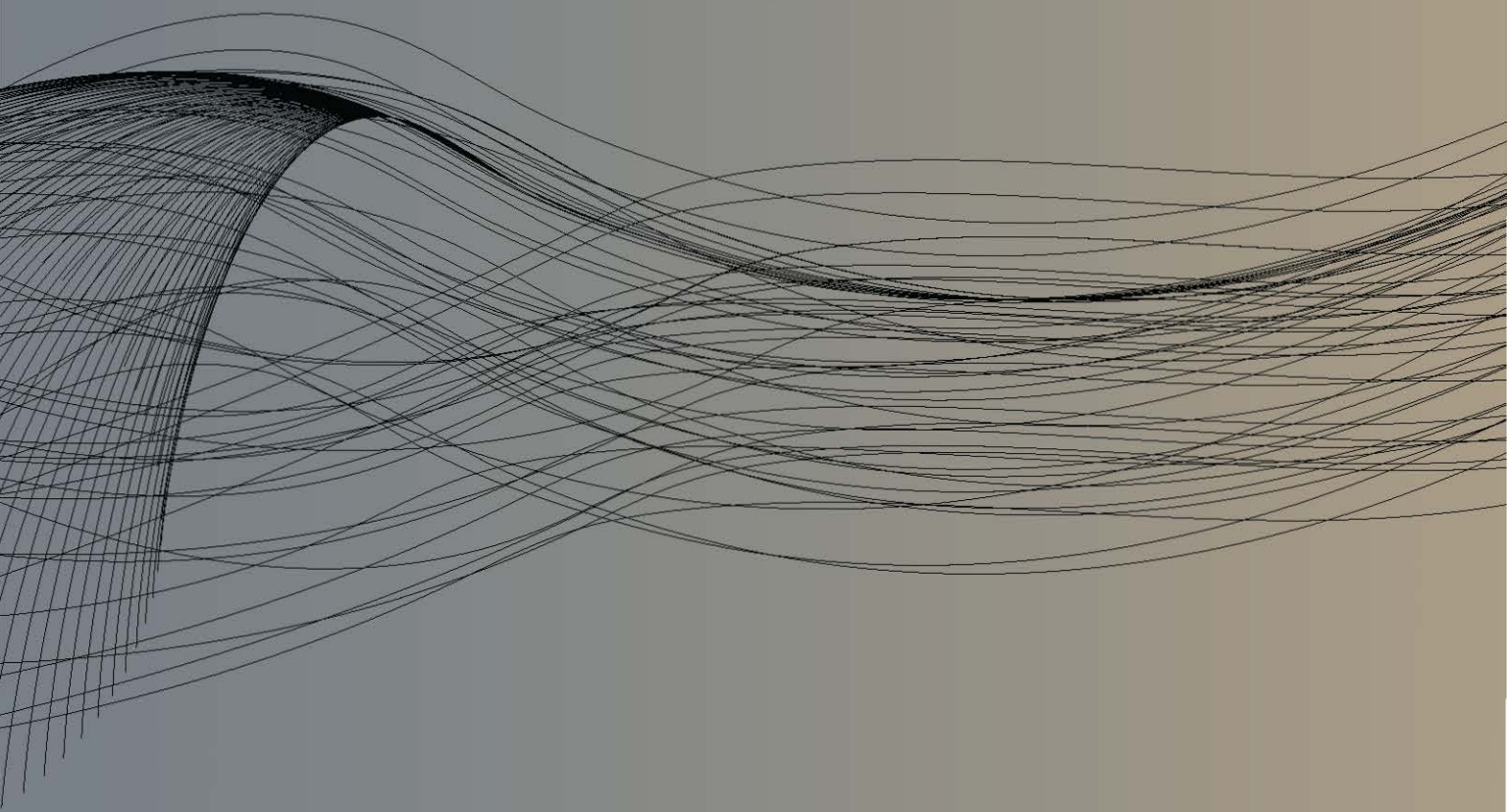
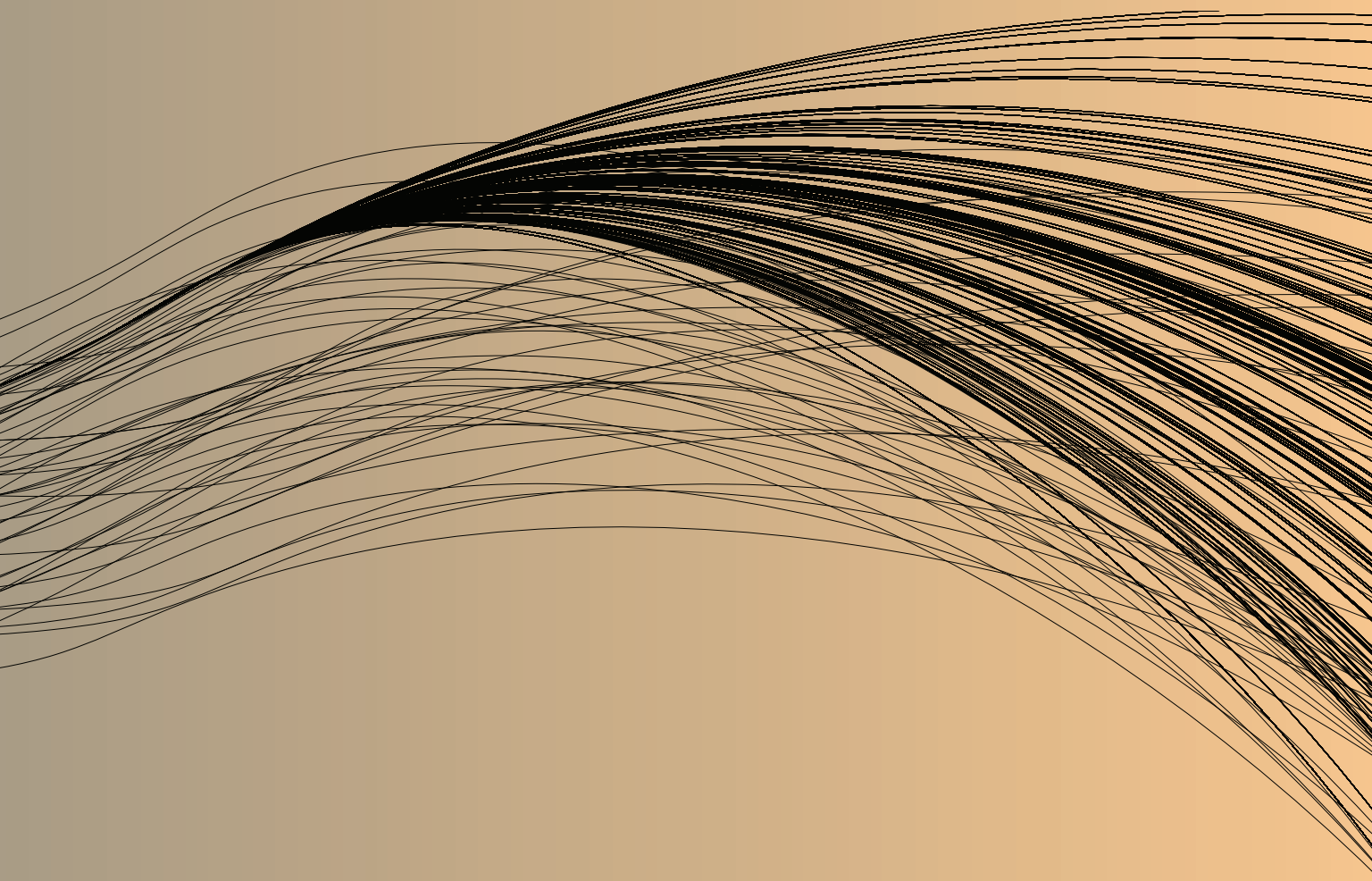


The Things We've Done for a Table Leg

A Landscape Narrative Approach to the Colonial Mahogany Trade



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Abstract

The troubling material history of the colonial mahogany trade's ties to slave labor and environmental degradation is often obscured by the reverence we place on the craftsmanship and pedigree of its products. Although historians have explored this complex past, the story has not been told through landscape, which can engage people differently than text, film, or images. This project uses designed landscape narratives to tell the story of the colonial mahogany trade and to reveal the social and environmental entanglements that developed with this system of commerce.

This research through designing project is structured by the two branches of a narrative: story and telling. The story of the colonial mahogany trade is uncovered through literature reviews and visualization methods like drawing and modeling, and distilled into the elemental pieces of a story: characters, events, and settings. Similarly, the project explores the elements of a landscape narrative: spaces, components, and sequences, and uses them to analyze designed landscape narratives to find ways to tell a story.

'Story' and 'Telling' are synthesized together into final design proposals at Easton's Point in Newport, Rhode Island and at Seville Heritage Park in St. Ann, Jamaica. The final proposals offer a new way to design multiple landscape narratives to tell a story of the colonial mahogany trade, and further explore landscape architecture's potential to engage with complex material and social histories.

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Landscape Narrative

"People need a sacred narrative. They must have a sense of larger purpose, in one form or another, however intellectualized. They will find a way to keep ancestral spirits alive."

E.O. Wilson

Introduction

When a mahogany desk made by John Goddard sold for $12.1 million in 1989, it was the "highest price ever paid at auction for an object other than a painting."[1] While it was a historic amount, a high price for the mid-18th century piece was expected. John Goddard was a preeminent craftsman in American history and a founder of one of the most cherished furniture traditions in the country. The history of the desk was also noteworthy; it had been passed down through the Brown family, the namesake of Brown University. The extravagant price of the piece obviously reflected the master craftsmanship and the impressive pedigree, but it did not reflect the troubling material history of the mahogany the desk was made from.

The 18th century commercial export of mahogany was a painful, exploitative process of human suffering and environmental degradation. Slaves in Jamaica were forced to cut down centuries-old trees in brutal and dangerous conditions. Prized for its beauty and material qualities, a rising demand for mahogany to make furniture masterpieces drove further suffering and exploitation. While historians have studied and written about this story, it is one that is centered on spaces and landscapes which cannot be completely captured in text. Landscapes are powerful ways to convey stories in new ways, and this project uses landscape narratives to communicate the complex story of the colonial mahogany trade.

Landscape Narratives

Narratives are how we relate to the world around us. They are created by an author and interpreted by a reader. Narratives are more than stories, embedded with a structure that defines both the content and an expression. "Narrative refers both to story, what is told, and the means of telling it – implying both product and process, form and formulation, structure and structuration..." [2] Simplified by a graphic in the text *Landscape Narratives* by Matthew Potteiger and Jamie Purinton, narrative has two branches: content (the story) and expression (the telling) (fig 1.1). While narratives can be expressed through a variety of mediums, its stories are composed of the same essential elements of characters, settings, and events. Each type of expression (film, text, dance, landscape, etc.) requires a different structuring of a story (settings, characters, and events) under the author's direction. This valued construction imbues the biases of the author into the narrative, but also opens the narrative to be interpreted by the reader.

Landscape narratives are explicitly spatial and temporal ways to structure and express a story, and require significant interpretation by its reader. All landscapes are a continually changing medium, and have multiple stories embedded within them. Bedrock etched by glaciation and stone walls demarcating forgotten property lines are ways that stories of physical and cultural processes can be seen in a landscape. Designers can manipulate spaces

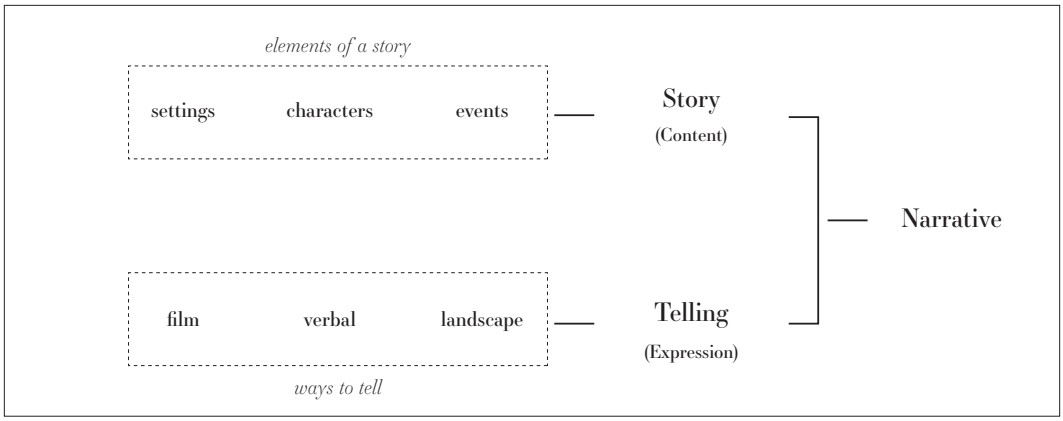


FIGURE 1.1 Narrative structure. (Adapted from Purinton and Potteiger, 1998)

and alter landscape processes to highlight these stories to or embed new ones. Designers do not, however, have a way to control how a reader experiences a landscape, or how they interpret it. "This changes the traditional relationship between author, text and reader where the author exerts control over the telling. Instead, the spatial narrative is more about showing, relinquishing control to the reader who must put together sequences, fill in the gaps, and decipher the meaning."[3] In this project, I investigate the potential of designed landscape narratives to tell complicated stories. I analyze these designed spaces and the stories they are expressing, and use those design strategies to find ways to tell new stories through the medium of landscape.

The term 'landscape' can refer to physical spaces large and small, but designed narrative landscapes are often physically limited to a single site. The medium of landscape is an important way to express a story and can offer unique perspectives to a viewer, but narrative landscapes often do not engage with the many of characters, settings, and events that compose our complicated networked understanding of the world today. To tell the story of these complex networks, our landscape narratives must also become more complicated. Maya Lin's *Confluence* project is an examples of a more complicated landscape narrative. Lin has designed a set of landscape narratives that all relate to a broader story of the Columbia River's many cultural and ecological histories. But *Confluence* is rare in this type of undertaking. Without designers exploring the potentials of linking separate designed landscapes with a single narrative, we risk missing out on an important way to understand the complicated stories that compose our world today.

Using the colonial mahogany trade as an example, this project proposes a set of designed landscape narratives to communicate the complex economic and social network that arose from a system of commerce. Borrowing the two-branched narrative structure introduced by Potteiger and Purinton (fig 1.1), the project uses historical and spatial analysis to inform final projective designs (fig 1.2). The first branch of historical analysis investigates the content of the narrative to find how the settings, characters, and events can be structured to be told through a landscape. The second branch of spatial analysis looks at precedent designed landscape narratives to draw conclusions about successful ways landscape spaces have been structured to express a story. Motivated by a question about the potentials of *design* to

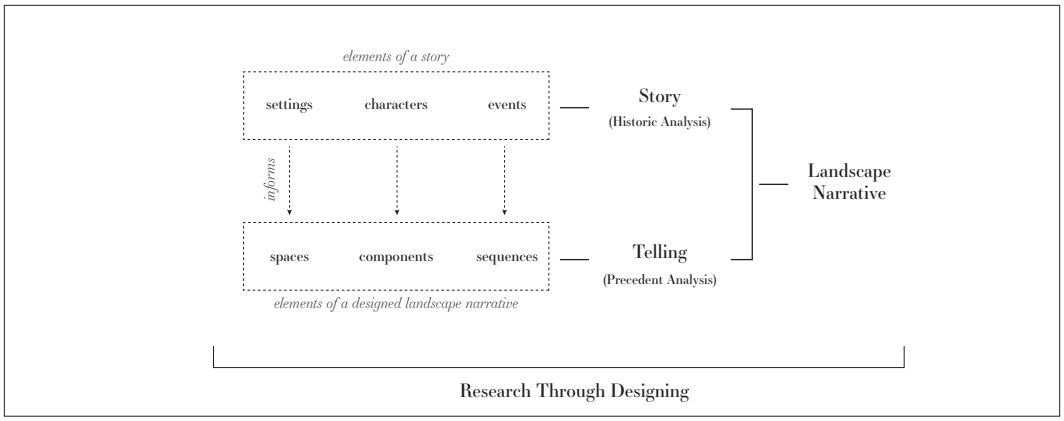


FIGURE 1.2 Overall project structure

communicate a story, the project uses a research through designing methodology. A final set of designed landscape narratives will synthesize conclusions of the two branches of analysis to propose new ways landscape designers can engage stories of historical networks.

Colonial Mahogany

Colonial Rhode Island mahogany furniture is celebrated for its craftsmanship and ornamentation. In August 2016, the Yale University Art Gallery opened their exhibition *Art and Industry in Early America: Rhode Island Furniture 1650 – 1830*, containing over 130 beautifully constructed and carved pieces of furniture. Patricia Kane, the exhibition's curator, writes, "...Rhode Island makers created some of the great masterpieces of American furniture."[4] Noted earlier in the example of the $12.1 million John Goddard desk, high valuation of Rhode Island furniture is not new. Mahogany was the material of choice at the time of craftsmen John Goddard and his contemporary, Job Townsend, both of whom were mid-18th century progenitors of Newport's famed tradition of furniture making. Mahogany's dark, mottled coloring and ability to hold delicate carving remains a coveted quality of the material (fig 1.3), and one reason that pieces of furniture are still celebrated today. The material history of mahogany however, is a complicated one. A small placard at the Yale exhibit noted that most of the pieces of furniture on display were crafted with mahogany cut down in the West Indies by slave labor, causing social and environmental harm.

Colonial mahogany extraction was a socially and environmentally exploitative practice embedded within a larger transatlantic trading system. Mahogany became a commodity as England was seeking to assert its naval power and expand its economic influence throughout the New World. The Naval Stores Act of 1721 removed tariffs on lumber imports from English colonies, allowing for the bulky and difficult to ship commodity to become a source of profit for merchants, and creating a protected system of wealth generation for colonial exporters and English manufacturers.[5] Large scale mahogany harvesting started in 18th century Jamaica, a newly developing colony of England. Sustained with a seemingly endless supply of African slaves, centuries-old mahogany trees were cut down to open forests for sugar plantations (fig 1.4). Conditions for slaves in Jamaica were especially brutal: deaths from disease and

FIGURE 1.3 Shell carving detail of mahogany bureau table by John Townsend. 18th century. Yale University Art Gallery Digital Collection.

FIGURE 1.4 Harvesting mahogany trees. Chaloner and Fleming, 1851.

torture were common,[6] as was a military-occupation style transformation of the landscape by English landowners.[7] Previously burned to quickly clear land for cultivation, the new market meant that mahogany could instead be shipped to England and American colonies as a secondary cargo. These new markets ultimately drove demand, creating widespread deforestation throughout coastal Jamaica before the close of the 18th century.[8] The rapidly inflating mahogany markets was an early example of the devastating effects a system of commerce could have on one landscape while completely invisible in another.

Mahogany's rise in popularity coincided with Thomas Chippendale's seminal furniture style book, *The Gentleman and Cabinet-Maker's Director*, an early example of global styles compiled into an easily disseminated text. Published in 1754, Chippendale's *Director* was one of the first guidebooks for cabinetmakers, and combined Rococo, Chinese, and Gothic styles in easily reproduced patterns. Chippendale-influenced furniture was soon produced by the Goddard and Townsend shops, though the families maintained a strong regional Newport style in their work.[9] Chippendale style furniture and mahogany have become emblematic of one another, and furniture from Newport in the second half of the 18th century featured the wood prominently. Chippendale's style reflected a new, globally-minded sentiment that began creeping throughout an expanding English empire and into American colonies. Goddard and Townsend furniture thus linked its owners to the global style developed by Chippendale and to the exotic mahogany from the West Indies, all while locating the furniture within a regional colonial flair that the Goddards and Townsends refined (fig 1.5). While the furniture today can be revered for the craft, it is important to understand the social and environmental legacies that they represented when first produced; "although their beauty and substance remain a testament to human creativity and initiative, it bears remembering that they also recall a story of destruction and suffering."[10]

This story has already been expressed through text: this project will express it through designed landscape narratives. Much has been written on the colonial mahogany trade and development of a regional 18th century Newport furniture style. Scholars like Jennifer Anderson and Adam Bowett have done extensive interpretation of historical documents and have produced impressive accounts of the mahogany trade. Additionally, furniture historians like Jeffery Greene, Michael Moses, and Patricia Kane have written extensively about the furniture of the Goddard and Townsend families. All of these descriptions, however, have

been done through text and images. While these writers have effectively communicated the historical accounts, the stories themselves are spatial and grounded in landscapes. They deal with growth and change, revolve around management of territories, and were dictated by environmental factors that are nearly impossible to accurately capture in text. The open-ended and interpretative qualities of designed landscape narratives can provide a new perspective for readers to gain additional understandings of this transatlantic system of commerce. The project's goal is to use the colonial mahogany trade to test the limits of landscape narratives, and explore new strategies to communicate a story to others.

Slavery

It would be inappropriate to discuss the colonial mahogany trade in Jamaica without dealing with slavery; the human exploitation and suffering is one of the invisible pieces in this system of trade that this project attempts to reveal. However, I do not claim to have dealt with every facet of this complicated and crushingly enormous story. The images and writing about slavery that follows in this document are only a handful of the pictures and accounts I've come across in my investigation. I have looked at how other authors have approached including troubling imagery of slavery, spoken with faculty in the landscape

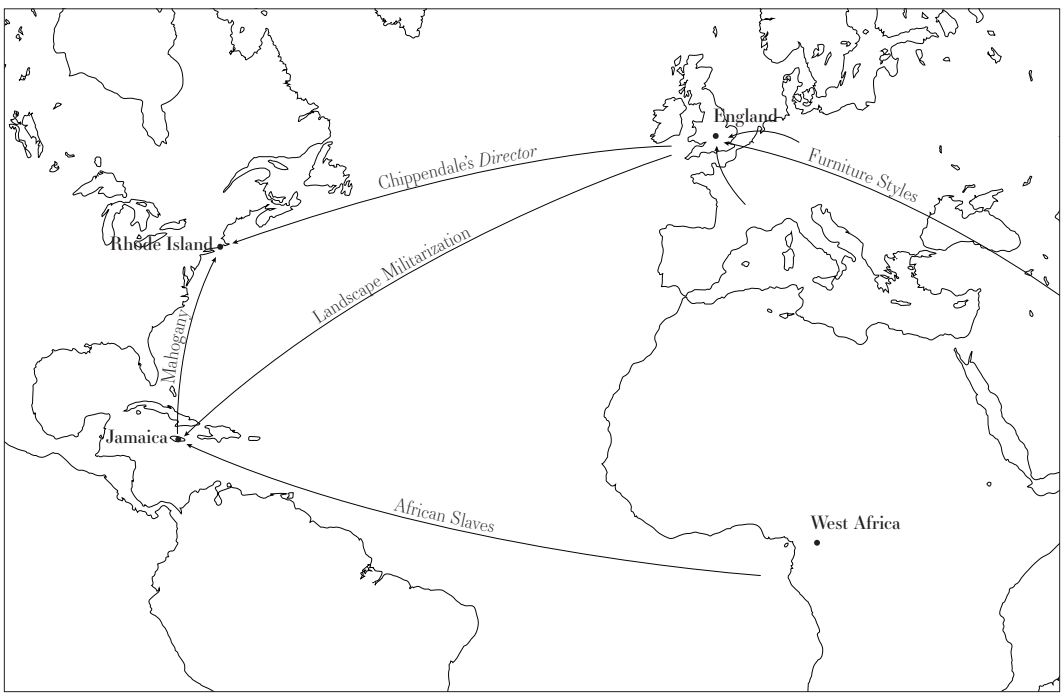


FIGURE 1.5 Transatlantic influences on Newport mahogany furniture.

architecture department, and followed my own judgement to decide how and where to include difficult images. This project is my personal attempt to use the communicative power of landscape narrative to shed light into the brutal practices embedded within pieces of furniture we value today.

Research Questions

This project is motivated by a primary research question which can be understood through two sub questions. The project's primary research question is, *How can a set of landscape narratives be designed to spatially communicate the complex network that arose from the colonial mahogany trade?* This primary question can be supported by two sub questions, including *What is the complex network that arose from the colonial mahogany trade?* and, *What are landscape narrative design strategies that can spatially communicate this network?* These questions can be understood in a structure (fig 1.6) congruent to the overall project structure (fig 1.2). Because the project's primary motivation is to test limits of design, the project claims its knowledge through a research through designing framework.

Research Through Designing

This project is investigating new possibilities for landscape architecture to express a landscape narrative, so it will rely on research through designing to arrive at its conclusions. The use of design as a research strategy is still relatively new in landscape architecture, and in their text *Landscape Architecture Research*, Ellen Deming and Simon Swaffield write, "...design as an investigative strategy remains poorly understood and inconsistently applied, even if frequently invoked."[11] However, new texts are emerging to better inform how

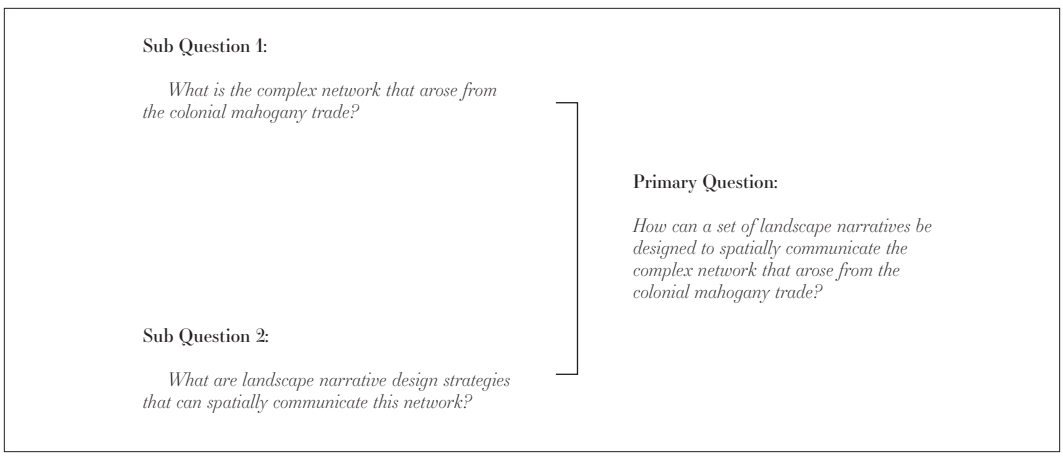
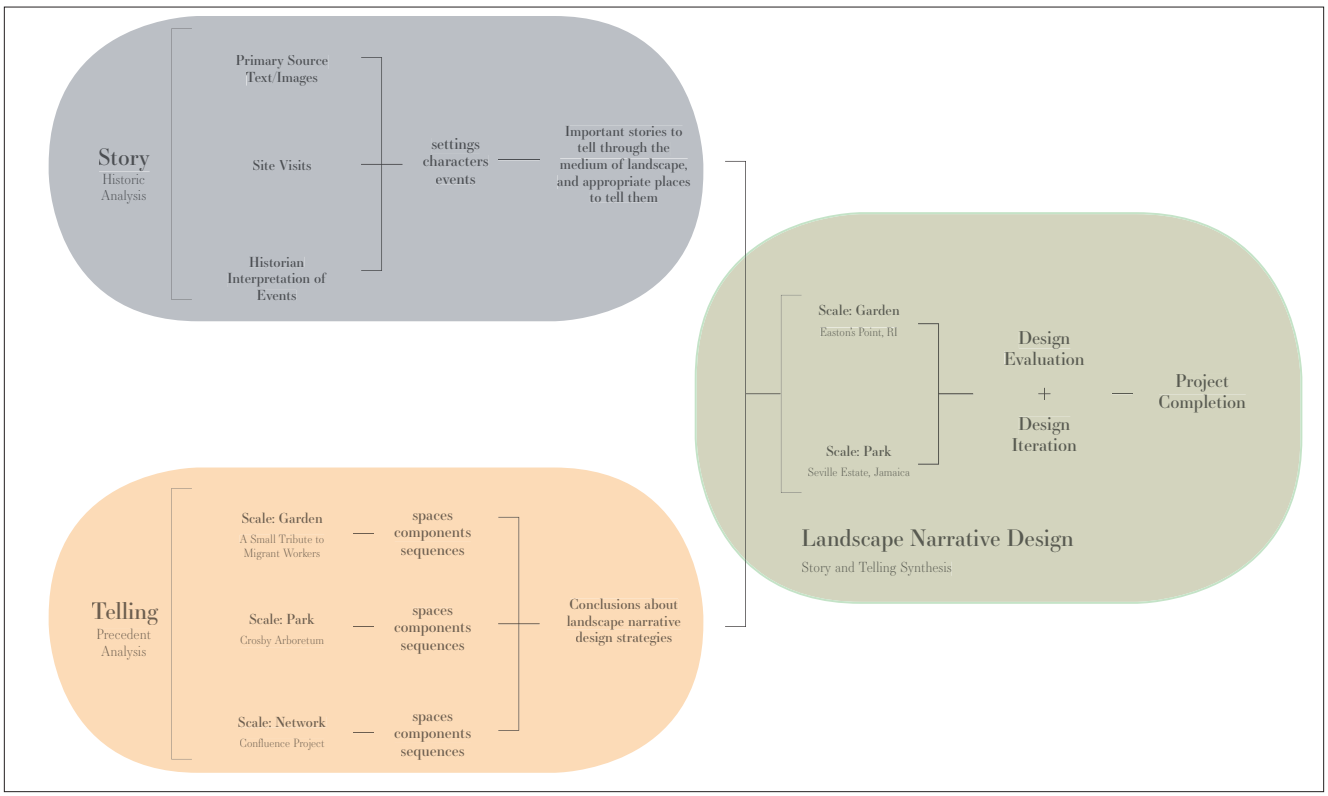


FIGURE 1.6 Motivating research questions.

designing can be used as a research strategy. The article "'Research Through Designing' in Landscape Architecture" categorizes different types of research through designing strategies into four accepted claims of knowledge, and provides issues, methods, and evaluative criteria that are best appropriate for each.[12] In the article, author Sandra Lenzholzer is careful to use the phrase 'research through designing' and define the words used. Research is "...curiosity or question driven, rigorous academic research..." while designing is "...the process of giving form to objects or space on diverse levels of scale...in landscape architecture however, these designs [the results of a designing process] are usually projected first, either in plans, scale models, computer simulations, or various other media."[13] Importantly, Lenzholzer uses the verb *designing*, emphasizing that the activity is employed as a research method. Research through designing (RTD) proposes a practice based approach to broadening the type of knowledge generated in the field of landscape architecture.

Lenzholzer categorizes RTD approaches into four main claims to knowledge, and this project is situated within the 'constructivist' claim to knowledge. Constructivist RTD projects typically focus on generating new 'insights or constructs' around contextual, sociocultural

FIGURE 1.7 Detailed project structure.



problems. "Central research questions revolve around the generation of something new, often within a specific context."[14] Techniques include interpretation and landscape analysis, historical reframing, and traditional creative techniques of drawing and model making. A constructivist RTD project is strengthened if multiple techniques are triangulated, and like any research strategy, these techniques must be done in a systematic way with "conscientious description of all steps taken."[15] Constructivist projects with authenticity, credibility, and original outcomes are highly valued. Clear documentation and transparent decision-making can help guarantee the credibility of the research and allows the process to always be open to discussion. Based on the appropriateness of the specific instances, conclusions from inductive reasoning are evaluated as strong or weak rather than true or false. This project applies a constructivist approach to RTD through two branches of analysis and interpretation which draw specific conclusions that are synthesized into an iterated design project.

Landscape narrative is used as a framework to analyze designed spaces and colonial mahogany histories, conclusions from which are then synthesized through a creative process of iterative drawing and designing. Historical analysis categorizes primary and secondary source materials regarding the 18th century mahogany trade and Newport furniture into settings, characters, and events. Spatial analysis uses the classifications of spaces, components, and sequences (analogous to a story's settings, characters, and events) to dissect designed narrative landscapes and derive design strategies. Creative generation synthesizes the settings, characters, and events of the colonial mahogany story with the conclusions about landscape narrative designs strategies. The consistently used framework of landscape narrative, clearly documented process, and parallel methods of analysis, all help to strengthen the inductive design conclusions proposed at the end of the project. A diagram (fig 1.7) illustrates a more detailed structure of the project. Though this diagram draws two distinct branches that meet at a final design phase, no aspect of the project has been independent of itself. All three pieces of this project (the two arms of analysis and the creative generation) have informed one another. By combining all three approaches, this project builds off of an already established structure of narrative to explore new possibilities of design to express a story through landscape.

Chapter 1 Endnotes

1 Rita Reif, "18th-Century Desk Sold for Record $12.1 Million," New York Times, June 4, 1989, sec. NY / Region.

2 Matthew Potteiger and Jamie Purinton, Landscape Narratives: Design Practices for Telling Stories (New York: John Wiley & Sons, Inc, 1998).

3 Potteiger and Purinton.

4 Patricia Kane, Art and Industry in Early America: Rhode Island Furniture, 1650-1830 (New Haven: Yale University Art Gallery, 2016).

5 Adam Bowett, "The Commercial Introduction of Mahogany and the Naval Stores Act of 1721," Furniture History 30 (1994): 43–56.

6 Richard Dunn, A Tale of Two Plantations: Slave Life and Labor in Jamaica and Virginia (Cambridge, Massachusetts: Harvard University Press, 2014).

7 Louis P. Nelson, Architecture and Empire in Jamaica (New Haven: Yale University Press, 2016).

8 Chaloner and Fleming, The Mahogany Tree (Liverpool: Rockliff and Son, Castle Street, 1850).

9 Jeffrey P. Greene, American Furniture of the 18th Century (Newton, CT: Taunton Press, 1996).

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11 Elen Deming and Simon Swaffield, Landscape Architecture Research: Inquiry, Strategy, Design (Hoboken, New Jersey: Wiley, 2011).

12 Sandra Lenzholzer, Ingrid Duchart, and Jusuck Koh, "'Research Through Designing' in Landscape Architecture," Landscape and Urban Planning 113 (2013): 120–27.

13 Lenzholzer, Duchart, and Koh.

14 Lenzholzer, Duchart, and Koh.

15 Lenzholzer, Duchart, and Koh.

Yale Furniture Study. January 2018.

Methods

This project tests a design process based on the structure of a landscape narrative to communicate the story of the colonial mahogany trade through landscape architecture. Simply, analysis of historic information and designed landscape narratives were the foundation of the design project. Historic analysis categorized relevant information about the colonial mahogany trade into categories of characters, settings, and events. Spatial analysis revealed landscape design strategies by categorizing precedent landscape narratives into spaces, sequences, and components. Conclusions from both were synthesized into the set of final designed landscape narratives. This simple construction of the project structure can be seen in figure 1.2, where two branches of analysis support a projective design branch, but this conception cannot communicate the multiple strategies used in the structuring and execution of the project. The following chapter aims to introduce an increasingly detailed description of the formulation of the project and its individual branches.

Motivating Questions

A primary motivating question has driven the structuring and execution of this project, and is supported by two sub questions listed below.

Primary Question: *How can a set of landscape narratives be designed to spatially communicate the complex network that arose from the colonial mahogany trade?*

Sub Question 1: *What is the complex network that arose from the colonial mahogany trade?*

Sub Question 2: *What are landscape narrative design strategies that could be used to spatially communicate this network?*

Situating Knowledge

Ultimately, this project seeks to find ways that landscape architectural design can communicate a complex material history. To arrive at an answer, this project has been structured to use a variety of research strategies identified by Deming and Swaffield. Though many strategies are used, some, like projective design and interpretation, have been more integral to the core of the project than others. I have mapped the different strategies employed in this project and their frequency of use (table 2.1). Openness about the strategies used in this project is meant to add clarity and transparency to the project, and help frame why specific research methods were employed.

Project Framework

Any research project can be understood in three parts: the designing, the doing,[1] and the reporting. This document is the reporting, so I will spend this chapter discussing the designing and doing of the project. To avoid ambiguity around the word 'designing' and 'doing' I have changed these two parts to describe my project's process as "creating the project" and "executing the project," respectively. (figure 2.1). Within each of these two parts I have identified two phases integral to the project, and how Deming and Swaffield's research strategies[2] and ways of reasoning are mapped to them. The rest of the chapter will go into greater detail about each phase of the project and research methods used.

Summarized in the introduction, research through designing is an evolving research method in landscape architecture, and an important one to use in this design-focused project. I have situated this project within Sandra Lenzholzer's Research through Designing (RTD) framework where she specifically identifies the *act* of designing as a primary research method. Given the qualitative aspect of my project's primary research question, the designing done in the project fits within Lenzholzer's constructivist approach to RTD (table 2.2).[3]

While the act of designing creates the final research results, *creating* the project, its concept, and its structure, is as important as the designing. In their article, *Research Through Designing,* Lenzholzer and her co-authors do not distinguish between the creating and the executing of a RTD project; they focus on situating a variety of RTD approaches, questions, methods, and results within claims of knowledge. They fail to address opportunities for developing strong and guiding project structures within RTD. Using a conceptual structure or system to frame a design project is a common tactic to help guide the design process and better explain the final project to clients after its completion. This project highlights the RTD opportunities for testing the efficacy of a structure outside of landscape architecture to guide a landscape project.

TABLE 2.1 Project's mapped strategies of inquiry. Adapted from Deming and Swaffield.

	Inductive (theory building)	**Reflexive (theory/practice interactions)**	**Deductive (theory testing)**
Objectivist strategies	Description	Modeling and correlation	Experimentation
Constructionist strategies	Classification	Interpretation	Evaluation and diagnosis
Subjectivist strategies	Engaged action	Projective design	Logical systems

Project Applicability: *not used* *used less* *used more*

The concept of narrative was used to establish a clear, three-branched structure to guide this design project, and creative practice methods were employed within each of the branches to arrive at conclusions. The strength of this project, however, lies in its creation. The project is a formalized and documented approach to the design process, which is meant to shed light into what is typically a designer's black box of inspiration and goals. This question-driven design aims to find new meanings and interpretations in the field of landscape narrative design, and test a landscape narrative based structure of a design project.

Creating the Project

I. Develop Project Concept

The three-branched structure of this project was derived from the construction of a narrative, diagrammed by Potteiger and Purinton (fig 1.1). This three-branched project structure was constructed with deductive reasoning, which found relationships between narrative and the project's motivating questions, and by drawing from a precedent research-by-design project by Sue Ann Ware.[4] (figure 1.2). This logical system construction was extended to identify the elements of a landscape narrative used in the spatial analysis branch of the project. Potteiger and Purinton identified the elements of a story as settings, characters, and components, and through a literature review,[5,6] spaces, components, and sequences were identified as elements of a landscape architectural design. This phase was completed early in the project and provided a great deal of clarity for creating the project later.

II. Branch Triangulation

This research project can be understood in three branches: historic analysis, spatial analysis, and landscape narrative design. While there is a great deal of overlap between all three, they are not separate entities, and lessons from each were intentionally triangulated with one another to provide stronger conclusions. Triangulation offers a more balanced

Kind of New Design Knowledge	RTD Methods	Research Evaluation Criteria
Making tacit knowledge explicit / procedural	Question driven design process	Transparency
Qualitative	'Creative' reflection in action	Credibility
New artifacts / projects	Triangulation	Originality
Contextual	Thick description	Dependability
'Individual' meaning	Intense designer involvement / immersion	Effect on perception and feelings of users
Suggestive	Personal involvement	Shift in values
	Systematic 'reflexive journal'	

Project Applicability: *not used* *used less* *used more*

TABLE 2.2 Constructivist RTD overview. Adapted from Lenzholzer et al.

