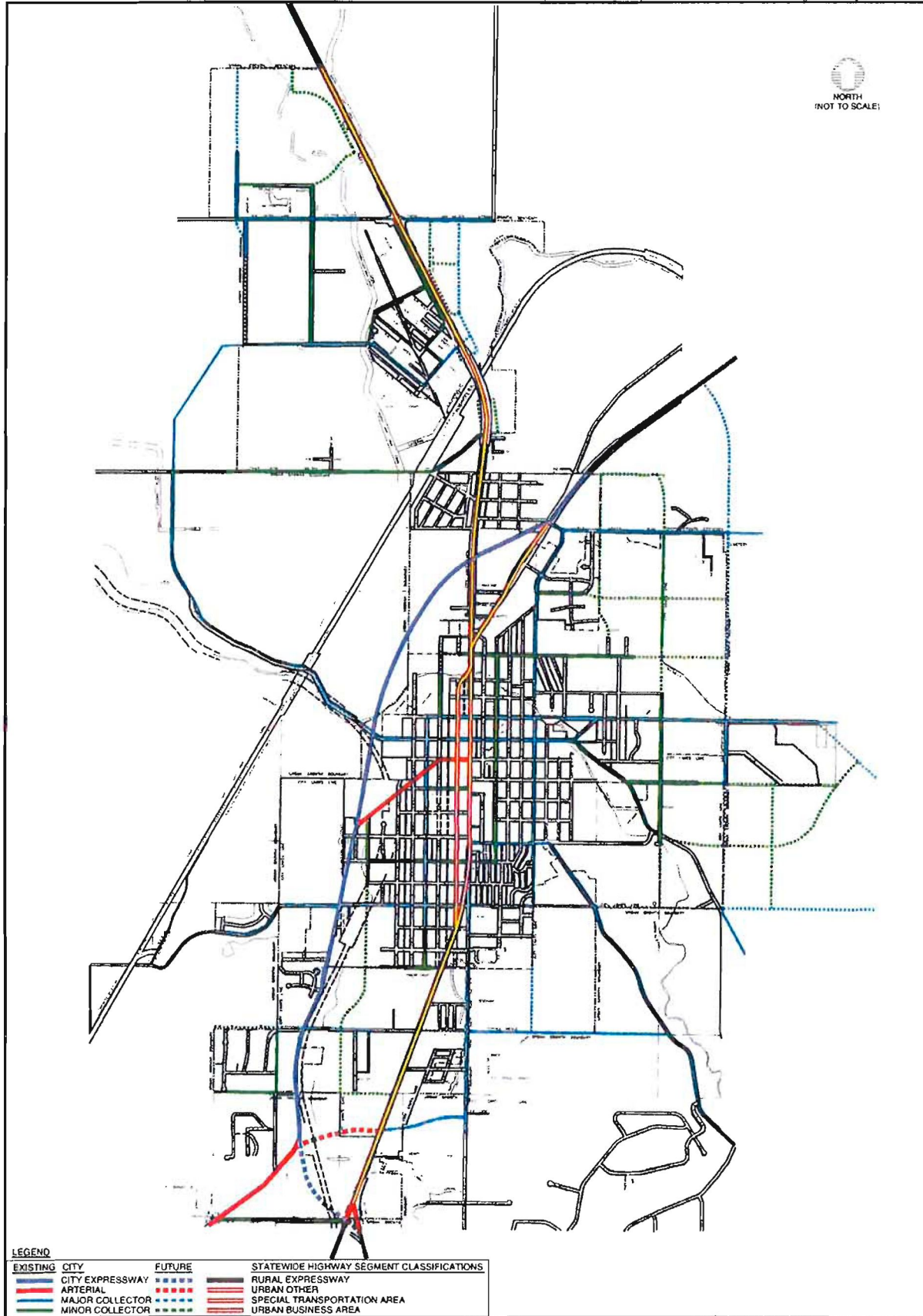


# Bend Area Elementary School Boundaries



**Attachment "7"**  
City of Madras Roadway  
Classification Map





### FUNCTIONAL CLASSIFICATION MAP

**Attachment "8"**  
Project Scoping Letter



**KITTELSON & ASSOCIATES, INC.**

TRANSPORTATION ENGINEERING / PLANNING

354 SW Upper Terrace Drive, Suite 101, Bend, Oregon 97702 ■ 541 312.8300 ■ 541 312 4585

## MEMORANDUM

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**Date:** December 10, 2009 **Project #:** 10028.0  
**To:** Nick Snead, City of Madras  
Jon Skidmore, Jefferson County  
Ana Jovanovic, ODOT Region 4  
**From:** Joe Bessman, Kittelson & Associates, Inc.  
**Cc:** DJ Heffernan, Angelo Planning Group  
**Project:** Madras Elementary School UGB Amendment  
**Subject:** Transportation Planning Rule Scoping

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The purpose of this memorandum is to document transportation analysis scoping to rezone 20 acres of land located in Jefferson County from Range Land (RL) to include this land within the City's Urban Growth Boundary as Multiple Family Residential (R-2) zoning. This scoping was prepared for consistency with the requirements identified within Oregon Administrative Rule (OAR) 660-12-0060 (Transportation Planning Rule, TPR), which contains the applicable criteria for a zone change analysis. The purpose of the TPR analysis is to ensure the transportation system can accommodate the allowable land uses and that any significant affects are mitigated.

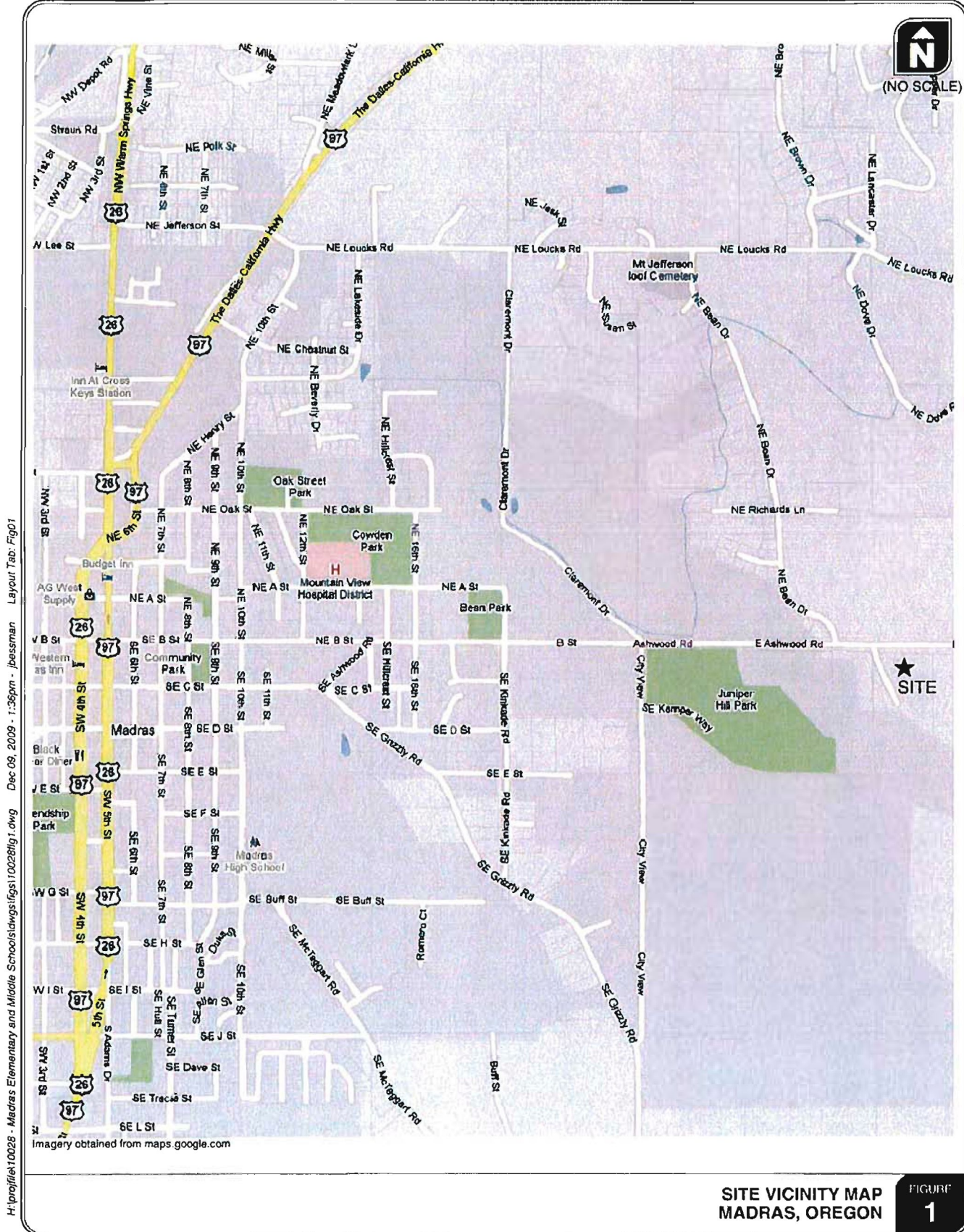
The land included in the rezone is generally located south of Ashwood Road, east of the Jefferson County Middle School, and south of the existing ballfields near Bean Drive. The property is within the Yarrow Master Planned Community and its rezone to accommodate a school is consistent with the approved Yarrow Concept Plan. The location of the property is generally shown in Figure 1, and the identification of the approximately 20-acre future school property on the Yarrow Concept Plan is illustrated in Figure 2. No specific development or entitlements are being pursued as part of this zone change.

Note that while specific parcel boundaries have not yet been identified, the general location of the property south of Ashwood and east of Bean Drive within the future school boundary location shown on the Yarrow Concept Plan provides adequate information to accurately assess the transportation system impacts. Specific definition of the property will be provided as part of the zone change application pending further area refinement with City and County staff.

### **LAND DEVELOPMENT ASSUMPTIONS**

Two reasonable development scenarios were identified to assess the potential transportation impact of rezoning 20-acres from Range Land to Multiple Family Residential Zoning. The two scenarios reflect County and City zoning provisions and are presented below.





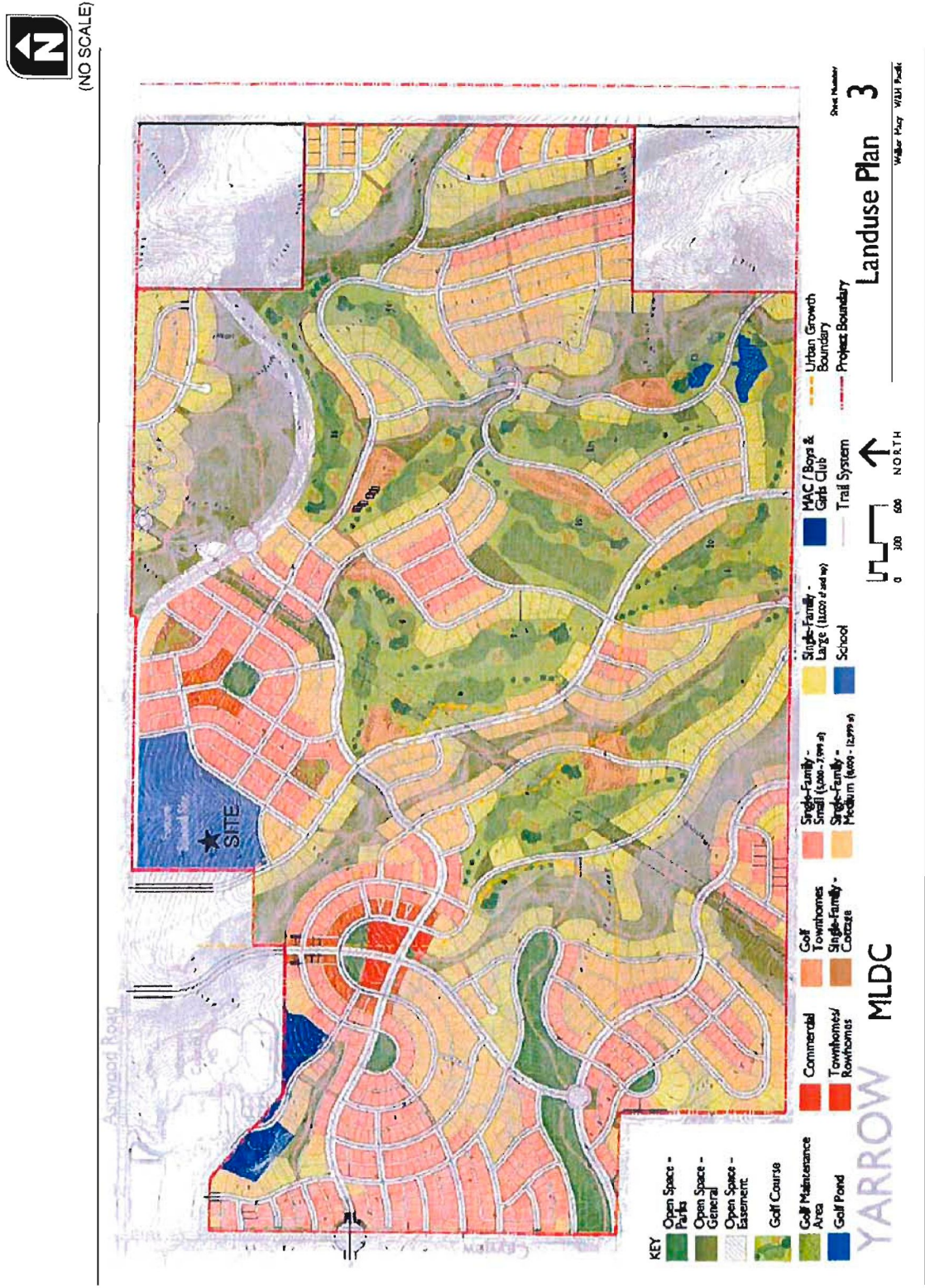
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SITE VICINITY MAP  
MADRAS, OREGON

FIGURE  
1



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YARROW MASTER PLAN  
MADRAS, OREGON

FIGURE  
2

### **Range Land (RL) Development Potential**

The Range Land zoning is one of three designations for Exclusive Farm Use (EFU) lands within Jefferson County. The RL zoning is intended to preserve predominantly non-irrigated agricultural lands for livestock grazing. The RL zoning requires that non-farm residences contain a minimum of 40 acres. A variety of non-residential uses are permitted within the RL zoning, though these uses require more acreage than the 20-acres proposed for the rezone and all are considered low intensity uses. Accordingly, under the existing zoning the trip generation potential is severely limited, and for analysis purposes it was conservatively assumed to be none.

### **Multiple Family Residential (R-2) Development Potential**

The Multiple Family Residential (R-2) zoning category provides for higher-density single-family uses and attached residential uses, to include apartments and townhomes. The R-2 zoning also allows parks and community centers as outright uses. Schools, churches, libraries, and other government buildings are allowed as conditional uses.

The City of Madras zoning provisions, as contained within Ordinance 723, were reviewed to identify density ranges and allowable uses within the R-2 zoning. Conditional uses are typically not considered as part of a zone change analysis. However, as the intent of the rezone is to ultimately allow for a new elementary school, this specific conditional use was reviewed to ensure that a reasonable development scenario considers the impacts of this intended future use.

Review of the City zoning provisions identified the following outright allowable uses:

- Single family residential
- Multi-family residential
- Public park, recreation areas, community centers

Based on the uses shown above, multi-family residential was identified as the most intense outright land use from a trip generation perspective. Review of the required building space, parking allocations, lawn space, and typical road and infrastructure allocations identified a resultant reasonable maximum density of 11.6 attached residential units per acre, or approximately 232 total attached residential units on 20-acres. *Additional details on the development of residential densities are included as an attachment.*

Conversations with the project team identified that a future school would likely comprise five acres of the overall land, with the remainder retained for residential uses. The most likely school type would be an elementary school given the regional needs. A new elementary school could be expected to serve an enrollment of approximately 350 students. This would result in a second potential development scenario that would include 174 attached residential units (11.6 units/acre \* 15 acres = 174 units) and a 350-student elementary school (remaining five acres)..

## TPR ANALYSIS SCOPING

### ***Trip Generation***

Trip generation estimates were prepared for both R-2 zoning scenarios to determine which land use combination resulted in a higher overall trip generation potential during the critical weekday evening commute period (one hour between 4:00 and 6:00 p.m.). Trip generation estimates for each of the scenarios were prepared based on surveys of similar sites. Residential trip generation estimates were prepared based on data contained within the Institute of Transportation Engineer's (ITE's) standard reference *Trip Generation, 8<sup>th</sup> Edition*, using the *Apartment* land use category (Land Use Code 220). Trip generation estimates for the elementary school were prepared using surveys of schools within the City of Bend, which contain slightly lower trip generation rates than national surveys of elementary schools (0.13 trips per student versus 0.15 trips per student) but are expected to better represent local characteristics. *The attachments contain the Bend-La Pine Elementary School Trip Generation study.*

While the location of the elementary school is expected to support the surrounding Yarrow neighborhood, complement the adjacent middle school, and benefit from the adjacent ballfields, additional trip discounts were not applied to the trip rates obtained from the Bend-LaPine school district facilities. Table 1 summarizes the trip generation potential of the two scenarios.

**Table 1 R-2 Development Scenarios Trip Generation Potential**

Land Use	ITE Code	Size	Weekday PM Peak Hour		
			Total	In	Out
Proposed R-2 Zoning: Residential Only Scenario					
Apartments	220	232 Units	145	94	51
Proposed R-2 Zoning: Residential Plus Elementary School Scenario					
Apartments	220	174 Units	113	74	39
Elementary School	N/A	350 Students	46	25	21
Total Trips			159	99	60

\*Trip rate reflects data collected at elementary schools in central Oregon

As shown in Table 1, future development of the 20-acres with an elementary school (comprising five acres) and residential uses (comprising 15 acres) provides a reasonable worst-case development scenario. This scenario was found to generate 14 more weekday p.m. peak hour trips than build-out with residential uses alone.

### ***Trip Distribution and Trip Assignment***

The estimated trip distribution pattern of primary site-generated trips associated with the proposed UGB amendment and rezone was determined through review of existing traffic patterns, the locations of other elementary schools, residential destinations, and review of existing



school attendance boundary maps. The resultant trip distribution patterns were separated by residential and school trips, and are illustrated in Figures 3 and 4. As shown, the pattern highlights that the majority of trips would be headed west toward the City center and US 97 corridor. Trips destined toward US 97 are expected to distribute onto the parallel routes (Loucks, City View, or B Street) based on their ultimate travel destination. Both trip distribution patterns reflect a regional draw as the school trips are primarily associated with faculty and staff during the evening commute period.

The difference between the Range Land zoning trip generation potential (assumed to be none) and the proposed Multiple Family Residential (R-2) zoning trips (shown in Table 1) during the critical weekday p.m. peak hour were assigned to the roadway network based on the trip distribution patterns and routing, as illustrated in Figure 5. Figure 5 includes a sum of the total additional vehicles that could occur at nearby collector and arterial intersections.

### **Study Intersections**

Based on a review of the potential increase in trips with the proposed zoning (as shown in Figure 5), the following five intersections of collector and arterial roadways are proposed for inclusion in the traffic study.

1. Ashwood/Bean Drive (could be impacted by 137 additional weekday p.m. peak hour trips)
2. Ashwood/City View (could be impacted by 119 additional weekday p.m. peak hour trips)
3. B Street/Kinkade Road (could be impacted by 76 additional weekday p.m. peak hour trips)
4. B Street/Ashwood (could be impacted by 66 additional weekday p.m. peak hour trips)
5. B Street/10<sup>th</sup> Street (could be impacted by 55 additional weekday p.m. peak hour trips)

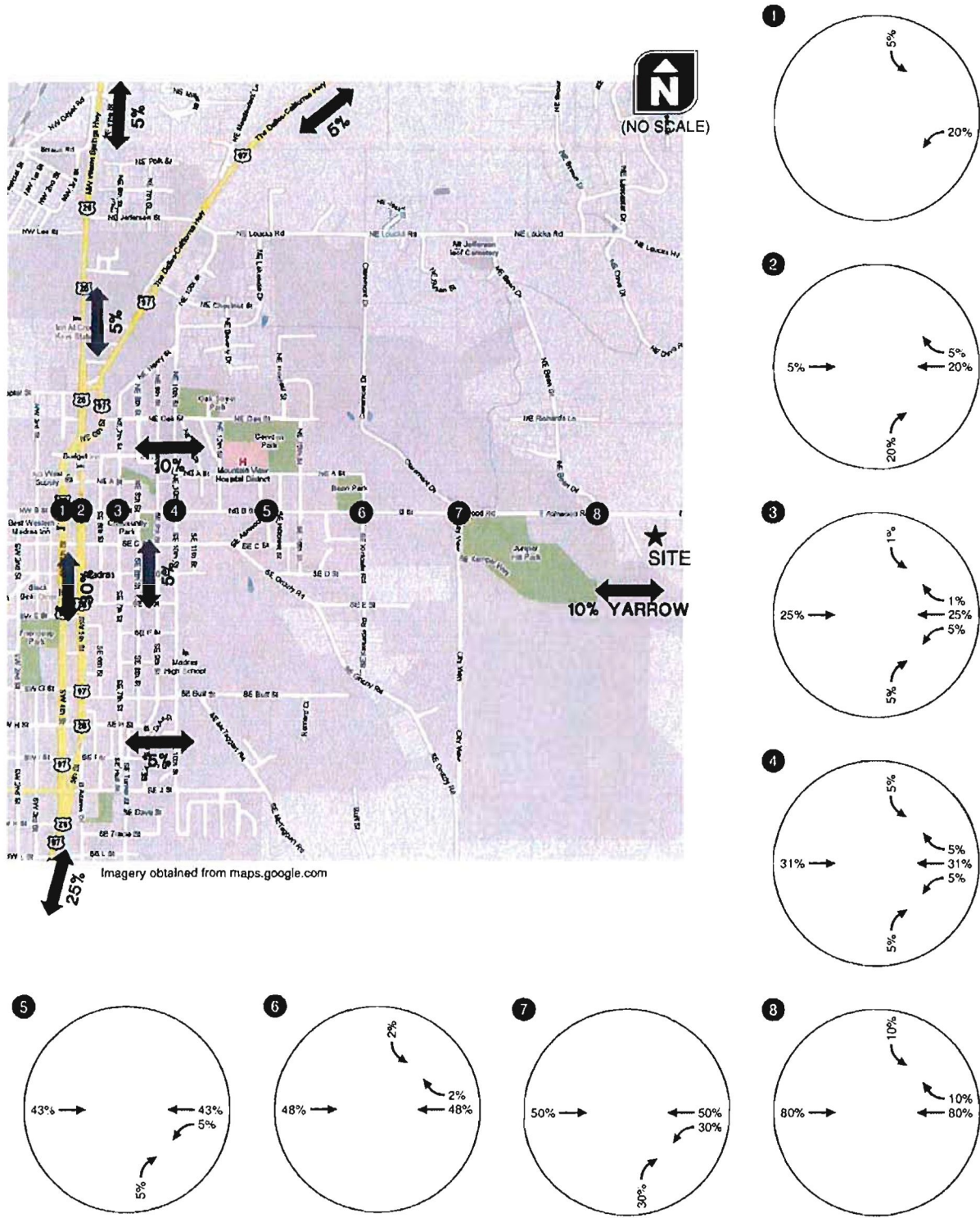
These intersections are those that could experience more than 50 additional weekday p.m. peak hour trips with the rezone/UGB amendment, or those that could experience a significant increase in total volume with the amendment<sup>1</sup>. *The City of Madras roadway classification map is included in the attachments.*

It should be noted that additional assessment of localized queuing and operations during the school peak periods may be required at the time of site plan application/land use entitlements. However, as the purpose of the Transportation Planning Rule is to provide consistency with the adopted Transportation System Plan (TSP), only the weekday p.m. peak hour operations are applicable to the TPR analysis.

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<sup>1</sup> The City of Madras Technical Memorandum #2B contains traffic study guidelines that identify study area intersections as those that experience a 10 percent volume increase as a result of a proposed land use action.

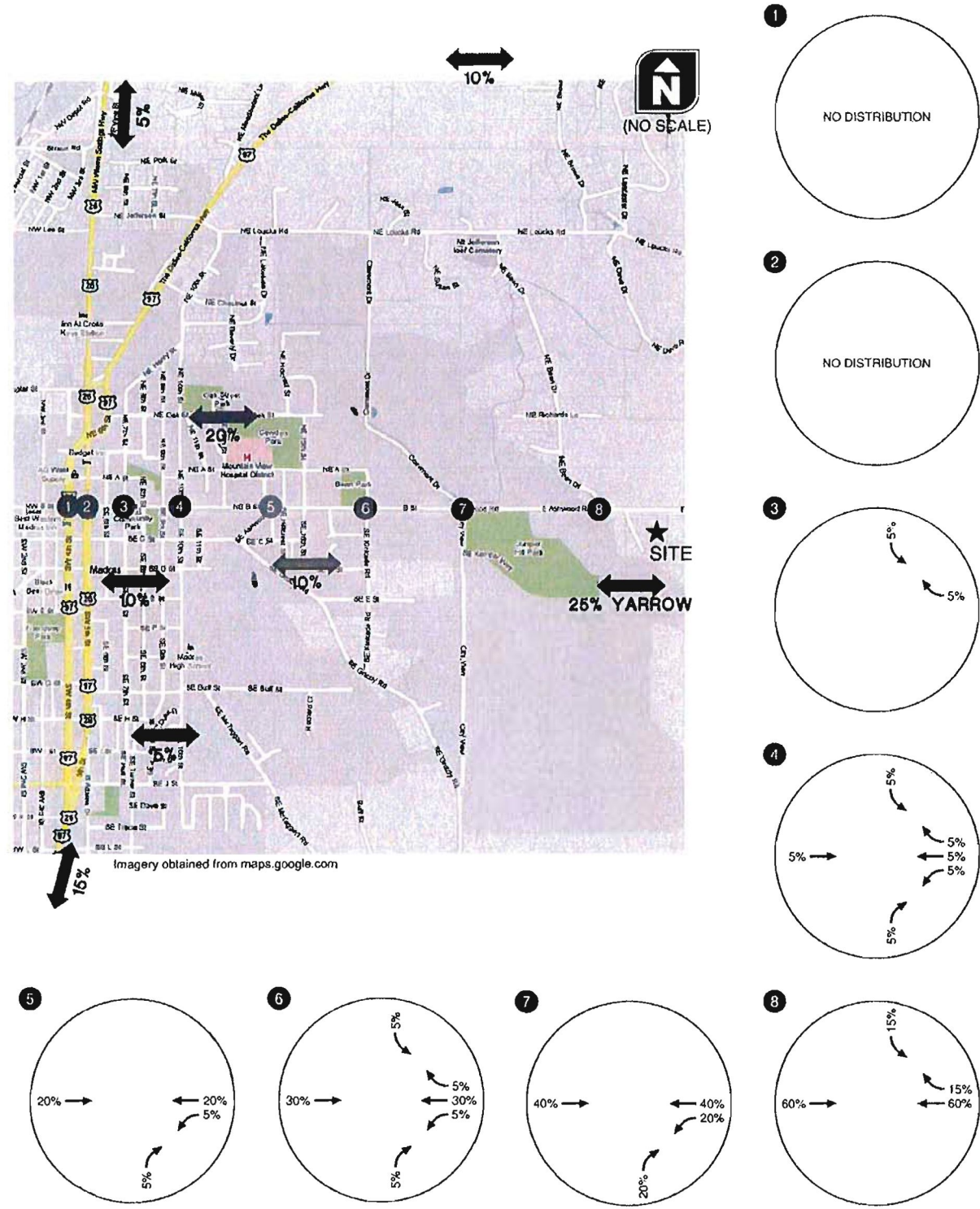
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ESTIMATED RESIDENTIAL TRIP DISTRIBUTION PATTERN  
MADRAS, OREGON

FIGURE  
**3**

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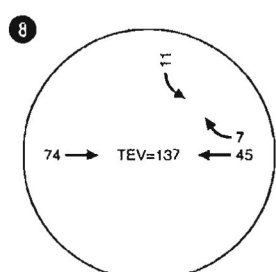
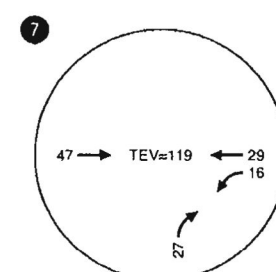
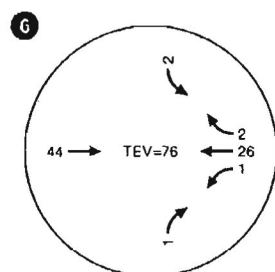
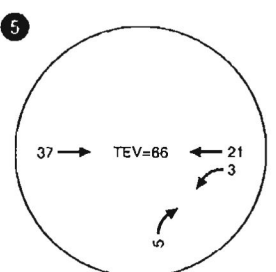
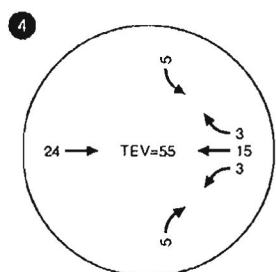
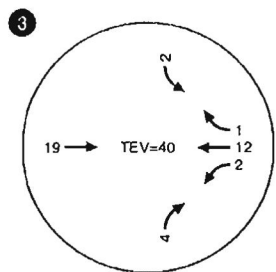
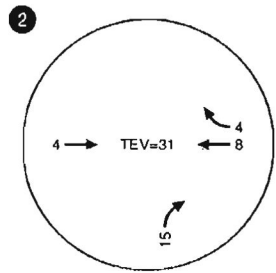
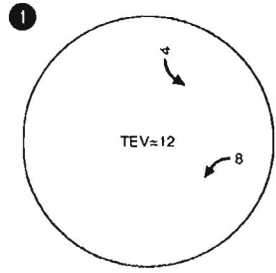
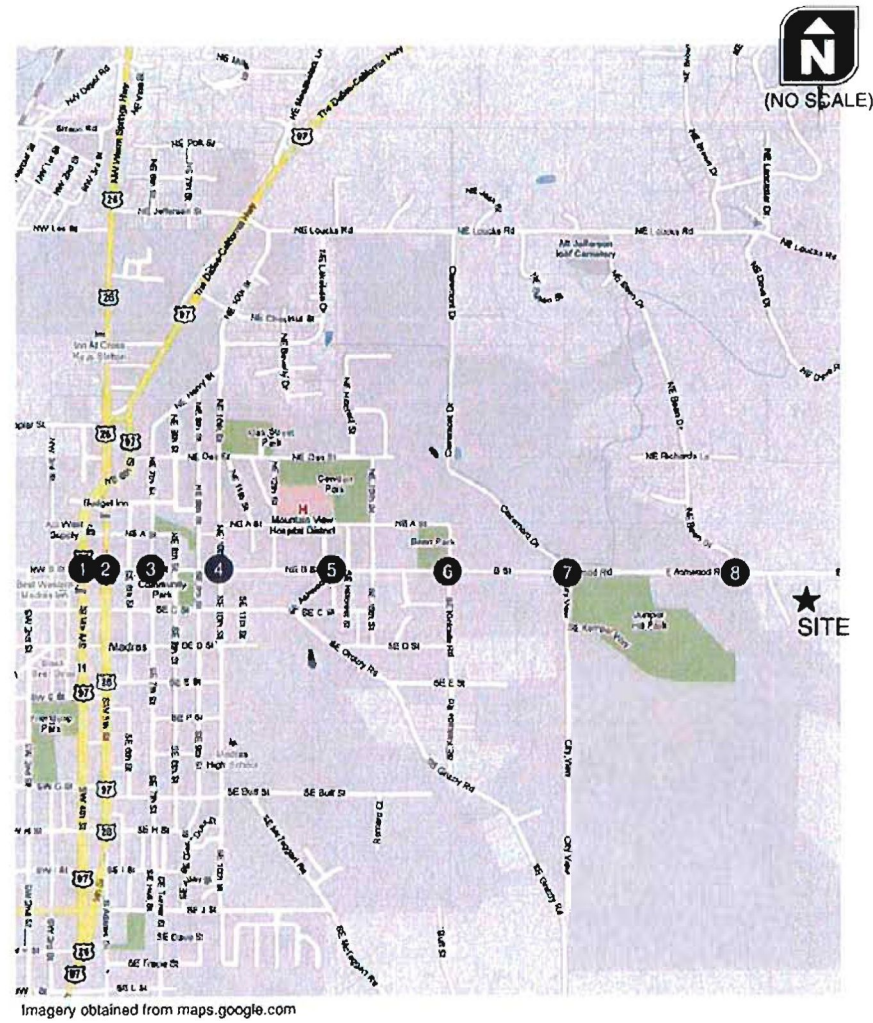


ESTIMATED ELEMENTARY SCHOOL TRIP DISTRIBUTION PATTERN  
MADRAS, OREGON

FIGURE  
4



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TEV=TOTAL ENTERING VOLUME

**TOTAL ADDITIONAL WEEKDAY PM PEAK HOUR TRIP POTENTIAL  
MADRAS, OREGON**

**FIGURE  
5**

Jefferson County traffic study requirements identify that a Level of Service "C" or higher should be maintained at all County intersections. The City of Madras TSP identifies a target Level of Service (LOS) "D" for signalized intersections, LOS "E" for unsignalized intersections (or LOS F with a volume-to-capacity ratio below 0.95).

**Study Periods**

The purpose of the Transportation Planning Rule is to ensure that the proposed zone change will continue to be consistent with the system planning required under OAR 660-12. To assess consistency, the horizon analysis period is selected based on the horizon period of the adopted Transportation System Plan. The Jefferson County TSP considers a horizon year of 2027 and the City's TSP assesses year 2020 conditions. Accordingly, the applicable horizon period will vary throughout the study area based on roadway jurisdiction. All traffic volume forecasts will be obtained from the applicable TSP or based on continued application of the approved growth rates where otherwise unavailable. Table 2 summarizes the study intersections, roadway jurisdiction, applicable performance standards, and horizon analysis year required for compliance with the TPR.<sup>2</sup>

**Table 2 Summary of Intersection Performance Standards**

Intersection	Jurisdiction	Traffic Control <sup>1</sup>	Performance Standard	Horizon Period
Ashwood Road/ Bean Drive	Jefferson County	TWSC	LOS C	Year 2027
Ashwood Road/ City View	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ Kinkade Road	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ Ashwood Road	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ 10 <sup>th</sup> Street	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020

<sup>1</sup>TWSC: Two-way stop-controlled (unsignalized)

**Recent or Upcoming Roadway Improvements**

There are three identified public improvement projects within the vicinity of the property.

- The J Street improvements will include traffic signal upgrades at the US 97 northbound and southbound couplet, realignment of the southern couplet terminus, and roadway widening. The J Street project is identified on the Draft 2010-2013 State Transportation Improvement Program (STIP) and is likely to be funded by the horizon period (note that

<sup>2</sup> Additional discussion on applicable horizon periods can be found within Section 3.2.01 of ODOT's publication *Transportation Planning Rule (TPR) Reviews: Guidelines for Implementing OAR 660-12-0060*, which can be found at the following link: <http://www.oregon.gov/ODOT/TD/TP/docs/TPR/tprGuidelines.pdf>.

while the improvement is likely to occur, a *reasonably likely* determination has not been provided by ODOT).

- The Fairground Road extension is identified as a new east-west route within the City of Madras on the Transportation System Plan. Similarly, the roadway extension is likely to be provided within the planning horizon.
- The City View to J Street connection has been recently completed. This new connection provides convenient and direct access from the proposed lands to US 97.

The recent construction of the City View connection will provide convenient access to the south. The future funding and reasonably likely determinations for the J Street realignment/improvements and the Fairgrounds extension are not critical to the proposed UGB amendment as it will not affect the selection of study intersections, assumed intersection configurations, or result in modifications to the demand-based regional trip distribution patterns included herein. As a result, to be conservative, neither the J Street realignment/improvements nor the Fairgrounds extension will be assumed in the traffic analysis.

#### **NEXT STEPS**

Please provide written comments or concurrence on the proposed analysis scope at your earliest convenience. If you have any questions on these materials please call us at (541) 312-8300.

#### **Attachments**

1. Residential Density Development
2. Bend – La Pine School District Elementary School Trip Generation Study
3. City of Madras Roadway Classification Map

**Attachment "9"**  
Proposed R-2 Zoning  
LOS Worksheets



Kittelton & Associates, Inc. - Project #10028  
 Madras Elementary School DGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Scenario Report

Scenario: PM  
 Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact fee: Default Impact Fee  
 Trip Generation: PM  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: PM

Impact Analysis Report  
 Level Of Service

Intersection	LOS Veh C	Del/V C	LOS Veh C	Del/V C	Future Del/V C	Future LOS Veh C	Change In
# 1 "B" Street/4th Street	C	22.4	0.636	C	22.7	0.647	+ 0.262 D/V
# 2 "B" Street/5th Street	C	20.3	0.581	C	20.6	0.596	+ 0.261 D/V
# 3 "B" Street/10th Street	B	11.8	0.038	B	12.6	0.048	+ 0.843 D/V
# 4 "B" Street/Ashwood	R	17.2	0.084	R	17.8	0.093	+ 0.627 D/V
# 5 "B" Street/Kinkade Road	B	12.8	0.016	B	14.0	0.024	+ 1.206 D/V
# 6 "B" Street/City View	B	11.9	0.088	B	12.9	0.109	+ 0.994 D/V
# 7 "B" Street/Bean Drive	B	11.1	0.143	B	13.8	0.151	+ 2.727 D/V
# 8 "J" Street/4th Street	F	OVFL	4.790	F	OVFL	4.819	-2.0E10292
# 9 "J" Street/5th Street	F	287.2	1.476	F	431.7	2.010	+144.573 D/V

Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 "B" Street/4th Street

Cycle (sec): 100 Critical Vol./Cap. (X): 0.64  
 Loss Time (sec): 8 Average Delay (sec/veh): 22.7  
 Optimal Cycle: 42 Level Of Service: C

Street Name: "B" Street 4th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Split Phase Split Phase Permitted Permitted  
 Rights: Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 YPR: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  
 Lanes: 0 0 0 0 0 1 0 1 0 0 0 0 1 0 0 1 0 0 0

Volume Module:  
 Base Vol: 0 0 0 35 528 69 0 69 35 328 86 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 0 0 0 35 528 69 0 69 35 328 86 0  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Added Traff: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 0 0 0 39 528 69 0 69 35 336 86 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHF Volume: 0 0 0 41 556 73 0 73 37 354 91 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 0 0 0 41 556 73 0 73 37 354 91 0  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Volume: 0 0 0 41 556 73 0 73 37 354 91 0

Saturation Flow Module:  
 Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
 Adjustment: 1.00 1.00 1.00 0.83 0.83 0.83 1.00 0.96 0.96 0.69 0.69 1.00  
 Lanes: 0.00 0.00 0.00 0.12 1.66 0.22 0.00 0.66 0.34 0.80 0.20 0.00  
 Final Sat.: 0 0 0 179 2425 317 0 1109 562 967 248 0

Capacity Analysis Module:  
 Vol/Sat: 0.00 0.00 0.00 0.23 0.23 0.23 0.00 0.07 0.07 0.37 0.37 0.00  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.00 0.00 0.00 0.35 0.35 0.35 0.00 0.57 0.57 0.57 0.57 0.00  
 Volume/Cap: 0.00 0.00 0.00 0.65 0.65 0.65 0.00 0.12 0.12 0.65 0.65 0.00  
 Delay/Veh: 0.0 0.0 0.0 28.5 28.5 28.5 0.0 10.2 10.2 17.0 17.0 0.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 0.0 0.0 0.0 28.5 28.5 28.5 0.0 10.2 10.2 17.0 17.0 0.0  
 LOS by Move: A A A C C C A B B B B A  
 HCM2Kv9Q: 0 0 0 10 10 10 0 2 2 9 9 0

Kittelson & Associates, Inc. - Project #1002  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Note: Queue reported is the number of cars per lane.



Kittelton & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report (HCM2000 Queue Method)  
 2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 "B" Street/4th Street

Approach	North Bound	South Bound	East Bound	West Bound
Movement	L - T - R	L - T - R	L - T - R	L - T - R
Green/Cycle:	0.00 0.00 0.00	0.35 0.35 0.35	0.00 0.57 0.57	0.57 0.57 0.00
ArrivalType:	3	3	3	3
ProgFactor:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Q1:	0.0 0.0 0.0	8.2 8.2 8.2	0.0 1.4 1.4	8.5 8.5 0.0
UpstreamAdj:	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.60 0.60 0.00
UpstreamAdj:	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.77 0.77 0.00
EarlyArrAdj:	0.00 0.00 0.00	1.00 1.00 1.00	0.00 1.00 1.00	0.45 0.45 0.00
Q2:	0.0 0.0 0.0	1.7 1.7 1.7	0.0 0.1 0.1	0.8 0.8 0.0
HCM2KQueue:	0.0 0.0 0.0	9.9 9.9 9.9	0.0 1.5 1.5	9.3 9.3 0.0
70thFactor:	1.20 1.20 1.20	1.18 1.18 1.18	1.20 1.20 1.20	1.16 1.16 1.20
HCM2K70thQ:	0.0 0.0 0.0	11.7 11.7 11.7	0.0 1.8 1.8	10.9 10.9 0.0
85thFactor:	1.60 1.60 1.60	1.52 1.52 1.52	1.60 1.58 1.58	1.52 1.52 1.60
HCM2K85thQ:	0.0 0.0 0.0	15.0 15.0 15.0	0.0 2.4 2.4	14.1 14.1 0.0
90thFactor:	1.80 1.80 1.80	1.64 1.64 1.64	1.80 1.77 1.77	1.65 1.65 1.80
HCM2K90thQ:	0.0 0.0 0.0	16.3 16.3 16.3	0.0 2.7 2.7	15.3 15.3 0.0
95thFactor:	2.10 2.10 2.10	1.85 1.85 1.85	2.10 2.05 2.05	1.86 1.86 2.10
HCM2K95thQ:	0.0 0.0 0.0	18.3 18.3 18.3	0.0 3.2 3.2	17.2 17.2 0.0
98thFactor:	2.70 2.70 2.70	2.17 2.17 2.17	2.70 2.59 2.59	2.19 2.19 2.70
HCM2K98thQ:	0.0 0.0 0.0	21.5 21.5 21.5	0.0 4.0 4.0	20.3 20.3 0.0

Kittelton & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 "B" Street/5th Street

Cycle (sec): 100  
 Loss Time (sec): 8  
 Optimal Cycle: 36  
 Level of Service: C

Street Name: "B" Street

Approach	North Bound	South Bound	East Bound	West Bound
Movement	L - T - R	L - T - R	L - T - R	L - T - R
Green/Cycle:	0.00 0.00 0.00	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0
ArrivalType:	0	0	0	0
ProgFactor:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Q1:	0.0 0.0 0.0	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0
UpstreamAdj:	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
UpstreamAdj:	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
EarlyArrAdj:	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
Q2:	0.0 0.0 0.0	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0
HCM2KQueue:	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0
70thFactor:	1.20 1.20 1.20	1.18 1.18 1.18	1.20 1.20 1.20	1.16 1.16 1.20
HCM2K70thQ:	0.0 0.0 0.0	11.7 11.7 11.7	0.0 1.8 1.8	10.9 10.9 0.0
85thFactor:	1.60 1.60 1.60	1.52 1.52 1.52	1.60 1.58 1.58	1.52 1.52 1.60
HCM2K85thQ:	0.0 0.0 0.0	15.0 15.0 15.0	0.0 2.4 2.4	14.1 14.1 0.0
90thFactor:	1.80 1.80 1.80	1.64 1.64 1.64	1.80 1.77 1.77	1.65 1.65 1.80
HCM2K90thQ:	0.0 0.0 0.0	16.3 16.3 16.3	0.0 2.7 2.7	15.3 15.3 0.0
95thFactor:	2.10 2.10 2.10	1.85 1.85 1.85	2.10 2.05 2.05	1.86 1.86 2.10
HCM2K95thQ:	0.0 0.0 0.0	18.3 18.3 18.3	0.0 3.2 3.2	17.2 17.2 0.0
98thFactor:	2.70 2.70 2.70	2.17 2.17 2.17	2.70 2.59 2.59	2.19 2.19 2.70
HCM2K98thQ:	0.0 0.0 0.0	21.5 21.5 21.5	0.0 4.0 4.0	20.3 20.3 0.0

Volume Module:

Base Vol:	52 385 127	0 0 0	40 56	0 0 362 157
Growth Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00	1.00 1.00 1.00 1.00
Initial Bse:	52 385 127	0 0 0	40 56	0 0 362 157
Added Vol:	0 0 0	0 0 0	0 0 0	0 0 0 0
Added Traff:	0 0 15	0 0 0	0 0 4	0 0 0 0
Initial Adj:	52 385 142	0 0 0	40 62	0 0 370 171
User Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00	1.00 1.00 1.00 1.00
PHF Adj:	0.95 0.95 0.95	0.95 0.95 0.95	0.95 0.95 0.95	0.95 0.95 0.95 0.95
PHF Volume:	55 405 140	0 0 0	42 65	0 0 385 180
Reduced Vol:	0 0 0	0 0 0	0 0 0	0 0 0 0
Reduced Vol:	55 405 149	0 0 0	42 65	0 0 389 186
PCF Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00	1.00 1.00 1.00 1.00
MLF Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00	1.00 1.00 1.00 1.00
Final Volume:	55 405 149	0 0 0	42 65	0 0 389 186

Separation Flow Module:

Sat/Line:	1750 1750 1750	1750 1750 1750	1750 1750 1750	1750 1750 1750
Adj/Segment:	0.84 0.84 0.84	1.00 1.00 1.00	0.75 0.75 1.00	1.00 0.96 0.96
Lanes:	0.18 1.33 0.49	0.00 0.00 0.00	0.39 0.61 0.00	0.00 0.68 0.32
Final Sat:	263 1946 718	0 0 0	517 802	0 0 1145 529

Capacity Analysis Module:

Vol/Sat:	0.21 0.21 0.21	0.00 0.00 0.00	0.08 0.08	0.00 0.00 0.34 0.34
Crit Moves:	****			
Green/Cycle:	0.35 0.35 0.35	0.00 0.00 0.00	0.57 0.57 0.00	0.00 0.57 0.57
Volume/Cap:	0.60 0.60 0.60	0.00 0.00 0.00	0.14 0.14 0.00	0.00 0.60 0.60
Delay/Veh:	27.7 27.7 27.7	0.0 0.0 0.0	10.1 10.1 0.0	0.0 11.0 15.0
User Delay:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
AdjDel/Veh:	27.7 27.7 27.7	0.0 0.0 0.0	10.1 10.1 0.0	0.0 11.0 15.0
LOS by Move:	C C C	A A A	B B B	A B B
HCM2KRAVGQ:	9 9 9	0 0 0	1 1 1	0 0 12 12



Kittelton & Associates, Inc. - Project #10028  
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Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report (Permitted Left Turn Sat Adj)

2000 HCM Operations Method  
Future Volume Alternative  
Intersection #2 "B" Street/5th Street  
Approach: North South East West  
Cycle Length, C: 100  
Actual Green Time Per Lane Group, G: 57.06  
Effective Green Time Per Lane Group, g: 57.06  
Opposing Effective Green Time, go: 57.06  
Number Of Opposing Lanes, No: 1  
Number Of Lanes In Lane Group, N: 1  
Adjusted Left-Turn Flow Rate, Vlt: 42  
Proportion of Left Turns in Lane Group, Plt: 0.39  
Proportion of Left Turns in Opp Flow, Plto: 0.00  
Left Turns Per Cycle, LTC: 1.17  
Adjusted Opposing Flow Rate, Vo: 569  
Opposing Flow Per Lane Per Cycle, Volc: 15.81  
Opposing Platoon Ratio, Rpo: 1.00  
Lost Time Per Phase, tl: 4.00  
Eff grn until arrival of left-turn car, gf: 18.09  
Opposing Queue Ratio, qro: 0.43  
Eff grn blocked by opposing queue, qg: 12.52  
Eff grn while left turns filter thru, gu: 38.97  
Max opposing cars arriving during qg-gf, n: 0.00  
Proportion of Opposing Thru & RT cars, ptho: 1.00  
Left-turn Saturation Factor, fs: 0.00  
Proportion of Left Turns in Shared Lane, pl: 2.44  
Through-car Equivalents, eli: 1.00  
Single Lane Through-car Equivalents, el2: 1.00  
Minimum Left Turn Adjustment Factor, fmin: 0.05  
Single Lane Left Turn Adjustment Factor, fm: 0.75  
Left Turn Adjustment Factor, flt: 0.75

Kittelton & Associates, Inc. - Project #10028  
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Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report (HCM2000 Queue Method)

2000 HCM Operations Method  
Future Volume Alternative  
Intersection #2 "B" Street/5th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Green/Cycle: 0.35 0.35 0.35 0.00 0.00 0.00 0.57 0.57 0.00 0.00 0.57 0.57  
ArrivalType: 3 3 3 3 3 3 3 3  
ProgFactor: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Q1: 7.3 7.3 7.3 0.0 0.0 0.0 1.4 1.4 0.0 0.0 0.0 0.0  
UpstreamVC: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00  
UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00  
EarlyStartAdj: 1.00 1.00 1.00 0.00 0.00 0.00 0.62 0.62 0.00 0.00 0.00 0.00  
Q2: 1.4 1.4 1.4 0.0 0.0 0.0 0.1 0.1 0.0 0.0 0.0 0.0  
HCMQueue: 8.7 8.7 8.7 0.0 0.0 0.0 1.5 1.5 0.0 0.0 0.0 0.0  
70thPctFact: 1.18 1.18 1.18 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20  
HCM2k95thQ: 10.3 10.3 10.3 0.0 0.0 0.0 1.6 1.6 0.0 0.0 0.0 0.0  
85thPctFact: 1.52 1.52 1.52 1.60 1.60 1.60 1.59 1.59 1.60 1.60 1.60 1.60  
HCM2k85thQ: 13.3 13.3 13.3 0.0 0.0 0.0 2.4 2.4 0.0 0.0 0.0 0.0  
90thPctFact: 1.66 1.66 1.66 1.80 1.80 1.80 1.77 1.77 1.80 1.80 1.80 1.80  
HCM2k90thQ: 14.5 14.5 14.5 0.0 0.0 0.0 2.7 2.7 0.0 0.0 0.0 0.0  
95thPctFact: 1.87 1.87 1.87 2.10 2.10 2.10 2.05 2.05 2.10 2.10 2.10 2.10  
HCM2k95thQ: 16.3 16.3 16.3 0.0 0.0 0.0 3.1 3.1 0.0 0.0 0.0 0.0  
98thPctFact: 2.21 2.21 2.21 2.70 2.70 2.70 2.59 2.59 2.70 2.70 2.70 2.70  
HCM2k98thQ: 19.3 19.3 19.3 0.0 0.0 0.0 3.9 3.9 0.0 0.0 0.0 0.0

Kittelton & Associates, Inc. - Project #10028  
Madras Elementary School UGB Amendment - Madras, Oregon  
Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report  
2000 HCM Unsignalized Method  
Future Volume Alternative

Intersection #3 "B" Street/10th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
RevVeh: 0% 0% 0% 0%  
Grade: 0% 0% 0% 0%  
Pedestrian Walk Speed: 4.00 feet/sec  
LaneWidth: 12 feet 12 feet 12 feet 12 feet  
Time Period: 0.25 hour

Upstream Signals:  
Link Index: #5  
Dist(miles): 0.000  
Speed (mph): 0.00  
SignalIndex: #2  
Cycle Time: 0  
InitVolume: 0  
Saturation: 0  
ArrivalType: 0  
G/C: 0.90 0.00  
\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
P: 0.000 0.000  
gq1: 0.00 0.00  
gq2: 0.00 0.00  
gq3: 0.00 0.00  
\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
alpha: 0.000 0.000  
beta: 0.000  
ta (secs): 0.000  
P: 0.000 0.000  
f: 0.000 0.000  
vmax: 0 0  
vcu: 0 0  
vmin: 0 0  
tp: 0.0 0.0

\*\*\* Computation 3: Platoon Event Periods  
0.000/0.000/Unconstrained  
\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period  
InstchVol: 760 762 254 774 770 443 0  
ACFTVol: 760 762 254 774 770 443 0  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
ConflictVol: 760 762 254 774 770 443 0  
\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 6: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 7: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 8: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 9: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 10: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 11: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 12: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 13: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 14: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 15: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 16: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 17: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 18: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 19: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

Kittelton & Associates, Inc. - Project #10028  
Madras Elementary School UGB Amendment - Madras, Oregon  
Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 "B" Street/10th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
RevVeh: 0% 0% 0% 0%  
Grade: 0% 0% 0% 0%  
Pedestrian Walk Speed: 4.00 feet/sec  
LaneWidth: 12 feet 12 feet 12 feet 12 feet  
Time Period: 0.25 hour

Upstream Signals:  
Link Index: #5  
Dist(miles): 0.000  
Speed (mph): 0.00  
SignalIndex: #2  
Cycle Time: 0  
InitVolume: 0  
Saturation: 0  
ArrivalType: 0  
G/C: 0.90 0.00  
\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
P: 0.000 0.000  
gq1: 0.00 0.00  
gq2: 0.00 0.00  
gq3: 0.00 0.00  
\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
alpha: 0.000 0.000  
beta: 0.000  
ta (secs): 0.000  
P: 0.000 0.000  
f: 0.000 0.000  
vmax: 0 0  
vcu: 0 0  
vmin: 0 0  
tp: 0.0 0.0

\*\*\* Computation 3: Platoon Event Periods  
0.000/0.000/Unconstrained  
\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period  
InstchVol: 760 762 254 774 770 443 0  
ACFTVol: 760 762 254 774 770 443 0  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
ConflictVol: 760 762 254 774 770 443 0  
\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 6: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 7: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 8: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 9: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 10: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 11: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 12: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 13: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 14: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 15: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 16: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 17: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 18: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636

\*\*\* Computation 19: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 325 337 790 318 333 619 1636  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap.: 325 337 790 318 333 619 1636



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Level of Service Detailed Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 "B" Street/Ashwood  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Grade: 0% 0% 0% 0%  
Pedestrian Walk Speed: 4.00 feet/sec  
Lane Width: 12 feet  
Time Period: 0.25 hour  
Upstream Signals: #5  
Link Index: 0.000  
Dist/Inlet: 0.00  
Speed (mph): 0.00  
Signal Index: #2  
Cycle Time: 0  
Init Volume: 0  
Saturation: 0  
Arrival Type: C  
G/C: 0.00 0.00  
\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
P: 0.00 0.00  
qq1: 0.00 0.00  
qq2: 0.00 0.00  
qq: 0.00 0.00  
\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoon  
alpha: 0.000  
beta: 0.000  
gamma (sers): 0.000  
P: 0.000 0.000  
F: 0.000 0.000  
vmax: 0  
vcy: 0  
tpr: 0.0 0.0  
p: 0.000  
\*\*\* Computation 3: Platoon Event Periods  
pdem/psubo: 0.000/0.000/Unobstructed  
\*\*\* Computation 4: Conflicting Flows During Each Unlocked Period  
InletVol: 660 253 677 679 292 0  
AdjInletVol: 660 253 677 679 292 0  
UpstreamAdj: 1.00 1.000 1.000 1.000 1.000 1.00  
ConflictVol: 660 253 677 679 292 0  
\*\*\* Computation 5: Capacity for Subject Movement During Unlocked Period  
InletPotCap: 431 386 791 369 376 752 1636  
UpstreamAdj: 1.00 1.000 1.000 1.000 1.000 1.00  
Potent Cap: 431 386 791 369 376 752 1636

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Level of Service Detailed Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 "B" Street/Ashwood  
Average Delay (sec/veh): 2.0 Worst Case Level of Service: B (1.8)  
Street Name: "B" Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0  
Volume Module:  
Base Vol: 33 0 24 0 0 0 0 0 162 32 46 227 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Sse: 33 0 24 0 0 0 0 0 162 32 46 227 0  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  
Added Traff: 0 0 5 0 0 0 0 0 37 0 3 21 0  
Initial Fut: 33 0 29 0 0 0 0 0 199 32 49 248 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
PHF Volume: 39 0 34 0 0 0 0 0 234 38 58 292 0  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  
Final Volume: 39 0 34 0 0 0 0 0 234 38 58 292 0

Critical Gap Module:  
Critical Gp: 6.4 6.5 6.2  
FollowUpPrim: 3.5 4.0 3.3  
Capacity Module:  
Conflict Vol: 660 253  
Potent Cap: 431 386 791  
Move Cap: 416 368 791  
Volume/Cap: 0.09 0.00 0.04  
Level of Service Module:  
2Way5thQ: Pxxx  
Control Del: xxxxx  
LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap: xxx 534 xxx  
Shared Queue: xxx 0.5 xxx  
Shrd Condel: xxx 12.8 xxx  
Shared LOS: B  
ApproachDel: 12.8  
ApproachLOS: B  
Note: Queue reported is the number of cars per lane.



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Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 "B" Street/City View  
Average Delay (sec/veh): 2.8 Worst Case Level of Service: B 12.9j

Street Name: "B" Street City View  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 1 1 0 0 0 0 0 0 0 0 1 0 1 0 1 0 1 0 0

Volume Module:  
Base Vol: 33 0 46 0 0 0 0 170 18 56 240 0  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bas: 33 0 46 0 0 0 0 170 18 56 240 0  
Added Vol: 0  
Added Traff: 0 0 27 0 0 0 0 47 0 16 29 0  
Initial Fut: 33 0 73 0 0 0 0 217 18 72 269 0  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
PHF Volume: 39 0 86 0 0 0 0 255 21 85 316 0  
Reduct Vol: 0  
Final Volume: 39 0 86 0 0 0 0 255 21 85 316 0

Critical Gap Module:  
Critical Gp: 6.4 6.5 6.2 XXXXX XXXX XXXXX XXXXX XXXXX XXXXX 4.1 XXXX XXXXX  
FollowUpTim: 3.5 4.0 3.3 XXXXX XXXX XXXXX XXXXX XXXX XXXX XXXX 2.2 XXXX XXXXX  
Capacity Module:  
Conflict Vol: 741 741 255 XXXX XXXX XXXXX XXXX XXXX XXXXX 174 XXXX XXXXX  
Potent Cap: 346 346 788 XXXX XXXX XXXXX XXXX XXXX XXXXX 1294 XXXX XXXXX  
Move Cap: 367 324 788 XXXX XXXX XXXXX XXXX XXXX XXXXX 1294 XXXX XXXXX  
Volume/Cap: 0.11 0.00 0.11 XXXX XXXX XXXXX XXXX XXXX XXXXX 0.07 XXXX XXXXX

Level of Service Module:  
ZWay5Chq: XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX 0.2 XXXX XXXXX  
Control Del: XXXXX XXXX XXXXX XXXXX XXXX XXXXX XXXX XXXX XXXXX 8.0 XXXX XXXXX  
LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap: XXXX 581 XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXXX  
Shared Queue: XXXXX 0.8 XXXXX XXXXX XXXX XXXXX XXXXX XXXX XXXX XXXXX XXXX XXXX  
Shrd ConDel: XXXXX 12.9 XXXXX XXXXX XXXX XXXXX XXXXX XXXX XXXX XXXXX XXXX XXXX  
Shared LOS: B B XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
ApproachDel: 12.9 XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
ApproachLOS: XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX  
Note: Queue reported is the number of cars per lane.

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Level of Service Detailed Computation Report  
2000 HCM Unsignalized Method  
Future Volume Alternative

Intersection #6 "B" Street/City View  
Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R  
NewVol: 0% 0% 0% 0%  
Grade: 0% 0% 0% 0%  
Pedestrian Walk Speed: 4.00 feet/sec  
Lane Width: 12 feet 12 feet 12 feet 12 feet  
Time Period: 0.25 hour

Upstream Signals:  
Link Index: #5  
Dist (miles): 0.000  
Speed (mph): 0.00  
Signal Index: #2  
Cycle Time: 0  
Init Volume: 0 0  
Saturation: 0 0  
Arrival Type: 0 0  
G/C: 0.00 0.00  
P: 0.000 0.000  
991: 0.00 0.00  
992: 0.00 0.00  
993: 0.00 0.00

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection:  
alpha: 0.000  
beta: 0.000  
Ca (secs): 0.000  
F: 0.000  
vmax: 0  
vco: 0  
vmin: 0  
tp: 0.0 0.0  
p: 0.000

\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
alpha: 0.000  
beta: 0.000  
Ca (secs): 0.000  
F: 0.000  
vmax: 0  
vco: 0  
vmin: 0  
tp: 0.0 0.0  
p: 0.000

\*\*\* Computation 3: Platoon Event Periods  
pdom/subob: 0.000/0.000/Unconstrained

\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period  
InitCapVol: 741 741 255 795 762 316 0 XXXXX XXXXX 276 XXXXX XXXXX  
AdjCapVol: 741 741 255 795 762 316 0 XXXXX XXXXX 276 XXXXX XXXXX  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
ConflictVol: 741 741 255 795 762 316 0 XXXXX XXXXX 276 XXXXX XXXXX

\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 386 346 788 308 337 729 1636 XXXXX XXXXX 1298 XXXXX XXXXX  
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Potent Cap: 386 346 788 308 337 729 1636 XXXXX XXXXX 1298 XXXXX XXXXX

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Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 "B" Street/Bean Drive  
 Worst Case Level Of Service: B (13.8)

Average Delay (sec/veh): 2.9

Street Name: "B" Street

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include Include  
 Lanes: 0 0 0 0 0 1 0 0 1 0 1 0 0 0 0 1 0

Volume Module:

Base Vol:	0	0	0	0	48	149	99	0	0	293	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	48	149	99	0	0	293	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0
Added Traff:	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	48	149	173	0	0	338	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
PHF Volume:	0	0	0	0	56	175	204	0	0	398	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0
Final Volume:	0	0	0	0	56	175	204	0	0	398	11

Critical Gap Module:  
 Critical Gap: 4.1 5.5 5.2 4.1  
 Followup: 3.5 4.0 3.3 2.2

Capacity Module:  
 Conflict Vol: 403 957 403 403  
 Potent Cap: 288 260 652 1161  
 Move Cap: 255 220 652 1161  
 Volume/Cap: 0.06 0.00 0.06 0.15

Level Of Service Module:  
 2Way/5thQ: 5.5 5.5 5.5 5.5  
 Control Del: 5.5 5.5 5.5 5.5  
 LOS by Move: A A A A

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap: 482 482 482 482  
 Shared Queue: 0.0 0.0 0.0 0.0  
 Shrd ConDel: 13.8 13.8 13.8 13.8  
 Shared LOS: B B B B  
 Approach Del: 3.8 3.8 3.8 3.8  
 Approach LOS: B B B B

Note: Queue reported is the number of cars per lane.

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Level Of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Future Volume Alternative

Intersection #7 "B" Street/Bean Drive

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

HevVol: 0% 0% 0% 0%  
 Grade: 0% 0% 0% 0%  
 Peds/Hour: 0 0 0 0  
 Pedestrian Walk Speed: 4.00 feet/sec  
 LaneWidth: 12 feet 12 feet 12 feet 12 feet  
 Time Period: 0.25 hour

Upstream Signals:

Link Index:	#5
Dist(miles):	0.000
Speed (mph):	0.00
SignalIndex:	#2
Cycle Time:	0 secs
InitVolume:	0 0 0 0
Saturation:	0 0 0 0
ArrivalType:	0 0 0 0
G/C:	0.00 0.00

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection

P:	0.000 0.000
gq1:	0.00 0.00
gq2:	0.00 0.00
gq:	0.00 0.00

\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons

alpha:	0.000
beta:	0.000
ta (secs):	0.000
F:	0.000 0.000
f:	0.000 0.000
vcrmax:	0 0
vcrmin:	0 0
tp:	0.0 0.0
P:	0.000 0.000

\*\*\* Computation 3: Platoon Event Periods

pdw/psubo:	0.000/0.000/Unconstrained
InitCflVol:	985 962 204 957 957 403 408 xxxxx xxxxx 0 xxxxx xxxxx
AdCflVol:	985 962 204 957 957 403 408 xxxxx xxxxx 0 xxxxx xxxxx
UpstreamAdj:	1.00 1.000 1.00 1.000 1.000 1.000 1.000 1.000 1.00 1.000 1.00 1.000
ConflictVol:	985 962 204 957 957 403 408 xxxxx xxxxx 0 xxxxx xxxxx
InitPotCap:	229 258 842 288 260 652 1161 xxxxx xxxxx 1636 xxxxx xxxxx
UpstreamAdj:	1.00 1.000 1.00 1.000 1.000 1.000 1.000 1.000 1.00 1.000 1.00 1.000
Potent Cap:	229 258 842 288 260 652 1161 xxxxx xxxxx 1636 xxxxx xxxxx





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 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

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Impact Analysis Report  
 Level Of Service

Scenario Report

Scenario: PM  
 Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact Fee: Default Impact Fee  
 Trip Generation: PM  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: PM

Scenario: PM  
 Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact Fee: Default Impact Fee  
 Trip Generation: PM  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: PM

Intersection  
 # 8 "J" Street/4th Street - Mitiga B 14.4 0.741 R 15.1 0.757 + 0.765 D/V  
 # 9 "J" Street/5th Street - Mitiga B 16.7 0.669 S 17.1 0.689 + 0.370 D/V

Intersection  
 # 8 "J" Street/4th Street - Mitiga B 14.4 0.741 R 15.1 0.757 + 0.765 D/V  
 # 9 "J" Street/5th Street - Mitiga B 16.7 0.669 S 17.1 0.689 + 0.370 D/V



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Level of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)  
 Intersection #8 "J" Street/4th Street - Mitigated  
 Cycle (sec): 100 Critical Vol./Cap.(X): 0.757  
 Loss Time (sec): 8 Average Delay (sec/veh): 15.1  
 Optimal Cycle: 57 Level of Service: B

Street Name:	"J" Street		4th Street	
	North Bound	South Bound	East Bound	West Bound
Approach:	L - T - R	L - T - R	L - T - R	L - T - R
Movement:	0 0 0	0 0 0	0 0 0	0 0 0
Control:	Split Phase	Split Phase	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Y+R:	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0
Lanes:	0 0 0	1 0 2	0 1 0	1 0 1

Volume Module:  
 Base Vol: 0 0 0 260 1575 160 0 140 45 155 85 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 0 0 0 260 1575 160 0 140 45 155 85 0  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Added Traff: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 0 0 0 260 1583 160 0 140 45 168 95 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHF Volume: 0 0 0 274 1666 168 0 147 47 177 89 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 0 0 0 274 1666 168 0 147 47 177 89 0  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Volume: 0 0 0 274 1666 168 0 147 47 177 89 0

Saturation Flow Module:  
 Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
 Adjustment: 1.00 1.00 1.00 0.80 0.90 0.80 1.00 0.92 0.92 0.61 1.00 1.00  
 Lanes: 0.00 0.00 0.00 1.00 2.00 1.00 0.00 1.51 0.49 1.00 1.00 0.00  
 Final Sat.: 0 0 0 1403 3135 1403 0 2426 780 1075 1750 0

Capacity Analysis Module:  
 Vol/Sat: 0.00 0.00 0.00 0.20 0.53 0.12 0.00 0.06 0.06 0.16 0.05 0.00  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.00 0.00 0.00 0.70 0.70 0.70 0.00 0.22 0.22 0.22 0.22 0.00  
 Volume/Cap: 0.00 0.00 0.00 0.28 0.76 0.17 0.00 0.28 0.28 0.76 0.24 0.00  
 Delay/Veh: 0.0 0.0 0.0 5.7 11.0 5.1 0.0 32.8 32.8 49.9 32.6 0.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 0.0 0.0 0.0 5.7 11.0 5.1 0.0 32.8 32.8 49.9 32.6 0.0  
 LOS by Move: A A A A B A A A C D C A  
 HCM2AvgQ: 0 0 0 3 17 2 0 3 3 5 2 0

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Level of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)  
 Intersection #8 "J" Street/4th Street - Mitigated  
 Queue reported is the number of cars per lane.



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Level Of Service Detailed Computation Report (HCM2000 Queue Method)  
2000 HCM Operations Method  
Future Volume Alternative

Intersection #8 "J" Street/4th Street - Mitigated

Table with columns for North Bound, South Bound, East Bound, West Bound movements (L, T, R) and various performance metrics like Green/Cycle, ArrivalType, ProgFactor, Q1, UpstreamVC, UpstreamAdj, EarlyArrAdj, HCM2KQueue, HCM2KFactor, HCM2K70thQ, HCM2K90thQ, HCM2K85thQ, HCM2K95thQ, HCM2K98thQ.

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Level Of Service Computation Report  
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 "J" Street/5th Street - Mitigated

Table with columns for North Bound, South Bound, East Bound, West Bound movements (L, T, R) and various performance metrics like Cycle (sec), Loss Time (sec), Optimal Cycle, Street Name, Approach, Movement, Control, Rights, Y+R, Lanes, Volume Module, Base Vol, Growth Adj, Initial Base, Added Vol, Added Traff, Initial Fut, User Adj, PBF Adj, PBF Volume, Reduct Vol, Reduced Vol, PCE Adj, M/F Adj, Final Volume.

Saturation Flow Module:

Table with columns for Sat/Lane, Adjustment, Lanes, Final Sat, Capacity Analysis Module, Vol/Sat, Crit Moves, Green/Cycle, Volume/Cap, Delay/Veh, User Del Adj, Ad Del/Veh, LOS by Move, HCM2KAVGQ.



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Level of Service Detailed Computation Report (Permitted Left Turn Sat Adj)  
 2000 HCM Operations Method  
 Future Volume Alternative

Intersection #9 "J" Street/5th Street - Mitigated

Approach:	North Bound		South Bound		East Bound		West Bound	
	L	T	R	L	T	R	L	T
Movement:	0.69	0.69	0.69	0.00	0.00	0.00	0.22	0.23
Green/Cycle:	0.69	0.69	0.69	0.00	0.00	0.00	0.22	0.23
ArrivalType:	3	3	3	3	3	3	3	3
Proportion:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Q1:	12.3	12.3	12.3	0.0	0.0	0.0	4.2	3.7
UpstreamVC:	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.28
UpstreamAdj:	0.00	0.00	0.00	0.00	0.00	0.00	0.97	0.97
EarlyArrAdj:	1.00	1.00	1.00	0.00	0.00	0.00	0.30	0.41
Q2:	2.1	2.1	2.1	0.0	0.0	0.0	0.6	0.3
HCMQueue:	14.4	14.4	14.4	0.0	0.0	0.0	4.8	4.0
70thFactor:	1.17	1.17	1.17	1.20	1.20	1.20	1.19	1.19
HCMk70thQ:	16.8	16.8	16.8	0.0	0.0	0.0	5.7	4.8
85thFactor:	1.49	1.49	1.49	1.60	1.60	1.60	1.56	1.56
HCMk85thQ:	21.4	21.4	21.4	0.0	0.0	0.0	7.4	6.3
90thFactor:	1.59	1.59	1.59	1.80	1.80	1.80	1.71	1.73
HCMk90thQ:	23.0	23.0	23.0	0.0	0.0	0.0	8.2	6.9
95thFactor:	1.77	1.77	1.77	2.10	2.10	2.10	1.96	1.98
HCMk95thQ:	25.5	25.5	25.5	0.0	0.0	0.0	9.4	7.9
98thFactor:	2.03	2.03	2.03	2.70	2.70	2.70	2.39	2.43
HCMk98thQ:	29.2	29.2	29.2	0.0	0.0	0.0	11.4	9.7

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Level of Service Detailed Computation Report (Permitted Left Turn Sat Adj)  
 2000 HCM Operations Method  
 Future Volume Alternative

Intersection #9 "J" Street/5th Street - Mitigated

Approach:	North		South		East		West	
	L	T	R	L	T	R	L	T
Cycle Length, C:	100	100	100	100	100	100	100	100
Actual Green Time Per Lane Group, G:	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55
Effective Green Time Per Lane Group, g:	22.55	22.55	22.55	22.55	22.55	22.55	22.55	22.55
Opposing Effective Green Time, go:	2	2	2	2	2	2	2	2
Number Of Opposing Lanes, No:	1	1	1	1	1	1	1	1
Number Of Lanes In Lane Group, N:	163	163	163	163	163	163	163	163
Adjusted Left-Turn Flow Rate, Vlt:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of Left Turns in Lane Group, Plt:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Proportion of Left Turns in Opp Flow, Plto:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Left Turns Per Cycle, LTC:	4.53	4.53	4.53	4.53	4.53	4.53	4.53	4.53
Adjusted Opposing Flow Rate, Vo:	208	208	208	208	208	208	208	208
Opposing Flow Per Lane Per Cycle, Volc:	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89
Opposing Platoon Ratio, Rpo:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lost Time Per Phase, tl:	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Eff grn until arrival of left-turn car, gf:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Opposing Queue Ratio, gro:	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Eff grn while left turns filter thru, gu:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Max opposing cars arriving during gg-gf, n:	21.80	21.80	21.80	21.80	21.80	21.80	21.80	21.80
Proportion of Opposing Thru & RT cars, ptho:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Left-turn Saturation Factor, fs:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Proportion of Left Turns in Shared Lane, pl:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Through-car Equivalents, e1l:	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.61
Single Lane Through-car Equivalents, e12:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx
Minimum Left Turn Adjustment Factor, fmin:	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
Single Lane Left Turn Adjustment Factor, fm:	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Left Turn Adjustment Factor, flt:	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60

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**Appendix G: ODOT Letter Regarding Reasonably Likely  
Determination for US 97/J Street Improvements**



Oregon  
Ted Kulongoski, Governor

Department of Transportation  
Robert W. Bryant  
Region 4 Manager  
63055 N. Hwy 97  
Bend, OR 97701  
(541) 388-6180  
FAX: (541) 388-6231

FILE CODE:

February 2, 2010

Nick Snead  
Community Development Director  
71 SE "D" St  
Madras, OR 97740

**Subject: Madras UGB Expansion TPR Analysis; Reasonably Likely Determination**

Dear Mr. Snead,

The Oregon Department of Transportation (ODOT) appreciates the opportunity to review and comment on the transportation study prepared for Madras UGB Expansion and related TPR Analysis. We received this study from Kittelson and Associates on January 22, 2010. Our planning staff also reviewed the City's plan amendment application and DLCD's recent response.

As part of the UGB expansion, the City of Madras is considering a 20-acre rezone of Range Land to R-2 Residential uses, including a new elementary school. The proposed amendment is located at the outskirts of town, near the intersection of Ashwood Road and Bean Drive. Neither roads are state facilities; however, the traffic study concluded that the proposed rezone has a significant effect on the US97/"J" Street intersections (degraded operation with incremental trips within the planning horizon). This is an important state facility where ODOT and the City are planning significant improvements in the near future.

On January 21, 2010, pursuant to OAR 660-012-0060(4)(b), the City has written ODOT requesting a determination as to whether planned state highway improvements at US97/ "J" Street are not only included in the City's TSP, but also:

- Funded for construction in the Statewide Transportation Improvement Program (STIP);
- Part of a regional transportation system plan; or
- If neither of the above, the planned improvements are reasonably likely to be provided by the end of the TSP planning period.

ODOT offers the following comments in response:

1. US97 is a Statewide level highway facility and a freight route.
2. The City of Madras completed a TSP Amendment in 2005 to address the anticipated failure of the US 97/"J" Street intersections.
3. A preferred concept was identified by the City and ODOT as shown on the project website [http://ci.madras.or.us/public\\_works/pw\\_hwy97southY.shtml](http://ci.madras.or.us/public_works/pw_hwy97southY.shtml). The concept includes cost estimates, right-of-way needs, and a double-line sketch of the preferred roadway alignment.



Mr. Nick Snead  
February 2, 2010  
Page 2 of 2

4. Funding for the construction of the US97/"J" Street improvements is included in the Draft 2010-2013 STIP, which is expected to be approved in October 2010. The "J" Street improvements are not on the current 2008-11 STIP list. At this time, there is a gap between funding identified in the Draft STIP and cost estimates submitted by the project team. However, the City has been collecting transportation System Development Charges slated specifically for US97/"J" Street improvements.

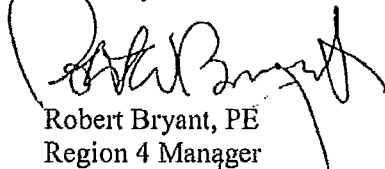
Based on ODOT's review of the circumstances associated with future improvements to US97/"J" Street intersections, it is our opinion that the necessary improvements are reasonably likely to occur by the end of the planning period. ODOT has reached this conclusion based on the following factors:

1. The planned improvements are listed on the Draft 2010-2013 STIP and will likely be approved.
2. The planned improvements are located on a statewide freight route, an important facility that will likely receive future funding.
3. The City of Madras has land use regulations that allow the City to impose conditions on future development if such conditions are needed to avoid or remedy a significant effect. These include ordinances enabling transportation System Development Charges for US97/"J" Street improvements and City approval of the proposed intersection redesign.
4. ODOT has a positive working relationship with the City of Madras and collaboratively funded other projects in the area. We are confident that the City, ODOT and other partners will be able to fund the needed US97/"J" Street improvements.

This reasonably likely determination does not constitute a commitment on the part of ODOT to fund the planned improvements at US97/"J" Street. Further, this written statement applies only to the subject property and only to this specific proposed amendment. It does not apply to any future amendments that may rely upon the same project. Instead, future proposed amendments will require a new written statement from ODOT. (see <http://www.oregon.gov/ODOT/TD/TP/docs/TPR/tprGuidelines.pdf>, Section 3.2.09)

ODOT appreciates the opportunity to provide you with this written statement. If you have any questions, or need more information, please contact Ana Jovanovic, ODOT Region 4 Planning office, at (541) 388-6046 or email [ana.jovanovic@odot.state.or.us](mailto:ana.jovanovic@odot.state.or.us).

Sincerely,



Robert Bryant, PE  
Region 4 Manager

cc via e-mail: Mark Radabaugh, DLCD; Joe Bessman, Kittelson & Assoc, Inc.; DJ Heffernan, Angelo Planning Group; Jon Skidmore, Jefferson County Planning Director; Matt Garrett, ODOT Director; Jerri Bohard, ODOT TDD Manager; Pat Creedican, ODOT District 10 Manager

**Nick Snead**

**From:** JOVANOVIC Ana [Ana.JOVANOVIC@odot.state.or.us]  
**Sent:** Thursday, February 04, 2010 4:34 PM  
**To:** Nick Snead  
**Cc:** RADABAUGH Mark; Joe Bessman; DJ Heffernan; Jon Skidmore  
**Subject:** RE: Madras UGB expansion & TRP Analysis

-->

Nick,

Here is ODOT's Reasonably Likely Determination letter for Madras UGB Expansion and TRP Analysis. Please contact me if you have any questions.

Thank you,

Ana

Ana Jovanovic  
ODOT Region 4 Program and Planning  
541 388.6046  
ana.jovanovic@odot.state.or.us

**From:** Nick Snead [mailto:nsnead@ci.madras.or.us]  
**Sent:** Monday, February 01, 2010 8:49 AM  
**To:** JOVANOVIC Ana  
**Subject:** Madras UGB expansion & TRP Analysis

Ana,

Good morning! I hope you had a good weekend as well. I am writing to determine the status of ODOT's review of our TPR study submitted by Kittleson & Associates related to the 37 acre UGB expansion proposal. Can you give me an update?

*"There are no short cuts to any place worth going"*

-Beverly Sills-

Nicholas S. Snead

2/5/2010

Community Development Director

City of Madras

(541) 475-3388

Email: [nsnead@ci.madras.or.us](mailto:nsnead@ci.madras.or.us)

Visit the City of Madras at <http://ci.madras.or.us/>

2/5/2010

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**Appendix H: Urban Growth Area Management  
Agreement (UGAMA) (April 2006)**

## **Urban Growth Area Management Agreement For the City of Madras**

This agreement is entered into by the City of Madras, an incorporated municipality in the State of Oregon, hereby referred to as the "City" and Jefferson County, a political subdivision of the State of Oregon, hereby referred to as the "County".

### **RECITALS**

WHEREAS, the City of Madras and Jefferson County are authorized pursuant to Oregon Revised Statutes (ORS) Chapter 190 to enter into an Intergovernmental Management Agreement for performance of functions which either governmental unit has the authority to perform; and

WHEREAS, this Management Agreement also constitutes a cooperative agreement under ORS Chapter 195; and

WHEREAS, Goal 14 [Urbanization] requires that the City and the County establish an urban growth boundary to identify and separate urbanizable land from rural and that the establishment and change of urban growth boundaries shall be through a cooperative process between the City and County; and

WHEREAS, pursuant to provisions in Goal 2 [Land Use Planning], the City and County are required to have coordinated and consistent comprehensive plans which establish an Urban Growth Boundary (UGB) and a plan for the Urban Growth Area (UGA) within the boundary; and,

WHEREAS, the City and County share a common concern regarding the accommodation of population growth and utilization of lands within the UGB; and

WHEREAS, the City and County consider it mutually advantageous to establish this Urban Growth Area Management Agreement (UGAMA) for the purpose of facilitating the orderly transition from rural to urban land uses and to enable the City to plan for and provide urban services such as sewer, water and street facilities in a timely, orderly and cost effective manner consistent with the City's Comprehensive Plan;

NOW, THEREFORE THE CITY OF MADRAS AND JEFFERSON COUNTY MUTUALLY AGREE AS FOLLOWS:

#### **1. INTENT OF AGREEMENT**

- 1.1. To establish standards and procedures for review and action on proposed land use actions and related matters noted within this agreement pertaining to lands within the UGA;
- 1.2. To transfer authority and jurisdiction over current planning activities, land use decisions, provision of urban services and code enforcement within the UGA from the County to the City;

- 1.3. To benefit the public through reduction of governmental processes; and,
- 1.4. To establish procedures for City and County consideration of expansions to the UGA.

## **2. DEFINITIONS**

For the purpose of this agreement, the following definitions shall apply:

- 2.1. Board: the Jefferson County Board of Commissioners.
- 2.2. City: the City of Madras.
- 2.3. Council: the Madras City Council.
- 2.4. County: Jefferson County.
- 2.5. Land Use Decision: A final decision or determination concerning the adoption, amendment or application of statewide planning goals, a comprehensive plan provision or a land use regulation.
- 2.6. Public Facilities Plan: A document or documents describing the water, sewer and transportation facilities which are to support the land uses designated in the appropriate acknowledged comprehensive plans.
- 2.7. Urban Growth Area (UGA): The area between the Madras City Limits and the Madras Urban Growth Boundary, as designated on the City's and the County's Comprehensive Plan Maps.
- 2.8. Urban Growth Boundary (UGB): The boundary line which separates lands to be urbanized and eventually incorporated into the City of Madras from the surrounding rural lands under the County's jurisdiction.
- 2.9. Urban Growth Area Management Agreement (UGAMA): This Intergovernmental Agreement between the City and County that coordinates the management of land use and development within the City of Madras UGA.
- 2.10. Urbanizable Lands: Lands inside the Urban Growth Area that are designated for future urban development when public facilities and services can be provided by the City.

## **3. URBANIZATION PROCESS**

- 3.1 The UGA shall be managed to maintain the potential for future urban development until such time as the land is annexed into the City and is converted to urban land.
- 3.2. Conversion of urbanizable land to urban development can occur when public facilities and services are available and adequate to serve urban levels of development, or the land

is annexed into the City and zoned for urban development.

- 3.3. Rural levels of development within the UGA shall be sited in such a way as to not interfere with urban levels of development and services when conversion from urbanizable land to urban lands occurs.
- 3.4. Extension of City services within the UGA may be permitted when approved by the City. Establishment or extension of sewer systems outside the UGB is prohibited except to mitigate a public health hazard in accordance with the provisions of OAR 660-011-0060.

#### **4. UGA ADMINISTRATION RESPONSIBILITIES**

- 4.1. The City shall have responsibility for administration and decision making authority regarding all land use applications within the UGA except applications for amendments to the UGB, as provided in Section 6.
- 4.2. The City shall have responsibility for annexation of lands in the UGA. Lands outside the UGA shall not be annexed unless the UGB is also amended to include the territory to be annexed.

#### **5. PROCESS FOR LAND USE APPLICATIONS WITHIN THE UGA**

- 5.1. Land Use applications shall be processed through the City Community Development Department.
- 5.2. Notice of all land use applications within the UGA shall be sent to the County Community Development Department and to any other affected County agencies and other applicable special service districts for review and comment prior to any decision by the City. Such agencies or districts shall be given ten business days in which to provide comments on the application.
- 5.3. In making its decision, the City shall consider all comments received under § 5.2.
- 5.4. The County, any agency or special service district that provides comments on the application shall be mailed a copy of the land use decision and shall have standing to appeal the City's decision.

#### **6. PROCESS FOR URBAN GROWTH BOUNDARY AMENDMENTS**

- 6.1. Amendments to the UGB, including amendments to the City's and County's comprehensive plan maps, may be initiated by the City, the County, or a property owner(s).
- 6.2. An application to amend the UGB shall be filed with the City Community Development Department along with the applicable City and County plan amendment fees. The City shall forward a copy of the application to the County Community Development Department, together with the County's plan amendment fee, within five working days of



the date the application is filed.

- 6.3. The City and County Planning Commissions shall each conduct a public hearing regarding the application. At their discretion, the Planning Commissions may hold a joint hearing rather than separate hearings.
- 6.4. The recommendation of the City and County Planning Commissions shall be forwarded to the City Council, who shall hold a public hearing to consider the proposed amendment to the UGB. The decision of the City Council shall be forwarded to the County Board of Commissioners.
- 6.5. The Board of Commissioners shall conduct a public hearing and make a final decision on whether the UGB should be amended.
- 6.6. If the City and County disagree on the proposed amendments, a joint meeting of the City Council and Board of County Commissioners may be held to attempt to resolve the differences. Both jurisdictions may also request a dispute resolution process to resolve the differences.
- 6.7. If the governing bodies are not able to come to mutual agreement there shall be no change to the UGB.

## **7. OTHER LAND USE ACTIVITIES**

- 7.1. The City and County agree to mutually review any proposed action on public improvement projects and similar programs, projects or proposals that apply to the UGA.
- 7.2. The City shall be responsible for public facilities planning within the UGA. The City shall coordinate with any affected County agency in the development of a public facilities plan for the UGA.
- 7.3. The County shall be responsible for administering the state Building Code and issuing building permits for all construction within the UGA, until such time as the City has its own state-approved building code program.

## **8. ROADS**

- 8.1. Public rights-of-way within the UGA shall be accepted by the City upon annexation of adjacent lands.
- 8.2. The City shall accept jurisdiction over County roads within the UGA that have a pavement condition index (PCI) of 70 or above. If the PCI is below 70, the County may structurally overlay the road to raise the PCI above 70, at which time the City shall accept jurisdiction over the road. Nothing contained in this subsection shall restrict the City from accepting jurisdiction over a road or public right-of-way within the UGA that does not meet such minimum standards.

- 8.3 When a parcel in the UGA is initially partitioned or subdivided and creation of a street is required, development shall proceed initially with streets to City road standards
- 8.4 Streets in subdivisions and PUDs shall be developed to the City's improvement standards
- 8.5 All unpaved county roads, excluding public usage roads, within the UGA shall be graded biannually by the County until the City has accepted jurisdiction over the road.

**9. FEES**

- 9.1 Applications for land use permits, including all land use appeals within the UGA, shall be accompanied by a fee set by the City.
- 9.2 Applications for UGB Amendments shall be accompanied by fees set by the County in addition to any City fees.
- 9.3 System Development Charges for lands within the UGA will be collected by the County, prior to the issuance of building permits.

**10. ENFORCEMENT**

The City shall be responsible for enforcement of land use regulations within the UGA.

**11. AMENDMENT AND TERMINATION**

- 11.1 This agreement may be amended at any time by mutual agreement of both parties, after public hearing and adoption by both the City Council and the Board of Commissioners.
- 11.2 Any modifications to this agreement shall be consistent with the City and County Comprehensive Plans and the statewide planning goals.
- 11.3 This agreement may be terminated by either party under the following procedure:
  - a. Written notice of intent to terminate this Agreement shall be sent to the other party at least forty-five (45) days prior to taking any action, including the publication of public hearing notices in order to provide ample time for resolution of differences, or amendment to comprehensive plans.
  - b. A public hearing shall be held by the party considering termination. That party shall give the other party at least 20 days prior notice of the scheduled hearing date. The 20 day period shall be used by both parties to seek resolution of differences. Both parties shall also request a collaborative conflict resolution process to resolve differences that remain.
  - c. Public notice of hearings shall be in accordance with applicable statutes and local ordinances.

- e. This agreement is necessary for compliance with, at minimum, statewide planning Goals 2 and 14. If this agreement is terminated without adoption of a new agreement, jurisdiction and authority over all planning activities and land use decisions within the UGA shall revert to the County. Therefore, this agreement may not be terminated without adoption of a new agreement.

**12. TIME OF EFFECTIVENESS**

This agreement shall not become effective until properly executed by both the City and the County. Upon execution, this agreement shall supersede all previous Urban Growth Area Management Agreements.

**13. SEVERABILITY**

The Provisions within this agreement are severable. If any section, sentence, clause or phrase of this agreement is adjudged by a court of competent jurisdiction to be invalid, said invalidity shall not impair or affect the validity of the remaining portions of the agreement.

ADOPTED this 5<sup>TH</sup> day of April, 2006.

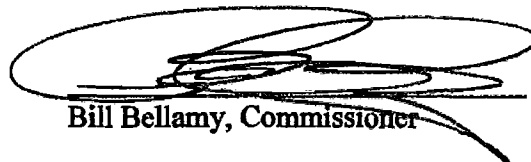
CITY OF MADRAS, OREGON

  
Rick Allen, Mayor

Date: 2-28-05

JEFFERSON COUNTY, OREGON

  
Walter Ponsford, Chair

  
Bill Bellamy, Commissioner

ATTEST:



  
Mary Zenke, Commissioner

Date: April 5, 2006



**JEFFERSON County Assessor's Summary Report**  
**Real Property Assessment Report**  
 FOR ASSESSMENT YEAR 2009

January 25, 2010 2:07:49 pm

<b>Account #</b>	13274	<b>Tax Status</b>	ASSESSABLE
<b>Map #</b>	111407-00-00101	<b>Acct Status</b>	CANCELLED
<b>Code - Tax #</b>		<b>Subtype</b>	NORMAL
<b>Legal Descr</b>	See Record		
<b>Mailing Name</b>	LINCICOME MADRAS DEVELOPMENT, LLC	<b>Deed Reference #</b>	See Record
<b>Agent</b>		<b>Sales Date/Price</b>	See Record
<b>In Care Of</b>		<b>Appraiser</b>	
<b>Mailing Address</b>	63227 SERVICE RD BEND, OR 97701		

<b>Prop Class</b>	550	<b>MA</b>	SA	<b>NH</b>	<b>Unit</b>
<b>RMV Class</b>	500	05	60	000	-9922-0

Situs Address(es)		Situs City			
		Value Summary			
Code Area		AV	RMV	RMV Exception	CPR %
0020	Land	219	4,400	Land	0
	Impr.	0	0	Impr.	0
<b>Code Area Total</b>		<b>219</b>	<b>4,400</b>		<b>0</b>
<b>Grand Total</b>		<b>219</b>	<b>4,400</b>		<b>0</b>

Land Breakdown											
Code Area	ID#	RFD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Irr Class	Irr Size
0020	1	R		RL	Farm Use Zoned	100	A	4.00	TD2		
<b>Grand Total</b>								<b>4.00</b>			<b>0.00</b>

Improvement Breakdown										
Code Area	Yr ID#	Stat	Class	Description	TD%	Total Sq. FL	Ex%	MS Acct #	Trended RMV	
<b>Grand Total</b>										<b>0</b>

Code Area		Exemptions/Special Assessments/Potential Liability									
Type											
0020		NOTATION(S): POTENTIAL TAX LIABILITY									

**Comments:** SPLIT CODE WITH #13134 Combined with account #13134

**JEFFERSON County Assessor's Summary Report**  
**Real Property Assessment Report**  
 FOR ASSESSMENT YEAR 2009

January 25, 2010 2:07:27 pm

<b>Account #</b>	13134	<b>Tax Status</b>	ASSESSABLE
<b>Map #</b>	111407-00-00101	<b>Acct Status</b>	ACTIVE
<b>Code - Tax #</b>	0020-13274 0110-13134	<b>Subtype</b>	NORMAL
<b>Legal Descr</b>	See Record		
<b>Mailing Name</b>	JOHN, HEINZ A.	<b>Deed Reference #</b>	2009-741
<b>Agent</b>		<b>Sales Date/Price</b>	03-02-2009 / \$350,000.00
<b>In Care Of</b>		<b>Appraiser</b>	COX, DON
<b>Mailing Address</b>	3879 LADERA VISTA RD FALLBROOK, CA 92028		

<b>Prop Class</b>	551	<b>MA</b>	SA	<b>NH</b>	<b>Unit</b>
<b>RMV Class</b>	501	05	60	000	9922-1

<b>Situs Address(s)</b>	<b>Situs City</b>
ID# 1 2519 E ASHWOOD RD	MADRAS

Value Summary					
Code Area		AV	RMV	RMV Exception	CPR %
0020	Land	225	4,460	Land	0
	Impr.	0	0	Impr.	0
<b>Code Area Total</b>		225	4,460		0
0110	Land	6,016	79,020	Land	0
	Impr.	166,480	218,540	Impr.	0
<b>Code Area Total</b>		172,496	297,560		0
<b>Grand Total</b>		172,721	302,020		0

Land Breakdown											
Code Area	ID#	RFD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Irr Class	Irr Size
0020	3	R		RL	Farm Use Zoned	100	A	4.00	TD2		
<b>Code Area Total</b>								4.00			0.00
0110	2	R		RL	Farm Site	100	A	1.00	MHS		
0110	1	R		RL	Farm Use Zoned	100	A	7.28	TD2		
<b>Code Area Total</b>								8.28			0.00
<b>Grand Total</b>								12.28			0.00

Improvement Breakdown									
Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
0110	1	1982	142	One story with basement	100	3,718			185,200
0110	2	1982	300	Farm Bldg/Res Gp	100	2,400			30,390
0110	3	1982	300	Farm Bldg/Res Gp	100	128			850
0110	4	1982	300	Farm Bldg/Res Gp	100	400			2,100
<b>Grand Total</b>						6,646			218,540

Code Area		Type	Exemptions/Special Assessments/Potential Liability
0020			NOTATION(S): POTENTIAL TAX LIABILITY
0110			NOTATION(S): POTENTIAL TAX LIABILITY

**Comments:** SPLIT CODE WITH #13274





**JEFFERSON County Assessor's Summary Report**  
**Real Property Assessment Report**  
 FOR ASSESSMENT YEAR 2009

January 25, 2010 2:06:48 pm

<b>Account #</b>	2602	<b>Tax Status</b>	ASSESSABLE
<b>Map #</b>	111407-00-00200	<b>Acct Status</b>	ACTIVE
<b>Code - Tax #</b>	0110-2802	<b>Subtype</b>	NORMAL
<b>Legal Descr</b>	Metes & Bounds - See legal report for full description.		
<b>Mailing Name</b>	THOMAS, EVAN W & DOROTHY E	<b>Deed Reference #</b>	See Record
<b>Agent</b>		<b>Sales Date/Price</b>	See Record
<b>In Care Of</b>		<b>Appraiser</b>	COX, DON
<b>Mailing Address</b>	2465 E ASHWOOD R MADRAS, OR 97741		

<b>Prop Class</b>	401	<b>MA</b>	SA	<b>NH</b>	<b>Unit</b>
<b>RMV Class</b>	401	05	52	000	1857-1

Situs Address(s)		Situs City
ID#	2465 E ASHWOOD RD	MADRAS

Value Summary					
Code Area		AV	RMV	RMV Exception	CPR %
0110	Land	81,980	130,790	Land	0
	Impr.	131,050	211,530	Impr.	0
<b>Code Area Total</b>		<b>213,010</b>	<b>342,320</b>		<b>0</b>
<b>Grand Total</b>		<b>213,010</b>	<b>342,320</b>		<b>0</b>

Land Breakdown											
Code Area	ID#	RFD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Irr Class	Irr Size
0110	1	R		RL	Market	100	A	3.94			
<b>Grand Total</b>								<b>3.94</b>			<b>0.00</b>

Improvement Breakdown										
Code Area	ID#	Yr Built	Stat Class	Description	Improvement Breakdown	TD%	Total Sq. Ft.	Ex% MS Acct #	Trended RMV	
0110	1	1956	142	One story with basement		100	4,173		210,280	
0110	2		300	Farm Bldg/Res Gp		100	224		1,250	
<b>Grand Total</b>							<b>4,397</b>		<b>211,530</b>	



\$36.01

00028548200600002620020028

01/18/2005 02:31:06 PM

D-WD Cnt=1 Stn=2 KATE  
\$10.00 \$11.00 \$10.00 \$5.00

Send tax statements to:

City of MADRAS  
71 SE D. St.  
MADRAS, OR. 97741

After recording Return to:

City of Madras  
71 SE D Street  
Madras OR 97741

WARRANTY DEED  
(Statutory Form)  
(ORS 93.850)

MORROW PROPERTIES, INC., an Oregon corporation, Grantor, conveys and warrants to the CITY OF MADRAS, an Oregon municipality, Grantee, the following described real property, situate in Jefferson County, Oregon, free from encumbrances except as specifically set forth:

Parcel 1 of Partition Plat No. 2004-06, recorded April 15, 2004, as Instrument No. 2004-1610, Jefferson County, Oregon.

SUBJECT TO:

1. 2004-2005 taxes, a lien in an amount to be determined, but not yet payable.
2. As disclosed by tax roll the premises herein described have been zoned or classified for farm use. At any time that said land is disqualified for such use, the property may be subject to additional taxes or penalties and interest.
3. The property lies within the boundaries of Deschutes Valley Water District and is subject to any charges or assessments levied by said District, and pipeline easements in connection therewith.
4. Rights of the public in and to that portion of the herein described premises lying within the boundaries of roads or highways.
5. Right of way, if any, of Public Usage Road No. 3053 as shown on tax assessor map but which the Grantor declares may be closed or vacated by prior Federal or County governmental action.
6. Mineral reservation by the United States of America as disclosed in Deed recorded April 28, 1983, Fee No. 147453.
7. Reservation by the United States of America for power line as disclosed in Deed, recorded April 28, 1983, Fee No. 147453.

The true consideration for this conveyance is an exchange of real property between the Grantee and Grantor.

-1- WARRANTY DEED \\Server1\Kathy\Morrow\Morrow Properties - Warranty Deed.wpd

GLENN, SITES & REEDER, LLP  
ATTORNEYS AT LAW

93 Exhibit to Ordinance No. 8205 S.E. Fifth Street, Madras, OR 97741 Ph. (541) 475-2272  
Fax: (541) 475-3944

- 8. Reservation by the United States of America for power line as disclosed in Deed, recorded April 28, 1983, Fee No. 147453.
- 9. Easement, including the terms and provisions thereof, for electrical transmission lines granted to Central Electric Cooperative, Inc., recorded April 28, 1983, Fee No. 147456.
- 10. Easement, including the terms and provisions thereof, for communication lines, granted to Pacific Northwest Bell Telephone Company, recorded April 28, 1983, Fee No. 147458.
- 11. Easements as shown on Partition Plat 2004-06, for utility and access.

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES AND TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

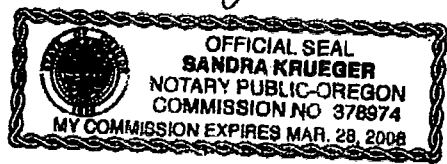
Dated this 4<sup>th</sup> day of January, ~~2004~~ <sup>2005</sup> Jan

MORROW PROPERTIES, INC:

By: Andrew J. Morrow  
 ANDREW J. MORROW, President

STATE OF OREGON            )  
   ) ss.  
 County of Jefferson        )

Personally appeared ANDREW J. MORROW, who being duly sworn, did say that he is the President of MORROW PROPERTIES, INC., an Oregon corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation by authority of its Board of Directors, and he acknowledged said instrument to be its voluntary act and deed, before me this 4<sup>th</sup> day of January, 2005.



Sandra Krueger  
 Notary Public for Oregon  
 My commission expires: 3-28-08

11 14 7 100				10/110 28/130			OFFICIAL RECORD OF DESCRIPTIONS OF REAL PROPERTY 4566-1 JEFFERSON COUNTY ASSESSOR'S OFFICE			
TWP. S. RGE. E.	SEC.	1/4	2/10	TAX LOT NUMBER	TYPE	SPEC. INT. IN REAL PROP.	CODE AREA NUMBER	FORMERLY PART OF T.L. NO.		
ACCOUNT NUMBER				ADDITIONAL DESCRIPTION AND RECORD OF CHANGE			DATE OF ENTRY ON THIS CARD	DEED RECORD VOL.	PG.	ACRES REMAINING
28334				Page 1						
2836/13275/13276										
T11S R14E W1M										
Sec 7, NE 1/4; NE 1/4 SE 1/4; SE 1/4 NW 1/4; NW 1/4 SE 1/4				Exchange D				26	540	230.00
Exc: Co Rd 809				1.82 Zemke, Emma dth cert			2 4 77	57	159	228.18
				Annexation to DVM			02/08/88	#881533		
				Annexation Resolution			02/08/88	# 87-6		
				Oregon Corner Restoration Record			02/15/85	#883293		
				Oregon Corner Restoration Record			02/13/85	#883294		
				Oregon Corner Restoration Record			12/01/89	#892748		
Zemke to Zemke, TR				B&S Dd			03/16/92	921244		
				Oregon Corner Restoration Record			1/04/95	#950029		
Zemke, AC				DC			5-22-97	971966		
**Also: TL 600- 10 Ac. (The SW 1/4 NW 1/4 SE 1/4 Sec. 7, T.11S, R.14E, W.M. All in Code 13										
Morrow Prop, Inc. to Zemke, AL Trustee of Zemke, AC Trust				WD			10-15-97	974254		
				Boundary Adjust. BA 97-14			4-15-98	981538		
Code Totals										
#2836- Code 13= 10 AC.										
#2833- Code 11= 228.18 AC.										
Total 238.18 AC										238.18
Zemke, AL Succ Trustee of Zemke, AC Trust to Springview Farms, LLC				BS			5-7-01	20011814		



**JEFFERSON COUNTY ASSESSOR'S NAME LEDGER**

Printed on 01-13-10 97

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00100  
 Effective Date 22-Jan-2000 12:00 AM Transaction ID 110303 Entry Date 22-Jan-2000 Recorded Date 22-Jan-2000 Sale Date 22-Jan-2000

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	108982	2001	HISTORICAL - BOR	U	1900	8880	1	20011814	CONVERSION NAME CHANGE	

Name Changes Status Name Ownership Type Ownership %  
 D SPRINGVIEW FARMS, LLC OWNER

Effective Date 18-Dec-2002 12:00 AM Transaction ID 110304 Entry Date 18-Dec-2002 Recorded Date 18-Dec-2002 Sale Date 18-Dec-2002

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	108983	2003	HISTORICAL - BOR	U	1900	8881	1	20030022	CONVERSION NAME CHANGE	

Name Changes Status Name Ownership Type Ownership %  
 D MADRAS, CITY OF OWNER

Effective Date 15-Sep-2005 12:00 AM Transaction ID 91591 Entry Date 15-Sep-2005 Recorded Date 15-Sep-2005 Sale Date 15-Sep-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	90058	2005	ASSESSOR'S FILE		2005	543	1	CONVERSION-2	CONVERSION	

Size Changes Code 0110 +/- Size 213.70 Acres Alternate Size Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 213.70 SqFt 0.00

Effective Date 23-Oct-2007 11:59 AM Transaction ID 386939 Entry Date 22-Oct-2007 Recorded Date 22-Oct-2007 Sale Date

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 00100

1 462117 2008 ASSESSOR AF 2007 117 1 SIZE CHANGE  
 PP #2002-12, INCORRECT ACREAGE ENTERED ON THIS ACCOUNT. SHOULD BE 155.14 ACRES. 88

Size Changes Code 0110 +/- Size -58.56 Acres Alternate Size Code Area Deleted Move to Acct Move to Code  
 0.00

Size Totals Code 0110 Acres 155.14 SqFt 0.00

Active Date 28-Aug-2008 9:16 AM Transaction ID 397519 Entry Date 11-Jul-2008 Recorded Date 25-Jun-2008 Sale Date

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	513340	2008	CLERK - BOR	U	2008	2388	2		SIZE CHANGE	

PUBLIC ROAD DEDICATION, JOB #08029C - CITY OF MADRAS, 11-14-07 TAX LOT 100, ACCOUNT #2833, (SPLIT CODE AREA 110) CONVEYS TO THE PUBLIC FOR ROAD, 2.15 ACRES.

Size Changes Code 0110 +/- Size -2.15 Acres Alternate Size Code Area Deleted Move to Acct Move to Code  
 0.00

Size Totals Code 0110 Acres 152.99 SqFt 0.00

Add:  
 Public Road Dedication

A portion of Parcel 2 of Partition Plat No. 2002-12 as filed in the Jefferson County Clerk's Office, situated in the Northeast Quarter (NE 1/4) of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County, Oregon, more particularly described as follows:

Commencing at the Northwest corner of said Northeast Quarter, monumented with a 2 inch diameter brass cap, from which the Northeast corner of said Section 7 bears South 89°39'40" East a distance of 2640.53 feet; thence South 89°39'40" East long the Northline of said Section 7 a distance of 599.97 feet; thence South 00°17'36" West a distance of 40.00 feet to the Northwest corner of said Parcel 2 of Partition Plat No. 2002-12 and the True Point of Beginning of this Description; thence continuing South 00°17'36" West along the West line of said Parcel 2 a distance of 40.00 feet; thence South 89°39'39" East a distance of 1690.17 feet; thence 374.44 feet along the arc of a 600.00 foot radius curve to the right, with a central angle of 35°45'24" the long chord bears South 71°04'57" East a distance of 368.40 feet to the East line of



TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00100

said Northeast Quarter; thence North 00°00'43" East along the East line of said Northeast Quarter a distance of 132.03 feet; thence North 64°S9'3 1" West a distance of 12.90 feet; thence 34.51 feet along the arc of a 710.00 foot radius to the left, with a central angle of 2°47'07" the longchord bears North 62°36'48" West a distance of 34.51 feet to the North line of said Parcel 2; thence North 89°39'40" West along said North line a distance of 1998.01 feet to the True Point of Beginning.

99

Containing 2.15 acres more or less.

