



Land of Cheese, Trees and Ocean Breeze

**Floodway Development Permit #851-23-000136-PLNG:
DAVIS**

*NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR OR SELLER:
ORS 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE,
IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER*

**NOTICE OF ADMINISTRATIVE REVIEW
Date of Notice: July 31, 2023**

Notice is hereby given that the Tillamook County Department of Community Development is considering the following:

851-23-000136-PLNG: A review of a Floodway Development Permit for the placement of deck addition to an existing single-family dwelling near the Nehalem River. The subject property is accessed from McDonald Road, a County road, and is designated as Tax Lot 1400, of Section 24CB of Township 3 North, Range 10 West of the Willamette Meridian, Tillamook County, Oregon. The property is located in the Rural Residential 2-Acre (RR-2) Zone. The applicant and property owners are Trent and Kellie Davis.

Written comments received by the Department of Community Development prior to 4:00p.m. on August 14, 2023, will be considered in rendering a decision. Comments should address the criteria upon which the Department must base its decision. A decision will be rendered no sooner than the next business day, August 15, 2023.

Notice of the application, a map of the subject area, and the applicable criteria are being mailed to all property owners within 250 feet of the exterior boundaries of the subject parcel for which an application has been made and other appropriate agencies at least 14 days prior to this Department rendering a decision on the request.

A copy of the application, along with a map of the request area and the applicable criteria for review are available for inspection on the Tillamook County Department of Community Development website: <https://www.co.tillamook.or.us/commdev/landuseapps> and is also available for inspection at the Department of Community Development office located at 1510-B Third Street, Tillamook, Oregon 97141.

If you have any questions about this application, please call the Department of Community Development at 503-842-3408 Ext. 3301 or mjenck@co.tillamook.or.us

Sincerely,

Melissa Jenck, CFM, Senior Planner

Sarah Absher, CFM, Director

Enc. Applicable Ordinance Criteria, Maps

REVIEW CRITERIA

ARTICLE III – ZONE REGULATIONS

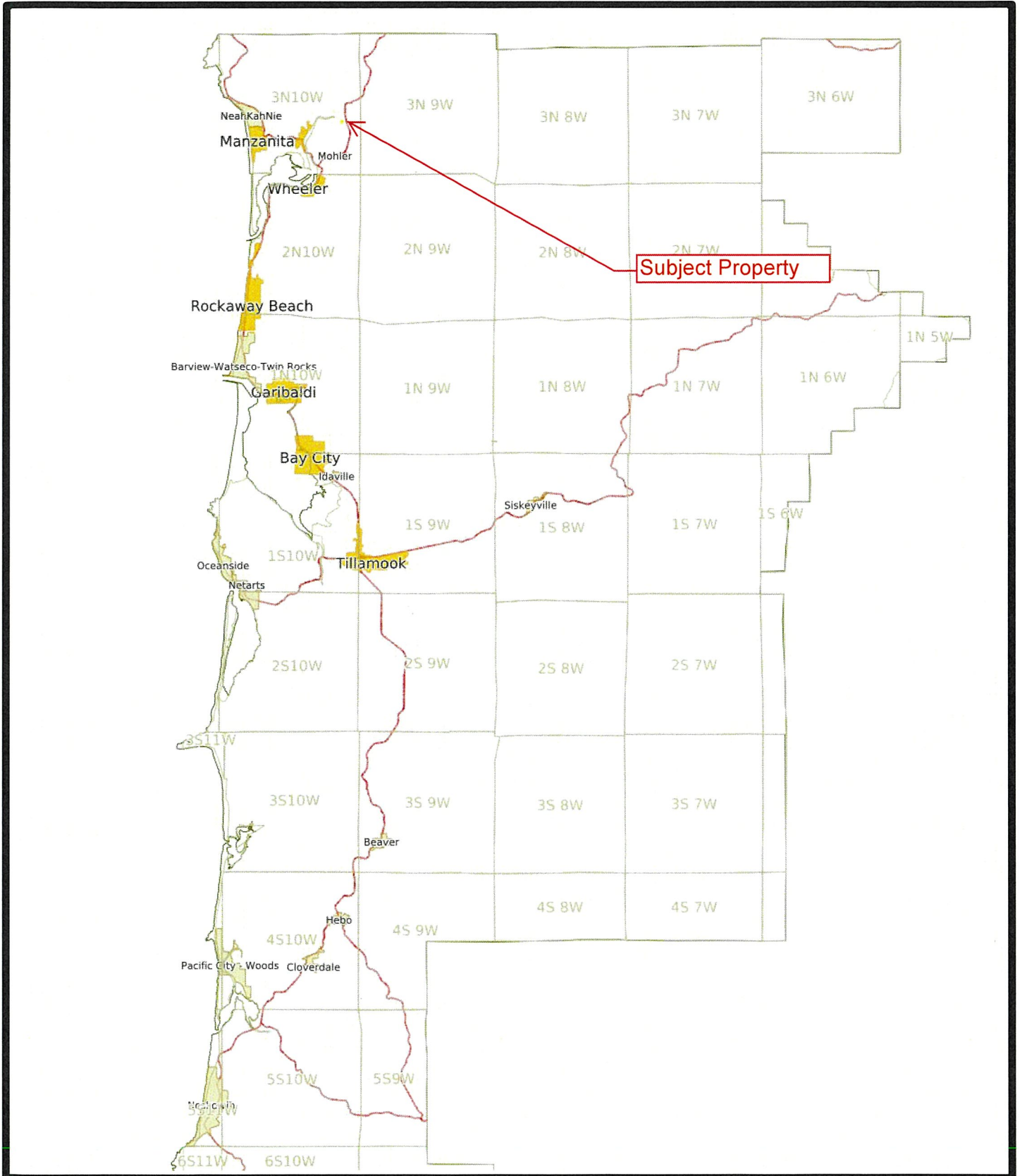
TCLUO SECTION 3.510: FLOOD HAZARD OVERLAY ZONE

- (1) The fill is not within a Coastal High Hazard Area.
- (2) Fill placed within the Regulatory Floodway shall not result in any increase in flood levels during the occurrence of the base flood discharge.
- (3) The fill is necessary for an approved use on the property.
- (4) The fill is the minimum amount necessary to achieve the approved use.
- (5) No feasible alternative upland locations exist on the property.
- (6) The fill does not impede or alter drainage or the flow of floodwaters.
- (7) If the proposal is for a new critical facility, no feasible alternative site is available.
- (8) For creation of new, and modification of, Flood Refuge Platforms, the following apply, in addition to (14)(a)(1-4) and (b)(1-5):
 - i. The fill is not within a floodway, wetland, riparian area or other sensitive area regulated by the Tillamook County Land Use Ordinance.
 - ii. The property is actively used for livestock and/or farm purposes,
 - iii. Maximum platform size = 10 sq ft of platform surface per acre of pasture in use, or 30 sq ft per animal, with a 10-ft wide buffer around the outside of the platform,
 - iv. Platform surface shall be at least 1 ft above base flood elevation,
 - v. Slope of fill shall be no steeper than 1.5 horizontal to 1 vertical,
 - vi. Slope shall be constructed and/or fenced in a manner so as to prevent and avoid erosion.

Conditions of approval may require that if the fill is found to not meet criterion (5), the fill shall be removed or, where reasonable and practical, appropriate mitigation measures shall be required of the property owner. Such measures shall be verified by a certified engineer or hydrologist that the mitigation measures will not result in a net rise in floodwaters and be in coordination with applicable state, federal and local agencies, including the Oregon Department of Fish and Wildlife.

EXHIBIT A

Vicinity Map



National Flood Hazard Layer FIRMette



123°51'55"W 45°43'56"N

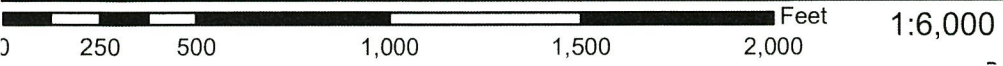


Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/29/2023 at 8:29 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

THIS MAP WAS PREPARED FOR
ASSESSMENT PURPOSE ONLY

NW1/4 SW1/4 SEC.24 T.3N. R.10W. W.M.
TILLAMOOK COUNTY
1" = 100'

3N 10 24CB

CANCELLED NO.
102
1100
1800

SEE MAP 3N 10 24



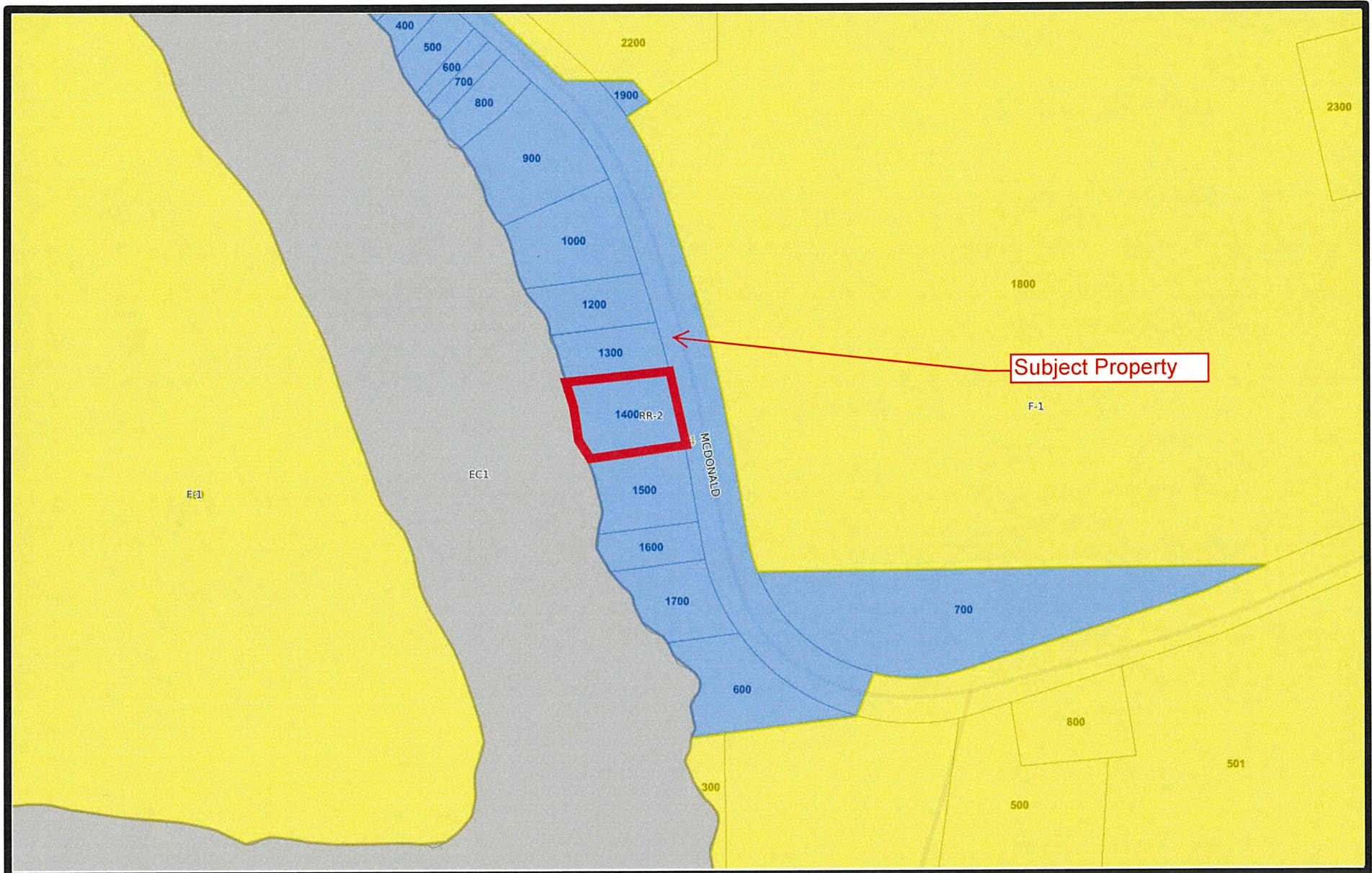
SEE MAP 3N 10 24C

SEE MAP 3N 10 24

SEE MAP 3N 10 24

3N 10 24CB
REVISED 04/10/03, SA

Zoning Map



Tillamook County
2022 Real Property Assessment Report
 Account 89175

Map 3N1024CB01400
 Code - Tax ID 5623 - 89175

Tax Status Assessable
 Account Status Active
 Subtype NORMAL

Legal Descr See Record

Mailing DAVIS, TRENT D & KELLIE M
 13975 SW HIGH TOR DR
 TIGARD OR 97224-1598

Deed Reference # 2020-2592
 Sales Date/Price 04-27-2020 / \$0
 Appraiser WHITNEY HOPKES

Property Class 101 MA SA NH
 RMV Class 101 02 WF 263

Site	Situs Address	City
1	16395 MC DONALD RD	COUNTY

Code Area		Value Summary				
		RMV	MAV	AV	RMV Exception	CPR %
5623	Land	71,880		Land	0	
	Impr	385,530		Impr	0	
Code Area Total		457,410	216,670	216,670	0	
Grand Total		457,410	216,670	216,670	0	

Land Breakdown									
Code Area	ID #	RFPD	Ex	Plan Zone	Value Source	Trend %	Size	Land Class	Trended RMV
5623					LANDSCAPE - FAIR	100			500
	1	<input checked="" type="checkbox"/>		RR-2	Market	110	0.29 AC		58,880
					OSD - AVERAGE	100			12,500
Code Area Total							0.29 AC		71,880

Improvement Breakdown									
Code Area	ID #	Year Built	Stat Class	Description	Trend %	Total Sqft	Ex%	MS Acct	Trended RMV
5623	1	1967	139	Basement First Floor	169	1,286			385,530
Code Area Total							1,286		385,530

Exemptions / Special Assessments / Notations									
Code Area	Special Assessments								Year Used
							Amount		
5623	■ SOLID WASTE						12.00	2022	

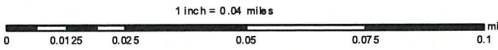
Comments 02/02/09 Updated inventory after phase one mapping.ef 1/23/15 Reappraised land and tabled values. WH

Statewide Wetlands Inventory

-  Townships
-  LWI Study Area
-  NHD Springs/Seeps
- NHD Streams and Rivers**
-  Perennial
-  Intermittent
-  Ephemeral
-  Unknown
-  Canal/Ditch
-  NHD Area
-  NHD Waterbody
- Wetlands**
-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland
-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Lake
-  Riverine
-  SWI Predominantly Hydric Soil Map Units
-  SWI Agate-Winlo Soils



R. Sounhen, Department of State Lands, Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community, R. Sounhen 2013



The Statewide Wetlands Inventory (SWI) represents the best data available at the time this map was published and is updated as new data becomes available. In all cases, actual field conditions determine the presence, absence and boundaries of wetlands and waters (such as creeks and ponds). An onsite investigation by a wetland professional can verify actual field conditions.



Date: 7/29/2023



State of Oregon
 Department of State Lands
 775 Summer Street, NE, Ste 100
 Salem, OR 97301-1279
 (503) 986-5200

EXHIBIT B



DEVELOPMENT PERMIT

OFFICE USE ONLY	
Date Stamp	
RECEIVED	
MAY 04 2023	
BY: <u>Counter</u>	
<input type="checkbox"/> Approved	<input type="checkbox"/> Denied
Received by: <u>MT</u>	
Receipt #:	
Fees: <u>1,600.00</u>	
Permit No:	
851-23 - <u>00036</u> -PLNG	

Applicant (Check Box if Same as Property Owner)

Name: Trent Daus Phone: 123 720 9756
 Address: 13975 SW Highton Dr
 City: Seaside State: OR Zip: 97224
 Email: trent@TD-advisors.com

Property Owner

Name: _____ Phone: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Email: _____

Description of Work: New deck addition

Location:

Site Address: 16395 McDonald
 Map Number: _____

Township _____ Range _____ Section _____ Tax Lot(s) _____

Complete all applicable fields:

Regulatory Floodway: <input checked="" type="checkbox"/>	Estuary: <input type="checkbox"/>	Floodplain: <input type="checkbox"/>
New: <input checked="" type="checkbox"/>	Addition: <input type="checkbox"/>	Replacement: <input type="checkbox"/>
Remodel: <input type="checkbox"/>	Demolish: <input type="checkbox"/>	
Dwelling: _____	Accessory Structure: <u>742 sq ft</u>	
Culvert Diameter: _____	Bridge Length: _____	
Length: _____	Width: _____	
Fence Height: _____	Retaining Wall Height: _____	
Streambank Stabilization: _____	Other: _____	
Fill/Removal/Grading: <u>NO</u> CY	Vegetation Removal: <u>NO</u> CY	

Structure/Damage \$: <u>20K</u>	5 Year Construction \$: _____
<i>Substantial improvement/damage threshold 50% cost vs. value</i>	

Flood Insurance Rate Map (FIRM) Panel Info

Tillamook County	Panel Number: 41057C
Effective Date: <u>9/28/18</u>	Property Flood Zone(s): <u>AE</u>
Floodway: <u>(Y)</u> N	Project Flood Zone(s): <u>AE</u>
Stream/Waterbody Name: <u>Nehalem River</u>	

Elevation Data (NAVD 88)

Base Flood Elevation: <u>17.2'</u>	First Habitable Floor: _____
Lowest Floor/Horizontal Member: _____	
Enclosed Area: _____	Flood Vent Area: _____

Other Required Permits

Authorization

This permit application does not assure permit approval. The applicant and/or property owner shall be responsible for obtaining any other necessary federal, state, and local permits. The applicant verifies that the information submitted is complete, accurate, and consistent with other information submitted with this application.

Property Owner Signature (Required) _____ Date _____

Applicant Signature _____ Date _____

TLCUO SECTION 3.510(14)(b) Development Permit Review Criteria:

- (1) The fill is not within a Coastal High Hazard Area. *X/0*
- (2) Fill placed within the Regulatory Floodway shall not result in any increase in flood levels during the occurrence of the base flood discharge. *No per No Rise proposal by Cascade March 6, 2023*
- (3) The fill is necessary for an approved use on the property. *Yes needed extra storage due to Flood plane*
- (4) The fill is the minimum amount necessary to achieve the approved use. *Yes, only fill is new post*
- (5) No feasible alternative upland locations exist on the property. *entire property on Flood plane*
- (6) The fill does not impede or alter drainage or the flow of floodwaters. *Due to size of post does not change flow*
- (7) If the proposal is for a new critical facility, no feasible alternative site is available. *No*
- (8) For creation of new, and modification of, Flood Refuge Platforms, the following apply, in addition to (14)(a)(1-4) and (b)(1-5): *No*
- i. The fill is not within a floodway, wetland, riparian area or other sensitive area regulated by the Tillamook County Land Use Ordinance.
 - ii. The property is actively used for livestock and/or farm purposes,
 - iii. Maximum platform size = 10 sq ft of platform surface per acre of pasture in use, or 30 sq ft per animal, with a 10-ft wide buffer around the outside of the platform,
 - iv. Platform surface shall be at least 1 ft above base flood elevation,
 - v. Slope of fill shall be no steeper than 1.5 horizontal to 1 vertical,
 - vi. Slope shall be constructed and/or fenced in a manner so as to prevent and avoid erosion.

Conditions of approval may require that if the fill is found to not meet criterion (5), the fill shall be removed or, where reasonable and practical, appropriate mitigation measures shall be required of the property owner. Such measures shall be verified by a certified engineer or hydrologist that the mitigation measures will not result in a net rise in floodwaters and be in coordination with applicable state, federal and local agencies, including the Oregon Department of Fish and Wildlife.

49' 10" x 15' 10"



FEMA

NATIONAL FLOOD INSURANCE PROGRAM

ELEVATION CERTIFICATE

AND

INSTRUCTIONS

2019 EDITION

U.S. DEPARTMENT OF HOMELAND SECURITY
Federal Emergency Management Agency
National Flood Insurance Program

ELEVATION CERTIFICATE AND INSTRUCTIONS

Paperwork Reduction Act Notice

Public reporting burden for this data collection is estimated to average 3.75 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and submitting this form. You are not required to respond to this collection of information unless a valid OMB control number is displayed on this form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing the burden to: Information Collections Management, Department of Homeland Security, Federal Emergency Management Agency, 500 C Street SW, Washington, DC 20742, Paperwork Reduction Project (1660-0008). **NOTE: Do not send your completed form to this address.**

Privacy Act Statement

Authority: Title 44 CFR § 61.7 and 61.8.

Principal Purpose(s): This information is being collected for the primary purpose of estimating the risk premium rates necessary to provide flood insurance for new or substantially improved structures in designated Special Flood Hazard Areas.

Routine Use(s): The information on this form may be disclosed as generally permitted under 5 U.S.C. § 552a(b) of the Privacy Act of 1974, as amended. This includes using this information as necessary and authorized by the routine uses published in DHS/FEMA-003 – National Flood Insurance Program Files System or Records Notice 73 Fed. Reg. 77747 (December 19, 2008); DHS/FEMA/NFIP/LOMA-1 – National Flood Insurance Program (NFIP) Letter of Map Amendment (LOMA) System of Records Notice 71 Fed. Reg. 7990 (February 15, 2006); and upon written request, written consent, by agreement, or as required by law.

Disclosure: The disclosure of information on this form is voluntary; however, failure to provide the information requested may result in the inability to obtain flood insurance through the National Flood Insurance Program or the applicant may be subject to higher premium rates for flood insurance. Information will only be released as permitted by law.

Purpose of the Elevation Certificate

The Elevation Certificate is an important administrative tool of the National Flood Insurance Program (NFIP). It is to be used to provide elevation information necessary to ensure compliance with community floodplain management ordinances, to determine the proper insurance premium rate, and to support a request for a Letter of Map Amendment (LOMA) or Letter of Map Revision based on fill (LOMR-F).

The Elevation Certificate is required in order to properly rate Post-FIRM buildings, which are buildings constructed after publication of the Flood Insurance Rate Map (FIRM), located in flood insurance Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, and AR/AO. The Elevation Certificate is not required for Pre-FIRM buildings unless the building is being rated under the optional Post-FIRM flood insurance rules.

As part of the agreement for making flood insurance available in a community, the NFIP requires the community to adopt floodplain management regulations that specify minimum requirements for reducing flood losses. One such requirement is for the community to obtain the elevation of the lowest floor (including basement) of all new and substantially improved buildings, and maintain a record of such information. The Elevation Certificate provides a way for a community to document compliance with the community's floodplain management ordinance.

Use of this certificate does not provide a waiver of the flood insurance purchase requirement. Only a LOMA or LOMR-F from the Federal Emergency Management Agency (FEMA) can amend the FIRM and remove the Federal mandate for a lending institution to require the purchase of flood insurance. However, the lending institution has the option of requiring flood insurance even if a LOMA/LOMR-F has been issued by FEMA. The Elevation Certificate may be used to support a LOMA or LOMR-F request. Lowest floor and lowest adjacent grade elevations certified by a surveyor or engineer will be required if the certificate is used to support a LOMA or LOMR-F request. A LOMA or LOMR-F request must be submitted with either a completed FEMA MT-EZ or MT-1 package, whichever is appropriate.

This certificate is used only to certify building elevations. A separate certificate is required for floodproofing. Under the NFIP, non-residential buildings can be floodproofed up to or above the Base Flood Elevation (BFE). A floodproofed building is a building that has been designed and constructed to be watertight (substantially impermeable to floodwaters) below the BFE. Floodproofing of residential buildings is not permitted under the NFIP unless FEMA has granted the community an exception for residential floodproofed basements. The community must adopt standards for design and construction of floodproofed basements before FEMA will grant a basement exception. For both floodproofed non-residential buildings and residential floodproofed basements in communities that have been granted an exception by FEMA, a floodproofing certificate is required.