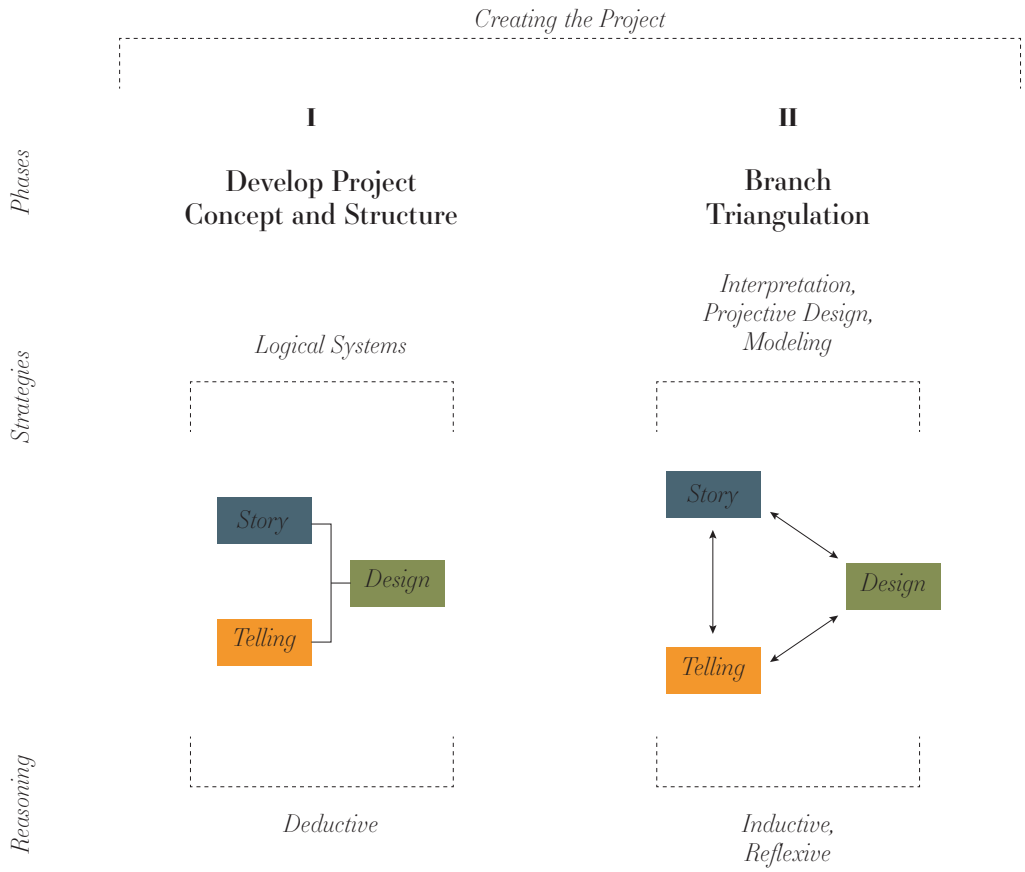
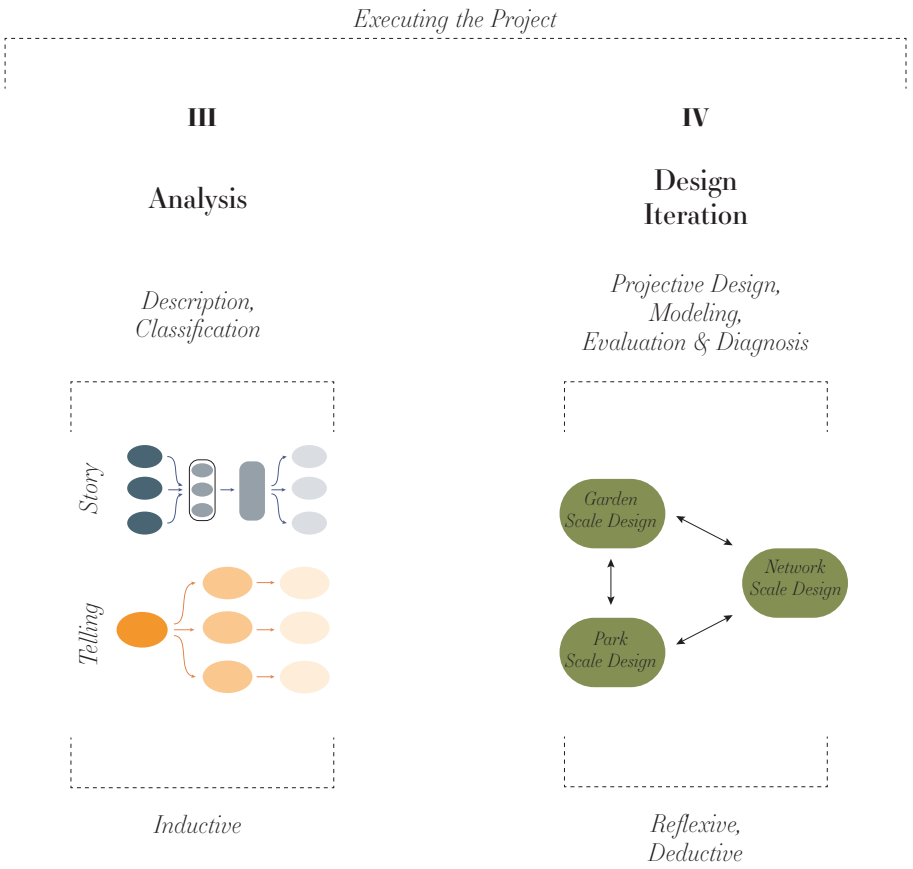


FIGURE 2.1 Strategies and ways of reasoning mapped within project's framework.

understanding of a research issue by bringing together two or more perspectives gained from different research methods.[7] Using inductive and reflexive reasoning, opportunities in one branch could be acted upon when uncovered from another. As all three branches of the project were being worked on at once, triangulation occurred simultaneously and affected both analysis and the design branches.

Executing the Project

Once the structure of the project was created, it was important to identify the strategies and methods that would be employed in the project's execution. Execution of the project relied on a variety of strategies and ways of reasoning, and employed many research methods



linked to the broader method of creative practice. Although one branch of the project is explicitly called 'landscape narrative design,' I view all phases of the project's creation and execution as research through designing. The analytical branches were integrally linked to the design outcomes of the project.

I used several research methods grounded in creative practice during the analysis and design branches of this project. Creative practice research can be defined as the development and making of creative work for specific research purposes like generating, analyzing, synthesizing, or presenting data.[8] Table 2.3 identifies the creative practice research methods I used. These are methods found in almost any landscape architecture design project, including site visits, drawing, and reflection, but I sought to explicitly identify their importance to the completion of this project.

III Analysis

Analysis of historic information and designed landscape narratives were the foundation of the design project. Conclusions from both the historic and spatial analyses were synthesized into the final projective design branch of the project. Though each analysis branch was structured differently, both used inductive reasoning to classify larger sets of information into smaller, elemental pieces, and were completed with creative practice research methods described above. See the start of each Story and Telling chapter to find the sets of elemental pieces used to classify information in their respective branches.

Story: Historic Analysis

The historic analysis branch defined the project's overall scope and uncovered specific stories to tell in different landscapes affected by the colonial mahogany trade. Initial literature reviews quickly defined the areas of interest to 18th century mahogany extraction in Jamaica and furniture production in Newport, Rhode Island by the Townsend and Goddard families. Subsequent literature searches focused on primary source text and images from these eras, regions, and people, while also expanding to incorporate contemporary interpretations from historians investigating the mahogany trade as well as writers and artists dealing with Caribbean post-colonialism. Additionally, site visits were also integral to the research, helping to develop the initial idea for the project and later identifying design sites. Site visits included a visit to the furniture exhibition, *Art and Industry in Early America* at the Yale

TABLE 2.3 Project's creative practice research methods.

Methods	Description	Advantages	Disadvantages	Branches Used
Site Visit	Documentation of site conditions through photography, drawing, and note-taking.	Offers a wide variety of experiential opportunities to be recorded.	Generally done in a small window of time; may not provide a complete picture of a place.	All Branches
Literature Review	Review of materials (text, image, etc) relevant to area of study.	Seemingly endless supply of pertinent information to comb through.	Seemingly endless supply of pertinent information to comb through.	Historic Analysis Spatial Analysis
Concept Mapping [i]	Analytic tool to forumlate ideas and relationships. Primarily performed in Historic Analysis branch.	Offers a visual approach to representing complex set of relationships.	Difficult to systematically integrate into research process; map refinement for presentation purposes may obscure its initial intent or findings.	Historic Analysis Spatial Analysis
Two-Dimensional Visualization [ii]	Drawing (plan, section, diagram, vignettes, perspectives) to communicate spatial ideas.	Grounded way to communicate spatial ideas. Elicits creative responses.	Can be hindered by technical proficiency; may be deliberately ambiguous.	All Branches
Three-Dimensional Modeling [ii]	3D physical or digital representations of varying refinement and levels of resolution.	Allows for more rigorous exploration of spatial qualities like material, light, and scale.	Requires systematic documentaiton, may not be executed competently.	Projective Design
Creative-in-action Reflection	Instantanous critique and iteration of a design. Inseparable from design generation.	Constant feedback during design process.	Embedded in typical design process. Very difficult to document.	All Branches

References:

i Butler-Kisber, Lynn, and Tiiu Poldma. "The Power of Visual Approaches in Qualitative Inquiry: The Use of Collage Making and Concept Mapping in Experiential Research." Journal of Research Practice 6, no. 2 (January 7, 2011): 18.

ii Gray, Carole, and Julian Malins. Visualizing Research: A Guide to the Research Process in Art and Design. 1st ed. Burlington, VT: Ashgate, 2004.

Art Gallery in January 2017, to Newport, Rhode Island in August 2017, and to Jamaica in September 2017.

The historic analysis can be understood in four steps (fig 2.2a). First, information was collected from literature reviews and site visits. The information was then classified into the three elements of a story: settings, characters, and events. This classification was displayed through conceptual maps, text matrices and networks, and 2D and 3D representations. This style of classification allowed for a diverse body of information to be arranged and re-arranged to find common threads and themes. Design sites at different scales and locations historically affected by the trade, and new stories to be told through landscape design at those sites, were identified. This analysis answered Sub Question 1, and the selected sites and associated stories were then used as the basis of the projective design branch.

Telling: Precedent Analysis

The precedent analysis branch analyzed designed landscape narratives to derive design strategies to be used in the projective design branch (fig 2.2B). Three precedent projects were selected to fit three categories of scale: garden (small), park (big), and network (constellation of sites), which correlated to the three scales used in landscape narrative design. Site visits, literature reviews, and discussions with colleagues first identified the three precedent sites. To understand what the designers' intent was, I looked at interviews and writings from each designer to discover what the major story of each project was. Then, a series of simple 2D diagrams were used to analyze the major spaces, components, and sequences of the designed landscape narrative. This analysis used inductive reasoning to produce simple conclusions about each precedent project. It answered Sub Question 2, and became a starting point for each similarly scaled projective design.

IV Design Iteration

The landscape narrative design branch synthesized findings from the historic and spatial analysis branches into separate but cohesive proposed designs (fig 2.2C). With specific stories to tell at design sites found in the historic analysis, and a starting point for the design process found in the spatial analysis, a synthetic approach using modeling and reflexive reasoning produced a set of projective designs. Once a set of site designs was generated, personal reflection evaluated each project to inform the designs' next iteration. After this iterative process was performed multiple times, with representations and design strategies becoming increasingly refined, final projective designs were proposed to answer the primary motivating question.

FIGURE 2.2a Story: historic analysis branch steps and methods mapped.

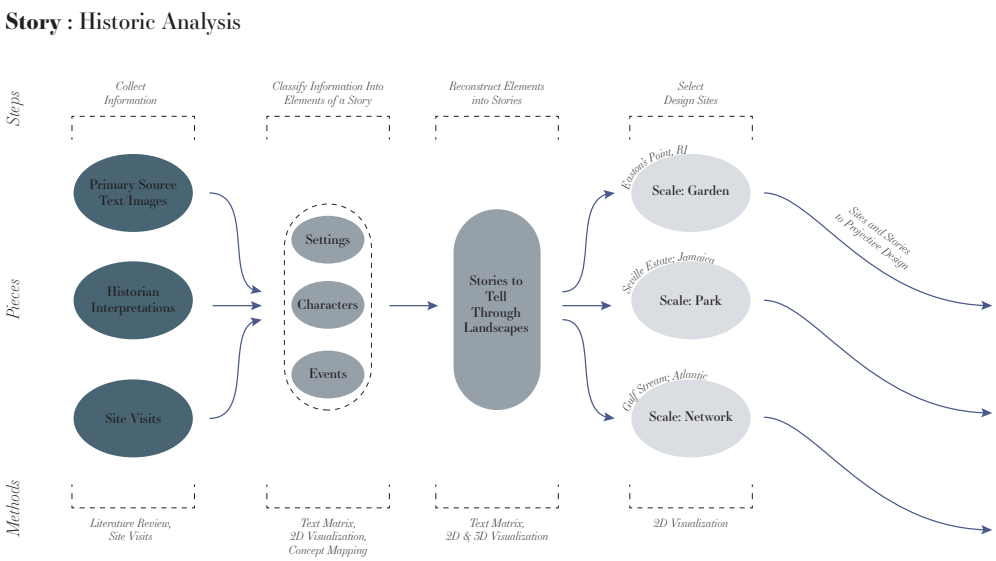


FIGURE 2.2B Telling: precedent analysis branch steps and methods mapped.

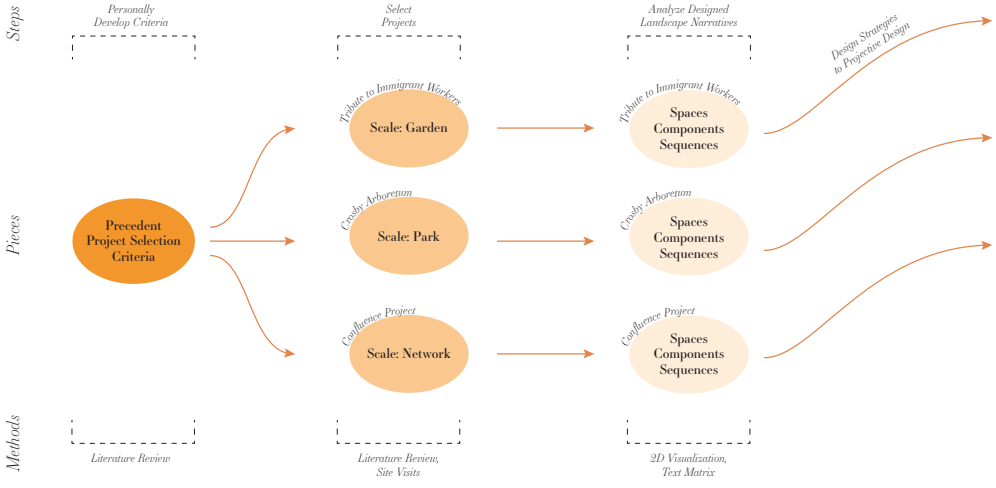
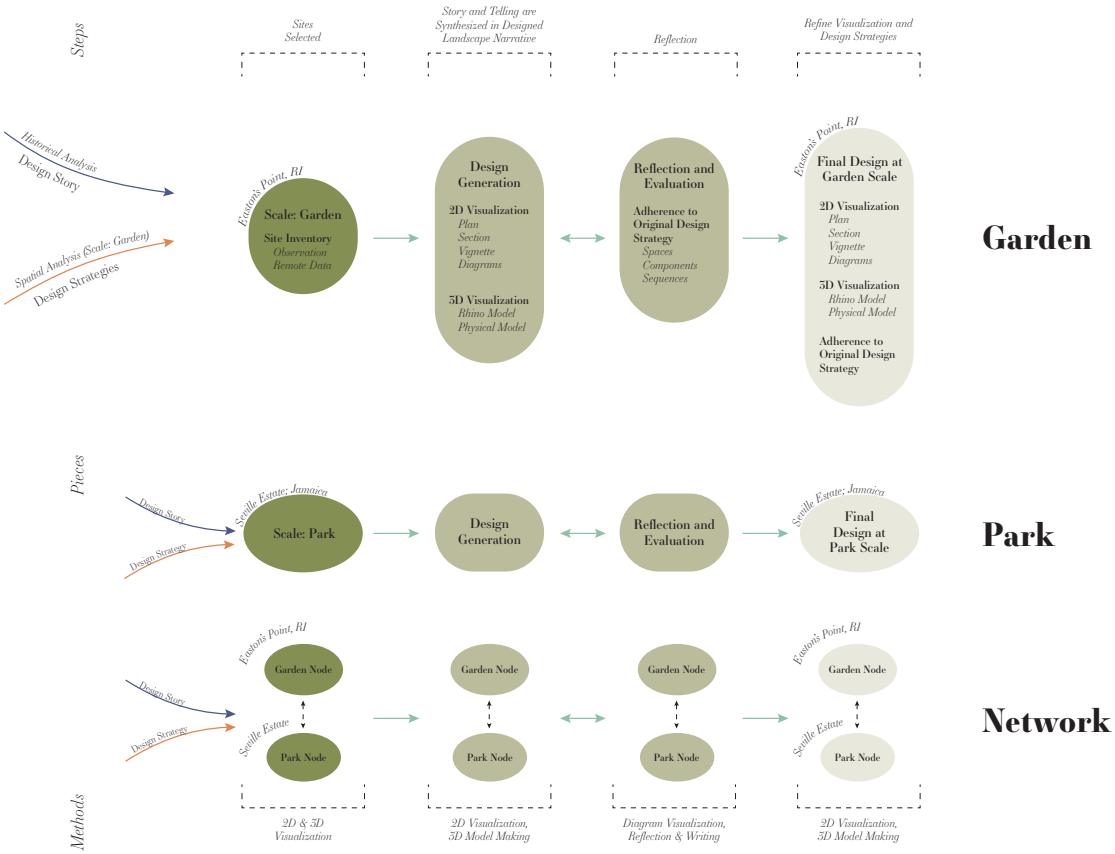


FIGURE 2.2C Projective design branch steps and methods mapped with explanations of garden-scale design.

Landscape Narrative : Projective Design



The design story and the design strategy (derived from the historic and spatial analyses, respectively), were synthesized in each site design. Initial site qualities were inventoried through site visits and remote data collection. Design generation uses 2D and 3D visualization methods to better understand spatial and material choices in each design. The reflection step evaluated the proposed design's adherence to its precedent project's original space, component, and sequence strategy, as well as its coherence of materiality, symbolism, forms, and other features with the other proposed design. Within this RTD project, I valued creating a set of coherent designs rather than designs that adhere to a distinct set of strategies, so design iterations favored creating coherence between both sites. Maya Lin's *Confluence* project, analyzed as a precedent landscape narrative project, helped guide how a network of landscape narratives could relate to one another. The final proposed designs represent a landscape narrative approach to telling the complex history of the colonial mahogany trade.

Summary

This project's creation and execution use a variety of research strategies and ways of reasoning to create a strong project structure and final outcomes. The project's structure is derived from a narrative, and its three branches are simultaneously performed to allow for triangulation between each. The project is executed within Lenzholzer's Constructivist RTD approach, with two branches of analysis synthesized in a projective design branch to create new landscape narrative interpretations of the colonial mahogany trade. Throughout all three branches, creative practice methods were triangulated to find new connections between the material investigated. The project's execution phase is a design process with design iteration evaluated transparently to shed more light into design decisions. This broader framework is meant to positively add to the growing number of RTD examples in landscape architecture, and provide another model for interested students and practitioners in the future.

Chapter 2 Endnotes

1 Adri van den Brink et al., eds., Research in Landscape Architecture: Methods and Methodology (Abingdon, Oxon: Routledge, 2017).

2 Elen Deming and Simon Swaffield, Landscape Architecture Research: Inquiry, Strategy, Design (Hoboken, New Jersey: Wiley, 2011).

3 Sandra Lenzholzer, Ingrid Duchart, and Jusuck Koh, "'Research Through Designing' in Landscape Architecture," Landscape and Urban Planning 113 (2013): 120–27.

4 Sue-Anne Ware, "Research by Design: Honoring the Stolen Generation - a Theoretical Anti-Memorial," Landscape Review 5, no. 2 (1999): 43–58.

5 Matthew Potteiger and Jamie Purinton, Landscape Narratives: Design Practices for Telling Stories (New York: John Wiley & Sons, Inc, 1998).

6 Francis D. K. Ching, Architecture: Form, Space & Order (New York: Van Nostrand Reinhold Company Inc, 1979).

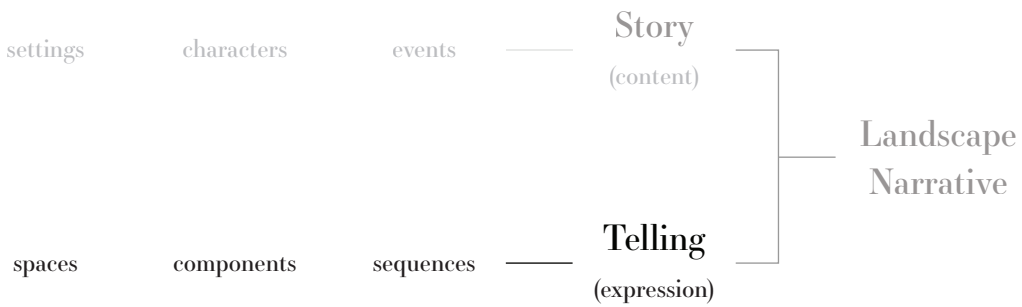
7 Carole Gray and Julian Malins, Visualizing Research: A Guide to the Research Process in Art and Design, 1st ed. (Burlington, VT: Ashgate, 2004).

8 Lenzholzer, Duchart, and Koh.

Table 2.2 References

i Butler-Kisber, Lynn, and Tiiu Poldma. "The Power of Visual Approaches in Qualitative Inquiry: The Use of Collage Making and Concept Mapping in Experiential Research."

ii Gray and Malins. *Visualizing Research: A Guide to the Research Process in Art and Design.*


settings
characters
events
Story
(content)
Landscape
Narrative
spaces
components
sequences
Telling
(expression)

Telling

Analysis of Precedent Designed Landscape Narratives

This project looks to precedent landscape narrative projects to uncover ways to tell stories through landscape architecture. Three projects, selected from site visits, literature reviews, and conversations with peers and practitioners, are analyzed through a structure created specifically for this landscape narrative focused project. The conclusions about the precedent designs were used to design the landscape narrative sites at their respective scales. Definitions of the three terms are below.

Spaces	The single, or set, of distinct areas that are essential to the design's major story.*
Components	A group of essential elements in a design that shape the spaces and relate to the design's major story (walls, ramps, stairs, vegetation, water, etc).
Sequences	How relationships between the design's spaces, components, and its major story occur.

* *A design's major story is the primary story the designer was trying to relate to visitors. This major story is defined by me, uncovered through site visits and literature review.*

FIGURE 3.1 View of the garden. From GDU website.

Small Tribute to Immigrant Workers

Designer: Mario Schjetnan
Year Completed: 2004
Location: Cornerstone Gardens, Sonoma, CA
Size: >1 acre
Scale: Garden

Precedent Analysis

Spaces: Linear ordering of spaces.

Components: Walls define the spaces of the garden and are important symbolic elements in its major story.

Sequences: Text, images, and view axes are intentionally placed to create moments of pause. Materials, colors, and textures compliment and enhance each space.

Major Story

Small Tribute attempts to convey three parts of the story of Mexican migrant workers; their passage into the United States, their impact on the agricultural industry in California, and the strength of character of these individuals that comes from the collection of all of these experiences. [1,2]

Migrant Worker Garden Context

Napa, CA

Cornerstone Gardens

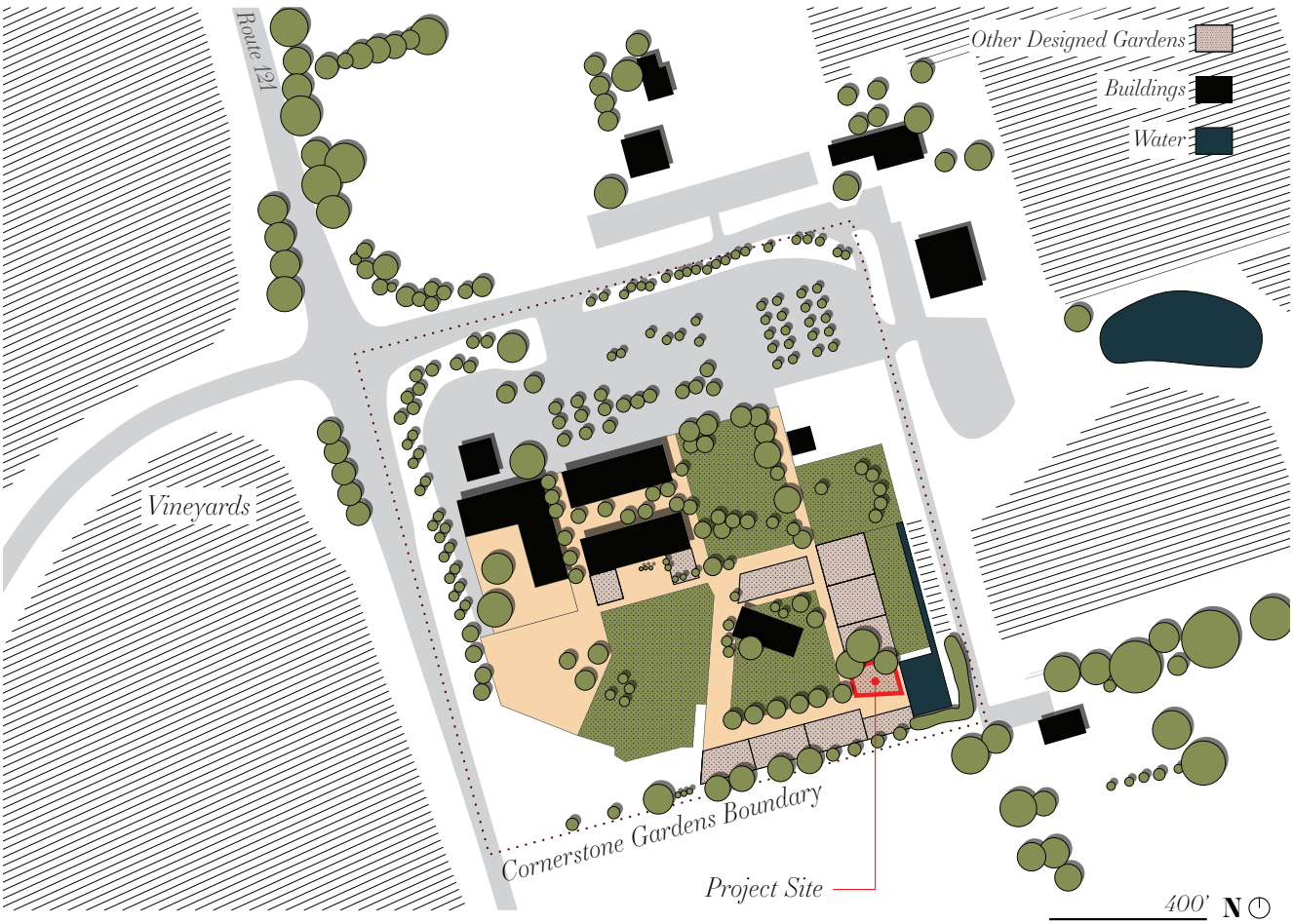
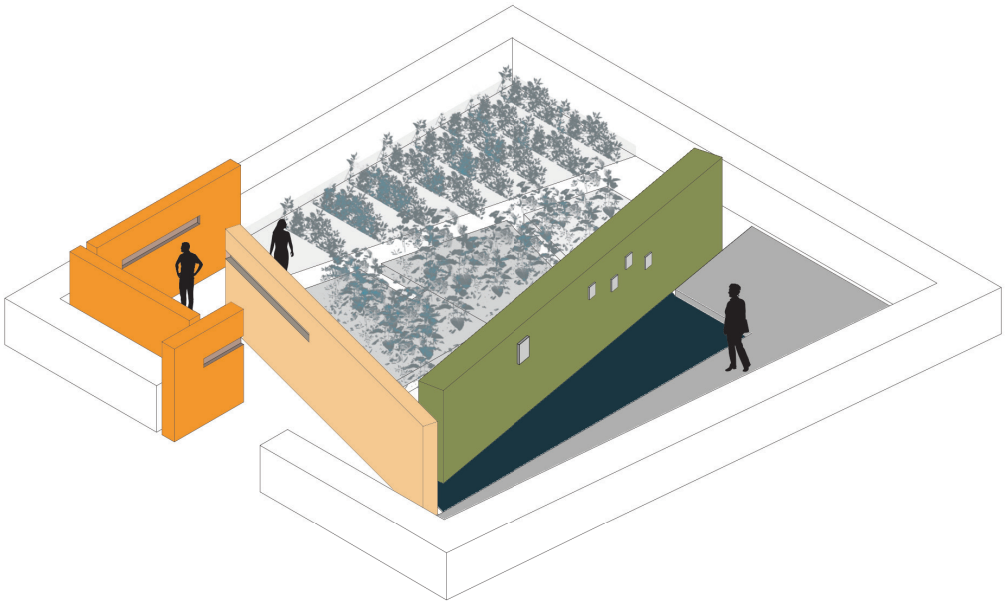
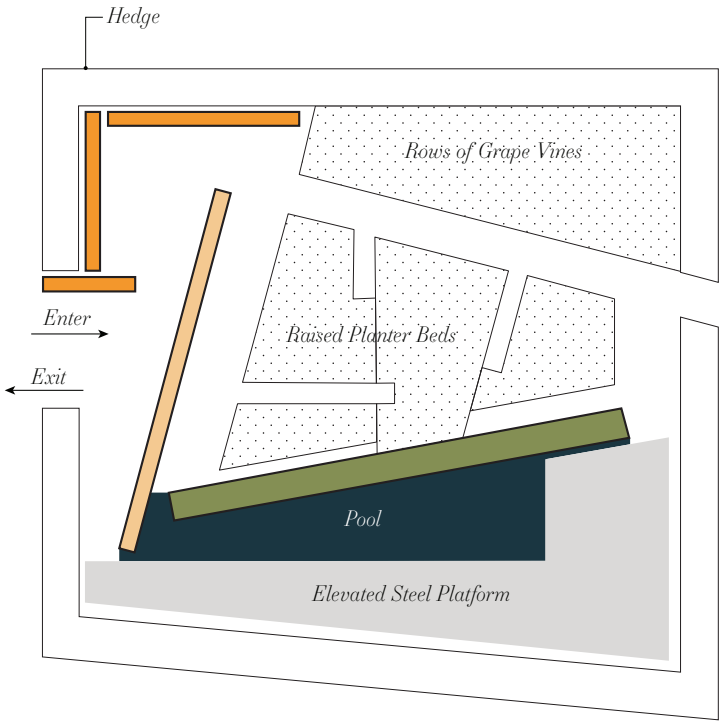


FIGURE 3.2 Garden location and context.

FIGURE 3.3 Garden axon and plan.

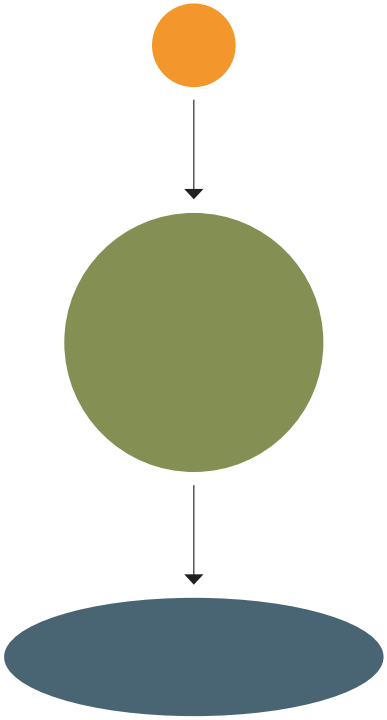
Migrant Worker Garden





Spaces

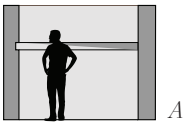
Linear ordering of spaces.



1 Entry

Small

Enclosed



2 Garden Walk

Long

Dense

3 Reflection Pool

Raised

Open

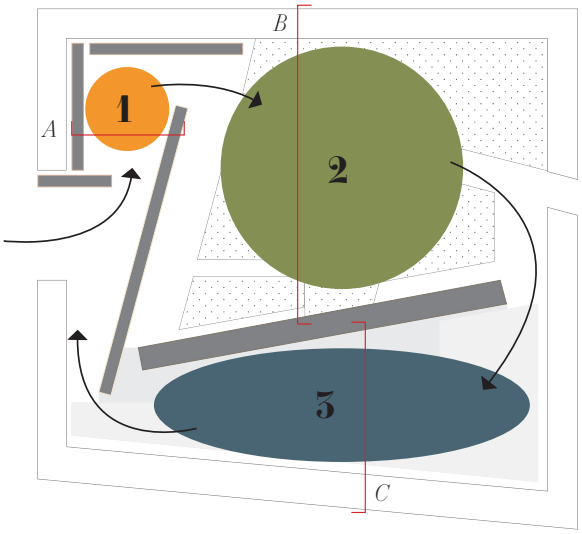
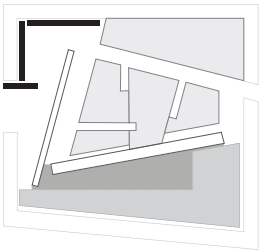


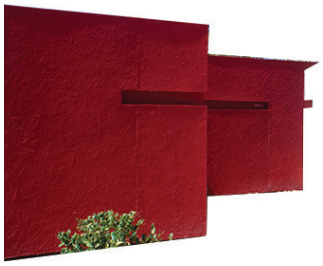
FIGURE 3.4 A Small Tribute to Immigrant Workers Spaces.

Components

Walls define the spaces of the garden and are important symbolic elements in its major story.

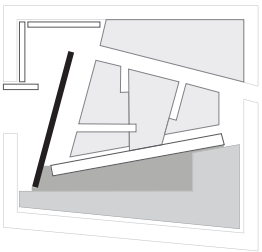
FIGURE 3.5 A Small Tribute to Migrant Spaces Components.





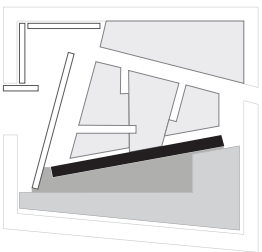
Wall of Danger

Remembers those who have died trying to cross the US/Mexico Border.



Wall of Separation

Represents the border wall between the United States and Mexico.

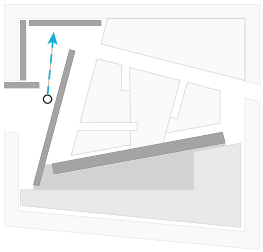


Wall of Strength

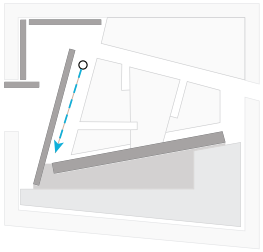
Honors the character of Mexican migrant workers in the United States today.

Sequences

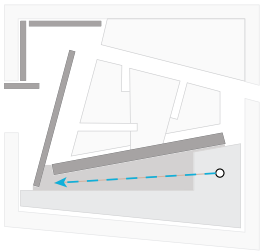
Materials and textures compliment and enhance each space. Text, images, and view axes intentionally placed to create moments of pause.



raw, rough



verdant, alive



calm, solid

FIGURE 3.6 A Small Tribute to Migrant Workers Sequences.

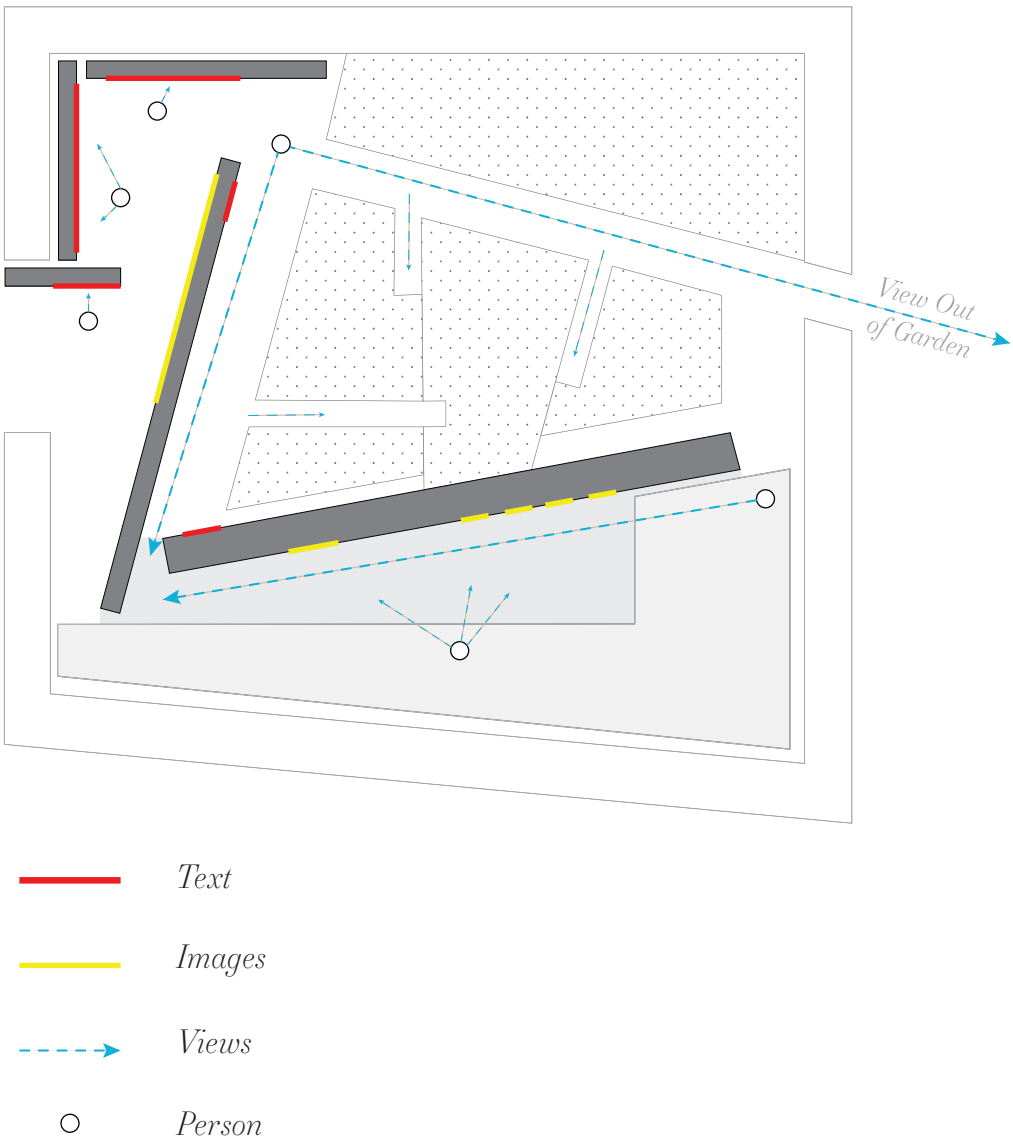


FIGURE 3.7 Pinecote Pavilion at Crosby Arboretum. From extension.msstate.edu

Crosby Arboretum

Designer: Edward L. Blake Jr. & Andropogon Associates
Year Completed: 1993
Location: Picayune, Mississippi
Size: 64 acres
Scale: Park

Precedent Analysis

Spaces: Spaces are irregularly sized and spaced, but each represents a landscape type found in the Pearl River Watershed that the arboretum is located.

Components: Existing soil moisture and burning practices dictate how plant communities are established on the site.

Sequences: Thematic 'journeys' bring visitors throughout the arboretum's extensive trail network to a series of ecologically related spaces. Each journey offers different lessons and experiences to visitors.