Effective Date 04-May-2009 12:43 PM Transaction ID 432733 Entry Date 04-May-2009 Recorded Date 04-May-2009 Sale Date  
 COMBINING SPLIT CODES INTO ONE REAL ACCOUNT NUMBER #2833. REAL ACCOUNT NUMBERS #2836, #13275, & #13276 CANCELLED. Sale Price

99 Exhibit to Ordinance No. 823

REQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
4	565927	2009	ASSESSOR	AF	2009	130	1		COMBINATION - TO	1114070000100 1114070000100 1114070000100

Size Changes	Code	+/- Size	Alternate Size	Code Area Deleted	Move to Acct	Move to Code
	0130	1.56 Acres	0.00			
	0010	8.44 Acres	0.00			
	0020	58.56 Acres	0.00			

Size Totals	Code	Acres	Sqft
	0110	152.99	0.00
	0130	1.56	0.00
	0010	8.44	0.00
	0020	58.56	0.00

OFFICIAL RECORD OF DESCRIPTIONS OF REAL PROPERTY COUNTY ASSESSOR'S OFFICE									
TWP.	RGE.	SEC.	1/4	1/6	PARCEL NUMBER	Type	Spec. Int. In	CODE AREA NUMBER	FORMERLY PART OF
11	14	7			101			20 110	11 14 7 100
MAP NUMBER					TAX LOT NUMBER		DESCRIPTION AND RECORD OF CHANGE		
13134					13274		Date Recorded		
Indent each new course to this point							Ref# of Vol. PG.		Acres Remaining
T11S R14E Sec. 7									
Partition Plat 2002-12									
Parcel 1					PP		12-30-02		20025926 13.43
Affidavit of Correction PP 2002-12							2-5-03		20030589
Code change 4.0 acres annexed into City of Madras Ordinance #711									
Code 20 = 4.0 acres							01-13-04		13.43
Code 110 = 9.43 acres									
Springview Farms, LLC to Zemke, AL					BS		02-28-05		20050974
Zemke, AL to Lincicome Madras Development, LLC					WD		6-1-05		20052823

**JEFFERSON COUNTY ASSESSOR'S NAME LEDGER**

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00101

Printed on 01-13-10

13

Effective Date 25-Feb-2005 12:00 AM Transaction ID 143182 Entry Date 25-Feb-2005 Recorded Date 25-Feb-2005 Sale Date 25-Feb-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	141861	2005	HISTORICAL - BOR	U	1900	41759	1	20050974	CONVERSION NAME CHANGE	

Name Changes Status Name  
 D ZEMKE, ALBERT L

Name Type Ownership Type Ownership &  
 OWNER

Effective Date 31-May-2005 12:00 AM Transaction ID 143183 Entry Date 31-May-2005 Recorded Date 31-May-2005 Sale Date 31-May-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	141862	2005	HISTORICAL - BOR	U	1900	41760	1	20052823	CONVERSION NAME CHANGE	

1 Exhibit to Ordinance 823

Name Changes Status Name  
 D LINCICOME MADRAS DEVELOPMENT, LLC

Name Type Ownership Type Ownership &  
 OWNER

Effective Date 15-Sep-2005 12:00 AM Transaction ID 101054 Entry Date 15-Sep-2005 Recorded Date 15-Sep-2005 Sale Date 15-Sep-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	91793	2005	ASSESSOR'S FILE		2005	2680	1	CONVERSION-1	CONVERSION	

Size Changes Code +/- Size Alternate Size Code Area Deleted Move to Acct Move to Code  
 0110 9.43 Acres

Size Totals Code Acres SqFt  
 0110 9.43 0.00

Effective Date 19-Sep-2006 2:46 PM Transaction ID 258092 Entry Date 25-Jul-2006 Recorded Date 20-Jul-2006 Sale Date 23-Jun-2006  
 Sale Price 39,021

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00101

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	304491	2006	CLERK - BOR	WD	2006	4457	1		SEGREGATION - FROM	1114070000102
LESS 0.69 AC TO TAXLOT 102										
Size Changes Code 0110 +/- Size -0.69 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code 0.00										
Size Totals Code 0110 Acres 8.74 SqFt 0.00										

Effective Date 03-Aug-2007 9:49 AM Transaction ID 344875 Entry Date 12-Jun-2007 Recorded Date 11-Jun-2007 Sale Date 11-Jun-2007

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
2	409850	2007	CLERK - BOR	PLA	2007	3081	1		SIZE CHANGE	
SURVEY ADJUSTMENT										
Size Changes Code 0110 +/- Size 0.14 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code 0.00										
Size Totals Code 0110 Acres 8.88 SqFt 0.00										

3 409855 2007 CLERK - BOR PLA 2007 3081 1 SIZE CHANGE  
 MINUS 0.60 ACRES FROM 11-14-07 101 TO 11-14-07 200, ACCOUNT #13134 TO #2602.

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
4	410273	2007	CLERK - BOR	PLA	2007	3081	1		TLC	
LINCICOME MADRAS DEVELOPMENT LLC, CONVEY TO EVAN W THOMAS & DOROTHY THOMAS, 0.60 ACRES, PERFECTION DEED, DOC #2007-3808. NOTE: THIS ACCOUNT #13134 IS A SPLIT CODE WITH ACCOUNT #13274.										
Size Changes Code 0110 +/- Size -0.60 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code 0.00										
Size Totals Code 0110 Acres 8.28 SqFt 0.00										

Exhibit to Ordinance No. 823

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00101

103

Size Totals Code 0110 Acres 8.28 SqFt 0.00

6 410346 2007 CLERK - BOR PLA 2007 3081 1 TLC  
 PERFECTION DEED, LINCICOME MADRAS DEVELOPMENT LLC TO LINCICOME MADRAS DEVELOPMENT LLC, DOC.  
 2007-3810

Size Totals Code 0110 Acres 8.28 SqFt 0.00

8 410383 2007 CLERK - BOR PLA 2007 3081 1 TLC  
 EASEMENT: 11-14-07 200 TO 11-14-07 101, EVAN W THOMAS & DOROTHY THOMAS TO LINCICOME MADRAS  
 DEVELOPMENT LLC., DOC. #2007-3813.

Size Totals Code 0110 Acres 8.28 SqFt 0.00

103 Exhibit to Finance

Effective Date 12-May-2008 12:00 AM Transaction ID 392383 Entry Date 12-May-2008 Recorded Date 12-May-2008 Sale Date 12-May-2008  
 SPLIT CODE COMBINATION DONE BY SDF Sale Price

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
467	480848	2008	ASSESSOR		2008	52	1		COMBINATION - TO	1114070000101

Size Changes Code 0020 +/- Size 4.00 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 8.28 SqFt 0.00  
 Code 0020 Acres 4.00 SqFt 0.00

Effective Date 10-Mar-2009 9:01 AM Transaction ID 430942 Entry Date 05-Mar-2009 Recorded Date 04-Mar-2009 Sale Date 02-Mar-2009  
 Sale Price 350,000

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	557756	2009	CLERK - BOR	WD	2009	741	1		NAME CHANGE	

TOWNSHIP 11 RANGE 14 SECTION 07 1/4 0 1/16 0 TAXLOT 00101 SPECIAL INTEREST

<u>Name Changes</u>	Status	Name	Name Type	Ownership Type	Ownership %
	D	LINCICOME MADRAS DEVELOPMENT, LLC	OWNER	OWNER	
	A	JOHN, HEINZ A.	OWNER	OWNER	

<u>Size Totals</u>	Code	Acres	SqFt
	0110	8.28	0.00
	0020	4.00	0.00



Jefferson County Official Records  
Kathleen B. Marston, County Clerk 2009-000741



\$36.00

00066601200900007410020021 03/04/2009 03:28:23 PM  
D-WD Cnt=1 SIn=2 KATE  
\$10.00 \$11.00 \$10.00 \$5.00

After recording return to:  
FIRST OREGON TITLE COMPANY  
116 SE D Street, Ste A  
MADRAS, OR 97741

Until a change is requested all  
tax statements shall be sent to  
the following address:  
Heinz A. John  
3879 Ladera Vista Road  
Fallbrook, CA 92028

Escrow No. 0011105TD  
Title No. 11105

**WARRANTY DEED**

First Oregon Title Company

Lincicome Madras Development, LLC,  
Grantor(s) hereby grant, bargain, sell, warrant and convey to:  
Heinz A. John  
Grantee(s) and grantee's heirs, successors and assigns the following described  
real property, free of encumbrances except as specifically set forth herein in  
the County of JEFFERSON and State of Oregon, to wit:  
SEE EXHIBIT A WHICH IS MADE A PART HEREOF BY THIS REFERENCE  
Acct# 13134/13274 Map# 11-14-7 101

SUBJECT TO: all those items of record and those apparent upon the land, if  
any, as of the date of this deed and those shown below, if any;  
and the grantor will warrant and forever defend the said premises and every  
part and parcel thereof against the lawful claims and demands of all persons  
whomsoever, except those claiming under the above described encumbrances.

The true and actual consideration for this conveyance is \$ 350,000.00.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE  
SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER SECTIONS 2, 3 AND 5 TO  
22 OF CHAPTER 424, OREGON LAWS 2007 (MEASURE 49 (2007)). THIS INSTRUMENT DOES  
NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF  
APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS  
INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH  
THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF  
LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN  
ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO  
DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED  
IN ORS 30.930 AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS,  
IF ANY, UNDER SECTIONS 2, 3 AND 5 TO 22 OF CHAPTER 424, OREGON LAWS 2007  
(MEASURE 49 (2007)).

Dated this 2<sup>nd</sup> day of March, 2009.

Lincicome Madras Development, LLC  
BY: [Signature]  
James Mitch Cole, Member

State of Oregon Deschutes  
County of JEFFERSON

This instrument was acknowledged before me on March 2<sup>nd</sup>, 2009 by Mitch Cole.

[Signature]  
(Notary Public for Oregon)  
My commission expires 6/19/2010



①



**EXHIBIT "A"****Legal Description:**

A parcel of land containing 12.28 acres, more or less, being a portion of Parcel 1 of Partition Plat No. 2002.12 located in the Northeast One-quarter of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County, Oregon, being more particularly described as follows:

Commencing at a point on the north-south centerline of said Section 7 which bears South 00°17'35" East a distance of 80.01 feet from the North One-quarter corner of said Section 7, thence leaving said north-south section centerline and along the south right-of-way line of Ashwood road as described in Warranty Deed recorded as instrument No. 2005-005605 of Jefferson County official records South 89°39'39" East a distance of 61.23 feet to the true Point of Beginning of this description; thence continuing along said right-of-way line South 89°39'39" East a distance of 538.68 feet to a point on the east boundary of said Parcel 1; thence along said east boundary South 00°17'35" East a distance of 935.15 feet to the Southeast corner of said Parcel 1; thence along the south boundary of said Parcel 1 North 89°40'13" West a distance of 599.90 feet to the southwest corner of said Parcel 1, being a point on said north-south section centerline; thence along said north-south section centerline North 00°17'35" West a distance of 510.26 feet to a point which bears South 00°17'35" East a distance of 505.00 feet from the North One-quarter corner of said Section 7; thence leaving said north-south section centerline North 89°42'25" East a distance of 61.22 feet thence North 00°17'35" West a distance of 424.32 feet to the point of beginning.

**JEFFERSON COUNTY ASSESSOR**  
**REAL PROPERTY ASSESSMENT REPORT**  
 FOR ASSESSMENT YEAR 2009

Jan 13, 2010

ACCOUNT # 15964  
 MAP 1114070000102  
 CODE - TAX # 0010 - 15964

TAX STATUS NONASSESSABLE  
 ACCNT STATUS ACTIVE  
 SUBTYPE NORMAL

MAILING NAME OREGON DEPARTMENT OF CORRECTIONS  
 AGENT  
 IN CARE OF ATTN: COMMUNITY DEVELOPMENT MGR  
 MAILING ADDRESS  
 1793 13TH ST SE  
 SALEM, OR 97302

DEED REFERENCE # 2006-4457 (SOURCE ID: )  
 SALES DATE/PRICE 06-23-2006 / \$39,021.00

PROP CLASS 960 MA SA NH UNIT  
 RMV CLASS 400 05 52 000 68912-1

SITUS ADDRESS(S)	SITUS CITY
ID #	

VALUE SUMMARY					
CODE AREA		AV	RMV	RMV EXCEPTION	CPR %
0010	LAND	0	64,550	LAND	
	IMPR.	0	0	IMPR.	
	TOTAL	0	64,550	TOTAL	0
	GRAND TOTAL	0	64,550	GRAND TOTAL	0

LAND BREAKDOWN										
CODE AREA	ID #	RFD	PLN ZN	VALUE SOURCE	TD%	LS	SIZE	LND CLS	IRR CLASS	IRR SIZE
0010		R	1	RL	Market	100	A	0.69		
						TOTAL		0.69	TOTAL	0.00

**JEFFERSON COUNTY ASSESSOR'S NAME LEDGER**

Printed on 01-13-10 108

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00102

Effective Date 19-Sep-2006 2:46 PM Transaction ID 258092 Entry Date 25-Jul-2006 Recorded Date 20-Jul-2006 Sale Date 23-Jun-2006  
 Sale Price 39,021

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
2	304496	2006	CLERK - BOR	WD	2006	4457	1		SEGREGATION - TO	1114070000101

**Name Changes** Status Name Name Type Ownership Type Ownership %  
 A STATE OF OREGON OWNER OWNER  
 A DEPARTMENT OF CORRECTIONS OWNER OWNER

**Size Changes** Code +/- Size Alternate Size Code Area Deleted Move to Acct Move to Code  
 0010 0.69 Acres 0.00

**Size Totals** Code Acres SqFt  
 0010 0.69 0.00

108 Exhibit to Ordinance

Effective Date 20-Sep-2006 3:50 PM Transaction ID 289393 Entry Date 20-Sep-2006 Recorded Date 20-Sep-2006 Sale Date

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
321990	2006	ASSESSOR	CONV	2006	139	1			TAX STATUS CHANGE TO NON-ASSESSABLE	

ROAD

**Size Totals** Code Acres SqFt  
 0010 0.69 0.00

Jefferson County Official Records  
Kathleen B. Marston, County Clerk

2006-004457



\$41.00

00044474200800044570030031

07/20/2006 02:32:09 PM

D-WD Cnt=1 Stn=2 KATE  
\$15.00 \$11.00 \$10.00 \$5.00

Space above this line for Recording Office Use

After recording, return to:  
Oregon Department of Corrections  
Attn: Community Development Manager  
1793 13<sup>th</sup> Street SE  
Salem, OR 97302-2595

Send Tax statements to:  
(same)

### WARRANTY DEED

(ORS 93.850)

Lincicome Madras Development, LLC, an Oregon limited liability company

Grantor, conveys and warrants to **STATE OF OREGON**, by and through its DEPARTMENT OF CORRECTIONS, Grantee, its successors and assigns, the real property described in Exhibit A (the "Property") free of encumbrances, except for easements, conditions, and restrictions contained in the public record, and except as specifically set forth herein (none).

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 197.352. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930 AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 197.352.

The true consideration for this conveyance is \$39,021.00.

WARRANTY DEED  
File: Lincicome - East Property

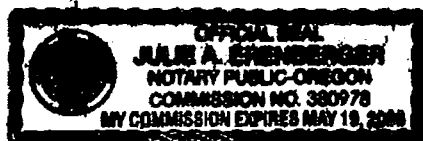
Page 1 of 3

Dated this 23 day of June, 2006.

[Signature], Grantor  
by James Mitch Cole, Managing Member of  
Lincicome Madras Development, LLC

STATE OF OREGON )  
County of Deschutes ) ss.

This instrument was acknowledged and executed before me on this 23<sup>rd</sup> day of June, 2006,  
by James Mitch Cole, Managing Member of Lincicome Madras Development, LLC.



[Signature]  
Notary Public for Oregon  
My Commission expires: 5/19/08

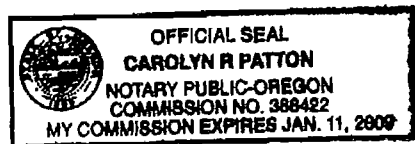
ACCEPTED BY:  
The State of Oregon, acting by and through  
its Department of Corrections

By: [Signature]

As: Dept. of Corrections, Community Manager

STATE OF OREGON )  
County of Marion ) ss.

This instrument was acknowledged before me on this 30<sup>th</sup> day of June, 2006,  
by BOBBI BURTON as the Community Manager and  
authorized representative of the Oregon Department of Corrections, acting under authority  
granted to him/her by the State of Oregon.



[Signature]  
Notary Public for Oregon  
My Commission expires: 1-11-09

**EXHIBIT A****Legal Description for Warranty Deed  
ASHWOOD ROAD****Section 7 (East Property)**

A 60.00-foot wide strip of land, lying 60.00 on the south side of the following described centerline, over land located in the northwest 1/4 of the northeast 1/4 of Section 7 of Township 11 South and Range 14 East of the Willamette Meridian, Jefferson County, Oregon, described in the Warranty Deed recorded at 2005-002823 of the Jefferson County Official Records:

Beginning at Engineer's Centerline Station 5+00, on the section line between Sections 6 and 7 of Township 11 South and Range 14 East of the Willamette Meridian, Jefferson County, Oregon, which bears North 89°39'17" West 1481.20 feet from the 1/4 corner between said Sections 6 and 7; thence South 89°39'17" East 138.33 feet, along the section line between said Sections 6 and 7; thence leaving said section line, 17.02 feet along the arc of a 1039.00 foot radius curve right (the long chord of which bears South 89°11'08" East 17.01 feet); thence South 88°43'00" East 1205.50 feet; thence 17.13 feet along the arc of a 1039.00 foot radius curve left (the long chord of which bears South 89°11'20" East 17.13 feet); thence South 89°39'40" East 2394.42 feet; thence 633.14 feet along the arc of a 660.00 foot radius curve right (the long chord of which bears South 62°10'44" East 609.14 feet); thence South 34°41'49" East 774.75 feet; thence 1709.82 feet along the arc of a 1000.00 foot radius curve left (the long chord of which bears South 83°40'47" East 1509.02 feet); thence North 47°20'15" East 542.88 feet; thence 2560.21 feet along the arc of a 1400.00 foot radius curve right (the long chord of which bears South 80°16'24" East 2218.09 feet); thence South 27°53'03" East 943.15 feet; thence 1158.98 feet along the arc of an 850.00 foot radius curve left (the long chord of which bears South 66°56'44" East 1071.26 feet); thence North 73°59'34" East 585.08 feet; thence 368.57 feet along the arc of a 340.00 foot radius curve right (the long chord of which bears South 74°57'06" East 350.79 feet); thence South 43°53'47" East 305.17 feet; thence 254.87 feet along the arc of a 340.00 foot radius curve left (the long chord of which bears South 65°22'17" East 248.94 feet); thence South 86°50'46" East 596.74 feet; thence 122.81 feet along the arc of a 660.00 foot radius curve right (the long chord of which bears South 81°30'56" East 122.63 feet); thence South 76°11'06" East 271.44 feet to engineer's centerline station 151+00, the terminus for this description, from which the 1/4 corner between Sections 9 and 10 bears North 89°14'59" East 2049.79 feet.

The parcel of land to which this description applies contains 30,016 square feet, more or less.

This description may include areas that are preexisting public right-of-way or easements, which are retained, and included herein to provide a clearer record of title in the future.

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

OREGON  
JULY 18, 1980  
JERRY C. POWELL  
1919

RENEWS 12-31-2006

112		11		14		7		200		11	
TWP. S.	RGE E.	SEC.	1/4	1/16	TAX LOT NUMBER	TYPE	SPEC. INT. IN REAL PROP.	ACCOUNT NUMBER		CODE AREA NUMBER	

OFFICIAL RECORD OF DESCRIPTIONS  
OF REAL PROPERTY 4568  
JEFFERSON COUNTY ASSESSOR'S OFFICE 4569-1

FORMERLY PART OF T.L. NO. \_\_\_\_\_

INDENT EACH NEW COURSE TO THIS POINT	2602	ADDITIONAL DESCRIPTION AND RECORD OF CHANGE	DATE OF ENTRY ON THIS CARD	DEED RECORD		ACRES REMAINING
				VOL.	PG.	
		THIS R14E WM				
		Sec 7, The N 475 ft of the E 400 ft of the NE 1/4.	WD	21	389	
			WD	25	530	4.63
		Exc: Co Rd No 809				4.36
		Code Change Rural Madras Sanitary Dist	9 5 78	0 81	78	
		Dissolution of Rural Madras Sanitary District	9-2-81	0-94	-81	
		Oregon Corner Restoration Record	02/13/85	#883	294	
		Oregon Corner Restoration Record	12/01/89	#892	748	
		Oregon Corner Restoration Record	1/04/95	#950	029	
		Easement inside 11 14 7 TL 302 for this tax lot (Granted to Thomas, E & D) Included in a Warranty Deed worked on 11 14 7 TL 302.	WD 07-28-05	2005	4126	





**JEFFERSON COUNTY ASSESSOR'S NAME LEDGER**

Printed on 01-13-10 13

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00200

Effective Date 15-Sep-2005 12:00 AM Transaction ID 91368 Entry Date 15-Sep-2005 Recorded Date 15-Sep-2005 Sale Date 15-Sep-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	96429	2005	ASSESSOR'S FILE		2005	840	1	CONVERSION-2	CONVERSION	

Size Changes Code 0110 +/- Size 4.36 Acres Alternate Size Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 4.36 SqFt 0.00

113 Ordinance No. 823

Effective Date 02-Aug-2006 11:03 AM Transaction ID 260793 Entry Date 28-Jul-2006 Recorded Date 27-Jul-2006 Sale Date 30-Jul-1999

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	287865	2006	CLERK - BOR	POA	2006	4616	1		TLC	
POWER OF ATTORNEY THOMAS, EVAN W TO THOMAS, DOROTHY E										

Size Totals Code 0110 Acres 4.36 SqFt 0.00

Effective Date 20-Sep-2006 8:55 AM Transaction ID 267880 Entry Date 08-Aug-2006 Recorded Date 08-Aug-2006 Sale Date 27-Jul-2006 Sale Price 78,000

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	304449	2006	CLERK - BOR	BSD	2006	4876	1		SEGREGATION - FROM	1114070000201
LESS 0.44 TO TAX LOT 201										

Size Changes Code 0110 +/- Size -0.44 Acres Alternate Size Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 3.92 SqFt 0.00

TOWNSHIP RANGE SECTION 1/4 116 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00200

114

Effective Date 03-Aug-2007 9:49 AM Transaction ID 344875 Entry Date 07-Mar-2007 Recorded Date 06-Mar-2007 Sale Date 06-Mar-2007

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	409810	2007	CLERK - BOR	PLA	2007	1222	1		SIZE CHANGE	

Size Changes Code 0110 +/- Size 0.02 Acres Alternate Size Code Area Deleted Move to Acct Move to Code  
 0.00

Size Totals Code 0110 Acres 3.94 Sqft 0.00

409814 2007 CLERK - BOR PLA 2007 1222 1 SIZE CHANGE  
 MINUS 0.60 ACRES TRANSFERRED FROM 11-14-07 200 TO 11-14-07 302 (ACCNT. #16953 WHICH HAS A SPLIT CODE #13341).

Size Changes Code 0110 +/- Size -0.60 Acres Alternate Size Code Area Deleted Move to Acct Move to Code  
 0.00

Size Totals Code 0110 Acres 3.34 Sqft 0.00

410329 2007 CLERK - BOR PLA 2007 1222 1 TLC  
 PERFECTION DEED, EVAN W THOMAS & DOROTHY THOMAS TO EVAN W THOMAS & DOROTHY THOMAS, DOC. #2007-3806.

Size Totals Code 0110 Acres 3.34 Sqft 0.00

Effective Date 03-Aug-2007 9:49 AM Transaction ID 344875 Entry Date 12-Jun-2007 Recorded Date 11-Jun-2007 Sale Date 11-Jun-2007

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	409849	2007	CLERK - BOR	PLA	2007	3081	1		SIZE CHANGE	

ADD: 0.60 ACRES FROM 11-14-07 101 TO 11-14-07 200, ACCOUNT #13134 TO ACCOUNT #2602.

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00200

Size Changes	Code	+/- Size	Alternate Size	Code Area Deleted	Move to Acct	Move to Code
	0110	0.60 Acres	0.00			

Size Totals	Code	Acres	SqFt
	0110	3.94	0.00

Add:

A parcel of land containing 3.94 acres, more or less, located in a portion of the Northwest One-quarter (NW 1/4) and a portion of the Northeast One-Quarter (NE 1/4) of Section 07, Township 11 South, Range 14 East, Willamette Meridian, City of Madras, Jefferson County, Oregon, being more particularly described as follows: Beginning at a point on the north-south centerline of said Section 07 which bears South 00°17'35" East a distance of 80.01 feet from the North One-quarter corner of said Section 07; thence leaving said north-south section centerline and along the south right-of-way line of Ashwood Road as described in Warranty Deed recorded in Book 2005, Page 005605 of Jefferson County official records South 89°39'39" East a distance of 61.23 feet; thence leaving said right-of-way line South 00°17'35" East a distance of 424.32 feet; thence South 89°42'25" West a distance of 61.22 feet to a point on the north-south centerline of said Section 07 which bears South 00°17'35" East a distance of 505.00 feet from the North One-quarter corner of said Section 07, being a point on the boundary of Parcel 1 of Partition Plat No. 2004-15 (recorded as MF#2004-4735); thence along the boundary of said Parcel 1 South 89°42'25" West a distance of 354.87 feet; thence leaving said boundary 117.68 feet along a non-tangent curve to the right with a radius of 455.00 feet, the chord of which bears North 07°42'08" West a distance of 117.35 feet; thence North 00°17'35" West a distance of 18.24 feet; thence 123.03 feet along the arc of a tangent curve to the right with a radius of 240.00 feet, the chord of which bears North 14°23'32" East for a distance of 121.68 feet; thence 186.84 feet along the arc of a reverse curve to the left with a radius of 360.00 feet, the chord of which bears North 14°23'32" East for a distance of 184.75 feet to a point on said south right-of-way line; thence along said south right-of-way line the following two (2) courses and one (1) curve:

South 88°42'59" East a distance of 170.57 feet  
 18.12 feet along the arc of a tangent curve to the left with a radius of 1099.00 feet, the chord of which bears South 89°11'19" East for a distance of 18.12 feet; South 89°39'39" East a distance of 104.28 feet to the point of beginning, the terminus of this description. description.

5 410313 2007 CLERK - BOR PLA 2007 3081 1 TLC  
 PERFECTION DEED, EVAN W THOMAS & DOROTHY THOMAS TO EVAN W THOMAS & DOROTHY THOMAS, DOC. #2007-3807

Size Totals	Code	Acres	SqFt
	0110	3.94	0.00

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
11 14 07 0 0 00200

7 410367 2007 CLERK - BOR PLA 2007 3081 TLC  
EASEMENT: 11-14-7 200 TO 11-14-7 101, EVAN W THOMAS & DOROTHY THOMAS TO LINCICOME MADRAS  
DEVELOPMENT LLC, DOC. #2007-3813.

Size Totals Code 0110 Acres 3.94 SqFt 0.00

Effective Date 10-Dec-2007 8:59 AM Transaction ID 385901 Entry Date 17-Oct-2007 Recorded Date 16-Oct-2007 Sale Date 02-Oct-2007  
BEING RECORDED TO CORRECT LEGAL DESCRIPTION

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	467235	2008	CLERK - BOR	EAS	2007	5207	1			TLC	

116 Exhibit to Ordinance No. 82

Size Totals Code 0110 Acres 3.94 SqFt 0.00

Effective Date 10-Dec-2007 12:09 PM Transaction ID 388093 Entry Date 07-Dec-2007 Recorded Date 06-Dec-2007 Sale Date  
RIGHT OF WAY EASEMENT IN FAVOR OF PACIFIC POWER RECORDED 12/6/07 2007-5940

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	467270	2008	CLERK - BOR	EAS	2007	5940	1			TLC	

Size Totals Code 0110 Acres 3.94 SqFt 0.00

Jefferson County Official Records  
Kathleen B. Marston, County Clerk

007-003807



\$38.00

00094239200700038070020029 07/23/2007 10:29:17 AM

D-BSD Cnt=1 SIn=2 KATE  
\$10.00 \$11.00 \$10.00 \$5.00

--Space below for Recorder's use only--

### BARGAIN AND SALE DEED

KNOW ALL MEN BY THESE PRESENTS THAT, Evan W Thomas and Dorothy Thomas, as husband and wife, Grantor(s), for and in consideration of the sum of **ZERO and 00/100 Dollars** to it paid by the grantee herein, do hereby grant, bargain, sell and convey unto Evan W Thomas and Dorothy Thomas, as husband and wife, Grantee(s), the described tract of land in County of Jefferson and State of Oregon, more particularly described as follows:

**See Attached Legal Description as Tract 'B'**

TO HAVE AND TO HOLD the granted premises unto the said Grantee, its heirs and assigns forever.

WITNESS their Hand and Seal this 20th day of June, 2007.

Evan W Thomas by Dorothy Thomas  
attorney-in-fact  
By: Evan W Thomas

This instrument will not allow use of the property described in this instrument in violation of applicable land use laws and regulations. Before signing or accepting this instrument, the person acquiring fee title to the property should check with the appropriate city or county planning department to verify approved uses and to determine any limits on lawsuits against Farming or Forest practices as defined in ORS 30.830.

Dorothy E Thomas  
By: Dorothy Thomas

First Oregon Title Company

STATE OF OREGON  
COUNTY OF ~~DESCHUTES~~ JEFFERSON

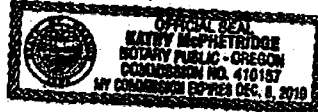
Dorothy Thomas, Attorney-in-fact for

I, certify that I know or have satisfactory evidence that Evan W Thomas and Dorothy Thomas and is the person(s) who appeared before me, and said person(s) acknowledged that he/she signed this instrument and acknowledged it to be his/her free and voluntary act for the uses and purposes mentioned in the instrument.

Dated: 6/20/07

Kathy McPhetridge  
Public for the State of OREGON  
My Commission Expires: 12-08-10

Until a change is requested all tax statements  
Should be sent to the following address:



Evan W Thomas and Dorothy Thomas

After Recording Please Return to:

Same as above

10328 | 10329

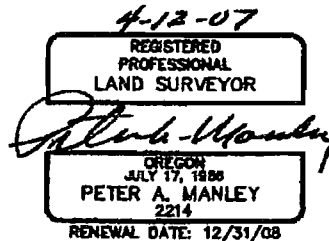
### TRACT B

A parcel of land containing 3.94 acres, more or less, located in a portion of the Northwest One-quarter (NW1/4) and a portion of the Northeast One-Quarter (NE1/4) of Section 07, Township 11 South, Range 14 East, Willamette Meridian, City of Madras, Deschutes County, Oregon, being more particularly described as follows:

Beginning at a point on the north-south centerline of said Section 07 which bears South 00°17'35" East a distance of 80.01 feet from the North One-quarter corner of said Section 07; thence leaving said north-south section centerline and along the south right-of-way line of Ashwood Road as described in Warranty Deed recorded in Book 2005, Page 005605 of Jefferson County official records South 89°39'39" East a distance of 61.23 feet; thence leaving said right-of-way line South 00°17'35" East a distance of 424.32 feet; thence South 89°42'25" West a distance of 61.22 feet a point on the north-south centerline of said Section 07 which bears South 00°17'35" East a distance of 505.00 feet from the North One-quarter corner of said Section 07, being a point on the boundary of Parcel 1 of Partition Plat No. 2004-15 (recorded as MF#2004-4735); thence along the boundary of said Parcel 1 South 89°42'25" West a distance of 354.87 feet; thence leaving said boundary 117.68 feet along a non-tangent curve to the right with a radius of 455.00 feet, the chord of which bears North 07°42'08" West a distance of 117.35 feet; thence North 00°17'35" West a distance of 18.24 feet; thence 123.03 feet along the arc of a tangent curve to the right with a radius of 240.00 feet, the chord of which bears North 14°23'32" East for a distance of 121.68 feet; thence 186.84 feet along the arc of a reverse curve to the left with a radius of 360.00 feet, the chord of which bears North 14°12'33" East for a distance of 184.75 feet to a point on said south right-of-way line; thence along said south right-of-way line the following two (2) courses and one (1) curve:

South 88°42'59" East a distance of 170.57 feet  
18.12 feet along the arc of a tangent curve to the left with a radius of 1099.00 feet, the chord of which bears South 89°11'19" East for a distance of 18.12 feet;  
South 89°39'39" East a distance of 104.28 feet to the point of beginning, the terminus of this description.

**Subject to:** All easements, restrictions and right-of-ways of record and those common and apparent on the land.



April 11, 2007  
S:\Land Projects\051213-Cole subd in Madras\docs\TRACT B(2).doc  
Thomas to Thomas

**Appendix F: Transportation Planning Rule Analysis  
(Kittelson & Associates, January 2010)**



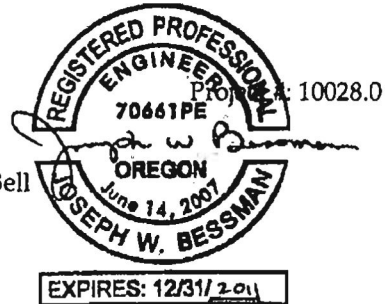

**KITTELSON & ASSOCIATES, INC.**

TRANSPORTATION ENGINEERING / PLANNING

354 SW Upper Terrace Drive, Suite 101, Bend, Oregon 97702 • 541 312 8300 • 541 312 4585

**MEMORANDUM**

**Date:** January 22, 2010  
**To:** Nick Snead, City of Madras  
**From:** Chris Brehmer, P.E. & Joe Bessman, P.E. & Matt Bell  
**Project:** Madras Elementary School UGB Amendment  
**Subject:** Transportation Planning Rule Analysis

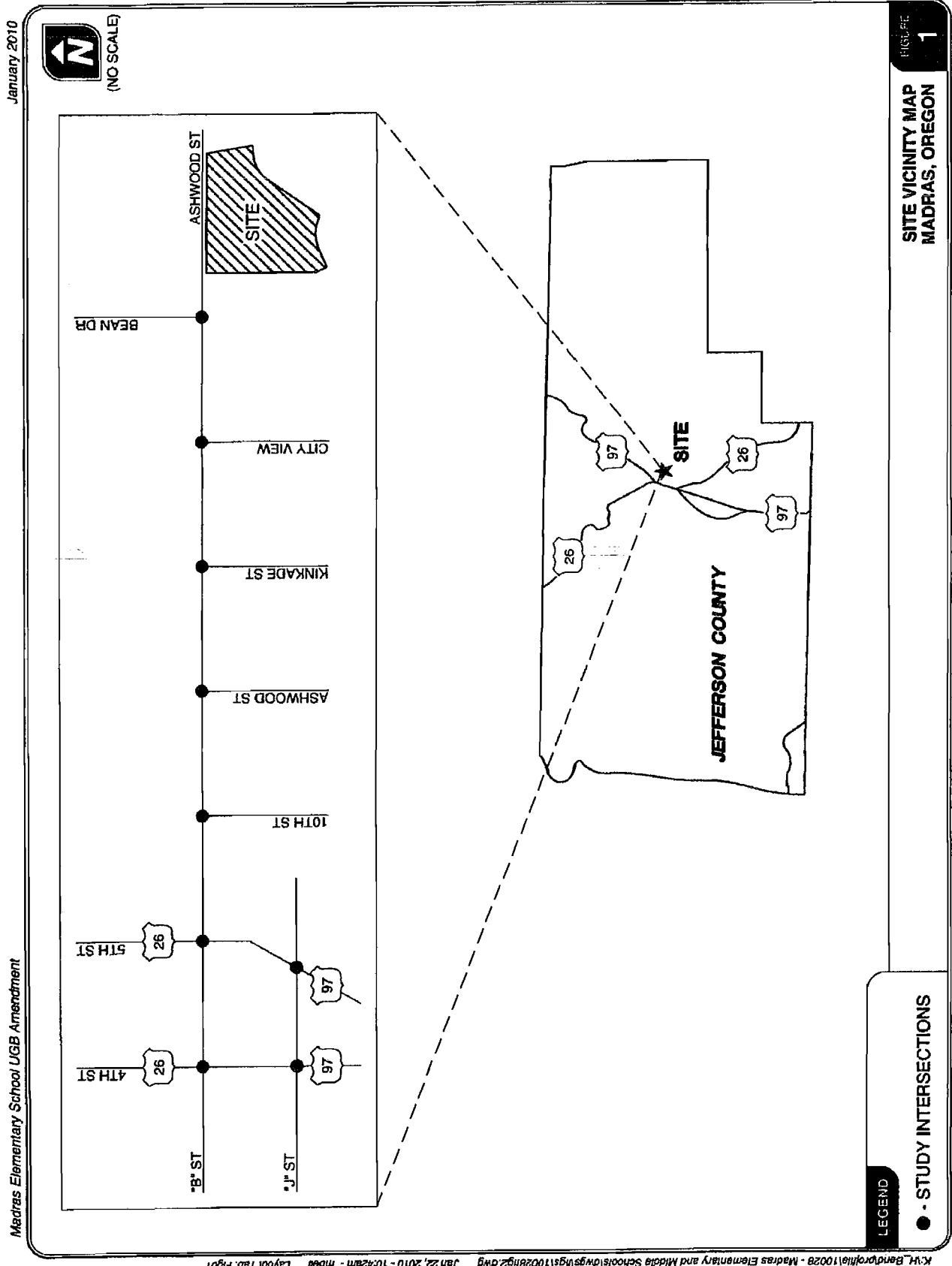


The purpose of this memorandum is to document compliance with the Transportation Planning Rule for the proposed rezone of 20 acres of land located in Jefferson County from *Range Land* (RL) zoning to *Multiple Family Residential* (R-2) zoning. This memorandum was prepared to address the requirements identified within Oregon Administrative Rule (OAR) 660-12-0060 (Transportation Planning Rule, TPR), which contains the applicable criteria for a zone change analysis. The intent of the TPR is to ensure the transportation system can accommodate the change of uses to the adopted system plan and that any resultant significant affects are mitigated.

The land included in the proposed rezone is generally located south of Ashwood Road, east of Jefferson County Middle School, and south of the existing Juniper Hills County Park near Bean Drive. The property is within the Yarrow development and its rezone to accommodate a school was identified as part of the original Yarrow Concept Plan. The location of the property is generally shown in Figure 1, and the identification of the 20-acre future school property on the Yarrow Concept Plan is illustrated in Figure 2. No specific development plans or entitlements are being pursued as part of this zone change.

This study determined that, with the exception of the US 97/J Street intersections, all of the study area intersections operate acceptably with the existing and proposed zoning in the horizon analysis period. The US 97/J Street intersections exceed ODOT mobility standards with or without the proposed rezone. The additional trips associated with the rezone create an incremental impact on the intersection, creating a Significant Effect. The City's Transportation System Plan (TSP) Amendment previously identified a mitigation plan for this intersection and, with the planned improvements in place, the transportation system will operate acceptably with the existing zoning and will continue to operate acceptably with the proposed rezone. Assuming that the Oregon Department of Transportation (ODOT) is able to make a Reasonably Likely determination for the J Street improvements in the TSP, no unmitigated significant effects will occur with the proposed rezone. The study methodology, findings, and recommendations are detailed herein.

FILENAME: H:\PROJFILE\10028 - MADRAS ELEMENTARY AND MIDDLE SCHOOLS\REPORT\FINAL\10028REPPFINAL.DOC



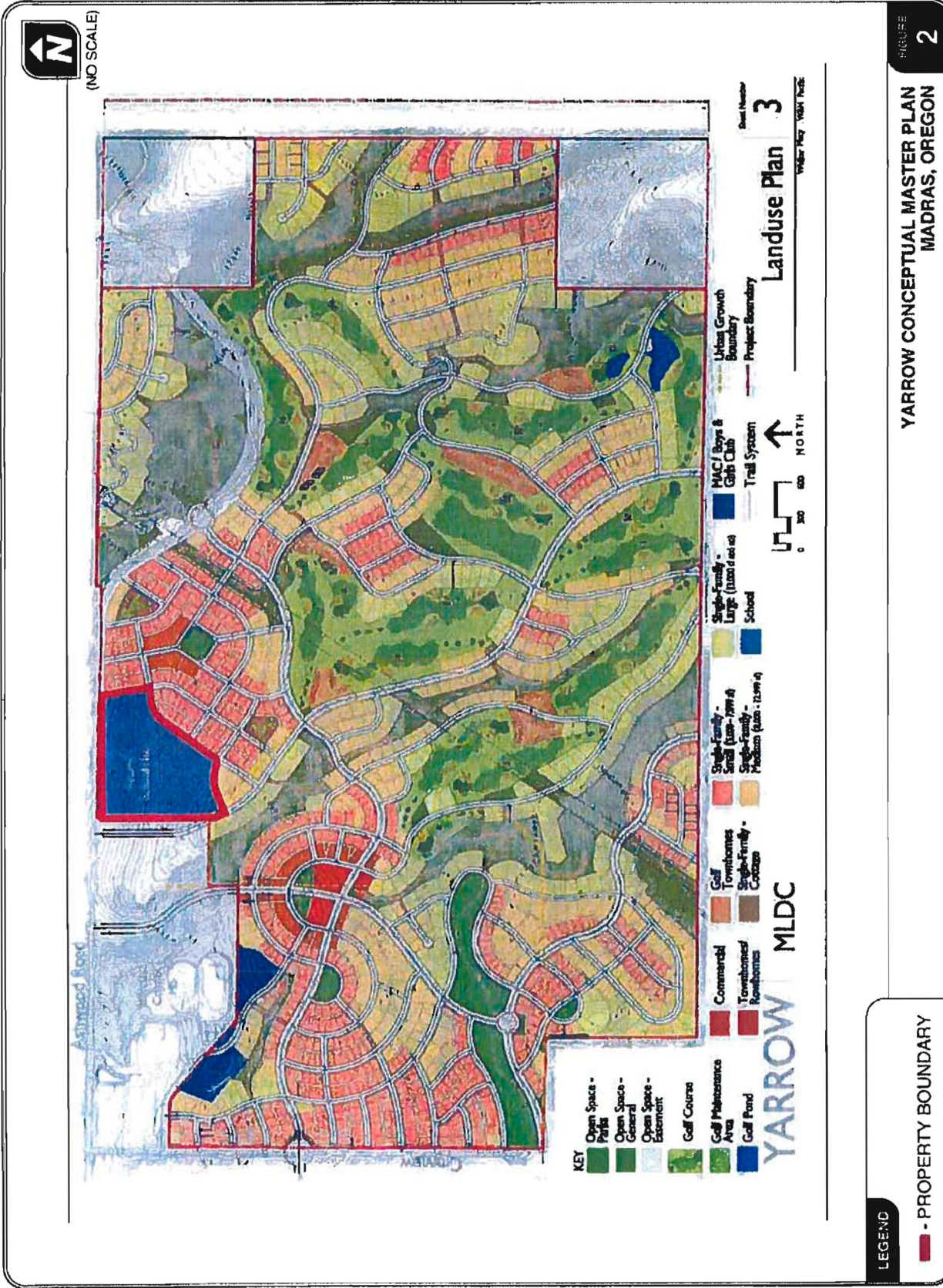
121 Exhibit to Ordinance No. 823

**KITTELSON & ASSOCIATES, INC.**  
 TRANSPORTATION ENGINEERING / PLANNING



January 2010

Madras Elementary School UGB Amendment



K:\Y\_Bend\p\11028 - Madras Elementary and Middle Schools\m\11028\Fig2.dwg Jan 22, 2010 - 10:42am - mbeil Layout Tab: Fig02

KITTELSON & ASSOCIATES, INC.  
TRANSPORTATION ENGINEERING / PLANNING

**BACKGROUND**

The City of Madras, in partnership with the Jefferson County School District is proposing the UGB amendment and rezone to accommodate a potential future elementary school site. Jefferson County School District currently operates two elementary schools within the Madras City limits that served approximately 1,060 kindergarten through fifth grade students during the 2008 school year. The recent closure of the Westside Elementary School due to budget shortfalls has split Madras kindergarten through fifth grade students between Madras Elementary School (kindergarten through 2<sup>nd</sup> grade) and Buff Elementary School (3<sup>rd</sup> through 5<sup>th</sup> grades).

Future building needs and the current location of Buff Elementary School within a 100-year floodplain has created a need for the School District to look at alternative future sites. The location of the proposed land within the Yarrow neighborhood is expected to help accommodate future growth along Madras' east side, and the adjacent Jefferson County Middle School and Juniper Hills Park ball fields are expected to be complementary uses. A new school is not proposed for construction or entitlements at this time; the purpose of the zone change is to accommodate the long-term educational infrastructure needs in the City.

**EXISTING TRANSPORTATION INFRASTRUCTURE**

The existing transportation infrastructure assessment is provided herein to assist the City of Madras with the planning and prioritization of maintenance and infrastructure improvements within the study area. The existing conditions analysis is intended to identify operational and geometric conditions surrounding the site to ensure the necessary right-of-way will be available to accommodate needed system interconnectivity and accessibility, and to ensure existing transportation safety needs are addressed.

**Roadway Facilities**

As illustrated in Figure 2, Ashwood Road borders the site to the north and provides primary access and connectivity to the proposed lands. Ashwood Road serves the Deer Creek Correctional Institute and other rural uses to the east of the site. To the immediate west Ashwood Road serves Juniper Hills Park and the Jefferson County Middle School, and further west transitions into B Street and connects to US 97 and the City's downtown core. A recently constructed extension of City View to J Street connects the parcel to the southern City limits, and Bean Drive connects toward the northern portion of the City. Table 1 summarizes key characteristics of the existing roadway facilities.

**Table 1**  
Existing Transportation Facilities and Roadway Designations

Roadway	Functional Classification	Number of Lanes	Posted Speed	Sidewalks	Bicycle Lanes	On-Street Parking
Ashwood – B Street	Major Collector	2-Lanes	25-45 mph	Partial <sup>2</sup>	Yes	Partial <sup>1</sup>
City View	Major Collector	2-Lanes	25 mph	Yes	Yes	No
Bean Drive	Minor Collector	2-Lanes	25 mph	No	No	No
Kinkade	Minor Collector	2-Lanes	25 mph	Partial <sup>2</sup>	No	No
Ashwood – C Street	Major Collector	2-Lanes	25 mph	Partial <sup>2</sup>	No	No
10 <sup>th</sup> Street	Major Collector	2-Lanes	25 mph	Yes	No	Yes
J Street	Major Collector	2-Lanes	25 mph	Yes	Yes	No

<sup>1</sup> On-street parking is provided along sections of roadway within the City limits.

<sup>2</sup> Sidewalks are located on one side of the street only.

### ***Pedestrian and Bicycle Facilities***

Sidewalks are currently provided along the south side of Ashwood Road primarily where frontage improvements have been completed. As shown in Table 1, sidewalks are generally provided along a majority of the roadways within the site vicinity, with the exception of Bean Drive, where pedestrians may rely on the multi-use path within Juniper Hills Park.

Bicycle lanes are provided on both sides of Ashwood Road and extend west to the City center. Bicycle lanes are also provided on both sides of City View Road, which connect to J Street and the City center to the south.

Review of the project vicinity identified that pedestrian and bicycle connectivity and roadway crossing treatments should be considered to connect the existing Jefferson County Middle School with the Juniper Hills Park. Additional connections to the Yarrow neighborhood should also be provided concurrent with development, including appropriate pedestrian crossing treatments along Ashwood Road. These connections could help encourage non-vehicular trips between the complementary uses and increase pedestrian and bicyclist safety.

### ***Transit Facilities***

Limited transit service is available throughout the site vicinity through services provided by the Cascades East Transit (Reference 1). Cascades East provides community connections from Madras to Redmond, Culver, and the Metolius City Hall on two trips in the morning and two trips during the afternoon period. Fares on the intercommunity connections are \$5.00 per day. Curb to curb on-call transit service is also available through Cascades East Transit Mondays through Friday with reservations. These services are available within a five-mile radius of the town center, and the fare for on-demand service is currently \$1.25 per trip. In addition, the Central Oregon Intergovernmental Council (COIC) also provides bus rides to Medicaid eligible clients within a nine-county area throughout Central Oregon.

### **Existing Traffic Counts**

Historical traffic counts were obtained at City of Madras intersections from May 2007. Review of the manual turning movement counts showed that during the critical evening peak hour B Street near its intersection with 10<sup>th</sup> Street carries approximately 145 vehicles in the eastbound direction and approximately 275 vehicles in the westbound direction during the evening peak hour. It was also noted that of the westbound vehicles approximately 20 percent were expected to travel south on City View with the remainder continuing westbound along Ashwood Road - B Street.

Figure 3 provides a summary of the historical year 2007 existing weekday p.m. peak hour turning-movement counts, which are rounded to the nearest five vehicles per hour. No historical traffic count data was available for the Ashwood Road/Bean Drive intersection, so new counts were conducted in January of 2010. The new traffic count showed similar but slightly lower through volumes along Ashwood Road as compared to the historical 2007 counts. Accordingly, it is expected that the 2006/2007 counts continue to reflect the existing roadway conditions. A summary of the existing traffic volumes throughout the study area is shown in Figure 3. Attachment "1" contains the traffic count worksheets used in this study as provided by City staff.

### **Current Levels of Service and Performance Standards**

Intersection performance thresholds vary throughout the study area based on the roadway jurisdiction. Jefferson County traffic study requirements included within the County's TSP (Reference 2) identify that a Level of Service "C" or higher should be maintained at all County intersections. The City of Madras TSP (Reference 3) identifies a target Level of Service (LOS) "D" for signalized intersections, LOS "E" for unsignalized intersections (or LOS F with a volume-to-capacity ratio below 0.95). ODOT mobility standards included within the Oregon Highway Plan (add subsequent updates, Reference 4) require a volume-to-capacity ratio of less than 0.90 on the stop-controlled minor street approaches at the J Street intersections and a volume-to-capacity ratio of 0.80 at the signalized B Street intersections and future signalized J Street intersections.<sup>1</sup>

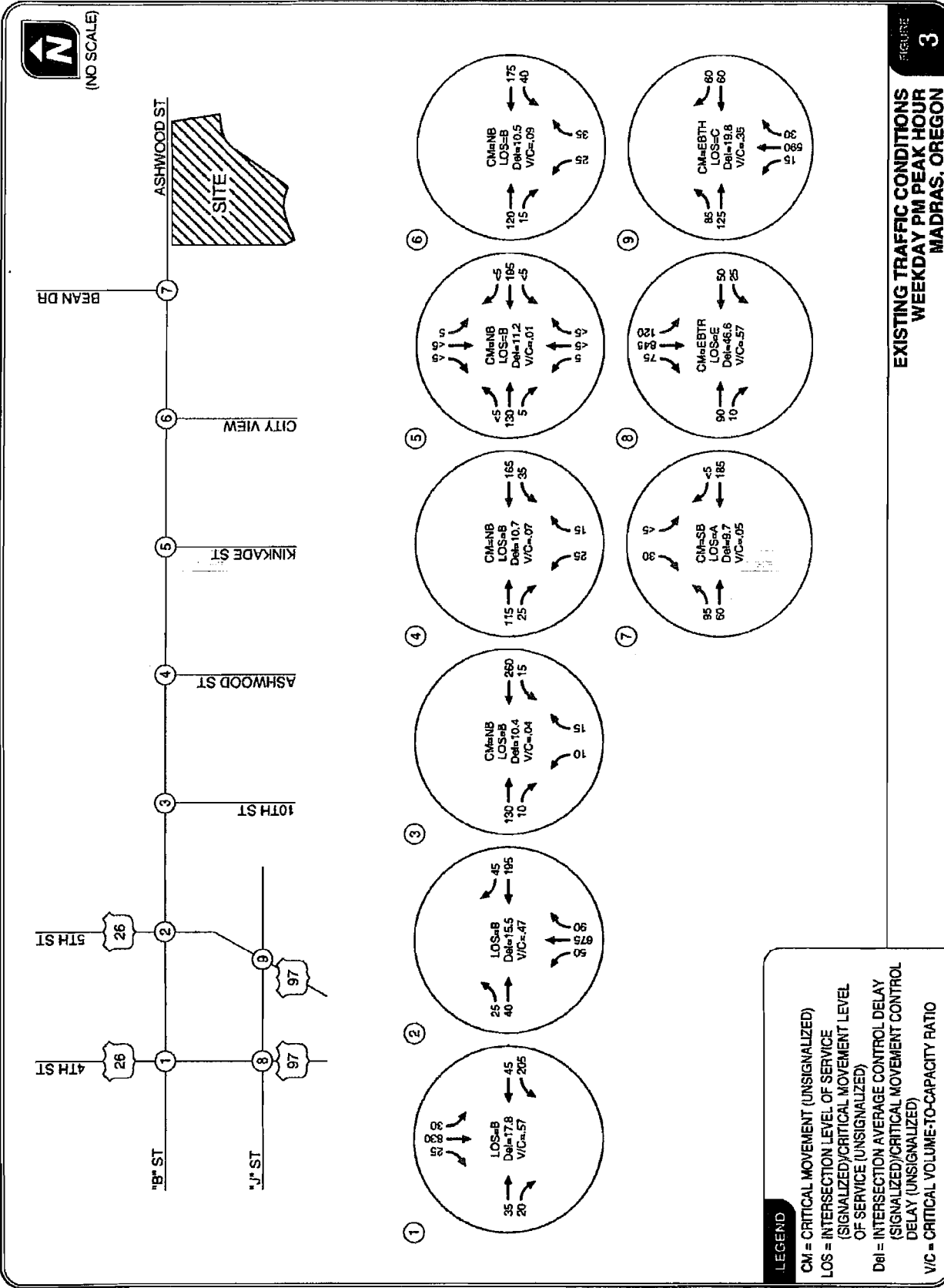
Intersection operations were reviewed to identify current capacity and safety constraints on the roadway network. Field review of the study area identified that all of the intersections are uncontrolled in the east-west direction along B Street - Ashwood Road and are stop-sign controlled along the north-south minor-street approaches. Relevant intersection performance standards for the study area intersections are summarized below in Table 2.

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<sup>1</sup> Per the Oregon Highway Plan, US 26/US 97 are classified as Statewide Highways, Freight Routes, and part of the National Highway System and contain a posted speed of 30 miles per hour through the study area. Unsignalized highway mobility standards are based on a District/Local Interest Road in a non-Metropolitan Planning Organization (MPO) outside of Special Transportation Areas where the non-freeway posted speed is less than 35 mph. Signalized highway mobility standards are based on a Freight Route along a Statewide Highway in a non-MPO outside of STAs where the posted speed is less than 35 mph.

January 2010

Madras Elementary School UGB Amendment



EXISTING TRAFFIC CONDITIONS WEEKDAY PM PEAK HOUR MADRAS, OREGON

FIGURE 3

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**Table 2** Summary of Intersection Performance Standards

Intersection	Jurisdiction	Traffic Control <sup>1</sup>	Performance Standard	Horizon Period
Ashwood Road/ Bean Drive	Jefferson County	TWSC	LOS C	Year 2027
Ashwood Road/ City View	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ Kinkade Road	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ Ashwood Road	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ 10 <sup>th</sup> Street	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ US 97 Northbound	ODOT	Signalized	v/c < 0.80	Year 2025
B Street/ US 97 Southbound	ODOT	Signalized	v/c < 0.80	Year 2025
J Street/ US 97 Northbound	ODOT	TWSC	v/c < 0.90	Year 2025
J Street/ US 97 Southbound	ODOT	TWSC	v/c < 0.90	Year 2025

<sup>1</sup>TWSC: Two-way stop-controlled (unsignalized)

Results of the existing conditions intersection operations during the weekday p.m. peak hour are illustrated in Figure 3. As shown in the figure, all of the study area intersections currently operate acceptably. It was noted that the J Street intersection with Southbound US 97 (4<sup>th</sup> Street) meets mobility standards but operates with high delays (Level of Service "E") along the stop-controlled east-west approaches. Existing conditions level-of-service worksheets are included in Attachment "2".

### Existing Conditions Summary

The following transportation system improvement needs were identified based on review of the existing system conditions. Since mitigation of these existing deficiencies is not applicable to or caused by the proposed zone change, it is recommended that these safety and performance improvements be provided by the City of Madras as part of the City's regular maintenance or incorporated into the City's Capital Improvement Plans.

- Pedestrian and bicycle connectivity and roadway crossing treatments should be considered as part of future planning efforts to connect the existing Jefferson County Middle School with the Juniper Hills Park. Additional connections to the Yarrow neighborhood should also be provided concurrent with development, including appropriate pedestrian crossing treatments along Ashwood Road. These connections could help encourage non-vehicular trips between the complementary uses and increase pedestrian and bicyclist safety.
- All of the study area intersections operate acceptably, although the Southbound US 97 (4<sup>th</sup> Street)/J Street intersection operates with high minor-street delay at a Level of Service "E".

## TRANSPORTATION PLANNING RULE COMPLIANCE

The applicable criteria for zone change analyses are found within Oregon Administrative Rule (OAR) 660-12-0060, also known as the Transportation Planning Rule (TPR, Reference 5). The TPR is intended to require that any changes to the adopted and recognized Transportation System Plan show consistency and compliance with the stated goals of the plan, the development and regular updates of which are a mandated requirement for cities. The overall purpose of a city's TSP is to 1) provide a safe, convenient, and economic transportation system that encourages and supports the availability, safety, convenience, and efficiency of a variety of transportation choices for moving people that balance vehicular use with other transportation modes, including walking, bicycling, and transit in order to avoid principal reliance upon any one mode of transportation; and 2) to protect existing and planned facilities for their identified functions.

The City's applicable Transportation System Plan was completed in 2001, with updates completed for the J Street connection with the US 97 in 2005 (Reference 6). The initial plan provides an assessment of roadway classifications throughout the City and potential intersection treatments at a sampling of collector and arterial intersections along with associated planning level improvement costs, and is the applicable planning document related to the City's Ashwood – B Street intersections. The J Street amendment reviewed improvement options specific to the US 97 intersections and is considered the relevant planning document for the J Street intersections.

The City's adopted TSP does not include a specific assessment of the long-term intersection needs at any of the City intersections along B Street-Ashwood, as the TSP focused on the more critical intersections along the US 97/US 26 corridor through downtown Madras. The intent of this zone change analysis is to provide an assessment of the long-term system needs that should be considered for inclusion within the City's TSP (as summarized within the *Existing Zoning* section). In addition, to support the proposed zone change this report also includes an assessment of additional impacts that could occur with future development resulting from this zone change (as included within the *Proposed Zoning* section).

All analyses assess year 2020 conditions on City facilities and year 2027 conditions on County facilities for consistency with the adopted TSP horizon years. ODOT's US 97 intersections with J Street are assessed under year 2025 conditions, consistent with the TSP Update and meeting the minimum 15-year planning horizon required for consistency with the Oregon Highway Plan (Section 1F.2). ODOT's intersections with B Street are also assessed under year 2025 conditions for consistency with the 15-year minimum planning horizon identified in the State's TSP, the Oregon Highway Plan (the City TSP assesses only 2020 conditions at B Street).

### **Reasonably Likely Transportation Improvements**

Transportation Planning Rule analyses allow the inclusion of planned improvements in the horizon analysis period for which a funding mechanism has been identified. The funding mechanism could be an established local Capital Improvement Project, local projects contained within a City's Systems Development Charge (SDC) list, or funded ODOT Statewide Transportation Improvement Program (STIP) projects. No funded improvements affect the study area intersections.

The US 97/J Street improvements are identified in the City's TSP Amendment as a needed facility improvement and included within the ODOT 2010-2013 Draft STIP list. Improvement plans include realignment of northbound US 97 onto Adams Drive and two new traffic signals at the new J Street intersections. A request for a "Reasonably Likely" determination for the planned improvements has been sent to ODOT and is pending approval. *Attachment "3" includes an illustration of the planned J Street Improvements.*

#### **Existing Zoning Conditions (Future Horizon Period)**

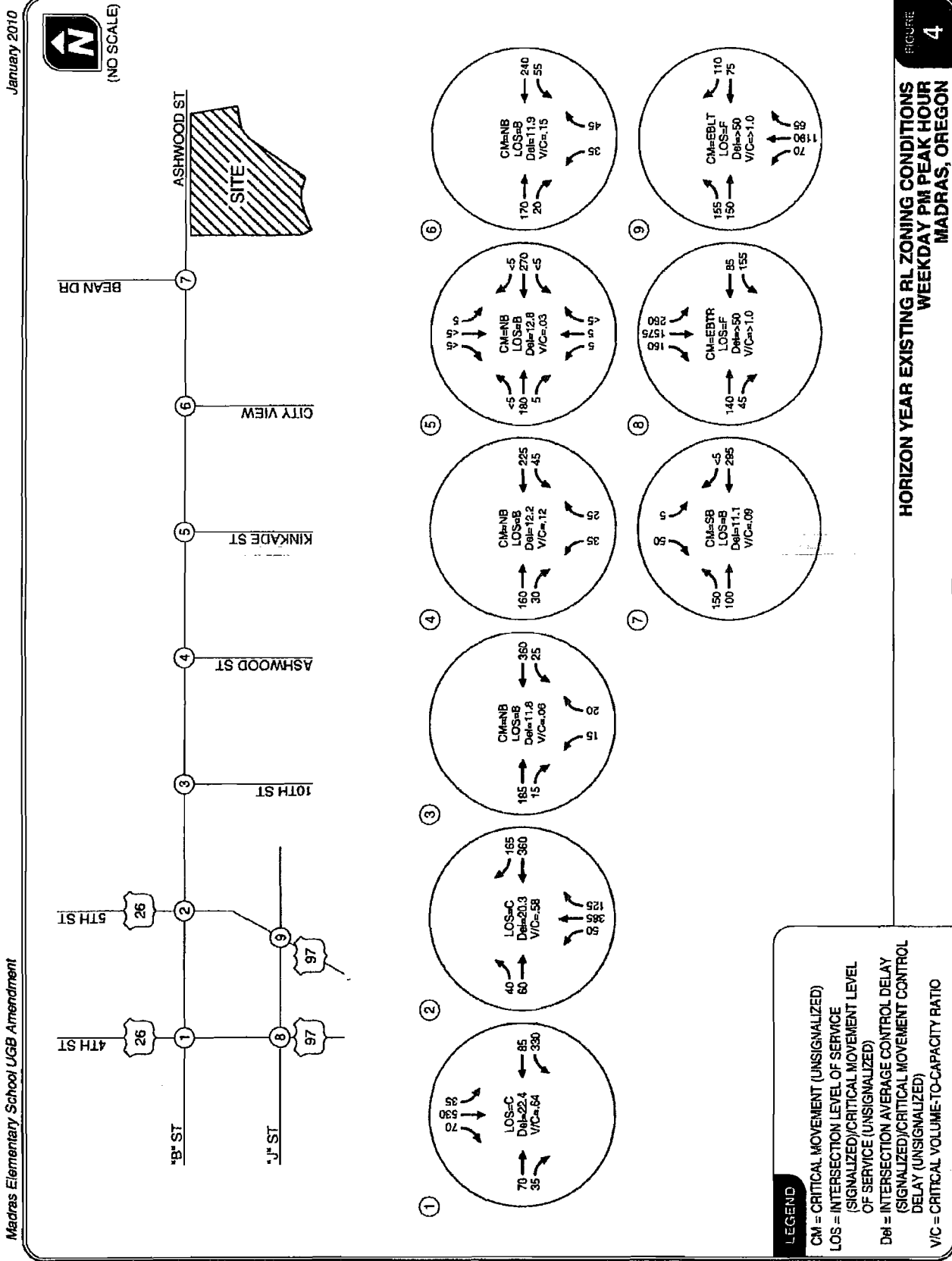
An analysis was conducted for the horizon years as identified in the applicable City, County, and State TSPs. The existing zoning assessment was prepared to identify how the study area's transportation system operates in the horizon year with build-out of the subject parcel as currently zoned (without the impact of the proposed rezone). This analysis will supplement the City's TSP efforts along this segment of Ashwood Road and will provide a basis for comparison to potential future conditions with the proposed zone change.

Review of the City's TSP (TSP Technical Memorandum #3, Reference 7) shows that future horizon volumes were developed through the application of an annual three percent growth rate for all turning and through movements to and from City facilities. ODOT facilities were assessed using a two percent annual growth rate for through movements along US 97/US 26. County facilities were assessed with a 3.2 percent growth rate through 2011 and 2.5 percent annual growth from 2012 through 2027.

To identify the existing trip generation potential of the subject property, review of the County zoning, allowable land uses, and site constraints was conducted. The existing *Range Land* zoning is one of three designations for Exclusive Farm Use (EFU) lands within Jefferson County. The *RL* zoning is intended to preserve predominantly non-irrigated agricultural lands for livestock grazing, and the *RL* zoning requires that non-farm residences contain a minimum of 40 acres. A variety of non-residential uses are permitted within the *RL* zoning, though these uses require more acreage than the 20-acres proposed for the rezone and all are considered low intensity uses. Accordingly, under the existing zoning the trip generation potential is severely limited, and for analysis purposes it was conservatively assumed to be none.

#### **Intersection Level-of-Service Analysis**

Figure 4 illustrates the weekday p.m. peak hour traffic volumes inclusive of regional growth and potential site build-out with the existing zoning. These volumes were used to conduct an operational analysis at each of the study intersections to determine the horizon year levels of service. As shown, all of the study intersections are forecast to operate at acceptable levels of service with exception of the US 97/J Street intersections, which exceed ODOT mobility standards. With the planned J Street improvements in place both the US 97 Northbound and Southbound intersections with J Street are forecast to operate acceptably. *Attachment "4" contains the horizon period existing zoning level-of-service worksheets.*



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**Proposed Zoning Conditions (Future Horizon Period)**

Future horizon year conditions were developed based on the same methodology used to assess the existing zoning conditions. The proposed zoning conditions also include the incremental increase in trips that could be generated with the *Multiple Family Residential (R-2)* zoning, as described below.

The *Multiple Family Residential (R-2)* zoning category provides for higher-density single-family uses and attached residential uses, including apartments and townhomes. The R-2 zoning also allows parks and community centers as outright uses. Schools, churches, libraries, and other government buildings are allowed as conditional uses.

The City of Madras zoning provisions, as contained within Ordinance 723 (Reference 8), were reviewed to identify density ranges and allowable uses within the R-2 zoning. Conditional uses are typically not considered as part of a zone change analysis. However, as the intent of the rezoning is to ultimately allow for a new school this specific conditional use was reviewed to ensure that a reasonable development scenario considers the potential impact of a school.

Review of the City zoning provisions identified the following outright allowable uses in the R-2 zoning:

- Single family residential
- Multi-family residential
- Public park, recreation areas, community centers

Based on the uses shown above, multi-family residential was identified as the most intense outright land use category from a trip generation perspective. Review of the required building space, parking allocations, lawn space, and typical road and infrastructure allocations identified a resultant reasonable maximum density of 11.6 attached residential units per acre, or approximately 232 total attached residential units on 20-acres. *Additional details on the development of residential densities are included in Attachment "5".*

Conversations with the project team identified that a future school would likely comprise ten acres of the overall land, with a minimum of five acres dedicated to the elementary school. Any additional lands would be retained for residential uses. The most likely school type would be an elementary school given the regional needs and recent closure of the Westside Elementary site. A new elementary school could be expected to serve an enrollment of approximately 350 students (historical records from the closed Westside Elementary School showed an enrollment of 325 students).

Accordingly, in addition to consideration of build-out of the 20-acres with residential uses, this provides two additional R-2 development scenarios to consider:

1. 116 attached residential units on ten acres (11.6 units/acre \* 10 acres = 116 units) and a 350-student elementary school
2. 174 attached residential units on fifteen acres (11.6 units/acre \* 15 acres = 174 units) and a 350-student elementary school on the remaining five acres.

While a ten acre school site is more typical, the minimum five-acre site provides a reasonable worst-case development scenario resulting in a more conservative analysis. The two scenarios forwarded for consideration include build-out of the parcel with residential and build-out of 15-acres with residential and 5-acres with a new school.

### **R-2 Zoning Trip Generation Potential**

Trip generation estimates were prepared for both R-2 zoning scenarios to determine which land use combination resulted in a higher overall trip generation potential during the critical weekday evening commute period (one hour between 4:00 and 6:00 p.m.). Trip generation estimates for each of the scenarios were prepared based on surveys of similar sites. Residential trip generation estimates were prepared based on data contained within ITE's standard reference *Trip Generation, 8<sup>th</sup> Edition*, using the *Apartment* land use category (Land Use Code 220, Reference 9).

Trip generation estimates for the elementary school were prepared using surveys of schools within the City of Bend to better approximate local elementary school trends. The surveys of the Bend locations contain slightly lower trip generation rates than national surveys of elementary schools (0.13 trips/student versus 0.15 trips/student), but are expected to better reflect local characteristics of Central Oregon schools than the national data due to similarities in weather characteristics, mode splits, and after school activities.

All of the elementary school surveys were conducted in early fall at each of the five school sites and include an account of after school activities and public use of the adjacent ballfields. Because the evening commute period analysis of the school primarily reflects faculty trips (student trips typically occur in the afternoon), the increased student walking ratios during fair weather conditions are not expected to impact the results. The study found that the increased public use of the ballfields due to the fair weather likely results in a higher than typical trip rate. While the Bend Elementary School surveys were conducted at locations within developed residential neighborhoods, it is assumed that the City of Madras Urban Growth Boundary area will be fully developed by the horizon year providing similar characteristics at the proposed location. It was also noted that the surrounding neighborhoods have already been master planned, with portions of the roadway infrastructure for the first development phases already in place. *Attachment "6" contains the Bend-La Pine Elementary School Trip Generation study.*

While the location of the elementary school is expected to support the surrounding Yarrow neighborhood, complement with the adjacent middle school, recreational facility, and benefit from the adjacent Juniper Hills Park ballfields, additional trip discounts were not applied to the trip rates obtained from the Bend-La Pine School District facilities. Mixed-use incentives provided in Section 6 of the TPR were also omitted from the analysis, though the densities and integrated uses planned within the Yarrow development are expected to comply with the applicable definitions of a mixed-use pedestrian friendly neighborhood. Table 3 summarizes the trip generation potential of the two potential land use scenarios.

**Table 3** R-2 Scenarios Trip Generation Potential

Land Use	ITE Code	Size	Weekday PM Peak Hour		
			Total	In	Out
Proposed R-2 Zoning: Residential Only Scenario					
Apartments (20 acres)	220	232 Units	145	94	51
Proposed R-2 Zoning: Residential Plus Elementary School Scenario					
Apartments (15 acres)	220	174 Units	113	74	39
Elementary School (5 acres)	N/A	350 Students	46	25	21
Total Trips			159	99	60

As shown in Table 3, future development of the 20-acres with an elementary school (comprising five acres) and residential uses (comprising 15 acres) provides a reasonable worst-case development scenario. This scenario was found to generate 14 more weekday p.m. peak hour trips than build-out of residential uses alone and was used to assess the incremental system impacts associated with the proposed rezone.

#### **Trip Distribution and Trip Assignment**

The estimated trip distribution pattern of primary site-generated trips associated with the UGB amendment was determined through review of existing traffic patterns, likely school faculty/employee housing, and residential destinations. The trip distribution patterns were separated by residential and school trips, with the resultant trip distribution pattern illustrated in Figure 5. As shown, the pattern highlights that the majority of trips would be headed west toward the City center and US 97 corridor. Trips destined toward US 97 are expected to distribute onto the available parallel routes (Loucks, City View, or B Street) based on their ultimate travel destination.

The difference between the Range Land zoning trip generation potential (assumed to be none) and the proposed Multiple Family Residential (R-2) zoning trips (shown in Table 4) during the critical weekday p.m. peak hour was assigned to the roadway network based on the trip distribution patterns and routing. These incremental trips were added to the existing zoning traffic volumes, with the resultant volumes illustrated in Figure 7.

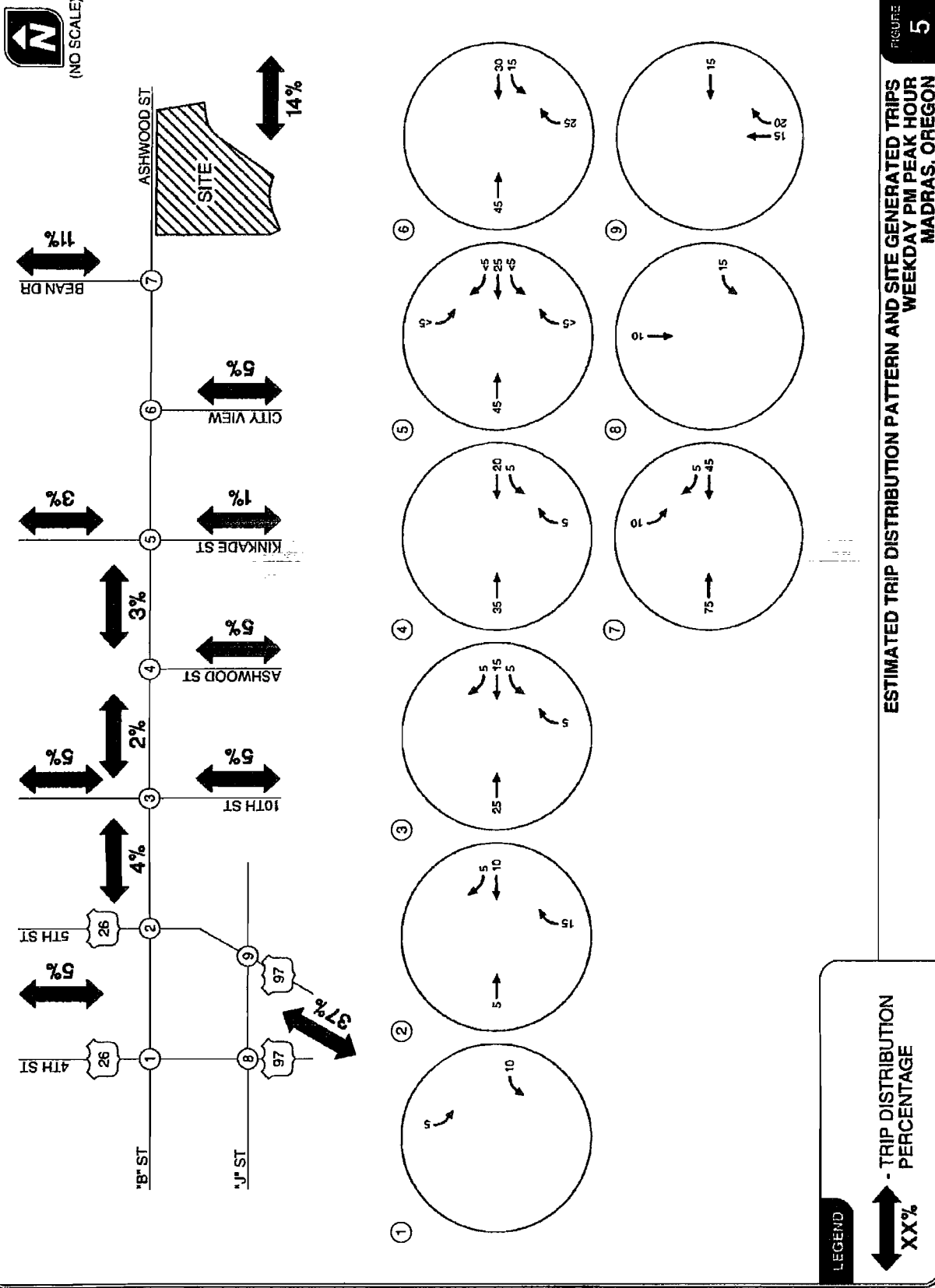
#### **Study Area Intersections**

Based on a review of the potential increase in trips with the proposed zoning, the following intersections of collector and arterial roadways were identified as study intersections due to their potential for being significantly affected by the proposed zone change. Scoping materials and conversations with the affected jurisdiction staff provided concurrence on the study area. *The City of Madras roadway classification map is included in Attachment "7" and the scoping letter is included as Attachment "8".*



January, 2010

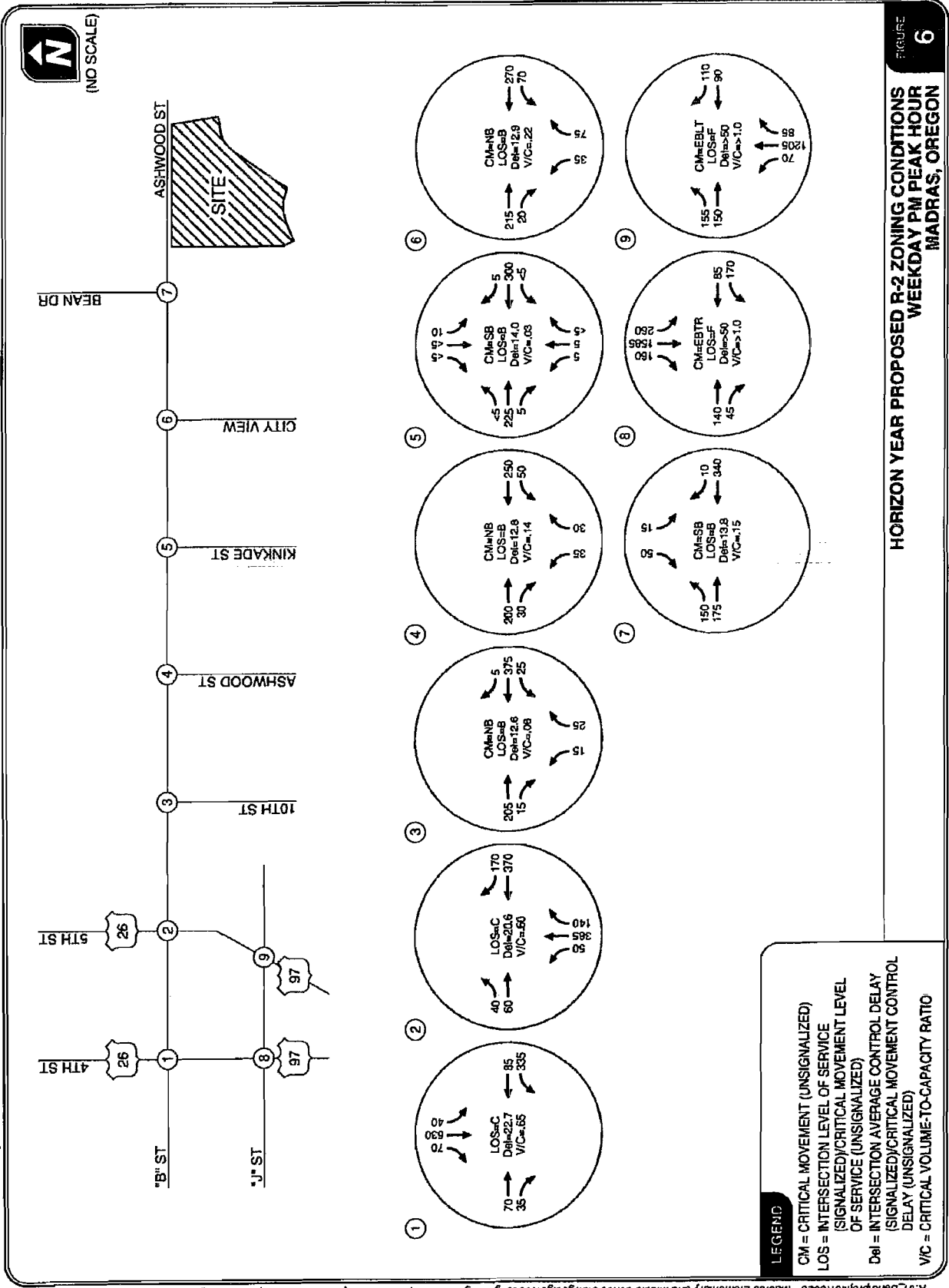
Madras Elementary School UGS Amendment



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January 2010

Madras Elementary School USB Amendment



**FIGURE 6**  
HORIZON YEAR PROPOSED R-2 ZONING CONDITIONS  
WEEKDAY PM PEAK HOUR  
MADRAS, OREGON

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- Ashwood Road/Bean Drive (could be impacted by up to 137 additional weekday p.m. peak hour trips, a 46 percent increase from existing volume)
- Ashwood/City View (could be impacted by up to 119 additional weekday p.m. peak hour trips, a 34 percent increase from existing volume)
- B Street/Kinkade Road (could be impacted by up to 76 additional weekday p.m. peak hour trips, a 22 percent increase from existing volume)
- B Street/Ashwood (could be impacted by up to 66 additional weekday p.m. peak hour trips, an 18 percent increase from existing volume)
- B Street/10<sup>th</sup> Street (could be impacted by up to 55 additional weekday p.m. peak hour trips, a 12 percent increase from existing volume)
- US 97 Northbound/B Street (exceeds ODOT's 300 daily trip threshold)
- US 97 Southbound/B Street (exceeds ODOT's 300 daily trip threshold)
- US 97 Northbound (Fifth Street)/J Street (exceeds ODOT's 300 daily trip threshold)
- US 97 Southbound (Fourth Street)/J Street (exceeds ODOT's 300 daily trip threshold)

It should be noted that additional assessment of localized queuing and operations during the school peak periods may be required in the future as part of the entitlements process when a specific site plan is available. However, as the purpose of the Transportation Planning Rule is to provide consistency with the adopted Transportation System Plan only the weekday p.m. peak hour operations (design hour) are summarized herein for TPR purposes.

#### **Intersection Level of Service Analysis**

The weekday p.m. peak hour turning-movement volumes shown in Figure 5 were used to conduct an operational analysis at each study intersection to determine the horizon year levels of service. As shown, with the application of regional growth and the incremental trip generation potential of the proposed R-2 zoning all of the study intersections are forecast to operate at acceptable levels of service during the weekday p.m. peak hour with exception of the US 97/J Street intersections. With the planned J Street improvements in place, both the US 97 northbound and southbound intersections with J Street are shown to operate acceptably. *Attachment "9" contains the horizon year level-of-service worksheets.*

#### **TRANSPORTATION PLANNING RULE COMPLIANCE**

OAR Section 660-12-0060 sets forth the relative criteria for evaluating plan and land use regulation amendments. Table 4 summarizes the TPR criteria and their applicability to the proposed rezone application.

**Table 4** Summary of Criteria in OAR 660-012-0060

Section	Criteria	Applicable?
1	Describes how to determine if a proposed land use action results in a significantly affects transportation facilities.	Yes <i>See response below</i>
2	Describes measures for complying with Criteria #1 where a significant effect is identified.	Yes <i>See response below</i>
3	Describes measures for complying with Criteria #1 and #2 without assuring that the allowed land uses are consistent with the function, capacity and performance standards of the facility	No
4	Determinations under Criteria #1, #2, and #3 are coordinated with other local agencies.	Yes <i>See response below</i>
5	Indicates that the presence of a transportation facility shall not be the basis for an exception to allow development on rural lands.	No (Lands are part of a master plan area)
6	Indicates that local agencies should credit developments that provide a reduction in trips.	No (No concurrent site plan)
7	Outlines requirements for a local street plan, access management plan, or future street plan for commercial areas.	No (Commercial lands are not proposed)
8	Defines a mixed-use, pedestrian-friendly neighborhood	No (No concurrent site plan)

As shown, there are eight criteria that apply to Plan and Land Use Regulation Amendments. Of these, Criteria #1, #2, and #4 are applicable to the proposed land use action. Applicable sections of these criteria are provided below in italics with a corresponding response shown in standard font.

*OAR 660-12-0060 (1) Where an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation would significantly affect an existing or planned transportation facility, the local government shall put in place measures as provided in section (2) of this rule to assure that allowed land uses are consistent with the identified function, capacity, and performance standards (e.g. level of service, volume to capacity ratio, etc.) of the facility. A plan or land use regulation amendment significantly affects a transportation facility if it would:*

*(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);*

*(b) Change standards implementing a functional classification system; or*

*(c) As measured at the end of the planning period identified in the adopted transportation system plan:*

*(A) Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;*

**Response:** Based on the incremental traffic increase from RL to R-2 zoning, the functional classification of all the adjacent roadways will not be affected with the proposed zone change.

*(B) Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan; or*

**Response:** The intersections of US 97/J Street performs below the minimum acceptable performance standard in the City of Madras TSP and the OHP with the existing zoning.

*(C) Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.*

**Response:** The performance of the US 97/J Street intersections are degraded with the incremental trips from the proposed rezone, and therefore a *Significant Effect* occurring with the proposed rezone.

*OAR 660-12-0060 (2) Where a local government determines that there would be a significant effect, compliance with section (1) shall be accomplished through one or a combination of the following:*

*(a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.*

*(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.*

*(c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.*

*(d) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.*

*(e) Providing other measures as a condition of development or through a development agreement or similar funding method, including transportation system management measures, demand management or minor transportation improvements. Local governments shall as part of the amendment specify when measures or improvements provided pursuant to this subsection will be provided.*

**Response:** The J Street intersections are significantly affected. An amendment to the City's Transportation System Plan identifies the long-term needs at these intersections, but at the time the TSP amendment was approved a funding mechanism was not simultaneously adopted. However, because the J Street improvements are located on US 97 and under the

jurisdiction of ODOT additional steps are required to provide a *Reasonably Likely* determination.

*OAR 660-12-0060 (4) Determinations under sections (1)-(3) of this rule shall be coordinated with affected transportation facility and service providers and other affected local governments.*

*(a) In determining whether an amendment has a significant effect on an existing or planned transportation facility under subsection (1)(c) of this rule, local governments shall rely on existing transportation facilities and services and on the planned transportation facilities, improvements and services set forth in subsections (b) and (c) below.*

*(b) Outside of interstate interchange areas, the following are considered planned facilities, improvements and services:*

*(D) Improvements to state highways that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when ODOT provides a written statement that the improvements are reasonably likely to be provided by the end of the planning period.*

*(e) For purposes of this section, a written statement provided pursuant to paragraphs (b)(D), (b)(E) or (c)(A) provided by ODOT, a local government or transportation facility provider, as appropriate, shall be conclusive in determining whether a transportation facility, improvement or service is a planned transportation facility, improvement or service. In the absence of a written statement, a local government can only rely upon planned transportation facilities, improvements and services identified in paragraphs (b)(A)-(C) to determine whether there is a significant effect that requires application of the remedies in section (2).*

**Response:** A formal request has been provided to ODOT for a *Reasonably Likely* determination for the J Street improvements. The J Street improvements are included in the City of Madras TSP Amendment, conceptual design and cost estimates have been completed, and the project is included on the Draft 2010-2013 STIP, expected for approval in October 2010. Pending the anticipated receipt of the *Reasonably Likely* letter from the ODOT Region Manager the ability to assume completion of the J Street improvements as part of the horizon year transportation system will be conclusive.

## **PROJECT FINDINGS AND RECOMMENDATIONS**

### ***Existing Transportation System Findings and Recommendations***

Findings of the existing transportation system review and analysis are summarized below.

- All of the study area intersections currently operate acceptably. The Southbound US 97 (4<sup>th</sup> Street)/J Street intersection meets City and ODOT operational standards but operates with high peak hour delays on the stop-controlled east-west approaches.
- No marked pedestrian crossings or continuous sidewalks are provided between the Jefferson County Middle School/Yarrow and Juniper Hills Park.

Recommendations from the existing conditions assessment are provided below. The City of Madras should incorporate these recommendations into their scheduled maintenance plans or assess the priority of the improvements based on the potential system safety and performance benefit. The identified improvements are currently needed regardless of the proposed zone change.

- Pedestrian and bicycle connectivity and roadway crossing treatments should be considered as part of future planning efforts to connect the existing Jefferson County Middle School with the Juniper Hills Park. Additional connections to the Yarrow neighborhood should also be provided concurrent with development, including appropriate pedestrian crossing treatments along Ashwood Road. These connections could help encourage non-vehicular trips between the complementary uses and increase pedestrian and bicyclist safety.

### **Transportation Planning Rule Findings and Recommendations**

Key findings from the Transportation Planning Rule Analysis are summarized below.

- The proposed 20-acre rezone from the County's *Rangeland* zoning to the City's *Multiple Family Residential* zoning could generate an additional 159 weekday p.m. peak hour trips.
- With exception of the US 97/J Street intersections, all of the study area intersections operate acceptably with the existing and proposed zoning in the horizon analysis period.
- With or without the proposed rezone the US 97/J Street intersections exceed ODOT mobility standards. The additional trips associated with the rezone create an incremental impact on the intersection, creating a *Significant Effect*.
- The City's Transportation System Plan Amendment was prepared to identify the system improvement needs to address the J Street needs. Identified improvements include a realignment of Northbound US 97 (5<sup>th</sup> Street) east onto Adams Drive and two new signalized intersections along J Street for both northbound and southbound highway traffic. With the planned improvements in place the transportation system will operate acceptably with the existing zoning and will continue to operate acceptably with the proposed rezone.
- A request for a *Reasonably Likely* determination has been provided to ODOT. With a *Reasonably Likely* determination for the J Street improvements, no unmitigated significant effects will occur with the proposed rezone.
- Interconnectivity should be reviewed with subsequent Yarrow development (including within the subject parcel) to provide direct and convenient multimodal access to the potential school site. Additionally, pedestrian treatments should be considered between Yarrow, Juniper Hills Park, the adjacent recreational facility, and Jefferson County Middle School.

Please let us know if you have any questions regarding this zone change analysis at (541) 312-8300.



**ATTACHMENTS:**

1. Historical Turning Movement Count Data
2. Existing Conditions Level of Service Worksheets
3. J Street Concept Map
4. Horizon Year (Existing RL Zoning) Level of Service Worksheets
5. R-2 Residential Density Development
6. Bend-La Pine Elementary School Trip Generation Study
7. City of Madras Roadway Classification Map
8. Project Scoping Letter
9. Horizon Year (Proposed R-2 Zoning) Level of Service Worksheets

**REFERENCES:**

1. Cascades East Transit. <http://www.cascadeseasttransit.com>. January 2010.
2. City of Madras & Kittelson & Associates, Inc. *City of Madras Transportation System Plan*. 2001.
3. Jefferson County & Kittelson & Associates, Inc. *Jefferson County Transportation System Plan*. 2005.
4. Oregon Department of Transportation. *1999 Oregon Highway Plan*. March 1999.
5. Department of Land Conservation and Development. Oregon Administrative Rule 660-12-0060, <http://arcweb.sos.state.or.us/banners/rules.htm>.
6. City of Madras & Kittelson & Associates, Inc. *City of Madras Transportation System Plan Update*. 2006.
7. Kittelson & Associates, Inc. *Technical Memorandum #3: Year 2020 Operations Analysis*. May 2001.
8. City of Madras. Ordinance 723, [http://ci.madras.or.us/agendas/agendas\\_ordinances.shtml](http://ci.madras.or.us/agendas/agendas_ordinances.shtml). February 2005.
9. Institute of Transportation Engineers. *Trip Generation, 8<sup>th</sup> Edition*. 2008.

**Attachment "1"**  
Manual Turning  
Movement Counts



**TRAFFIC COUNT SUMMARY FORM**

Project Title: Madras Condition: 2003 Existing Weather: Road Surface: Traffic Control: Two-way Stop  
 Project No. ODOT0000-0408 Count Date: 1/28/2003 Intersect. type: 4-Leg  
 Location: OR Count Period: 4:00-6:00 PM Counted by: Traffic Smithy  
 NS Street: Hwy 97/5th Street Growth Rate: NA  
 EW Street: B Street # Compounding Years: NA

**APPROACH VOLUMES**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-MIN Total	HOURLY Total	
16:00 16:15	2	13	0	0	52	20	5	141	23	0	0	0	258	984	0:00
16:15 16:30	4	11	0	0	44	6	12	133	26	0	0	0	238	1014	0:00
16:30 16:45	5	8	0	0	41	10	12	164	18	0	0	0	258	1035	16:30
16:45 17:00	2	6	0	0	37	12	11	143	23	0	0	0	234	1013	0:00
17:00 17:15	7	10	0	0	61	12	12	161	23	0	0	0	286	984	0:00
17:15 17:30	4	12	0	0	31	8	7	151	44	0	0	0	257	678	0:00
17:30 17:45	1	12	0	0	40	12	5	142	24	0	0	0	238	421	0:00
17:45 18:00	2	1	0	0	19	11	6	133	13	0	0	0	188	185	0:00
													<b>1948</b>		

Actual PM peak hour period is from: 18:30 to 17:30

**ACTUAL PEAK HOUR VOLUME**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-Min Total	Hourly Total
16:30 16:45	5	8	0	0	41	10	12	164	18	0	0	0	258	
16:45 17:00	2	6	0	0	37	12	11	143	23	0	0	0	234	
17:00 17:15	7	10	0	0	61	12	12	161	23	0	0	0	286	
17:15 17:30	4	12	0	0	31	8	7	151	44	0	0	0	257	
TOTAL	18	36	0	0	170	42	42	619	108	0	0	0		1035
Mvmnt PHF	0.64	0.75	#DIV/0!	#DIV/0!	0.70	0.88	0.88	0.94	0.61	#DIV/0!	#DIV/0!	#DIV/0!	Int	
Approach PHF		0.79			0.73			0.95		#DIV/0!	#DIV/0!		PHF->	0.90

The PM peak hour used is from: 16:30 to 17:30

**VOLUME FOR PEAK HOUR USED**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-Min Total	Hourly Total
16:30 16:45	5	8	0	0	41	10	12	164	18	0	0	0	258	
16:45 17:00	2	6	0	0	37	12	11	143	23	0	0	0	234	
17:00 17:15	7	10	0	0	61	12	12	161	23	0	0	0	286	
17:15 17:30	4	12	0	0	31	8	7	151	44	0	0	0	257	
TOTAL	18	36	0	0	170	42	42	619	108	0	0	0		1035
Mvmnt PHF	0.64	0.75	#DIV/0!	#DIV/0!	0.70	0.88	0.88	0.94	0.61	#DIV/0!	#DIV/0!	#DIV/0!	Int	
Approach PHF		0.79			0.73			0.95		#DIV/0!	#DIV/0!		PHF->	0.90

**ACTUAL PEAK HOUR LINK VOLUMES**

TIME	16:30 to 17:30							
	NORTH OF INT.		SOUTH OF INT.		WEST OF INT.		EAST OF INT.	
	NB	SB	NB	SB	WB	EB	WB	EB
16:30 16:45	179	0	194	0	53	13	51	26
16:45 17:00	157	0	177	0	48	8	49	29
17:00 17:15	180	0	196	0	73	17	73	33
17:15 17:30	163	0	202	0	38	16	39	56
TOTAL	679	0	769	0	212	54	212	144

**LINK VOLUMES FOR PEAK HOUR USED**

TIME	16:30 to 17:30							
	NORTH OF INT.		SOUTH OF INT.		WEST OF INT.		EAST OF INT.	
	NB	SB	NB	SB	WB	EB	WB	EB
16:30 16:45	179	0	194	0	53	13	51	26
16:45 17:00	157	0	177	0	48	8	49	29
17:00 17:15	180	0	196	0	73	17	73	33
17:15 17:30	163	0	202	0	38	16	39	56
TOTAL	679	0	769	0	212	54	212	144

COMMENTS:

**TRAFFIC COUNT SUMMARY FORM**

Project Title: Madras  
 Project No: ODOT0000-0408  
 Location: OR  
 NS Street: Hwy 97/4th Street  
 EW Street: B Street

Condition: 2003 Existing  
 Count Date: 1/28/2003  
 Count Period: 4:00-8:00 PM  
 Growth Rate: NA  
 # Compounding Years: NA

Weather:  
 Road Surface:  
 Traffic Control: Two-way Stop  
 Intersect. type: 4-Leg  
 Counted by: Traffic Smyth

**APPROACH VOLUMES**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-MIN	HOURLY	
													Total	Total	
16:00 16:15	0	9	5	50	8	0	0	0	0	4	170	5	251	853	0:00
16:15 16:30	0	10	4	49	8	0	0	0	0	9	141	6	225	888	0:00
16:30 16:45	0	8	5	46	3	0	0	0	0	6	166	4	238	974	16:30
16:45 17:00	0	0	4	43	10	0	0	0	0	6	167	9	239	930	0:00
17:00 17:15	0	9	0	54	8	0	0	0	0	9	181	3	264	869	0:00
17:15 17:30	0	7	4	42	4	0	0	0	0	7	164	5	233	805	0:00
17:30 17:45	0	2	4	40	5	0	0	0	0	9	130	4	194	372	0:00
17:45 18:00	0	1	4	21	5	0	0	0	0	4	141	2	178	178	0:00
													<b>1822</b>		

Actual PM peak hour period is from: 16:30 to 17:30

**ACTUAL PEAK HOUR VOLUME**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-Min	Hourly
													Total	Total
16:30 16:45	0	8	5	48	3	0	0	0	0	6	166	4	238	
16:45 17:00	0	0	4	43	10	0	0	0	0	6	167	9	239	
17:00 17:15	0	9	0	54	8	0	0	0	0	9	181	3	264	
17:15 17:30	0	7	4	42	4	0	0	0	0	7	164	5	233	
TOTAL	0	24	13	185	25	0	0	0	0	28	678	21		974
Mvmnt PHF	#DIV/0!	0.67	0.65	0.86	0.63	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.78	0.94	0.58	Int.	
Approach PHF		0.71			0.85			#DIV/0!			0.94		PHF->	0.92

The PM peak hour used is from: 16:30 to 17:30

**VOLUME FOR PEAK HOUR USED**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-Min	Hourly
													Total	Total
16:30 16:45	0	8	5	46	3	0	0	0	0	6	166	4	238	
16:45 17:00	0	0	4	43	10	0	0	0	0	6	167	9	239	
17:00 17:15	0	9	0	54	8	0	0	0	0	9	181	3	264	
17:15 17:30	0	7	4	42	4	0	0	0	0	7	164	5	233	
TOTAL	0	24	13	185	25	0	0	0	0	28	678	21		974
Mvmnt PHF	#DIV/0!	0.67	0.65	0.86	0.63	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.78	0.94	0.58	Int.	
Approach PHF		0.71			0.85			#DIV/0!			0.94		PHF->	0.92

**ACTUAL PEAK HOUR LINK VOLUMES**

TIME	16:30 to 17:30							
	NORTH OF INT.		SOUTH OF INT.		WEST OF INT.		EAST OF INT.	
	NB	SB	NB	SB	WB	EB	WB	EB
16:30 16:45	0	176	0	217	7	13	49	14
16:45 17:00	0	182	0	214	19	4	53	6
17:00 17:15	0	193	0	235	11	9	62	18
17:15 17:30	0	176	0	210	9	11	46	14
TOTAL	0	727	0	876	46	37	210	52

**LINK VOLUMES FOR PEAK HOUR USED**

TIME	16:30 to 17:30							
	NORTH OF INT.		SOUTH OF INT.		WEST OF INT.		EAST OF INT.	
	NB	SB	NB	SB	WB	EB	WB	EB
16:30 16:45	0	176	0	217	7	13	49	14
16:45 17:00	0	182	0	214	19	4	53	6
17:00 17:15	0	193	0	235	11	9	62	18
17:15 17:30	0	176	0	210	9	11	46	14
TOTAL	0	727	0	876	46	37	210	52

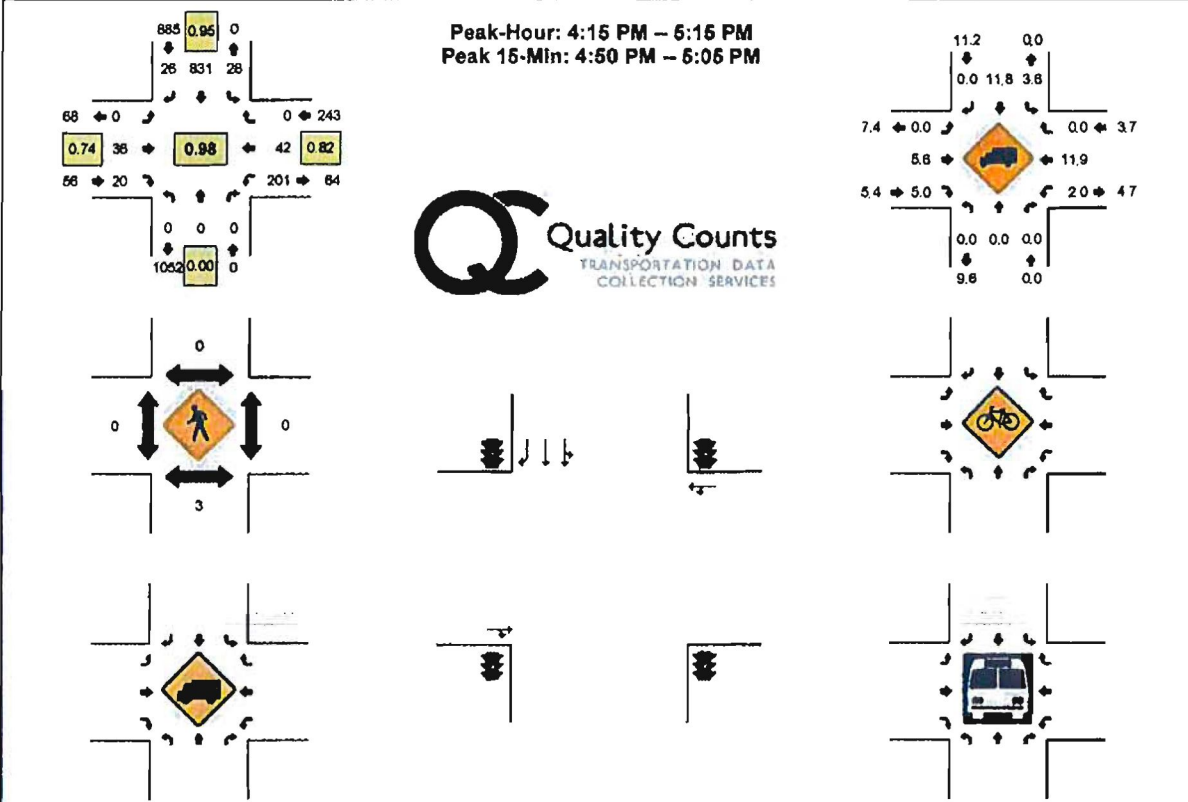
COMMENTS:

Type of peak hour being reported: User-Defined

Method for determining peak hour: Total Entering Volume

LOCATION: 4th St – B St  
CITY/STATE: Madras, OR

QC JOB #: 10274001  
DATE: 8/7/2007



5-Min Count Period	4th St (Northbound)			4th St (Southbound)			B St (Eastbound)			B St (Westbound)			Total	Hourly Totals	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
4:00 PM	0	0	0	1	72	0	0	0	5	2	10	3	0	83	
4:05 PM	0	0	0	5	81	2	0	0	0	3	11	2	0	104	
4:10 PM	0	0	0	1	82	4	0	0	3	0	13	1	0	84	
4:15 PM	0	0	0	3	85	4	0	0	3	3	29	1	0	128	
4:20 PM	0	0	0	4	84	1	0	0	0	2	12	2	0	86	
4:25 PM	0	0	0	2	44	4	0	0	3	1	17	6	0	77	
4:30 PM	0	0	0	3	61	1	0	0	6	2	20	2	0	84	
4:35 PM	0	0	0	2	71	3	0	0	2	3	22	7	0	110	
4:40 PM	0	0	0	2	88	1	0	0	3	0	15	2	0	81	
4:45 PM	0	0	0	1	71	1	0	0	1	0	18	4	0	84	
4:50 PM	0	0	0	4	74	1	0	0	4	2	18	2	0	105	
4:55 PM	0	0	0	6	72	0	0	0	2	3	12	5	0	99	1164
5:00 PM	0	0	0	0	84	3	0	0	5	1	21	3	0	87	1188
5:05 PM	0	0	0	1	72	5	0	0	5	3	10	5	0	101	1165
5:10 PM	0	0	0	1	85	2	0	0	3	0	9	3	0	103	1184
5:15 PM	0	0	0	0	88	3	0	0	0	1	10	1	0	81	1137
5:20 PM	0	0	0	4	57	2	0	0	4	3	7	1	0	78	1130
5:25 PM	0	0	0	1	73	2	0	0	1	2	13	1	0	93	1148
5:30 PM	0	0	0	0	81	1	0	0	1	4	15	5	0	87	1139
5:35 PM	0	0	0	1	80	0	0	0	2	0	5	4	0	92	1121
5:40 PM	0	0	0	3	49	4	0	0	6	0	9	5	0	75	1105
5:45 PM	0	0	0	3	57	3	0	0	4	0	3	3	0	73	1084
5:50 PM	0	0	0	3	86	4	0	0	2	2	4	1	0	82	1061
5:55 PM	0	0	0	1	57	2	0	0	2	2	8	1	0	73	1035
<b>Peak 15-Min Flowrates</b>	<b>Northbound</b>			<b>Southbound</b>			<b>Eastbound</b>			<b>Westbound</b>			<b>Total</b>		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
All Vehicles	0	0	0	38	840	18	0	44	24	204	40	0	1204		
Heavy Trucks	0	0	0	4	88	0	0	0	0	0	4	0	98		
Pedestrians		4			0			0			0		4		
Bicycles															
Railroad															
Stopped Buses															

Comments:

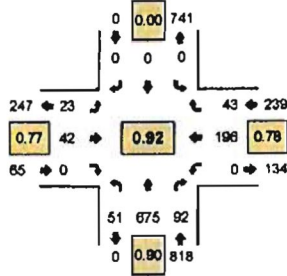


Type of peak hour being reported: User-Defined

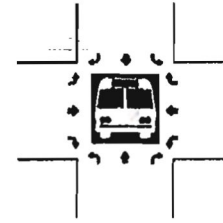
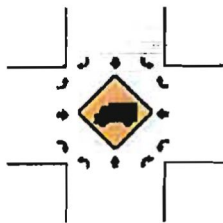
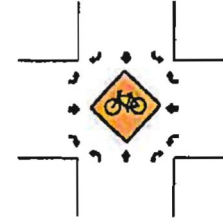
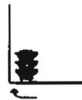
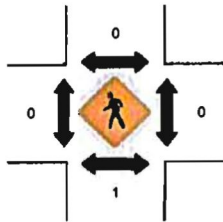
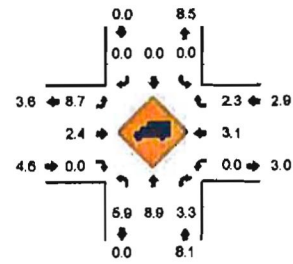
Method for determining peak hour: Total Entering Volume