Additional guidance can be found in FEMA Publication 467-1, Floodplain Management Bulletin: Elevation Certificate, available on FEMA's website at <https://www.fema.gov/media-library/assets/documents/3539?id=1727>.

ELEVATION CERTIFICATE

Important: Follow the instructions on pages 1-9.

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A - PROPERTY INFORMATION					FOR INSURANCE COMPANY USE	
A1. Building Owner's Name Trent D. & Kellie M. Davis					Policy Number:	
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 16395 McDonald Road					Company NAIC Number:	
City Nehalem		State Oregon		ZIP Code 97131		
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) 3N 10 24 CB Tax Lot 1400						
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) <u>Accessory</u>						
A5. Latitude/Longitude: Lat. <u>N45.72881</u> Long. <u>W123.86006</u> Horizontal Datum: <input type="checkbox"/> NAD 1927 <input checked="" type="checkbox"/> NAD 1983						
A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.						
A7. Building Diagram Number <u>7</u>						
A8. For a building with a crawlspace or enclosure(s):						
a) Square footage of crawlspace or enclosure(s) <u>717.00</u> sq ft						
b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade <u>12</u>						
c) Total net area of flood openings in A8.b <u>720.00</u> sq in						
d) Engineered flood openings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No						
A9. For a building with an attached garage:						
a) Square footage of attached garage _____ sq ft						
b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade _____						
c) Total net area of flood openings in A9.b _____ sq in						
d) Engineered flood openings? <input type="checkbox"/> Yes <input type="checkbox"/> No						
SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION						
B1. NFIP Community Name & Community Number Tillamook County, Oregon 410196A			B2. County Name Tillamook		B3. State Oregon	
B4. Map/Panel Number 41057C0230F	B5. Suffix	B6. FIRM Index Date 09-28-2018	B7. FIRM Panel Effective/ Revised Date 09-28-2018	B8. Flood Zone(s) AE	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth) 17.2'	
B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9: <input checked="" type="checkbox"/> FIS Profile <input type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other/Source: _____						
B11. Indicate elevation datum used for BFE in Item B9: <input type="checkbox"/> NGVD 1929 <input checked="" type="checkbox"/> NAVD 1988 <input type="checkbox"/> Other/Source: _____						
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Designation Date: _____ <input type="checkbox"/> CBRS <input type="checkbox"/> OPA						

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expiration Date: November 30, 2022

IMPORTANT: In these spaces, copy the corresponding information from Section A.			FOR INSURANCE COMPANY USE
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 16395 McDonald Road			Policy Number:
City Nehalem	State Oregon	ZIP Code 97131	Company NAIC Number

SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: Construction Drawings* Building Under Construction* Finished Construction

*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO. Complete Items C2.a–h below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.

Benchmark Utilized: P 711 Vertical Datum: NAVD 1988

Indicate elevation datum used for the elevations in items a) through h) below.

NGVD 1929 NAVD 1988 Other/Source: _____

Datum used for building elevations must be the same as that used for the BFE.

Check the measurement used.

- | | | | |
|---|------|--|---------------------------------|
| a) Top of bottom floor (including basement, crawlspace, or enclosure floor) _____ | 12.2 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| b) Top of the next higher floor _____ | 23.7 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| c) Bottom of the lowest horizontal structural member (V Zones only) _____ | | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| d) Attached garage (top of slab) _____ | | <input type="checkbox"/> feet | <input type="checkbox"/> meters |
| e) Lowest elevation of machinery or equipment servicing the building
(Describe type of equipment and location in Comments) _____ | 23.7 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| f) Lowest adjacent (finished) grade next to building (LAG) _____ | 12.0 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| g) Highest adjacent (finished) grade next to building (HAG) _____ | 12.1 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |
| h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support _____ | 12.1 | <input checked="" type="checkbox"/> feet | <input type="checkbox"/> meters |

SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.

Were latitude and longitude in Section A provided by a licensed land surveyor? Yes No Check here if attachments.

Certifier's Name Erick M. White	License Number PLS 78572	Place Seal Here	
Title Survey Manager			
Company Name Onion Peak Design			
Address 11460 Evergreen Way			
City Nehalem	State Oregon		ZIP Code 97131
Signature	Date 02-21-2023		Telephone (503) 440-4403
Ext.			

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments (including type of equipment and location, per C2(e), if applicable)
The top of bottom floor is the concrete slab on the first floor. This area is garage/storage. The next higher floor will be the first finished floor. The lowest machinery servicing the building will be the heating located on the first finished floor.

ELEVATION CERTIFICATE

OMB No. 1660-0008
 Expiration Date: November 30, 2022

IMPORTANT: In these spaces, copy the corresponding information from Section A.			FOR INSURANCE COMPANY USE
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 16395 McDonald Road			Policy Number:
City Nehalem	State Oregon	ZIP Code 97131	Company NAIC Number

**SECTION E – BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED)
 FOR ZONE AO AND ZONE A (WITHOUT BFE)**

For Zones AO and A (without BFE), complete Items E1–E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1–E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

- E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).
- a) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ feet meters above or below the HAG.
- b) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ feet meters above or below the LAG.
- E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is _____ feet meters above or below the HAG.
- E3. Attached garage (top of slab) is _____ feet meters above or below the HAG.
- E4. Top of platform of machinery and/or equipment servicing the building is _____ feet meters above or below the HAG.
- E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? Yes No Unknown. The local official must certify this information in Section G.

SECTION F – PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. The statements in Sections A, B, and E are correct to the best of my knowledge.

Property Owner or Owner's Authorized Representative's Name

Address _____ City _____ State _____ ZIP Code _____

Signature _____ Date _____ Telephone _____

Comments

Check here if attachments.

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expiration Date: November 30, 2022

IMPORTANT: In these spaces, copy the corresponding information from Section A.			FOR INSURANCE COMPANY USE
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 16395 McDonald Road			Policy Number:
City Nehalem	State Oregon	ZIP Code 97131	Company NAIC Number

SECTION G – COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8–G10. In Puerto Rico only, enter meters.

- G1. The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)
- G2. A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.
- G3. The following information (Items G4–G10) is provided for community floodplain management purposes.

G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate of Compliance/Occupancy Issued
-------------------	------------------------	---

G7. This permit has been issued for: New Construction Substantial Improvement

G8. Elevation of as-built lowest floor (including basement) of the building: _____ feet meters Datum _____

G9. BFE or (in Zone AO) depth of flooding at the building site: _____ feet meters Datum _____

G10. Community's design flood elevation: _____ feet meters Datum _____

Local Official's Name	Title
-----------------------	-------

Community Name	Telephone
----------------	-----------

Signature	Date
-----------	------

Comments (including type of equipment and location, per C2(e), if applicable)

Check here if attachments.

BUILDING PHOTOGRAPHS

See Instructions for Item A6.

OMB No. 1660-0008

Expiration Date: November 30, 2022

ELEVATION CERTIFICATE

IMPORTANT: In these spaces, copy the corresponding information from Section A.			FOR INSURANCE COMPANY USE
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 16395 McDonald Road			Policy Number:
City Nehalem	State Oregon	ZIP Code 97131	Company NAIC Number

If using the Elevation Certificate to obtain NFIP flood insurance, affix at least 2 building photographs below according to the instructions for Item A6. Identify all photographs with date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8. If submitting more photographs than will fit on this page, use the Continuation Page.

Photo One

Photo One Caption

Clear Photo One

Photo Two

Photo Two Caption

Clear Photo Two

ELEVATION CERTIFICATE

BUILDING PHOTOGRAPHS

Continuation Page

OMB No. 1660-0008

Expiration Date: November 30, 2022

IMPORTANT: In these spaces, copy the corresponding information from Section A.			FOR INSURANCE COMPANY USE
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 16395 McDonald Road			Policy Number:
City Nehalem	State Oregon	ZIP Code 97131	Company NAIC Number

If submitting more photographs than will fit on the preceding page, affix the additional photographs below. Identify all photographs with: date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." When applicable, photographs must show the foundation with representative examples of the flood openings or vents, as indicated in Section A8.

Photo Three

Photo Three Caption

Clear Photo Three

Photo Four

Photo Four

Photo Four Caption

Clear Photo Four

GENERAL NOTES

- This document is the property of Stricker Engineering and shall remain the property of Stricker Engineering. No part of this document may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, without the prior written permission of Stricker Engineering.
- The contractor shall verify all dimensions and conditions prior to construction and notify the owner and Stricker Engineering of any discrepancies.
- OSHA compliance shall meet requirements per applicable OSHA regulations. OSHA NOT SCALE.
- CONTRACTOR TO VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION. VERIFY ALL DIMENSIONS AND CONDITIONS PRIOR TO CONSTRUCTION.
- All materials shall be stored and handled according to manufacturer specifications. All materials shall be inspected and approved by the manufacturer prior to use. All materials shall be inspected and approved by the manufacturer prior to use.
- No measurements or modifications to these documents or the building they represent shall be made without the written approval of the contractor. The contractor shall take full responsibility for any modifications or changes to these documents or the building they represent.
- Unless otherwise specified, the contractor shall use the following materials and methods:

STRUCTURAL DESIGN NOTES

- Structure risk category: 2
- Wind design wind speed: 95 MPH
- Seismic design category: D
- Seismic design spectral response acceleration short period: $S_{DS} = 0.332$
- Seismic design spectral response acceleration 1-second period: $S_{D1} = 0.648$
- Seismic design response factor: $R = 5.0$
- Design lateral force: $F_p = 1,200$ lbs
- Design lateral force coefficient: $C_{DC} = 1.0$
- Design lateral force coefficient: $C_{DI} = 1.0$
- Design lateral force coefficient: $C_{D2} = 1.0$
- Design lateral force coefficient: $C_{D3} = 1.0$
- Design lateral force coefficient: $C_{D4} = 1.0$
- Design lateral force coefficient: $C_{D5} = 1.0$
- Design lateral force coefficient: $C_{D6} = 1.0$
- Design lateral force coefficient: $C_{D7} = 1.0$
- Design lateral force coefficient: $C_{D8} = 1.0$
- Design lateral force coefficient: $C_{D9} = 1.0$
- Design lateral force coefficient: $C_{D10} = 1.0$

FOUNDATIONS

- Foundations shall be designed to resist all loads and moments and shall be constructed to meet all applicable code requirements.
- Foundations shall be designed to resist all loads and moments and shall be constructed to meet all applicable code requirements.
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- Foundations shall be designed to resist all loads and moments and shall be constructed to meet all applicable code requirements.

CONCRETE

- All foundation walls, footings, and slabs shall develop a minimum compressive strength of 2,800 psi.
- All concrete shall be placed and cured in accordance with the manufacturer's recommendations.

REINFORCING STEEL

- All reinforcing steel shall be in accordance with ASTM A615, grade 60 or #4 steel.
- Reinforcing steel shall be placed and developed in accordance with the manufacturer's recommendations.
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WOOD FRAMING

- Wood framing shall be in accordance with the International Residential Code (IRC) and the International Building Code (IBC).
- Wood framing shall be in accordance with the International Residential Code (IRC) and the International Building Code (IBC).
- Wood framing shall be in accordance with the International Residential Code (IRC) and the International Building Code (IBC).
- Wood framing shall be in accordance with the International Residential Code (IRC) and the International Building Code (IBC).
- Wood framing shall be in accordance with the International Residential Code (IRC) and the International Building Code (IBC).

REVISIONS

NO.	DATE	DESCRIPTION
1		REVISIONS
2		REVISIONS
3		REVISIONS
4		REVISIONS

105 East Cypress
Camden, OR 97118
503-922-2442
strickerengineering.com
john@strickerengineering.com



STRICKER
Engineering

TRIDENT AND KELLIE DAVIS
HOUSE RENOVATION
16395 MADONARD RD
NEHALEM, OR 97131
DRAWING NUMBER: 2024-015
SCALE: AS SHOWN
JOB NO.: 240001

COVER SHEET
105 EAST CYPRESS
CAMDEN, OR 97118
503-922-2442
STRICKERENGINEERING.COM
JOHN@STRICKERENGINEERING.COM



SHEET INDEX:

- 105-COVER SHEET
- 111-FR-PLAN
- 112-DECK FOUNDATION PLAN
- 113-2ND FLOOR DECK FRAMING PLAN
- 114-2ND FLOOR DECK FINISHING PLAN
- 115-1ST AND 1ST 1/2 FLOOR DECK FINISHING PLAN
- 116-1ST AND 1ST 1/2 FLOOR DECK FINISHING PLAN

NAILING SCHEDULE

1. All nails shall be in accordance with the following requirements:
2. 16d nails for all framing.
3. 16d nails for all framing.
4. 16d nails for all framing.
5. 16d nails for all framing.
6. 16d nails for all framing.
7. 16d nails for all framing.
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11. 16d nails for all framing.
12. 16d nails for all framing.
13. 16d nails for all framing.
14. 16d nails for all framing.
15. 16d nails for all framing.
16. 16d nails for all framing.

NAILING SCHEDULE NOTES

1. All nails shall be in accordance with the following requirements.
2. All nails shall be in accordance with the following requirements.
3. All nails shall be in accordance with the following requirements.
4. All nails shall be in accordance with the following requirements.
5. All nails shall be in accordance with the following requirements.

2 2 3 4 5 6

REGISTERED PROFESSIONAL
LANDSCAPE ARCHITECT
OREGON
NO. 10000
DATE: 01/29/11

REV.	DATE	DESCRIPTION
1	01/29/11	PRELIMINARY
2	01/29/11	REVISED PER COMMENTS
3	01/29/11	FINAL PERMIT SETBACKS

John@strickerengineering.com
strickerengineering.com
503-222-2442
105 East Cypress
Cedarhill, OR 97118

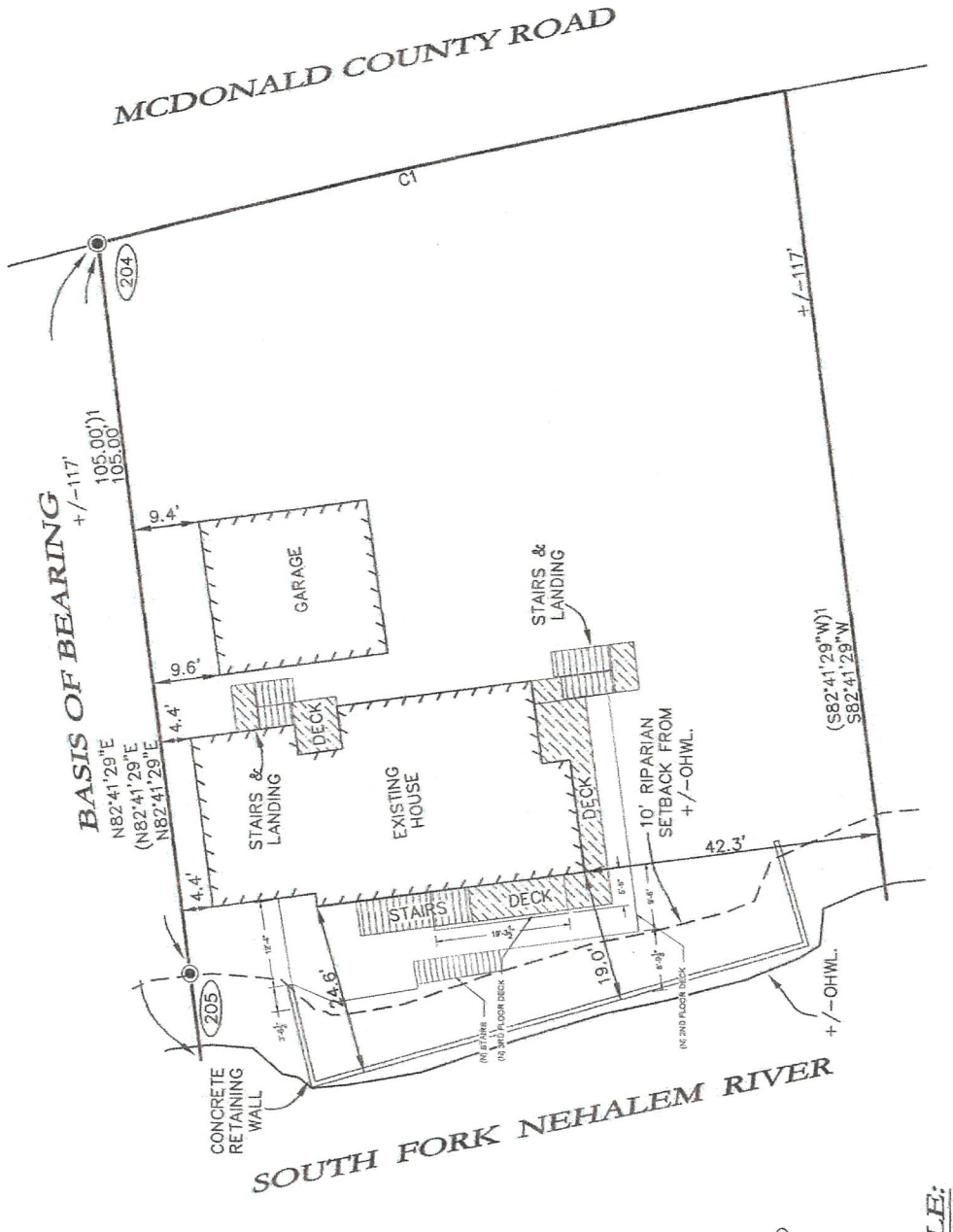


STRICKER
ENGINEERING, P.C.
TRENT AND KELLIE DAVIS
HOUSE RENOVATION
1695 McDONALD RD
NEHALEM, OR 97131

DRAWN: JSD/BJH
PREPARED: JSD/BJH
SCALE: AS SHOWN
JOB NO.: 10000

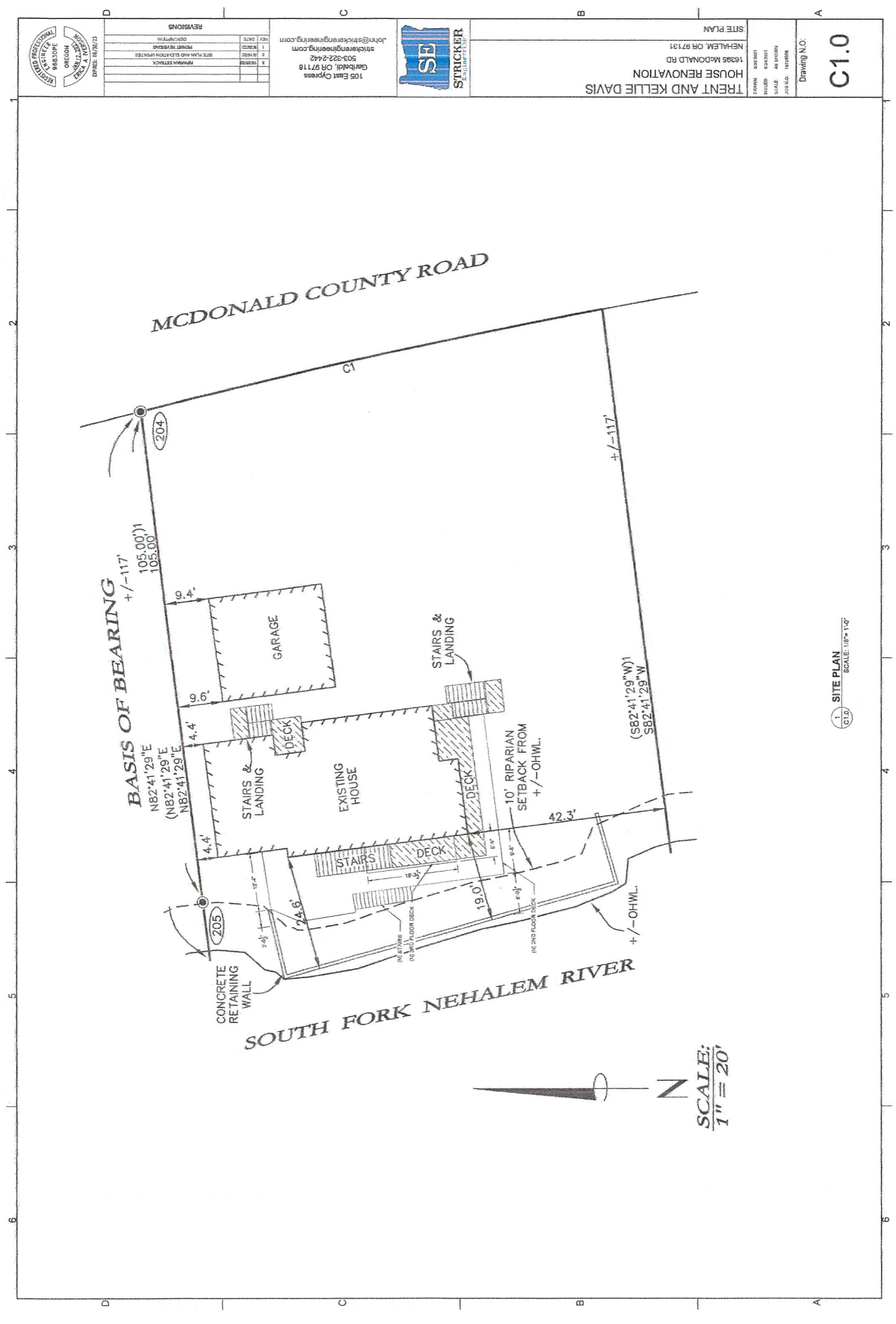
Drawing N.O.

C1.0



1 SITE PLAN
SCALE: 1/8" = 1'-0"

SCALE: 1" = 20'





S1.0

Drawing N.C.