Major Story

Crosby Arboretum tells the story of the many types of landscapes that compose the Pearl River Watershed in Mississippi. Before construction, the site's existing conditions of soil moisture and burning regime were mapped to optimally fit the landscape types into the arboretum. Visitors are able to see many of the landscape types that are found in Mississippi, while simultaneously understanding the moisture and fire management processes that define them. [3, 4, 5]

Crosby Arboretum Context

Picayune, MS

Pearl River Watershed Landscape Types

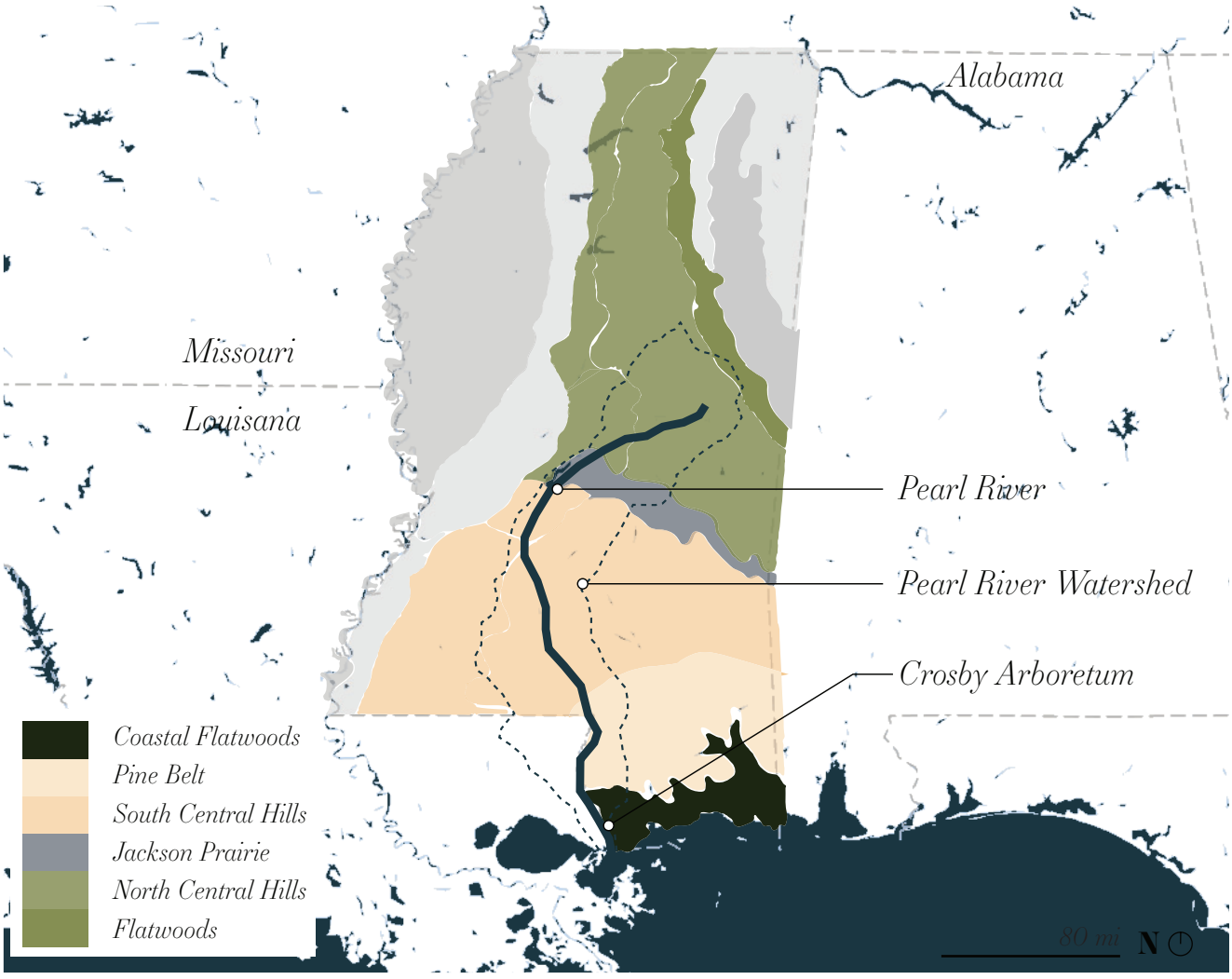
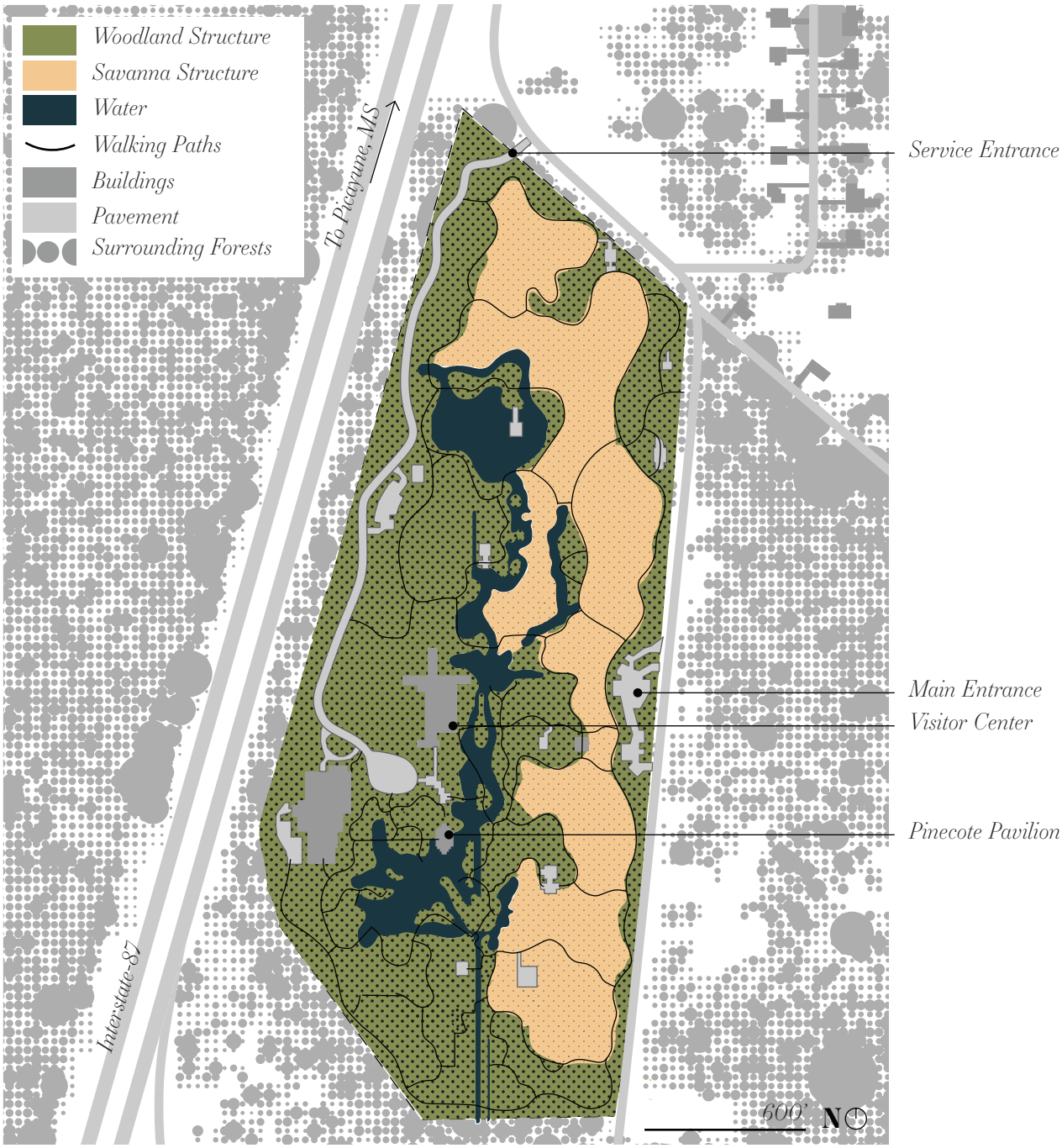


FIGURE 3.8A Mississippi location and landscape types. Adapted from http://trails.mdah.ms.gov/regions/index.html#

FIGURE 3.8B Crosby Arboretum location and context.

Crosby Arboretum Context



Spaces

Spaces are irregularly sized and spaced, but each represents a landscape type found in the Pearl River Watershed that the arboretum is located.

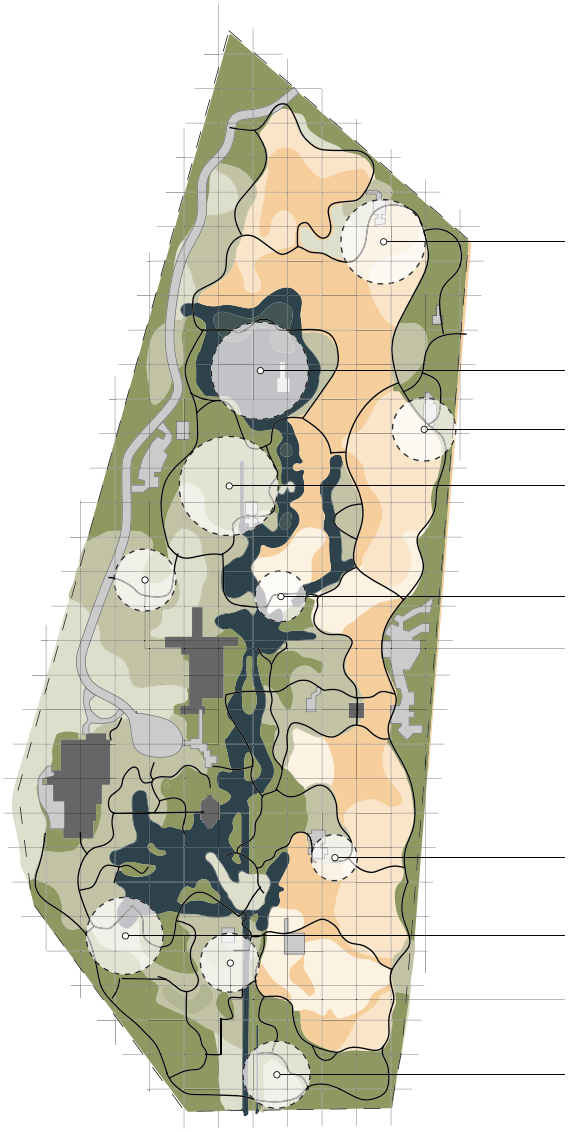


FIGURE 3.9 Crosby Arboretum spaces. Photographs from the Cultural Landscape Foundation.

Spaces at Crosby Arboretum

Pitcher Plant Bog

Savanna Woodland Transition

Woodland Succession

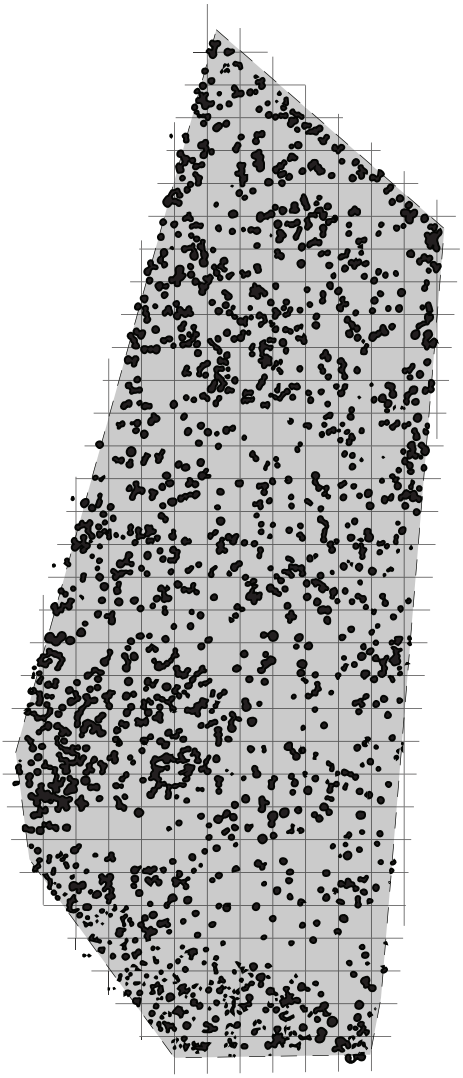
Shrub Bog

Gum Pond

Woodland

Components

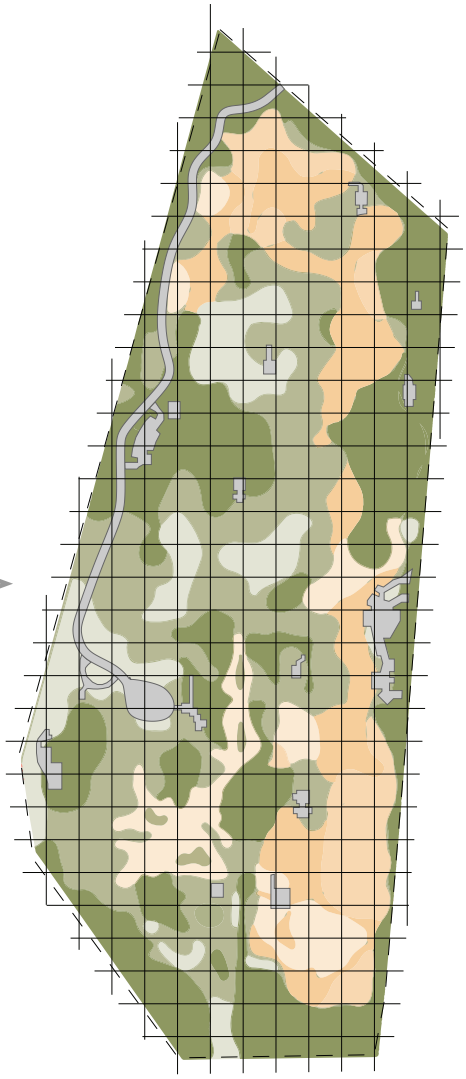
Existing soil moisture and burning practices dictate how plant communities are established on the site.



Savanna Structure and Crown Cover Mapped

100' Grid Established

Existing Canopy Structure Mapped

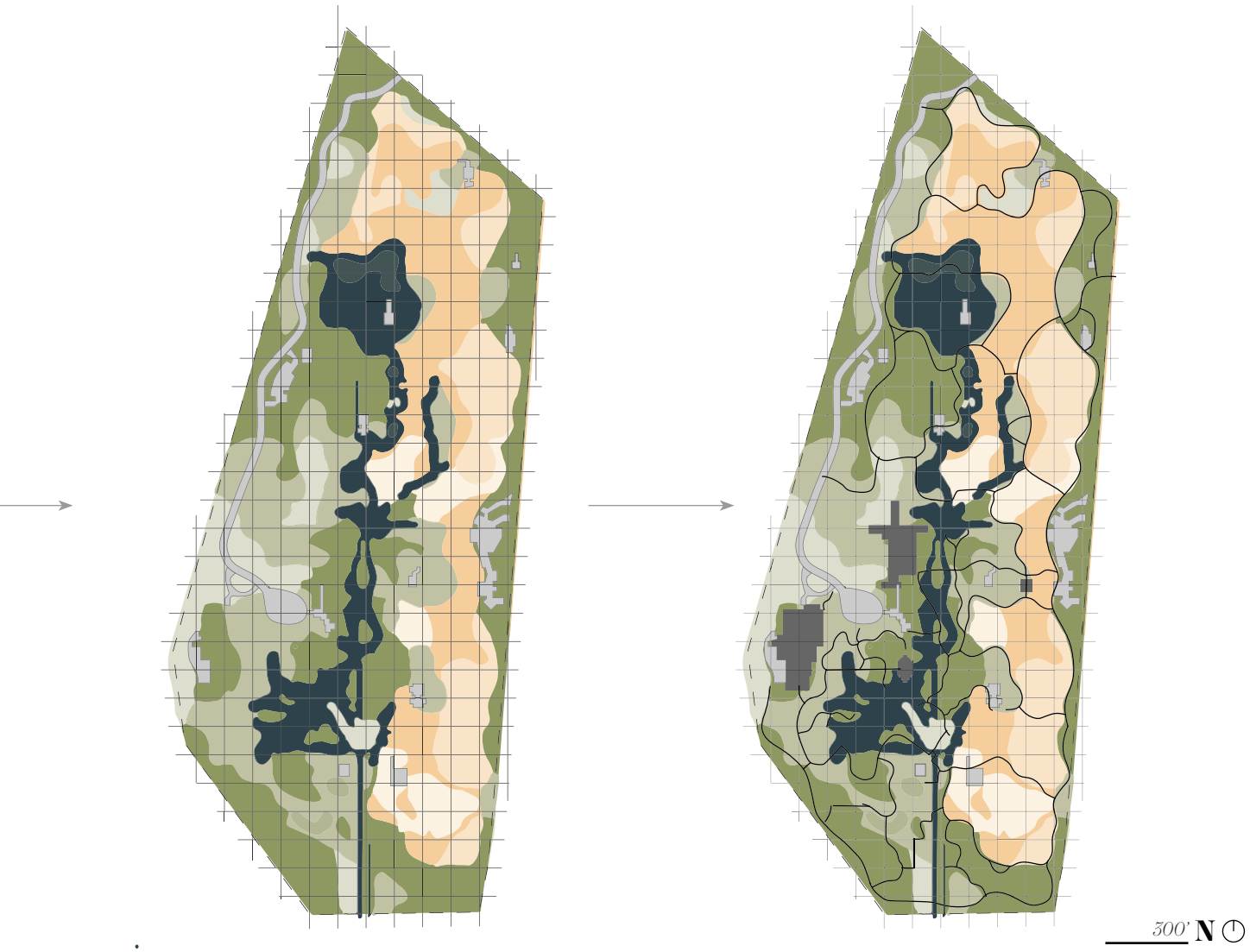


Landscape Qualities Measured

Burned
- *Dry*
- *Wet / Dry Transition*
- *Wet*

Protected from fire
- *Dry*
- *Wet / Dry Transition*
- *Wet*

FIGURE 3.10 Crosby Arboretum components.



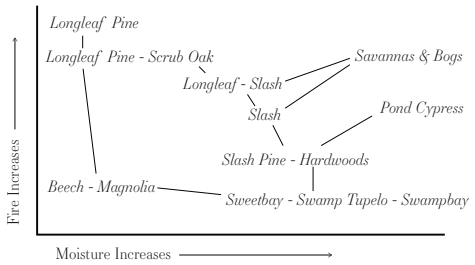
Plant Communities Established

Burned
- *Dry Savanna*
- *Wet / Dry Savanna*
- *Wet Savanna*

Protected from fire
- *Dry Woodlands*
- *Wet / Dry Woodlands*
- *Wet Woodlands*

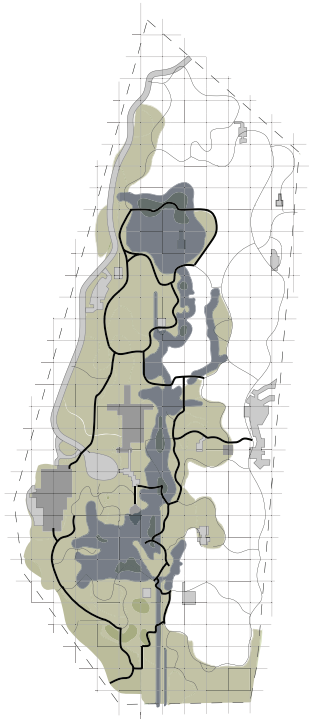
Water

Planting Plan Refined



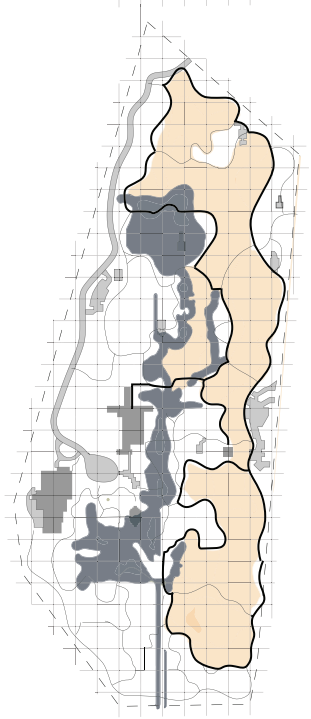
Sequences

Thematic 'journeys' bring visitors throughout the arboretum's extensive trail network to a series of ecologically related spaces. Each journey offers different lessons and experiences to visitors.



The Woodland Journey

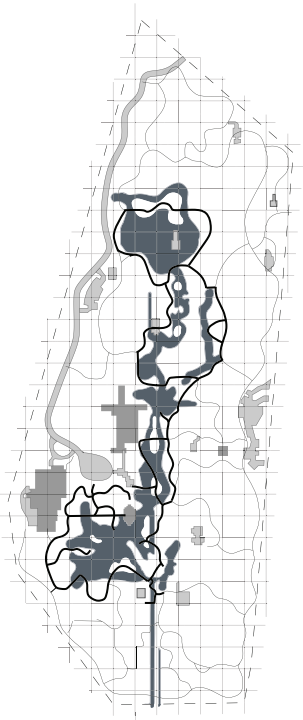
"Its theme is that the primary exhibit at Pinecote is change." Visitors can choose different length loops to see the subtly changing woodland mosaics.



The Savanna Journey

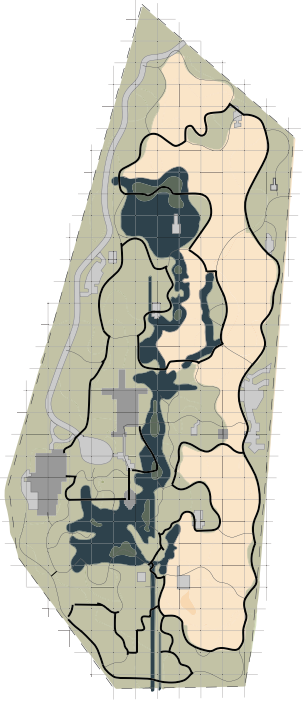
Fire is on display in the savanna journey. This loop will bring visitors through eight major savanna ecotones and highlight the destructive and creative potential power of fire.

FIGURE 3.11 Crosby Arboretum sequences.



The Water Journey

This journey encircles the freshwater wetland and offers educational and recreational opportunities along the walk.



The Long Journey

This journey is composed of portions of the others. The walk demonstrates how water, savanna, and settlement patterns form the landscape mosaic of the region.

400' N

FIGURE 3.12 Viewing platform at Cape Disappointment State Park. September 2017

Confluence Project

Artist: Maya Lin
Years Completed: 2005 - Today
Location: Columbia and Snake Rivers, Pacific Northwest United States
Size: ~1,000s acres
Scale: Network

Precedent Analysis

Spaces: The Columbia River physically and thematically links all of the individual project sites, and is the locus of memory for the Confluence Project.

Components: Lin's installations respond to and highlight the unique topographical situations at each site. Lin uses changes in elevation to create places of observation, gathering, and reflecting.

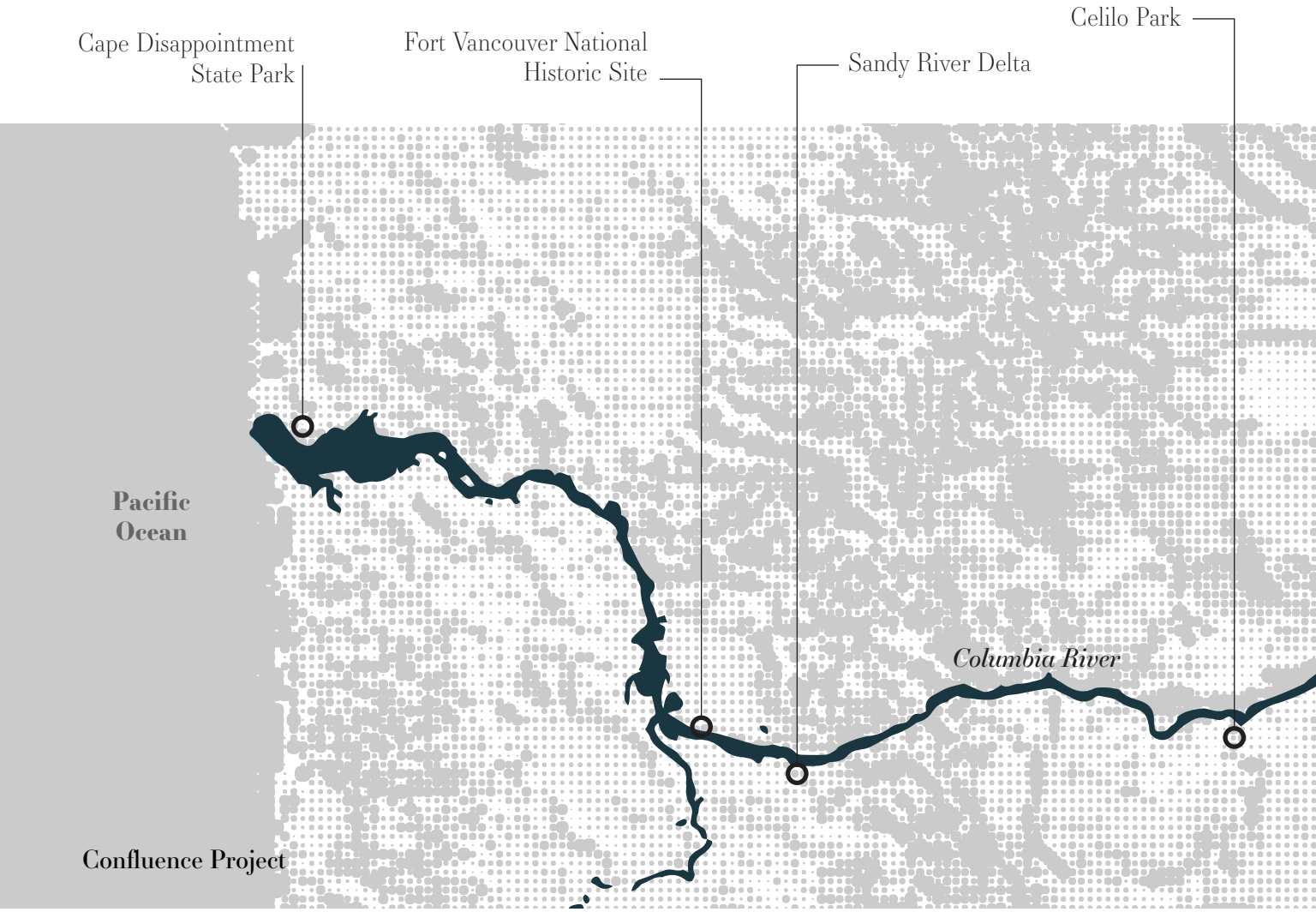
Sequences: Interventions are legible on their own for a visitor, but the journey through and between each site compels a larger understanding of the power of the Columbia River and how it has defined the region and all cultures that have existed here.

Major Story

The histories, cultures, and ecologies of the Columbia River are explored in the Confluence project. Each installation explores a piece of Lewis and Clark's journals as they first explored the region, and relates the historic texts to native peoples and understandings of the world today. Installations can be understood individually or as part of the larger whole. [6,7,8]

Confluence Project Context

Columbia River Watershed



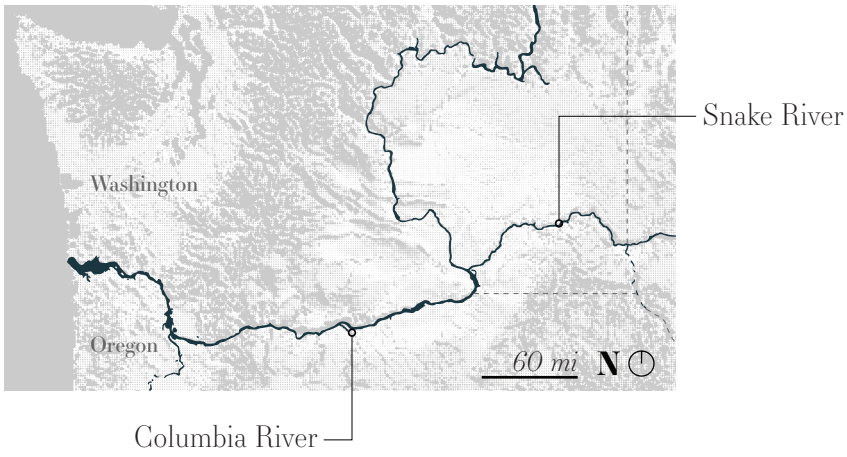
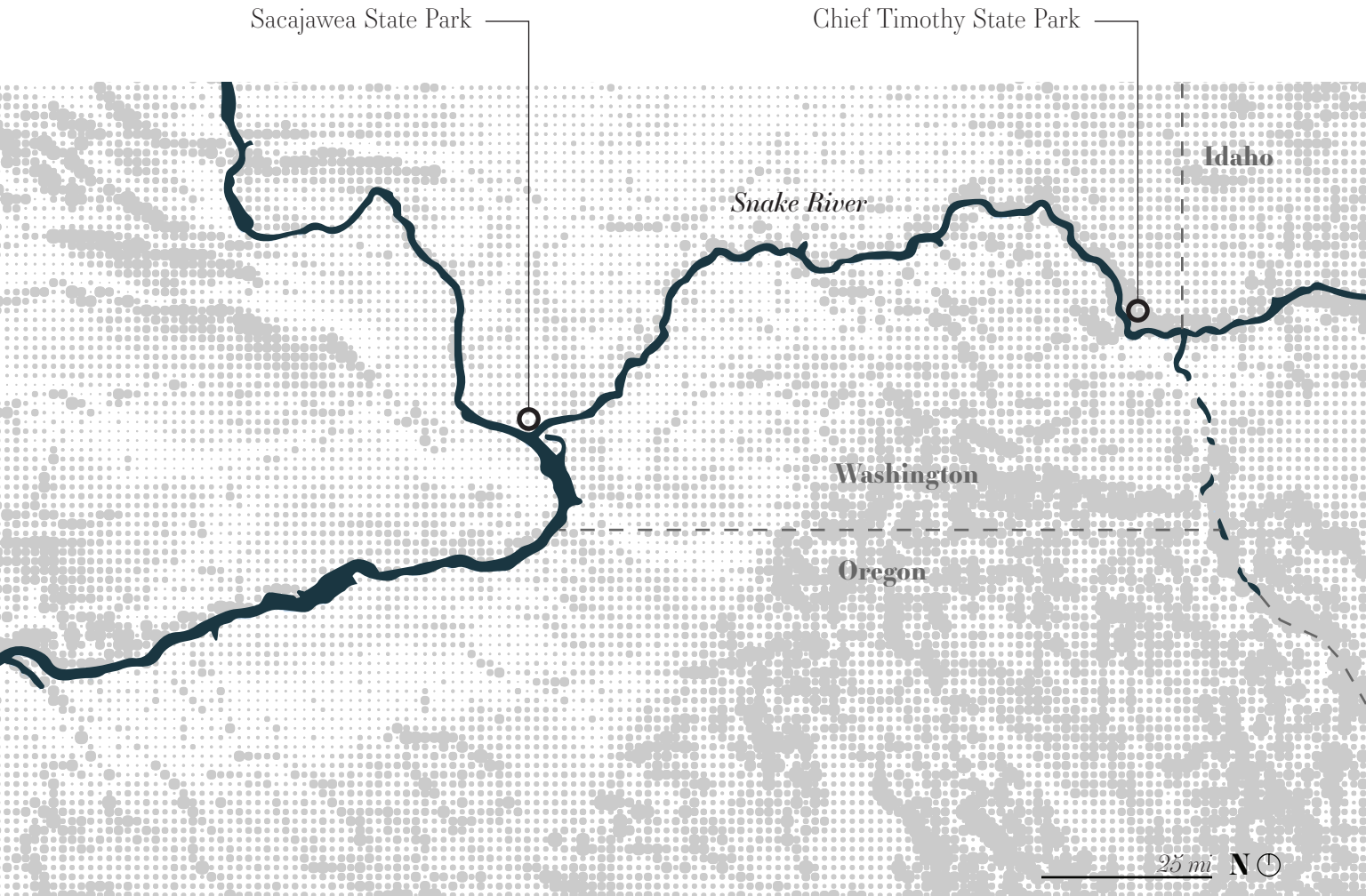


FIGURE 3.13 Confluence project installation locations and context.



Installations

Each project site tells a different story linked to the broader narrative of the Columbia River.

Columbia River

Cape Disappointment State Park

Fort Vancouver National Historic Site

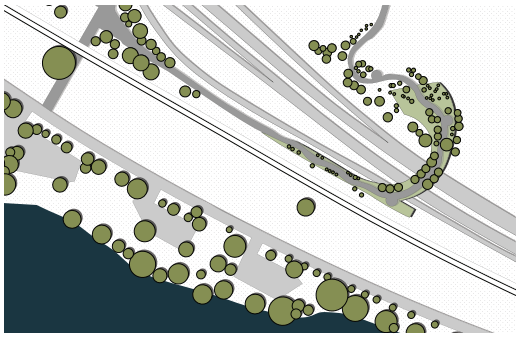
Sandy River Delta

Cape Disappointment State Park

Viewing Platform
Dedicated 2006

Fort Vancouver National Historic Site

Land Bridge
Dedicated 2008



Sandy River Delta

Bird Blind
Dedicated 2008

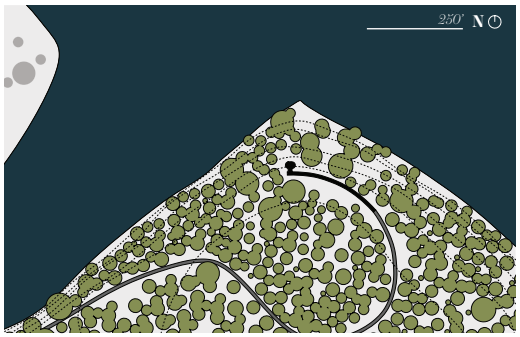


FIGURE 3.14 List of Confluence project sites.

Images from www.confluenceproject.org

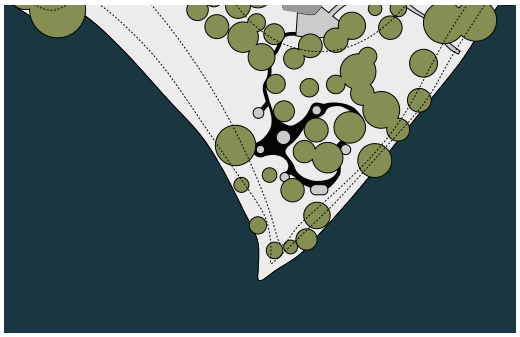
Celilo Park

Sacajawea State Park

Chief Timothy State Park

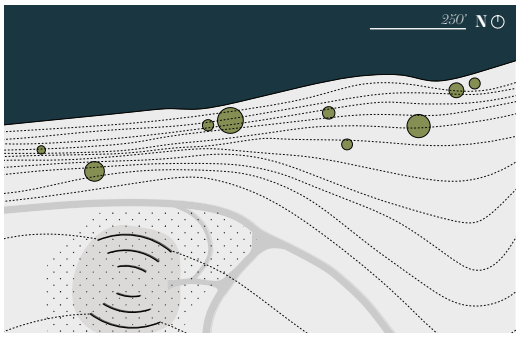
Celilo Park

Walking Bridge
Planned 2019



Sacajawea State Park

Story Circles
Dedicated 2010



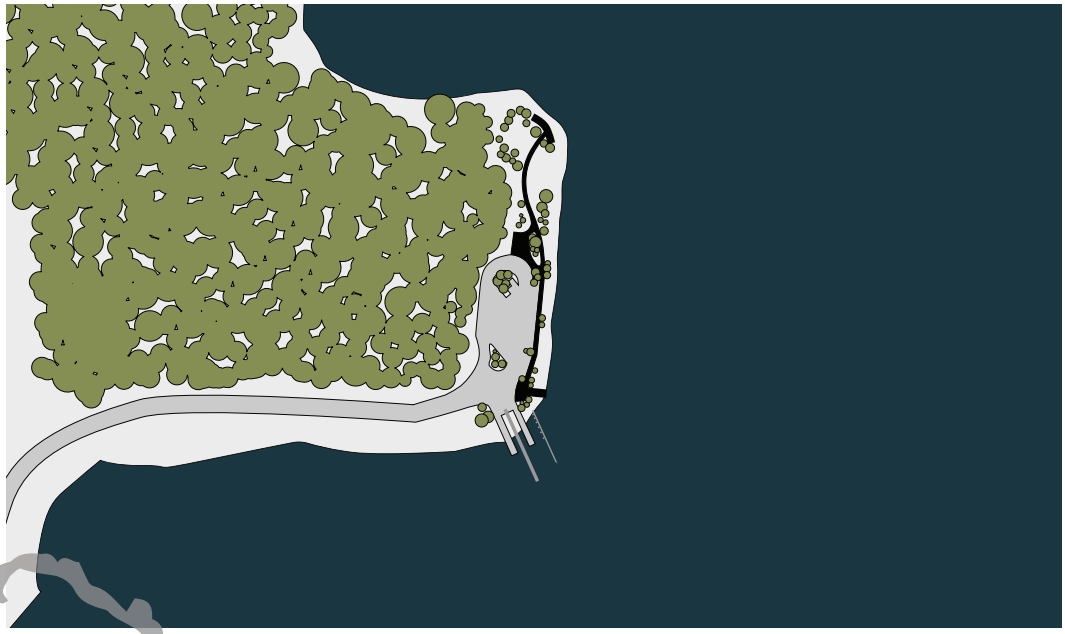
Chief Timothy Park

Listening Circle
Dedicated 2015

Spaces

The Columbia River physically and thematically links all of the individual project sites, and is the locus of memory for the Confluence Project.

Cape Disappointment State Park



Sandy River Delta

FIGURE 3.5 Confluence project spaces.

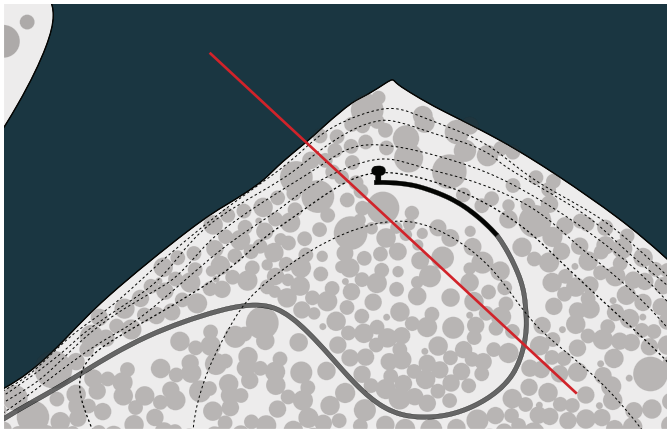
Components

Lin's installations respond to and highlight the unique topographical situations at each site. Lin uses changes in elevation to create places of observation, gathering, and reflecting.

Sandy River Delta

Bird Blind

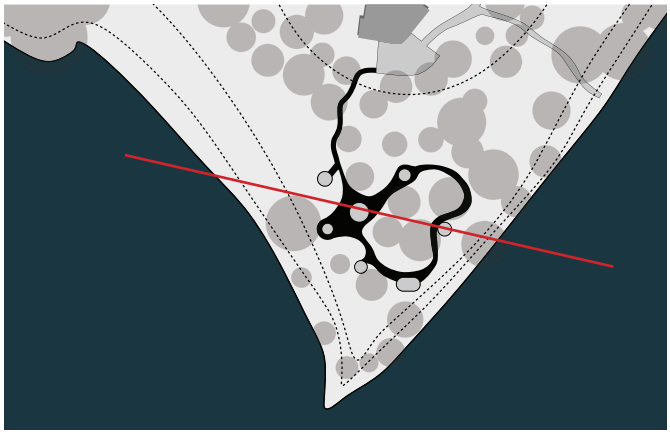
The bird blind elevates visitors and allows them to look out, through the forest, towards the Columbia.



Sacajawea State Park

Story Circles

Story circles are raised and sunken, letting visitors look at and down into the basalt sculptures to read the stories etched into them.



Chief Timothy Park

Listening Circle

The subtle slope of the circular amphitheater brings visitors together.

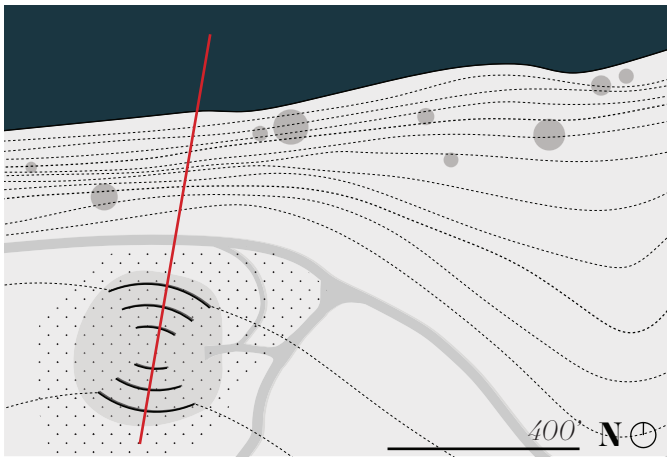
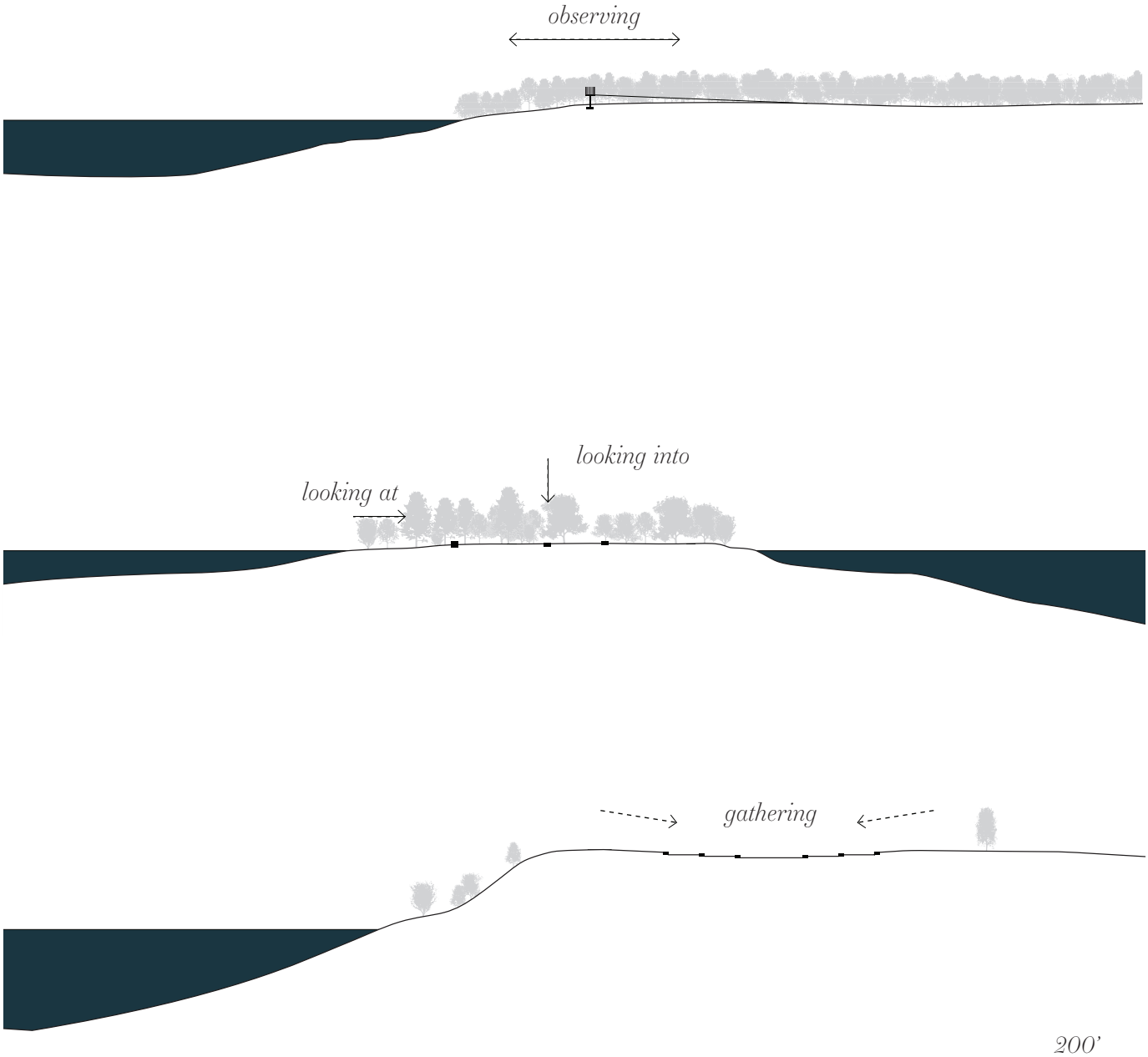


FIGURE 3.16 Confluence project components.