LOCATION: 5th St - B St  
CITY/STATE: Madras, OR

QC JOB #: 10274002  
DATE: 8/7/2007



Peak-Hour: 4:15 PM - 5:15 PM  
Peak 15-Min: 4:25 PM - 4:40 PM



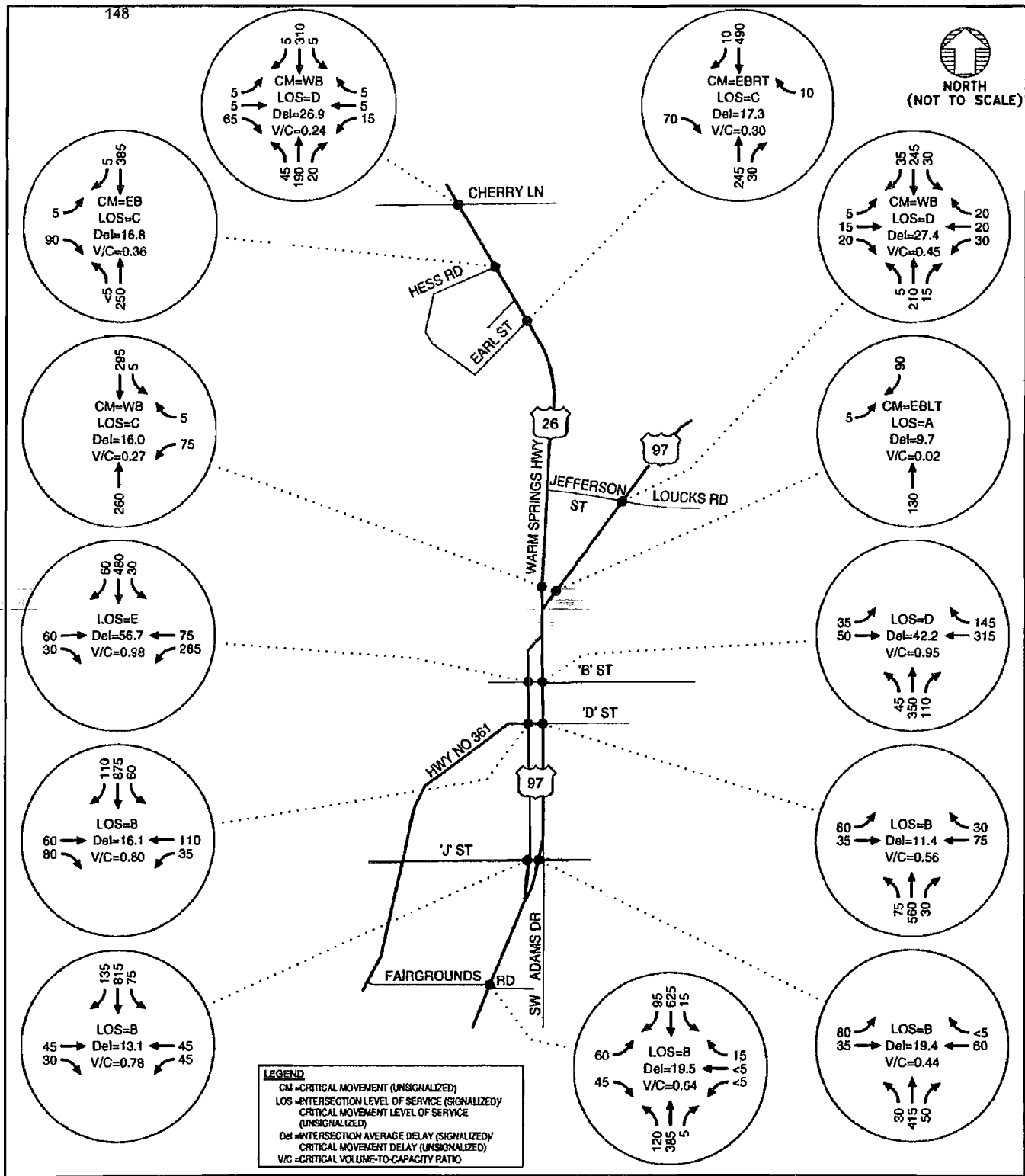
6-Min Count Period	5th St (Northbound)			5th St (Southbound)			B St (Eastbound)			B St (Westbound)			Total	Hourly Totals
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Beginning At														
4:00 PM	1	53	3	0	0	0	5	1	0	0	11	3	77	
4:05 PM	2	56	6	0	0	0	0	4	0	0	10	2	80	
4:10 PM	4	59	8	0	0	0	2	4	0	0	18	3	98	
4:15 PM	4	51	8	0	0	0	2	5	0	0	24	4	98	
4:20 PM	3	47	7	0	0	0	2	1	0	0	13	2	75	
4:25 PM	2	59	7	0	0	0	0	3	0	0	14	4	88	
4:30 PM	5	48	9	0	0	0	5	8	0	0	22	7	102	
4:35 PM	3	78	3	0	0	0	2	2	0	0	23	6	115	
4:40 PM	2	50	9	0	0	0	0	8	0	0	13	6	88	
4:45 PM	4	57	8	0	0	0	1	0	0	0	19	3	90	
4:50 PM	8	72	7	0	0	0	2	3	0	0	12	2	108	
4:55 PM	9	51	8	0	0	0	1	6	0	0	18	3	98	1110
5:00 PM	6	80	5	0	0	0	3	5	0	0	18	1	96	1128
5:05 PM	1	43	10	0	0	0	3	2	0	0	14	2	75	1124
5:10 PM	4	91	16	0	0	0	2	3	0	0	8	3	98	1122
5:15 PM	4	45	9	0	0	0	2	0	0	0	8	4	72	1088
5:20 PM	4	49	3	0	0	0	2	4	0	0	8	1	71	1094
5:25 PM	3	59	9	0	0	0	0	2	0	0	12	2	87	1092
5:30 PM	3	59	10	0	0	0	1	0	0	0	12	4	89	1079
5:35 PM	5	86	3	0	0	0	2	2	0	0	9	4	91	1055
5:40 PM	1	54	2	0	0	0	4	2	0	0	5	0	88	1037
5:45 PM	2	47	6	0	0	0	3	4	0	0	6	2	70	1017
5:50 PM	0	50	7	0	0	0	3	0	0	0	3	5	88	979
5:55 PM	3	54	4	0	0	0	3	2	0	0	6	6	78	961
Peak 15-Min Flowrates	Northbound			Southbound			Eastbound			Westbound			Total	
All Vehicles	40	732	78	0	0	0	28	44	0	0	238	88	1224	
Heavy Trucks	4	68	8	0	0	0	4	0	0	0	12	4	100	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles														
Railroad														
Stopped Buses														

Comments:

Report generated on 1/21/2010 3:18 PM

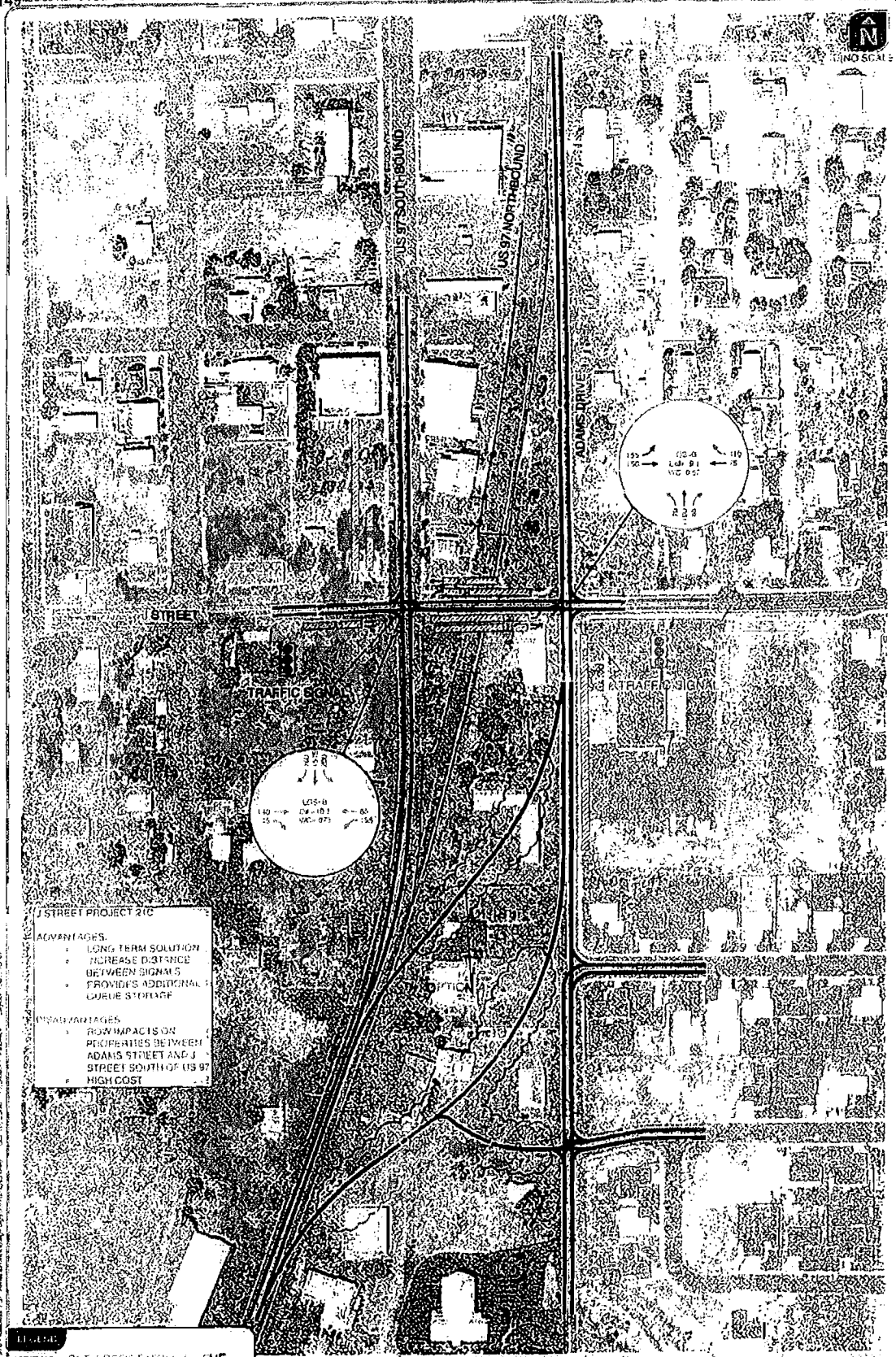
SOURCE: Quality Counts, LLC (<http://www.qualitycounts.net>)





# YEAR 2020 TRAFFIC CONDITIONS - WEEKDAY PM PEAK "WITH IMPROVEMENT" SCENARIO

 	<b>CITY OF MADRAS COMPREHENSIVE PLAN AND TRANSPORTATION SYSTEM PLAN UPDATE</b>	<small>S:\LOGS\madrast.tif</small>	<b>FIGURE 3</b>
	<small>MAY 2001</small>		



**J STREET PROJECT 210**

**ADVANTAGES:**

- LONG TERM SOLUTION
- INCREASE DISTANCE BETWEEN SIGNALS
- PROVIDES ADDITIONAL CURB STORAGE

**DISADVANTAGES:**

- ROW IMPACTS ON PROPERTIES BETWEEN ADAMS STREET AND J STREET SOUTH OF US 97
- HIGH COST

**Legend**

**RIGHT OF WAY IMPACT**

**POTENTIAL J STREET ALTERNATIVE C**  
**US 97/US 26 NORTHBOUND APPROACH REALIGNMENT**  
**MADRAS, OREGON**

**Attachment "2"**  
**Existing Conditions Level**  
**of Service Worksheets**

PM Fri Jan 22, 2010 11:47:17 Page 1-1  
 Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

PM Fri Jan 22, 2010 11:47:19 Page 2-1  
 Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

Impact Analysis Report  
 Level Of Service

Intersection	LOS	Base Del./Veh C	Future Del./Veh C	Change in
# 1 "B" Street/4th Street	B	17.5 0.567	17.8 0.567	+ 0.000 D/V
# 2 "B" Street/5th Street	B	15.5 0.472	15.5 0.472	+ 0.000 D/V
# 3 "B" Street/10th Street	B	10.4 0.020	10.4 0.020	+ 0.000 D/V
# 4 "B" Street/Fishwood	B	10.7 0.049	10.7 0.049	+ 0.000 D/V
# 5 "B" Street/Kinkade Road	B	11.2 0.008	11.2 0.008	+ 0.000 D/V
# 6 "B" Street/City View	B	10.5 0.050	10.5 0.050	+ 0.000 D/V
# 7 "B" Street/Bean Drive	A	9.7 0.080	9.7 0.080	+ 0.000 D/V
# 8 "J" Street/4th Street	E	46.6 0.550	46.6 0.550	+ 0.000 D/V
# 9 "J" Street/5th Street	C	17.6 0.350	17.6 0.350	+ 0.000 D/V

Scenario Report

Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact Fee: Default Impact Fee  
 Trip Generation: PM  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: PM



Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (HCM2000 Queue Method)  
 2000 HCM Operations Method  
 Base Volume Alternative

Intersection #1 "B" Street/4th Street

Approach:	North Bound		South Bound		East Bound		West Bound		
	L	T	R	L	T	R	L	T	R
Movement:	0.00	0.00	0.00	0.55	0.55	0.00	0.37	0.37	0.00
Green/Cycle:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ArrivalType:	3	3	3	3	3	3	3	3	3
ProgFactor:	0.0	0.0	0.0	8.9	8.9	6.9	0.0	1.1	1.1
Q1:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UpstreamVC:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
UpstreamAdj:	0.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
EarlyArrAdj:	0.0	0.0	0.0	1.3	1.3	1.3	0.0	0.1	0.1
Q2:	0.0	0.0	0.0	10.1	10.1	10.1	0.0	1.2	1.2
HCM2Queue:	1.20	1.20	1.20	1.18	1.18	1.18	1.20	1.20	1.20
70thFactor:	0.0	0.0	0.0	11.9	11.9	11.9	0.0	1.4	1.4
HCM2K90thQ:	1.60	1.60	1.60	1.51	1.51	1.51	1.60	1.59	1.54
5thFactor:	0.0	0.0	0.0	15.3	15.3	15.3	0.0	1.9	1.9
HCM2K95thQ:	1.80	1.80	1.80	1.64	1.64	1.64	1.80	1.78	1.69
90thFactor:	0.0	0.0	0.0	16.6	16.6	16.6	0.0	2.1	2.1
HCM2K99thQ:	2.10	2.10	2.10	1.84	1.84	1.84	2.10	2.06	1.92
45thFactor:	0.0	0.0	0.0	18.7	18.7	18.7	0.0	2.5	2.5
HCM2K95thQ:	2.70	2.70	2.70	2.16	2.16	2.16	2.70	2.61	2.32
98thFactor:	0.0	0.0	0.0	21.9	21.9	21.9	0.0	3.1	3.1
HCM2K98thQ:	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6	14.6

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 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (Permitted Left Turn Sat Adj.)  
 2000 HCM Operations Method  
 Base Volume Alternative

Intersection #1 "B" Street/4th Street

	North	South	East	West
Cycle Length, C:	100	100	100	100
Actual Green Time Per Lane Group, G:	36.62	36.62	36.62	36.62
Effective Green Time Per Lane Group, g:	36.62	36.62	36.62	36.62
Opposing Effective Green Time, go:	36.62	36.62	36.62	36.62
Number Of Opposing Lanes, No:	1	1	1	1
Number Of Lanes In Lane Group, N:	1	1	1	1
Adjusted Left-Turn Flow Rate, Vlt:	215	215	215	215
Proportion of Left Turns in Lane Group, Plt:	0.83	0.83	0.83	0.83
Proportion of Left Turns in Opp Flow, Plto:	0.00	0.00	0.00	0.00
Left Turns Per Cycle, LTC:	5.96	5.96	5.96	5.96
Adjusted Opposing Flow Rate, Vo:	60	60	60	60
Opposing Flow Per Lane Per Cycle, Volc:	1.67	1.67	1.67	1.67
Opposing Platoon Ratio, Rpo:	1.00	1.00	1.00	1.00
Lost Time Per Phase, tl:	4.00	4.00	4.00	4.00
Eff grn uncl arrival of left-turn cat, gf:	0.00	0.00	0.00	0.00
Opposing Queue Ratio, qrc:	0.63	0.63	0.63	0.63
Eff grn blocked by opposing queue, gg:	0.50	0.50	0.50	0.50
Eff grn while left turns filter thro, gu:	36.12	36.12	36.12	36.12
Max opposing cars arriving during gg-gr, n:	0.25	0.25	0.25	0.25
Proportion of Opposing Thru & RT cars, ptho:	1.00	1.00	1.00	1.00
Left-Turn Saturation Factor, fs:	0.00	0.00	0.00	0.00
Proportion of Left Turns in Shared Lane, pl:	1.49	1.49	1.49	1.49
Through-car Equivalents, e11:	1.00	1.00	1.00	1.00
Single Lane Through-car Equivalents, e12:	0.10	0.10	0.10	0.10
Minimum Left Turn Adjustment Factor, fmin:	0.72	0.72	0.72	0.72
Single Lane Left Turn Adjustment Factor, flm:	0.72	0.72	0.72	0.72
Left Turn Adjustment Factor, fit:	0.72	0.72	0.72	0.72





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 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (HCM2000 Queue Method)  
 2000 HCM Operations Method  
 Base Volume Alternative

Intersection #2 "B" Street/5th Street

Approach:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement:	0.61	0.61	0.61	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.31
Green/Cycle:	0.61			0.00			0.31			0.00		
ArrivalType:	3			3			3			3		
ProgFactor:	1.00			1.00			1.00			1.00		
Q1:	6.9			6.9			0.0			1.4		
UpstreamVC:	0.00			0.00			0.00			0.00		
UpstreamAdj:	1.00			1.00			1.00			1.00		
EarlyArrAdj:	0.9			0.9			0.0			0.0		
Q2:	7.8			7.8			0.0			1.4		
HCM2KQueue:	7.8			7.8			0.0			1.4		
70thFactor:	1.18			1.18			1.20			1.20		
HCM2K70thQ:	9.2			9.2			0.0			1.7		
85thFactor:	1.53			1.53			1.60			1.59		
HCM2K85thQ:	11.9			11.9			0.0			2.3		
90thFactor:	1.67			1.67			1.80			1.77		
HCM2K90thQ:	13.0			13.0			0.0			2.6		
95thFactor:	1.89			1.89			2.10			2.05		
HCM2K95thQ:	14.7			14.7			0.0			3.0		
98thFactor:	2.25			2.25			2.70			2.59		
HCM2K98thQ:	17.5			17.5			0.0			3.8		

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Level Of Service Detailed Computation Report (Permitted Left Turn Sat Adj)  
 2000 HCM Operations Method  
 Base Volume Alternative

Intersection #2 "B" Street/5th Street

Approach:	North			South			East			West		
	L	T	R	L	T	R	L	T	R	L	T	R
Cycle Length, C:	100			100			100			100		
Actual Green Time Per Lane Group, G:	31.20			31.20			31.20			31.20		
Effective Green Time Per Lane Group, g:	31.20			31.20			31.20			31.20		
Opposing Effective Green Time, go:	31.20			31.20			31.20			31.20		
Number Of Opposing Lanes, No:	1			1			1			1		
Number Of Lanes In Lane Group, N:	1			1			1			1		
Adjusted Left-Turn Flow Rate, Vlt:	0.35			0.35			0.35			0.35		
Proportion of Left Turns in Lane Group, Plt:	0.00			0.00			0.00			0.00		
Proportion of Left Turns in Opp Flow, Plto:	0.67			0.67			0.67			0.67		
Left Turns Per Cycle, LTC:	232			232			232			232		
Adjusted Opposing Flow Rate, Vo:	7.00			7.00			7.00			7.00		
Opposing Flow Per Lane Per Cycle, Volic:	1.00			1.00			1.00			1.00		
Opposing Platoon Ratio, Rpo:	4.00			4.00			4.00			4.00		
Lost Time Per Phase, tl:	11.96			11.96			11.96			11.96		
Eff grn until arrival of left-turn car, gfl:	0.69			0.69			0.69			0.69		
Opposing Queue Ratio, qro:	10.64			10.64			10.64			10.64		
Eff grn blocked by opposing queue, gq:	19.24			19.24			19.24			19.24		
Eff grn while left turns filter thru, gu:	0.00			0.00			0.00			0.00		
Max opposing cars arriving during gq-yf, n:	1.00			1.00			1.00			1.00		
Proportion of Opposing Thru & RT cars, ptho:	0.00			0.00			0.00			0.00		
Left-turn Saturation Factor, fs:	0.00			0.00			0.00			0.00		
Proportion of Left Turns in Shared Lane, pl:	0.00			0.00			0.00			0.00		
Through-car Equivalents, ell:	1.80			1.80			1.80			1.80		
Single Lane Through-car Equivalents, el2:	1.00			1.00			1.00			1.00		
Minimum Left Turn Adjustment Factor, fmin:	0.09			0.09			0.09			0.09		
Single Lane Left Turn Adjustment Factor, flm:	0.86			0.86			0.86			0.86		
Left Turn Adjustment Factor, flt:	0.86			0.86			0.86			0.86		

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Level of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Base Volume Alternative

Intersection #3 "B" Street/10th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 VehVeh: 0# 0# 0# 0#  
 Grade: 0% 0% 0% 0%  
 Pedst/Hour: 0 0 0 0  
 Pedestrian Walk Speed: 4.00 feet/sec  
 LaneWidth: 12 feet 12 feet 12 feet 12 feet  
 Time Period: 0.25 hour

Upstream Signals:  
 Link Index: #5  
 DistMiles: 0.000  
 Speed (mph): 0.00  
 SignalIndex: #2  
 Cycle Time: 70 secs  
 InitVolume: 0 0 0 0  
 Saturation: 0 0 0 0  
 ArrivalType: 0 0 0 0  
 G/C: 0.00 0.00

\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
 P: 0.000 0.000  
 g01: 0.00 0.00  
 g02: 0.00 0.00  
 g3: 0.00 0.00

\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
 alpha: 0.000  
 beta: 0.000  
 ta (secs): 0.000  
 P: 0.000 0.000  
 f: 0.000 0.000

\*\* Computation 3: Platoon Event Periods  
 pdom/subo: 0.000/0.000/Unconstrained

\*\* Computation 4: Conflicting Flows During Each Unblocked Period  
 InitCnflVol: 507 507 162 515 514 305 0 XXXX XXXX 169 XXXX XXXX  
 AdjCnflVol: 507 507 162 515 514 305 0 XXXX XXXX 169 XXXX XXXX  
 UpstreamAdj: 1.00 1.000 1.000 1.000 1.000 1.000 1.00 X.XXX X.XXX 1.00 X.XXX X.XXX  
 ConflictVol: 507 507 162 515 514 305 0 XXXX XXXX 169 XXXX XXXX

\*\* Computation 5: Capacity for Subject Movement During Unblocked Period  
 InitPotCap: 529 471 888 474 467 740 1636 XXXX XXXX 1420 XXXX XXXX  
 UpstreamAdj: 1.00 1.000 1.000 1.000 1.000 1.000 1.00 X.XXX X.XXX 1.00 X.XXX X.XXX  
 Potent Cap.: 529 471 888 474 467 740 1636 XXXX XXXX 1420 XXXX XXXX

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 Existing Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report  
 2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 "B" Street/10th Street  
 Average Delay (sec/veh): 0.8 Worst Case Level of Service: E 10.4  
 Street Name: "B" Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include  
 Lanes: 0 0 1 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0

Volume Module: >> Count Date: 17 May 2007 << 4:00 to 6:00 PM  
 Base Vol: 9 0 13 0 0 0 0 0 132 12 17 259 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 9 0 13 0 0 0 0 0 132 12 17 259 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
 PHF Volume: 11 0 15 0 0 0 0 0 155 14 20 305 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0  
 FinalVolume: 11 0 15 0 0 0 0 0 155 14 20 305 0

Critical Gap Module:  
 Critical Gap: 6.4 6.5 6.2 XXXX XXXX XXXX XXXX XXXX 4.1 XXXX XXXX  
 FollowUpTim: 3.5 4.0 3.3 XXXX XXXX XXXX XXXX XXXX 2.2 XXXX XXXX

Capacity Module:  
 Conflict Vol: 507 507 162 XXXX XXXX XXXX XXXX XXXX XXXX 169 XXXX XXXX  
 Potent Cap.: 529 471 888 XXXX XXXX XXXX XXXX XXXX XXXX 1420 XXXX XXXX  
 Move Cap.: 523 465 888 XXXX XXXX XXXX XXXX XXXX XXXX 1420 XXXX XXXX  
 Volume/Cap: 0.02 0.00 0.02 XXXX XXXX XXXX XXXX XXXX XXXX 0.01 XXXX XXXX

Level of Service Module:  
 2Way95thQ: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 0.0 XXXX XXXX  
 Control Del: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 7.6 XXXX XXXX  
 LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: XXX 691 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shared Queue: XXXX 0.1 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shrd ConDel: XXXX 10.4 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shared LOS: A B XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 ApproachDel: 10.4 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 ApproachLOS: B

Note: Queue reported is the number of cars per lane.













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Level of Service Detailed Computation Report  
2000 HCM Unsignalized Method  
Base Volume Alternative

Intersection #9 "J" Street/5th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Heavy Veh: 9% 0% 0% 0%  
Grade: 0% 0% 0% 0%  
Pedals/Hour: 0 0 0 0  
Pedestrian Walk Speed: 4.00 feet/sec  
Lane Width: 12 feet 12 feet 12 feet 12 feet  
Time Period: 0.25 hour

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Existing Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report  
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #9 "J" Street/5th Street  
Average Delay (sec/veh): 5.8 Worst Case Level of Service: C (17.6)  
Street Name: "J" Street 5th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
Rights: Include Include Include Include  
Lanes: 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0  
Volume Module:  
Base Vol: 14 588 28 0 0 0 86 124 0 0 60 59  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bas: 14 588 28 0 0 0 86 124 0 0 60 59  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 15 619 29 0 0 0 91 131 0 0 63 62  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Final Volume: 15 619 29 0 0 0 91 131 0 0 63 62

Critical Gap Module:  
Critical Gap: 4.2 XXXX XXXX XXXX XXXX 7.1 6.5 XXXXX XXXXX 6.5 6.2  
Followup Tim: 2.3 XXXX XXXX XXXX XXXX XXXX 3.5 4.0 XXXXX XXXXX 4.0 3.3  
Capacity Module:  
Conflict Vol: 0 XXXX XXXXX XXXX XXXX XXXXX 371 678 XXXXX XXXX 663 324  
Potential Cap: 1578 XXXX XXXXX XXXX XXXX XXXXX 590 377 XXXXX XXXX 384 721  
Move Cap: 1578 XXXX XXXXX XXXX XXXX XXXXX 467 373 XXXXX XXXX 380 721  
Volume/Cap: 0.01 XXXX XXXX XXXX XXXX XXXX 0.19 0.35 XXXX XXXX 0.17 0.09

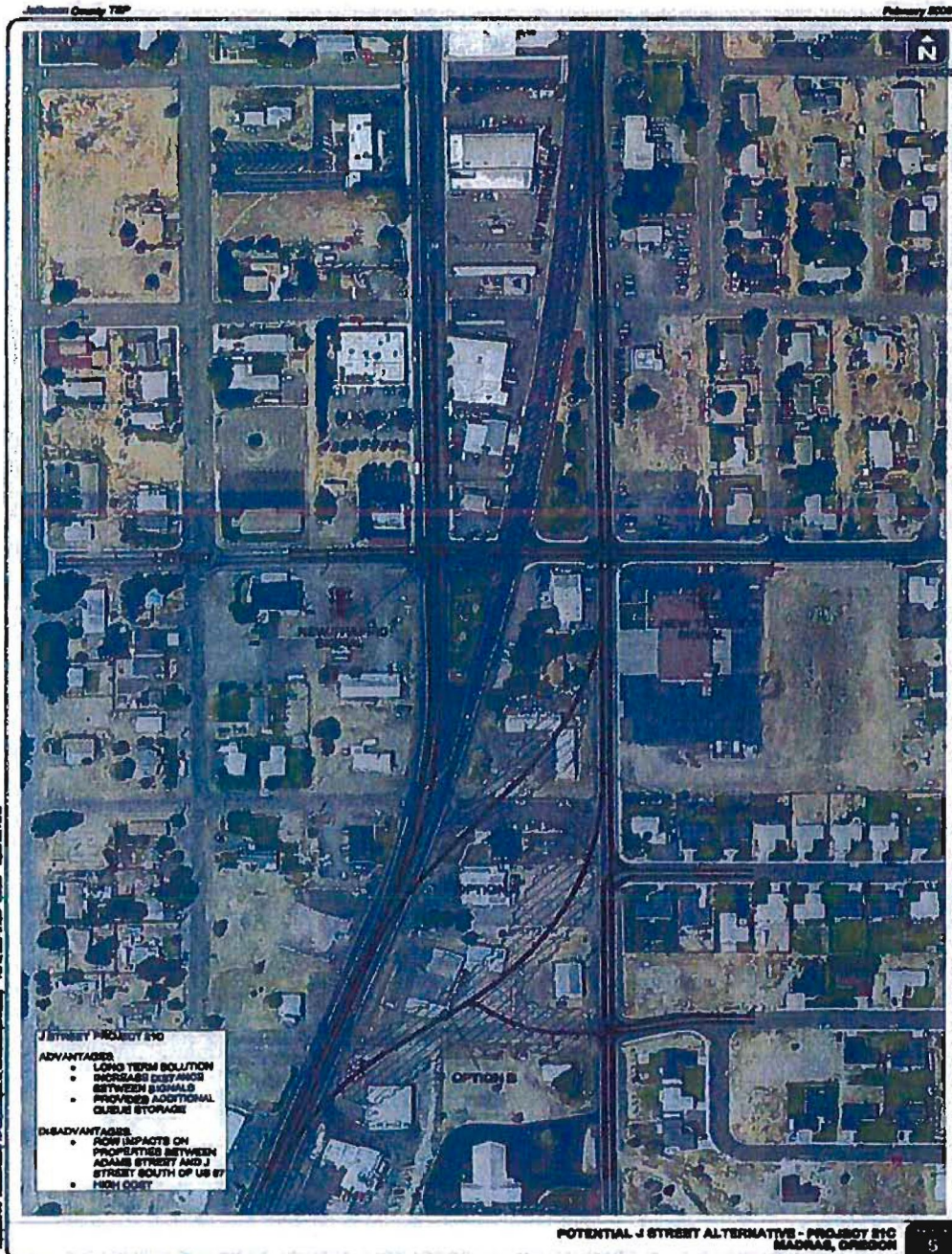
Level of Service Module:  
2Way5thQ: 0.0 XXXX XXXXX XXXX XXXX XXXXX 0.7 1.5 XXXXX XXXX XXXX XXXXX  
Control Del: 7.3 XXXX XXXXX XXXX XXXX XXXXX 14.6 19.8 XXXXX XXXXX XXXX XXXXX  
LOS by Move: A A A A A A B C  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap: 0.0 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXX XXXX XXXX  
Shared Queue: 0.0 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXX XXXX XXXX  
Shared ConDel: 7.3 XXXX XXXXX XXXX XXXX XXXXX XXXX XXXX XXXX XXXX XXXX  
Shared LOS: A A A A A A B C  
ApproachDel: XXXXX 17.6 14.7  
ApproachLOS: C B

Note: Queue reported is the number of cars per lane.

**Attachment "3"**  
**J Street Conceptual**  
**Improvement Illustration**



**US97 @ J Street (Madras) Project**  
Alternative Concepts of US97 Realignment Shown



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### US97 @ J Street (Madras) Project

Conceptual Drawing of Signalized Intersections @ J Street US97 Option B Realignment Shown



**Attachment "4"**  
**Existing RL Zoning LOS**  
**Worksheets**

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Scenario: PM  
 Impact Analysis Report  
 Level Of Service

Scenario: PM  
 Impact Analysis Report  
 Level Of Service

Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact Fee: Default Impact Fee  
 Trip Generation: PM  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: PM

Intersection	LOS	Del, V/C	Base Del, V/C	Future Del, V/C	Change in
# 1 "B" Street/4th Street	C	22.4 0.636	C 22.4 0.636	C 22.4 0.636	+ 0.000 D/V
# 2 "B" Street/5th Street	C	20.3 0.581	C 20.3 0.581	C 20.3 0.581	+ 0.000 D/V
# 3 "B" Street/10th Street	B	11.5 0.038	B 11.5 0.038	B 11.5 0.038	+ 0.000 D/V
# 4 "B" Street/Ashwood	B	12.2 0.084	B 12.2 0.084	B 12.2 0.084	+ 0.000 D/V
# 5 "B" Street/Winkade Road	B	12.8 0.016	B 12.8 0.016	B 12.8 0.016	+ 0.000 D/V
# 6 "B" Street/City View	B	11.9 0.088	B 11.9 0.088	B 11.9 0.088	+ 0.000 D/V
# 7 "B" Street/Bean Drive	B	11.1 0.143	B 11.1 0.143	B 11.1 0.143	+ 0.000 D/V
# 8 "J" Street/4th Street	F	OVREFL 4.790	F OVREFL 4.790	F OVREFL 4.790	+ 0.000 D/V
# 9 "J" Street/5th Street	F	287.2 1.476	F 287.2 1.476	F 287.2 1.476	+ 0.000 D/V

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Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

2000 HCM Operations Method (Future Volume Alternative)

2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 "B" Street/4th Street

Intersection #1 "B" Street/4th Street

Intersection #1 "B" Street/4th Street

Cycle (sec): 100  
 Loss Time (sec): 8  
 Optimal Cycle: 41  
 Level Of Service: C

Critical Vol./Cap. (X): 0.636  
 Average Delay (sec/veh): 22.4  
 Level Of Service: C

Critical Vol./Cap. (X): 0.636  
 Average Delay (sec/veh): 22.4  
 Level Of Service: C

Street Name: "B" Street

Street Name: "B" Street

Street Name: "B" Street

Approach: North Bound South Bound East Bound West Bound

Approach: North Bound South Bound East Bound West Bound

Approach: North Bound South Bound East Bound West Bound

Movement	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted		
Rights:	Include			Include			Permitted		
Min. Green:	0	0	0	0	0	0	0	0	0
YrB:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	0	1	0	1	0	0	0

Volume Module:	L	T	R	L	T	R	L	T	R
Base Vol:	0	0	0	35	528	69	0	69	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Est:	0	0	0	35	528	69	0	69	35
Added Vol:	0	0	0	0	0	0	0	0	0
In-Process:	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	35	528	69	0	69	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	37	556	73	0	73	37
Reduct. Vol:	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	37	556	73	0	73	37
PCF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	0	0	37	556	73	0	73	37

Volume Module:	L	T	R	L	T	R	L	T	R
Base Vol:	0	0	0	35	528	69	0	69	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Est:	0	0	0	35	528	69	0	69	35
Added Vol:	0	0	0	0	0	0	0	0	0
In-Process:	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	35	528	69	0	69	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	37	556	73	0	73	37
Reduct. Vol:	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	37	556	73	0	73	37
PCF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	0	0	37	556	73	0	73	37

Saturation Flow Module:

Saturation Flow Module:

Saturation Flow Module:

Sat/Lane:	1750	1750	1750	1750	1750	1750	1750	1750	1750
Adjustment:	1.00	1.00	1.00	0.84	0.84	1.00	0.96	0.96	0.70
Lanes:	0	0	0	0.11	1.67	0.22	0.00	0.66	0.34
Final Est.:	0	0	0	162	2443	319	0	1109	563

Sat/Lane:	1750	1750	1750	1750	1750	1750	1750	1750	1750
Adjustment:	1.00	1.00	1.00	0.84	0.84	1.00	0.96	0.96	0.70
Lanes:	0	0	0	0.11	1.67	0.22	0.00	0.66	0.34
Final Est.:	0	0	0	162	2443	319	0	1109	563

Sat/Lane:	1750	1750	1750	1750	1750	1750	1750	1750	1750
Adjustment:	1.00	1.00	1.00	0.84	0.84	1.00	0.96	0.96	0.70
Lanes:	0	0	0	0.11	1.67	0.22	0.00	0.66	0.34
Final Est.:	0	0	0	162	2443	319	0	1109	563

Capacity Analysis Module:

Capacity Analysis Module:

Capacity Analysis Module:

Vol/Sat:	0.00	0.00	0.00	0.23	0.23	0.23	0.00	0.07	0.36
Crit Moves:	0	0	0	0	0	0	0	0	0
Green/Cycle:	0.00	0.00	0.00	0.36	0.36	0.36	0.00	0.56	0.56
Volume/Cap:	0.00	0.00	0.00	0.64	0.64	0.64	0.00	1.12	1.12
Delay/Veh:	0.0	0.0	0.0	28.0	28.0	28.0	0.0	10.3	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	28.0	28.0	28.0	0.0	10.3	16.9
LOS by Move:	A	A	A	C	C	C	A	B	B
HCM2kAVGQ:	0	0	0	10	10	10	0	2	9

Vol/Sat:	0.00	0.00	0.00	0.23	0.23	0.23	0.00	0.07	0.36
Crit Moves:	0	0	0	0	0	0	0	0	0
Green/Cycle:	0.00	0.00	0.00	0.36	0.36	0.36	0.00	0.56	0.56
Volume/Cap:	0.00	0.00	0.00	0.64	0.64	0.64	0.00	1.12	1.12
Delay/Veh:	0.0	0.0	0.0	28.0	28.0	28.0	0.0	10.3	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	28.0	28.0	28.0	0.0	10.3	16.9
LOS by Move:	A	A	A	C	C	C	A	B	B
HCM2kAVGQ:	0	0	0	10	10	10	0	2	9

Vol/Sat:	0.00	0.00	0.00	0.23	0.23	0.23	0.00	0.07	0.36
Crit Moves:	0	0	0	0	0	0	0	0	0
Green/Cycle:	0.00	0.00	0.00	0.36	0.36	0.36	0.00	0.56	0.56
Volume/Cap:	0.00	0.00	0.00	0.64	0.64	0.64	0.00	1.12	1.12
Delay/Veh:	0.0	0.0	0.0	28.0	28.0	28.0	0.0	10.3	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	28.0	28.0	28.0	0.0	10.3	16.9
LOS by Move:	A	A	A	C	C	C	A	B	B
HCM2kAVGQ:	0	0	0	10	10	10	0	2	9

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Kittelton & Associates, Inc. - Project #10028  
Madras Elementary School UGB Amendment - Madras, Oregon  
Background Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report (HCM2000 Queue Method)

2000 HCM Operations Method  
Future Volume Alternative  
Intersection #1 "B" Street/4th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L-T-R L-T-R L-T-R L-T-R  
Green/Cycle: 0.00 0.00 0.00 0.36 0.36 0.00 0.56 0.56 0.56 0.00  
ArrivalType: 3 3 3 3 3 3 3 3 3 3  
ProgFactor: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Q1: 0.0 0.0 0.0 8.1 8.1 8.1 0.0 1.4 1.4 8.2 8.2 0.0  
UpstreamVC: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.58 0.58 0.00  
UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.79 0.79 0.00  
EarlyArrAdj: 0.00 0.00 0.00 1.00 1.00 1.00 0.00 1.00 1.00 0.46 0.46 0.00  
Q2: 0.0 0.0 0.0 1.6 1.6 1.6 0.0 0.1 0.1 0.8 0.8 0.0  
HCM2KQueue: 0.0 0.0 0.0 9.7 9.7 9.7 0.0 1.6 1.6 9.0 9.0 0.0  
70thFactor: 1.20 1.20 1.20 1.18 1.18 1.18 1.20 1.20 1.20 1.18 1.18 1.20  
HCM2K70HQ: 0.0 0.0 0.0 11.5 11.5 11.5 0.0 1.9 1.9 10.7 10.7 0.0  
85thFactor: 1.60 1.60 1.60 1.52 1.52 1.52 1.60 1.58 1.58 1.52 1.52 1.60  
HCM2K85HQ: 0.0 0.0 0.0 14.8 14.8 14.8 0.0 2.5 2.5 13.8 13.8 0.0  
90thFactor: 1.80 1.80 1.80 1.65 1.65 1.65 1.80 1.77 1.77 1.65 1.65 1.80  
HCM2K90HQ: 0.0 0.0 0.0 16.0 16.0 16.0 0.0 2.8 2.8 14.9 14.9 0.0  
95thFactor: 2.10 2.10 2.10 1.85 1.85 1.85 2.10 2.05 2.05 1.86 1.86 2.10  
HCM2K95HQ: 0.0 0.0 0.0 18.0 18.0 18.0 0.0 3.2 3.2 16.8 16.8 0.0  
98thFactor: 2.70 2.70 2.70 2.17 2.17 2.17 2.70 2.59 2.59 2.20 2.20 2.70  
HCM2K98HQ: 0.0 0.0 0.0 21.1 21.1 21.1 0.0 4.0 4.0 19.9 19.9 0.0

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Level of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)  
Intersection #2 "B" Street/5th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L-T-R L-T-R L-T-R L-T-R  
Cycle (sec): 100 Critical Vcl./Cap. (X): 0.581  
Loss Time (sec): 8 Average Delay (sec/veh): 20.3  
Optimal Cycle: 37 Level of Service: C  
Street Name: "B" Street 5th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L-T-R L-T-R L-T-R L-T-R  
Control: Split Phase Split Phase Permitted Permitted  
Rights: Include Include Include Include  
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
Y-R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  
Lanes: 0 1 0 1 0 0 0 0 0 0 1 0 0 0 0 0 1 0  
Volume Module:  
Base Vol: 52 385 127 0 0 0 40 58 0 0 362 167  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 52 385 127 0 0 0 40 58 0 0 362 167  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 52 385 127 0 0 0 40 58 0 0 362 167  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
PHF Volume: 55 405 134 0 0 0 42 61 0 0 381 176  
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
Reduced Vcl: 55 405 134 0 0 0 42 61 0 0 381 176  
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
MFL Volume: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Final Volume: 55 405 134 0 0 0 42 61 0 0 381 176  
Saturation Flow Module:  
Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
Adjustment: 0.84 0.84 0.84 1.00 1.00 1.00 0.75 0.75 1.00 1.00 0.96 0.96  
Lanes: 0.18 1.37 0.45 0.00 0.00 0.00 0.41 0.59 0.00 0.00 0.68 0.32  
Final Sat.: 270 2002 660 0 0 0 536 777 0 0 1146 529  
Capacity Analysis Module:  
Vol/Sat: 0.20 0.20 0.20 0.00 0.00 0.00 0.08 0.08 0.00 0.00 0.33 0.33  
Crit Moves: 0.35 0.35 0.35 0.00 0.00 0.00 0.57 0.57 0.00 0.00 0.57 0.57  
Green/Cycle: 0.58 0.58 0.58 0.00 0.00 0.00 0.14 0.14 0.00 0.00 0.56 0.56  
Volume/Cap: 27.5 27.5 27.5 0.0 0.0 0.0 10.0 10.0 0.0 0.0 14.6 14.6  
User Del Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Adj Del/Veh: 27.5 27.5 27.5 0.0 0.0 0.0 10.0 10.0 0.0 0.0 14.6 14.6  
LOS by Move: C B C A A A C B B A A A B E  
HCM2KAVGQ: 8 8 8 0 0 0 1 1 0 0 1 1



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Level of Service Detailed Computation Report (HCM2000 Queue Method)

2000 HCM Operations Method  
 Future Volume Alternative

Intersection #2 "B" Street/5th Street

Approach:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement:	0.35	0.35	0.35	0.00	0.00	0.00	0.57	0.57	0.00	0.00	0.57	0.57
Green/Cycle:	3			3			3			3		
ArrivalType:	3			3			3			3		
ProgFactor:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Q1:	7.1	7.1	7.1	0.0	0.0	0.0	1.3	1.3	0.0	0.0	0.0	9.4
UpstreamVC:	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12	0.00	0.00	0.00	0.00
UpstreamAdj:	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	0.00
EarlyArrAdj:	1.00	1.00	1.00	0.00	0.00	0.00	0.62	0.62	0.00	0.00	1.00	1.00
Q2:	1.3	1.3	1.3	0.0	0.0	0.0	0.1	0.1	0.0	0.0	1.4	1.4
HCM2kQueue:	8.4	8.4	8.4	0.0	0.0	0.0	1.4	1.4	0.0	0.0	11.3	11.3
70thFactor:	1.18	1.18	1.18	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.18	1.18
HCM2k70thQ:	9.9	9.9	9.9	0.0	0.0	0.0	1.7	1.7	0.0	0.0	13.3	13.3
85thFactor:	1.53	1.53	1.53	1.60	1.60	1.60	1.59	1.59	1.60	1.60	1.51	1.51
HCM2k85thQ:	12.9	12.9	12.9	0.0	0.0	0.0	2.3	2.3	0.0	0.0	17.0	17.0
90thFactor:	1.66	1.66	1.66	1.80	1.80	1.80	1.77	1.77	1.80	1.80	1.63	1.63
HCM2k90thQ:	14.0	14.0	14.0	0.0	0.0	0.0	2.5	2.5	0.0	0.0	18.4	18.4
95thFactor:	1.88	1.88	1.88	2.10	2.10	2.10	2.05	2.05	2.10	2.10	1.82	1.82
HCM2k95thQ:	15.8	15.8	15.8	0.0	0.0	0.0	2.9	2.9	0.0	0.0	20.5	20.5
98thFactor:	2.22	2.22	2.22	2.70	2.70	2.70	2.50	2.50	2.70	2.70	2.12	2.12
HCM2k98thQ:	18.7	18.7	18.7	0.0	0.0	0.0	3.7	3.7	0.0	0.0	23.9	23.9

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Level of Service Detailed Computation Report (Permitted Left Turn Sat Adj)

2000 HCM Operations Method  
 Future Volume Alternative

Intersection #2 "B" Street/5th Street

Approach:	North	South	East	West
Cycle Length, C:	XXXXXX	XXXXXX	100	XXXXXX
Actual Green Time Per Lane Group, G:	XXXXXX	XXXXXX	57.18	XXXXXX
Effective Green Time Per Lane Group, g:	XXXXXX	XXXXXX	57.18	XXXXXX
Opposing Effective Green Time, go:	XXXXXX	XXXXXX	57.18	XXXXXX
Number of Opposing Lanes, No:	XXXXXX	XXXXXX	1	XXXXXX
Number of Lanes in Lane Group, N:	XXXXXX	XXXXXX	42	XXXXXX
Adjusted Left-Turn Flow Rate, Vlt:	XXXXXX	XXXXXX	0.41	XXXXXX
Proportion of Left Turns in Lane Group, Plt:	XXXXXX	XXXXXX	0.00	XXXXXX
Proportion of Left Turns in Opp Flow, Plto:	XXXXXX	XXXXXX	1.17	XXXXXX
Left Turns Per Cycle, LTC:	XXXXXX	XXXXXX	557	XXXXXX
Adjusted Opposing Flow Rate, Vo:	XXXXXX	XXXXXX	15.97	XXXXXX
Opposing Flow per Lane Per Cycle, Volc:	XXXXXX	XXXXXX	1.00	XXXXXX
Opposing Platoon Ratio, Rpo:	XXXXXX	XXXXXX	4.00	XXXXXX
Lost Time Per Phase, tl:	XXXXXX	XXXXXX	18.14	XXXXXX
Eff grn until arrival of left-turn car, gf:	XXXXXX	XXXXXX	0.43	XXXXXX
Opposing Queue Ratio, qro:	XXXXXX	XXXXXX	12.20	XXXXXX
Eff grn blocked by opposing queue, gq:	XXXXXX	XXXXXX	39.04	XXXXXX
Eff grn while left turns filter thru, gur:	XXXXXX	XXXXXX	0.00	XXXXXX
Max opposing cars arriving during gg-gt, n:	XXXXXX	XXXXXX	1.00	XXXXXX
Proportion of Opposing Thru & RT cars, ptho:	XXXXXX	XXXXXX	XXXXXX	XXXXXX
Left-Turn Saturation Factor, fs:	XXXXXX	XXXXXX	XXXXXX	XXXXXX
Proportion of Left Turns in Shared Lane, pl:	XXXXXX	XXXXXX	2.41	XXXXXX
Through-car Equivalents, e1l:	XXXXXX	XXXXXX	1.00	XXXXXX
Single Lane Through-car Equivalents, e12:	XXXXXX	XXXXXX	0.05	XXXXXX
Minimum Left Turn Adjustment Factor, fmin:	XXXXXX	XXXXXX	0.75	XXXXXX
Single Lane Left Turn Adjustment Factor, fm:	XXXXXX	XXXXXX	0.75	XXXXXX
Left Turn Adjustment Factor, flt:	XXXXXX	XXXXXX	0.75	XXXXXX



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Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 "G" Street/City View

Average Delay (sec/veh): 2.4 Worst Case Level of Service: B (11.9)

Street Name: "G" Street City View

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled

Rights: Include Include Include Include

Lanes: 0 0 1 0 0 0 0 0 0 0 0 1 0 1 0 0

Volume Module:

Table with columns: Base Vol, Growth Adj, Initial Bas, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Values range from 33 to 350.

Critical Gap Module:

Critical Gp: 6.4 6.5 6.2 XXXXX XXXX XXXX XXXX XXXX XXXX 4.1 XXXX XXXX

FollowUpTim: 3.5 4.0 3.3 XXXXX XXXX XXXX XXXX XXXX XXXX 2.2 XXXX XXXX

Capacity Module:

Conflict Vol: 614 614 200 XXXX XXXX XXXX XXXX XXXX XXXX 221 XXXX XXXX

Potent Cap: 458 410 846 XXXX XXXX XXXX XXXX XXXX XXXX 1360 XXXX XXXX

Move Cap: 441 390 846 XXXX XXXX XXXX XXXX XXXX XXXX 1360 XXXX XXXX

Volume/Cap: 0.09 0.00 0.06 XXXX XXXX XXXX XXXX XXXX XXXX 0.05 XXXX XXXX

Level of Service Module:

2Way95thQ: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 0.2 XXXX XXXX

Control Del: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 7.8 XXXX XXXX

LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap: XXX 612 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX

SharedQueue: XXXX 0.5 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX

Shrd ConDel: XXXX 11.9 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX

Shared LOS: B

ApproachDel: 11.9 XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX

ApproachLOS: B

Note: Queue reported is the number of cars per lane.

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Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 "B" Street/Kinkade Road

Average Delay (sec/veh): 0.5 Worst Case Level of Service: B (12.8)

Street Name: "B" Street Kinkade Road

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled

Rights: Include Include Include Include

Lanes: 0 0 1 0 0 0 1 0 0 0 1 0 0 0

Volume Module:

Table with columns: Base Vol, Growth Adj, Initial Bas, Added Vol, In-Process, Initial Fut, User Adj, PHF Adj, PHF Volume, Reduct Vol, Final Volume. Values range from 6 to 320.

Critical Gap Module:

Critical Gp: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 XXXX XXXX 4.1 XXXX XXXX

FollowUpTim: 3.5 4.0 3.3 XXXX XXXX XXXX XXXX XXXX XXXX 2.2 XXXX XXXX

Capacity Module:

Conflict Vol: 542 542 321 321 XXXX XXXX 220 XXXX XXXX

Potent Cap: 454 450 828 453 448 725 1250 XXXX XXXX 1361 XXXX XXXX

Move Cap: 451 449 828 449 448 725 1250 XXXX XXXX 1361 XXXX XXXX

Volume/Cap: 0.02 0.01 0.00 0.02 0.00 0.00 XXXX XXXX 0.00 XXXX XXXX

Level of Service Module:

2Way95thQ: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 0.0 XXXX XXXX

Control Del: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 7.6 XXXX XXXX

LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap: XXX 472 XXXX XXXX 471 XXXX XXXX XXXX XXXX XXXX XXXX XXXX

SharedQueue: XXXX 0.1 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX

Shrd ConDel: XXXX 12.8 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX

Shared LOS: B

ApproachDel: 12.8 XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX XXXXX

ApproachLOS: B

Note: Queue reported is the number of cars per lane.

Traffic: 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, PORTLAND

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Level of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 "B" Street/Bean Drive

Average Delay (sec/veh): 3.1 Worst Case Level of Service: B (11.1)

Street Name: "B" Street East Bound West Bound  
 Approach: North Bound South Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Stop Sign Stop Sign  
 Rights: Include Include  
 Lanes: 0 0 0 0 0 1 0 0 1 0 1 0 0 0 1 0

Volume Module:  
 Base Vol: 0 0 0 48 149 99 0 0 253 2  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Base: 0 0 0 48 149 99 0 0 253 2  
 Added Vol: 0 0 0 0 0 0 0 0 0 0  
 In-Process: 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 0 0 0 48 149 99 0 0 253 2  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
 PHF Volume: 0 0 0 4 0 56 175 116 0 0 345 2  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0  
 Final Volume: 0 0 0 4 0 56 175 116 0 0 345 2

Critical Gap Module:  
 Critical Gap: 6.4 6.5 6.2 4.1 4.1 4.1 4.1 4.1 4.1 4.1  
 Follow-up Time: 3.5 4.0 3.3 2.2 2.2 2.2 2.2 2.2 2.2 2.2

Capacity Module:  
 Conflict Vol: 813 813 346 347 347 347 347 347 347 347  
 Potent Cap: 351 315 702 1223 1223 1223 1223 1223 1223 1223  
 Move Cap: 312 270 702 1223 1223 1223 1223 1223 1223 1223  
 Volume/Cap: 0.01 0.00 0.08 0.14 0.14 0.14 0.14 0.14 0.14 0.14

Level of Service Module:  
 Delay: 3.1 3.1 3.1 3.1 3.1 3.1 3.1 3.1 3.1 3.1  
 Control Del: 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1  
 LOS by Move: B B B B B B B B B B  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap: 345 345 345 345 345 345 345 345 345 345  
 Shared Queue: 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3  
 Shared ConDel: 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1  
 Shared LOS: B B B B B B B B B B  
 Approach Del: 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1  
 Approach LOS: B B B B B B B B B B

Note: Queue reported is the number of cars per lane.

Mittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Background Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 "B" Street/Bean Drive

Average Delay (sec/veh): 3.1 Worst Case Level of Service: B (11.1)

Street Name: "B" Street East Bound West Bound  
 Approach: North Bound South Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Stop Sign Stop Sign  
 Rights: Include Include  
 Lanes: 0 0 0 0 0 1 0 0 1 0 1 0 0 0 1 0

Volume Module:  
 Base Vol: 0 0 0 48 149 99 0 0 253 2  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Base: 0 0 0 48 149 99 0 0 253 2  
 Added Vol: 0 0 0 0 0 0 0 0 0 0  
 In-Process: 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 0 0 0 48 149 99 0 0 253 2  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
 PHF Volume: 0 0 0 4 0 56 175 116 0 0 345 2  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0  
 Final Volume: 0 0 0 4 0 56 175 116 0 0 345 2

Critical Gap Module:  
 Critical Gap: 6.4 6.5 6.2 4.1 4.1 4.1 4.1 4.1 4.1 4.1  
 Follow-up Time: 3.5 4.0 3.3 2.2 2.2 2.2 2.2 2.2 2.2 2.2

Capacity Module:  
 Conflict Vol: 813 813 346 347 347 347 347 347 347 347  
 Potent Cap: 351 315 702 1223 1223 1223 1223 1223 1223 1223  
 Move Cap: 312 270 702 1223 1223 1223 1223 1223 1223 1223  
 Volume/Cap: 0.01 0.00 0.08 0.14 0.14 0.14 0.14 0.14 0.14 0.14

Level of Service Module:  
 Delay: 3.1 3.1 3.1 3.1 3.1 3.1 3.1 3.1 3.1 3.1  
 Control Del: 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1  
 LOS by Move: B B B B B B B B B B  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap: 345 345 345 345 345 345 345 345 345 345  
 Shared Queue: 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3  
 Shared ConDel: 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1  
 Shared LOS: B B B B B B B B B B  
 Approach Del: 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1 11.1  
 Approach LOS: B B B B B B B B B B

Note: Queue reported is the number of cars per lane.



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PM          Fri Jan 22, 2010 11:48:58          Page 13-1
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Kittelson & Associates, Inc. - Project #10028
Madras Elementary School UGB Amendment - Madras, Oregon
Background Traffic Conditions, Weekday PM Peak HODF

-----
Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)
-----
Intersection #9 "J" Street/5th Street
Average Delay (sec/veh): 56.2 Worst Case Level Of Service: F (287.2)
-----
Street Name: "J" Street 5th Street
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - F L - T - R
Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 1 0 1 0 0 0 0 0 1 0 1 0 0 0 0 0 1 0
-----
Volume Module:
Base Vol: 70 1190 65 0 0 0 155 150 0 0 75 110
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 70 1190 65 0 0 0 155 150 0 0 75 110
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
In-Process: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 70 1190 65 0 0 0 155 150 0 0 75 110
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 74 1253 68 0 0 0 163 158 0 0 79 116
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Volume: 74 1253 68 0 0 0 163 158 0 0 79 116
-----
Critical Gap Module:
Critical Gap: 4.2 XXXX XXXX XXXX XXXX 7.1 6.5 XXXX XXXX 6.5 6.2
Followup Tim: 2.3 XXXX XXXX XXXX XXXX 3.5 4.0 XXXX XXXX 4.0 3.3
-----
Capacity Module:
Conflict Vol: 0 XXXX XXXX XXXX XXXX 613 1468 XXXX XXXX 1434 661
Potential Cap: 1578 XXXX XXXX XXXX XXXX 299 129 XXXX XXXX 135 466
Move Cap: 1578 XXXX XXXX XXXX XXXX 111 122 XXXX XXXX 128 466
Volume/Cap: 0.05 XXXX XXXX XXXX XXXX 1.48 1.29 XXXX XXXX 0.62 0.25
-----
Level Of Service Module:
2Way95thQ: 0.1 XXXX XXXX XXXX XXXX 11.9 10.2 XXXX XXXX XXXX XXXX
Control Del: 7.4 XXXX XXXX XXXX XXXX 326.7 245 XXXX XXXX XXXX XXXX
LOS by Move: A + + + + + F F + + + +
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX
Shared Queue: 0.1 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX
Shrd ConDel: 7.4 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX
Shared LOS: A + + + + + F F + + + +
ApproachDel: XXXXX 287.2 74.9
ApproachLOS: F
-----
Note: Queue reported is the number of cars per lane.
-----
Traffic 8.0.0715 (C) 2008 Dowling Assoc. Licensed to KITTELSON, PORTLAND

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**Attachment "5"**  
**R-2 Residential Density**  
**Development**

**Derivation of Potential Residential Density** (based on provisions within City Ordinance 723)

5 acres \* 43,560 SF/acre = 217,800 SF

217,800 SF – 25% roads, offsets, easements = 163,350 SF Usable

- Assuming 18 units per typical apartment structure

**First two units**

= 10,000 SF (first two units) + (2 units \* 200 SF lawn/unit) + (2 units \* 300 SF parking/unit)

= 11,000 SF

**16 Additional units**

= 16 units \* 200 lawn + 16 units \* 300 parking + 16 units \* 2,000 SF/unit

= 40,000 SF

**18 Unit Apartment Building**

= 11,000 SF + 40,000 SF

= 51,000 SF

**Total Buildings**

= 163,350 / 51,000 = 3 Buildings

- Assuming final building has more than 18 units to utilize remaining land

= 163,350 SF – 51,000 SF/Building \* 3 Buildings

10,350 SF = (x units \* 200 SF lawn/unit + x \* 300 parking/unit + x \* 2,000 SF/unit)

x = 4 units

**Total Residential Units**

= 3 Buildings \* 18 units per building + 4 units

= 58 units multifamily units, or 11.6 units per acre per five acres

= 232 apartment units on 20 acres or 174 units on 15 acres

**Attachment "6"**  
**Bend-La Pine Trip**  
**Generation Study**


**KITTELSON & ASSOCIATES, INC.**

TRANSPORTATION ENGINEERING / PLANNING

354 SW Upper Terrace Drive, Suite 101, Bend Oregon 97702 • 541 312 8300 • 541 312 4585

**MEMORANDUM**


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**Date:** October 14, 2008 Project #: 9140  
**To:** John M. Rexford  
 Bend-La Pine Schools  
 520 NW Wall Street  
 Bend, Oregon 97701-2699  
**From:** Joe Bessman, P.E.  
**Subject:** Elementary School Trip Generation Study

---

**PURPOSE**

The purpose of this memorandum is to summarize measured trip generation rates for elementary schools in Bend during the weekday p.m. peak hour of adjacent street traffic. Standard reference manuals contain trip generation data for elementary schools during the weekday a.m. peak hour (7:00 to 9:00 a.m.) and during the afternoon school peak hour (2:00 to 4:00 p.m.), but no data is available for the evening commute period. This time period is commonly used to assess off-site impacts of schools to the transportation system.

This study identifies elementary school trip generation data during the weekday p.m. peak hour of adjacent street traffic, and was prepared based on surveys of four elementary schools located within Bend. The study methodology and resultant trip generation rates are summarized herein.

**AVAILABLE ELEMENTARY SCHOOL DATA**

As defined within *Trip Generation, 7<sup>th</sup> Edition*, elementary schools serve grades kindergarten through fifth or sixth grade, are typically centrally located within residential communities to facilitate access, and provide bus service to students within specific geographic boundaries. The ITE land use category for elementary schools includes both public and private elementary schools within the dataset, although data for this study was collected exclusively at public schools.

As identified within the Trip Generation manual, school bus utilization may vary significantly between elementary schools, and may result in varying trip rates between school sites. Potential factors for school bus utilization could include the proximity of bus service, service boundaries, transportation infrastructure, crime, income, or other factors. School bus utilization data was not collected as the purpose of this trip generation study is to identify characteristics specific to the Bend-La Pine School District, and specifically to elementary schools within the City of Bend.

Available data contained within the standard reference materials includes elementary school surveys during the weekday p.m. peak hour of the generator only. This coincides with the end of

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the school day, which typically occurs between 2:00 p.m. and 4:00 p.m. However, the critical off-site transportation analysis period typically coincides with the evening commute period (4:00 to 6:00 p.m.), which does not occur simultaneously with elementary school peak trip generation. No standard data is available within the ITE manual related to elementary school trip characteristics during the weekday evening commute period, when limited after-school activities or staff trips represent the primary uses.

As part of new elementary school projects for the City of Hillsboro School District, trip generation studies were conducted at several locations during the critical weekday p.m. commute period (4:00 to 6:00 p.m.). These studies showed that the schools' trip generation rates during the evening commute period were approximately 30 percent of the peak school trip rates that occurred in the afternoon. Given the unique characteristics of Bend (population, service boundaries, and bus ridership), a trip generation study was conducted to assess trip generation rates applicable to local conditions.

## TRIP GENERATION STUDY

Four school sites were selected for analysis throughout the City of Bend. School sites selected were those that were in operation for at least two years, were centrally located within residential communities, include typical school hours and amenities, contain defined attendance boundaries, and include configurations that would allow the separation of trips from those associated with surrounding uses. The school sites selected for the survey, data collection dates, street address, and year 2008/2009 enrollment data are identified in Table 1. *The attachments include the school attendance boundary map illustrating the location of the elementary schools and the areas served.*

**Table 1**  
**Elementary School Characteristics**

School Name	Data Collection Dates	School Enrollment	Street Address
Pine Ridge Elementary	Tuesday September 16, 2008	540	19840 SW Hollygrape St Bend, Oregon 97702
R E Jewell Elementary	Tuesday September 16, 2008	557	20550 Murphy Rd Bend, Oregon 97702
Juniper Elementary	Tuesday September 16, 2008	509	1300 NE Norton Ave Bend, Oregon 97701
Elk Meadow Elementary	Tuesday September 16, 2008	568	60880 Brookwood Blvd Bend, Oregon 97702

Each of the ingress/egress points at the school sites were videotaped on September 16, 2008, two weeks after the start of school to ensure that school attendance patterns had normalized. It should be noted that many of the schools are situated adjacent to public parks, and trips associated with the ball fields or adjacent parks could not be entirely separated. During the surveys, the weather was sunny with a high temperature of 90 degrees. Accordingly, it is expected that the trip generation studies are conservatively high given the higher usage of the adjacent ball fields than during the majority of the school year. As trips during the evening commute period likely reflect

low levels of student trips to and from the school, the potential impact of weather on student mode choice is not expected to have a significant impact on the measured trip generation rates.

Intersection traffic counts were simultaneously conducted at nearby collector and arterial intersections to identify the time period with peak traffic volumes on the adjacent roadway system. Given the relatively low school volumes, this hour represents the time period when the combination of site-generated traffic and roadway volumes are expected to peak. The peak hour of adjacent street traffic identified in the study typically occurred just prior to the 5:00 to 6:00 p.m. period, with exception of counts collected near Juniper Elementary which identified an earlier peak hour between 4:25 and 5:25 p.m.

## TRIP GENERATION RESULTS

Videotapes collected at the school ingress/egress points were manually reviewed in five-minute increments coinciding with the peak hour of adjacent street traffic. Trip rates on a per-student basis were calculated at each of the four school sites, and a weighted average was applied to generate a local elementary school trip generation rate on a per-student basis. A summary of the trip generation data for each school is provided in Table 2 and Figure 1, and worksheets from the data collection efforts are included in the attachments.

**Table 2**  
**Measured Trip Generation Rates (Weekday PM Peak Hour)**

School Name	Student Enrollment	Weekday PM Peak Hour of Adjacent Street Traffic	Trips Per Student	% Trips In	% Trips Out
Pine Ridge Elementary	540	4:50 to 5:50 p.m.	0.16	40	60
R E Jewell Elementary	557	4:25 to 5:25 p.m.	0.09	68	32
Juniper Elementary	509	4:25 to 5:25 p.m.	0.15	52	48
Elk Meadow Elementary	568	4:55 to 5:55 p.m.	0.12	58	42
Weighted Average Trip Generation Rate			0.13 <sup>1</sup>	55%	45%

<sup>1</sup>The weighted average is calculated by dividing the sum of all trips or trip ends by the sum of all independent variable units (total school trips / total student enrollment).

Based on the resultant trip generation rates, trip generation rates for elementary schools within the Bend La Pine School District were identified as 0.13 trips per student during the weekday p.m. peak hour of adjacent street traffic, with 55 percent of the trips inbound and 45 percent of the trips outbound. This local trip rate is approximately half of the national trip rate of 0.28 trips per student during the weekday peak hour of generator (2:00 to 4:00 p.m. time period).

We trust that the information contain herein adequately summarizes the trip generation characteristics of elementary schools within the City of Bend. Please let us know if you have any questions or need any additional information to review the analysis findings.

Attachments: Traffic count worksheets  
School Attendance Area Map



## Elementary School (520)

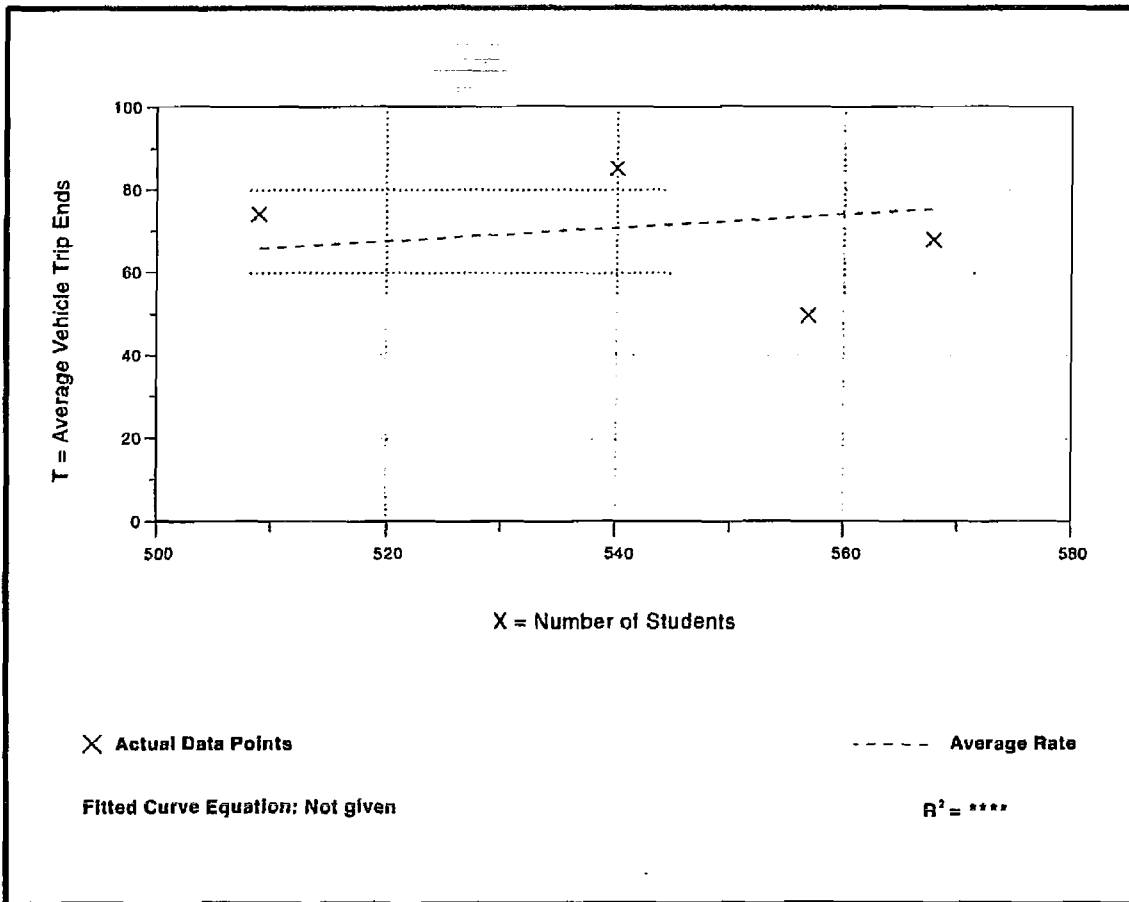
**Average Vehicle Trip Ends vs: Students**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**

Number of Studies: 4  
 Average Number of Students: 544  
 Directional Distribution: 55% entering, 45% exiting

### Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.13	0.09 - 0.16	0.03

### Data Plot and Equation





QUALITY COUNTS REPORT

School: Juniper Elementary  
 Intersection: NE 17th St - NE Norton Ave  
 Count Date: 8/18/2008  
 Count Time: 8:18:2008  
 Comments:

PEAK HOUR START: 4:25 PM  
 PEAK HOUR END: 5:25 PM  
 PEAK 15-MIN START: 4:45 PM  
 PEAK 15-MIN END: 5:10 PM  
 PHF: 0.57

PEAK-HOUR VOLUMES: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 MBLnft 0 MBThru 0 MBRght 0 SBLnft 0 SBTnru 0 SBRght 0 EBLnft 0 EBTnru 0 EB0ght 0 WBLnft 0 WBTnru 0 WB0ght 0  
 NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 MBLnft 0 MBThru 0 MBRght 0 SBLnft 0 SBTnru 0 SBRght 0 EBLnft 0 EBTnru 0 EB0ght 0 WBLnft 0 WBTnru 0 WB0ght 0

PERCENT HEAVY VEHICLES: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 MBLnft 0 MBThru 0 MBRght 0 SBLnft 0 SBTnru 0 SBRght 0 EBLnft 0 EBTnru 0 EB0ght 0 WBLnft 0 WBTnru 0 WB0ght 0  
 NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 MBLnft 0 MBThru 0 MBRght 0 SBLnft 0 SBTnru 0 SBRght 0 EBLnft 0 EBTnru 0 EB0ght 0 WBLnft 0 WBTnru 0 WB0ght 0

PEAK-HOUR VOLUMES - PEDESTRIAN: South 0 East 0 West 0  
 North 0

PEAK 15-MIN FLOW RATES: Vehicle Type: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 All Vehicles: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 Heavy Trucks: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 Pedestrians: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19

ALL-VEHICLE VOLUMES: Time Period: NB Thru 0 NB Right 0 NB Lt/Turn 0 NB RTOR 0 SB Thru 1 SB Right 0 SB Lt/Turn 0 SB RTOR 0 EB Thru 0 EB Right 0 EB Lt/Turn 0 EB RTOR 0 WB Thru 0 WB Right 0 WB Lt/Turn 0 WB RTOR 0  
 4:25 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 4:30 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 4:35 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 4:40 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 2 SBTnru 2 SBRght 2 EBLnft 0 EBTnru 0 EB0ght 4 WBLnft 0 WBTnru 0 WB0ght 2  
 4:45 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 2 SBTnru 2 SBRght 2 EBLnft 0 EBTnru 0 EB0ght 4 WBLnft 0 WBTnru 0 WB0ght 2  
 4:50 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 4 SBTnru 4 SBRght 4 EBLnft 0 EBTnru 0 EB0ght 6 WBLnft 0 WBTnru 0 WB0ght 4  
 4:55 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 4 SBTnru 4 SBRght 4 EBLnft 0 EBTnru 0 EB0ght 6 WBLnft 0 WBTnru 0 WB0ght 4  
 5:00 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 1 EBLnft 0 EBTnru 0 EB0ght 2 WBLnft 0 WBTnru 0 WB0ght 1  
 5:05 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 1 EBLnft 0 EBTnru 0 EB0ght 2 WBLnft 0 WBTnru 0 WB0ght 1  
 5:10 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 1 EBLnft 0 EBTnru 0 EB0ght 2 WBLnft 0 WBTnru 0 WB0ght 1  
 5:15 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 1 EBLnft 0 EBTnru 0 EB0ght 2 WBLnft 0 WBTnru 0 WB0ght 1  
 5:20 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 1 EBLnft 0 EBTnru 0 EB0ght 2 WBLnft 0 WBTnru 0 WB0ght 1

HEAVY-VEHICLE VOLUMES: Time Period: NB Thru 0 NB Right 0 NB Lt/Turn 0 NB RTOR 0 SB Thru 0 SB Right 0 SB Lt/Turn 0 SB RTOR 0 EB Thru 0 EB Right 0 EB Lt/Turn 0 EB RTOR 0 WB Thru 0 WB Right 0 WB Lt/Turn 0 WB RTOR 0  
 4:25 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 4:30 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 4:35 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 21 EBLnft 0 EBTnru 0 EB0ght 34 WBLnft 0 WBTnru 0 WB0ght 19  
 4:40 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 2 SBTnru 2 SBRght 2 EBLnft 0 EBTnru 0 EB0ght 4 WBLnft 0 WBTnru 0 WB0ght 2  
 4:45 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 2 SBTnru 2 SBRght 2 EBLnft 0 EBTnru 0 EB0ght 4 WBLnft 0 WBTnru 0 WB0ght 2  
 4:50 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 4 SBTnru 4 SBRght 4 EBLnft 0 EBTnru 0 EB0ght 6 WBLnft 0 WBTnru 0 WB0ght 4  
 4:55 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 4 SBTnru 4 SBRght 4 EBLnft 0 EBTnru 0 EB0ght 6 WBLnft 0 WBTnru 0 WB0ght 4  
 5:00 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 1 EBLnft 0 EBTnru 0 EB0ght 2 WBLnft 0 WBTnru 0 WB0ght 1  
 5:05 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 1 EBLnft 0 EBTnru 0 EB0ght 2 WBLnft 0 WBTnru 0 WB0ght 1  
 5:10 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 1 EBLnft 0 EBTnru 0 EB0ght 2 WBLnft 0 WBTnru 0 WB0ght 1  
 5:15 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 1 EBLnft 0 EBTnru 0 EB0ght 2 WBLnft 0 WBTnru 0 WB0ght 1  
 5:20 PM: NBLnft 0 NBThru 0 MBRght 0 SBLnft 1 SBTnru 1 SBRght 1 EBLnft 0 EBTnru 0 EB0ght 2 WBLnft 0 WBTnru 0 WB0ght 1

PEDESTRIAN VOLUMES: Time Period: South 0 East 0 West 0  
 North 0  
 4:25 PM: South 0 East 0 West 0  
 4:30 PM: South 0 East 0 West 0  
 4:35 PM: South 0 East 0 West 0  
 4:40 PM: South 0 East 0 West 0  
 4:45 PM: South 0 East 0 West 0  
 4:50 PM: South 0 East 0 West 0  
 4:55 PM: South 0 East 0 West 0  
 5:00 PM: South 0 East 0 West 0  
 5:05 PM: South 0 East 0 West 0  
 5:10 PM: South 0 East 0 West 0  
 5:15 PM: South 0 East 0 West 0  
 5:20 PM: South 0 East 0 West 0



















QUALITY COUNTS REPORT

www.mnstate.edu/transportation

School: Elk Meadow Elementary  
 Intersection: Brookwood Blvd - Elk Meadow School N Driv  
 City/State: Grand OR  
 Agency: 172727  
 Date: 8/6/2005  
 Comments:

PEAK-HOUR START 4:55 PM  
 PEAK-HOUR END 5:55 PM  
 PEAK 15-MIN START 5:10 PM  
 PEAK 15-MIN END 5:25 PM  
 PAF 0.78

PEAK-HOUR VOLUMES  
 NBLat 0 NBSth 145 NBRght 7 SBLat 3 SBThru 223 SBRght 0 EBLat 0 EBThru 0 EBRght 0 WBLat 4 WBThru 7 WBRght 0  
 NBLat 0 NBSth 0 NBRght 0 SBLat 0 SBThru 0 SBRght 0 EBLat 0 EBThru 0 EBRght 0 WBLat 0 WBThru 0 WBRght 0  
 NBLat 0 NBSth 0 NBRght 0 SBLat 0 SBThru 0 SBRght 0 EBLat 0 EBThru 0 EBRght 0 WBLat 0 WBThru 0 WBRght 0

PERCENT HEAVY VEHICLES  
 NBLat 0 NBSth 0 NBRght 0 SBLat 0 SBThru 0 SBRght 0 EBLat 0 EBThru 0 EBRght 0 WBLat 0 WBThru 0 WBRght 0  
 NBLat 0 NBSth 0 NBRght 0 SBLat 0 SBThru 0 SBRght 0 EBLat 0 EBThru 0 EBRght 0 WBLat 0 WBThru 0 WBRght 0

PEAK-HOUR VOLUMES - PEDESTRIANS  
 North 0 South 0 East 0 West 0

PEAK 15-MIN FLOW RATES  
 Vehicle Type NBLat NBSth NBRght NBLat NBSth NBRght NBLat NBSth NBRght NBLat NBSth NBRght NBLat NBSth NBRght  
 All Vehicles 0 192 0 0 0 0 0 0 0 0 0 0 0 0 0  
 Heavy Trucks 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 Pedestrians 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

ALL-VEHICLE VOLUMES  
 Time Period NBLat NBSth NBRght NBLat NBSth NBRght NBLat NBSth NBRght NBLat NBSth NBRght NBLat NBSth NBRght  
 4:55 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 5:00 PM 14 1 0 0 0 0 0 0 0 0 0 0 0 0 0  
 5:05 PM 20 2 0 0 0 0 0 0 0 0 0 0 0 0 0  
 5:10 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 5:15 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 5:20 PM 0 16 1 0 0 0 0 0 0 0 0 0 0 0 0  
 5:25 PM 0 6 0 0 0 0 0 0 0 0 0 0 0 0 0  
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 5:40 PM 0 10 1 0 0 0 0 0 0 0 0 0 0 0 0  
 5:45 PM 0 11 0 0 0 0 0 0 0 0 0 0 0 0 0  
 5:55 PM 0 10 0 0 0 0 0 0 0 0 0 0 0 0 0

HEAVY VEHICLE VOLUMES  
 Time Period NBLat NBSth NBRght NBLat NBSth NBRght NBLat NBSth NBRght NBLat NBSth NBRght NBLat NBSth NBRght  
 4:55 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 5:00 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 5:05 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 5:10 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 5:15 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 5:20 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
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 5:45 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 5:55 PM 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

PEDESTRIAN VOLUMES  
 Time Period North South East West Total  
 4:55 PM 0 0 0 0 0  
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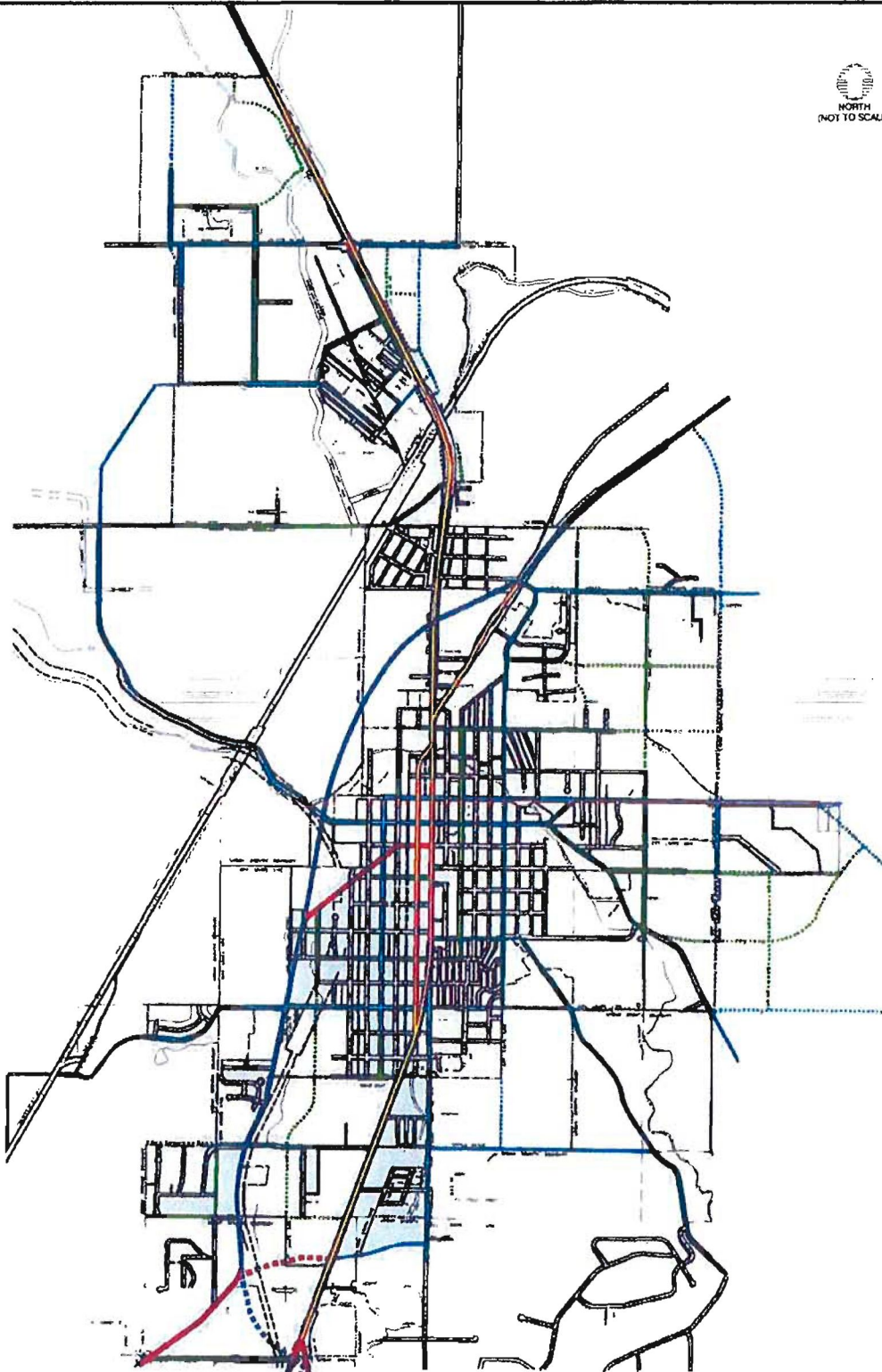








**Attachment "7"**  
**City of Madras Roadway**  
**Classification Map**



LEGEND		STATEWIDE HIGHWAY SEGMENT CLASSIFICATIONS
<b>EXISTING</b>	<b>CITY</b>	<b>FUTURE</b>
	CITY EXPRESSWAY	
	ARTERIAL	
	MAJOR COLLECTOR	
	MINOR COLLECTOR	

### FUNCTIONAL CLASSIFICATION MAP

		CITY OF MADRAS COMPREHENSIVE PLAN AND TRANSPORTATION SYSTEM PLAN UPDATE 199 EXHIBIT G5 (ORDINANCE No. 023 MAY 2007)		EXHIBIT <b>G5</b>
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**Attachment "8"**  
**Project Scoping Letter**


**KITTELSON & ASSOCIATES, INC.**

TRANSPORTATION ENGINEERING / PLANNING

354 SW Upper Terrace Drive, Suite 101, Bend, Oregon 97702 P 541 312 8300 F 541 312 4585

**MEMORANDUM**


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**Date:** December 10, 2009 Project #: 10028.0  
**To:** Nick Snead, City of Madras  
 Jon Skidmore, Jefferson County  
 Ana Jovanovic, ODOT Region 4  
**From:** Joe Bessman, Kittelson & Associates, Inc.  
**Cc:** DJ Hefferman, Angelo Planning Group  
**Project:** Madras Elementary School UGB Amendment  
**Subject:** Transportation Planning Rule Scoping

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The purpose of this memorandum is to document transportation analysis scoping to rezone 20 acres of land located in Jefferson County from Range Land (RL) to include this land within the City's Urban Growth Boundary as Multiple Family Residential (R-2) zoning. This scoping was prepared for consistency with the requirements identified within Oregon Administrative Rule (OAR) 660-12-0060 (Transportation Planning Rule, TPR), which contains the applicable criteria for a zone change analysis. The purpose of the TPR analysis is to ensure the transportation system can accommodate the allowable land uses and that any significant affects are mitigated.

The land included in the rezone is generally located south of Ashwood Road, east of the Jefferson County Middle School, and south of the existing ballfields near Bean Drive. The property is within the Yarrow Master Planned Community and its rezone to accommodate a school is consistent with the approved Yarrow Concept Plan. The location of the property is generally shown in Figure 1, and the identification of the approximately 20-acre future school property on the Yarrow Concept Plan is illustrated in Figure 2. No specific development or entitlements are being pursued as part of this zone change.

Note that while specific parcel boundaries have not yet been identified, the general location of the property south of Ashwood and east of Bean Drive within the future school boundary location shown on the Yarrow Concept Plan provides adequate information to accurately assess the transportation system impacts. Specific definition of the property will be provided as part of the zone change application pending further area refinement with City and County staff.

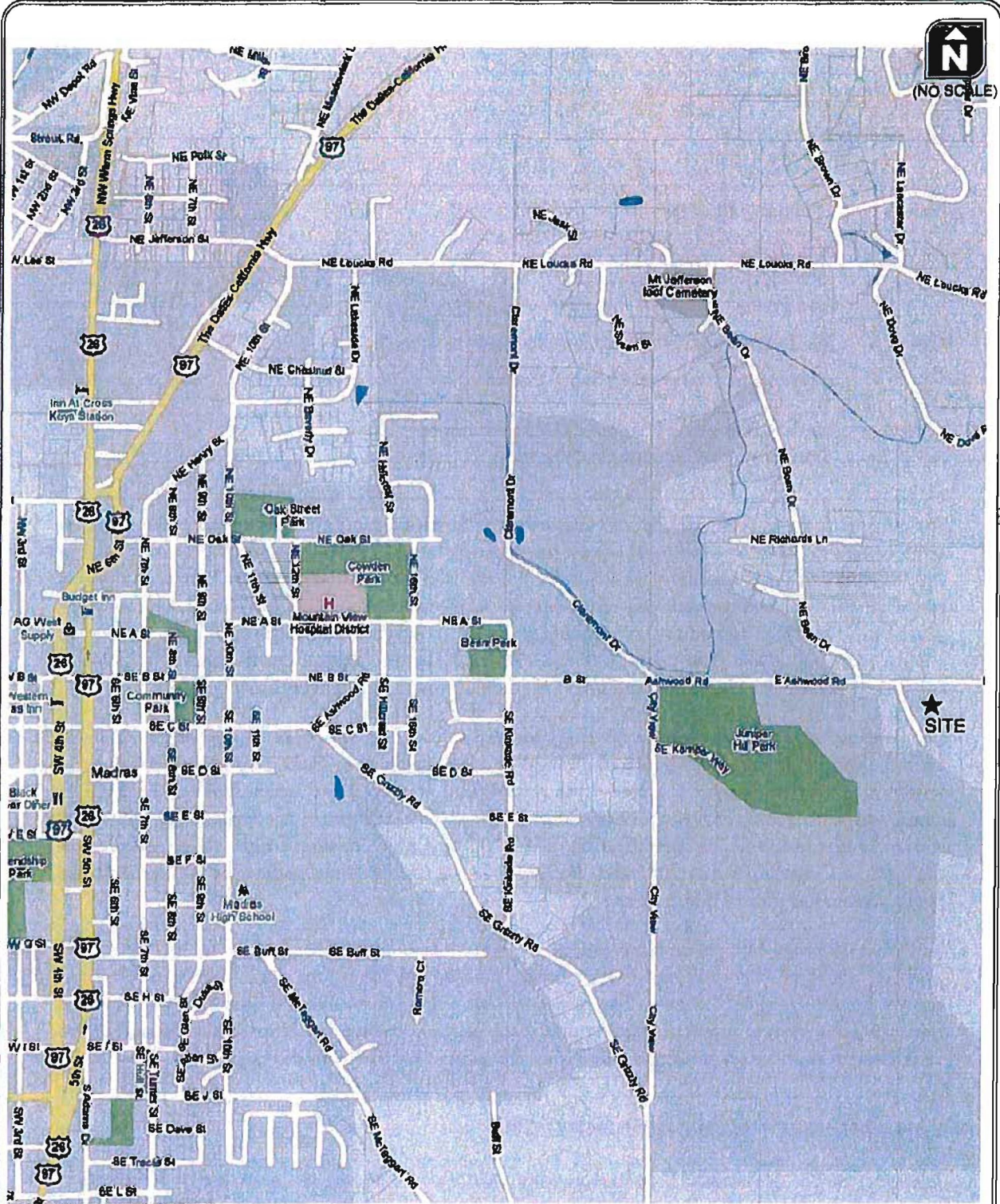
**LAND DEVELOPMENT ASSUMPTIONS**

Two reasonable development scenarios were identified to assess the potential transportation impact of rezoning 20-acres from Range Land to Multiple Family Residential Zoning. The two scenarios reflect County and City zoning provisions and are presented below.

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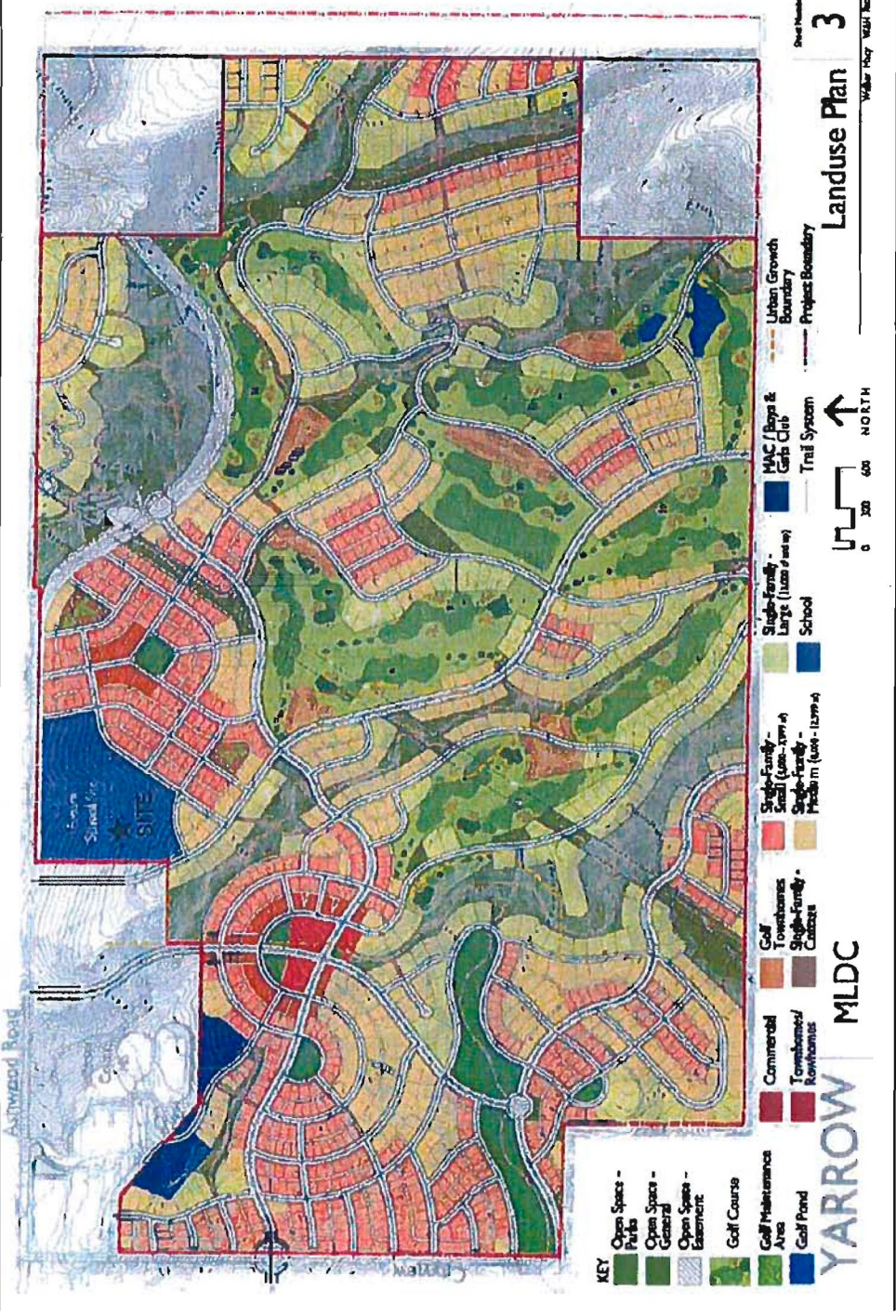


SITE VICINITY MAP  
MADRAS, OREGON

1



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YARROW MASTER PLAN  
MADRAS, OREGON

FIGURE  
**2**

**Range Land (RL) Development Potential**

The Range Land zoning is one of three designations for Exclusive Farm Use (EFU) lands within Jefferson County. The RL zoning is intended to preserve predominantly non-irrigated agricultural lands for livestock grazing. The RL zoning requires that non-farm residences contain a minimum of 40 acres. A variety of non-residential uses are permitted within the RL zoning, though these uses require more acreage than the 20-acres proposed for the rezone and all are considered low intensity uses. Accordingly, under the existing zoning the trip generation potential is severely limited, and for analysis purposes it was conservatively assumed to be none.

**Multiple Family Residential (R-2) Development Potential**

The Multiple Family Residential (R-2) zoning category provides for higher-density single-family uses and attached residential uses, to include apartments and townhomes. The R-2 zoning also allows parks and community centers as outright uses. Schools, churches, libraries, and other government buildings are allowed as conditional uses.

The City of Madras zoning provisions, as contained within Ordinance 723, were reviewed to identify density ranges and allowable uses within the R-2 zoning. Conditional uses are typically not considered as part of a zone change analysis. However, as the intent of the rezone is to ultimately allow for a new elementary school, this specific conditional use was reviewed to ensure that a reasonable development scenario considers the impacts of this intended future use.

Review of the City zoning provisions identified the following outright allowable uses:

- Single family residential
- Multi-family residential
- Public park, recreation areas, community centers

Based on the uses shown above, multi-family residential was identified as the most intense outright land use from a trip generation perspective. Review of the required building space, parking allocations, lawn space, and typical road and infrastructure allocations identified a resultant reasonable maximum density of 11.6 attached residential units per acre, or approximately 232 total attached residential units on 20-acres. *Additional details on the development of residential densities are included as an attachment.*

Conversations with the project team identified that a future school would likely comprise five acres of the overall land, with the remainder retained for residential uses. The most likely school type would be an elementary school given the regional needs. A new elementary school could be expected to serve an enrollment of approximately 350 students. This would result in a second potential development scenario that would include 174 attached residential units (11.6 units/acre \* 15 acres = 174 units) and a 350-student elementary school (remaining five acres)..



## TPR ANALYSIS SCOPING

### ***Trip Generation***

Trip generation estimates were prepared for both R-2 zoning scenarios to determine which land use combination resulted in a higher overall trip generation potential during the critical weekday evening commute period (one hour between 4:00 and 6:00 p.m.). Trip generation estimates for each of the scenarios were prepared based on surveys of similar sites. Residential trip generation estimates were prepared based on data contained within the Institute of Transportation Engineer's (ITE's) standard reference *Trip Generation, 8<sup>th</sup> Edition*, using the *Apartment* land use category (Land Use Code 220). Trip generation estimates for the elementary school were prepared using surveys of schools within the City of Bend, which contain slightly lower trip generation rates than national surveys of elementary schools (0.13 trips per student versus 0.15 trips per student) but are expected to better represent local characteristics. *The attachments contain the Bend-La Pine Elementary School Trip Generation study.*

While the location of the elementary school is expected to support the surrounding Yarrow neighborhood, complement the adjacent middle school, and benefit from the adjacent ballfields, additional trip discounts were not applied to the trip rates obtained from the Bend-LaPine school district facilities. Table 1 summarizes the trip generation potential of the two scenarios.

**Table 1 R-2 Development Scenarios Trip Generation Potential**

Land Use	ITE Code	Size	Weekday PM Peak Hour		
			Total	In	Out
Proposed R-2 Zoning: Residential Only Scenario					
Apartments	220	232 Units	145	94	51
Proposed R-2 Zoning: Residential Plus Elementary School Scenario					
Apartments	220	174 Units	113	74	39
Elementary School	N/A	350 Students	46	25	21
Total Trips			159	99	60

\*Trip rate reflects data collected at elementary schools in central Oregon

As shown in Table 1, future development of the 20-acres with an elementary school (comprising five acres) and residential uses (comprising 15 acres) provides a reasonable worst-case development scenario. This scenario was found to generate 14 more weekday p.m. peak hour trips than build-out with residential uses alone.

### ***Trip Distribution and Trip Assignment***

The estimated trip distribution pattern of primary site-generated trips associated with the proposed UGB amendment and rezone was determined through review of existing traffic patterns, the locations of other elementary schools, residential destinations, and review of existing

school attendance boundary maps. The resultant trip distribution patterns were separated by residential and school trips, and are illustrated in Figures 3 and 4. As shown, the pattern highlights that the majority of trips would be headed west toward the City center and US 97 corridor. Trips destined toward US 97 are expected to distribute onto the parallel routes (Loucks, City View, or B Street) based on their ultimate travel destination. Both trip distribution patterns reflect a regional draw as the school trips are primarily associated with faculty and staff during the evening commute period.

The difference between the Range Land zoning trip generation potential (assumed to be none) and the proposed Multiple Family Residential (R-2) zoning trips (shown in Table 1) during the critical weekday p.m. peak hour were assigned to the roadway network based on the trip distribution patterns and routing, as illustrated in Figure 5. Figure 5 includes a sum of the total additional vehicles that could occur at nearby collector and arterial intersections.

### **Study Intersections**

Based on a review of the potential increase in trips with the proposed zoning (as shown in Figure 5), the following five intersections of collector and arterial roadways are proposed for inclusion in the traffic study.

1. Ashwood/Bean Drive (could be impacted by 137 additional weekday p.m. peak hour trips)
2. Ashwood/City View (could be impacted by 119 additional weekday p.m. peak hour trips)
3. B Street/Kinkade Road (could be impacted by 76 additional weekday p.m. peak hour trips)
4. B Street/Ashwood (could be impacted by 66 additional weekday p.m. peak hour trips)
5. B Street/10<sup>th</sup> Street (could be impacted by 55 additional weekday p.m. peak hour trips)

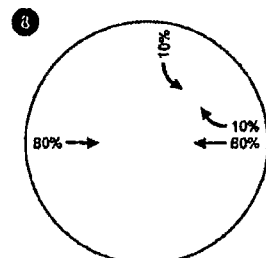
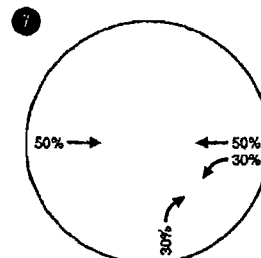
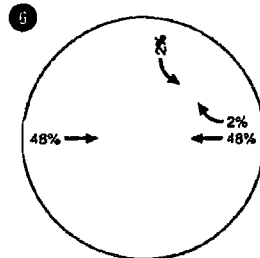
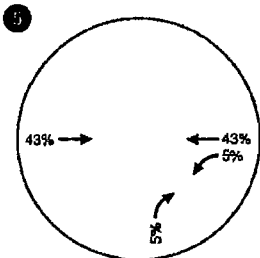
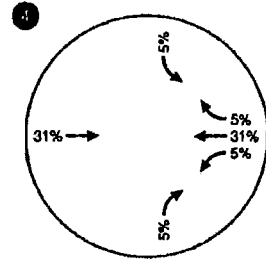
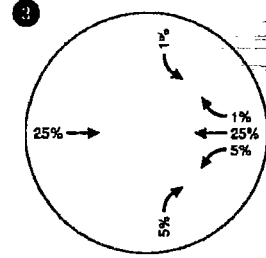
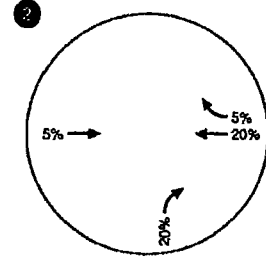
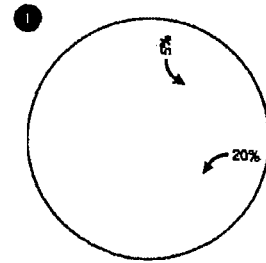
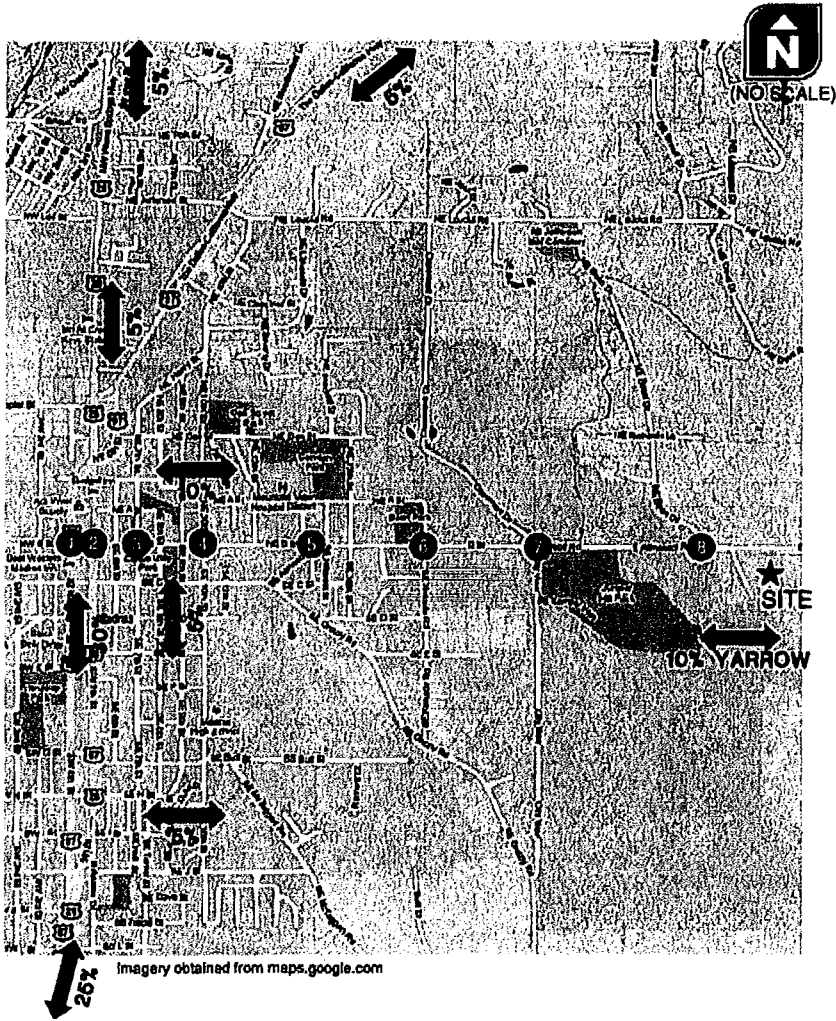
These intersections are those that could experience more than 50 additional weekday p.m. peak hour trips with the rezone/UGB amendment, or those that could experience a significant increase in total volume with the amendment<sup>1</sup>. *The City of Madras roadway classification map is included in the attachments.*

It should be noted that additional assessment of localized queuing and operations during the school peak periods may be required at the time of site plan application/land use entitlements. However, as the purpose of the Transportation Planning Rule is to provide consistency with the adopted Transportation System Plan (TSP), only the weekday p.m. peak hour operations are applicable to the TPR analysis.

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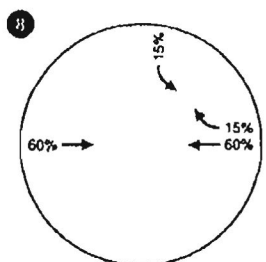
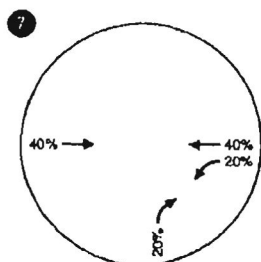
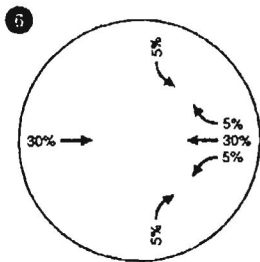
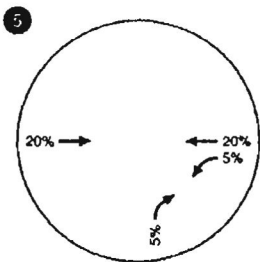
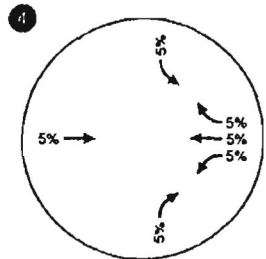
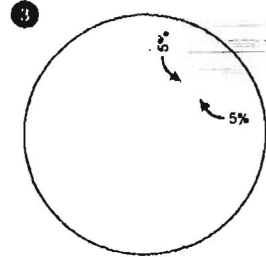
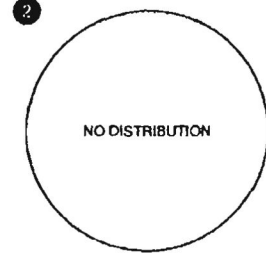
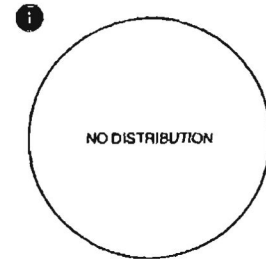
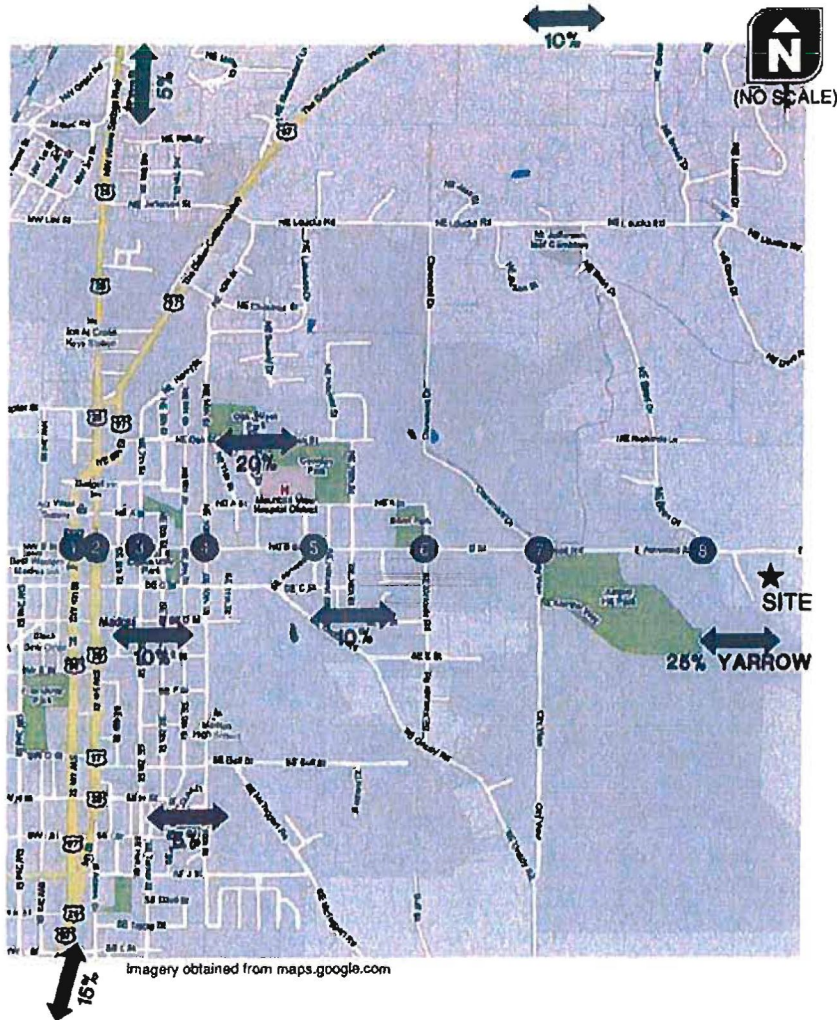
<sup>1</sup> The City of Madras Technical Memorandum #2B contains traffic study guidelines that identify study area intersections as those that experience a 10 percent volume increase as a result of a proposed land use action.