TRENT AND KELLIE DAVIS
HOUSE RENOVATION
16365 McDONALD RD
NEHALEM, OR 97131
DECK FOUNDATION PLAN

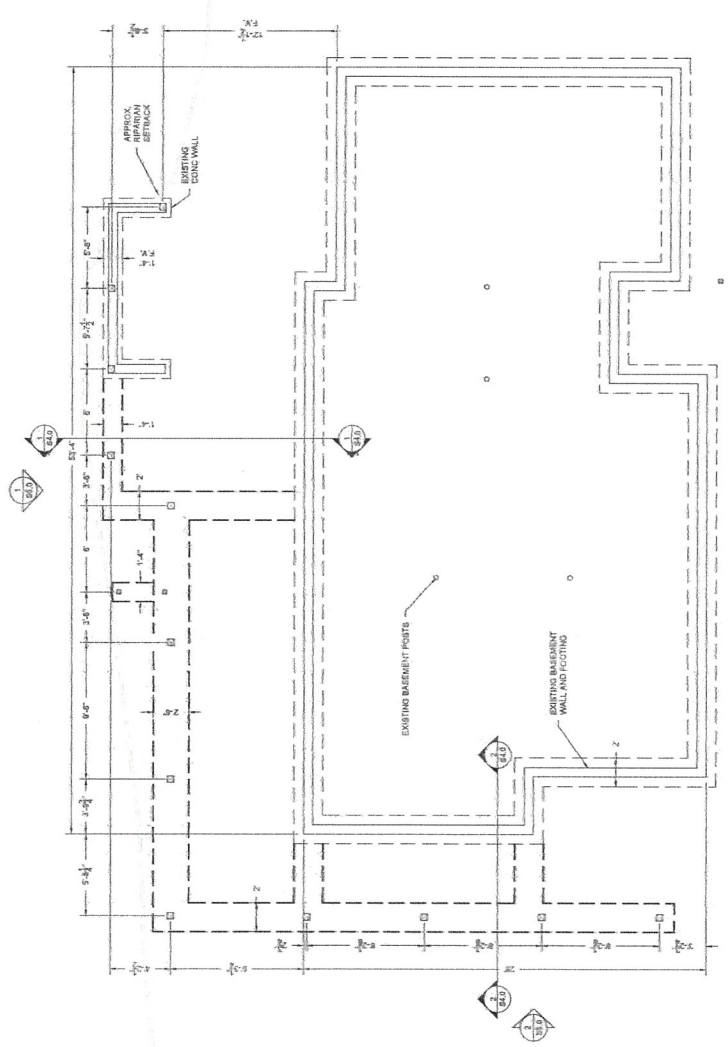


105 East Cypress
Gresham, OR 97116
503-322-2442
strickerengineering.com
john@strickerengineering.com

REV	DATE	DESCRIPTION
1	02/20/18	PERMANENT TRACK
2	02/20/18	REMOVE EXISTING TRACKS
3	02/20/18	REMOVE EXISTING TRACKS



1 FOUNDATION PLAN
SCALE: 1/4"=1'-0"





S2.0

Drawing N.O.:

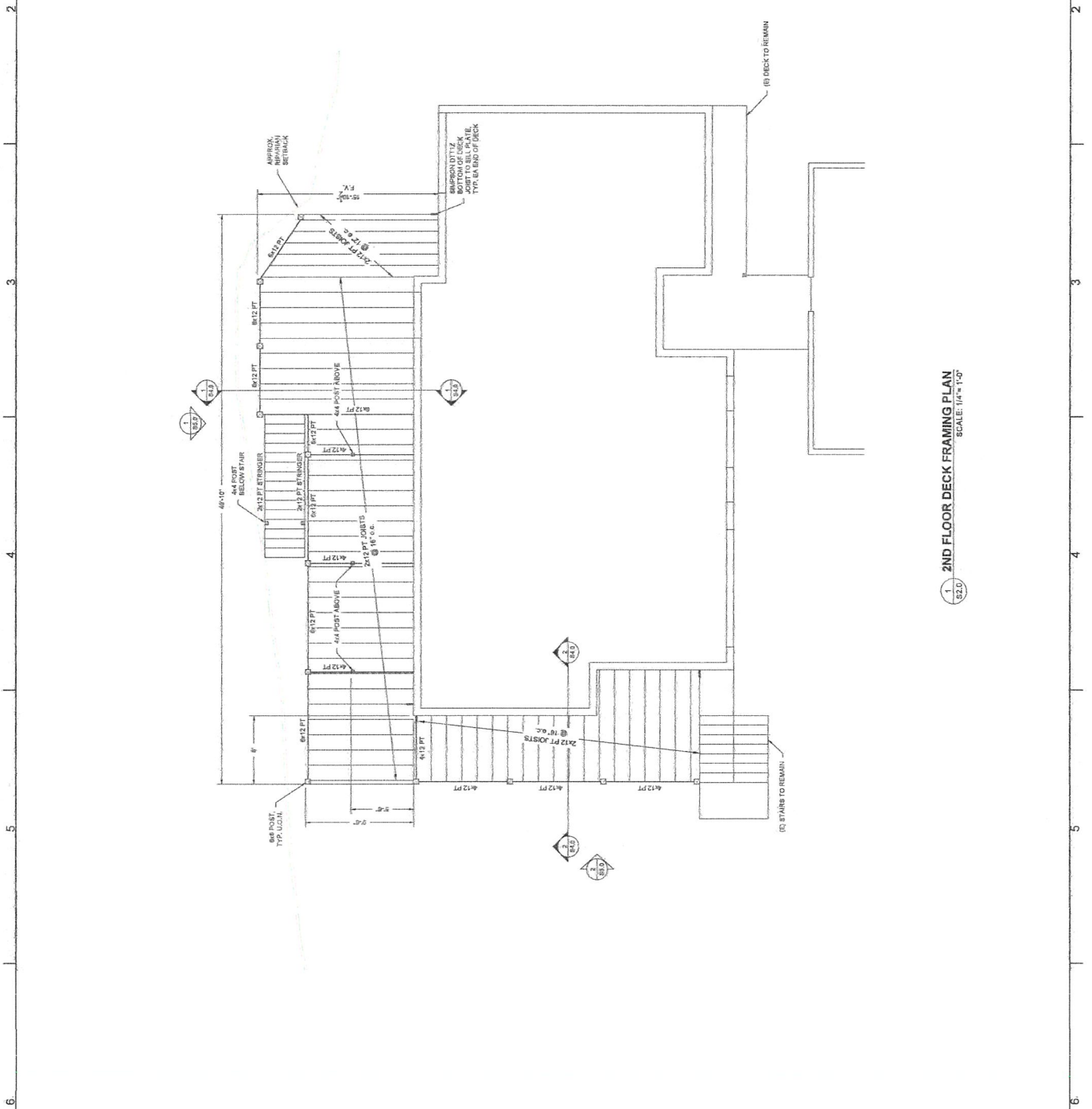
DATE: 04/26/21
SCALE: AS SHOWN
PROJECT: TRENT AND KELLIE DAVIS HOUSE RENOVATION

TRENT AND KELLIE DAVIS
HOUSE RENOVATION
1698 McDONALD RD
NEHALEM, OR 97131



105 East Cypress
Garibaldi, OR 97118
503-322-2442
strickeringengineering.com
John@strickeringengineering.com

REV	DATE	DESCRIPTION
1	04/26/21	PERMITS
2	04/26/21	PERMITS
3	04/26/21	PERMITS
4	04/26/21	PERMITS
5	04/26/21	PERMITS



1 2ND FLOOR DECK FRAMING PLAN
SCALE: 1/4" = 1'-0"

D C B A

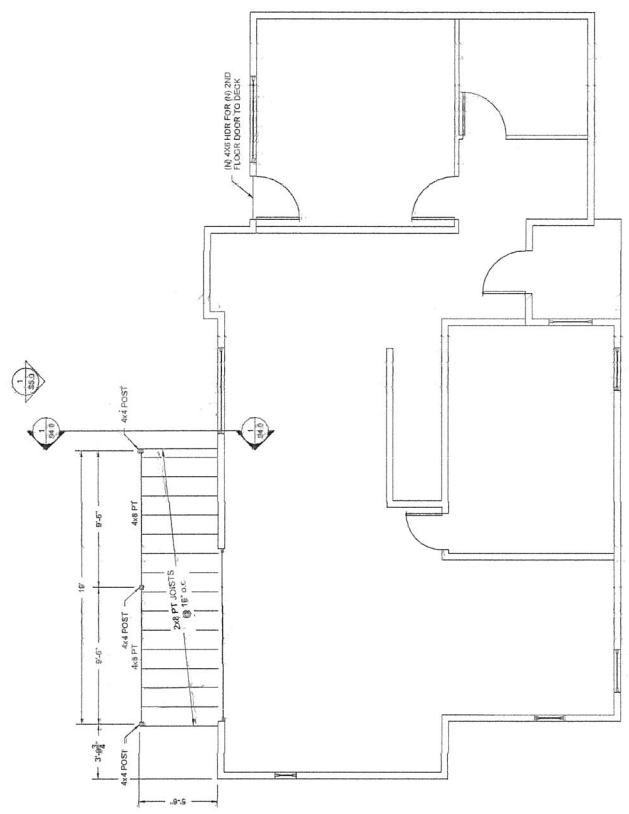
D C B A

2 3 4 5 6

2 3 4 5 6



1 3RD FLOOR DECK FRAMING PLAN
SCALE: 1/4" = 1'-0"



Drawing N.O.: **S3.0**

OWNER: TRENT
DESIGNER: KELLIE
SCALE: AS SHOWN
OFFICE: PORTLAND

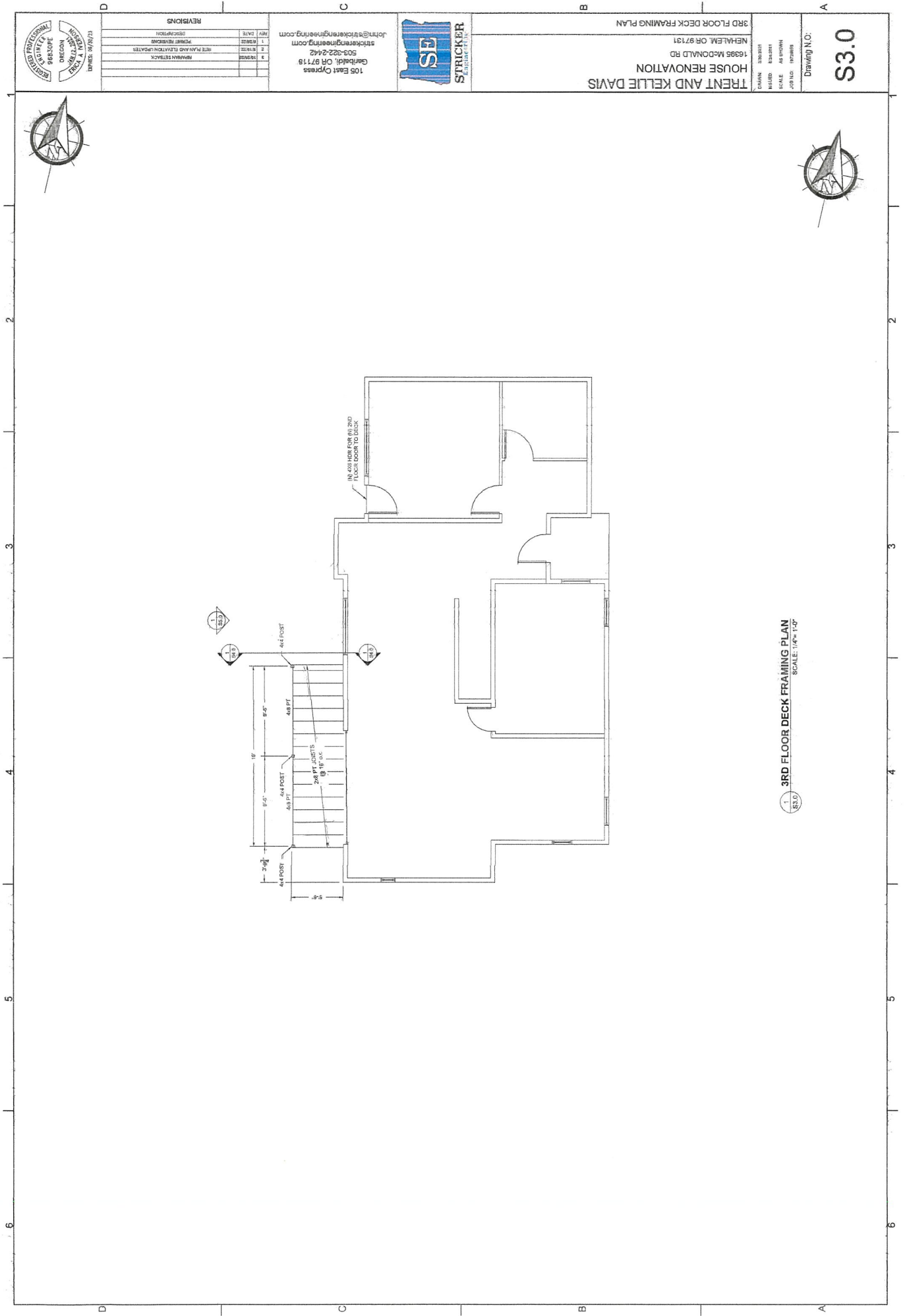
TRENT AND KELLIE DAVIS
HOUSE RENOVATION
16965 McDONALD RD
NEHALEM, OR 97131

3RD FLOOR DECK FRAMING PLAN



105 East Cypress
Gresham, OR 97118
503-322-2442
john@strickeringengineering.com
strickeringengineering.com

REVISIONS	
NO.	DATE
1	02/18/21
2	03/11/21
3	03/11/21
4	03/11/21
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100	03/11/21



S4.0

Drawing N.O.

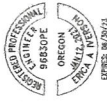
OWNER: TREAT & KELLIE DAVIS
PROJECT: HOUSE RENOVATION
SCALE: AS SHOWN
DATE: 10/20/21

TRENT AND KELLIE DAVIS
HOUSE RENOVATION
16366 McDONALD RD
NEHALEM, OR 97131

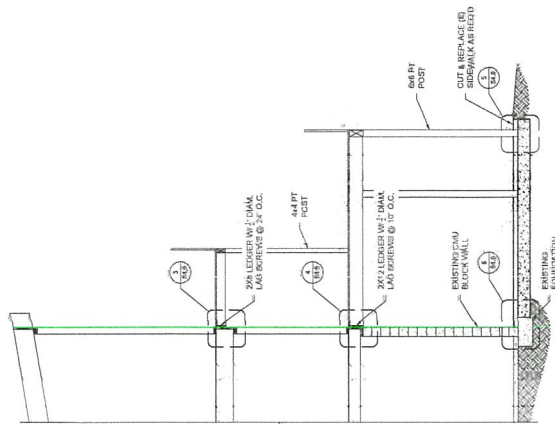


105 East Cypress
Gresham, OR 97116
503-222-2442
john@strickerengineering.com

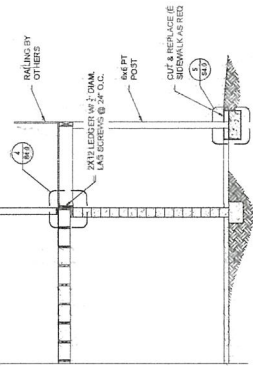
REV	DATE	DESCRIPTION
1		ISSUE FOR PERMITS
2		REVISIONS
3		REVISIONS
4		REVISIONS



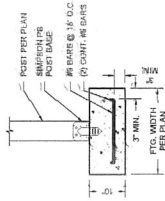
1. WEST DECK SECTION SCALE: 1/4" = 1'-0"



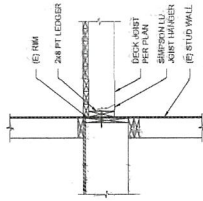
2. SOUTH DECK SECTION SCALE: 1/4" = 1'-0"



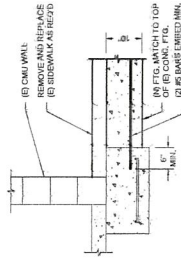
3. TYPICAL POST FOOTING SCALE: 1/8" = 1'-0"



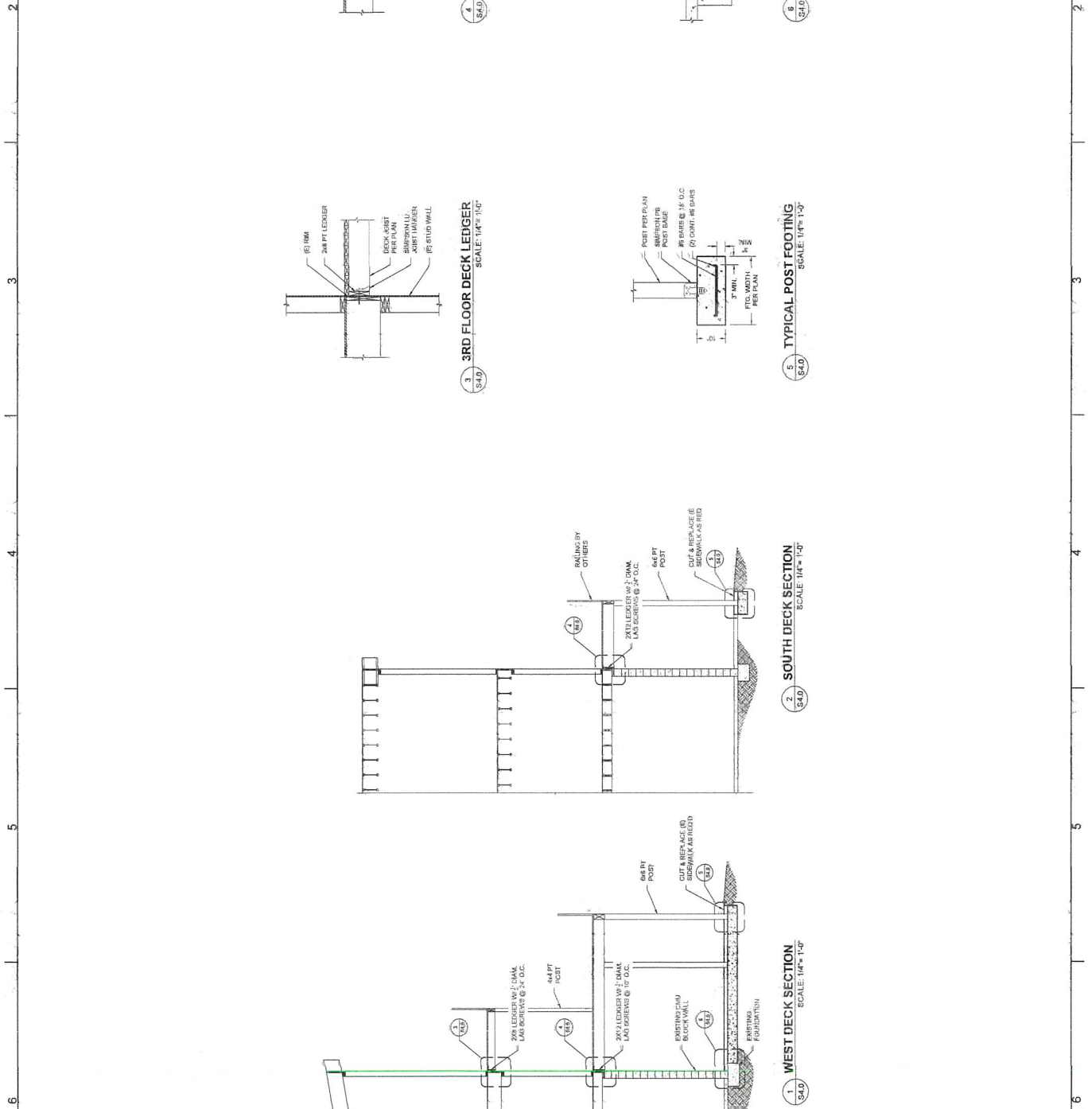
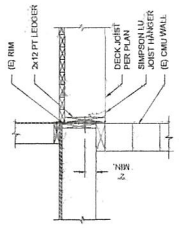
4. 3RD FLOOR DECK LEDGER SCALE: 1/4" = 1'-0"



5. (N) FOOTING @ (E) FOOTING SCALE: 1/4" = 1'-0"



6. 2ND FLOOR DECK LEDGER SCALE: 1/4" = 1'-0"



S5.0

Drawing N.C.

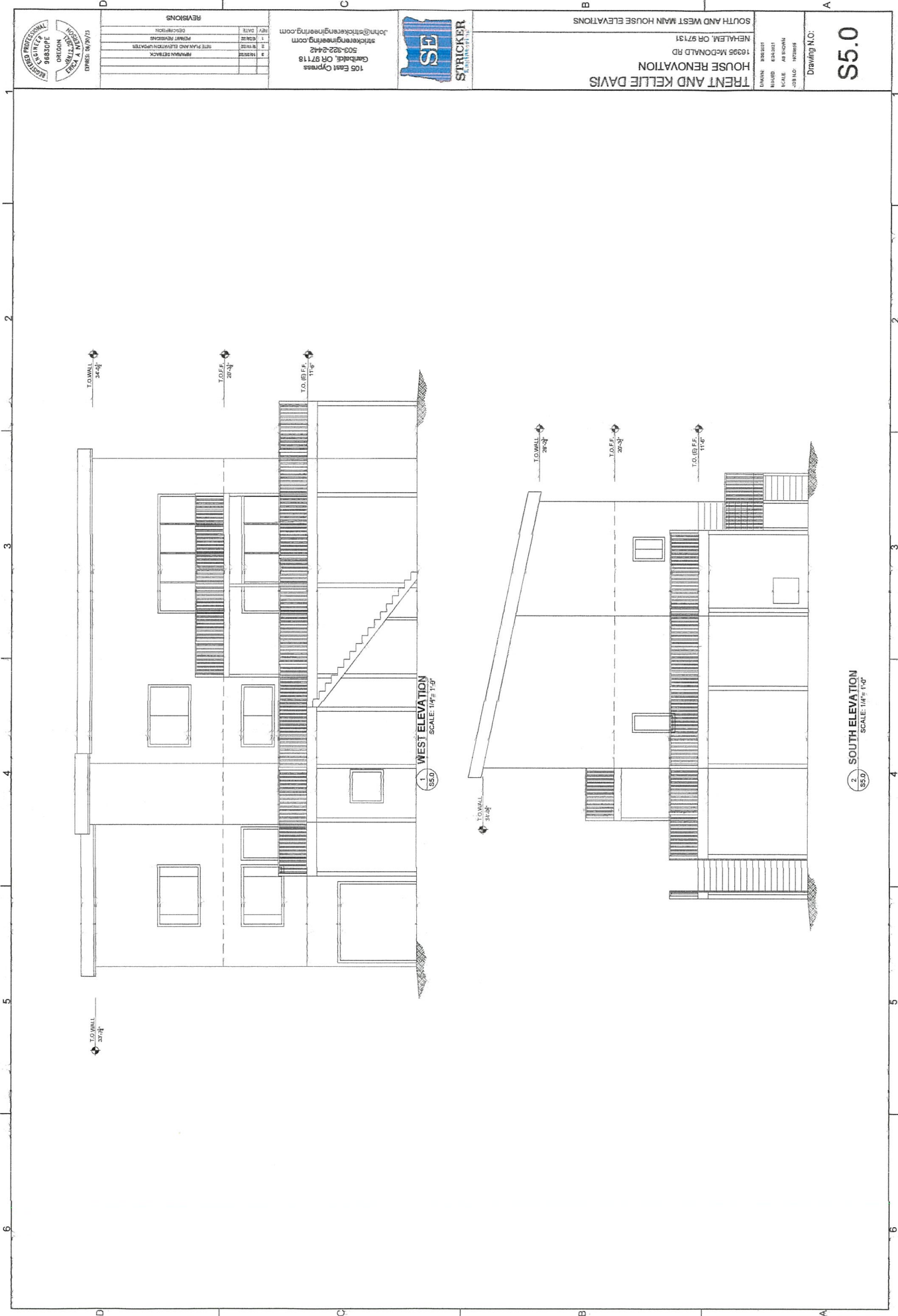
TRENT AND KELLIE DAVIS
HOUSE RENOVATION
1695 MCDONALD RD
NEHALEM, OR 97131
SOUTH AND WEST MAIN HOUSE ELEVATIONS