Sequences

Interventions are legible on their own for a visitor, but the journey through and between each site compels a larger understanding of the power of the Columbia River and how it has defined the region and all cultures that have existed here.

Walking

Cape Disappointment Viewing Platform

Vancouver Land Bridge

Driving

State and Interstate Highway Systems

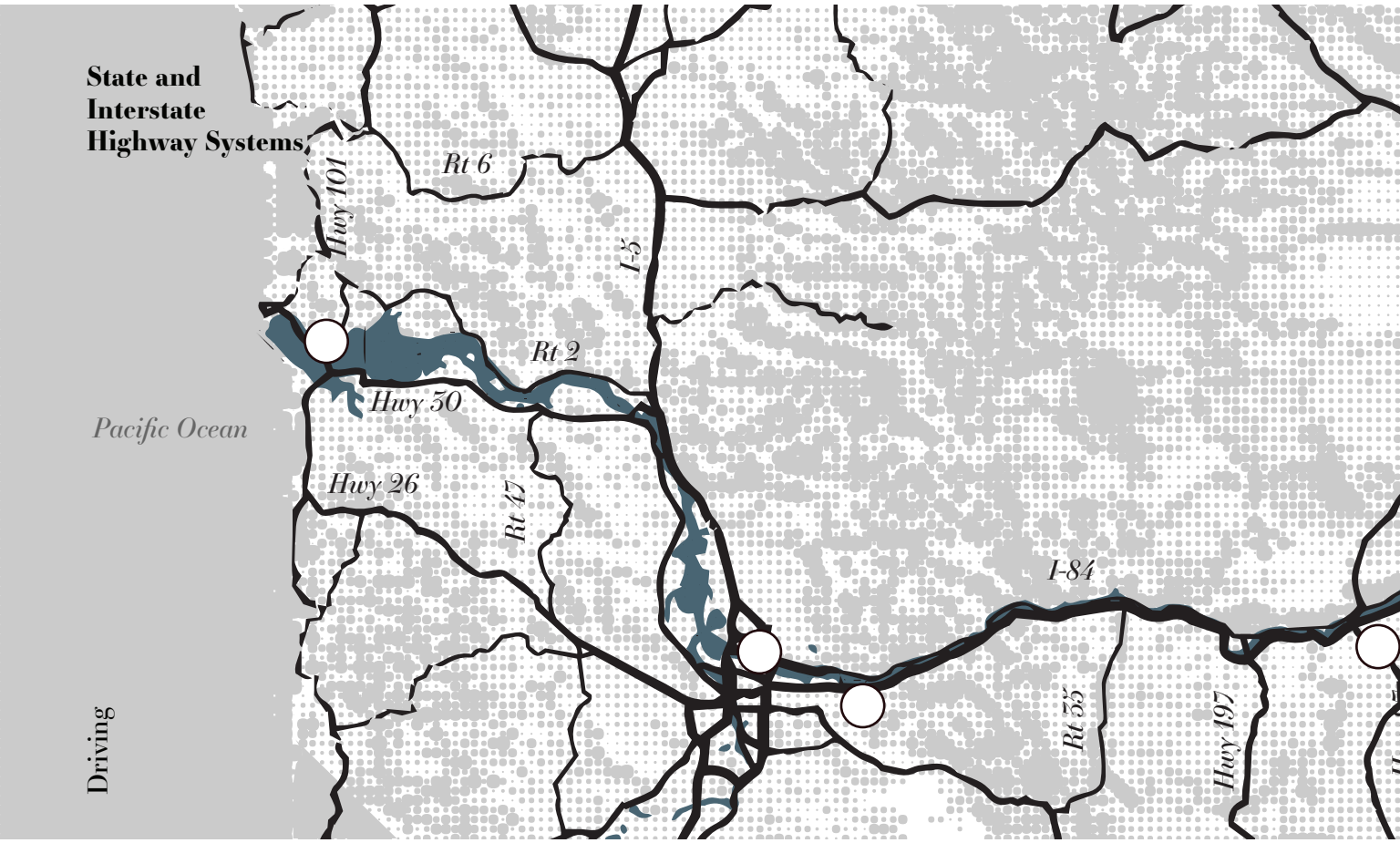
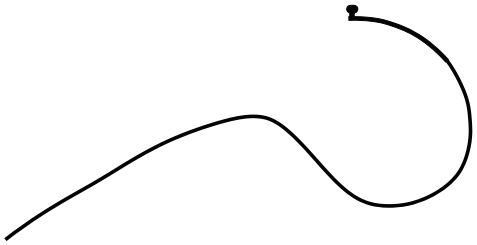


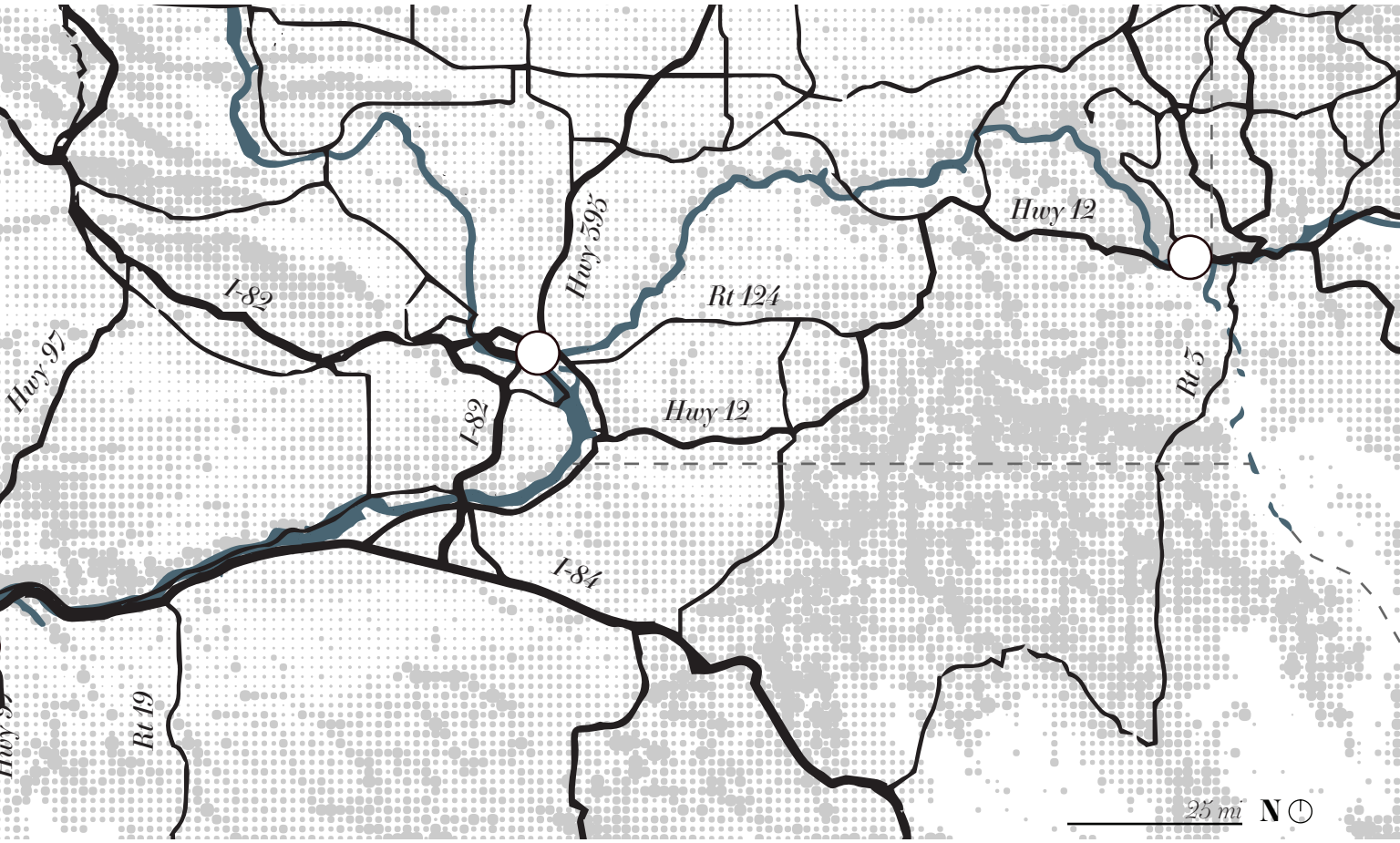
FIGURE 3.17 Confluence project sequences.

Sandy River Bird Blind



Sacajawea Story Circles

200' N



Precedent Project Design Strategies

A Small Tribute to Migrant Workers

Crosby Arboretum

Confluence Project

Spaces

Linear ordering of spaces.

Spaces are irregularly sized and spaced, but each represents a landscape type found in the Pearl River Watershed where the arboretum is located.

The Columbia River physically and thematically links all of the individual project sites, and is the locus of memory for the Confluence Project.

Components

Walls define the spaces of the garden and are important symbolic elements in its major story.

Existing soil moisture and burning practices dictate how plant communities are established on the site.

Lin's installations respond to and highlight the unique topographical situations at each site. Lin uses changes in elevation to create places of observation, gathering, and reflecting.

Sequences

Text, images, and views are intentionally placed to create moments of pause. Materials, colors, and textures compliment and enhance each space.

Thematic 'journeys' bring visitors throughout the arboretum's extensive trail network to a series of ecologically related spaces. Each journey offers different lessons and experiences to visitors.

Interventions are legible on their own for a visitor, but the journey through and between each site compels a larger understanding of the power of the Columbia River and how it has defined the region and all cultures that have existed here.

Chapter 3 Endnotes

1 "GDU – Mario Schjetnan » Cornerstone Garden Tributo a Trabajadores Inmigrantes." Accessed May 9, 2018. http://gdu.com.mx/gdu/?portfolio=tributo-a-trabajadores-inmigrantes-tribute-to-immigrant-workers-cornerstone-gardens.

2 Hall, Christopher. "ART/ARCHITECTURE; Avant-Green: Landscaping As a Fine Art." The New York Times, August 15, 2004, sec. Arts. https://www.nytimes.com/2004/08/15/arts/art-architecture-avant-green-landscaping-as-a-fine-art.html.

3 Blake Jr., Edward L. Pinecote Masterplan: A Guide for Long Range Development. The Crosby Arboretum, n.d.

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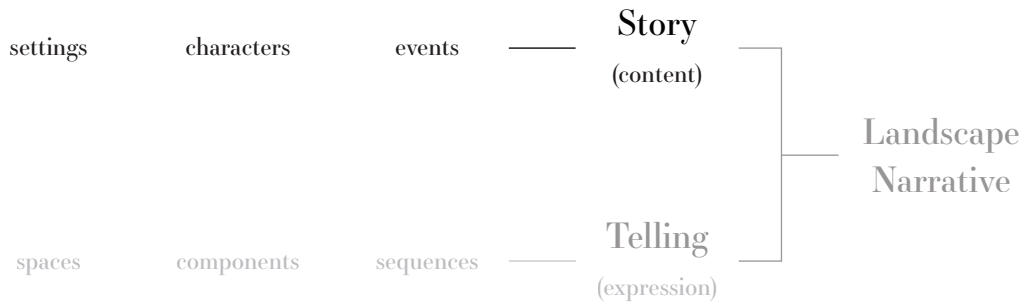
5 "Crosby Arboretum Smart Landscape" Accessed December 10, 2017. https://extension.msstate.edu/sites/default/files/topic-files/mississippi-landscape-gallery/crosby_arboretum_smart_landscape.pdf.

6 Beasley, Sandra. "LEWIS AND CLARK, AND LIN." The American Scholar 76, no. 2 (2007): 16–17.

7 "Confluence." Accessed 2017. http://www.confluenceproject.org/.

8 "Remote Washington Park Features Work by Artist Maya Lin." Spokesman.com. Accessed January 10, 2018. http://www.spokesman.com/stories/2017/apr/16/remote-washington-park-features-work-by-artist-may/.


settings
characters
events
Story
(content)
spaces
components
sequences
Telling
(expression)
Landscape
Narrative

Story

Analysis of Historic Mahogany Trade

This section of the document displays the settings, characters, and events important to the landscape narrative of the colonial mahogany trade. Literature reviews and site visits helped me create a large collection of settings, characters, and events, seen in a large text matrix at the end of this chapter. All of those findings were distilled into broader categories, explained in this chapter in greater detail.

Settings	The locations affected by, or integral to, the system of commerce* (places of extraction, shipping, refining, consuming, etc).
Characters	The people and things directly involved in the system of commerce, including the material itself.
Events	The changes that are embedded within, or actions that are inseparable from, the system of commerce.

* *The system of commerce investigated in this project is the mahogany trade between Jamaica and Newport, Rhode Island in the 18th century.*

Finding Traces:

Colonial Mahogany
Furniture's Invisible History

21st Century
Only a few pieces of mahogany furniture remain.

19th - 20th Century
Furniture is passed down through generations of families.

18th Century
Widespread extraction of people and materials, driven by the English and Europeans, define the transatlantic trading system.

Pre-18th Century
Slave trade and local extraction of mahogany begins, but at comparably smaller levels than what will soon occur.

FIGURE 4.1 Finding Traces. Tracking the impact of a piece of mahogany, backwards through time.

Why Landscape?

There are many ways to tell the story of the mahogany trade during the 18th century. Scientists have studied the tree, its ecology, and the impacts centuries of extensive harvesting have had on the genetic health of the species. Archaeologists have excavated forgotten sites on former Jamaican plantations to better understand the slaves who lived there. Geographers and historians have investigated the oppressive practices of slavery and plantation life in the Caribbean, and the trading network that defined the economies of the Atlantic. Furniture makers have studied construction methods of craftsmen and identified individual idiosyncrasies of carving styles. While these realms of research share common fields, how they intersect and influence one another has not been fully explored. Further, these explorations have primarily been expressed through text and imagery: while these are important ways to communicate, they cannot express the complex dynamism of this large system the way a landscape narrative can.

Landscape narrative offers an opportunity to tell a story by using qualities of space to express an experience. Tactility, movement, and views are all important and expressive parts of a landscape narrative. Landscape narratives do not demand a complete understanding of a story like a body of text might, but offer experiential moments that can elicit reactions from visitors to arrive at their own conclusions. Though stories are told much differently through landscape than they are in text or images, a landscape's story can still be understood through the three elements of settings, characters, and events. This chapter identifies the settings, characters, and events used to tell the story of the colonial mahogany trade through the medium of landscape.

The Colonial Mahogany Trade

Jamaican Mahogany, *Swietenia mahagoni*, once grew throughout the forests of Jamaica. When the island was colonized, choice trees were cut for ship and house construction (fig 4.2).[1] It eventually became a commercially viable commodity, and was harvested across the island and shipped as a secondary cargo to highly profitable sugar.[2] Mahogany remained a secondary concern to Jamaican plantation owners, and the mahogany trade declined on the island at the end of the eighteenth century, after most of the easily accessible trees were harvested. Jamaica helped create a highly competitive market for mahogany as one of the first sites of harvest and export, and is mostly bereft of the tree today.

Although mahogany was a secondary concern for British plantation owners in Jamaica, it was the wood of choice for many of the finest craftsmen in colonial America and England in the latter half of the 18th century.[3] Its rise in popularity coincided with Thomas Chippendale's

The Gentleman and Cabinetmaker's Director, one of the first printed books of furniture patterns, blending styles from Europe and China together.[4] Mahogany's exotic origin and the furniture's' European-inspired design allowed furniture buyers to link themselves into the broader transatlantic trading system that was generating enormous amounts of wealth for some.

Today, colonial mahogany furniture is coveted for its skilled craftsmanship and provenance. Many of the most valued pieces have remained in prominent families for generations, passed down from parents to children.[5] They bear the scratches and stains acquired over centuries, becoming, as poet Anna Scotti writes, a 'ruthless curator of memory.'[6] Interestingly, though furniture may bear the marks it has accrued since being sold, the axe, saw, and chisel marks borne onto the material as it was transformed from a tree to lumber to a table, were rendered invisible by the skill of the craftsman. This invisible memory is the subject of this project's story.

The story told here is necessarily broad and far reaching. It spans the Atlantic, draws from ecological and social processes, and tracks the mahogany tree from seed to tree to log to table leg. Numerous settings, characters, and events intersect the material through these changes, and this story attempts to convey the complexities of this system of commerce. It is not meant to be a definitive narrative of the trade, but a personal interpretation of the story, told through landscape architecture. The following chapter will classify the settings, characters, and events that will be expressed through landscape narrative.

Figure 4.2 Cutting and trucking Mahogany in Honduras. Chaloner and Fleming, The Mahogany Tree. 1850.

Blue Mountains, Jamaica. September 2017

Characters

Characters can traditionally be understood as the *people* involved in a story, and they remain an essential piece of the story of colonial mahogany, but the medium of landscape offers new opportunities to represent different sorts of characters of a story. The mahogany trees themselves, the earth they grew in, and the tools that cut them down, are all equally important characters to explore and include in this story. Understood across landscapes and scales, the following section will delve into four distinct classifications of characters in the mahogany trade: people, the mahogany tree, white limestone, and steel.

People

Actors Within the System

Today, a piece of colonial Newport furniture often has at least two names attached to it; the maker and the owner. Additionally, owners often have documented family history of all the people the furniture has been passed down through. These names can put an enormous amount of value onto a piece of furniture, but ignore the many salesmen, merchants, ship captains, land owners, and African slaves who played a role in producing that piece of furniture (fig 4.3). The fame of Newport's Goddard and Townsend families was directly tied to the fortunes being generated by Newport's merchant class operating in the sugar and slave dominated system of transatlantic trading, as there needed to be a market of wealthy individuals who could afford the incredibly expensive pieces of furniture being produced.[7] In addition to money generated from slave trade funding the pieces of furniture, slaves themselves were forced to cut down forests of mahogany in the West Indies to make room for sugar plantations. Brought from Africa in unfathomable numbers, slaves were treated with unimaginable cruelty, some observers claiming that a quarter to a third of new Africans died in the Caribbean within three years.[8] These slaves were the backbone of the colonial mahogany trade, not only cutting down the trees that would be sent north, but working to produce sugar that merchants across the Atlantic were getting rich from.

People

Actors Within the System

Slaves transported across the Atlantic

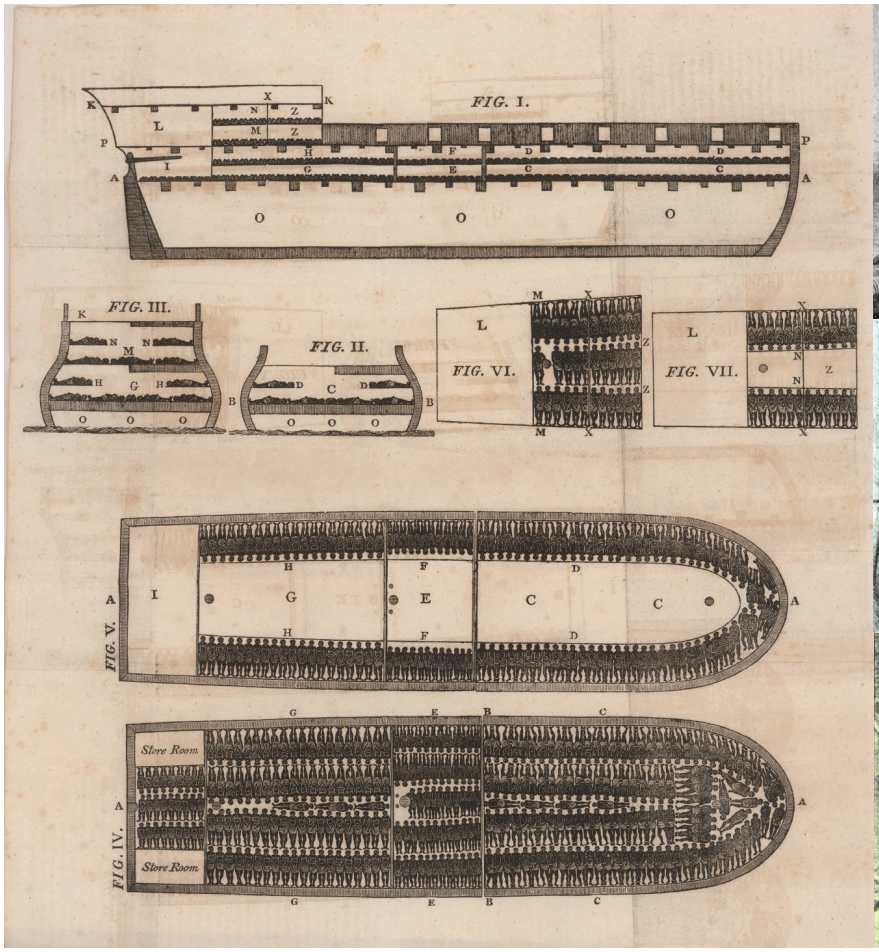
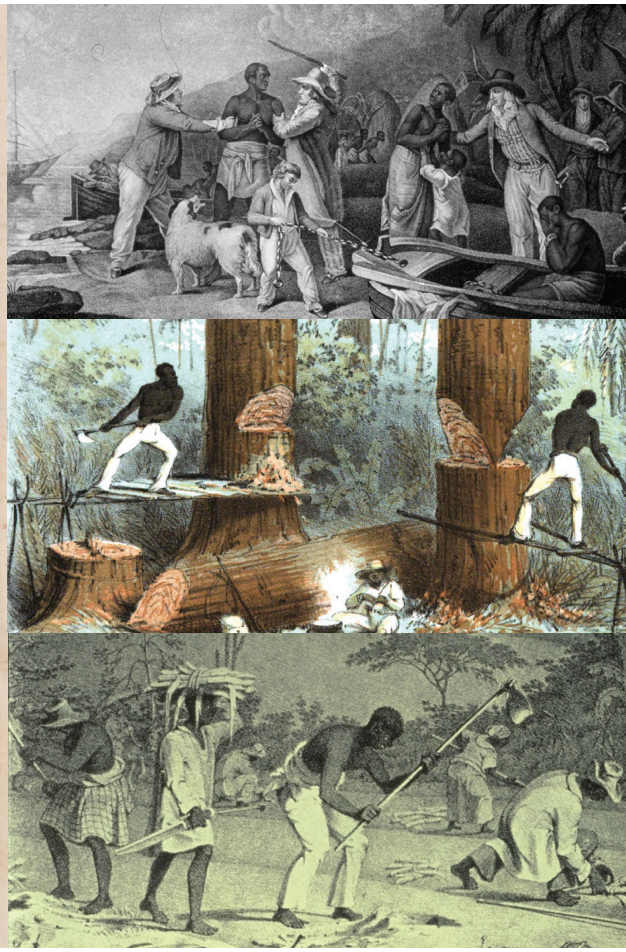


Diagram of a Slave Ship. 1821. John Carter Brown Library, Digital Collection.

Slavery in Jamaica



Europeans Buying Enslaved Africans. ca. 1790. As shown on www.slaveryimages.org.

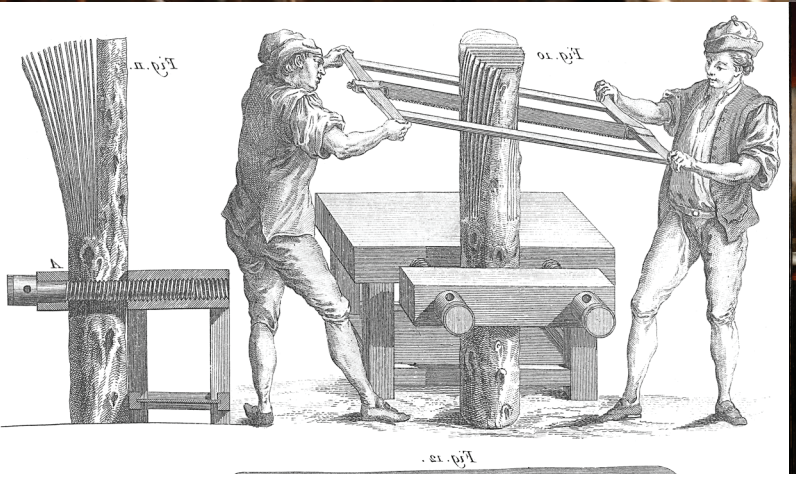
Harvesting mahogany trees. Chaloner and Fleming, 1851.

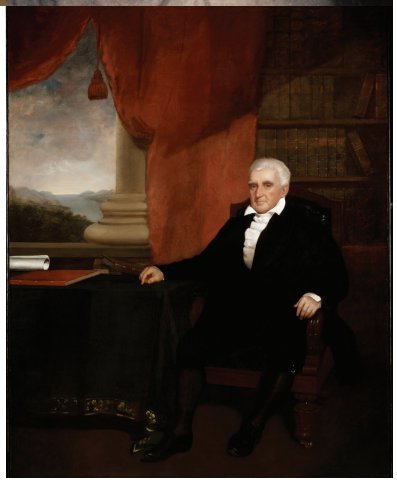
Sugar Cane Cultivation, Trinidad, 1836. As shown on www.slaveryimages.org.

Figure 4.3 Actors within the system of mahogany trade.

Ship captains and mahogany craftsmen

Wealthy furniture-buyers





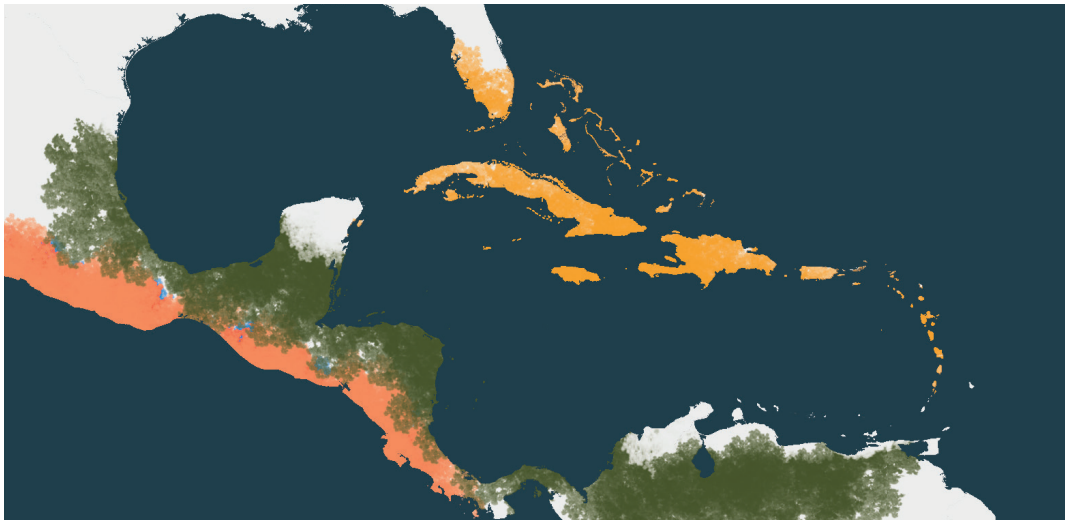
Greenwood, John. English: Sea Captains Carousing in Surinam. c. 1752. Saint Louis Art Museum. https://commons.wikimedia.org/wiki/File:John_Greenwood_-_Sea_Captains_Carousing_in_Surinam.jpg.

Harvesting mahogany trees. Chaloner and Fleming, 1851.

Portrait of James Card. From Furnishing the Craftsman: Slaves and Sailors in the Mahogany Trade by Daniel Finamore. www.chipstone.org

Harding, Chester S. "Nicholas Brown (1769 - 1841)." Wikipedia. https://en.wikipedia.org/w/index.php?title=Nicholas_Brown_Jr.&oldid=838198135.

Figure 4.4 Range of *Swietenia* species in the Caribbean and Central America. Adapted from Bowett, 1996.



Swietenia mahagoni	Jamaican Mahogany
Swietenia macrophylla	Big-Leaf Mahogany
Swietenia humilis	Pacific Coast Mahogany

Swietenia mahagoni seed capsule

Swietenia mahagoni seeds

Swietenia mahagoni leaf

Young *Swietenia mahagoni* tree in Jamaica

Mahogany

From Seed to Tree to Furniture

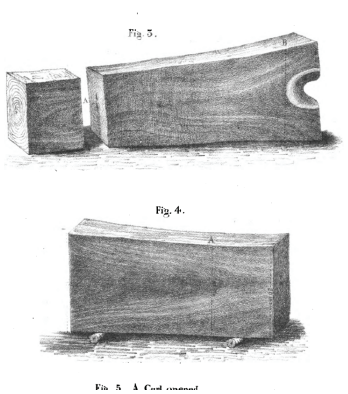
Jamaican Mahogany, *Swietenia mahagoni* is one of three *Swietenia* species from the Caribbean and Central American region (fig 4.4). Today, Jamaican Mahogany is found in the islands of the West Indies and Florida, though extensive commercial harvesting for nearly half a millennium has significantly reduced the quantity and quality of the species.[9] Jamaican mahogany has long been prized over others, a function of its superior material qualities,[10] and its association as an original and rare material.[11] The tree can grow to 100' tall, though its typical dimensions today are 40'x60' in height and crown width.[12] Seeds are contained within a large brown capsule and the tree is briefly deciduous, losing its leaves for a short time in the spring. Once harvested, the wood is revered for its resistance to rot, ability to hold delicate carving, and dark, mottled and figured appearance. When it was removed from Jamaica in the eighteenth century, it was packed into the bottoms of ships as secondary cargo and sold to furniture makers in American colonies. Figure 4.5 illustrates the change mahogany undergoes as it grows from a seed to a tree to then be cut down and turned into a piece of furniture.

Figure 4.5 (Below) Simplified material cycle of Mahogany tree. *See Endnotes for image sources*

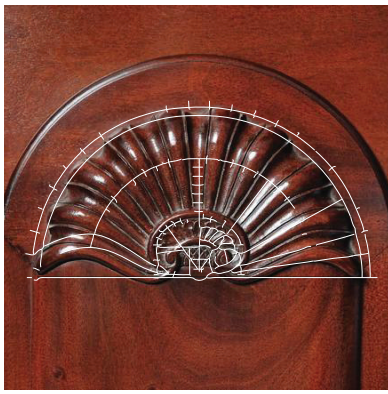
Swietenia mahagoni tree at Rose Hall Estate, Jamaica

Mahogany log

Mahogany slabs



Shell pattern carved onto mahogany board



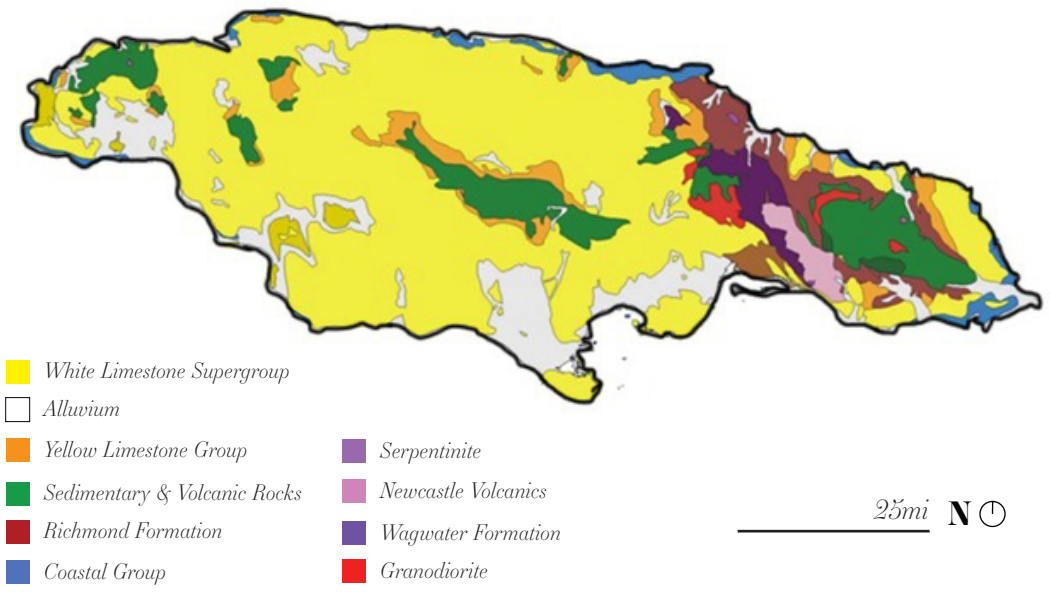


Figure 4.6 Geologic map of white limestone in Jamaica.

http://mgd.gov.jm/index.php/general-infromation/fyi/geology-of-jamaica.html

figure 4.7 Montpellier formation limestone in St. Ann, Jamaica. From University of West Indies Geological Society flickr stream.

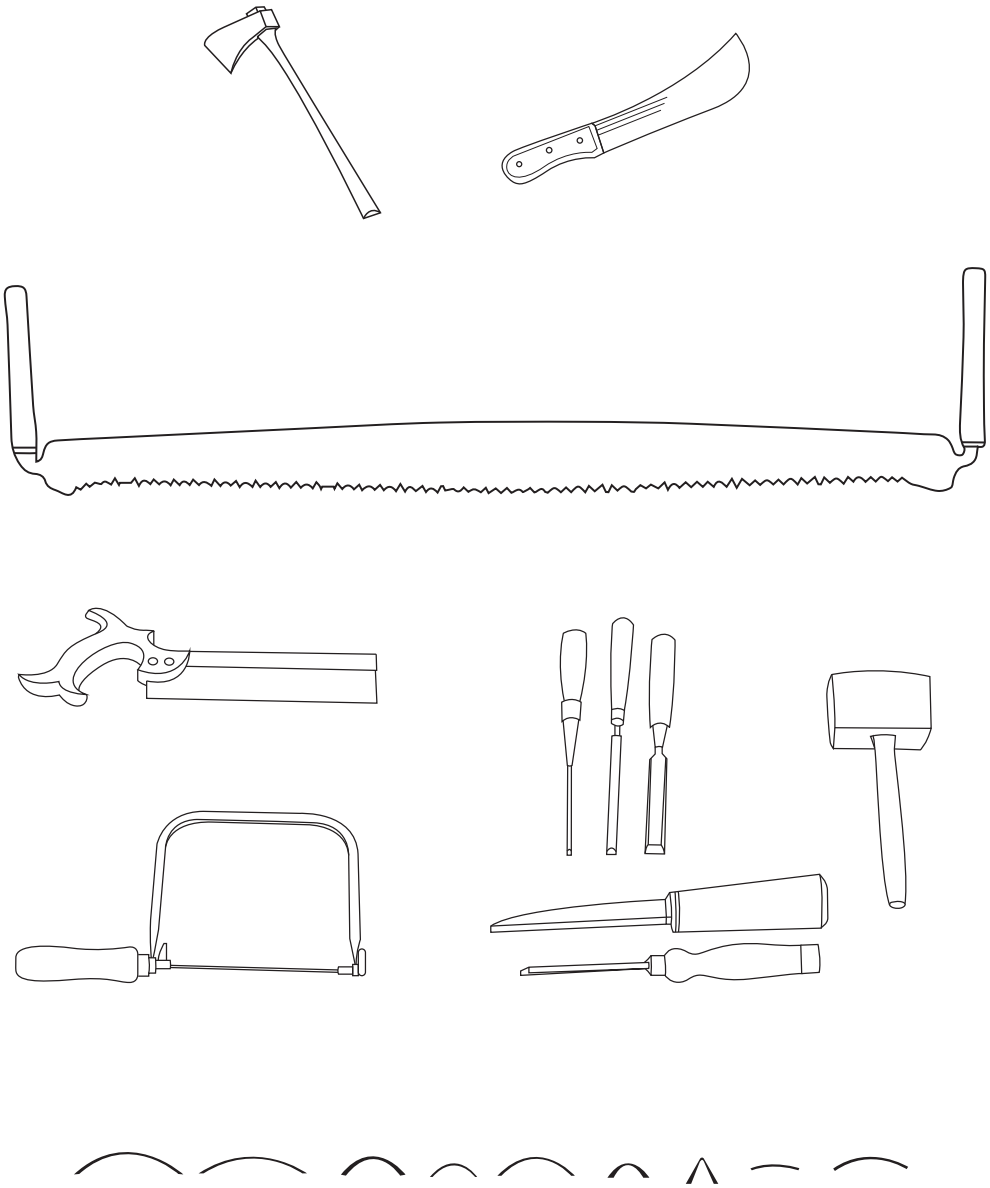
White Limestone

The Earthly Foundation of Jamaica and Slave Houses

Jamaica's forests of mahogany sat on an island made primarily of white limestone (fig 4.6, 4.7). The rich soils on Jamaica helped produce impressive old growth mahogany trees. In addition to supporting the earth on which mahogany grew, white limestone was also used extensively in Jamaican architecture. Many existing great houses have foundations and walls constructed with white limestone. Archaeologists at the Seville Estate in north Jamaica uncovered and mapped the limestone-cobbled floors of African slave houses (fig 4.8).[13] These ruins offer some of the best examples of limestone's prevalence in the domestic lives of slaves. White limestone's presence in the Jamaican landscape and its use in domestic settings made it an essential and irremovable part of African slave existence.

Figure 4.8 Overview of Seville House 16 excavation from North. 1993. Digital Archive of Comparative Slavery.

Figure 4.9 Images of steel tools and implements related to mahogany trade.



Steel

Shaping Material, Constraining People

Steel played a central role in the creation of mahogany furniture. It composed the axes, saws, and machetes used to first cut down and shape the trees for shipment (fig 4.9), and was shaped into chisels, gouges, files, and planes that further refined the wood. It held ships together, and was molded into the guns and cannons mounted on cargo ships. Steel also made the chains and shackles that bound and constrained African slaves (fig 4.10). It was strong and sharp, it constrained and incised, it was honed into a blade and hammered into shape. Today it may be rusted and brittle, but across all landscapes of the mahogany trade we can find the violence of steel.

Figure 4.10 Neck Shackle. Image courtesy of Jamaican National Gallery.

Blue Mountains, Jamaica. September 2017

Settings

A broader account of the mahogany trade would extend over to England's first forays into the use of mahogany in furniture making, across the cities of America's eastern seaboard where more furniture was built and sold, throughout the forests Central and South America where more mahogany was harvested, and into west Africa where slaves were extracted. To gain a deeper understanding of particular moments of the mahogany trade, the project has been constrained in time and place: Newport, Rhode Island and Jamaica, in the 18th century. In addition to Newport and Jamaica, special interest has been paid to the gulf stream, the heated ocean current that travels north from the Caribbean along the east coast of the United States. These settings have focused research efforts and later became the sites of landscape narrative installations. The following section explores their place within this system.