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ESTIMATED RESIDENTIAL TRIP DISTRIBUTION PATTERN  
MADRAS, OREGON

FIGURE  
3

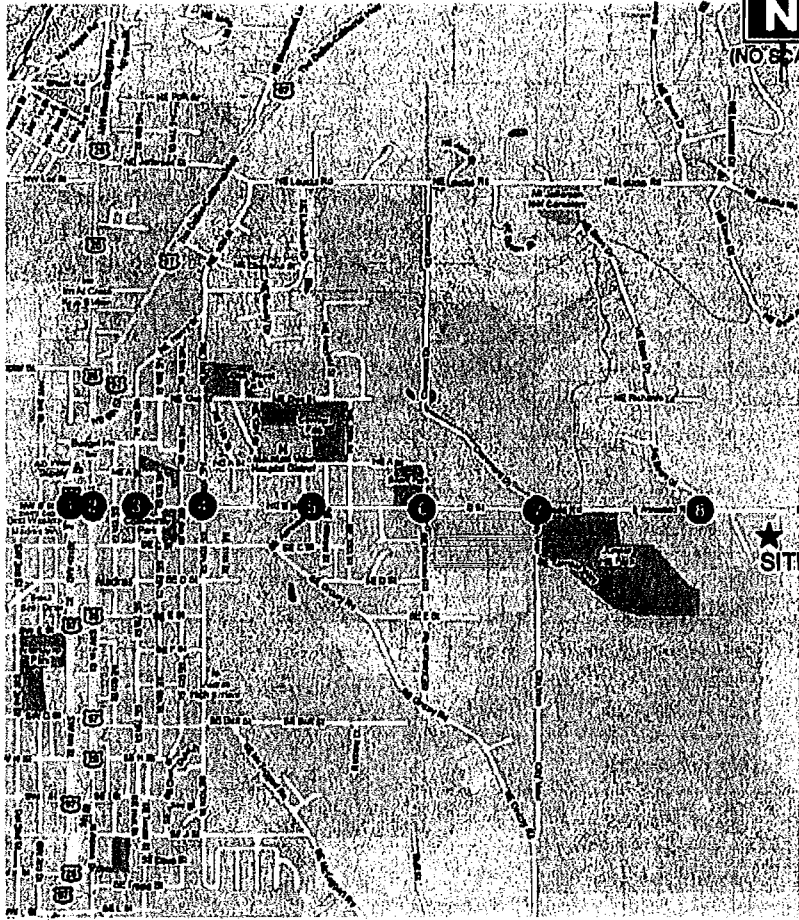


**ESTIMATED ELEMENTARY SCHOOL TRIP DISTRIBUTION PATTERN  
MADRAS, OREGON**

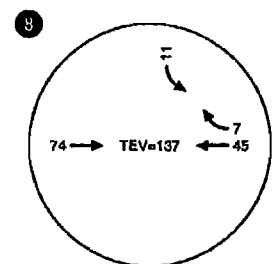
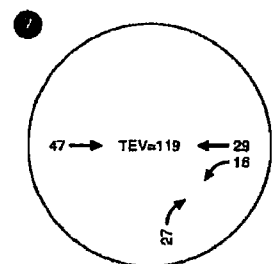
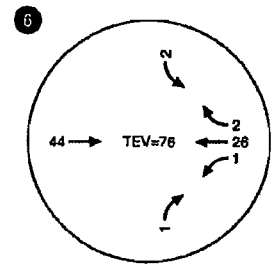
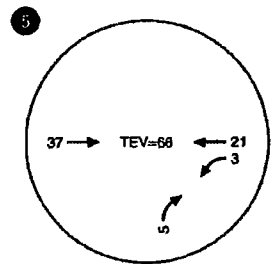
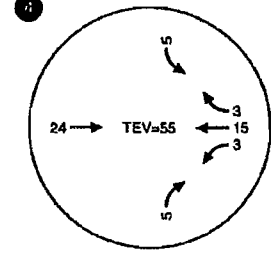
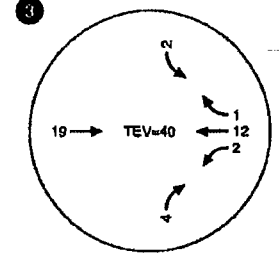
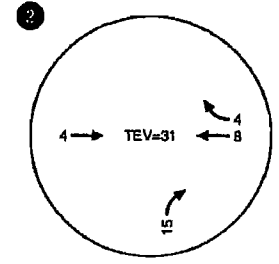
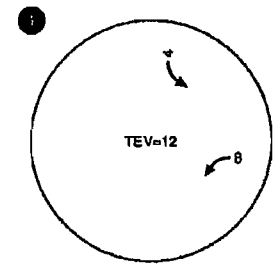
FIGURE  
**4**

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Imagery obtained from maps.google.com



TEV=TOTAL ENTERING VOLUME

**TOTAL ADDITIONAL WEEKDAY PM PEAK HOUR TRIP POTENTIAL  
MADRAS, OREGON**

Jefferson County traffic study requirements identify that a Level of Service "C" or higher should be maintained at all County intersections. The City of Madras TSP identifies a target Level of Service (LOS) "D" for signalized intersections, LOS "E" for unsignalized intersections (or LOS F with a volume-to-capacity ratio below 0.95).

### Study Periods

The purpose of the Transportation Planning Rule is to ensure that the proposed zone change will continue to be consistent with the system planning required under OAR 660-12. To assess consistency, the horizon analysis period is selected based on the horizon period of the adopted Transportation System Plan. The Jefferson County TSP considers a horizon year of 2027 and the City's TSP assesses year 2020 conditions. Accordingly, the applicable horizon period will vary throughout the study area based on roadway jurisdiction. All traffic volume forecasts will be obtained from the applicable TSP or based on continued application of the approved growth rates where otherwise unavailable. Table 2 summarizes the study intersections, roadway jurisdiction, applicable performance standards, and horizon analysis year required for compliance with the TPR.<sup>2</sup>

**Table 2 Summary of Intersection Performance Standards**

Intersection	Jurisdiction	Traffic Control <sup>1</sup>	Performance Standard	Horizon Period
Ashwood Road/ Bean Drive	Jefferson County	TWSC	LOS C	Year 2027
Ashwood Road/ City View	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ Kinkade Road	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ Ashwood Road	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ 10 <sup>th</sup> Street	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020

<sup>1</sup>TWSC: Two-way stop-controlled (unsignalized)

### Recent or Upcoming Roadway Improvements

There are three identified public improvement projects within the vicinity of the property.

- The J Street improvements will include traffic signal upgrades at the US 97 northbound and southbound couplet, realignment of the southern couplet terminus, and roadway widening. The J Street project is identified on the Draft 2010-2013 State Transportation Improvement Program (STIP) and is likely to be funded by the horizon period (note that

<sup>2</sup> Additional discussion on applicable horizon periods can be found within Section 3.2.01 of ODOT's publication *Transportation Planning Rule (TPR) Reviews: Guidelines for Implementing OAR 660-12-0060*, which can be found at the following link: <http://www.oregon.gov/ODOT/TD/TP/docs/TPR/tprGuidelines.pdf>.

while the improvement is likely to occur, a *reasonably likely* determination has not been provided by ODOT).

- The Fairground Road extension is identified as a new east-west route within the City of Madras on the Transportation System Plan. Similarly, the roadway extension is likely to be provided within the planning horizon.
- The City View to J Street connection has been recently completed. This new connection provides convenient and direct access from the proposed lands to US 97.

The recent construction of the City View connection will provide convenient access to the south. The future funding and reasonably likely determinations for the J Street realignment/improvements and the Fairgrounds extension are not critical to the proposed UGB amendment as it will not affect the selection of study intersections, assumed intersection configurations, or result in modifications to the demand-based regional trip distribution patterns included herein. As a result, to be conservative, neither the J Street realignment/improvements nor the Fairgrounds extension will be assumed in the traffic analysis.

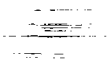
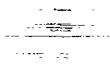
## **NEXT STEPS**

Please provide written comments or concurrence on the proposed analysis scope at your earliest convenience. If you have any questions on these materials please call us at (541) 312-8300.

## **Attachments**

1. Residential Density Development
2. Bend – La Pine School District Elementary School Trip Generation Study
3. City of Madras Roadway Classification Map





**Attachment "9"**  
**Proposed R-2 Zoning**  
**LOS Worksheets**

PM Fri Jan 22, 2010 11:50:16 Page 1-1  
 Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

PM Fri Jan 22, 2010 11:50:19 Page 2-1  
 Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Scenario Report

Impact Analysis Report  
 Level of Service

Intersection	Base LOS Veh C	Del/V/ C	Future Del/V/ C	Change in
# 1 "B" Street/4th Street	C 20.3 0.581	C 22.4 0.636	C 22.7 0.647	+ 0.262 D/V
# 2 "B" Street/5th Street	B 11.6 0.038	B 12.6 0.048	B 12.6 0.048	+ 0.843 D/V
# 3 "B" Street/10th Street	B 12.2 0.084	B 12.8 0.093	B 12.8 0.093	+ 0.627 D/V
# 4 "B" Street/Ashwood	B 12.8 0.016	B 14.0 0.024	B 14.0 0.024	+ 1.206 D/V
# 5 "B" Street/Kinkade Road	B 11.9 0.088	B 12.9 0.109	B 12.9 0.109	+ 0.946 D/V
# 6 "B" Street/City View	B 11.1 0.143	B 13.8 0.151	B 13.8 0.151	+ 2.727 D/V
# 7 "B" Street/Bean Drive	F 0.000 0.000	F 0.000 0.000	F 0.000 0.000	-2.000 D/V
# 8 "J" Street/4th Street	F 0.000 0.000	F 0.000 0.000	F 0.000 0.000	-2.000 D/V
# 9 "J" Street/5th Street	F 0.000 0.000	F 0.000 0.000	F 0.000 0.000	-2.000 D/V

Scenario Report

Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact Fee: Default Impact Fee  
 Trip Generation: Default Trip Distribution  
 Trip Distribution: Default Path  
 Paths: Default Route  
 Routes: PM  
 Configuration: PM

2000 HCM Operations Method (Future Volume Alternative)  
 Intersection #1 "B" Street/4th Street  
 Cycle (sec): 100  
 Level of Service: C  
 Critical Vol./Cap. (X): 0.647  
 Average Delay (sec/veh): 22.7  
 Level Of Service: C

Street Name: "B" Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control:	Split Phase		Split Phase		permitted		permitted	
	Include	Exclude	Include	Exclude	Include	Exclude	Include	Exclude
Rights:	0	0	0	0	0	0	0	0
Min. Green:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Y+R:	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	0	0	0	0

Volume Module:		Saturation Flow Module:	
Base Vol:	0	0	0
Growth Adj:	1.00	1.00	1.00
Initial Bse:	0	0	0
Added Vol:	0	0	0
Added Traff:	0	0	0
Initial Fut:	0	0	0
User Adj:	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95
PHF Volume:	0	0	0
Reduct Vol:	0	0	0
Reduced Vol:	0	0	0
PCE Adj:	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00
Final Volume:	0	0	0

Capacity Analysis Module:	
Vol/Sat:	0.00 0.00 0.00 0.23 0.23 0.23 0.00 0.07 0.07 0.37 0.37 0.00
Crit Moves:	0.00 0.00 0.00 0.35 0.35 0.35 0.00 0.57 0.57 0.57 0.57 0.00
Green/Cycle:	0.00 0.00 0.00 0.65 0.65 0.65 0.00 0.12 0.12 0.12 0.12 0.00
Volume/Cap:	0.00 0.00 0.00 28.5 28.5 28.5 0.0 10.2 10.2 17.0 17.0 0.0
Delay/Veh:	0.0 0.0 0.0 28.5 28.5 28.5 0.0 10.2 10.2 17.0 17.0 0.0
User DelAdj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:	0.0 0.0 0.0 28.5 28.5 28.5 0.0 10.2 10.2 17.0 17.0 0.0
LDS By Move:	A A A C C C A B B B B A
HCMkAvgQ:	0 0 0 10 10 10 0 2 2 9 9 0

Note: Queue reported is the number of cars per lane.  
 \*\*\*\*\*

Kittelton & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report  
 Intersection #1 "B" Street/4th Street  
 Cycle (sec): 100  
 Level of Service: C  
 Critical Vol./Cap. (X): 0.647  
 Average Delay (sec/veh): 22.7  
 Level Of Service: C

Street Name: "B" Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control:	Split Phase		Split Phase		permitted		permitted	
	Include	Exclude	Include	Exclude	Include	Exclude	Include	Exclude
Rights:	0	0	0	0	0	0	0	0
Min. Green:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Y+R:	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	0	0	0	0

Volume Module:		Saturation Flow Module:	
Base Vol:	0	0	0
Growth Adj:	1.00	1.00	1.00
Initial Bse:	0	0	0
Added Vol:	0	0	0
Added Traff:	0	0	0
Initial Fut:	0	0	0
User Adj:	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95
PHF Volume:	0	0	0
Reduct Vol:	0	0	0
Reduced Vol:	0	0	0
PCE Adj:	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00
Final Volume:	0	0	0

Capacity Analysis Module:	
Vol/Sat:	0.00 0.00 0.00 0.23 0.23 0.23 0.00 0.07 0.07 0.37 0.37 0.00
Crit Moves:	0.00 0.00 0.00 0.35 0.35 0.35 0.00 0.57 0.57 0.57 0.57 0.00
Green/Cycle:	0.00 0.00 0.00 0.65 0.65 0.65 0.00 0.12 0.12 0.12 0.12 0.00
Volume/Cap:	0.00 0.00 0.00 28.5 28.5 28.5 0.0 10.2 10.2 17.0 17.0 0.0
Delay/Veh:	0.0 0.0 0.0 28.5 28.5 28.5 0.0 10.2 10.2 17.0 17.0 0.0
User DelAdj:	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:	0.0 0.0 0.0 28.5 28.5 28.5 0.0 10.2 10.2 17.0 17.0 0.0
LDS By Move:	A A A C C C A B B B B A
HCMkAvgQ:	0 0 0 10 10 10 0 2 2 9 9 0

Note: Queue reported is the number of cars per lane.  
 \*\*\*\*\*



PH Fri Jan 22, 2010 11:50:20  
 Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

PM Fri Jan 22, 2010 11:50:20  
 Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

PH Fri Jan 22, 2010 11:50:20  
 Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report (HCM2000 Queue Method)  
 Future Volume Alternative  
 \*\*\*\*\*  
 Intersection #1 "B" Street/4th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Green/Cycle: 0.00 0.00 0.00 0.35 0.35 0.00 0.57 0.57 0.57 0.57 0.00  
 ArrivalType: 3 3 3 3 3 3 3 3 3 3 3  
 ProgFactor: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Q1: 0.0 0.0 0.0 8.2 8.2 8.2 0.0 1.4 1.4 8.5 8.5 0.0  
 UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.60 0.60 0.00  
 UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.77 0.77 0.00  
 EarlyArrAdj: 0.00 0.00 0.00 1.00 1.00 1.00 0.00 1.00 1.00 0.45 0.45 0.00  
 Q2: 0.0 0.0 0.0 1.7 1.7 1.7 0.0 0.1 0.1 0.8 0.8 0.0  
 HCM2KQueue: 0.0 0.0 0.0 9.9 9.9 9.9 0.0 1.5 1.5 9.3 9.3 0.0

Level of Service Computation Report  
 Future Volume Alternative  
 \*\*\*\*\*  
 Intersection #2 "B" Street/5th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Green/Cycle: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  
 ArrivalType: 0 1 0 1 0 2 0 0 0 0 1 0 0 0 0 1 0  
 ProgFactor: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Q1: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
 UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00  
 UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00  
 EarlyArrAdj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00  
 Q2: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0  
 HCM2KQueue: 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

Level of Service Computation Report  
 Future Volume Alternative  
 \*\*\*\*\*  
 Intersection #1 "B" Street/4th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Green/Cycle: 0.00 0.00 0.00 0.35 0.35 0.00 0.57 0.57 0.57 0.57 0.00  
 ArrivalType: 3 3 3 3 3 3 3 3 3 3 3  
 ProgFactor: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Q1: 0.0 0.0 0.0 8.2 8.2 8.2 0.0 1.4 1.4 8.5 8.5 0.0  
 UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.60 0.60 0.00  
 UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.77 0.77 0.00  
 EarlyArrAdj: 0.00 0.00 0.00 1.00 1.00 1.00 0.00 1.00 1.00 0.45 0.45 0.00  
 Q2: 0.0 0.0 0.0 1.7 1.7 1.7 0.0 0.1 0.1 0.8 0.8 0.0  
 HCM2KQueue: 0.0 0.0 0.0 9.9 9.9 9.9 0.0 1.5 1.5 9.3 9.3 0.0

Volume Module:  
 Base Vol: 52 385 127 0 0 0 40 58 0 0 362 157  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Vol: 52 385 127 0 0 0 40 58 0 0 362 157  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Added Traffic: 0 0 15 0 0 0 0 0 0 0 0 0  
 Initial Fut: 52 385 142 0 0 0 40 62 0 0 370 171  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHF Volume: 55 405 138 0 0 0 42 65 0 0 389 180  
 Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 55 405 149 0 0 0 42 65 0 0 389 180  
 PCF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MIF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Volume: 55 405 149 0 0 0 42 65 0 0 389 180

Saturation Flow Module:  
 Sat/Phase: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
 Adjustment: 0.84 0.84 0.84 1.00 1.00 1.00 0.75 0.75 1.00 1.00 0.96 0.96  
 Lane Sat: 0.18 1.33 0.49 0.00 0.00 0.00 0.39 0.61 0.00 0.00 0.68 0.32  
 Final Sat: 253 1946 718 0 0 0 517 802 0 0 1145 529  
 Capacity Analysis Module:  
 Vol/Sat: 0.21 0.21 0.21 0.00 0.00 0.00 0.08 0.08 0.00 0.00 0.14 0.14  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.35 0.35 0.35 0.00 0.00 0.00 0.57 0.57 0.00 0.00 0.57 0.57  
 Volume/Cap: 0.60 0.60 0.60 0.00 0.00 0.00 0.14 0.14 0.00 0.00 0.60 0.60  
 Delay/Veh: 27.7 27.7 27.7 0.0 0.0 0.0 10.1 10.1 0.0 0.0 15.0 15.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 27.7 27.7 27.7 0.0 0.0 0.0 10.1 10.1 0.0 0.0 15.0 15.0  
 LOS by Move: C C C A A A A B B A A B  
 HCM2KAVGQ: 9 9 9 0 0 0 1 1 0 0 12 12

Saturation Flow Module:  
 Sat/Phase: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
 Adjustment: 0.84 0.84 0.84 1.00 1.00 1.00 0.75 0.75 1.00 1.00 0.96 0.96  
 Lane Sat: 0.18 1.33 0.49 0.00 0.00 0.00 0.39 0.61 0.00 0.00 0.68 0.32  
 Final Sat: 253 1946 718 0 0 0 517 802 0 0 1145 529  
 Capacity Analysis Module:  
 Vol/Sat: 0.21 0.21 0.21 0.00 0.00 0.00 0.08 0.08 0.00 0.00 0.14 0.14  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.35 0.35 0.35 0.00 0.00 0.00 0.57 0.57 0.00 0.00 0.57 0.57  
 Volume/Cap: 0.60 0.60 0.60 0.00 0.00 0.00 0.14 0.14 0.00 0.00 0.60 0.60  
 Delay/Veh: 27.7 27.7 27.7 0.0 0.0 0.0 10.1 10.1 0.0 0.0 15.0 15.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 27.7 27.7 27.7 0.0 0.0 0.0 10.1 10.1 0.0 0.0 15.0 15.0  
 LOS by Move: C C C A A A A B B A A B  
 HCM2KAVGQ: 9 9 9 0 0 0 1 1 0 0 12 12



Kittelson & Associates, Inc. - Project #10028  
Madras Elementary School UGB Amendment - Madras, Oregon  
Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report (HCM2000 Queue Method)

2000 HCM Operations Method  
Future Volume Alternative

Intersection #2 "B" Street/5th Street

Approach:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement:	0.35	0.35	0.35	0.00	0.00	0.00	0.57	0.57	0.00	0.00	0.57	0.57
Green/Cycle:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ArrivalType:	3	3	3	3	3	3	3	3	3	3	3	3
Proffactor:	7.3	7.3	7.3	0.0	0.0	0.0	1.4	1.4	0.0	0.0	10.2	10.2
QI:	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.12	0.00	0.00	0.00	0.00
UpstreamAdj:	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
EarlyArrAdj:	1.4	1.4	1.4	0.0	0.0	0.0	0.1	0.1	0.0	0.0	1.4	1.4
CG:	8.7	8.7	8.7	0.0	0.0	0.0	1.5	1.5	0.0	0.0	11.7	11.7
HCM2Queue:	1.18	1.18	1.18	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.17	1.17
70thFactor:	10.3	10.3	10.3	0.0	0.0	0.0	1.8	1.8	0.0	0.0	13.8	13.8
HCM2K90thQ:	1.52	1.52	1.52	1.60	1.60	1.60	1.59	1.59	1.60	1.60	1.50	1.50
85thFactor:	13.3	13.3	13.3	0.0	0.0	0.0	2.4	2.4	0.0	0.0	17.6	17.6
HCM2K85thQ:	1.66	1.66	1.66	1.80	1.80	1.80	1.77	1.77	1.80	1.80	1.62	1.62
90thFactor:	14.5	14.5	14.5	0.0	0.0	0.0	2.7	2.7	0.0	0.0	19.0	19.0
HCM2K90thQ:	1.87	1.87	1.87	2.10	2.10	2.10	2.05	2.05	2.10	2.10	1.81	1.81
95thFactor:	16.3	16.3	16.3	0.0	0.0	0.0	3.1	3.1	0.0	0.0	21.3	21.3
HCM2K95thQ:	2.21	2.21	2.21	2.70	2.70	2.70	2.59	2.59	2.70	2.70	2.11	2.11
98thFactor:	19.3	19.3	19.3	0.0	0.0	0.0	3.9	3.9	0.0	0.0	24.7	24.7
HCM2K98thQ:												

Traffic 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, PORTLAND

Kittelson & Associates, Inc. - Project #10028  
Madras Elementary School UGB Amendment - Madras, Oregon  
Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report (Permitted Left Turn Sat Adj)

2000 HCM Operations Method  
Future Volume Alternative

Intersection #2 "B" Street/5th Street

Approach:	North			South			East			West		
	L	T	R	L	T	R	L	T	R	L	T	R
Cycle Length, C:	100	100	100	100	100	100	100	100	100	100	100	100
Actual Green Time Per Lane Group, G:	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06
Effective Green Time Per Lane Group, g:	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06	57.06
Opposing Effective Green Time, go:	1	1	1	1	1	1	1	1	1	1	1	1
Number Of Opposing Lanes, No:	42	42	42	42	42	42	42	42	42	42	42	42
Number Of Lanes In Lane Group, N:	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Adjusted Left-Turn Flow Rate, vlt:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Proportion of Left Turns in Lane Group, Plt:	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
Proportion of Left Turns in Opp Flow, Pltco:	569	569	569	569	569	569	569	569	569	569	569	569
Left Turns Per Cycle, LTC:	15.81	15.81	15.81	15.81	15.81	15.81	15.81	15.81	15.81	15.81	15.81	15.81
Adjusted Opposing Flow Rate, Vo:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Opposing Flow Per Lane Per Cycle, Volc:	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Opposing Platoon Ratio, Rpo:	18.09	18.09	18.09	18.09	18.09	18.09	18.09	18.09	18.09	18.09	18.09	18.09
Lost Time Per Phase, tl:	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Eff grn until arrival of left-turn car, gf:	12.52	12.52	12.52	12.52	12.52	12.52	12.52	12.52	12.52	12.52	12.52	12.52
Opposing Queue Ratio, qro:	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97	38.97
Eff grn blocked by opposing queue, qg:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Max opposing left turns filter thru, gu:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Proportion of Opposing Thru & RT cars, pltho:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Left-turn Saturation Factor, fs:	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44	2.44
Proportion of Left Turns in Shared Lane, pl:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Through-car Equivalents, eli:	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Single Lane Through-car Equivalents, el2:	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Minimum Left Turn Adjustment Factor, fmin:												
Single Lane Left Turn Adjustment Factor, fm:												
Left Turn Adjustment factor, flt:												

Traffic 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, PORTLAND





Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Future Volume Alternative

Intersection #4 "B" Street/Ashwood  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

HeVeh: 0% 0% 0% 0%  
 Peds/Hour: 0 0 0 0  
 Pedestrian Walk Speed: 4.00 feet/sec  
 LaneWidth: 12 feet 12 feet 12 feet 12 feet  
 Time Period: 0.25 hour

Upstream Signals:  
 Link Index: #5  
 Dist(miles): 0.00  
 Speed (mph): 0.00  
 SignalIndex: #2  
 Cycle Time: 0 0  
 InitVolume: 0 0  
 Saturation: 0.00 0.00  
 ArrivalType: 0 0

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
 P: 0.000 0.000  
 9q1: 0.00 0.00  
 9q2: 0.00 0.00  
 9q: 0.00 0.00

\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
 alpha: 0.000  
 beta: 0.000  
 ta (secs): 0.00 0.00  
 F: 0.000 0.000  
 f: 0.000 0.000  
 vpmas: 0 0  
 vcp: 0 0  
 vchull: 0 0

\*\*\* Computation 3: Platoon Event Periods  
 pdom/subo: 0.000/0.000/Unconstrained  
 \*\*\* Computation 4: Conflicting Flows During Each Unblocked Period  
 InitConfVol: 660 660 253 677 679 292 0 XXXXX XXXXX 272 XXXXX XXXXX  
 AdjConfVol: 660 660 253 677 679 292 0 XXXXX XXXXX 272 XXXXX XXXXX  
 UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 XXXX XXXX 1.00 XXXX XXXX  
 ConflictVol: 660 660 253 677 679 292 0 XXXXX XXXXX 272 XXXXX XXXXX  
 \*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period  
 InitPotCap: 431 386 791 369 376 752 1636 XXXXX XXXXX 1303 XXXXX XXXXX  
 UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 XXXX XXXX 1.00 XXXX XXXX  
 PotentCap: 431 386 791 369 376 752 1636 XXXXX XXXXX 1303 XXXXX XXXXX

Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 "B" Street/Ashwood  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Average Delay (sec/veh): 2.0 Worst Case Level of Service: E (12.8)  
 Street Name: "B" Street Ashwood  
 Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include Include  
 Lanes: 0 0 1 0 0 0 0 0 0 0 0 0 1 0 0 0 0

Volume Module:  
 Base Vol: 33 0 24 0 0 0 162 32 46 227 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Est: 33 0 24 0 0 0 162 32 46 227 0  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0  
 Added Traff: 0 0 5 0 0 0 37 0 3 21 0  
 Initial Fut: 33 0 29 0 0 0 199 32 49 248 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
 PHF Volume: 39 0 34 0 0 0 0 234 38 56 292 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0  
 FinalVolume: 39 0 34 0 0 0 0 234 38 56 292 0

Critical Gap Module:  
 Critical Gap: 6.4 6.5 6.2 XXXXX XXXX XXXX XXXX XXXX 4.1 XXXX XXXXX  
 FollowUpTim: 3.5 4.0 3.3 XXXXX XXXX XXXX XXXX XXXX 2.2 XXXX XXXXX

Capacity Module:  
 Conflict Vol: 660 660 253 XXXX XXXX XXXX XXXX XXXX XXXX 272 XXXX XXXXX  
 Potent Cap: 431 386 791 XXXX XXXX XXXX XXXX XXXX XXXX 1303 XXXX XXXXX  
 Move Cap: 416 368 791 XXXX XXXX XXXX XXXX XXXX XXXX 1303 XXXX XXXXX  
 Volume/Cap: 0.09 0.00 0.04 XXXX XXXX XXXX XXXX XXXX 0.04 XXXX XXXXX

Level of Service Module:  
 2Way95thQ: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 0.1 XXXX XXXXX  
 Control Del: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 7.9 XXXX XXXXX  
 LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT A  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap: XXXX 534 XXXXX XXXX XXXX XXXX XXXX XXXX XXXX 0.1 XXXX XXXXX  
 SharedQueue: XXXX 0.5 XXXXX XXXX XXXX XXXX XXXX XXXX 0.1 XXXX XXXXX  
 Shrd Condel: XXXX 12.8 XXXXX XXXX XXXX XXXX XXXX XXXX 7.9 XXXX XXXXX  
 Shared LOS: B B XXXXXX A A  
 ApproachLOS: B B XXXXXX XXXXXX  
 Note: Queue reported is the number of cars per lane.





Level of Service Detailed Computation Report  
2000 HCM Unsignalized Method  
Future Volume Alternative

Intersection #7 "B" Street/Bean Drive  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

HevVeh: 0% 0% 0% 0%  
Grade: 0% 0% 0% 0%  
Peds/Hour: 0 0 0 0  
Pedestrian Walk Speed: 4.00 feet/sec  
LaneWidth: 12 feet 12 feet 12 feet 12 feet  
Time Period: 0.25 hour

Upstream Signals:  
Link Index: #5  
Dist(miles): 0.000  
Speed (mph): 0.00  
SignalIndex: #2  
Cycle Time: 0 0  
InitVolume: 0 0  
Saturation: 0 0  
ArrivalType: 0 0  
G/C: 0.00 0.00

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
P: 0.000 0.000  
gq1: 0.00 0.00  
gq2: 0.00 0.00  
gq: 0.00 0.00  
\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
alpha: 0.000  
beta: 0.000  
ta (secs): 0.000  
f: 0.000 0.000  
vmax: 0 0  
vcy: 0 0  
vmin: 0 0  
tp: 0.0 0.0

\*\*\* Computation 3: Platoon Event Periods  
pdom/psubo: 0.000/0.000/Unconstrained  
\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period  
InchVol: 985 962 204 957 557 403 408 xxxxx xxxxx 0 xxxxx xxxxx  
AdjChVol: 985 962 204 957 557 403 408 xxxxx xxxxx 0 xxxxx xxxxx  
UpstreamAdj: 1.00 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000  
ConflictVol: 985 962 204 957 557 403 408 xxxxx xxxxx 0 xxxxx xxxxx  
\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period  
IntrForCap: 229 258 842 288 260 652 1161 xxxxx xxxxx 1636 xxxxx xxxxx  
UpstreamAdj: 1.00 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000  
Potent Cap.: 229 258 842 288 260 652 1161 xxxxx xxxxx 1636 xxxxx xxxxx

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Level of Service Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)  
Worst Case Level of Service: E (13.8)

Intersection #7 "B" Street/Bean Drive  
Street Name: "B" Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 0 1 0 1 0 1 0 0 0 0 1 0

Volume Module:  
Base Vol: 0 0 0 3 0 49 149 99 0 0 293 2  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bse: 0 0 0 3 0 48 149 99 0 0 293 2  
Added Traff: 0 0 0 0 0 0 0 0 0 0 0 0  
Initial Fut: 0 0 0 14 0 48 149 173 0 0 338 9  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.95 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
PHF Volume: 0 0 0 16 0 56 175 204 0 0 398 11  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 0 16 0 56 175 204 0 0 398 11

Critical Gap Module:  
Critical Gap: xxxxx xxxx xxxxx 6.4 6.5 6.2 4.1 xxxxx xxxxx xxxxx xxxxx xxxxx  
FollowUpTim: xxxxx xxxx xxxxx 3.5 4.0 3.3 2.2 xxxxx xxxxx xxxxx xxxxx xxxxx

Capacity Module:  
Conflict Vol: xxxxx xxxx xxxxx 957 957 403 408 xxxxx xxxxx xxxxx xxxxx xxxxx  
Potent Cap.: xxxxx xxxx xxxxx 288 260 652 1161 xxxxx xxxxx xxxxx xxxxx xxxxx  
Move Cap.: xxxxx xxxx xxxxx 255 220 652 1161 xxxxx xxxxx xxxxx xxxxx xxxxx  
Volume/Cap: xxxxx xxxx xxxxx 0.06 0.00 0.09 0.15 xxxxx xxxxx xxxxx xxxxx xxxxx

Level of Service Module:  
ZWay95thQ: xxxxx xxxx xxxxx xxxxx xxxxx xxxxx 0.5 xxxxx xxxxx xxxxx xxxxx xxxxx  
Control Del: xxxxx xxxx xxxxx xxxxx xxxxx xxxxx 8.6 xxxxx xxxxx xxxxx xxxxx xxxxx  
LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap: xxxxx xxxx xxxxx xxxxx 482 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared Queue: xxxxx xxxx xxxxx xxxxx 0.5 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
Shared Del: xxxxx xxxx xxxxx xxxxx 13.8 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx  
ApproachDel: xxxxxxxx 13.8  
ApproachLOS: B  
Note: Queue reported is the number of cars per lane.

Traffic 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, PORTLAND

PM Fri Jan 22, 2010 11:50:23  
 Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School USB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

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Level of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Future Volume Alternative

Intersection #8 "J" Street/4th Street

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Heads: 0% 0% 0% 0%  
 Ped/Hour: 0 0 0 0  
 Pedestrian Walk Speed: 4.00 feet/sec 0 0 0  
 LaneWidth: 12 feet 12 feet 12 feet 12 feet  
 Time Period: 0.25 hour

Upstream Signals:  
 Link Index: #24  
 Dist(miles): 0.000  
 Speed (mph): 0.00  
 SignalIndex: #1  
 Cycle Time: 0 0 secs  
 InitVolume: 0 0  
 Saturation: 0 0  
 ArrivalType: 0 0  
 C/C: 0.00 0.00

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
 P: 0.000 0.000  
 q91: 0.00 0.00  
 q92: 0.00 0.00  
 q93: 0.00 0.00  
 \*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
 alpha: 0.000  
 beta: 0.000  
 ta (secs): 0.000  
 P: 0.000  
 f: 0.000 0.000  
 vcmak: 0 0  
 vey: 0 0  
 vcmih: 0 0  
 tp: 0.0 0.0  
 p: 0.000

Level of Service Detailed Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 "J" Street/4th Street

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
 Rights: Include Include Include Include

Lanes: 0 0 0 0 1 0 1 0 0 0 1 0 0 1 0 0 0

Volume Module:  
 Base Vol: 0 0 0 260 1575 160 0 140 45 155 85 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Base: 0 0 0 260 1575 160 0 140 45 155 85 0  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Added Traff: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 0 0 0 260 1593 160 0 140 45 168 85 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHF Volume: 0 0 0 274 1666 168 0 147 47 177 89 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 FinalVolume: 0 0 0 274 1666 168 0 147 47 177 89 0

Critical Gap Module:  
 Critical Gap: 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2  
 FollowUpTime: 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3

Capacity Module:  
 Conflict Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Potential Cap: 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597  
 Move Cap: 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597  
 Volume/Cap: 0.17 0.17 0.17 0.17 0.17 0.17 0.17 0.17 0.17 0.17 0.17

Level of Service Module:  
 ZWay95thQ: 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6  
 Control Del: 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7  
 LOS by Move: A A A A A A A A A A A  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap: 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597  
 Shared Queue: 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6  
 Shared Del: 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7  
 Shared LOS: A A A A A A A A A A A  
 ApproachDel: 2002.4 2002.4 2002.4 2002.4  
 ApproachLOS: F F F F  
 Note: Queue reported is the number of cars per lane.

Level of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Future Volume Alternative

Intersection #8 "J" Street/4th Street

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Heads: 0% 0% 0% 0%  
 Ped/Hour: 0 0 0 0  
 Pedestrian Walk Speed: 4.00 feet/sec 0 0 0  
 LaneWidth: 12 feet 12 feet 12 feet 12 feet  
 Time Period: 0.25 hour

Upstream Signals:  
 Link Index: #24  
 Dist(miles): 0.000  
 Speed (mph): 0.00  
 SignalIndex: #1  
 Cycle Time: 0 0 secs  
 InitVolume: 0 0  
 Saturation: 0 0  
 ArrivalType: 0 0  
 C/C: 0.00 0.00

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
 P: 0.000 0.000  
 q91: 0.00 0.00  
 q92: 0.00 0.00  
 q93: 0.00 0.00  
 \*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
 alpha: 0.000  
 beta: 0.000  
 ta (secs): 0.000  
 P: 0.000  
 f: 0.000 0.000  
 vcmak: 0 0  
 vey: 0 0  
 vcmih: 0 0  
 tp: 0.0 0.0  
 p: 0.000

Level of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Future Volume Alternative

Intersection #8 "J" Street/4th Street

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Heads: 0% 0% 0% 0%  
 Ped/Hour: 0 0 0 0  
 Pedestrian Walk Speed: 4.00 feet/sec 0 0 0  
 LaneWidth: 12 feet 12 feet 12 feet 12 feet  
 Time Period: 0.25 hour

Upstream Signals:  
 Link Index: #24  
 Dist(miles): 0.000  
 Speed (mph): 0.00  
 SignalIndex: #1  
 Cycle Time: 0 0 secs  
 InitVolume: 0 0  
 Saturation: 0 0  
 ArrivalType: 0 0  
 C/C: 0.00 0.00

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
 P: 0.000 0.000  
 q91: 0.00 0.00  
 q92: 0.00 0.00  
 q93: 0.00 0.00  
 \*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
 alpha: 0.000  
 beta: 0.000  
 ta (secs): 0.000  
 P: 0.000  
 f: 0.000 0.000  
 vcmak: 0 0  
 vey: 0 0  
 vcmih: 0 0  
 tp: 0.0 0.0  
 p: 0.000

Level of Service Detailed Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 "J" Street/4th Street

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
 Rights: Include Include Include Include

Lanes: 0 0 0 0 1 0 1 0 0 0 1 0 0 1 0 0 0

Volume Module:  
 Base Vol: 0 0 0 260 1575 160 0 140 45 155 85 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Base: 0 0 0 260 1575 160 0 140 45 155 85 0  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Added Traff: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 0 0 0 260 1593 160 0 140 45 168 85 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHF Volume: 0 0 0 274 1666 168 0 147 47 177 89 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 FinalVolume: 0 0 0 274 1666 168 0 147 47 177 89 0

Critical Gap Module:  
 Critical Gap: 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2  
 FollowUpTime: 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3

Capacity Module:  
 Conflict Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Potential Cap: 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597  
 Move Cap: 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597  
 Volume/Cap: 0.17 0.17 0.17 0.17 0.17 0.17 0.17 0.17 0.17 0.17 0.17

Level of Service Module:  
 ZWay95thQ: 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6  
 Control Del: 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7  
 LOS by Move: A A A A A A A A A A A  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap: 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597  
 Shared Queue: 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6  
 Shared Del: 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7  
 Shared LOS: A A A A A A A A A A A  
 ApproachDel: 2002.4 2002.4 2002.4 2002.4  
 ApproachLOS: F F F F  
 Note: Queue reported is the number of cars per lane.

Level of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Future Volume Alternative

Intersection #8 "J" Street/4th Street

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Heads: 0% 0% 0% 0%  
 Ped/Hour: 0 0 0 0  
 Pedestrian Walk Speed: 4.00 feet/sec 0 0 0  
 LaneWidth: 12 feet 12 feet 12 feet 12 feet  
 Time Period: 0.25 hour

Upstream Signals:  
 Link Index: #24  
 Dist(miles): 0.000  
 Speed (mph): 0.00  
 SignalIndex: #1  
 Cycle Time: 0 0 secs  
 InitVolume: 0 0  
 Saturation: 0 0  
 ArrivalType: 0 0  
 C/C: 0.00 0.00

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
 P: 0.000 0.000  
 q91: 0.00 0.00  
 q92: 0.00 0.00  
 q93: 0.00 0.00  
 \*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
 alpha: 0.000  
 beta: 0.000  
 ta (secs): 0.000  
 P: 0.000  
 f: 0.000 0.000  
 vcmak: 0 0  
 vey: 0 0  
 vcmih: 0 0  
 tp: 0.0 0.0  
 p: 0.000

Level of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Future Volume Alternative

Intersection #8 "J" Street/4th Street

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Heads: 0% 0% 0% 0%  
 Ped/Hour: 0 0 0 0  
 Pedestrian Walk Speed: 4.00 feet/sec 0 0 0  
 LaneWidth: 12 feet 12 feet 12 feet 12 feet  
 Time Period: 0.25 hour

Upstream Signals:  
 Link Index: #24  
 Dist(miles): 0.000  
 Speed (mph): 0.00  
 SignalIndex: #1  
 Cycle Time: 0 0 secs  
 InitVolume: 0 0  
 Saturation: 0 0  
 ArrivalType: 0 0  
 C/C: 0.00 0.00

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
 P: 0.000 0.000  
 q91: 0.00 0.00  
 q92: 0.00 0.00  
 q93: 0.00 0.00  
 \*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
 alpha: 0.000  
 beta: 0.000  
 ta (secs): 0.000  
 P: 0.000  
 f: 0.000 0.000  
 vcmak: 0 0  
 vey: 0 0  
 vcmih: 0 0  
 tp: 0.0 0.0  
 p: 0.000

Level of Service Detailed Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #8 "J" Street/4th Street

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
 Rights: Include Include Include Include

Lanes: 0 0 0 0 1 0 1 0 0 0 1 0 0 1 0 0 0

Volume Module:  
 Base Vol: 0 0 0 260 1575 160 0 140 45 155 85 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Base: 0 0 0 260 1575 160 0 140 45 155 85 0  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Added Traff: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 0 0 0 260 1593 160 0 140 45 168 85 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHF Volume: 0 0 0 274 1666 168 0 147 47 177 89 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 FinalVolume: 0 0 0 274 1666 168 0 147 47 177 89 0

Critical Gap Module:  
 Critical Gap: 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2 4.2  
 FollowUpTime: 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3 2.3

Capacity Module:  
 Conflict Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Potential Cap: 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597  
 Move Cap: 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597  
 Volume/Cap: 0.17 0.17 0.17 0.17 0.17 0.17 0.17 0.17 0.17 0.17 0.17

Level of Service Module:  
 ZWay95thQ: 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6  
 Control Del: 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7  
 LOS by Move: A A A A A A A A A A A  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap: 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597 1597  
 Shared Queue: 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6  
 Shared Del: 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7 7.7  
 Shared LOS: A A A A A A A A A A A  
 ApproachDel: 2002.4 2002.4 2002.4 2002.4  
 ApproachLOS: F F F F  
 Note: Queue reported is the number of cars per lane.

Level of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Future Volume Alternative

Intersection #8 "J" Street/4th Street

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Heads: 0% 0% 0% 0%  
 Ped/Hour: 0 0 0 0  
 Pedestrian Walk Speed: 4.00 feet/sec 0 0 0  
 LaneWidth: 12 feet 12 feet 12 feet 12 feet  
 Time Period: 0.25 hour

Upstream Signals:  
 Link Index: #24  
 Dist(miles): 0.000  
 Speed (mph): 0.00  
 SignalIndex: #1  
 Cycle Time: 0 0 secs  
 InitVolume: 0 0  
 Saturation: 0 0  
 ArrivalType: 0 0  
 C/C: 0.00 0.00

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
 P: 0.000 0.000  
 q91: 0.00 0.00  
 q92: 0.00 0.00  
 q93: 0.00 0.00  
 \*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
 alpha: 0.000  
 beta: 0.000  
 ta (secs): 0.000  
 P: 0.000  
 f: 0.000 0.000  
 vcmak: 0 0  
 vey: 0 0  
 vcmih: 0 0  
 tp: 0.0 0.0  
 p: 0.000

PM Fri Jan 22, 2010 11:50:23 Page 19-1  
 Kittelson & Associates, Inc. - Project #10028  
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PM Fri Jan 22, 2010 11:50:23 Page 20-1  
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Level of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Future Volume Alternative  
 Intersection #9 "J" Street/5th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Heavy: 9% 0% 0% 0% 0% 0% 0% 0%  
 Grade: 0% 0% 0% 0% 0% 0% 0% 0%  
 Peds/Hour: 0 0 0 0 0 0 0 0  
 Pedestrian Walk Speed: 4.00 feet/sec  
 LaneWidth: 12 feet 12 feet 12 feet 12 feet  
 Time Period: 0.25 hour

Level of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)  
 Intersection #9 "J" Street/5th Street  
 Average Delay (sec/veh): 82.8 Worst Case Level of Service: F (431.7)  
 Street Name: "J" Street 5th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
 Rights: Include Include Include Include  
 Lanes: 0 1 0 1 0 0 0 0 1 0 1 0 0 0 0 1 0  
 Volume Module:  
 Base Vol: 70 1190 65 0 0 0 155 150 0 0 75 110  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Base: 70 1190 65 0 0 0 155 150 0 0 75 110  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Added Traff: 0 15 22 0 0 0 0 0 0 0 0 0  
 Initial Fut: 70 1205 87 0 0 0 155 150 0 0 88 110  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHF Volume: 74 1268 92 0 0 0 163 158 0 0 93 116  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 FinalVolume: 74 1268 92 0 0 0 163 158 0 0 93 116

Critical Gap Module:  
 Critical Gap: 4.2 XXXX XXXX XXXX XXXX 7.1 6.5 XXXX XXXX 6.5 6.2  
 FollowUpTime: 2.3 XXXX XXXX XXXX XXXX 3.5 4.0 XXXX XXXX 4.0 3.3

Critical Gap Module:  
 Critical Gap: 4.2 XXXX XXXX XXXX XXXX 7.1 6.5 XXXX XXXX 6.5 6.2  
 FollowUpTime: 2.3 XXXX XXXX XXXX XXXX 3.5 4.0 XXXX XXXX 4.0 3.3

Capacity Module:  
 Conflict Vol: 0 XXX XXXX XXXX XXXX 828 1507 XXXX XXXX 1462 680  
 Potential Cap.: 1578 XXX XXXX XXXX XXXX 293 122 XXXX XXXX 130 454  
 Move Cap.: 1578 XXX XXXX XXXX XXXX 81 116 XXXX XXXX 123 454  
 Volume/Cap: 0.05 XXX XXXX XXXX XXXX 2.01 1.36 XXXX XXXX 0.75 0.25

Level of Service Module:  
 2Way95thQ: 0.1 XXX XXXX XXXX XXXX 14.5 10.8 XXXX XXXX XXXX XXXX  
 Control Del: 7.4 XXX XXXX XXXX XXXX 579.7 279 XXXX XXXX XXXX XXXX  
 LOS by Move: A + + + + + F F F + + + + +  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: XXX XXXX XXXX XXX XXXX XXXX XXXX XXXX XXXX XXXX 207  
 SharedQueue: 0.1 XXX XXXX XXXX XXX XXXX XXXX XXXX XXXX XXXX 8.9  
 Shrd ConDel: 7.4 XXX XXXX XXXX XXX XXXX XXXX XXXX XXXX XXXX 112.3  
 Shared LOS: A + + + + + F  
 ApproachDel: XXXXX 431.7 112.3 F  
 ApproachLOS: XXXXX F

Note: Queue reported is the number of cars per lane.

Note: Queue reported is the number of cars per lane.



PM Fri Jan 22, 2010 11:51:08 Page 1-1  
 Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

PM Fri Jan 22, 2010 11:51:09 Page 2-1  
 Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

Scenario Report  
 Scenario: PM  
 Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact Fee: PM  
 Trip Generation: PM  
 Trip Distribution: PM  
 Paths: PM  
 Routes: PM  
 Configuration: PM

Impact Analysis Report  
 Level Of Service  
 Intersection  
 4 B Street/4th Street - Mitiga B 14.4 0.741 B 15.1 0.757 + 0.765 D/v  
 4 S Street/5th Street - Mitiga B 16.7 0.669 B 17.1 0.689 + 0.370 D/v

Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

Level Of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 "J" Street/4th Street - Mitigated  
 Cycle (sec): 100  
 Loss Time (sec): 8  
 Optimal Cycle: 57  
 Critical Vol./Cap. (X): 0.757  
 Average Delay (sec/veh): 15.1  
 Level Of Service: B

Street Name: "J" Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control:	Split Phase	Split Phase	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Y+R:	4.0 4.0 4.0 4.0	4.0 4.0 4.0 4.0	4.0 4.0 4.0 4.0	4.0 4.0 4.0 4.0
Lanes:	0 0 0 0	1 0 2 0	1 0 0 1	1 0 1 0

Volume Module:	Base Vol:	Growth Adj:	Initial Base:	Added Vol:	Added Traff:	Initial Fut:	User Adj:	PHF Adj:	PHF Volume:	Reduced Vol:	Reduced Vol:	PCE Adj:	MLF Adj:	FinalVolume:
	0 0	260 1575	160 0	0 0	0 0	260 1583	1.00 1.00	0.95 0.95	274 1666	0 0	274 1666	1.00 1.00	1.00 1.00	274 1666

Saturation Flow Module:	Sat/Lane:	Adj:	Lanes:	Final Sat:
	1750 1750	1750 1750	1750 1750	1750 1750
	1.00 1.00	0.80 0.90	1.00 0.92	0.61 1.00
	0.00 0.00	1.00 2.00	1.00 1.51	0.49 1.00
	0 0	1403 3135	1403 0	2426 780

Capacity Analysis Module:	Vol/Sat:	Crit Moves:	Green/Cycle:	Volume/Cap:	Delay/Veh:	User DelAdj:	AdjDel/Veh:	LOS by Move:	HCM2kNvgQ:
	0.00 0.00	0.00 0.12	0.00 0.06	0.06 0.16	0.05 0.00	0.00 0.22	0.22 0.22	0.00 0.00	0.28 0.76
	0.00 0.00	0.00 0.70	0.00 0.22	0.22 0.22	0.22 0.00	0.00 0.28	0.28 0.28	0.00 0.00	5.7 11.0
	0.00 0.00	0.00 5.1	0.00 32.8	32.8 49.9	32.6 0.0	1.00 1.00	1.00 1.00	1.00 1.00	0.0 0.0
	0.0 0.0	0.0 5.1	0.0 32.8	32.8 49.9	32.6 0.0	A A	A A	C C	3 5
	0 0	3 17	2 0	3 5	2 0				

Note: Queue reported is the number of cars per lane.

Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

Level Of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)

Intersection #8 "J" Street/4th Street - Mitigated  
 Cycle (sec): 100  
 Loss Time (sec): 8  
 Optimal Cycle: 57  
 Critical Vol./Cap. (X): 0.757  
 Average Delay (sec/veh): 15.1  
 Level Of Service: B

Street Name: "J" Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control:	Split Phase	Split Phase	Permitted	Permitted
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Y+R:	4.0 4.0 4.0 4.0	4.0 4.0 4.0 4.0	4.0 4.0 4.0 4.0	4.0 4.0 4.0 4.0
Lanes:	0 0 0 0	1 0 2 0	1 0 0 1	1 0 1 0

Volume Module:	Base Vol:	Growth Adj:	Initial Base:	Added Vol:	Added Traff:	Initial Fut:	User Adj:	PHF Adj:	PHF Volume:	Reduced Vol:	Reduced Vol:	PCE Adj:	MLF Adj:	FinalVolume:
	0 0	260 1575	160 0	0 0	0 0	260 1583	1.00 1.00	0.95 0.95	274 1666	0 0	274 1666	1.00 1.00	1.00 1.00	274 1666

Saturation Flow Module:	Sat/Lane:	Adj:	Lanes:	Final Sat:
	1750 1750	1750 1750	1750 1750	1750 1750
	1.00 1.00	0.80 0.90	1.00 0.92	0.61 1.00
	0.00 0.00	1.00 2.00	1.00 1.51	0.49 1.00
	0 0	1403 3135	1403 0	2426 780

Capacity Analysis Module:	Vol/Sat:	Crit Moves:	Green/Cycle:	Volume/Cap:	Delay/Veh:	User DelAdj:	AdjDel/Veh:	LOS by Move:	HCM2kNvgQ:
	0.00 0.00	0.00 0.12	0.00 0.06	0.06 0.16	0.05 0.00	0.00 0.22	0.22 0.22	0.00 0.00	0.28 0.76
	0.00 0.00	0.00 0.70	0.00 0.22	0.22 0.22	0.22 0.00	0.00 0.28	0.28 0.28	0.00 0.00	5.7 11.0
	0.00 0.00	0.00 5.1	0.00 32.8	32.8 49.9	32.6 0.0	1.00 1.00	1.00 1.00	1.00 1.00	0.0 0.0
	0.0 0.0	0.0 5.1	0.0 32.8	32.8 49.9	32.6 0.0	A A	A A	C C	3 5
	0 0	3 17	2 0	3 5	2 0				

Note: Queue reported is the number of cars per lane.





Kittelston & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

Kittelston & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

Level Of Service Detailed Computation Report

Note: Queue reported is the number of cars per lane.

2000 HCM Operations Method  
 Future Volume Alternative  
 Intersection #5 "J" Street/5th Street - Mitigated

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:	0	1	0	0	0	0	0	0	0	1	0	0
Lane Group: LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR	LTR
#LmsInGrps:	2	2	2	0	0	0	1	1	1	0	0	2
HCM Ops Input Saturation Adj Module:	12	12	12	12	12	12	12	12	12	12	12	12
Lane Width:	8	8	8	8	8	8	8	8	8	8	8	8
Crosswalk Wid:	8	8	8	8	8	8	8	8	8	8	8	8
& Hwy Veh:	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Parking/Hr:	No	No	No	No	No	No	No	No	No	No	No	No
Bus Stp/Hr:	0	0	0	0	0	0	0	0	0	0	0	0
Area Type:	<	<	<	<	<	<	<	<	<	<	<	<
Cnft Fed/Hr:	0	0	0	0	0	0	0	0	0	0	0	0
Exclusive RT:	Include	Include	Include	Include	Include	Include	Include	Include	Include	Include	Include	Include
& RT Pctct:	0	0	0	0	0	0	0	0	0	0	0	0
HCM Ops f(lt) Adj Case Module:	5r	5r	5r	5r	5r	5r	5r	5r	5r	5r	5r	5r
f(lt) Case:	2	2	2	2	2	2	2	2	2	2	2	2
HCM Ops Saturation Adj Module:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ln Wld Adj:	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hwy Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Bus Stp Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
LT Adj:	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
PedBike Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
HCM Sat Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92
Dsr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Enl Sst Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.87
Delay Adjustment Factor Module:	<	<	<	<	<	<	<	<	<	<	<	<
Coordinated:	<	<	<	<	<	<	<	<	<	<	<	<
Signal Type:	<	<	<	<	<	<	<	<	<	<	<	<
DelAdjFctr:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (HCM2000 Queue Method)  
 2000 HCM Operations Method  
 Future Volume Alternative

Intersection #9 "J" Street/5th Street - Mitigated

Approach:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Green/Cycle:	0.69	0.69	0.69	0.00	0.00	0.00	0.23	0.23	0.00	0.00	0.23	0.23
ArrivalType:	3			3			3			3		
ProgFactor:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Q14	12.3	12.3	12.3	0.0	0.0	0.0	4.2	3.7	0.0	0.0	2.2	2.4
UpstrAmWC:	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.28	0.00	0.00	0.00	0.00
UpstrAmAdj:	0.00	0.00	0.00	0.00	0.00	0.00	0.97	0.97	0.00	0.00	0.00	0.00
EarlyArrAdj:	1.00	1.00	1.00	0.00	0.00	0.00	0.30	0.41	0.00	0.00	1.00	1.00
Q2:	2.1	2.1	2.1	0.0	0.0	0.0	0.6	0.3	0.0	0.0	0.4	0.5
HCM2kQueue:	14.4	14.4	14.4	0.0	0.0	0.0	4.8	4.0	0.0	0.0	2.6	3.3
70thFactor:	1.17	1.17	1.17	1.20	1.20	1.20	1.19	1.19	1.20	1.20	1.19	1.19
HCM2k70thQ:	16.8	16.8	16.8	0.0	0.0	0.0	5.7	4.8	0.0	0.0	3.1	4.0
85thFactor:	1.49	1.49	1.49	1.60	1.60	1.60	1.56	1.56	1.60	1.60	1.58	1.57
HCM2k85thQ:	21.4	21.4	21.4	0.0	0.0	0.0	7.4	6.3	0.0	0.0	4.1	5.2
90thFactor:	1.59	1.59	1.59	1.80	1.80	1.80	1.71	1.73	1.80	1.80	1.75	1.74
HCM2k90thQ:	23.0	23.0	23.0	0.0	0.0	0.0	8.2	6.9	0.0	0.0	4.6	5.8
95thFactor:	1.77	1.77	1.77	2.10	2.10	2.10	1.96	1.98	2.10	2.10	2.02	2.00
HCM2k95thQ:	25.5	25.5	25.5	0.0	0.0	0.0	9.4	7.9	0.0	0.0	5.2	6.7
98thFactor:	2.03	2.03	2.03	2.70	2.70	2.70	2.39	2.43	2.70	2.70	2.52	2.47
HCM2k98thQ:	29.2	29.2	29.2	0.0	0.0	0.0	11.4	9.7	0.0	0.0	6.5	8.3

Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (Permitted Left Turn Sat Adj)  
 2000 HCM Operations Method  
 Future Volume Alternative

Intersection #9 "J" Street/5th Street - Mitigated

Approach:	North			South			East			West		
	L	T	R	L	T	R	L	T	R	L	T	R
Cycle Length, C:	100			100			100			100		
Actual Green Time Per Lane Group, G:	22.55			22.55			22.55			22.55		
Effective Green Time Per Lane Group, g:	22.55			22.55			22.55			22.55		
Opposing Effective Green Time, go:	2			2			2			2		
Number Of Opposing Lanes, No:	1			1			1			1		
Number Of Lanes in Lane Group, N:	163			163			163			163		
Adjusted Left-Turn Flow Rate, Vlt:	1.00			1.00			1.00			1.00		
Proportion of Left Turns in Lane Group, Plt:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
Proportion of Left Turns in Opp Flow, Plto:	4.53			4.53			4.53			4.53		
Left Turns Per Cycle, LTC:	208			208			208			208		
Adjusted Opposing Flow Rate, Vo:	1.00			1.00			1.00			1.00		
Opposing Flow Per Lane Per Cycle, Volo:	4.00			4.00			4.00			4.00		
Lost Time Per Phase, tl:	0.77			0.77			0.77			0.77		
Eff grn until arrival of left-turn car, gf:	0.75			0.75			0.75			0.75		
Opposing Queue Ratio, qro:	0.75			0.75			0.75			0.75		
Eff grn blocked by opposing queue, gg:	21.80			21.80			21.80			21.80		
Eff grn while left turns filter thru, gu:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
Max opposing cars arriving during ar-gf, n:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
Proportion of Opposing Thru & RT cars, ptho:	0.75			0.75			0.75			0.75		
Left-turn Saturation Factor, fs:	1.00			1.00			1.00			1.00		
Proportion of Left Turns in Shared Lane, pl:	1.61			1.61			1.61			1.61		
Through-car Equivalents, ell:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
Single Lane Through-car Equivalents, el2:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		
Minimum Left Turn Adjustment Factor, fmin:	0.18			0.18			0.18			0.18		
Single Lane Left Turn Adjustment Factor, fm:	0.60			0.60			0.60			0.60		
Left Turn Adjustment Factor, flt:	xxxxxx			xxxxxx			xxxxxx			xxxxxx		

**Appendix G: ODOT Letter Regarding Reasonably Likely  
Determination for US 97/J Street Improvements**







# Oregon

Ted Kulongoski, Governor

**Department of Transportation**  
**Robert W. Bryant**  
**Region 4 Manager**  
 63055 N. Hwy 97  
 Bend, OR 97701  
 (541) 388-6180  
 FAX: (541) 388-6231

FILE CODE:

February 2, 2010

Nick Snead  
 Community Development Director  
 71 SE "D" St  
 Madras, OR 97740

**Subject: Madras UGB Expansion TPR Analysis; Reasonably Likely Determination**

Dear Mr. Snead,

The Oregon Department of Transportation (ODOT) appreciates the opportunity to review and comment on the transportation study prepared for Madras UGB Expansion and related TPR Analysis. We received this study from Kittelson and Associates on January 22, 2010. Our planning staff also reviewed the City's plan amendment application and DLCD's recent response.

As part of the UGB expansion, the City of Madras is considering a 20-acre rezone of Range Land to R-2 Residential uses, including a new elementary school. The proposed amendment is located at the outskirts of town, near the intersection of Ashwood Road and Bean Drive. Neither roads are state facilities; however, the traffic study concluded that the proposed rezone has a significant effect on the US97/"J" Street intersections (degraded operation with incremental trips within the planning horizon). This is an important state facility where ODOT and the City are planning significant improvements in the near future.

On January 21, 2010, pursuant to OAR 660-012-0060(4)(b), the City has written ODOT requesting a determination as to whether planned state highway improvements at US97/ "J" Street are not only included in the City's TSP, but also:

- Funded for construction in the Statewide Transportation Improvement Program (STIP);
- Part of a regional transportation system plan; or
- If neither of the above, the planned improvements are reasonably likely to be provided by the end of the TSP planning period.

ODOT offers the following comments in response:

1. US97 is a Statewide level highway facility and a freight route.
2. The City of Madras completed a TSP Amendment in 2005 to address the anticipated failure of the US 97/"J" Street intersections.
3. A preferred concept was identified by the City and ODOT as shown on the project website [http://ci.madras.or.us/public\\_works/pw\\_hwy97southY.shtml](http://ci.madras.or.us/public_works/pw_hwy97southY.shtml). The concept includes cost estimates, right-of-way needs, and a double-line sketch of the preferred roadway alignment.

Mr. Nick Snead  
 February 2, 2010  
 Page 2 of 2

4. Funding for the construction of the US97/"J" Street improvements is included in the Draft 2010-2013 STIP, which is expected to be approved in October 2010. The "J" Street improvements are not on the current 2008-11 STIP list. At this time, there is a gap between funding identified in the Draft STIP and cost estimates submitted by the project team. However, the City has been collecting transportation System Development Charges slated specifically for US97/"J" Street improvements.

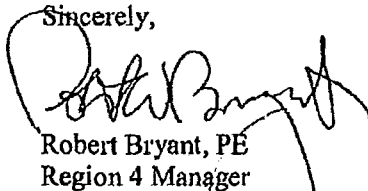
Based on ODOT's review of the circumstances associated with future improvements to US97/"J" Street intersections, it is our opinion that the necessary improvements are reasonably likely to occur by the end of the planning period. ODOT has reached this conclusion based on the following factors:

1. The planned improvements are listed on the Draft 2010-2013 STIP and will likely be approved.
2. The planned improvements are located on a statewide freight route, an important facility that will likely receive future funding.
3. The City of Madras has land use regulations that allow the City to impose conditions on future development if such conditions are needed to avoid or remedy a significant effect. These include ordinances enabling transportation System Development Charges for US97/"J" Street improvements and City approval of the proposed intersection redesign.
4. ODOT has a positive working relationship with the City of Madras and collaboratively funded other projects in the area. We are confident that the City, ODOT and other partners will be able to fund the needed US97/"J" Street improvements.

This reasonably likely determination does not constitute a commitment on the part of ODOT to fund the planned improvements at US97/"J" Street. Further, this written statement applies only to the subject property and only to this specific proposed amendment. It does not apply to any future amendments that may rely upon the same project. Instead, future proposed amendments will require a new written statement from ODOT. (see <http://www.oregon.gov/ODOT/TD/TP/docs/TPR/tprGuidelines.pdf>, Section 3.2.09)

ODOT appreciates the opportunity to provide you with this written statement. If you have any questions, or need more information, please contact Ana Jovanovic, ODOT Region 4 Planning office, at (541) 388-6046 or email [ana.jovanovic@odot.state.or.us](mailto:ana.jovanovic@odot.state.or.us).

Sincerely,



Robert Bryant, PE  
 Region 4 Manager

cc via e-mail: Mark Radabaugh, DLCD; Joe Bessman, Kittelson & Assoc, Inc.; DJ Heffernan, Angelo Planning Group; Jon Skidmore, Jefferson County Planning Director; Matt Garrett, ODOT Director; Jeni Bohard, ODOT TDD Manager; Pat Creedican, ODOT District 10 Manager

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**Nick Snead**

**From:** JOVANOVIC Ana [Ana.JOVANOVIC@odot.state.or.us]  
**Sent:** Thursday, February 04, 2010 4:34 PM  
**To:** Nick Snead  
**Cc:** RADABAUGH Mark; Joe Bessman; DJ Heffernan; Jon Skidmore  
**Subject:** RE: Madras UGB expansion & TRP Analysis

-->

Nick,

Here is ODOT's Reasonably Likely Determination letter for Madras UGB Expansion and TPR Analysis. Please contact me if you have any questions.

Thank you,

Ana

Ana Jovanovic  
ODOT Region 4 Program and Planning  
541 388.6046  
ana.jovanovic@odot.state.or.us

**From:** Nick Snead [mailto:nsnead@ci.madras.or.us]  
**Sent:** Monday, February 01, 2010 8:49 AM  
**To:** JOVANOVIC Ana  
**Subject:** Madras UGB expansion & TRP Analysis

Ana,

Good morning! I hope you had a good weekend as well. I am writing to determine the status of ODOT's review of our TPR study submitted by Kittleson & Associates related to the 37 acre UGB expansion proposal. Can you give me an update?

*"There are no short cuts to any place worth going"*

-Beverly Sills-

Nicholas S. Snead

2/5/2010

234 Exhibit to Ordinance No. 823

235

Community Development Director

City of Madras

(541) 475-3388

Email: [nsnead@ci.madras.or.us](mailto:nsnead@ci.madras.or.us)

Visit the City of Madras at <http://ci.madras.or.us/>

**Appendix H: Urban Growth Area Management Agreement (UGAMA) (April 2006)**

## **Urban Growth Area Management Agreement For the City of Madras**

This agreement is entered into by the City of Madras, an incorporated municipality in the State of Oregon, hereby referred to as the "City" and Jefferson County, a political subdivision of the State of Oregon, hereby referred to as the "County".

### **RECITALS**

WHEREAS, the City of Madras and Jefferson County are authorized pursuant to Oregon Revised Statutes (ORS) Chapter 190 to enter into an Intergovernmental Management Agreement for performance of functions which either governmental unit has the authority to perform; and

WHEREAS, this Management Agreement also constitutes a cooperative agreement under ORS Chapter 195; and

WHEREAS, Goal 14 [Urbanization] requires that the City and the County establish an urban growth boundary to identify and separate urbanizable land from rural and that the establishment and change of urban growth boundaries shall be through a cooperative process between the City and County; and

WHEREAS, pursuant to provisions in Goal 2 [Land Use Planning], the City and County are required to have coordinated and consistent comprehensive plans which establish an Urban Growth Boundary (UGB) and a plan for the Urban Growth Area (UGA) within the boundary; and,

WHEREAS, the City and County share a common concern regarding the accommodation of population growth and utilization of lands within the UGB; and

WHEREAS, the City and County consider it mutually advantageous to establish this Urban Growth Area Management Agreement (UGAMA) for the purpose of facilitating the orderly transition from rural to urban land uses and to enable the City to plan for and provide urban services such as sewer, water and street facilities in a timely, orderly and cost effective manner consistent with the City's Comprehensive Plan;

NOW, THEREFORE THE CITY OF MADRAS AND JEFFERSON COUNTY MUTUALLY AGREE AS FOLLOWS:

#### **1. INTENT OF AGREEMENT**

- 1.1. To establish standards and procedures for review and action on proposed land use actions and related matters noted within this agreement pertaining to lands within the UGA;
- 1.2. To transfer authority and jurisdiction over current planning activities, land use decisions, provision of urban services and code enforcement within the UGA from the County to the City;

- 1.3. To benefit the public through reduction of governmental processes; and,
- 1.4. To establish procedures for City and County consideration of expansions to the UGA.

## **2. DEFINITIONS**

For the purpose of this agreement, the following definitions shall apply:

- 2.1. **Board:** the Jefferson County Board of Commissioners.
- 2.2. **City:** the City of Madras.
- 2.3. **Council:** the Madras City Council.
- 2.4. **County:** Jefferson County.
- 2.5. **Land Use Decision:** A final decision or determination concerning the adoption, amendment or application of statewide planning goals, a comprehensive plan provision or a land use regulation.
- 2.6. **Public Facilities Plan:** A document or documents describing the water, sewer and transportation facilities which are to support the land uses designated in the appropriate acknowledged comprehensive plans.
- 2.7. **Urban Growth Area (UGA):** The area between the Madras City Limits and the Madras Urban Growth Boundary, as designated on the City's and the County's Comprehensive Plan Maps.
- 2.8. **Urban Growth Boundary (UGB):** The boundary line which separates lands to be urbanized and eventually incorporated into the City of Madras from the surrounding rural lands under the County's jurisdiction.
- 2.9. **Urban Growth Area Management Agreement (UGAMA):** This Intergovernmental Agreement between the City and County that coordinates the management of land use and development within the City of Madras UGA.
- 2.10. **Urbanizable Lands:** Lands inside the Urban Growth Area that are designated for future urban development when public facilities and services can be provided by the City.

## **3. URBANIZATION PROCESS**

- 3.1. The UGA shall be managed to maintain the potential for future urban development until such time as the land is annexed into the City and is converted to urban land.
- 3.2. Conversion of urbanizable land to urban development can occur when public facilities and services are available and adequate to serve urban levels of development, or the land



is annexed into the City and zoned for urban development.

- 3.3. Rural levels of development within the UGA shall be sited in such a way as to not interfere with urban levels of development and services when conversion from urbanizable land to urban lands occurs.
- 3.4. Extension of City services within the UGA may be permitted when approved by the City. Establishment or extension of sewer systems outside the UGB is prohibited except to mitigate a public health hazard in accordance with the provisions of OAR 660-011-0060.

#### **4. UGA ADMINISTRATION RESPONSIBILITIES**

- 4.1. The City shall have responsibility for administration and decision making authority regarding all land use applications within the UGA except applications for amendments to the UGB, as provided in Section 6.
- 4.2. The City shall have responsibility for annexation of lands in the UGA. Lands outside the UGA shall not be annexed unless the UGB is also amended to include the territory to be annexed.

#### **5. PROCESS FOR LAND USE APPLICATIONS WITHIN THE UGA**

- 5.1. Land Use applications shall be processed through the City Community Development Department.
- 5.2. Notice of all land use applications within the UGA shall be sent to the County Community Development Department and to any other affected County agencies and other applicable special service districts for review and comment prior to any decision by the City. Such agencies or districts shall be given ten business days in which to provide comments on the application.
- 5.3. In making its decision, the City shall consider all comments received under § 5.2.
- 5.4. The County, any agency or special service district that provides comments on the application shall be mailed a copy of the land use decision and shall have standing to appeal the City's decision.

#### **6. PROCESS FOR URBAN GROWTH BOUNDARY AMENDMENTS**

- 6.1. Amendments to the UGB, including amendments to the City's and County's comprehensive plan maps, may be initiated by the City, the County, or a property owner(s).
- 6.2. An application to amend the UGB shall be filed with the City Community Development Department along with the applicable City and County plan amendment fees. The City shall forward a copy of the application to the County Community Development Department, together with the County's plan amendment fee, within five working days of

the date the application is filed.

- 6.3. The City and County Planning Commissions shall each conduct a public hearing regarding the application. At their discretion, the Planning Commissions may hold a joint hearing rather than separate hearings.
- 6.4. The recommendation of the City and County Planning Commissions shall be forwarded to the City Council, who shall hold a public hearing to consider the proposed amendment to the UGB. The decision of the City Council shall be forwarded to the County Board of Commissioners.
- 6.5. The Board of Commissioners shall conduct a public hearing and make a final decision on whether the UGB should be amended.
- 6.6. If the City and County disagree on the proposed amendments, a joint meeting of the City Council and Board of County Commissioners may be held to attempt to resolve the differences. Both jurisdictions may also request a dispute resolution process to resolve the differences.
- 6.7. If the governing bodies are not able to come to mutual agreement there shall be no change to the UGB.

## **7. OTHER LAND USE ACTIVITIES**

- 7.1. The City and County agree to mutually review any proposed action on public improvement projects and similar programs, projects or proposals that apply to the UGA.
- 7.2. The City shall be responsible for public facilities planning within the UGA. The City shall coordinate with any affected County agency in the development of a public facilities plan for the UGA.
- 7.3. The County shall be responsible for administering the state Building Code and issuing building permits for all construction within the UGA, until such time as the City has its own state-approved building code program.

## **8. ROADS**

- 8.1. Public rights-of-way within the UGA shall be accepted by the City upon annexation of adjacent lands.
- 8.2. The City shall accept jurisdiction over County roads within the UGA that have a pavement condition index (PCI) of 70 or above. If the PCI is below 70, the County may structurally overlay the road to raise the PCI above 70, at which time the City shall accept jurisdiction over the road. Nothing contained in this subsection shall restrict the City from accepting jurisdiction over a road or public right-of-way within the UGA that does not meet such minimum standards.

- 8.3 When a parcel in the UGA is initially partitioned or subdivided and creation of a street is required, development shall proceed initially with streets to City road standards
- 8.4 Streets in subdivisions and PUDs shall be developed to the City's improvement standards
- 8.5 All unpaved county roads, excluding public usage roads, within the UGA shall be graded biannually by the County until the City has accepted jurisdiction over the road.

## 9. FEES

- 9.1 Applications for land use permits, including all land use appeals within the UGA, shall be accompanied by a fee set by the City.
- 9.2 Applications for UGB Amendments shall be accompanied by fees set by the County in addition to any City fees.
- 9.3 System Development Charges for lands within the UGA will be collected by the County, prior to the issuance of building permits.

## 10. ENFORCEMENT

The City shall be responsible for enforcement of land use regulations within the UGA.

## 11. AMENDMENT AND TERMINATION

- 11.1 This agreement may be amended at any time by mutual agreement of both parties, after public hearing and adoption by both the City Council and the Board of Commissioners.
- 11.2 Any modifications to this agreement shall be consistent with the City and County Comprehensive Plans and the statewide planning goals.
- 11.3 This agreement may be terminated by either party under the following procedure:
  - a. Written notice of intent to terminate this Agreement shall be sent to the other party at least forty-five (45) days prior to taking any action, including the publication of public hearing notices in order to provide ample time for resolution of differences, or amendment to comprehensive plans.
  - b. A public hearing shall be held by the party considering termination. That party shall give the other party at least 20 days prior notice of the scheduled hearing date. The 20 day period shall be used by both parties to seek resolution of differences. Both parties shall also request a collaborative conflict resolution process to resolve differences that remain.
  - c. Public notice of hearings shall be in accordance with applicable statutes and local ordinances.

- e. This agreement is necessary for compliance with, at minimum, statewide planning Goals 2 and 14. If this agreement is terminated without adoption of a new agreement, jurisdiction and authority over all planning activities and land use decisions within the UGA shall revert to the County. Therefore, this agreement may not be terminated without adoption of a new agreement.

**12. TIME OF EFFECTIVENESS**

This agreement shall not become effective until properly executed by both the City and the County. Upon execution, this agreement shall supersede all previous Urban Growth Area Management Agreements.

**13. SEVERABILITY**

The Provisions within this agreement are severable. If any section, sentence, clause or phrase of this agreement is adjudged by a court of competent jurisdiction to be invalid, said invalidity shall not impair or affect the validity of the remaining portions of the agreement.

ADOPTED this 5<sup>TH</sup> day of April, 2006.


CITY OF MADRAS, OREGON

  
Rick Allen, Mayor

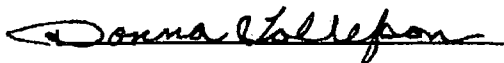
Date: 2-28-05

JEFFERSON COUNTY, OREGON

  
Walter Ponsford, Chair

  
Bill Bellamy, Commissioner

ATTEST:



  
Mary Zenke, Commissioner

Date: April 5, 2006



Jefferson County  
Final Order

BEFORE THE BOARD OF COUNTY COMMISSIONERS OF THE STATE OF OREGON  
FOR THE COUNTY OF JEFFERSON

AN ORDINANCE AMENDING THE JEFFERSON )  
COUNTY COMPREHENSIVE PLAN MAP TO )  
EXPAND THE MADRAS URBAN GROWTH )  
BOUNDARY BY APPROXIMATELY 37 ACRES )  
AND DECLARING AN EMERGENCY (10-PA-01) )

**0-039-10**

Ordinance No. \_\_\_\_\_

**WHEREAS**, Jefferson County worked with the City of Madras and other stakeholders to establish a 50-year Urban Reserve Area surrounding the City of Madras; and

**WHEREAS**, the Madras Urban Reserve Area (URA) was acknowledged in February 2010 by the Oregon Department of Land Conservation and Development; and

**WHEREAS**, land in the Urban Reserve Area is first priority land for inclusion in the Urban Growth Boundary (UGB) pursuant to ORS 197.298 and the land proposed for UGB expansion is within the URA; and

**WHEREAS**, the Madras Urbanization Study (April 2007) and the Madras Urbanization Study Addendum (August 2007) identified the need for residentially zoned land for housing and public/semi-public uses outside the existing UGB; and

**WHEREAS**, a joint public hearing of the City of Madras Planning Commission and Jefferson County Planning Commission was held on February 11, 2010 to consider findings and accept any written and oral testimony from the public on the proposed approximate 37 acre Urban Growth Boundary Expansion; and

**WHEREAS**, after considering the Findings of Fact, and written and oral testimony from the public, both the Jefferson County Planning Commission and the City of Madras Planning Commission took formal action to recommend to the Jefferson County Board of Commissioners and the Madras City Council that the proposed UGB expansion be approved; and

**WHEREAS**, the County Planning Commission's recommendation to approve the Urban Growth Boundary Expansion was forwarded to the Board of County Commissioners during a joint public hearing with the Madras City Council on March 29, 2010; and

**WHEREAS**, after considering the Findings of Fact, and all written and oral testimony from the public, the Jefferson County Board of Commissioners voted 2 – 0 to approve the proposed Comprehensive Plan Map amendment and City of Madras Urban Growth Boundary expansion.

**NOW, THEREFORE**, the Jefferson County Board of Commissioners hereby ORDAINS as follows:



**1. Adoption of Findings**

The Findings of Fact and Conclusions in the attached Findings Document and Staff Report are hereby adopted and incorporated herein by reference as the basis for the decisions to adopt the amendments to the Jefferson County Comprehensive Plan Map.

**2. Amendment to the Jefferson County Comprehensive Plan Map**

The amendment to the Jefferson County Comprehensive Plan Map contained in the attached Exhibit A is hereby adopted and by this reference incorporated herein as if fully set forth.

**3. Severability**

The provisions of this ordinance are severable. If any section, subsection, sentence, clause or phrase of this ordinance or any exhibit thereto is, for any reason, held to be invalid or unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance or exhibits thereto.

**4. Effective Date**

These amendments being necessary for immediate implementation, an emergency is declared to exist, and the specified amendments shall therefore take place and be effective on April 14, 2010.

DATED this 14<sup>th</sup> day of April, 2010.

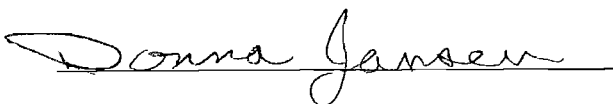
BOARD OF COMMISSIONERS:

  
 \_\_\_\_\_  
 Wayne Fording, Commission Chair

  
 \_\_\_\_\_  
 Mike Ahern, Commissioner

  
 \_\_\_\_\_  
 John Hatfield, Commissioner

Attest:

  
 \_\_\_\_\_

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**JEFFERSON COUNTY COMMUNITY DEVELOPMENT DEPARTMENT**

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**TO:** Jefferson County Board of Commissioners  
**FROM:** Jon Skidmore, AICP, Planning Director/CDD Manager  
**SUBJECT:** Madras UGB Expansion (10-PA-01)  
**DATE:** 03/22/10

---

This staff report provides background and findings in support of the proposed City of Madras Urban Growth Boundary (UGB) expansion as proposed by the City. The applicant (City of Madras) is proposing to amend the Jefferson County Comprehensive Plan Map. The map will be amended to modify the UGB.

The City seeks approval to expand the UGB by approximately 37 acres to include the following properties:

- 11-14-07, Tax lot 100 (not all of this parcel will be included).
- 11-14-07, Tax lot 101
- 11-14-07, Tax lot 102
- 11-14-07, Tax lot 200

The application to amend the UGB is subject to compliance with the following documents:

- Urban Growth Area Management Agreement for the City of Madras (UGAMA).
- Jefferson County Comprehensive Plan (Goal 14 Section and Part 5).

**UGAMA Compliance:**

The UGAMA sets forth the differing responsibilities for each jurisdiction for these types of proposals. The applicant's submitted draft findings outline these responsibilities beginning on page 32 of the draft findings document submitted by the City. As required by section 6 the UGAMA the City submitted an application to the County. A joint planning commission was scheduled for February 11, 2010. The Jefferson County Planning Commission recommended approval of the UGB expansion to the Board of Commissioners by a vote of 4 to 0. The Planning Commission and County Staff both recommend that the Board of Commissioners approve the UGB expansion. The review of the proposal has followed and will continue to follow the UGB expansion process outlined in the UGAMA.

**Comprehensive Plan Compliance:**

The request is subject to Part 5 of the Comprehensive Plan and the Goal 14 section of the Plan. The application is a quasi-judicial application as this request will involve the administration of land use regulations to a small number of contiguous parcels. As such the application must comply with the following requirements of Part 5 of the Comprehensive Plan:

1. Comply with applicable Statewide Planning Goals, Oregon Revised Statutes and Administrative Rules, or comply with requirements for an exception to the goal(s);
2. Comply with all applicable Comprehensive Plan goals and policies; and
3. Be necessary due to changes in physical, economic or social conditions, population growth, or development patterns which require an adjustment in the land uses designations in the area where the amendment is proposed.

In terms of compliance with Statewide Planning Goals, Oregon Revised Statutes and Administrative Rules, the applicant's draft findings address these issues in Section V (compliance with Statewide Planning Goals) and Section VI (compliance with State Statutes) of the draft findings.

The primary Goals relating to this proposal are Goals 2 and 14:

**Goal 2: Land Use Planning**

*To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.*

**Goal 14 Urbanization**

*To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.*

In order to expand the UGB the City must justify the need for the expansion. The City of Madras and Jefferson County worked with DLCD to establish the Urban Reserve Area (URA) over the past 3+ years. Pursuant to ORS 197.298, the first priority for land to be included in a UGB is land designated as an urban reserve. Therefore, the land in the Madras URA is the first priority for UGB expansion when there is a demonstrated need for land in the next 20 years, as was found by the *Madras Urbanization Study* and *Addendum*. These studies found a need for approximately 220 acres of land for residential, public and semi-public land over the next 20 years. Therefore, the applicant's proposal provides acreage for the City's residential, public and semi-public needs as demonstrated through the URA planning process. The URA has been acknowledged by DLCD of which the urbanization study is a part. Further, the land the City is bringing into the UGB for this purpose is first priority as explained above and has the necessary access to urban services.

In terms of compliance with the Comprehensive Plan goals and policies, the applicant's draft findings address this starting on page 34. The Comprehensive Plan provides specific factors to be considered in changing UGBs. These factors include consideration of a demonstrated need for additional acreage for housing, public facilities, schools, orderly provision of urban services, maximum efficiency of land uses within the existing urban area and the priority of lands included in the expansion as outlined in ORS 198.298 among other considerations. The applicant explains that there is a demonstrated need as acknowledged through the URA planning process. Further, the applicant explains that this location can be served by public services in an efficient & cost effective manner, allows for compatibility of uses in the area, and urban development in this location will have few impacts on prime resource land.

The Comprehensive Plan also requires that the expansion of the UGB be done in accordance with state requirements and that the statutory priorities in ORS 197.298 be followed. This requires that

expansions of UGBs include URA land first. The applicant's proposal complies with this requirement.

The applicant must also demonstrate that the expansion is necessary due to changes in physical, economic or social conditions, population growth, or development patterns which require an adjustment in the land uses designations in the area where the amendment is proposed. The application has been submitted to allow for an expansion of the UGB to provide for the long term housing needs of the City. It also has been proposed to accommodate a necessary public facility (school). The acreage needs for schools and housing are documented in the City's acknowledged Urban Reserve Area approval which was based on the urbanization study. Therefore, the proposed UGB expansion will provide for housing and educational needs of the City of Madras over the next 20 years and beyond.

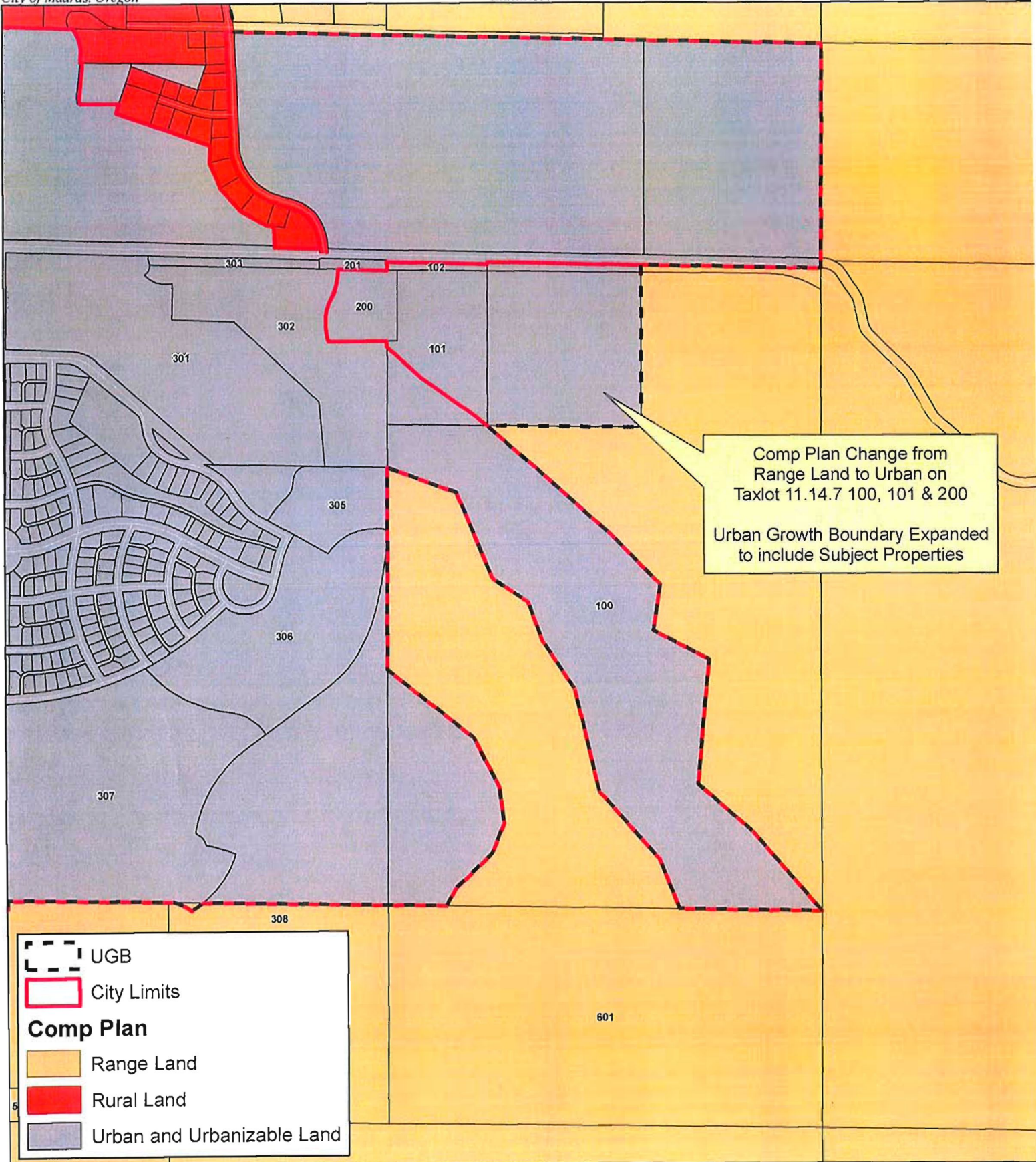
**Summary:**

The applicant has demonstrated that this UGB expansion complies with the UGAMA and the County regulations pertaining to UGB expansions. The Planning Commission recommended approval of this approximate 37 acre expansion to the Board of County Commissioners by a vote of 4 to 0.

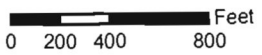
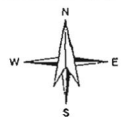
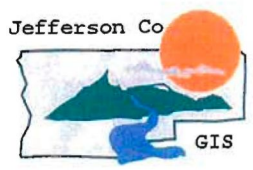
This proposed Comprehensive Plan Map amendment will change the UGB as it is reflected on the County's Comprehensive Plan map. Technically the applicant is changing the County Zoning Map as well. However, as the adjustment of the UGB will shift the lands in question to the City's jurisdiction and they will change/implement zoning from here forward (if approved) there is no separate Zone Map Change amendment request based on the direction of the County Planning Director.

Staff and the Planning Commission recommend approval.





UGB
   
 City Limits
   
**Comp Plan**
  
 Range Land
   
 Rural Land
   
 Urban and Urbanizable Land



Jefferson County uses GIS data in support of its internal business functions and the public services it provides. These GIS data, which Jefferson County distributes, may not be suitable for other purposes or uses. It is the requestor's responsibility to verify any information derived from the GIS data before making any decisions or taking any actions based on the information. Jefferson County shall not be held liable for any errors in the GIS data. This includes errors of omission, commission, errors concerning the content of the data, and relative and positional accuracy of the data. Jefferson County assumes no legal responsibility for this information.

# **City of Madras Comprehensive Plan Amendment**

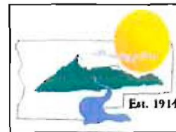
## **Proposed Amendments to Madras Comprehensive Plan, Madras and Jefferson County Comprehensive Plan Maps, and Madras Zoning Map**

### **FINDINGS**

City of Madras Planning Commission  
Jefferson County Planning Commission

Prepared for:

**Jefferson County**  
66 S.E. "D" Street  
Madras, OR 97741



**City of Madras**  
71 S.E. "D" Street  
Madras, OR 97741



Prepared by:



Angelo Planning Group  
921 SW Washington, Suite 468  
Portland, Oregon 97205

February 2010

### City of Madras Planning Commission

Shelly	Tack	Chair
Lynn	Kowaleski	Vice-Chair
Alan	Hurley	Commissioner
Kasey	Cousens	Commissioner
Richard	Ladeby	Commissioner
Joe	Krenowicz	Commissioner

### City of Madras City Council

Melanie	Widmer	Mayor
Tom	Brown	Councilor
Walt	Chamberlain	Councilor
Royce	Embanks Jr.	Councilor
Benjamin	Keeton	Councilor
Bob	McConnell	Councilor
Kevin	O'Meara	Councilor

### Jefferson County Planning Commission

Don	Martin	Chair
Evan	Thomas	Vice Chair
Dick	Dodson	Commissioner
Bob	Powers	Commissioner
Roy	Hyder	Commissioner
Kay	Moon	Commissioner
Jim	Martin	Commissioner

### Jefferson County Board of Commissioners

John	Hatfield	Commission Chair
Mike	Ahern	Commissioner
Wayne	Fording	Commissioner

### Project Support and Consulting Team

Angelo Planning Group	Land use planning, project management
Kittelson Associates	Transportation analysis
Jefferson County	Planning
City of Madras	Planning, technical support
Jefferson County School District 509-J	Planning, technical support



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- Appendix H: Urban Growth Area Management Agreement (UGAMA) (April 2006)

## I. Proposal Summary

<b>File No.:</b>	081-004
<b>Legislative Sponsor:</b>	Nick Snead, Community Development Director City of Madras 71 SE D Street Madras, OR 97741 (541) 475-3388 (541) 475-7061 Fax <a href="mailto:nsnead@ci.madras.or.us">nsnead@ci.madras.or.us</a>
<b>Planning Consultant:</b>	DJ Heffernan Angelo Planning Group 921 SW Washington, Suite 468 Portland, Oregon 97205 (503) 227-3664 (503) 227-3679 Fax <a href="mailto:dheffernan@angeloplanning.com">dheffernan@angeloplanning.com</a>
<b>Proposal:</b>	<ul style="list-style-type: none"> <li>• <b>To amend the Madras Comprehensive Plan</b> – to add a table that presents the City zones and County zones that correspond and are allowed under City comprehensive plan designations. (Table 3-1)</li> <li>• <b>To amend the Jefferson County and City of Madras Comprehensive Plan and Zoning Maps</b> – to expand the Madras Urban Growth Boundary (UGB) to include 36.91 acres from the Madras Urban Reserve Area (URA); to annex 20 acres of City-owned land (“east site,” Figure 4-1) to the City of Madras and apply City R-2, Multiple Family Residential zoning; to annex 16.22 acres of privately owned land plus 0.69 acres of land for County right-of-way (“west site,” Figure 4-1) to the City and retain existing County RL, Range Land, zoning.</li> </ul>
<b>Location:</b>	<ul style="list-style-type: none"> <li>• West site: tax map of 16.91-acre west site (outlined), directly east of the existing Madras UGB, south of Ashwood Road (Appendix A)</li> <li>• East site: survey map of 20-acre east site, east of the existing Madras UGB, south of Ashwood Road (Appendix B)</li> </ul>
<b>Legal Description:</b>	<p><b>West site:</b> 11S 14E 7 Lots 101 (12.28 acres), 102 (0.69 acres for right-of-way), and 200 (3.94 acres), entire lots</p> <p><b>East site:</b> 11S 14E 7 Lot 100 (20 acres), parcel of lot</p> <p>Legal description of Lot 100 parcel (east site): <i>A portion of Parcel 2 of Partition Plat No. 2002-12 as filed in the Jefferson County Clerk’s Office, situated in the Northeast Quarter (NE ¼) of Section</i></p>

	<p>7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County Oregon, more particularly described as follows: Commencing at the Northwest corner of said Northeast Quarter, monumented with a 2 inch diameter brass cap, from which the Northeast corner of said Section 7 bears South 89°39'40" East a distance of 2640.53 feet; thence South 89°39'40" East along the North line of said Section 7 a distance of 599.997 feet; thence South 0°17'36" West a distance of 40.00 feet to the Northwest corner of said Parcel 2 of Partition Plat No. 2002-12; thence continuing South 0°17'36" West along the West line of said Parcel 2 a distance of 40.00 feet to the South right-of-way line of East Ashwood Road and the <b>True Point of Beginning of this Description</b>; thence South 0°17'36" East along said West line a distance of 935.13 feet to the Southeast corner of Parcel 1 of said Partition Plat No. 2002-17; thence leaving said West line South 89°39'40" East a distance of 931.70 feet; thence North 0°17'36" West a distance of 935.12 feet; to a point on the South right-of-way line of East Ashwood Road; thence North 89°39'40" West along said right-of-way line a distance of 931.70 feet to the <b>True Point of Beginning</b>.</p> <p>Contains 20.00 acres more or less.</p> <p><b>End of Description.</b> (Appendix B)</p>
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## II. Introduction

### ***Proposed Map Amendments***

The Madras Urban Reserve Area (URA) was approved by DLCD in July 2009, and was sized to provide urbanizable land for the next 50 years. Land from the URA is the first priority for inclusion in the UGB pursuant to ORS 197.298. The City of Madras is not currently in periodic review or evaluating its existing UGB for a 20-year land supply. The City, however, has initiated this UGB amendment and annexation process in order to begin to meet the land need identified by the *Madras Urbanization Study* (April 2007) and the *Madras Urbanization Study Addendum* (August 2007), prepared by ECONorthwest. The studies found a need for residentially zoned land for housing and public/semi-public uses outside the existing UGB.

There are two parts to the proposed Urban Growth Boundary (UGB) annexation: the east site and the west site. The City of Madras owns the east site. This land is proposed for annexation to the Madras UGB and city limits and for re-zoning as City Multi-Family Residential (R-2), a designation that will allow for a multi-family and single-family housing as well as public/semi-public uses typically sited on residentially zoned land. The 20-acre parcel is within the Yarrow Master Plan area.

In addition to the east site, there are another 16.91 acres of land in the proposed UGB and City annexation, referred to as the west site. The west site is comprised of three lots that provide County right-of-way, better connect the east site to the existing UGB, and contribute toward meeting the long-term need for residentially zoned land. The west site is privately owned and is not proposed for re-zoning at this time. Owners may apply for re-zoning when they are prepared to file land development applications in the future. It is expected that the west-site land also will provide the same range of needed housing types and public/semi-public uses as the east site when re-zoning is approved. Both the east and west sites will be designated Residential on the Plan Maps if this proposal is approved.

### ***Proposed Text Amendments***

In order to facilitate the transition of rural zoning to urban zoning in the urban growth area, text amendments are proposed for Section IV (Land Use Element) of the Madras Comprehensive Plan that identify county zones allowed on land that is designated for future urban use on the Comprehensive Plan map.

### III. Jefferson County and City of Madras Comprehensive Plan Amendments

Table 3-1 lists Madras Comprehensive Land Use Plan Designations and corresponding City and County zones that are deemed compatible. The table is needed because the Madras Comprehensive Land Use Plan map, which applies to incorporated and unincorporated properties, and the city's zoning map are one in the same. The table clarifies that unincorporated property may retain its county zoning when it is annexed into the UGB if the land is not immediately annexed into the city. Such properties may retain any of the listed County zones and be regulated under the County's land development ordinance consistent with adopted growth management policies and procedures that apply to all land inside the Madras UGB. When such land is ready for urban development, the owner may request city annexation and zoning that is consistent with the land use plan designation for their property. Practically speaking, the table simply allows rural zoning districts to be applied in the Madras urban growth area on an interim basis, even when the rural zone differs from the intended long range urban use for a subject property. The table does not alter anything in practice. County zoned properties that are inside the Madras UGB remain under county jurisdiction in all respects although they are subject to urban growth management policies and regulatory review procedures that have been jointly adopted by Jefferson County and the City of Madras. In this context, the conformity table serves as a zoning bridge between a property's planned urban future and its current unincorporated rural zoning.

**Table 3-1 Proposed Table for Corresponding City of Madras Comprehensive Plan Map Designations, City of Madras Zones, and Jefferson County Zones**

Plan Map Label	Designation	Description	City Zones	County Zones
R-1	Single-Family Residential	Land primarily for single-family homes, including manufactured home subdivisions, and for duplexes	R-1	EFU A-1, EFU A-2, RL, FM, RR-2, RR-5, RR-10, RR-20, ERD
R-2	Multi-Family Residential	Land for multi-family housing to be close to businesses and services and to buffer single-family residential and commercial uses. Manufactured homes and neighborhood commercial uses are allowed.	R-2	EFU A-1, EFU A-2, RL, FM, RR-2, RR-5, RR-10, RR-20, ERD
R-3	Planned Residential Development	Land for primarily residential development that allows site design flexibility to promote creativity and protection of scenic and natural resources	R-3	EFU A-1, EFU A-2, RL, RR-2, RR-5, RR-10, RR-20, ERD
C-1	Corridor Commercial	Land for primarily motor vehicle-oriented uses located along major roadways	C-1	CC, ERD
C-2	Downtown Commercial	Land for a mixture of smaller scale businesses that supports redevelopment, higher density, public spaces, and other elements of pedestrian orientation	C-2	CC, ERD

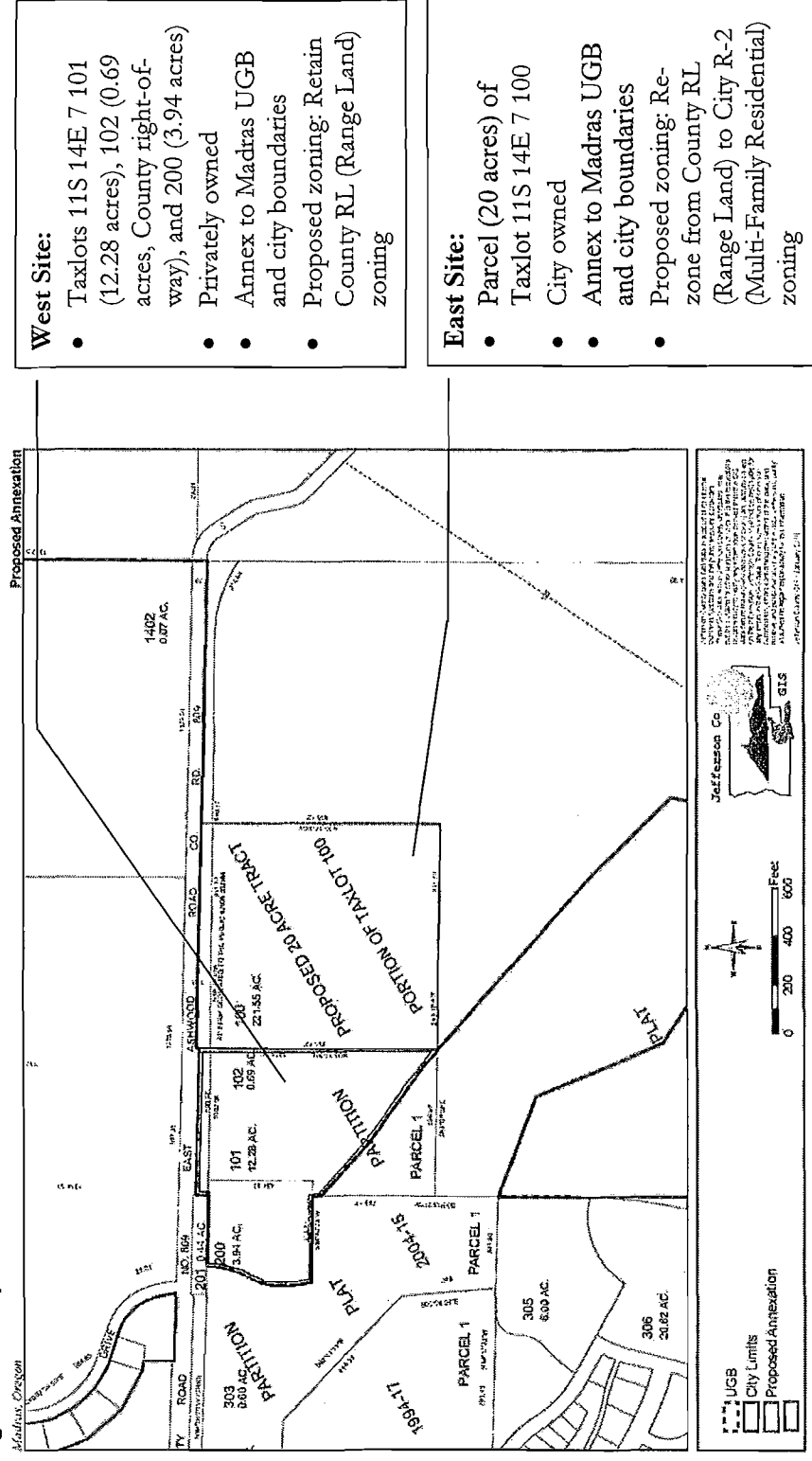
Plan Map Label	Designation	Description	City Zones	County Zones
C-3	Community Commercial	Land for primarily motor vehicle-oriented uses but on a smaller scale than Corridor Commercial	C-3	SC, CC, ERD, EFU A-1, EFU A-2, RL
NC	Neighborhood Commercial	Land for small-scale commercial uses in residential areas that includes public spaces and promotes transportation options	NC	SC, ERD EFU A-1, EFU A-2, RL
I	Industrial	Land for industrial uses where industrial uses already exist in the city and in the Madras Industrial Park	I	EFU A-1, EFU A-2, RL, FM, PM, CI, IR, ERD
O/S	Open Space	Land where parks, open space, or public uses already exist or is otherwise publicly owned	OS/PF	EFU A-1, EFU A-2, RL, FM, PM
A/D	Airport Development	Land adjacent to airport facilities for future commercial and industrial uses, particularly those that rely on air transportation	A/D	EFU A-1, EFU A-2, AM, ERD

County Zones:	
AM	Airport Management
CC	County Commercial
CI	County Industrial
EFU A-1, EFU A-2, RL	Exclusive Farm Use Zones
ERD	Existing Rural Development
FM	Forest Management
IR	Industrial Reserve
PM	Park Management
RR-2, RR-5, RR-10, RR-20	Rural Residential
SC	Service Community



## IV. Proposed Amendments to Madras Comprehensive Plan, Madras and Jefferson County Comprehensive Plan Maps, and Madras Zoning Map

**Figure 4-1: Proposed UGB Amendment and Annexation Area**



## V. Conformance with Statewide Land Use Goals

### **Goal 1: Citizen Involvement**

*To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.*

**Response:** The proposed amendments have been reviewed during a series of public meetings and hearings in order to allow for consideration by public officials and public feedback.

The Jefferson County School District 509-J (“JCSD” or “District”) Board (“Board”) was generally briefed by the Superintendent about the 2009 Long Range Facility Plan at the December 14, 2009 School Board meeting where the need for the updated plan was discussed. The draft plan was brought to them first for formal review at a Board meeting on January 11, 2010. After the School Board reviewed the enrollment forecast, location and conditions of existing schools, and future potential school locations, they adopted the plan on January 25, 2010.

The proposed Madras Land Use Element Comprehensive Plan amendment and amendments to the Jefferson County and City of Madras Comprehensive Plan Maps and Zoning Maps were presented and reviewed in a series of meetings in early 2010.

A public hearing was scheduled before the Madras and Jefferson County Planning Commissions (joint) on February 11, 2010. Notice of the hearing was published in the January 13, 2010 Madras Pioneer. The public notice published in the newspaper was also posted at the Madras City Hall, Jefferson County Annex, US Postal Service Office, and the Jefferson County Library 20 days prior to the February 11, 2010 Planning Commission meeting.

Additionally, property owners within 750 feet of the properties proposed to be included in the Madras UGB were notified of the proposed land use action. Adjacent property owners were notified that the file was available for review at the Jefferson County Community Development Department at 85 SE “D” Street and that copies of any information would be provided at a cost of .25/page. The agenda for the Planning Commission was posted at Madras City Hall, Jefferson County Annex, US Postal Service Office, and the Jefferson County Library 7 days prior to the February 11, 2010 joint Planning Commission meeting.

As discussed above the City proposes to include four (4) properties that total 36.91 acres into the City of Madras Urban Growth Boundary. This constitutes a potential “land use change” that would typically require notice to affected property owners. ORS 227.186 (Measure 56 notice) requires property owners to be notified of legislative acts relating to comprehensive plan, land use planning or zoning proposed by the City. Additionally, the proposed Comprehensive Plan amendment is limited to the four properties identified on page 1. As such, a city-wide notice is not needed rather notice to the individual properties is required.

The City owns property, has a signed Consent to Annex agreement or a letter from a property owner acknowledging the proposed Comprehensive Plan amendment that verify that property owners are aware of the proposed land use action and a Measure 56 notice is not needed. Specifically, the City holds title and owns Tax Lot 100 and therefore is aware and consents to the proposed re-zone to a portion of the property it owns that represents a "land use change" that may limit use. Additionally, the City of Madras has signed consent forms from the property owners of tax lots 101 and 200. Jefferson County owns tax lot 102 and has provided a letter acknowledging and supporting the proposed land use action. As such, a formal notice as required by ORS 227.186 is not necessary as the affected property owners are aware of the proposed Comprehensive Plan amendment. More over, the ensuing annexation and re-zoning of 20 acres of tax lot 100 is limited to City owned property.

45-day notice to DLCD was sent to DLCD staff on December 14, 2009. On January 13, 2010 DLCD Field Representative, Mark Radabaugh, notified the City of Madras that the contents of the 45-day notice was incomplete. Later that day, City staff submitted the requested information to DLCD making the notice complete. The materials submitted on January 14, 2010 are noted as the Addendum to the notice.

The UGB expansion area is drawn from the Madras Urban Reserve Area (URA), which was developed through an intensive participatory process. A Technical Advisory Committee (TAC) and Project Advisory Committee (PAC) were formed to provide guidance for the project. The TAC was comprised of staff from project team members, including Jefferson County, the City of Madras, ECONorthwest, Kittelson & Associates, David Evans & Associates, Ball Janik, LLP, and Angelo Planning Group. The PAC included representatives of the City of Madras, Jefferson County, Jefferson County School District 509-J, local farmers, housing advocates, Oregon Department of Transportation (ODOT) Region 4, and the Department of Land Conservation and Development (DLCD).

#### **Findings:**

- According to both their Comprehensive Plans and code, the City of Madras and Jefferson County Planning Commissions serve as their official citizen planning committees.
- Adoption of the Madras Urban Reserve Area (URA) complied with Goal 1.
- Materials were made available to the public at Madras City Hall and the Jefferson County Community Development Department.
- Measure 56 notice was not issued as the proposed post-acknowledgment plan amendments are property specific and do not propose additional regulations to the properties proposed to be annexed and, in the case of the east site, re-zoned to Multi-Family Residential (R-2).
- 45-day notice of proposed plan amendments was sent to the Department of Land Conservation and Development (DLCD) on December 14, 2009 prior to the start of hearings held by County and City Planning Commissions and legislative bodies. On January 13, 2010 the City of Madras provided supplemental information to DLCD vial email.

- Notices of the public meetings were published in the City's local newspaper, including contact information for the City and County.

**Conclusion:** The proposed text and map amendments comply with State requirements for citizen involvement per Statewide Land Use Planning Goal 1.