LUNAN 000001
NUMBER EX-0001
SCALE AS SHOWN
JOB NO. 172808



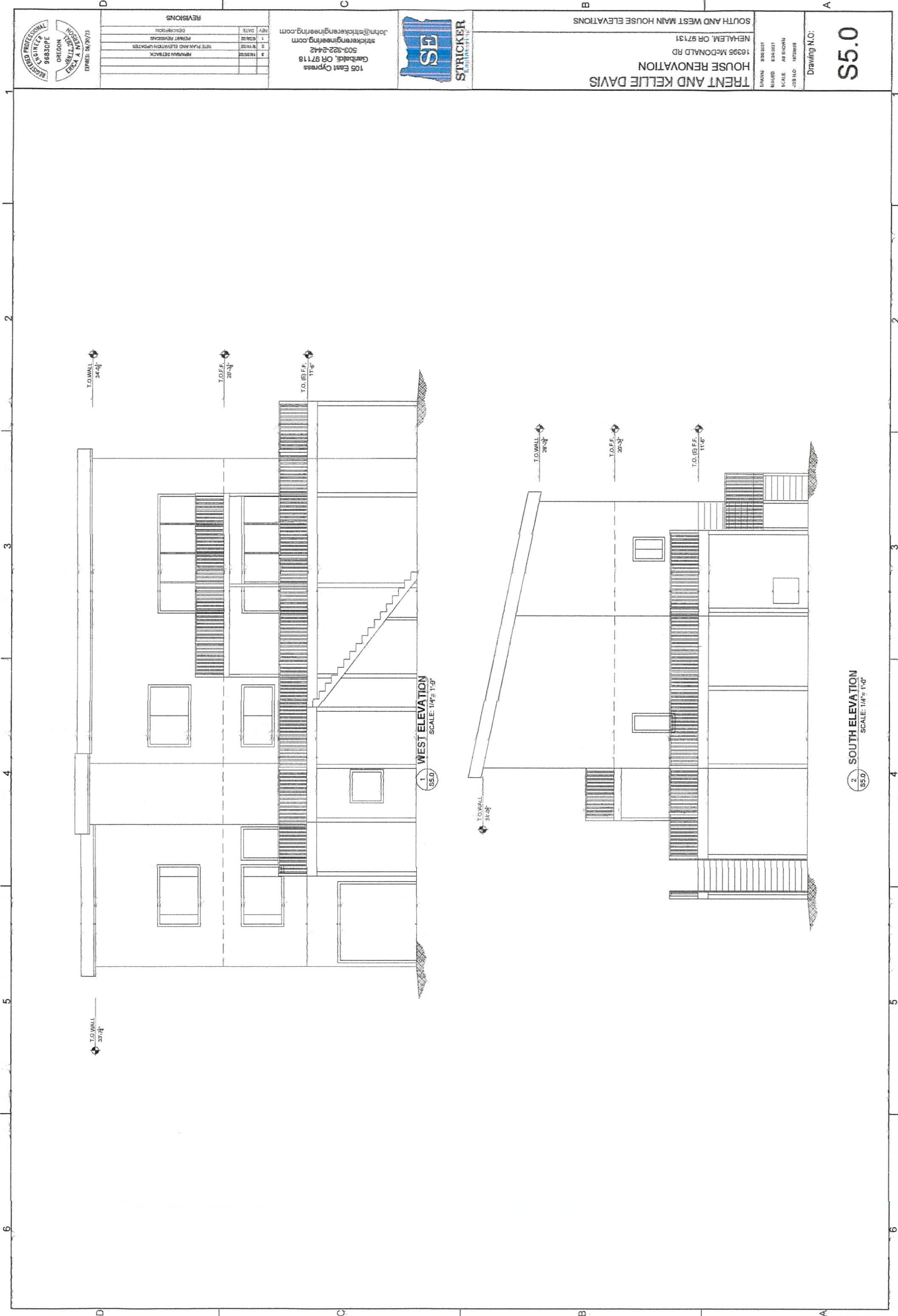
105 East Cypress
Gambell, OR 97118
503-922-2442
strickerelevation@strickering.com

REV.	DATE	DESCRIPTION
1	1/15/20	PERMIT REVISIONS
2	1/16/20	STAIR PLAN AND ELEVATION UPDATES
3	1/16/20	PERMANENT TRACK



1 WEST ELEVATION
SCALE: 1/4" = 1'-0"

2 SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



Stricker Engineering, LLC

105 East Cypress

Garibaldi, OR 97118

503-322-2442

erica@strickerengineering.com

Client:
Trent & Kellie Davis

Job Description:
Deck Addition

Job No:
19726855

Issued:
2/1/2022



EXPIRES: 06/30/23

Stricker Engineering, LLC

105 East Cypress
Garibaldi, OR 97118
503-322-2442
erica@strickerengineering.com

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Gravity Design 4

 Deck Framing Design..... 4-13

 Foundation Design 14

Lateral Design..... 15

Stricker Engineering, LLC

105 East Cypress

Garibaldi, OR 97118

503-322-2442

erica@strickerengineering.com

Project Description

This project includes the structural design of an addition to the existing deck at 16395 McDonald Rd in Nehalem, OR. Wood joists and beams are used for the deck framing.

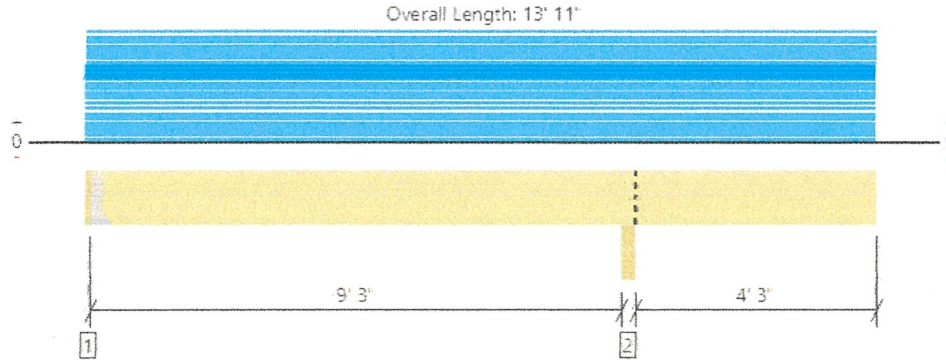
Structural Design Notes

Loading Criteria:

DL = 12.0 psf

LL = 60.0 psf

Level, Floor: DJ1
 1 piece(s) 2 x 12 HF No.2 @ 16" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	435 @ 1 1/2"	911 (1.50")	Passed (48%)	--	1.0 D + 1.0 L (Alt Spans)
Shear (lbs)	446 @ 8' 5 1/4"	1688	Passed (26%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	983 @ 4' 7 13/16"	2577	Passed (38%)	1.00	1.0 D + 1.0 L (Alt Spans)
Live Load Defl. (in)	0.107 @ 13' 11"	0.220	Passed (2L/982)	--	1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0.111 @ 13' 11"	0.440	Passed (2L/954)	--	1.0 D + 1.0 L (Alt Spans)
TJ-Pro™ Rating	N/A	N/A	N/A	--	N/A

System : Floor
 Member Type : Joist
 Building Use : Residential
 Building Code : IBC 2018
 Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Overhang deflection criteria: LL (2L/480) and TL (2L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.
- No composite action between deck and joist was considered in analysis.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Hanger on 11 1/4" HF ledger On Masonry	1.50"	Hanger ¹	1.50"	61	386/-72	447/-72	See note ¹
2 - Beam - HF	3.50"	3.50"	1.60"	162	810	972	Blocking

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	13' 3" o/c	
Bottom Edge (Lu)	13' 10" o/c	

•Maximum allowable bracing intervals based on applied load.

Connector: Simpson Strong-Tie							
Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories	
1 - Face Mount Hanger	LUS28	1.75"	N/A	6-10dx1.5	3-10d		

• Refer to manufacturer notes and instructions for proper installation and use of all connectors.

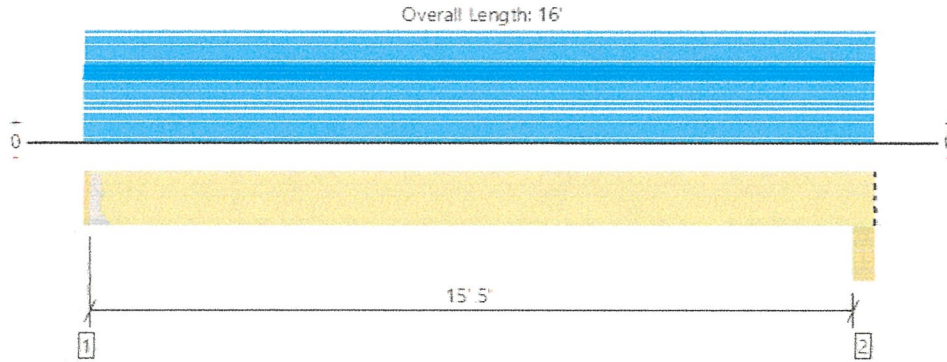
Vertical Load	Location (Side)	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Uniform (PSF)	0 to 13' 11"	16"	12.0	60.0	Default Load

Weyerhaeuser Notes
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 The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Erica Iverwon Stricker Engineering (208) 404-4404 erica@strickerengineering.com	



Level, Floor: DJ2
 1 piece(s) 2 x 12 HF No.2 @ 12" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	558 @ 1' 1/2"	911 (1.50")	Passed (61%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	491 @ 1' 3/4"	1688	Passed (29%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	2162 @ 7' 10 1/2"	2577	Passed (84%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.337 @ 7' 10 1/2"	0.387	Passed (L/552)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.404 @ 7' 10 1/2"	0.775	Passed (L/460)	--	1.0 D + 1.0 L (All Spans)
TJ-Pro™ Rating	N/A	N/A	N/A	--	N/A

System : Floor
 Member Type : Joist.
 Building Use : Residential
 Building Code : IBC 2018
 Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.
- No composite action between deck and joist was considered in analysis.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Hanger on 11 1/4" HF ledger on Masonry	1.50"	Hanger ¹	1.50"	95	473	568	See note ¹
2 - Beam - HF	5.50"	5.50"	1.50"	98	488	586	Blocking

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	4' 5" o/c	
Bottom Edge (Lu)	15' 11" o/c	

•Maximum allowable bracing intervals based on applied load.

Connector: Simpson Strong-Tie							
Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories	
1 - Face Mount Hanger	LUS28	1.75"	N/A	6-10dx1.5	3-10d		

- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Uniform (PSF)	0 to 16'	12"	12.0	60.0	Default Load

Weyerhaeuser Notes

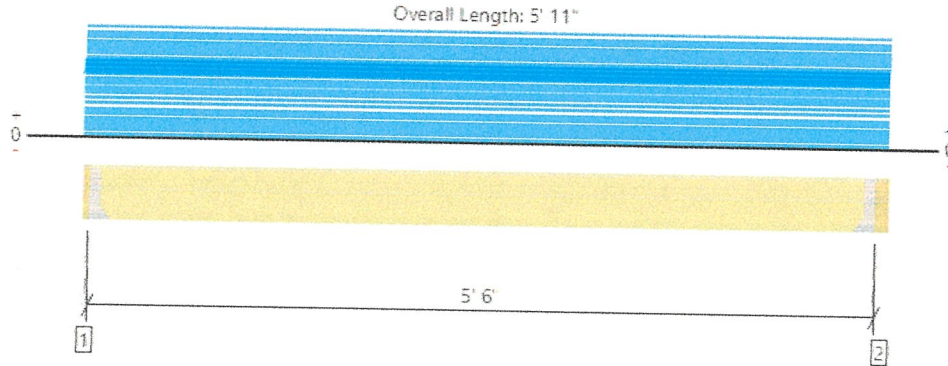
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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Erica Iverwon Stricker Engineering (208) 404-4404 erica@strickerengineering.com	



Level, Floor: DJ3
1 piece(s) 2 x 8 HF No.2 @ 16" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction. (lbs)	264 @ 1 1/2"	911 (1.50")	Passed (29%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	206 @ 8 3/4"	1088	Passed (19%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	363 @ 2' 10 1/2"	1284	Passed (28%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.027 @ 2' 10 1/2"	0.138	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.032 @ 2' 10 1/2"	0.275	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
TJ-Pro™ Rating	N/A	N/A	N/A	--	N/A

System : Floor
 Member Type : Joist
 Building Use : Residential
 Building Code : IBC 2018
 Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.
- No composite action between deck and joist was considered in analysis.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Hanger on 7 1/4" HF ledger on Masonry	1.50"	Hanger ¹	1.50"	46	230	276	See note ¹
2 - Hanger on 7 1/4" HF beam	3.50"	Hanger ¹	1.50"	49	243	292	See note ¹

- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	5' 6" o/c	
Bottom Edge (Lu)	5' 6" o/c	

• Maximum allowable bracing intervals based on applied load.

Connector: Simpson Strong-Tie

Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories
1 - Face Mount Hanger	LU26	1.50"	N/A	6-10dx1.5	4-10dx1.5	
2 - Face Mount Hanger	LU26	1.50"	N/A	6-10dx1.5	4-10dx1.5	

- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

Vertical Load	Location (Side)	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Uniform (PSF)	0 to 5' 11"	16"	12.0	60.0	Default Load

Weyerhaeuser Notes

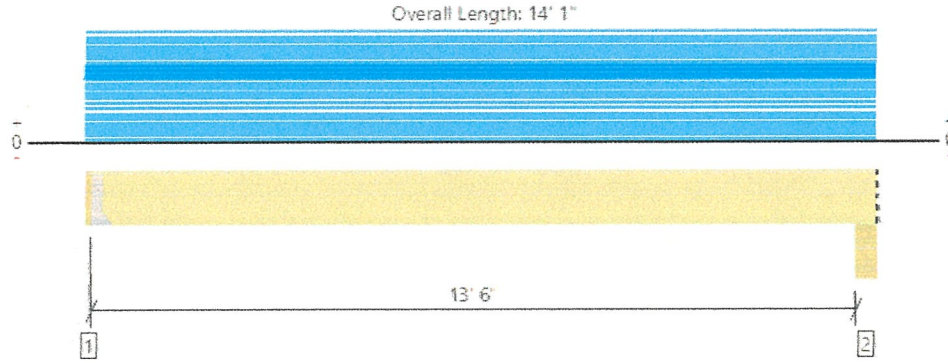
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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Erica Iverwon Stricker Engineering (208) 404-4404 erica@strickerengineering.com	



Level, Floor: DJ4
 1 piece(s) 2 x 12 HF No.2 @ 16" OC



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDf	Load: Combination (Pattern)
Member Reaction (lbs)	652 @ 1 1/2"	911 (1.50")	Passed (72%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	562 @ 1' 3/4"	1688	Passed (33%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	2214 @ 6' 11"	2577	Passed (86%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.265 @ 6' 11"	0.340	Passed (L/615)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.318 @ 6' 11"	0.679	Passed (L/513)	--	1.0 D + 1.0 L (All Spans)
TJ-Pro™ Rating	N/A	N/A	N/A	--	N/A

System : Floor
 Member Type : Joist
 Building Use : Residential
 Building Code : IBC 2018
 Design Methodology : ASD

- Deflection criteria: LL (L/480) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- A 15% increase in the moment capacity has been added to account for repetitive member usage.
- Applicable calculations are based on NDS.
- No composite action between deck and joist was considered in analysis.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Hanger on 11 1/4" HF beam	1.50"	Hanger ¹	1.50"	111	553	664	See note ²
2 - Beam - HF	5.50"	5.50"	1.50"	115	573	688	Blocking

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	4' 2" o/c	
Bottom Edge (Lu)	14' o/c	

•Maximum allowable bracing intervals based on applied load.

Connector: Simpson Strong-Tie							
Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories	
1 - Face Mount Hanger	LUS28	1.75"	N/A	6-10dx1.5	3-10d		

- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

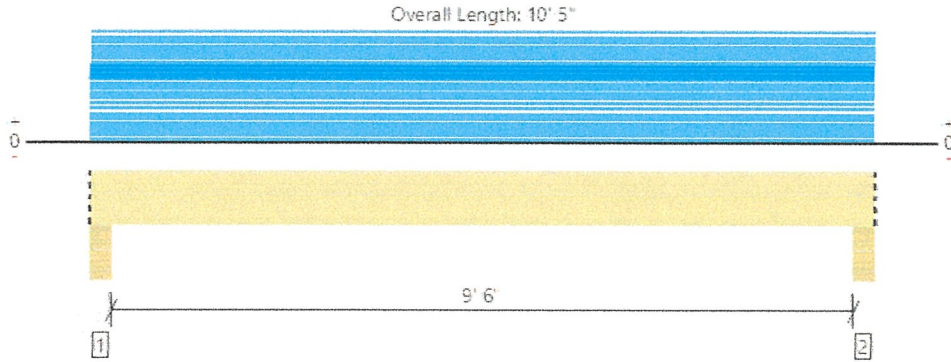
Vertical Load	Location (Side)	Spacing	Dead (0.90)	Floor Live (1.00)	Comments
1 - Uniform (PSF)	0 to 14' 1"	16"	12.0	60.0	Default Load

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ForteWEB Software Operator	Job Notes
Erica Iverwon Stricker Engineering (208) 404-4404 erica@strickerengineering.com	



Level, Floor: DB1
 1 piece(s) 6 x 12 HF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction, (lbs)	2490 @ 4"	12251 (5,50")	Passed (20%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1812 @ 1' 5"	5903	Passed (31%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	5680 @ 5' 2 1/2"	6819	Passed (83%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.102 @ 5' 2 1/2"	0.325	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.127 @ 5' 2 1/2"	0.488	Passed (L/923)	--	1.0 D + 1.0 L (All Spans)

System : Floor
 Member Type : Drop Beam
 Building Use : Residential
 Building Code : IBC 2018
 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Column - HF	5.50"	5.50"	1.50"	484	2005	2489	Blocking
2 - Column - HF	5.50"	5.50"	1.50"	484	2005	2489	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	10' 5" o/c	
Bottom Edge (Lu)	10' 5" o/c	

•Maximum allowable bracing intervals based on applied load.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 10' 5"	N/A	16.0	--	
1 - Uniform (PSF)	0 to 10' 5" (Front)	6' 5"	12.0	60.0	

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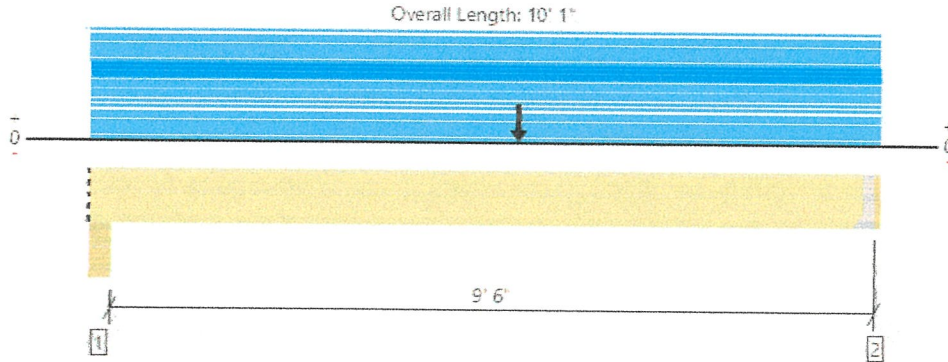
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ForteWEB Software Operator	Job Notes
Erica Iverwon Stricker Engineering (208) 404-4404 erica@strickerengineering.com	



Level, Floor: DB2
 1 piece(s) 4 x 12 HF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDf	Load: Combination (Pattern)
Member Reaction (lbs)	1366 @ 9' 11 1/2"	2126 (1.50")	Passed (64%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1266 @ 9' 1/4"	3938	Passed (32%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	5035 @ 5' 6"	5752	Passed (88%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.105 @ 5' 2 1/2"	0.321	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.132 @ 5' 2 1/2"	0.481	Passed (L/875)	--	1.0 D + 1.0 L (All Spans)

System : Floor
 Member Type : Drop Beam
 Building Use : Residential
 Building Code : IBC 2018
 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Column - HF	5.50"	5.50"	1.50"	274	1010	1284	Blocking
2 - Hanger on 11 1/4" HF ledgerOnMasonry	1.50"	Hanger ¹	1.50"	289	1088	1377	See note ¹

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	10' o/c	
Bottom Edge (Lu)	10' o/c	

•Maximum allowable bracing intervals based on applied load.

Connector: Simpson Strong-Tie

Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories
2 - Face Mount Hanger	HUS410	2.00"	N/A	8-10dx1.5	8-10d	

- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 9' 11 1/2"	N/A	10.0	--	
1 - Uniform (PSF)	0 to 10' 1" (Top)	1' 4"	12.0	60.0	
2 - Point (lb)	5' 6" (Top)	N/A	302	1292	Linked from: Floor: DB5, Support 1

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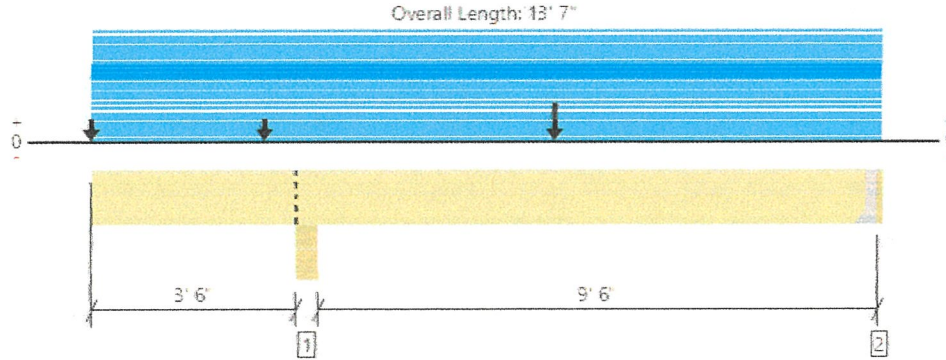
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ForteWEB Software Operator	Job Notes
Erica Iverwon Stricker Engineering (208) 404-4404 erica@strickerengineering.com	



Level, Floor: DB3
1 piece(s) 4 x 12 HF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	1162 @ 13' 5 1/2"	2126 (1.50")	Passed (55%)	--	1.0 D + 1.0 L (Alt Spans)
Shear (lbs)	1568 @ 4' 10 3/4"	3938	Passed (40%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	4765 @ 8'	5752	Passed (83%)	1.00	1.0 D + 1.0 L (Alt Spans)
Live Load Defl. (in)	0.114 @ 0	0.249	Passed (2L/784)	--	1.0 D + 1.0 L (Alt Spans)
Total Load Defl. (in)	0.107 @ 0	0.373	Passed (2L/838)	--	1.0 D + 1.0 L (Alt Spans)

System : Floor
 Member Type : Drop Beam
 Building Use : Residential
 Building Code : IBC 2018
 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Overhang deflection criteria: LL (2L/360) and TL (2L/240).
- Allowed moment does not reflect the adjustment for the beam stability factor.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Column - HF	5.50"	5.50"	2.11"	596	239±	2987	Blocking
2 - Hanger on 11 1/4" HF ledger On Masonry	1.50"	Hanger ¹	1.50"	208	966/-219	1174/-219	See note ¹

- Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.
- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	13' 6" o/c	
Bottom Edge (Lu)	13' 6" o/c	

•Maximum allowable bracing intervals based on applied load.

