Oregon
Theodore R. Kulongoski, 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

03/11/2013

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

FROM: Plan Amendment Program Specialist

SUBJECT: City of Tigard Plan Amendment
DLCD File Number 005-12

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: Thursday, March 21, 2013

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: John Floyd, City of Tigard
Gordon Howard, DLCD Urban Planning Specialist
Anne Debbaut, DLCD Regional Representative

<paa> YA

FORM 2

DLCD Notice of Adoption

This Form 2 must be mailed to DLCD within **20-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

DATE STAMP
☐ In person ☐ electronic ☐ mailed
DEPT OF
MAR 01 2013
LAND CONSERVATION AND DEVELOPMENT
For Office Use Only

Jurisdiction: **Tigard**
Local file number: **DCA2012-00004**
Date of Adoption: **2/26/2013**
Date Mailed: **2/27/2013**
Was a Notice of Proposed Amendment (Form 1) mailed to DLCD? ☒ Yes ☐ No Date: 12/11/2012

☐ 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".

Development Code Amendment to create Chapter 18.650 (Durham Advanced Wastewater Treatment Facility Plan Distict) to govern future development and expansion of an existing regional wastewater treatment facility; In support, the City also adopted Chapter 18.605 to govern the adoption of plan districts generally across the City, and changes to four existing plan district chapters to provide clarification and code consistency 18.600-640. Zoning map amended to include plan district boundaries.

Does the Adoption differ from proposal? Yes, Please explain below:

The Planning Commission recommended amendments to correct typos and to modify landscaping and design review standards. Council approved the Planning Commission recommendation as presented.

Plan Map Changed from: **no change** to: **no change**
Zone Map Changed from: **Industrial Park / R-4/.5** to: **Plan District Overlay**
Location: **16580 SW 85th Avenue, Tigard; 2S1W13 & 2S1W14** Acres Involved: **106**
Specify Density: Previous: **n/a & R-4.5** New: **none**
Applicable statewide planning goals:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
☒	☒	☐	☐	☐	☒	☐	☐	☒	☐	☒	☐	☒	☐	☐	☐	☐	☐	☐

Was an Exception Adopted? ☐ YES ☐ NO
Did DLCD receive a Notice of Proposed Amendment...

35-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. 005-12 (19613) [17373]

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

Clean Water Services, Tualatin Valley Fire & Rescue, City of Durham, City of Tualatin, Metro, Tri-Met, Tigard-Tualatin School District, ODOT, Oregon DEQ, Oregon DFW, Oregon DSL

Local Contact: **John Floyd** Phone: **(503) 718-2429** Extension:

Address: **13125 SW Hall Blvd** Fax Number: - -

City: **Tigard** Zip: **97223-** E-mail Address: **johnfl@tigard-or.gov**

ADOPTION SUBMITTAL REQUIREMENTS

This Form 2 must be received by DLCD no later than 20 working 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 the adopted amendment, please print a completed copy of Form 2 on light **green paper if available**.
3. Send this Form 2 and **one complete paper copy** (documents and maps) of the adopted amendment to the address below.
4. Submittal of this Notice of Adoption must include the final signed ordinance(s), all supporting finding(s), exhibit(s) and any other supplementary information (ORS 197.615).
5. Deadline to appeals to LUBA is calculated **twenty-one (21) days** from the receipt (postmark date) by DLCD of the adoption (ORS 197.830 to 197.845).
6. In addition to sending the Form 2 - Notice of Adoption to DLCD, please also remember to notify persons who participated in the local hearing and requested notice of the final decision. (ORS 197.615).
7. Submit **one complete paper copy** via United States Postal Service, Common Carrier or Hand Carried to the DLCD Salem Office and stamped with the incoming date stamp.
8. Please mail the adopted amendment packet to:

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

9. **Need More Copies?** Please print forms on **8½ -1/2x11 green paper only if available**. If you have any questions or would like assistance, please contact your DLCD regional representative or contact the DLCD Salem Office at (503) 373-0050 x238 or e-mail **plan.amendments@state.or.us**.

CITY OF TIGARD, OREGON
TIGARD CITY COUNCIL
ORDINANCE NO. 13-04

AN ORDINANCE AMENDING THE TIGARD ZONING MAP TO INCLUDE EXISTING BOUNDARIES OF THE CITY'S ADOPTED PLAN DISTRICTS; AMENDING EXISTING TIGARD COMMUNITY DEVELOPMENT CODE CHAPTERS 18.600, 18.610, 18.620, 18.630, 18.640 TO ESTABLISH A UNIFORM NAMING CONVENTION FOR PLAN DISTRICTS AND CLARIFY WHERE THE REGULATIONS CONTAINED WITHIN EACH CHAPTER APPLY; AND CREATING TWO NEW CHAPTERS WITHIN THE TIGARD COMMUNITY DEVELOPMENT CODE TO BE KNOWN AS 18.605 AND 18.650 FOR THE PURPOSES OF ESTABLISHING APPROVAL PROCEDURES AND STANDARDS FOR PLAN DISITRICTS AND ESTABLISHING THE DURHAM ADVANCED WASTEWATER TREATMENT FACILITY PLAN DISTRICT.

WHEREAS, the Tigard City Council directed Planning Division staff to prepare amendments to the Tigard Community Development Code pertaining to the purpose and approval procedures for plan districts generally, concurrent with the creation of a new plan district for the Durham Advanced Wastewater Treatment Plant located within the boundaries of the City; and

WHEREAS, amendments to the Tigard Zoning Map and Tigard Community Development Code Chapters 18.600 through 18.640 would increase the legibility of the code to future users through the addition of maps and updated naming conventions; and

WHEREAS, the purpose of creating 18.605 is to establish a clear purpose and procedures for the adoption and application of plan district standards within the City; and

WHEREAS, the purpose of creating 18.650 is to implement regulations appropriate to the unique history of the facility and that support the public interest in maintaining and further developing a regional wastewater treatment facility while minimizing off-site impacts to adjacent residential land uses and other public facilities; and

WHEREAS, notice was provided to the Department of Land Conservation and Development at least 35 days prior to the first evidentiary public hearing; and

WHEREAS, notice of the public hearing was performed in conformance with Community Development Code Chapter 18.390.060.D; and

WHEREAS, the Tigard Planning Commission held two duly noticed public hearings on January 14, 2013 and February 4, 2013 and recommended with a unanimous vote that Council approve the proposed code amendment, as amended; and

WHEREAS, the Tigard City Council held a public hearing on February 26, 2013, to consider the proposed amendment; and

Certified to be a true copy of the original document on file at City of Tigard City Hall.
By: Catherine Wheatley
City Recorder, City of Tigard
Date: 2.27.2013

WHEREAS, the Tigard City Council has considered the Planning Commission recommendation; and

WHEREAS, the Tigard City Council has considered the applicable Statewide Planning Goals and Guidelines adopted under Oregon Revised Statutes Chapter 197; any federal or state statutes or regulations found applicable; any applicable Metro regulations; any applicable Comprehensive Plan Policies; and any applicable provisions of the City's implementing ordinances; and

WHEREAS, the Tigard City Council has determined that the proposed development code amendment is consistent with the applicable review criteria, and unanimously approves amendments to the Tigard Community Development Code and Official Zoning Map as being in the best interest of the City of Tigard.

NOW, THEREFORE, THE CITY OF TIGARD ORDAINS AS FOLLOWS:

SECTION 1: Council adopts the findings recommended by the Planning Commission as contained in the January 7, 2013 Staff Report to the Planning Commission, included as **"Exhibit A"** to this Ordinance.

SECTION 2: Tigard Development Code (Title 18) and the Official Zoning Map are amended as shown in **"Attachment 1 of Exhibit A - Durham Advanced Wastewater Treatment Facility Plan District Project Report and Draft Amendments – Planning Commission Recommendation of February 4, 2013."**

SECTION 3: Council further adopts the background history, project issues, and commentary contained in "**Attachment 1 of Exhibit A"** as additional legislative intent for the corresponding code amendments.

SECTION 4: This ordinance shall be effective 30 days after its passage by the Council, signature by the Mayor, and posting by the City Recorder.

PASSED: By unanimous vote of all Council members present after being read by number and title only, this 26th day of February, 2013.

Catherine Wheatley

Catherine Wheatley, City Recorder

APPROVED: By Tigard City Council this 26th day of February, 2013.

~~John L. Cook, Mayor~~

MarLand H. Henderson, Council President

Approved as to form:

City Attorney

2.26.2013

Date

Agenda Item: # 5
Hearing Date: February 4, 2013 Time: 7:00 PM

STAFF REPORT TO THE PLANNING COMMISSION FOR THE CITY OF TIGARD, OREGON

SECTION I. APPLICATION SUMMARY

CASE NAME: **DURHAM ADVANCED WASTEWATER TREATMENT FACILITY PLAN DISTRICT & GENERAL PLAN DISTRICT STANDARDS DEVELOPMENT CODE AMENDMENT**

CASE NO.: **Development Code Amendment (DCA)** **DCA2012-00004**

PROPOSAL: The City of Tigard proposes legislative amendments to the Tigard Development Code (TDC) and Zoning Map in a combined amendment package to adopt two new chapters and clarify the applicable boundaries of four existing chapters. The City proposes the adoption of Chapter 18.605 (Plan Districts) to provide approval standards for the adoption of future plan districts or the modification of existing and future plan districts. The City and Clean Water Services jointly propose the adoption of Chapter 18.650 to create a new plan district to govern future development within the 106 acre Durham Advanced Wastewater Treatment Facility (Durham Facility). The City also proposes text amendments to TDC Chapters 18.600, 610, 620, 630, and 640 to create a uniform naming convention and add boundary maps to provide clarity as to where the regulations apply; boundary maps to be identical to those adopted with the applicable chapters for illustrative and clarifying purposes only. The City also proposes corresponding changes to the official Zoning Map to add the boundaries of the Durham Facility Plan District and four other existing plan districts which are not presently shown. The proposed amendments for the Planning Commission's review are included in **Attachment 1** and summarized below in Section IV of this report:

APPLICANTS:

City of Tigard
13125 SW Hall Blvd.
Tigard, OR 97223

Clean Water Services
2550 SW Hillsboro Highway
Hillsboro, OR 97123

ZONES:
Chapters 18.600 & 18.605: Citywide
Chapter 18.610: MU-CBD Zoning District
Chapter 18.620: C-G & MUE
Chapter 18.630: MUC, MUE-1, MUE-2, MUR-1, MUR-2, R-4.5, R-7, & R-12
Chapter 18.640: MUC-1
Chapter 18.650: I-P & R-4.5

LOCATION: Citywide and properties identified in the Attached Maps.

APPLICABLE REVIEW CRITERIA: Statewide Planning Goals 1, 2, 6, 9, 10, 11 and 13; Metro Urban Growth Management Function Plan Title 4; Comprehensive Plan Goals 1, 2, 6, 9, 10, and 11; and Community Development Code Chapters 18.380 and 18.390.

SECTION II. STAFF RECOMMENDATION

Staff recommends the Planning Commission find in favor of the proposed code text amendments **(Attachment 1)** to improve the existing code by adopting Tigard Development Code Chapter 18.605 Plan District standards; clarifying amendments to Chapters 18.600, 18.610, 18.620, 18.630, and 18.640 of the Tigard Development Code and official Zoning Map; and Chapter 18.650: Durham Advanced Wastewater Treatment Facility Plan District; with any alterations as determined through the public hearing process, and make a final recommendation to the Tigard City Council.

SECTION III. BACKGROUND INFORMATION & PROJECT SUMMARY

The principal purpose of this project is the creation of new land use regulations for an existing regional wastewater treatment plant within the City of Tigard. These regulations will reside within a new, single-use plan district to be known as Tigard Development Code (TDC) Chapter 18.650: Durham Advanced Wastewater Treatment Facility Plan District. The purpose of this district is to acknowledge the future operation, modification, and growth of the wastewater facility, while avoiding or mitigating off-site impacts that may negatively affect adjoining properties and public facilities.

Associated with this project are a series of supporting text amendments to create consistency and clarity regarding plan districts generally. The first is the proposed creation of Chapter 18.605 (Plan Districts) to establish a clear purpose statement and approval standards for their adoption and modification. At present the TDC lacks any standards and guidance pertaining to the adoption and implementation of plan districts. As a result of this lack, the existing plan districts vary in naming convention or clear maps demarcating where they are to be applied. The proposed amendments are intended to correct these deficiencies.

Please refer to **Attachment 1** for the proposed text and map amendments, including additional background information, major issues, and commentary. Major project components are listed below:

- Creation of Chapter 18.605 (Plan Districts) to provide a purpose statement for Plan Districts and approval standards and review processes for their adoption.
- Text Amendments to 18.610 (Downtown), 18.620 (Tigard Triangle), 18.630 (Washington Square), and 18.640 (Durham Quarry aka Bridgeport Village) to create a uniform naming convention and include boundary maps to clarify where the regulations apply. Map boundaries are based on those established at the time of adoption of each district.
- Creation of Chapter 18.650 to acknowledge the continued operation and development of the Durham Facility as a primary allowed use within existing property boundaries. Major components include:
    - Remedies a 1998 legislative oversight that accidentally rendered the Durham Facility a nonconforming land use (grandfathered due to its pre-existing status), making further expansion and modification difficult. Under the new code, wastewater treatment is acknowledged as the primary use of the affected properties.
    - Replaces the split zoning of the facility (R-4.5 Low Density Residential & Industrial Park) with a unified set of land use standards specifically tailored for the Durham Facility. Allowed uses and development standards would be based upon three functional sub-districts: Administrative, Operations, and Floodplain.
    - Land use permits will not be required for a majority of anticipated improvements. However, major projects along Durham road or those with the potential to negatively impact the transportation system will still require a conditional use permit.

- Establishes strict standards to prevent off-site impacts resulting from excessive noise, odors, light intrusion, and unharmonious building design.

- Waives the requirement for Waverly Drive to be extended across the Durham Facility to 85th Avenue as a public street, but requires CWS to maintain an improved but gated connection for emergency service vehicles in a roughly similar alignment.

- Amendment of the Tigard Zoning Map to include the boundaries of the four existing and one new plan district. Map boundaries are based on those established at the time of adoption of each district, and only clarify existing boundaries. No changes to existing uses, standards, or district boundaries are proposed.

SECTION IV. APPLICABLE CRITERIA, FINDINGS AND CONCLUSIONS

STATEWIDE PLANNING GOALS AND GUIDELINES

State planning regulations require cities to adopt and amend Comprehensive Plans and land use regulations in compliance with the state land use goals. Because the proposed Code Amendments have a limited scope and the text amendments address only some of the topics in the Statewide Planning Goals, only applicable Statewide Goals are addressed below.

Statewide Planning Goal 1 – Citizen Involvement:
This goal outlines the citizen involvement requirement for adoption of Comprehensive Plans and changes to the Comprehensive Plan and implementing documents.

FINDING: This goal has been met by complying with the Tigard Development Code notice requirements set forth in Section 18.390.060 (Type IV Procedures). Notices were sent by US Postal Service to affected government agencies and the latest version of the interested parties list. A notice was published in the Tigard Times newspaper prior to the hearing. After the Planning Commission public hearing, additional notice will be published prior to the City Council hearing. A minimum of two public hearings will be held (one before the Planning Commission and the second before the City Council) at which an opportunity for public input is provided. In excess of the requirements of the TDC, planning staff held a neighborhood workshop on December 18, 2012 to invite input on the proposed Durham Facility Plan District. Notices of the neighborhood meeting were mailed to 466 property owners within 1,000 feet of the plan district. One person attended and did not comment. A project website and a notice in the January edition of Cityscape magazine were also published in order to invite more citizen participation. This goal is satisfied.

Statewide Planning Goal 2 – Land Use Planning:
This goal outlines the land use planning process and policy framework.

FINDING: The Department of Land Conservation and Development (DLCD) has acknowledged the City's Comprehensive Plan as being consistent with the statewide planning goals. The Development Code implements the Comprehensive Plan. The Development Code establishes a process and standards to review changes to the Tigard Development Code. As discussed within this report, the applicable Development Code process and standards have been applied to the proposed amendment. This goal is satisfied.

Statewide Planning Goal 6 – Air, Water and Land Resources Quality
This goal seeks to maintain and improve the quality of the air, water and land resources of the state. Included within this goal is a requirement that plans should designate areas suitable for use in controlling pollution including, but not limited to waste water treatment plants; and that such areas should be buffered and separated to avoid impacts to air, water, and land resources.

FINDING: Clean Water Services holds the NPDES permit for the Tualatin River Watershed, and provides wastewater treatment to the City of Tigard and other jurisdictions within the watershed. As discussed within the report, the proposed amendments will establish land use controls that acknowledge the continued operation and expansion of a wastewater treatment plant to protect water quality and public health, but ensure that the operation and further development of the plant is buffered from adjacent land uses and does not exceed set thresholds for noise, odor, and light intrusion. This goal is satisfied.

Statewide Planning Goal 9 – Economic Development:
This goal seeks to provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.

FINDING: The Department of Land Conservation and Development has acknowledged the City's Comprehensive Plan as being consistent with the statewide planning goals. Consistency with the City's Comprehensive Plan Economic Development goals and policies is discussed later in this report under Tigard Comprehensive Plan Goal 9.1 and associated policies. This goal is satisfied.

Statewide Planning Goal 10 –Housing
This goal seeks to provide for the housing needs of citizens of the state.

FINDING: The Department of Land Conservation and Development has acknowledged the City's Comprehensive Plan as being consistent with the statewide planning goals. Consistency with the City's Comprehensive Plan Housing goal and policies is discussed later in this report under Tigard Comprehensive Plan Goal 10.2 and associated Policies. This goal is satisfied.

Statewide Planning Goal 13 – Energy Conservation
This goal seeks to provide for land development and uses that maximize the conservation of all forms of energy.

FINDING: The proposed amendment to create 18.650 would provide greater flexibility to Clean Water Services as it continues to implement technology and partnerships related to on-site energy conservation, energy generation, and nutrient recovery and reuse. This goal is satisfied.

CONCLUSION: Based on the findings above and the related findings below, staff finds the proposed code amendments are consistent with applicable Statewide Planning Goals.

APPLICABLE PROVISIONS OF THE METRO URBAN GROWTH MANAGEMENT FUNCTIONAL PLAN
METRO planning regulations require cities to adopt and amend Comprehensive Plans and land use regulations in compliance with the regional land use goals. Because the proposed Code Amendment have a limited scope and the text amendments address only some of the topics in the Urban Growth Management Functional Plan, only the standards of Title 4 (Industrial and Other Employment Areas) apply.

Title 4: Industrial and Other Employment Areas

3.07.430 Protection of Industrial Areas

A. Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit new buildings for retail commercial uses—such as stores and restaurants—and retail and professional services that cater to daily customers—such as financial, insurance, real estate, legal, medical and dental offices—in order to ensure that they serve primarily the needs of workers in the area.

B. Cities and counties shall review their land use regulations and revise them, if necessary, to include measures to limit new buildings for the uses described in subsection A to ensure that they do not interfere with the efficient movement of freight along Main Roadway Routes and Roadway Connectors shown on the Regional Freight Network Map in the RTP. Such measures may include, but are not limited to, restrictions on access to freight routes and connectors, siting limitations and traffic thresholds.

C. No city or county shall amend its land use regulations that apply to lands shown as Industrial Area on the Employment and Industrial Areas Map to authorize uses described in subsection A of this section that were not authorized prior to July 1, 2004.

FINDING: A review of the "Title 4 Employment and Industrial Areas Map as of January 18, 2012" reveals the presence of Industrial Areas within the City of Tigard, including the site of the proposed Durham Facility Plan District. The proposed amendment to adopt 18.650 (Durham Facility Plan District) would not allow land uses

described in subsection 3.07.430.A above. The proposed amendments to 18.610-640 do not change the allowed uses. As a result the proposed amendments meet these standards.

CONCLUSION: Based on the findings above, staff finds that the proposed code text amendment is consistent with the Urban Growth Management Functional Plan.

TIGARD COMPREHENSIVE PLAN

State planning regulations require cities to adopt and amend Comprehensive Plans and land use regulations in compliance with the state land use goals and consistent with Comprehensive Plan Goals and Policies. Because the Development Code Amendments have a limited scope and the text amendments address only some of the topics in the Tigard Comprehensive Plan, only applicable comprehensive plan goals and associated policies are addressed below.

Comprehensive Plan Goal 1: Citizen Involvement

Policy 1.1.2: The City shall define and publicize an appropriate role for citizens in each phase of the land use planning process.