**Goal 2: Land Use Planning**

*To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.*

**Response:**

***Proposed Map Amendments***

The Madras City Council adopted the Madras Urban URA and related provisions in October 2008 and the Jefferson County Board of Commissioners in November 2008. DLCD acknowledged and approved the URA and related amendments in July 2009, with stipulations that some of the proposed amendments to the Jefferson County development code be modified. Pursuant to ORS 197.298, the first priority for land to be included in a UGB is land designated as an urban reserve. Therefore, the land in the Madras URA is the first priority for UGB expansion when there is a demonstrated need for land in the next 20 years, as was found by the *Madras Urbanization Study and Addendum*.

The proposed UGB amendment and annexation area is currently zoned Range Land by the County. Upon annexation to the UGB and Madras city limits, City R-2, Multiple Family Residential, zoning is being requested for the east site. The west site is proposed to be annexed to the city and to retain its existing County zoning, but the land is designated for multi-family residential use on the Plan Map.

Land zoned Range Land has been included in the Madras URA to meet long-term land needs and because of sewer service advantages over other areas around the existing UGB and because exception land alone would not meet land needs for the city over the next 50 years. Land in Study Areas 3 and 4 of the Madras URA - east and southeast of the city – consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation. Land in the URA is subject to joint management under the terms of the City's and County's Urban Growth Area Management Agreement (UGAMA) once it is added to the City's UGB. Response and findings related to the UGAMA are provided later in this report.

Local criteria are relied upon to prioritize land from the URA to be included in the UGB. Local criteria are found in Goal 14 (Urbanization) policies in the Madras Comprehensive Plan. The criteria require a Master Planned Community (MPC) plan or Area Master Plan (AMP), proposed urban zoning, an annexation program, sufficient public facilities, financing prospects, and protection for natural resources and natural hazard areas for the proposed UGB amendment area. Policy14J requires the following.

*J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

- 1. The proposed urban zoning or land use program for the subject properties that address an identified urban land need;*
- 2. An annexation program for all subject properties;*
- 3. Evidence that public facilities required by OAR 660-011-000 that are necessary to serve the expansion area can be served either by system improvements outlined in adopted public facility master plans or by supplemental improvements that augment adopted public facility master plans;*
- 4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need;*
- 5. Evidence that providers of other crucial public facilities (e.g. schools, parks and recreation, emergency services and health care) are able to meet the projected demand for their services;*
- 6. Evidence that financing for constructing needed public improvements is available so that the expansion area can be developed as planned within the planning horizon;*
- 7. Evidence that development in areas subject to natural hazards are protected from these hazards;*
- 8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.*

These criteria are addressed later in the report section on the Madras Comprehensive Plan, Goal 14.

The *Madras Urbanization Study* (ECONorthwest, April 2007) and *Madras Urbanization Study Addendum* (ECONorthwest, August 2007) identify a shortage of residentially zoned land to meet single-family and multi-family housing needs and public/semi-public use needs in the next roughly 20 years. The needed number of housing units and acreage for residential uses is summarized in Table 4-18 of the August 2007 *Madras Urbanization Study Addendum* (Table 5-1).

These needs are compared to the available land supply in the existing UGB in Table 6-4 in the study (Table 5-2) in order to determine whether there is a surplus or deficit of land for residential, public and semi-public, and employment uses. The table documents a shortage of land zoned R-2 (Multiple Family Residential) and land zoned R-1 (Single Family Residential) inside the existing UGB as well as a need for roughly 350 acres of public and semi-public uses over the course of the next 15-20 years. These public/semi-public uses tend to be related to residential uses and are typically allowed and sited on residentially zoned land.

The proposed UGB amendment addresses part of the residential and public use land need presented above. Annexing 20 acres of the proposed amendment that are owned by the City (the east site) and rezoning it R-2 allows the City to fulfill its agreement with Jefferson County School District (JCSD) and provide land for a potential school site, which could address the need for a new school or replacement school as identified in the JCSD 2009 Long Range Facility Plan. The remainder of the land need identified in the urbanization studies will be addressed during the City's next cycle of periodic review.

**Table 5-1: Housing Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Housing Type	New DU	Percent	Density (DU/net res ac)	Net Res. Acres	Net to Gross Factor	Gross Res. Acres	Density (DU/gross res ac)
<b>Needed Units, 2007-2027</b>							
<b>Single-family types</b>							
Single-family detached	1,791	61%	4.8	373.1	25%	497.5	3.6
Manufactured	206	7%	5.5	37.4	25%	49.8	4.1
Condo/Townhomes	206	7%	9.0	22.8	15%	26.9	7.7
Subtotal	2,202	75%	5.4	410.5		574.2	3.8
<b>Multi-family</b>							
Multifamily	734	25%	14.0	52.4	15%	61.7	11.9
Subtotal	734	25%	14.0	52.4		61.7	11.9
<b>Total</b>	<b>2,936</b>	<b>100%</b>	<b>6.3</b>	<b>462.9</b>		<b>635.8</b>	<b>4.6</b>
<b>Needed Units, 2007-2057</b>							
<b>Single-family types</b>							
Single-family detached	5,516	61%	4.8	1,149.1	25%	1,532.1	3.6
Manufactured	633	7%	5.5	115.1	20%	143.8	4.4
Condo/Townhomes	633	7%	9.0	70.3	15%	82.7	7.7
Subtotal	6,781	75%	5.4	1,334.5		1,758.7	3.9
<b>Multi-family</b>							
Multifamily	2,260	25%	14.0	161.5	10%	179.4	12.6
Subtotal	2,260	25%	14.0	161.5		179.4	12.6
<b>Total</b>	<b>9,042</b>	<b>100%</b>	<b>6.3</b>	<b>1,495.9</b>		<b>1,938.1</b>	<b>4.7</b>

Source: ECONorthwest  
 Note: Gross acres calculated by dividing net acres by (1-net to gross factor). For example, for single-family detached,  $477.1 / (1-.75) = 636.1$ . Conversely,  $636.1 \times .75 = 477.1$ .

**Table 5-2. Land Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Plan Designation	Land Demand		Supply 2007	Surplus (deficit)	
	2007-2027	2007-2057		2007-2027	2007-2057
<b>Residential</b>					
R-1	451.9	1,355.7	398.1	(53.8)	(957.6)
R-2	46.1	138.2	23.5	(22.5)	(114.6)
R-3	148.0	444.0	242.8	94.8	(201.2)
RR5	0.0	0.0	32.7	32.7	32.7
RR10	0.0	0.0	47.5	47.5	47.5
RL	0.0	0.0	38.7	38.7	38.7
Public/Semi-public uses on res land	358.3	770.7	0.0	(358.3)	(770.7)
<b>Subtotal (Residential)</b>	<b>1,004.2</b>	<b>2,708.6</b>	<b>783.3</b>	<b>(220.9)</b>	<b>(1,925.3)</b>
<b>Commercial (Retail &amp; Services)</b>					
C-1	230.6	758.1	80.2	(150.4)	(677.9)
NC	28.6	90.4	4.9	(23.7)	(85.4)
CC	0	0	32.6	32.6	32.6
<b>Subtotal Commercial</b>	<b>259.2</b>	<b>848.5</b>	<b>117.7</b>	<b>(141.5)</b>	<b>(730.8)</b>
<b>Industrial</b>					
I	251.4	749.9	296.9	45.5	(452.9)

Notes: all public and semi-public land needs were allocated to residential zones

### *Proposed Text Amendments*

As discussed above, the proposed UGB amendment and annexation is based on the buildable lands inventory and needs analysis performed by ECONorthwest in 2007 and for the Madras URA. The proposed table of corresponding City land use designations and City and County zones (Table 3-1) is proposed to facilitate the transition of land from rural to urban and the annexation of land in the URA to the Madras UGB and city limits.

### **Findings:**

- The proposed UGB amendment and annexation is drawn from land in the adopted Madras URA, which is the first priority land to be included in the UGB pursuant to state statute.
- The east site and west site are currently zoned Range Land by the County. Range land was included in the Madras URA because of sewer service advantages it had over other land surrounding the UGB and because including only exception land in the URA would not have provided enough land for the projected growth needs of the next approximately 50 years.
- The proposed annexation area meets some of the need for residentially zoned land outside the existing UGB over the next 20 years, as established in the 2007 *Madras Urbanization Study* and addendum. The studies found the need for more than 200 acres of land for housing and related public/semi-public uses.

**Conclusion:** The proposed map and text amendments comply with State requirements for land use planning per Statewide Land Use Planning Goal 2.



**Goal 3: Agricultural Lands**

*To preserve and maintain agricultural lands.*

**Response:** The entire Madras URA includes land zoned for rural residential, range land, and agricultural uses, as shown in Table 5-3.

**Table 5-3: Exception and Resource Land in the Madras URA**

Land Type	Zones	Acres
Exception Land	RR2, RR5, RR10 (Rural Residential)	1,709
Non-prime Resource Land	RL (Range Land)	2,038
Prime Resource Land	A1 (Agricultural)	68
	<b>Total</b>	<b>3,815</b>

Prime agricultural land makes up less than 2% of the total URA. When prime agricultural land is included, it is only when it is adjacent to the existing UGB, surrounded by exception land or non-prime resource land, and/or will be more easily served with public facilities – sewer service, in particular. The rest of the URA is comprised of rural residential and range land. Rangeland was included in the URA because of serviceability advantages it has over other land surrounding the Madras UGB and because all the exception (rural residential) land adjacent to the Madras UGB would not fulfill the city’s estimated land needs for the next 50 years.

The proposed UGB amendment and annexation area is currently zoned Range Land by the County. Upon annexation to the UGB and Madras city limits, City R-2, Multiple Family Residential, zoning is being requested for the east site. The west site is proposed to be annexed to the city and to retain its existing County zoning, but the land is designated for multi-family residential use on the Plan Map.

As explained above, land zoned Range Land has been included in the Madras URA to meet land needs and because of sewer service advantages over other areas around the existing UGB and because exception land alone would not meet land needs for the city over the next 50 years. Land in Study Areas 3 and 4 of the URA consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation.

Pursuant to ORS 197.298(a), the first priority of land to be included in the UGB is land in a URA. Beyond that, local criteria can be relied upon to prioritize land from the URA to be included in the UGB. Local criteria are found in Goal 14 (Urbanization) policies in the Madras Comprehensive Plan. The criteria require a Master Planned Community (MPC) plan or Area Master Plan (AMP), proposed urban zoning, an annexation program, sufficient public facilities, financing prospects, and protection for natural resources and natural hazard areas for the proposed UGB amendment area. These policies are addressed in more detail in the response and findings for Madras Comprehensive Plan Goal 14.

Land in the URA is subject to joint management under the terms of the City's and County's Urban Growth Area Management Agreement (UGAMA) once it is added to the City's UGB. Response and findings related to the UGAMA are provided later in this report.

**Findings:**

- The proposed UGB amendment and annexation area is land from the Madras URA, top priority land for inclusion in the UGB pursuant to ORS 197.298(a).
- Some of the non-prime resource land (zoned Range Land) is easier to serve with sewer than other areas around the existing Madras UGB, based on public facility analysis done during the development of the URA. Land in Study Areas 3 and 4 of the URA consistently ranked highest in sewer serviceability analysis, including land in the proposed UGB amendment and annexation.

**Conclusion:** The proposed map amendments comply with State requirements for agricultural lands per Statewide Land Use Planning Goal 3.

**Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces**

*To protect natural resources and conserve scenic and historic areas and open spaces.*

**Response:** The land being proposed for inclusion in the Madras UGB is currently located within the Madras URA, jointly managed by Jefferson County and the City of Madras pursuant to the terms of the Urban Reserve Area Management Agreement (URAMA), adopted in January 2009 (Appendix C). Pursuant to the URAMA, the County processes land use decisions in the URA. In addition, conversion plans must be submitted to the City for land divisions in the URA.

Madras Comprehensive Plan policy language regarding protection of open space, scenic, wildlife, and cultural resources was adopted as part of amendments to Goal 14 (Urbanization) concurrent with the adoption of the Madras URA.

*J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

- 8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.*

The land in the proposal does not include floodways, floodplains, significant habitat, or cultural resources that are identified in the Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files. The only resources cited in Policy 14 J (8) that may apply to the site are open spaces. Open space will be a required part of school or multi-family residential development that occurs in the UGB amendment area. However, this proposal itself is not a development or entitlement proposal and, therefore, is not required to specify precisely where such open space will be designated.

**Findings:**

- Recently adopted amendments to Goal 14 of the City's Comprehensive Plan require identification of protective measures for significant open space, scenic, historic, cultural and natural resources in proposed UGB expansion areas. The Jefferson County Comprehensive Plan and Goal 5 inventory does not identify natural, scenic, or cultural resources in the proposed UGB amendment and annexation area.
- Open space designations will be made as part of development entitlement for the proposed UGB amendment and annexation.

**Conclusion:** The proposed map amendments comply with State requirements for open space, scenic and historic areas, and natural resources per Statewide Land Use Planning Goal 5.

**Goal 6: Air, Water and Land Resource Quality**

*To maintain and improve the quality of the air, water and land resources of the state.*

**Response:** According to the U.S. Environmental Protection Agency (EPA) and the Oregon Department of Environmental Quality (ODEQ) there are no federally designated air quality management areas or federally designated hazardous waste sites in the Madras URA. Of Environmental Cleanup Sites reported on ODEQ's website, there are no sites identified in the URA.<sup>1</sup> Further, R-2 zoning is proposed for the UGB amendment area to be brought in to the city, allowing residential uses and other compatible uses. These uses tend to produce less noise, air, land, and water pollution than commercial and industrial uses, which typically manufacture goods, produce by-products, and generate more vehicle traffic.

**Findings:**

- There are not federal- or state-registered environmental quality sites within the proposed UGB amendment and annexation area.
- The amendment and annexation area is needed and planned for residential and related uses, which tend to have fewer adverse air, water, and land quality impacts than commercial or industrial uses.

**Conclusion:** The proposed map amendments comply with State requirements for air, water and land resources per Statewide Land Use Planning Goal 6.

**Goal 7: Areas Subject to Natural Hazards**

*To protect people and property from natural hazards.*

**Response:** Primary potential natural hazards in Madras include steep slopes, floodway and floodplain, and wildfire. Statewide Goal 7 is reinforced in Madras Comprehensive Plan

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<sup>1</sup> Air quality management areas, hazardous waste sites, and environmental cleanup sites can be searched on the U.S. EPA's and ODEQ's websites at: <http://www.deq.state.or.us/aq/planning/index.htm>, <http://www.epa.gov/superfund/sites/siteinfo.htm>, and <http://www.deq.state.or.us/lq/ecsi/ecsi.htm>.

policies (Goal 14) by requiring protection from natural hazards be demonstrated for proposed UGB amendments.

*J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:*

*7. Evidence that development in areas subject to natural hazards are protected from these hazards;*

There are not steep slopes (slopes greater than 25%), floodway, or floodplain land in the proposed annexation area. Fire protection service for the proposal area is currently provided by Jefferson County Fire Protection District #1, and will continue to be provided by that district if the land is annexed to the city. Area in the district is subject to a Community Wildfire Protection Plan (CWPP) that Jefferson County completed in 2005 in collaboration with the fire district and federal agencies.

**Findings:**

- There are not steep slopes (slopes greater than 25%), floodway, or floodplain land in the proposed UGB expansion and annexation area.
- Jefferson County Fire Protection District #1 provides fire protection service to the proposed amendment and annexation area. The area is subject to the Community Wildfire Protection Plan (CWPP) developed and adopted by the County, the fire district, and federal agencies.

**Conclusion:** The proposed map amendments comply with State requirements for areas subject to natural hazards per Statewide Land Use Planning Goal 7.

**Goal 10: Housing**

*To encourage the availability of adequate numbers of needed housing units at price ranges and rent levels which are commensurate with the financial capabilities of Oregon households and allow for flexibility of housing location, type and density.*

**Response:** This proposal provides land for housing and related public and semi-public uses. The *Madras Urbanization Study Addendum* (August 2007) shows that there is a shortage of residentially zoned land inside the existing UGB for growth over the next 20 years (Table 5-2).

The proposed annexation to the Madras UGB and city limits addresses this need by including 36.91 acres of land from the URA for residential and public/semi-public uses. It is proposed that the east site be re-zoned from County RL (Range Land) zoning to City R-2 (Multi-Family Residential) zoning.

These proposed amendments are not part of a periodic review work program and the next periodic review process will ensure that the UGB does include enough land to meet all the land needs that are projected for the next 20 years as shown in Table 5-2.

**Findings:**

- The *Madras Urbanization Study* and *Addendum* found a need for residentially zoned land for housing and public/semi-public uses outside the existing UGB for growth expected over the next 20 years.
- The remainder of land needs determined by the urbanization studies will be addressed during the next City of Madras periodic review.

**Conclusion:** The proposed map amendments comply with State requirements for housing per Statewide Land Use Planning Goal 10.

**Goal 11 Public Facilities and Services**

*To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.*

**Goal Requirements**

**Urban Facilities and Services** – Refers to key facilities and to appropriate types and levels of at least the following: police protection; sanitary facilities; storm drainage facilities; planning, zoning and subdivision control; health services; recreation facilities and services; energy and communication services; and community governmental services.

**A. Goal 11 Planning Guidelines**

5. A public facility or service should not be provided in an urbanizable area unless there is provision for the coordinated development of all the other urban facilities and services appropriate to that area.

**Response:** According to terms of the UGAMA between Jefferson County and the City of Madras, the City will be the primary service provider for land within its UGB, in particular coordinating police, sewer, stormwater, land use, recreation, energy, and governmental services. City urbanization regulations amended with the adoption of the Madras URA require either a Master Planned Community (MPC) plan or Area Master Plan (AMP) for UGB amendments in Madras for areas over five acres (Madras Comprehensive Plan Policy 14 I). Both MPC plans and AMPs must show “appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas” and how proposed land uses will integrate with existing development.

Transportation facilities are addressed in more detail in the response and findings for Statewide Goal 12 next in this report.

The adopted Yarrow Master Plan applies to the east site. This land is proposed for annexation both to the Madras UGB and city limits. It is also proposed that the east site be re-zoned to R-2 upon annexation so that it can provide land for uses such as urban levels of housing and related public/semi-public uses. These uses are similar to and compatible with surrounding development of residential and public uses. The east site is tangent to the existing UGB and is bordered by Ashwood Road, a County collector road, which lends itself to the extension of services from inside the existing UGB and city limits. Sufficient water

and sewer service can be provided to the east site given existing and planned systems, and this is documented in the service provider letters from Deschutes Valley Water District and the City of Madras Public Works (Appendix D).

Pursuant to Madras Comprehensive Plan Urbanization Policy 14 I: “An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas.” It is proposed to annex the west site to the Madras UGB and city limits. While it is also proposed that the site retain its existing County Range Land (RL) zoning until the owners are ready to propose development, the site is surrounded by land designated for residential and public/semi-public uses, and its future designation as residential allows housing and compatible public/semi-public uses that can be: “integrated with the existing urban development pattern.” (Madras Comprehensive Plan Urbanization Policy 14 I (2)) Further, the proposed addition of a table showing Madras and County zones that correspond with Madras land use designations to the Madras Comprehensive Plan Section IV, Land Use Element (Table 3-1), will facilitate the transition of existing County zoning for the west site to appropriate City zoning.

The west site is comprised of three lots – Lots 101 and 200 that total 16.22 acres and are privately owned and Lot 102 that is 0.69 acres designated for County right-of-way. Lots 101 and 200 are both adjacent to Ashwood Road, a County collector, and will not require additional public roads for sufficient internal or local circulation. At the time of proposed development, proposed land division or planned development plans must show an internal circulation system that satisfies City code requirements and street standards. The west site is adjacent to the existing Madras UGB and is bordered by Ashwood Road, which lends itself to the extension of services from inside the existing UGB and city limits. As with the east site, sufficient water and sewer service can be provided to the west site given existing and planned systems, as stated in service provider letters (Appendix D).

The County has not identified historic, scenic, or natural resources on the west site. City open space requirements for subdivisions or planned developments will apply to the site at the time of proposed development.

Finally both MPC plans and AMPs must have documented approval from a majority of landowners pursuant to Madras Comprehensive Plan Policy 14 I (3). Specifically, the City of Madras owns Tax Lot 100 and as the applicant, consents to the proposed UGB expansion to include 20 acres of Tax Lot 100 and the re-zoning of the property from Range Land (RL) to Multi-Family Residential (R-2). Tax Lot 102 is dedicated to Jefferson County for Ashwood right-of-way and consent for UGB expansion and re-zoning is not needed as inclusion in the UGB and re-zoning will not change how the right-of-way can be used. Consent from other landowners is provided in Appendix E.

## **B. Goal 11 Implementation Guidelines**

*5. Additional methods and devices for achieving desired types and levels of public facilities and services should include but not be limited to the following: (1) tax incentives and disincentives; (2) land use controls and ordinances; (3) multiple use and joint*

*development practices; (4) fee and less-than-fee acquisition techniques; and (5) enforcement of local health and safety codes.*

**Response:** The proposed land use designations and zoning for the annexation area – the east site and the west site – is appropriate for the type and level of public facilities and services that can be extended to the area. It is proposed to bring the west site into the Madras UGB and city limits but to retain its existing County Range Land (RL) zoning until landowners are ready to propose development. The site is surrounded by land planned for or developed as predominantly residential development. It is well situated for extension of urban facilities and services when they are needed. The proposed addition of a land use and zoning designation table to Section IV (Land Use Element) of the Madras Comprehensive Plan (Table 3-1) establishes the City and County zoning designations that correspond to City land use designations, and will guide the transition from County zoning to appropriate City zoning once a land use action is proposed.

It is proposed that the east site be re-zoned to R-2 upon annexation so that it can provide land for uses such as urban levels of housing and related public/semi-public uses. These uses are similar to and compatible with surrounding development. The east site is tangent to the existing UGB and is bordered by Ashwood Road, a County collector road, which lends itself to the extension of services from inside the existing UGB and city limits. In that vein, service providers have determined that sufficient water and sewer service can be provided to the east and west sites given existing and planned systems (Appendix D).

The east site is part of the approved Yarrow Master Plan, a plan that envisions a variety of housing and then an internal circulation system, open space, public uses (including a school), and a small-scale commercial area to serve the primary residential uses.

Once the properties are annexed into the city limits and developed, wastewater and domestic water services will need to be extended to each developed property. The property owner will fund the extension of wastewater and domestic water services to their properties. Extension of these facilities will be completed as required in the City of Madras Wastewater Master Plan and the Deschutes Valley Water District Master Plan.

As previously discussed, this proposal is not a development proposal that offers entitlements for construction. Subsequent to this land use action, the property owner will be required to obtain development approvals (e.g. Site Plan Review, Conditional Use, or Subdivision). Any development approval will require public facilities to be extended to the subject property at the expense of the applicant.

**OAR 660-011-0010**

***The Public Facility Plan***

*(1) The public facility plan shall contain the following items:*

*(a) An inventory and general assessment of the condition of all the significant public facility systems which support the land uses designated in the acknowledged comprehensive plan;*



- (b) A list of the significant public facility projects which are to support the land uses designated in the acknowledged comprehensive plan. Public facility project descriptions or specifications of these projects as necessary;*
- (c) Rough cost estimates of each public facility project;*
- (d) A map or written description of each public facility project's general location or service area;*
- (e) Policy statement(s) or urban growth management agreement identifying the provider of each public facility system. If there is more than one provider with the authority to provide the system within the area covered by the public facility plan, then the provider of each project shall be designated;*
- (f) An estimate of when each facility project will be needed; and*
- (g) A discussion of the provider's existing funding mechanisms and the ability of these and possible new mechanisms to fund the development of each public facility project or system.*

*(2) Those public facilities to be addressed in the plan shall include, but need not be limited to those specified in OAR 660-011-0005(5). Facilities included in the public facility plan other than those included in OAR 660-011-0005(5) will not be reviewed for compliance with this rule.*

*(3) It is not the purpose of this division to cause duplication of or to supplant existing applicable facility plans and programs. Where all or part of an acknowledged comprehensive plan, facility master plan either of the local jurisdiction or appropriate special district, capital improvement program, regional functional plan, similar plan or any combination of such plans meets all or some of the requirements of this division, those plans, or programs may be incorporated by reference into the public facility plan required by this division. Only those referenced portions of such documents shall be considered to be a part of the public facility plan and shall be subject to the administrative procedures of this division and ORS Chapter 197.*

#### **OAR 660-011-0015**

##### **Responsibility for Public Facility Plan Preparation**

*(1) Responsibility for the preparation, adoption and amendment of the public facility plan shall be specified within the urban growth management agreement. If the urban growth management agreement does not make provision for this responsibility, the agreement shall be amended to do so prior to the preparation of the public facility plan.*

*(2) The jurisdiction responsible for the preparation of the public facility plan shall provide for the coordination of such preparation with the city, county, special districts and, as necessary, state and federal agencies and private providers of public facilities.*

**Response:** The Oregon Administrative Rule (OAR) that implements Goal 11 is OAR 660-011. The rule establishes requirements for the planning and provision of public facilities in Oregon. Pursuant to OAR 660-011-0005(5), a public facility “includes water, sewer, and transportation facilities, but does not include buildings, structures or equipment incidental to the direct operation of those facilities.” Transportation facilities are addressed in detail in the response and findings for Goal 12 in this report.

The City of Madras is responsible for the planning and provision of sewer service in the proposed annexation area, and Deschutes Valley Water District (DVWD) for the planning and provision of sewer service in the area. The City and DVWD master plans for sewer and water provide an inventory and assessment of existing facilities, a list and map of planned projects, a timeline for their implementation, and a discussion of costs and financing mechanisms.

The City Public Works Director has submitted a letter that is included with this report (Appendix D) that affirms there is sufficient capacity in existing and planned sewer infrastructure to serve the east and west sites in the proposed annexation area. Similarly, the DVWD General Manager has prepared a statement that there is sufficient capacity in existing and planned water infrastructure to serve the proposed annexation area (Appendix D).

**Findings:**

- Implementation of public facilities and services in Madras is primarily regulated by land use plans and ordinances and public facility master plans, which are elements of the City Comprehensive Plan.
- The City of Madras will be the primary provider of urban facilities and services in the proposed UGB amendment and annexation area. The City will be able to coordinate service to the area with facilities and services already provided to adjacent land within the existing UGB.
- The approved Yarrow Master Plan applies to the east site and shows an internal transportation network and sites for housing and a school.
- The City of Madras Public Works Director and DVWD General Manager have provided letters that verify that there is sufficient capacity in existing and planned sewer and water infrastructure to serve the proposed annexation area.
- When development occurs on the properties to be included in the Madras UGB, the property owner will be responsible for cost to extend sewer and domestic water facilities to development.

**Conclusion:** The proposed map and text amendments comply with Goal 11 for public facilities and services subject to OAR 660, Division 11.

**Goal 12 Transportation**

*To provide and encourage a safe, convenient and economic transportation system.*

**660-012-0060**

**Plan and Land Use Regulation Amendments**

*(1) Where an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation would significantly affect an existing or planned transportation facility, the local government shall put in place measures as provided in section (2) of this rule to assure that allowed land uses are consistent with the identified function, capacity, and performance standards (e.g. level of service, volume to capacity ratio, etc.) of the facility. A plan or land use regulation amendment significantly affects a transportation facility if it would:*

- (a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);
  - (b) Change standards implementing a functional classification system; or
  - (c) As measured at the end of the planning period identified in the adopted transportation system plan:
    - (A) Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;
    - (B) Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan; or
    - (C) Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.
- (2) Where a local government determines that there would be a significant effect, compliance with section (1) shall be accomplished through one or a combination of the following:
- (a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.
  - (b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.
  - (c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.
  - (d) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.
  - (e) Providing other measures as a condition of development or through a development agreement or similar funding method, including transportation system management measures, demand management or minor transportation improvements. Local governments shall as part of the amendment specify when measures or improvements provided pursuant to this subsection will be provided.

**Response:** Reflecting Statewide Goal 12 and the Transportation Planning Rule, UGB amendment applications must provide the following pursuant to Madras Goal 14 policies:

4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need;  
(Madras Comprehensive Plan Policy J-4)

City R-2 (Multi-Family Residential) zoning is proposed for the east site of the UGB amendment and annexation area. The zone allows multi-family and single-family housing outright and then allows associated uses such as schools, libraries, and community centers conditionally. The minimum lot size for single-family housing is 7,500 square feet and for

multi-family 10,000 square feet for the first two units and 2,000 square feet per each additional unit.

The east site is adjacent to Ashwood Road, an existing road built to County standards as a collector road. Ashwood Road borders the site to the north and provides primary access and connectivity to the proposed lands. Ashwood Road serves the Deer Creek Correctional Institute and other rural uses to the east of the site. To the immediate west Ashwood Road serves Juniper Hills Park and the Jefferson County Middle School, and further west transitions into B Street and connects to US 97 and the City's downtown core. A recently constructed extension of City View to J Street connects the parcel to the southern City limits, and Bean Drive connects toward the northern portion of the City. Table 1 summarizes key characteristics of the existing roadway facilities (Appendix F).

The transportation analysis for annexing and re-zoning the east site to R-2 was based on the assumptions below. Given that schools generate more peak hour traffic than housing alone, two scenarios were developed for Transportation Planning Rule (TPR) analysis that involved both housing and a school. The difference in the scenarios represents the typical range of an elementary school site, 5-10 acres.<sup>2</sup> The enrollment assumption roughly approximates the average elementary school enrollment in Jefferson County School District 509-J. A maximum housing density of 11.6 units/acre was derived from standards for lot and building size, parking, setbacks, and infrastructure for multi-family residential uses in the R-2 zone.

1. **5-acre school site** – 174 multi-family units on 15 acres and a 350-student elementary school.
2. **10-acre school site** – 116 multi-family units on 10 acres and a 350-student elementary school.

The analysis found that all the study intersections operate acceptably in the planning horizon<sup>3</sup> with and without the proposed annexation and re-zoning of the east site, except the intersections of US 97 and J Street. These intersections exceed volume-to-capacity (v/c) standards in 2025 *with or without* the proposed annexation and re-zoning. Because the proposal increases traffic at these intersections, even if minimally, the proposal is deemed to have a “significant effect”; it would further degrade the performance of the failing intersections.

Improvements for the US 97/J Street intersection have been included in an amendment to the Madras TSP and in the ODOT 2010-2013 Draft STIP. The improvements involve realignment of northbound US 97 onto Adams Drive and two new traffic signals at the new J Street intersections, and would allow the US 97/J Street intersections to operate within adopted v/c standards. ODOT has deemed these improvements to be “reasonably likely” in the planning horizon and, thus, no significant would occur with the proposed annexation and re-zoning (Appendix G).

#### **Findings:**

- Transportation analysis for the east site of the proposed UGB amendment and annexation area assumed that the area would be developed with a combination of housing and a school. This was because there is the potential for a school to be located on the site and schools generate more traffic, thus creating a “worse case” set of scenarios for the analysis.
- Transportation analysis showed that all the study intersections would perform within adopted operational standards at the end of the planning horizon with or without the proposed annexation and re-zoning of the east site, except the intersections of US 97 and J Street. These intersections exceed adopted standards and the proposed annexation and re-zoning produce a “significant effect” on the intersections.

<sup>2</sup> An elementary school is the type of school needed in Madras according to the 2009 Long Range Facility Plan.

<sup>3</sup> Consistent with individual TSPs and a 15-year minimum pursuant to the Oregon Highway Plan, the planning horizon for City facilities is 2020, for County facilities is 2027, and for State facilities is 2025.

However, improvements for the intersections that are included in the Madras TSP and the 2010-2013 Draft STIP have been deemed “reasonably likely” to occur in the planning horizon, thus mitigating the proposal’s significant effect.

**Conclusion:** The proposed map amendments comply with Goal 12 and OAR 660-015-0060.

### **Goal 13 Energy Conservation**

*To conserve energy.*

**Response:** The east site of the UGB amendment and annexation area is part of the Yarrow Master Plan area. The master plan includes a range of land uses so that residents can meet many daily needs within the neighborhood. The plan designates land predominantly for housing, but for parks and open space, a school, other community services, and commercial services as well. This mix of uses will provide for these daily needs and reduce the need to drive outside the neighborhood to access these uses.

All public improvements within the Yarrow Master Plan area are required to be constructed to City of Madras standards, which includes the provision of sidewalks. The Master Plan also includes planned open space which will be accessed by a multi-use trail system that will connect to existing multi-use trails in the City of Madras. This supports the use of non-motorized transportation and the conservation of fuel resources. This proposed UGB amendment and annexation does not provide all of the land needed to implement the master plan but provides part of it.

The west site is not part of the Yarrow Master Plan but will be subject to internal circulation and multi-modal standards when a land division or planned unit development is proposed. Like the east site, the west site is adjacent to Ashwood Road.

While water service was projected to be of similar cost to provide to all the study areas that comprise the Madras URA, there were differences in relative cost for providing sewer service given the need for pumping in some of the study areas. The proposed UGB amendment and annexation area is part of a study area and a drainage area where no pumping or limited pumping would be required for sewer service. This minimizes the amount of energy needed to provide that service.

All residential development within the Yarrow Master Plan area are required be built to Earth Advantage/Energy Star standards and receive certification as stated in the Codes, Covenants, and Restrictions (CC&R’s) recorded for the development. Such requirement reduces energy consumption of each dwelling constructed in the Master Plan area and thereby conserves energy consumption which in part satisfies the Goal 13 requirements.

#### **Findings:**

- The approved Yarrow Master Plan that applies to the east site of the proposed UGB amendment and annexation area proposes a variety of uses that will allow residents to take care of day-to-day needs without always having to drive out of the

neighborhood to do so. The plan also indicates multi-use paths and a continuous network of sidewalks to promote walking and bicycling. This supports fuel and energy conservation.

- Providing sewer service to the proposal area requires less pumping and, therefore, infrastructure, energy, and cost than other parts of the URA and other areas around the existing UGB.
- The CC&R's recorded for the Yarrow Master Plan area require energy conservation by requiring future development to meet or exceed Earth Advantage/Energy Star standards.

**Conclusion:** The proposed map amendments comply with State requirements for energy conservation per Statewide Land Use Planning Goal 13.

#### **Goal 14 Urbanization**

*To provide for an orderly and efficient transition from rural to urban land use, to accommodate urban population and urban employment inside urban growth boundaries, to ensure efficient use of land, and to provide for livable communities.*

*(2) Orderly and economic provision of public facilities and services;*

**Response:** The proposed map amendments respond to the need for more residentially zoned land as determined in the adopted *Madras Urbanization Study and Addendum*. The studies analyzed the potential for development inside the existing UGB and found that in addition to development that the existing UGB can accommodate, approximately 220 acres of land is needed outside the UGB for residential and related public/semi-public uses over the years until 2027. These studies provided the basis for the Madras URA and URAs are enabled by statewide rules that address orderly and efficient land use as well as an orderly and efficient *process* for amending UGBs when needed.

This proposed map amendment draws strictly from land in the URA, which is the first priority land to be included in the UGB pursuant to ORS 197.298 and Madras plan policies.

The proposed text amendments (Section III) contribute to orderly and efficient transition from rural to urban land use by clearly establishing the ways that Jefferson County and City of Madras zones correspond to Madras Comprehensive Plan designations.

Transportation, water, and sewer services are among the critical public facilities that must be provided for the proposed UGB amendment area. As discussed in the narrative and findings for Goals 11 and 12 above, these services can be provided to the UGB amendment area relying on planned capital improvements.

**Transportation** – Transportation analysis shows that all study intersections perform within adopted operational standards at the end of the planning horizon, with or without the proposed annexation and re-zoning of the east site, except for the intersections at US 97 and J Street. An analysis shows the performance of those intersections, as they are currently designed, exceed mobility standards with and without the proposed annexation and re-



zoning. Unless the intersections can be improved, the proposed annexation and re-zoning produce a “significant effect” on them by making worse an already failing condition.

Proposed improvements to the “J” Street and US 97 intersections are included in the Madras TSP. Those improvements also are listed in the 2010-2013 Draft STIP, in effect programming the necessary state resources for them. On that basis, ODOT has determined the “J” Street/US 97 intersection improvements are “reasonably likely” to occur in the planning horizon (Appendix G). With those planned improvements in place, the affect of the proposed annexation is mitigated and the proposal will not have a significant effect.

**Water** – During the development of the Madras URA, Deschutes Valley Water District (DVWD) reported that there would be no supply constraint for urban development in the URA. Significant expansion of the District’s distribution system would be necessary to serve urban demand in each part of the URA, and the water service study found that the marginal cost differences between the URA study areas were insignificant. Existing and planned facilities will provide sufficient water service to the area, as confirmed by Deschutes Valley Water District in a service provided letter (Appendix D).

**Sewer** – Public facility analysis conducted in developing the Madras URA showed that sewer service to the eastern study areas in the URA would be more cost-efficient because no pumping or limited pumping would be required as compared to areas to the north, south, and west. For the proposed UGB amendment area, existing and planned sewer facilities will provide sufficient service to the area according to City of Madras Public Works (Appendix D).

#### **Findings:**

- The proposed map amendments address the residential land need established in the Madras urbanization studies. It draws from the Madras URA, which is the first priority land to be included in the UGB when land need is demonstrated.
- The text amendments facilitate the transition between County zoning and City land use designations and zoning.
- Water service can be provided to the proposal area using the existing and planned water facilities that are identified in the Deschutes Valley Water District’s water master plan. Providing water service was not found to be significantly different in cost between different parts of the URA in studies done in developing the Madras URA.
- Studies conducted for the URA found that drainage areas in the eastern and southeastern parts of the URA were easier to serve in that they needed no pumping or minimal pumping of sewage when compared to other parts of the URA. Sewer service can be provided to the proposal area using the existing City of Madras sewer master plan.
- Sufficient transportation facilities and service can be provided to the proposed UGB amendment area given “reasonably likely” construction of improvements to the intersections of US 97/J Street before 2025.

**Conclusion:** The proposed map and text amendments comply with State requirements for orderly and economic urbanization and provision of public facilities and services per Statewide Land Use Planning Goal 14.

## VI. Conformance with Oregon Revised Statutes (ORSs)

### ORS 197

**197.298 Priority of land to be included within urban growth boundary.** (1) In addition to any requirements established by rule addressing urbanization, land may not be included within an urban growth boundary except under the following priorities:

(a) First priority is land that is designated urban reserve land under ORS 195.145, rule or metropolitan service district action plan.

(b) If land under paragraph (a) of this subsection is inadequate to accommodate the amount of land needed, second priority is land adjacent to an urban growth boundary that is identified in an acknowledged comprehensive plan as an exception area or nonresource land. Second priority may include resource land that is completely surrounded by exception areas unless such resource land is high-value farmland as described in ORS 215.710.

(c) If land under paragraphs (a) and (b) of this subsection is inadequate to accommodate the amount of land needed, third priority is land designated as marginal land pursuant to ORS 197.247 (1991 Edition).

(d) If land under paragraphs (a) to (c) of this subsection is inadequate to accommodate the amount of land needed, fourth priority is land designated in an acknowledged comprehensive plan for agriculture or forestry, or both.

(2) Higher priority shall be given to land of lower capability as measured by the capability classification system or by cubic foot site class, whichever is appropriate for the current use.

(3) Land of lower priority under subsection (1) of this section may be included in an urban growth boundary if land of higher priority is found to be inadequate to accommodate the amount of land estimated in subsection (1) of this section for one or more of the following reasons:

(a) Specific types of identified land needs cannot be reasonably accommodated on higher priority lands;

(b) Future urban services could not reasonably be provided to the higher priority lands due to topographical or other physical constraints; or

(c) Maximum efficiency of land uses within a proposed urban growth boundary requires inclusion of lower priority lands in order to include or to provide services to higher priority lands. [1995 c.547 §5; 1999 c.59 §56]

**Response:** The proposed UGB amendment and annexation area is solely comprised of land from the Madras URA, which is the first priority of land to be included within the UGB pursuant to ORS 197.298(1)(a). There is sufficient land in the Madras URA to provide for the land needs estimated for the next 20 years in the *Madras Urbanization Study Addendum* (ECONorthwest, August 2007) and presented below.

The proposed UGB amendment and annexation provides land to meet a portion of the need for residentially zoned land over the next roughly 20 years (Table 6-1). The City's next periodic review process will ensure that the Madras UGB includes enough land to meet the remaining land needs projected to 2027.

**Table 6-1: Housing Needs, Madras Urbanization Study Addendum (ECONorthwest, August 2007)**

Plan Designation	Land Demand		Supply 2007	Surplus (deficit)	
	2007-2027	2007-2057		2007-2027	2007-2057
<b>Residential</b>					
R-1	451.9	1,355.7	398.1	(53.8)	(957.6)
R-2	46.1	138.2	23.5	(22.5)	(114.6)
R-3	148.0	444.0	242.8	94.8	(201.2)
RR5	0.0	0.0	32.7	32.7	32.7
RR10	0.0	0.0	47.5	47.5	47.5
RL	0.0	0.0	38.7	38.7	38.7
Public/Semi-public uses on res land	358.3	770.7	0.0	(358.3)	(770.7)
<b>Subtotal (Residential)</b>	<b>1,004.2</b>	<b>2,708.6</b>	<b>783.3</b>	<b>(220.9)</b>	<b>(1,925.3)</b>
<b>Commercial (Retail &amp; Services)</b>					
C-1	230.6	758.1	80.2	(150.4)	(677.9)
NC	28.6	90.4	4.9	(23.7)	(85.4)
CC	0	0	32.6	32.6	32.6
<b>Subtotal Commercial</b>	<b>259.2</b>	<b>848.5</b>	<b>117.7</b>	<b>(141.5)</b>	<b>(730.8)</b>
<b>Industrial</b>					
I	251.4	749.9	296.9	45.5	(452.9)

Notes: all public and semi-public land needs were allocated to residential zones

**197.610 Local government notice of proposed amendment or new regulation; exceptions; report to commission.** (1) A proposal to amend a local government acknowledged comprehensive plan or land use regulation or to adopt a new land use regulation shall be forwarded to the Director of the Department of Land Conservation and Development at least 45 days before the first evidentiary hearing on adoption. The proposal forwarded shall contain the text and any supplemental information that the local government believes is necessary to inform the director as to the effect of the proposal. The notice shall include the date set for the first evidentiary hearing. The director shall notify persons who have requested notice that the proposal is pending.

(2) When a local government determines that the goals do not apply to a particular proposed amendment or new regulation, notice under subsection (1) of this section is not required. In addition, a local government may submit an amendment or new regulation with less than 45 days' notice if the local government determines that there are emergency circumstances requiring expedited review. In both cases:

(a) The amendment or new regulation shall be submitted after adoption as provided in ORS 197.615 (1) and (2); and

(b) Notwithstanding the requirements of ORS 197.830 (2), the director or any other person may appeal the decision to the board under ORS 197.830 to 197.845.

(3) When the Department of Land Conservation and Development participates in a local government proceeding, at least 15 days before the final hearing on the proposed amendment to the comprehensive plan or land use regulation or the new land use regulation, the department shall notify the local government of:

(a) Any concerns the department has concerning the proposal; and

(b) Advisory recommendations on actions the department considers necessary to address the concerns, including, but not limited to, suggested corrections to achieve compliance with the goals.

(4) The director shall report to the Land Conservation and Development Commission on whether the director:

(a) Believes the local government's proposal violates the goals; and

(b) Is participating in the local government proceeding. [1981 c.748 §4; 1983 c.827

§7; 1985 c.565 §27; 1989 c.761 §20; 1999 c.622 §1]

**Response:** Notice of the proposed map and text amendments was sent to the Department of Land Conservation and Development (DLCD) at least 45 days before the first evidentiary hearing on the proposal. Notice was sent to DLCD on December 14, 2009, which was more than 45 days before the first advisory hearing before the Jefferson County and City of Madras Planning Commissions on February 11, 2010. A notice addendum was submitted to DLCD on January 14, 2010. Further hearing dates have yet to be determined but DLCD provided comments on the proposal on January 29, 2010, more than 15 days prior to the final adoption hearing date.

DLCD comments address the map amendments. They call for a boundary locational analysis pursuant to OAR 660-024-0060 and a “reasonably likely” determination from OODT for the proposed 20-acre rezoning. The locational analysis is not necessarily applicable because the proposed map amendment draws from an adopted and acknowledged URA. Part of the idea behind URAs is to create a 20- to 50-year reserve of land for urbanization all at once so that the process for subsequent UGB amendments can be streamlined. For cities or regions that do not have URAs, it is understood that the locational analysis established in -0060 would definitely be applicable and needed.

As to the “reasonably likely” determination, ODOT rendered an affirmative determination on February 2, 2010. DLCD comments acknowledge that the set of needed improvements at the intersections of US 97/J Street is in the current draft STIP. Including them in the final STIP signifies a financial commitment to the improvements and thus makes a clear finding for “reasonably likely.”

**197.626 Expanding urban growth boundary or designating urban or rural reserves subject to periodic review.** *A metropolitan service district that amends its urban growth boundary to include more than 100 acres, or that amends the district's regional framework plan or land use regulations implementing the plan to establish urban reserves designated under ORS 195.145 (1)(b), a city with a population of 2,500 or more within its urban growth boundary that amends the urban growth boundary to include more than 50 acres or that designates urban reserve under ORS 195.145, or a county that amends the county's comprehensive plan or land use regulations implementing the plan to establish rural reserves designated under ORS 195.141, shall submit the amendment or designation to the Land Conservation and Development Commission in the manner provided for periodic review under ORS 197.628 to 197.650. [1999 c.622 §14; 2001 c.672 §10; 2003 c.793 §4; 2007 c.723 §7]*

**Response:** The City of Madras has coordinated with Jefferson County regarding the proposed map and text amendments. The amendments to the City and County Comprehensive Plans are post-acknowledgement plan amendments. However, the adoption process for the amendments will follow periodic review procedures pursuant to ORS 197. As part of periodic review procedures, the proposed amendments are subject to review by DLCD and approval by LCDC. DLCD and LCDC will conduct their review process upon adoption of the proposed amendments by the Madras City Council and Jefferson County Board of Commissioners.

**Findings:**

- The proposed UGB amendment and annexation area is entirely comprised of land from the Madras URA, the first priority of land to be included in the UGB pursuant to ORS 197.298(1)(a).
- There are 36.91 acres in the proposed UGB amendment and annexation. This meets some of the estimated need for residentially zoned land outside the existing UGB projected to 2027 by urbanization studies. The proposed R-2 zoning for the 20-acre parcel (east site) allows housing and public/semi-public uses such as parks and schools. Other land needs for the next 20 years will be addressed during the next periodic review cycle.
- Notice of the first advisory hearing on February 11, 2010 was sent to DLCD on December 14, 2009, more than 45 days before the advisory and evidentiary hearings. A notice addendum was filed on January 13, 2010.
- The City of Madras and Jefferson County have coordinated this proposed set of amendments.
- This proposal is a post-acknowledgement plan amendment (PAPA) but will follow procedures for periodic review. DLCD review and LCDC approval of the amendment will be necessary for the proposal if it is adopted by both the Madras City Council and Jefferson County Board of Commissioners.

**Conclusion:** The proposed map and text amendments comply with applicable State requirements for urban reserve area planning, plan amendments, and UGB amendments pursuant to ORS 197.

## VII. Conformance with the Urban Growth Area Management Agreement (UGAMA)

### 4. UGA ADMINISTRATION RESPONSIBILITIES

- 4.1. *The City shall have responsibility for administration and decision making authority regarding all land use application within the UGB except applications for amendments to the UGB, as provided in Section 6.*
- 4.2. *The City shall have responsibility for annexation of land in the UGB. Lands outside the UGA shall not be annexed unless the UGB is also amended to include the territory to be annexed.*

### 6. PROCESS FOR URBAN GROWTH BOUNDARY AMENDMENTS

- 1.1 *Amendments to the UGB, including amendments to the City's and County's comprehensive plan maps, may be initiated by the City, the County, or a property owner(s).*
- 1.2 *An application to amend the UGB shall be filed with the City Community Development Department along with the applicable City and County plan amendment fees. The City shall forward a copy of the application to the County Community Development Department, together with the County's plan amendment fee, within five working days of the date the application is filed.*
- 1.3 *The City and County Planning Commission shall each conduct a public hearing regarding the application. At their discretion, the Planning Commissions may hold a joint hearing rather than separate hearings.*
- 1.4 *The recommendation of the City and County Planning Commissions shall be forwarded to City Council, who shall hold a public hearing to consider the proposed amendment to the UGB. The decision of the City Council shall be forwarded to the County Board of Commissioners.*
- 1.5 *The Board of Commissioners shall conduct a public hearing and make a final decision on whether the UGB should be amended.*
- 1.6 *If the City and County disagree on the proposed amendments, a joint hearing of the City Council and Board of County Commissioners may be held to attempt to resolve the differences. Both jurisdictions may also request a dispute resolution process to resolve the differences.*
- 1.7 *If the governing bodies are not able to come to mutual agreement there shall be no change to the UGB.*

**Response:** The Urban Growth Area Management Agreement (UGAMA) (Appendix H) was adopted by the City of Madras and Jefferson County on April 5, 2006. Pursuant to UGAMA terms for UGB amendments, the City is an eligible applicant for a UGB amendment application (Section 6.1). The UGB amendment application and appropriate fees were forwarded to the Jefferson County Community Development Department within five working days of being initially filed (Section 6.2).

Hearings by the Madras Planning Commission and Jefferson County Planning Commission were first held jointly on February 11, 2010. The Madras City Council and Jefferson County



Board of Commissioners held a joint public hearing on March 29, 2010 to review their recommendations from their respective Planning Commissions. On March 29, 2010, the Madras City Council approved the proposed Comprehensive Plan amendments and forwarded it's recommendation that evening to the Jefferson County Board of Commissioners who then approved the proposed Comprehensive Plan amendment. All of the public hearings before the Planning Commissions, Madras City Council, and Jefferson County Board of Commissioners were conducted in a manner consistent with the provisions of the UGAMA.

It is proposed to annex both the east site and west site to the Madras UGB and city limits, and it is proposed to re-zone only the east site at this time. Regardless, if both sites are brought into the UGB and city limits, Madras will assume land use administration and decision making authority for the sites pursuant to Section 4.1 of the UGAMA.

**Findings:**

- The City is an eligible applicant for a UGB amendment application.
- Appropriate UGB amendment application materials and fees were forwarded to the Jefferson County Community Development Department in the prescribed amount of time.
- The proposal will be heard jointly by the County and City Planning Commissions and then separately by the County Board of Commissioners and City Council.
- Madras assumes administrative responsibility for any land annexed to its UGB and city limits.

**Conclusion:** The proposed map amendments comply with applicable local requirements for UGB amendments per the UGAMA between Jefferson County and the City of Madras, adopted April 5, 2006.

## VIII. Conformance with the Jefferson County Comprehensive Plan

### Goal 14: Urbanization

*Policy 1: Changes to urban growth boundaries, the establishment of new urban growth boundaries or urban reserve areas, incorporation of a new city, or annexation of land into a city which is not in an established urban growth boundary requires an amendment to this Plan and the Zoning Map. The following factors should be used in considering such proposals:*

- A. Demonstrated need to accommodate long-range urban population consistent with a 20- to 50-year population forecast coordinated with the cities;*
- B. Demonstrated need for housing, employment opportunities, livability or uses such as public facilities, streets and roads, schools, parks or open space;*
- C. Orderly and economic provision of public facilities and services;*
- D. Maximum efficiency of land uses within and on the fringe of the existing urban area.*
- E. Comparative environmental, energy, economic and social consequences;*
- F. Compatibility of the proposed urban uses with nearby agricultural activities on land outside the UGB; and*
- G. Priority of land as required by ORS 197.298. Non-irrigated parcels may be added to the UGB before irrigated parcels that are in the same statutory priority.*

**Response:** The proposed change to the UGB fulfills some of the need for residentially zoned land outside the existing UGB as identified in the *Madras Urbanization Study* and *Addendum*. The urbanization studies found the need for approximately 220 acres of residentially zoned land – for residential and public/semi-public uses – over the next 15-20 years. This is land that was found to be needed outside the existing UGB once all residential land inside the existing UGB is built out. Although the studies found a land need primarily for residential uses, employment and public/semi-public uses also were also determined to need land inside and outside the existing UGB in the next 20-50 years.

The studies were the basis for adopting the Madras URA, which the County adopted in November 2008 and DLCD acknowledged in July 2009. The proposed UGB and map amendments draw strictly from land designated as URA, which is the first priority land to include in the UGB pursuant to ORS 197.298. The proposed residential zoning and expected primarily residential uses are compatible with residential development on the edges within the existing UGB, and provide a similar buffer to resource land outside the UGB.

The URA is comprised of land that is classified as “exception” land as well as land zoned by the County as Range Land (RL). Range land was included in the URA because: exception land could not meet all the land needs of the next 20-50 years on its own; range land is lower value resource land; and range land surrounding the existing UGB – particularly to the east and southeast – would be more easily served with sewer than other land surrounding the existing UGB.

The ability to serve land on the east and southeast of the existing UGB and to urbanize land that is not parcelized like the exception land in the URA, as well as the lower resource value of the land, offer more land use efficiency and cost-effectiveness and fewer impacts on prime resource land than initially bringing other land in the URA into the UGB. This gives land on the east comparative advantages in economic, energy, environmental, and social terms.

*Policy 2: The County shall cooperate with each city to determine where and when an urban growth boundary should be expanded.*

*2.1 Expansion of an existing urban growth boundary shall be in accordance with state requirements, including the priority of land to be included within the urban growth boundary. Non-irrigated land should have a higher priority for inclusion in the boundary than irrigated land.*

**Response:** Jefferson County and City of Madras staff have closely coordinated the proposed map amendments, and the first evidentiary hearing for the proposal will be a joint meeting of the County and City Planning Commissions. The two jurisdictions also worked closely together to adopt the Madras URA in 2008.

The proposed map amendments comply with applicable Statewide Planning Goals, statutes, and administrative rules as demonstrated in previous sections of this report. The proposed UGB amendment is comprised of land from the Madras URA, which is the first priority for inclusion in the UGB pursuant to ORS 197.298. The land is not irrigated.

**Findings:**

- The proposed UGB and map amendments provide some of the residentially zoned land that is needed outside the existing UGB in the next 15-20 years as found in Madras urbanization studies.
- The amendments draw only from non-irrigated land in the Madras URA, which is the first priority land to include in the UGB pursuant to state statute.
- Residential and related public/non-public uses will be compatible with residential development adjacent and inside the existing UGB, as it will with resource land outside the UGB that already borders residential uses just inside the UGB.
- The ability of the land in the proposed amendment area to be more easily served with sewer than other land in the URA or other land surrounding the existing UGB and to build more densely than developed exception land provides land use, energy, and investment efficiencies. Developing more efficiently and on low resource land instead of

high resource land also present social and environmental benefits when compared to other land surrounding the existing UGB.

- Jefferson County and City of Madras have collaborated on the proposed map amendments.
- The proposed map amendments comply with applicable Statewide Planning Goals, statutes, and administrative rules.

**Conclusion:** The proposed map amendments comply with applicable policies from the Jefferson County Comprehensive Plan.

## **IX. Conformance with the City of Madras Comprehensive Plan**

**GOAL 14** - To provide for an orderly and efficient transition from rural to urban land, and to provide for livable communities.

*[Paragraph amended by Ordinance No. 781, Passed by Council on December 12, 2006]*

### **POLICIES**

A. *The City, in cooperation with Jefferson County, shall establish an Urban Growth Boundary.*

B. *The City, in cooperation with Jefferson County, shall mutually agree to a management plan for the Urban Growth Boundary area.*

C. *The City, in cooperation with Jefferson County, shall establish an Urban Growth Boundary revision process to be utilized in a proposed change of the Urban Growth Boundary.*

D. The City, in cooperation with Jefferson County, shall support adoption of an Urban Reserve Area boundary that, when taken together with land supplies in the Urban Growth Boundary, may contain up to a 50-year supply of land for the City of Madras to support housing, economic development, public facility, recreation needs and other urban land needs.

E. The City, in cooperation with Jefferson County, shall give priority to land in designated urban reserve areas over other land when considering urban growth boundary amendments.

**Response:** The Madras City Council approved the Madras URA in October 2008 and the Jefferson County Board of Commissioners in November 2008. DLCD and LCDC received the URA proposal for review in January 2009, and approved the proposal – but remanded sections of proposed County Zoning Ordinance amendments having to do with use restrictions in the URA – in July 2009. The land in the proposed UGB amendment that is the subject of this application is land entirely drawn from the Madras URA, land estimated to be needed for urbanization over the next 50 years.

F. The City shall favor UGB amendments that involve land in locations that are suitable to address identified urban land needs in order to minimize buildable land supply shortages and address identified needs. Factors that will be considered when evaluating UGB additions include:

1. Existing and planned capacity of the transportation system
2. Existing and planned capacity of the city waste water treatment plant
3. Existing and planned capacity of the city sanitary sewer conveyance system
4. Existing and planned capacity of the Deschutes Valley Water District supply system
5. Impacts on schools, parks, and public safety service providers
6. Impacts on future operating costs for public facilities and services

G. The City, in cooperation with Jefferson County, shall undertake an evaluation of the urban growth boundary land supply once every five years or more frequently if certified population growth rates exceed 3.2% in three consecutive years. In the event certified population growth rates fall below 3.2% for three consecutive years, the City and County may agree to postpone the evaluation of UGB land supply for up to three years.

H. During years when a comprehensive UGB land supply evaluation is not scheduled, individual applications for adding property to the UGB shall be limited to requests of less than 40 acres. UGB amendment applications must demonstrate consistency with applicable Oregon statutes and administrative rules and be accompanied by information that addresses Policy 14-J below. Applications that involve more than 5 acres also must comply with provisions of Policy 14-I.

D I. The City, in cooperation with Jefferson County, shall encourage the development of complete, livable communities that include characteristics such as: a variety of lot sizes, dwelling unit types and ownership types, open spaces and other recreational amenities, a mix of land uses, school and community facilities, connected streets, proximity to downtown and other employment centers, and development that is scaled to the pedestrian and creates a sense of place. New growth areas of more than 5 acres that are added to the UGB shall ~~should~~ be planned and developed in accordance either with a master planned community development plan approved under the city Master Planned Community Overlay zone, or an Area Master Plan. The City encourages Master Planned Communities as a means to meet city housing needs as explained in other comprehensive plan documents. It may be appropriate, however, for the city to add new growth areas to the UGB that are planned and developed in accordance with an approved Area Master Plan. A majority of property owners subject to a Master Planned Community, or to an Area Master Plan, must consent to be included in the plan.

1. A Master Planned Community (MPC) Overlay may apply to large multi-phased development projects where the master plan is intended to guide future development patterns and serves to regulate the site-development approval process. A MPC requires generous open space and amenities, and encourages efficient use of land and public facilities and services, a variety of housing types, innovative designs and complete pedestrian-friendly communities. A MPC shall demonstrate efficient use of land consistent with an identified urban land need, show appropriate locations for transportation improvements, public facilities, and the protection of significant open space, scenic, historic, and natural resource areas. A MPC must show how planned land uses will be integrated with the existing urban development pattern. Physical barriers, such as highways, tend to disrupt complete communities and livability because they disconnect areas from downtown and result in an auto-oriented environment of sprawl along highway corridors.

2. An Area Master Plan (AMP) is appropriate for land added to the UGB where the approval of future urban development is expected to rely on conventional urban zoning and the application of codified development standards and review procedures. An AMP may be prepared for contiguous properties added to the UGB that are greater than 5 acres and are not subject to a MPC overlay. An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural

resource areas. An AMP must show how planned land uses will be integrated with the existing urban development pattern.

3. An approved Master Planned Community Plan or an Area Master Plan must include documentation that a majority of property owners support the conversion of land to the planned urban uses and also consent to annexation by the city of Madras using a voluntary annexation process that is outlined in the plan.

**Response:** The total area under consideration is 36.4 acres, which is less than the 40 acre maximum established for interim UGB annexation requests. The east site of the proposed UGB amendment and annexation area is part of the approved Yarrow Master Plan area. The plan designates land for predominantly residential land uses, which is compatible with adjacent development in the UGB, while also designating land for open space and park uses, community services including schools, and limited neighborhood commercial services. The conceptual plan also shows an internal transportation system that includes sidewalks and multi-use paths.

The east site is being proposed for both annexation to the UGB and Madras city boundaries. The site can be adequately served with water and sewer facilities given existing and planned facilities, according to the service providers (Appendix D). The site is not projected to have a significant adverse effect on surrounding transportation facilities given planned improvements for the intersections of US 97/J Street (Appendices F and G). Its proposed designation as Multi-family Residential is consistent with land needs identified in the 2007 urbanization studies and with residential zoning in the area.

Pursuant to Policy I-1: “An AMP shall demonstrate efficient use of land, zoning consistent with an identified urban land need, appropriate locations for transportation improvements, public facilities, protection for significant open space, scenic, historic, and natural resource areas.” It is proposed to annex the west site to the Madras UGB and city limits but to retain its existing County Range Land (RL) zoning until the owners are ready to propose development. The site is surrounded by land designated for residential and related uses, and its future land use and zoning designation must allow for residential and compatible public/semi-public uses in order to show that land uses on the west site can be: “integrated with the existing urban development pattern.” (Policy I-2) The proposed addition of a table showing Madras and County zones that correspond with Madras land use designations to the Madras Comprehensive Plan Section IV, Land Use Element (Table 3-1), will facilitate the transition of existing County zoning to appropriate City zoning.

The west site is comprised of three lots – Lots 101 and 200 that total 16.22 acres and are privately owned and Lot 102 that is 0.69 acres designated for County right-of-way. Lots 101 and 200 are both adjacent to Ashwood Road, a County collector, and will not require additional public roads for sufficient internal or local circulation. At the time of proposed development, proposed land division or planned development plans must show an internal circulation system that satisfies City code requirements and street standards. The west site is adjacent to the existing Madras UGB and is bordered by Ashwood Road, which eases extension of services from inside the existing UGB and city limits to the west site. Water and sewer service providers have attested that existing and planned facilities will be sufficient to serve the west site (Appendix D).



The County has not identified historic, scenic, or natural resources on the west site. City open space requirements for subdivisions or planned developments will apply to the site at the time of proposed development.

J. All land use applications or legislative proposals to expand the Madras UGB must be accompanied by information that documents the following:

1. The proposed urban zoning or land use program for the subject properties that address an identified urban land need;
2. An annexation program for all subject properties;
3. Evidence that public facilities required by OAR 660-011-000 that are necessary to serve the expansion area can be served either by system improvements outlined in adopted public facility master plans or by supplemental improvements that augment adopted public facility master plans;
4. Evidence that the proposed zoning or land use plan complies with requirements of OAR 660-0012-0060 either by demonstrating that planned improvements in the Madras Transportation System Plan (TSP) have capacity to meet transportation needs for the proposed expansion area or through supplemental transportation improvements that augment the adopted TSP to meet the need;
5. Evidence that providers of other crucial public facilities (e.g. schools, parks and recreation, emergency services and health care) are able to meet the projected demand for their services;
6. Evidence that financing for constructing needed public improvements is available so that the expansion area can be developed as planned within the planning horizon;
7. Evidence that development in areas subject to natural hazards are protected from these hazards;
8. Evidence that known or probable significant resources related to open space, scenic areas, historic places or structures, and fish and wildlife habitat will be protected from development impacts or have development impacts offset using appropriate mitigation measures.

**Response:**

***Zoning and Land Use Designations (Policy J1)***

The east site is proposed to be re-zoned to a City R-2 designation. This meets some of the need for residentially zoned land outside the existing UGB that is projected for the next 15-20 years. Residentially zoned land will provide for housing and public/semi-public uses. This land need is documented in the *Madras Urbanization Study Addendum* (ECONorthwest, August 2007). (See Table 5-2)

The west site is proposed to retain its existing County Range Land (RL) designation until the time when further land use action and development is proposed. Existing zoning will allow only limited development, and appropriate future designations for the site will be City residential designations given that City open space and residential zoning currently surround the site.

When rezoning is proposed for the west site and for other land being converted from rural to urban, the proposed text amendments (Table 3-1) will assist and regulate the rezoning that will occur when changing County zoning to City land use designations and zoning.

***Annexation Program (Policy J2)***

The City is the applicant for this proposal, and annexation program pursuant to Article 7 of its Zoning Ordinance is described later in this report.

***Goal 11 Public Facilities (Policy J3) and Transportation Planning Rule (Policy J4)***

Kittelson & Associates has performed the transportation analysis needed to deem whether the proposed UGB amendment constitutes a significant effect on the transportation system. Given that schools generate more peak hour traffic than housing alone, two scenarios were developed for Transportation Planning Rule (TPR) analysis that involved both housing and a school. Using these scenarios in a TPR analysis, it was found that the increase in traffic did constitute a significant effect on the US 97/J Street intersections. However, given improvements included in the City's amended TSP and Draft 2010-2013 STIP, the effect can be mitigated and removed.

Public facility analysis for establishing the Madras URA ranked drainage catchment areas around the existing UGB for sewer service costs and serviceability. Of the six study areas that comprised the preliminary and then final URA, Study Areas 3 and 4 on the east and southeast consistently ranked higher than other areas. This can, in part, be attributed to proximity to the new South Wastewater Treatment Plant (SWWTP) and being upslope of the plant. In particular, the proposed UGB amendment and annexation are located in Catchment Area 180 and bordering on Catchment Area 179. These areas ranked 8<sup>th</sup> and 12<sup>th</sup> out of 60 catchment areas, making them among the more cost-effective and serviceable areas of the URA.

As was also determined during the URA public facility analysis, Deschutes Valley Water District (DVWD) found that there would be insignificant differences in providing water service to the different parts of the URA. Water supply in the region is adequate to ample. Similarly, existing and planned sewer facilities provided by the City will be sufficient to serve the proposal area. (See service provider letters in Appendix D)

***Other Public Facilities (Policy J5)***

The east site has access to substantial park and recreation resources. Juniper Hills Park (County) and Bean Park (City) are nearby, as well as Jefferson County Middle School and its fields. The Yarrow Master Plan that applies to the site and surrounding land also designates open space and parks throughout the plan area.

The City reports that Mountain View Hospital and City public safety and emergency services are sufficient to provide services for the proposed UGB amendment and annexation area. The sites are served by the Jefferson County School District 509-J.

***Financing for Improvements (Policy J6)***

Financing for constructing the needed public improvements will be placed upon property owners. As demonstrated by the letters submitted by the City of Madras Public Works

Director and Deschutes Valley Water District General Manager, each respective utility has capacity to service the properties proposed to be included in the Madras UGB. To extend wastewater and domestic water services to the properties to be included in the UGB, each property owner will be responsible for extending services lines to their property, not withstanding the requirements for annexing their property into the Madras city limits.

Similarly, the Oregon Department of Transportation has determined the proposed UGB expansion will significantly affect the US 97/J Street intersection but that the design concept is established, the City has implemented System Development Charges to partially fund the improvements for this particular intersection and in the Draft State Transportation Improvement Plan (STIP) is funding for the intersection. With the design concept established and both funding sources identified, ODOT has determined that the US 97/ J Street intersection improvements are Reasonably Likely to Occur and therefore, impacts of the proposed UGB expansion are mitigated.

***Protection from Natural Hazards (Policy J7)***

There are not steep slopes (slopes greater than 25%), floodway, or floodplain in the proposed UGB expansion and annexation area. In fact, the proposed amendment and annexation are driven, in part, by the need to provide a school that is outside the floodway and floodplain of Willow Creek and its tributaries.

Fire protection service for the proposal area is currently provided by Jefferson County Fire Protection District #1, and will continue to be provided by that district if the land is annexed to the city. The area is subject to a Community Wildfire Protection Plan (CWPP) that Jefferson County completed in 2005 in collaboration with the fire district and federal agencies.

***Protection of Goal 5 Resources (Policy J8)***

The Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files do not identify floodways, floodplains, significant habitat, or cultural resources in the proposed UGB amendment and annexation area. The only resources cited above that may apply to the site are open spaces. While open space will be a required part of public use or residential development that occurs in this area, this proposal itself is not a development or entitlement proposal and, therefore, does not specify precisely where such open space will be designated.

**Findings:**

- Amendments to zoning and land use designations are planned and proposed. The proposed City land use designation is residential and City zoning designation R-2 (Multiple Family Residential). A need for about 22 acres of land outside the existing UGB zoned R-2 was determined in the *Madras Urbanization Study Addendum*.
- Proposed text amendments facilitate the transition from urban to rural zoning, from County zoning to City land use designations and zoning.
- Existing and planned transportation facilities – including improvements for the US 97/J Street intersections in the Madras TSP and the 2010-2013 Draft STIP, which ODOT has deemed reasonably likely – will allow the study intersections to operate

within adopted standards both in the case of the proposal area being annexed and re-zoned and not.

- Existing and planned water and sewer facilities will be sufficient to serve the proposal area.
- The proposed UGB amendment and annexation area has access to nearby parks, a middle school, and a high school. Rezoning the 20-acre east site to R-2 will allow for residential and public/semi-public uses there.
- Financing of wastewater and domestic water services will be placed upon property owners once the properties are annexed and developed in a manner that is consistent with the service providers facility plans.
- In terms of natural hazards, there are not slopes greater than 25%, floodway, or floodplain in the proposed UGB expansion and annexation area. The proposed amendments and annexation are based, in part, on the need to provide a school that is outside the floodway and floodplain of Willow Creek and its tributaries. Fire protection service for the proposal area is and will be provided by Jefferson County Fire Protection District #1.
- There are not floodways, floodplains, habitat, or cultural resources that are identified in the Jefferson County Comprehensive Plan, Goal 5 inventory, or Jefferson County Geographic Information System (GIS) files in the proposal area. Open space will be provided pursuant to Madras zoning ordinance (MZO) in which 30% of a Master Planned Community must be open space (MZO Section 3.12(D)(4)).

**Conclusion:** The proposed map and text amendments comply with the relevant policies of the Madras Comprehensive Plan.

## **X. Conformance with the City of Madras Community Development Code**

### **City of Madras Zoning Ordinance**

#### **ARTICLE 7: ANNEXATION**

**SECTION 7.1: PURPOSE** - The purpose of this section is to:

- A. Implement the policies of the City of Madras Comprehensive Plan;
- B. Provide for City review of all annexation requests for a determination of the availability of facilities and services as related to the proposal;
- C. Provide for dissemination of public information and for sufficient time for public review;
- D. Provide for City and County coordination of a request for an annexation; and
- E. Provide for an expedited process by establishing procedures whereby the annexation and zoning, if applicable, may be considered concurrently.

**SECTION 7.2: APPLICATION PROCEDURE.** Annexation is a land use decision and is subject to applicable provisions of the City of Madras Comprehensive Plan, Oregon Revised Statutes, and Oregon Administrative Rules. In addition, the procedures below shall be followed:

- A. The Planning Commission shall conduct a public hearing after notification of all property owners with two hundred fifty feet (250') outside of the boundary(ies) of the proposed annexation. The Planning Commission shall review the proposal for compliance with the annexation policies contained in this Ordinance and make a recommendation to the City Council, based on:
  - 1. The annexation proposal which meets the application requirements; and
  - 2. The Planning Commission shall conduct a public hearing to determine a recommendation to the City Council to approve, approve with conditions or modifications, or disapprove the feasibility of the annexation proposal based on the criteria set forth in Section 7.4 below; and
  - 3. The Planning Commission shall state its recommendation and the reasons therefore in writing to the City Council.
- B. Upon receipt of the Planning Commission recommendation, the City Council shall conduct a public hearing and consider an Ordinance declaring the requested lands to be annexed to the City of Madras.
  - 1. The City Council shall review the record of the Planning Commission hearing their recommendation and shall determine whether to approve, approve with conditions or modifications, or disapprove the feasibility of the proposed annexation in accordance with the criteria set forth in Section 7.4 below.
  - 2. The City Council may conduct additional public hearings to assist their making a determination.
  - 3. The City Council shall state its determination and the reasons therefore in writing.

**Response:** The City of Madras sent public hearing notice to the surrounding property owners on February 1, 2010. The City and County Planning Commissions held their first public hearing on February 11, 2010. The City Planning Commission decided upon a recommendation to approve the proposed Comprehensive Plan amendment (10-PA-01) at its hearing on February 11, 2010 and forwarded it to the Madras City Council. The City

Council is held a public hearing jointly with the Jefferson County Board of Commissioners on March 29, 2010. The City of Madras has not provided notice to affected property and adjacent property owners, or noticed the public hearings for the annexation of 20 acres of the proposed Comprehensive Plan amendment to expand the Madras UGB by approximately 36.91 acres.

**SECTION 7.3: ANNEXATION APPLICATION.** *The petitioner for annexation shall complete an application form provided by the Community Development Department. The application fee, established by Resolution of the City of Madras City Council, shall be submitted with the application. The application shall include:*

- A. *A map demonstrating that the proposed annexation is contiguous to the City Limits;*
- B. *Specific information on each parcel within the proposed annexation area:*
  - 1. *Current assessed valuation shown on Jefferson County Assessor's tax rolls.*
  - 2. *Acreage of both public and private property to be annexed.*
  - 3. *Map and tax lot(s) number.*
- C. *Names and ages of all residents and list of registered voters in the proposed annexation area.*
- D. *Addresses of all parcels within the proposed annexation area.*
- E. *Consent to Annexation forms, provided by the City of Madras, with notarized signatures of all property owners and electors within the proposed annexation area.*
- F. *Written findings, which address the following:*
  - 1. *Existing land uses within annexation area.*
  - 2. *Existing zoning within the annexation area.*
  - 3. *Existing improvements:*
    - a. *water system*
    - b. *streets*
    - c. *sanitary sewer*
    - d. *storm drainage*
  - 4. *Special Districts within the area:*
    - a. *water districts*
    - b. *irrigation districts*
    - c. *fire district*
    - d. *school district*
    - e. *other*
  - 5. *Urban services, the present availability of urban service systems to the proposed annexation area, their capacity and cost of extension and/or improvement to urban standards:*
    - a. *sanitary sewers - streets - parks*
    - b. *storm drainage - water*
    - c. *fire - power*
    - d. *schools - police*
- G. *Compliance with all applicable policies of the City of Madras Comprehensive Plan.*

**Response:** The City is initiating and applying for the proposed annexation. Maps of the west site and east site in the proposed UGB amendment and annexation area are included in this report as Figure 4-1. Parcel size and other parcel information is presented in Section I, Proposal Summary. The City owns the taxlot where the east site is located. The 20-acre parcel that is being created from the taxlot has been surveyed. The west site is comprised of three taxlots, two taxlots that are privately owned and one small taxlot (0.69 acres) that is

County right-of-way. Re-zoning is not proposed for this site at this time as there are no immediate development plans. However, this site does better connect the east site to the existing UGB and will be suitable for residential uses and compatible public/semi-public uses, for which Madras urbanization studies have found a long-term need.

The property proposed to be included in the UGB amendment and annexed currently is vacant and not in active use. It is land under Jefferson County jurisdiction and zoned Range Land (RL). There are not water, sewer, or storm water facilities and services extended to the site yet, but they can be extended using existing City facility master plans. The Deschutes Valley Water District (DVWD) provides water service to the area and can provide facilities and service to the site, to be financed primarily by development applicants. The same is true for sewer and storm water facilities and service, for which the City of Madras is the service provider. As part of its agreement with JCSD, the City will extend water and sewer to the edge of the east site. There is an irrigation district in the region – the Central Oregon Irrigation District – but the proposal area is not irrigated nor is it proposed to be.

There is a County collector road – Ashwood Road – along the northern border of the area that will not need improvements according to transportation analysis conducted for this proposal. (See Appendix F)

Jefferson County Fire Protection District #1 currently provides service for the area and will continue to do so. Public safety responsibility for the area will be transferred from the County to the City. In terms of parks and recreation, there are two parks and a middle school close to the site, and the Yarrow Master Plan, which includes and surrounds the east site, includes the 30% of parks and open space required by local code (MZO Section 3.12(D)(4)).

As addressed in the previous section of this report, the application complies with the applicable policies of the Madras Comprehensive Plan.

**SECTION 7.4: ANNEXATION CRITERIA.** *Lands may be annexed only if the City Council finds that the following criteria are met:*

- A. The property is contiguous to the City limits.*
- B. The property is located within the City's Urban Growth Boundary.*
- C. The annexation meets at least one of the following purposes:*
  - 1. To serve lands needing City water or sewer to alleviate a present or potential health hazard; or*
  - 2. To provide land to accommodate future urban development; or*
  - 3. To provide land for provision of needed transportation or utility facilities; or*
  - 4. To ensure that lands adjacent to the City are developed in a manner consistent with City standards.*
- D. The petitioner has adequately addressed infrastructure supply and demand issues. The annexation is considered timely in that an adequate level of urban services and infrastructure can be provided upon annexation or a plan is in place for the provision of such services or infrastructure in a reasonable period of time.*
- E. The proposed annexation complies with the City's Comprehensive Plan. If the Comprehensive Plan does not control the annexation, or substantial changes in*

*conditions have occurred which render the Comprehensive Plan inapplicable to the annexation, the proposed annexation complies with current Statewide Planning Goals.*

*F. The City is capable of extending City services to the area proposed for annexation without negatively impacting existing systems and the City's ability to adequately serve all areas within the existing City limits.*

*G. The proposed annexation is compatible with the existing topography, potential for future land division, natural hazards and other related considerations.*

**Response:** The proposal area is adjacent to the Madras city limits and is simultaneously seeking to be annexed to the Madras UGB and to the city. The proposed UGB amendment and annexation area provides land for future urban development, specifically for a needed school and housing as demonstrated by the *Madras Urbanization Study Addendum* (ECONorthwest, 2007). The east site of the proposal area is part of the Yarrow Master Plan area that the City has approved and found to be consistent with City development goals and standards.

The proposal area can be served by water and sewer using existing water and sewer master plans and being financed by the City and developers of the sites. Ashwood Road on the north side of the proposal area is a County collector road and does not need improvements in order to serve the area. Planned improvements for US 97/J Street are the only improvements needed in the vicinity in order to mitigate any potential significant effects associated with this proposal (Appendix F). Internal circulation and transportation facilities will need to be shown in future development applications.

## **SECTION 8.2: ZONE/PLAN MAP AMENDMENTS**

### **A. Amendment to the Zone/Plan Map**

1. *Amendment to the Zone/Plan Map may be initiated by the Planning Commission, City Council, Community Development Director, Land Use Periodic Review, or by application of the property owner.*
2. *If the application is for a change of a quasi-judicial or legislative nature:*
  - a. the Planning Commission shall conduct a public hearing on the proposed amendment at its earliest practical meeting date after the proposal is submitted and shall follow the adopted rules for quasi-judicial hearings;*
  - b. the Planning Commission shall provide a recommendation to the City Council based on findings-of-fact;*
  - c. The City Council shall hold a public hearing and review the recommendation of the Planning Commission, along with any public testimony on the issue. The City Council must take final action on an amendment request and amendments shall be made by ordinance.*
3. *An application for a zone change for land annexed to the city that is subject to an approved Master Planned Community Plan or an approved Area Master Plan may be considered as an administrative action per Article 9.3.*

*B. Criteria for Amendments: The burden of proof is upon the applicant. The applicant shall show the proposed change is:*



1. *In conformity with all applicable state statutes.*
2. *In conformity with the applicable Statewide Planning Goals; and*
3. *In conformity with the Madras Comprehensive Plan, Zoning and Land Use Ordinance, and policies; and*
4. *In conformity with an approved Master Planned Community Plan or Area Master Plan, if applicable to the underlying properties; and*
5. *That there is a change of circumstances or further studies justifying the amendment or mistake in the original zoning.*

**Response:** This application is being initiated by the City Community Development Department/Director. Also pursuant to the terms of the UGAMA between the County and the City, the City forwarded the UGB amendment application and appropriate fees to the Jefferson County Community Development Department within five working days of being initially filed.

This application is being processed pursuant to legislative procedures and will receive full review by the public, the City Planning Commission, and the City Council. Hearings by the Madras Planning Commission and Jefferson County Planning Commission will be held first jointly on February 11, 2010. The Madras City Council will review the City Planning Commission's recommendation at a hearing on February 11, 2010, and will forward its decision to the County Board of Commissioners for a hearing on March 29, 2010.

As demonstrated by the previous findings, the proposed comprehensive plan, comprehensive plan map, and zoning map amendments comply with applicable Statewide Planning Goals, State statutes, and Madras Comprehensive Plan policies.

**Findings:**

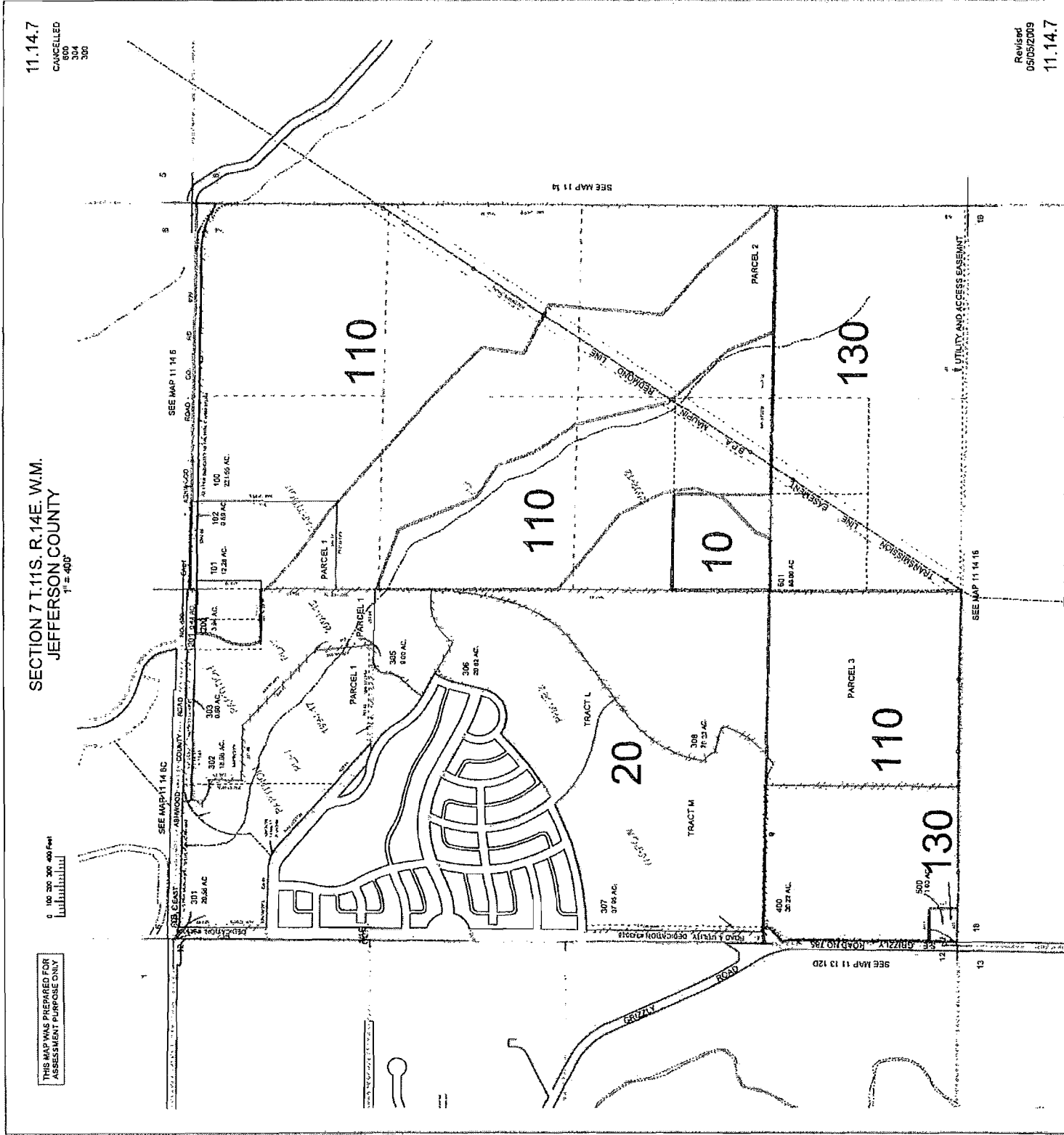
- The City has followed procedures for providing notice and holding public hearings for the proposal. Notice to adjacent property owners was mailed On February 1, 2010 to all properties within 750 feet of the properties proposed to be included in the Madras UGB. A joint City and County Planning Commission hearing was held on February 11, 2010 and then a joint hearing before the Madras City Council and Jefferson County Board of Commissioners was held on March 29, 2010. The City Council and County Board of Commissioners heard the proposal on March 29, 2010 and approved the proposal on March 29, 2010.
- The City of Madras has initiated this proposal. It owns the east site of the proposed UGB amendment and annexation area and has an agreement with Jefferson County School District 509-J to exchange this land for land downtown upon annexation and re-zoning.
- The proposed UGB amendment and annexation area provides land needed for residential and public/semi-public uses, specifically for a needed school and housing as demonstrated by the *Madras Urbanization Study Addendum* (ECONorthwest, 2007).
- All service providers – the City of Madras, Jefferson County, Deschutes Valley Water District, Jefferson County Fire Protection District #1, Jefferson County School District 509-J – have capacity to serve the proposal area given implementation of existing water and sewer master plans, planned improvements to US 97/J Street intersections, and financing from future proposed development.

- The east site of the proposed UGB amendment and annexation area is part of the approved Yarrow Master Plan area, and the west site fulfills the requirements for an Area Master Plan. The set of proposed map and text amendments in this application comply with applicable Statewide Planning Goals, State statutes, and Madras Comprehensive Plan policies.

**Conclusion:** The proposed map and text amendments comply with the relevant provisions of the Madras Zoning Ordinance.

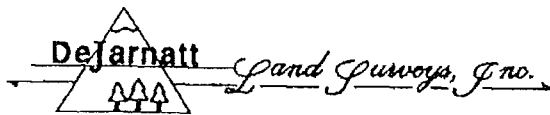
O-039-10

**Appendix A: West Site Tax Map (3 lots, 16.91 acres)**



O-039-10

**Appendix B: East Site Legal Description and Survey  
Map (20-acre parcel)**



O-039-10

63885 N. Hwy. 97 ▲ Bend, OR 97701 ▲ (541) 382-4192

December 16, 2009  
City of Madras  
Job# 09077

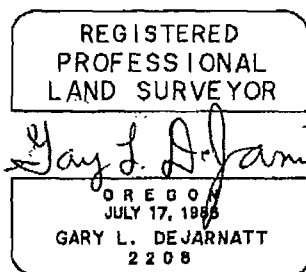
**PROPERTY DESCRIPTION FOR A 20.00 ACRE TRACT OF LAND FOR  
SCHOOL DISTRICT 509-J**

A portion of Parcel 2 of Partition Plat No. 2002-12 as filed in the Jefferson County Clerk's Office, situated in the Northeast Quarter (NE ¼) of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County, Oregon, more particularly described as follows:

Commencing at the Northwest corner of said Northeast Quarter, monumented with a 2 inch diameter brass cap, from which the Northeast corner of said Section 7 bears South 89°39'40" East a distance of 2640.53 feet; thence South 89°39'40" East along the North line of said Section 7 a distance of 599.97 feet; thence South 00°17'36" West a distance of 40.00 feet to the Northwest corner of said Parcel 2 of Partition Plat No. 2002-12; thence continuing South 00°17'36" West along the West line of said Parcel 2 a distance of 40.00 feet to the South right-of-way line of East Ashwood Road and the **True Point of Beginning of this Description**; thence South 00°17'36" East along said West line a distance of 935.13 feet to the Southeast corner of Parcel 1 of said Partition Plat No. 2002-17; thence leaving said West line South 89°39'40" East a distance of 931.70 feet; thence North 00°17'36" West a distance of 935.12 feet to a point on the South right-of-way line of East Ashwood Road; thence North 89°39'40" West along said right-of-way line a distance of 931.70 feet to the **True Point of Beginning**.

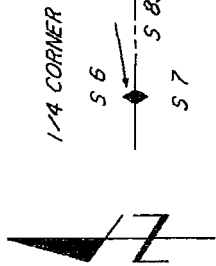
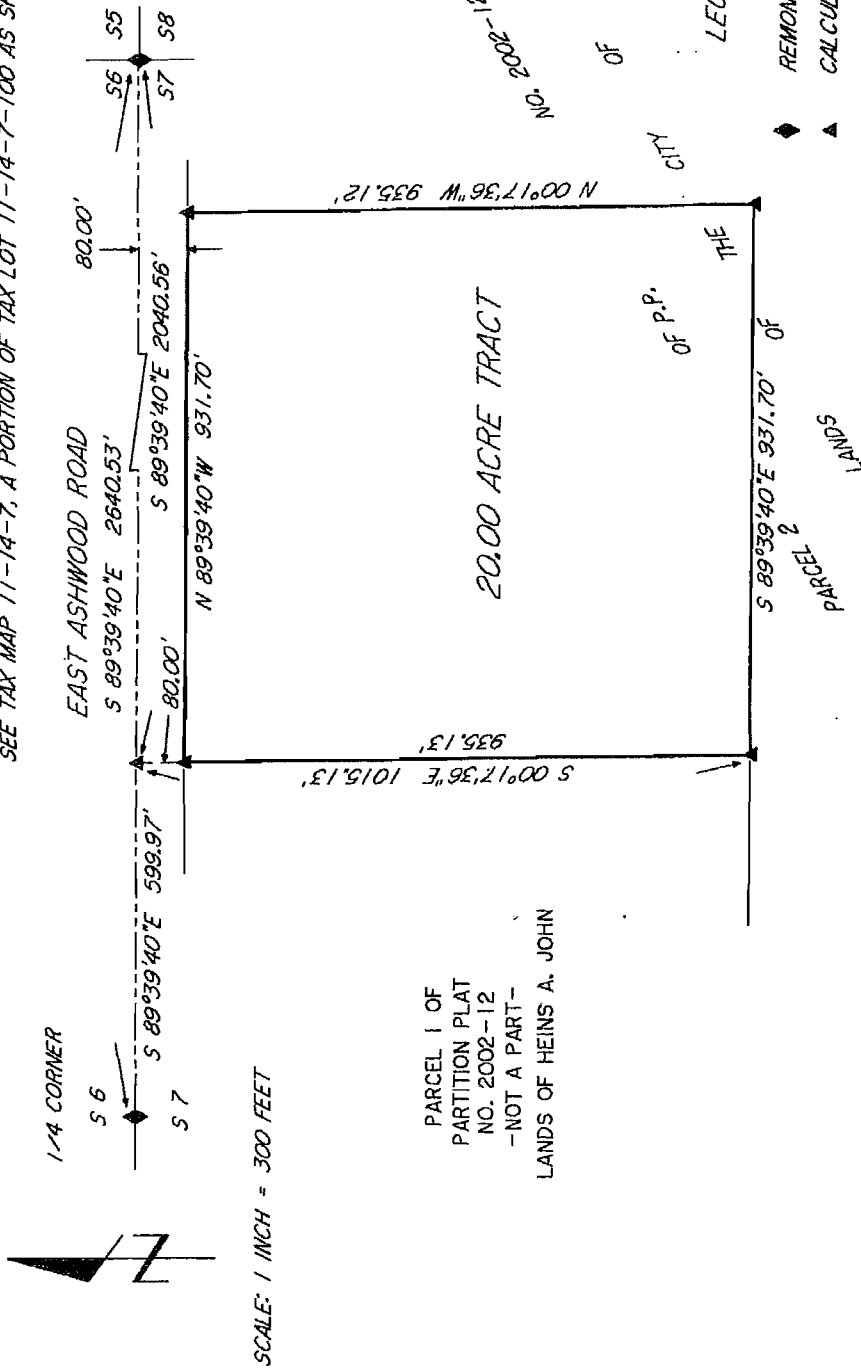
Containing 20.00 acres more or less.

**End of Description.**



Renews: 12/31/2009

**MAP FOR PROPERTY DESCRIPTION FOR SCHOOL DISTRICT 509-J**  
 A PORTION OF THE NE 1/4 OF SEC. 7, T. 11 S., R. 14 E., W.M., JEFFERSON COUNTY, OREGON.  
 SEE TAX MAP 11-14-7, A PORTION OF TAX LOT 11-14-7-100 AS SHOWN HEREON



SCALE: 1 INCH = 300 FEET

PARCEL 1 OF  
 PARTITION PLAT  
 NO. 2002-12  
 -NOT A PART-  
 LANDS OF HEINS A. JOHN

LEGEND:  
 ◆ REIMONUMENTED PUBLIC LAND CORNER.  
 ▲ CALCULATED CORNER POSITION.  
 P.P. PARTITION PLAT.

REGISTERED  
 PROFESSIONAL  
 LAND SURVEYOR  
*Gary L. DeJarnatt*  
 OREGON  
 JULY 17, 1988  
 GARY L. DEJARNATT  
 2208

RENEWS: 12/31/2009

PREPARED BY:  
**DEJARNATT LAND SURVEYS, INC.**  
 63885 NORTH HWY 97 DATE: DECEMBER 16, 2009  
 BEND, OREGON 97701 SHEET 1 OF 1  
 PHONE: 541-382-4192 JOB # 09077  
 08029 COORD FILE, 080296 SCREEN FILE

0-039-10





O-039-10

**Appendix C: Urban Reserve Area Management  
Agreement (URAMA) (January 2009)**

**M -014-09**

**Urban Reserve Area Management Agreement**

This agreement is entered into by the City of Madras, an incorporated municipality of the State of Oregon, hereby referred to as the "City" and Jefferson County, a political subdivision of the State of Oregon, hereby referred as "County".

**A. RECITALS**

WHEREAS, the City of Madras and Jefferson County are authorized pursuant to Oregon Revised Statutes (ORS) Chapter 190 to enter into an Intergovernmental Management Agreement for the performance of functions which either governmental entity has the authority to perform; and

WHEREAS the City and County have previously entered into an intergovernmental agreement on April 5, 2006 setting forth their respective rights and responsibilities with respect to the Urban Growth Boundary (UGB); and

WHEREAS, the Management Agreement also constitutes a cooperative agreement under ORS Chapter 195; and

WHEREAS the City and County consider it mutually advantageous to establish this Urban Reserve Area Management Agreement (URAMA) for the purpose of facilitating the future conversion of lands in the Urban Reserve Area (URA) from rural to urban land uses.

**B. INTENT OF AGREEMENT**

1. To establish standards and procedures for review and action on proposed land use actions and related matters noted within this agreement pertaining to implementation of the Comprehensive Land Use Plan and Zoning Regulations as adopted by the City and County for the Urban Reserve Area (URA); and
2. To affirm Jefferson County's jurisdictional authority for current planning activities, land use decisions, building permitting, public improvements, and code enforcement within the URA ; and
3. To provide assistance to property owners in the URA by laying out a clear and cooperative process designed to make decisions on land use applications in a timely and consistent manner; and
4. To clarify planning and zoning intents and to satisfy the requirements of OAR Chapter 660, Division 21 relating to Urban Reserve Areas.

**C. DEFINITIONS**

1. City: City of Madras.
2. Board: the Jefferson County Board of Commissioners.
3. Council: the Madras City Council.
4. County: Jefferson County.
5. Land Use Decision: A Land Use Decision is defined by ORS 197.015
6. Urban Reserve Area: has the same meaning as set forth in OAR 660-021-0010(1), and means land outside of an Urban Growth Boundary identified as highest priority of inclusion in the Urban Growth Boundary when urbanizable land is needed in accordance with the requirements of Statewide Planning Goal 14.
7. Urban Growth Boundary: The boundary line which separates lands to be urbanized and eventually incorporated into the City of Madras from the surrounding rural lands under the County's jurisdiction.
8. Conversion Plan: has the same meaning as set forth in JCZO Section 105.

**D. AGREEMENT**

Compliance with OAR Chapter 660, Division 21. In accordance with the applicable requirements of Chapter 660, Division 21, City and County agree as follows:

1. As required by OAR 660-021-0040(2)(e):
  - (a) The County shall ensure that conversion plans are required and processed as part of tentative land division decisions in the URA as outlined in the Jefferson County Zoning Ordinance (JCZO) Section 703.2(O).
  - (b) The County shall prohibit certain uses in the URA, including plan or zoning map amendments that allow a minimum lot size less than ten acres as outlined in JCZO Section 323.3.
2. As required by OAR 660-021-0050(1):
  - (a.) Jefferson County shall have authority and jurisdictional responsibility for current planning activities, land use decisions, building permitting, and code enforcement within the URA.

- (b.) Upon inclusion of property from the URA within the Urban Growth Boundary, the property shall be subject to the Urban Growth Management Area Agreement.
3. Designation of service responsibility, as required by OAR 660-021-0050(2) is as follows:

Service	Existing Service Provider	Future Urban Service Provider
Sanitary Trash Disposal	No Public Service Provider	No Public Service Provider
Sanitary Sewer	No Public Service Provider	City of Madras
Water	Deschutes Valley Water District	Deschutes Valley Water District
Fire Protection	Jefferson County Fire District #1	Jefferson County Fire District #1
Parks	Jefferson County	City of Madras
Recreation	Madras Aquatic Center District	Madras Aquatic Center District
Transportation	Jefferson County	City of Madras
Storm Water	Jefferson County	City of Madras

- (a.) The local government or special district responsible for services (including sanitary trash disposal, sanitary sewer, water, fire protection, parks, transportation, storm water) for areas within the URA are designated and shown on the map(s) attached hereto and incorporated herein as Exhibit "1A".
4. As required by OAR 660-0210-0050(3), the terms and conditions under which service responsibility will be transferred or expanded, for areas where the provider of service is expected to change over time, is described in Exhibit "1B" attached hereto and incorporated herein.
5. As required by OAR 660-0210-0050(4), procedures for notification and review of land use actions to ensure involvement by all affected local governments and special districts:
- (a) Within the URA, the County shall process all land use applications for comprehensive plan amendments, zone changes, and other applications affecting land use (including conditional uses, Planned Unit Developments (PUDs), subdivisions and partitions) in a manner that is consistent with the procedures set forth in the Jefferson County Comprehensive Plan and Zoning Ordinance for the respective land use actions.
  - (b) Prior to acceptance of a land division application within the URA, the County shall require the applicant to submit a conversion plan to the City of Madras as outlined in JCZO Section 703.2(O).

The intent of the conversion plan is that it:

1. Is not an engineered plan.
2. May be amended from time to time by property owners submitting a new conversion plan to the City and County.
3. Does not constitute a separate land use decision, as it is part of a land division decision.
4. Must be recorded with the County Clerk so that future buyers of newly-created parcels in the URA will become aware, prior to purchase, that roads and utility easements will be required when the property is further developed after annexation.
5. Serves as a guide to placement of structures in the building permitting process.

The City shall review the conversion plan and work with the property owner to ensure that the locations of planned roads and rights-of-way; and the locations of future easements for water, sewer, and storm water facilities that will adequately serve the site when developed at an urban density; are protected. The City may recommend that the conversion plan be approved, denied, or be approved with conditions.

Within 15 days of receiving a conversion plan for review, the City will forward its comments to both the applicant and the County, and the applicant is required to include the conversion plan and City comments with their tentative land division application to the County.

The County shall review the conversion plan as part of the tentative land division application, and approve, deny, or approve with conditions. A condition of approval for the land division decision shall be that the property owner record the conversion plan with the final plat at the County Clerk's Office.

The County agrees to consult conversion plans prior to building permit approval of structures in the URA, where applicable.

The City or County may charge a separate fee for review of conversion plans.

- (c) Notice of all land use applications within the URA shall be sent to the City of Madras Community Development Department and to any other affected City agencies and other applicable special service districts for review and comment prior to a decision by the County. Such agencies shall be given ten business days in which to provide comments on the land use application.

- (d) In making its decision, the County shall consider all comments received under Section (c) above.
- (e) The City, and agency, or any other special service district that provides comments on land use applications shall be mailed written notice of the land use decision and shall have standing to appeal the County's decision.

#### **E. AMENDMENT AND TERMINATION**

1. This agreement may be amended at any time by mutual agreement of both parties, after public hearing and adoption by both the City Council and the Board of Commissioners.
2. Any modifications to this agreement shall be consistent with the City and County Comprehensive Plans, the Urban Growth Area Management Agreement for the City of Madras and the statewide planning goals.
3. This agreement may be terminated by either party under the following procedure:
  - a. Written notice of intent to terminate this Agreement shall be sent to the other party at least forty-five (45) days prior to taking any action, including the publication of public hearing notices in order to provide ample time for resolution of differences, or amendment to comprehensive plans.
  - b. A public hearing shall be held by the party considering termination. The party considering termination shall give the other party at least 20 days prior notice of the scheduled hearing date. The 20 day period shall be used by both parties to seek resolution of differences. Both parties shall also request a collaborative conflict resolution process to resolve differences that remain.
  - c. Public notice of hearings shall be in accordance with applicable statutes and local ordinances.
  - d. This agreement is necessary for compliance with, at minimum, statewide planning Goals 2 and 14. Unless the Urban Reserve Area is no longer an overlay zone in the County, this agreement may not be terminated without adoption of a new agreement.

#### **F. TIME OF EFFECTIVENESS**

This agreement shall not become effective until properly executed by both the City and the County. Upon execution, this agreement shall supersede all previous Urban Reserve Area Management Agreements.

**G. SEVERABILITY**

The Provisions within this agreement are severable. If any section, sentence, clause or phrase of this agreement is adjudged by a court of competent jurisdiction to be invalid, said invalidity shall not impair or affect the validity of the remaining portions of the agreement.

ADOPTED this 28<sup>TH</sup> of January, 2009.

**CITY OF MADRAS, OREGON**

**JEFFERSON COUNTY, OREGON**

Melanie Widmer  
Melanie Widmer, Mayor

John Hatfield  
John Hatfield, Chair

Date: 1-27-2009

Mike Ahern  
Mike Ahern, Commissioner

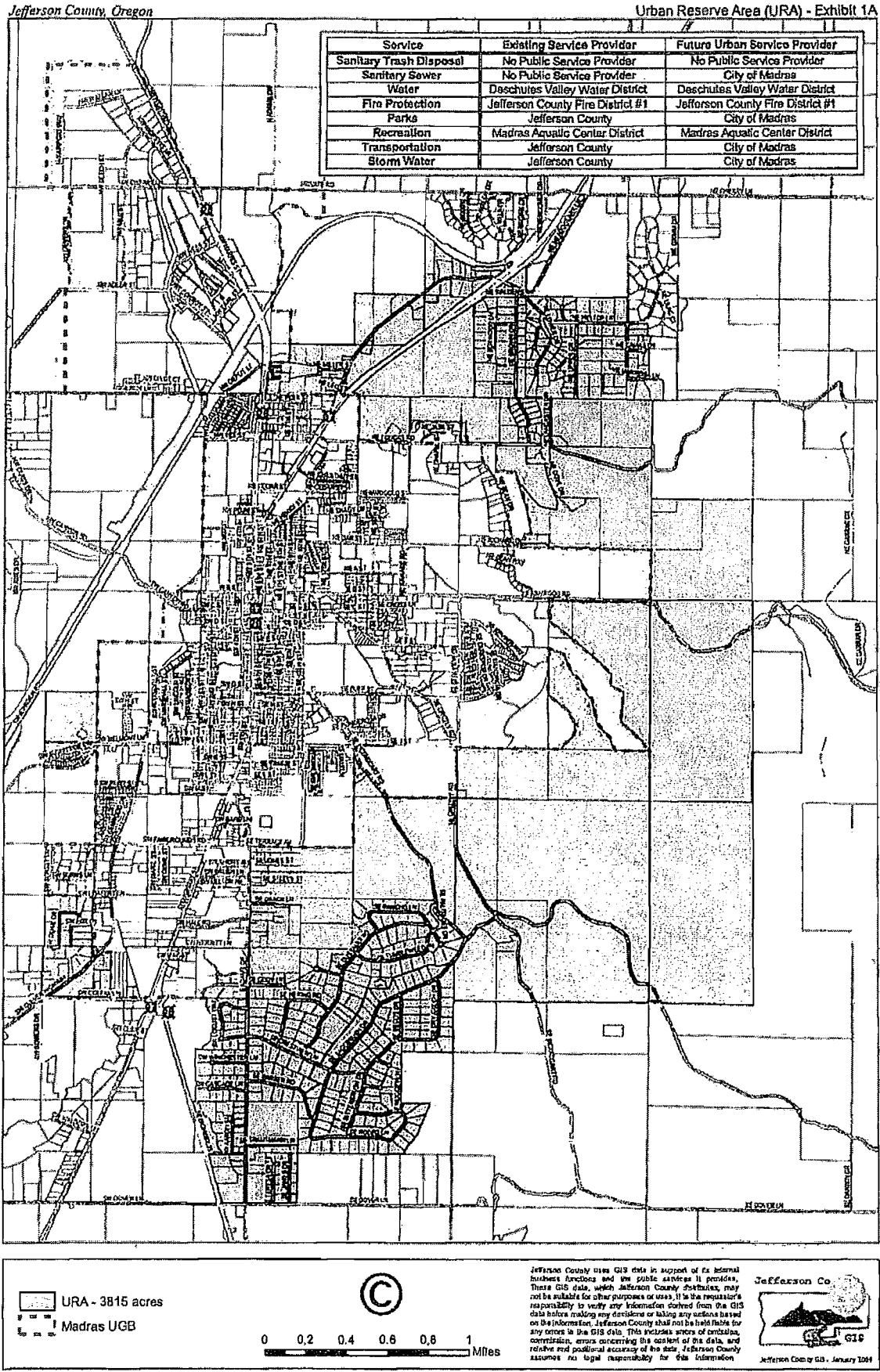
ATTEST:

Wayne Fording  
Wayne Fording, Commissioner

Date: January 28, 2009

Donna Jansen

014-09





**EXHIBIT 1B  
URBAN SERVICE TRANSITION POLICIES**

Terms and Conditions under which Service Responsibility will be transferred or expanded.

- A. Special Districts. The City shall agree to the formation of any special district within the Urban Reserve Area prior to the approval of the formation of the district by Jefferson County. This provision shall not apply to County-wide service districts formed under ORS Chapter 451.
- B. Service Expansion Plans. Service expansion plans shall be consistent with the Madras Comprehensive Plan. As the future provider of, sanitary sewer, storm water and potable water services, the City shall prepare, and from time to time, update utility expansion plans. These plans shall provide a basis for the extension of services within the Urban Growth Boundary, and as such shall be referred to Jefferson County for information and comment.
- C. Transition Policies Relating to Service Responsibility
  - 1. Sanitary Sewer Service . There will be no public provider of sanitary sewer service until City services are available, except in the case of a state mandate due to a health hazard. At the time of annexation, the City will require hook-up to City sanitary sewer services. There shall be no special sanitary sewer districts created in the Urban Reserve Area. Nothing in this provision shall limit the ability of individuals to provide septic services (i.e. septic sewer systems) on their own private property within the Urban Reserve Area.
  - 2. Potable Water Service. The City of Madras and Deschutes Valley Water District shall be the public providers of water in this area, unless new districts are expanded or created through mutual agreement by the City and the County. Nothing in this provision shall limit the ability of individuals to provide services on their own private property within the Urban Reserve Area.
  - 3. Fire Protection. The Jefferson County Fire District #1 provides fire protection services to property within the Urban Reserve Area, the Urban Growth Boundary, and the City limits.
  - 4. Parks. Jefferson County provides parks services within the Urban Reserve Area. The City of Madras provides parks services within the city limits and the Urban Growth Boundary. The City of Madras will provide these services as park properties as they are included within the city's limits unless agreed otherwise.
  - 5. Recreation. The Madras Aquatic Center is separate recreation district that serves Jefferson County.. The Madras Aquatic Center District will continue to provide aquatic recreational services when property is included in the City of Madras Urban Growth Boundary and city limits.

6. Transportation and Street Improvements. Jefferson County provides transportation services on county roads within the Urban Reserve Area. Upon annexation from the UGA, the City of Madras will accept all paved Jefferson County roads that have a pavement condition index (PCI) of 70 or above. If the PCI is below 70, the county may structurally overlay the road to raise the PCI above 70 at which time the City shall be obligated to accept jurisdiction of such road. Jefferson County policies for road design and construction standards to be used in the Urban Growth Boundary and Urban Reserve Area are outlined in the Jefferson County Code, Sections 12.18.070 and 12.18.080. Per Jefferson County ordinances, the Jefferson County Public Works Director may require roads to be constructed to City of Madras standards.