Connector: Simpson Strong-Tie							
Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories	
2 - Face Mount Hanger	LUS414	2.00"	N/A	10-10dx1.5	6-10d		

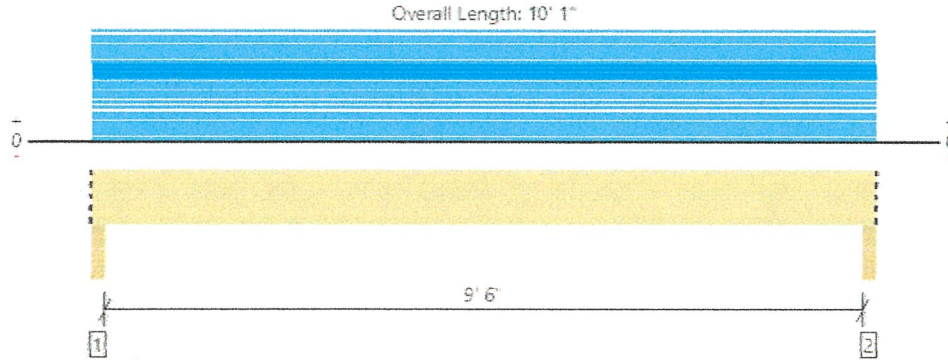
- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 13' 5 1/2"	N/A	10.0	--	
1 - Uniform (PSF)	0 to 13' 7" (Top)	1' 4"	12.0	60.0	
2 - Point (lb)	0 (Front)	N/A	75	375	
3 - Point (lb)	3' (Front)	N/A	75	375	
4 - Point (lb)	8' (Top)	N/A	302	1292	Linked from: Floor: DB5, Support 1

FortewEB Software Operator:	Job Notes
Erica Iverwon Stricker Engineering (208) 404-4404 erica@strickerengineering.com	



Level, Floor: DB4
1 piece(s) 6 x 12 HF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDf	Load: Combination (Pattern)
Member Reaction (lbs)	2561 @ 2"	7796 (3.50")	Passed (33%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1926 @ 1' 3"	5903	Passed (33%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	6036 @ 5' 1/2"	6819	Passed (89%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.109 @ 5' 1/2"	0.325	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.135 @ 5' 1/2"	0.488	Passed (L/869)	--	1.0 D + 1.0 L (All Spans)

System : Floor
 Member Type : Drop Beam
 Building Use : Residential
 Building Code : IBC 2018
 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Lumber grading provisions must be extended over the length of the member per NDS 4.2.5.5.
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Column - DF	3.50"	3.50"	1.50"	494	2067	2561	Blocking
2 - Column - DF	3.50"	3.50"	1.50"	494	2067	2561	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	Continuous	
Bottom Edge (Lu)	All Bearing Points	

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 10' 1"	N/A	16.0	--	
1 - Uniform (PSF)	0 to 10' 1" (Front)	6' 10"	12.0	60.0	

Weyerhaeuser Notes

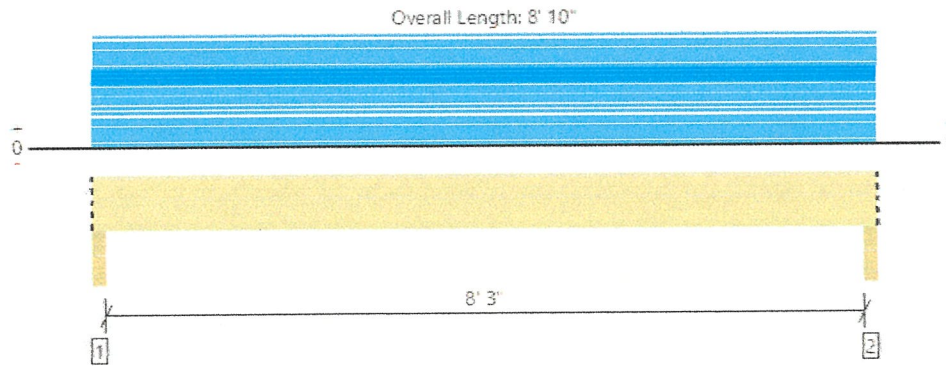
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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator.

ForteWEB Software Operator	Job Notes
Erica Iverwon Stricker Engineering (208) 404-4404 erica@strickerengineering.com	



Level, Floor: DB5
1 piece(s) 4 x 12 HF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDf	Load: Combination (Pattern)
Member Reaction (lbs)	1594 @ 2"	4961 (3.50")	Passed (32%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	1151 @ 1' 2 3/4"	3938	Passed (29%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	3260 @ 4' 5"	5752	Passed (57%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.064 @ 4' 5"	0.283	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.079 @ 4' 5"	0.425	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

System : Floor
 Member Type : Drop Beam
 Building Use : Residential
 Building Code : IBC 2018
 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Column - DF	3.50"	3.50"	1.50"	302	1292	1594	Blocking
2 - Column - DF	3.50"	3.50"	1.50"	302	1292	1594	Blocking

• Blocking Panels are assumed to carry no loads applied directly above them and the full load is applied to the member being designed.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	Continuous	
Bottom Edge (Lu)	All Bearing Points	

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	0 to 8' 10"	N/A	10.0	--	
1 - Uniform (PSF)	0 to 8' 10" (Front)	4' 10 1/2"	12.0	60.0	

Weyerhaeuser Notes

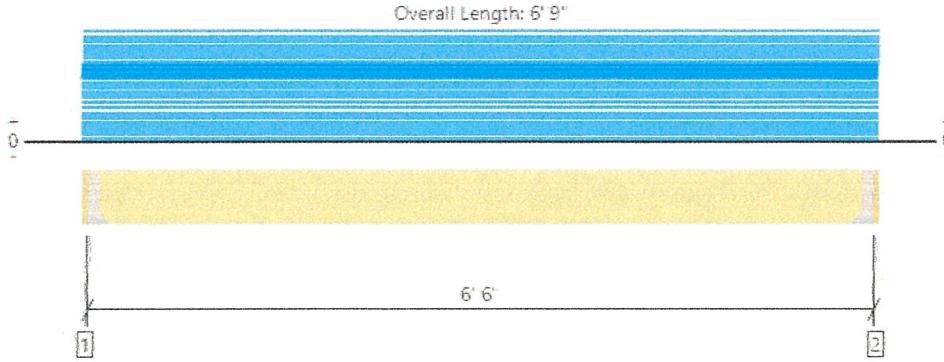
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The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Erica Iverwon Stricker Engineering (208) 404-4404 erica@strickerengineering.com	



Level, Floor: DB6
1 piece(s) 4 x 8 HF No.2



All locations are measured from the outside face of left support (or left cantilever end). All dimensions are horizontal.

Design Results	Actual @ Location	Allowed	Result	LDF	Load: Combination (Pattern)
Member Reaction (lbs)	781 @ 1 1/2"	2126 (1.50")	Passed (37%)	--	1.0 D + 1.0 L (All Spans)
Shear (lbs)	636 @ 8 3/4"	2538	Passed (25%)	1.00	1.0 D + 1.0 L (All Spans)
Moment (Ft-lbs)	1270 @ 3' 4 1/2"	2823	Passed (45%)	1.00	1.0 D + 1.0 L (All Spans)
Live Load Defl. (in)	0.054 @ 3' 4 1/2"	0.217	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)
Total Load Defl. (in)	0.067 @ 3' 4 1/2"	0.325	Passed (L/999+)	--	1.0 D + 1.0 L (All Spans)

System : Floor
 Member Type : Drop Beam
 Building Use : Residential
 Building Code : IBC 2018
 Design Methodology : ASD

- Deflection criteria: LL (L/360) and TL (L/240).
- Applicable calculations are based on NDS.

Supports	Bearing Length			Loads to Supports (lbs)			Accessories
	Total	Available	Required	Dead	Floor Live	Total	
1 - Hanger on 7 1/4" HF ledgerOnMasonry	1.50"	Hanger ¹	1.50"	153	658	811	See note ¹
2 - Hanger on 7 1/4" HF ledgerOnMasonry	1.50"	Hanger ¹	1.50"	153	658	811	See note ¹

- At hanger supports, the Total Bearing dimension is equal to the width of the material that is supporting the hanger
- ¹ See Connector grid below for additional information and/or requirements.

Lateral Bracing	Bracing Intervals	Comments
Top Edge (Lu)	Continuous	
Bottom Edge (Lu)	All Bearing Points	

Connector: Simpson Strong-Tie							
Support	Model	Seat Length	Top Fasteners	Face Fasteners	Member Fasteners	Accessories	
1 - Face Mount Hanger	LUS48	2.00"	N/A	6-10dx1.5	4-10d		
2 - Face Mount Hanger	LUS48	2.00"	N/A	6-10dx1.5	4-10d		

- Refer to manufacturer notes and instructions for proper installation and use of all connectors.

Vertical Loads	Location (Side)	Tributary Width	Dead (0.90)	Floor Live (1.00)	Comments
0 - Self Weight (PLF)	1 1/2" to 6' 7 1/2"	N/A	6.4	--	
1 - Uniform (PSF)	0 to 6' 9" (Front)	3' 3"	12.0	60.0	

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 The product application, input design loads, dimensions and support information have been provided by ForteWEB Software Operator

ForteWEB Software Operator	Job Notes
Erica Iverwon Stricker Engineering (208) 404-4404 erica@strickerengineering.com	



Stricker Engineering, LLC

105 East Cypress

Garibaldi, OR 97118

503-322-2442

erica@strickerengineering.com

Foundation Design

WF1:

$$W_{DL} = 15 \text{ psf} \cdot (28'/2) \cdot 3 + 12 \text{ psf} \cdot (9.5'/2 + 5'/2) + 57 \text{ psf} \cdot 11.5' = 1379 \text{ plf}$$

$$W_{SL} = 25 \text{ psf} \cdot (28'/2 + 1') = 375 \text{ plf}$$

$$W_{RLL} = 20 \text{ psf} \cdot (28'/2 + 1') = 300 \text{ plf}$$

$$W_{LL} = 40 \text{ psf} \cdot (28'/2) \cdot 2 + 60 \text{ psf} \cdot (9.5'/2 + 6'/2) = 1585 \text{ plf}$$

$$W_{TL} = 1379 \text{ plf} + 300 \text{ plf} + 1585 \text{ plf} = 3282 \text{ plf}$$

$$W_{req'd} = 3282 \text{ plf} / 1500 \text{ psf} = 2.18 \text{ ft}$$

Use minimum 2'-0" wide wall footing

F1:

$$W_{DL} = 484 \text{ lbs} \cdot 2 \text{ (DB1 Reaction)} + 538 \text{ lbs (DB3 Reaction)} = 1506 \text{ plf}$$

$$W_{LL} = 2005 \text{ lbs} \cdot 2 \text{ (DB1 Reaction)} + 2133 \text{ lbs} = 6143 \text{ plf}$$

$$W_{TL} = 1506 \text{ plf} + 6143 \text{ plf} = 7649 \text{ plf}$$

$$W_{req'd} = 7649 \text{ plf} / 1500 \text{ psf} = 5.10 \text{ ft}$$

Use minimum 2'-6" square footing

F2:

$$W_{DL} = 484 \text{ lbs (DB1 Reaction)} + 575 \text{ lbs (DB4 Reaction)} = 1059 \text{ plf}$$

$$W_{LL} = 2005 \text{ lbs (DB1 Reaction)} + 2402 \text{ lbs} = 4407 \text{ plf}$$

$$W_{TL} = 1059 \text{ plf} + 4407 \text{ plf} = 5466 \text{ plf}$$

$$W_{req'd} = 5466 \text{ plf} / 1500 \text{ psf} = 3.64 \text{ ft}$$

Use minimum 2'-0" square footing

Stricker Engineering, LLC

105 East Cypress
 Garibaldi, OR 97118
 503-322-2442
 erica@strickerengineering.com

Lateral Design

Job#: 19726855

Deck Calculator: Lateral Loads

Wind Analysis Method	Design Wind Loads - Other Structures	ASCE 7-10 Sec. 29.5
Basic Wind Speed (ultimate)	135.00 MPH	
Topography Factor	K _{zt} = 1.00	ASCE 7-16 Fig. 26.8-1
Directionality Factor	K _d = 0.85	ASCE 7-16 Fig. 26.6-1
Gust Effect Factor	G = 0.85	ASCE 7-16 Sec. 26.9.1
Deck Height	h = 11.50 ft	
Terrain Exp. Category	C	α = 9.5
Velocity Pressure Exp. Coefficient	K _z = 0.849	z _g = 900
Velocity Pressure	q _z = 33.66 psf	$q_z = .00256K_z K_{zt} K_d V^2$
Deck Gross Area (normal to wind)	A _{gross} = 50.00 ft ²	
Deck Solid Area (normal to wind)	A _f = 200.00 ft ²	
Ratio of Solid Area to Gross Area	ε = 4.00	
Force Coefficient for Deck	C _{f,deck} = 1.85	ASCE 7-16 Fig. 29.4-2
Wind Load on Deck	F _{deck} = 10,588 lbs	$F = q_z GC_p A_f$
ASD Wind Load on Deck	F _{ASD,deck} = 6,353 lbs	
Post Height	h _{post} = 10.50 ft	Post Section: SQUARE
Post Width or Dia.	D = 5.50 in	
Deck Post Area	A _f = 4.81 ft ²	
Post Aspect Ratio	h/D = 22.91	
Force Coefficient for Post	C _{f,post} = 1.85	ASCE 7-16 Fig. 29.5-1
Wind Load on Post	F _{post} = 255 lbs	$F = q_z GC_p A_f$
ASD Wind Load on Post	F _{ASD,post} = 153 lbs	
Total ASD Wind Load	F _{ASD,WIND} = 6,429 lbs	
Deck Width (perpendicular to ledger)	B = 15.83 ft	Deck Ratio: 0.32
Deck Length (parallel to ledger)	L = 50.00 ft	Deck Area: 791.65 ft ²
Deck Moments (wind)	51,500 ft-lbs	
Deck Holdown Force (wind)	F _{H,WIND} = 1,030 lbs	
Unit Shear @ Ledger (wind)	v _w = 129 plf	
Deck Live Load	LL = 60.00 psf	ρ = 1.3 (SDC D)
Deck Dead Load	DL = 12.00 psf	
Other Loads	0 lbs	(Conservatively include live loads in Effective Seismic Weight)
Effective Seismic Weight	W = 56,999 lbs	
Seismic Response Coefficient	C _s = 0.151	(from Seismic Worksheet)
Total ASD Seismic Load	F _{ASD,SEISMIC} = 7,832 lbs	$E_n = 0.7 \rho C_s W$ (governs)
Deck Moments (seismic)	62,004 ft-lbs	
Deck Holdown Force (seismic)	F _{H,SEISMIC} = 1,240 lbs	(governs)
Unit Shear @ Ledger (seismic)	v _s = 157 plf	(governs)
Deck Area	A _{deck} = 792 ft ²	
Occupant Lateral Load per Plan Area	OL = 5.00 psf	(Deck and Porch Lateral Loading by Occupants, Donald A. Bender, 2013)
Total ASD Occupant Load	F _{ASD,OCC} = 3,958 lbs	
Deck Moments (occupants)	31,335 ft-lbs	
Deck Holdown Force (occupants)	F _{H,OCC} = 627 lbs	
Unit Shear @ Ledger (occupants)	v _o = 79 plf	

Location: Deck Extension
 Specification: Use (2) DTT12 between house and deck.



NO-RISE CERTIFICATION AND REPORT

Nehalem River at McDonald Dike Road
Nehalem, Oregon

Prepared for:

Trent and Kellie Davis

16395 McDonald Dike Road
Nehalem, Oregon 97131

Prepared by:

Cascade Water Resources, LLC

March 6, 2023

Project No. 1026



March 6, 2023
Project No. 1026

Trent and Kellie Davis
16395 McDonald Dike Road
Nehalem, Oregon 97131
Via email: Trent-davis@outlook.com

Attention: Trent and Kellie Davis

Subject: No-Rise Report and Certification for Nehalem River at McDonald Dike Road
Nehalem, Oregon 97131

Dear Trent and Kellie:

The following report documents Cascade Water Resources, LLC's (CWR's) finding that the proposed construction of a new deck at the property located at 16395 McDonald Dike Road as described on the Stricker Engineering construction plans dated October 25, 2022 will not increase the 100-year (1%-annual chance) pre-project base flood elevations, floodway elevations, or floodway widths on Nehalem River at published or unpublished cross-sections as shown on the Flood Insurance Study for Tillamook County, Oregon dated September 28, 2018 (FEMA, 2018).

The report includes tables and figures that document our analysis. Model input (cross-sections) and output data are appended to the report along with copies of the drawings provided by Stricker Engineering. Digital copies of the hydraulic model and work map are also provided for your reference.

We appreciate this opportunity to be of service. Please feel free to contact me if you have any questions regarding this report.

Sincerely,

A handwritten signature in blue ink, appearing to read "R.C. Sutherland".

Roger Sutherland, PE
Cascade Water Resources, LLC



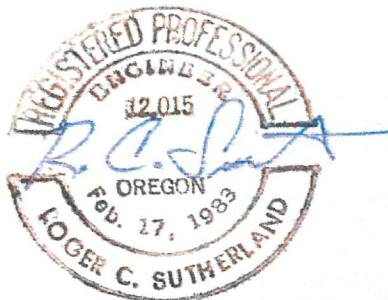
No-Rise Engineering Certification
Nehalem River at 16395 McDonald Dike Road
Nehalem, Oregon
March 6, 2023

This is to certify that I am a duly qualified registered professional engineer licensed to practice in the State of Oregon. This is further to certify that the attached report supports the finding that the proposed construction of a new deck at the property located at 16395 McDonald Dike Road in Nehalem, Oregon, as described on the Stricker Engineering construction plans dated October 25, 2022, will not increase the 100-year (1%-annual chance) pre-project base flood elevations, floodway elevations, or floodway widths on Nehalem River at published or unpublished cross-sections as shown on the Flood Insurance Study for Tillamook County, Oregon dated September 28, 2018 (FEMA, 2018). In addition to this report and its attachments, a hydraulic model and work map are provided to support the finding that this proposed project will meet no-rise criteria.

This certification was prepared exclusively for Trent and Kellie Davis. The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in CWR services and based on: 1) a field visit to the site on May 17, 2022; 2) information available at the time of preparation; 3) data supplied by outside sources; and 4) the assumptions, conditions, and qualifications set forth in this report. This No-Rise Certification is intended to be used by Trent and Kellie Davis for the McDonald Dike Road deck project only, subject to the terms and conditions of its contract with CWR. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

While this report was prepared in accordance with standard engineering practice by qualified engineering professionals, this report evaluated a specific storm recurrence interval and assumes free-flowing hydraulic conditions. It is reasonable to assume that a storm event of greater magnitude or changes in water-way conveyance capacity might cause higher stages than estimated for this assignment.

March 6, 2023



Expires: 6/30/2024

A handwritten signature in blue ink that reads "R.C. Sutherland".

Roger Sutherland, PE
Cascade Water Resources, LLC



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TABLE

Table 1: No-Rise Analysis

FIGURES

Figure 1: Study Area Vicinity

Figure 2: Flood Insurance Rate Map Panel

Figure 3: Hydraulic Model Work Map

Figure 4: FEMA FIRMette

APPENDICES

Appendix A Corrected Effective / Pre-Project Conditions Hydraulic Model Output

Appendix B Proposed Conditions Hydraulic Model Output

Appendix C Proposed Deck Construction Plans by Stricker Engineering

Appendix D Photo Log



NO-RISE REPORT

Nehalem River at 16395 McDonald Dike Road

Nehalem, Oregon

1.0 SUMMARY

Cascade Water Resources, LLC (CWR) found that the proposed construction of a new deck at the property located at 16395 McDonald Dike Road in Nehalem, Oregon meets the no-rise requirement if constructed as described on the Stricker Engineering construction plans dated October 25, 2022. The construction plans are included in Appendix C.

2.0 PROJECT DESCRIPTION

2.1 FEMA EFFECTIVE FLOOD MODEL

WEST Consultants, Inc. (WEST) completed a Letter of Map Revision (LOMR) for the Lower Nehalem River in Tillamook County, Oregon, in 2014. The LOMR update extended from the Federal Emergency Management Agency (FEMA) Cross-Section B at model river station 0.45 to Cross-Section O at model river station 6.80. The river stations represent miles along the Nehalem River centerline. WEST used 2009 lidar data from the Oregon Department of Geology and Mineral Industries (DOGAMI) to update existing cross-section overbank data and to create additional cross-sections that were used in the detailed analysis. The LOMR was used to update a 2002 FEMA Flood Insurance Study (FIS) and represents the best available information and serves as the FEMA effective model for the Lower Nehalem River (WEST, 2014). The LOMR produced by WEST was ultimately incorporated into a September 28, 2018, FIS update for Tillamook County, Oregon. Figure 2 shows the Flood Insurance Rate Map (FIRM) Panel 41057C0230F issued for Tillamook County as part of the 2018 FIS update. Additionally, the FIRMette has been included on Figure 4.

It should be noted that the FIS profiles and mapping (noted above) are published as feet above the North American Vertical Datum of 1988 (NAVD88), as is the effective model produced by WEST for the 2014 Nehalem River LOMR. All elevations referenced in this report and associated modeling files are based on the NAVD88 datum.



2.2 PROPOSED FLOODWAY DEVELOPMENT

Trent and Kellie Davis propose to build a new deck at their property located at 16395 McDonald Dike Road in Nehalem, Oregon. The property is shown on Figure 1, the site vicinity map. The proposed deck was designed by Stricker Engineering and will extend along the south and western sides of the Davis's house. The construction plans are included in Appendix C. The entire property is located within the Nehalem River floodway, which means that any fill or development on the property must meet no-rise requirements. It must be shown that the proposed deck will not increase the 100-year base (1%-annual chance) flood elevations, floodway elevations, or floodway widths on the Nehalem River at published or unpublished cross-sections as shown on the 2018 effective FIS for Tillamook County.

The proposed deck will be located above the 100-year base flood elevation (BFE) of 16.1 feet, and therefore will not impact the 100-year flow. However, the support posts do act as obstructions that must be evaluated. As shown on the construction plans (Appendix C), a row of 6" x 6" support posts will be installed roughly 9.25 feet west of the house and a second row will be installed 13.5 feet west of the house. These rows of support posts are in a line parallel with the flow of the river, therefore each row acts as a single obstruction. A portion of the new deck will be constructed on the south side of the house; however, this will not obstruct the floodplain conveyance any further than the obstruction that the house already presents. A "no-rise" certification is required prior to construction of the deck to demonstrate no adverse impact from the proposed improvements and construction of the support posts for the deck.

3.0 NO-RISE HYDRAULIC MODELING

The basic process to evaluate the no-rise performance standard uses four modeling steps as follows:

- **Duplicate Effective Model:** The Duplicate Effective model confirms that the effective model was received and reproduces published information from the FIS, or any map amendment studies. The Duplicate Effective model serves to validate the source of the Corrected Effective model (described next) but is not further used in the no-rise analysis.
- **Corrected Effective Model:** Changes are made to the Duplicate Effective model to create the Corrected Effective model. Changes may include correction of errors in the Duplicate Effective model, the addition of new cross-sections, or refinement of existing cross-sections with more detailed topographic information, to improve modeling methods and/or to allow future conditions to be modeled. Man-made physical changes that have occurred since the date of the Effective Model should not be incorporated in the Corrected Effective model.



The Corrected Effective model includes all the cross-sections that will be required to model proposed improvements with the Proposed Conditions model.

- **Existing (Pre-Project) Conditions Model:** Changes are made to the Corrected Effective Model to reflect any modifications that have occurred within the floodplain since the date of the Effective model. The model is identical to the Corrected Effective model if no changes have occurred since the date of the Effective model.
- **Proposed Conditions Model:** Changes to the Existing Conditions model geometry are made only to reflect proposed project changes. The results from this model will indicate the 100-year elevation for the proposed conditions at the project site. These results must indicate no rise in the water surface elevation or floodway when compared to the Existing Conditions model.

For the WEST LOMR, the Nehalem River was studied from FEMA effective Cross-Section B (river station 0.45) to Cross-Section O (River station 6.8), corresponding to a length of approximately 6.35 miles (33,528 ft).

3.1 DUPLICATE EFFECTIVE MODEL

The effective hydraulic model used for the LOMR for the Lower Nehalem River was finalized in June 2014 by WEST for the Tillamook County Department of Community Development. PWR obtained the effective model for the Lower Nehalem River from WEST directly. The model includes the geometries, flow files, and floodway encroachment stations necessary for FEMA analysis.