FINDING: Notices were sent by US Postal Service to affected government agencies and the latest version of the interested parties list. A notice was published in the Tigard Times newspaper and City website prior to the Planning Commission hearing. After the Planning Commission public hearing, additional notice will be published prior to the City Council hearing. A minimum of two public hearings will be held (one before the Planning Commission and the second before the City Council) at which an opportunity for public input is provided. In excess of the requirements of the TDC, planning staff held a neighborhood workshop on December 18, 2012 to invite input on the proposed Durham Facility Plan District. Notice for the neighborhood meeting was mailed to 466 property owners within 1,000 feet of the plan district and on the City of Tigard website. One person attended and did not comment. A project website and a notice in the January edition of Cityscape magazine were also published in order to invite more citizen participation. This policy is satisfied.

Comprehensive Plan Goal 2: Land Use Planning

Policy 2.1.2: The City's land use regulations, related plans, and implementing actions shall be consistent with and implement its Comprehensive Plan.

FINDING: As demonstrated in this staff report, the proposed amendments to the Tigard Development Code are consistent with the Tigard Comprehensive Plan. This policy is satisfied.

Policy 2.1.3: The City shall coordinate the adoption, amendment, and implementation of its land use program with other potentially affected jurisdictions and agencies.

FINDING: The proposed text amendment to create the Durham Facility Plan District was developed through a partnership with Clean Water Services, with the work conducted under the terms and conditions of an intergovernmental agreement signed by both parties. Copies of the proposed amendments were sent to all potentially affected jurisdictions, as further discussed in Section VII below. This policy is satisfied.

Policy 2.1.7: The City's regulatory land use maps and development code shall implement the Comprehensive Plan by providing for needed urban land uses including:

- **A. Residential;**
- **B. Commercial and office employment including business parks;**
- **C. Mixed Use;**
- **D. Industrial;**
- **E. Overlay districts where natural resource protections or special planning and regulatory tools are warranted; and**
- **F. Public Services**

FINDING: The proposed text amendment to create TDC chapter 18.650 will return a critical public facility to conforming status (presently nonconforming due to a 1998 text amendment), allowing the wastewater treatment facility to provided needed public services to support future urbanization and redevelopment. In

addition, the proposed language in 18.650 would allow accessory industrial land uses to locate within the plan district in order to recover nutrients and energy from the waste stream or treatment processes. This policy is satisfied.

Policy 2.1.12: The City shall provide a wide range of tools, such as planned development, design standards, and conservation easements that encourage results such as:

A. High quality and innovative design and construction;
B. Land use compatibility;
C. Protection of natural resources;
D. Preservation of open space; and
E. Regulatory flexibility necessary for projects to adapt to site conditions.

FINDING: The proposed text amendments to create the Durham Facility Plan District will establish a wider range of land use tools to ensure high quality and innovative development through design standards and regulatory flexibility; will ensure land use compatibility through defined buffering standards and clear and objective off-site impact standards; will aid in the preservation of open space within the plan district; and will provide regulatory flexibility necessary for Clean Water Services to respond and adapt to an ever-changing regulatory and technological environment. The supporting text amendments will ensure that existing and future plan district chapters will be consistently adopted and implemented in order to achieve similar results. This policy is satisfied.

Policy 2.1.20: The City shall periodically review and, if necessary, update its Comprehensive Plan and regulatory maps and implementing measures to ensure they are current and responsive to community needs, provide reliable information, and conform to applicable state law, administrative rules, and regional requirements.

FINDING: The proposed amendments are in response to community needs for reliable information, and to ensure wastewater treatment continues in compliance with applicable state and federal requirements.

At present, three of the four existing plan districts are not clearly identified with maps showing the areas in which they apply. Moreover, the development code does not establish clear criteria for approval for new plan districts, or modification of the existing ones. The proposed amendments will address these issues by adding maps both within the individual TDC Chapters containing the regulations (18.610-640), and on the official zoning map, to ensure the public is able to clearly identify the presence and boundaries of each district. The addition of proposed Chapter 18.605 would also establish clear criteria for the adoption of new plan districts, and would help to ensure uniformity and clear consistency with the City's various goals and policies.

As the host city, Tigard has an interest in supporting CWS's responsibility to meet strict air and water quality requirements as it treats the region's wastewater at the Durham Facility. The proposed Durham Facility Plan District is intended to provide CWS with sufficient flexibility to both plan and quickly respond to applicable state and federal requirements, while ensuring compatibility with adjoining land uses. Without action by the City to address the facility's nonconforming status, compliance with applicable state and federal requirements, as well as necessary capacity upgrades to accommodate regional growth will be difficult if not impossible.

As described above the amendments respond to community needs. This policy is satisfied.

Policy 2.1.24: The City shall establish design standards to promote quality urban development and to enhance the community's value, livability, and attractiveness.

FINDING: The proposed amendment to create the Durham Facility Plan District will promote quality development in a high profile location through the design standards proposed for the Administrative sub-district. The proposed plan district will also protect the community's value, livability, and attractiveness by masking the operational functions of the facility behind vegetative buffers and screening, and imposing clear and objective standards for noise, odor and glare. At the citywide level, having clear criteria setting forth the purpose and adopting process for plan districts generally will result in more district specific regulations that will enhance the community's value, livability, and attractiveness. This policy is satisfied.

Goal 6.2: Ensure land use activities protect and enhance the community's water quality.

Policy 6.2.2: The City shall continue cooperation with federal, state, and regional agencies in the management of Tigard's water resources and the implementation of plans and programs.

FINDING: The proposed text amendment to create the Durham Facility Plan District was developed through a partnership with Clean Water Services, with the work conducted under the terms and conditions of an intergovernmental agreement signed by both parties. The purpose statement of the proposed plan district acknowledges the continued operation, modification, and expansion of the facility. Moreover, the plan district is structured to provide significant flexibility to CWS as it complies with regional service demands and federal and state agencies in its continued management of water resources. This policy is satisfied.

Comprehensive Plan Goal 9: Economic Development

Goal 9.1: Develop and maintain a strong, diversified, and sustainable local economy.

Policy 9.1.3: The city's land use and other regulatory practices shall be flexible and adaptive to promote economic development opportunities, provided that required infrastructure is made available.

Policy 9.1.6: The City shall promote actions that result in greater, more efficient, utilization of its Metro-designated Employment and Industrial Areas.

FINDING: The proposed Durham Facility Plan District is intended to allow the development of a limited amount of industrial activity within the plan district, provided it is clearly accessory to the treatment process and is based upon the extraction or processing of raw resources recovered, diverted, or otherwise produced by the treatment of wastewater. The intent is to allow the operator of the facility to partner with non-profit or for-profit entities who wish to develop new technologies, establish or expand new businesses or organizations, and provide for more employment opportunities in a sustainable industry.

The proposed Plan District Chapter that will govern the establishment of new plan districts will provide guidance and greater regulatory flexibility and adaptability when trying to adopt new plan districts to address particular economic development issues. With Metro designated employment and industrial areas present in both existing and the proposed new plan district, the proposed amendments are expected to provide for more efficient utilization of these areas.

The applicable economic development policies are satisfied.

Comprehensive Plan Goal 10: Housing

Goal 10.2 Maintain a high level of residential livability.

Policy 10.2.1: The City shall adopt measures to protect and enhance the quality and integrity of its residential neighborhoods.

Policy 10.2.8: The city shall require measures to mitigate the adverse impacts from differing, or more intense, land uses on residential living environments, such as:

A. Orderly transitions from one residential density to another;
B. Protection of existing vegetation, natural resources and provision of open space areas; and
C. Installation of landscaping and effective buffering and screening.

FINDING: The proposed Durham Facility Plan District (18.650) requires substantial buffering and screening around the perimeter of the wastewater treatment facility, and includes clear and objective standards to prevent off-site impacts to adjacent land uses. These impact standards are specific to common land use impacts resulting from wastewater treatment or industrial land uses, and include standards pertaining to noise, odor, glare, and aesthetic impacts. These regulations are intended to protect and enhance the quality and integrity of adjacent residential and civic land uses. The proposed Plan District chapter (18.605) will strengthen the City's ability to adopt and implement additional plan districts to protect and enhance the City's residential neighborhoods. Applicable housing policies pertaining to the maintenance of residential livability are satisfied.

Comprehensive Plan Goal 11: Public Facilities and Services

Goal 11.3 Develop and maintain a wastewater collection system that meets the existing and future needs of the community.

Policy 11.3.2: The city shall continue to collaborate with Clean Water Services in the planning, operation, and maintenance of a comprehensive wastewater management system for current and projected Tigard residents.

FINDING: The proposed text amendment to create the Durham Facility Plan District was developed through a partnership with Clean Water Services, with the work conducted under the terms and conditions of an intergovernmental agreement signed by both parties. The purpose statement of the proposed plan district acknowledges the continued operation, modification, and expansion of an existing facility operated and maintained by Clean Water Services. Moreover, the plan district is structured to provide significant flexibility to CWS as it complies with regional service demands and federal and state agencies in its continued management of water resources. This policy is satisfied.

Goal 11.4 Maintain adequate public facilities and services to meet the health, safety, education, and leisure needs of all Tigard residents.

Policy 11.4.5: The City shall work in conjunction with partner agencies and districts in the planning and locating of their new facilities.

FINDING: The proposed text amendment to create the Durham Facility Plan District was developed through a partnership with Clean Water Services, with the work conducted under the terms and conditions of an intergovernmental agreement signed by both parties. The purpose statement of the proposed plan district acknowledges the continued operation, modification, and expansion of an existing facility operated and maintained by Clean Water Services. Moreover, the plan district is structured to provide significant flexibility to CWS as it complies with regional service demands and federal and state agencies in its continued management of water resources. This policy is satisfied.

APPLICABLE PROVISIONS OF THE TIGARD DEVELOPMENT CODE

Tigard Development Code Section 18.380.020, Legislative Amendments to this Title and Map, states that legislative zoning map and text amendments shall be undertaken by means of a Type IV procedure, as governed by Section 18.390.060G.

FINDING: The proposed text and map amendments are legislative in nature. Therefore, the amendment will be reviewed under the Type IV legislative procedure as set forth in the chapter. This procedure requires public hearings by both the Planning Commission and City Council. This standard is met.

Section 18.390.060.G establishes standard decision-making procedures for reviewing Type IV applications. The recommendation by the Commission and the decision by the Council shall be based on consideration of the following factors: 1) The Statewide Planning Goals and Guidelines adopted under Oregon Revised Statutes Chapter 197; 2) Any federal or state statutes or regulations found applicable; 3) Any applicable METRO regulations; 4) Any applicable comprehensive plan policies; and 5) Any applicable provisions of the City's implementing ordinances.

FINDING: Findings and conclusions are provided in this section for the applicable listed factors on which the recommendation by the Commission and the decision by the Council shall be based. This standard is met.

CONCLUSION: Based on the findings above, staff concludes that the proposed code text amendment is consistent with applicable provisions of the Tigard Development Code.

DRAFT PLAN DISTRICT ADOPTION CRITERIA

The analysis below is intended to demonstrate consistency of the proposed Durham Facility Plan District in Chapter 18.650, with the proposed adoption criteria contained in 18.605 (Plan Districts).

A. The area proposed for the plan district has special characteristics or problems of a natural, economic, historic, public facility, or transitional land use or development nature which are not common to other areas of the City;

FINDING: As discussed in the Project report included as Attachment 1 to this staff report, the area proposed for Chapter 18.650 has special problems related to land use history, land use compatibility, and public facility needs to protect the public health and welfare. This criterion is met.

B. Existing base zone provisions are inadequate to achieve a desired public benefit or to address an identified problem in the area;

FINDING: As discussed in the Project Report included as Attachment 1 to this staff report, existing base zones are inadequate to achieve the desired public benefit or identify issues of land use compatibility and regional public service provision. This criterion is met.

C. The proposed plan district and regulations are the result of a study or plan documenting the special characteristics or problems of the area and how a plan district will best address relevant issues; and

FINDING: The special characteristics and problems of the plan district, and how the proposed regulations address those problems, are documented in the Project Report included as Attachment 1 of the staff report. This Criterion is met.

D. The regulations of the plan district are in conformance with the Comprehensive Plan.

FINDING: As demonstrated in the analysis above, the proposed regulations of the plan district are in conformance with the Comprehensive Plan. This criterion is met.

CONCLUSION: The proposed Chapter 18.650 (Durham Facility Plan District) is consistent with proposed adoption criteria in 18.605 (Plan Districts)

SUMMARY CONCLUSION: As shown in the findings above, staff concludes that the proposed code text and map amendments are consistent with the applicable Statewide Planning Goals, the Metro Urban Growth Management Functional Plan, applicable Comprehensive Plan goals and policies, and the applicable provisions of the City's implementing ordinances. The proposed new plan district in Chapter 18.650 is consistent with the proposed new plan district adoption criteria contained in 18.605. No federal or state statutes or regulations were found to be applicable.

SECTION V. STAFF ANALYSIS

Staff analysis on each of the proposed amendments can be found within **Attachment 1** of this staff report. This includes background information, an issues summary, and the proposed text and map amendments with staff commentary. Proposed code amendments are organized by Development Code chapter number. Even-numbered pages contain commentary on the amendments, which are contained on the opposite (following) odd-numbered page. The commentary establishes, in part, the legislative intent in adopting these amendments.

SECTION VI. OTHER ALTERNATIVES

No Action – The code would remain unchanged. Modifications and expansions to the Durham Facility would be limited, potentially leading to a noncompliance with federal/state environmental regulations and limitations on new development within the City of Tigard and CWS service area. Ambiguities would also remain as to

how the City is to adopt or modify an existing community plan area, and where the existing districts apply.

Alternative Action – In lieu of new plan district regulations, the City could modify the Comprehensive Plan Map and Zoning Map to assign a designation of Heavy Industrial. This would return the Durham Facility to a conforming use, but would not protect existing and adjacent land uses from potentially significant off-site impacts such as noise, odor, and light impacts.

SECTION VII. AGENCY COMMENTS

The **City of Beaverton** was notified of the proposal and had no objections.

City of Tigard Public Works, City of Durham, City of Lake Oswego, City of Tualatin, Washington County, METRO, ODOT, DLCD, DEQ, ODFW, Portland Western and Southern Pacific Railroads, Tigard Tualatin School District, and Tri-Met were notified of the proposed code text amendment but provided no comment.

ATTACHMENTS:

Attachment 1: **Durham Advanced Wastewater Treatment Facility Plan District: Project Report and Draft Amendments. (January 7, 2013)**

PREPARED BY: John Floyd
Associate Planner — January 7, 2013 DATE

APPROVED BY: Tom McGuire
Interim Assistant Community Development Director — January 7, 2013 DATE

Attachment "1"

CITY OF TIGARD

DURHAM ADVANCED WASTEWATER TREATMENT FACILITY PLAN DISTRICT

PROJECT REPORT & PROPOSED TEXT/MAP AMENDMENTS

PLANNING COMMISSION RECOMMENDATION FEBRUARY 4, 2013

Staff Contact:
John Floyd, Associate Planner
503-718-2429
johnfl@tigard-or.gov

TABLE OF CONTENTS

SECTION I: PROJECT BACKGROUND

Introduction

This project proposes new land use regulations for an existing regional wastewater treatment plant within the City of Tigard. These regulations will principally reside within a new, single-use plan district. The purpose of this district is to acknowledge the future operation, modification, and growth of the wastewater facility, while avoiding or mitigating off-site impacts that may negatively affect adjoining properties and public facilities. Associated with this project is a new development code chapter intended to govern plan districts generally, as the code presently lacks a clear mechanism for their adoption and administration.

Project Background

Founded in 1970, Clean Water Services (CWS) is a special district charged with managing water quality within the Tualatin River watershed, including the operation of separate stormwater and sanitary sewer systems that service urbanized Washington County. Operating under a watershed based National Pollutant Discharge Elimination System (NPDES) permit, sanitary sewer treatment occurs at four treatment facilities located in Hillsboro, Forest Grove, and the City of Tigard. The second largest of these, Durham Advanced Wastewater Treatment Facility (Durham Facility), began operations in 1976 and replaced 14 decentralized wastewater plants scattered around the region. In 1978 the facility was annexed by the City of Tigard.

The service population of Durham Facility is approximately 210,000 people residing within the cities of Beaverton, Durham, King City, Sherwood, Tigard, Tualatin, portions of Southwest Portland and Lake Oswego, and unincorporated urban areas within Washington County. Durham Facility is designed to clean an average of 26 million gallons of wastewater per day (MGD) in dry weather, and a daily wet weather average of 79 MGD. Average flows consist of approximately 96 percent domestic and 4 percent industrial and commercial waste. Effluent water is discharged to the Tualatin river or for reuse by Tigard High School and nearby golf-courses for irrigation purpose. Biosolid waste (approximately 14 dry tons daily) is removed for use as soil amendments by agricultural users.

During a routine pre-application conference for a new "Fats, Oils, and Grease" building, the City of Tigard discovered that Durham Facility is no longer an allowed land use within either of the zoning districts it straddles. This fact renders the Durham Plant a nonconforming land use, complicating upgrades of the existing facility and prohibiting expansion beyond the current footprint. From a practical and regulatory standpoint, this is not a tenable situation due to potential risks to public health, the difficulties it creates for CWS to comply with state and federal regulations, and the city's interest in maintaining a cooperative relationship with CWS. Moving the facility would present significant costs to both Tigard and the region that are neither practicable nor quick. As a critical regional facility that cannot be easily relocated, and is charged with meeting stringent state and federal permitting standards, both the City of Tigard and CWS find it prudent and desirable to amend the Tigard Community Development Code to allow necessary expansion and upgrades.

Site and Vicinity

As shown on maps contained in Section II of this project report, Durham Facility encompasses 8 parcels and approximately 106 acres of land within the City of Tigard. Elevation on the site varies by approximately 70 feet, sloping in a southerly direction towards the Tualatin River. Approximately two-thirds of the site consists of an upland area, with the remainder located within Tualatin River floodplain. A steep embankment roughly demarcates these two areas. The upper campus contains administrative offices and extensive landscaping along the northern boundary, which visibly screen the waste processing and recovery facilities occupying the center of the campus. An artificial berm roughly demarcates the western boundary of the upper campus, and is intended to screen the facility from adjacent residential and educational land use. The lower campus is largely undeveloped including restored riparian forest, oak savannah, and wet prairie interspersed with public trails that connect to a regional trail network. Inventoried wetlands cover a significant portion of the lower campus.

As shown on the existing land uses map within Section II of this report, the campus is roughly bounded by Durham Road to the North, railroad tracks to the southeast, the Tualatin River to the South, and a variety of adjoining land uses along the northeastern and western perimeters. Adjacent land uses within the City of Tigard include two light industrial parks, Durham Elementary School, Tigard High School, Waverly Estates Subdivision, and Cook Park. Beyond Durham Road to the north are a mixture of single and multi-family land uses, and a small neighborhood commercial center. Durham City Park adjoins the campus to the east, and Tualatin Country Club lies across the Tualatin River to the south.

As shown on the Trails and Existing Right of Way map in Section II of this report, Durham Facility is roughly bisected by SW 85th Avenue, a designated arterial and bike route, which provides primary access to the facility via Durham Road and Hall Boulevard. Adjoining Durham Facility to the west is Waverly Drive, the primary access road for Waverly Estates Subdivision, which ends at a barricade at the Durham Facility boundary. Unimproved right-of-way connects Waverly Drive with SW 85th Avenue, crossing a restricted but largely unimproved portion of Durham Facility. Public sidewalks and mixed-use trails provide cross-campus connections along 85th Avenue and across the lower campus area, connecting to Cook Park, Durham City Park, and Tualatin Community Park via the Kia-a-kuts Bridge.

Land Use Regulation – History and Context

Following annexation in 1976, the City of Tigard authorized two major expansions in 1990 and 1999 respectively. Both were processed as Conditional Use Permits, with the latter subject to multiple "minor modifications" in subsequent years.

A review of City records revealed the following land use permits applicable to the facility:

- CU88-07 – Authorized construction of the Headworks Building on west side of 85th Avenue.
- CUP90-00002 - Authorized a major modification of the existing conditional use (expansion of Durham Facility).
- CUP90-00003 – Sensitive Lands Review authorizing fill in a designated floodplain.
- VAR90-00015 – Variance to exceed maximum allowable height in the I-P Zone.
- CUP1999-00003 – Major Modification authorizing a three-phased expansion through 2010.