The Oregon Department of Transportation provides transportation services on state highways within the Urban Reserve area. The Oregon Department of Transportation retains jurisdiction and maintenance responsibilities on all state highways after incorporation into the UGB and annexation except in special cases where jurisdiction is transferred to the City or County by a specific agreement.

7. Storm Water Management. Jefferson County provides public storm water management services to property where required within the Urban Reserve Area. The City will provide storm water management services to property within the city limits. Transition of public storm water management services will follow transition of road maintenance responsibilities.

**Jefferson County Code Section 12.18.070 :**

**12.18.070 Roads within an urban growth boundary.**

Roads within an urban growth boundary (UGB) or urban reserve shall, at the discretion of the Jefferson County director of public works, conform to the design and construction specifications of the city contained within the UGB boundary and shall be subject to review and approval of that city's director of public works and the Jefferson County director of public works. (Ord. O-69-07 § 1 Exh. A (part), 2007; Ord. O-110-02 § 2 Exh. B (part), 2002)

**12.18.080 Roads within one mile of an urban growth boundary.**

At the discretion of the Jefferson County director of public works, design and construction standards and specifications for roads within one mile of a UGB may be modified to accommodate future reconstruction to city standards. Roads in zones contiguous to the UGB of Madras, Culver or Metolius may be required to be constructed in accordance with Section 12.18.070 of this chapter if, in the opinion of the director of public works, such roads would become connected to the city road system. (Ord. O-69-07 § 1 Exh. A (part), 2007; Ord. O-110-02 § 2 Exh. B (part), 2002)

O-039-10

**Appendix D: Water and Sewer Service Provider Letters**



*S.E. D Street, Madras, OR, 97741 - 541-475-3388*

## **MEMORANDUM**

Date: January 26, 2010

To: Jefferson County Planning Commission  
Madras Planning Commission  
Jon Skidmore, Jefferson County Community Development Director

Cc: Nick Snead, City of Madras Community Development Director

From: Gus Burrell, City of Madras Public Works Director

---

### **Overview:**

The City of Madras (City) has filed a post-acknowledgement plan amendment application with Jefferson County to expand the current Madras Urban Growth Boundary (UGB) by approximately 37 acres and re-zone 20 of the 37 acres from Range Land (RL) to Multi-Family Residential (R-2) as shown in the attached map. To complete this land use action the City is required demonstrate that public facilities (i.e. wastewater, domestic water, stormwater, and transportation) can be extended to serve the area proposed to be included in the Madras UGB. The City provides wastewater and stormwater service and the properties proposed to be included in the Madras UGB are located within the planning boundaries of the City of Madras Wastewater and Stormwater Master Plans.

### **Wastewater:**

The properties proposed to be included in the Madras UGB are located within the study area of the City of Madras' Wastewater Master Plan. Figure 5-2B (attached) identifies a planned 8 inch wastewater service line to be constructed in the Ashwood right-of-way that would service the properties proposed to be included in the Madras UGB. Additionally, the City constructed a 10 inch wastewater service line to Oregon Department of Corrections Deer Ridge Correctional facility in Ashwood Road adjacent to the properties proposed to be included in the Madras UGB (see attached drawing).

When the proposed properties are developed, the City will require the property owner to extend wastewater service in accordance with City standards. Based on the planned improvements in the Madras Wastewater Master Plan, the existing wastewater facilities in Ashwood Road, the City of Madras has capacity to provide wastewater service to the properties proposed to be included in the Madras UGB at the time of development.

### **Stormwater:**

The properties proposed to be included in the Madras UGB are located within the study area of the City of Madras' Stormwater Master Plan. Figure IV-5 (attached) identifies a planned 12 inch

stormwater service line to be constructed in Ashwood Road adjacent to the properties proposed to be included in the Madras UGB. Furthermore, Design Criteria (1) in the City of Madras Stormwater Master Plan in Section IV, requires"

*"Any property development or redevelopment shall include stormwater facilities designed to handle runoff from all tributary areas for the 24-hour, 25-year design storm event. The facilities shall limit the peak discharge from the development in a 24-hour, 25-year design storm to the estimated pre-development peak flow rate in a 24-hour, 10-year design storm."*

Considering the planned stormwater facilities identified in the City of Madras Stormwater Master Plan and the existing stormwater design standards for development, the City has capacity to provide stormwater service to the properties proposed to be included in the Madras UGB.

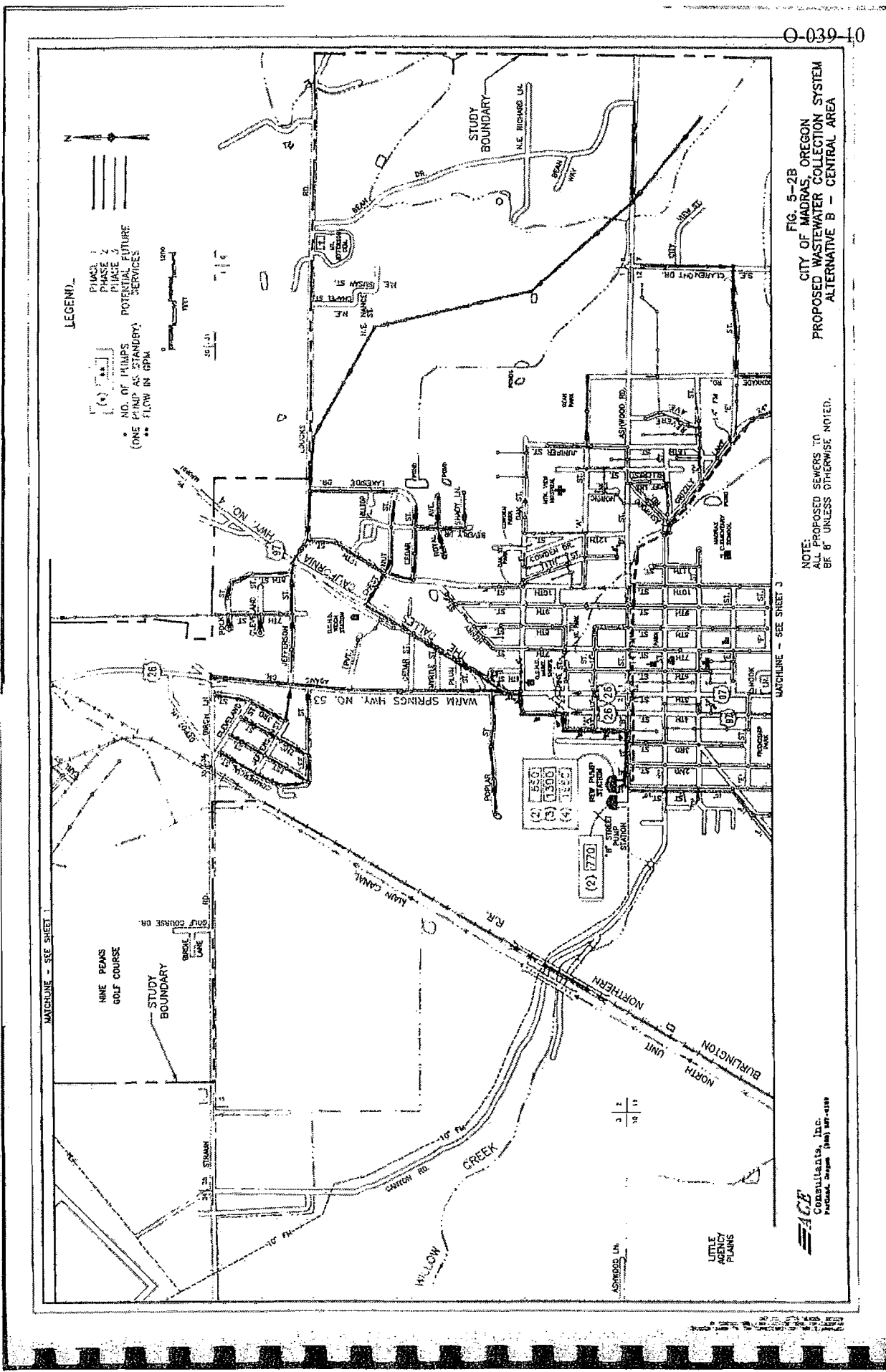
**Conclusion:**

The City of Madras has capacity to serve the properties proposed to be included in the Madras UGB with wastewater and stormwater service. Should there be any questions, please contact me at 541-475-2622.

Sincerely,

Gus Burrell, P.E.  
City of Madras  
Public Works Director  
71 SE "D" Street  
Madras, OR, 97741  
541-475-2622

Attachments: Figure 5-2B Wastewater Collection System  
Phase 1B Segment 2 Wastewater Improvements  
Figure IV-5 Stormwater System Improvements



LEGEND

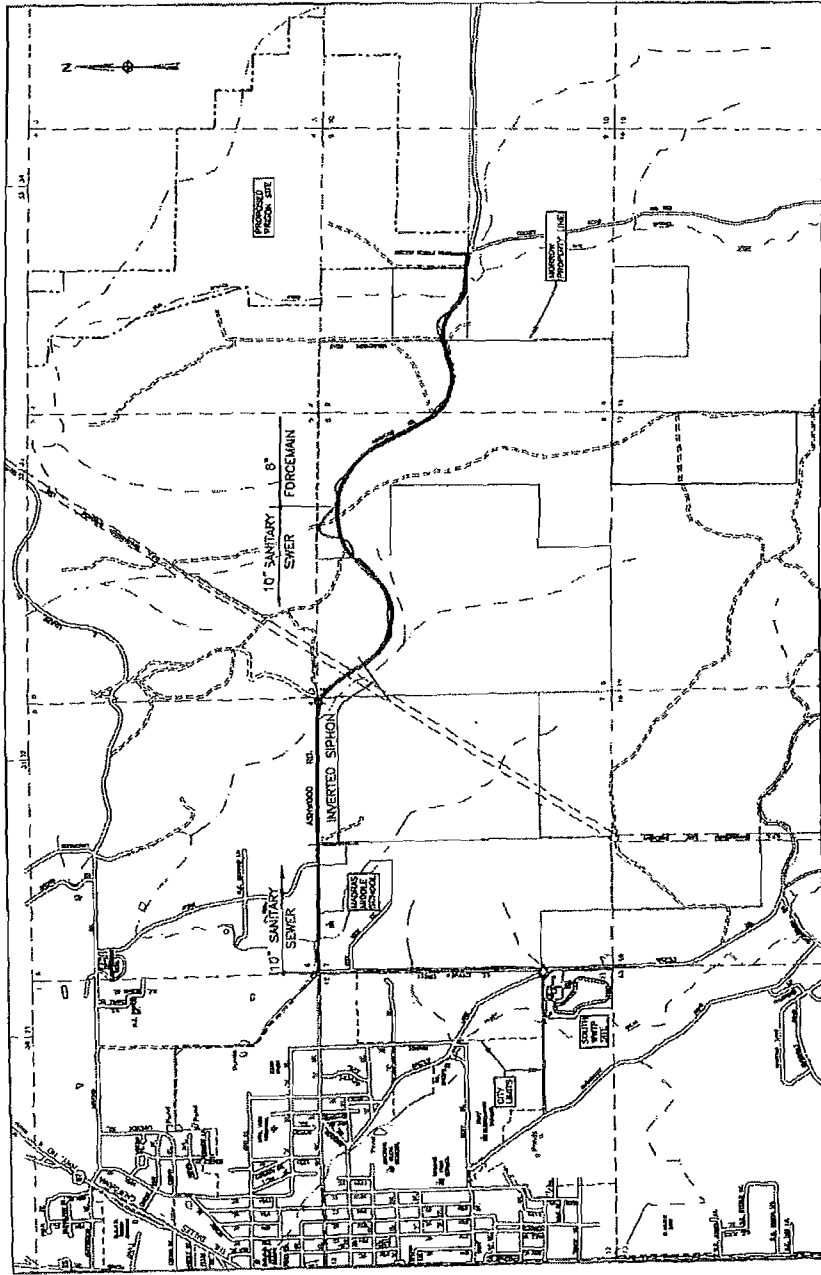
- PHASE 1
- PHASE 2
- PHASE 3
- POTENTIAL FUTURE SERVICES
- NO. OF PUMPS (ONE PUMP AS STANDBY)
- FLOW IN GPM

FIG. 5-2B  
 CITY OF MADRAS, OREGON  
 PROPOSED WASTEWATER COLLECTION SYSTEM  
 ALTERNATIVE B - CENTRAL AREA

NOTE:  
 ALL PROPOSED SEWERS TO BE 8" UNLESS OTHERWISE NOTED.

FACE  
 Consultants, Inc.  
 Portland, Oregon (503) 577-4330

**CITY OF MADRAS, OREGON**  
**PHASE 1B SEGMENT 2 WASTEWATER SYSTEM IMPROVEMENTS**  
**ASHWOOD ROAD FORCEMAIN & SANITARY SEWER**



**LIST OF DRAWINGS**

- |    |  |
|----|--|
| 1  | COVER SHEET  |
| 2  | GENERAL NOTES, LEGEND AND ABBREVIATIONS  |
| 3  | SCHEDULE A - FORCEMAIN & SANITARY SEWER, 10" SANITARY SEWER / STA. 1+48 TO 1+113.28  |
| 4  | SCHEDULE A - FORCEMAIN & SANITARY SEWER, 10" SANITARY SEWER / STA. 1+113.28 TO 2+000 |
| 5  | SCHEDULE A - FORCEMAIN & SANITARY SEWER, 10" SANITARY SEWER / STA. 2+000 TO 3+100    |
| 6  | SCHEDULE A - FORCEMAIN & SANITARY SEWER, 10" SANITARY SEWER / STA. 3+100 TO 4+200    |
| 7  | SCHEDULE A - FORCEMAIN & SANITARY SEWER, 10" SANITARY SEWER / STA. 4+200 TO 5+300    |
| 8  | SCHEDULE A - FORCEMAIN & SANITARY SEWER, 10" SANITARY SEWER / STA. 5+300 TO 6+400    |
| 9  | SCHEDULE A - FORCEMAIN & SANITARY SEWER, 10" SANITARY SEWER / STA. 6+400 TO 7+500    |
| 10 | SCHEDULE A - FORCEMAIN & SANITARY SEWER, 10" SANITARY SEWER / STA. 7+500 TO 8+600    |
| 11 | SCHEDULE A - FORCEMAIN & SANITARY SEWER, 10" SANITARY SEWER / STA. 8+600 TO 9+700    |
| 12 | SCHEDULE A - FORCEMAIN & SANITARY SEWER, 10" SANITARY SEWER / STA. 9+700 TO 10+800   |
| 13 | SCHEDULE A - FORCEMAIN & SANITARY SEWER, 10" SANITARY SEWER / STA. 10+800 TO 11+900  |
| 14 | DETAIL SHEET   |

**ATTENTION :**  
 OREGON LAW REQUIRES YOU TO FOLLOW RULES  
 ADOPTED BY THE OREGON UTILITIES REGULATORY BOARD.  
 YOU MAY OBTAIN A COPY OF THESE RULES BY  
 CALLING THE BOARD AT (503) 531-1987.



DATE	BY	CHECKED	THRU	FILE	SCALE	DATE MADE	DATE MADE ON
<b>ACE Consultants, Inc.</b> Engineers, Oregon (P.E.) C.E.S.							
VICINITY MAP NO.							
PHASE 1B SEG 2 WASTEWATER SYSTEM IMPROVEMENTS CITY OF MADRAS, OREGON							
COVER SHEET							





**Nick Snead**

**From:** Edson at DVWD [edson@dvwd.org]  
**Sent:** Tuesday, January 26, 2010 11:15 AM  
**To:** Nick Snead  
**Subject:** RE: Domestic water service availability

-->

Hi Nick-

DVWD should be able to serve that property. Naturally, the mainline upgrades and/or extensions would have to be paid for by the developer. When there is an engineered plan for the required infrastructure, I will be happy to do an estimate for the waterworks portion to be installed by DVWD.

Feel free to call if you need more information.

Edson Pugh, P.E.

General Manager

Deschutes Valley Water District

881 SW Culver Hwy.

Madras, OR 97741

Ph. # (541) 475-3849

---

**From:** Nick Snead [mailto:nsnead@ci.madras.or.us]  
**Sent:** Monday, January 25, 2010 8:45 AM  
**To:** Ed Pugh  
**Subject:** Domestic water service availability  
**Importance:** High

Ed,

3/30/2010

Good morning! You may have heard the City is proposing to expand the Urban Growth Boundary by approximately 37 acres and annex 20 acres into the City for the Jefferson County School District. The property proposed to be annexed is south of Ashwood Road. I have attached a map to quickly orient your to the property. I am wondering if DVWD domestic water service is available or if not, what facility improvements would future development be responsible for constructing? This email is a formal request and I would like to put your response in the record to demonstrate (hopefully) that water service is available and/or the facility improvements needed to serve the area proposed to be in the Madras UGB.

Let me know if you have any questions. Call me at 541-323-2916 if needed.

Take care,

*"One may walk over the highest mountain one step at a time"* -John Wanamaker-

Nicholas S. Snead

Director

Community Development Department

City of Madras

(541) 475-3388

Email: [nsnead@ci.madras.or.us](mailto:nsnead@ci.madras.or.us)

Visit the City of Madras at <http://ci.madras.or.us/>

No virus found in this incoming message.  
Checked by AVG - [www.avg.com](http://www.avg.com)  
Version: 8.5.432 / Virus Database: 271.1.1/2644 - Release Date: 01/25/10 07:36:00

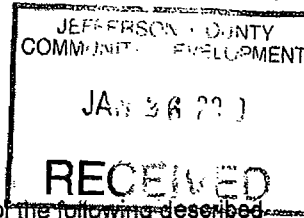
3/30/2010

O-039-10

## **Appendix E: Property Owner Consent Letters**

O-039-10

CITY OF MADRAS  
PROPERTY OWNER  
CONSENT TO ANNEXATION



The undersigned property owner(s) hereby consents to the annexation of the following described property to the City of Madras, Jefferson County, Oregon.

(Legal description of property):

Map #11-14-7, Tax Lot #101  
(See Attached Exhibit "B")

The undersigned property owner hereby gives express, continuing, written consent to annexation of the property described herein to the City of Madras; and does hereby agree to execute such separate, further or additional application, petition, and consent as may be hereafter required by the City, or the laws of the State, as now or hereafter enacted for such annexation. This consent is given in consideration of City services that either have been or will be applied to the described property. The undersigned intends this consent to comply with all requirements of law for annexation of the property described. The undersigned and City intend that this consent shall constitute a covenant running with the land, binding on the undersigned and the undersigned's heirs, successors, or assigns.

The undersigned represents that the undersigned is the owner of this property and has the right to consent to its annexation.

DATED this 9th day of October, 20 03.

Signature: *Albert L. Zemke*  
Typed Name: Albert L. Zemke

Signature: \_\_\_\_\_  
Typed Name: \_\_\_\_\_

Address: Springview Farms, LLC  
2519 E. Ashwood Road  
Madras, Oregon 97741

STATE OF OREGON )  
County of Jefferson )

Personally appeared before me this 10th day of October, 20 03 the above named

Albert L. Zemke  
(List name of individual(s) having signature notarized)

and acknowledged the foregoing instrument to be a voluntary act.



*Karen J. Coleman*  
Notary Public for Oregon  
My Commission Expires: 9-14-2004

After Recording Return to:

City of Madras  
71 S.E. "D" Street  
Madras, Oregon 97741

Jefferson County Official Records 2003-005431  
Kathleen B. Marston, County Clerk



\$41.00

D-ANXCON Cnt=1 Stn=2 KATE  
\$15.00 \$11.00 \$10.00 \$5.00

10/13/2003 04:08:44 PM



**EXHIBIT "B"**

**MAP #11-14-7, TAX LOT #101  
ALBERT L. ZEMKE**

**PARCEL I: Northeast quarter, Northeast quarter of the Southeast quarter, North half of the Northwest quarter of the Southeast quarter, Southeast quarter of the Northwest quarter of the Southeast quarter of Section 7, Township 11 South, Range 14 East of the Willamette Meridian Jefferson County Oregon, and the Southwest quarter of the Northwest quarter of the Southeast quarter.**

Jefferson County Official Records O-039-10  
Kathleen B. Marston, County Clerk 2008-002279



00061426200800022790060062

\$56.00

06/17/2008 04:16:27 PM

D-ANXCON Cnt=1 Stn=2 KATE  
\$30.00 \$11.00 \$10.00 \$5.00

**RECORDED DOCUMENT**  
**STATE OF OREGON**  
**COUNTY OF JEFFERSON**

***DO NOT REMOVE THIS CERTIFICATE***

(This certificate constitutes a part of the original instrument in accordance with ORS 205.180(2). Removal of this certificate may invalidate this certificate and affect the admissibility of the original instrument into evidence in any legal proceeding.)

***KATHLEEN B. MARSTON***  
**JEFFERSON COUNTY CLERK**

**CITY OF MADRAS  
PROPERTY OWNER  
CONSENT TO ANNEXATION**

The undersigned property owner(s) hereby consents to the annexation of the following described property to the City of Madras, Jefferson County, Oregon.

(Legal description of property):

**MAP #11-14-7, TAX LOT #200, MORE PARTICULARLY DESCRIBED  
ON ATTACHED EXHIBIT "A"**

The undersigned property owner hereby gives express, continuing, written consent to annexation of the property described herein to the City of Madras; and does hereby agree to execute such separate, further or additional application, petition, and consent as may be hereafter required by the City, or the laws of the State, as now or hereafter enacted for such annexation. This consent is given in consideration of City services that either have been or will be applied to the described property. The undersigned intends this consent to comply with all requirements of law for annexation of the property described. The undersigned and City intend that this consent shall constitute a covenant running with the land, binding on the undersigned and the undersigned's heirs, successors, or assigns.

The undersigned represents that the undersigned is the owner of this property and has the right to consent to its annexation.

DATED this 28 day of May, 2008.

Signature: Dorothy Thomas

Typed Name: DOROTHY THOMAS

Signature: Evan W. Thomas by Dorothy Thomas his attorney-in-fact.

Typed Name: EVAN W. THOMAS

Address: 2465 E. ASHWOOD ROAD

MADRAS, OREGON 97741

STATE OF OREGON )  
                                  )ss.  
County of Jefferson )

Personally appeared before me this 28 day of MAY, 2008 the above  
named Dorothy Thomas & Dorothy Thomas Attorney-in-fact EVAN W. THOMAS  
(List name of individual(s) having signature notarized) and acknowledged the foregoing  
for RB

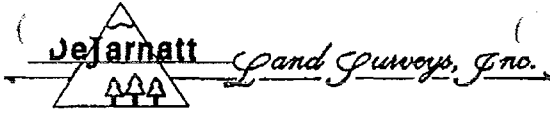
instrument to be a voluntary act.

Ruth E Barringer  
Notary - State of Oregon  
My Commission Expires: 24 Aug 2009

After Recording Return to:  
City of Madras  
71 S.E. "D" Street  
Madras, Oregon 97741







O-039-10

EXHIBIT "A"

63885 N. Hwy. 97 ▲ Bend, OR 97701 ▲ (541) 382-4192

City of Madras  
May 13, 2008  
Job # 08029B

Tax lot: 11-14-7-200

**CITY OF MADRAS ANNEXATION #2008-02**

A Tract of land located in the Northeast One-Quarter of the Northwest One-Quarter (NE 1/4 – NW 1/4) and the Northwest One-Quarter of the Northeast One-Quarter (NW 1/4 – NE 1/4) of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County, Oregon, more particularly described as follows:

**Beginning** at a point on the North-South centerline of said Section 7 which bears South 00°17'35" East a distance of 80.01 feet from the North One-Quarter corner of said Section 7; thence leaving said North-South Section centerline and along the South right-of-way line of Ashwood Road as described in Warranty Deed recorded in Book 2005, Page 005605 of Jefferson County official records South 89°39'39" East a distance of 61.23 feet; thence leaving said right-of-way line South 00°17'35" East a distance of 424.32 feet; thence South 89°42'25" West a distance of 61.22 feet to a point on the North-South centerline of said Section 7 which bears South 00°17'35" East a distance of 505.00 feet from the North One-Quarter corner of said Section 7, being a point on the boundary of Parcel 1 of Partition Plat No. 2004-15 (recorded as MF# 2004-4735); thence along the boundary of said Parcel 1 South 89°42'25" West a distance of 354.87 feet; thence leaving said boundary 117.68 feet along a non-tangent curve to the right with a radius of 455.00 feet, the chord of which bears North 07°42'08" West a distance of 117.35 feet; thence North 00°17'35" West a distance of 18.24 feet; thence 123.03 feet along the arc of a tangent curve to the right with a radius of 240.00 feet, the chord of which bears North 14°23'32" East for a distance of 121.68 feet; thence 186.84 feet along the arc of a reverse curve to the left with a radius of 360.00 feet, the chord of which bears North 14°12'33" East for a distance of 184.75 feet to a point on said South right-of-way line; thence along said South right-of-way line the following two (2) courses and one (1) curve:

South 88°42'59" East a distance of 170.57 feet;  
18.12 feet along the arc of a tangent curve to the left with a radius of 1099.00 feet, the chord of which bears South 89°11'19" East for a distance of 18.12 feet; South 89°39'39" East a distance of 104.28 feet to the point of beginning, the terminus of this description.

End of Description

*G. L. S.*

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

*Gary L. Dejarnatt*

OREGON  
JULY 17, 1986  
GARY L. DEJARNATT  
2 2 0 8

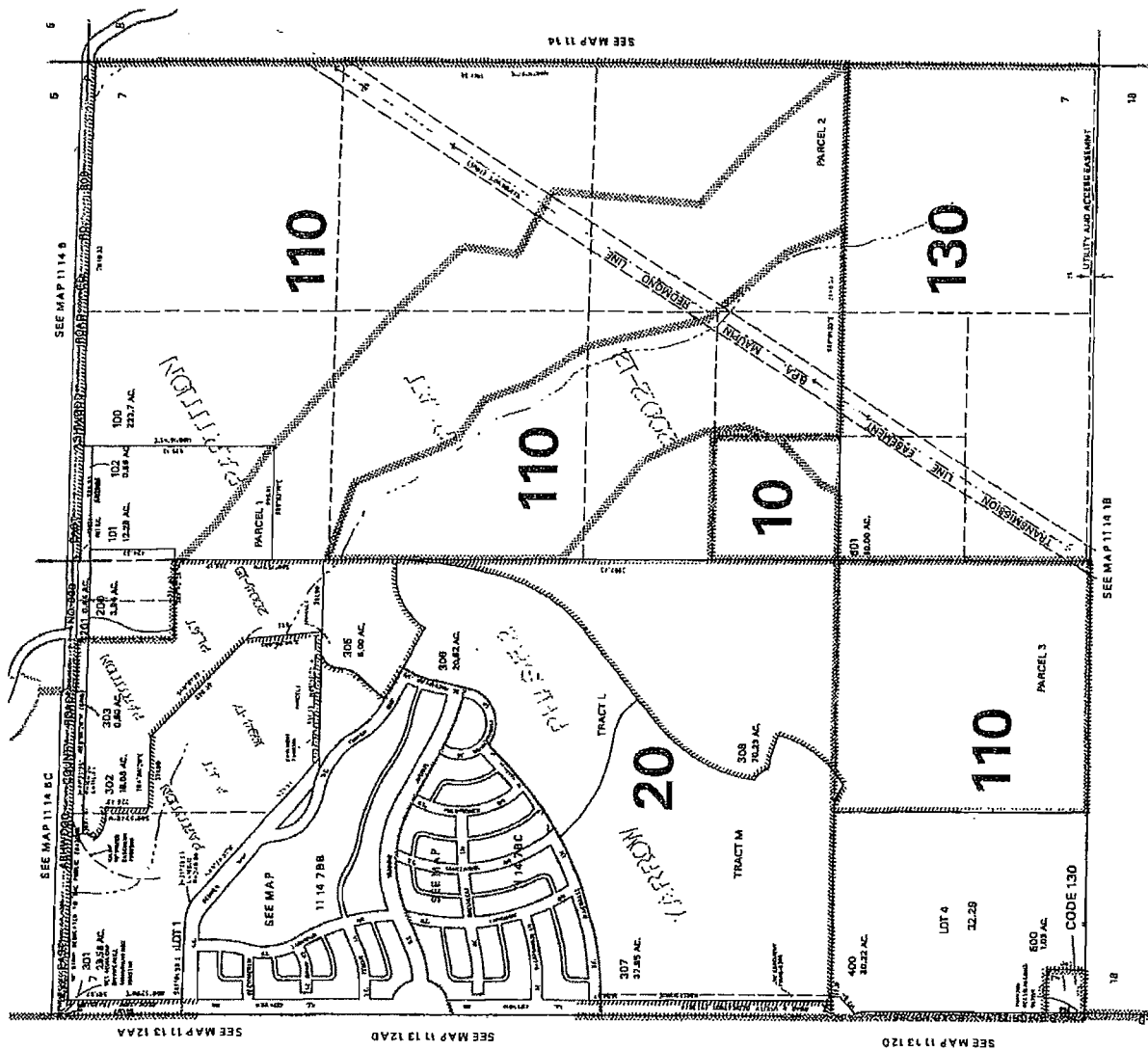
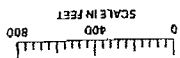
Renews: 12/31/2009

11147

CANCELED NO.  
600  
304  
300

SECTION 7 T.11S. R.14E. W.M.  
JEFFERSON COUNTY  
1"-400'

THIS MAP WAS PREPARED FOR  
ASSESSMENT PURPOSE ONLY



11147

Revised: 07/30/07

### CONSENT TO ANNEXATION ONE-YEAR WAIVER

(I/We), the undersigned, do hereby waive the one-year requirement on the attached "Consent to Annexation" for the following described property and acknowledge that the consent shall remain in effect indefinitely.

(Metes and Bounds Description and Map to be Attached to the Consent to Annexation)

Map # 11-14-7 Tax Lot # 200

Signature: *Dorothy E Thomas, Dorothy Thomas*

Typed Name: DOROTHY THOMAS  
*Evan W Thomas by Dorothy E Thomas his*

Signature: *attorney-in-fact*

Typed Name: EVAN W. THOMAS

Address: 2465 E. ASHWOOD ROAD

MADRAS, OREGON 97741

STATE OF OREGON )  
                          )ss.  
County of Jefferson )

Personally appeared before me this 28 day of MAY 20 08, the above  
EVAN W THOMAS, by Dorothy Thomas his attorney-in-fact  
named DOROTHY E. THOMAS AKA DOROTHY THOMAS and acknowledged the foregoing  
(List name of individual(s) having signature notarized) Dorothy THOMAS, Attorney-in-fact  
for EVAN W. THOMAS  
instrument to be a voluntary act.

*Ruth E Barringer*  
Notary - State of Oregon  
My Commission Expires: 24 Aug 2009

After Recording Return to:  
City of Madras  
71 S.E. "D" Street  
Madras, Oregon 97741



**PETITION FOR ANNEXATION BY CONSENT  
PURSUANT TO ORS 222.170**

I/We, EVAN W. THOMAS & Dorothy THOMAS, do hereby respectfully petition the City Council of the City of Madras to annex contiguous property to the City pursuant to ORS 222.170 (1)(a).

(Metes and Bounds Legal Description and Map Required)  
(These can be attached to the Consent to Annexation Form)

Map # <u>11-14-7</u>	Tax Lot # <u>200</u>
Map # _____	Tax Lot # _____
Map # _____	Tax Lot # _____
Map # _____	Tax Lot # _____

Attached hereto is the consent of the owner(s) of the property, and is incorporated herein as Exhibit "A". Petitioner hereby certifies that they are the owner(s) of said property as ownership is described in ORS 222.120(7). Petitioner further certifies to the City that they are the legal owner(s) of record and are the sole owners of the property.

Dated this 28 day of May, 20 08.

Signature: Dorothy Thomas

Typed or Printed Name: DOROTHY THOMAS

*Evan W. Thomas by Dorothy Thomas*

Signature: attorney in fact

Typed or Printed Name: EVAN W. THOMAS

**JEFFERSON County Assessor's Summary Report**  
**Real Property Assessment Report**  
 FOR ASSESSMENT YEAR 2009

January 25, 2010 2:07:49 pm

<b>Account #</b>	13274	<b>Tax Status</b>	ASSESSABLE
<b>Map #</b>	111407-00-00101	<b>Acct Status</b>	CANCELLED
<b>Code - Tax #</b>		<b>Subtype</b>	NORMAL
<b>Legal Descr</b>	See Record		
<b>Mailing Name</b>	LINCICOME MADRAS DEVELOPMENT, LLC	<b>Deed Reference #</b>	See Record
<b>Agent</b>		<b>Sales Date/Price</b>	See Record
<b>In Care Of</b>		<b>Appraiser</b>	
<b>Mailing Address</b>	63227 SERVICE RD BEND, OR 97701		

<b>Prop Class</b>	550	<b>MA</b>	SA	<b>NH</b>	<b>Unit</b>
<b>RMV Class</b>	500	05	60	000	-9922-0

<b>Situs Address(s)</b>	<b>Situs City</b>
-------------------------	-------------------

		Value Summary			
Code Area		AV	RMV	RMV Exception	CPR %
0020	Land	219	4,400	Land	0
	Impr.	0	0	Impr.	0
<b>Code Area Total</b>		219	4,400		0
<b>Grand Total</b>		219	4,400		0

		Land Breakdown									
Code Area	ID#	RFD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Irr Class	Irr Size
0020	1	R		RL	Farm Use Zoned	100	A	4.00	TD2		
<b>Grand Total</b>								4.00			0.00

		Improvement Breakdown							Total	Trended
Code Area	ID#	Yr Built	Stat Class	Description	TD%	Sq. Ft.	Ex% MS Acct #	Sq. Ft.	RMV	
<b>Grand Total</b>								0	0	

		Exemptions/Special Assessments/Potential Liability									
Code Area	Type										
0020											
<b>NOTATION(S):</b>		POTENTIAL TAX LIABILITY									

**Comments:** SPLIT CODE WITH #13134 Combined with account #13134

# JEFFERSON County Assessor's Summary Report

## Real Property Assessment Report

FOR ASSESSMENT YEAR 2009

January 25, 2010 2:07:27 pm

Account # 13134  
 Map # 111407-00-00101  
 Code - Tax # 0020-13274  
 0110-13134

Tax Status ASSESSABLE  
 Acct Status ACTIVE  
 Subtype NORMAL

Legal Descr See Record

Mailing Name JOHN, HEINZ A.

Deed Reference # 2009-741  
 Sales Date/Price 03-02-2009 / \$350,000.00  
 Appraiser COX, DON

Agent

In Care Of

Mailing Address  
 3879 LADERA VISTA RD  
 FALLBROOK, CA 92028

Prop Class 551 MA SA NH Unit  
 RMV Class 501 05 60 000 9922-1

Situs Address(s)	Situs City
ID# 1 2519 E ASHWOOD RD	MADRAS

Value Summary					
Code Area	AV	RMV	RMV Exception	CPR %	
0020 Land	225	4,460	Land	0	
Impr.	0	0	Impr.	0	
<b>Code Area Total</b>	<b>225</b>	<b>4,460</b>		<b>0</b>	
0110 Land	6,016	79,020	Land	0	
Impr.	166,480	218,540	Impr.	0	
<b>Code Area Total</b>	<b>172,496</b>	<b>297,560</b>		<b>0</b>	
<b>Grand Total</b>	<b>172,721</b>	<b>302,020</b>		<b>0</b>	

Land Breakdown											
Code Area	ID#	RFD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Irr Class	Irr Size
0020	3	R		RL	Farm Use Zoned	100	A	4.00	TD2		
								<b>Code Area Total</b>	4.00		0.00
0110	2	R		RL	Farm Site	100	A	1.00	MHS		
0110	1	R		RL	Farm Use Zoned	100	A	7.28	TD2		
								<b>Code Area Total</b>	8.28		0.00
								<b>Grand Total</b>	12.28		0.00

Improvement Breakdown											
Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex% MS Acct #	Trended RMV			
0110	1	1962	142	One story with basement	100	3,718		185,200			
0110	2	1962	300	Farm Bldg/Res Gp	100	2,400		30,390			
0110	3	1962	300	Farm Bldg/Res Gp	100	128		850			
0110	4	1962	300	Farm Bldg/Res Gp	100	400		2,100			
						<b>Grand Total</b>	6,646	218,540			

Code Area		Exemptions/Special Assessments/Potential Liability									
Type											
0020		NOTATION(S): POTENTIAL TAX LIABILITY									
0110		NOTATION(S): POTENTIAL TAX LIABILITY									

Comments: SPLIT CODE WITH #13274

11.14.7  
CANCELLED:  
800  
304  
300

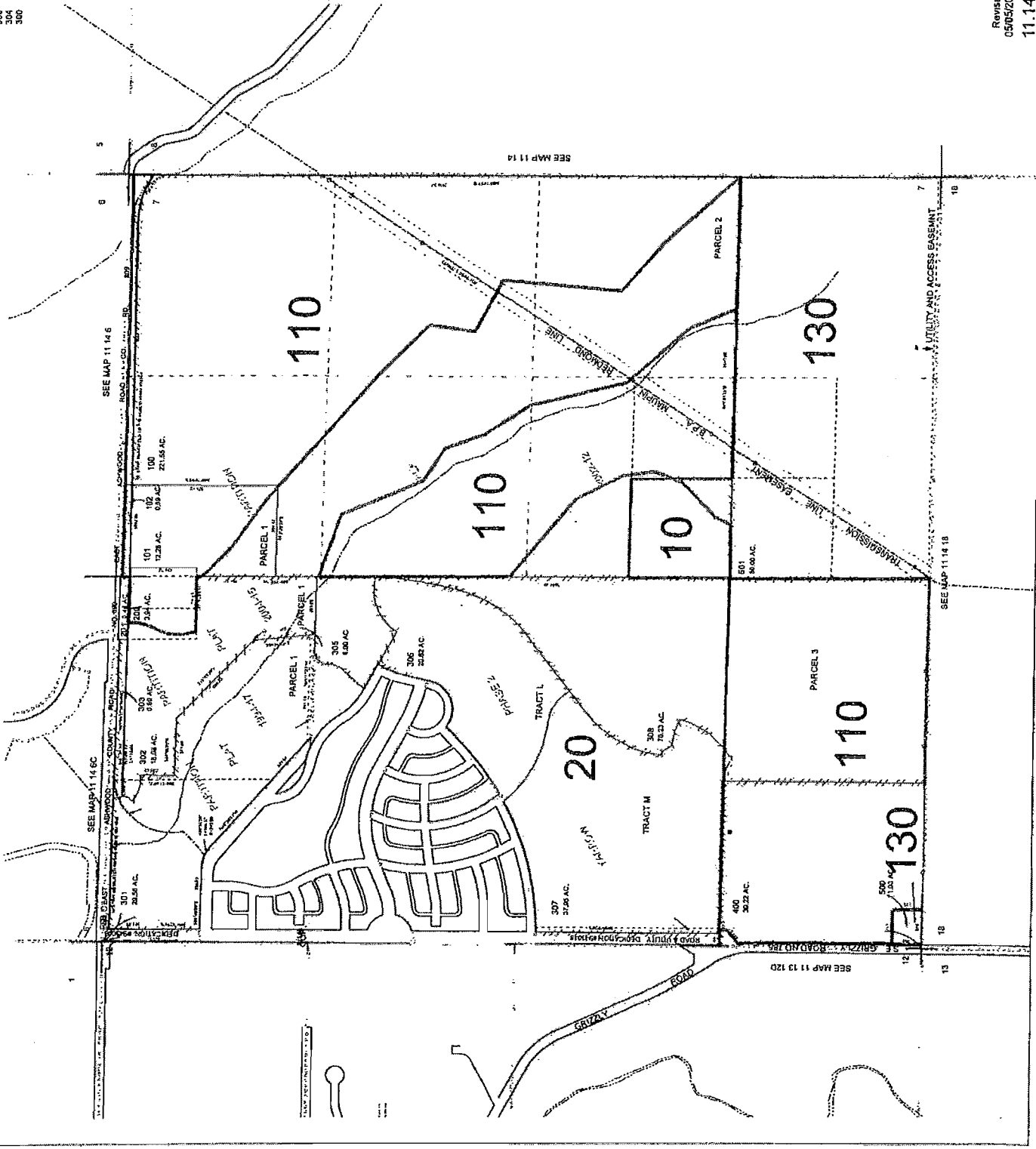
Revised  
05/05/2009  
11.14.7

SECTION 7 T.11S. R.14E. W.M.  
JEFFERSON COUNTY

1" = 400'

0 100 200 300 400 Feet

THIS MAP WAS PREPARED FOR  
ASSESSMENT PURPOSE ONLY



# JEFFERSON County Assessor's Summary Report

## Real Property Assessment Report

FOR ASSESSMENT YEAR 2009

January 25, 2010 2:06:46 pm

<b>Account #</b> 2602 <b>Map #</b> 111407-00-00200 <b>Code - Tax #</b> 0110-2602 <b>Legal Descr</b> Metes & Bounds - See legal report for full description. <b>Mailing Name</b> THOMAS, EVAN W & DOROTHY E <b>Agent</b> <b>In Care Of</b> <b>Mailing Address</b> 2465 E ASHWOOD R MADRAS, OR 97741	<b>Tax Status</b> ASSESSABLE <b>Acct Status</b> ACTIVE <b>Subtype</b> NORMAL  <b>Deed Reference #</b> See Record <b>Sales Date/Price</b> See Record <b>Appraiser</b> COX, DON
---	---

<b>Prop Class</b>	401	<b>MA</b>	<b>SA</b>	<b>NH</b>	<b>Unit</b>
<b>RMV Class</b>	401	05	52	000	1857-1

Situs Address(s)	Situs City
ID# 2465 E ASHWOOD RD	MADRAS

Value Summary					
Code Area	AV	RMV	RMV Exception	CPR %	
0110 Land	81,960	130,790	Land	0	
Impr.	131,050	211,530	Impr.	0	
<b>Code Area Total</b>	<b>213,010</b>	<b>342,320</b>		<b>0</b>	
<b>Grand Total</b>	<b>213,010</b>	<b>342,320</b>		<b>0</b>	

Land Breakdown											
Code Area	ID#	RFD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Irr Class	Irr Size
0110	1	R		RL	Market	100	A	3.94			
<b>Grand Total</b>								<b>3.94</b>			<b>0.00</b>

Improvement Breakdown											
Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex% MS Acct #	Trended RMV			
0110	1	1956	142	One story with basement	100	4,173		210,280			
0110	2		300	Farm Bldg/Res Gp	100	224		1,250			
<b>Grand Total</b>								<b>4,397</b>	<b>211,530</b>		





00028548200500002620020028

\$36.00

01/18/2006 02:31:06 PM

D-WD Cnt=1 Stn=2 KATE  
\$10.00 \$11.00 \$10.00 \$5.00

Send tax statements to:

City of MADRAS  
71 SE D. St.  
MADRAS, OR. 97741

After recording Return to:

City of Madras  
71 SE D Street  
Madras OR 97741

WARRANTY DEED  
(Statutory Form)  
(ORS 93.850)

MORROW PROPERTIES, INC., an Oregon corporation, Grantor, conveys and warrants to the CITY OF MADRAS, an Oregon municipality, Grantee, the following described real property, situate in Jefferson County, Oregon, free from encumbrances except as specifically set forth:

Parcel 1 of Partition Plat No. 2004-06, recorded April 15, 2004, as Instrument No. 2004-1610, Jefferson County, Oregon.

SUBJECT TO:

1. 2004-2005 taxes, a lien in an amount to be determined, but not yet payable.
2. As disclosed by tax roll the premises herein described have been zoned or classified for farm use. At any time that said land is disqualified for such use, the property may be subject to additional taxes or penalties and interest.
3. The property lies within the boundaries of Deschutes Valley Water District and is subject to any charges or assessments levied by said District, and pipeline easements in connection therewith.
4. Rights of the public in and to that portion of the herein described premises lying within the boundaries of roads or highways.
5. Right of way, if any, of Public Usage Road No. 3053 as shown on tax assessor map but which the Grantor declares may be closed or vacated by prior Federal or County governmental action.
6. Mineral reservation by the United States of America as disclosed in Deed recorded April 28, 1983, Fee No. 147453.
7. Reservation by the United States of America for power line as disclosed in Deed, recorded April 28, 1983, Fee No. 147453.

The true consideration for this conveyance is an exchange of real property between the Grantee and Grantor.

- 8. Reservation by the United States of America for power line as disclosed in Deed, recorded April 28, 1983, Fee No. 147453.
- 9. Easement, including the terms and provisions thereof, for electrical transmission lines granted to Central Electric Cooperative, Inc., recorded April 28, 1983, Fee No. 147456.
- 10. Easement, including the terms and provisions thereof, for communication lines, granted to Pacific Northwest Bell Telephone Company, recorded April 28, 1983, Fee No. 147458.
- 11. Easements as shown on Partition Plat 2004-06, for utility and access.

THIS INSTRUMENT WILL NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES AND TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930.

Dated this 4<sup>th</sup> day of January, ~~2004~~ <sup>2005</sup> Jan

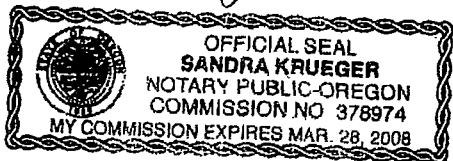
MORROW PROPERTIES, INC:

By: Andrew J. Morrow  
 ANDREW J. MORROW, President

STATE OF OREGON            )  
   ) ss.  
 County of Jefferson        )

Personally appeared ANDREW J. MORROW, who being duly sworn, did say that he is the President of MORROW PROPERTIES, INC., an Oregon corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation by authority of its Board of Directors, and he acknowledged said instrument to be its voluntary act and deed, before me this

4<sup>th</sup> day of January, 2005



Sandra Krueger  
 Notary Public for Oregon  
 My commission expires: 3-28-08

11 14 7				100		10/110 29/13/30		OFFICIAL RECORD OF DESCRIPTIONS OF REAL PROPERTY 4566-1 JEFFERSON COUNTY ASSESSOR'S OFFICE					
TWP. S.	RGE. E.	SEC.	1/4	1/16	TAX LOT NUMBER	TYPE	SPEC. INT. IN REAL PROP.	CODE AREA NUMBER	FORMERLY PART OF T.L. NO.				
MAP NUMBER								ACCOUNT NUMBER					
INDENT EACH NEW COURSE TO THIS POINT		28334				ADDITIONAL DESCRIPTION AND RECORD OF CHANGE Page 1			DATE OF ENTRY ON THIS CARD		DEED RECORD VOL. PG.		ACRES REMAINING
		2836/13275/13276											
T11S R14E WM													
Sec 7, NE $\frac{1}{4}$ ; NE $\frac{1}{4}$ SE $\frac{1}{4}$ ; SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ ; NW $\frac{1}{4}$ SE $\frac{1}{4}$						Exchange D			26	540		230.00	
Exc: Co Rd 809		1.82 Zemke, Emma dth cert				2 4 77			57	159		228.18	
		Annexation to DVW				02/08/88			#881533				
		Annexation Resolution				02/08/88			#87-8				
		Oregon Corner Restoration Record				02/15/85			#883293				
		Oregon Corner Restoration Record				02/13/85			#883294				
		Oregon Corner Restoration Record				12/01/89			#892748				
Zemke to Zemke, TR		B&S Dd				03/16/92			921244				
Oregon Corner Restoration Record						1/04/95			#950029				
Zemke, AC		DC				5-22-97			971966				
**Also: TL 600- 10 Ac. (The SW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 7, T.11S, R.14E, W.M. All in Code 13													
Morrow Prop, Inc. to Zemke, AL		Trustee of Zemke, AC Trust				WD			10-15-97		974254		
		Boundary Adjust. BA 97-14				4-15-98			981538				
Code Totals													
#2836-		Code 13= 10 AC.											
#2833-		Code 11= 228.18 AC.											
		Total 238.18 AC											238.18
Zemke, AL Succ Trustee of Zemke, AC Trust to		Springview Farms, LLC				BS			5-7-01		2001814		

11	14	7		100				10/20 110 130	<b>OFFICIAL RECORD OF DESCRIPTIONS OF REAL PROPERTY</b> <b>JEFFERSON COUNTY ASSESSOR'S OFFICE</b>
TWP. S.	RGE. E.	SEC.	1/4	1/16	TAX LOT NUMBER	TYPE	SPEC. INT. IN REAL PROP.	CODE AREA NUMBER	
MAP NUMBER				ACCOUNT NUMBER		FORMERLY PART OF T.L. NO.			

INDENT EACH NEW COURSE TO THIS POINT	ADDITIONAL DESCRIPTION AND RECORD OF CHANGE	DATE OF ENTRY ON THIS CARD	DEED RECORD VOL.	PG.	ACRES REMAINING
	Exc. 0.45 Survey Adj.				
	Exc. 0. <del>00</del> <sup>60</sup> 10 <sup>t</sup> Road Ded.				
	Exc. 13.43 AC. Parcel 1 of PP 2002-12				
	New Desc. for this TL Parcel 2 of PP 2002-12	PP 12-30-02	2002	5926	223.7
	Affidavit of Correction PP 2002-12	2-5-03	2003	0589	
	Code Totals				
	Code 110 = 213.7 AC.				
	Code 130 = 10.0 AC.				
	Total 223.7 AC.				
	Springview Farms, LLC to City of Madras	WD 1-2-03	2003	0022	
	Code change 58.56 acres annexed into City of Madras, Ordinance #711				
	Code 10 = 8.44 Acres				
	Code 20 = 58.56 Acres				
	Code 110 = 155.14 Acres				
	Code 130 = 1.56 Acres	01-13-04			223.7

# JEFFERSON COUNTY ASSESSOR'S NAME LEDGER

Printed on 01-13-10

TOWNSHIP 11 RANGE 14 SECTION 1/4 1/16 TAXLOT 00100 SPECIAL INTEREST

Effective Date 22-Jan-2000 12:00 AM Transaction ID 110303 Entry Date 22-Jan-2000 Recorded Date 22-Jan-2000 Sale Date 22-Jan-2000

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	108982	2001	HISTORICAL - BOR	U	1900	8880	1	20011814	CONVERSION NAME CHANGE	

Name Changes Status Name D SPRINGVIEW FARMS, LLC

Name Type Ownership Type Ownership % OWNER

Effective Date 18-Dec-2002 12:00 AM Transaction ID 110304 Entry Date 18-Dec-2002 Recorded Date 18-Dec-2002 Sale Date 18-Dec-2002

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	108983	2003	HISTORICAL - BOR	U	1900	8881	1	20030022	CONVERSION NAME CHANGE	

Name Changes Status Name D MADRAS, CITY OF

Name Type Ownership Type Ownership % OWNER

Effective Date 15-Sep-2005 12:00 AM Transaction ID 91591 Entry Date 15-Sep-2005 Recorded Date 15-Sep-2005 Sale Date 15-Sep-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	90058	2005	ASSESSOR'S FILE		2005	543	1	CONVERSION-2	CONVERSION	

Size Changes Code 0110 +/- Size 213.70 Acres Alternate Size Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 213.70 SqFt 0.00

Effective Date 23-Oct-2007 11:59 AM Transaction ID 386939 Entry Date 22-Oct-2007 Recorded Date 22-Oct-2007 Sale Date

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP

0-039-10

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00100

1 452117 2008 ASSESSOR AF 2007 117 1 SIZE CHANGE  
 PP #2002-12, INCORRECT ACREAGE ENTERED ON THIS ACCOUNT. SHOULD BE 155.14 ACRES.

Size Changes Code 0110 +/- Size -58.56 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 155.14 SqFt 0.00

Active Date 28-Aug-2008 9:16 AM Transaction ID 397519 Entry Date 11-Jul-2008 Recorded Date 25-Jun-2008 Sale Date

SEQ VOUCHER ID TAX YEAR DOCUMENT SOURCE TYPE ID #1 ID #2 PID Source ID PT OPERATION TO/FROM MAP  
 1 513340 2008 CLERK - BOR U 2008 2388 2 SIZE CHANGE  
 PUBLIC ROAD DEDICATION, JOB #08029C - CITY OF MADRAS, 11-14-07 TAX LOT 100, ACCOUNT #2833, (SPLIT CODE  
 AREA 110) CONVEYS TO THE PUBLIC FOR ROAD, 2.15 ACRES.

Size Changes Code 0110 +/- Size -2.15 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 152.99 SqFt 0.00

Add:  
 Public Road Dedication

A portion of Parcel 2 of Partition Plat No. 2002-12 as filed in the Jefferson County Clerk's Office, situated in the Northeast Quarter (NE 1/4) of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County, Oregon, more particularly described as follows:

Commencing at the Northwest corner of said Northeast Quarter, monumented with a 2 inch diameter brass cap, from which the Northeast corner of said Section 7 bears South 89°39'40" East a distance of 2640.53 feet; thence South 89°39'40" East long the Northline of said Section 7 a distance of 599.97 feet; thence South 00°17'36" West a distance of 40.00 feet to the Northwest corner of said Parcel 2 of Partition Plat No. 2002-12 and the True Point of Beginning of this Description; thence continuing South 00°17'36" West a distance of 1690.17 feet; thence 374.44 feet along the arc of a 600.00 foot radius curve to the right, with a central angle of 35°45'24" the long chord bears South 71°04'6" East a distance of 368.40 feet to the East line of

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00100

said Northeast Quarter;thence North 00°00'43" East along the East line of said Northeast Quarter a distance of 132.03 feet; thence North 64°S9'3 1" West a distance of 12.90 feet; thence 34.51 feet along the arc of a 710.00 foot radius to the left, with a central angle of 2°47'07" the longchord bears North 62°36'48" West a distance of 34.51 feet to the North line of said Parcel 2; thence North 89°39'40" West along said North line a distance of 1998.01 feet to the True Point of Beginning.

Containing 2.15 acres more or less.

Effective Date 04-May-2009 12:43 PM Transaction ID 432733 Entry Date 04-May-2009 Recorded Date 04-May-2009 Sale Date  
 COMBINING SPLIT CODES INTO ONE REAL ACCOUNT NUMBER #2833. REAL ACCOUNT NUMBERS #2836, #13275, &  
 #13276 CANCELLED.

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
4	566927	2009	ASSESSOR	AF	2009	130	1			COMBINATION - TO	
											1114070000100
											1114070000100
											1114070000100

Size Changes	Code	+/- Size	Alternate Size	Code Area Deleted	Move to Acct	Move to Code
	0130	1.56 Acres	0.00			
	0010	8.44 Acres	0.00			
	0020	58.56 Acres	0.00			

Size Totals	Code	Acres	SqFt
	0110	152.99	0.00
	0130	1.56	0.00
	0010	8.44	0.00
	0020	58.56	0.00

OFFICIAL RECORD OF DESCRIPTIONS OF REAL PROPERTY COUNTY ASSESSOR'S OFFICE										
11	14	7		101			20 110	FORMERLY PART OF 11 14 7 100		
TWP.	RGE.	SEC.	1/4	1/16	PARCEL NUMBER	Type	Spec. Int. In REAL PROP.	CODE AREA NUMBER		
MAP NUMBER					TAX LOT NUMBER					
Indent each new course to this point					DESCRIPTION AND RECORD OF CHANGE			Date Recorded	Ref# or Vol. PG.	Acres Remaining
					13134					
					13274					
					T11S R14E Sec. 7					
					Partition Plat 2002-12					
					Parcel 1	PP		12-30-02	20025926	13.43
					Affidavit of Correction PP 2002-12			2-5-03	20030589	
					Code change 4.0 acres annexed into City of Madras Ordinance #711					
					Code 20 = 4.0 acres					
					Code 110 = 9.43 acres			01-13-04		13.43
					Springview Farms, LLC to Zemke, AL	BS		02-28-05	20050974	
					Zemke, AL to Lincicome Madras Development, LLC	WD		6-1-05	20052823	



# JEFFERSON COUNTY ASSESSOR'S NAME LEDGER

Printed on 01-13-10

TOWNSHIP 11 RANGE 14 SECTION 1/4 TAXLOT 07 1/16 0 00101 SPECIAL INTEREST

Effective Date 25-Feb-2005 12:00 AM Transaction ID 143182 Entry Date 25-Feb-2005 Recorded Date 25-Feb-2005 Sale Date 25-Feb-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	141861	2005	HISTORICAL - BOR	U	1900	41759	1	20050974		CONVERSION NAME CHANGE	

Name Changes Status Name D ZEMKE, ALBERT L Name Type OWNER Ownership Type Ownership %

Effective Date 31-May-2005 12:00 AM Transaction ID 143183 Entry Date 31-May-2005 Recorded Date 31-May-2005 Sale Date 31-May-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	141862	2005	HISTORICAL - BOR	U	1900	41760	1	20052823		CONVERSION NAME CHANGE	

Name Changes Status Name D LINCICOME MADRAS DEVELOPMENT, LLC Name Type OWNER Ownership Type Ownership %

Effective Date 15-Sep-2005 12:00 AM Transaction ID 101054 Entry Date 15-Sep-2005 Recorded Date 15-Sep-2005 Sale Date 15-Sep-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	91793	2005	ASSESSOR'S FILE		2005	2680	1	CONVERSION-1		CONVERSION	

Size Changes Code 0110 +/- Size 9.43 Acres Alternate Size Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 9.43 Sqft 0.00

Effective Date 19-Sep-2006 2:46 PM Transaction ID 258092 Entry Date 25-Jul-2006 Recorded Date 20-Jul-2006

Sale Date 23-Jun-2006 Sale Price 39,021

O-039-10

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00101

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	304491	2006	CLERK - BOR	WD	2006	4457	1		SEGREGATION - FROM	1114070000102
LESS 0.69 AC TO TAX LOT 102										

Size Changes Code 0110 +/- Size -0.69 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 8.74 SqFt 0.00

Effective Date 03-Aug-2007 9:49 AM Transaction ID 344875 Entry Date 12-Jun-2007 Recorded Date 11-Jun-2007 Sale Date 11-Jun-2007

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
2	409850	2007	CLERK - BOR	PLA	2007	3081	1		SIZE CHANGE	
SURVEY ADJUSTMENT										

Size Changes Code 0110 +/- Size 0.14 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 8.88 SqFt 0.00

3 409855 2007 CLERK - BOR PLA 2007 3081 1 SIZE CHANGE  
 MINUS 0.60 ACRES FROM 11-14-07 101 TO 11-14-07 200, ACCOUNT #13134 TO #2602.

Size Changes Code 0110 +/- Size -0.60 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 8.28 SqFt 0.00

4 410273 2007 CLERK - BOR PLA 2007 3081 1 TLC  
 LINCROME MADRAS DEVELOPMENT LLC, CONVEY TO EVAN W THOMAS & DOROTHY THOMAS, 0.60 ACRES,  
 PERFECTION DEED, DOC #2007-3808. NOTE: THIS ACCOUNT #13134 IS A SPLIT CODE WITH ACCOUNT #13274.

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00101

Size Totals Code 0110 Acres 8.28 SqFt 0.00

6 410346 2007 CLERK - BOR PLA 2007 3081 1 TLC  
 PERFECTION DEED, LINCICOME MADRAS DEVELOPMENT LLC TO LINCICOME MADRAS DEVELOPMENT LLC, DOC.  
 2007-3810

Size Totals Code 0110 Acres 8.28 SqFt 0.00

8 410383 2007 CLERK - BOR PLA 2007 3081 1 TLC  
 EASEMENT: 11-14-07 200 TO 11-14-07 101, EVAN W THOMAS & DOROTHY THOMAS TO LINCICOME MADRAS  
 DEVELOPMENT LLC., DOC. #2007-3813.

Size Totals Code 0110 Acres 8.28 SqFt 0.00

Effective Date 12-May-2008 12:00 AM Transaction ID 392383 Entry Date 12-May-2008 Recorded Date 12-May-2008 Sale Date 12-May-2008  
 SPLIT CODE COMBINATION DONE BY SDF Sale Price

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
461	480848	2008	ASSESSOR		2008	52	1			COMBINATION - TO	1114070000101

Size Changes Code 0020 +/- Size 4.00 Acres Alternate Size 0.00 Code Area Deleted Move to Acct Move to Code

Size Totals Code 0110 Acres 8.28 SqFt 0.00  
 Code 0020 4.00 0.00

Effective Date 10-Mar-2009 9:01 AM Transaction ID 430942 Entry Date 05-Mar-2009 Recorded Date 04-Mar-2009 Sale Date 02-Mar-2009  
 SALE PRICE 350,000

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	557756	2009	CLERK - BOR	WD	2009	741	1			NAME CHANGE	

TOWNSHIP 11 RANGE 14 SECTION 07 1/4 0 1/16 0 TAXLOT 00101 SPECIAL INTEREST

<u>Name Changes</u>	Status	Name	Name Type	Ownership Type	Ownership %
	D	LINCICOME MADRAS DEVELOPMENT, LLC	OWNER	OWNER	
	A	JOHN, HEINZ A.	OWNER	OWNER	

<u>Size Totals</u>	Code	Acres	SqFt
	0110	8.28	0.00
	0020	4.00	0.00



Jefferson County Official Records  
Kathleen B. Marston, County Clerk 2009-000741



\$36.00

00066601200900007410020021

03/04/2009 03:26:23 PM

D-WD Cnt=1 Stn=2 KATE  
\$10.00 \$11.00 \$10.00 \$5.00

After recording return to:  
FIRST OREGON TITLE COMPANY  
116 SE D Street, Ste A  
MADRAS, OR 97741

Until a change is requested all  
tax statements shall be sent to  
the following address:

Heinz A. John  
3879 Ladera Vista Road  
Fallbrook, CA 92028

Escrow No. 0011105TD  
Title No. 11105

WARRANTY DEED

Lincicom Madras Development, LLC,  
Grantor(s) hereby grant, bargain, sell, warrant and convey to:  
Heinz A. John  
Grantee(s) and grantee's heirs, successors and assigns the following described  
real property, free of encumbrances except as specifically set forth herein in  
the County of JEFFERSON and State of Oregon, to wit:  
SEE EXHIBIT A WHICH IS MADE A PART HEREOF BY THIS REFERENCE  
Acct# 13134/13274 Map# 11-14-7 101

SUBJECT TO: all those items of record and those apparent upon the land, if  
any, as of the date of this deed and those shown below, if any:  
and the grantor will warrant and forever defend the said premises and every  
part and parcel thereof against the lawful claims and demands of all persons  
whomsoever, except those claiming under the above described encumbrances.

The true and actual consideration for this conveyance is \$ 350,000.00.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE  
SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER SECTIONS 2, 3 AND 5 TO  
22 OF CHAPTER 424, OREGON LAWS 2007 (MEASURE 49 (2007)). THIS INSTRUMENT DOES  
NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF  
APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS  
INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH  
THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF  
LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN  
ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO  
DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED  
IN ORS 30.930 AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS,  
IF ANY, UNDER SECTIONS 2, 3 AND 5 TO 22 OF CHAPTER 424, OREGON LAWS 2007  
(MEASURE 49 (2007)).

Dated this 2nd day of March, 2009.

Lincicom Madras Development, LLC  
BY: James Mitch Cole, Member

State of Oregon  
County of JEFFERSON Deschutes

This instrument was acknowledged before me on March 2nd, 2009 by Mitch Cole.

*Daphne Brix*  
(Notary Public for Oregon)  
My commission expires 6/19/2010



First Oregon Title Company

10

**EXHIBIT "A"****Legal Description:**

A parcel of land containing 12.28 acres, more or less, being a portion of Parcel 1 of Partition Plat No. 2002.12 located in the Northeast One-quarter of Section 7, Township 11 South, Range 14 East of the Willamette Meridian, Jefferson County, Oregon, being more particularly described as follows:

Commencing at a point on the north-south centerline of said Section 7 which bears South  $00^{\circ}17'35''$  East a distance of 80.01 feet from the North One-quarter corner of said Section 7, thence leaving said north-south section centerline and along the south right-of-way line of Ashwood road as described in Warranty Deed recorded as instrument No. 2005-005605 of Jefferson County official records South  $89^{\circ}39'39''$  East a distance of 61.23 feet to the true Point of Beginning of this description; thence continuing along said right-of-way line South  $89^{\circ}39'39''$  East a distance of 538.68 feet to a point on the east boundary of said Parcel 1; thence along said east boundary South  $00^{\circ}17'35''$  East a distance of 935.15 feet to the Southeast corner of said Parcel 1; thence along the south boundary of said Parcel 1 North  $89^{\circ}40'13''$  West a distance of 599.90 feet to the southwest corner of said Parcel 1, being a point on said north-south section centerline; thence along said north-south section centerline North  $00^{\circ}17'35''$  West a distance of 510.26 feet to a point which bears South  $00^{\circ}17'35''$  East a distance of 505.00 feet from the North One-quarter corner of said Section 7; thence leaving said north-south section centerline North  $89^{\circ}42'25''$  East a distance of 61.22 feet thence North  $00^{\circ}17'35''$  West a distance of 424.32 feet to the point of beginning.

**JEFFERSON COUNTY ASSESSOR**  
**REAL PROPERTY ASSESSMENT REPORT**  
**FOR ASSESSMENT YEAR 2009**

Jan 13, 2010

ACCOUNT # 15964  
 MAP 1114070000102  
 CODE - TAX # 0010 - 15964

TAX STATUS NONASSESSABLE  
 ACCNT STATUS ACTIVE  
 SUBTYPE NORMAL

MAILING NAME OREGON DEPARTMENT OF CORRECTIONS  
 AGENT  
 IN CARE OF ATTN: COMMUNITY DEVELOPMENT MGR  
 MAILING ADDRESS  
 1793 13TH ST SE  
 SALEM, OR 97302

DEED REFERENCE # 2006-4457 (SOURCE ID: )  
 SALES DATE/PRICE 06-23-2006 / \$39,021.00

PROP CLASS 960 MA SA NH UNIT  
 RMV CLASS 400 05 52 000 68912-1

SITUS ADDRESS(S)	SITUS CITY
ID #	

CODE AREA		AV	RMV	VALUE SUMMARY	RMV EXCEPTION	CPR %
0010	LAND	0	64,550	LAND		
	IMPR.	0	0	IMPR.		
	TOTAL	0	64,550	TOTAL	0	
	GRAND TOTAL	0	64,550	GRAND TOTAL	0	

LAND BREAKDOWN										
CODE AREA	ID #	RFD	PLN ZN	VALUE SOURCE	TD%	LS	SIZE	LND CLS	IRR CLASS	IRR SIZE
0010		R	1	RL	Market	100	A	0.69		
						TOTAL		0.69	TOTAL	0.00

# JEFFERSON COUNTY ASSESSOR'S NAME LEDGER

Printed on 01-13-10

TOWNSHIP 11 RANGE 14 SECTION 07 1/4 1/16 TAXLOT 00102 SPECIAL INTEREST

Effective Date 19-Sep-2006 2:46 PM Transaction ID 258092 Entry Date 25-Jul-2006 Recorded Date 20-Jul-2006 Sale Date 23-Jun-2006  
 Sale Price 39,021

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP																		
2	304496	2006	CLERK - BOR	WD	2006	4457	1		SEGREGATION - TO	1114070000101																		
0.69 AC FROM TAX LOT 101																												
<table border="0" style="width: 100%;"> <tr> <td style="width: 30%;"><u>Name Changes</u></td> <td style="width: 20%;">Status</td> <td style="width: 20%;">Name</td> <td style="width: 20%;">Name Type</td> <td style="width: 10%;">Ownership Type</td> <td style="width: 10%;">Ownership %</td> </tr> <tr> <td></td> <td>A</td> <td>STATE OF OREGON</td> <td>OWNER</td> <td>OWNER</td> <td></td> </tr> <tr> <td></td> <td>A</td> <td>DEPARTMENT OF CORRECTIONS</td> <td>OWNER</td> <td>OWNER</td> <td></td> </tr> </table>											<u>Name Changes</u>	Status	Name	Name Type	Ownership Type	Ownership %		A	STATE OF OREGON	OWNER	OWNER			A	DEPARTMENT OF CORRECTIONS	OWNER	OWNER	
<u>Name Changes</u>	Status	Name	Name Type	Ownership Type	Ownership %																							
	A	STATE OF OREGON	OWNER	OWNER																								
	A	DEPARTMENT OF CORRECTIONS	OWNER	OWNER																								
<table border="0" style="width: 100%;"> <tr> <td style="width: 30%;"><u>Size Changes</u></td> <td style="width: 10%;">Code</td> <td style="width: 10%;">+/-</td> <td style="width: 10%;">Size</td> <td style="width: 10%;">Alternate Size</td> <td style="width: 10%;">Code</td> <td style="width: 10%;">Area Deleted</td> <td style="width: 10%;">Move to Acct</td> <td style="width: 10%;">Move to Code</td> </tr> <tr> <td></td> <td>0010</td> <td></td> <td>0.69 Acres</td> <td></td> <td></td> <td></td> <td></td> <td>0.00</td> </tr> </table>											<u>Size Changes</u>	Code	+/-	Size	Alternate Size	Code	Area Deleted	Move to Acct	Move to Code		0010		0.69 Acres					0.00
<u>Size Changes</u>	Code	+/-	Size	Alternate Size	Code	Area Deleted	Move to Acct	Move to Code																				
	0010		0.69 Acres					0.00																				

Size Totals Code 0010 Acres 0.69 SqFt 0.00

Effective Date 20-Sep-2006 3:50 PM Transaction ID 289393 Entry Date 20-Sep-2006 Recorded Date 20-Sep-2006 Sale Date

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT OPERATION	TO/FROM MAP
1	321990	2006	ASSESSOR	CONV	2006	139	1		TAX STATUS CHANGE TO NON-ASSESSABLE	
ROAD										

Size Totals Code 0010 Acres 0.69 SqFt 0.00



Jefferson County Official Records  
Kathleen B. Marston, County Clerk

2006-004457



\$41.00

00044474200600044570030031

07/20/2006 02:32:09 PM

D-WD Cnt#1 Stn#2 KATE  
\$15.00 \$11.00 \$10.00 \$5.00

Space above this line for Recording Office Use

After recording, return to:  
Oregon Department of Corrections  
Attn: Community Development Manager  
1793 13<sup>th</sup> Street SE  
Salem, OR 97302-2595

Send Tax statements to:  
(same)

**WARRANTY DEED**  
(ORS 93.850)

Lincicome Madras Development, LLC, an Oregon limited liability company, Grantor, conveys and warrants to **STATE OF OREGON**, by and through its DEPARTMENT OF CORRECTIONS, Grantee, its successors and assigns, the real property described in Exhibit A (the "Property") free of encumbrances, except for easements, conditions, and restrictions contained in the public record, and except as specifically set forth herein (none).

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 197.352. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY APPROVED USES, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES AS DEFINED IN ORS 30.930 AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 197.352.

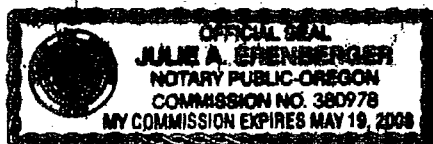
The true consideration for this conveyance is \$39,021.00.

Dated this 23 day of June, 2006.

[Signature], Grantor  
by James Mitch Cole, Managing Member of  
Lincicome Madras Development, LLC

STATE OF OREGON )  
County of Deschutes ) ss.

This instrument was acknowledged and executed before me on this 23<sup>rd</sup> day of June, 2006,  
by James Mitch Cole, Managing Member of Lincicome Madras Development, LLC.



[Signature]  
Notary Public for Oregon  
My Commission expires: 5/19/08

**ACCEPTED BY:**

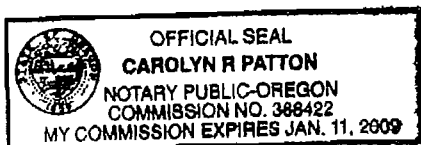
The State of Oregon, acting by and through  
its Department of Corrections

By: [Signature]

As: Dept. of Corrections, Community Manager

STATE OF OREGON )  
County of Marion ) ss.

This instrument was acknowledged before me on this 30<sup>th</sup> day of June, 2006,  
by BOBBI BURTON as the Community Manager and  
authorized representative of the Oregon Department of Corrections, acting under authority  
granted to him/her by the State of Oregon.



[Signature]  
Notary Public for Oregon  
My Commission expires: 1-11-09

**EXHIBIT A**

**Legal Description for Warranty Deed  
ASHWOOD ROAD**

**Section 7 (East Property)**

A 60.00-foot wide strip of land, lying 60.00 on the south side of the following described centerline, over land located in the northwest 1/4 of the northeast 1/4 of Section 7 of Township 11 South and Range 14 East of the Willamette Meridian, Jefferson County, Oregon, described in the Warranty Deed recorded at 2005-002823 of the Jefferson County Official Records:

Beginning at Engineer's Centerline Station 5+00, on the section line between Sections 6 and 7 of Township 11 South and Range 14 East of the Willamette Meridian, Jefferson County, Oregon, which bears North 89°39'17" West 1481.20 feet from the 1/4 corner between said Sections 6 and 7; thence South 89°39'17" East 138.33 feet, along the section line between said Sections 6 and 7; thence leaving said section line, 17.02 feet along the arc of a 1039.00 foot radius curve right (the long chord of which bears South 89°11'08" East 17.01 feet); thence South 88°43'00" East 1205.50 feet; thence 17.13 feet along the arc of a 1039.00 foot radius curve left (the long chord of which bears South 89°11'20" East 17.13 feet); thence South 89°39'40" East 2394.42 feet; thence 633.14 feet along the arc of a 660.00 foot radius curve right (the long chord of which bears South 62°10'44" East 609.14 feet); thence South 34°41'49" East 774.75 feet; thence 1709.82 feet along the arc of a 1000.00 foot radius curve left (the long chord of which bears South 83°40'47" East 1509.02 feet); thence North 47°20'15" East 542.88 feet; thence 2560.21 feet along the arc of a 1400.00 foot radius curve right (the long chord of which bears South 80°16'24" East 2218.09 feet); thence South 27°53'03" East 943.15 feet; thence 1158.98 feet along the arc of an 850.00 foot radius curve left (the long chord of which bears South 66°56'44" East 1071.26 feet); thence North 73°59'34" East 585.08 feet; thence 368.57 feet along the arc of a 340.00 foot radius curve right (the long chord of which bears South 74°57'06" East 350.79 feet); thence South 43°53'47" East 305.17 feet; thence 254.87 feet along the arc of a 340.00 foot radius curve left (the long chord of which bears South 65°22'17" East 248.94 feet); thence South 86°50'46" East 596.74 feet; thence 122.81 feet along the arc of a 660.00 foot radius curve right (the long chord of which bears South 81°30'56" East 122.63 feet); thence South 76°11'06" East 271.44 feet to engineer's centerline station 151+00, the terminus for this description, from which the 1/4 corner between Sections 9 and 10 bears North 89°14'59" East 2049.79 feet.

The parcel of land to which this description applies contains 30,016 square feet, more or less.

This description may include areas that are preexisting public right-of-way or easements, which are retained, and included herein to provide a clearer record of title in the future.

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

OREGON  
JULY 18, 1980  
JERRY C. POWELL  
1919

RENEWS 12-31-2006

11	14	7		200		11
TWP. S.	RGE. E.	SEC.	1/4	TAX LOT NUMBER	TYPE	SPEC. INT. IN REAL PROP.
MAP NUMBER				ACCOUNT NUMBER	CODE AREA NUMBER	

**OFFICIAL RECORD OF DESCRIPTIONS  
OF REAL PROPERTY**  
JEFFERSON COUNTY ASSESSOR'S OFFICE

4568  
4569-1

FORMERLY PART OF T.L. NO.

INDENT EACH NEW COURSE TO THIS POINT	2602	ADDITIONAL DESCRIPTION AND RECORD OF CHANGE	DATE OF ENTRY ON THIS CARD	DEED RECORD		ACRES REMAINING
				VOL.	PG.	
		THIS R14E WM				
		Sec 7, The N 475 ft of the E 400 ft of the NE 1/4 NW 1/4.	WD	21	389	
			WD	25	530	4.63
		Exc: Co Rd No 809				0.27 4.36
		Code Change Rural Madras Sanitary Dist	9 5 78	0 81	78	
		Dissolution of Rural Madras Sanitary District	9-2-81	0-94	81	
		Oregon Corner Restoration Record	02/13/85	#883	294	
		Oregon Corner Restoration Record	12/01/89	#892	748	
		Oregon Corner Restoration Record	1/04/95	#950	029	
		Easement inside 11 14 7 TL 302 for this tax lot (Granted to Thomas, E & D) Included in a Warranty Deed worked on 11 14 7 TL 302.	WD 07-28-05	2005	4126	



# JEFFERSON COUNTY ASSESSOR'S NAME LEDGER

Printed on 01-13-10

TOWNSHIP 11 RANGE 14 SECTION 07 1/4 1/16 TAXLOT 00200 SPECIAL INTEREST

Effective Date 15-Sep-2005 12:00 AM Transaction ID 91368 Entry Date 15-Sep-2005 Recorded Date 15-Sep-2005 Sale Date 15-Sep-2005

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	96429	2005	ASSESSOR'S FILE		2005	840	1	CONVERSION-2		CONVERSION	

Size Changes Code 0110 +/- Size 4.36 Acres  
 Size Totals Code 0110 Acres 4.36 SqFt 0.00

Effective Date 02-Aug-2006 11:03 AM Transaction ID 260793 Entry Date 28-Jul-2006 Recorded Date 27-Jul-2006 Sale Date 30-Jul-1999

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	287865	2006	CLERK - BOR	POA	2006	4616	1			TLC	
POWER OF ATTORNEY THOMAS, EVAN W TO THOMAS, DOROTHY E											

Size Totals Code 0110 Acres 4.36 SqFt 0.00

Effective Date 20-Sep-2006 8:55 AM Transaction ID 267880 Entry Date 08-Aug-2006 Recorded Date 08-Aug-2006 Sale Date 27-Jul-2006 Sale Price 78,000

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	304449	2006	CLERK - BOR	BSD	2006	4876	1			SEGREGATION - FROM	1114070000201
LESS 0.44 TO TAX LOT 201											

Size Changes Code 0110 +/- Size -0.44 Acres  
 Size Totals Code 0110 Acres 3.92 SqFt 0.00

O-039-10

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00200

Effective Date 03-Aug-2007 9:49 AM Transaction ID 344875 Entry Date 07-Mar-2007 Recorded Date 06-Mar-2007 Sale Date 06-Mar-2007

SEQ VOUCHER ID TAX YEAR DOCUMENT SOURCE TYPE ID #1 ID #2 PID Source ID PT OPERATION TO/FROM MAP  
 1 409810 2007 CLERK - BOR PLA 2007 1222 1 1 SIZE CHANGE

Size Changes Code 0110 +/- Size 0.02 Acres Code Area Deleted 0.00 Move to Acct Move to Code

Size Totals Code 0110 Acres 3.94 SqFt 0.00

3 409814 2007 CLERK - BOR PLA 2007 1222 1 SIZE CHANGE  
 MINUS 0.60 ACRES TRANSFERRED FROM 11-14-07 200 TO 11-14-07 302 (ACCNT. #16953 WHICH HAS A SPLIT CODE #13341).

Size Changes Code 0110 +/- Size -0.60 Acres Code Area Deleted 0.00 Move to Acct Move to Code

Size Totals Code 0110 Acres 3.34 SqFt 0.00

8 410329 2007 CLERK - BOR PLA 2007 1222 1 TLC  
 PERFECTION DEED, EVAN W THOMAS & DOROTHY THOMAS TO EVAN W THOMAS & DOROTHY THOMAS, DOC. #2007-3806.

Size Totals Code 0110 Acres 3.34 SqFt 0.00

Effective Date 03-Aug-2007 9:49 AM Transaction ID 344875 Entry Date 12-Jun-2007 Recorded Date 11-Jun-2007 Sale Date 11-Jun-2007

SEQ VOUCHER ID TAX YEAR DOCUMENT SOURCE TYPE ID #1 ID #2 PID Source ID PT OPERATION TO/FROM MAP  
 1 409849 2007 CLERK - BOR PLA 2007 3081 1 SIZE CHANGE

ADD: 0.60 ACRES FROM 11-14-07 101 TO 11-14-07 200, ACCOUNT #13134 TO ACCOUNT #2602.

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00200

Size Changes	Code	+/- Size	Alternate Size	Code Area Deleted	Move to Acct	Move to Code
	0110	0.60 Acres	0.00			

Size Totals	Code	Acres	SqFt
	0110	3.94	0.00

Add:

A parcel of land containing 3.94 acres, more or less, located in a portion of the Northwest One-quarter (NW 1/4) and a portion of the Northeast One-Quarter (NE 1/4) of Section 07, Township 11 South, Range 14 East, Willamette Meridian, City of Madras, Jefferson County, Oregon, being more particularly described as follows: Beginning at a point on the north-south centerline of said Section 07 which bears South 00°17'35" East a distance of 80.01 feet from the North One-quarter corner of said Section 07; thence leaving said north-south section centerline and along the south right-of-way line of Ashwood Road as described in Warranty Deed recorded in Book 2005, Page 005605 of Jefferson County official records South 89°39'39" East a distance of 61.23 feet; thence leaving said right-of-way line South 00°17'35" East a distance of 424.32 feet; thence South 89°42'25" West a distance of 61.22 feet to a point on the north-south centerline of said Section 07 which bears South 00°17'35" East a distance of 505.00 feet from the North One-quarter corner of said Section 07, being a point on the boundary of Parcel 1 of Partition Plat No. 2004-15 (recorded as MF#2004-4735); thence along the boundary of said Parcel 1 South 89°42'25" West a distance of 354.87 feet; thence leaving said boundary 117.68 feet along a non-tangent curve to the right with a radius of 455.00 feet, the chord of which bears North 07°42'08" West a distance of 117.35 feet; thence North 00°17'35" West a distance of 18.24 feet; thence 123.03 feet along the arc of a tangent curve to the right with a radius of 240.00 feet, the chord of which bears North 14°23'32" East for a distance of 121.68 feet; thence 186.84 feet along the arc of a reverse curve to the left with a radius of 360.00 feet, the chord of which bears North 14°23'32" East for a distance of 184.75 feet to a point on said south right-of-way line; thence along said south right-of-way line the following two (2) courses and one (1) curve:

South 88°42'59" East a distance of 170.57 feet  
 18.12 feet along the arc of a tangent curve to the left with a radius of 1099.00 feet, the chord of which bears South 89°11'19" East for a distance of 18.12 feet; South 89°39'39" East a distance of 104.28 feet to the point of beginning, the terminus of this description. description.

5 410313 2007 CLERK - BOR PLA 2007 3081 1 TLC  
 PERFECTION DEED, EVAN W THOMAS & DOROTHY THOMAS TO EVAN W THOMAS & DOROTHY THOMAS, DOC. #2007-3807

Size Totals	Code	Acres	SqFt
	0110	3.94	0.00

TOWNSHIP RANGE SECTION 1/4 1/16 TAXLOT SPECIAL INTEREST  
 11 14 07 0 0 00200

7 410367 2007 CLERK - BOR PLA 2007 3081 1 TLC  
 EASEMENT: 11-14-7 200 TO 11-14-7 101, EVAN W THOMAS & DOROTHY THOMAS TO LINCICOME MADRAS  
 DEVELOPMENT LLC, DOC. #2007-3813.

Size Totals Code 0110 Acres 3.94 SqFt 0.00

Effective Date 10-Dec-2007 8:59 AM Transaction ID 385901 Entry Date 17-Oct-2007 Recorded Date 16-Oct-2007 Sale Date 02-Oct-2007  
 BEING RECORDED TO CORRECT LEGAL DESCRIPTION

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	467235	2008	CLERK - BOR	EAS	2007	5207	1			TLC	

Size Totals Code 0110 Acres 3.94 SqFt 0.00

Effective Date 10-Dec-2007 12:09 PM Transaction ID 388093 Entry Date 07-Dec-2007 Recorded Date 06-Dec-2007  
 RIGHT OF WAY EASEMENT IN FAVOR OF PACIFIC POWER RECORDED 12/6/07 2007-5940

SEQ	VOUCHER ID	TAX YEAR	DOCUMENT SOURCE	TYPE	ID #1	ID #2	PID	Source ID	PT	OPERATION	TO/FROM MAP
1	467270	2008	CLERK - BOR	EAS	2007	5940	1			TLC	

Size Totals Code 0110 Acres 3.94 SqFt 0.00





\$36.00

00054239200700038070020025

07/23/2007 10:29:17 AM

D-BSD Cnt=1 Stn=2 KATE  
\$10.00 \$11.00 \$10.00 \$5.00

--Space below for Recorder's use only--

### BARGAIN AND SALE DEED

KNOW ALL MEN BY THESE PRESENTS THAT, Evan W Thomas and Dorothy Thomas, as husband and wife, Grantor(s), for and in consideration of the sum of **ZERO and 00/100 Dollars** to it paid by the grantee herein, do hereby grant, bargain, sell and convey unto Evan W Thomas and Dorothy Thomas, as husband and wife, Grantee(s), the described tract of land in County of Jefferson and State of Oregon, more particularly described as follows:

**See Attached Legal Description as Tract 'B'**

TO HAVE AND TO HOLD the granted premises unto the said Grantee, its heirs and assigns forever.

WITNESS their Hand and Seal this 20th day of June, 2007.

Evan W Thomas  
Attorney-in-fact  
By: Evan W Thomas

This instrument will not allow use of the property described in this instrument in violation of applicable land use laws and regulations. Before signing or accepting this instrument, the person acquiring fee title to the property should check with the appropriate city or county planning department to verify approved uses and to determine any limits on lawsuits against Farming or Forest practices as defined in ORS 30.930.

Dorothy E. Thomas  
By: Dorothy Thomas

First Oregon Title Company

STATE OF OREGON  
COUNTY OF ~~BESCHUTES~~ JEFFERSON

Dorothy Thomas, Attorney-in-fact for

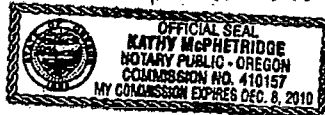
I, certify that I know or have satisfactory evidence that Evan W Thomas and Dorothy Thomas and is the person(s) who appeared before me, and said person(s) acknowledged that he/she signed this instrument and acknowledged it to be his/her free and voluntary act for the uses and purposes mentioned in the instrument.

Dated: 6/20/07

Kathy McPhetridge  
Public for the State of OREGON  
My Commission Expires: 12-08-10

Until a change is requested all tax statements  
Should be sent to the following address:

Evan W Thomas and Dorothy Thomas



After Recording Please Return to:

Same as above

10328 | 10329

Escrow No.

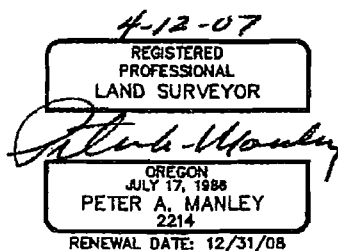
### TRACT B

A parcel of land containing 3.94 acres, more or less, located in a portion of the Northwest One-quarter (NW1/4) and a portion of the Northeast One-Quarter (NE1/4) of Section 07, Township 11 South, Range 14 East, Willamette Meridian, City of Madras, Deschutes County, Oregon, being more particularly described as follows:

Beginning at a point on the north-south centerline of said Section 07 which bears South 00°17'35" East a distance of 80.01 feet from the North One-quarter corner of said Section 07; thence leaving said north-south section centerline and along the south right-of-way line of Ashwood Road as described in Warranty Deed recorded in Book 2005, Page 005605 of Jefferson County official records South 89°39'39" East a distance of 61.23 feet; thence leaving said right-of-way line South 00°17'35" East a distance of 424.32 feet; thence South 89°42'25" West a distance of 61.22 feet a point on the north-south centerline of said Section 07 which bears South 00°17'35" East a distance of 505.00 feet from the North One-quarter corner of said Section 07, being a point on the boundary of Parcel 1 of Partition Plat No. 2004-15 (recorded as MF#2004-4735); thence along the boundary of said Parcel 1 South 89°42'25" West a distance of 354.87 feet; thence leaving said boundary 117.68 feet along a non-tangent curve to the right with a radius of 455.00 feet, the chord of which bears North 07°42'08" West a distance of 117.35 feet; thence North 00°17'35" West a distance of 18.24 feet; thence 123.03 feet along the arc of a tangent curve to the right with a radius of 240.00 feet, the chord of which bears North 14°23'32" East for a distance of 121.68 feet; thence 186.84 feet along the arc of a reverse curve to the left with a radius of 360.00 feet, the chord of which bears North 14°12'33" East for a distance of 184.75 feet to a point on said south right-of-way line; thence along said south right-of-way line the following two (2) courses and one (1) curve:

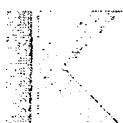
South 88°42'59" East a distance of 170.57 feet  
 18.12 feet along the arc of a tangent curve to the left with a radius of 1099.00 feet, the chord of which bears South 89°11'19" East for a distance of 18.12 feet;  
 South 89°39'39" East a distance of 104.28 feet to the point of beginning, the terminus of this description.

**Subject to:** All easements, restrictions and right-of-ways of record and those common and apparent on the land.



April 11, 2007  
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 Thomas to Thomas

**Appendix F: Transportation Planning Rule Analysis  
(Kittelson & Associates, January 2010)**



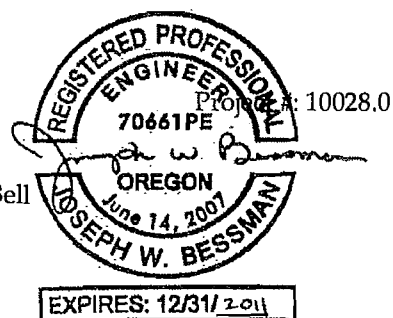
# KITTELSON & ASSOCIATES, INC.

TRANSPORTATION ENGINEERING / PLANNING

354 SW Upper Terrace Drive, Suite 101, Bend, Oregon 97702 • 541.312.8300 • 541.312.4585

## MEMORANDUM

**Date:** January 22, 2010  
**To:** Nick Snead, City of Madras  
**From:** Chris Brehmer, P.E. & Joe Bessman, P.E. & Matt Bell  
**Project:** Madras Elementary School UGB Amendment  
**Subject:** Transportation Planning Rule Analysis



The purpose of this memorandum is to document compliance with the Transportation Planning Rule for the proposed rezone of 20 acres of land located in Jefferson County from *Range Land* (RL) zoning to *Multiple Family Residential* (R-2) zoning. This memorandum was prepared to address the requirements identified within Oregon Administrative Rule (OAR) 660-12-0060 (Transportation Planning Rule, TPR), which contains the applicable criteria for a zone change analysis. The intent of the TPR is to ensure the transportation system can accommodate the change of uses to the adopted system plan and that any resultant significant affects are mitigated.

The land included in the proposed rezone is generally located south of Ashwood Road, east of Jefferson County Middle School, and south of the existing Juniper Hills County Park near Bean Drive. The property is within the Yarrow development and its rezone to accommodate a school was identified as part of the original Yarrow Concept Plan. The location of the property is generally shown in Figure 1, and the identification of the 20-acre future school property on the Yarrow Concept Plan is illustrated in Figure 2. No specific development plans or entitlements are being pursued as part of this zone change.

This study determined that, with the exception of the US 97/J Street intersections, all of the study area intersections operate acceptably with the existing and proposed zoning in the horizon analysis period. The US 97/J Street intersections exceed ODOT mobility standards with or without the proposed rezone. The additional trips associated with the rezone create an incremental impact on the intersection, creating a Significant Effect. The City's Transportation System Plan (TSP) Amendment previously identified a mitigation plan for this intersection and, with the planned improvements in place, the transportation system will operate acceptably with the existing zoning and will continue to operate acceptably with the proposed rezone. Assuming that the Oregon Department of Transportation (ODOT) is able to make a Reasonably Likely determination for the J Street improvements in the TSP, no unmitigated significant effects will occur with the proposed rezone. The study methodology, findings, and recommendations are detailed herein.

January 2010

Madras Elementary School UGB Amendment



(NO SCALE)

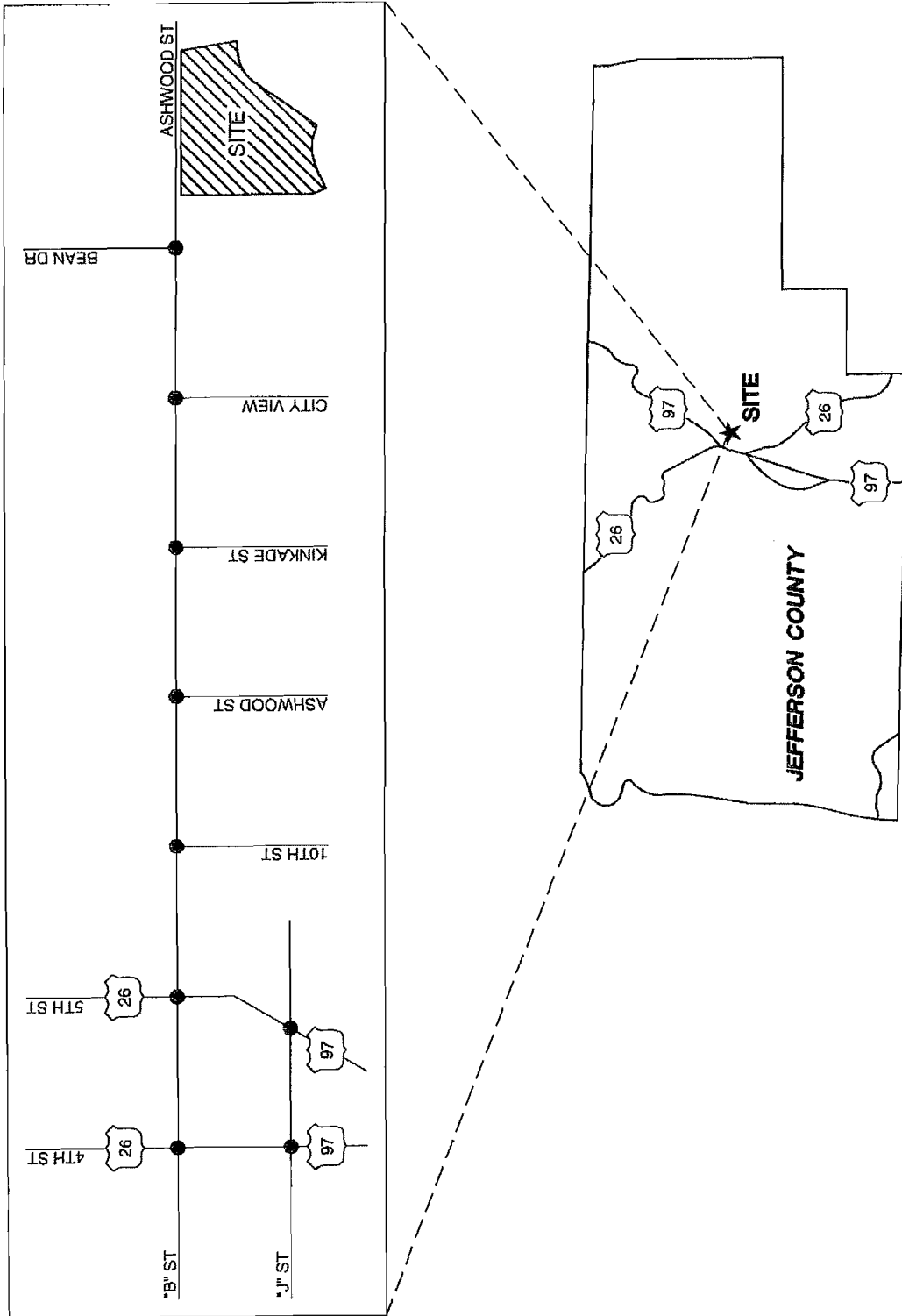


FIGURE 1

SITE VICINITY MAP  
MADRAS, OREGON

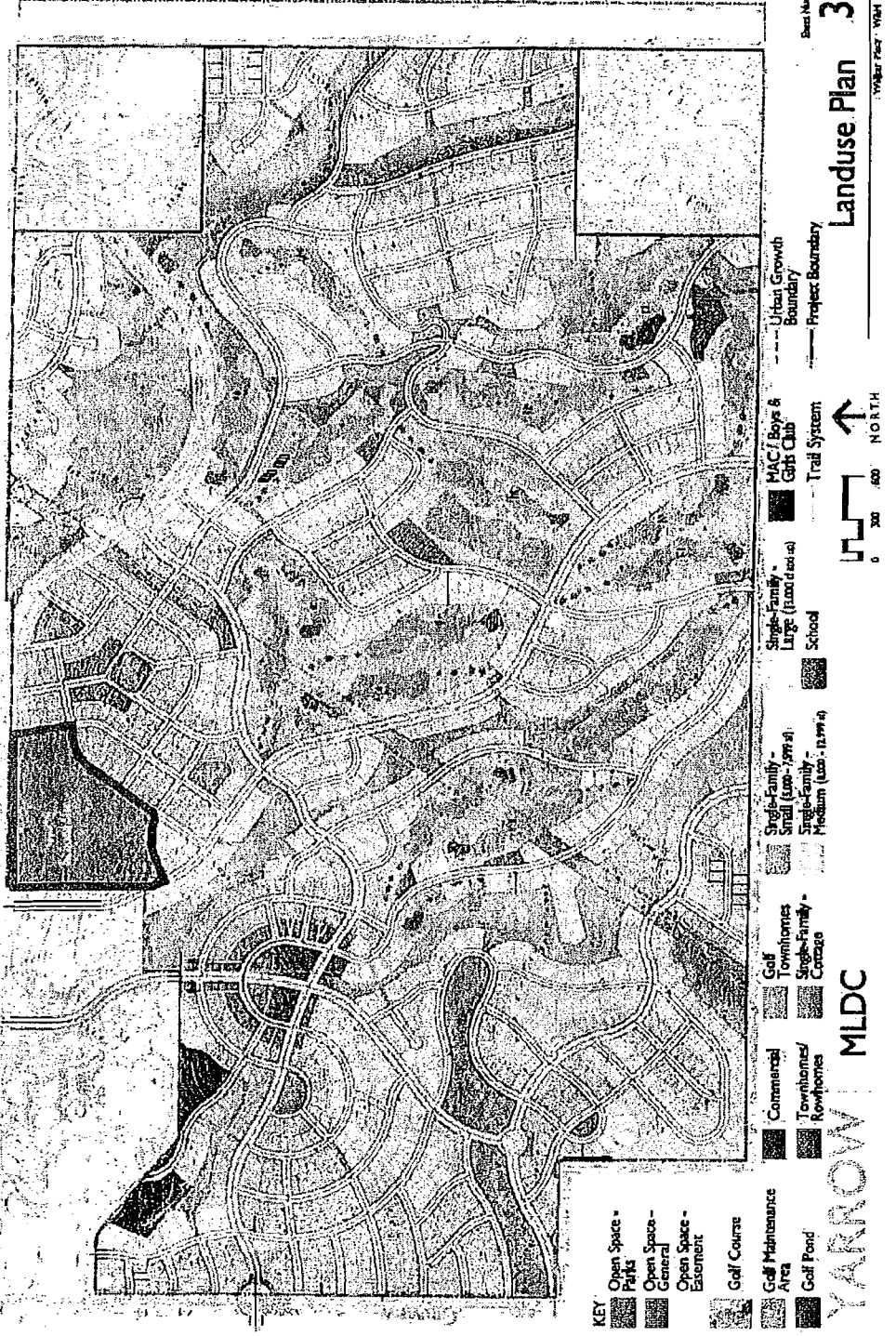
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● - STUDY INTERSECTIONS

**K** KITTELSON & ASSOCIATES, INC.  
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(NO SCALE)



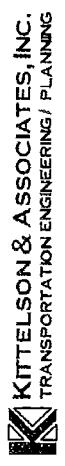
**LEGEND**

**PROPERTY BOUNDARY**

**YARROW! MLDC**

**FIGURE 2**

**YARROW CONCEPTUAL MASTER PLAN  
MADRAS, OREGON**



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## **BACKGROUND**

The City of Madras, in partnership with the Jefferson County School District is proposing the UGB amendment and rezone to accommodate a potential future elementary school site. Jefferson County School District currently operates two elementary schools within the Madras City limits that served approximately 1,060 kindergarten through fifth grade students during the 2008 school year. The recent closure of the Westside Elementary School due to budget shortfalls has split Madras kindergarten through fifth grade students between Madras Elementary School (kindergarten through 2<sup>nd</sup> grade) and Buff Elementary School (3<sup>rd</sup> through 5<sup>th</sup> grades).

Future building needs and the current location of Buff Elementary School within a 100-year floodplain has created a need for the School District to look at alternative future sites. The location of the proposed land within the Yarrow neighborhood is expected to help accommodate future growth along Madras' east side, and the adjacent Jefferson County Middle School and Juniper Hills Park ball fields are expected to be complementary uses. A new school is not proposed for construction or entitlements at this time; the purpose of the zone change is to accommodate the long-term educational infrastructure needs in the City.

## **EXISTING TRANSPORTATION INFRASTRUCTURE**

The existing transportation infrastructure assessment is provided herein to assist the City of Madras with the planning and prioritization of maintenance and infrastructure improvements within the study area. The existing conditions analysis is intended to identify operational and geometric conditions surrounding the site to ensure the necessary right-of-way will be available to accommodate needed system interconnectivity and accessibility, and to ensure existing transportation safety needs are addressed.

### ***Roadway Facilities***

As illustrated in Figure 2, Ashwood Road borders the site to the north and provides primary access and connectivity to the proposed lands. Ashwood Road serves the Deer Creek Correctional Institute and other rural uses to the east of the site. To the immediate west Ashwood Road serves Juniper Hills Park and the Jefferson County Middle School, and further west transitions into B Street and connects to US 97 and the City's downtown core. A recently constructed extension of City View to J Street connects the parcel to the southern City limits, and Bean Drive connects toward the northern portion of the City. Table 1 summarizes key characteristics of the existing roadway facilities.

**Table 1**  
Existing Transportation Facilities and Roadway Designations

Roadway	Functional Classification	Number of Lanes	Posted Speed	Sidewalks	Bicycle Lanes	On-Street Parking
Ashwood - B Street	Major Collector	2-Lanes	25-45 mph	Partial <sup>2</sup>	Yes	Partial <sup>1</sup>
City View	Major Collector	2-Lanes	25 mph	Yes	Yes	No
Bean Drive	Minor Collector	2-Lanes	25 mph	No	No	No
Kinkade	Minor Collector	2-Lanes	25 mph	Partial <sup>2</sup>	No	No
Ashwood - C Street	Major Collector	2-Lanes	25 mph	Partial <sup>2</sup>	No	No
10 <sup>th</sup> Street	Major Collector	2-Lanes	25 mph	Yes	No	Yes
J Street	Major Collector	2-Lanes	25 mph	Yes	Yes	No

<sup>1</sup> On-street parking is provided along sections of roadway within the City limits.

<sup>2</sup> Sidewalks are located on one side of the street only.

### ***Pedestrian and Bicycle Facilities***

Sidewalks are currently provided along the south side of Ashwood Road primarily where frontage improvements have been completed. As shown in Table 1, sidewalks are generally provided along a majority of the roadways within the site vicinity, with the exception of Bean Drive, where pedestrians may rely on the multi-use path within Juniper Hills Park.

Bicycle lanes are provided on both sides of Ashwood Road and extend west to the City center. Bicycle lanes are also provided on both sides of City View Road, which connect to J Street and the City center to the south.

Review of the project vicinity identified that pedestrian and bicycle connectivity and roadway crossing treatments should be considered to connect the existing Jefferson County Middle School with the Juniper Hills Park. Additional connections to the Yarrow neighborhood should also be provided concurrent with development, including appropriate pedestrian crossing treatments along Ashwood Road. These connections could help encourage non-vehicular trips between the complementary uses and increase pedestrian and bicyclist safety.

### ***Transit Facilities***

Limited transit service is available throughout the site vicinity through services provided by the Cascades East Transit (Reference 1). Cascades East provides community connections from Madras to Redmond, Culver, and the Metolius City Hall on two trips in the morning and two trips during the afternoon period. Fares on the intercommunity connections are \$5.00 per day. Curb to curb on-call transit service is also available through Cascades East Transit Mondays through Friday with reservations. These services are available within a five-mile radius of the town center, and the fare for on-demand service is currently \$1.25 per trip. In addition, the Central Oregon Intergovernmental Council (COIC) also provides bus rides to Medicaid eligible clients within a nine-county area throughout Central Oregon.



### **Existing Traffic Counts**

Historical traffic counts were obtained at City of Madras intersections from May 2007. Review of the manual turning movement counts showed that during the critical evening peak hour B Street near its intersection with 10<sup>th</sup> Street carries approximately 145 vehicles in the eastbound direction and approximately 275 vehicles in the westbound direction during the evening peak hour. It was also noted that of the westbound vehicles approximately 20 percent were expected to travel south on City View with the remainder continuing westbound along Ashwood Road - B Street.

Figure 3 provides a summary of the historical year 2007 existing weekday p.m. peak hour turning-movement counts, which are rounded to the nearest five vehicles per hour. No historical traffic count data was available for the Ashwood Road/Bean Drive intersection, so new counts were conducted in January of 2010. The new traffic count showed similar but slightly lower through volumes along Ashwood Road as compared to the historical 2007 counts. Accordingly, it is expected that the 2006/2007 counts continue to reflect the existing roadway conditions. A summary of the existing traffic volumes throughout the study area is shown in Figure 3. Attachment "1" contains the traffic count worksheets used in this study as provided by City staff.