The effective model utilized HEC-RAS Version 4.1 from the US Army Corps of Engineers (USACE). For this no-rise study, the HEC-RAS Version 4.1 model input was executed in the current standard HEC-RAS Version 6.3.1 (USACE; 2022). This HEC-RAS model constitutes the Duplicate Effective model. The Duplicate Effective model does not incorporate any changes, but simply confirms that the base model matches the output in the effective FIS. This Duplicate Effective model was then modified to create the Corrected Effective model, as described below.

The hydrology for the LOMR completed by WEST in 2014 did not modify the flows used in the prior FIS, which were developed by the U.S. Army Corps of Engineers using a hydrologic model that was calibrated to measured data at USGS stream gage 14301000, *Nehalem River near Foss, OR* (WEST, 2014). The flows utilized in this no-rise analysis were unchanged from the effective model. Additionally, no changes were made to the effective floodway. The encroachment stations for the new cross-sections were measured from the FIRM to maintain the effective floodway width.



3.2 CORRECTED EFFECTIVE MODEL

Changes made to develop the Corrected Effective model from the Duplicate Effective model are summarized as follows:

- New cross-sections (XS 3.7542 and XS 3.7656) were added at the upstream and downstream faces of the Davis's house to add resolution and accurately model the proposed project area. The locations of the new cross-sections are shown on Figure 3.
- Lidar collected in 2009 by DOGAMI was used for the ground surface of the overbanks for the two new cross sections (NOAA, 2009). No changes to the ground topography near the Davis property is believed to have occurred since 2009, making the lidar a suitable source of topographic information. (Note: The 2009 lidar from DOGAMI that was used to create the overbank geometry for the two additional cross-sections is the same data that was used by WEST to create the effective cross-sections as part of their 2014 LOMR.)
- Channel bathymetry is not able to be measured using lidar. Therefore, the channel bathymetry from cross-section 3.8 was used for the two new cross-sections. The elevation of the bathymetry was adjusted based on an interpolation of the channel profile between effective model cross-sections 3.66 and 3.8. Cross-section 3.8 is located just 180 feet upstream of the Davis property. The use of bathymetry from this cross-section for the new cross-sections is reasonable given the short distance upstream and the gradually transitioning nature of the Nehalem River in this area.
- The house was added as an obstruction to cross-section 3.7656. The house existed prior to the date of the effective model; therefore, it is required to be added to the Corrected Effective model. (Note, the support posts for the existing deck were not added to the Corrected Effective model to be conservative with the analysis.)
- A Manning's roughness of 0.03 was assigned for the extent of the subject property at cross-section 3.7656 to represent the lawn and paved driveway between the two new cross-sections. This portion of the cross-section in the effective cross-section 3.8 has a Manning's roughness of 0.2, which was likely selected to reflect the houses (not modeled as obstructions in the effective model) and large vegetation present just upgradient of the top of the river bank. Photos of the property are included in Appendix D.
- The encroachment stations for the new cross-sections were measured from the FIRM to maintain the effective floodway width, per FEMA requirements.

Changes made were documented within the HEC-RAS model input as comments to the geometry file for the affected cross-sections. Appendix A includes a plot of the 100-year flood profile for the modeled portion of the Nehalem River, a summary of the model output, and plots of cross-sections utilized in the model (FEMA Sections B through O) for the Corrected Effective model.



3.3 EXISTING (PRE-PROJECT) CONDITIONS MODEL

No known modifications have occurred within the study reach since the date of the Effective Model. Therefore, the Existing Conditions model is identical to the Corrected Effective model. For this reason, a separate Existing Conditions model was not created.

3.4 PROPOSED CONDITIONS MODEL

Changes made to model the proposed project are summarized as follows:

- The proposed support posts for the deck were modeled as obstructions and added to cross-section 3.7656. Two obstructions were added to this cross-section, as there are two rows of support posts perpendicular to the direction of flow of the river.

As with the Corrected Effective model, changes made were documented within the HEC-RAS model input as comments to the geometry file for the affected cross-sections. Appendix B includes a plot of the 100-year flood profile for the modeled portion of the Nehalem River, a summary of the model output, and plots of cross-sections utilized in the model (FEMA Cross-Sections B through O) for the Proposed Conditions model.

3.5 NO-RISE RESULTS

Table 1 compares the base flood elevations for the Proposed Conditions model with those for the Corrected Effective/Pre-Project model. As described previously, no changes were necessary for the Pre-Project model; therefore, the Corrected Effective model represents both scenarios. The 100-year Proposed Conditions model resulted in a 0.01-foot decline at cross-section 5.951. At all other locations, the difference in water surface elevations was 0.00 feet. No rise was observed at any cross-section in the analysis of the Nehalem River as a result of the proposed deck construction.



4.0 CONCLUSIONS

Based on the detailed analysis described above, construction of the proposed deck at the property located at 16395 McDonald Dike Road meets the requirements for a no-rise finding if constructed as described in the construction plan set included in Appendix C.

We appreciate this opportunity to be of service. Please feel free to contact me if you have any questions regarding this report.

Sincerely,

A handwritten signature in blue ink, appearing to read "R.C. Sutherland".

Roger Sutherland, PE
Cascade Water Resources, LLC



REFERENCES

FEMA, 2018. Flood Insurance Study and Map Panel 41057C0230F for Tillamook County, Oregon (41057CV001A). Federal Emergency Management Agency, Washington, DC. Effective September 28, 2018.

NOAA, 2009. National Oceanic and Atmospheric Administration (NOAA) Digital Coast Data Access Viewer. Custom processing of "2009 OR DOGAMI Lidar: North Coast". Charleston, South Carolina. Data accessed October 30, 2022, at <https://coast.noaa.gov/dataviewer>.

USACE, 2022. HEC-RAS Program Version 6.3.1. US Army Corps of Engineers Hydraulic Engineering Center. Davis, CA. September 2022.

WEST, 2014. LOMR Submittal: Lower Nehalem River – Tillamook County, Oregon. WEST Consultants, Inc. Portland, OR. June 2014.



LIMITATIONS

This report was prepared exclusively for Trent and Kellie Davis by Cascade Water Resources, LLC (CWR). The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in CWR services and based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This no-rise report and certification is intended to be used by Trent and Kellie Davis for their property located at 16395 McDonald Dike Road in Nehalem, Oregon only, subject to the terms and conditions of its contract with CWR. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

TABLE

**Table 1
No-Rise Modeling Results**

Flow (cfs)	Corrected Effective/Pre-Project		Proposed Condition		Change in BFE (ft) ³
	Cross Section ¹	BFE (ft NAVD88) ²	Cross Section ¹	BFE (ft NAVD88) ²	
59,000	6.8	24.09	6.8	24.09	0
59,000	6.61	21.2	6.61	21.2	0
59,000	6.584	21.3	6.584	21.3	0
59,000	6.583	21.17	6.583	21.17	0
59,000	6.579	21.15	6.579	21.15	0
59,000	6.578	21.16	6.578	21.16	0
59,000	6.559	20.98	6.559	20.98	0
59,000	6.25	20.33	6.25	20.33	0
56,700	6.01	18.23	6.01	18.23	0
Bridge	5.99		5.99		--
54,700	5.98	18.06	5.98	18.06	0
54,700	5.951	18.01	5.951	18	-0.01
54,700	5.88	18.11	5.88	18.11	0
54,700	5.79	17.89	5.79	17.89	0
54,700	5.65	17.53	5.65	17.53	0
54,700	5.55	17.58	5.55	17.58	0
54,700	5.34	17.69	5.34	17.69	0
54,700	5.26	17.66	5.26	17.66	0
54,700	5.17	17.64	5.17	17.64	0
54,700	4.78	17.56	4.78	17.56	0
54,700	3.8	16.03	3.8	16.03	0
54,700	3.7656	16.15	3.7656	16.15	0
54,700	3.7542	16.06	3.7542	16.06	0
52,600	3.66	16.22	3.66	16.22	0
52,600	3.28	15.79	3.28	15.79	0
52,600	3.24	15.75	3.24	15.75	0
52,600	3.12	15.68	3.12	15.68	0
52,900	2.92	15.53	2.92	15.53	0
52,900	2.49	15.15	2.49	15.15	0
52,900	2.28	14.95	2.28	14.95	0
66,400	2.01	14.84	2.01	14.84	0
66,400	1.92	14.74	1.92	14.74	0
66,400	1.74	14.31	1.74	14.31	0
66,400	1.5	14.04	1.5	14.04	0
66,400	1.33	13.88	1.33	13.88	0
66,700	1.05	13.7	1.05	13.7	0
67,000	0.994	13.68	0.994	13.68	0
67,000	0.95	13.63	0.95	13.63	0
Bridge	0.92		0.92		--
67,000	0.86	13.55	0.86	13.55	0
67,000	0.8	13.5	0.8	13.5	0
67,000	0.78	13.4	0.78	13.4	0
67,000	0.73	13.36	0.73	13.36	0
67,000	0.6	13.32	0.6	13.32	0
74,000	0.45	13.11	0.45	13.11	0

Notes:

¹ Cross Section No. is the distance in miles upstream from the end of the effective model.

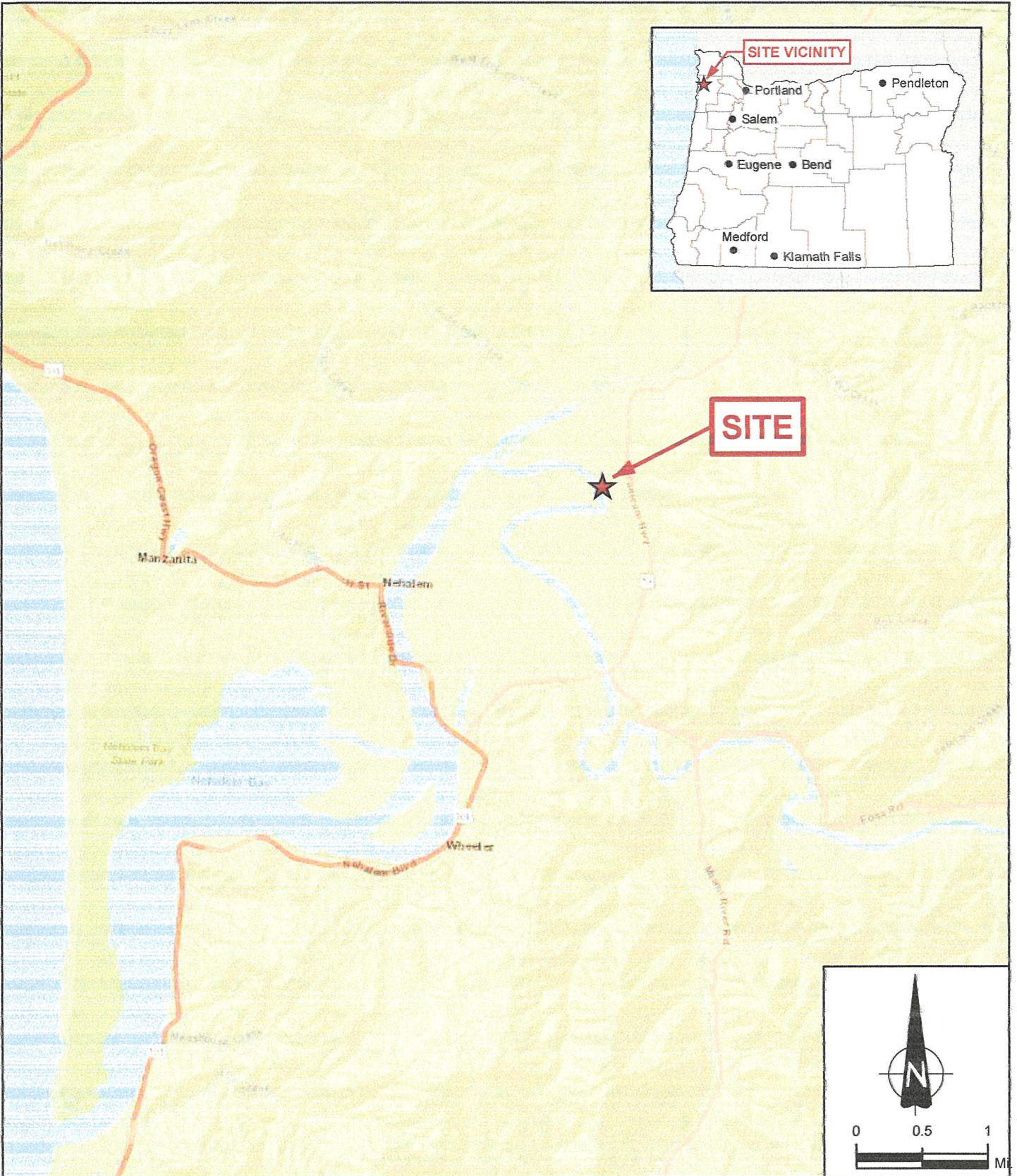
² All model elevations are in North American Vertical Datum of 1988 (NAVD88).

³ Change in water surface elevation is calculated as the difference between the Corrected Effective / Pre-Project Conditions Model and the Proposed Conditions Model.

Abbreviations:

BFE - Base Flood Elevation, the regulatory (100-year) flood water surface elevation

FIGURES



TRENT AND KELLIE DAVIS
PROPERTY

CASCADE WATER
RESOURCES, LLC

NO-RISE ANALYSIS
NEHALEM RIVER AT
MCDONALD DIKE ROAD

FIGURE 1: SITE LOCATION MAP

NO-RISE ANALYSIS
NEHALEM RIVER AT
MCDONALD DIKE ROAD

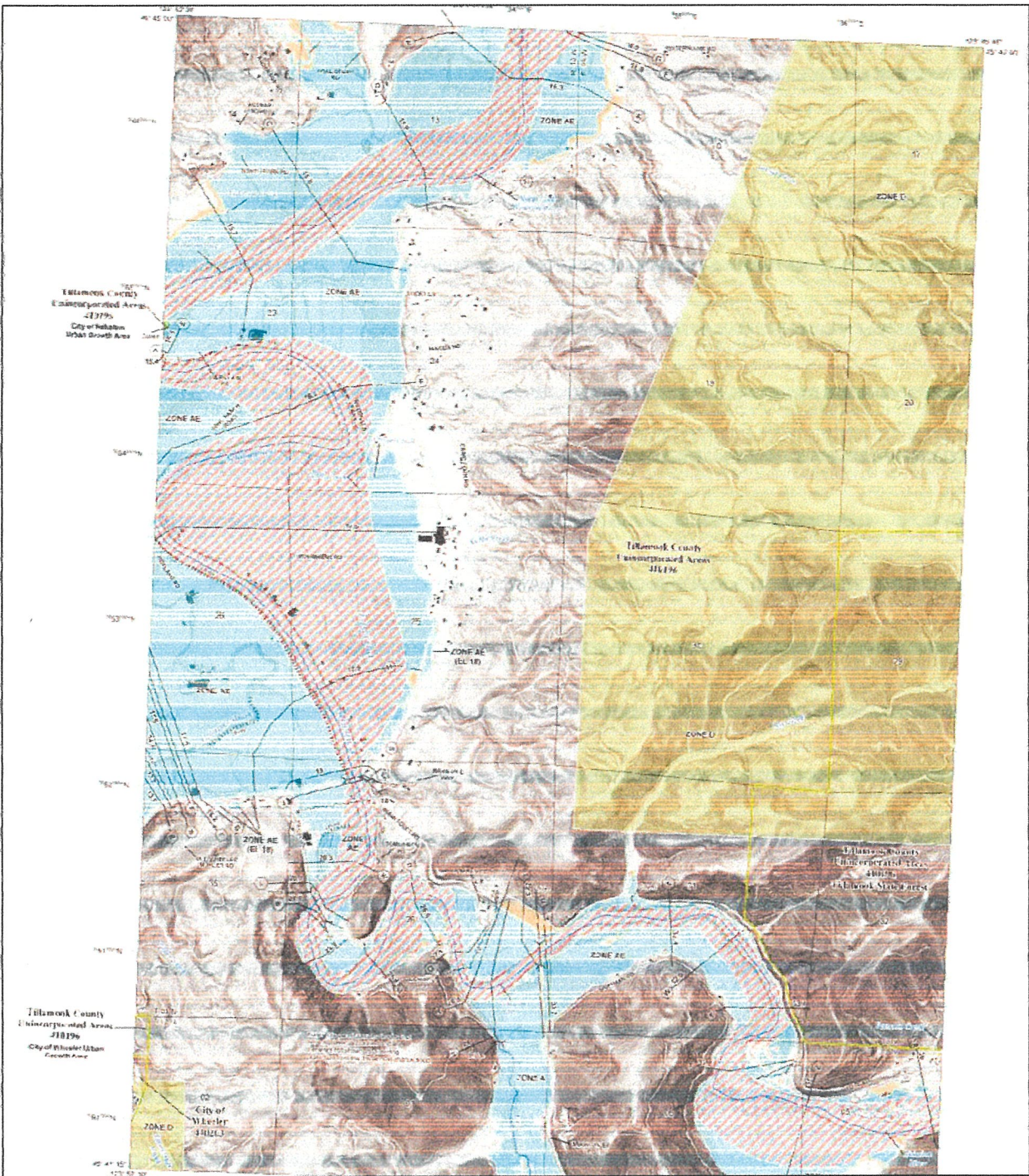
FIGURE 1: SITE LOCATION MAP

DATE
NOVEMBER 2022

SCALE
1" = 1 mile

PROJECT NO.
XX-XX-XXXX

FIGURE
1



FLOOD HAZARD INFORMATION

FOR FURTHER INFORMATION, VISIT www.fema.gov OR CONTACT FEMA AT 1-800-425-5847.

SPERMATIC ZONES

- Zone AE: Special Flood Hazard Area (SFHA) - 1% Annual Chance Flood
- Zone AC: Special Flood Hazard Area (SFHA) - 1% Annual Chance Flood
- Zone U: Special Flood Hazard Area (SFHA) - 1% Annual Chance Flood
- Zone X: Special Flood Hazard Area (SFHA) - 1% Annual Chance Flood

BOUNDARIES

- City of Wheeler Urban Growth Area
- City of Tillamook Urban Growth Area
- City of Estacada Urban Growth Area
- City of Wheeler 41173
- Tillamook County Unincorporated Areas 41176
- Tillamook County Unincorporated Areas 41179
- City of Wheeler Urban Growth Area
- City of Tillamook Urban Growth Area
- City of Estacada Urban Growth Area

NOTES TO USERS

This map was prepared using the latest available data and is intended for informational purposes only. It is not intended to be used for engineering or other professional purposes. The user assumes all responsibility for the use of this map.

FEMA
National Flood Insurance Program

TILLAMOOK COUNTY, OREGON
June 23, 2022

COMPANY **DATE** **SCALE**

1" = 2,000'

SCALE

0 1,000 2,000
Feet

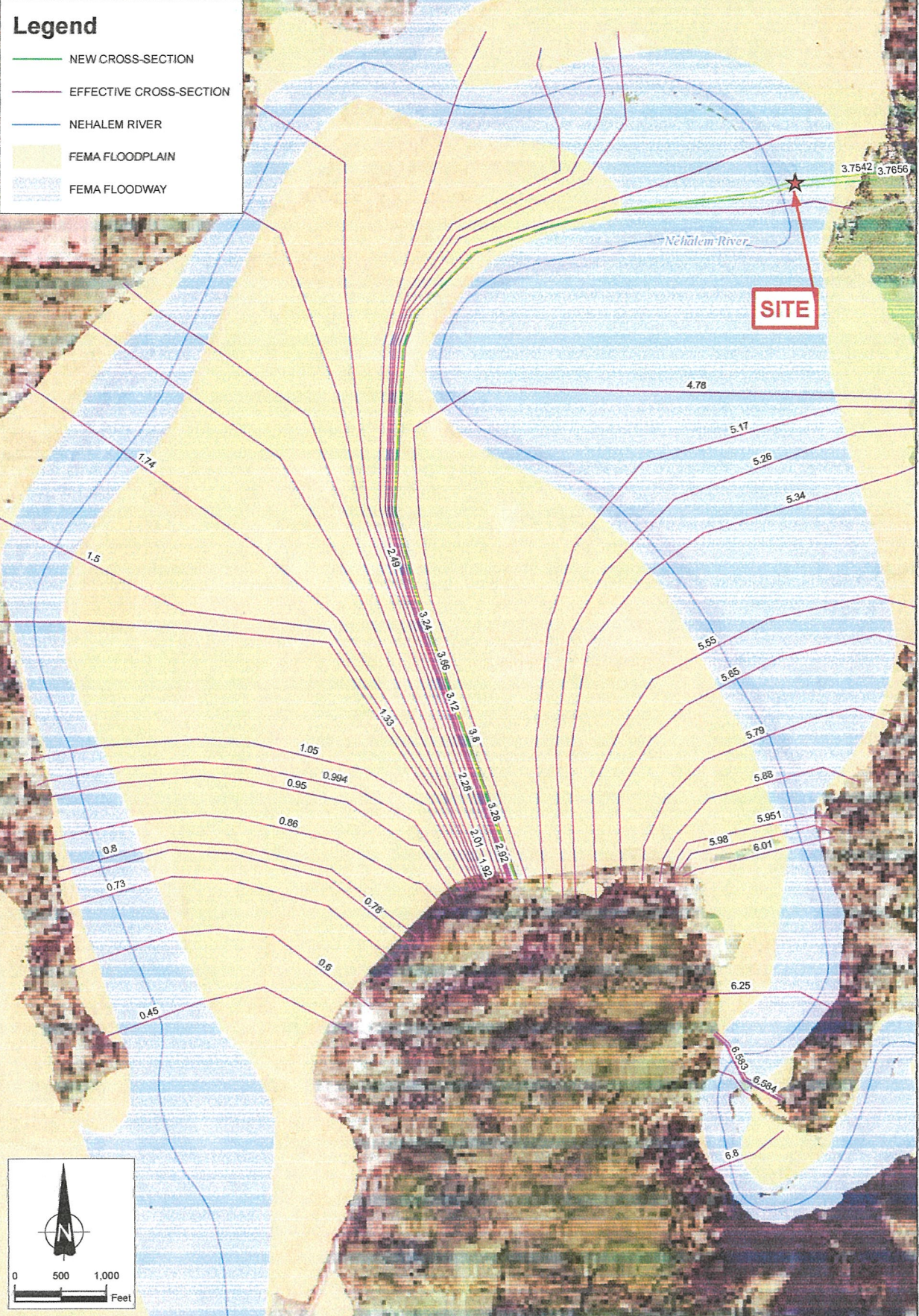
DATE
NOVEMBER 2022

SCALE
1" = 2,000'

PROJECT NO.
X-XX-XXXX-XX

FIGURE
2

<p>TRENT AND KELLIE DAVIS PROPERTY</p>	<p>NO-RISE ANALYSIS NEHALEM RIVER AT MCDONALD DIKE ROAD</p>	
<p>CASCADE WATER RESOURCES, LLC</p>	<p>FIGURE 2: EXISTING FLOOD INSURANCE RATE MAP (FIRM) FOR PROJECT SITE PANEL 41057C0230F</p>	



<p>TRENT AND KELLIE DAVIS PROPERTY</p>		<p>NO-RISE ANALYSIS NEHALEM RIVER AT MCDONALD DIKE ROAD</p>	<p>DATE NOVEMBER 2022</p> <p>SCALE 1" = 1,000'</p>
<p>CASCADE WATER RESOURCES, LLC</p>		<p>FIGURE 3 - HYDRAULIC MODEL WORK MAP</p>	<p>PROJECT NO. X-XX-XXXX-XX</p> <p>FIGURE 3</p>