- CUP2000-00001 – Cook Park Expansion, including the construction of an emergency access drive / bike-pedestrian pathway between 85th Avenue and Cook Park. This trail was constructed in part on CWS property.
- SDR2002- Site Development Review for a new 100' monopole and associated equipment buildings.
- ZCA2003-00007 – Zone Change Annexation to annex three CWS owned parcels and one City of Tigard owned parcel.
- MMD2007-00009 – Minor Modification authorizing a fourth carrier on previously approved monopole.
- MMD2009-00009 allowed changes to two driveway entrances.
- MMD2009-00023 allowed the construction of a 480 square foot pole barn.
- MMD2010-00001 allowed the replacement of an interior heating unit with an exterior heating unit on a 75 sq. ft. pad.
- MMD2010-00007 allowed expansion of the existing headworks building by approximately 2,000 square feet.

As a result of incremental expansion, Durham facility is now within multiple Comprehensive Plan designations and Zoning Districts. The majority of the facility is within Public Institution and Open Space designations, with the more recent expansion within Low Density Residential or Light Industrial designations. Zoning on the property is similarly split, with a majority of the property zoned Industrial Park, and the remainder R-4.5 Low Density Residential. Surrounding land uses are zoned Industrial Park to the east and residential to the north and west. Properties to the south and southeast are located within the Cities of Durham and Tualatin. None of the existing districts allow waste-related land uses, restricting if not prohibiting the future expansion and upgrades of the facility.

Inventoried sensitive land areas are present on a significant portion of the campus, and predominantly in the southern portion of the site near the Tualatin River. The lower campus (approximately 36 acres) is located almost entirely within FEMA 100 year floodplain. Within the floodplain are wetland areas that appear on the City of Tigard Local Wetlands Inventory (Unit 9; Wetlands F-19, F-21, and F-26). Significant habitat areas are also present on the southerly portion of the campus. Steep slopes (greater than 25%) have also been identified, and are scattered around the campus as a result of natural processes and human activity.

1998 Development Code Revisions

The Tigard Community Development Code (TDC) categorizes the existing wastewater treatment facility as a "waste-related" land use (TDC 18.130.070.H). A review of Tigard Development Code Tables 18.510.1 and 18.530.1 reveals that waste-related land uses are no longer an allowed use in either of the zoning districts that govern the facility. This complicates, if not prohibits, future modifications and expansions of Durham Facility.

This nonconformity appears to be the result of text changes to the Tigard Development Code during its last major update and reorganization in 1998. A review of Ordinance No. 98-19 revealed that the land use category for "utilities" was broken up into two separate categories: "basic utilities" and "waste-related". Of the two categories, the treatment plant clearly falls into the latter as there is little ambiguity in the descriptive language or examples provided. This change in the Development

Code was not reflected in the 1999 conditional use permit which incorrectly classifies the wastewater treatment plant as a "basic utility". The record is unclear as to how this error was made.

Intergovernmental Agreement to Establish a Plan District

As a matter of policy, the City of Tigard wishes to support the continued operation and upgrade of Durham Facility. This position is reflected in the recently updated Comprehensive Plan (see Goal 11.3 and Policies 11.3.2 & 3) which calls for continued collaboration with CWS in the planning, operation, and maintenance of a wastewater management system. In order to further this policy position, the Community Development Code (Title 18) must be amended.

Two options for amending the development code were evaluated by City of Tigard and CWS staff, including: (1) a zone change and comprehensive plan amendment to assign a Heavy Industrial land use designation, and (2) the creation of a new plan district with site specific regulations to provide flexibility and better protections for adjoining properties. Of the two, both the City of Tigard and CWS prefer the plan district option. While the Heavy Industrial District allows the operation of a wastewater treatment plant, it is a district intended for the operation of intensive land uses that would generally be disruptive to adjacent and established residential, commercial, and civic land uses. As a result, the City's Heavy Industrial District regulations do not contain standards that can adequately protect sensitive adjacent land uses. In contrast the plan district option is able to provide more flexibility to CWS in performing its mission, while providing superior mitigation of off-site impacts to adjoining residences, schools, and public facilities. This solution was formalized in an Intergovernmental Agreement that was approved by the City Council June 12, 2012.

The signed intergovernmental agreement does not bind the City or CWS to a particular outcome. Rather, it forms a broad framework for mutual cooperation in the development of new land use regulations. Of particular note is Special Term B.3 of the IGA that sets forth the purposes of the Durham Facility Plan District:

> *Purposes of Durham Facility Plan District. The Durham Facility Plan District is intended to provide standards while preserving CWS's flexibility in the operation, modification, up-grade and expansion of the Durham Facility. The City and CWS desire to establish through the Durham Facility Plan District a single framework and process allowing for the following:*
>
> *a. the expansion of the Durham Facility to accommodate future urban growth or enhanced wastewater treatment capability;*
>
> *b. the adaptation of the Durham Facility to satisfy changes in environmental or regulatory standards and to incorporate technological advances or new methodologies in: wastewater treatment; waste-handling and processing; and wastewater, energy, and nutrient recovery;*
>
> *c. avoidance, management, and/or mitigation of negative off-site impacts on land uses adjacent to the Durham Facility, recognizing that certain impacts are inherent in the operation of a regional wastewater treatment facility and that such impacts should be balanced with the overall community benefit such facilities provide;*

d. *addressing transportation system impacts from future changes at the Durham Facility;*

e. *the creation of specific land use and permitting processes for the Durham Facility that will allow permit issuance on a timely basis; and*

f. *the regulation of land uses, site and building design and environmental impacts from new development within the Durham Facility Plan District, taking into account the specialized operational requirements and the regional service nature of the Durham Facility.*

This purpose statement guides the form and content of the proposed amendments, and forms the basis for a mutually agreed upon proposal for the Planning Commission and City Council to consider.

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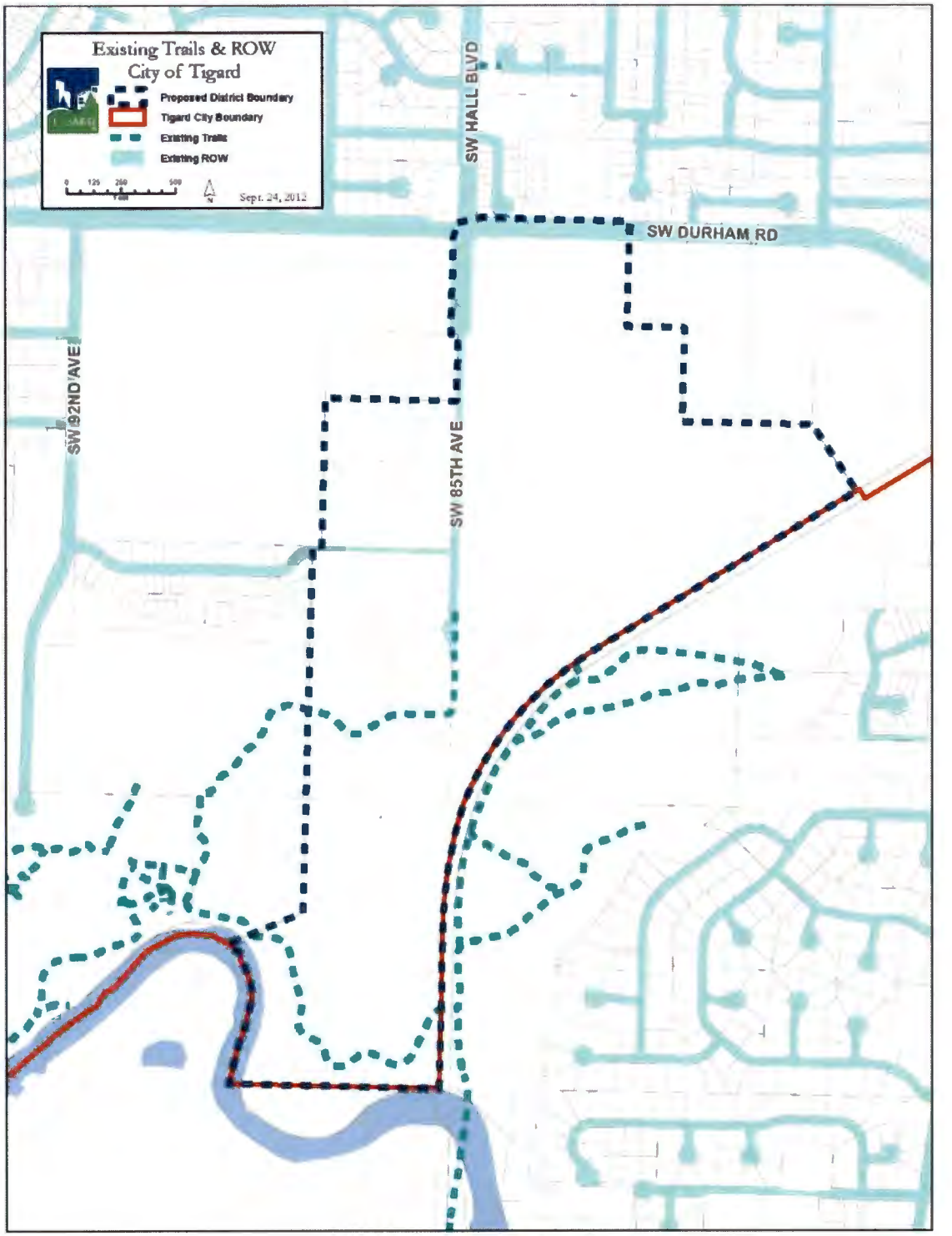
SECTION II: MAPS

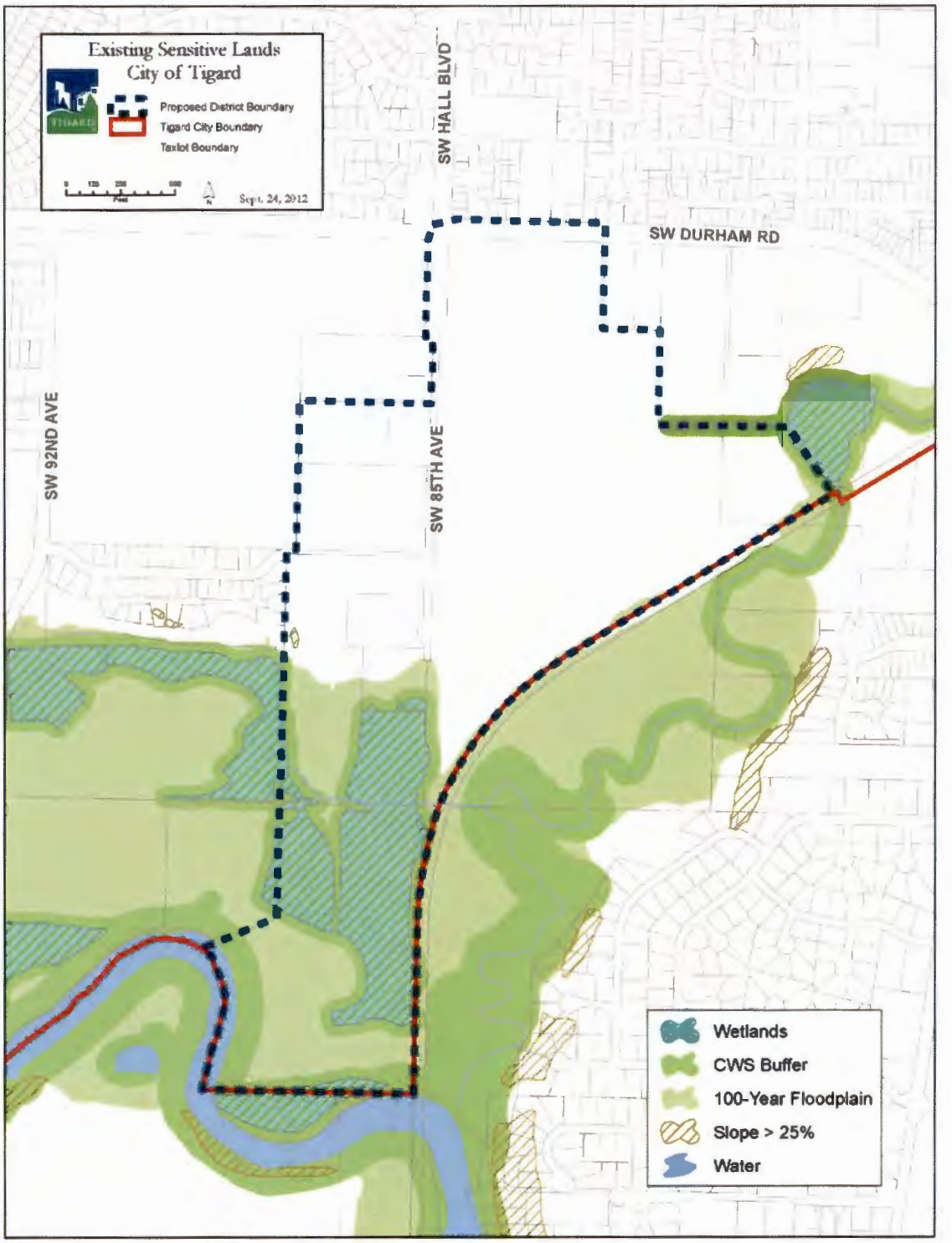
Map 1: Existing Land Uses

Map 2: Existing Zoning

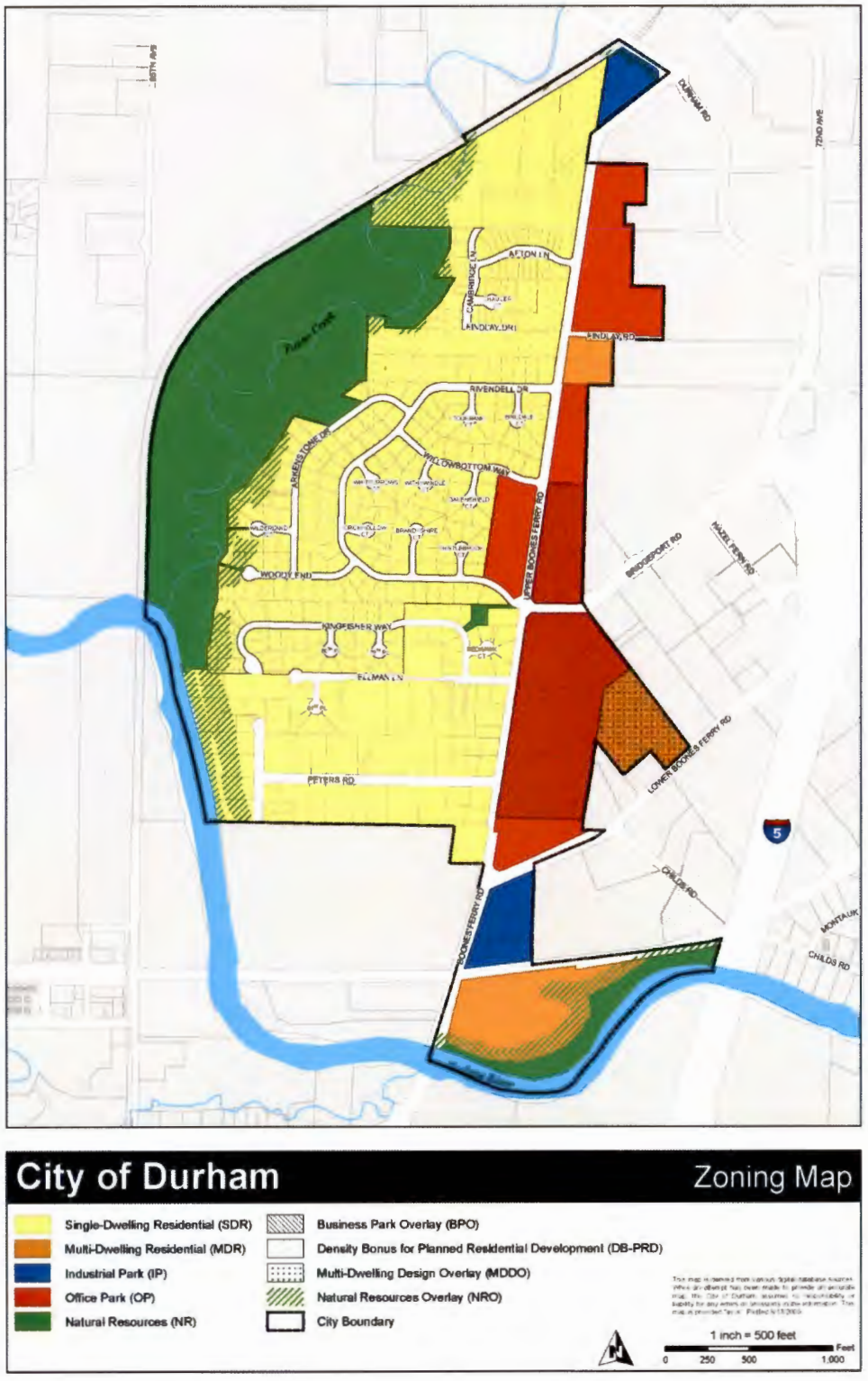
Map 3: Existing Trails & Right of Way



Map 4: Sensitive Lands Within Project Vicinity



Map 5: City of Durham Zoning Map



SECTION III: PROJECT ISSUES

The purpose of this section is to identify key issues to be addressed in the project, followed by recommended code amendments to address the issues.

Project Issue 1: Plan Districts Generally

Issue:
The Community Development Code inadequately regulates the establishment and administration of plan districts. The four existing chapters (Downtown, Washington Square, Tigard Triangle, and Durham Quarry) vary in content and form, and present administrative challenges in their application. These inadequacies generally fall into one of three categories.

- The Development Code does not address the creation or role of plan districts. This includes their general purpose, approval process and criteria, relationship to other regulations, and minimum form and content.
- Existing plan districts are not uniform in structure, are not always clear in their relationship to other regulations, and lack identifying maps of where the districts apply.
- The official Tigard Zoning Map does not identify the boundaries of existing plan districts.

Recommended Actions:

- *Adopt Chapter 18.605 (Plan Districts) to govern the adoption, modification, and administration of existing and future plan districts within the City of Tigard.*
- *Amend Chapters 18.610, 620, 630, and 640 to include maps of plan district areas. These maps will be consistent with existing boundaries as adopted by the City Council.*
- *Amend City of Tigard Zoning Map to clearly identify the boundaries of the four existing plan districts.*

Project Issue 2: From Master Plan to Dynamic Growth

Issue:
A review of land use records indicates the city has historically relied upon strictly phased, ten-year master plans to govern the expansion of Durham Facility. This tool allowed lengthier spacing between conditional use permits, and set clear expectations for Clean Water Services (CWS) and the City as to the timing of public improvements and other conditions of approval. This historical tool is becoming more of a hindrance in the increasingly dynamic and time-sensitive operating environment under which CWS now operates.

Recent evolutions in flow modeling, waste treatment, and resource recovery are resulting in significant increases in efficiency and more precise targeting of improvements to predicted contaminants and flow levels. This efficiency comes with a growing emphasis on modification and enhancement of existing systems in-lieu of raw capacity expansion, and is resulting in a decreased use of the strictly phased master plans that have been the historical basis of land use permitting. This shift makes conditional use permits, the City's historical vehicle for the approval of CWS master plans, less useful for both CWS and the City as physical improvements are increasingly

targeted towards near term demand, with a greater emphasis on modification of existing systems over expansion.

In addition to technological advances, Durham facility is subject to increasing regulation from the Oregon Department of Environmental Quality (DEQ), United States Environmental Protection Agency (EPA), and the United States Department of Agriculture (USDA). These agencies regulate the release and reuse of effluent water, the operation of power generators and flaring, odor control, the disposal of biosolids, and the production of fertilizer from recovered nutrients present in the waste stream. Oversight by these agencies is ongoing through the issuance of operating permits with stringent performance standards. Applicable legal requirements include, but are not limited to, the following:

- Federal Clean Water Act
- Federal Clean Air Act
- 40 CFR Part 503 (Standards for the Use or Disposal of Sewage Sludge)
- ORS 454 (Sewage Treatment and Disposal Systems)
- ORS 468A (Air Quality)
- ORS 468B (Water Quality)

As a result of these technological and regulatory conditions, land use permitting is occurring closer to construction and with increasing frequency. Without clear and objective approval standards to aid in design and permit review, both the City and CWS will be subject to increasing administrative burdens. These increasing administrative burdens may challenge CWS's ability to comply with local, state, and federal regulations in its planning, operation, and expansions of Durham facility. The need to further develop the facility must be balanced with a public interest in ensuring that major improvements with the potential to affect off-site properties are reviewed in a manner that provides for an appropriate level of public involvement.