### **Current Levels of Service and Performance Standards**

Intersection performance thresholds vary throughout the study area based on the roadway jurisdiction. Jefferson County traffic study requirements included within the County's TSP (Reference 2) identify that a Level of Service "C" or higher should be maintained at all County intersections. The City of Madras TSP (Reference 3) identifies a target Level of Service (LOS) "D" for signalized intersections, LOS "E" for unsignalized intersections (or LOS F with a volume-to-capacity ratio below 0.95). ODOT mobility standards included within the Oregon Highway Plan (add subsequent updates, Reference 4) require a volume-to-capacity ratio of less than 0.90 on the stop-controlled minor street approaches at the J Street intersections and a volume-to-capacity ratio of 0.80 at the signalized B Street intersections and future signalized J Street intersections.<sup>1</sup>

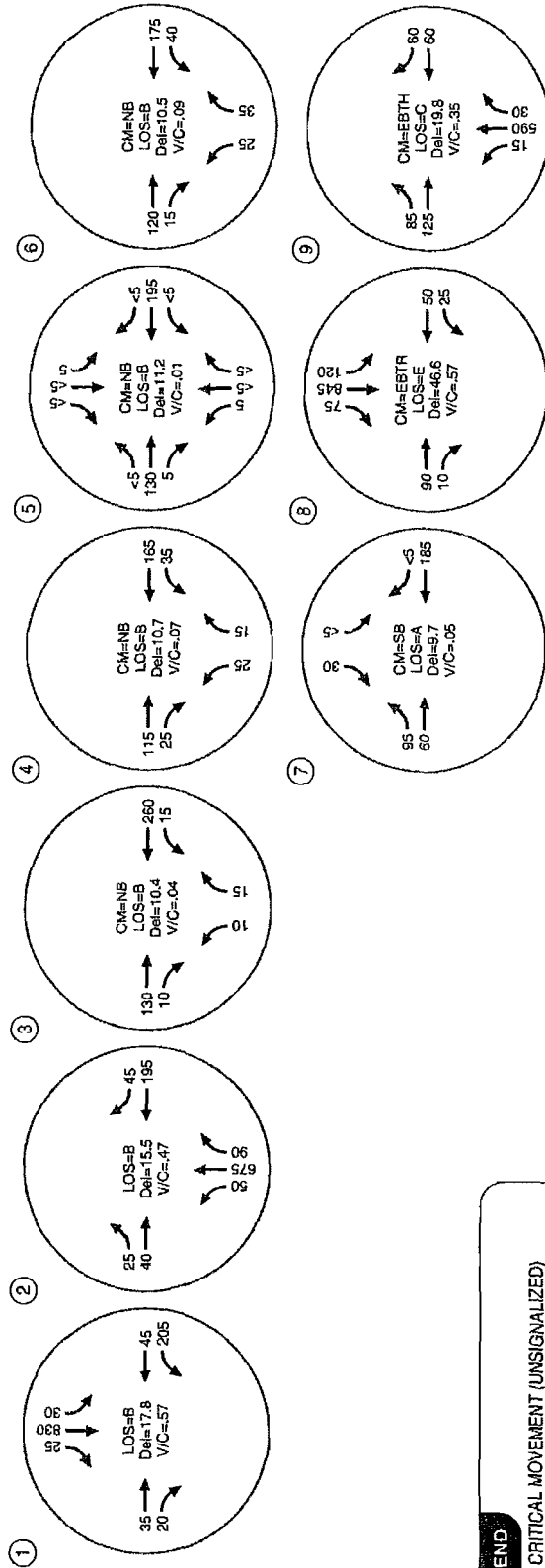
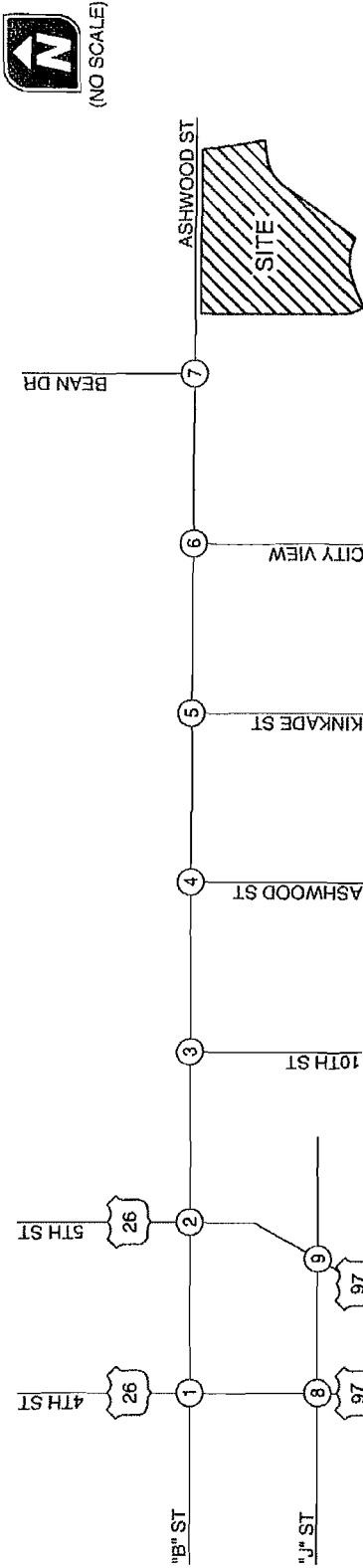
Intersection operations were reviewed to identify current capacity and safety constraints on the roadway network. Field review of the study area identified that all of the intersections are uncontrolled in the east-west direction along B Street - Ashwood Road and are stop-sign controlled along the north-south minor-street approaches. Relevant intersection performance standards for the study area intersections are summarized below in Table 2.

---

<sup>1</sup> Per the Oregon Highway Plan, US 26/US 97 are classified as Statewide Highways, Freight Routes, and part of the National Highway System and contain a posted speed of 30 miles per hour through the study area. Unsignalized highway mobility standards are based on a District/Local Interest Road in a non-Metropolitan Planning Organization (MPO) outside of Special Transportation Areas where the non-freeway posted speed is less than 35 mph. Signalized highway mobility standards are based on a Freight Route along a Statewide Highway in a non-MPO outside of STAs where the posted speed is less than 35 mph.

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**LEGEND**  
 CM = CRITICAL MOVEMENT (UNSIGNALIZED)  
 LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)  
 Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)  
 VIC = CRITICAL VOLUME-TO-CAPACITY RATIO

EXISTING TRAFFIC CONDITIONS WEEKDAY PM PEAK HOUR MADRAS, OREGON **FIGURE 3**

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**Table 2** Summary of Intersection Performance Standards

Intersection	Jurisdiction	Traffic Control <sup>1</sup>	Performance Standard	Horizon Period
Ashwood Road/ Bean Drive	Jefferson County	TWSC	LOS C	Year 2027
Ashwood Road/ City View	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ Kinkade Road	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ Ashwood Road	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ 10 <sup>th</sup> Street	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ US 97 Northbound	ODOT	Signalized	v/c < 0.80	Year 2025
B Street/ US 97 Southbound	ODOT	Signalized	v/c < 0.80	Year 2025
J Street/ US 97 Northbound	ODOT	TWSC	v/c < 0.90	Year 2025
J Street/ US 97 Southbound	ODOT	TWSC	v/c < 0.90	Year 2025

<sup>1</sup>TWSC: Two-way stop-controlled (unsignalized)

Results of the existing conditions intersection operations during the weekday p.m. peak hour are illustrated in Figure 3. As shown in the figure, all of the study area intersections currently operate acceptably. It was noted that the J Street intersection with Southbound US 97 (4<sup>th</sup> Street) meets mobility standards but operates with high delays (Level of Service "E") along the stop-controlled east-west approaches. *Existing conditions level-of-service worksheets are included in Attachment "2".*

### **Existing Conditions Summary**

The following transportation system improvement needs were identified based on review of the existing system conditions. Since mitigation of these existing deficiencies is not applicable to or caused by the proposed zone change, it is recommended that these safety and performance improvements be provided by the City of Madras as part of the City's regular maintenance or incorporated into the City's Capital Improvement Plans.

- Pedestrian and bicycle connectivity and roadway crossing treatments should be considered as part of future planning efforts to connect the existing Jefferson County Middle School with the Juniper Hills Park. Additional connections to the Yarrow neighborhood should also be provided concurrent with development, including appropriate pedestrian crossing treatments along Ashwood Road. These connections could help encourage non-vehicular trips between the complementary uses and increase pedestrian and bicyclist safety.
- All of the study area intersections operate acceptably, although the Southbound US 97 (4<sup>th</sup> Street)/J Street intersection operates with high minor-street delay at a Level of Service "E".

## **TRANSPORTATION PLANNING RULE COMPLIANCE**

The applicable criteria for zone change analyses are found within Oregon Administrative Rule (OAR) 660-12-0060, also known as the Transportation Planning Rule (TPR, Reference 5). The TPR is intended to require that any changes to the adopted and recognized Transportation System Plan show consistency and compliance with the stated goals of the plan, the development and regular updates of which are a mandated requirement for cities. The overall purpose of a city's TSP is to 1) provide a safe, convenient, and economic transportation system that encourages and supports the availability, safety, convenience, and efficiency of a variety of transportation choices for moving people that balance vehicular use with other transportation modes, including walking, bicycling, and transit in order to avoid principal reliance upon any one mode of transportation; and 2) to protect existing and planned facilities for their identified functions.

The City's applicable Transportation System Plan was completed in 2001, with updates completed for the J Street connection with the US 97 in 2005 (Reference 6). The initial plan provides an assessment of roadway classifications throughout the City and potential intersection treatments at a sampling of collector and arterial intersections along with associated planning level improvement costs, and is the applicable planning document related to the City's Ashwood – B Street intersections. The J Street amendment reviewed improvement options specific to the US 97 intersections and is considered the relevant planning document for the J Street intersections.

The City's adopted TSP does not include a specific assessment of the long-term intersection needs at any of the City intersections along B Street-Ashwood, as the TSP focused on the more critical intersections along the US 97/US 26 corridor through downtown Madras. The intent of this zone change analysis is to provide an assessment of the long-term system needs that should be considered for inclusion within the City's TSP (as summarized within the *Existing Zoning* section). In addition, to support the proposed zone change this report also includes an assessment of additional impacts that could occur with future development resulting from this zone change (as included within the *Proposed Zoning* section).

All analyses assess year 2020 conditions on City facilities and year 2027 conditions on County facilities for consistency with the adopted TSP horizon years. ODOT's US 97 intersections with J Street are assessed under year 2025 conditions, consistent with the TSP Update and meeting the minimum 15-year planning horizon required for consistency with the Oregon Highway Plan (Section 1F.2). ODOT's intersections with B Street are also assessed under year 2025 conditions for consistency with the 15-year minimum planning horizon identified in the State's TSP, the Oregon Highway Plan (the City TSP assesses only 2020 conditions at B Street).

### ***Reasonably Likely Transportation Improvements***

Transportation Planning Rule analyses allow the inclusion of planned improvements in the horizon analysis period for which a funding mechanism has been identified. The funding mechanism could be an established local Capital Improvement Project, local projects contained within a City's Systems Development Charge (SDC) list, or funded ODOT Statewide Transportation Improvement Program (STIP) projects. No funded improvements affect the study area intersections.

The US 97/J Street improvements are identified in the City's TSP Amendment as a needed facility improvement and included within the ODOT 2010-2013 Draft STIP list. Improvement plans include realignment of northbound US 97 onto Adams Drive and two new traffic signals at the new J Street intersections. A request for a "Reasonably Likely" determination for the planned improvements has been sent to ODOT and is pending approval. *Attachment "3" includes an illustration of the planned J Street Improvements.*

### **Existing Zoning Conditions (Future Horizon Period)**

An analysis was conducted for the horizon years as identified in the applicable City, County, and State TSPs. The existing zoning assessment was prepared to identify how the study area's transportation system operates in the horizon year with build-out of the subject parcel as currently zoned (without the impact of the proposed rezone). This analysis will supplement the City's TSP efforts along this segment of Ashwood Road and will provide a basis for comparison to potential future conditions with the proposed zone change.

Review of the City's TSP (TSP Technical Memorandum #3, Reference 7) shows that future horizon volumes were developed through the application of an annual three percent growth rate for all turning and through movements to and from City facilities. ODOT facilities were assessed using a two percent annual growth rate for through movements along US 97/US 26. County facilities were assessed with a 3.2 percent growth rate through 2011 and 2.5 percent annual growth from 2012 through 2027.

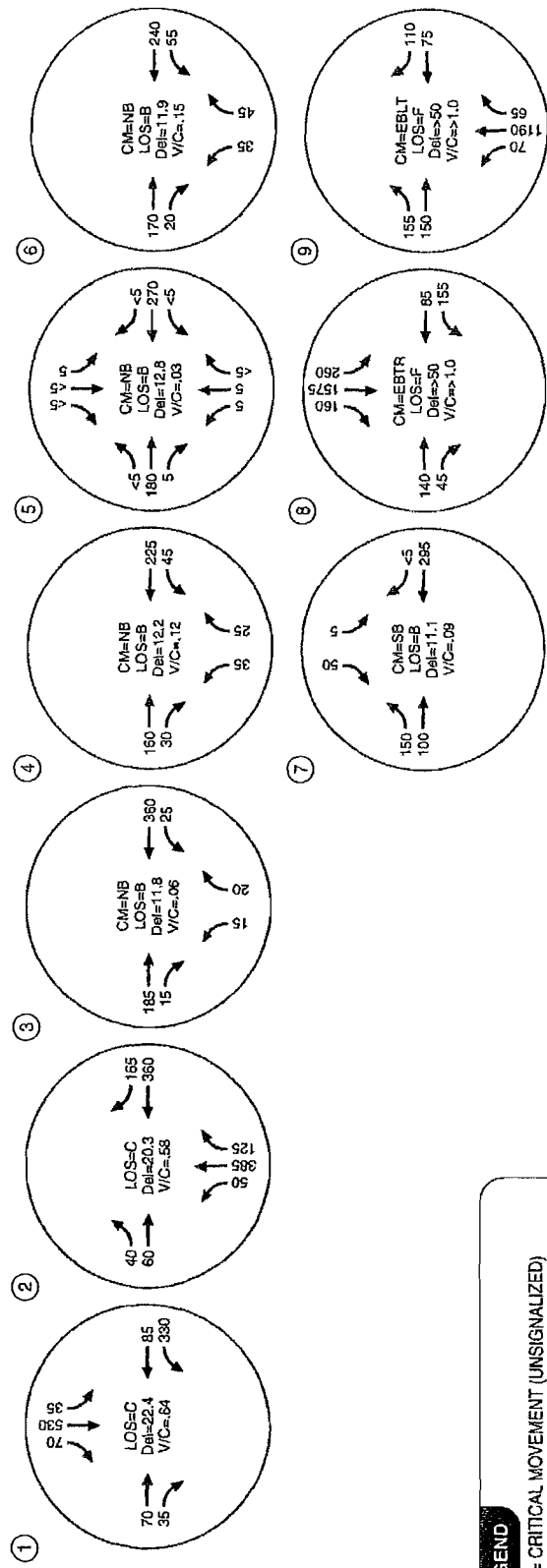
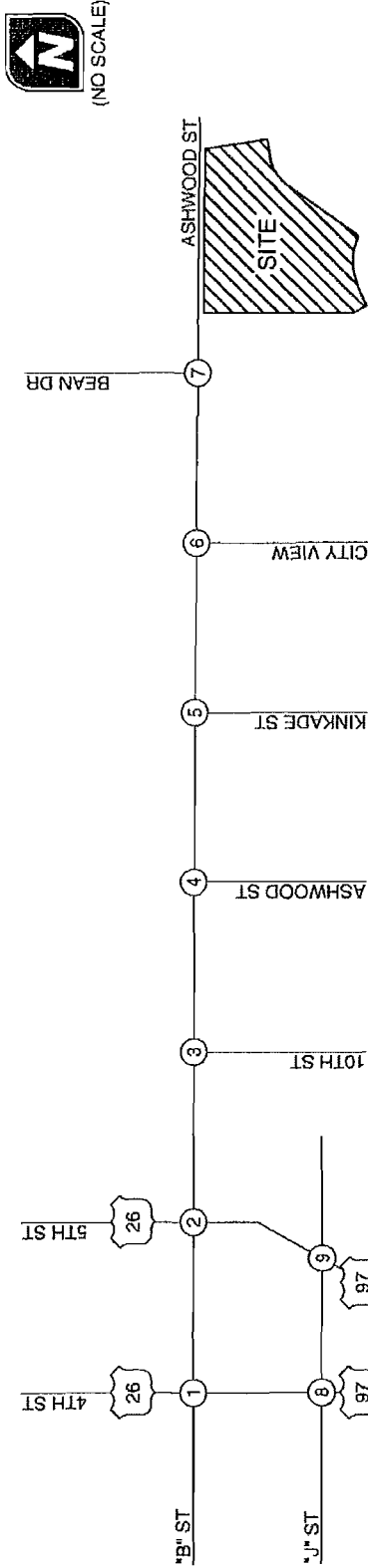
To identify the existing trip generation potential of the subject property, review of the County zoning, allowable land uses, and site constraints was conducted. The existing *Range Land* zoning is one of three designations for Exclusive Farm Use (EFU) lands within Jefferson County. The *RL* zoning is intended to preserve predominantly non-irrigated agricultural lands for livestock grazing, and the *RL* zoning requires that non-farm residences contain a minimum of 40 acres. A variety of non-residential uses are permitted within the *RL* zoning, though these uses require more acreage than the 20-acres proposed for the rezone and all are considered low intensity uses. Accordingly, under the existing zoning the trip generation potential is severely limited, and for analysis purposes it was conservatively assumed to be none.

### **Intersection Level-of-Service Analysis**

Figure 4 illustrates the weekday p.m. peak hour traffic volumes inclusive of regional growth and potential site build-out with the existing zoning. These volumes were used to conduct an operational analysis at each of the study intersections to determine the horizon year levels of service. As shown, all of the study intersections are forecast to operate at acceptable levels of service with exception of the US 97/J Street intersections, which exceed ODOT mobility standards. With the planned J Street improvements in place both the US 97 Northbound and Southbound intersections with J Street are forecast to operate acceptably. *Attachment "4" contains the horizon period existing zoning level-of-service worksheets.*

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**LEGEND**  
 CM = CRITICAL MOVEMENT (UN SIGNALIZED)  
 LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UN SIGNALIZED)  
 Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UN SIGNALIZED)  
 V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

HORIZON YEAR EXISTING RL ZONING CONDITIONS  
 WEEKDAY PM PEAK HOUR  
 MADRAS, OREGON  
 FIGURE 4

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**Proposed Zoning Conditions (Future Horizon Period)**

Future horizon year conditions were developed based on the same methodology used to assess the existing zoning conditions. The proposed zoning conditions also include the incremental increase in trips that could be generated with the *Multiple Family Residential (R-2)* zoning, as described below.

The *Multiple Family Residential (R-2)* zoning category provides for higher-density single-family uses and attached residential uses, including apartments and townhomes. The R-2 zoning also allows parks and community centers as outright uses. Schools, churches, libraries, and other government buildings are allowed as conditional uses.

The City of Madras zoning provisions, as contained within Ordinance 723 (Reference 8), were reviewed to identify density ranges and allowable uses within the R-2 zoning. Conditional uses are typically not considered as part of a zone change analysis. However, as the intent of the rezone is to ultimately allow for a new school this specific conditional use was reviewed to ensure that a reasonable development scenario considers the potential impact of a school.

Review of the City zoning provisions identified the following outright allowable uses in the R-2 zoning:

- Single family residential
- Multi-family residential
- Public park, recreation areas, community centers

Based on the uses shown above, multi-family residential was identified as the most intense outright land use category from a trip generation perspective. Review of the required building space, parking allocations, lawn space, and typical road and infrastructure allocations identified a resultant reasonable maximum density of 11.6 attached residential units per acre, or approximately 232 total attached residential units on 20-acres. *Additional details on the development of residential densities are included in Attachment "5".*

Conversations with the project team identified that a future school would likely comprise ten acres of the overall land, with a minimum of five acres dedicated to the elementary school. Any additional lands would be retained for residential uses. The most likely school type would be an elementary school given the regional needs and recent closure of the Westside Elementary site. A new elementary school could be expected to serve an enrollment of approximately 350 students (historical records from the closed Westside Elementary School showed an enrollment of 325 students).

Accordingly, in addition to consideration of build-out of the 20-acres with residential uses, this provides two additional R-2 development scenarios to consider:

1. 116 attached residential units on ten acres ( $11.6 \text{ units/acre} * 10 \text{ acres} = 116 \text{ units}$ ) and a 350-student elementary school
2. 174 attached residential units on fifteen acres ( $11.6 \text{ units/acre} * 15 \text{ acres} = 174 \text{ units}$ ) and a 350-student elementary school on the remaining five acres.

While a ten acre school site is more typical, the minimum five-acre site provides a reasonable worst-case development scenario resulting in a more conservative analysis. The two scenarios forwarded for consideration include build-out of the parcel with residential and build-out of 15-acres with residential and 5-acres with a new school.

## **R-2 Zoning Trip Generation Potential**

Trip generation estimates were prepared for both R-2 zoning scenarios to determine which land use combination resulted in a higher overall trip generation potential during the critical weekday evening commute period (one hour between 4:00 and 6:00 p.m.). Trip generation estimates for each of the scenarios were prepared based on surveys of similar sites. Residential trip generation estimates were prepared based on data contained within ITE's standard reference *Trip Generation, 8<sup>th</sup> Edition*, using the *Apartment* land use category (Land Use Code 220, Reference 9).

Trip generation estimates for the elementary school were prepared using surveys of schools within the City of Bend to better approximate local elementary school trends. The surveys of the Bend locations contain slightly lower trip generation rates than national surveys of elementary schools (0.13 trips/student versus 0.15 trips/student), but are expected to better reflect local characteristics of Central Oregon schools than the national data due to similarities in weather characteristics, mode splits, and after school activities.

All of the elementary school surveys were conducted in early fall at each of the five school sites and include an account of after school activities and public use of the adjacent ballfields. Because the evening commute period analysis of the school primarily reflects faculty trips (student trips typically occur in the afternoon), the increased student walking ratios during fair weather conditions are not expected to impact the results. The study found that the increased public use of the ballfields due to the fair weather likely results in a higher than typical trip rate. While the Bend Elementary School surveys were conducted at locations within developed residential neighborhoods, it is assumed that the City of Madras Urban Growth Boundary area will be fully developed by the horizon year providing similar characteristics at the proposed location. It was also noted that the surrounding neighborhoods have already been master planned, with portions of the roadway infrastructure for the first development phases already in place. *Attachment "6" contains the Bend-La Pine Elementary School Trip Generation study.*

While the location of the elementary school is expected to support the surrounding Yarrow neighborhood, complement with the adjacent middle school, recreational facility, and benefit from the adjacent Juniper Hills Park ballfields, additional trip discounts were not applied to the trip rates obtained from the Bend-La Pine School District facilities. Mixed-use incentives provided in Section 6 of the TPR were also omitted from the analysis, though the densities and integrated uses planned within the Yarrow development are expected to comply with the applicable definitions of a mixed-use pedestrian friendly neighborhood. Table 3 summarizes the trip generation potential of the two potential land use scenarios.



**Table 3** R-2 Scenarios Trip Generation Potential

Land Use	ITE Code	Size	Weekday PM Peak Hour		
			Total	In	Out
Proposed R-2 Zoning: Residential Only Scenario					
Apartments (20 acres)	220	232 Units	145	94	51
Proposed R-2 Zoning: Residential Plus Elementary School Scenario					
Apartments (15 acres)	220	174 Units	113	74	39
Elementary School (5 acres)	N/A	350 Students	46	25	21
Total Trips			159	99	60

As shown in Table 3, future development of the 20-acres with an elementary school (comprising five acres) and residential uses (comprising 15 acres) provides a reasonable worst-case development scenario. This scenario was found to generate 14 more weekday p.m. peak hour trips than build-out of residential uses alone and was used to assess the incremental system impacts associated with the proposed rezone.

**Trip Distribution and Trip Assignment**

The estimated trip distribution pattern of primary site-generated trips associated with the UGB amendment was determined through review of existing traffic patterns, likely school faculty/employee housing, and residential destinations. The trip distribution patterns were separated by residential and school trips, with the resultant trip distribution pattern illustrated in Figure 5. As shown, the pattern highlights that the majority of trips would be headed west toward the City center and US 97 corridor. Trips destined toward US 97 are expected to distribute onto the available parallel routes (Loucks, City View, or B Street) based on their ultimate travel destination.

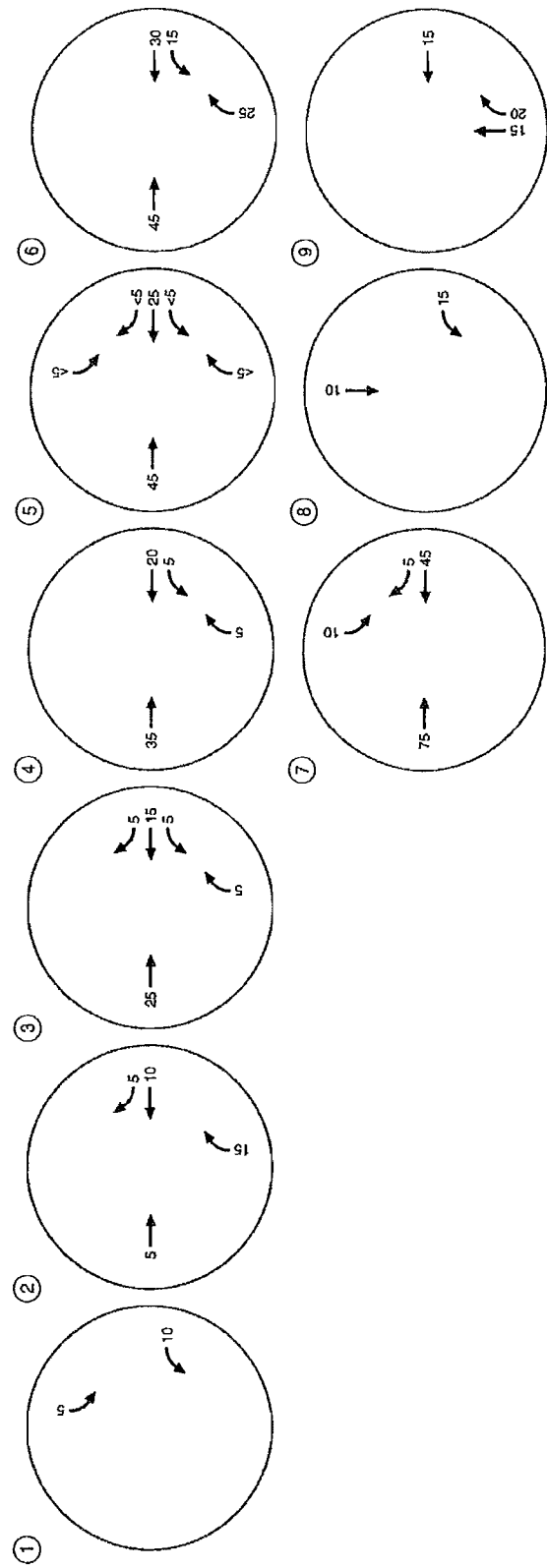
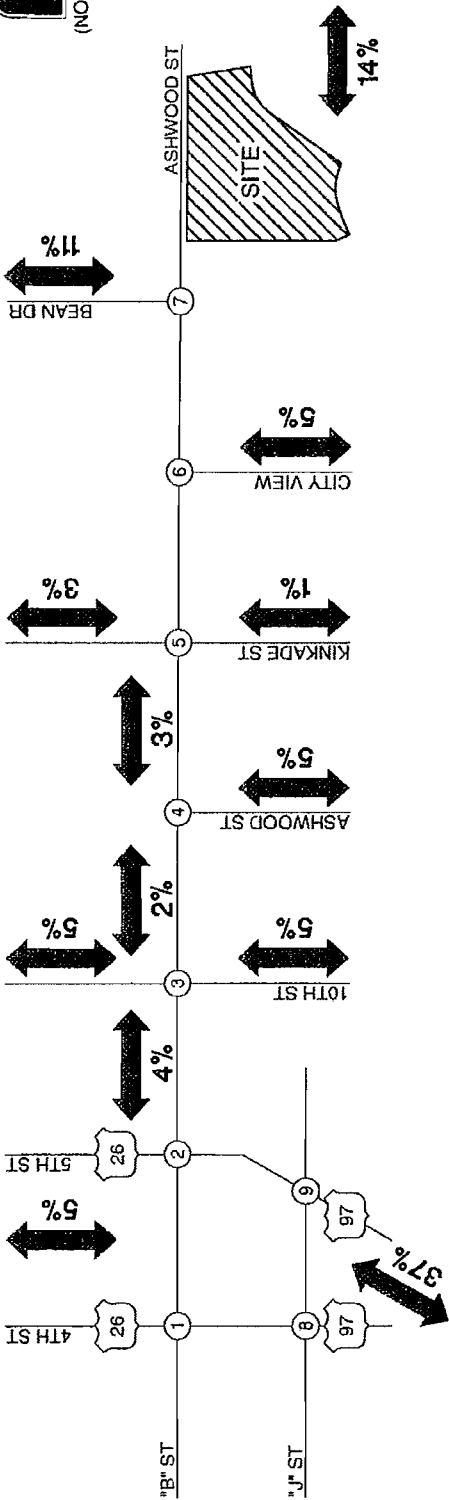
The difference between the Range Land zoning trip generation potential (assumed to be none) and the proposed Multiple Family Residential (R-2) zoning trips (shown in Table 4) during the critical weekday p.m. peak hour was assigned to the roadway network based on the trip distribution patterns and routing. These incremental trips were added to the existing zoning traffic volumes, with the resultant volumes illustrated in Figure 7.

**Study Area Intersections**

Based on a review of the potential increase in trips with the proposed zoning, the following intersections of collector and arterial roadways were identified as study intersections due to their potential for being significantly affected by the proposed zone change. Scoping materials and conversations with the affected jurisdiction staff provided concurrence on the study area. *The City of Madras roadway classification map is included in Attachment "7" and the scoping letter is included as Attachment "8".*

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Madras Elementary School UGB Amendment



ESTIMATED TRIP DISTRIBUTION PATTERN AND SITE GENERATED TRIPS WEEKDAY PM PEAK HOUR MADRAS, OREGON

FIGURE 5

LEGEND

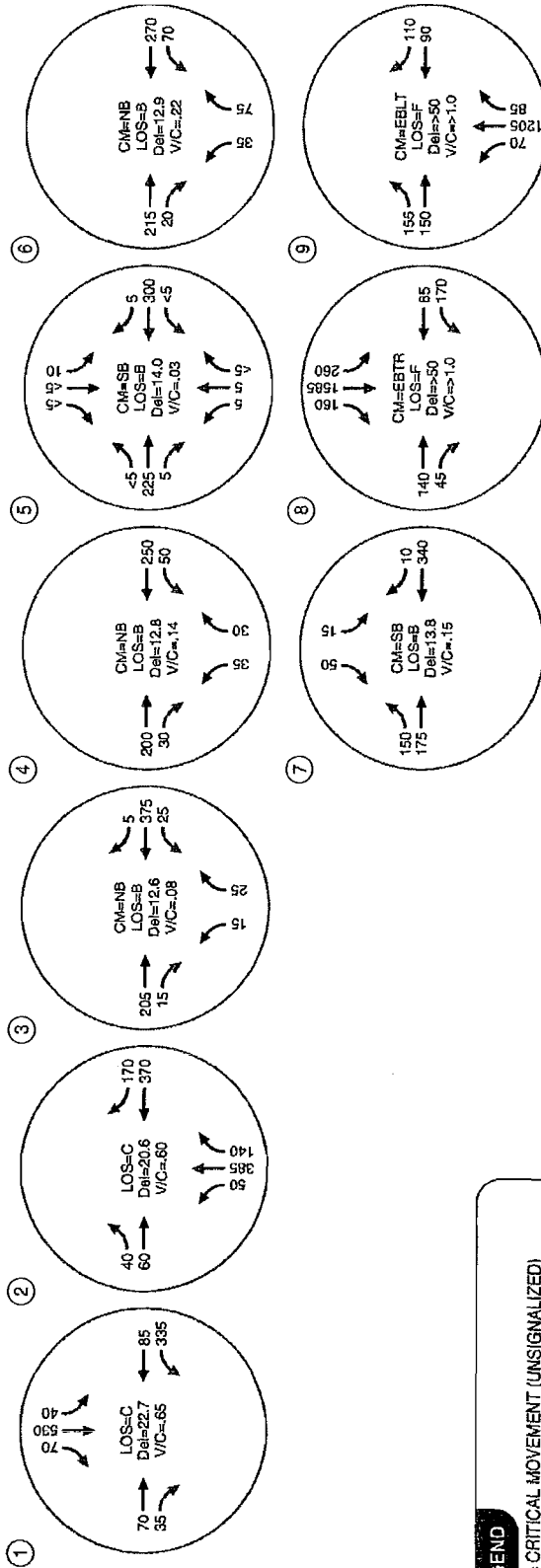
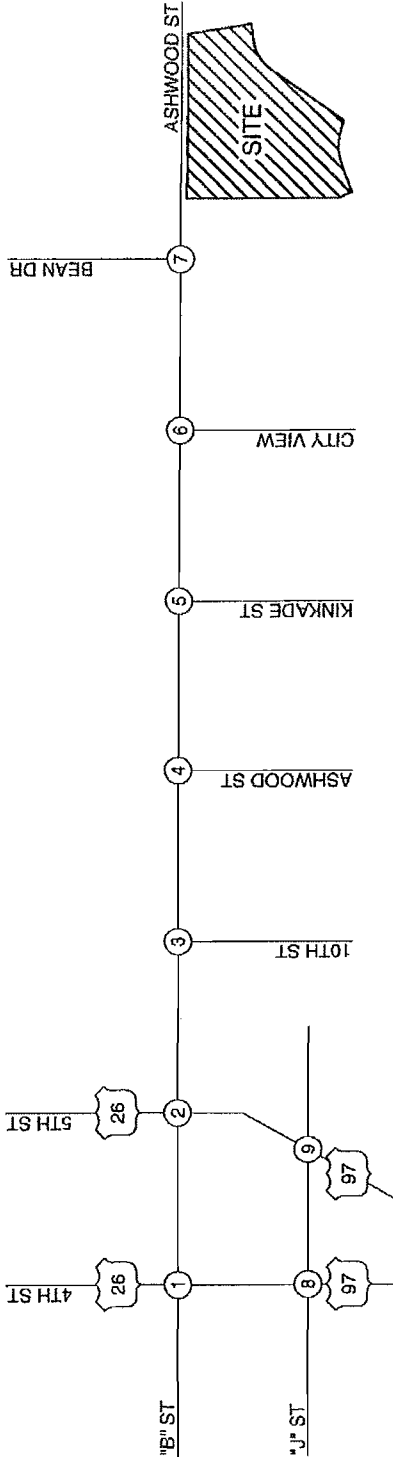
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January 2010

Madras Elementary School UGB Amendment



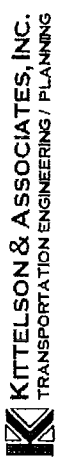
**LEGEND**

- CM = CRITICAL MOVEMENT (UNSIGNALIZED)
- LOS = INTERSECTION LEVEL OF SERVICE (SIGNALIZED)/CRITICAL MOVEMENT LEVEL OF SERVICE (UNSIGNALIZED)
- Del = INTERSECTION AVERAGE CONTROL DELAY (SIGNALIZED)/CRITICAL MOVEMENT CONTROL DELAY (UNSIGNALIZED)
- V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

**HORIZON YEAR PROPOSED R-2 ZONING CONDITIONS WEEKDAY PM PEAK HOUR MADRAS, OREGON**

FIGURE 6

K:\H\_Bandproj\11028 - Madras Elementary and Middle Schools\dwg\figs\11028fig2.dwg Jan 22, 2010 - 12:02pm - mbell Layout Tab: Fig06



- Ashwood Road/Bean Drive (could be impacted by up to 137 additional weekday p.m. peak hour trips, a 46 percent increase from existing volume)
- Ashwood/City View (could be impacted by up to 119 additional weekday p.m. peak hour trips, a 34 percent increase from existing volume)
- B Street/Kinkade Road (could be impacted by up to 76 additional weekday p.m. peak hour trips, a 22 percent increase from existing volume)
- B Street/Ashwood (could be impacted by up to 66 additional weekday p.m. peak hour trips, an 18 percent increase from existing volume)
- B Street/10<sup>th</sup> Street (could be impacted by up to 55 additional weekday p.m. peak hour trips, a 12 percent increase from existing volume)
- US 97 Northbound/B Street (exceeds ODOT's 300 daily trip threshold)
- US 97 Southbound/B Street (exceeds ODOT's 300 daily trip threshold)
- US 97 Northbound (Fifth Street)/J Street (exceeds ODOT's 300 daily trip threshold)
- US 97 Southbound (Fourth Street)/J Street (exceeds ODOT's 300 daily trip threshold)

It should be noted that additional assessment of localized queuing and operations during the school peak periods may be required in the future as part of the entitlements process when a specific site plan is available. However, as the purpose of the Transportation Planning Rule is to provide consistency with the adopted Transportation System Plan only the weekday p.m. peak hour operations (design hour) are summarized herein for TPR purposes.

### **Intersection Level of Service Analysis**

The weekday p.m. peak hour turning-movement volumes shown in Figure 5 were used to conduct an operational analysis at each study intersection to determine the horizon year levels of service. As shown, with the application of regional growth and the incremental trip generation potential of the proposed R-2 zoning all of the study intersections are forecast to operate at acceptable levels of service during the weekday p.m. peak hour with exception of the US 97/J Street intersections. With the planned J Street improvements in place, both the US 97 northbound and southbound intersections with J Street are shown to operate acceptably. *Attachment "9" contains the horizon year level-of-service worksheets.*

### **TRANSPORTATION PLANNING RULE COMPLIANCE**

OAR Section 660-12-0060 sets forth the relative criteria for evaluating plan and land use regulation amendments. Table 4 summarizes the TPR criteria and their applicability to the proposed rezone application.

**Table 4** Summary of Criteria in OAR 660-012-0060

Section	Criteria	Applicable?
1	Describes how to determine if a proposed land use action results in a significantly affects transportation facilities.	Yes <i>See response below</i>
2	Describes measures for complying with Criteria #1 where a significant effect is identified.	Yes <i>See response below</i>
3	Describes measures for complying with Criteria #1 and #2 without assuring that the allowed land uses are consistent with the function, capacity and performance standards of the facility	No
4	Determinations under Criteria #1, #2, and #3 are coordinated with other local agencies.	Yes <i>See response below</i>
5	Indicates that the presence of a transportation facility shall not be the basis for an exception to allow development on rural lands.	No (Lands are part of a master plan area)
6	Indicates that local agencies should credit developments that provide a reduction in trips.	No (No concurrent site plan)
7	Outlines requirements for a local street plan, access management plan, or future street plan for commercial areas.	No (Commercial lands are not proposed)
8	Defines a mixed-use, pedestrian-friendly neighborhood	No (No concurrent site plan)

As shown, there are eight criteria that apply to Plan and Land Use Regulation Amendments. Of these, Criteria #1, #2, and #4 are applicable to the proposed land use action. Applicable sections of these criteria are provided below in italics with a corresponding response shown in standard font.

*OAR 660-12-0060 (1) Where an amendment to a functional plan, an acknowledged comprehensive plan, or a land use regulation would significantly affect an existing or planned transportation facility, the local government shall put in place measures as provided in section (2) of this rule to assure that allowed land uses are consistent with the identified function, capacity, and performance standards (e.g. level of service, volume to capacity ratio, etc.) of the facility. A plan or land use regulation amendment significantly affects a transportation facility if it would:*

*(a) Change the functional classification of an existing or planned transportation facility (exclusive of correction of map errors in an adopted plan);*

*(b) Change standards implementing a functional classification system; or*

*(c) As measured at the end of the planning period identified in the adopted transportation system plan:*

*(A) Allow land uses or levels of development that would result in types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;*

**Response:** Based on the incremental traffic increase from RL to R-2 zoning, the functional classification of all the adjacent roadways will not be affected with the proposed zone change.

*(B) Reduce the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan; or*

**Response:** The intersections of US 97/J Street performs below the minimum acceptable performance standard in the City of Madras TSP and the OHP with the existing zoning.

*(C) Worsen the performance of an existing or planned transportation facility that is otherwise projected to perform below the minimum acceptable performance standard identified in the TSP or comprehensive plan.*

**Response:** The performance of the US 97/J Street intersections are degraded with the incremental trips from the proposed rezone, and therefore a *Significant Effect* occurring with the proposed rezone.

OAR 660-12-0060 (2) *Where a local government determines that there would be a significant effect, compliance with section (1) shall be accomplished through one or a combination of the following:*

*(a) Adopting measures that demonstrate allowed land uses are consistent with the planned function, capacity, and performance standards of the transportation facility.*

*(b) Amending the TSP or comprehensive plan to provide transportation facilities, improvements or services adequate to support the proposed land uses consistent with the requirements of this division; such amendments shall include a funding plan or mechanism consistent with section (4) or include an amendment to the transportation finance plan so that the facility, improvement, or service will be provided by the end of the planning period.*

*(c) Altering land use designations, densities, or design requirements to reduce demand for automobile travel and meet travel needs through other modes.*

*(d) Amending the TSP to modify the planned function, capacity or performance standards of the transportation facility.*

*(e) Providing other measures as a condition of development or through a development agreement or similar funding method, including transportation system management measures, demand management or minor transportation improvements. Local governments shall as part of the amendment specify when measures or improvements provided pursuant to this subsection will be provided.*

**Response:** The J Street intersections are significantly affected. An amendment to the City's Transportation System Plan identifies the long-term needs at these intersections, but at the time the TSP amendment was approved a funding mechanism was not simultaneously adopted. However, because the J Street improvements are located on US 97 and under the

jurisdiction of ODOT additional steps are required to provide a *Reasonably Likely* determination.

*OAR 660-12-0060 (4) Determinations under sections (1)-(3) of this rule shall be coordinated with affected transportation facility and service providers and other affected local governments.*

*(a) In determining whether an amendment has a significant effect on an existing or planned transportation facility under subsection (1)(c) of this rule, local governments shall rely on existing transportation facilities and services and on the planned transportation facilities, improvements and services set forth in subsections (b) and (c) below.*

*(b) Outside of interstate interchange areas, the following are considered planned facilities, improvements and services:*

*(D) Improvements to state highways that are included as planned improvements in a regional or local transportation system plan or comprehensive plan when ODOT provides a written statement that the improvements are reasonably likely to be provided by the end of the planning period.*

*(e) For purposes of this section, a written statement provided pursuant to paragraphs (b)(D), (b)(E) or (c)(A) provided by ODOT, a local government or transportation facility provider, as appropriate, shall be conclusive in determining whether a transportation facility, improvement or service is a planned transportation facility, improvement or service. In the absence of a written statement, a local government can only rely upon planned transportation facilities, improvements and services identified in paragraphs (b)(A)-(C) to determine whether there is a significant effect that requires application of the remedies in section (2).*

**Response:** A formal request has been provided to ODOT for a *Reasonably Likely* determination for the J Street improvements. The J Street improvements are included in the City of Madras TSP Amendment, conceptual design and cost estimates have been completed, and the project is included on the Draft 2010-2013 STIP, expected for approval in October 2010. Pending the anticipated receipt of the *Reasonably Likely* letter from the ODOT Region Manager the ability to assume completion of the J Street improvements as part of the horizon year transportation system will be conclusive.

## **PROJECT FINDINGS AND RECOMMENDATIONS**

### ***Existing Transportation System Findings and Recommendations***

Findings of the existing transportation system review and analysis are summarized below.

- All of the study area intersections currently operate acceptably. The Southbound US 97 (4<sup>th</sup> Street)/J Street intersection meets City and ODOT operational standards but operates with high peak hour delays on the stop-controlled east-west approaches.
- No marked pedestrian crossings or continuous sidewalks are provided between the Jefferson County Middle School/Yarrow and Juniper Hills Park.

Recommendations from the existing conditions assessment are provided below. The City of Madras should incorporate these recommendations into their scheduled maintenance plans or assess the priority of the improvements based on the potential system safety and performance benefit. The identified improvements are currently needed regardless of the proposed zone change.

- Pedestrian and bicycle connectivity and roadway crossing treatments should be considered as part of future planning efforts to connect the existing Jefferson County Middle School with the Juniper Hills Park. Additional connections to the Yarrow neighborhood should also be provided concurrent with development, including appropriate pedestrian crossing treatments along Ashwood Road. These connections could help encourage non-vehicular trips between the complementary uses and increase pedestrian and bicyclist safety.

### **Transportation Planning Rule Findings and Recommendations**

Key findings from the Transportation Planning Rule Analysis are summarized below.

- The proposed 20-acre rezone from the County's *Rangeland* zoning to the City's *Multiple Family Residential* zoning could generate an additional 159 weekday p.m. peak hour trips.
- With exception of the US 97/J Street intersections, all of the study area intersections operate acceptably with the existing and proposed zoning in the horizon analysis period.
- With or without the proposed rezone the US 97/J Street intersections exceed ODOT mobility standards. The additional trips associated with the rezone create an incremental impact on the intersection, creating a *Significant Effect*.
- The City's Transportation System Plan Amendment was prepared to identify the system improvement needs to address the J Street needs. Identified improvements include a realignment of Northbound US 97 (5<sup>th</sup> Street) east onto Adams Drive and two new signalized intersections along J Street for both northbound and southbound highway traffic. With the planned improvements in place the transportation system will operate acceptably with the existing zoning and will continue to operate acceptably with the proposed rezone.
- A request for a *Reasonably Likely* determination has been provided to ODOT. With a *Reasonably Likely* determination for the J Street improvements, no unmitigated significant effects will occur with the proposed rezone.
- Interconnectivity should be reviewed with subsequent Yarrow development (including within the subject parcel) to provide direct and convenient multimodal access to the potential school site. Additionally, pedestrian treatments should be considered between Yarrow, Juniper Hills Park, the adjacent recreational facility, and Jefferson County Middle School.

Please let us know if you have any questions regarding this zone change analysis at (541) 312-8300.



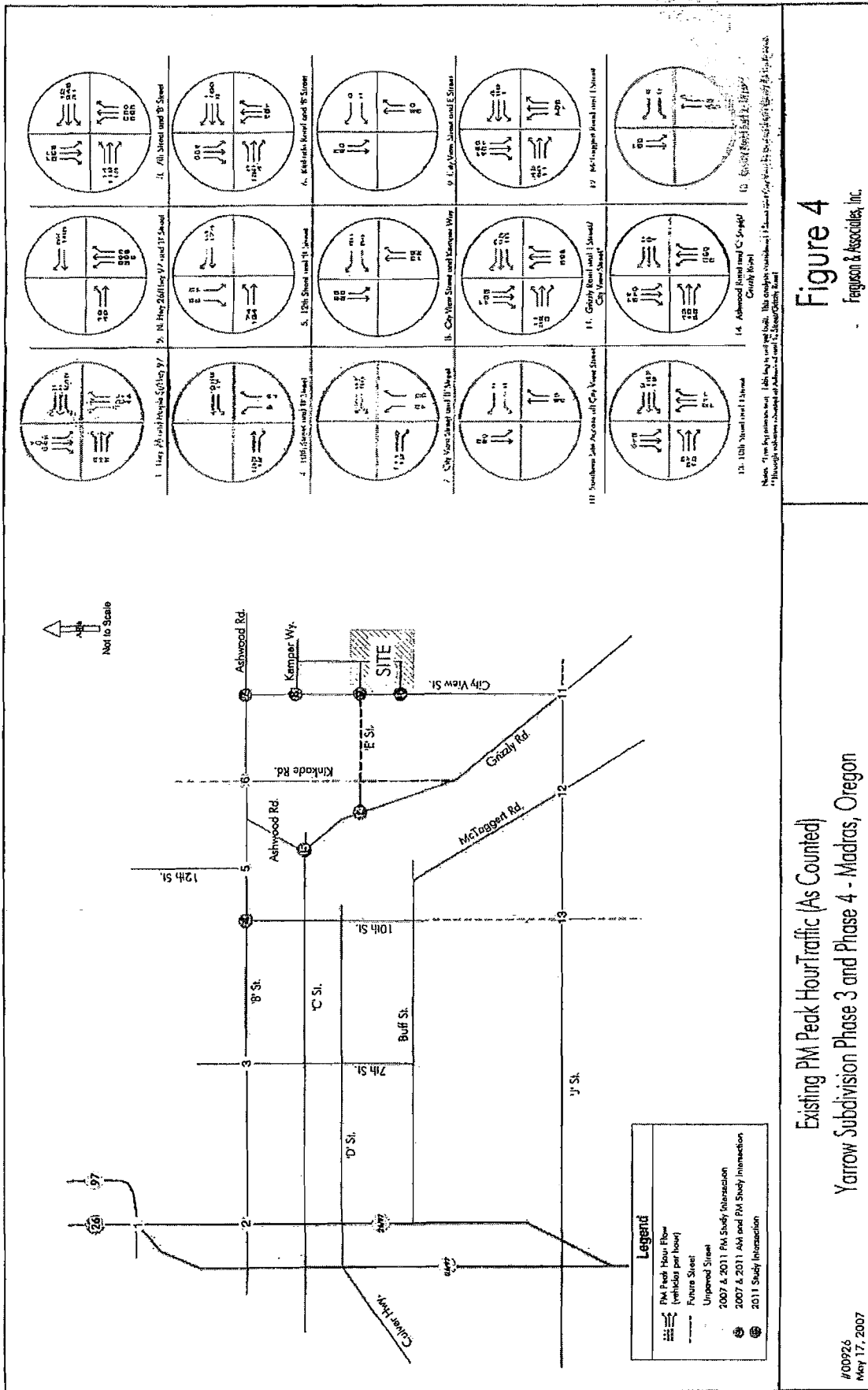
**ATTACHMENTS:**

1. Historical Turning Movement Count Data
2. Existing Conditions Level of Service Worksheets
3. J Street Concept Map
4. Horizon Year (Existing RL Zoning) Level of Service Worksheets
5. R-2 Residential Density Development
6. Bend-La Pine Elementary School Trip Generation Study
7. City of Madras Roadway Classification Map
8. Project Scoping Letter
9. Horizon Year (Proposed R-2 Zoning) Level of Service Worksheets

**REFERENCES:**

1. Cascades East Transit. <http://www.cascadeseasttransit.com>. January 2010.
2. City of Madras & Kittelson & Associates, Inc. *City of Madras Transportation System Plan*. 2001.
3. Jefferson County & Kittelson & Associates, Inc. *Jefferson County Transportation System Plan*. 2005.
4. Oregon Department of Transportation. *1999 Oregon Highway Plan*. March 1999.
5. Department of Land Conservation and Development. Oregon Administrative Rule 660-12-0060, <http://arcweb.sos.state.or.us/banners/rules.htm>.
6. City of Madras & Kittelson & Associates, Inc. *City of Madras Transportation System Plan Update*. 2006.
7. Kittelson & Associates, Inc. *Technical Memorandum #3: Year 2020 Operations Analysis*. May 2001.
8. City of Madras. Ordinance 723, [http://ci.madras.or.us/agendas/agendas\\_ordinances.shtml](http://ci.madras.or.us/agendas/agendas_ordinances.shtml). February 2005.
9. Institute of Transportation Engineers. *Trip Generation, 8<sup>th</sup> Edition*. 2008.

**Attachment "1"**  
Manual Turning  
Movement Counts



**Figure 4**  
Ferguson & Associates, Inc.

**Existing PM Peak Hour Traffic (As Counted)**  
Yarrow Subdivision Phase 3 and Phase 4 - Madras, Oregon

**TRAFFIC COUNT SUMMARY FORM**

Project Title: Madras	Condition: 2003 Existing	Weather:
Project No. ODOT0000-0408	Count Date: 1/28/2003	Road Surface:
Location: OR	Count Period: 4:00-6:00 PM	Traffic Control: Two-way Stop
NS Street: Hwy 97/5th Street	Growth Rate: NA	Intersect. type: 4-Leg
EW Street: B Street	# Compounding Years: NA	Counted by: Traffic Smithy

**APPROACH VOLUMES**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-MIN Total	HOURLY Total	
16:00 16:15	2	13	0	0	52	20	5	141	23	0	0	0	256	984	0:00
16:15 16:30	4	11	0	0	44	6	12	133	26	0	0	0	236	1014	0:00
16:30 16:45	5	8	0	0	41	10	12	164	18	0	0	0	258	1035	16:30
16:45 17:00	2	6	0	0	37	12	11	143	23	0	0	0	234	1013	0:00
17:00 17:15	7	10	0	0	61	12	12	161	23	0	0	0	286	964	0:00
17:15 17:30	4	12	0	0	31	8	7	151	44	0	0	0	257	678	0:00
17:30 17:45	1	12	0	0	40	12	5	142	24	0	0	0	236	421	0:00
17:45 18:00	2	1	0	0	19	11	6	133	13	0	0	0	185	185	0:00
													1948		

Actual PM peak hour period is from: 16:30 to 17:30

**ACTUAL PEAK HOUR VOLUME**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-Min Total	Hourly Total
16:30 16:45	5	8	0	0	41	10	12	164	18	0	0	0	258	
16:45 17:00	2	6	0	0	37	12	11	143	23	0	0	0	234	
17:00 17:15	7	10	0	0	61	12	12	161	23	0	0	0	286	
17:15 17:30	4	12	0	0	31	8	7	151	44	0	0	0	257	
TOTAL	18	36	0	0	170	42	42	619	108	0	0	0		1035
Mvmnt PHF	0.64	0.75	#DIV/0!	#DIV/0!	0.70	0.88	0.88	0.94	0.61	#DIV/0!	#DIV/0!	#DIV/0!	Int.	
Approach PHF		0.79			0.73			0.95		#DIV/0!	#DIV/0!		PHF->	0.90

The PM peak hour used is from: 16:30 to 17:30

**VOLUME FOR PEAK HOUR USED**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-Min Total	Hourly Total
16:30 16:45	5	8	0	0	41	10	12	164	18	0	0	0	258	
16:45 17:00	2	6	0	0	37	12	11	143	23	0	0	0	234	
17:00 17:15	7	10	0	0	61	12	12	161	23	0	0	0	286	
17:15 17:30	4	12	0	0	31	8	7	151	44	0	0	0	257	
TOTAL	18	36	0	0	170	42	42	619	108	0	0	0		1035
Mvmnt PHF	0.64	0.75	#DIV/0!	#DIV/0!	0.70	0.88	0.88	0.94	0.61	#DIV/0!	#DIV/0!	#DIV/0!	Int.	
Approach PHF		0.79			0.73			0.95		#DIV/0!	#DIV/0!		PHF->	0.90

**ACTUAL PEAK HOUR LINK VOLUMES**

TIME	16:30 to 17:30							
	NORTH OF INT.		SOUTH OF INT.		WEST OF INT.		EAST OF INT.	
	NB	SB	NB	SB	WB	EB	WB	EB
16:30 16:45	179	0	194	0	53	13	51	26
16:45 17:00	157	0	177	0	48	8	49	29
17:00 17:15	180	0	196	0	73	17	73	33
17:15 17:30	163	0	202	0	38	16	39	56
TOTAL	679	0	769	0	212	54	212	144

**LINK VOLUMES FOR PEAK HOUR USED**

TIME	16:30 to 17:30							
	NORTH OF INT.		SOUTH OF INT.		WEST OF INT.		EAST OF INT.	
	NB	SB	NB	SB	WB	EB	WB	EB
16:30 16:45	179	0	194	0	53	13	51	26
16:45 17:00	157	0	177	0	48	8	49	29
17:00 17:15	180	0	196	0	73	17	73	33
17:15 17:30	163	0	202	0	38	16	39	56
TOTAL	679	0	769	0	212	54	212	144

COMMENTS:

**TRAFFIC COUNT SUMMARY FORM**

Project Title: Madras  
 Project No. ODO70000-0408  
 Location: OR  
 NS Street: Hwy 97/4th Street  
 EW Street: B Street

Condition: 2003 Existing  
 Count Date: 1/28/2003  
 Count Period: 4:00-8:00 PM  
 Growth Rate: NA  
 # Compounding Years: NA

Weather:  
 Road Surface:  
 Traffic Control: Two-way Stop  
 Intersect. type: 4-Leg  
 Counted by: Traffic Smithy

**APPROACH VOLUMES**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-MIN Total	HOURLY Total	
16:00 16:15	0	9	5	50	8	0	0	0	0	4	170	5	251	953	0.00
16:15 16:30	0	10	4	49	6	0	0	0	0	9	141	6	225	966	0.00
16:30 16:45	0	8	5	46	3	0	0	0	0	6	166	4	238	974	16:30
16:45 17:00	0	0	4	43	10	0	0	0	0	6	167	9	239	930	0.00
17:00 17:15	0	9	0	54	8	0	0	0	0	9	181	3	264	969	0.00
17:15 17:30	0	7	4	42	4	0	0	0	0	7	164	5	233	605	0.00
17:30 17:45	0	2	4	40	5	0	0	0	0	9	130	4	194	372	0.00
17:45 18:00	0	1	4	21	5	0	0	0	0	4	141	2	178	178	0.00
													1822		

Actual PM peak hour period is from: 16:30 to 17:30

**ACTUAL PEAK HOUR VOLUME**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-Min Total	Hourly Total
16:30 16:45	0	8	5	46	3	0	0	0	0	6	166	4	238	
16:45 17:00	0	0	4	43	10	0	0	0	0	6	167	9	239	
17:00 17:15	0	9	0	54	8	0	0	0	0	9	181	3	264	
17:15 17:30	0	7	4	42	4	0	0	0	0	7	164	5	233	
<b>TOTAL</b>	0	24	13	185	25	0	0	0	0	28	678	21		974
Mvmt PHF	#DIV/0!	0.67	0.65	0.86	0.63	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.78	0.94	0.58		Int.
Approach PHF		0.71			0.85			#DIV/0!			0.94		PHF->	0.92

The PM peak hour used is from: 16:30 to 17:30

**VOLUME FOR PEAK HOUR USED**

TIME	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	15-Min Total	Hourly Total
16:30 16:45	0	8	5	46	3	0	0	0	0	6	166	4	238	
16:45 17:00	0	0	4	43	10	0	0	0	0	6	167	9	239	
17:00 17:15	0	9	0	54	8	0	0	0	0	9	181	3	264	
17:15 17:30	0	7	4	42	4	0	0	0	0	7	164	5	233	
<b>TOTAL</b>	0	24	13	185	25	0	0	0	0	28	678	21		974
Mvmt PHF	#DIV/0!	0.67	0.65	0.86	0.63	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.78	0.94	0.58		Int.
Approach PHF		0.71			0.85			#DIV/0!			0.94		PHF->	0.92

**ACTUAL PEAK HOUR LINK VOLUMES**

TIME	NORTH OF INT.		SOUTH OF INT.		WEST OF INT.		EAST OF INT.	
	NB	SB	NB	SB	WB	EB	WB	EB
16:30 16:45	0	176	0	217	7	13	49	14
16:45 17:00	0	182	0	214	19	4	53	6
17:00 17:15	0	193	0	235	11	9	62	18
17:15 17:30	0	176	0	210	9	11	46	14
<b>TOTAL</b>	0	727	0	876	46	37	210	52

**LINK VOLUMES FOR PEAK HOUR USED**

TIME	NORTH OF INT.		SOUTH OF INT.		WEST OF INT.		EAST OF INT.	
	NB	SB	NB	SB	WB	EB	WB	EB
16:30 16:45	0	176	0	217	7	13	49	14
16:45 17:00	0	182	0	214	19	4	53	6
17:00 17:15	0	193	0	235	11	9	62	18
17:15 17:30	0	176	0	210	9	11	46	14
<b>TOTAL</b>	0	727	0	876	46	37	210	52

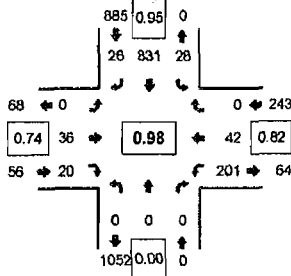
COMMENTS:

Type of peak hour being reported: User-Defined

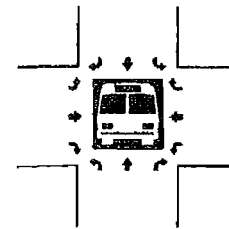
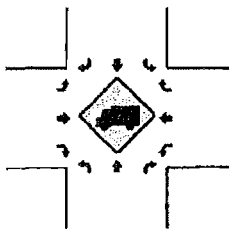
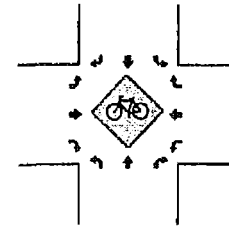
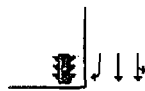
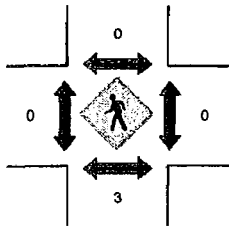
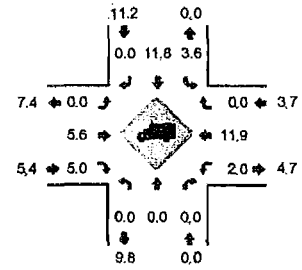
Method for determining peak hour: Total Entering Volume

LOCATION: 4th St -- B St  
CITY/STATE: Madras, OR

QC JOB #: 10274001  
DATE: 8/7/2007



Peak-Hour: 4:15 PM -- 5:15 PM  
Peak 15-Min: 4:50 PM -- 5:05 PM



5-Min Count Period Beginning At	4th St (Northbound)			4th St (Southbound)			B St (Eastbound)			B St (Westbound)			Total	Hourly Totals
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
4:00 PM	0	0	0	1	72	0	0	5	2	10	3	0	83	
4:05 PM	0	0	0	5	81	2	0	0	3	11	2	0	104	
4:10 PM	0	0	0	1	82	4	0	3	0	13	1	0	84	
4:15 PM	0	0	0	3	85	4	0	3	3	28	1	0	128	
4:20 PM	0	0	0	4	64	1	0	0	2	12	2	0	85	
4:25 PM	0	0	0	2	44	4	0	3	1	17	6	0	77	
4:30 PM	0	0	0	3	81	1	0	6	2	20	2	0	84	
4:35 PM	0	0	0	2	71	3	0	2	3	22	7	0	110	
4:40 PM	0	0	0	2	68	1	0	3	0	15	2	0	81	
4:45 PM	0	0	0	1	71	1	0	1	0	16	4	0	84	
4:50 PM	0	0	0	4	74	1	0	4	2	18	2	0	105	
4:55 PM	0	0	0	5	72	0	0	2	3	12	5	0	99	1164
5:00 PM	0	0	0	0	64	3	0	5	1	21	3	0	87	1168
5:05 PM	0	0	0	1	72	5	0	5	3	10	5	0	101	1165
5:10 PM	0	0	0	1	85	2	0	3	0	9	3	0	103	1184
5:15 PM	0	0	0	0	66	3	0	0	1	10	1	0	81	1137
5:20 PM	0	0	0	4	57	2	0	4	3	7	1	0	78	1130
5:25 PM	0	0	0	1	73	2	0	1	2	13	1	0	93	1146
5:30 PM	0	0	0	0	61	1	0	1	4	15	5	0	87	1139
5:35 PM	0	0	0	1	80	0	0	2	0	5	4	0	92	1121
5:40 PM	0	0	0	3	49	4	0	5	0	9	5	0	75	1105
5:45 PM	0	0	0	3	57	3	0	4	0	3	3	0	73	1084
5:50 PM	0	0	0	3	66	4	0	2	2	4	1	0	82	1061
5:55 PM	0	0	0	1	57	2	0	2	2	8	1	0	73	1035
Peak 15-Min Flowrates	Northbound			Southbound			Eastbound			Westbound			Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
All Vehicles	0	0	0	36	840	16	0	44	24	204	40	0	1204	
Heavy Trucks	0	0	0	4	88	0	0	0	0	0	4	0	96	
Pedestrians		4			0			0			0		4	
Bicycles														
Railroad														
Stopped Buses														

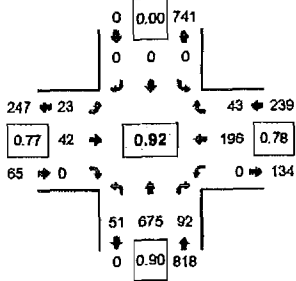
Comments:

Type of peak hour being reported: User-Defined

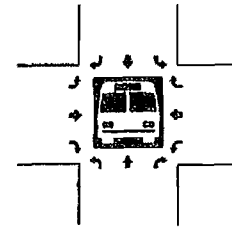
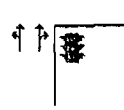
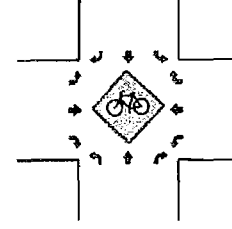
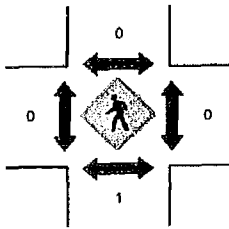
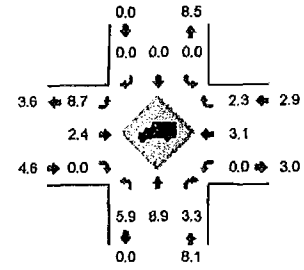
Method for determining peak hour: Total Entering Volume

LOCATION: 5th St - B St  
CITY/STATE: Madras, OR

QC JOB #: 10274002  
DATE: 8/7/2007



Peak-Hour: 4:15 PM -- 5:15 PM  
Peak 15-Min: 4:25 PM -- 4:40 PM



5-Min Count Period Beginning At	5th St (Northbound)			5th St (Southbound)			B St (Eastbound)			B St (Westbound)			Total	Hourly Totals
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
4:00 PM	1	53	3	0	0	0	5	1	0	0	11	3	77	
4:05 PM	2	56	8	0	0	0	0	4	0	0	10	2	80	
4:10 PM	4	59	8	0	0	0	2	4	0	0	18	3	98	
4:15 PM	4	51	6	0	0	0	2	5	0	0	24	4	98	
4:20 PM	3	47	7	0	0	0	2	1	0	0	13	2	75	
4:25 PM	2	59	7	0	0	0	0	3	0	0	14	4	89	
4:30 PM	5	48	9	0	0	0	5	6	0	0	22	7	102	
4:35 PM	3	76	3	0	0	0	2	2	0	0	23	6	115	
4:40 PM	2	50	9	0	0	0	0	6	0	0	13	6	88	
4:45 PM	4	57	8	0	0	0	1	0	0	0	19	3	90	
4:50 PM	8	72	7	0	0	0	2	3	0	0	12	2	106	
4:55 PM	9	51	8	0	0	0	1	8	0	0	18	3	96	1110
5:00 PM	6	80	5	0	0	0	3	5	0	0	18	1	98	1129
5:05 PM	1	43	10	0	0	0	3	2	0	0	14	2	75	1124
5:10 PM	4	61	15	0	0	0	2	3	0	0	6	3	96	1122
5:15 PM	4	45	9	0	0	0	2	0	0	0	8	4	72	1098
5:20 PM	4	49	3	0	0	0	2	4	0	0	8	1	71	1094
5:25 PM	3	59	9	0	0	0	0	2	0	0	12	2	87	1092
5:30 PM	3	59	10	0	0	0	1	0	0	0	12	4	89	1079
5:35 PM	5	66	3	0	0	0	2	2	0	0	9	4	91	1055
5:40 PM	1	54	2	0	0	0	4	2	0	0	5	0	68	1037
5:45 PM	2	47	6	0	0	0	3	4	0	0	6	2	70	1017
5:50 PM	0	50	7	0	0	0	3	0	0	0	3	5	68	979
5:55 PM	3	54	4	0	0	0	3	2	0	0	6	6	78	961
Peak 15-Min Flowrates	Northbound			Southbound			Eastbound			Westbound			Total	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
All Vehicles	40	732	78	0	0	0	28	44	0	0	236	68	1224	
Heavy Trucks	4	68	8	0	0	0	4	0	0	0	12	4	100	
Pedestrians		0			0			0			0		0	
Bicycles														
Railroad														
Stopped Buses														

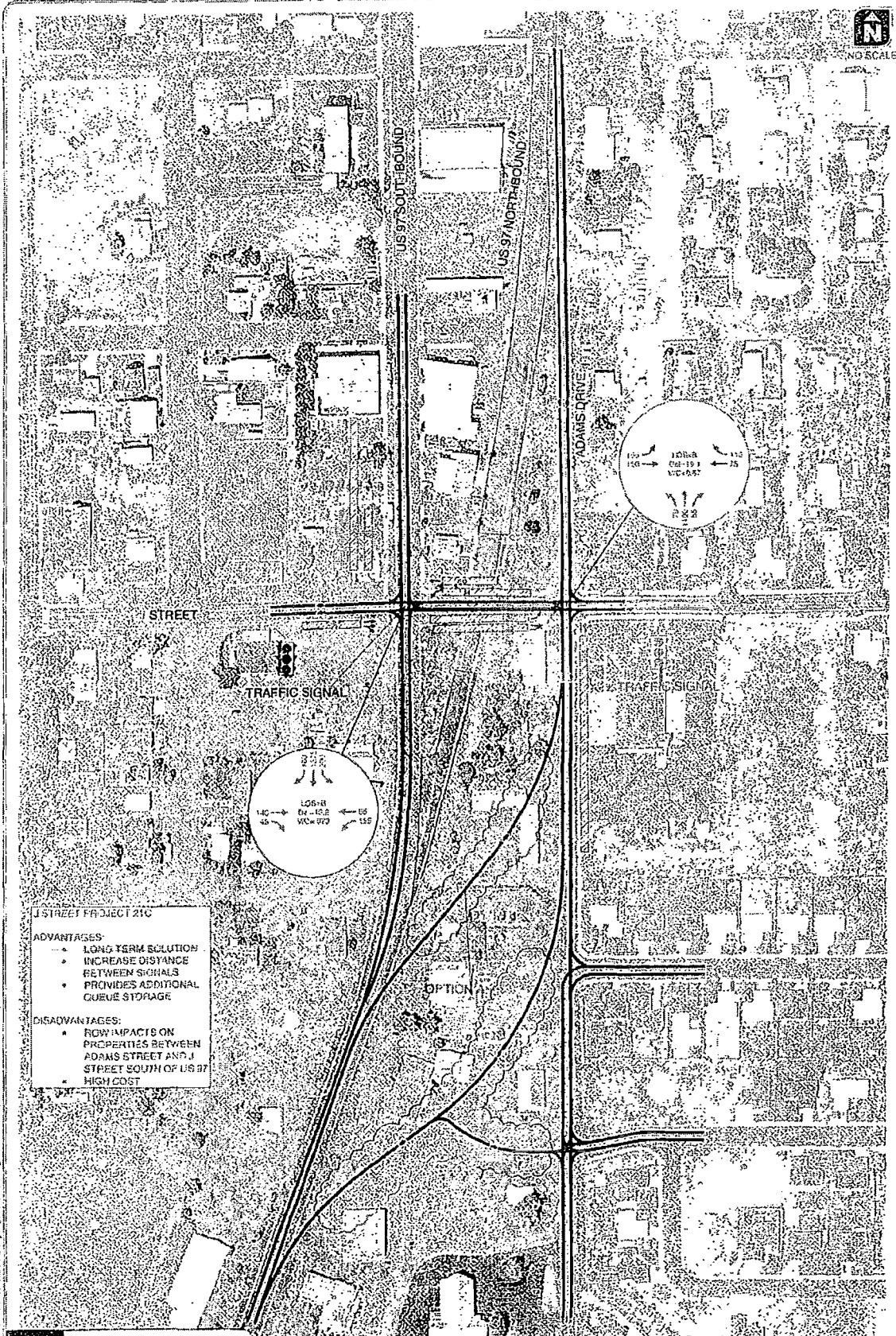
Comments:







AS SHOWN ON SCALE



**J STREET PROJECT 210**

**ADVANTAGES:**

- LONG TERM SOLUTION
- INCREASE DISTANCE BETWEEN SIGNALS
- PROVIDES ADDITIONAL QUEUE STORAGE

**DISADVANTAGES:**

- ROW IMPACTS ON PROPERTIES BETWEEN ADAMS STREET AND J STREET SOUTH OF US 97
- HIGH COST

**LEGEND**

- 85TH PERCENTILE QUEUE

- RIGHT-OF-WAY IMPACT

POTENTIAL J STREET ALTERNATIVE C  
 US 97/US 26 NORTHBOUND APPROACH REALIGNMENT  
 MADRAS, OREGON

**Attachment "2"**  
Existing Conditions Level  
of Service Worksheets

PM Fri Jan 22, 2010 11:47:17 Page 1-1  
 Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

PM Fri Jan 22, 2010 11:47:17 Page 1-1  
 Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

Impact Analysis Report  
 Level Of Service

Scenario Report

Intersection	Base Del./ V/ LOS	Future Del./ V/ LOS	Change in
# 1 "B" Street/4th Street	B 17.8 0.567	B 17.8 0.567	+ 0.000 D/V
# 2 "B" Street/5th Street	B 15.5 0.472	B 15.5 0.472	+ 0.000 D/V
# 3 "B" Street/10th Street	B 10.4 0.020	B 10.4 0.020	+ 0.000 L/V
# 4 "B" Street/Ashwood	B 10.7 0.049	B 10.7 0.049	+ 0.000 D/V
# 5 "B" Street/Kinkade Road	B 11.2 0.008	B 11.2 0.008	+ 0.000 D/V
# 6 "B" Street/City View	B 10.5 0.050	B 10.5 0.050	+ 0.000 D/V
# 7 "B" Street/Bean Drive	A 9.7 0.080	A 9.7 0.080	+ 0.000 D/V
# 8 "U" Street/4th Street	E 46.6 0.550	E 46.6 0.550	+ 0.000 L/V
# 9 "J" Street/5th Street	C 17.6 0.550	C 17.6 0.550	+ 0.000 D/V

Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact Fee: PM  
 Trip Generation: PM  
 Trip Distribution: PM  
 Paths: PM  
 Routes: PM  
 Configuration: PM







Kittelsohn & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

Kittelsohn & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (HCM2000 Queue Method)  
 2000 HCM Operations Method  
 Base Volume Alternative

Level Of Service Detailed Computation Report (Permitted Left Turn Sat Adj)  
 2000 HCM Operations Method  
 Base Volume Alternative

\*\*\*\*\*  
 Intersection #2 "B" Street/5th Street  
 \*\*\*\*\*

Approach:	North Bound			South Bound			East Bound			West Bound		
	L	T	R	L	T	R	L	T	R	L	T	R
Movement:	0.61	0.61	0.61	0.00	0.00	0.00	0.31	0.31	0.00	0.00	0.00	0.31
Green/Cycle:	0.61	0.61	0.61	0.00	0.00	0.00	0.31	0.31	0.00	0.00	0.00	0.31
ArticType:	3	3	3	2	2	3	3	3	3	3	3	3
ProgFactor:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Q1:	6.9	6.9	6.9	0.0	0.0	0.0	1.4	1.4	0.0	0.0	0.0	5.6
UpstreamAdj:	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.10	0.00	0.00	0.00	0.00
EarlyArrAdj:	1.00	1.00	1.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00	1.00
Q2:	0.9	0.9	0.9	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.9
HCM2KQueue:	7.8	7.8	7.8	0.0	0.0	0.0	1.4	1.4	0.0	0.0	0.0	6.5
70thFactor:	1.16	1.18	1.18	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.16
HCM2K70thQ:	9.2	9.2	9.2	0.0	0.0	0.0	1.7	1.7	0.0	0.0	0.0	7.7
85thFactor:	1.53	1.53	1.53	1.60	1.60	1.60	1.59	1.59	1.60	1.60	1.60	1.54
HCM2K85thQ:	11.9	11.9	11.9	0.0	0.0	0.0	2.3	2.3	0.0	0.0	0.0	10.0
90thFactor:	1.67	1.67	1.67	1.80	1.80	1.80	1.77	1.77	1.80	1.80	1.80	1.69
HCM2K90thQ:	13.0	13.0	13.0	0.0	0.0	0.0	2.6	2.6	0.0	0.0	0.0	11.0
95thFactor:	1.89	1.89	1.89	2.10	2.10	2.10	2.05	2.05	2.10	2.10	2.10	1.92
HCM2K95thQ:	14.7	14.7	14.7	0.0	0.0	0.0	3.0	3.0	0.0	0.0	0.0	12.5
98thFactor:	2.25	2.25	2.25	2.70	2.70	2.70	2.59	2.59	2.70	2.70	2.70	2.31
HCM2K98thQ:	17.5	17.5	17.5	0.0	0.0	0.0	3.6	3.6	0.0	0.0	0.0	15.0

\*\*\*\*\*  
 Intersection #2 "B" Street/5th Street  
 \*\*\*\*\*

Approach:	North	South	East	West
Cycle Length, C:	100	100	100	100
Actual Green Time Per Lane Group, G:	31.20	31.20	31.20	31.20
Effective Green Time Per Lane Group, g:	31.20	31.20	31.20	31.20
Opposing Effective Green Time, go:	31.20	31.20	31.20	31.20
Number Of Opposing Lanes, No:	1	1	1	1
Number Of Lanes In Lane Group, N:	24	24	24	24
Adjusted Left-Turn Flow Rate, Vlt:	0.35	0.35	0.35	0.35
Proportion of Left Turns in Lane Group, Plt:	0.00	0.00	0.00	0.00
Proportion of Left Turns in Opp Flow, Pito:	0.67	0.67	0.67	0.67
Left Turns Per Cycle, Ltc:	252	252	252	252
Adjusted Opposing Flow Rate, Vo:	7.00	7.00	7.00	7.00
Opposing Flow Per Lane Per Cycle, Volc:	4.00	4.00	4.00	4.00
Opposing Platoon Ratio, Rpo:	11.96	11.96	11.96	11.96
Lost Time Per Phase, tL:	0.69	0.69	0.69	0.69
Eff grn until arrival of left-turn car, gL:	10.54	10.54	10.54	10.54
Opposing Queue Ratio, qro:	19.24	19.24	19.24	19.24
Eff grn blocked by opposing queue, gq:	0.00	0.00	0.00	0.00
Eff grn while left turns filter thru, gu:	1.00	1.00	1.00	1.00
Max opposing cars arriving during gq-gf, n:	0.00	0.00	0.00	0.00
Proportion of opposing thru & RT cars, pcho:	0.00	0.00	0.00	0.00
Left-turn Saturation Factor, fs:	0.00	0.00	0.00	0.00
Proportion of left turns in Shared Lane, pl:	0.00	0.00	0.00	0.00
Through-car Equivalents, all:	1.00	1.00	1.00	1.00
Single Lane Through-car Equivalents, e12:	0.00	0.00	0.00	0.00
Minimum Left Turn Adjustment Factor, fmin:	0.00	0.00	0.00	0.00
Single Lane Left Turn Adjustment Factor, fl:	0.00	0.00	0.00	0.00
Left Turn Adjustment Factor, flt:	0.00	0.00	0.00	0.00





Kittelerson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report

2000 HCM Unsignalized Method  
 Base Volume Alternative

Intersection #4 "B" Street/Ashwood  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Heavy Veh: 0% 0% 0% 0%  
 Grade: 0% 0% 0% 0%  
 Pedestrian Walk Speed: 4.06 feet/sec  
 Lane Width: 12 feet  
 Time Period: 0.25 hour  
 Upstream Signals: #5  
 Link Index: 0.000  
 Dist (Miles): 0.00  
 Speed (mph): 0.00  
 Signal Index: #2  
 Cycle Time: 0 secs  
 Init Volume: 0  
 Saturation: 0  
 Arrival Type: 0  
 G/C: 0

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
 P: 0.00 0.00  
 9q1: 0.00 0.00  
 9q2: 0.00 0.00  
 9q3: 0.00 0.00  
 alpha: 0.000  
 beta: 0.000  
 ta (secs): 0.000  
 F: 0.000 0.000  
 vamax: 0  
 vcyj: 0  
 vamin: 0  
 tp: 0.0 0.0  
 p: 0.000

\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
 alpha: 0.000  
 beta: 0.000  
 ta (secs): 0.000  
 F: 0.000 0.000  
 vamax: 0  
 vcyj: 0  
 vamin: 0  
 tp: 0.0 0.0  
 p: 0.000

\*\*\* Computation 3: Platoon Event Periods  
 pcom/subc: 0.000/0.000/Unconstrained  
 \*\*\* Computation 4: Conflicting Flows During Each Unblocked Period  
 InitConf: 421 421 431 434 192 0  
 AdjConfVol: 421 421 431 434 192 0  
 UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00  
 ConflictVol: 421 421 431 434 192 0  
 \*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period  
 InitPotCap: 593 527 900 538 518 855  
 UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00  
 Potent Cap.: 593 527 900 538 518 855

Traffic 8.0.0715 (c) 2008 Dowling Assoc. Licensed to MITTELSON, PORTLAND

Kittelerson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 "B" Street/Ashwood  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Average Delay (sec/veh): 1.8 Worst Case Level Of Service: E (10.7)  
 Street Name: "B" Street  
 Control: Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include  
 Lanes: 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0  
 Volume Module: >> Count Date: 17 May 2007 << 4:00 to 5:00 PM  
 Base Vol: 24 0 17 0 0 0 0 117 23 23 163 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bsp: 24 0 17 0 0 0 0 117 23 23 163 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
 PHF Volume: 28 0 20 0 0 0 0 138 27 39 192 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Final Volume: 28 0 20 0 0 0 0 138 27 39 192 0

Critical Gap Module:  
 Critical Gap: 6.4 6.5 6.2  
 Followup Tim: 3.5 4.0 3.3  
 Capacity Module:  
 Conflict Vol: 421 151 900  
 Potent Cap.: 593 527 900  
 Move Cap.: 561 513 900  
 Volume/Cap: 0.05 0.00 0.02

Level Of Service Module:  
 2WayStgQ: XXXX XXXX XXXX  
 Control Del: XXXX XXXX XXXX XXXX XXXX XXXX  
 LOS by Move: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
 Shared Cap.: XXX 561 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shared Queue: XXXX 0.2 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shrd CapDel: XXXX 10.7 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shared LOS: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Approach Del: 10.7  
 Note: Queue reported is the number of cars per lane.

Traffic 8.0.0715 (c) 2008 Dowling Assoc. Licensed to MITTELSON, PORTLAND









Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report  
 2000 HCM Unsignalized Method  
 Base Volume Alternative

Intersection #9 "J" Street/5th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Heavy Veh: 9% 0% 0% 0%  
 Grade: 0% 0% 0% 0%  
 Pedestrian Walk Speed: 4.00 feet/sec  
 Lane Width: 12 feet 12 feet 12 feet 12 feet  
 Time Period: 0.25 hour

Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Existing Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Base Volume Alternative)  
 Worst Case Level Of Service: C (17.6)

Intersection #9 "J" Street/5th Street  
 Street Name: "J" Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Uncontrolled Uncontrolled Stop Sign Stop Sign  
 Rights: Include Include Include Include  
 Lanes: 0 1 0 1 0 0 0 0 1 0 1 0 0 0 0 1 0

Volume Module:  
 Base Vol: 14 588 28 0 0 0 86 124 0 0 60 59  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 14 588 28 0 0 0 86 124 0 0 60 59  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHF Volume: 15 619 29 0 0 0 91 131 0 0 63 62  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Final Volume: 15 619 29 0 0 0 91 131 0 0 63 62

Critical Gap Module:  
 Critical Gap: 4.2 XXXX XXXX XXXX XXXX 7.1 6.5 XXXX XXXX 6.5 6.2  
 FollowUpTim: 3.3 XXXX XXXX XXXX XXXX 3.5 4.0 XXXX XXXX 4.0 3.3

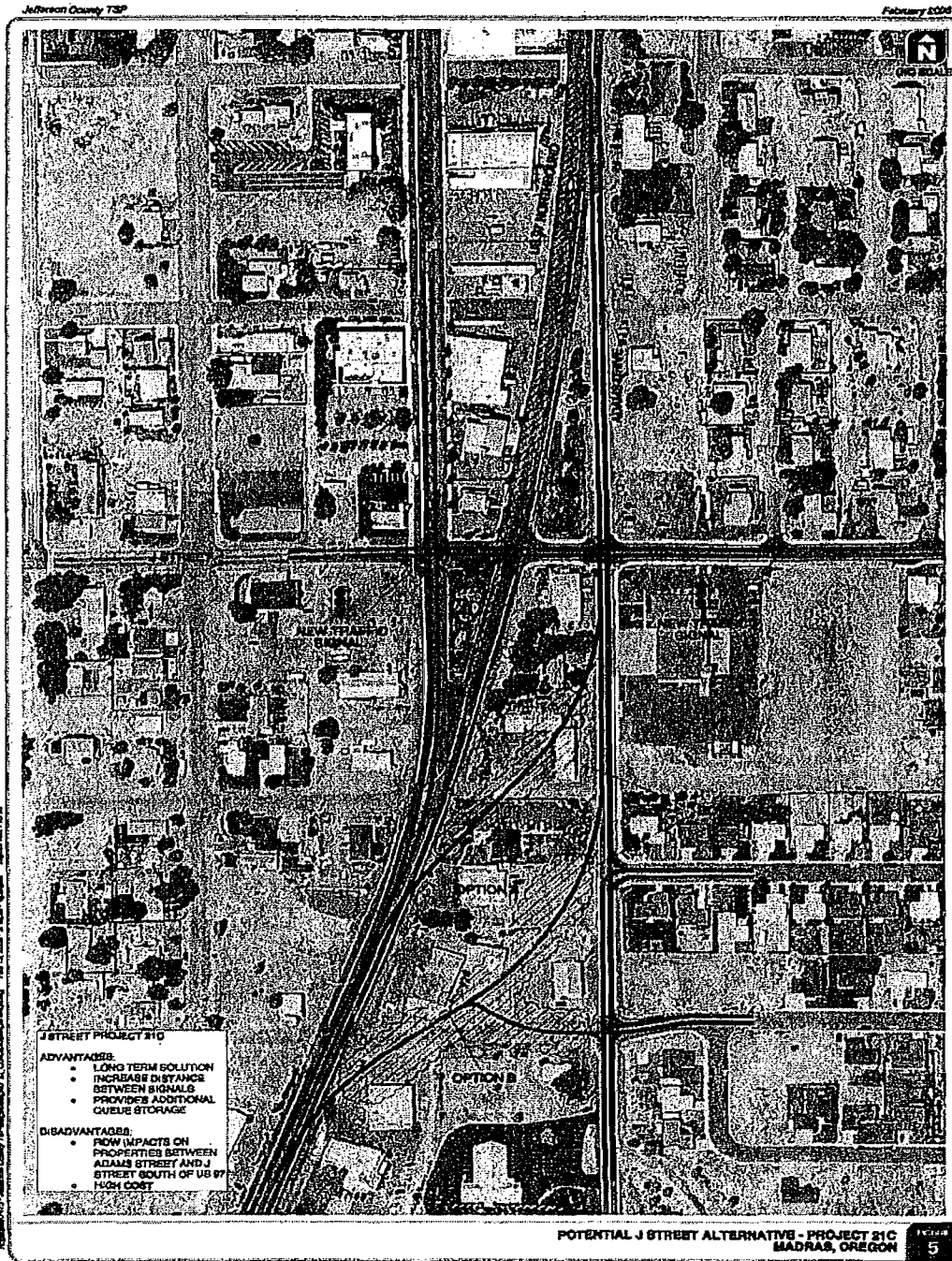
Capacity Module:  
 Conflict Vol: 0 XXXX XXXX XXXX XXXX 371 678 XXXX XXXX 663 324  
 Retent Cap: 1578 XXXX XXXX XXXX XXXX 590 377 XXXX XXXX 384 721  
 Move Cap: 1578 XXXX XXXX XXXX XXXX 467 373 XXXX XXXX 380 721  
 Volume/Cap: 0.01 XXXX XXXX XXXX XXXX 0.19 0.35 XXXX XXXX 0.17 0.09

Level Of Service Module:  
 2WayStho: 0.0 XXXX XXXX XXXX XXXX 0.7 1.5 XXXX XXXX XXXX XXXX  
 Control Del: 7.3 XXXX XXXX XXXX XXXX 14.6 19.8 XXXX XXXX XXXX XXXX  
 LOS by Move: A → B C  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 497  
 Shared Queue: 0.0 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 1.0  
 Shrd Cntrl: 7.3 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 14.7  
 Shared LOS: A → XXXXX  
 Approach Del: XXXXX 17.6 14.7 B  
 Approach LOS: C  
 Note: Queue reported is the number of cars per lane.

**Attachment "3"**  
J Street Conceptual  
Improvement Illustration



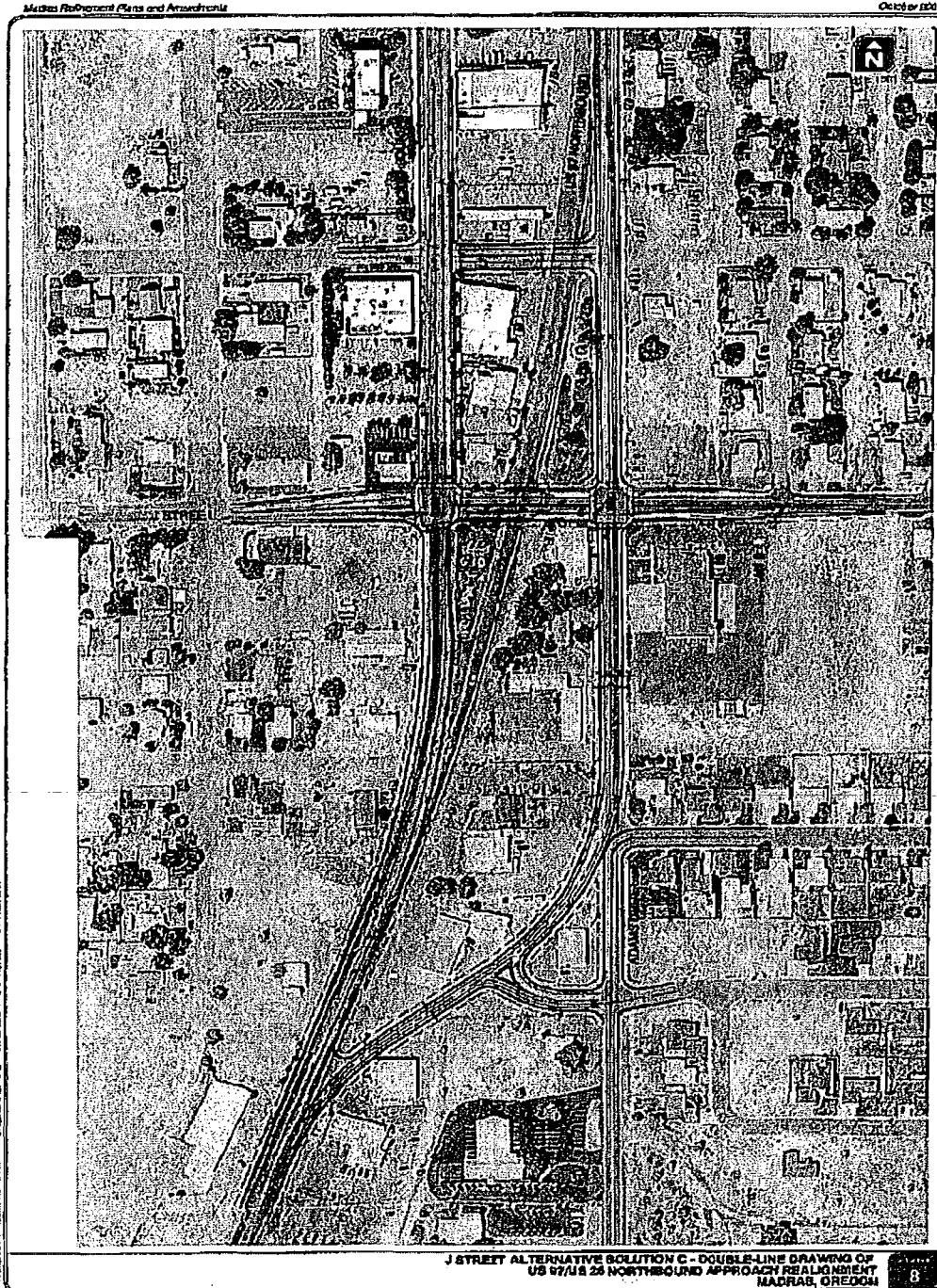
**US97 @ J Street (Madras) Project**  
Alternative Concepts of US97 Realignment Shown







**US97 @ J Street (Madras) Project**  
Conceptual Drawing of Signalized Intersections @ J Street US97 Option B Realignment Shown



01 03 2009 10:00 AM 10/1/09 10:00 AM

J STREET ALTERNATIVE SOLUTION C - DOUBLE-LINE DRAWING OF US 97/US 26 NORTHBOUND APPROACH REALIGNMENT MADRAS, OREGON

**Attachment "4"**  
Existing RL Zoning LOS  
Worksheets

Scenario Report  
 Level Of Service

Impact Analysis Report  
 Level Of Service

Intersection	LOS	Base Del/V/C	Future Del/V/C	Change in
# 1 "B" Street/4th Street	C	22.4 0.636	22.4 0.636	+ 0.000 D/V
# 2 "B" Street/5th Street	C	20.3 0.581	20.3 0.581	+ 0.000 D/V
# 3 "B" Street/10th Street	B	11.8 0.038	11.8 0.038	+ 0.000 D/V
# 4 "B" Street/Ashwood	B	12.2 0.084	12.2 0.084	+ 0.000 D/V
# 5 "B" Street/Kinkade Road	B	12.6 0.016	12.6 0.016	+ 0.000 D/V
# 6 "B" Street/City View	B	11.9 0.088	11.9 0.088	+ 0.000 D/V
# 7 "B" Street/Sean Drive	B	11.1 0.143	11.1 0.143	+ 0.000 D/V
# 8 "J" Street/4th Street	F	OVREFL 4.790	OVREFL 4.790	+ 0.000 D/V
# 9 "J" Street/5th Street	F	287.2 1.476	287.2 1.476	+ 0.000 D/V

Scenario Report

Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact Fee: Default Impact Fee  
 Trip Generation: RM  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: PM

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 Background Traffic Conditions, Weekday PM Peak Hour

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 Background Traffic Conditions, Weekday PM Peak Hour

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 "B" Street/4th Street

Cycle (sec): 100  
 Loss Time (sec): 8  
 Optimal Cycle: 41  
 Critical Vol./Cap. (X): 0.636  
 Average Delay (sec/veh): 22.4  
 Level Of Service: C

Street Name: "B" Street

Approach: North Bound South Bound East Bound West Bound

Movement	L	T	R	L	T	R	L	T	R
Control	Split Phase			Split Phase			Permitted		
Rights	Include			Include			Permitted		
Min. Green	0	0	0	0	0	0	0	0	0
Y+R	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes	0	0	0	1	0	1	0	0	0

Volume Module:

Base Vol:	0	0	35	528	69	0	69	35	328	86	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	35	528	69	0	69	35	328	86	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0
In-Process:	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	35	528	69	0	69	35	328	86	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	37	556	73	0	73	37	345	91	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	37	556	73	0	73	37	345	91	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MSF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	0	37	556	73	0	73	37	345	91	0

Saturation Flow Module:

Sat/Lane:	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Adjustment:	1.00	1.00	0.84	0.84	1.00	0.96	0.96	0.70	0.70	1.00	1.00
Lanes:	0.00	0.00	0.11	1.67	0.22	0.00	0.66	0.34	0.79	0.21	0.00
Final Sat.:	0	0	162	2443	319	0	1109	562	965	353	0

Capacity Analysis Module:

Vol/Sat:	0.00	0.00	0.23	0.23	0.23	0.00	0.07	0.07	0.36	0.36	0.00
Crit Moves:	***										
Green/Cycle:	0.00	0.00	0.36	0.36	0.36	0.00	0.56	0.56	0.56	0.56	0.00
Vol/ume/Cap:	0.00	0.00	0.64	0.64	0.64	0.00	0.12	0.12	0.64	0.64	0.00
Delay/Veh:	0.0	0.0	28.0	28.0	28.0	0.0	10.3	10.3	16.9	16.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	28.0	28.0	28.0	0.0	10.3	10.3	16.9	16.9	0.0
LOS by Move:	A	A	A	C	C	A	B	B	B	B	A
HGN2KAVQC:	0	0	10	10	10	0	2	2	9	9	0

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 Background Traffic Conditions, Weekday PM Peak Hour

Level of Service Computation Report  
 2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 "B" Street/5th Street

Cycle (sec): 100 Critical Vol./Cap. (X): 0.551  
 Loss Time (sec): 8 Average Delay (sec/veh): 20.3  
 Optimal Cycle: 37 Level of Service: C  
 Street Name: "B" Street 5th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Split Phase Split Phase Permitted Permitted  
 Rights: Include Include Include Include  
 Max. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
 YPR: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  
 Lanes: 0 1 0 1 0 0 0 0 0 0 1 0 0 0 0 1 0

Volume Module:  
 Base Vol: 52 385 127 0 0 0 40 58 0 0 382 167  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 52 385 127 0 0 0 40 58 0 0 382 167  
 Adm'd Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 In-Process: 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 52 385 127 0 0 0 40 58 0 0 382 167  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHE Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHE Volume: 55 405 134 0 0 0 42 61 0 0 381 176  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 55 405 134 0 0 0 42 61 0 0 381 176  
 PCF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 M/F Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Volume: 55 405 134 0 0 0 42 61 0 0 381 176

Saturation Flow Module:  
 Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750  
 Adjustment: 0.84 0.84 0.84 1.00 1.00 1.00 0.75 0.75 1.00 1.00 0.96 0.96  
 Lanes: 0.10 1.37 0.45 0.00 0.00 0.00 0.41 0.59 0.00 0.00 0.68 0.52  
 Final Sat.: 270 2002 660 0 0 0 536 777 0 0 1146 528  
 Capacity Analysis Module:  
 Vol/Sat: 0.20 0.20 0.20 0.00 0.00 0.00 0.08 0.08 0.00 0.00 0.33 0.33  
 Crit Moves: \*\*\*\*  
 Green/Cycle: 0.35 0.25 0.35 0.00 0.00 0.00 0.57 0.57 0.00 0.00 0.57 0.57  
 Volume/Cap: 0.58 0.58 0.58 0.00 0.00 0.00 0.14 0.14 0.00 0.00 0.58 0.58  
 Delay/Veh: 27.5 27.5 27.5 0.0 0.0 0.0 10.0 10.0 0.0 0.0 14.6 14.6  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 27.5 27.5 27.5 0.0 0.0 0.0 10.0 10.0 0.0 0.0 14.6 14.6  
 LOS by Move: C C C A A A B B A A B B  
 HCM2KAVG: 8 8 8 0 0 0 1 1 0 0 1 1

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Level of Service Detailed Computation Report (HCM2000 Queue Method)  
 2000 HCM Operations Method  
 Future Volume Alternative

Intersection #1 "B" Street/4th Street

Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Green/Cycle: 0.00 0.00 0.00 0.36 0.36 0.00 0.56 0.56 0.56 0.56 0.00  
 ArrivalType: 3 3 3 3  
 ProgFactor: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Q1: 0.0 0.0 0.0 8.1 8.1 8.1 8.2 8.2 8.2 8.2  
 UpstreamVC: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00  
 UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00  
 EarlyArrAdj: 0.00 0.00 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Q2: 0.0 0.0 0.0 1.6 1.6 1.6 0.0 0.1 0.1 0.8 0.8 0.0  
 HCM2KQueue: 0.0 0.0 0.0 9.7 9.7 9.7 0.0 1.6 1.6 9.0 9.0 0.0

70thFactor: 1.20 1.20 1.20 1.18 1.18 1.18 1.20 1.20 1.20 1.20 1.20  
 HCM2K70thQ: 0.0 0.0 0.0 11.5 11.5 11.5 0.0 1.9 1.9 10.7 10.7 0.0  
 85thFactor: 1.60 1.60 1.60 1.52 1.52 1.52 1.60 1.60 1.60 1.60 1.60  
 HCM2K85thQ: 0.0 0.0 0.0 14.8 14.8 14.8 0.0 2.5 2.5 13.8 13.8 0.0  
 90thFactor: 1.80 1.80 1.80 1.65 1.65 1.65 1.80 1.80 1.80 1.80 1.80  
 HCM2K90thQ: 0.0 0.0 0.0 16.0 16.0 16.0 0.0 2.8 2.8 14.9 14.9 0.0  
 95thFactor: 2.00 2.00 2.00 1.85 1.85 1.85 2.00 2.00 2.00 2.00 2.00  
 HCM2K95thQ: 0.0 0.0 0.0 18.0 18.0 18.0 0.0 3.2 3.2 16.8 16.8 0.0  
 98thFactor: 2.70 2.70 2.70 2.17 2.17 2.17 2.70 2.70 2.70 2.70 2.70  
 HCM2K98thQ: 0.0 0.0 0.0 21.1 21.1 21.1 0.0 4.0 4.0 19.9 19.9 0.0

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Level of Service Detailed Computation Report (HCM2000 Queue Method)  
 2000 HCM Operations Method  
 Future Volume Alternative

Level of Service Detailed Computation Report (Permitted Left Turn Sat Adj)  
 2000 HCM Operations Method  
 Future Volume Alternative

\*\*\*\*\*  
 Intersection #2 "B" Street/5th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Green/Cycle: 0.55 0.35 0.35 0.00 0.00 0.00 0.57 0.57 0.00 0.00 0.57 0.57  
 ArrivalType: 3 3 3 3 3 3 3 3  
 Progressor: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Q1: 7.1 7.1 7.1 0.0 0.0 0.0 1.3 1.3 0.0 0.0 0.0 0.0  
 UpstreamVC: 0.00 0.00 0.00 0.00 0.00 0.00 0.12 0.12 0.00 0.00 0.00 0.00  
 UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 1.00 1.00 0.00 0.00 0.00 0.00  
 EarlyArrAdj: 1.00 1.00 1.00 0.00 0.00 0.00 0.62 0.62 0.00 0.00 0.00 0.00  
 Q2: 1.3 1.3 1.3 0.0 0.0 0.0 0.1 0.1 0.0 0.0 0.0 0.0  
 HCMQueue: 8.4 8.4 8.4 0.0 0.0 0.0 1.4 1.4 0.0 0.0 0.0 0.0  
 70thPctFactor: 1.18 1.18 1.18 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.18  
 HCMQueue: 8.9 9.9 9.9 0.0 0.0 0.0 1.7 1.7 0.0 0.0 0.0 0.0  
 85thPctFactor: 1.53 1.53 1.53 1.60 1.60 1.60 1.59 1.59 1.60 1.60 1.51 1.51  
 HCMQueue: 12.9 12.9 12.9 0.0 0.0 0.0 2.3 2.3 0.0 0.0 0.0 0.0  
 90thPctFactor: 1.66 1.66 1.66 1.80 1.80 1.80 1.77 1.77 1.80 1.80 1.63 1.63  
 HCMQueue: 14.0 14.0 14.0 0.0 0.0 0.0 2.5 2.5 0.0 0.0 0.0 0.0  
 95thPctFactor: 1.88 1.88 1.88 2.10 2.10 2.10 2.05 2.05 2.10 2.10 1.82 1.82  
 HCMQueue: 15.8 15.8 15.8 0.0 0.0 0.0 2.9 2.9 0.0 0.0 20.5 20.5  
 98thPctFactor: 2.22 2.22 2.22 2.70 2.70 2.70 2.60 2.60 2.70 2.70 2.12 2.12  
 HCMQueue: 18.7 18.7 18.7 0.0 0.0 0.0 3.7 3.7 0.0 0.0 23.9 23.9

\*\*\*\*\*  
 Intersection #2 "B" Street/5th Street  
 Approach: North South East West  
 Cycle Length, C: XXXXXX 100 XXXXXX  
 Actual Green Time Per Lane Group, G: XXXXXX 57.16 XXXXXX  
 Effective Green Time Per Lane Group, g: XXXXXX 57.16 XXXXXX  
 Opposing Effective Green Time, go: XXXXXX 57.16 XXXXXX  
 Number Of Opposing Lanes, No: XXXXXX 1 XXXXXX  
 Number Of Lanes In Lane Group, N: XXXXXX 42 XXXXXX  
 Adjusted Left-Turn Flow Rate, Vlt: XXXXXX 0.41 XXXXXX  
 Proportion of Left Turns in Lane Group, Plt: XXXXXX 0.00 XXXXXX  
 Proportion of Left Turns in Opp Flow, Plto: XXXXXX 1.17 XXXXXX  
 Left Turns Per Cycle, LTC: XXXXXX 557 XXXXXX  
 Adjusted Opposing Flow Rate, Vo: XXXXXX 15.47 XXXXXX  
 Opposing Flow Per Lane Per Cycle, Volc: XXXXXX 1.00 XXXXXX  
 Opposing Platoon Ratio, Rpo: XXXXXX 4.00 XXXXXX  
 Lost Time Per Phase, Lt: XXXXXX 18.14 XXXXXX  
 Eff grn until arrival of left-turn car, gfl: XXXXXX 0.43 XXXXXX  
 Opposing Queue Ratio, qro: XXXXXX 12.20 XXXXXX  
 Eff grn blocked by opposing queue, gq: XXXXXX 39.04 XXXXXX  
 Eff grn while left turns filter thru, g: XXXXXX 0.00 XXXXXX  
 Max opposing cars arriving during gq-gf, n: XXXXXX 1.00 XXXXXX  
 Proportion of Opposing Thru & RT cars, ptho: XXXXXX XXXXXX  
 Left-turn Saturation Factor, fs: XXXXXX XXXXXX  
 Proportion of Left Turns in Shared Lane, pl: XXXXXX 2.41 XXXXXX  
 Through-car Equivalents, eli: XXXXXX 1.00 XXXXXX  
 Single Lane Through-Car Equivalents, al2: XXXXXX 0.05 XXXXXX  
 Minimum Left Turn Adjustment Factor, fmin: XXXXXX 0.75 XXXXXX  
 Single Lane Left Turn Adjustment Factor, fm: XXXXXX 0.75 XXXXXX  
 Left Turn Adjustment Factor, flt: XXXXXX XXXXXX



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Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)  
 Intersection #4 "B" Street/Ashwood

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: E (12.2)

Street Name: "B" Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include Include  
 Lanes: 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module:  
 Base Vol: 33 0 24 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Sse: 33 0 24 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 Added Vol: 0  
 In-Process: 0  
 Initial Fut: 33 0 24 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
 PHF Volume: 39 0 28 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduct Vol: 0  
 Final Volume: 39 0 28 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Critical Gap Module:  
 Critical Gap: 6.4 6.5 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2  
 FollowUpTim: 3.5 4.0 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3

Capacity Module:  
 Conflict Vol: 585 585 209 585 585 585 585 585 585 585 585 585 585 585 585 585 585 585 585  
 Potential Cap.: 477 426 836 477 426 836 477 426 836 477 426 836 477 426 836 477 426 836 477 426  
 Move Cap.: 462 408 836 462 408 836 462 408 836 462 408 836 462 408 836 462 408 836 462 408  
 Volume/Cap: 0.08 0.00 0.03 0.08 0.00 0.03 0.08 0.00 0.03 0.08 0.00 0.03 0.08 0.00 0.03 0.08 0.00 0.03 0.08

Level Of Service Module:  
 2Way95thQ: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Control Del: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: XXXX 569 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 SharedQueue: XXXX 0.4 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shrd ConDel: XXXX 12.2 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shared LOS: \* B \* XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 ApproachDel: 12.2 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 ApproachLOS: B XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX

Note: Queue reported is the number of cars per lane.

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 Madras Elementary School UGB Amendment - Madras, Oregon  
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Level Of Service Computation Report  
 2000 HCM Unsignalized Method (Future Volume Alternative)  
 Intersection #3 "B" Street/10th Street

Average Delay (sec/veh): 0.9 Worst Case Level Of Service: E (11.8)

Street Name: "B" Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled  
 Rights: Include Include Include Include  
 Lanes: 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Volume Module:  
 Base Vol: 13 0 18 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Sse: 13 0 18 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 Added Vol: 0  
 In-Process: 0  
 Initial Fut: 13 0 18 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
 PHF Volume: 15 0 21 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduct Vol: 0  
 Final Volume: 15 0 21 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Critical Gap Module:  
 Critical Gap: 6.4 6.5 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2 6.2  
 FollowUpTim: 3.5 4.0 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3 3.3

Capacity Module:  
 Conflict Vol: 705 705 225 705 705 705 705 705 705 705 705 705 705 705 705 705 705 705 705  
 Potential Cap.: 496 363 819 496 363 819 496 363 819 496 363 819 496 363 819 496 363 819 496 363  
 Move Cap.: 399 356 819 399 356 819 399 356 819 399 356 819 399 356 819 399 356 819 399 356  
 Volume/Cap: 0.84 0.00 0.03 0.84 0.00 0.03 0.84 0.00 0.03 0.84 0.00 0.03 0.84 0.00 0.03 0.84 0.00 0.03 0.84

Level Of Service Module:  
 2Way95thQ: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Control Del: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
 Shared Cap.: XXXX 568 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 SharedQueue: XXXX 0.2 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shrd ConDel: XXXX 11.8 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 Shared LOS: \* B \* XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 ApproachDel: 11.8 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
 ApproachLOS: B XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX

Note: Queue reported is the number of cars per lane.