Figure 4 - FEMA FIRMette

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

Without Base Flood Elevation (BFE)
Zone A, V, A99

With BFE or Depth *Zone AE, AO, AH, VE, AR*

Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*

Future Conditions 1% Annual Chance Flood Hazard *Zone X*

Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*

Area with Flood Risk due to Levee *Zone D*

OTHER AREAS

NO SCREEN

Area of Minimal Flood Hazard *Zone X*

Effective LOMRs

Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES

Channel, Culvert, or Storm Sewer

Levee, Dike, or Floodwall

OTHER FEATURES

Cross Sections with 1% Annual Chance Water Surface Elevation

Coastal Transect

Base Flood Elevation Line (BFE)

Limit of Study

Jurisdiction Boundary

Coastal Transect Baseline

Profile Baseline

Hydrographic Feature

MAP PANELS

Digital Data Available

No Digital Data Available

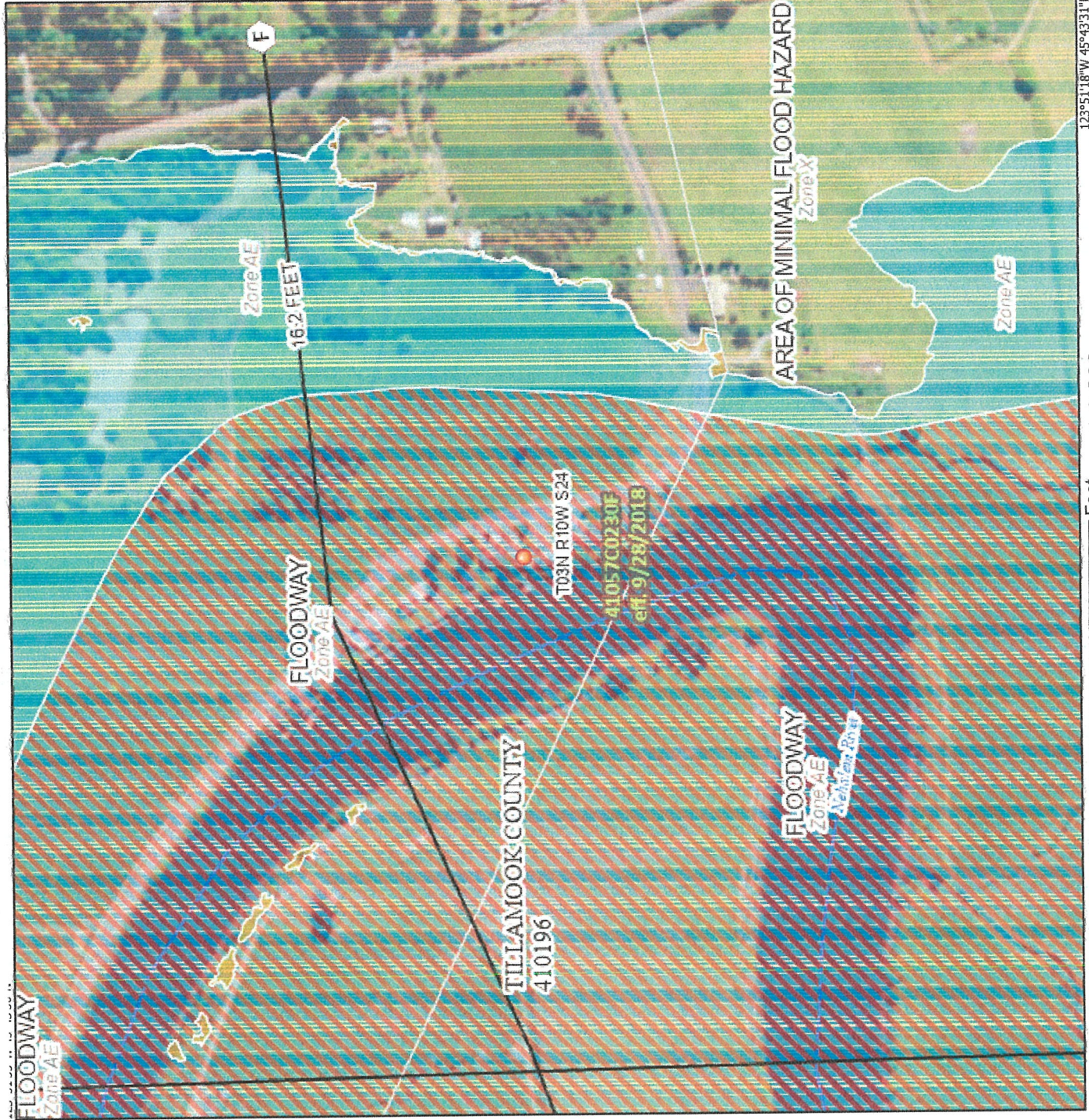
Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/27/2021 at 4:11 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



0 250 500 1,000 1,500 2,000 Feet 1:6,000
Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

APPENDIX A

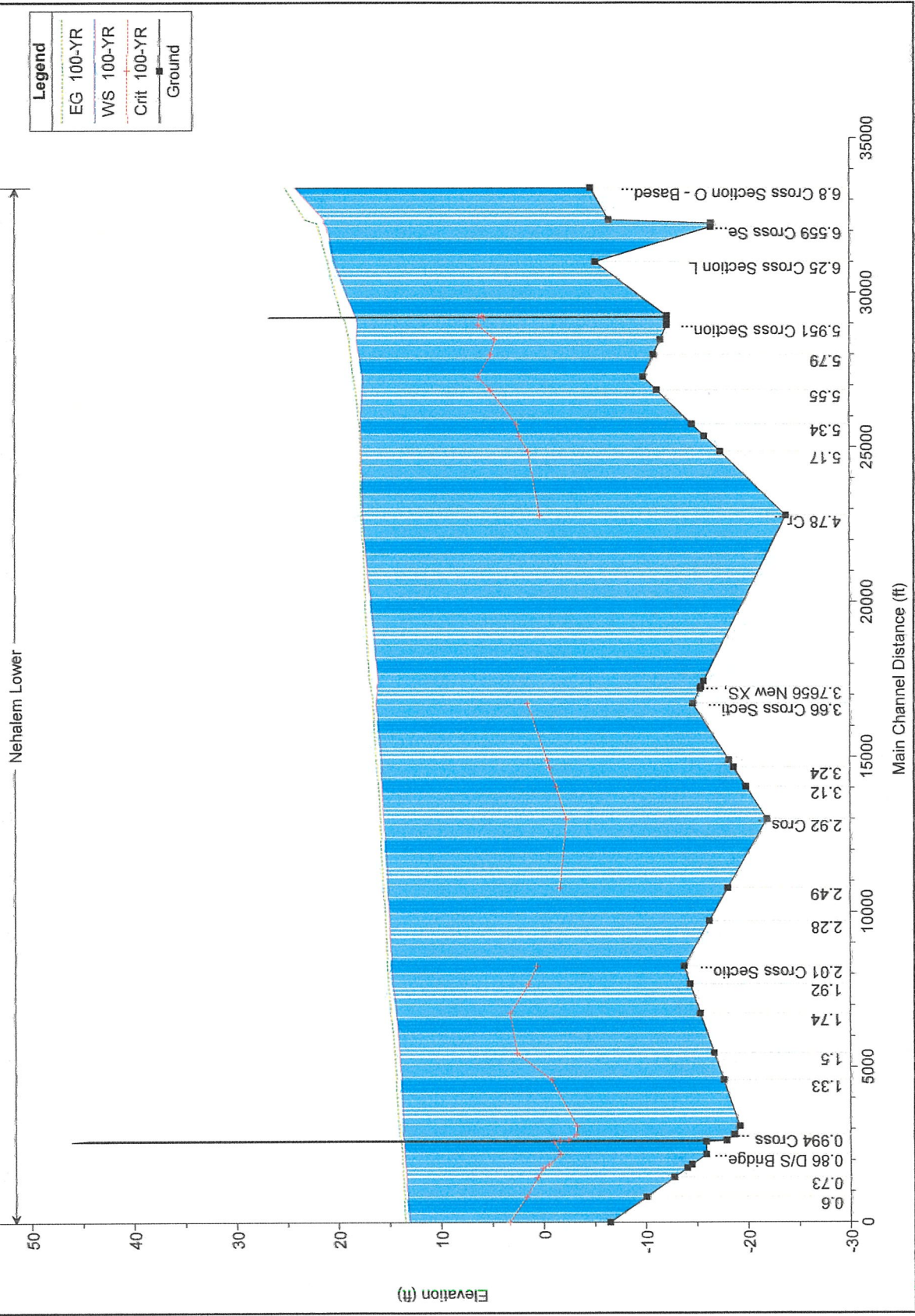
Corrected Effective / Pre-Project Conditions Hydraulic Model Output

Profile

Output Summary

Cross-Sections

Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

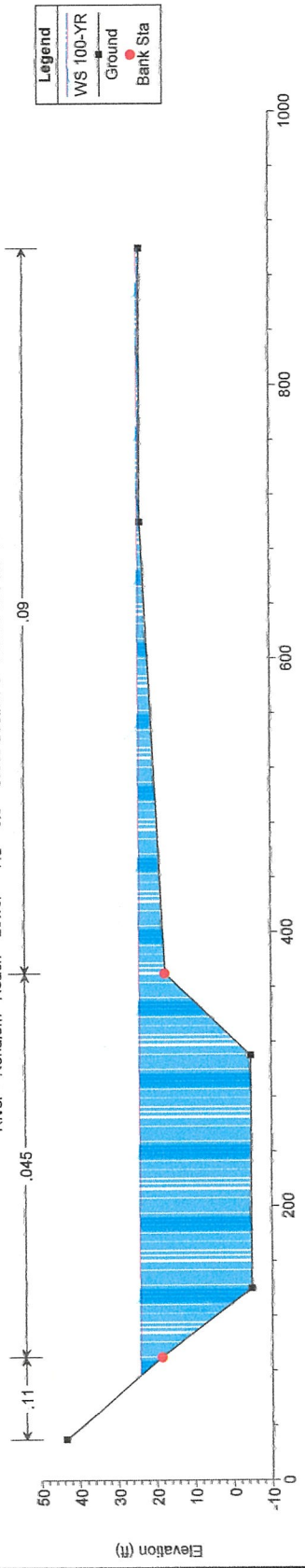


HEC-RAS Plan: Corr_Eff River: Nehalem Reach: Lower Profile: 100-YR

Reach	River Sta	Profile	Q Total (cfs)	Min CR E (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude #	Chl
Lower	6.8	100-YR	59000.00	-4.66	24.09		25.19	0.000981	8.49	8120.93	823.32	0.30	
Lower	6.61	100-YR	59000.00	-6.46	21.20		23.17	0.002661	11.25	5335.85	374.63	0.47	
Lower	6.584	100-YR	59000.00	-16.46	21.30		22.12	0.000745	7.24	8146.01	657.94	0.26	
Lower	6.583	100-YR	59000.00	-16.46	21.17		22.07	0.001092	7.61	7751.26	633.43	0.28	
Lower	6.579	100-YR	59000.00	-16.46	21.15		22.05	0.001095	7.62	7743.80	633.34	0.28	
Lower	6.578	100-YR	59000.00	-16.46	21.16		21.99	0.000600	7.29	8098.21	657.40	0.27	
Lower	6.559	100-YR	59000.00	-16.46	20.98		21.88	0.000642	7.55	7713.58	1161.53	0.28	
Lower	6.25	100-YR	59000.00	-5.16	20.33		20.91	0.000643	7.22	13893.07	1184.08	0.29	
Lower	6.01	100-YR	56700.00	-12.16	18.23	5.84	19.63	0.000538	9.49	5999.65	1340.73	0.35	
Lower	5.99	Bridge											
Lower	5.98	100-YR	54700.00	-12.16	18.06		19.25	0.000456	8.77	6245.01	1318.92	0.33	
Lower	5.951	100-YR	54700.00	-12.16	18.01	6.21	19.19	0.000507	8.72	6275.78	1429.68	0.34	
Lower	5.88	100-YR	54700.00	-11.52	18.11	4.60	18.88	0.000319	7.06	8623.08	2389.05	0.27	
Lower	5.79	100-YR	54700.00	-10.84	17.89	5.05	18.70	0.000361	7.46	10112.08	3409.98	0.29	
Lower	5.65	100-YR	54700.00	-9.86	17.53	6.25	18.41	0.000437	7.99	11569.08	4657.89	0.31	
Lower	5.55	100-YR	54700.00	-11.18	17.58	5.07	18.18	0.000284	6.70	14758.91	5541.33	0.26	
Lower	5.34	100-YR	54700.00	-14.61	17.69	2.55	17.87	0.000102	4.31	27737.78	6611.34	0.16	
Lower	5.26	100-YR	54700.00	-15.84	17.66	2.23	17.83	0.000098	4.22	29537.28	7050.75	0.15	
Lower	5.17	100-YR	54700.00	-17.37	17.64	1.38	17.77	0.000085	4.00	33451.00	7419.27	0.14	
Lower	4.78	100-YR	54700.00	-23.76	17.56	0.30	17.66	0.000071	3.63	41857.13	10506.49	0.13	
Lower	3.8	100-YR	54700.00	-15.74	16.03		16.94	0.000417	8.22	13127.95	10640.01	0.31	
Lower	3.7655	100-YR	54700.00	-16.48	16.15		16.80	0.000332	7.32	16289.90	10807.45	0.28	
Lower	3.7542	100-YR	54700.00	-15.39	16.06		16.78	0.000367	7.55	15683.24	10909.10	0.29	
Lower	3.66	100-YR	52600.00	-14.66	16.22	1.47	16.56	0.000169	5.42	23223.57	11590.21	0.20	
Lower	3.28	100-YR	52600.00	-16.19	15.79	-0.38	16.23	0.000214	5.87	17036.40	9955.88	0.22	
Lower	3.24	100-YR	52600.00	-18.62	15.75	-0.56	16.19	0.000178	5.78	17935.52	10082.66	0.21	
Lower	3.12	100-YR	52600.00	-19.83	15.68	-1.27	16.08	0.000162	5.45	18725.99	9947.19	0.20	
Lower	2.92	100-YR	52800.00	-21.86	15.53	-2.28	15.91	0.000149	5.30	20021.14	9515.87	0.19	
Lower	2.49	100-YR	52800.00	-18.06	15.15	-1.60	15.58	0.000133	5.39	17039.17	9030.33	0.19	
Lower	2.28	100-YR	52800.00	-16.24	14.95		15.42	0.000153	5.57	11800.45	8050.01	0.21	
Lower	2.01	100-YR	66400.00	-13.76	14.84	0.65	15.18	0.000129	4.68	14932.24	7786.01	0.19	
Lower	1.92	100-YR	66400.00	-14.37	14.74	1.50	15.10	0.000151	5.15	15560.50	7606.61	0.20	
Lower	1.74	100-YR	66400.00	-15.36	14.31	3.28	14.89	0.000256	6.64	13656.08	7451.94	0.26	
Lower	1.5	100-YR	66400.00	-16.69	14.04	2.57	14.54	0.000250	6.10	13180.32	7425.06	0.26	
Lower	1.33	100-YR	66400.00	-17.61	13.88	-0.79	14.35	0.000162	5.55	12351.71	6337.32	0.21	
Lower	1.05	100-YR	66700.00	-19.16	13.70	-3.17	14.12	0.000135	5.20	12996.39	5319.91	0.19	
Lower	0.994	100-YR	67000.00	-18.66	13.68	-3.15	14.06	0.000131	4.96	13691.29	4996.52	0.19	
Lower	0.95	100-YR	67000.00	-17.89	13.63	-2.40	14.03	0.000142	5.09	13390.30	4808.98	0.20	
Lower	0.92	Bridge											
Lower	0.86	100-YR	67000.00	-15.91	13.55	-1.63	13.87	0.000132	4.52	15040.76	4184.05	0.19	
Lower	0.8	100-YR	67000.00	-14.49	13.50	-0.51	13.82	0.000139	4.59	15109.85	3994.19	0.19	
Lower	0.78	100-YR	67000.00	-14.02	13.40	0.08	13.80	0.000157	5.07	14066.78	3874.91	0.21	
Lower	0.73	100-YR	67000.00	-12.75	13.36	0.59	13.75	0.000160	5.06	14091.68	3594.73	0.21	
Lower	0.6	100-YR	67000.00	-10.00	13.32	1.72	13.63	0.000147	4.49	15373.60	2975.78	0.19	
Lower	0.45	100-YR	74000.00	-6.46	13.11	3.38	13.48	0.000207	4.89	15150.11	2656.06	0.23	

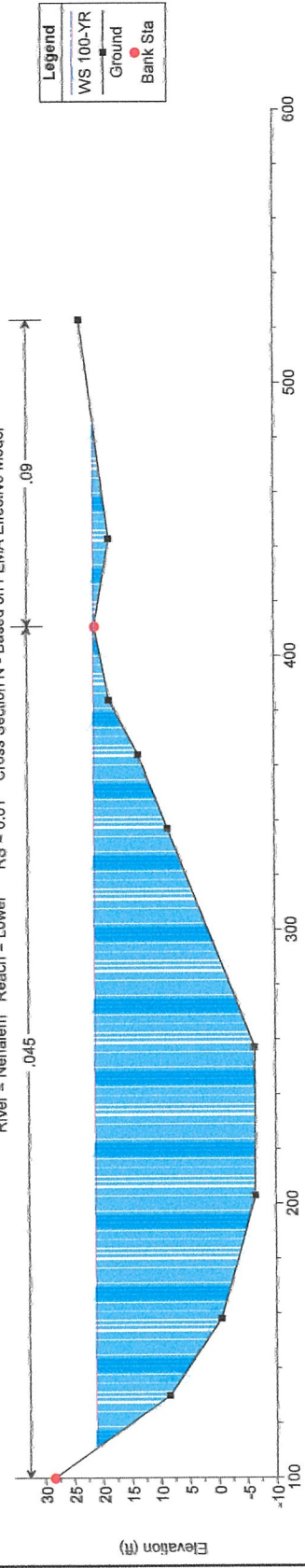
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 6.8 Cross Section O - Based on FEMA Effective Model



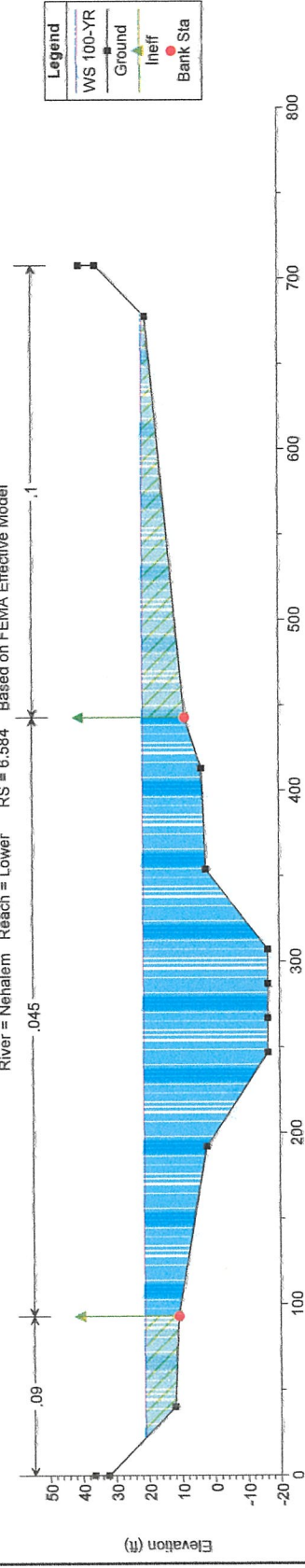
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 6.61 Cross Section N - Based on FEMA Effective Model

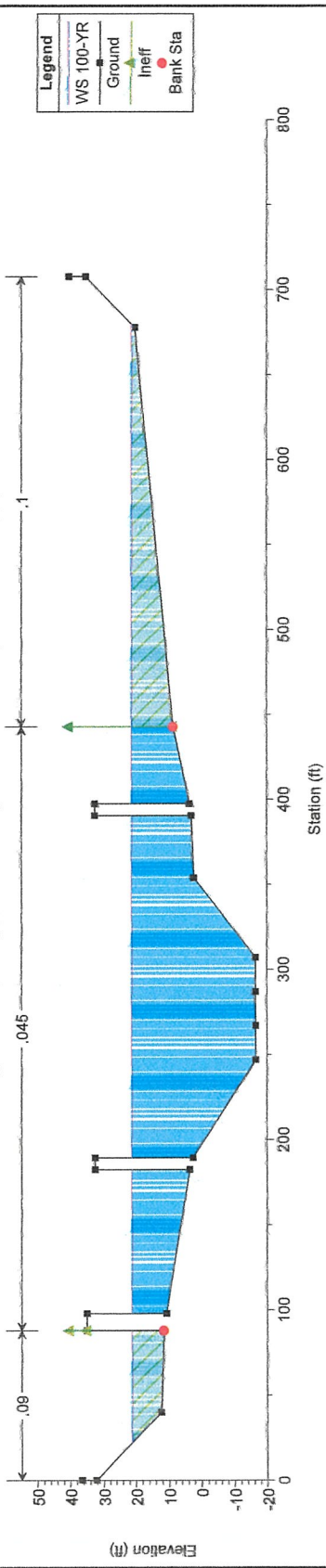


Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

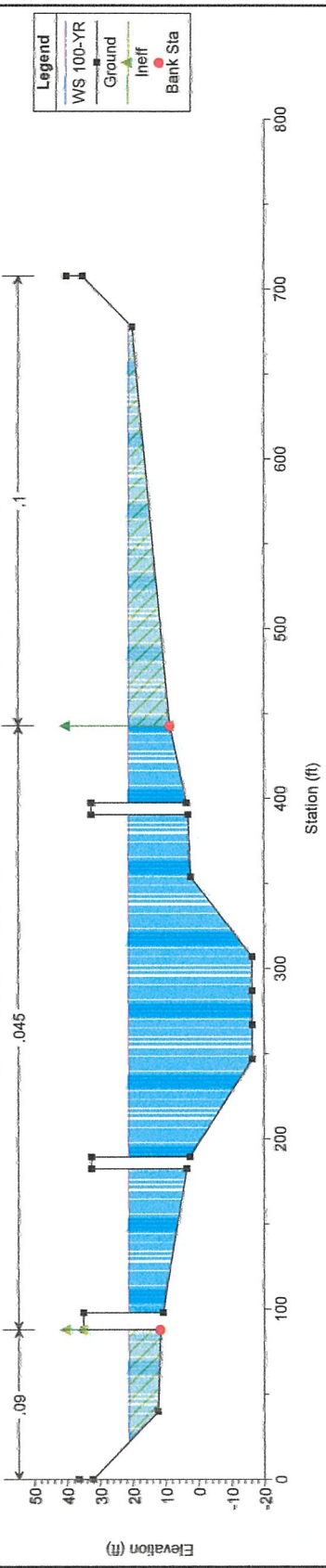
River = Nehalem Reach = Lower RS = 6.584 Based on FEMA Effective Model