Recommended Actions:

- *Amend 18.650 to create a single-use plan district that acknowledges the continued operation, modification, upgrade, and expansions of the Durham Advanced Wastewater Treatment Facility into the long-term future.*
- *Adopt clear and objective approval criteria that are flexible in nature and focused on off-site impacts to adjacent land uses or public facilities.*
- *Adopt land use regulations with clearly defined thresholds of review specific to Durham Facility, that include an appropriate level of coordination with affected agencies and opportunities for public comment.*

Project Issue 3: Off-Site Impacts

Issue:

Certain off-site impacts are inherent in the operation of a wastewater treatment plant. These typically include unwanted noise, unpleasant odors, offsite lights and glare, traffic generation, and aesthetic impacts. Local and regional urban growth has surrounded Durham Facility with land uses and populations sensitive to such impacts, including single and multi-family homes, schools, and parks. Moreover, two arterials intersect at the northern boundary of the facility, exposing both stationary and pass-through traffic to these impacts. Durham Road averages 21,000 vehicle trips per day along the northern boundary of Durham Facility, and Hall Boulevard approximately 13,700 vehicle trips per day at its intersection with Durham Road. This close proximity creates the

potential for conflict between normal operation of the Durham Facility and adjoining residents and users, should a facility modification or expansion result in a significant increase in trip generation.

The Tigard Development Code attempts to avoid or mitigate impacts originating from waste-related facilities through site development review (18.360); base zone standards for use, building design, and site planning (18.530); environmental performance standards (18.725); landscaping and buffering standards (18.745); and street standards that address traffic impacts (18.810). At present, the only zoning district to allow a wastewater treatment plant is Heavy Industrial, which allows intensive land uses that would generally be disruptive to adjacent and established residential, commercial, and civic land uses. As such, development standards to protect sensitive land uses do not exist within this district and cannot be utilized within the present context. Moreover, existing environmental performance standards do not provide adequate clear and objective criteria for noise and odor reduction, inhibiting both CWS and the city when designing and reviewing new expansions.

To the degree possible, Clean Water Services strives to avoid, reduce, and mitigate offsite impacts through the use of odor sampling and reduction, noise dampening, glare reduction, and the use of landscape and architectural enhancements on areas visible from Durham Road, Waverly Road, and Cook Park. In recent projects CWS has masked process structures through the use of pitched roofs, masonry exteriors, and a combination of berming and enhanced landscaping intended to screen and soften views from public parks, right of ways, and other adjacent uses. The facility also hosts an annual open house, inviting nearby residents and the general public to tour the facility and engage with CWS staff regarding any concerns they may have.

Recommended Actions:

- *Adopt land use and impact regulations specific to the unique functions of Durham Facility and associated off-site impacts.*
- *Adopt land use regulations that govern use and site/building development by sub-district.*
- *Adopt clear and objective approval criteria to avoid, reduce, and/or mitigate unwanted noise, odors, light and glare, and/or transportation system impacts.*

Project Issue 4: Resource Recovery & Public/Private Partnerships

Issue:

Operational goals at Durham Facility are shifting away from just wastewater treatment, and towards a mixture of wastewater treatment and resource recovery. The aim of resource recovery is to move the operations in a more sustainable direction, both financially and ecologically. Examples of this include the capture of methane to be used in onsite power generation, the use of effluent water for irrigation, the diversion of biosolids to agricultural end users in-lieu of landfills, and the removal of waste stream phosphorus for use as fertilizer. This last example was developed through a public/private partnership between CWS and Ostara, with Durham Facility serving as a testing ground and now production facility for Crystal Green® fertilizer. In a similar manner, waste products from the anaerobic treatment process are being increasingly diverted to energy production and heat re-use. This presently occurs in the capture and use of methane in on-site power-generators. Similarly, heat and other by-products may be captured and reused on-site or at the district level. With an increasing emphasis on resource recovery and waste stream diversion, including some limited onsite processing and manufacturing by for-profit companies or nonprofits,

new land use issues may present themselves. This activity is expected to continue and expand into the future, and present significant economic development opportunities for Tigard and the region.

Recommended Actions:

- *Adopt use regulations and development standards that anticipate the presence of public, non-profit, or for-profit entities and activities engaged in waste stream resource recovery and processing.*
- *Adopt use regulations and development standards to govern the use of treatment byproducts for power generation and heating.*
- *Adopt development standards that address transportation system impacts and other off-site impacts from activities associated with nutrient recovery and energy production.*

Project Issue 5: Site Circulation

Issue:

Durham Facility is a 106 acre campus, occupying a substantial amount of land within Southern Tigard. The combination of the operational needs of the plant, combined with the large campuses of the adjoining schools, has resulted in large superblocks that hinder road and bike/pedestrian connectivity in this area.

Waverly Estates subdivision is the area most affected by this situation. As part of the original subdivision approval (SUB93-0007), the hearings officer required the provision of emergency access between the terminus of Waverly Drive and 85th Avenue. The access was provided through the dedication of right of way, 20 feet wide, for the purpose of bike/pedestrian access and emergency vehicle access.

This right of way was recorded but not improved, and Waverly Drive presently terminates at a road block and not a turnaround. When CWS acquired land on the west side of 85th and expanded under CUP1999-00003, a condition required CWS to maintain emergency vehicle access to Waverly Drive. At present CWS provides emergency vehicle access, but not along the recorded right-of-way, and security fencing now prohibits the pedestrian/bicycle connection between these two streets.

In 2002 CWS constructed a mixed-use trail and emergency access route between the southern terminus of SW 85th and Cook Park. This improvement was approved and constructed as part of the Cook Park expansion project approved under CUP2000-00001. While direct access is not provided to Waverly estates, the trail does provide east-west connectivity for bikes and pedestrians that did not previously exist. This trail was also constructed as a secondary emergency vehicle access to Cook Park, and by extension Waverly estates and other residential subdivisions should 92nd Avenue become blocked for some reason.

Recommended Actions:

- *Adopt connectivity standards that acknowledge the unique security and operational needs of Durham facility.*
- *Adopt connectivity standards specific to the provision of EMS access to Waverly Drive, including:*
    - *Vacation of existing right of way between 85th Ave and Waverly Drive.*
    - *Termination of Waverly Drive with a City approved turnaround.*
    - *Permanent provision of EMS access across Durham Facility to Waverly Estates.*

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SECTION IV: PROPOSED CODE AMENDMENTS

How to Read This Section

This section is organized by Tigard Development Code chapter number. Where changes are proposed to existing chapters of the Tigard Development Code, only the affected Section or Subsection is listed for purposes of brevity.

The proposed amendments and associated commentary are intended to be read in book format, with even number pages on the left and odd numbered pages on the right. Even-numbered pages contain commentary on the amendments, which establish, in part, the legislative basis and intent in adopting these amendments. Odd-numbered pages show the existing language with proposed staff amendments. Text that is to be added to the code is shown with double underlines. Text that is to be deleted is shown with a ~~strikethrough~~. All proposed amendments to add or delete existing language are identified in red font.

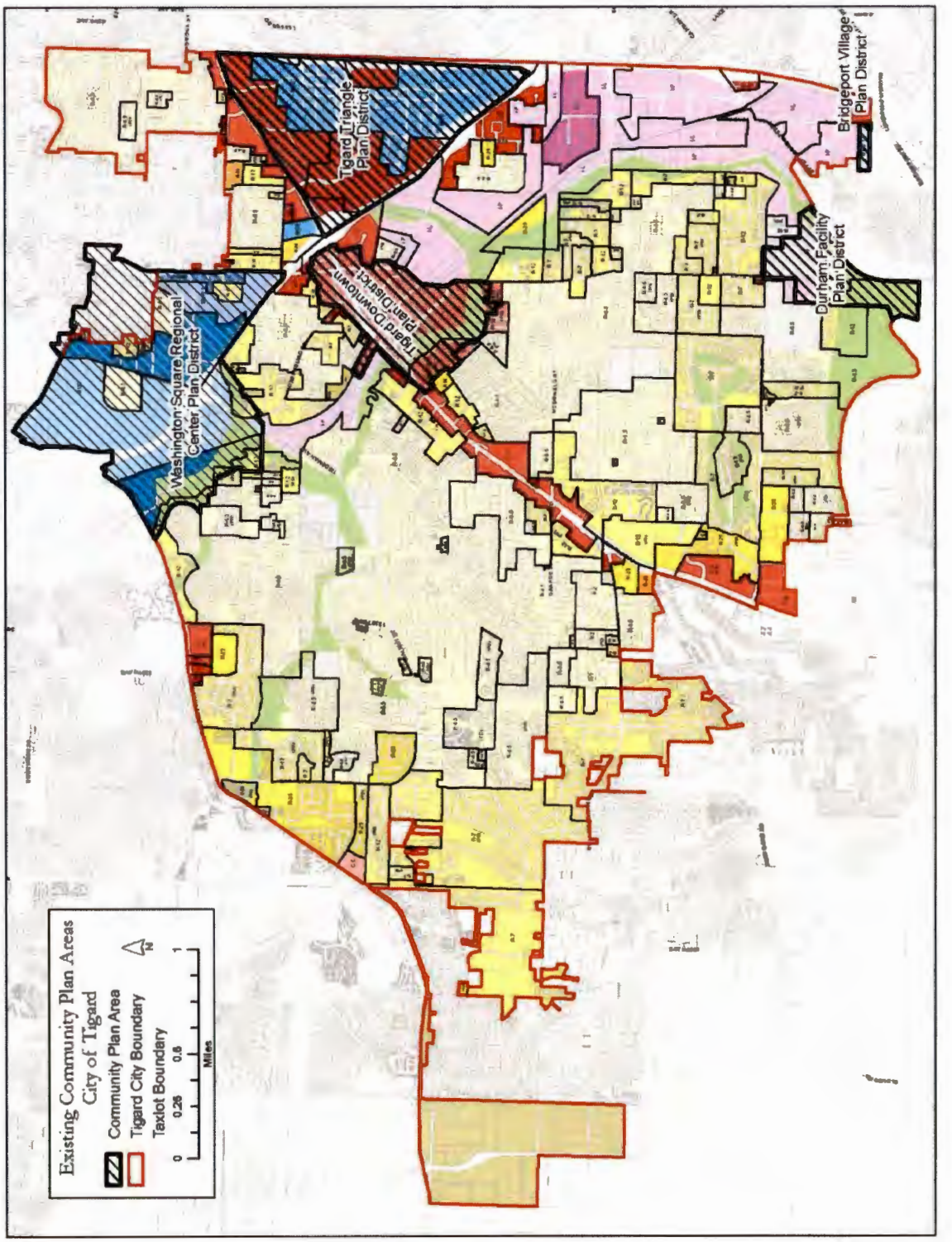
Staff Commentary

Staff is recommending the inclusion of plan district boundaries on the official zoning map, as shown on the opposite page. Inclusion of plan district boundaries is recommended in order to better communicate the presence and location of special land use regulations to users of the map. It is expected to be of particular use to parties unfamiliar with Tigard's land use regulations.

Plan District boundaries for all but the proposed Durham Facility Plan District (currently proposed in this amendment package) are based on previously adopted boundaries as reflected in the following Council Ordinances:

Ordinance No. 10-2: Downtown Plan District
Ordinance No. 96-41 & 97-2: Tigard Triangle
Ordinance No. 00-18: Washington Square Regional Center
Ordinance No. 01-07: Durham Quarry aka Bridgeport Village

Official Zoning Map



Staff Commentary

Staff recommends this statement of intent be abbreviated to remove outdated language regarding the Tigard Triangle and Washington Square design standards.

18.600: ~~COMMUNITY~~ PLAN DISTRICT ~~AREA~~ STANDARDS

LEGISLATIVE NOTES

This ~~section~~ is ~~essentially~~ a "reserve" section for the City to place special subdistrict development and/or design standards. ~~For example, the new design standards under consideration for the Tigard Triangle Plan could be incorporated here. This is also the logical location for special standards related to subdistrict plans for the Washington Square Regional Center and Tigard Town Center, which are designated on the Metro 2040 Growth Management Functional Plan map to become high-density, transit-supportive nodes within the City. The City has not yet undertaken the planning for these special districts.~~

Staff Commentary

Chapter 18.605 is proposed by staff to address Project Issue One as outlined in Section III of this report, namely that the Tigard Development Code does not address the creation or role of plan districts. This includes their general purpose, approval process and criteria, relationship to other regulations, and minimum form and content. Adoption of this chapter would resolve this issue when future plan districts are adopted.

CHAPTER 18.605
PLAN DISTRICTS

Sections:

18.605.010 Purpose

Plan districts address concerns unique to an area when other zoning mechanisms cannot achieve the desired results. An area may be unique based on natural, economic, or historic attributes; be subject to problems from rapid or severe transitions of land use; or contain public facilities that require specific land use regulations for their efficient operation. Plan districts provide a means to modify zoning regulations for specific areas defined in special plans or studies. Each plan district has its own nontransferable set of regulations. This contrasts with base zone provisions that are intended to be applicable in large areas or in more than one area.

18.605.020 Scope of Plan Districts

Plan district regulations may be applied in conjunction with a base zone. The plan district provisions may modify any portion of the regulations of the base zone or other regulations of this Title. The provisions may apply additional requirements or allow exceptions to general regulations.

18.605.030 Relationship to Other Regulations

When there is a conflict between the plan district regulations and base zone, or other regulations of this Title, the plan district regulations control. The specific regulations of the base zone, or other regulations of this Title apply unless the plan district provides other regulations for the same specific topic.

Staff Commentary

Chapter 18.605 is proposed by staff to address Project Issue One as outlined in Section III of this report, namely that the Tigard Development Code does not address the creation or role of plan districts. This includes their general purpose, approval process and criteria, relationship to other regulations, and minimum form and content. Adoption of this chapter would resolve this issue when future plan districts are adopted.

18.605.040 Adoption Criteria

A plan district may be established by a Type IV procedure as set forth in 18.390.060, if all the following adoption criteria are met:

A. The area proposed for the plan district has special characteristics or problems of a natural, economic, historic, public facility, or transitional land use or development nature which are not common to other areas of the City;

B. Existing base zone provisions are inadequate to achieve a desired public benefit or to address an identified problem in the area;

C. The proposed plan district and regulations are the result of a study or plan documenting the special characteristics or problems of the area and how a plan district will best address relevant issues; and

D. The regulations of the plan district are in conformance with the Comprehensive Plan.

18.605.050 Review

Plan districts and their regulations will be reviewed periodically to determine whether they are still needed, should be continued, or amended. Plan districts and their regulations will be reviewed as part of the process for the update of the Comprehensive Plan.

18.605.060 Plan District Maps

The boundaries of each plan district established shall be shown on maps located at the end of each plan district chapter. In addition, plan district boundaries are identified on the official zoning maps.

Staff Commentary

Proposed changes to 18.610 are limited to (1) the establishment of a uniform naming convention for all chapters within the 18.600 series, and (2) the insertion of clearly legible maps to communicate previously adopted boundaries. No changes to existing land use regulations or administrative processes are proposed.

Chapter 18.610
TIGARD DOWNTOWN PLAN DISTRICT ~~DEVELOPMENT AND DESIGN STANDARDS~~

18.610.010 Purpose and Procedures

A. Purpose. The objectives of the Tigard Downtown Plan District ~~Development and Design Standards~~ are to implement the Comprehensive Plan, Tigard Downtown Improvement Plan, and Urban Renewal Plan and ensure the quality, attractiveness, and special character of the Downtown. The regulations are intended to:

1. Facilitate the development of an urban village by promoting the development of a higher density, economically viable, and aesthetically pleasing pedestrian-oriented downtown where people can live, work, play and shop for their daily needs without relying on the automobile. The quality and scale of the downtown urban environment shall foster social interaction and community celebration.

2. Encourage the integration of natural features and the open space system into Downtown by promoting development sensitive to natural resource protection and enhancement; addressing the relationship to Fanno Creek Park; and promoting opportunities for the creation of public art and use of sustainable design.

3. Enhance the street level as an inviting place for pedestrians by guiding the design of the building "walls" that frame the right-of-way (the "public realm") to contribute to a safe, high quality pedestrian-oriented streetscape. Building features will be visually interesting and human-scaled, such as storefront windows, detailed façades, art and landscaping. The impact of parking on the pedestrian system will also be limited. The downtown streetscape shall be developed at a human scale and closely connected to the natural environment through linkages to Fanno Creek open space and design attention to trees and landscapes.

4. Promote Tigard's Downtown as a desirable place to live and do business. Promote development of high-quality high density housing and employment opportunities in the Downtown.

5. Provide a clear and concise guide for developers and builders by employing greater use of graphics to explain community goals and desired urban form to applicants, residents and administrators.

B. Conflicting standards. The following standards and land use regulations apply to all development within the ~~Downtown~~ Mixed Use Central Business District Zoning District (MU-CBD), whose boundaries are set forth in Map 18.610.B and on the official zoning map. With the exception of public facility and street requirements, if a design standard found in this section conflicts with another standard in the Development Code, the standards in this section shall govern, even if less restrictive than other areas of the code.

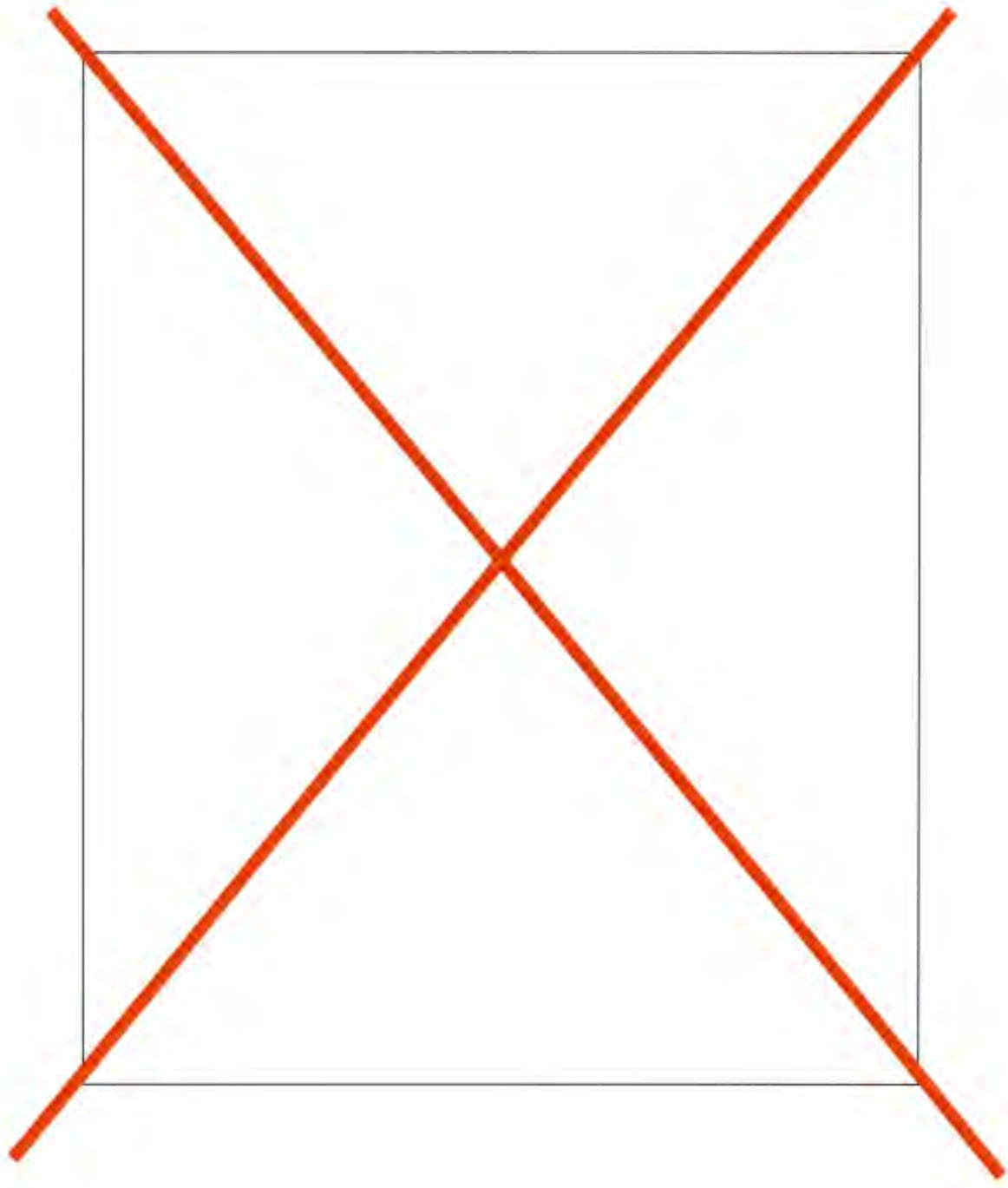
Staff Commentary

This map is proposed for removal because it is difficult to read when printed in black and white, and is labeled "Proposed MU-CBD Sub-Areas." This title is inaccurate in that these boundaries were adopted by Council under Ordinance No. 10-2, making the graphic outdated and potentially misleading. The replacement map retains the existing boundaries of the sub-areas, but removes the word "proposed" and is redrawn to better print in a black and white format.