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 Madras Elementary School DGB Amendment - Madras, Oregon  
 Background Traffic Conditions, Weekday PM Peak Hour

Level Of Service Computation Report

2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #9 "J" Street/5th Street

Average Delay (sec/veh): 56.2 Worst Case Level Of Service: F (287.2)

Street Name: "J" Street

Approach: North Bound South Bound East Bound West Bound

Movement: L - T - R L - T - R L - T - R L - T - R

Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	0 1 0 1 0 0 0 0 1 0 1 0 0 0 0 1 0			

Volume Module:

Base Vol:	70 1190	65 0 0 0	155 150	0 0 75 110
Growth Adj:	1.00 1.00	1.00 1.00 1.00	1.00 1.00	1.00 1.00 1.00 1.00
Initial Bse:	70 1190	65 0 0 0	155 150	0 0 75 110
Added Vol:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
In-Process:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Initial Fut:	70 1190	65 0 0 0	155 150	0 0 75 110
User Adj:	1.00 1.00	1.00 1.00 1.00	1.00 1.00	1.00 1.00 1.00 1.00
PHF Adj:	0.95 0.95	0.95 0.95 0.95	0.95 0.95	0.95 0.95 0.95 0.95
PHF Volume:	74 1253	68 0 0 0	163 158	0 0 79 116
Reduct Vol:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Final Volume:	74 1253	68 0 0 0	163 158	0 0 79 116

Critical Gap Module:

Critical Gp:	4.2 XXXX	XXXX XXXX XXXX XXXX	7.1 6.5	XXXX XXXX 6.5 6.2
FollowUpLim:	2.3 XXXX	XXXX XXXX XXXX XXXX	3.5 4.0	XXXX XXXX 4.0 3.3

Capacity Module:

Conflict Vol:	0 XXXX	XXXX XXXX XXXX	813 1468	XXXX 1434 66:
Potent Cap:	1578 XXXX	XXXX XXXX XXXX	299 129	XXXX 135 466
Move Cap:	1578 XXXX	XXXX XXXX XXXX	111 122	XXXX 128 466
Volume/Cap:	0.05 XXXX	XXXX XXXX XXXX	1.48 1.29	XXXX XXXX 0.62 0.25

Level Of Service Module:

2WaySig:	0.1 XXXX	XXXX XXXX XXXX	11.8 10.2	XXXX XXXX XXXX
Control Del:	7.4 XXXX	XXXX XXXX XXXX XXXX	326.7 246	XXXX XXXX XXXX XXXX
LOS by Move:	A	F	F	F
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap:	XXXX XXXX XXXX	XXXX XXXX XXXX	XXXX XXXX XXXX	XXXX XXXX XXXX
Shared Queue:	0.1 XXXX	XXXX XXXX XXXX	XXXX XXXX XXXX	XXXX XXXX XXXX
Shrd ConDel:	7.4 XXXX	XXXX XXXX XXXX	XXXX XXXX XXXX	XXXX XXXX XXXX
Shared LOS:	A	F	F	F
ApproachDel:	XXXXXX		287.2	74.9
ApproachLOS:			F	F

Note: Queue reported is the number of cars per lane.

Traffic 8.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, PORTLAND

**Attachment "5"**  
R-2 Residential Density  
Development

**Derivation of Potential Residential Density** (based on provisions within City Ordinance 723)

5 acres \* 43,560 SF/acre = 217,800 SF

217,800 SF – 25% roads, offsets, easements = 163,350 SF Usable

- Assuming 18 units per typical apartment structure

**First two units**

= 10,000 SF (first two units) + (2 units \* 200 SF lawn/unit) + (2 units \* 300 SF parking/unit)

= 11,000 SF

**16 Additional units**

= 16 units \* 200 lawn + 16 units \* 300 parking + 16 units \* 2,000 SF/unit

= 40,000 SF

**18 Unit Apartment Building**

= 11,000 SF + 40,000 SF

= 51,000 SF

**Total Buildings**

= 163,350 / 51,000 = 3 Buildings

- Assuming final building has more than 18 units to utilize remaining land

= 163,350 SF – 51,000 SF/Building \* 3 Buildings

10,350 SF = (x units \* 200 SF lawn/unit + x \* 300 parking/unit + x \* 2,000 SF/unit)

x = 4 units

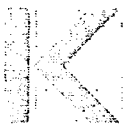
**Total Residential Units**

= 3 Buildings \* 18 units per building + 4 units

= 58 units multifamily units, or 11.6 units per acre per five acres

= 232 apartment units on 20 acres or 174 units on 15 acres

**Attachment "6"**  
Bend-La Pine Trip  
Generation Study

**KITTELSON & ASSOCIATES, INC.**

TRANSPORTATION ENGINEERING / PLANNING

354 SW Upper Terrace Drive, Suite 101, Bend, Oregon 97702 • 541.312.8300 • 541.312.4585

**MEMORANDUM**

---

**Date:** October 14, 2008 Project #: 9140  
**To:** John M. Rexford  
Bend-La Pine Schools  
520 NW Wall Street  
Bend, Oregon 97701-2699  
**From:** Joe Bessman, P.E.  
**Subject:** Elementary School Trip Generation Study

---

**PURPOSE**

The purpose of this memorandum is to summarize measured trip generation rates for elementary schools in Bend during the weekday p.m. peak hour of adjacent street traffic. Standard reference manuals contain trip generation data for elementary schools during the weekday a.m. peak hour (7:00 to 9:00 a.m.) and during the afternoon school peak hour (2:00 to 4:00 p.m.), but no data is available for the evening commute period. This time period is commonly used to assess off-site impacts of schools to the transportation system.

This study identifies elementary school trip generation data during the weekday p.m. peak hour of adjacent street traffic, and was prepared based on surveys of four elementary schools located within Bend. The study methodology and resultant trip generation rates are summarized herein.

**AVAILABLE ELEMENTARY SCHOOL DATA**

As defined within *Trip Generation, 7<sup>th</sup> Edition*, elementary schools serve grades kindergarten through fifth or sixth grade, are typically centrally located within residential communities to facilitate access, and provide bus service to students within specific geographic boundaries. The ITE land use category for elementary schools includes both public and private elementary schools within the dataset, although data for this study was collected exclusively at public schools.

As identified within the Trip Generation manual, school bus utilization may vary significantly between elementary schools, and may result in varying trip rates between school sites. Potential factors for school bus utilization could include the proximity of bus service, service boundaries, transportation infrastructure, crime, income, or other factors. School bus utilization data was not collected as the purpose of this trip generation study is to identify characteristics specific to the Bend-La Pine School District, and specifically to elementary schools within the City of Bend.

Available data contained within the standard reference materials includes elementary school surveys during the weekday p.m. peak hour of the generator only. This coincides with the end of



the school day, which typically occurs between 2:00 p.m. and 4:00 p.m. However, the critical off-site transportation analysis period typically coincides with the evening commute period (4:00 to 6:00 p.m.), which does not occur simultaneously with elementary school peak trip generation. No standard data is available within the ITE manual related to elementary school trip characteristics during the weekday evening commute period, when limited after-school activities or staff trips represent the primary uses.

As part of new elementary school projects for the City of Hillsboro School District, trip generation studies were conducted at several locations during the critical weekday p.m. commute period (4:00 to 6:00 p.m.). These studies showed that the schools' trip generation rates during the evening commute period were approximately 30 percent of the peak school trip rates that occurred in the afternoon. Given the unique characteristics of Bend (population, service boundaries, and bus ridership), a trip generation study was conducted to assess trip generation rates applicable to local conditions.

## TRIP GENERATION STUDY

Four school sites were selected for analysis throughout the City of Bend. School sites selected were those that were in operation for at least two years, were centrally located within residential communities, include typical school hours and amenities, contain defined attendance boundaries, and include configurations that would allow the separation of trips from those associated with surrounding uses. The school sites selected for the survey, data collection dates, street address, and year 2008/2009 enrollment data are identified in Table 1. *The attachments include the school attendance boundary map illustrating the location of the elementary schools and the areas served.*

**Table 1**  
**Elementary School Characteristics**

School Name	Data Collection Dates	School Enrollment	Street Address
Pine Ridge Elementary	Tuesday September 16, 2008	540	19840 SW Hollygrape St Bend, Oregon 97702
R E Jewell Elementary	Tuesday September 16, 2008	557	20550 Murphy Rd Bend, Oregon 97702
Juniper Elementary	Tuesday September 16, 2008	509	1300 NE Norton Ave Bend, Oregon 97701
Elk Meadow Elementary	Tuesday September 16, 2008	568	60880 Brookwood Blvd Bend, Oregon 97702

Each of the ingress/egress points at the school sites were videotaped on September 16, 2008, two weeks after the start of school to ensure that school attendance patterns had normalized. It should be noted that many of the schools are situated adjacent to public parks, and trips associated with the ball fields or adjacent parks could not be entirely separated. During the surveys, the weather was sunny with a high temperature of 90 degrees. Accordingly, it is expected that the trip generation studies are conservatively high given the higher usage of the adjacent ball fields than during the majority of the school year. As trips during the evening commute period likely reflect

low levels of student trips to and from the school, the potential impact of weather on student mode choice is not expected to have a significant impact on the measured trip generation rates.

Intersection traffic counts were simultaneously conducted at nearby collector and arterial intersections to identify the time period with peak traffic volumes on the adjacent roadway system. Given the relatively low school volumes, this hour represents the time period when the combination of site-generated traffic and roadway volumes are expected to peak. The peak hour of adjacent street traffic identified in the study typically occurred just prior to the 5:00 to 6:00 p.m. period, with exception of counts collected near Juniper Elementary which identified an earlier peak hour between 4:25 and 5:25 p.m.

## TRIP GENERATION RESULTS

Videotapes collected at the school ingress/egress points were manually reviewed in five-minute increments coinciding with the peak hour of adjacent street traffic. Trip rates on a per-student basis were calculated at each of the four school sites, and a weighted average was applied to generate a local elementary school trip generation rate on a per-student basis. A summary of the trip generation data for each school is provided in Table 2 and Figure 1, and worksheets from the data collection efforts are included in the attachments.

**Table 2**  
**Measured Trip Generation Rates (Weekday PM Peak Hour)**

School Name	Student Enrollment	Weekday PM Peak Hour of Adjacent Street Traffic	Trips Per Student	% Trips In	% Trips Out
Pine Ridge Elementary	540	4:50 to 5:50 p.m.	0.16	40	60
R E Jewell Elementary	557	4:25 to 5:25 p.m.	0.09	68	32
Juniper Elementary	509	4:25 to 5:25 p.m.	0.15	52	48
Elk Meadow Elementary	568	4:55 to 5:55 p.m.	0.12	58	42
Weighted Average Trip Generation Rate			0.13 <sup>1</sup>	55%	45%

<sup>1</sup>The weighted average is calculated by dividing the sum of all trips or trip ends by the sum of all independent variable units (total school trips / total student enrollment).

Based on the resultant trip generation rates, trip generation rates for elementary schools within the Bend La Pine School District were identified as 0.13 trips per student during the weekday p.m. peak hour of adjacent street traffic, with 55 percent of the trips inbound and 45 percent of the trips outbound. This local trip rate is approximately half of the national trip rate of 0.28 trips per student during the weekday peak hour of generator (2:00 to 4:00 p.m. time period).

We trust that the information contain herein adequately summarizes the trip generation characteristics of elementary schools within the City of Bend. Please let us know if you have any questions or need any additional information to review the analysis findings.

Attachments: Traffic count worksheets  
School Attendance Area Map

## Elementary School (520)

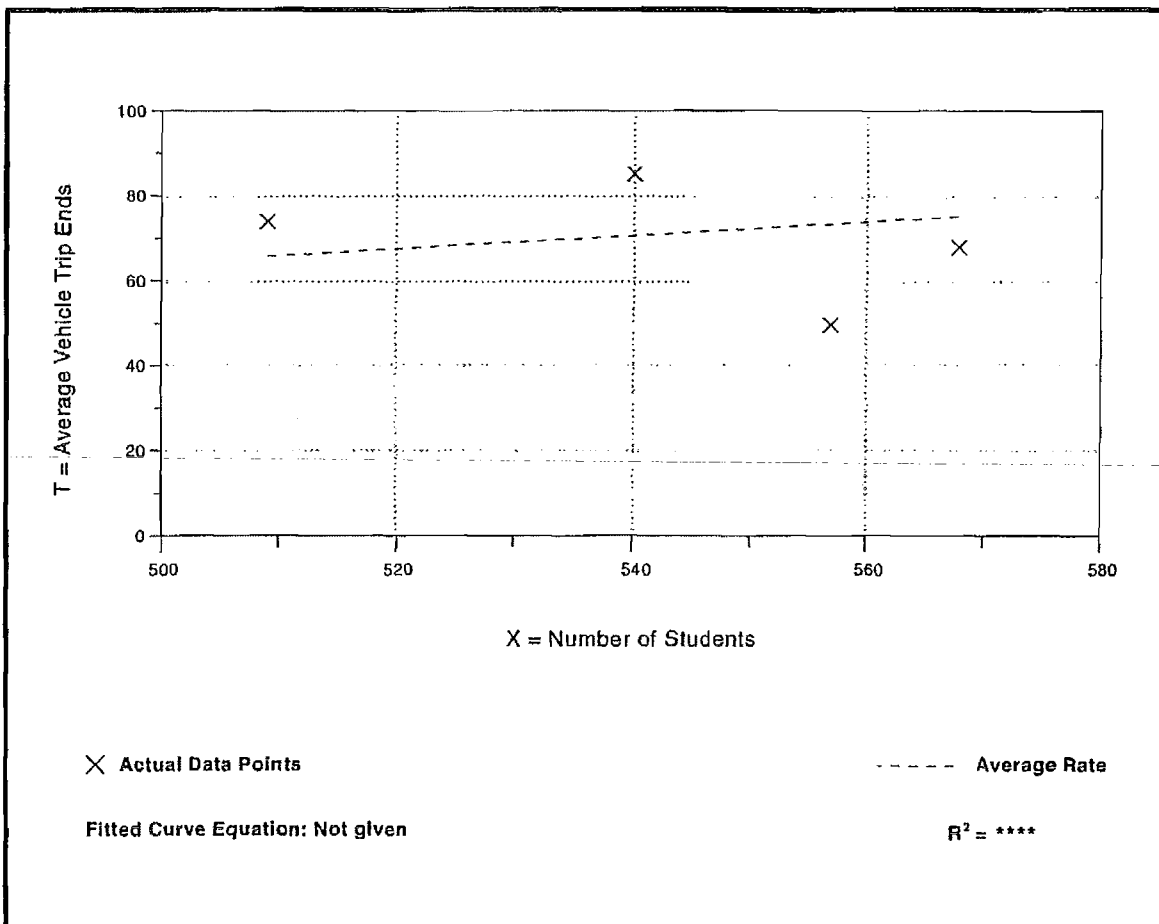
**Average Vehicle Trip Ends vs: Students**  
**On a: Weekday,**  
**Peak Hour of Adjacent Street Traffic,**  
**One Hour Between 4 and 6 p.m.**

Number of Studies: 4  
 Average Number of Students: 544  
 Directional Distribution: 55% entering, 45% exiting

### Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.13	0.09 - 0.16	0.03

### Data Plot and Equation



















QUALITY CONTROL REPORT

Site: 11 (Lamp Post) - University  
 Street: 1100 S  
 City: Salt Lake City, Utah 84143  
 County: Salt Lake  
 State: UT  
 Comments: PMS2000

FORM START: 4:50 PM  
 FORM END: 5:15 PM  
 PGM: 0444 (7/97)  
 PGM Name: IUD  
 Date: 8/23/94

Method: 100%  
 Method Name: IUD

PERCENT RECOVERY TABLE  
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QUALITY COUNTS REPORT  
www.verintec.com/trafficcounting.htm

School: Elk Meadow Elementary  
 Intersection: Broadwood Blvd - Elk Meadow School Ln Dwy  
 City/State: Erie, PA  
 Date: 08/18/2008  
 Comments:

PEAK HOUR START 4:55 PM  
 PEAK HOUR END 5:55 PM  
 PEAK 15-MIN START 5:10 PM  
 PEAK 15-MIN END 5:25 PM  
 PPF 3076

PEAK-HOUR VOLUMES  
 NB Lft 0 NB Rght 145 NB Thru 3 SB Lft 0 SB Rght 223 SB Thru 0 EB Lft 0 EB Rght 4 EB Thru 0 WB Lft 4 WB Rght 7 WB Thru 0  
 NB Lft 0 NB Rght 0 NB Thru 0 SB Lft 0 SB Rght 0 SB Thru 0 EB Lft 0 EB Rght 0 EB Thru 0 WB Lft 0 WB Rght 0 WB Thru 0

PERCENT HEAVY VEHICLES  
 NB Lft 0 NB Rght 0 NB Thru 0 SB Lft 0 SB Rght 0 SB Thru 0 EB Lft 0 EB Rght 0 EB Thru 0 WB Lft 0 WB Rght 0 WB Thru 0

PEAK-HOUR VOLUMES - PEDESTRIANS  
 NB Lft 0 NB Rght 0 NB Thru 0 SB Lft 0 SB Rght 0 SB Thru 0 EB Lft 0 EB Rght 0 EB Thru 0 WB Lft 0 WB Rght 0 WB Thru 0

PEAK 15-MIN FLOW RATES  
 Vehicle Type  
 All Vehicles NB Lft 0 NB Rght 192 NB Thru 12 NB Lft 0 NB Rght 276 NB Thru 0 SB Lft 0 SB Rght 4 SB Thru 276 SB Thru 0 EB Lft 0 EB Rght 0 EB Thru 0 WB Lft 0 WB Rght 0 WB Thru 0  
 Heavy Trucks NB Lft 0 NB Rght 0 NB Thru 0 SB Lft 0 SB Rght 0 SB Thru 0 EB Lft 0 EB Rght 0 EB Thru 0 WB Lft 0 WB Rght 0 WB Thru 0  
 Pedestrians NB Lft 0 NB Rght 0 NB Thru 0 SB Lft 0 SB Rght 0 SB Thru 0 EB Lft 0 EB Rght 0 EB Thru 0 WB Lft 0 WB Rght 0 WB Thru 0

ALL VEHICLE VOLUMES

Time Period	NB Lft	NB Thru	NB Rght	NB L-Turn	NB R-Turn	SB Lft	SB Thru	SB Rght	SB L-Turn	SB R-Turn	EB Lft	EB Thru	EB Rght	EB L-Turn	EB R-Turn	WB Lft	WB Thru	WB Rght	WB L-Turn	WB R-Turn	Hourly Total
4:55 PM	0	14	0	0	0	0	0	17	0	0	0	0	0	0	0	0	0	0	0	0	26
5:00 PM	0	14	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	34
5:05 PM	0	14	0	0	0	0	0	19	0	0	0	0	0	0	0	0	0	0	0	0	35
5:10 PM	0	20	0	0	0	0	0	25	0	0	0	0	0	0	0	0	0	0	0	0	47
5:15 PM	0	9	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	31
5:20 PM	0	12	0	0	0	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	47
5:25 PM	0	6	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	23
5:30 PM	0	6	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	23
5:35 PM	0	7	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	0	0	19
5:40 PM	0	17	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	40
5:45 PM	0	10	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	29
5:50 PM	0	11	0	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	26
5:55 PM	0	10	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	31

HEAVY VEHICLE VOLUMES

Time Period	NB Lft	NB Thru	NB Rght	SB Lft	SB Thru	SB Rght	EB Lft	EB Thru	EB Rght	WB Lft	WB Thru	WB Rght	Hourly Total
4:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0

PEDESTRIAN VOLUMES

Time Period	North	South	East	West	Total
4:55 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0
5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0

QUALITY CONTROL REPORT

14. Method (Inventory)
15. Method (Standard)
16. Method (Sample)
17. Method (Blank)
18. Method (Spike)
19. Method (Duplicate)
20. Method (Recovery)
21. Method (Precision)
22. Method (Accuracy)
23. Method (Stability)
24. Method (Linearity)
25. Method (Sensitivity)
26. Method (Selectivity)
27. Method (Robustness)
28. Method (Reliability)
29. Method (Repeatability)
30. Method (Reproducibility)
31. Method (Comparability)
32. Method (Transferability)
33. Method (Inter-laboratory)
34. Method (Intra-laboratory)
35. Method (Long-term)
36. Method (Short-term)
37. Method (Daily)
38. Method (Weekly)
39. Method (Monthly)
40. Method (Quarterly)
41. Method (Annually)
42. Method (Biennially)
43. Method (Triennially)
44. Method (Other)

REMARKS:
1. All samples analyzed.
2. All results within acceptable limits.
3. All methods validated.
4. All equipment calibrated.
5. All reagents fresh.
6. All procedures followed.
7. All data recorded.
8. All reports generated.
9. All samples stored properly.
10. All results reviewed.
11. All findings reported.
12. All corrective actions taken.
13. All quality control measures maintained.
14. All safety protocols followed.
15. All environmental conditions controlled.
16. All personnel trained.
17. All records maintained.
18. All equipment maintained.
19. All reagents stored properly.
20. All procedures updated.
21. All methods improved.
22. All results accurate.
23. All data reliable.
24. All reports clear.
25. All samples identified.
26. All results consistent.
27. All methods robust.
28. All equipment reliable.
29. All reagents stable.
30. All procedures efficient.
31. All data complete.
32. All reports timely.
33. All samples secure.
34. All results precise.
35. All methods sensitive.
36. All equipment accurate.
37. All reagents pure.
38. All procedures detailed.
39. All data organized.
40. All reports professional.
41. All samples labeled.
42. All results clear.
43. All methods simple.
44. All equipment easy to use.
45. All reagents easy to handle.
46. All procedures easy to follow.
47. All data easy to understand.
48. All reports easy to read.
49. All samples easy to store.
50. All results easy to interpret.
51. All methods easy to learn.
52. All equipment easy to maintain.
53. All reagents easy to store.
54. All procedures easy to update.
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98. All reports easy to compare.
99. All samples easy to compare.
100. All results easy to compare.

Table with 10 columns: Time Period, Method, Result, Unit, etc. Contains data for various samples and methods.

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Table with 10 columns: Time Period, Method, Result, Unit, etc. Contains data for various samples and methods.

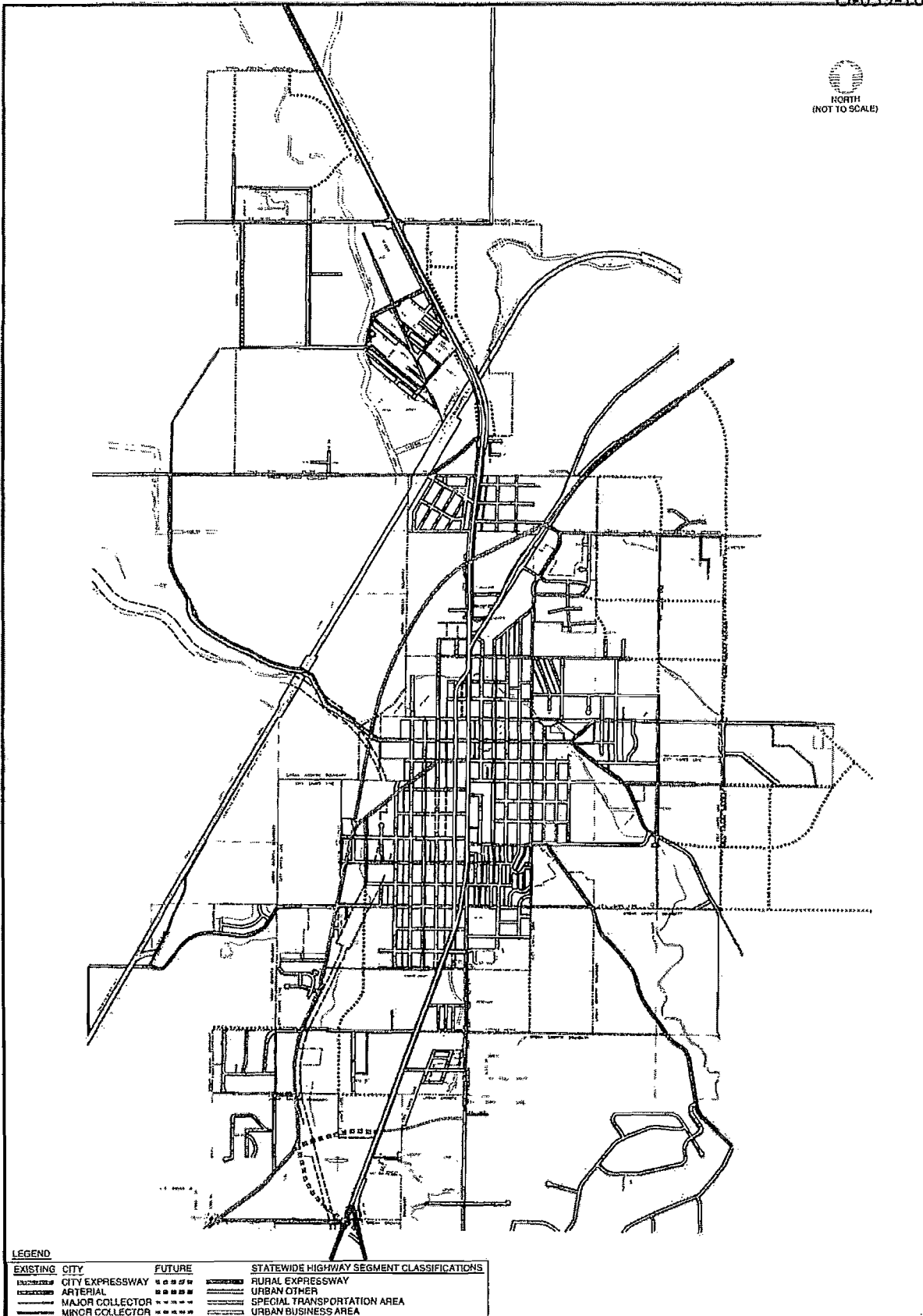
Table with 10 columns: Time Period, Method, Result, Unit, etc. Contains data for various samples and methods.





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**Attachment "7"**  
City of Madras Roadway  
Classification Map



EXISTING	CITY	FUTURE	STATEWIDE HIGHWAY SEGMENT CLASSIFICATIONS
	CITY EXPRESSWAY		RURAL EXPRESSWAY
	ARTERIAL		URBAN OTHER
	MAJOR COLLECTOR		SPECIAL TRANSPORTATION AREA
	MINOR COLLECTOR		URBAN BUSINESS AREA

### FUNCTIONAL CLASSIFICATION MAP

	CITY OF MADRAS COMPREHENSIVE PLAN AND TRANSPORTATION SYSTEM PLAN UPDATE		EXHIBIT <b>G5</b>
	MAY 2001		

4139TECH MEMO #4 SECTION OVER G5

**Attachment "8"**  
Project Scoping Letter


**KITTELSON & ASSOCIATES, INC.**

TRANSPORTATION ENGINEERING / PLANNING

354 SW Upper Terrace Drive, Suite 101, Bend, Oregon 97702 - 541.312.8300 F 541.312.4585

**MEMORANDUM**


---

**Date:** December 10, 2009 Project #: 10028.0  
**To:** Nick Snead, City of Madras  
 Jon Skidmore, Jefferson County  
 Ana Jovanovic, ODOT Region 4  
**From:** Joe Bessman, Kittelson & Associates, Inc.  
**Cc:** DJ Heffernan, Angelo Planning Group  
**Project:** Madras Elementary School UGB Amendment  
**Subject:** Transportation Planning Rule Scoping

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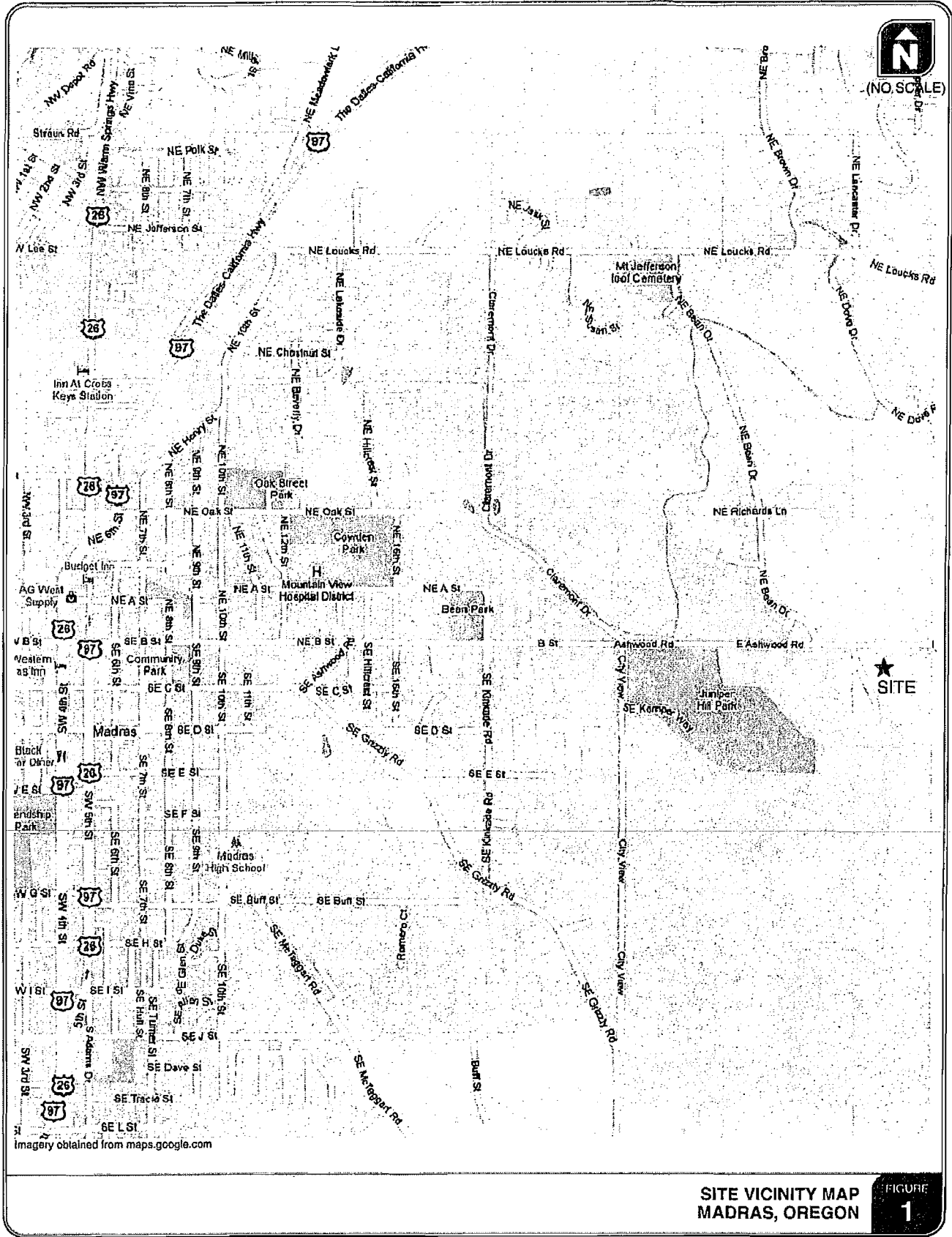
The purpose of this memorandum is to document transportation analysis scoping to rezone 20 acres of land located in Jefferson County from Range Land (RL) to include this land within the City's Urban Growth Boundary as Multiple Family Residential (R-2) zoning. This scoping was prepared for consistency with the requirements identified within Oregon Administrative Rule (OAR) 660-12-0060 (Transportation Planning Rule, TPR), which contains the applicable criteria for a zone change analysis. The purpose of the TPR analysis is to ensure the transportation system can accommodate the allowable land uses and that any significant affects are mitigated.

The land included in the rezone is generally located south of Ashwood Road, east of the Jefferson County Middle School, and south of the existing ballfields near Bean Drive. The property is within the Yarrow Master Planned Community and its rezone to accommodate a school is consistent with the approved Yarrow Concept Plan. The location of the property is generally shown in Figure 1, and the identification of the approximately 20-acre future school property on the Yarrow Concept Plan is illustrated in Figure 2. No specific development or entitlements are being pursued as part of this zone change.

Note that while specific parcel boundaries have not yet been identified, the general location of the property south of Ashwood and east of Bean Drive within the future school boundary location shown on the Yarrow Concept Plan provides adequate information to accurately assess the transportation system impacts. Specific definition of the property will be provided as part of the zone change application pending further area refinement with City and County staff.

**LAND DEVELOPMENT ASSUMPTIONS**

Two reasonable development scenarios were identified to assess the potential transportation impact of rezoning 20-acres from Range Land to Multiple Family Residential Zoning. The two scenarios reflect County and City zoning provisions and are presented below.



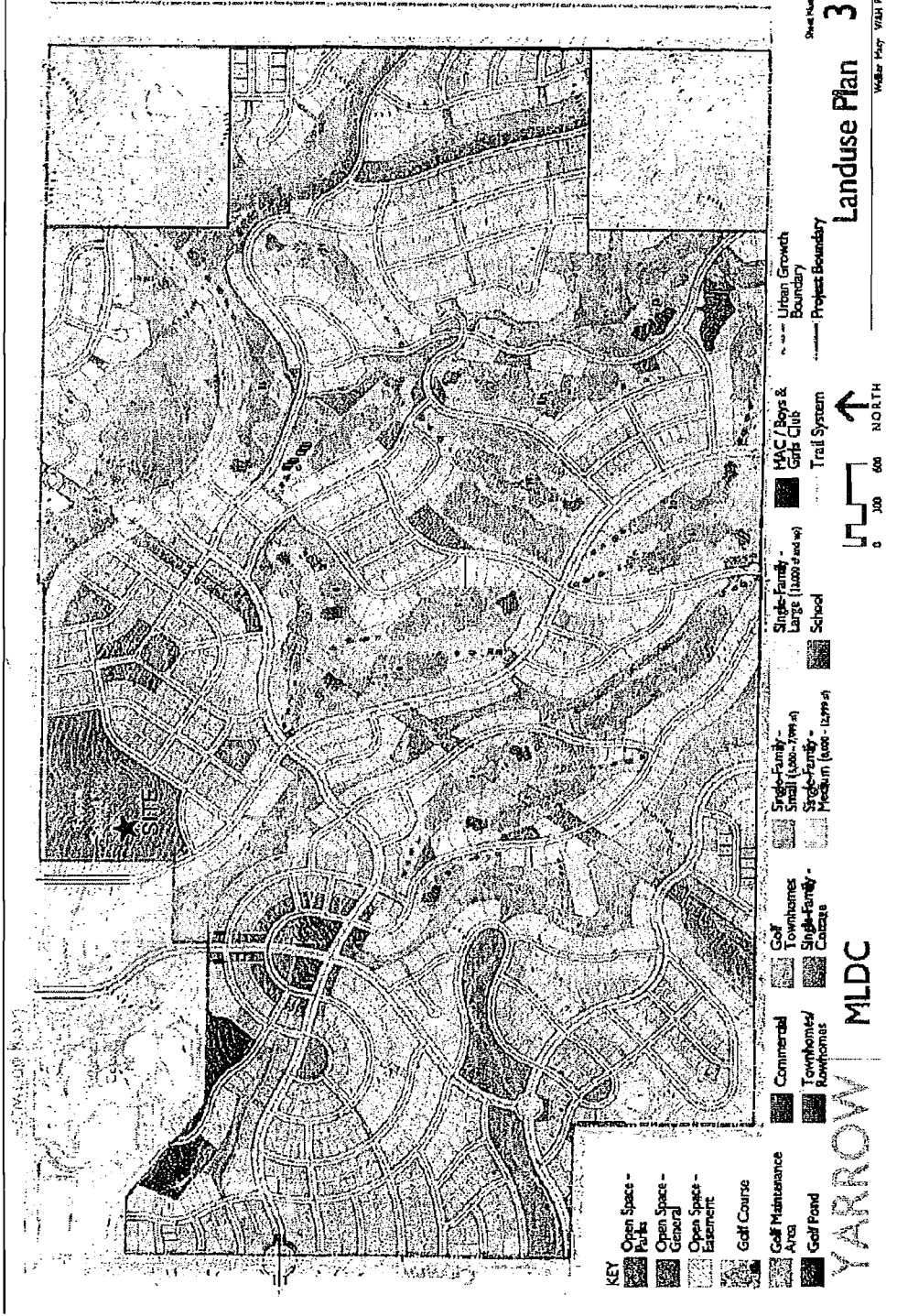
SITE VICINITY MAP  
MADRAS, OREGON  
FIGURE 1

H:\proj\10028 - Madras Elementary and Middle Schools\dwg\fig1\0028fig1.dwg Dec 09, 2009 - 1:38pm - j\_bessman Layout Tab: Fig01

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(NO SCALE)



YARROW MASTER PLAN  
MADRAS, OREGON

FIGURE  
2

### **Range Land (RL) Development Potential**

The Range Land zoning is one of three designations for Exclusive Farm Use (EFU) lands within Jefferson County. The RL zoning is intended to preserve predominantly non-irrigated agricultural lands for livestock grazing. The RL zoning requires that non-farm residences contain a minimum of 40 acres. A variety of non-residential uses are permitted within the RL zoning, though these uses require more acreage than the 20-acres proposed for the rezone and all are considered low intensity uses. Accordingly, under the existing zoning the trip generation potential is severely limited, and for analysis purposes it was conservatively assumed to be none.

### **Multiple Family Residential (R-2) Development Potential**

The Multiple Family Residential (R-2) zoning category provides for higher-density single-family uses and attached residential uses, to include apartments and townhomes. The R-2 zoning also allows parks and community centers as outright uses. Schools, churches, libraries, and other government buildings are allowed as conditional uses.

The City of Madras zoning provisions, as contained within Ordinance 723, were reviewed to identify density ranges and allowable uses within the R-2 zoning. Conditional uses are typically not considered as part of a zone change analysis. However, as the intent of the rezone is to ultimately allow for a new elementary school, this specific conditional use was reviewed to ensure that a reasonable development scenario considers the impacts of this intended future use.

Review of the City zoning provisions identified the following outright allowable uses:

- Single family residential
- Multi-family residential
- Public park, recreation areas, community centers

Based on the uses shown above, multi-family residential was identified as the most intense outright land use from a trip generation perspective. Review of the required building space, parking allocations, lawn space, and typical road and infrastructure allocations identified a resultant reasonable maximum density of 11.6 attached residential units per acre, or approximately 232 total attached residential units on 20-acres. *Additional details on the development of residential densities are included as an attachment.*

Conversations with the project team identified that a future school would likely comprise five acres of the overall land, with the remainder retained for residential uses. The most likely school type would be an elementary school given the regional needs. A new elementary school could be expected to serve an enrollment of approximately 350 students. This would result in a second potential development scenario that would include 174 attached residential units (11.6 units/acre \* 15 acres = 174 units) and a 350-student elementary school (remaining five acres)..

## TPR ANALYSIS SCOPING

### ***Trip Generation***

Trip generation estimates were prepared for both R-2 zoning scenarios to determine which land use combination resulted in a higher overall trip generation potential during the critical weekday evening commute period (one hour between 4:00 and 6:00 p.m.). Trip generation estimates for each of the scenarios were prepared based on surveys of similar sites. Residential trip generation estimates were prepared based on data contained within the Institute of Transportation Engineer's (ITE's) standard reference *Trip Generation, 8<sup>th</sup> Edition*, using the *Apartment* land use category (Land Use Code 220). Trip generation estimates for the elementary school were prepared using surveys of schools within the City of Bend, which contain slightly lower trip generation rates than national surveys of elementary schools (0.13 trips per student versus 0.15 trips per student) but are expected to better represent local characteristics. *The attachments contain the Bend-La Pine Elementary School Trip Generation study.*

While the location of the elementary school is expected to support the surrounding Yarrow neighborhood, complement the adjacent middle school, and benefit from the adjacent ballfields, additional trip discounts were not applied to the trip rates obtained from the Bend-LaPine school district facilities. Table 1 summarizes the trip generation potential of the two scenarios.

**Table 1 R-2 Development Scenarios Trip Generation Potential**

Land Use	ITE Code	Size	Weekday PM Peak Hour		
			Total	In	Out
Proposed R-2 Zoning: Residential Only Scenario					
Apartments	220	232 Units	145	94	51
Proposed R-2 Zoning: Residential Plus Elementary School Scenario					
Apartments	220	174 Units	113	74	39
Elementary School	N/A	350 Students	46	25	21
Total Trips			159	99	60

\*Trip rate reflects data collected at elementary schools in central Oregon

As shown in Table 1, future development of the 20-acres with an elementary school (comprising five acres) and residential uses (comprising 15 acres) provides a reasonable worst-case development scenario. This scenario was found to generate 14 more weekday p.m. peak hour trips than build-out with residential uses alone.

### ***Trip Distribution and Trip Assignment***

The estimated trip distribution pattern of primary site-generated trips associated with the proposed UGB amendment and rezone was determined through review of existing traffic patterns, the locations of other elementary schools, residential destinations, and review of existing



school attendance boundary maps. The resultant trip distribution patterns were separated by residential and school trips, and are illustrated in Figures 3 and 4. As shown, the pattern highlights that the majority of trips would be headed west toward the City center and US 97 corridor. Trips destined toward US 97 are expected to distribute onto the parallel routes (Loucks, City View, or B Street) based on their ultimate travel destination. Both trip distribution patterns reflect a regional draw as the school trips are primarily associated with faculty and staff during the evening commute period.

The difference between the Range Land zoning trip generation potential (assumed to be none) and the proposed Multiple Family Residential (R-2) zoning trips (shown in Table 1) during the critical weekday p.m. peak hour were assigned to the roadway network based on the trip distribution patterns and routing, as illustrated in Figure 5. Figure 5 includes a sum of the total additional vehicles that could occur at nearby collector and arterial intersections.

### **Study Intersections**

Based on a review of the potential increase in trips with the proposed zoning (as shown in Figure 5), the following five intersections of collector and arterial roadways are proposed for inclusion in the traffic study.

1. Ashwood/Bean Drive (could be impacted by 137 additional weekday p.m. peak hour trips)
2. Ashwood/City View (could be impacted by 119 additional weekday p.m. peak hour trips)
3. B Street/Kinkade Road (could be impacted by 76 additional weekday p.m. peak hour trips)
4. B Street/Ashwood (could be impacted by 66 additional weekday p.m. peak hour trips)
5. B Street/10<sup>th</sup> Street (could be impacted by 55 additional weekday p.m. peak hour trips)

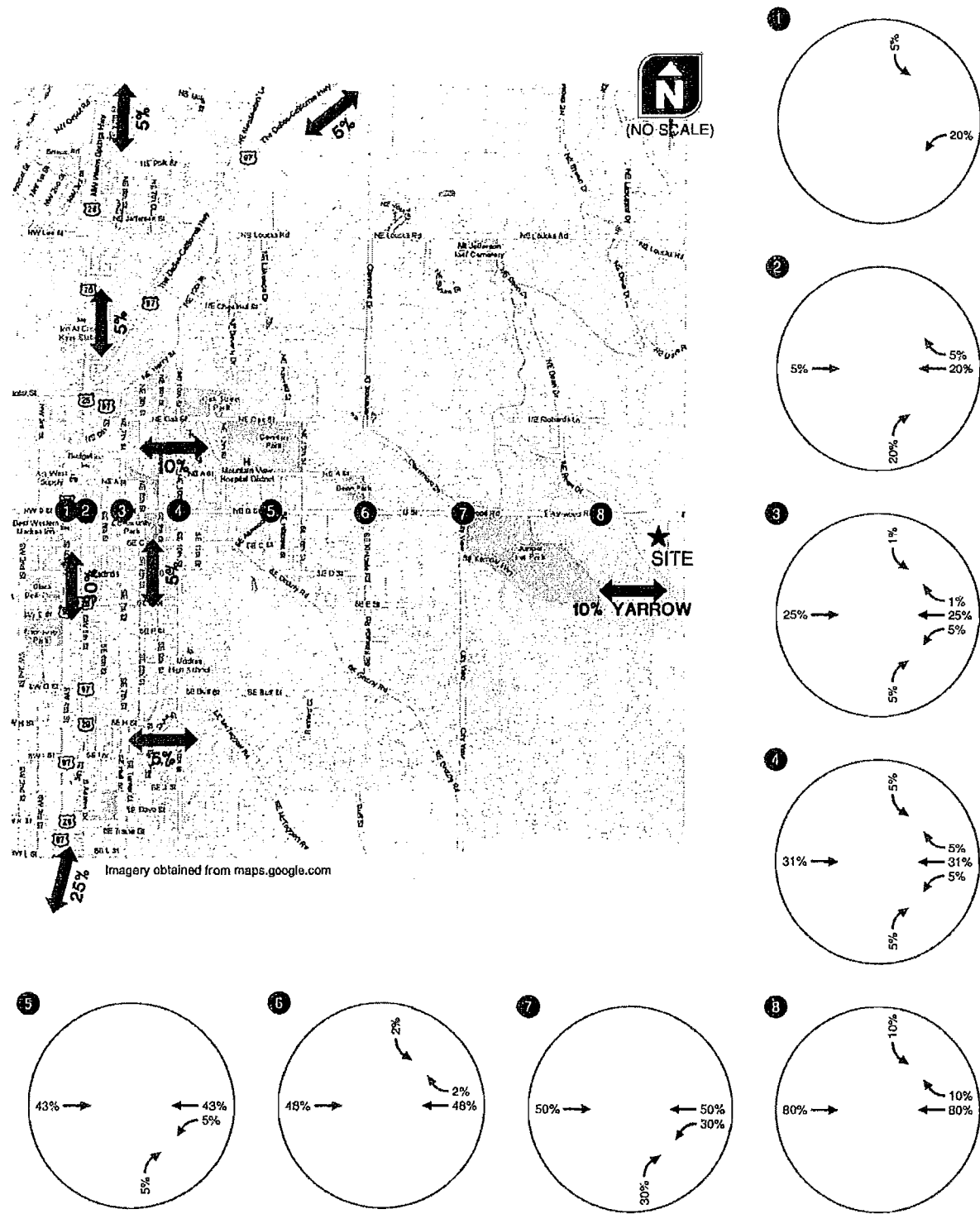
These intersections are those that could experience more than 50 additional weekday p.m. peak hour trips with the rezone/UGB amendment, or those that could experience a significant increase in total volume with the amendment<sup>1</sup>. *The City of Madras roadway classification map is included in the attachments.*

It should be noted that additional assessment of localized queuing and operations during the school peak periods may be required at the time of site plan application/land use entitlements. However, as the purpose of the Transportation Planning Rule is to provide consistency with the adopted Transportation System Plan (TSP), only the weekday p.m. peak hour operations are applicable to the TPR analysis.

---

<sup>1</sup> The City of Madras Technical Memorandum #2B contains traffic study guidelines that identify study area intersections as those that experience a 10 percent volume increase as a result of a proposed land use action.

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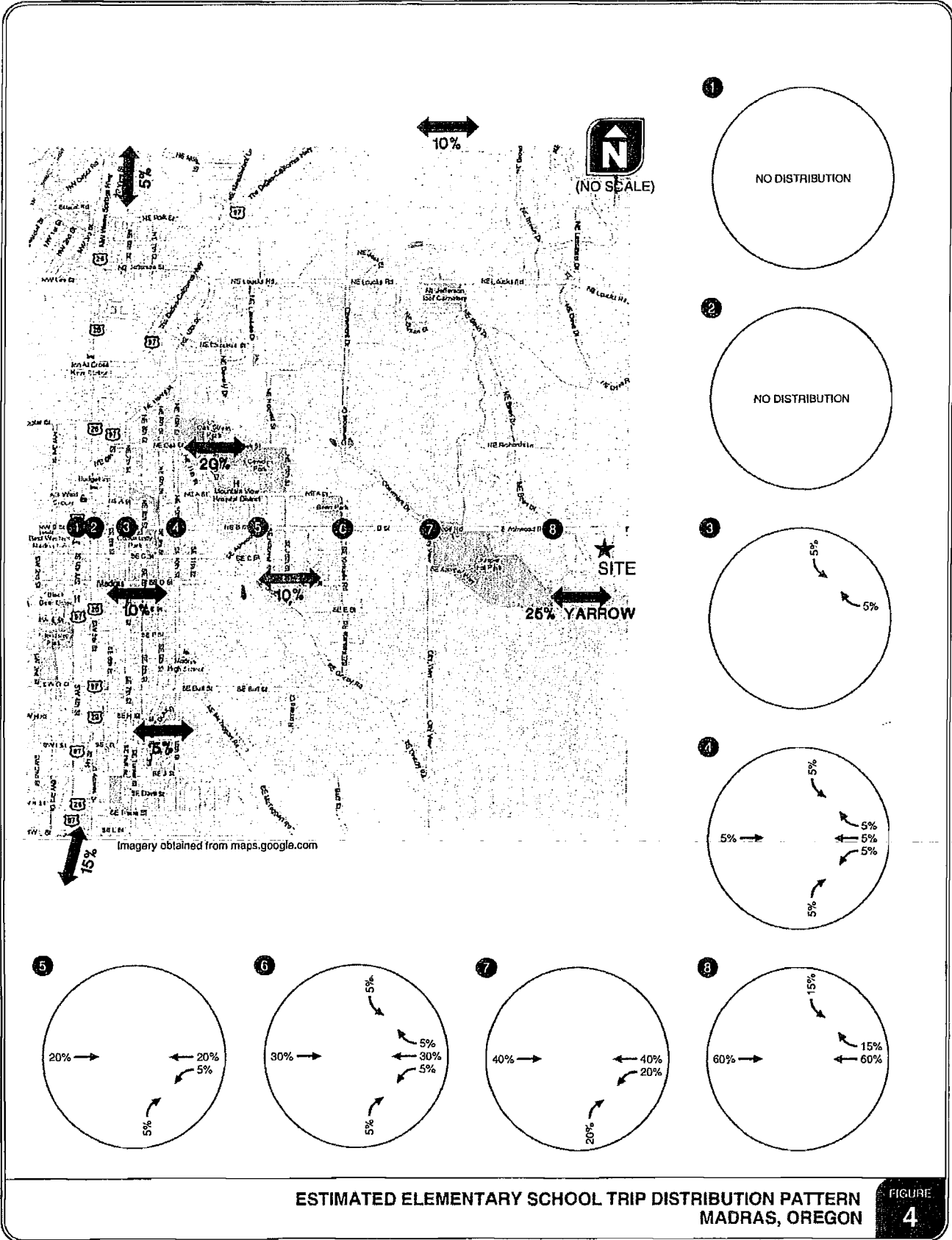


ESTIMATED RESIDENTIAL TRIP DISTRIBUTION PATTERN  
MADRAS, OREGON

FIGURE  
**3**

Madras Elementary School UGB Amendment

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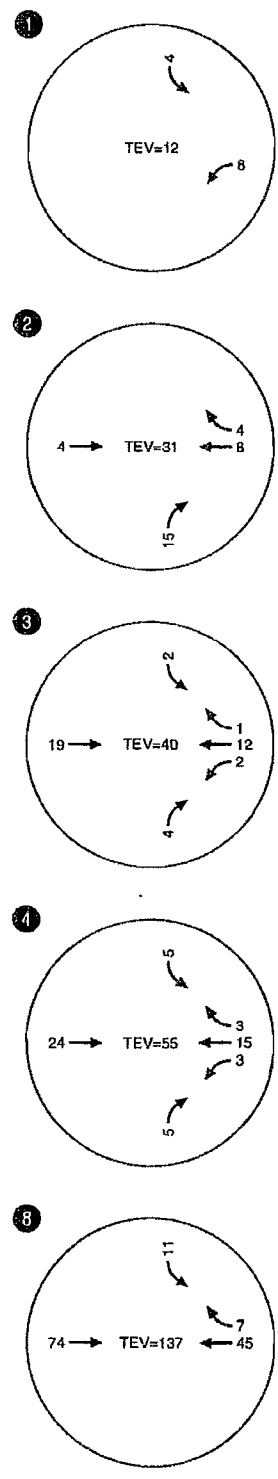
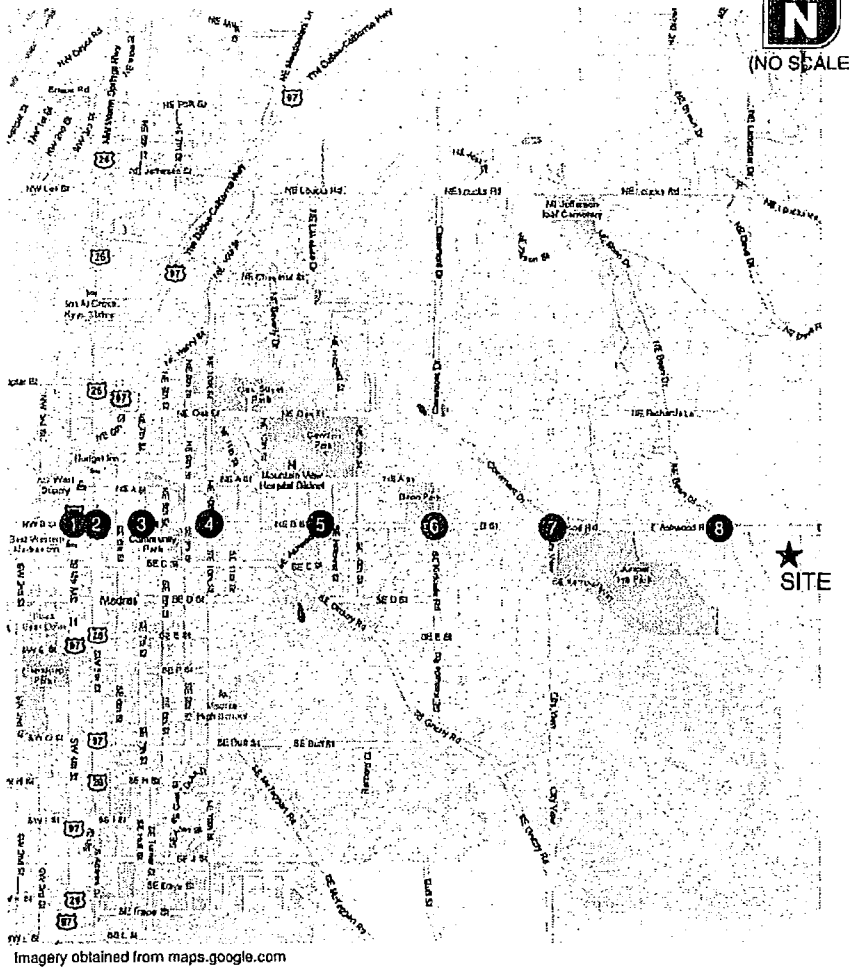


ESTIMATED ELEMENTARY SCHOOL TRIP DISTRIBUTION PATTERN  
MADRAS, OREGON

FIGURE  
4

Madras Elementary School UGB Amendment

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TEV=TOTAL ENTERING VOLUME

TOTAL ADDITIONAL WEEKDAY PM PEAK HOUR TRIP POTENTIAL  
MADRAS, OREGON

FIGURE  
**5**

Jefferson County traffic study requirements identify that a Level of Service "C" or higher should be maintained at all County intersections. The City of Madras TSP identifies a target Level of Service (LOS) "D" for signalized intersections, LOS "E" for unsignalized intersections (or LOS F with a volume-to-capacity ratio below 0.95).

### Study Periods

The purpose of the Transportation Planning Rule is to ensure that the proposed zone change will continue to be consistent with the system planning required under OAR 660-12. To assess consistency, the horizon analysis period is selected based on the horizon period of the adopted Transportation System Plan. The Jefferson County TSP considers a horizon year of 2027 and the City's TSP assesses year 2020 conditions. Accordingly, the applicable horizon period will vary throughout the study area based on roadway jurisdiction. All traffic volume forecasts will be obtained from the applicable TSP or based on continued application of the approved growth rates where otherwise unavailable. Table 2 summarizes the study intersections, roadway jurisdiction, applicable performance standards, and horizon analysis year required for compliance with the TPR.<sup>2</sup>

**Table 2 Summary of Intersection Performance Standards**

Intersection	Jurisdiction	Traffic Control <sup>1</sup>	Performance Standard	Horizon Period
Ashwood Road/ Bean Drive	Jefferson County	TWSC	LOS C	Year 2027
Ashwood Road/ City View	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ Kinkade Road	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ Ashwood Road	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020
B Street/ 10 <sup>th</sup> Street	City of Madras	TWSC	LOS E/ v/c < 0.95	Year 2020

<sup>1</sup>TWSC: Two-way stop-controlled (unsignalized)

### Recent or Upcoming Roadway Improvements

There are three identified public improvement projects within the vicinity of the property.

- The J Street improvements will include traffic signal upgrades at the US 97 northbound and southbound couplet, realignment of the southern couplet terminus, and roadway widening. The J Street project is identified on the Draft 2010-2013 State Transportation Improvement Program (STIP) and is likely to be funded by the horizon period (note that

<sup>2</sup> Additional discussion on applicable horizon periods can be found within Section 3.2.01 of ODOT's publication *Transportation Planning Rule (TPR) Reviews: Guidelines for Implementing OAR 660-12-0060*, which can be found at the following link: <http://www.oregon.gov/ODOT/TD/IP/docs/TPR/tprGuidelines.pdf>.

while the improvement is likely to occur, a *reasonably likely* determination has not been provided by ODOT).

- The Fairground Road extension is identified as a new east-west route within the City of Madras on the Transportation System Plan. Similarly, the roadway extension is likely to be provided within the planning horizon.
- The City View to J Street connection has been recently completed. This new connection provides convenient and direct access from the proposed lands to US 97.

The recent construction of the City View connection will provide convenient access to the south. The future funding and reasonably likely determinations for the J Street realignment/improvements and the Fairgrounds extension are not critical to the proposed UGB amendment as it will not affect the selection of study intersections, assumed intersection configurations, or result in modifications to the demand-based regional trip distribution patterns included herein. As a result, to be conservative, neither the J Street realignment/improvements nor the Fairgrounds extension will be assumed in the traffic analysis.

## **NEXT STEPS**

Please provide written comments or concurrence on the proposed analysis scope at your earliest convenience. If you have any questions on these materials please call us at (541) 312-8300.

## **Attachments**

1. Residential Density Development
2. Bend – La Pine School District Elementary School Trip Generation Study
3. City of Madras Roadway Classification Map

**Attachment "9"**  
Proposed R-2 Zoning  
LOS Worksheets

Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Scenario Report

Scenario: PM  
 Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact Fee: Default Impact Fee  
 Trip Generation: PM  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: PM

Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Impact Analysis Report  
 Level Of Service

Intersection	LOS Veh C	Del/ V/ C	Future Del/ V/ C	Change in
# 1 "B" Street/4th Street	C 22.4	0.636	C 22.7	0.647 + 0.262 D/V
# 2 "B" Street/5th Street	C 20.3	0.581	C 20.6	0.586 + 0.261 D/V
# 3 "B" Street/10th Street	B 11.8	0.035	B 12.6	0.048 + 0.843 D/V
# 4 "B" Street/Aspwood	B 14.2	0.084	B 12.8	0.093 + 0.627 D/V
# 5 "B" Street/Kinkade Road	B 13.8	0.015	B 14.0	0.024 + 1.206 D/V
# 6 "B" Street/City View	B 11.9	0.088	B 12.9	0.109 + 0.919 D/V
# 7 "B" Street/Bean Drive	B 11.1	0.143	B 13.8	0.151 + 2.727 D/V
# 8 "C" Street/4th Street	F OVRFL 4.750		F OVRFL 4.814	-2.08+0392
# 9 "J" Street/5th Street	F 287.2	1.476	F 431.7	2.010 +144.573 D/V



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 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions, Weekday PM Peak Hour

Note: Queue reported is the number of cars per lane.

Level of Service Computation Report  
 2000 HCM Operations Method (future Volume Alternative)

\*\*\*\*\*  
 Intersection #1 "B" Street/4th Street  
 \*\*\*\*\*

Cycle (sec): 100 Critical Vol./Cap.(X): 0.647  
 Loss Time (sec): 8 Average Delay (sec/veh): 22.7  
 Optimal Cycle: 42 Level of Service: C  
 \*\*\*\*\*

Street Name: "B" Street 4th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Split Phase Split Phase Permitted Permitted  
 Rights: Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 YPR: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  
 Lanes: 0 0 0 0 0 1 0 1 0 0 0 0 1 0 0 1 0 0 0  
 \*\*\*\*\*

Volume Module:  
 Base Vol: 0 0 35 528 69 0 69 35 328 86 0  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bse: 0 0 0 35 528 69 0 69 35 328 86 0  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 Added Traff: 0 0 0 4 0 0 0 0 0 0 0 0 0 0 0 0  
 Initial Fut: 0 0 0 39 528 69 0 69 35 336 86 0  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHF Volume: 0 0 0 41 556 73 0 73 37 354 91 0  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
 Reduced Vol: 0 0 0 41 556 73 0 73 37 354 91 0  
 PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Volume: 0 0 0 41 556 73 0 73 37 354 91 0  
 \*\*\*\*\*

Saturation Flow Module:  
 Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
 Adjustment: 1.00 1.00 1.00 0.83 0.83 0.83 1.00 0.96 0.96 0.89 0.89 1.00  
 Lanes: 0.00 0.00 0.00 0.12 1.66 0.22 5.00 0.66 0.74 0.80 0.20 0.00  
 Final Sat: 0 0 0 179 3423 317 0 1109 562 967 248 0  
 \*\*\*\*\*

Capacity Analysis Module:  
 Vol/VSat: 0.00 0.00 0.00 0.23 0.23 0.23 0.00 0.07 0.07 0.37 0.37 0.00  
 Vol/Moves: \*\*\*\*\*  
 Crit Moves: \*\*\*\*\*  
 Green/Cycle: 0.00 0.00 0.00 0.35 0.35 0.35 0.00 0.57 0.57 0.57 0.57 0.00  
 Green/Cap: 0.00 0.00 0.00 0.65 0.65 0.65 0.00 0.12 0.12 0.65 0.65 0.00  
 Volume/Cap: 0.00 0.00 0.00 28.5 28.5 28.5 0.0 10.2 10.2 17.0 17.0 0.0  
 Delay/Veh: 0.0 0.0 0.0 28.5 28.5 28.5 0.0 10.2 10.2 17.0 17.0 0.0  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 0.0 0.0 0.0 28.5 28.5 28.5 0.0 10.2 10.2 17.0 17.0 0.0  
 LOS by Move: A A A C C C A B B B B A  
 HCM2RAVG: 0 0 0 10 10 10 0 2 2 9 9 0  
 \*\*\*\*\*

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Madras Elementary School UGB Amendment - Madras, Oregon  
Total Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report  
2000 HCM Operations Method  
Future Volume Alternative

\*\*\*\*\*  
Intersection #2 "B" Street/5th Street  
\*\*\*\*\*

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - K L - T - R L - T - R L - T - R

HCM Ops Adjusted Lane Utilization Module:  
Lanes: 0 1 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0

#LnsGrps: 2 2 2 0 0 0 0 1 1 0 0 1 1

HCM Ops Input Saturation Adj Module:  
Lane Width: 12

CrosswalkWid: 8

% Hwy Veh: 8

Grade: 0%

Parking/Hr: No

Bus Stop/Hr: 0

Area Type: < < < < < < < < < < < < < < < < < < < < < <

Conf Ped/Hr: 0

ExclusivRT: Include Include Include Include Include Include Include Include Include Include

% RT Pctct: 0

HCM Ops f(1t) Adj Case Module:  
f(1t) Case: 5r

HCM Ops Saturation Adj Module:  
Ln Wid Adj: 1.00

Hwy Veh Adj: 0.93

Grade Adj: 1.00

Parking Adj: 1.00

Bus Stop Adj: 1.00

Area Adj: 1.00

Lt Adj: 0.96

Lt Adj: 0.99

PedBike Adj: 1.00

HCM Sat Adj: 0.88

Op Sat Adj: 1.00

HLF Sat Adj: 0.95

Prl Sat Adj: 0.84

Delay Adjustment Factor Module:  
Coordinated: < < < < < < < < < < < < < < < < < < < < < <

Signal Type: < < < < < < < < < < < < < < < < < < < < < <

DelAdjFctr: 1.00 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

\*\*\*\*\*

Kittelson & Associates, Inc. - Project #10028  
Madras Elementary School UGB Amendment - Madras, Oregon  
Total Traffic Conditions, Weekday PM Peak Hour

Note: Queue reported is the number of cars per lane.  
\*\*\*\*\*

\*\*\*\*\*  
Intersection #2 "B" Street/5th Street  
\*\*\*\*\*

Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - K L - T - R L - T - R L - T - R

HCM Ops Adjusted Lane Utilization Module:  
Lanes: 0 1 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0

#LnsGrps: 2 2 2 0 0 0 0 1 1 0 0 1 1

HCM Ops Input Saturation Adj Module:  
Lane Width: 12

CrosswalkWid: 8

% Hwy Veh: 8

Grade: 0%

Parking/Hr: No

Bus Stop/Hr: 0

Area Type: < < < < < < < < < < < < < < < < < < < < < <

Conf Ped/Hr: 0

ExclusivRT: Include Include Include Include Include Include Include Include Include Include

% RT Pctct: 0

HCM Ops f(1t) Adj Case Module:  
f(1t) Case: 5r

HCM Ops Saturation Adj Module:  
Ln Wid Adj: 1.00

Hwy Veh Adj: 0.93

Grade Adj: 1.00

Parking Adj: 1.00

Bus Stop Adj: 1.00

Area Adj: 1.00

Lt Adj: 0.96

Lt Adj: 0.99

PedBike Adj: 1.00

HCM Sat Adj: 0.88

Op Sat Adj: 1.00

HLF Sat Adj: 0.95

Prl Sat Adj: 0.84

Delay Adjustment Factor Module:  
Coordinated: < < < < < < < < < < < < < < < < < < < < < <

Signal Type: < < < < < < < < < < < < < < < < < < < < < <

DelAdjFctr: 1.00 1.00 1.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

\*\*\*\*\*

Kittelson & Associates, Inc. - Project #10028  
Madras Elementary School UGB Amendment - Madras, Oregon  
Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report (Permitted Left Turn Sat Adj)  
2000 HCM Operations Method  
Future Volume Alternative

Intersection #2 "B" Street/5th Street  
Approach: North Bound South Bound East Bound West Bound  
Movement: L T R L T R L T R L T R  
Green/Cycle: 0.35 0.35 0.35 0.00 0.00 0.00 0.57 0.57 0.00 0.00 0.57 0.57  
ArrivalType: 3 3 3 3 3 3 3 3 3 3 3 3  
ProgFactor: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Q1: 7.3 7.3 7.3 0.0 0.0 0.0 1.4 1.4 0.0 0.0 1.4 1.4  
UpstreamAdj: 0.00 0.00 0.00 0.00 0.00 0.00 0.12 0.12 0.00 0.00 0.00 0.00  
EarlyArrAdj: 1.00 1.00 1.00 0.00 0.00 0.00 0.62 0.62 0.00 0.00 0.00 0.00  
Q2: 1.4 1.4 1.4 0.0 0.0 0.0 0.1 0.1 0.0 0.0 0.0 0.0  
HCMQueue: 8.7 8.7 8.7 0.0 0.0 0.0 1.5 1.5 0.0 0.0 1.5 1.5  
70thFactor: 1.18 1.18 1.18 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20 1.20  
HCMQueue: 10.3 10.3 10.3 0.0 0.0 0.0 1.6 1.6 0.0 0.0 1.6 1.6  
85thFactor: 1.52 1.52 1.52 1.60 1.60 1.60 1.59 1.59 1.60 1.60 1.50 1.50  
HCMQueue: 13.3 13.3 13.3 0.0 0.0 0.0 2.4 2.4 0.0 0.0 2.4 2.4  
90thFactor: 1.66 1.66 1.66 1.80 1.80 1.80 1.77 1.77 1.80 1.80 1.62 1.62  
HCMQueue: 14.5 14.5 14.5 0.0 0.0 0.0 2.7 2.7 0.0 0.0 2.7 2.7  
95thFactor: 1.87 1.87 1.87 2.10 2.10 2.10 2.05 2.05 2.10 2.10 1.81 1.81  
HCMQueue: 16.3 16.3 16.3 0.0 0.0 0.0 3.1 3.1 0.0 0.0 3.1 3.1  
98thFactor: 2.21 2.21 2.21 2.70 2.70 2.70 2.59 2.59 2.70 2.70 2.11 2.11  
HCMQueue: 19.3 19.3 19.3 0.0 0.0 0.0 3.9 3.9 0.0 0.0 3.9 3.9

Kittelson & Associates, Inc. - Project #10028  
Madras Elementary School UGB Amendment - Madras, Oregon  
Total Traffic Conditions, Weekday PM Peak Hour

Level of Service Detailed Computation Report (Permitted Left Turn Sat Adj)  
2000 HCM Operations Method  
Future Volume Alternative

Intersection #2 "B" Street/5th Street  
Approach: North South East West  
Cycle Length, C: XXXXX 100 XXXXX 100  
Actual Green Time Per Lane Group, G: XXXXX XXXXX 57.06 XXXXX 57.06  
Effective Green Time Per Lane Group, g: XXXXX XXXXX 57.06 XXXXX 57.06  
Opposing Effective Green Time, go: XXXXX XXXXX 57.06 XXXXX 57.06  
Number Of Opposing Lanes, No: XXXXX XXXXX 1 XXXXX 1  
Number Of Lanes In Lane Group, N: XXXXX XXXXX 42 XXXXX 42  
Adjusted Left-Turn Flow Rate, Vlt: XXXXX XXXXX 0.39 XXXXX 0.39  
Proportion of Left Turns in Lane Group, Plt: XXXXX XXXXX 0.00 XXXXX 0.00  
Proportion of Left Turns in Opp Flow, Plto: XXXXX XXXXX 1.17 XXXXX 1.17  
Left Turns Per Cycle, Ltc: XXXXX XXXXX 569 XXXXX 569  
Adjusted Opposing Flow Rate, Vo: XXXXX XXXXX 15.81 XXXXX 15.81  
Opposing Flow Per Lane Per Cycle, Volc: XXXXX XXXXX 4.00 XXXXX 4.00  
Opposing Platoon Ratio, Rpo: XXXXX XXXXX 18.09 XXXXX 18.09  
Lost time Per Phase, tlt: XXXXX XXXXX 0.43 XXXXX 0.43  
Eff grn until arrival of left-turn car, gf: XXXXX XXXXX 12.52 XXXXX 12.52  
Opposing Queue Ratio, qrc: XXXXX XXXXX 38.97 XXXXX 38.97  
Eff grn blocked by opposing queue, qq: XXXXX XXXXX 0.00 XXXXX 0.00  
Eff grn while left turns filter thru, qu: XXXXX XXXXX 1.00 XXXXX 1.00  
Max opposing cars arriving during qq-gf, n: XXXXX XXXXX XXXXX XXXXX  
Proportion of Opposing Thru & RT cars, ptho: XXXXX XXXXX XXXXX XXXXX  
Left-turn Saturation Factor, fs: XXXXX XXXXX XXXXX XXXXX  
Proportion of Left Turns in Shared Lane, pl: XXXXX XXXXX XXXXX XXXXX  
Through-car Equivalents, eli: XXXXX XXXXX 2.44 XXXXX 2.44  
Single Lane Through-car Equivalents, ell2: XXXXX XXXXX 1.00 XXXXX 1.00  
Minimum Left Turn Adjustment Factor, fmin: XXXXX XXXXX 0.05 XXXXX 0.05  
Single Lane Left Turn Adjustment Factor, flm: XXXXX XXXXX 0.75 XXXXX 0.75  
Left Turn Adjustment Factor, flt: XXXXX XXXXX 6.75 XXXXX 6.75





Level of Service Detailed Computation Report
2000 HCM Unsignalized Method
Future Volume Alternative
Intersection #5 "B" Street/Kinkade Road
Approach: North Bound South Bound East Bound West Bound
Movement: L-T-R L-T-R L-T-R L-T-R

HevVeh: 0% 0% 0% 0%
Grade: 0% 0% 0% 0%
Pedst/Hour: 0 0 0 0
Pedestrian Walk Speed: 4.00 feet/sec
LaneWidth: 12 feet 12 feet 12 feet 12 feet
Time Period: 0.25 hour

Upstream Signals:
Link Index: #5
Dist(Miles): 0.000
Speed (mph): 0.00
SignalIndex: #2
Cycle Time: 0 secs
InitVolume: 0 0 0 0
Saturation: 0.00 0.00
ArrivalType: 0 0 0 0
G/C: 0.00 0.00
\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection
0.000 0.000
9q1: 0.00 0.00
9q2: 0.00 0.00
9q3: 0.00 0.00
\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons
alpha: 0.000
Beta: 0.000
ta (secs): 0.000
F: 0.000
I: 0.000 0.000
vmaxk: 0 0 0 0
vcg: 0 0 0 0
vmin: 0 0 0 0
tp: 0.0 0.0
P: 0.000
\*\* Computation 3: Platoon Event Periods
pcom/psub: 0.000/0.000/Unconstrained
\*\* Computation 4: Conflicting Flow During Each Unlocked Period
InitCnfVol: 629 268 631 631 352 354 xxxxx xxxxx 272 xxxxx xxxxx
AdjCnfVol: 629 268 631 631 352 354 xxxxx xxxxx 272 xxxxx xxxxx
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 xxxxx xxxxx 1.00 xxxxx xxxxx
ConflictVol: 629 268 631 631 352 354 xxxxx xxxxx 272 xxxxx xxxxx
\*\* Computation 5: Capacity for Subject Movement During Unlocked Period
InitPotCap: 398 402 775 397 401 696 1216 xxxxx xxxxx 1303 xxxxx xxxxx
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 xxxxx xxxxx 1.00 xxxxx xxxxx
Potent Cap.: 398 402 775 397 401 696 1216 xxxxx xxxxx 1303 xxxxx xxxxx

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)
Intersection #5 "B" Street/Kinkade Road
Average Delay (sec/veh): 0.6 Worst Case Level of Service: E (14.0)
Street Name: "B" Street
Approach: North Bound South Bound East Bound West Bound
Movement: L-T-R L-T-R L-T-R L-T-R

Control: Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include
Lanes: 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0
Volume Module:
Base Vol: 6 3 1 6 1 1 1 181 6 1 272 1
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 6 3 1 6 1 1 1 181 6 1 272 1
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Padded Traff: 0 0 1 2 0 0 0 44 0 1 26 2
Initial Fut: 6 3 2 8 1 1 1 225 6 2 298 3
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85
PHF Volume: 7 4 2 9 1 1 1 265 7 2 351 4
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 7 4 2 9 1 1 1 265 7 2 351 4

Critical Gap Module:
Critical Gap: 7.1 6.5 6.2 7.1 6.5 6.2 4.1 xxxxx xxxxx 4.1 xxxxx xxxxx
FollowupTim: 3.5 4.0 3.3 3.5 4.0 3.3 2.2 xxxxx xxxxx 2.2 xxxxx xxxxx
Capacity Module:
Conflict Vol: 629 268 631 631 352 354 xxxxx xxxxx 272 xxxxx xxxxx
Potent Cap.: 398 402 775 397 401 696 1216 xxxxx xxxxx 1303 xxxxx xxxxx
Move Cap.: 395 400 775 392 400 696 1216 xxxxx xxxxx 1303 xxxxx xxxxx
Volume/Cap: 0.02 0.01 0.00 0.02 0.00 0.00 0.50 xxxxx xxxxx 0.00 xxxxx xxxxx
Level of Service Module:
2Way5thQ: xxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.0 xxxxx xxxxx 0.0 xxxxx xxxxx
Control Del: xxxxx xxx xxxxx xxxxx xxxxx xxxxx 8.0 xxxxx xxxxx 7.8 xxxxx xxxxx
LOS by Move: \* \* \* \* \* A \* \* \* \* \* A \* \* \* \* \*
Movement: LT-LTR-RT LT-LTR-RT LT-LTR-RT LT-LTR-RT LT-LTR-RT
Shared Cap.: xxx 436 xxxxx xxx 411 xxxxx xxx 411 xxxxx xxx 411 xxxxx xxx 411 xxxxx xxx
SharedQueue: xxx 0.1 xxxxx xxx 0.1 xxxxx xxx 0.1 xxxxx xxx 0.1 xxxxx xxx 0.1 xxxxx xxx
Shrd ConDel: xxx 13.5 xxxxx xxx 14.0 xxxxx xxx 14.0 xxxxx xxx 14.0 xxxxx xxx
Shared LOS: \* \* \* \* \* B \* \* \* \* \* \* \* \* \* \*
ApproachDel: 13.5 14.0 xxxxx
ApproachLOS: B B \* \* \* \* \*
Note: Queue reported is the number of cars per lane.



Kittelson & Associates, Inc. - Project #10028
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Total Traffic Conditions, Weekday PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Future Volume Alternative

Intersection #6 "B" Street/City View
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
RevVeh: 0% 0% 0% 0%
Ped/Hour: 0 0 0 0
Peds/Hour: Walk Speed: 4.00 feet/sec
LaneWidth: 12 feet 12 feet 12 feet 12 feet
Time Period: 0.25 hour

Upstream Signals:
Link Index: #5
Dist(miles): 0.000
Speed (mph): 0.00
SignalIndex: #2
Cycle Time: 0 0
InitVolume: 0 0
Saturation: 0.00 0.00
ArrivalType: 0 0
s/C: 0.00 0.00

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection
P: 0.00 0.00
0.00 0.00
0.00 0.00
0.00 0.00

\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoon
alpha: 0.000
beta: 0.000
tau (secs): 0.000
F: 0.000
f: 0.000 0.000
vcmax: 0 0
vcy: 0 0
vcmin: 0 0
tp: 0.0 0.0

\*\*\* Computation 3: Platoon Event Periods
pdom/psub: 0.000/0.000/Unconstrained
\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period
InitConf: 741 741 255 795 762 316 0 XXXX XXXX 276 XXXX XXXX
AdjConf: 741 741 255 795 762 316 0 XXXX XXXX 276 XXXX XXXX
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 XXXX XXXX 1.00 XXXX XXXX
ConflictVol: 741 741 255 795 762 316 0 XXXX XXXX 276 XXXX XXXX

\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period
InitPotCap: 386 346 788 308 337 729 1636 XXXX XXXX 1298 XXXX XXXX
UpstreamAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 XXXX XXXX 1.00 XXXX XXXX
Potent Cap.: 386 346 788 308 337 729 1636 XXXX XXXX 1298 XXXX XXXX

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Kittelson & Associates, Inc. - Project #10028
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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 "B" Street/City View
Worst Case Level Of Service: E 12.9

Average Delay (sec/veh): 2.8
Street Name: "B" Street City View
Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1 0 0 0 0 0 0 0 1 0 1 0 1 0 0

Volume Module:
Base Vol: 33 0 46 0 0 0 0 170 18 56 240 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Initial Bse: 33 0 46 0 0 0 0 170 18 56 240 0
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Pedest Traffic: 0 0 27 0 0 0 0 47 0 16 29 0
Initial Fut: 33 0 73 0 0 0 0 217 18 72 269 0

User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85
PHF Volume: 39 0 86 0 0 0 0 255 21 85 316 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Final Volume: 39 0 86 0 0 0 0 255 21 85 316 0

Critical Gap Module:
Critical Gap: 6.4 6.5 6.2 XXXX XXXX XXXX XXXX XXXX 4.1 XXXX XXXX
FollowUpTim: 3.5 4.0 3.3 XXXX XXXX XXXX XXXX XXXX 2.2 XXXX XXXX

Capacity Module:
Conflict Vol: 741 741 255 XXXX XXXX XXXX XXXX XXXX 276 XXXX XXXX
Potent Cap.: 386 346 788 XXXX XXXX XXXX XXXX XXXX 1298 XXXX XXXX
Move Cap.: 367 324 788 XXXX XXXX XXXX XXXX XXXX 1298 XXXX XXXX
Volume/Cap: 0.11 0.00 0.11 XXXX XXXX XXXX XXXX XXXX 0.07 XXXX XXXX

Level Of Service Module:
2Way50HQ: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 0.2 XXXX XXXX
Control Del: XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX 8.0 XXXX XXXX

LOS by Move: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: XXXX 561 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX
Shared Queue: XXXX 0.8 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX
Shrd Condel: XXXX 12.9 XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX
Shared LOS: B B XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX

ApproachDel: 12.9 B XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX
ApproachLOS: B B XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX

Note: Queue reported is the number of cars per lane.

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Kittelson & Associates, Inc. - Project #10028  
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Level of Service Detailed Computation Report  
2000 HCM Unsignalized Method  
Future Volume Alternative

Intersection #7 "B" Street/Bean Drive  
Worst Case Level of Service: E (1.8)  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Uncontrolled Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 1 0 0 1 0 0 0 0 0 1 0

Volume Module:  
Base Vol: 0 0 0 3 0 48 149 99 0 0 293 2  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bas: 0 0 0 3 0 48 149 99 0 0 293 2  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
Added Traff: 0 0 0 11 0 0 0 0 74 0 0 45 7  
Initial Fut: 0 0 0 14 0 48 149 173 0 0 338 9  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
PHF Volume: 0 0 0 16 0 56 175 204 0 0 398 11  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 0 16 0 56 175 204 0 0 398 11

Critical Cap Module:  
Critical Cap: XXXX XXXX XXXX 6.4 5.5 6.2 4.1 XXXX XXXX XXXX XXXX XXXX XXXX  
FollowUpTime: XXXX XXXX XXXX 3.5 4.0 3.3 2.2 XXXX XXXX XXXX XXXX XXXX XXXX

Capacity Module:  
Conflict Vol: XXXX XXXX XXXX 957 957 403 408 XXXX XXXX XXXX XXXX XXXX XXXX  
Potent Cap.: XXXX XXXX XXXX 288 260 652 1161 XXXX XXXX XXXX XXXX XXXX XXXX  
Move Cap.: XXXX XXXX XXXX 255 220 652 1161 XXXX XXXX XXXX XXXX XXXX XXXX  
Volume/Cap: XXXX XXXX XXXX 0.06 0.00 0.09 0.15 XXXX XXXX XXXX XXXX XXXX XXXX

Level of Service Module:  
Way5thQ: XXXX XXXX XXXX XXXX XXXX XXXX 0.5 XXXX XXXX XXXX XXXX XXXX  
Control Del: XXXX XXXX XXXX XXXX XXXX XXXX 8.6 XXXX XXXX XXXX XXXX XXXX  
LOS by Move: + + + + + A + + + + +  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: XXXX XXXX XXXX XXXX 482 XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
SharedQueue: XXXX XXXX XXXX XXXX 0.5 XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
Shrd Condel: XXXX XXXX XXXX XXXX 13.8 XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
Shared LOS: + + + + + B + + + + +  
ApproachDel: XXXXXX 13.8 XXXXXX XXXXXX  
ApproachLOS: + + + + +  
Note: Queue reported is the number of cars per lane.

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
P: 0.000 0.000  
gq1: 0.00 0.00  
gq2: 0.00 0.00  
gq3: 0.00 0.00  
\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
alpha: 0.000  
beta: 0.000  
Lq (secs): 0.000  
f: 0.000 0.000  
vcmak: 0 0 0  
vcg: 0 0 0  
vcmkn: 0.0 0.0  
tp: 0.000 0.000

\*\*\* Computation 3: Platoon Event Periods  
pdom/psubo: 0.000/0.000/Unconstrained  
\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period  
InitConfVol: 985 962 204 957 957 403 408 XXXX XXXX 0 XXXX XXXX  
AdjCarVol: 965 962 204 957 957 403 408 XXXX XXXX 0 XXXX XXXX  
UpstreamAdj: 1.00 1.000 1.000 1.000 1.000 1.000 XXXX XXXX 1.00 XXXX XXXX  
ConflictVol: 985 962 204 957 957 403 408 XXXX XXXX 0 XXXX XXXX  
\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 229 258 842 288 260 652 1161 XXXX XXXX 1636 XXXX XXXX  
UpstreamAdj: 1.00 1.000 1.000 1.000 1.000 1.000 XXXX XXXX 1.00 XXXX XXXX  
Potent Cap.: 229 258 842 288 260 652 1161 XXXX XXXX 1636 XXXX XXXX

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Level of Service Detailed Computation Report  
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 "B" Street/Bean Drive  
Worst Case Level of Service: E (1.8)  
Approach: North Bound South Bound East Bound West Bound  
Movement: L - T - R L - T - R L - T - R L - T - R  
Control: Stop Sign Uncontrolled Uncontrolled Uncontrolled  
Rights: Include Include Include Include  
Lanes: 0 0 0 0 0 1 0 0 1 0 0 0 0 0 1 0

Volume Module:  
Base Vol: 0 0 0 3 0 48 149 99 0 0 293 2  
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
Initial Bas: 0 0 0 3 0 48 149 99 0 0 293 2  
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
Added Traff: 0 0 0 11 0 0 0 0 74 0 0 45 7  
Initial Fut: 0 0 0 14 0 48 149 173 0 0 338 9  
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
PHF Adj: 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85  
PHF Volume: 0 0 0 16 0 56 175 204 0 0 398 11  
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  
FinalVolume: 0 0 0 16 0 56 175 204 0 0 398 11

Critical Cap Module:  
Critical Cap: XXXX XXXX XXXX 6.4 5.5 6.2 4.1 XXXX XXXX XXXX XXXX XXXX XXXX  
FollowUpTime: XXXX XXXX XXXX 3.5 4.0 3.3 2.2 XXXX XXXX XXXX XXXX XXXX XXXX

Capacity Module:  
Conflict Vol: XXXX XXXX XXXX 957 957 403 408 XXXX XXXX XXXX XXXX XXXX XXXX  
Potent Cap.: XXXX XXXX XXXX 288 260 652 1161 XXXX XXXX XXXX XXXX XXXX XXXX  
Move Cap.: XXXX XXXX XXXX 255 220 652 1161 XXXX XXXX XXXX XXXX XXXX XXXX  
Volume/Cap: XXXX XXXX XXXX 0.06 0.00 0.09 0.15 XXXX XXXX XXXX XXXX XXXX XXXX

Level of Service Module:  
Way5thQ: XXXX XXXX XXXX XXXX XXXX XXXX 0.5 XXXX XXXX XXXX XXXX XXXX  
Control Del: XXXX XXXX XXXX XXXX XXXX XXXX 8.6 XXXX XXXX XXXX XXXX XXXX  
LOS by Move: + + + + + A + + + + +  
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT  
Shared Cap.: XXXX XXXX XXXX XXXX 482 XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
SharedQueue: XXXX XXXX XXXX XXXX 0.5 XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
Shrd Condel: XXXX XXXX XXXX XXXX 13.8 XXXX XXXX XXXX XXXX XXXX XXXX XXXX  
Shared LOS: + + + + + B + + + + +  
ApproachDel: XXXXXX 13.8 XXXXXX XXXXXX  
ApproachLOS: + + + + +  
Note: Queue reported is the number of cars per lane.

\*\*\* Computation 1: Time for Queue to Clear at Each Upstream Intersection  
P: 0.000 0.000  
gq1: 0.00 0.00  
gq2: 0.00 0.00  
gq3: 0.00 0.00  
\*\*\* Computation 2: Time Intersection Blocked Because of Upstream Platoons  
alpha: 0.000  
beta: 0.000  
Lq (secs): 0.000  
f: 0.000 0.000  
vcmak: 0 0 0  
vcg: 0 0 0  
vcmkn: 0.0 0.0  
tp: 0.000 0.000

\*\*\* Computation 3: Platoon Event Periods  
pdom/psubo: 0.000/0.000/Unconstrained  
\*\*\* Computation 4: Conflicting Flows During Each Unblocked Period  
InitConfVol: 985 962 204 957 957 403 408 XXXX XXXX 0 XXXX XXXX  
AdjCarVol: 965 962 204 957 957 403 408 XXXX XXXX 0 XXXX XXXX  
UpstreamAdj: 1.00 1.000 1.000 1.000 1.000 1.000 XXXX XXXX 1.00 XXXX XXXX  
ConflictVol: 985 962 204 957 957 403 408 XXXX XXXX 0 XXXX XXXX  
\*\*\* Computation 5: Capacity for Subject Movement During Unblocked Period  
InitPotCap: 229 258 842 288 260 652 1161 XXXX XXXX 1636 XXXX XXXX  
UpstreamAdj: 1.00 1.000 1.000 1.000 1.000 1.000 XXXX XXXX 1.00 XXXX XXXX  
Potent Cap.: 229 258 842 288 260 652 1161 XXXX XXXX 1636 XXXX XXXX





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 Kittelson & Associates, Inc. - Project #10028  
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 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

Scenario Report  
 Level Of Service

Intersection	Base Del/ LOS	V/ C	Future Del/ LOS	V/ C	Change in
# 8 "J" Street/4th Street - Mitiga	B 14.4	0.741	B 15.1	0.757	+ 0.765 D/V
# 9 "J" Street/5th Street - Mitiga	B 16.7	0.669	B 17.1	0.689	+ 0.370 D/V

Scenario Report

Command: PM  
 Volume: PM  
 Geometry: PM  
 Impact Fee: Default Impact Fee  
 Trip Generation: PM  
 Trip Distribution: Default Trip Distribution  
 Paths: Default Path  
 Routes: Default Route  
 Configuration: PM

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Kittelson & Associates, Inc. - Project #10028  
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 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

Note: Queue reported is the number of cars per lane.

Level of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 "J" Street/4th Street - Mitigated  
 Cycle (sec): 100 Critical Vol./Cap. (X): 0.757  
 Loss Time (sec): 8 Average Delay (sec/veh): 15.1  
 Optimal Cycle: 57 Level Of Service: B

Street Name: "J" Street 4th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R

Control Rights:	Split Phase Include	Split Phase Include	Permitted Include	Permitted Include
Min. Green: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0
YPR: 0 0 0 0 1 0 2 0 1 0 0 1 0 1 0 1 0 0				

Volume Module:

Base Vol:	0	0	260	1575	160	0	140	45	155	85	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Esg:	0	0	0	260	1575	160	0	140	45	155	85
Added Vol:	0	0	0	0	0	0	0	0	0	0	0
Added Traff:	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	260	1593	160	0	140	45	168	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	0	0	0	274	1666	168	0	147	47	177	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	274	1666	168	0	147	47	177	89
RCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Volume:	0	0	0	274	1666	168	0	147	47	177	89

Saturation Flow Module:

Sat/Lane:	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Adjustment:	1.00	1.00	1.00	0.80	0.90	0.80	1.00	0.92	0.92	0.61	1.00
Lanes:	0.00	0.00	0.00	1.00	1.00	1.00	0.00	1.51	0.45	1.00	1.00
Final Sat.:	0	0	0	1403	3135	1403	0	2426	780	1075	1750

Capacity Analysis Module:

Vol/Sat:	0.00	0.00	0.00	0.29	0.53	0.12	0.00	0.06	0.06	0.16	0.05
Crit Moves:	0.00	0.00	0.00	0.70	0.70	0.70	0.00	0.22	0.22	0.22	0.00
Green/Cycle:	0.00	0.00	0.00	0.28	0.75	0.17	0.00	0.28	0.28	0.75	0.24
Volume/Cap:	0.00	0.00	0.00	5.7	11.0	5.1	0.0	32.8	32.8	49.9	32.6
Delay/Veh:	0.0	0.0	0.0	5.7	11.0	5.1	0.0	32.8	32.8	49.9	32.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	5.7	11.0	5.1	0.0	32.8	32.8	49.9	32.6
LOS by Move:	A	A	A	A	B	A	A	C	C	C	A
HCM2kAVGQ:	0	0	0	3	17	2	0	3	3	5	2

Traffic # 0.0.0715 (c) 2008 Dowling Assoc. Licensed to KITTELSON, PORTLAND



Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (HCM2000 Queue Method)

2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #9 "J" Street/5th Street - Mitigated  
 Cycle (sec): 100 Critical Vol./Cap. (X): 0.689  
 Loss Time (sec): 8 Average Delay (sec/veh): 17.1  
 Optimal Cycle: 47 Level Of Service: B  
 \*\*\*\*\*

Street Name: "J" Street 5th Street  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Control: Split Phase Split Phase Permitted Permitted  
 Rights: Include Include Include Include  
 Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0  
 Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0  
 Lanes: 0 1 0 1 0 0 0 0 0 1 0 0 0 1 0

Volume Module:  
 Base Vol: 70 1190 65 0 0 0 155 150 0 0 75 110  
 Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Initial Bst: 70 1190 65 0 0 0 155 150 0 0 75 110  
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 Added Traff: 0 15 22 0 0 0 0 0 0 0 0 0  
 Initial Fut: 70 1205 87 0 0 0 155 150 0 0 88 110  
 User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
 PHF Volume: 74 1266 92 0 0 0 163 158 0 0 93 116  
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0  
 RCE Adj: 74 1266 92 0 0 0 163 158 0 0 93 116  
 MUF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Final Volume: 74 1266 92 0 0 0 163 158 0 0 93 116

Saturation Flow Module:  
 Sat/Lane: 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750 1750  
 Adjustment: 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86  
 Lanes: 0.10 1.77 0.13 0.00 0.00 0.00 1.00 1.00 0.00 0.00 1.00  
 Final Sat: 154 2649 191 0 0 0 1050 1750 0 0 1525 1525

Capacity Analysis Module:  
 Vol/Sat: 0.48 0.46 0.48 0.00 0.00 0.00 0.16 0.03 0.00 0.00 0.00 0.00  
 Crit Mov: \*\*\*\*  
 Green/Cycle: 0.69 0.69 0.69 0.00 0.00 0.00 0.23 0.23 0.00 0.00 0.23 0.23  
 Volume/Cap: 0.69 0.69 0.69 0.00 0.00 0.00 0.69 0.40 0.00 0.00 0.27 0.34  
 Delay/Veh: 9.9 9.9 9.9 0.0 0.0 0.0 43.8 33.6 0.0 0.0 32.1 32.8  
 User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 AdjDel/Veh: 9.9 9.9 9.9 0.0 0.0 0.0 43.8 33.6 0.0 0.0 32.1 32.8  
 LOS by Move: A A A A A A D C A A C C  
 HCM2KvQ: 14 14 14 0 0 0 5 4 0 0 3 2

Kittelson & Associates, Inc. - Project #10028  
 Madras Elementary School UGB Amendment - Madras, Oregon  
 Total Traffic Conditions - Mitigated, Weekday PM Peak Hour

Level Of Service Detailed Computation Report (HCM2000 Queue Method)

2000 HCM Operations Method (Future Volume Alternative)

\*\*\*\*\*  
 Intersection #8 "J" Street/4th Street - Mitigated  
 ArrivalType: 3 3 3 3  
 Approach: North Bound South Bound East Bound West Bound  
 Movement: L - T - R L - T - R L - T - R L - T - R  
 Green/Cycle: 0.00 0.00 0.00 0.70 0.70 0.70 0.00 0.22 0.22 0.22 0.22 0.00  
 ProgFactor: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
 Qi: 0.0 0.0 0.0 2.8 15.5 1.6 0.0 2.4 2.4 4.6 2.0 0.3  
 UpstreamAdj: 0.00 0.00 0.00 0.70 0.70 0.70 0.00 0.00 0.00 0.27 0.27 0.00  
 UpstreamAdj: 0.00 0.00 0.00 0.65 0.65 0.65 0.00 0.00 0.00 0.97 0.97 0.00  
 EarlyArrAdj: 0.00 0.00 0.00 0.47 0.52 0.47 0.00 1.00 1.00 0.30 0.40 0.00  
 Q2: 0.0 0.0 0.0 0.2 1.5 0.1 0.0 0.4 0.4 0.8 0.1 0.0  
 HCM2KQueue: 0.0 0.0 0.0 3.0 17.0 1.7 0.0 2.6 2.6 5.4 2.2 0.0

70thFactor: 1.20 1.20 1.20 1.19 1.17 1.20 1.20 1.19 1.19 1.19 1.19 1.20  
 HCM2K70thQ: 0.0 0.0 0.0 3.6 19.8 2.0 0.0 3.3 3.3 6.4 2.6 0.0  
 85thFactor: 1.60 1.60 1.60 1.57 1.47 1.56 1.60 1.57 1.57 1.55 1.58 1.60  
 HCM2K85thQ: 0.0 0.0 0.0 4.7 25.0 2.7 0.0 4.3 4.3 8.4 3.4 0.0  
 90thFactor: 1.80 1.80 1.80 1.74 1.57 1.77 1.80 1.75 1.75 1.70 1.76 1.80  
 HCM2K90thQ: 0.0 0.0 0.0 5.2 26.7 3.0 0.0 4.6 4.6 9.3 3.8 0.0  
 95thFactor: 2.10 2.10 2.10 2.01 1.73 2.05 2.10 2.01 2.01 1.94 2.03 2.10  
 HCM2K95thQ: 0.0 0.0 0.0 6.0 29.5 3.4 0.0 5.6 5.6 10.6 4.4 0.0  
 98thFactor: 2.70 2.70 2.70 2.49 1.97 2.56 2.70 2.51 2.51 2.36 2.55 2.70  
 HCM2K98thQ: 0.0 0.0 0.0 7.5 33.5 4.3 0.0 6.9 6.9 12.8 5.5 0.0





Level Of Service Detailed Computation Report (HCM2000 Queue Method)

2000 HCM Operations Method  
Future Volume Alternative

Intersection #9 "J" Street/5th Street - Mitigated

Table with columns for Approach, Movement, North Bound, South Bound, East Bound, West Bound. Rows include Green/Cycle, Arrival Type, ProgFactor, Q1, UpstreamVC, UpstreamSd, EarlyArrival, HCM2KQueue, 70thFactor, HCM2K70thQ, 85thFactor, HCM2K85thQ, 90thFactor, HCM2K90thQ, 95thFactor, HCM2K95thQ, 96thFactor, HCM2K96thQ.

Level Of Service Detailed Computation Report (Permitted Left Turn Set Adj)

2000 HCM Operations Method  
Future Volume Alternative

Intersection #9 "J" Street/5th Street - Mitigated

Table with columns for Approach, Cycle Length, C, Actual Green Time Per Lane Group, G, Effective Green Time Per Lane Group, g, Opposing Effective Green Time, go, Number Of Opposing Lanes, No, Number Of Lanes In Lane Group, N, Adjusted Left-Turn Flow Rate, Vlt, Proportion Of Left Turns In Lane Group, Plt, Proportion Of Left Turns In Opp Flow, Plto, Left Turns Per Cycle, LTC, Adjusted Opposing Flow Rate, Vo, Opposing Flow Per Lane Per Cycle, Volc, Opposing Platoon Ratio, Rpo, Lost Time Per Phase, tl, Eff grn until arrival of left-turn car, gf, Opposing Queue Ratio, qrc, Left-turn blocked by opposing queue, sq, Eff grn while left turns filter thru, gu, Max opposing cars arriving during qd-gf, n, Proportion Of Opposing Thru & RT cars, ptho, Left-turn saturation Factor, fs, Proportion Of Left Turns In Shared Lane, pl, Through-car Equivalents, ell, Single Lane Through-car Equivalents, el2, Minimum Left Turn Adjustment Factor, fmin, Single Lane Left Turn Adjustment Factor, fm, Left Turn Adjustment Factor, flt.

**Appendix G: ODOT Letter Regarding Reasonably Likely  
Determination for US 97/J Street Improvements**



# Oregon

Ted Kulongoski, Governor

## Department of Transportation

Robert W. Bryant  
 Region 4 Manager  
 63055 N. Hwy 97  
 Bend, OR 97701  
 (541) 388-6180  
 FAX: (541) 388-6231

FILE CODE:

February 2, 2010

Nick Snead  
 Community Development Director  
 71 SE "D" St  
 Madras, OR 97740

**Subject: Madras UGB Expansion TPR Analysis; Reasonably Likely Determination**

Dear Mr. Snead,

The Oregon Department of Transportation (ODOT) appreciates the opportunity to review and comment on the transportation study prepared for Madras UGB Expansion and related TPR Analysis. We received this study from Kittelson and Associates on January 22, 2010. Our planning staff also reviewed the City's plan amendment application and DLCD's recent response.

As part of the UGB expansion, the City of Madras is considering a 20-acre rezone of Range Land to R-2 Residential uses, including a new elementary school. The proposed amendment is located at the outskirts of town, near the intersection of Ashwood Road and Bean Drive. Neither roads are state facilities; however, the traffic study concluded that the proposed rezone has a significant effect on the US97/"J" Street intersections (degraded operation with incremental trips within the planning horizon). This is an important state facility where ODOT and the City are planning significant improvements in the near future.

On January 21, 2010, pursuant to OAR 660-012-0060(4)(b), the City has written ODOT requesting a determination as to whether planned state highway improvements at US97/ "J" Street are not only included in the City's TSP, but also:

- Funded for construction in the Statewide Transportation Improvement Program (STIP);
- Part of a regional transportation system plan; or
- If neither of the above, the planned improvements are reasonably likely to be provided by the end of the TSP planning period.

ODOT offers the following comments in response:

1. US97 is a Statewide level highway facility and a freight route.
2. The City of Madras completed a TSP Amendment in 2005 to address the anticipated failure of the US 97/"J" Street intersections.
3. A preferred concept was identified by the City and ODOT as shown on the project website [http://ci.madras.or.us/public\\_works/pw\\_hwy97southY.shtml](http://ci.madras.or.us/public_works/pw_hwy97southY.shtml). The concept includes cost estimates, right-of-way needs, and a double-line sketch of the preferred roadway alignment.

Mr. Nick Snead  
February 2, 2010  
Page 2 of 2

4. Funding for the construction of the US97/"J" Street improvements is included in the Draft 2010-2013 STIP, which is expected to be approved in October 2010. The "J" Street improvements are not on the current 2008-11 STIP list. At this time, there is a gap between funding identified in the Draft STIP and cost estimates submitted by the project team. However, the City has been collecting transportation System Development Charges slated specifically for US97/"J" Street improvements.

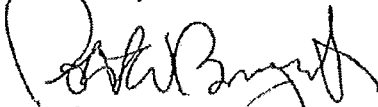
Based on ODOT's review of the circumstances associated with future improvements to US97/"J" Street intersections, it is our opinion that the necessary improvements are reasonably likely to occur by the end of the planning period. ODOT has reached this conclusion based on the following factors:

1. The planned improvements are listed on the Draft 2010-2013 STIP and will likely be approved.
2. The planned improvements are located on a statewide freight route, an important facility that will likely receive future funding.
3. The City of Madras has land use regulations that allow the City to impose conditions on future development if such conditions are needed to avoid or remedy a significant effect. These include ordinances enabling transportation System Development Charges for US97/"J" Street improvements and City approval of the proposed intersection redesign.
4. ODOT has a positive working relationship with the City of Madras and collaboratively funded other projects in the area. We are confident that the City, ODOT and other partners will be able to fund the needed US97/"J" Street improvements.

This reasonably likely determination does not constitute a commitment on the part of ODOT to fund the planned improvements at US97/"J" Street. Further, this written statement applies only to the subject property and only to this specific proposed amendment. It does not apply to any future amendments that may rely upon the same project. Instead, future proposed amendments will require a new written statement from ODOT. (see <http://www.oregon.gov/ODOT/TD/TP/docs/TPR/tprGuidelines.pdf>, Section 3.2.09)

ODOT appreciates the opportunity to provide you with this written statement. If you have any questions, or need more information, please contact Ana Jovanovic, ODOT Region 4 Planning office, at (541) 388-6046 or email [ana.jovanovic@odot.state.or.us](mailto:ana.jovanovic@odot.state.or.us).

Sincerely,



Robert Bryant, PE  
Region 4 Manager

cc via e-mail: Mark Radabaugh, DLCD; Joe Bessman, Kittelson & Assoc, Inc.; DJ Heffernan, Angelo Planning Group; Jon Skidmore, Jefferson County Planning Director; Matt Garrett, ODOT Director; Jerri Bohard, ODOT TDD Manager; Pat Creedican, ODOT District 10 Manager

**Nick Snead**

**From:** JOVANOVIC Ana [Ana.JOVANOVIC@odot.state.or.us]  
**Sent:** Thursday, February 04, 2010 4:34 PM  
**To:** Nick Snead  
**Cc:** RADABAUGH Mark; Joe Bessman; DJ Heffernan; Jon Skidmore  
**Subject:** RE: Madras UGB expansion & TRP Analysis

-->

Nick,

Here is ODOT's Reasonably Likely Determination letter for Madras UGB Expansion and TPR Analysis. Please contact me if you have any questions.

Thank you,

Ana

Ana Jovanovic  
ODOT Region 4 Program and Planning  
541 388.6046  
ana.jovanovic@odot.state.or.us

---

**From:** Nick Snead [mailto:nsnead@ci.madras.or.us]  
**Sent:** Monday, February 01, 2010 8:49 AM  
**To:** JOVANOVIC Ana  
**Subject:** Madras UGB expansion & TRP Analysis

Ana,

Good morning! I hope you had a good weekend as well. I am writing to determine the status of ODOT's review of our TPR study submitted by Kittleson & Associates related to the 37 acre UGB expansion proposal. Can you give me an update?

*"There are no short cuts to any place worth going"*

-Beverly Sills-

Nicholas S. Snead

2/5/2010

Community Development Director

City of Madras

(541) 475-3388

Email: [nsnead@ci.madras.or.us](mailto:nsnead@ci.madras.or.us)

Visit the City of Madras at <http://ci.madras.or.us/>

2/5/2010

**Appendix H: Urban Growth Area Management  
Agreement (UGAMA) (April 2006)**



## **Urban Growth Area Management Agreement For the City of Madras**

This agreement is entered into by the City of Madras, an incorporated municipality in the State of Oregon, hereby referred to as the "City" and Jefferson County, a political subdivision of the State of Oregon, hereby referred to as the "County".

### **RECITALS**

WHEREAS, the City of Madras and Jefferson County are authorized pursuant to Oregon Revised Statutes (ORS) Chapter 190 to enter into an Intergovernmental Management Agreement for performance of functions which either governmental unit has the authority to perform; and

WHEREAS, this Management Agreement also constitutes a cooperative agreement under ORS Chapter 195; and

WHEREAS, Goal 14 [Urbanization] requires that the City and the County establish an urban growth boundary to identify and separate urbanizable land from rural and that the establishment and change of urban growth boundaries shall be through a cooperative process between the City and County; and

WHEREAS, pursuant to provisions in Goal 2 [Land Use Planning], the City and County are required to have coordinated and consistent comprehensive plans which establish an Urban Growth Boundary (UGB) and a plan for the Urban Growth Area (UGA) within the boundary; and,

WHEREAS, the City and County share a common concern regarding the accommodation of population growth and utilization of lands within the UGB; and

WHEREAS, the City and County consider it mutually advantageous to establish this Urban Growth Area Management Agreement (UGAMA) for the purpose of facilitating the orderly transition from rural to urban land uses and to enable the City to plan for and provide urban services such as sewer, water and street facilities in a timely, orderly and cost effective manner consistent with the City's Comprehensive Plan;

NOW, THEREFORE THE CITY OF MADRAS AND JEFFERSON COUNTY MUTUALLY AGREE AS FOLLOWS:

#### **1. INTENT OF AGREEMENT**

- 1.1. To establish standards and procedures for review and action on proposed land use actions and related matters noted within this agreement pertaining to lands within the UGA;
- 1.2. To transfer authority and jurisdiction over current planning activities, land use decisions, provision of urban services and code enforcement within the UGA from the County to the City;

- 1.3. To benefit the public through reduction of governmental processes; and,
- 1.4. To establish procedures for City and County consideration of expansions to the UGA.

## **2. DEFINITIONS**

For the purpose of this agreement, the following definitions shall apply:

- 2.1. Board: the Jefferson County Board of Commissioners.
- 2.2. City: the City of Madras.
- 2.3. Council: the Madras City Council.
- 2.4. County: Jefferson County.
- 2.5. Land Use Decision: A final decision or determination concerning the adoption, amendment or application of statewide planning goals, a comprehensive plan provision or a land use regulation.
- 2.6. Public Facilities Plan: A document or documents describing the water, sewer and transportation facilities which are to support the land uses designated in the appropriate acknowledged comprehensive plans.
- 2.7. Urban Growth Area (UGA): The area between the Madras City Limits and the Madras Urban Growth Boundary, as designated on the City's and the County's Comprehensive Plan Maps.
- 2.8. Urban Growth Boundary (UGB): The boundary line which separates lands to be urbanized and eventually incorporated into the City of Madras from the surrounding rural lands under the County's jurisdiction.
- 2.9. Urban Growth Area Management Agreement (UGAMA): This Intergovernmental Agreement between the City and County that coordinates the management of land use and development within the City of Madras UGA.
- 2.10. Urbanizable Lands: Lands inside the Urban Growth Area that are designated for future urban development when public facilities and services can be provided by the City.

## **3. URBANIZATION PROCESS**

- 3.1. The UGA shall be managed to maintain the potential for future urban development until such time as the land is annexed into the City and is converted to urban land.
- 3.2. Conversion of urbanizable land to urban development can occur when public facilities and services are available and adequate to serve urban levels of development, or the land