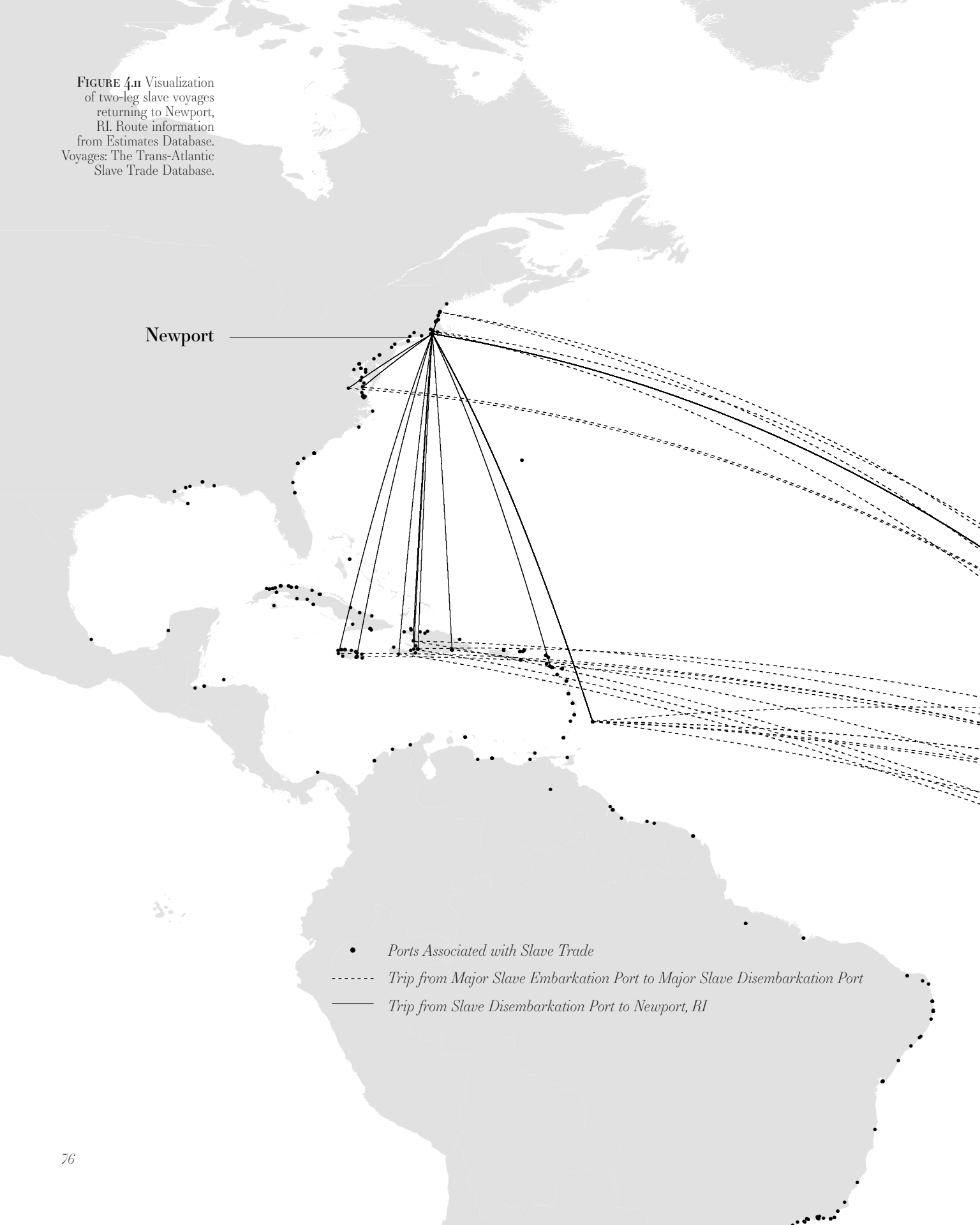
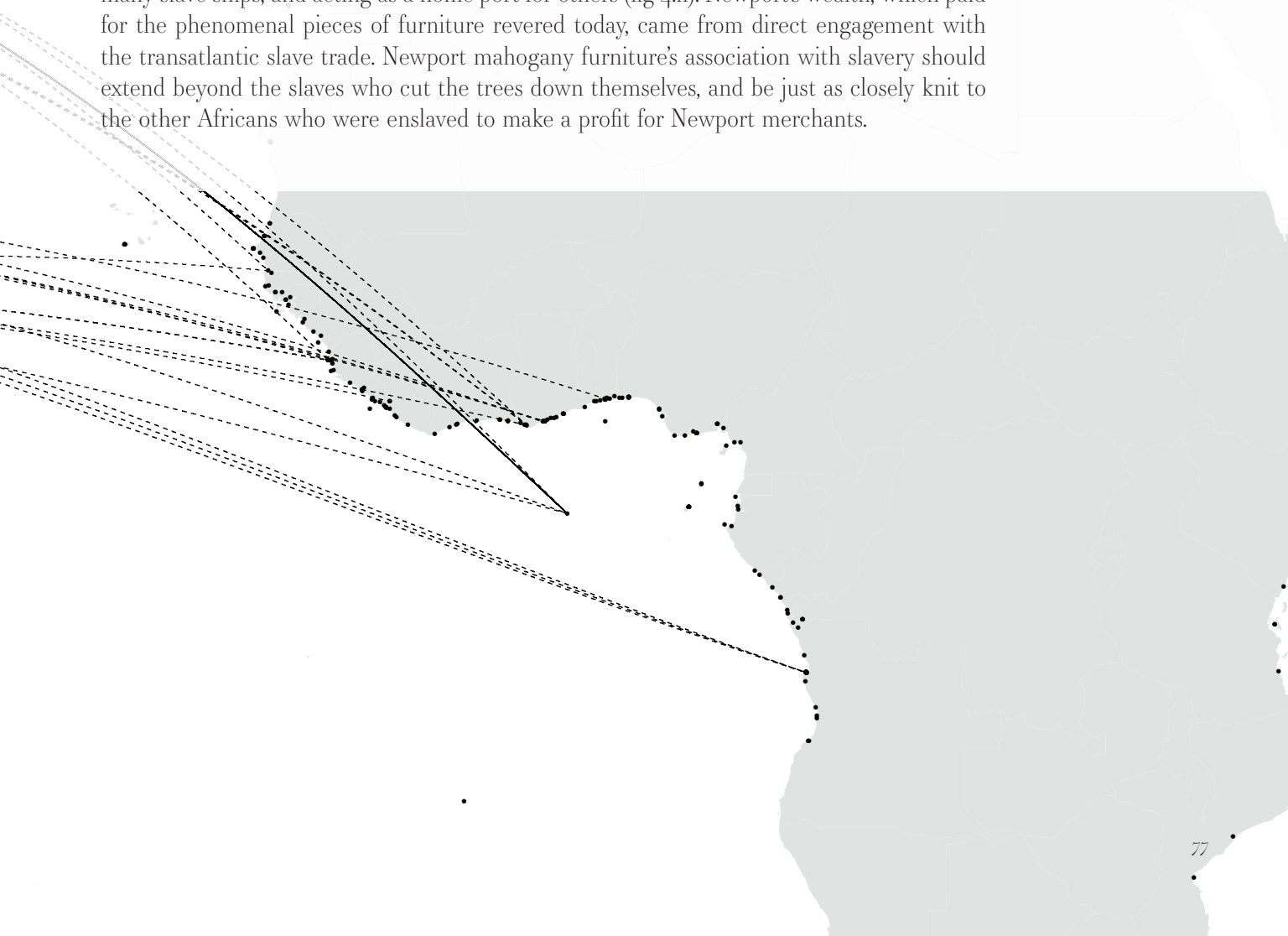


Figure 4.11 Visualization of two-leg slave voyages returning to Newport, RI. Route information from Estimates Database. Voyages: The Trans-Atlantic Slave Trade Database.

Entangled Newport

Wealth Generated in a Morally Corrupt System

Newport's physical structure provided an excellent port city for a burgeoning merchant class. It sits on the Atlantic, north of where the gulf stream starts to curl eastward toward Europe, and has a harbor that can protect many ships from the swells of the open ocean. Large preservation efforts in the mid-20th century led to the protection and restoration of many of the city's historic homes, leaving a rich historic fabric intact which draws many tourists each year. While the saltbox homes from the 18th century are admired by visitors, not much is said about how wealth was generated to pay for the pieces of architecture seen today. Wealth in Newport was concentrated within a strong merchant class that could afford luxuries like incredibly expensive pieces of furniture.[14] These merchants were operating throughout the established transatlantic system of trade, exchanging slaves, sugar, and finished goods. Rhode Island was a leader in the transatlantic slave trade, sending more than a thousand voyages from Africa to the Americas before the end of the eighteenth century,[15] registering many slave ships, and acting as a home port for others (fig 4.11). Newport's wealth, which paid for the phenomenal pieces of furniture revered today, came from direct engagement with the transatlantic slave trade. Newport mahogany furniture's association with slavery should extend beyond the slaves who cut the trees down themselves, and be just as closely knit to the other Africans who were enslaved to make a profit for Newport merchants.



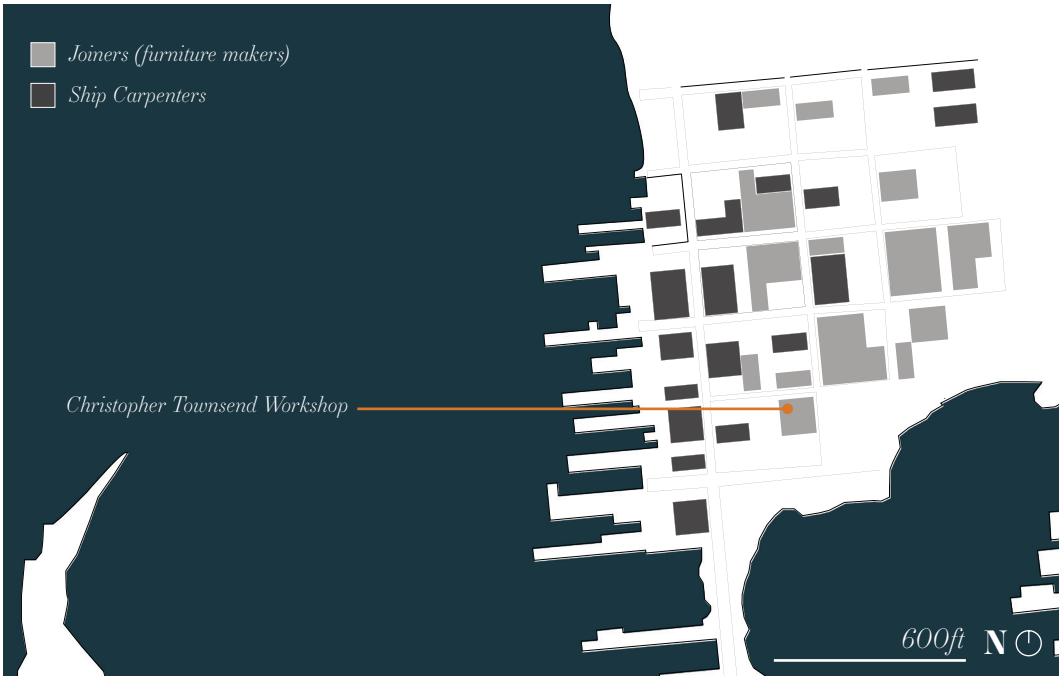


Figure 4.12 Easton's Point woodworking context, ca 1750. Map adapted from Patricia Kane.

Figure 4.13 Christopher Townsend home and workshop. Newport, RI. August 2017.

Workshop

Last Place of Material Transformation

Easton's Point, a small neighborhood just north of downtown Newport, had a high concentration of shipbuilders and carpenters, and was where the Townsend and Goddard families had their workshops (fig 4.12). Christopher Townsend was the first of his family to gain notoriety making furniture, and his house and workshop still stand on 55 Bridge Street in Easton's Point (fig 4.13). His house, along with the cluster of carpentery shops in the area, was situated a stone's throw away from piers and wharfs. It was not a long walk down to the waterfront to inspect the slabs of mahogany coming off the ships, nor was it far to haul some of the newly built furniture onto ships for sale in the southern reaches of the American colonies and into the West Indies. The workshops were the site of final material transformation of mahogany, as it was cut into thinner pieces, shaped with chisels and fitted together with other woods. These workshops erased the rough material pasts of mahogany, and created European-inspired regional pieces of furniture (fig 4.14).

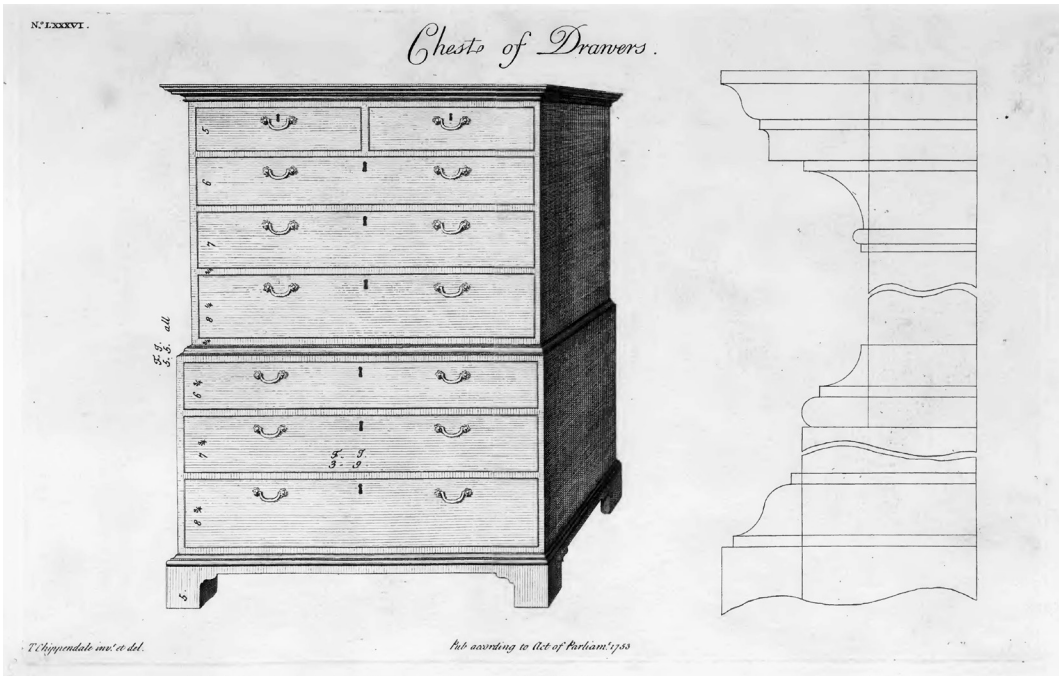
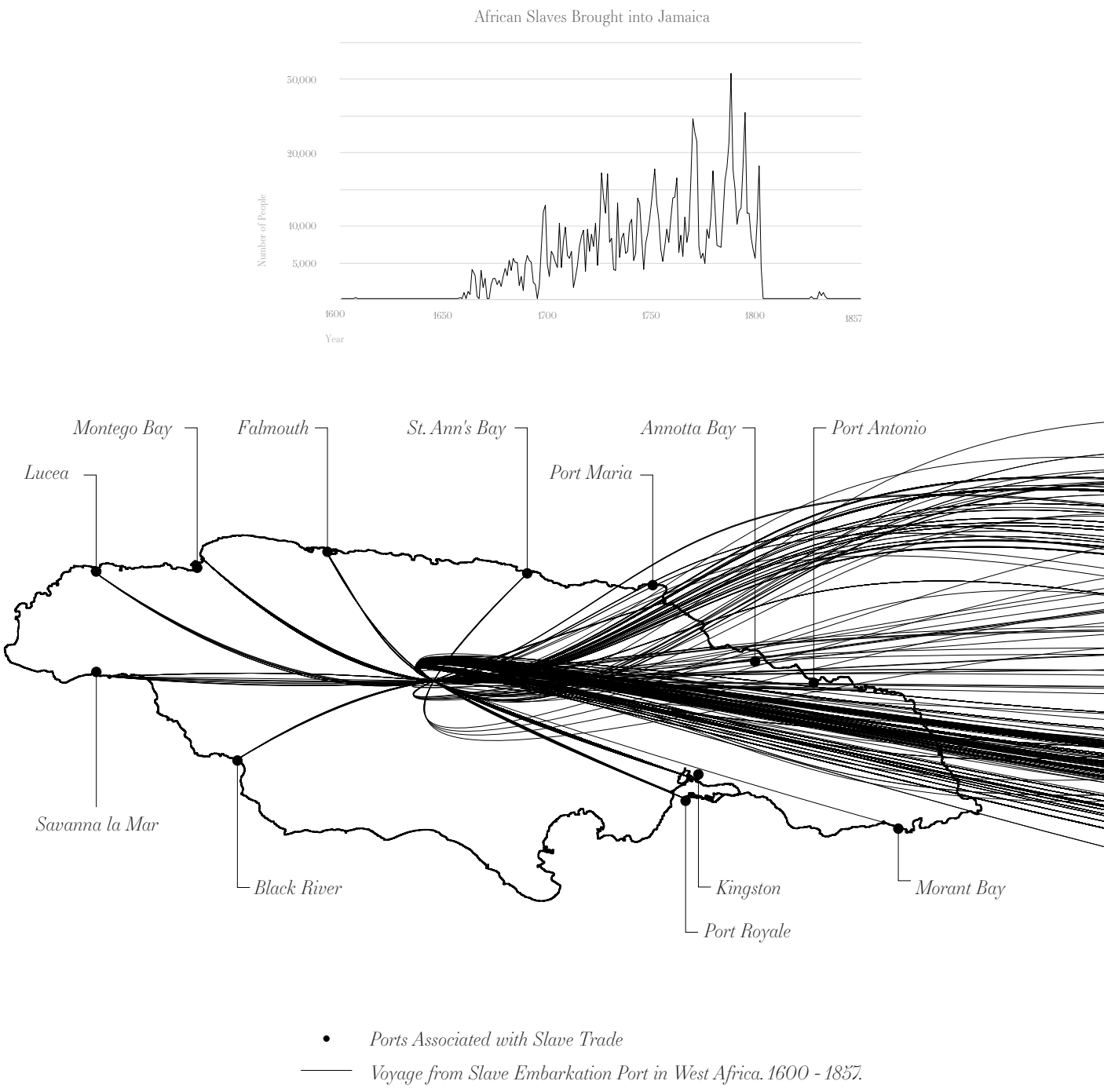


Figure 4.14 Chest of Drawers. Plane 86 from The Gentleman and Cabinetmaker Director from Thomas Chippendale.

Figure 4.15 Visualization of slave voyages into Jamaican ports. Estimates Database from Voyages: The Trans-Atlantic Slave Trade Database.



Jamaica

An Island of Exploitation

In the eighteenth century, Jamaica was a commercial hub of England,[16] and was used to generate wealth for English landowners, primarily through slave-driven sugar and coffee estates. Slavery existed in the British West Indies from the 1640s until 1834, and truly defined the island of Jamaica (fig 4.15); in 1750 blacks outnumbered whites 10:1.[17] High numbers of absent landowners (those who remained in England instead of living on their Jamaican plantations) helped foster an attitude that the island that it was a place of harvest, not a place to live. Accordingly, African slaves were brought to Jamaica in staggering numbers to drive this monstrous engine of production. To control an African population that far outnumbered them, the English also imported ideas of landscape militarization along with their plantation system of landscape management. Many of the early estates were built as defensible towers and fortresses with loopholes and thick stone walls to repel attacks and stand as imposing features in the landscape.[18] Estates were treated as small war zones that needed to quell any threat of insurrection, and traces of that combative landscape still exist in Jamaica today.

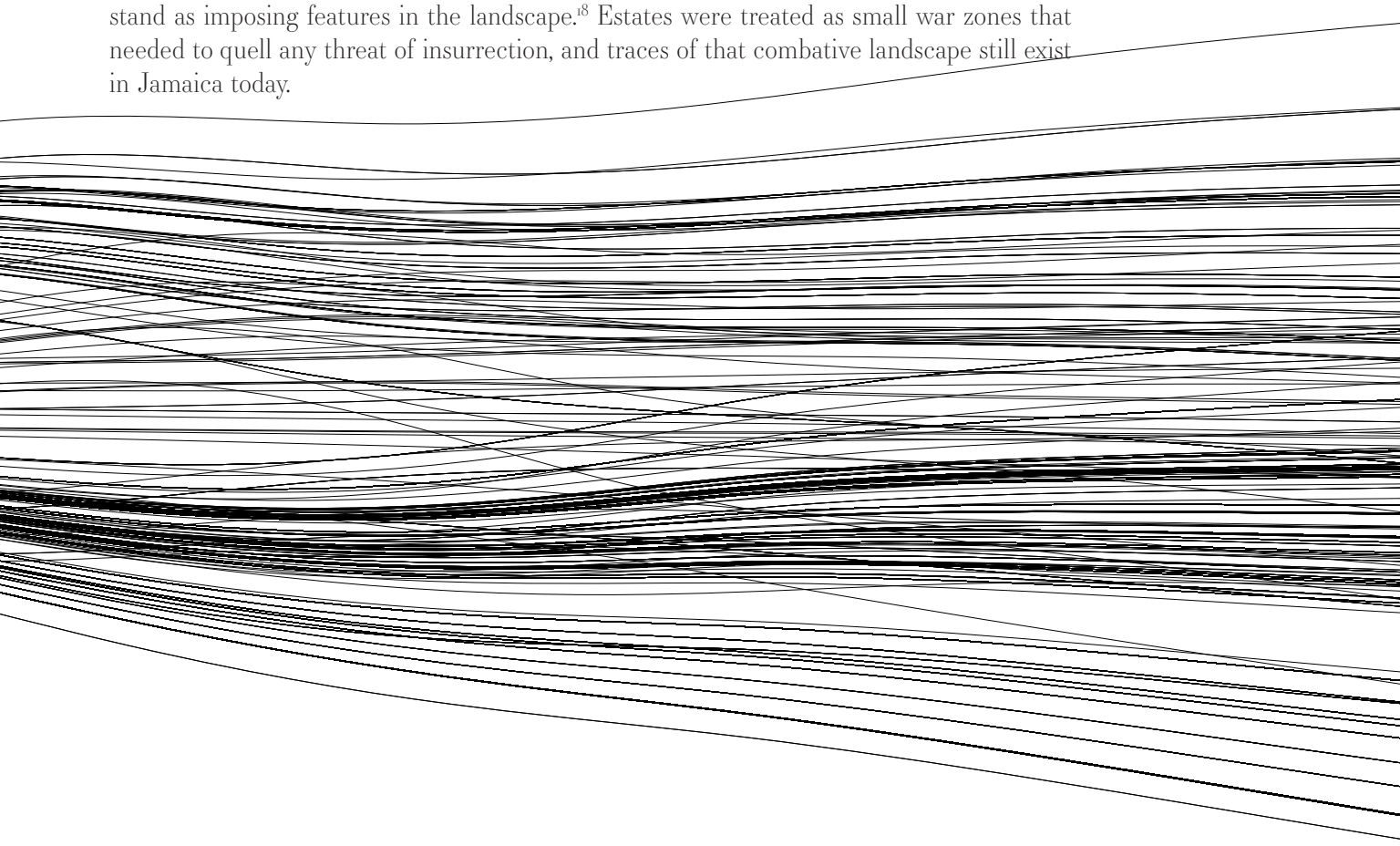


Figure 4.16 Work in the cane fields. *See end of this chapter for citations*

Figure 4.17 Images from the sugar works. *See end of this chapter for citations*

Sugar Plantations

Economic Engines of Colonial Jamaica

Sugar played an essential role in the mahogany trade. Throughout the eighteenth and nineteenth centuries, sugar estates dominated the coastal lowlands that ring Jamaica's mountainous spine (fig 4.18).[19] Large swathes of rich forests of mahogany were cleared to make room for these massive estates. Originally burned, it was only after a market for mahogany timber opened that landowners bothered to harvest the wood, either when clearing space for more cane fields or to supplement income in poor sugar years.[20]

Construction of the estates, built on previously undeveloped land, could fit within a typical spatial organization. The great house, where the landowner lived (if they did live there) sat on a high point of the property with clear lines of sight into the cane fields and the large sugar works. The sugar works, where cane was processed, needed to be centrally located to reduce time lost to transporting material from far away fields.[21] Slave dwellings were placed near the sugar works, again to reduce time lost to travel.

Sugar estates were brutal places. During harvest season slaves worked all day cutting cane (fig 4.16), only to have to spend all night processing it at the sugar works (fig 4.17). Today, sugar is not the profitable industry it once was, and many former sugar estates have been subdivided and sold, or their neglected fields have filled in with ruinate, a Jamaican term to describe the scrappy second growth that fills in a cleared field. Ultimately, sugar estates defined the social and physical structures of life in Jamaica, and played an important role in the consistent extraction of mahogany on the island.

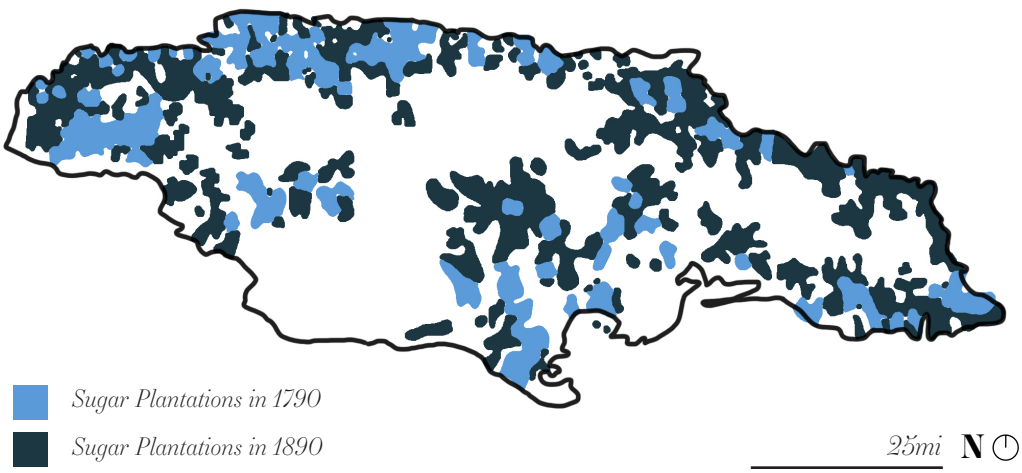


Figure 4.18 Historic sugar plantations in Jamaica. Map adapted from Jamaica Surveyed by Barry Hignam.

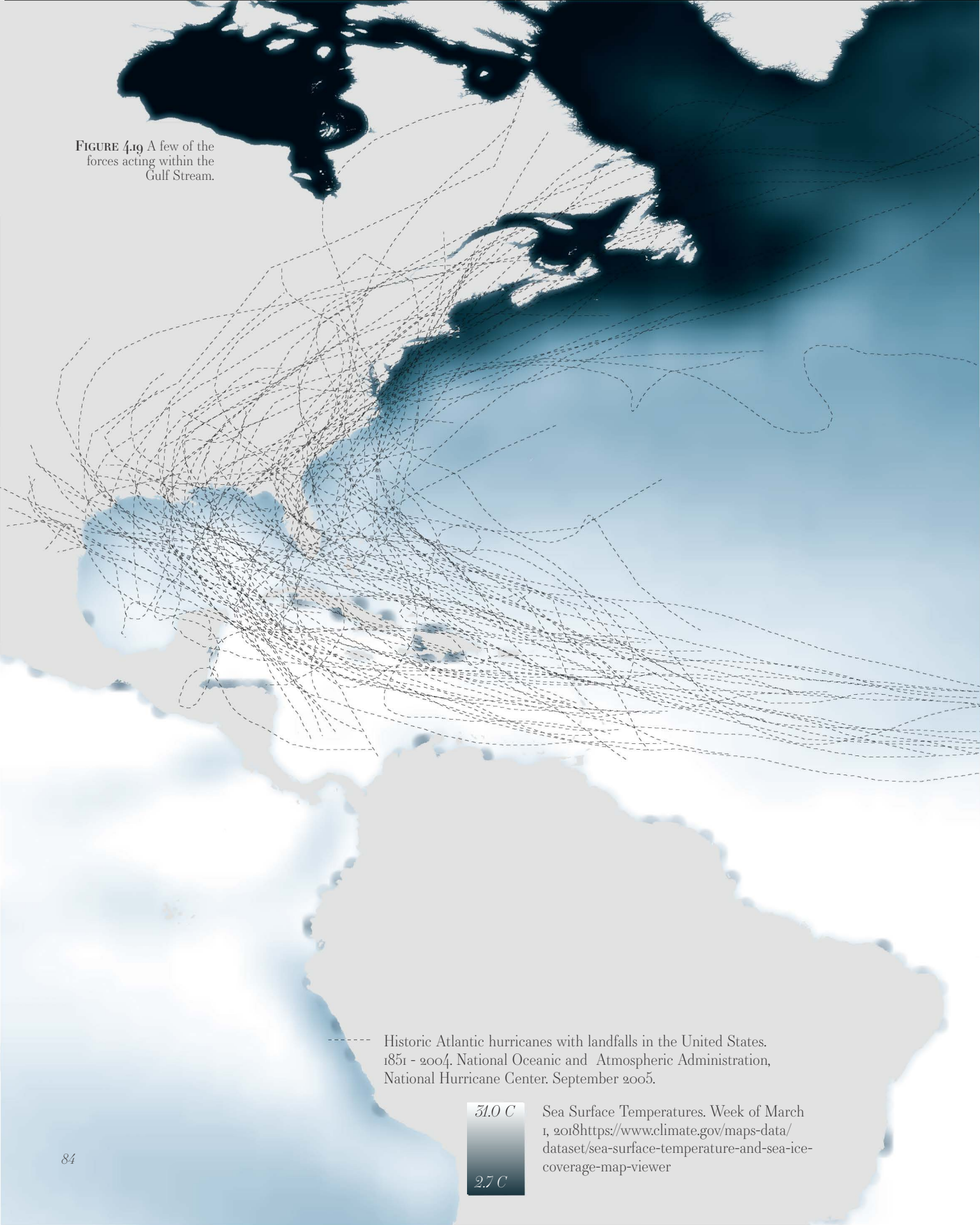


Figure 4.19 A few of the forces acting within the Gulf Stream.

Historic Atlantic hurricanes with landfalls in the United States. 1851 - 2004. National Oceanic and Atmospheric Administration, National Hurricane Center. September 2005.

Sea Surface Temperatures. Week of March 1, 2018https://www.climate.gov/maps-data/dataset/sea-surface-temperature-and-sea-ice-coverage-map-viewer

The Gulf Stream

Creating Rhythms

The Gulf Stream links Newport and Jamaica together with a band of quickly moving warm water. This water from the equatorial Atlantic moves along the eastern seaboard of the United States before curling east towards Europe. The ship captains took advantage of this river through the ocean, using it to quickly travel north from the Caribbean. The gulf stream also carries powerful hurricanes through the Caribbean towards the Americas. The consistency the Gulf Stream provided ships' quick passage north, and a predictable hurricane season established the loading times for cargo ships carrying sugar, dictating when cane needed to be planted, harvested, and processed earlier in the year. Figure 4.19 illustrates a small portion of the many different events and characters that have acted within the Gulf Stream.

Blue Mountains, Jamaica. September 2017

Events

It would be impossible to try to capture every event that occurred within this system. The dynamic system of commerce that the colonial mahogany trade operated within was defined by countless events, from the miniscule and mundane like a single pass of a cabinetmaker's saw, to scales that are difficult to comprehend, like a ship's speedy passage north along the Gulf Stream fed by hundreds of millions of gallons of warm water. It is not impossible, however, to find common threads of events that happen throughout the system. The mahogany trade was about control of people, materials, and landscape. It was about the rhythms created when material was manually processed in Jamaica and Newport. Its stories that historians have tried to unearth are deeply rooted to materials and landscapes, either unabashedly displaying the marks of its past or wildly working to hide them. The following section explores three events that had powerful implications for the mahogany trade and its relevance today.

Processing

Material Changes Across Landscapes

A lot of human energy has been invested in turning the giant mahogany trees first described in Jamaica into the expert pieces of furniture valued today. Processing the material by hand was an integral piece of this system. African slaves in Jamaica cut down centuries old trees[22] with saws, axes, and machetes. Those trunks were limbed and squared to better fit into the bottom of ship holds,[23] and were moved (by hand, animal, or by river) to awaiting ships (fig 4.21). Slabs were sold in Newport to craftsmen who cut them down further. Finally, patterns were traced onto planks and shaped into delicate carvings (fig 4.22). Every pass of a blade erased the mark of the last. Mahogany logs, once bearing the marks of hundreds of axe blows, were turned into the refined geometry of Thomas Chippendale, hiding any trace of an errant chisel line or saw score.

Processing

Material Changes Across Landscapes

Chopping a mahogany tree. Honduras. Image from CITES. https://www.cites.org/eng/news/pr/2003/031111_mahogany.shtml.

"Rafting mahogany logs down New River." (Standley and Record, The Forest and Flora of British Honduras [Chicago: Field Museum of Natural History, 1936], pl. 4. ID #B78614.) From Furnishing the Craftsman: Slaves and Sailors in the Mahogany Trade by Daniel Finamore. www.chipstone.org

Figure 4.21 Stills from carving a claw and ball foot. https://www.youtube.com/watch?v=VcRgZF2trE

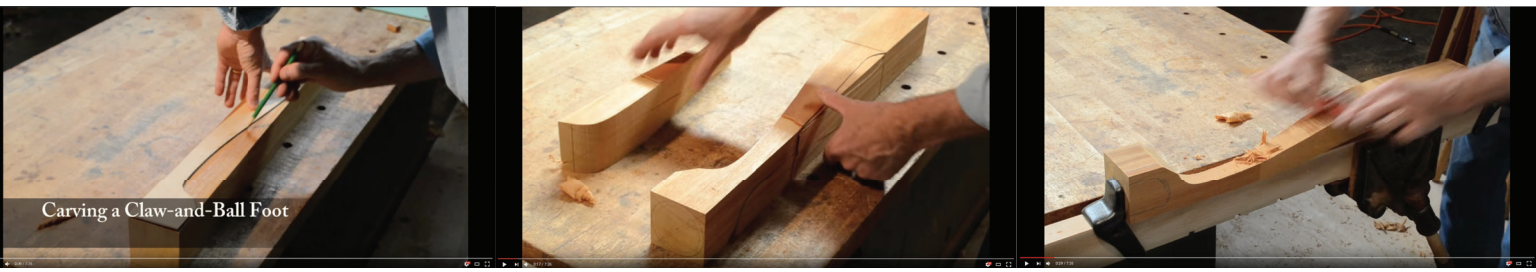
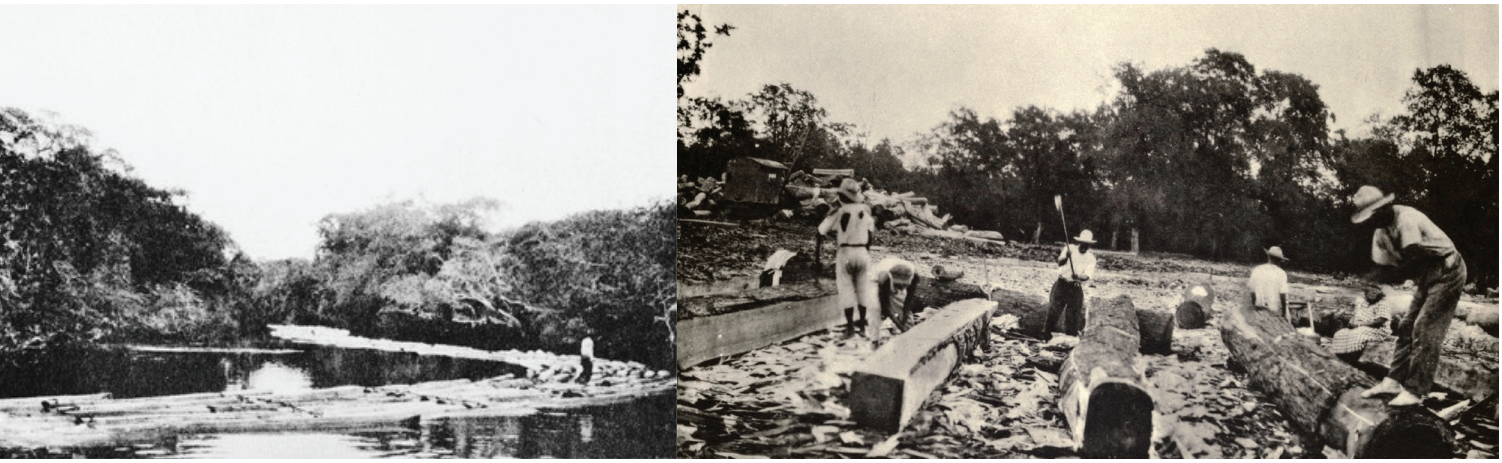


Figure 4.20 Moments of processing across landscapes in mahogany trade.



J, Standley, Paul Carpenter, 1884-1963; Record, Samuel. English: Squaring Mahogany Logs for Export, Belize around 1936. circa 1936. The forests and flora of British Honduras (1936). https://commons.wikimedia.org/wiki/File:Squaring_mahogany.jpg.

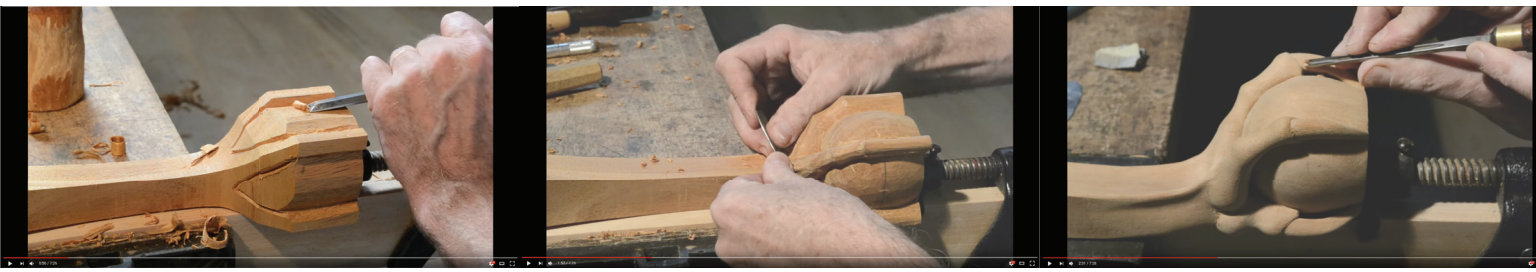


Figure 4.22 Plan of French Army in Newport, 1780. Plan de la position de l'armée françoise autour de Newport et du mouillage de l'escadre dans la rade de cette ville. 1780. Library of Congress

Seeing

Violent Views Imposed on Jamaican Landscapes

Jamaican plantations were structured to establish and maintain lines of sight. Treated like a battleground that needed defending (figure 4.22), plantation outbuildings and fields were arranged to both maximize efficiency of the slave workers, and create easily defensible positions for the significantly outnumbered white landowners and overseers.[24] Estate homes and overseer houses were located to establish a continual gaze and locus of power across the landscape (fig 4.23). This point is underscored when comparing plans of Jamaican sugar estates with military maps of their contemporaries. Lines of sight across open landscapes were a display of power over another. Interestingly, while many of the cane fields in Jamaica have grown in with ruinate, traces of these sightlines of power can still be found. Grand roadways into estates are still celebrated. Visitors in contemporary Jamaica are still situated in a place of subservience to the grand stare of architecture that stood for so much pain for so long.