18.610.020 Building and Site Development Standards

A. Sub-areas. The four sub-areas located on Map 610.A and described below have different setback and height limits in order to create a feeling of distinct districts within the larger zone.

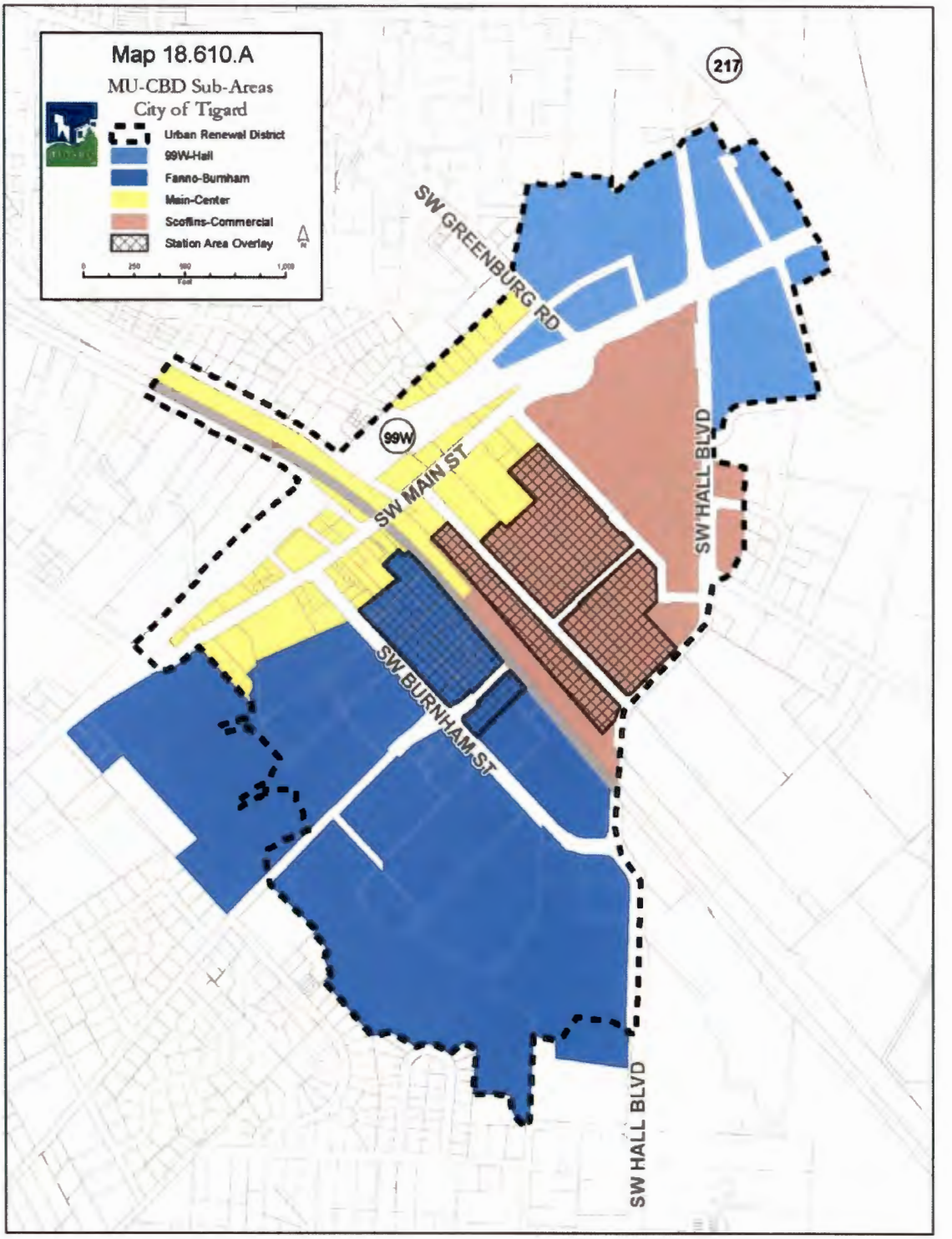
[no change is proposed to the descriptions of the four sub-areas proposed in 18.610.020.A.1-4]



Staff Commentary

This map is proposed as a replacement for existing map 18.610.A. Replacement is recommended by staff because it is difficult to read when printed in black and white, and is inaccurately labeled "Proposed MU-CBD Sub-Areas." This title is inaccurate in that sub-district boundaries were adopted by Council under Ordinance No. 10-2, making the graphic outdated and potentially misleading. The replacement map retains the existing boundaries of the sub-areas, but removes the word "proposed" and is redrawn to better print in a black and white format.

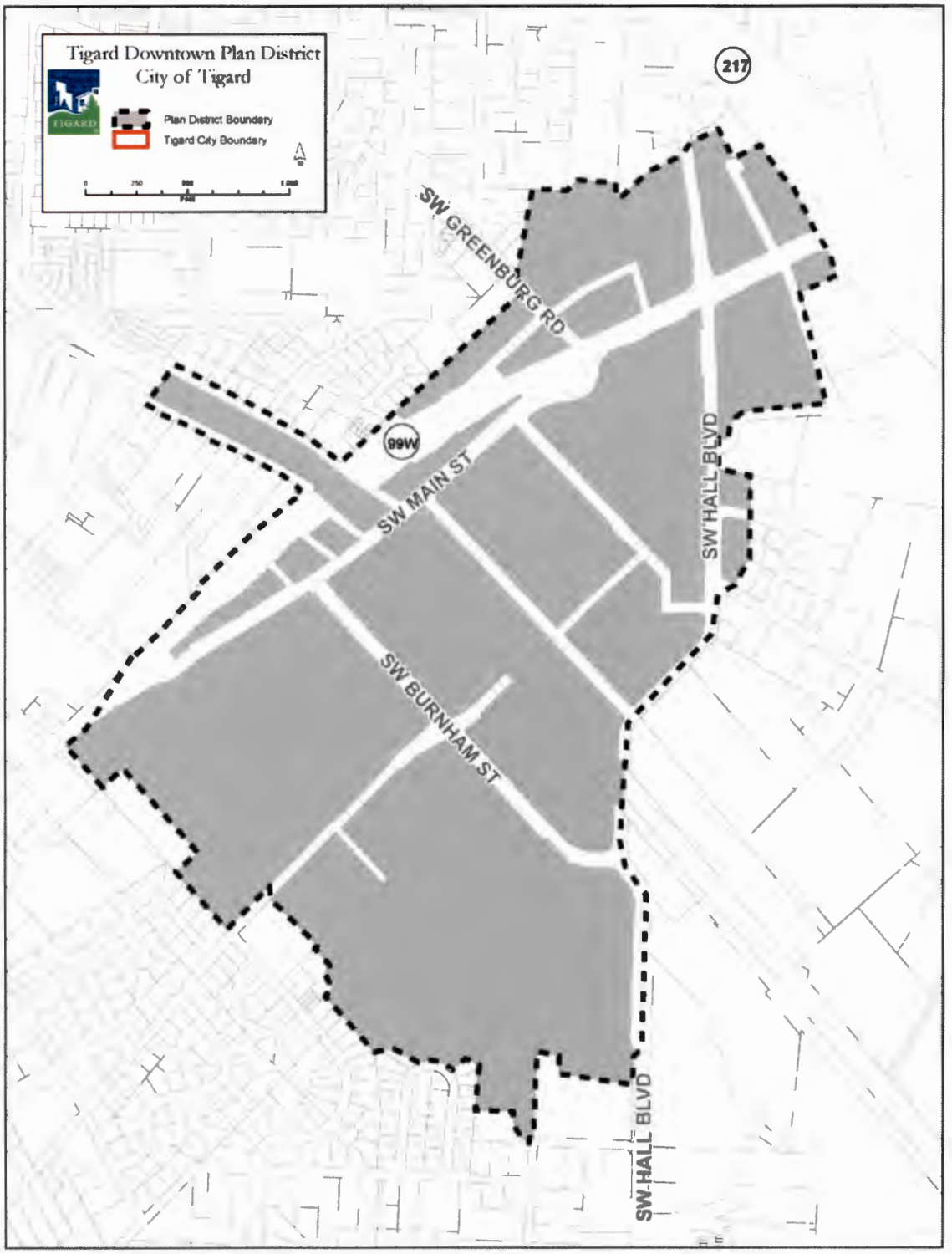
Map 18.610.A


Map 18.610.A
MU-CBD Sub-Areas
City of Tigard
Urban Renewal District
99W-Hall
Fanno-Burnham
Main-Center
Scoffins-Commercial
Station Area Overlay
SW GREENBURG RD
217
99W
SW MAIN ST
SW HALL BLVD
SW BURNHAM ST
SW HALL BLVD

Staff Commentary

Insertion of this map at the end of the chapter is intended to create a uniform structure for all plan districts, and to clearly communicate the plan district boundaries adopted under Ordinance No. 10-2 to users of the Tigard Development Code.

MAP 18.610.B: TIGARD DOWNTOWN PLAN DISTRICT BOUNDARIES



Staff Commentary

Proposed changes to 18.620 are limited to (1) the establishment of a uniform naming convention for all chapters within the 18.600 series of the Tigard Development Code, and (2) the insertion of clearly legible maps to communicate plan district boundaries adopted under Council Ordinances No. 96-41 and No. 97-2. No changes to existing land use regulations or administrative processes are proposed.

CHAPTER 18.620
TIGARD TRIANGLE ~~DESIGN STANDARDS~~ PLAN DISTRICT

Sections:

18.620.010 Purpose and Applicability

A. Design principles. Design standards for public street improvements and for new development and renovation projects have been prepared for the Tigard Triangle Plan District. These design standards address several important guiding ~~principals~~ principles adopted for the Tigard Triangle Plan District, including creating a high-quality mixed use employment area, providing a convenient pedestrian and bikeway system within the Triangle, and utilizing streetscape to create a high quality image for the area.

B. Development conformance. All new developments, including remodeling and renovation projects resulting in uses other than single family residential use, are expected to contribute to the character and quality of the area. In addition to meeting the design standards described in this chapter and other development standards required by the Community Development and Building Codes, such developments will be required to:

1. Dedicate and improve public streets, to the extent that such dedication and improvement is directly related and roughly proportional to an impact of the development;

2. Connect to public facilities such as sanitary sewer, water and storm drainage;

3. Participate in funding future transportation and other public improvement projects in the Tigard Triangle Plan District, provided that the requirement to participate is directly related and roughly proportional to an impact of the development.

C. Conflicting standards. The following design standards apply to all development located within the Tigard Triangle Plan District within both the C-G and the MUE zones. If a standard found in this section conflicts with another standard in the Development Code, standards in this section shall govern.

Staff Commentary

Proposed changes to 18.620 are limited to (1) the establishment of a uniform naming convention for all chapters within the 18.600 series of the Tigard Development Code, and (2) the insertion of clearly legible maps to communicate plan district boundaries under Council Ordinance No. 96-41 and No. 97-2. No changes to existing land use regulations or administrative processes are proposed.

18.620.015 Where These Regulations Apply

The regulations of this chapter apply to the Tigard Triangle Plan District. The boundaries of this plan district are shown on Map 18.620.A at the end of this chapter, and on the official zoning map.

[no changes proposed 18.620.020-18.620.090]

Staff Commentary

Proposed changes to 18.620 are limited to (1) the establishment of a uniform naming convention for all chapters within the 18.600 series of the Tigard Development Code, and (2) the insertion of clearly legible maps to communicate plan district boundaries under Council Ordinance No. 96-41 and No. 97-2. No changes to existing land use regulations or administrative processes are proposed.

MAP 18.620.A: Tigard Triangle Plan District Boundaries

Staff Commentary

Proposed changes to 18.630 are limited to (1) the establishment of a uniform naming convention for all chapters within the 18.600 series of the Tigard Development Code, and (2) the insertion of clearly legible maps to communicate plan district boundaries under Council Ordinance No. 00-18. No changes to existing land use regulations or administrative processes are proposed.

Chapter 18.630
WASHINGTON SQUARE REGIONAL CENTER ~~DESIGN STANDARDS~~ PLAN DISTRICT

Sections:

18.630.010 Purpose and Applicability

B. Design principles. Design standards for public street improvements and for new development and renovation projects have been prepared for the Washington Square Regional Center Plan District. These design standards address several important guiding ~~principals~~ principles adopted for the Washington Square Regional Center, including creating a high-quality mixed use area, providing a convenient pedestrian and bikeway system, and utilizing streetscape to create a high quality image for the area.

18.630.015 Where These Regulations Apply

The regulations of this chapter apply to the Washington Square Regional Center Plan District. The boundaries of this plan district are shown on Map 18.630.A located at the end of this chapter, and on the official zoning map.

Staff Commentary

Proposed changes to 18.630 are limited to (1) the establishment of a uniform naming convention for all chapters within the 18.600 series of the Tigard Development Code, and (2) the insertion of clearly legible maps to communicate plan district boundaries under Council Ordinance No. 00-18. No changes to existing land use regulations or administrative processes are proposed.

18.630.020 Development Standards

B. Development Standards. Development standards which apply within mixed-use zones in the Washington Square Regional Center Plan District are contained in Table 18.520.2. Existing developments which do not meet the standards specified for a particular district may continue in existence and be altered subject to the provisions of Section 18.630.030.

E. Adjustments to Density Requirements in the Washington Square Regional Center Plan District. The density requirements shown in Table 18.520.2 are designed to implement the goals and policies of the Comprehensive Plan. These requirements apply throughout the Washington Square Regional Center zoning districts, but the City recognizes that some sites are difficult to develop or redevelop in compliance with these requirements. The adjustment process provides a mechanism by which the minimum density requirements may be reduced by up to twenty-five percent (25%) of the original requirement if the proposed development continues to meet the intended purpose of the requirement and findings are made that all approval criteria are met. Adjustment reviews provide flexibility for unusual situations and allow for alternative ways to meet the purpose of the code.

18.630.030 Pre-Existing Uses and Developments within the Washington Square Regional Center Plan District Mixed Use Districts

[no further changes proposed for this section]

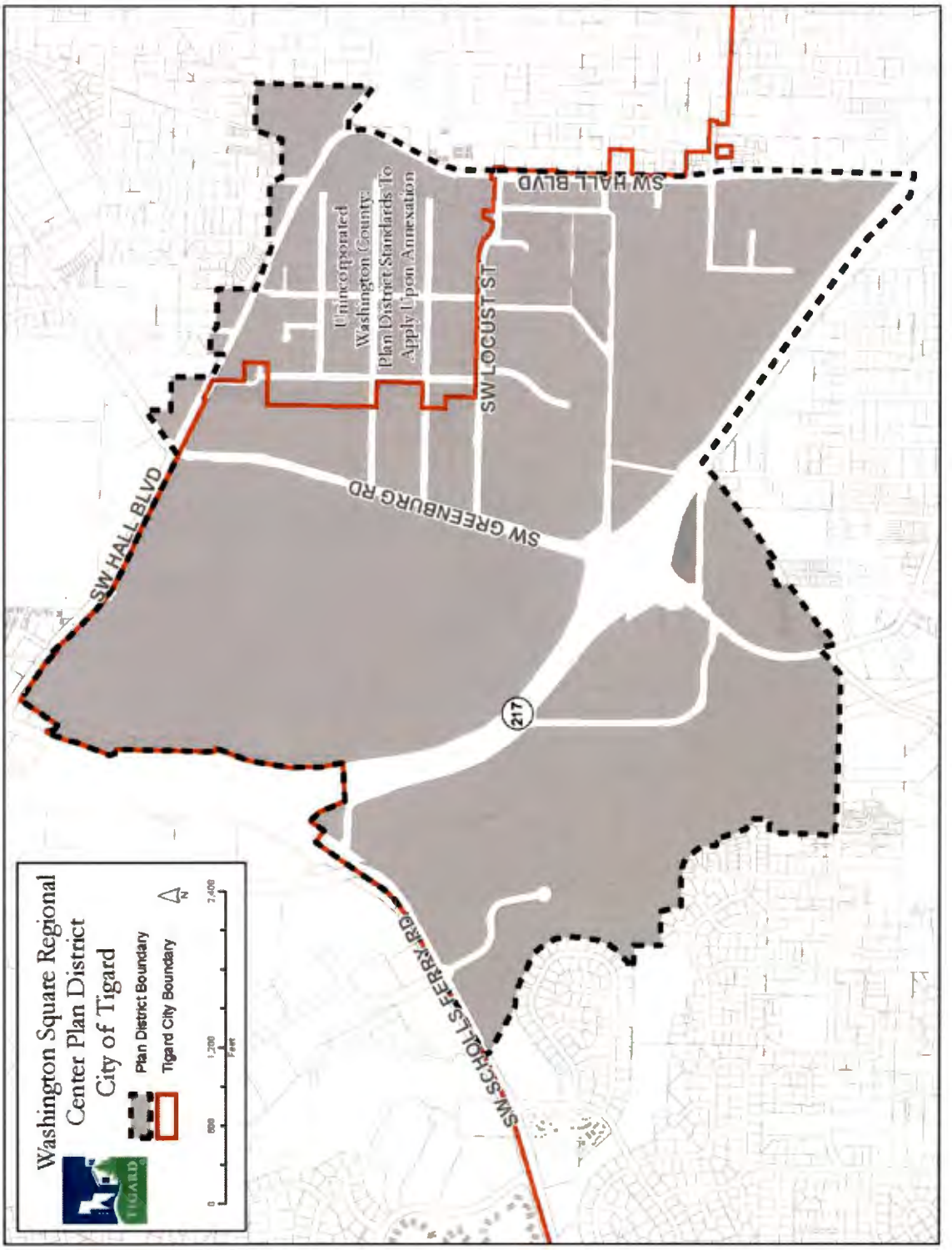
18.630.110 Design Evaluation

The provisions of Section 18.620.090, Design Evaluation, apply within the Washington Square Regional Center Plan District.

Staff Commentary

Proposed changes to 18.630 are limited to (1) the establishment of a uniform naming convention for all chapters within the 18.600 series of the Tigard Development Code, and (2) the insertion of clearly legible maps to communicate plan district boundaries under Council Ordinance No. 00-18. No changes to existing land use regulations or administrative processes are proposed.

MAP 18.630.A: Washington Square Regional Center Plan District Boundaries



Staff Commentary

Proposed changes to 18.640 are limited to (1) the establishment of a uniform naming convention for all chapters within the 18.600 series of the Tigard Development Code; (2) the changing of the name of this district from "Durham Quarry" to "Bridgeport Village" to reflect the current name for the shopping center; and (3) the insertion of clearly legible maps to communicate plan district boundaries under Council Ordinance No. 01- 07. No changes to existing land use regulations or administrative processes are proposed.

Chapter 18.640
~~DURHAM QUARRY DESIGN STANDARDS~~ BRIDGEPORT VILLAGE PLAN DISTRICT

Sections:

18.640.010 Purpose

The purpose of this district is to recognize and accommodate the changing commercial/residential marketplace by allowing commercial and residential mixed uses in the approximately seven-acre portion of the ~~Durham Quarry~~ Bridgeport Village site that is within the City of Tigard in the Mixed Use Commercial (MUC-1) Planning District. Retail, office, business services and personal services are emphasized, but residential uses are also allowed. A second purpose is to recognize that when developed under certain regulations, commercial and residential uses may be compatible in the Mixed Use Commercial District.

18.620.015 Where These Regulations Apply

The regulations of this chapter apply to the Bridgeport Village Plan District. The boundaries of this plan district are shown on Map 18.640.A located at the end of this chapter, and on the official zoning map.

Staff Commentary

Proposed changes to 18.640 are limited to (1) the establishment of a uniform naming convention for all chapters within the 18.600 series of the Tigard Development Code; (2) the changing of the name of this district from "Durham Quarry" to "Bridgeport Village" to reflect the current name for the shopping center; and (3) the insertion of clearly legible maps to communicate plan district boundaries under Council Ordinance No. 01- 07. No changes to existing land use regulations or administrative processes are proposed.

18.640.040 Applicability

A. These design standards are applied in the City of Tigard to the ~~Durham Quarry~~ Bridgeport Village Plan District Site. The boundaries of this site are described by the Intergovernmental Agreement dated March 26, 2002.

B. Conflicting standards. In addition to the standards of Chapter 18.520 (Commercial Zoning District) and other applicable standards of the Development Code, the following design standards apply to all development located within the ~~Durham Quarry~~ Bridgeport Village Plan District within the MUC-1 zone. If a standard found in this section conflicts with another section in the Development Code, standards in this section shall govern.

18.640.070 Signs

In addition to the requirements of Chapter 18.780 of the Development Code, the following standards shall be met:

A. Zoning district regulations. Residential only developments within the MUC-1 shall meet the sign requirements for the R-40 zone, Section 18.780.130.B; nonresidential development within the MUC-1 shall meet the requirements of the C-P zone, Section 18.780.130.D.

B. Sign area limits. The maximum sign area limits found in Section 18.780.130 shall not be exceeded; no area limit increase will be permitted.

C. Height limits. The maximum height limit for all signs except wall signs shall be 10 feet. Wall signs shall not extend above the roof line of the wall on which the signs are located. No height increases will be permitted.

D. Sign location. Freestanding signs within the ~~Durham Quarry~~ Bridgeport Village Plan District shall not be permitted within the required L-1 landscape areas. (Ord. 09-13)

18.640.200 Design Standards

A. Purpose and applicability.

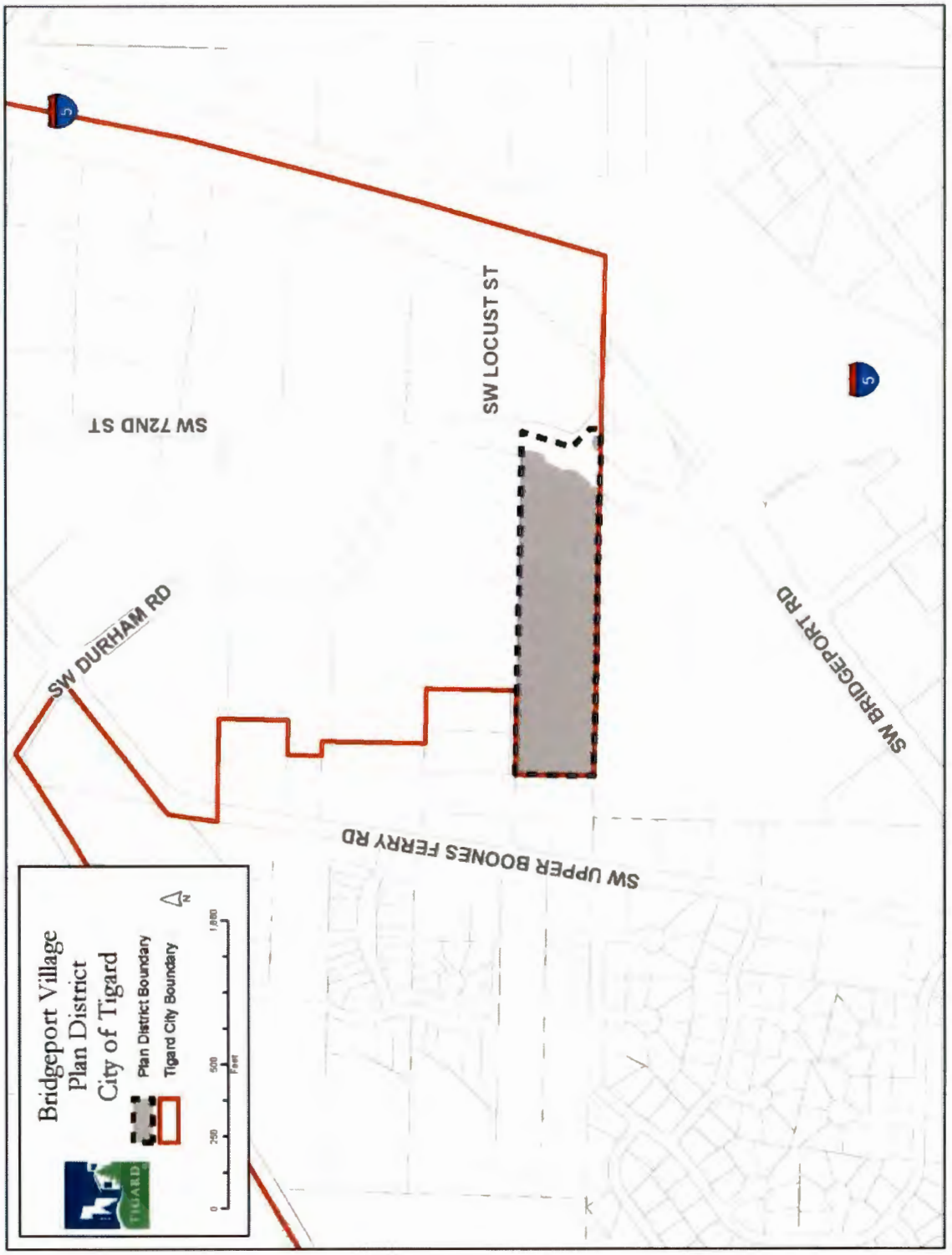
1. Design principles. Design standards for public street improvements for the ~~Durham Quarry~~ Bridgeport Village Plan District ~~site~~ address several important guiding principles, including creating a high-quality mixed use area, providing a convenient pedestrian and bikeway system and utilizing streetscape to create a high quality image for the area.

2. Development conformance. New development, including remodeling and renovation projects resulting in non-single family residential uses, are expected to contribute to the character and quality of the area. In addition to meeting the design standards described below and other development standards required by the Development and Building Codes, developments will be required to dedicate and improve public streets, connect to public facilities such as sanitary sewer, water and storm drainage, and participate in funding future transportation and public improvement projects within and surrounding the ~~Durham Quarry~~ Bridgeport Village Plan District ~~site~~.

Staff Commentary

Proposed changes to 18.640 are limited to (1) the establishment of a uniform naming convention for all chapters within the 18.600 series of the Tigard Development Code; (2) the changing of the name of this district from "Durham Quarry" to "Bridgeport Village" to reflect the current name for the shopping center; and (3) the insertion of clearly legible maps to communicate plan district boundaries under Council Ordinance No. 01-07. No changes to existing land use regulations or administrative processes are proposed.

MAP 18.640.1: Bridgeport Village Plan District Boundary



Staff Commentary

The text amendments on the opposite page establish the name and structure for a new chapter to be inserted as 18.650 of the Tigard Development Code. The purpose of this chapter is to address Project Issues 2 through 5, as outlined in Section III of this project report.

Chapter 18.650
Durham Advanced Wastewater Treatment Facility Plan District

Sections:

Staff Commentary

The proposed amendments on the opposite page establish the purpose and legislative intent of this chapter. When making interpretations of the text, the Community Development Director or his/her designee will turn to this section for guidance before rendering a decision. The proposed purpose statement is based upon the language of an Intergovernmental Agreement (IGA) to undertake this project (See Appendix V for a copy of the IGA).

18.650.010 Purpose

A. Purpose: The purpose of this district is to regulate the development of Clean Water Services (CWS) Durham Advanced Wastewater Treatment Facility (Durham Facility) in such a manner that the Durham Facility is able to grow and adapt to new regulatory and environmental conditions, while avoiding or mitigating negative off-site impacts to adjacent land uses. The Durham Advanced Wastewater Treatment Facility Plan District (Plan District) is intended to provide land use regulations that accomplish the following:

1. Allow expansion of the Durham Facility to accommodate regional urban growth;

2. Allow modification and adaptation of the Durham Facility to satisfy changes in environmental or regulatory standards and to incorporate new technology and methods in wastewater treatment, waste-handling and processing, and wastewater, energy, and nutrient recovery;

3. Require avoidance, management, and/or mitigation of negative off-site impacts on land uses adjacent to the Durham Facility, recognizing that certain impacts are inherent in the operation of a regional wastewater treatment facility and that such impacts should be balanced with the overall community benefit such facilities provide;

4. Regulate land uses, site and building design, and environmental impacts from new development within the Plan District, taking into account the specialized operational requirements and the regional service nature of the Durham Facility;

5. Address transportation system impacts from future changes at the Durham Facility;

6. Establish specific land use and permitting processes for the Durham Facility that will allow permit issuance on a timely basis; and

7. Ensure Clean Water Services is able to comply with state and federal regulations pertaining to wastewater treatment and to utilize the most efficient and timely technology available.

Staff Commentary

The amendments on the opposite page reference an official plan district boundary map and set forth the intent and characteristics of the three proposed sub-districts within. As described in Project Issue 3 of Section III, the use of sub-districts is proposed as a tool to limit off-site impacts through differential land uses and development standards appropriate to the function and location of each area.

By describing the intent and characteristics of each sub-district, the code is providing guidance as to the land use goals of each district and how the code is to be interpreted in unanticipated situations or if changes to sub-district boundaries or land use regulations are proposed.

18.650.020 Where These Regulations Apply

A. Boundaries: The regulations of this chapter apply to the Durham Advanced Wastewater Treatment Facility Plan District. The boundaries of this Plan District, and the sub-districts therein, are shown on Map 18.650.A at the end of this chapter, and on the official zoning map.

B. Sub-districts: The three sub-areas identified on Map 18.650.A and described below have different land use and development regulations, as set forth in 18.650.030 through 18.650.100.

1. Administrative Sub-District – This area is primarily intended to accommodate the administrative offices, laboratories and other support functions of the treatment plant in an office park setting that is compatible with proximate residential and civic land uses to the north, east and west. The sub-district also contains open space features that are intended to provide a buffer between wastewater treatment operations to the south and impact sensitive land uses and transportation facilities to the north.

2. Operations Sub-District - This area is intended for the continued operation and expansion of the wastewater treatment facilities and accessory land uses. Wastewater treatment processes and accessory resource extraction and processing activities are expected and allowed by-right in this area within an industrial setting.

3. Floodplain Sub-District – This area is within the 100-year floodplain and is constrained by the presence of locally significant inventoried wetlands, buffers, and vegetated corridors. Activities with minimal disturbance such as wastewater conveyance facilities and community recreation uses are allowed within this area.

Staff Commentary

The proposed amendments on the opposite page establish the allowed land uses within each sub-district. Use classifications included in the table are more fully described in existing chapter 18.130 of the Tigard Development Code.

The proposed land uses in Table 18.650.1 reflect a policy acknowledgement that the wastewater treatment plant is the primary land use within the district and is expected to remain as such for the foreseeable future. As such wastewater treatment and accessory land uses are classified as permitted land uses within the district. These accessory uses include public and private agencies partnering with CWS to produce new products and materials from the waste stream. Non-related land uses are no longer allowed within this part of the city, as the land use regulations have been specifically crafted for wastewater treatment. The only conditional land use proposed is limited to Industrial Services within the Administrative Sub-District, and is classified as such due to the potential for off-site impacts along the Durham Road corridor. For a more detailed background and discussion of these recommendations, please see Project Issues 2 and 4 in Section III of this project report.

18.650.030 Uses

A. Types of Uses: For the purposes of this chapter, uses are regulated within each sub-district of the Plan District in the following four ways:

1. A permitted (P) use is a use which is permitted outright within the applicable sub-district, but subject to all of the applicable provisions of this title.

2. A restricted (R) use is permitted outright within the applicable sub-district, providing it is in compliance with special requirements, exceptions, or restrictions;

3. A conditional (C) use is a use the approval of which is at the discretion of the Hearings officer. The approval process and criteria are set forth in Chapter 18.330 of this Title.

4. A prohibited (N) use is one which is not permitted within the applicable sub-district under any circumstances.

B. Use Table: Permitted uses within the Durham Facility Plan District are limited to those set forth in Table 18.650.1 of this Chapter. Use classifications identified in Chapter 18.130 but not included in Table 18.650.1 are not allowed within the Durham Facility Plan District. Unanticipated land uses are subject to the provisions of 18.130.030.

Table 18.650.1
Use Table

	Sub-Districts		
Land Use	**Administrative Sub-District**	**Operations Sub-District**	**Floodplain Sub-District**
Waste Related	N	P	N
Office	P	P	N
Basic Utilities	P	P	P
Utility Corridors	P	P	P
Industrial Services	C[1]	P	N
General Industrial	N	R[2]	N
Community Recreation	P	P	P
Wireless Communication Facilities	P	P	P

[1] Restricted to support facilities that are clearly accessory to and support the wastewater treatment facility, and conducted entirely indoors with the exception of parking. Support facilities are permitted conditionally within the Administrative Sub-District.

[2] Restricted to industrial land uses that are clearly accessory to the wastewater treatment facility and utilizing raw materials recovered, diverted, and/ or produced by the collection and treatment of wastewater.

Staff Commentary

The amendments on the opposite page establish setback and height limits for the proposed sub-districts.

The entire plan district is subject to a fifty foot setback, with the exception of a special setback along Durham Road intended to protect the existing large fountain and landscape buffer. These setbacks represent a significant increase over existing conditions within those portions of the district presently zone R-4.5 and along the Durham Road corridor.

Setback exceptions are set forth for underground and low-profile equipment. These provisions will allow Clean Water Services to replace or retrofit existing venting facilities to better control noise and odor.

For more discussion of these requirements, see also Project Issues 2 and 3 in Section III of this project report.

18.650.040 Development Standards

Development within the plan district is subject to the following development standards. Relief or variation from the applicable requirements of this title may be requested through an adjustment or variance, as set forth in Chapter 18.370 (Variances and Adjustments).

A. Setbacks: Development within the Plan District shall be subject to the following setback standards in order to reduce off-site impacts to adjoining uses and public facilities:

1. Development shall maintain a 50 foot setback from the perimeter of the Plan District, except as set forth in 18.650.040.A.2 through 5 below.

2. Development within the Administrative Sub-District shall be subject to a setback from Durham Road and 85th Avenue right of ways as measured from the southeastern edge and easternmost point of the main ornamental fountain, as set forth in Map 18.650.B.

3. Development located entirely underground is exempted from setback requirements provided all other requirements of this title are satisfied, including buffering and screening standards.

4. Venting facilities related to odor control systems are allowed within the required setback area provided they are flush or nearly flush with finished grade; integrate with existing landscaping through the use of a cover composed of gravel, sand, bark, living groundcover, or similar materials; and comply with all other requirements of this title including off-site impact standards. Ancillary equipment servicing the venting facilities, such as irrigation control panels and enclosed fans, are allowed provided they are low profile or flush with the ground, designed to integrate with existing landscaping, and comply with all other requirements of this title including off-site impact standard.

5. New structures fronting a public road shall maintain a setback of not less than one-half of the projected ultimate road width as measured from centerline of the adjacent roadway, utilizing street width set forth in 18.810.030 of this title (Street Standards).

B. Height Limits: Development shall meet the following sub-district height requirements in order to reduce off-site impacts to adjoining uses and public facilities:

1. Development within the Administrative sub-district shall be subject to a 45 foot height limit.

2. Development within the Operations Sub-District shall be subject to a 50 foot height limit.

3. Development within the Floodplain Sub-District shall be subject to a 30 foot height limit.

Staff Commentary

The amendments on the following page establish general development standards for the facility.

Proposed regulations for lot coverage, accessory structures, signs, and minimum lot size are identical to that of the I-P: Industrial Park zone.

C. Lot Coverage and Landscaping: Development within the plan district shall be subject to the following lot coverage and landscaping standards:

1. Development within the Administrative and Operations Sub-Districts shall be subject to a maximum lot coverage of 75%, inclusive of all buildings and impervious surfaces, and a minimum landscape requirement of 25%.

D. Accessory structures: Accessory Structures shall be subject to the following standards:

1. Accessory structures are permitted and shall meet all applicable development standards.

2. All freestanding and detached towers, antennas, wind-generating devices, and TV receiving dishes, except as otherwise regulated by Wireless Communication Facilities (Chapter 18.798), shall have setbacks equal to or greater than the height of the proposed structure. Suitable protective anti-climb fencing and a landscaped planting screen, in accordance with Chapter 18.745, Landscaping and Screening, shall be provided and maintained around these structures and accessory attachments.

E. Signs: Signage within the plan district shall be subject to the same regulations as that of the I-P: Industrial Park Zoning District.

F. Lot Size: Development within the plan district shall be subject to the following lot size and width regulations:

1. Development within the plan district shall not be subject to a minimum lot size.

2. Development within the plan district shall be subject to a 50 foot minimum lot width.

Staff Commentary

Amendments on the opposite page establish regulations for buffering and screening and connectivity standards.

Buffering and screening standards are determined by sub-district, and utilize standards already present in Chapter 18.745 (Landscaping and Screening). The operations sub-district is subject to the most rigorous standard present in the code, requiring a buffer of 40 feet in width containing trees, shrubs, and a hedge, fence, wall, or berm. Lesser standards are required for the Administrative and Floodplain sub-district due to the less impactful nature of the land uses allowed in those areas.

It should be noted that buffering and screening is only required along the perimeter of the proposed plan district. With traffic on SW 85th Avenue predominantly limited to those accessing the wastewater treatment facility, or incidental pass-through traffic using public trails on CWS property, staff does not recommend a mandatory buffer or screening along the interior of the plan district.

Circulation standards are proposed for modification due to the combination of the operational needs of the plant, combined with the access needs of Tualatin Valley Fire & Rescue, as outlined in Issue 5 (Site Circulation) in Section III of the project report. If adopted, the proposed connectivity standards would relieve CWS of having to extend Waverly Place through to 85th Avenue, while ensuring the development and preservation of a permanent emergency vehicle access to Waverly Estates from 85th Avenue.

For more discussion of these issues, please refer to Project Issues 3 and 5 as described in Section III of this project report.

18.650.050 Buffering and Screening Standards

A. New Development must conform to the requirements of Landscaping and Screening (see Chapter 18.745), subject to the following exceptions to Buffering and Screening standards set forth in Tables 18.745.1 and 18.745.2:

1. New development within the Administrative Sub-District shall meet buffer standard D along the eastern boundary of the sub-district, as set forth in Table 18.754.2, no buffering or screening is required along the northern and southern boundaries of the sub-district;

2. The Operations Sub-District shall meet buffer standards F along all boundaries of the sub-district, as set forth in Table 18.754.2, with the exception of the boundary between the Operations Subdistrict and Administrative Subdistrict .

3. The Floodplain Sub-District shall be subject to buffer standard A as set forth in Table 18.745.2.

4. In lieu of these standards, a detailed buffer area landscaping and screening plan may be submitted for the Director's approval as an alternative to the buffer area landscaping and screening standards, provided it affords the same degree of buffering and screening as required by the code.

18.650.060 Connectivity Standards

A. New Development must conform to the requirements of Street and Utility Improvement Standards (see Chapter 18.810), subject to the following exceptions

1. Development within the Plan District is exempted from block standards set forth in 18.810.040.

2. New development shall provide for emergency vehicle access drive between 85th Avenue and the eastern terminus of Waverly Drive. The access drive shall be improved with an all-weather fire-apparatus access road and key box access in accordance with Tualatin Valley Fire and Rescue Fire and Life Safety Requirements and the Oregon Fire Code.

Staff Commentary

The amendments proposed on the opposite page establish the purpose for off-site impact standards, exceptions to these standards, and their relationship to other regulations that may apply to the operation of the wastewater facility.

The need for new impact standards is discussed in Issue 3 (Off-Site Impacts) of Section III of this project report. It should be noted that these standards are intended as clear and objective design standards for new machinery, equipment, facilities, operations and activities. They are intended as stricter and more clearly measured criteria than those presently contained in Chapter 18.725 (Environmental Performance Standards). Existing standards are unclear and make it difficult for an applicant or staff to demonstrate compliance with off-site impact standards, both at the permitting stage and in an enforcement investigation. The proposed standards are intended to remedy this difficulty.

18.650.070 Off-Site Impact Standards

A. Purpose: The purpose of this section is to establish standards for negative off-site impacts resulting from noise, odor, and light generated within the boundaries of the Plan District. The standards provide a measurable way to control and regulate the specified off-site impacts, and protects the occupants and operators of land uses adjacent to the Plan District.