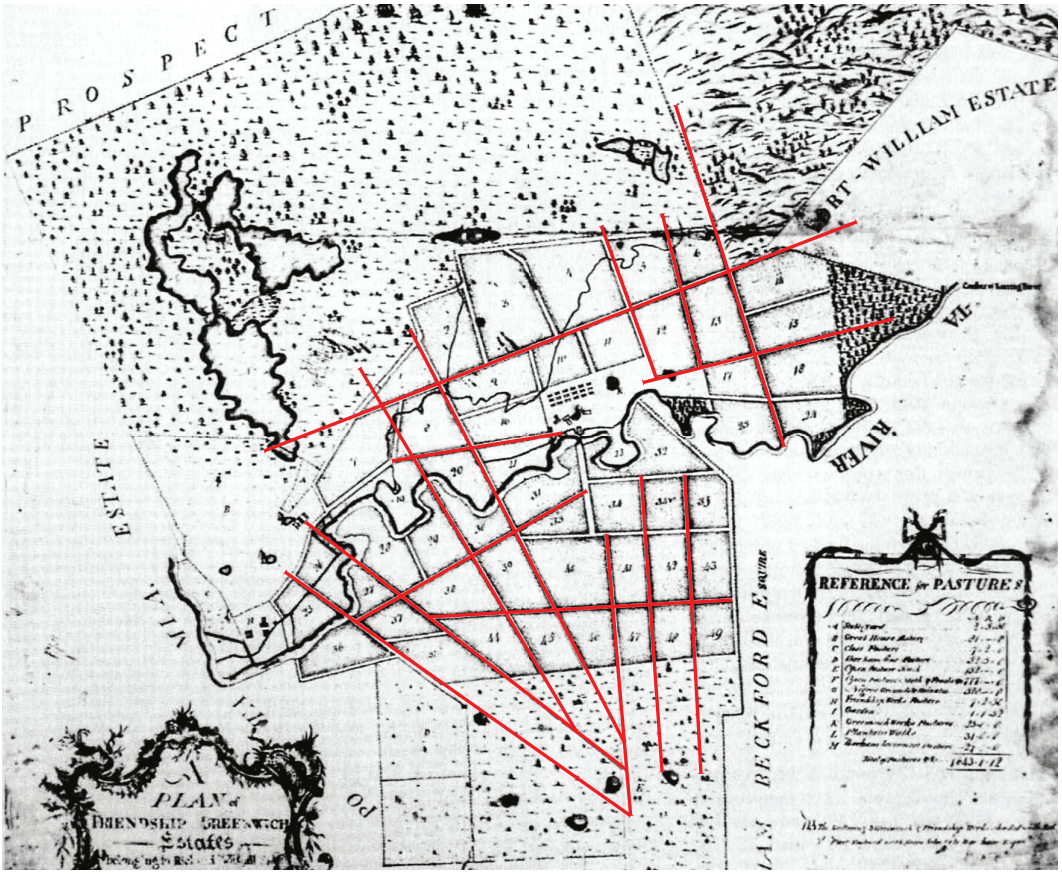


Figure 4.23 Prospect Estate sugar field sightlines diagrammed. Base image from Jamaica Surveyed: Plantation Maps and Plans of the Eighteenth and Nineteenth Centuries.

Esposito and Son

When the men arrived, finally, to haul the big table away,
I ran my hand down the battered length of it, as if along
The flank of some exhausted workhorse, overcome
By a sudden rush of absurd remorse. I'd never loved it,
Being as it was first too shabby, then too grand
For the way we lived (or should have lived, at least).

Six chairs, green velvet pressed flat, two more
With sculpted rests broad enough for a king's muscled
Forearm (growing dusty in the basement, season upon season).
Two carved leaves should unexpected guests drop by, and these
Still gleamed with polish though the tabletop itself was bleached
And scarred: ruthless curator of memory.

When the younger man went to fetch a blanket I bent
And laid my cheek flat against the cool mahogany.
The father shifted restlessly from foot to foot, eager
To be done with it, to be home, perhaps, king at his own table,
Gesturing for his wife to slice the meat, to pass the buttered peas.

Anna Scotti

Remembering

Reconciling the Scars of the Past

In her poem, *Esposito and Son*, Anna Scotti called her old mahogany table a "ruthless curator of memory,"[25] holding onto the stains and scars it has accumulated over the years it remained with her family. In her poem Scotti is torn; she is filled with remorse for getting rid of the table, but she recognizes that she has never loved it, having never been quite right for her lifestyle. Furniture can become deeply personal artifacts, accruing the stains and scars of domestication that comes with writing letters and having family dinners. Scotti struggles with the table's personal history, harshly noting the table's imperfections as 'bleached / and scarred' but still resting her cheek on it before it is hauled away. Tension of memory is at the heart of Scotti's poem as she struggles with how to digest the loss of this personal artifact, even with its awkward sizes and imperfections. This project struggles with how to remember similarly crafted pieces of furniture, deeply scarred with the violence of slavery and exploitation but exemplars of craftsmanship and residents in American furniture history.

Caribbean poet Derek Walcott has also struggled with memory, but he was reconciling the power of a landscape to erase the brutal past once imposed onto it. He writes, "if our history [were] so rapidly enclosed / in bush, devoured by green / that there are no signals... and our forests / shut their mouths, sworn to ancestral silence"[26] Here, Caribbean forests have the power to erase the bleached and scarred past in ways that a mahogany tabletop cannot. Ruinate, the second growth that fills in an abandoned field has the "potential for obliterating the remnants of colonial history..."[27] Jamaica, along with many islands of the Caribbean, must reconcile the scars imposed on the landscape by a class of oppressors with their own agency in reclaiming the land today. Walcott also seems to struggle with this reality, questioning the impacts of a forest devouring an entire history, regardless of how painful the history is. Is there a benefit to amnesia? What are its consequences? Remembering is an important part of life, and landscapes are important vessels that will continually display and erase our memories.

Compiled Story Elements

Collection of important Settings, Characters, and Events to Colonial Mahogany Story

Settings	Characters	Events
Africa Ships Jamaica Port Plantations	Slaves	Capture, bondage, shipment, selling, labor
Jamaica	Hurricanes	High winds, trees fall, canopy opens, new trees grow in Estate houses destroyed
Forest	Slaves Overseers Axes Mahogany trees	Selecting, chopping, felling, processing, hauling
Plantation Estate	Slaves Masters Cane Mahogany	Whipping, torture, disease, death, burial, escape
Plantation	Plantation Owners	Military ordering of cane fields
Atlantic	Hurricanes	Gain strength in warm waters Pushed north with water
Atlantic	Trade Ships	Follow warm water current
Ship	Raw mahogany Captain Merchant	Mahogany fit into ship holds Ship follows Gulf Stream north
Dock	Buyer/Sellers Raw mahogany	Raw mahogany bought and sold
Shop	Chippendale's Director Craftsman Processed mahogany	Designing, cutting, carving, fitting, joining, furniture making
Home	Finished mahogany furniture Homeowner & family	Furniture sold to homeowner; passed down through many generations

Selected Story Elements

Settings, Characters, and Events investigated further in this project.

Settings

Jamaica

Sugar Plantations

Newport, RI

Workshops

The Gulf Stream

Characters

People

White Limestone

Steel

Mahogany

Events

Processing

Seeing

Remembering

Chapter 4 Endnotes

1 Chaloner and Fleming, The Mahogany Tree (Liverpool: Rockliff and Son, Castle Street, 1850), 37.

2 Adam Bowett, "The Commercial Introduction of Mahogany and the Naval Stores Act of 1721," Furniture History 30 (1994): 48.

3 Jeffrey P. Greene, American Furniture of the 18th Century (Newton, CT: Taunton Press, 1996), 64.

4 Greene, 63.

5 Patricia Kane, Art and Industry in Early America: Rhode Island Furniture, 1650-1830 (New Haven: Yale University Art Gallery, 2016), 126.

6 Anna Scotti, "Esposito and Sons," The New Yorker, November 28, 2016.

7 Michael Moses, Master Craftsmen of Newport: The Townsends and Goddards (Tenafly, NJ: MMI Americana Press, 1984), 3.

8 Richard Dunn, A Tale of Two Plantations: Slave Life and Labor in Jamaica and Virginia (Cambridge, Massachusetts: Harvard University Press, 2014), 157.

9 "Amendments to Appendices I and II of the CITES Convention" (CITES, 1994). 1994.

10 C Orwa et al., "Swietenia mahagoni" (Agroforestree Database: A Tree Reference and Selection Guide Version 4.0, 2009).

11 Jennifer Anderson, "Nature's Currency: The Atlantic Mahogany Trade and the Commodification of Nature in the Eighteenth Century," Early American Studies 2, no. 1 (Spring 2004): 76.

12 Stephen Brown H. and Bronwyn Mason, "Mahogany Fact Sheet" (University of Florida IFAS Extension, 2012).

13 "Seville House 16 | DAACS," accessed April 14, 2018, https://www.daacs.org/sites/seville-house-16/#images.

14 Greene, American Furniture of the 18th Century, 59.

15 "Slavery and the Slave Trade in Rhode Island," Slavery and Justice Exhibition, 2007, https://www.brown.edu/Facilities/John_Carter_Brown_Library/exhibitions/jcbexhibit/Pages/exhibSlavery.html.

16 Adam Bowett, "The Jamaican Trade: Gillow and the Use of Mahogany in the Eighteenth Century," Regional Furniture XII (1998): 15.

17 Dunn, A Tale of Two Plantations: Slave Life and Labor in Jamaica and Virginia, 3.

18 Louis P. Nelson, Architecture and Empire in Jamaica (New Haven: Yale University Press, 2016), 50.

19 B. W. Higman, Jamaica Surveyed: Plantation Maps and Plans of the Eighteenth and Nineteenth Centuries (University of West Indies Press, 2001), 14.

20 Jennifer Anderson, Mahogany: The Costs of Luxury in Early America (Cambridge, Massachusetts: Harvard University Press, 2012), 100.

21 Higman, Jamaica Surveyed: Plantation Maps and Plans of the Eighteenth and Ninteenth Centuries, 80.

22 Chaloner and Fleming, The Mahogany Tree, 38.

23 Bowett, "The Jamaican Trade: Gillow and the Use of Mahogany in the Eighteenth Century," 18.

24 Nelson, Architecture and Empire in Jamaica, 111.

25 Scotti, "Esposito and Sons."

26 Lizabeth Paravisini-Gebert, "Deforestation and the Yearning for Lost Landscapes in Caribbean Literatures," in Postcolonial Ecologies: Literatures of the Environment (Oxford, New York: Oxford University Press, 2010), 17.

27 Paravisini-Gebert, 17.

Additional Image Citations

Figure 4.5

1, 2, 3 Images of Mahogany seed pod, seeds, and leaf. Brown, Stephen, H., and Bronwyn Mason. "Mahogany Fact Sheet." University of Florida IFAS Extension, 2012.

4 Mahogany tree in Blue Mountains, Jamaica. September 2017. Photograph by Author.

5 Mahogany tree at Rose Hall, Jamaica. September 2017. Photograph by Author.

6 Cut mahogany tree. "Species Profile: Big-Leaf Mahogany." Rainforest Alliance. Accessed May 11, 2018. https://www.rainforest-alliance.org/species/mahogany.

7 Mahogany slabs. Chaloner, and Fleming. The Mahogany Tree. Liverpool: Rockliff and Son, Castle Street, 1850.

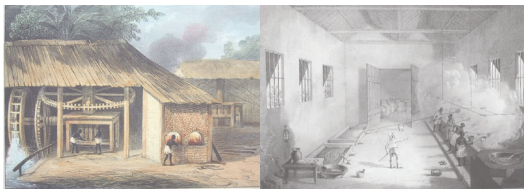
8 Detail of a convex shell. "Mack Headley | Eighteenth-Century Cabinet Shops and the Furniture-Making Trades in Newport, Rhode Island | American Furniture 1999." http://www.chipstone.org/images.php/301/American-Furniture-1999/Eighteenth-Century-Cabinet-Shops-and-the-Furniture-Making-Trades-in-Newport,-Rhode-Island.

Figure 4.16

1 2 3

Figure 4.17

4 5



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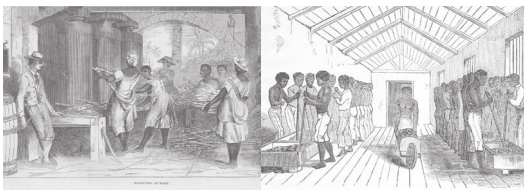


Images from fig 4.16 and 4.17 as shown on www.slaveryimages.org, compiled by Jerome Handler and Michael Tuite and sponsored by the Virginia Foundation for the Humanities.

1 Sugar Cane Cultivation, British West Indies, 1840s.The Illustrated London News (June 9, 1849), vol. 14, p. 388; see also Ballou's Pictorial (Feb. 10, 1855), pp. 84-85.

2 Working in Sugar Cane Fields, 19th Century. Edmund Ollier, Cassell's History of the United States (London, 1874-77), Vol. 2, p. 493

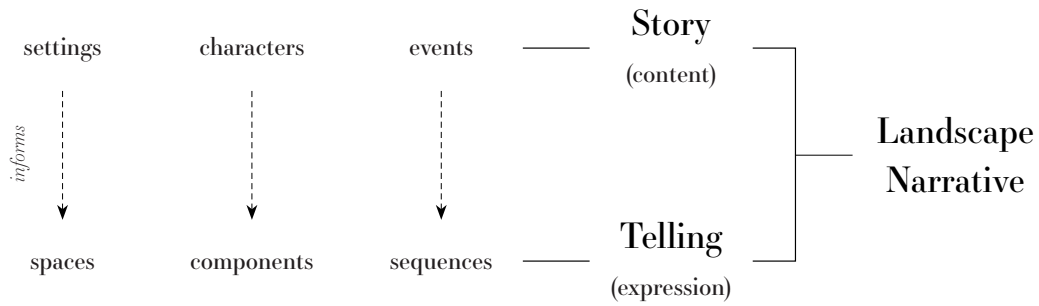
3 Harvesting Sugar Cane. Louisana, 1853. Harper's New Monthly Magazine(1853), vol. 9, p. 760. (Copy in Special Collections Department, University of Virginia Library)

4 Sugar Mills, Suriname, ca 1831. Pierre Jacques Benoit, Voyage a Surinam . . . cent dessins pris sur nature par l'auteur (Bruxelles, 1839)

5 Sugar Boiling House, Trinidad, 1836. Richard Bridgens, West India Scenery...from sketches taken during a voyage to, and residence of seven years in ... Trinidad (London, 1836), plate 11.

6 Vertical-Roller Sugar Mill, British West Indies, 1840s. The Illustrated London News (June 9, 1849), vol. 14, p. 388; see also Ballou's Pictorial (Feb. 10, 1855), pp. 84-85.

7 Packing Sugar, Cuba circa 1866. Samuel Hazard, Cuba with pen and pencil (Hartford, Conn., 1871), p. 370.


settings
characters
events
Story
(content)
informs
Landscape
Narrative
spaces
components
sequences
Telling
(expression)

Landscape Narrative

Telling the Story of the Colonial Mahogany Trade

This final chapter documents the synthesis of the story and telling chapters into a final set of designed landscape narrative proposals. The elements of the mahogany story were materialized through the different ways of telling uncovered in the precedent analysis. For instance, Jamaica and the sugar estates that began to populate it in the eighteenth century became an important setting to locate the spaces of one design. Characters like steel and limestone were used as space-defining components in both designs. Design sequences responded to the events of the story. Here, the benefit of telling a story through landscape becomes clear, as there are many ways to embed elements of a story into a landscape, and a visitor will leave with a memorable experience, even if they do not understand the nuances of the story designed into the landscape.

Importantly, it was not the intention of this project to communicate the story in its entirety. Returning to the project's primary research question, which asks how a set of landscape narratives can *spatially* communicate the story, the following designs primarily explore the manipulation of space. This results in a set of designed landscape narratives that are intentionally vague, asking a visitor to do a significant amount of interpretation on their own.

FIGURE 5.1 View from Storer Park, looking west.

Table Leg Walk

Location: Newport, RI
Scale: Garden

Landscape Design

Spaces: A linear progression of refined to raw spaces guide visitors from a workshop where mahogany furniture was once made out to a wharf where raw materials were once brought in.

Components: Three materials, in different states of refinement, are sequentially used in the installation to help visitors realize that the refined materials found in Newport are brought from elsewhere, and that a single material is always invisibly connected to many others.

Sequences: Connections, at thresholds between spaces and between materials, create awkward moments of pause for visitors that are balanced with long views into spaces beyond.

Major Story

Newport had an incredibly valuable place in the history of American craft, and its legacy is supplemented by the strong context of preserved historic buildings in its neighborhoods. Visitors are forced to realize, however, that the refined materials and spaces around them have complex histories of connections to other materials and landscapes that are otherwise invisible.

Easton's Point Context

Rhode Island

Rhode Island

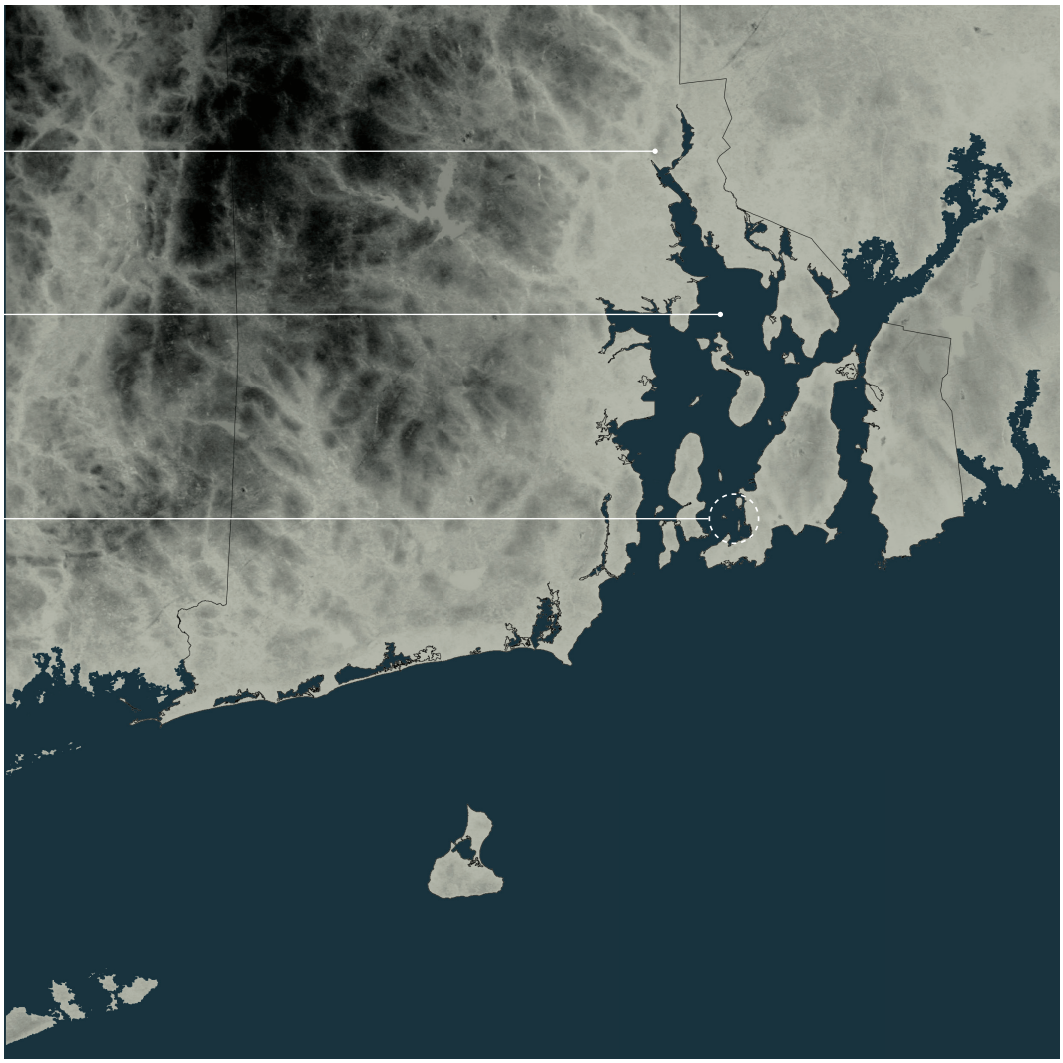
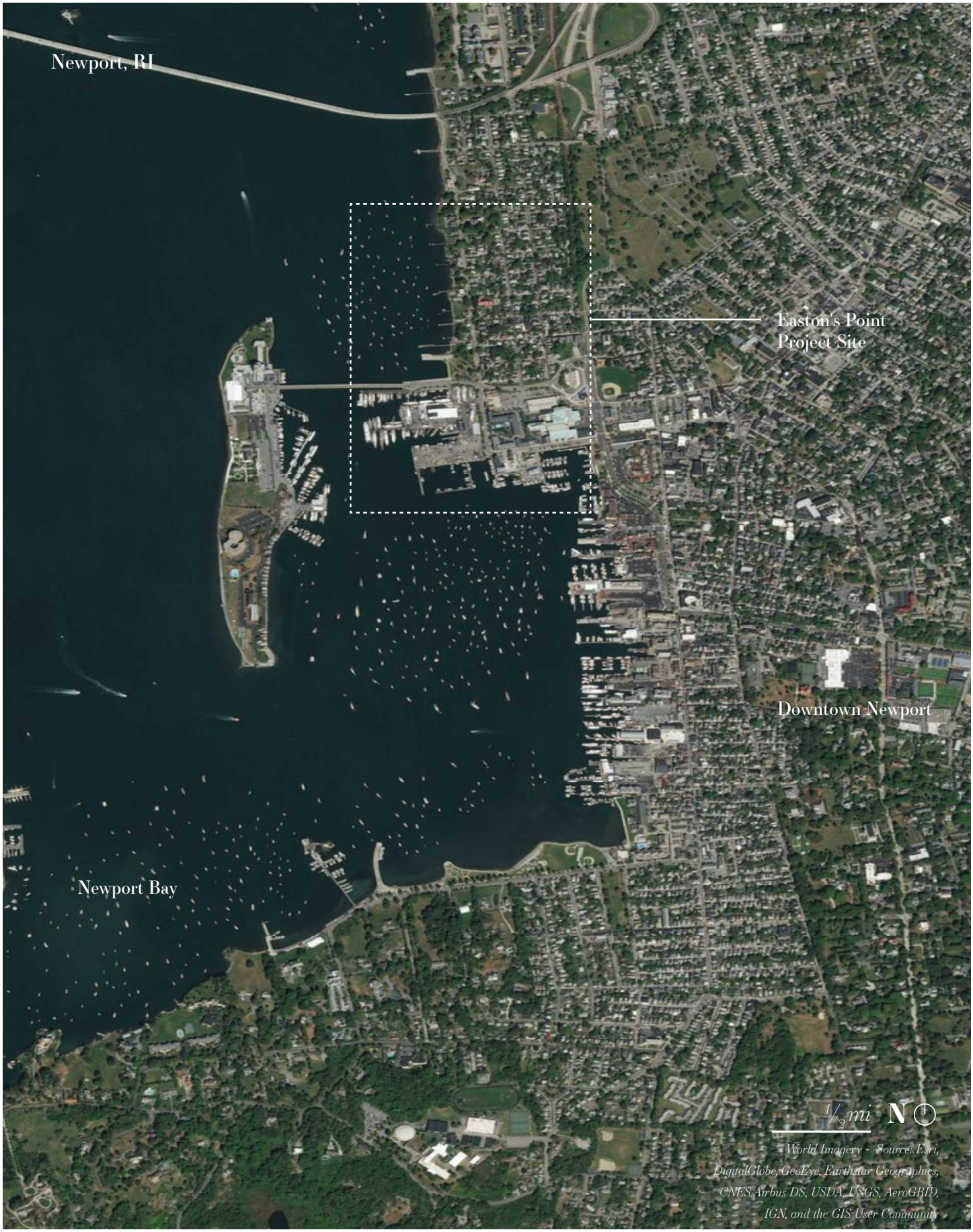


Figure 5.2 Newport, Rhode Island Location and Context.


Newport, RI
Easton's Point
Project Site
Downtown Newport
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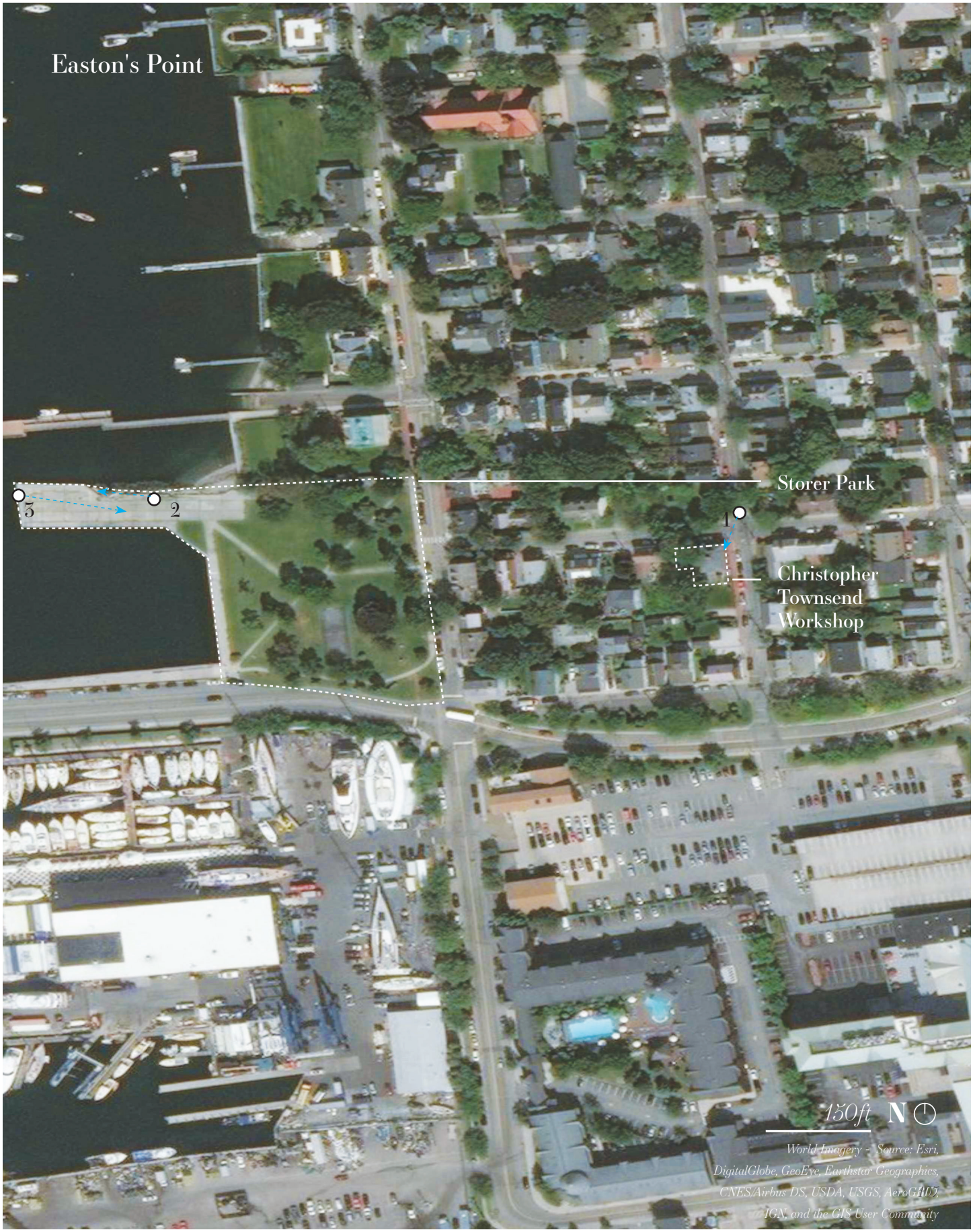
World Imagery - Sources: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

FIGURE 5.3 Easton's Point in contextual images and site plan.

1

2

3


Easton's Point
Storer Park
Christopher
Townsend
Workshop
1
2
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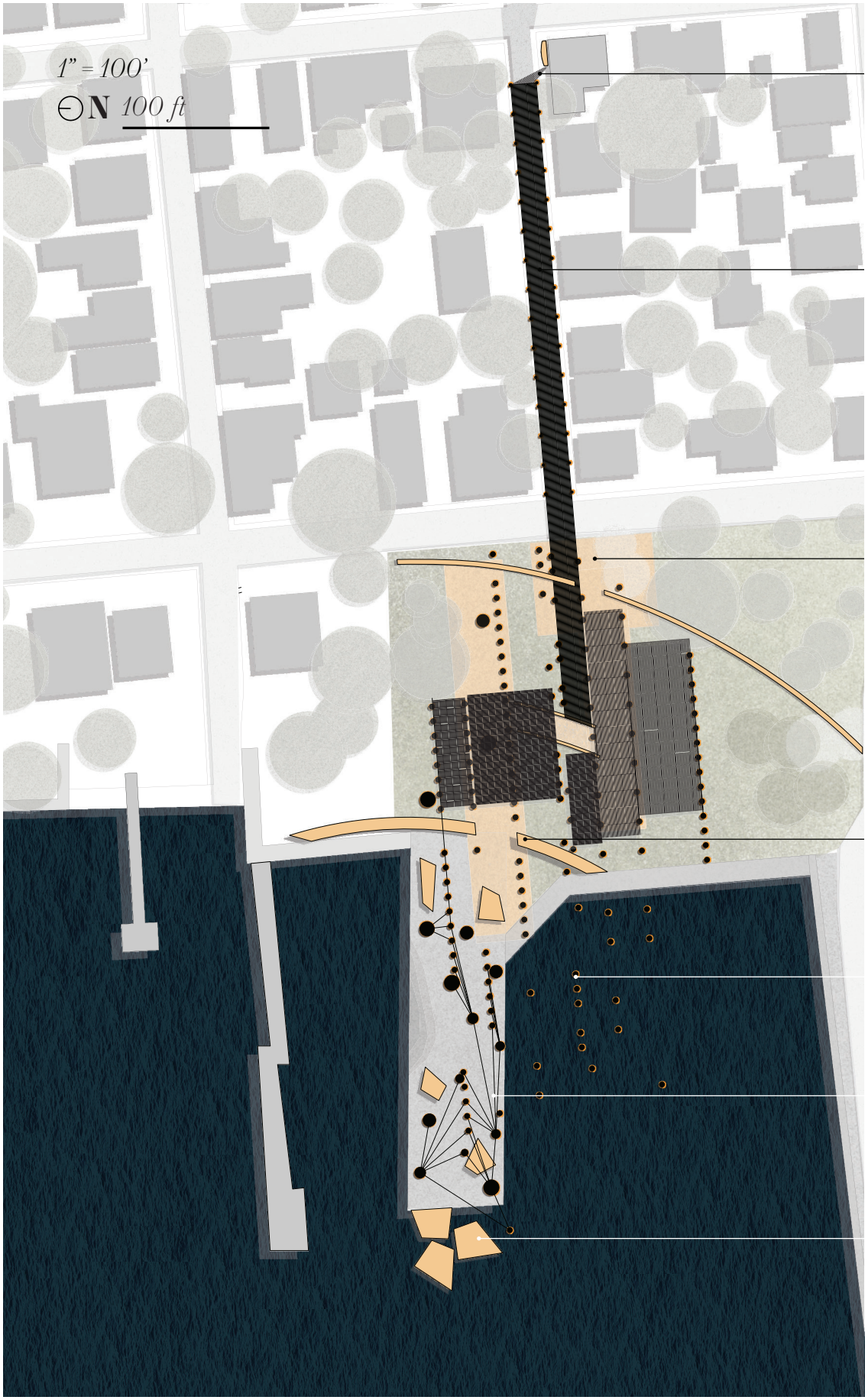
CNES/Airbus DS, USDA, USGS, AeroGRID,
IGN, and the GIS User Community

FIGURE 5.4 Design.



Steel cables emanate from a limestone bench outside of Townsend's workshop.

A steel cable archway, supported by mahogany posts, run down Bridge Street to the park.

Crushed limestone pads mark the entry and subsequent spaces throughout the park, leading visitors to the pier.

Limestone walls make radiating bands and mark thresholds of the design.

Mahogany poles extend into the bay

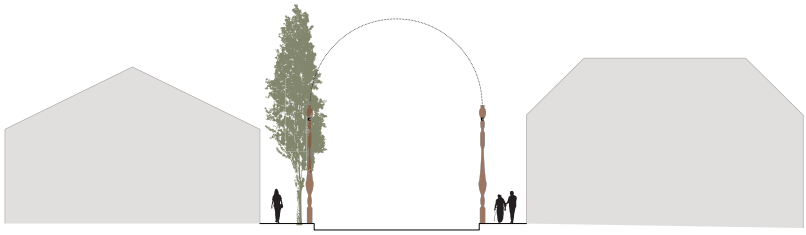
Steel rope continues down the pier and disappear into the bay.

Large limestone blocks are set into the water at the end of the pier. Tides occasionally submerge the lowest.

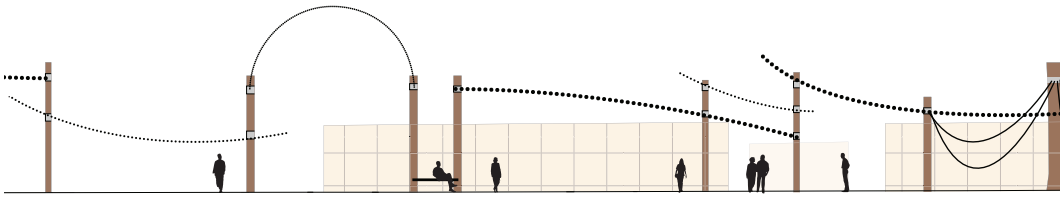
Spaces

A linear progression of refined to raw spaces guide visitors from a workshop where mahogany furniture was once made out to a wharf where raw materials were once brought in.

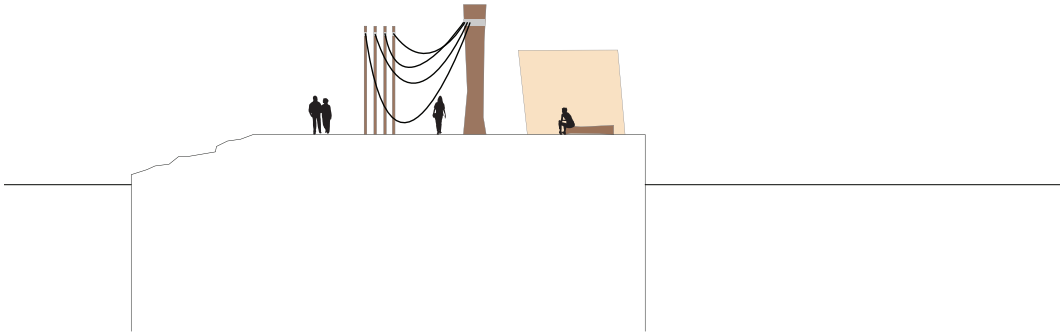
1. The Long Walk



2. The Process



3. The Pier



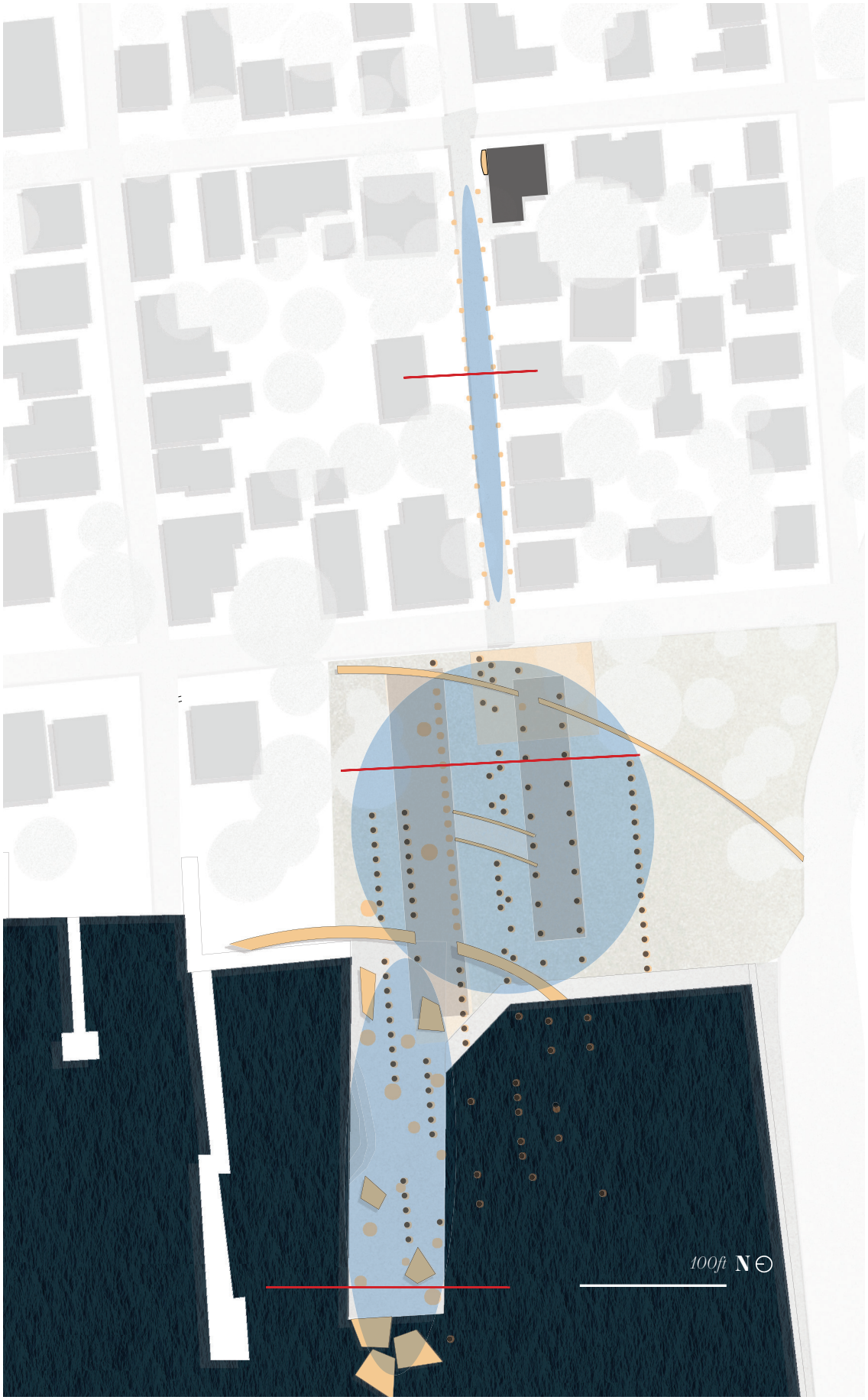


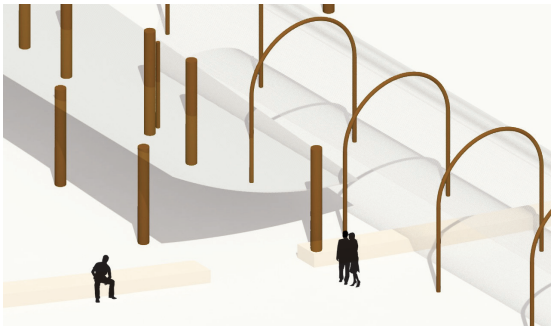
Figure 5.5 Easton's Point Spaces

Components

Three materials, in different states of refinement, are sequentially used in the installation to help visitors realize that the refined materials found in Newport are brought from elsewhere, and that a single material is always invisibly connected to many others.

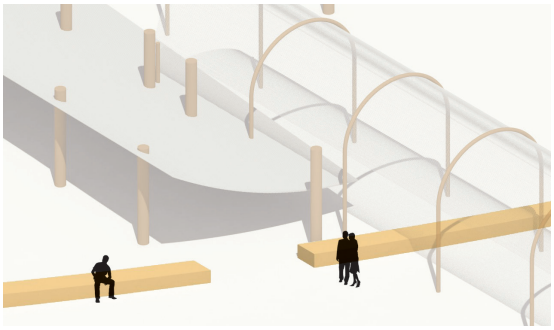
Jamaican Mahogany

Sets of Jamaican mahogany posts support the steel cables above. They are aligned to create a set of linear rooms that direct visitors out to the pier.



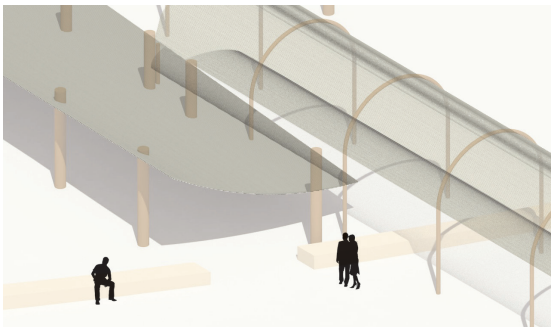
Jamaican White Limestone

Limestone is placed in a set of concentric rings to define a set of thresholds visitors pass through. The limestone changes from a small bench next to Townsend's workshop to massive blocks irregularly arranged on the pier.



Steel Rope

Steel cables shape the ceilings of the design's spaces. Their forms mimic the curves from Chippendale's Cabinetmaker pattern book. They change from thin and fine down Bridge Street to thick and heavy on the pier. Thickness and spacing creates different shadow patterns on the ground.