B. Exemptions: The off-site impact standards do not apply to machinery, equipment, facilities and operations that were on the site and in compliance with existing regulations at the effective date of this Chapter, but do apply to new machinery, equipment, facilities, operations, and activities. Documentation is the responsibility of the proprietor of the use if there is any question about when equipment or land uses were brought to the site.

C. Relationship to other Regulations: The standards set forth in 18.650.070 do not supersede or replace regulations of the Department of Environmental Quality and any applicable County, State, and Federal Regulations.

Staff Commentary

Existing noise standards are set forth in Chapter 18.725 of the development code, and Chapter 6.02.410-470 of the Tigard Municipal Code. The proposed noise standards for the plan district are based upon Oregon Department of Environmental Quality standards, as set forth in Oregon Administrative Rules (OAR) 340-035-0015, and input from CH2MHILL and Clean Water Services (see memorandum "Suggested Approach for Addressing Noise in Tigard's New Wastewater Treatment District" in Section V of this project report. They differ from existing standards in both decibel levels and that they measure an average over time rather than single incidents.

Noise standards are proposed to be measured from the plan district boundary, and not the nearest noise sensitive unit (i.e. a home, school, or park) in order to ensure compliance over time as adjacent land uses change and grow.

The following graphic is intended to provide an equivalency for decibel levels specified in the proposed code:

Noise Source at a Given Distance	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Impression
Shotgun (at shooter's ear)	140	Carrier flight deck	Painfully loud
Civil defense siren (100 feet)	130		
Jet takeoff (200 feet)	120		Threshold of pain
Loud rock music	110	Rock music concert	
Pile driver (50 feet)	100		Very loud
Ambulance siren (100 feet)	90	Boiler room	
Pneumatic drill (50 feet)	80	Noisy restaurant	
Busy traffic; hair dryer	70		Moderately loud
Normal conversation (5 feet)	60	Data processing center	
Light traffic (100 feet); rainfall	50	Private business office	
Bird calls (distant)	40	Average living room library	Quiet
Soft whisper (5 feet); rustling leaves	30	Quiet bedroom	
	20	Recording studio	
Normal breathing	10		Threshold of hearing

Source: Beranek, 1998.

D. Noise Standards: Development within the Plan District shall comply with the following noise standards:

1. Statistical Noise Levels: Equipment, facilities, operations, or activities within the Durham Facility Plan District shall not produce sounds that exceed in any one hour the noise levels specified in Table 18.650.2, as measured at the Plan District boundary or at the furthest boundary of adjacent industrially-zoned properties:

Table 18.650.2
Noise Standards

Allowable Statistical Noise Levels, dBA[1]	7AM – 10 PM	10 PM – 7 AM
L_{50}	55	50
L_{10}	60	55
L_{1}	75	60

[1] L_x – Noise level can be equaled or exceeded x% of the time.

2. Impulse Sound: Equipment, facilities, operations, or activities within the Plan District shall not produce any sounds emitted for a duration of less than one second which exceed the sound pressure level of 100dB between the hours of 7am and 10pm, or 80 dB between the hours of 10 pm and 7 am as measured at the Plan District boundary or at the furthest boundary of adjacent industrially-zoned properties.

3. Measurement: Sound level instruments shall conform to the Tigard Municipal Code 6.02.420.

Staff Commentary

Odor standards proposed on the opposite page were developed using input from Tom Card, an odor expert/consultant and as described in a memorandum titled "Background and Suggested Approach for Addressing Odor in Tigard's New Wastewater Treatment Plan District." This memorandum can be found in the Section V (Appendices) of this project report. Existing Tigard code prohibits "the emission of odorous gases or other matter in such quantities as to be *readily detectible* [emphasis added] at any point beyond the property line of the use creating the odors." This standard is difficult to enforce as different people have different thresholds for detection of any given substance. The proposed text amendment attempts to correct this through the use of readily available technology operated by a trained professional.

Using a scentometer is a reliable way to quantify odor strength in terms of "Dilution-to-Threshold" (D/T) ratios. The D/T measurement is the most common method of measuring odors. This allows experts to quantify odors on a commonly recognized scale. To make a D/T measurement, carbon-filtered air is mixed with specific volumes of odorous ambient air. The D/T ratio is a measure of the number of dilutions needed to take the odorous air to its threshold.

A Nasal Ranger is a hand held scentometer that has only six possible output values. These values are 2, 4, 7, 15, 30, and 60 dilutions to threshold (D/T). Based on experience for wastewater odors a Nasal Ranger value of 7 D/T is a clear and almost universally objectionable odor. The next lower value, 4 D/T however, is generally only a problem if it is sustained over a long time period. The lowest value, 2 D/T, is almost imperceptible to any but the most discerning nose.

Comparable D/T Standards are listed in the table below:

Location	Off-site standard or guideline	Averaging times/Comments
Allegheny County WWTP, PA	4 D/T (design goal)	2- minutes
San Francisco Bay Area Air quality district	5 D/T	Applied after at least 10 complaints within 90-days
State of Colorado	7 D/T (scentometer)	
State of Connecticut	7 D/T	
State of Massachusetts	5 D/T	Draft policy and guidance for composting facilities.
State of New Jersey	5 D/T	5-minutes or less; for biosolids/sludge handling facilities.
State of N Dakota	2 D/T (scentometer)	
City of Oakland, CA	50 D/T	3-minute
City of San Diego, CA	5 D/T	5-minutes
City of Seattle WA, WWTP's	5 D/T	5-minutes
Wilsonville, OR	5 D/T	& H2S of 5PPB – both 1-hour averaged.
Spokane, WA	5D/T	& H2S of 5PPB

Glare Standards are based upon standards used successfully by other jurisdictions in the region and are intended to protect adjacent properties from unwanted light intrusion. For purposes of comparison, one foot-candle is approximately the amount of light a birthday candle generates when measured one foot from the flame.

E. Odor Standards: Development within the Durham Facility Plan District shall comply with the following odor standards:

1. Equipment, facilities, operations, or activities shall not generate off-site facility odors detectable at the following scentometer levels using the Nasal Ranger ® field scentometer or equivalent device, as measured at the Plan District Boundary:

    a. Any one instantaneous measurement of 7 or greater dilutions to threshold (D/T); or

    b. Ten consecutive readings equal to or greater than 4 D/T occurring over a minimum four-hour period, to a maximum one-week period.

2. If development is found to be noncompliant with the odor standards contained within 17.650.070.B above, Clean Water Services (CWS) shall be responsible for the following:

    a. Every scentometer reading in excess of 4 D/T or greater shall be tracked to the source of the odor by a trained and certified scentometer operator; and

    b. If the source of the odor is found to originate from equipment, facilities, operations, or activities within the Durham Facility Plan District, CWS shall submit a report within 90 days of the notice of violation that identifies the cause of the off-site odor and the steps required to stop, reduce, and/or mitigate the odors.

F. Glare Standards: Development within the Durham Facility Plan District shall comply with the following standards:

1. Glare sources shall be hooded, shielded, or otherwise located to avoid direct or reflected illumination in excess of 0.5 foot candles, as measured at the Plan District boundary or at the furthest boundary of adjacent industrially-zoned properties.

Staff Commentary

The proposed language on the opposite page is intended to provide clarity as to what documentation is required from an applicant or property owner at the time of permit application, and from whom the city can accept a report measuring an off-site impact.

G. Documentation: The following provisions shall apply at the time of permit application or a request for enforcement:

1. When reviewing a permit application, the City may accept an evaluation and explanation certified by a registered engineer or architect, as appropriate, that the proposed development will meet the off-site impact standard or standards in question. The evaluation and explanation shall provide a description of the use or activity, equipment, processes and the mechanisms, or equipment used to avoid or mitigate off-site impacts.

2. If the City does not have the equipment or expertise to measure and evaluate a specific complaint regarding off-site impacts, it may request assistance from another agency or may contract with an independent expert to perform the necessary measurements. The City may accept measurements made by an independent expert hired by the controller or operator of the off-site impact source.

Staff Commentary

This section sets forth how a project is to be reviewed for compliance with land use standards, and represents a major change from existing requirements.

All development will fall into two review processes: (1) a conditional use permit review followed by building permits, or (2) directly to building permits. All development not requiring a conditional use is permitted outright without a site development review or associated minor modification, and may proceed directly to a building permit. City staff will verify conformance with land use standards as part of normal building permit review. The reason for this recommended change is discussed in Project Issues 2 and 4, as found in Section III of this project report.

18.650.080 Discretionary Review

A. Development classified as a conditional use in Table 18.650.1 shall be reviewed in accordance with the procedures and requirements set forth in 18.330 (Conditional Use) of this title.

B. Development meeting one or more of the following criteria shall be reviewed in accordance with the procedures and requirements set forth in 18.330 (Conditional Use) of this title.

1. An increase in vehicular traffic to and from the site in excess of 100 vehicles per day;

2. The opening of a new access way onto Durham Road, or the improvement of the existing access way onto Waverly Drive for other than emergency vehicle access.

C. Development not meeting the criteria of 18.650.080.A or 18.650.080.B is exempted from site development review as set forth in 18.360. Review for compliance with applicable standards shall be performed in conjunction with obtaining a building permit.

Staff Commentary

The following standards only apply to conditional uses within the administrative sub-district, and are intended to protect the Durham Road corridor from incompatible development that may present unwanted aesthetic impacts.

18.650.090 Additional Standards for Conditional Uses within the Administrative Sub-District

A. Purpose: Conditional Uses are permitted within the administrative sub-district, but have the potential to create unpleasant aesthetic impacts to nearby land uses and travelers upon Durham Road and Hall Boulevard. These standards are intended to reduce off-site impacts and ensure new development associated with these activities presents the appearance of a high quality office campus regardless of the interior activity

B. Standards: Conditional Uses within the Administrative Sub-District shall be subject to the following development standards in addition to those set forth in 18.330.030 and 18.330.050:

1. Outside Storage - There shall be no outside storage of materials or equipment associated with a conditional use in the Administrative Sub District, other than incidental delivery and temporary staging of materials and equipment.

2. Ground-Floor Windows – All street facing elevations along public streets shall include a minimum of 50% of the ground floor wall area with windows or glazed doorway openings. The ground floor wall area shall be measured from three feet above grade to nine feet above grade the entire width of the street facing elevation. Glazing covered with applied window film shall not be considered in the calculation to meet this standard.

3. Building Facades – Facades that face a public street shall extend no more than 50 feet without providing at least one of the following features: (a) variation in building materials; (b) a building off-set of at least 1-foot; (c) a wall area that is entirely separated from other wall areas by a projection, such as an arcade; or (d) by other design features that reflect the building's structural system.

4. Building Materials – Plain concrete block, plain concrete, corrugated metal, plywood, sheet press board, fiber cement products, or vinyl siding may not be used as exterior finish materials.

5. Roofs - Rooflines shall be designed as an extension of the primary materials used for the building and should respect the building's structural system and architectural style.

6. All roof-mounted equipment must be screened from view from adjacent public streets. Solar heating and photovoltaic panels are exempted from this standard.

Staff Commentary

The section proposed on the opposite page is intended to provide for temporary waiver from off-site impact standards. These permits are intended for unexpected situations or where the strict application is impractical when dealing with things like major repairs, unexpected system breakdowns, temporary construction, and the like. As part of the permit review, the City will ensure that appropriate mitigation measures are in place, including a 24-hour telephone line that is available for nearby residents to get information or to lodge complaints about the project directly to Clean Water Services.

On February 4, 2013 the Planning Commission made three specific edits to these standards.

1. They moved to clarify the title and purpose of the chapter to make clear where the location of these standards apply (only the administrative subdistrict), and what the desired policy goal was (the appearance of a high quality office campus).
2. Amended the glazing standards to prohibit applied window film, and ensure that only glazed doorways may contribute to the ground floor window standard.
3. Expanded the prohibited building materials list to include fiber cement products.

18.650.100 Temporary Off-Site Impact Permit

A. Intent: Specific permits may be granted as deemed necessary to allow activities that protect the public health and welfare, and where strict compliance with Noise, Odor, and/or Light Standards may be inappropriate because of special circumstances that render strict compliance unreasonable, impractical, or would result in the reduction or cessation of wastewater treatment.

B. Method of Review: Temporary off-site impact permits to noise, odor, and/or light standards shall be processed as a Type I procedure as governed by 18.390.030, using approval criteria listed in Subsection 18.650.090.D below.

C. Exceptions: Responses to an unexpected failure of a critical waste treatment process are exempted from the requirement for a temporary off-site impact permit for up to three business days, whereupon the facility operator shall submit a complete application for a Temporary Off-Site Impact Permit.

D. Approval Criteria: The Director shall approve, approve with conditions, or deny an application for a temporary off-site impact permit based on a finding that the following approval criteria are satisfied:

1. The strict application of the noise, odor or light standards set forth in 18.650.070 is unreasonable, impractical, or threatens public health;

2. A demonstration that consideration for impact sensitive land uses and appropriate mitigation measures have been incorporated into the request;

3. A public outreach plan will be implemented, including a 24-hour telephone contact number for information and or to lodge complaints about the project; and

4. The off-site impact permit is limited in time and scope.

Staff Commentary

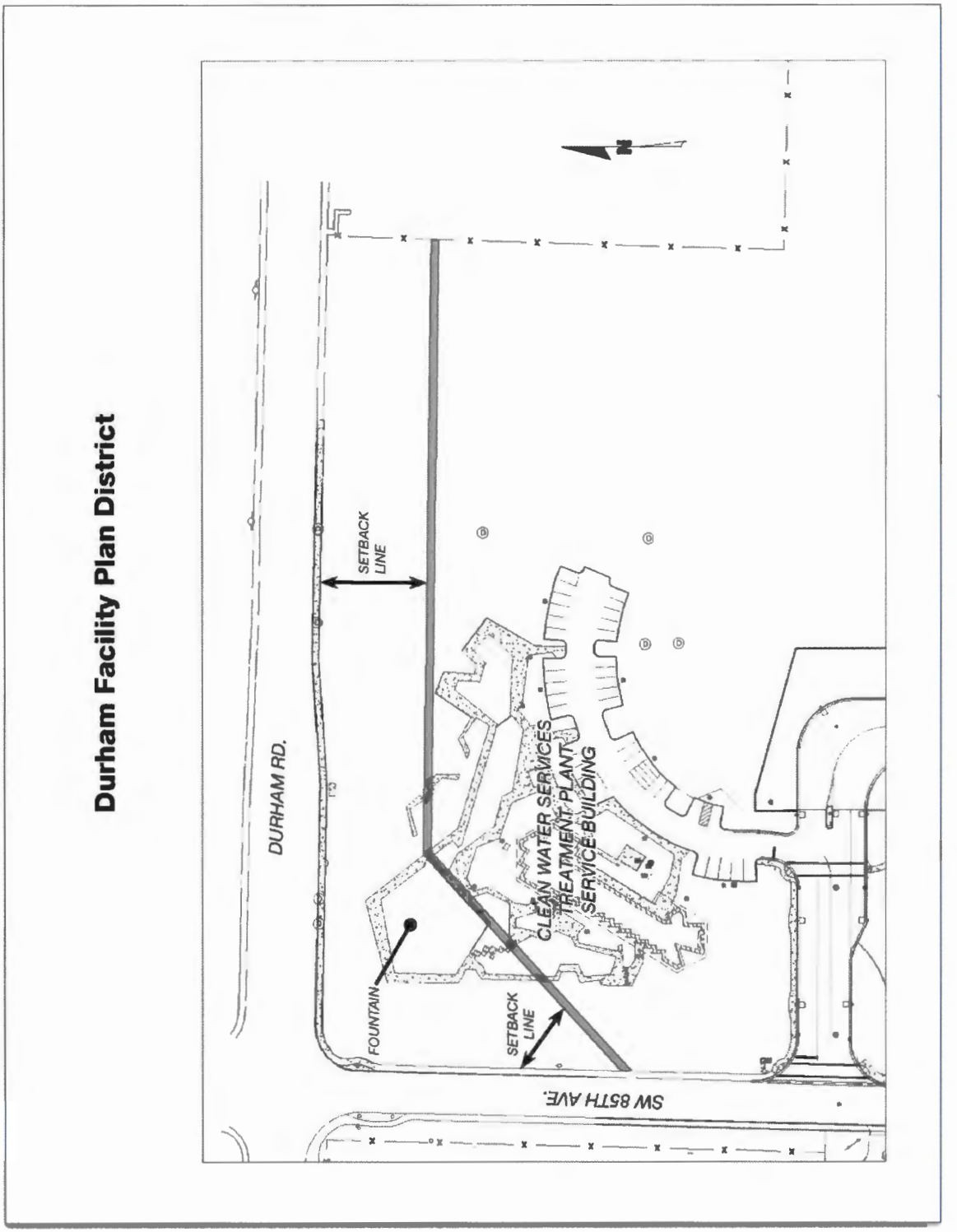
The proposed map on the opposite page sets forth the plan district boundary and sub-districts within the district boundary. Note the plan district extends to the far side of the right-of-way along SW Durham Road and SW 85th Avenue. This boundary recommendation was requested by CWS in order to ensure that as the roadways are widened in the future, the point at which off-site impacts are measured becomes further away and not closer to the facility. Staff finds the users of the public right of way are less sensitive to off-site impacts such as noise, lights, and odors due to the heavy traffic in the area, and as such the request will not impact nearby sensitive land uses.

Map 18.650.A: Plan District Boundaries and Sub-Districts

Staff Commentary

The proposed graphic on the opposite page establishes a setback line from Durham Road which is intended to preserve the existing fountain and landscaped open space in front of Durham Facility.

Map 18.650.B: Setback Line from Durham Road



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SECTION V: APPENDICES

Technical **Memorandum**

TO: John Floyd/COT, Tom McGuire/COT

FROM: Randy Naef/CWS

CC: Nate Cullen, Tom Card/EMS, Lynne Chicoine, Tim Brooks

DATE: September 25, 2012

SUBJECT: Background and Suggested approach for Addressing Odor in Tigard's New Wastewater Treatment Plan District

This memo was prepared to help provide decision support information as to whether and how an odor regulation could be implemented as part of the plan district process

I have taken information from several tech memos from Tom Card, our odor expert/consultant with Environmental Management Consulting (with some assistance from CH2M Hill regarding Wilsonville, Spokane, and Denver). It is of interest to note that he recommends against a quantitative standard because of known problems with these types of standards. However there are mitigating considerations that make a quantitative standard desirable from both the City's and the Districts standpoints.

There have been extensive studies concerning odor regulations over the last few years suggesting a high level of interest in it. The studies have involved reviewing local, state, national, and international regulations. The memo provides a summary of these regulations by type, and provides some example threshold values for the quantitative regulations.

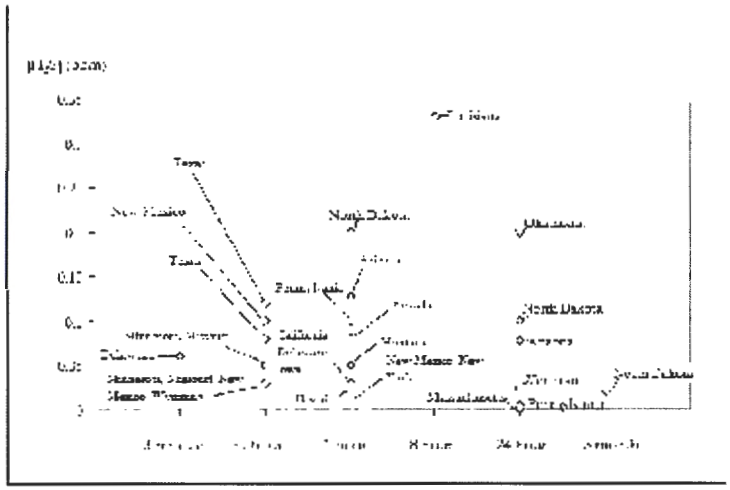
Existing Types of Regulations

Current odor regulations fall into one or more of the following categories:

Compound-specific ambient air limits.

The most common compound used is hydrogen sulfide (H_2S). However, ammonia and mercaptans have also been included in some regulations. There is a National Ambient Air Standard for hydrogen sulfide of 30 ppbv averaged over a 24 hour period. However, this standard is only used for planning purposes (new facilities that are major sources of air pollutants must demonstrate that they will comply with this standard). Many states have ambient air standards for H_2S as well. Figure 1 (Skrtic 2006) shows how the state standards compare. Note that Oregon is not on the list

Figure 1. Summary of State H_2S Standards (concentration and averaging times).