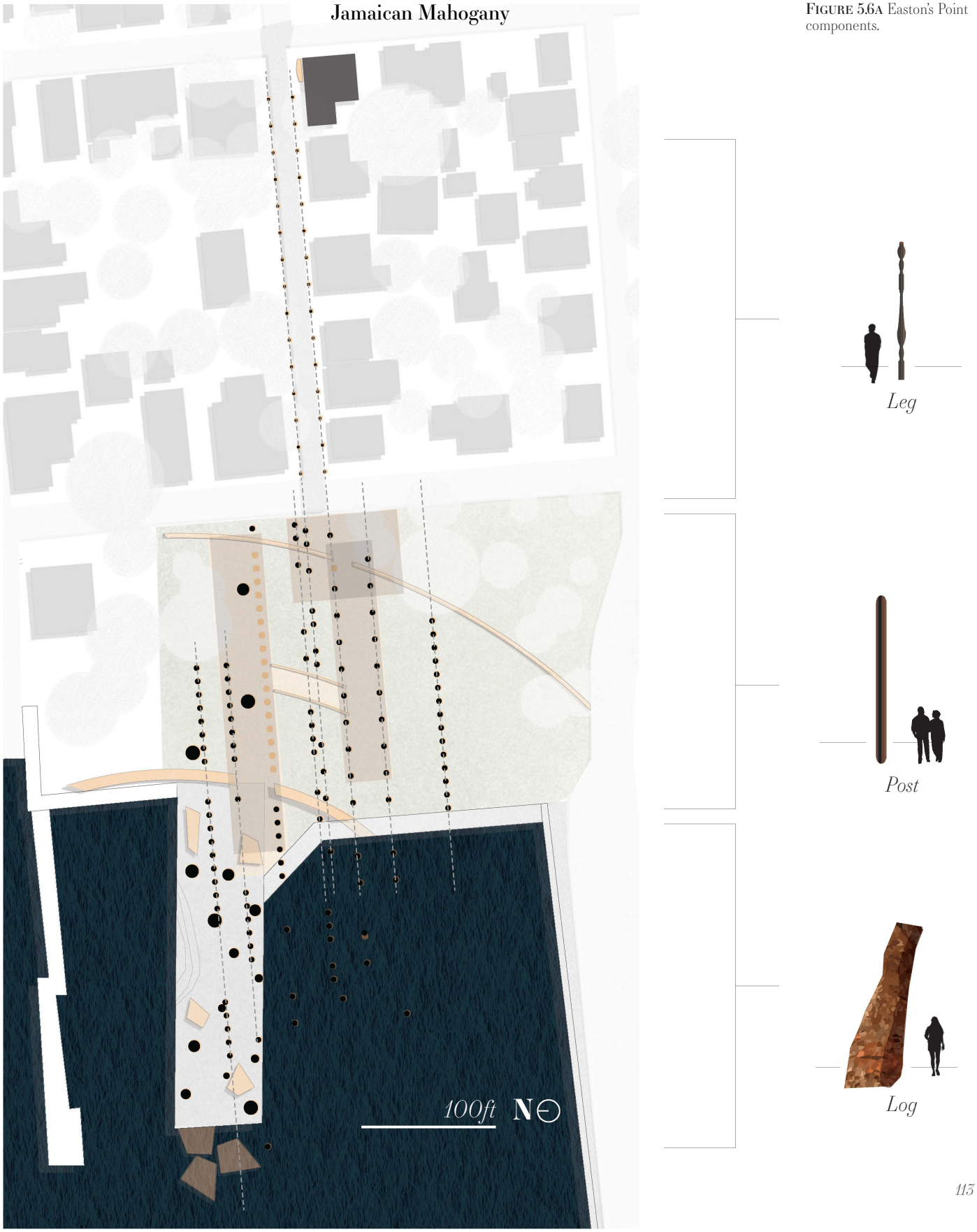
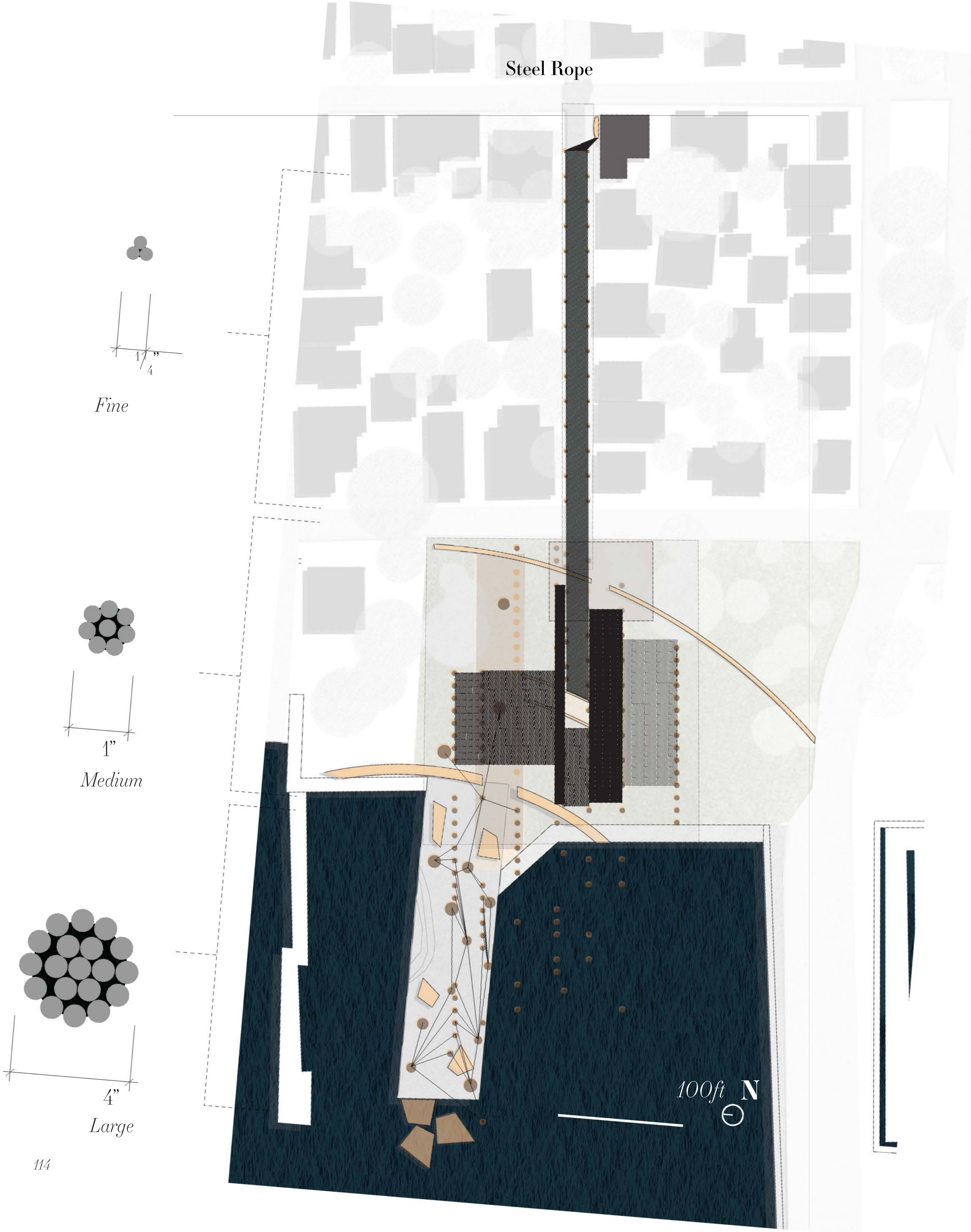


Figure 5.6a Easton's Point components.

Steel Rope



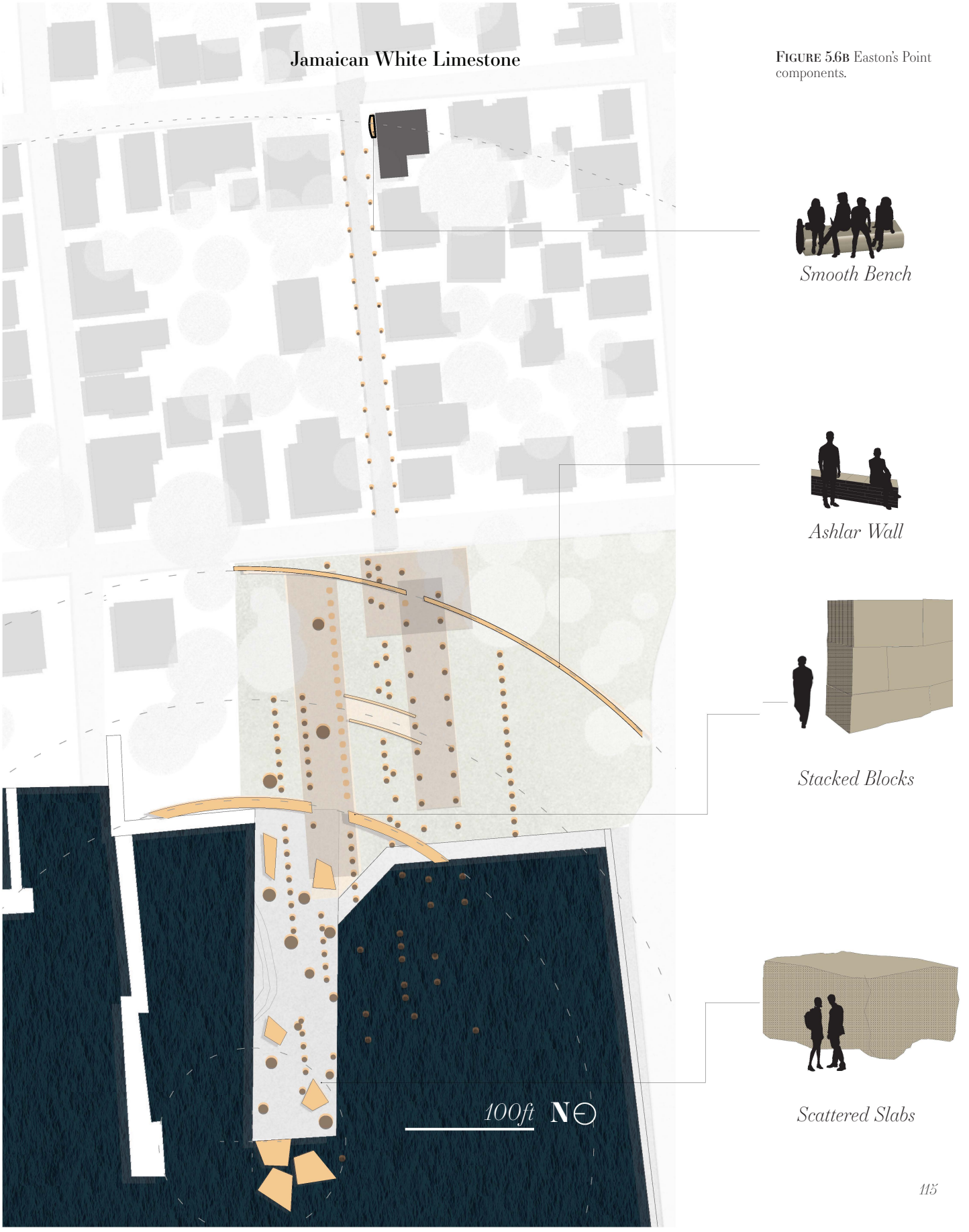


Figure 5.6b Easton's Point components.

Sequences

Connections, at thresholds between spaces and between materials, create awkward moments of pause for visitors that are balanced with long views into spaces beyond.

1 There's clarity at the start. A refined archway guides visitors from Townsend's workshop to Storer Park.

2 A fine limestone wall greets you at Storer Park, but its opening is interrupted by an awkwardly placed pole.

3 A limestone wall marks another threshold. Low hanging steel and another pole make navigation difficult again.

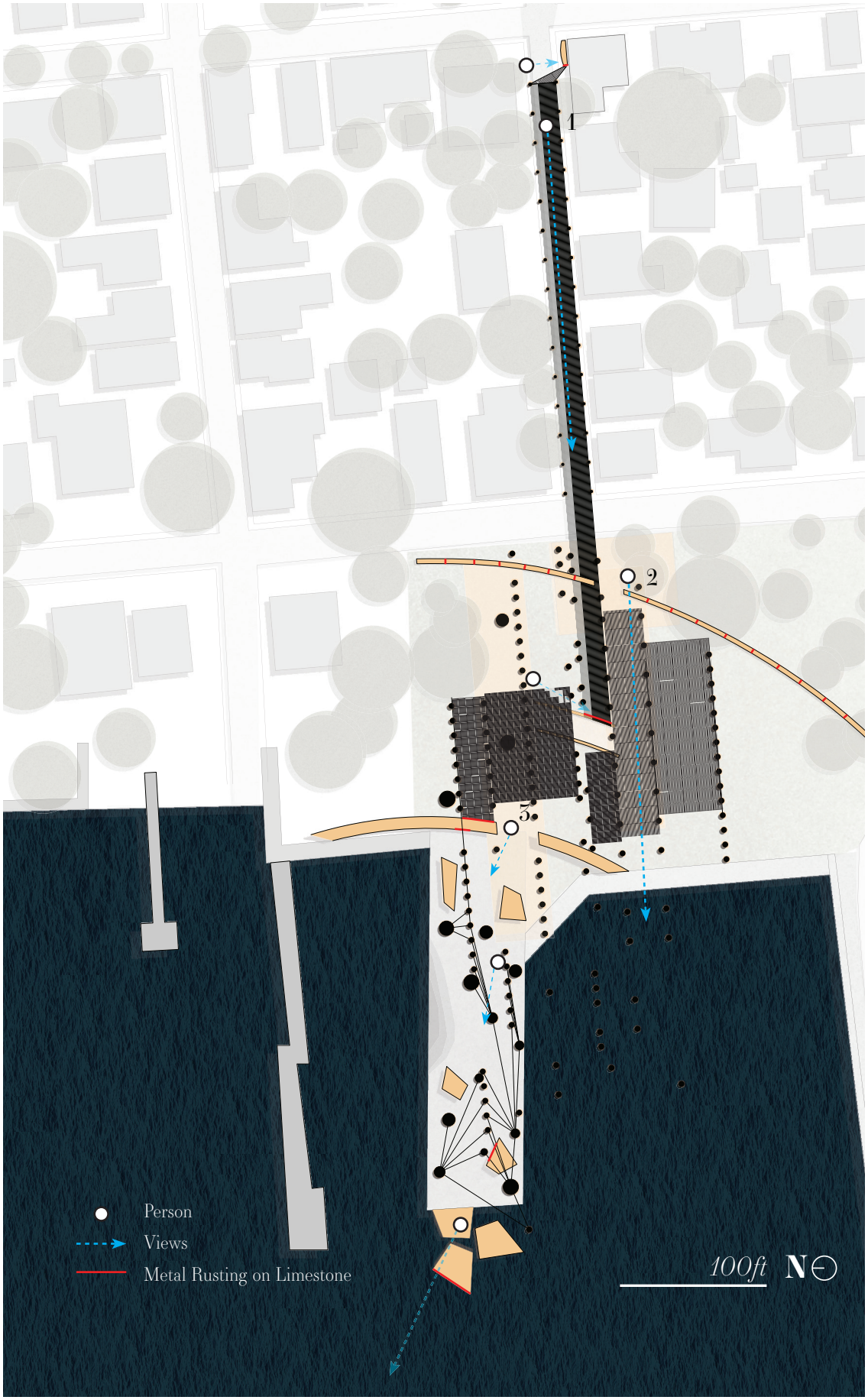


Figure 5.7 Easton's Point sequences.

Figure 5.8 View of the stone walkway at Seville, looking southwest

Seville Estate

Location: St Ann, Jamaica
Scale: Park

Spatial Analysis

Spaces: Spaces are situated on important physical remnants of the site to thoughtfully remember and reclaim the painful past of Jamaica's sugar plantation history.

Components: Traces of Seville's sugar estate history are symbolically materialized and deployed across the site to reference the scale and violence of the injuries that occurred here.

Sequences: Routes between spaces communicate intimacy, uncertainty, monumentality, banality, and opportunities for the future through its materiality, context, and construction. These routes are essential to understanding the story of the site and its potential in the future.

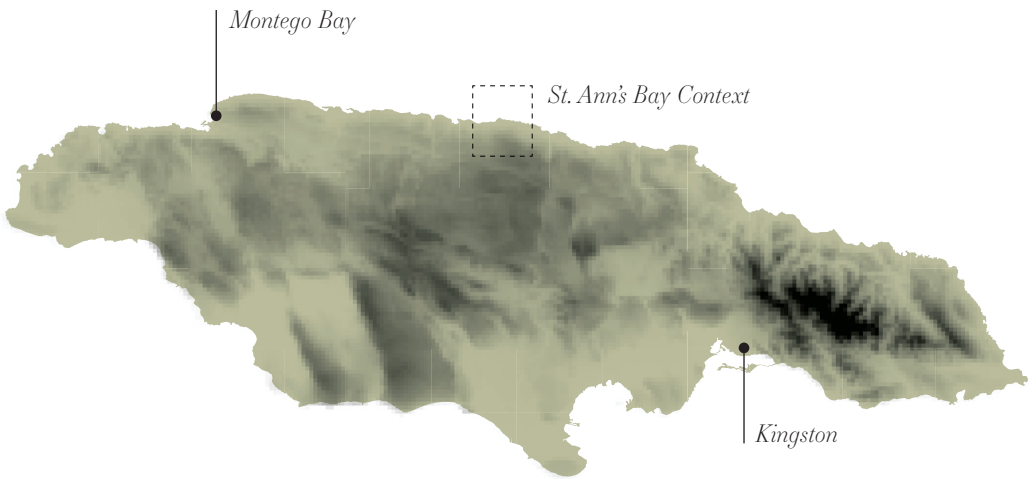
Major Story

Seville is a small example of the human and environmental exploitation that occurred throughout Jamaica, and the stains and scars of this history need to be recognized. By materializing traces of the past across the landscape, Seville offers an opportunity to reveal and reconcile the extant and invisible structures of power that have defined this landscape for centuries.

Seville Estate Context

Caribbean Sea

Jamaica



DEM from NASA EarthExplorer

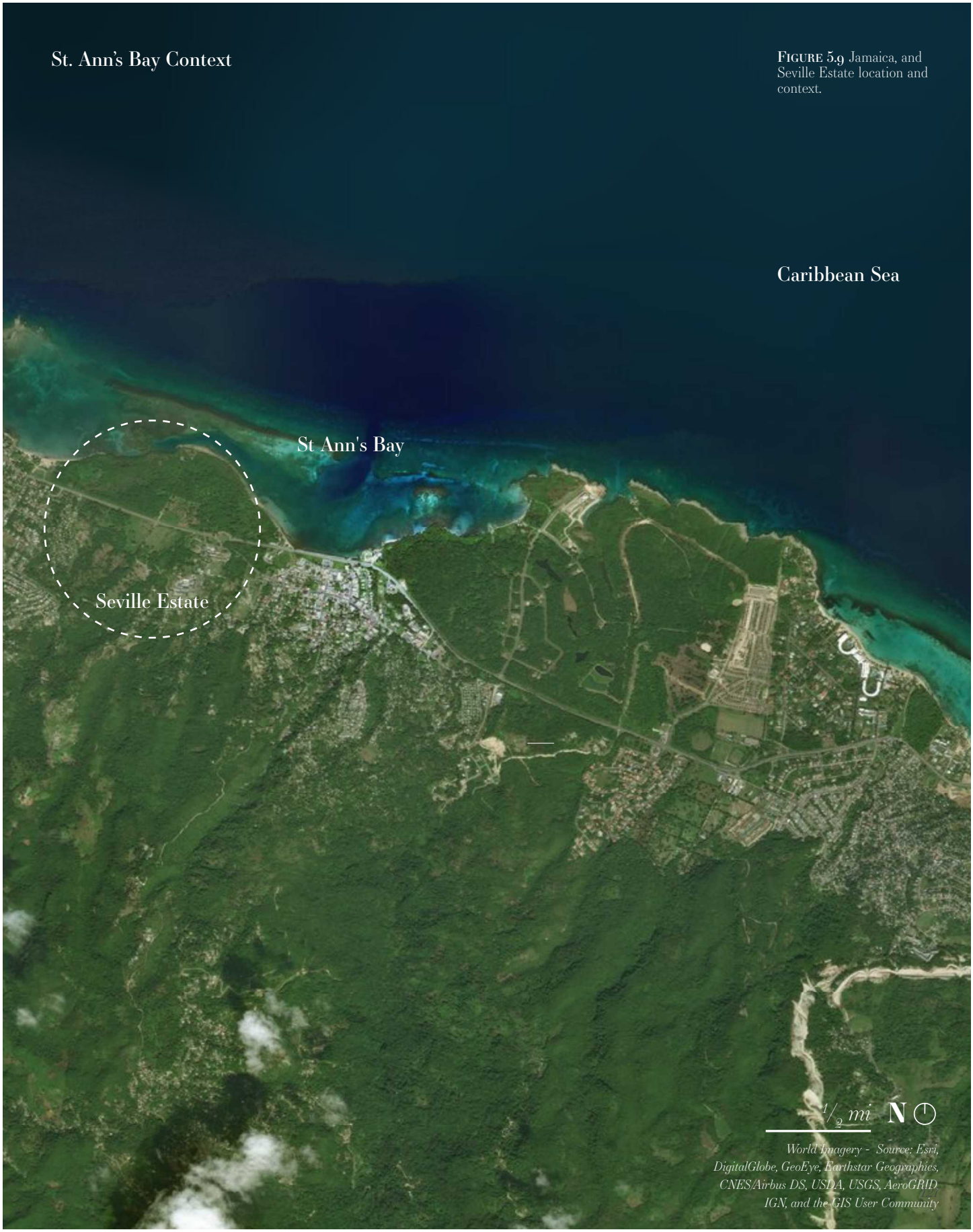


Figure 5.9 Jamaica, and Seville Estate location and context.

Figure 5.10 Seville Estate context images.

1

2

3


Seville Estate
Former Wharf
Ruinate / Former
Cane Fields
Highway A1
Entry Road
Sugar Works
Great House
Early Slave
Village
1
2
3
500 ft
N
World Imagery - Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

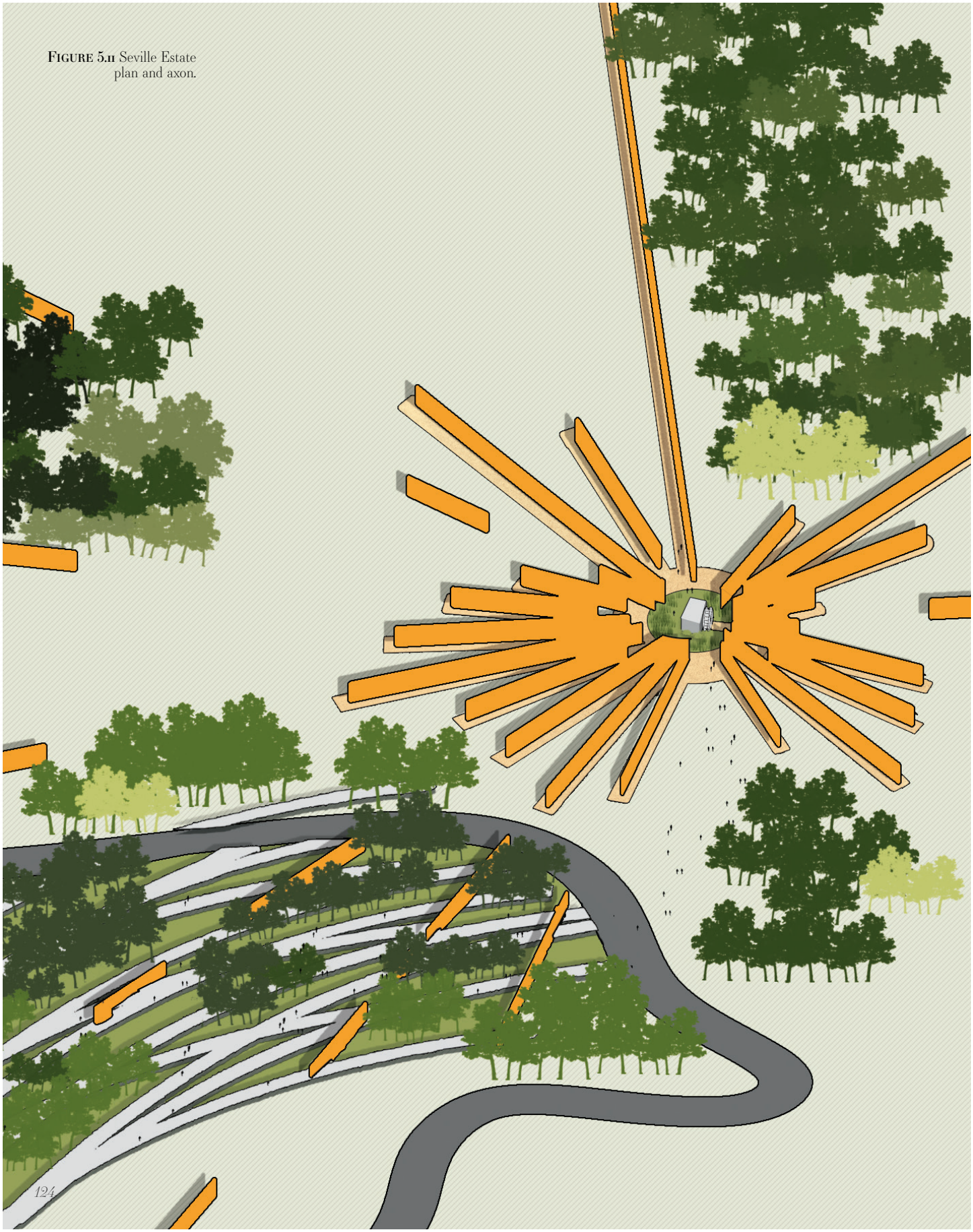
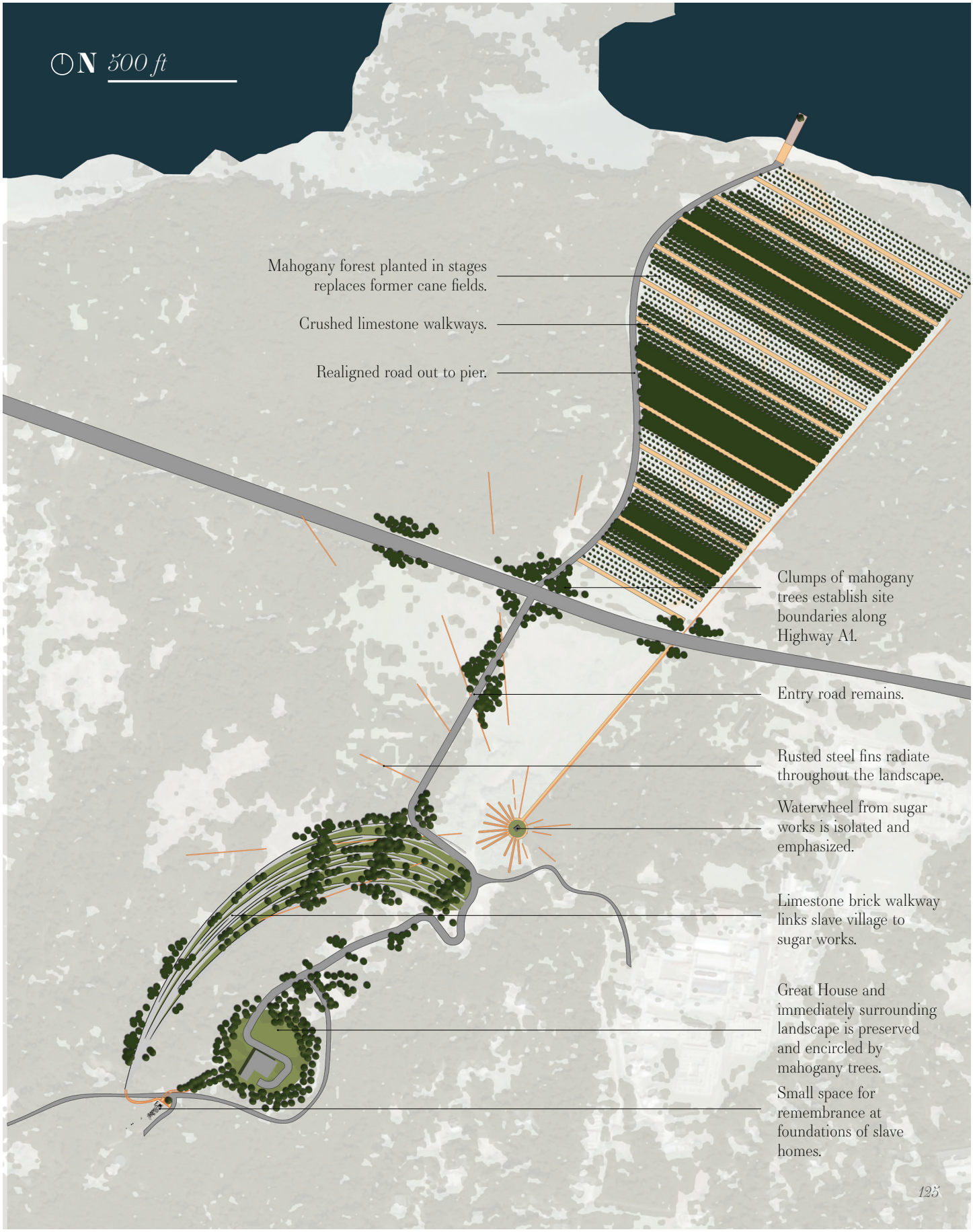


Figure 5.11 Seville Estate plan and axon.


N 500 ft
Mahogany forest planted in stages replaces former cane fields.
Crushed limestone walkways.
Realigned road out to pier.
Clumps of mahogany trees establish site boundaries along Highway A1.
Entry road remains.
Rusted steel fins radiate throughout the landscape.
Waterwheel from sugar works is isolated and emphasized.
Limestone brick walkway links slave village to sugar works.
Great House and immediately surrounding landscape is preserved and encircled by mahogany trees.
Small space for remembrance at foundations of slave homes.

Spaces

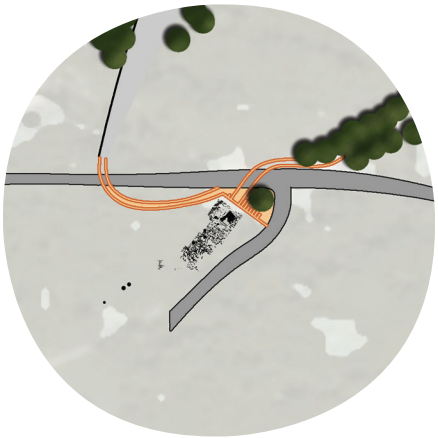
Spaces are situated on important physical remnants of the site to thoughtfully remember and reclaim the painful past of Jamaica's sugar plantation history.

The Great House

Enshrouded in Mahogany Trees

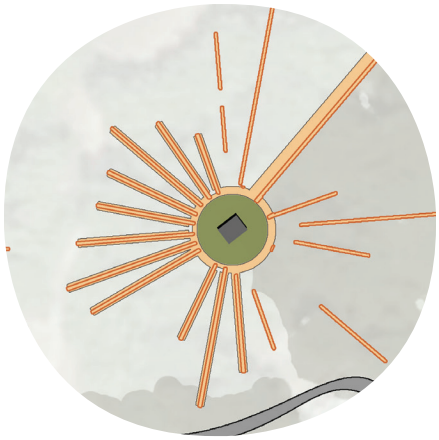
The Slave Dwellings

A View to the Past



The Sugar Works

Steel Panels in the Landscape



The Pier

Looking to the Sea

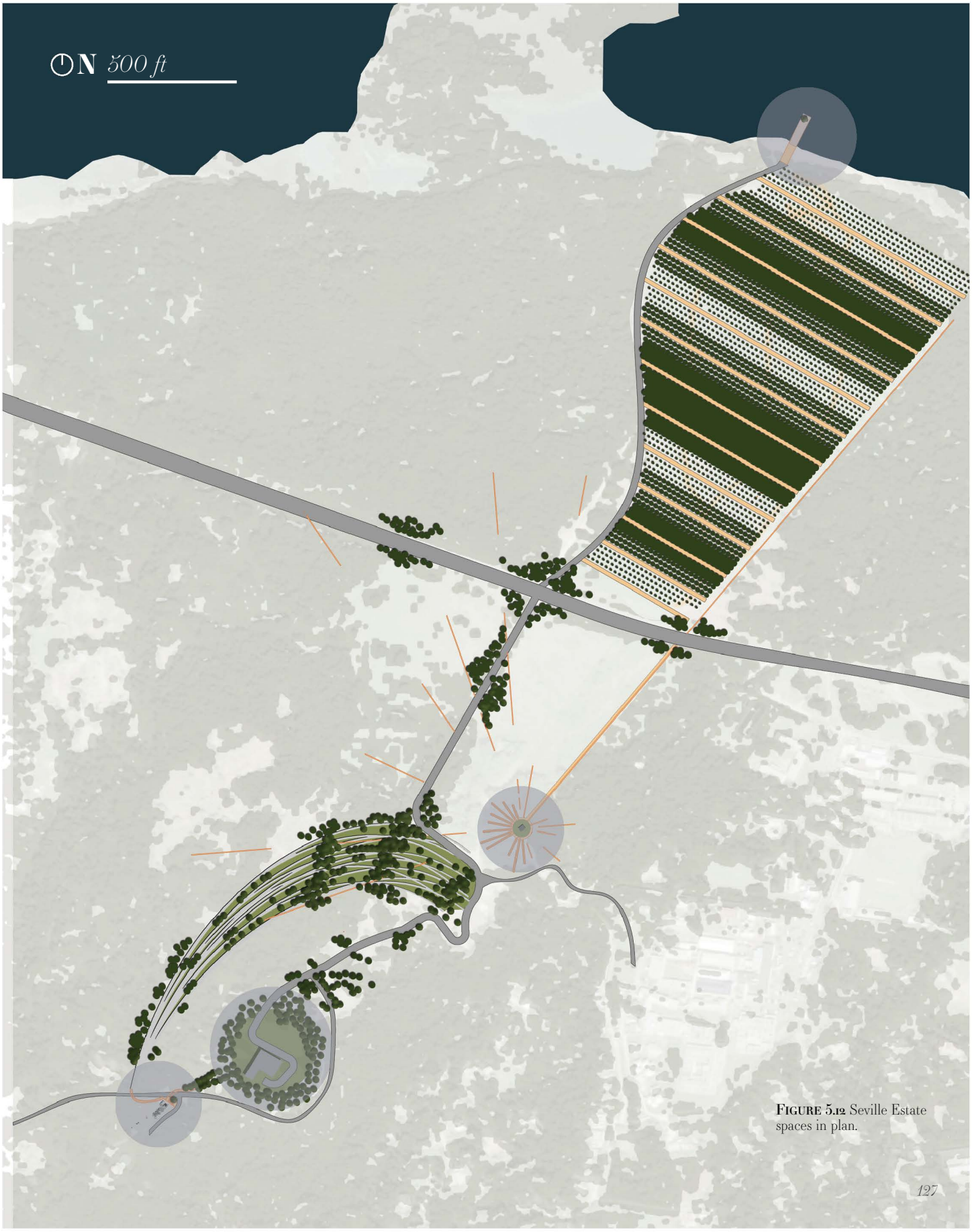


Figure 5.12 Seville Estate spaces in plan.

The Great House

The great house's power of seeing is removed by a densely planted ring of mahogany trees. The trees create a uniform canopy that rings the manicured, mown grass, maintaining the historic character of the immediately adjacent landscape while addressing the violence of sight that was still previously celebrated.

Figure 5.13a Seville Estate spaces in perspective.

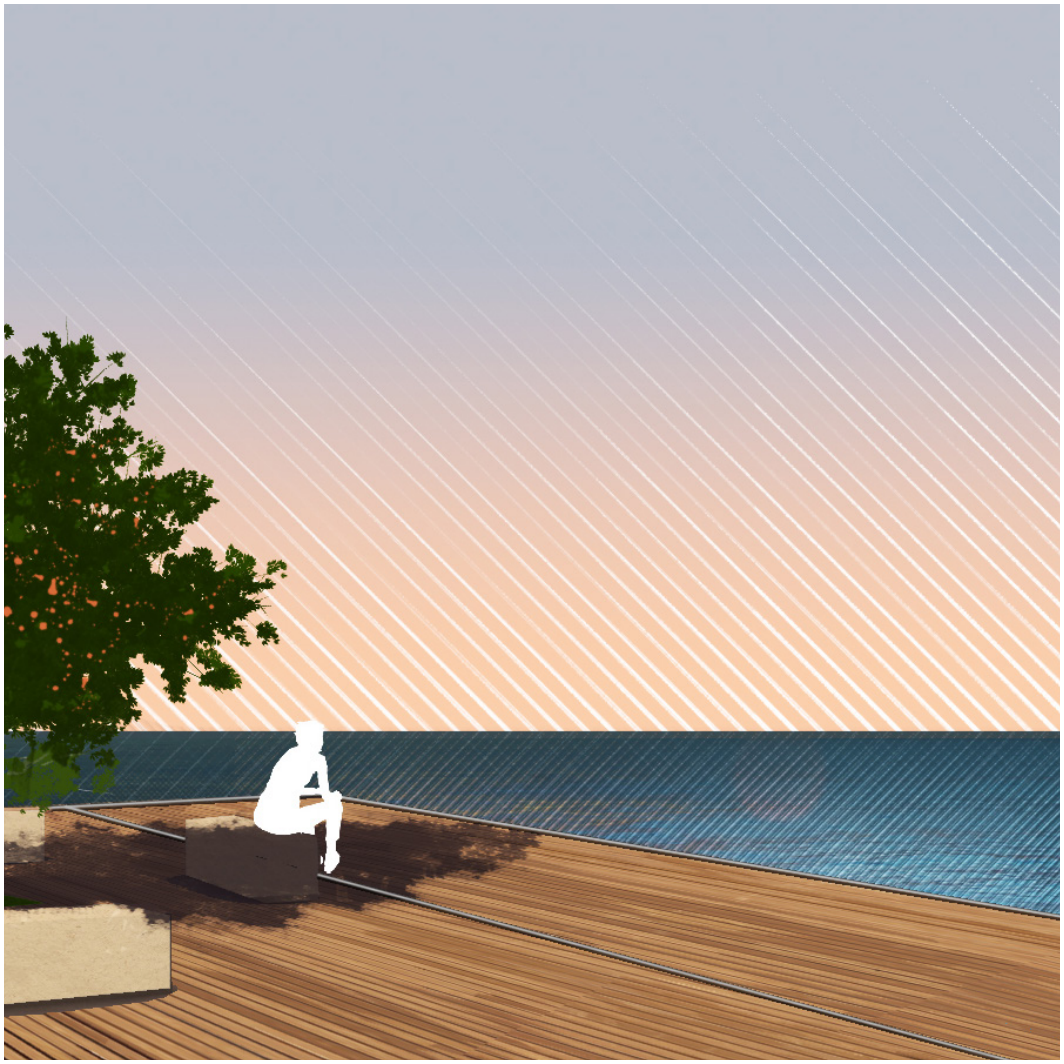
The Slave Dwellings

A short walkway of crushed limestone brings visitors from the great house to the remains of slave dwellings on the site. A pad of crushed limestone is intersected by steel edging, set 3'4" apart, referencing the original grid dimensions established by archeologists when the site was first excavated. After seeing the impressive and ornate great house, visitors are confronted with a separate reality of existence at Seville.

The Sugar Works

All of the rusting fins of steel scattered across the landscape at Seville emanate from the sugar works. A band of limestone gravel brings you into the core of the former sugar works, centered around the remnant waterwheel. Inside this space, visitors can approach the massive wheel, only to be faced with massive steel fins pointed at them when they turn around. The steel fins, soaking up sun all day, will be intensely harsh and hot, referencing the historic brutal working conditions.

Figure 5.13b Seville Estate spaces in perspective.



The Pier

A small mahogany tree, encircled by four limestone slabs, mark the end of the pier. It is long and exposed, stretching from the shore into the gentle Caribbean Sea. After a long day at Seville Estate, visitors can find shade and enjoy the refreshening breeze coming off the water. Able to look back to the mahogany forest just traversed, and out towards the horizon of the sea, visitors can find quiet stimulation at the end of the pier and reflect on the landscapes they have traversed that day.

Components

Traces of Seville's sugar estate history are symbolically materialized and deployed across the site to reference the scale and violence of the injuries that occurred here.