To provide perspective to these numbers, experience indicates that the normal odor threshold for H_2S is 1 ppbv (0.001 ppmv). *Most* people notice it at 10 ppbv, and most people are annoyed at 100 ppbv and start to complain. At 1,000 ppbv (1 ppmv) almost any one will complain.

The advantage of a standard like this is that at concentrations over 10 ppbv it is easily quantitatively and objectively measured. However, it requires a $15,000 instrument (Jerome 631-X). At concentrations between 0.1 and 10 ppbv it still can be measured, but not easily.

There are two main disadvantages of this type of standard:

1. H2S only dominates odors most of the time, but not all of the time. There are many odor sources (wastewater solids, livestock, even pulp mills) where H_2S is not the dominant odorous compound. Therefore this type of regulation would be limited to sources where H_2S is dominate.
2. H_2S naturally occurs in any natural anaerobic liquid impoundment. Therefore, there are many locations where H_2S odors can be present, but with no man-made source. These natural sources rarely exceed 10 ppbv, so if the standard is above that, then this problem is mitigated.

However, in spite of these limitations, this type of regulation could be implemented for wastewater treatment plants if realistic values such as the following were chosen:

1. Never to exceed value off-site of 100 ppbv.
2. Maximum one hour average of 30 ppbv.

It could be possible, but unlikely, that a wastewater treatment plant could meet these standards and still generate complaints. Therefore, with this type of regulation, additional language would also be necessary to manage possible non-H2S odors.

Non-Quantitative Nuisance Statues

The overwhelming majority of odor regulations fall into this category. The State of Oregon Statue is a nuisance statue. The City of Portland Statue reads:

> **33.262.070 Odor**
> **A. Odor standard.** Continuous, frequent, or repetitive odors may not be produced.
> The odor threshold is the point at which an odor may just be detected

B. Exception. An odor detected for less than 15 minutes per day is exempt.

Typically these statues are brief, but can elaborate on how a nuisance is determined. The advantages of this type of statue is that it covers all odor sources. The disadvantage is that it is subjective and based on the judgment of someone or group of individuals who may or may not have some sort of back agenda.

Quantitative Limits Based on Olfactometery/Scentometer

Whenever there is significant knowledge of odor sources and those sources have been quantified, quantitative limits can be implemented based on predicting ambient odor concentrations from a stack or impoundment (atmospheric dispersion modeling) or measuring ambient levels with a scentometer (Nasal Ranger).

For the atmospheric dispersion modeling approach, this type of standard can be implemented in either of two ways:

1. Measure the stack concentration of a source and predict the maximum offsite ambient concentration from the source.
2. Pick a maximum offsite ambient concentration, and back model the required maximum source concentration that will provide that.

A fundamental problem with this approach, that is often ignored, is that this approach utilizes two different types of measurement technology that have different absolute scales and different error characteristics. Source strength odors are measured be laboratory olfactometers with the sample taken and transported to the laboratory in a Tedlar bag. These measurements are very repeatable (precise) but the accuracy is unknown for most mixtures of compounds. The current European method (EN 13725) produces blank values (ultrapure air in a Tedlar bag) of between 25 and 50 dilutions to threshold (D/T). Therefore, no source lower than this can be measured.

Ambient odors are measured with a scentometer (Nasal Ranger) and have a range of 0 to 60 D/T. A laboratory sample with a 100 D/T will normally have a Scentometer D/T of 5 to 20. In addition, odors follow Steven's Law (persistency) where some compounds can be diluted by 90%, but the perception of odor only reduces by about 50%. Therefore, you need to choose either a laboratory olfactometer/model approach or a scentometer approach, they really cannot be mixed. Also note that the scentometer only has six values that it can output. They are 2,4,7,15,30, and 60 D/T. This can be a problem because most odors become a problem at around 5 D/T, so 4 is normally too low and 7 is normally too high. The take away lesson here is the laboratory olfactmeter's can't measure ambient odors and scentometer's can't measure source odors.

In spite of these problems, this type of approach has been fairly widely implemented. Table 2 provides examples of quantitative standards used in this approach. The values for the City of Seattle include both the West Point and the Brightwater Wastewater Treatment Plants.

Table 2. Example D/T Standards.

Location	Off-site standard or guideline	Averaging times/Comments
Allegheny County WWTP, PA	4 D/T (design goal)	2- minutes
San Francisco Bay Area Air quality district	5 D/T	Applied after at least 10 complaints within 90-days
State of Colorado	7 D/T (scentometer)	
State of Connecticut	7 D/T	
State of Massachusetts	5 D/T	Draft policy and guidance for composting facilities.
State of New Jersey	5 D/T	5-minutes or less; for biosolids/sludge handling facilities.
State of N Dakota	2 D/T (scentometer)	

City of Oakland, CA	50 D/T	3-minute
City of San Diego, CA	5 D/T	5-minutes
City of Seattle WA, WWTP's	5 D/T	5-minutes
Wilsonville, OR	5 D/T	& H2S of 5PPB – both 1-hour averaged.
Spokane, WA	5D/T	& H2S of 5PPB
Denver, CO	15 D/T	

These have never run up against an aggressive court test, and if they did, they would likely fail. Most of the time, the non-scentometer methods are never actually tested for compliance. The scentometer standards are tested routinely, but require trained staff on scentometers to implement. Expert's observations of people using scentometers is that the measurements are not very good, even if trained.

Technology Based Standards

This type of standard either specifies a specific technology (type of odor scrubber) or best work practice to manage odors. If the technology or work practice standard in implemented, then it is assumed that the ambient odor level is acceptable. This is not really germane here.

Zoning or Setback Distances

This is a subset of the technology standards. For this approach the regulation assumes that if you are far away enough from your neighbors, they can't smell you. This is commonly used for agricultural installations. There may be something here that may help you, if setbacks can be established to eliminate the offsite odor issue.

(References: **Mahin (2004).** Measurement an Regulation of Odors in the USA.; **Skrtic (2006).** Hydrogen Sulfide, Oil and Gas, and People's Health. **Master's Thesis, UCBerkeley.)**

EMC's Initial Summary and Recommendations

Based on this and the previous sections' texts EMC has difficulty recommending voluntarily implementing a quantitative standard. Indeed, most of the standards that exist today were implemented as a last resort to solve some intractable problem between the public and the odor source. However, if an odor standards approach is implemented the following are EMC's recommendations, in order of preference. All of them have fundamental problems/risks. Suggested thresholds are provided, but these are subject to discussion and refinement.

1. Use of a scentometer (Nasal Ranger) with a property line limit of 7 D/T instantaneous, 4 D/T four hour average.
    a. Pros
        i. Quantitative
        ii. Good for all compounds
        iii. Protective of both source and public
        iv. Fairly extensive track record of success in agriculture
        v. Can inexpensively confirm that your plant is in compliance prior to final agreement.
    b. Cons
        i. Requires trained staff
        ii. Requires Nasal Ranger
        iii. Staff training wears off (most people do not use it enough to get good at it).
        iv. Some people may think the 7 D/T is too high. Most people can clearly identify wastewater odors at 7 D/T. However, the Nasal Ranger only can provide values of 2, 4 or 7, and 4 is too low.
        v. Unlikely that the local regulatory staff would do this(sampling).
2. Atmospheric Dispersion Model Predicted Maximum Value of 5 D/T offsite (Based on Laboratory Olfactometry of Sources) at a One Hour Average.
    a. Pros
        i Quantitative
        ii Based on EMC observations, Durham WWTP should be compliant as is.
        iii. Used successfully at West Point in Seattle for 20 years.
        iv. If this standard is met, you really can't smell this. The public is fully protected.
    b. Cons
        i Difficult to fully test (source test plus model).
        ii. A little too conservative for the treatment plant, certain process/atmospheric anomalies could put you over the limit.
        iii It is a substantial project ($50,000 to $100,000) to fully execute and document the source test and dispersion model, if required.
        iv. How/if to address/confirm actual compliance?
3. Ambient H_2S standard of 30 ppbv for a one hour average.
    a. Pros
        i. Quantitative
        ii. Easy to measure (But requires $15,000 instrument).
        iii. Complies with Federal Standard
        iv. Most, but not all, wastewater treatment plants in compliance with this don't have off site odor complaints.
    b. Cons
        i. Does not cover all odors
        ii. Not completely protective of the public by itself.
        iii. Will likely need to buy a Jerome 631-X ($15,000).

Summary Regarding the 'Scentometer' Approach to a Quantitative Standard

Background Summary:
A Nasal Ranger is a hand held scentometer that has only six possible output values. These values are 2, 4, 7, 15, 30, and 60 dilutions to threshold (D/T). Based on experience for wastewater odors a Nasal Ranger value of 7 D/T is a clear and almost universally objectionable odor. The next lower value, 4 D/T however, is generally only a problem if it is sustained over a long time period. The lowest value, 2 D/T, is almost imperceptible to any but the most discerning nose.

Recommendation:
Based on the information provided, and if a quantitative standard is necessary, it would our opinion that a confirmed and valid Nasal Ranger value of 7 or above would suggest that there would be a negative impact on neighbors. This level of odor will get an almost instant negative response from most of the general public. Therefore the threshold for instantaneous measurement should be 7 D/T by a trained Nasal Ranger operator with the odor clearly identified as a wastewater odor.

One of the short comings of the Nasal Ranger approach is that it always takes some time to respond to odor complaints, so if a member of the public does complain, the Nasal Ranger team will likely not be able to respond for possibly up to 24 hours. In order to accommodate this, a longer term lower standard should also be available. If an observer with a Nasal Ranger detects a D/T value of 4 at least 10 times over a period of 4 hours to 1 week, this would also suggest a legitimate negative impact on neighbors. This would allow for repeated visits to the same location to determine if there were a sustained odor issue.

Note that for all these values the odor does need to be connected to the wastewater treatment plant. All observations should be made with known contemporaneous wind speed and direction values to assure that the odors are not from roof vents or wastewater collection systems.

Proposed Regulatory Language:

1. All odor measurements will be made using the Nasal Ranger® field scentometer operated by a trained and certified operator.
2. The facility owner will be considered to be out of compliance if the off-site facility odor is at the following scentometer levels:
    a. If any one instantaneous measurement is 7 or greater dilutions to threshold (D/T).
    b. If 10 consecutive readings equal to or greater than 4 D/T occur over a minimum four-hour, to a maximum one-week period.
    c. For every scentometer reading of 4 D/T or greater, the scentometer operator will track the odor to the source to provide assurance that the facility is the odor source.
3. If the facility is out of compliance by the above clause, the facility shall submit a report within 90 days of the notice of violation that identifies the cause of the off-site odor and the steps required to control the odors to the limits in the above clause.

Suggested Approach for Addressing Noise in Tigard's New Wastewater Treatment District

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REVIEWED BY: Tim Brooks, Winterbrook Planning

DATE: September 5,2012

PROJECT NUMBER: 422389

Background

The city of Tigard expressed interest in Clean Water Services (CWS) proposing updated noise limits for the new Wastewater Treatment District. The updated limits will benefit both CWS and the city of Tigard by providing limits that are more clearly defined technically and that are measurable.

CH2M HILL recommends that CWS propose that the new Wastewater Treatment District address environmental noise by using the same limits as Division 35 of Chapter 340 of the Oregon Administrative Rules. OAR 35.340 lists regulations for Industry and Commerce that are typically applied to wastewater treatment plants throughout the State. The proposed regulations include applicable limits from OAR 35.340 and are attached at the end of this memorandum.

Comparison of Proposed Noise Limits with Current City of Tigard Code Limits

The city of Tigard noise limits are currently called out in the Tigard Municipal Code (TMC) Chapter 6.02, Article 5. The noise limits are mostly generic and are not applicable to a wastewater treatment facility. Industrial noise, to which the operation of a wastewater treatment facility could be argued is similar, is listed as an exception to the noise limit during hours of 7 a.m. to 8 p.m. under 6.02.450.F.

The environmental noise regulations in the Oregon Administrative Rules are proposed for the new Wastewater District because:

- The OAR sections are complete and clear on multiple technical issues.
- The OAR limits are representative of those typically applied to wastewater treatment plants.

Following is discussion of some specific issues.

Technical Definitions

Noise is a very technically detailed subject. The proposed regulations put forth technically accurate definitions pertaining to noise. The definitions are consistent with OAR 340-035-0015.

Noise Level Frequency Weighting

Environmental noise typically includes noise in a wide range of frequencies. The audible range of frequencies will vary among individuals, but is approximately 20 hertz (hz) to 20,000 hz. However, the human ear does not detect noise in all frequencies equally well. The middle frequencies are heard much better than noise in the lower and upper frequencies. To evaluate overall noise levels in a way that approximately duplicates the function of the human ear, almost all environmental noise limits are stated in terms of A-weighted sound pressure level decibels, abbreviated as dBA. Most regulatory limits for human exposure to overall noise (both environmental and

occupational), including the DEQ rules, are stated as dBA. The proposed limits for the wastewater treatment facilty would use dBA units.

Measurement Averaging Time

The DEQ specifies a one-hour period over which their statistical noise limits apply. This is an important issue as the measured sound level at any particular location can vary considerably with averaging time.

Noise Level Measurement Descriptor

Noise levels will vary over time. This is taken into account in most noise regulations by specifying the limits as either a statistical noise level or as an overall limit on a noise energy average basis. Statistical limits are stated as L_{xx}, where the xx value is the percentage of time for which a noise level can be exceeded. For example, an L_{50} limit of 50 dBA means that 50 dBA is allowed to be exceeded 50% of the time in the averaging period specified in the regulation. The DEQ overall A-weighted noise limits are clearly stated as statistical noise levels.

Compliance Determination Procedures

The DEQ guidance document includes an identification of the appropriate noise monitoring location for compliance determination as either; 1) no more than 25 feet from the noise sensitive building where the noise is loudest, or 2) on the property line, whichever is farther from the noise source.

Noise Limits for Properties with No Noise-Sensitive Units

The TMC includes numerical noise level limits that apply for property on which no noise-sensitive units are located, for example 85th Avenue. The DEQ noise rules apply to noise sensitive properties which avoids the potential requirement to meet a noise limit in an area where it will provide no benefit.

Noise Limits Apply to Source Only

The TMC noise limits as currently stated apply to any particular source of noise. However, there is sometimes confusion over the application of the limits. For example, the measured noise level at any location is typically affected by multiple sources. The noise levels currently measured at the west property line of the Durham AWWTF often exceed the TMC limits. However, the noise is usually dominated by non-AWWTF noise sources such as traffic and general urban background noise. The relatively steady noise from the AWWTF has been shown to be lower than the limits by measurements made when non-AWWTF noise is minimal. The proposed limits will apply only to the noise source so that compliance is not affected by noise sources outside the control of the District.

Examples of Typical Noise Levels

Following is information that can be used to generally describe acoustical environments with noise in the range of the proposed regulation and identifies some noise regulations from other jurisdictions that would be similar to our proposed regulation.

Table 1 shows typical sound levels measured in the environment and industry and gives a context or reference for various noise levels.

Table 1. Typical Sound Levels for Environment and Industry

Noise Source at a Given Distance	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Impression
Shotgun (at shooter's ear)	140	Carrier flight deck	Painfully loud
Civil defense siren (100 feet)	130		
Jet takeoff (200 feet)	120		Threshold of pain
Loud rock music	110	Rock music concert	
Pile driver (50 feet)	100		Very loud
Ambulance siren (100 feet)	90	Boiler room	
Pneumatic drill (50 feet)	80	Noisy restaurant	
Busy traffic; hair dryer	70		Moderately loud
Normal conversation (5 feet)	60	Data processing center	
Light traffic (100 feet); rainfall	50	Private business office	
Bird calls (distant)	40	Average living room library	Quiet
Soft whisper (5 feet); rustling leaves	30	Quiet bedroom	
	20	Recording studio	
Normal breathing	10		Threshold of hearing

Source: Beranek, 1998.

Figure 1 shows additional noise levels for urban and suburban environments.

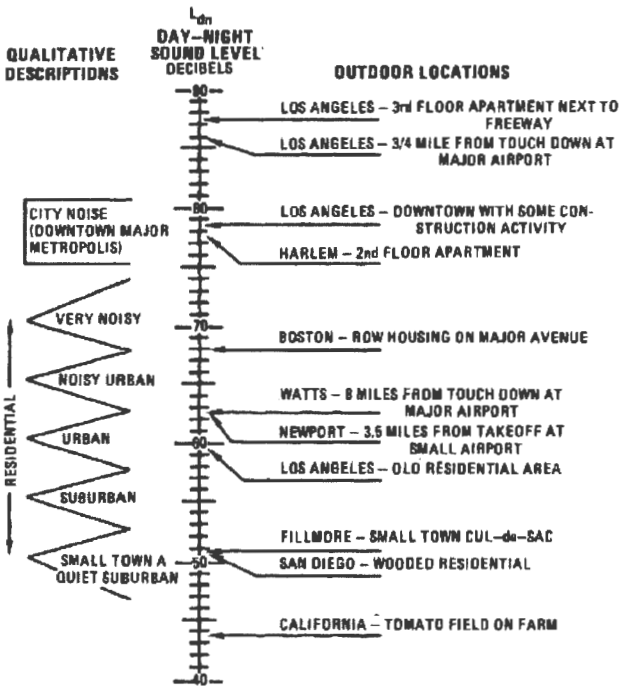

Figure 1. Typical Noise Levels from Urban and Suburban Environments. (Source: *Information On Levels Of Environmental Noise Requisite To Protect Public Health And Welfare With An Adequate Margin Of Safety*, US Environmental Protection Agency, Office of Noise Abatement and Control, March 1974.) X dBA L_{dn} = X-10 L_{50}dBA (night time)

Noise Regulations in Other Jurisdictions

Regulations from nearby regional jurisdictions or jurisdictions with similarities to Oregon are as follows:

- The State of Washington has environmental noise limits in WAC 173-60. The limits vary, depending on the land use designations of the noise source and noise receiving properties. For noise from an industrial property, the limits for residential receiving property are 60 dBA during the day and 50 dBA at night. As with the DEQ limits, higher noise levels are allowed for short term periods during any one hour.
- The City of Portland, Oregon has noise limits of 65 dBA during the day and 60 dBA during the night for residential receiving areas and industrial noise sources.
- The State of Minnesota limits L_{50} noise levels in residential areas to 60 dBA during the daytime and 50 dBA during the night.

- The State of Colorado limits daytime noise (defined as 7 am to 7 pm) to 55 dBA and nighttime (defined as 7 pm to 7 am) noise to 50 dBA.
- The City of Anchorage, Alaska has noise limits of 60 dBA during the day and 50 dBA during the night for residential areas regardless of the land use of the noise source.

PROPOSED REGULATION

xx.xxx.xxx Noise

A. General provisions.

1 It is the intent of these requirements to establish standards for noise generated at the site.

2 The City may grant specific variances from these standards as it may deem necessary to protect the public health and welfare, if it finds that strict compliance with such rule, regulation, or order is inappropriate because of conditions beyond the control of the District or because of special circumstances which would render strict compliance unreasonable, or impractical due to special physical conditions or cause, or because strict compliance would result in reduction in or cessation of wastewater treatment.

a. Variances may be limited in time.
b. The District will make its request in writing to the City and will state in a concise manner the facts to show cause why such variance should be granted.

B. Noise requirements.

1. A noise source is a source which generates noises by a combination of equipment, facilities, operations or activities employed in the treatment of wastewater and associated recovery of resources.

2. A noise sensitive property is a real property normally used for sleeping or normally used for schools or libraries.

3. An appropriate measurement point shall be that point on the noise sensitive property, which is further from the noise source:

a. 25 feet toward the noise source from that point on the noise sensitive building nearest the noise source; or

b. The point on the noise sensitive property line nearest the noise source.

4. Statistical Noise Level - The District will not cause or permit the operation of a noise source if the statistical noise levels generated by that source and measured at an appropriate measurement point, exceed in any one hour, the levels specified as follows:

Allowable Statistical Noise Levels, dBA(1)	7 AM-10 PM	10 PM – 7 AM
L_{50}	55	50
L_{10}	60	55
L_1	75	60

(1) L_x – Noise level can be equaled or exceeded x% of the time.

5. Impulse Sound – The District will not cause or permit the operation of a noise source if a sound is emitted for a duration of less than one second which exceeds the sound pressure level of 100 dB between the hours of 7AM and 10 PM or 80 dB between the hours of 10 PM and 7 AM as measured at an appropriate measurement point.

6. Measurement - Sound level instruments shall conform to the Tigard Municipal Code 6.02.420.

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