Mahogany

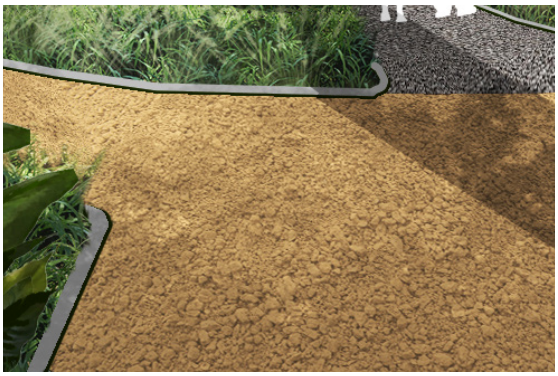
A planted mahogany forest fills in former cane fields, many of which had already become ruinate. Instead of ignoring the landscape and letting secondary growth fill in, the act of planting mahogany trees will help people remember the former land use while looking towards the future.

Steel

Steel was honed and worked to create objects used to cut, like axes and machetes, and constrain, like shackles. Fins of steel emanate from the ruins of the sugar works across the landscape, funneling visitors into the space and directing them out along a long straight wall to the mahogany forest in the former cane fields.

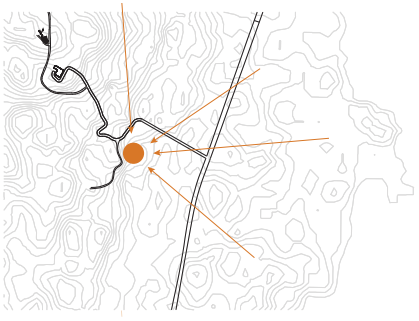
White Limestone

White limestone is used throughout the site to reveal traces of slave life on the landscape. Limestone foundations of slave homes are some of the only physical traces of slave life at Seville, and these installations deploy that physical language across the landscape. Walkways made of limestone blocks and crushed limestone guide visitors throughout the site.

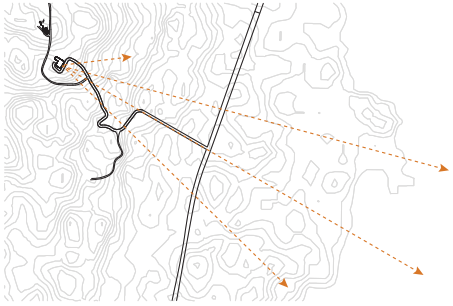


Pathways in Seville

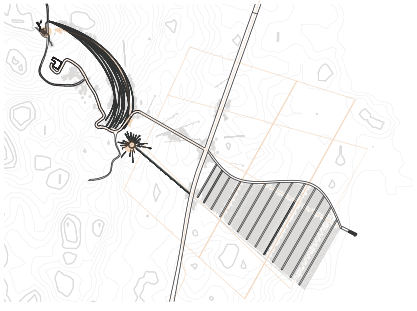
Movement of Cane at Estate



Sightlines from Great House



Stone leads visitors through estate



Steel dissects former cane fields

Mahogany obscures sightlines

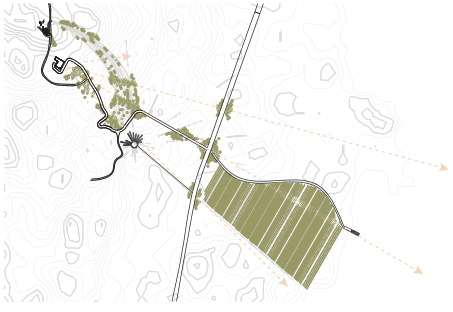


Figure 5.14 Seville Estate components.

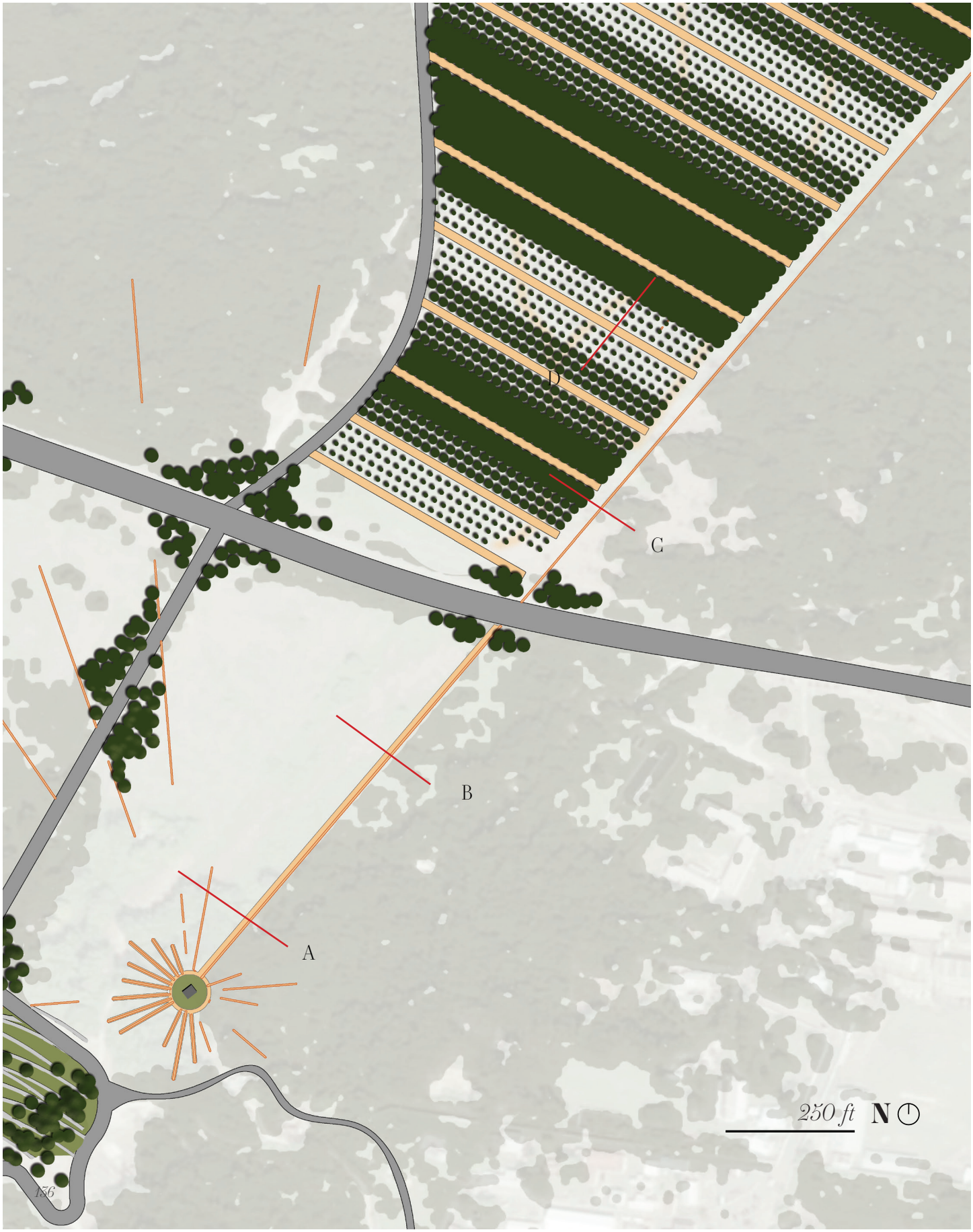
Sequences

Routes between spaces communicate intimacy, uncertainty, monumentality, banality, and opportunities for the future through its materiality, context, and construction. These routes are essential to understanding the story of the site and its potential in the future.

Monumentality along the Stone Walk

Leaving the slave dwellings, visitors walk together down a large elevated limestone walkway. As they continue, however, bands of stone begin to break away, and a generously spaced walkway shrinks to a set of individual paths separated by planted mahogany trees. The walk traces a pathway connecting the slave village to the sugar works, and communicates the monumental repetition of the daily walk slaves faced.

Figure 5.15 Seville Estate sequences.


D
C
B
A
250 ft
N

Drudgery, then Potential

A steel wall with a small crushed limestone pathway at its base leads visitors out of the sugar works into the former cane fields. With nowhere to pause and the steel baking in the sun, this walk communicates the drudgery of daily trips to cane fields on long axial paths. Through the drudgery, the path leads to a place of hope for the future. It terminates in the large mahogany forest, planted in stages, to provide diversity in canopy cover and density. Cover, shade, and wildlife fill the former cane fields, offering an idea of a future for these abandoned estates.

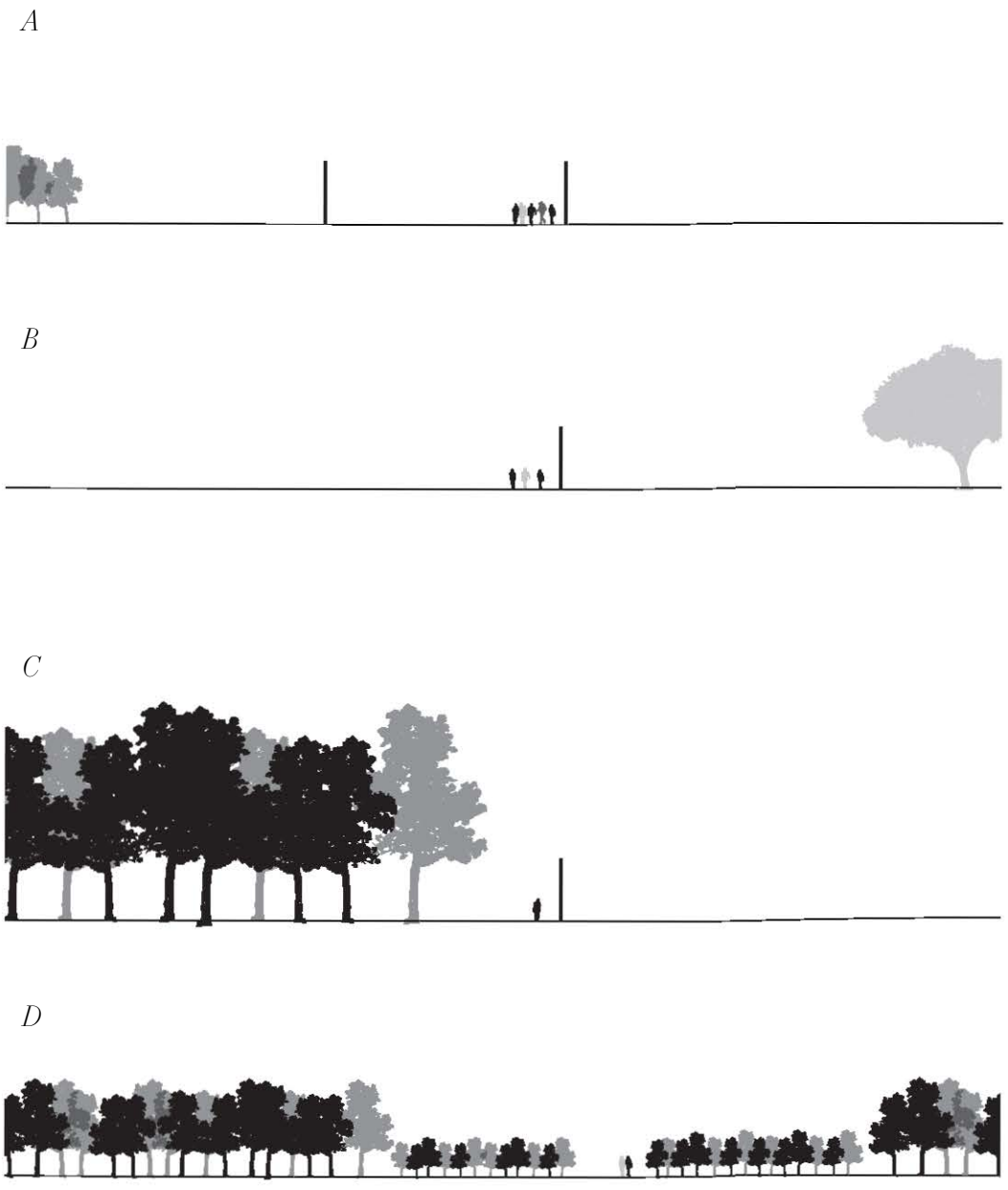
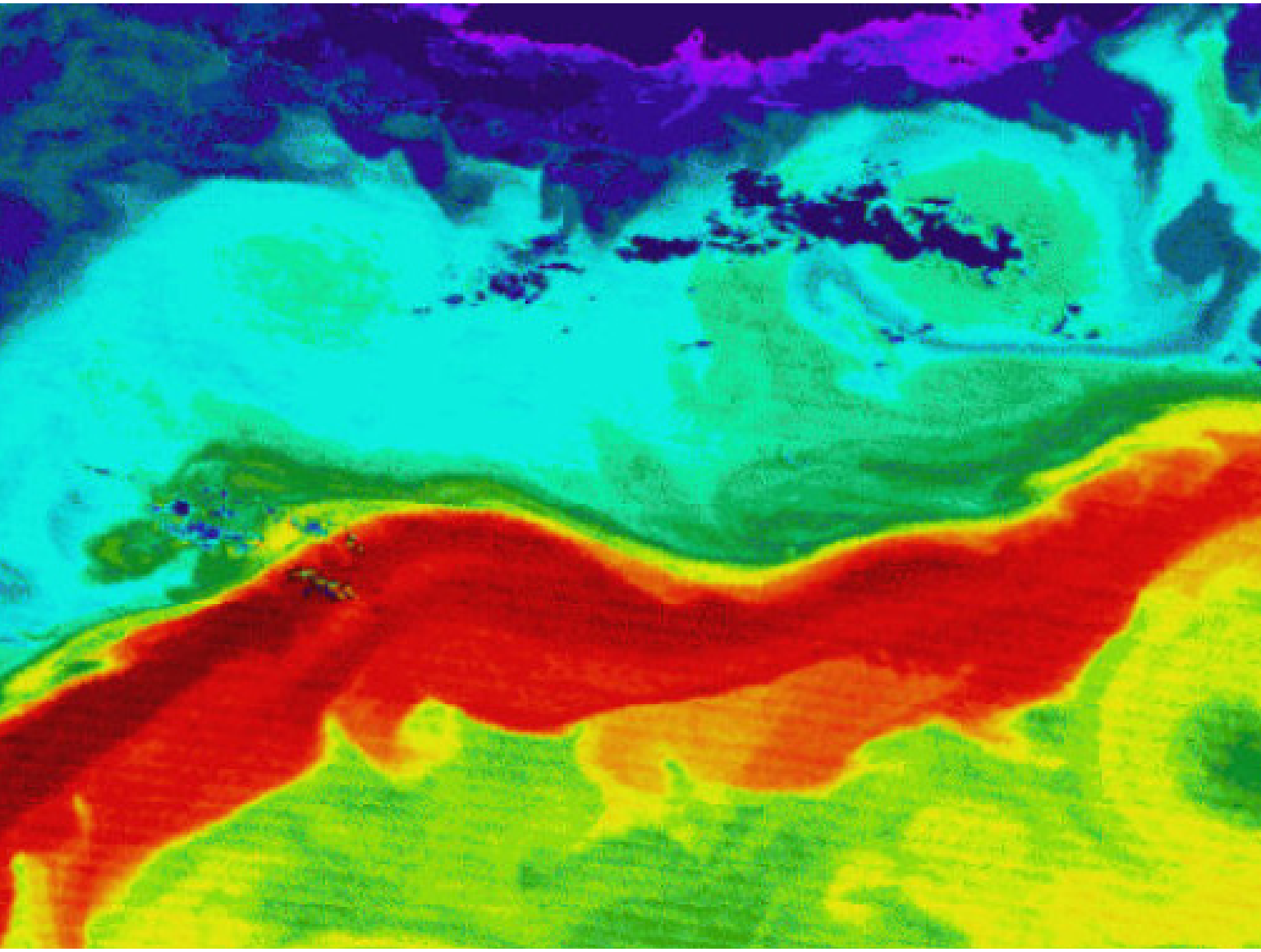


Figure 5.16 Seville Estate sequences.

Figure 5.17 Detailed image of the gulf stream's sea surface temperature. https://earthobservatory.nasa.gov/IOTD/view.php?id=681



The Things We've Done for a Table Leg

Location: Transatlantic
Scale: Network

Landscape Design

Spaces: The gulf stream of the Atlantic Ocean physically links both designs while simultaneously highlighting their differences in geographic location.

Components: Three materials are the important, space defining, components at Seville Estate and Easton's Point. Mahogany, steel, and white limestone reveal the entangled nature of this system of commerce, and tactilely engage visitors in both designs.

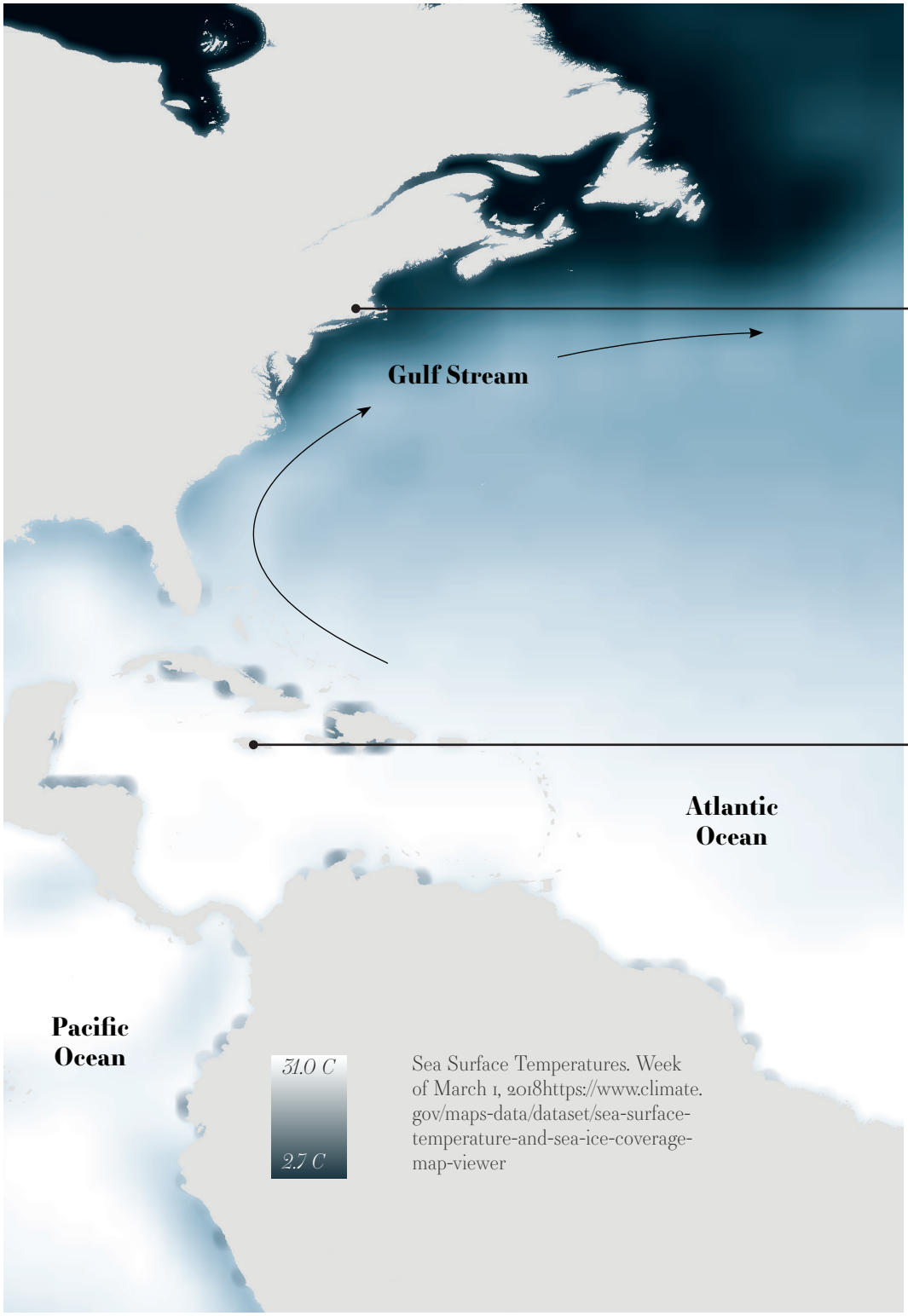
Sequences: Each design site allows remembering. Memories are grown in the landscape, make marks in materials over time, and are formed through the intimate connections visitors make with place.

Major Story

It is not possible to completely understand a system of commerce without materializing its otherwise invisible traces. This project follows the traces of the colonial mahogany trade and finds new ways to reveal and reconcile the painful memories associated with it.

Project Site Locations

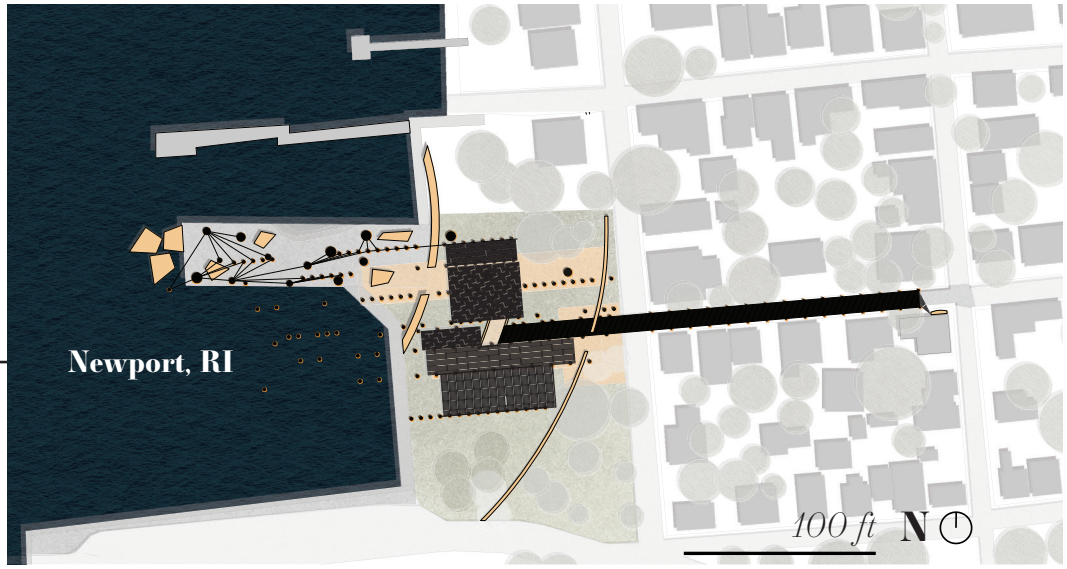
Atlantic Ocean Context

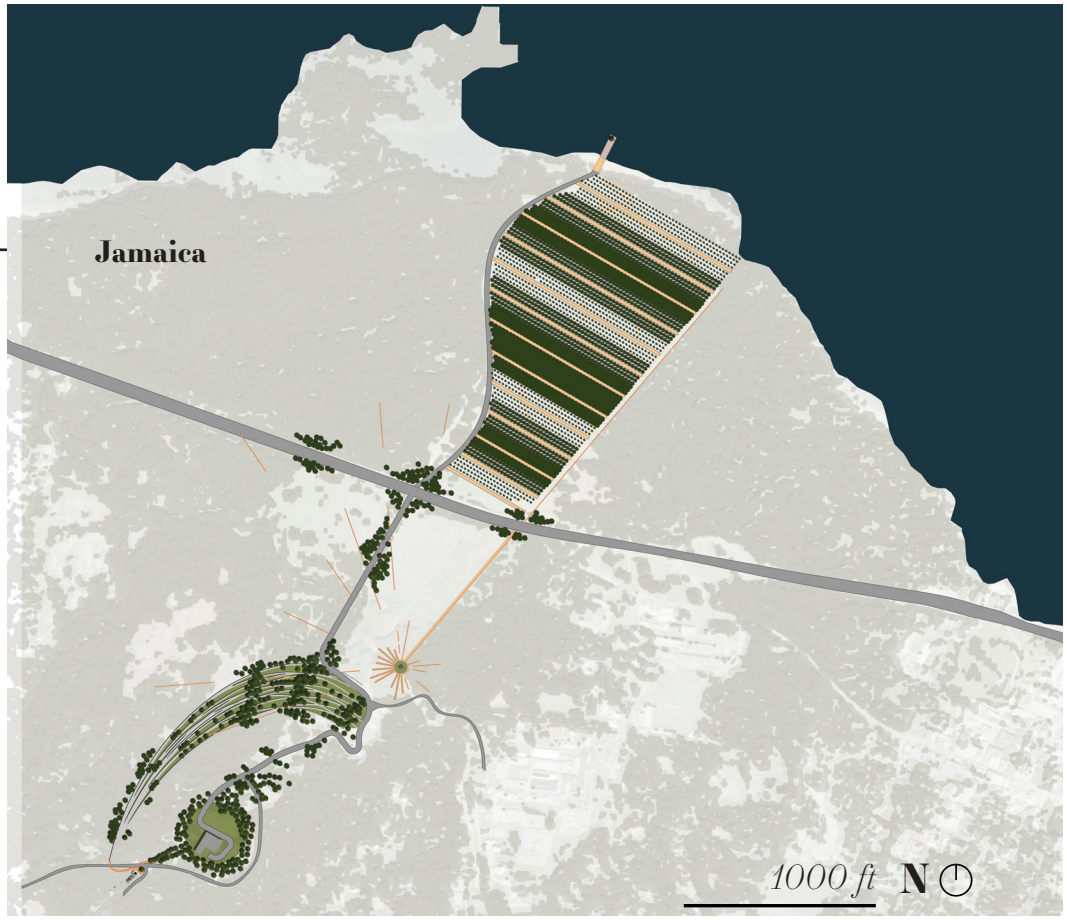


Sea Surface Temperatures. Week of March 1, 2018https://www.climate.gov/maps-data/dataset/sea-surface-temperature-and-sea-ice-coverage-map-viewer

FIGURE 5.18 Site contexts and locations.

Project Designs

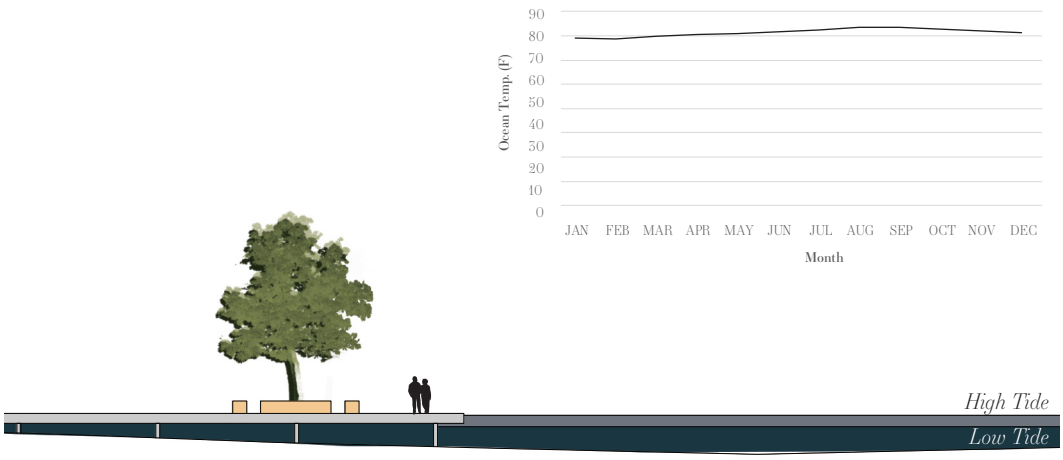




Spaces

The Gulf Stream of the Atlantic Ocean physically links both designs while simultaneously highlighting their differences in geographic location.

Seville Estate



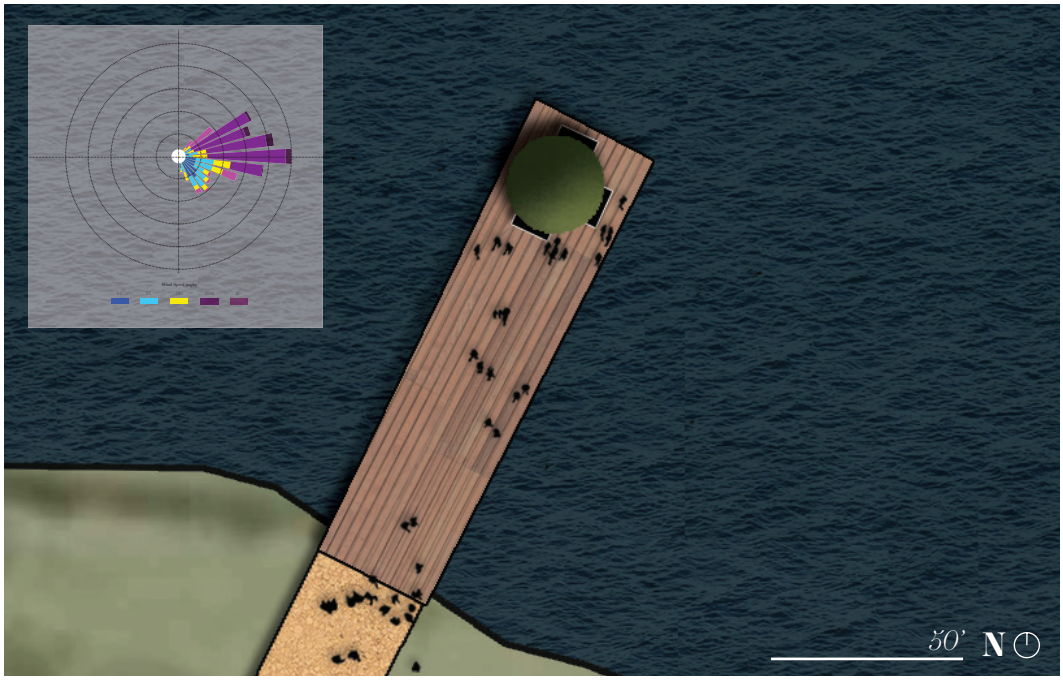
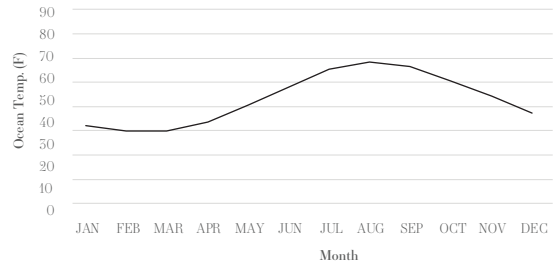
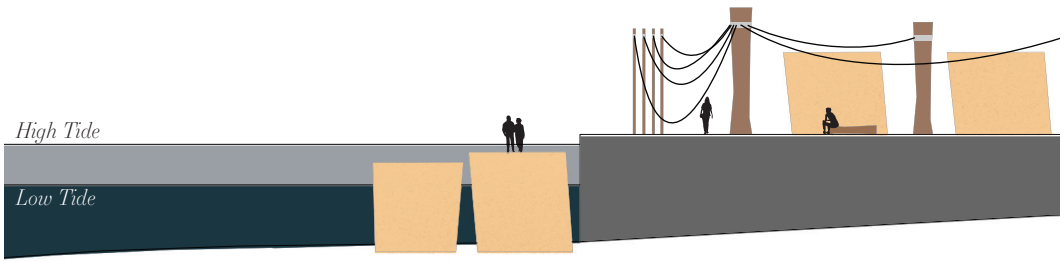
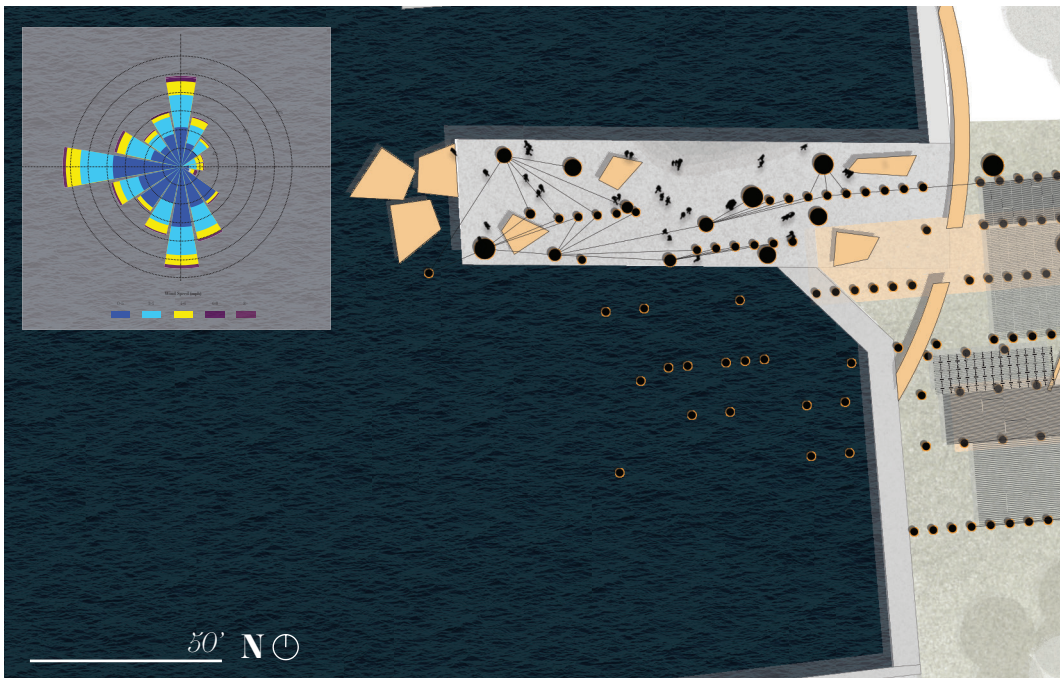


FIGURE 5.19 Project spaces.

Storer Park







Components

Three materials are the important, space defining, components at Seville Estate and Easton's Point. Mahogany, steel, and white limestone reveal the entangled nature of this system of commerce, and tactilely engage visitors in both designs.

Jamaican Mahogany

Repetition of mahogany, tree or log, creates rhythm in both spaces.

Steel

Steel fins cut spaces at Seville and steel wires slice ceilings in Newport.

Jamaican White Limestone

White limestone warmly creates ground planes and thresholds at both sites.

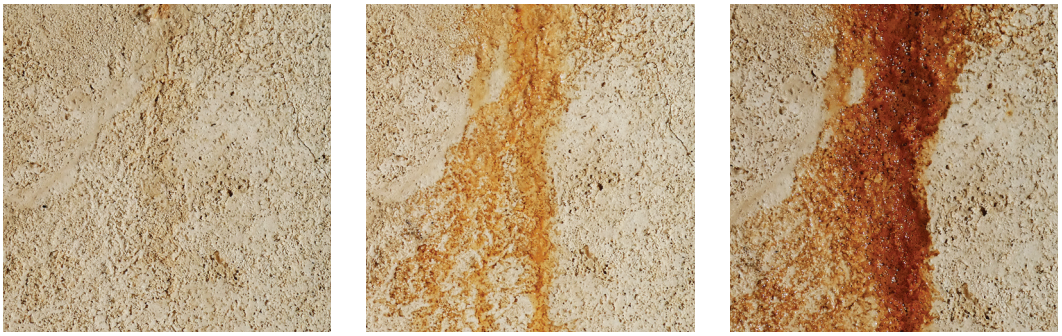
FIGURE 5.20 Project components.

Sequences

FIGURE 5.21 Project sequences.

Each design site allows remembering. Memories are grown in the landscape, make marks in materials over time, and are formed through the intimate connections visitors make with place.

Visitors at Seville plant mahogany trees and can watch them grow.



The incising steel at Newport stains the limestone walls with rust over time.

Visitors at both sites gain intimate, tactile memories when they're experiencing the story.

Seville Great House, Jamaica. September 2017

Conclusion

Reflections on the Process

What are the things we've done for a table leg? I have attempted to spatially tell this story through a set of landscape narrative designs. The following few pages are my final opportunity to reflect on my project; its creation, execution, results, how it contributes to research in landscape architecture, my own limitations, and the project's relevance today.

Potteiger and Purinton's diagram of a narrative (fig 1.1) was foundational to the creation of this project. Seeing how simple and appropriate it was for my own way of thinking about the project, I made their branched diagram the starting point for my work. The project structure helped define and constrain the scope of work, and provided useful benchmarks for the overall progress of the project. This project's structure provided an easy way for me to explain how elements of a story were uncovered, and later materialized in a design. My execution of this project focused on certain elements of the story, another designer's approach may find different elements to include in their narrative design, or arrive at a completely different way to organize the characters, settings and events they found. The project structure is prescriptive in the need to classify information, but not prescriptive in how that information is later conveyed and synthesized into a projective design. This flexibility around an individual designer's process is a strength of the project structure because it allows for a great deal of personal interpretation in its execution. This flexibility can also be very challenging, because there are very few explicit steps for a designer to follow. I faced this many times throughout the project, typically needing to balance design interventions with communication through historical analysis.

The synthesis of historic and spatial analysis results into landscape narrative designs was a difficult process. Noted above, the structure of the project gives little guidance on how synthesis occurs. The openness of synthesis is important, as it allows great flexibility for a designer to tell a story in his or her own way, but it places the onus on an individual's ability to design spaces with a story embedded within. Landscape is also a challenging medium to tell a story through, as a proposed design needs to be explained in a series of abstracted representations. Unlike an author of a book, who conveys their story to an audience through the text of the story itself, landscape architects must develop a strong graphic language to represent the story they are proposing to tell through space. It requires an adroitness in visual communication that the structure of project did not engage with.

While the synthetic design was challenging because of its lack of structure, the classification schemes in the two branches of analysis made categorizing relevant information very easy. Stories uncovered through site visits, conversations, and literature reviews can often seem endless; but classifying the information into three discreet categories makes digesting the information and drawing new inferences from them much easier.

It was also revealing to test the spatial analysis classifications as a way to understand and design landscape narratives. The classification of spaces, components, and sequences, was developed for this project and is not be perfect yet. 'Spaces' and 'components' are strongly tied to material realities of a designed landscape, but 'sequences' is still intentionally vague, allowing for more interpretative flexibility. Noted above, this flexibility can be helpful, as it allows a designer's creativity to shine, but can also be a hurdle to overcome. It also became very difficult for me to fit my own projective designs into the design strategies of another designer telling a different story. The spatial analysis was a good starting point and a helpful way to test the classification structure I developed, but was not the most helpful piece of the project.

It was difficult for me to tell a story across multiple landscapes and in multiple scales. The biggest challenge was relating the two design sites to one another, while each was structured by a different design approach outlined by the spatial analysis. This challenge forced me to rely heavily on metaphor, conveyed through form and material, rather than sequencing of spaces, to create a set of cohesive designs. White limestone, mahogany, and steel became the backbone of each design, and was how both designs strongly related to one another. The project structure was helpful by allowing me to make direct connections between the characters of the story and the components of the design, through a literal one to one translation from story to design material. The 'settings' classification also identified broad project locations, Newport and Jamaica, and individual project sites at Easton's Point and Seville Estate. 'Events' were helpful to reveal traces of the system and to find an overall design story. These traces were often materialized into site designs. I believe the project was successful in conveying the complex history of the colonial mahogany trade within the scope I was interested in, but I did so by using design strategies I was initially hesitant to engage with.

I hope that this project can contribute to the field of research through designing in landscape architecture. This project uses a tacit structure of narrative to inform a design process and create qualitative and contextual designs. The project was not explicitly process-based, where one representation builds on the last. Instead, it wrestled with synthesizing stories into landscapes. The triangulation embedded in all phases of the project made the proposed designs and results much stronger. Ultimately, it is an experiment in designing within a constructed framework to better arrive at a design conclusion. Overall, I believe the design interventions were effective landscape narratives, only strengthened by the classification schemes that were used to generate projective designs.

I want to address my own limitations in telling this story. I am a white man who grew up in Connecticut, not far away from Newport. My history personal and family history is much more related to the pieces of furniture than it is to the landscapes of exploitation in Jamaica this project explores. I hope that this project's systematic and transparent way of constructing a landscape narrative of the colonial mahogany trade can help reveal any of my biases or preconceptions. This project was not meant to be a definitive way to interpret this story, but only a personal and preliminary attempt at it. The results are intended to spark conversation about systems of commerce and their legacies, along with the efficacy of landscape as a medium for telling. I'm sure critiques can be leveled at the elements I've selected for this story, the precedent landscape narrative projects I've chosen, the designs themselves, and the appropriateness of using this particular structure of a narrative to frame the project. Ultimately, I hope this document reveals the honesty and transparency I've tried to maintain while I've worked on this project, and the genuine interest and curiosity that I've held throughout.

Finally, this project addresses the story of a historic system, but I hope it can contribute to a better understanding of our world today. The project could have just as easily been titled 'The Things We've Done for a Smartphone,' and focused on the multi-scalar impacts of our common personal devices. I believe that within almost any global system of commerce, some one, some thing, or some landscape is being exploited. While the story of the colonial mahogany trade may not be directly relevant to most peoples' lives today, its long history allows us to track how its relatively brief period of activity in the eighteenth century can have lasting impacts centuries later. I hope that this project can encourage people to consider the larger systems of commerce that surround them, and their place within them.

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