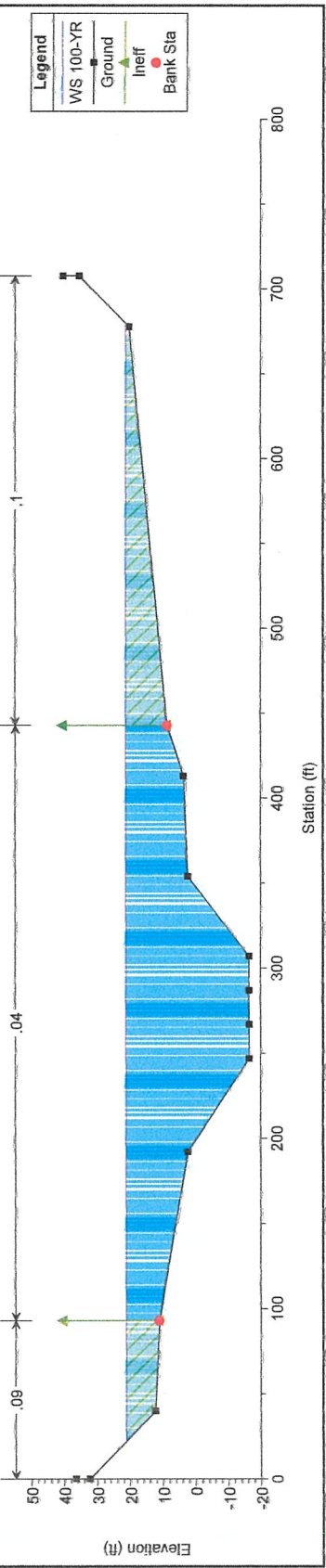
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022
 River = Nehalem Reach = Lower RS = 6.583 Based on FEMA Effective Model



Nehalem River_NoRise Plan: Corrected Effective 11/4/2022
 River = Nehalem Reach = Lower RS = 6.579 Based on FEMA Effective Model

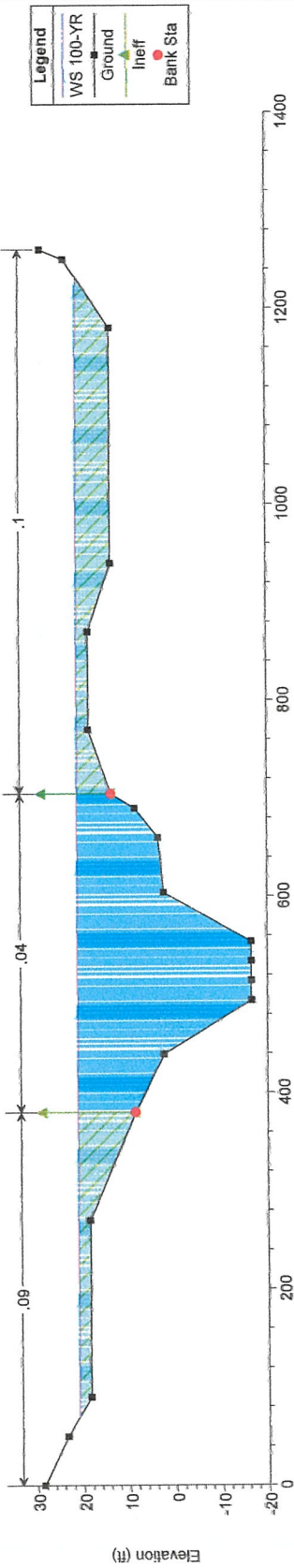


Nehalem River_NoRise Plan: Corrected Effective 11/4/2022
 River = Nehalem Reach = Lower RS = 6.578 Based on FEMA Effective Model



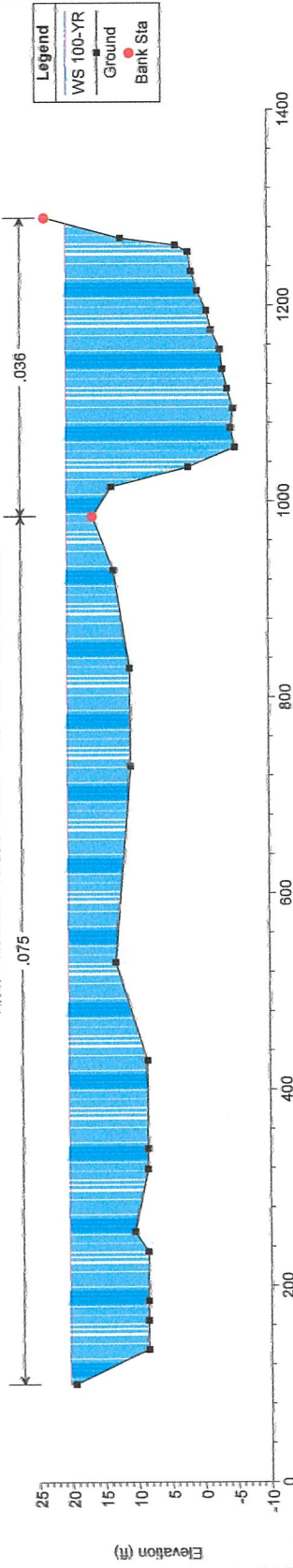
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 6.559 Cross Section M



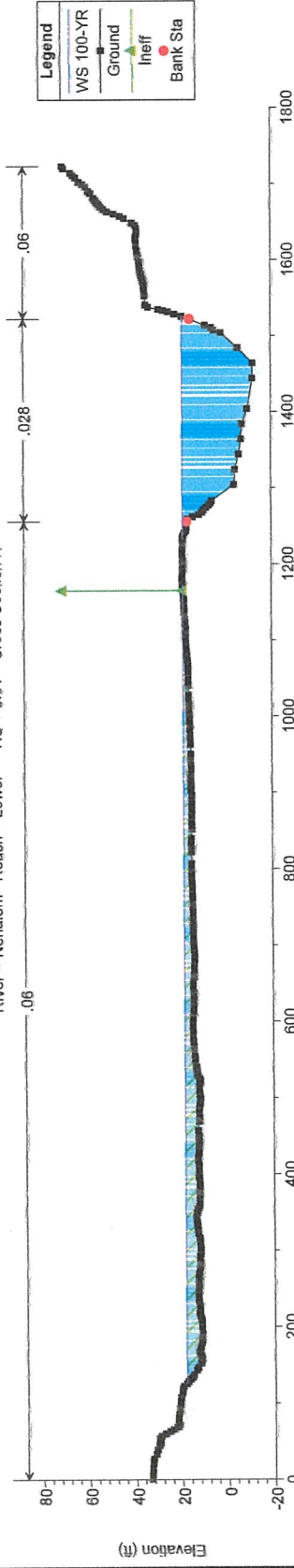
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 6.25 Cross Section L



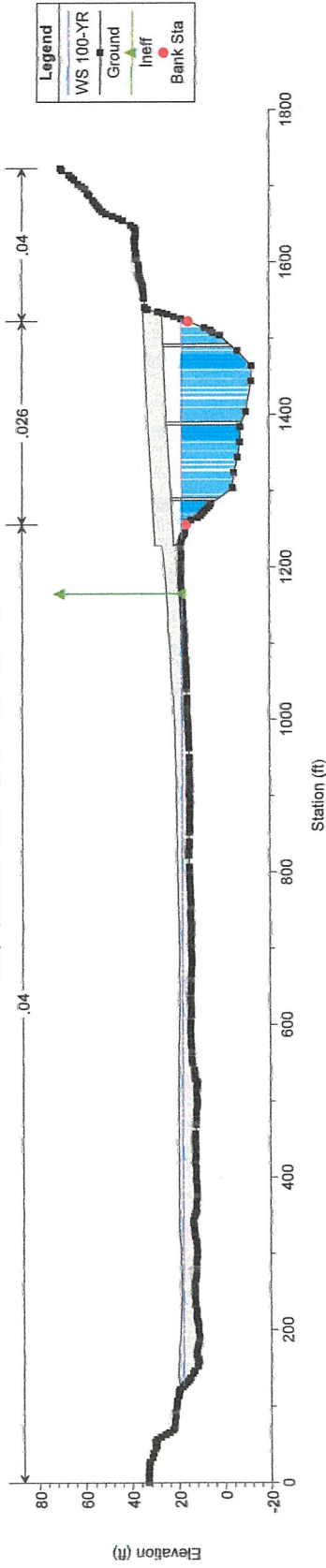
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 6.01 Cross Section K



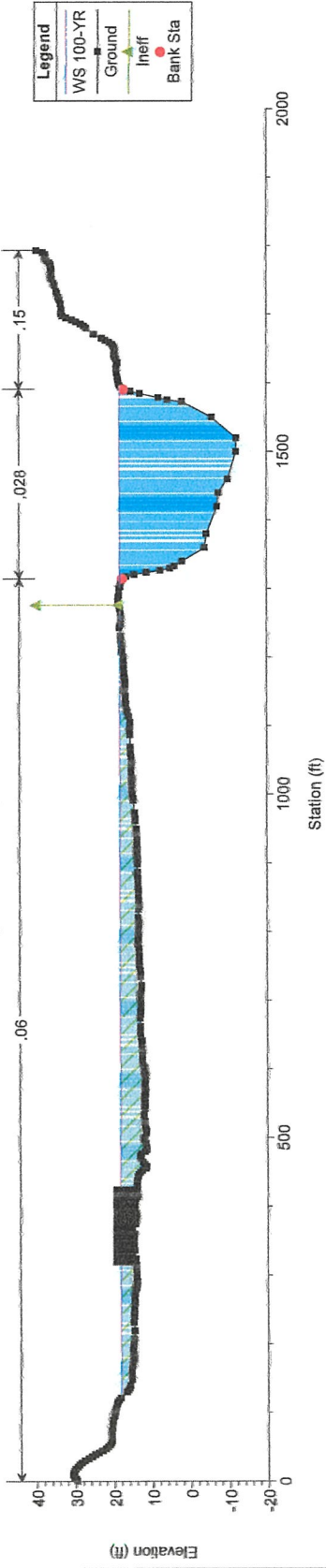
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 5.99 BR



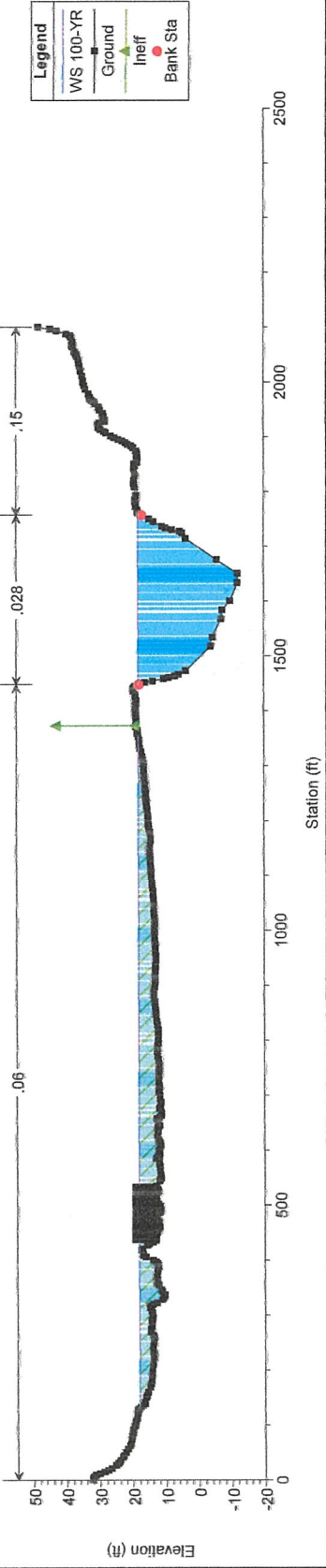
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

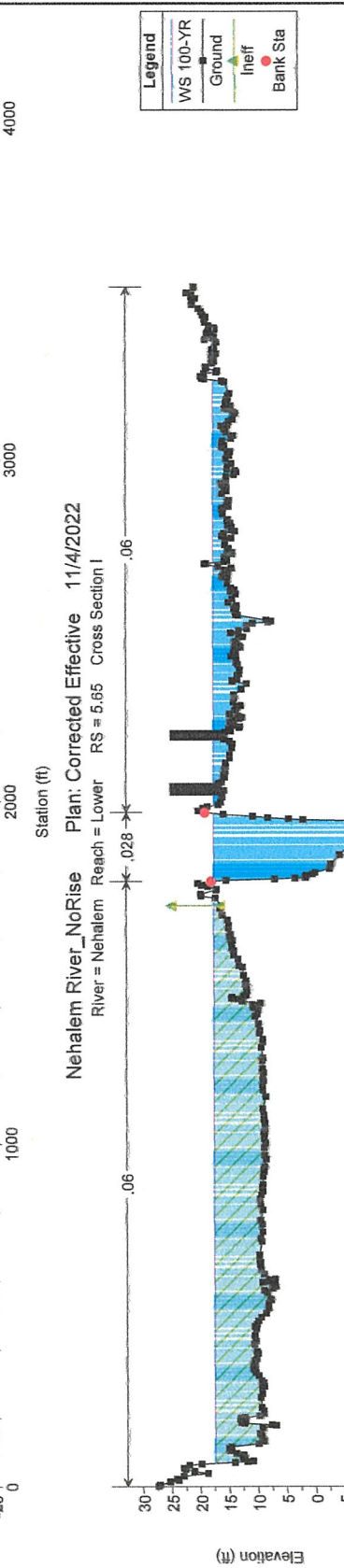
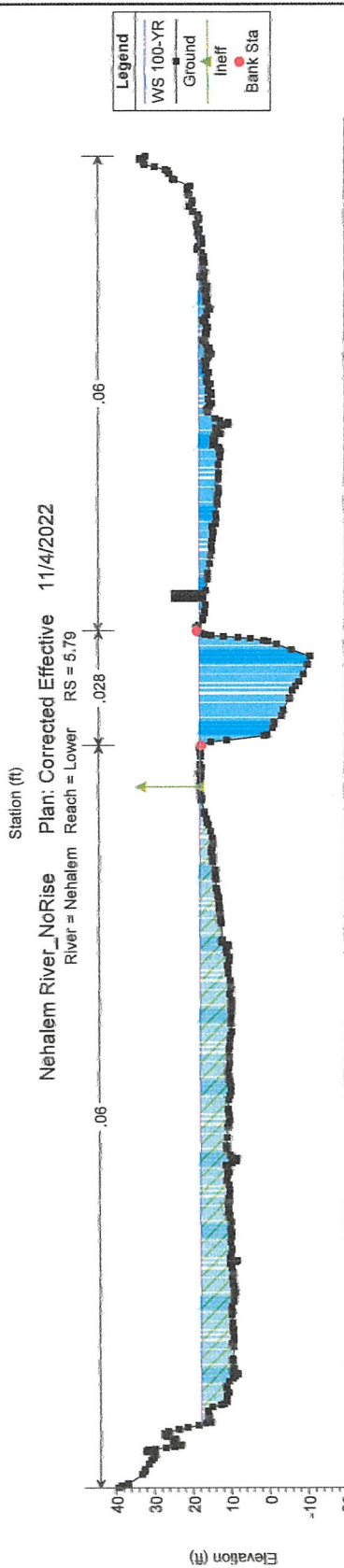
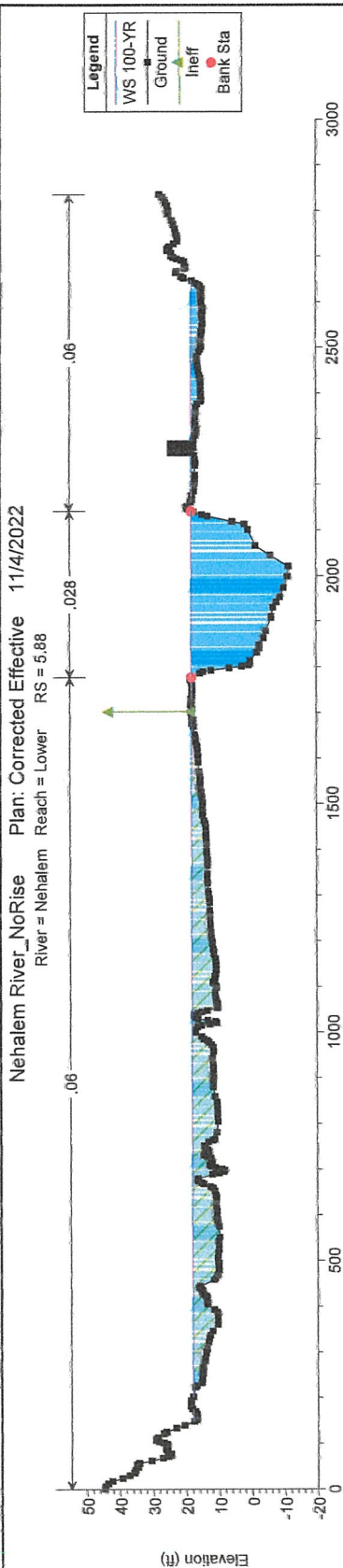
River = Nehalem Reach = Lower RS = 5.98

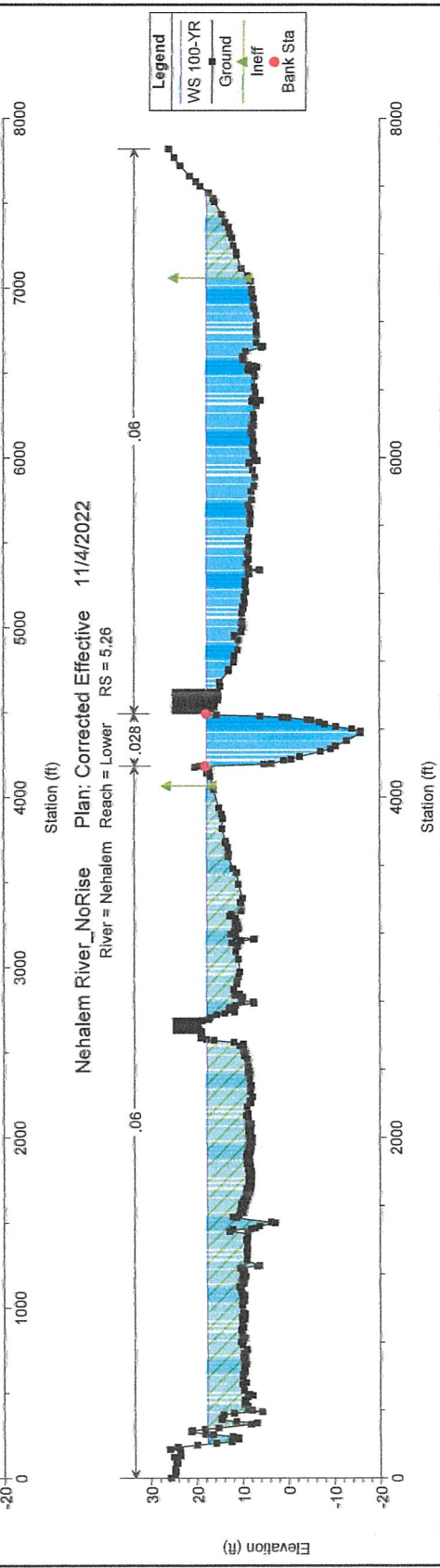
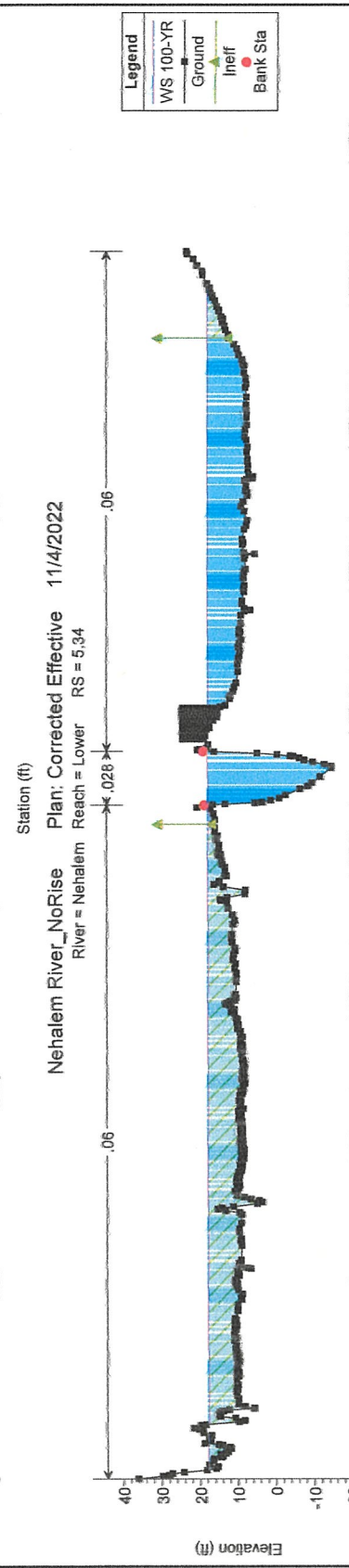
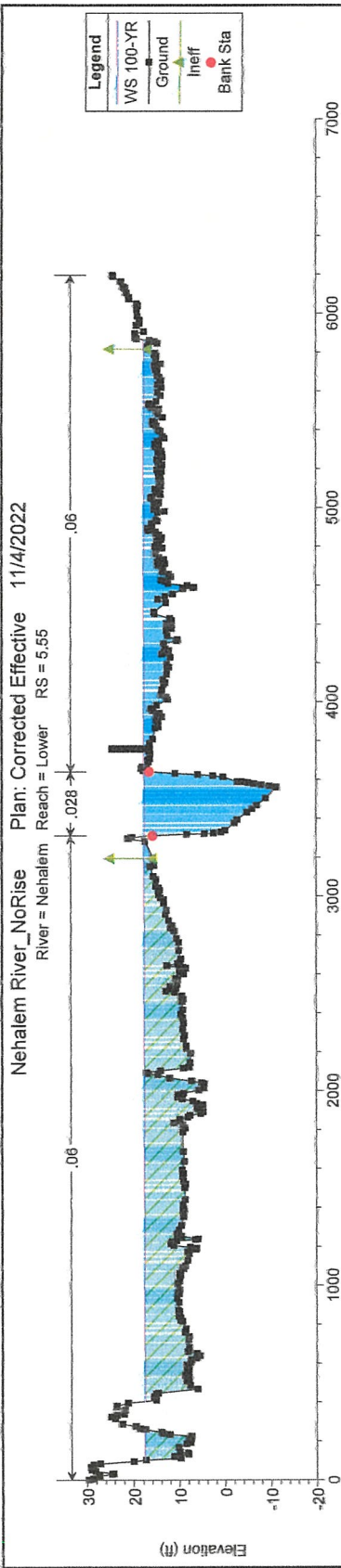


Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 5.951 Cross Section J

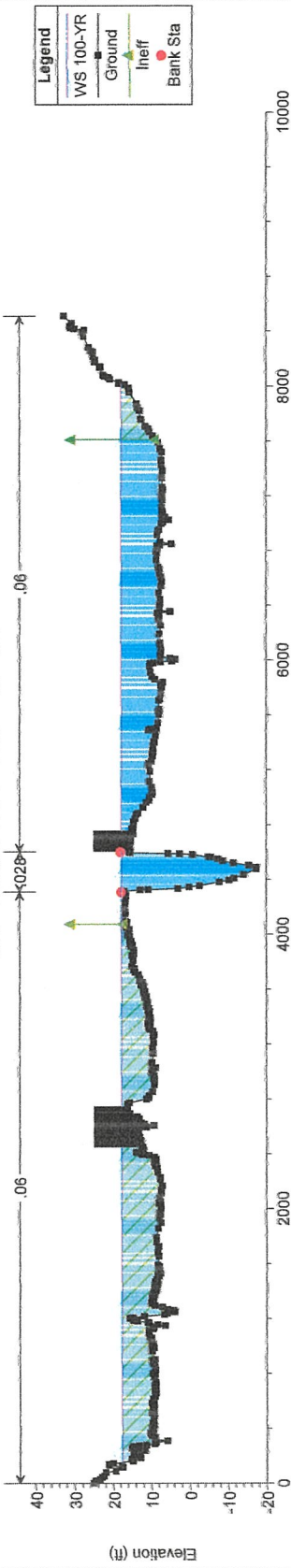






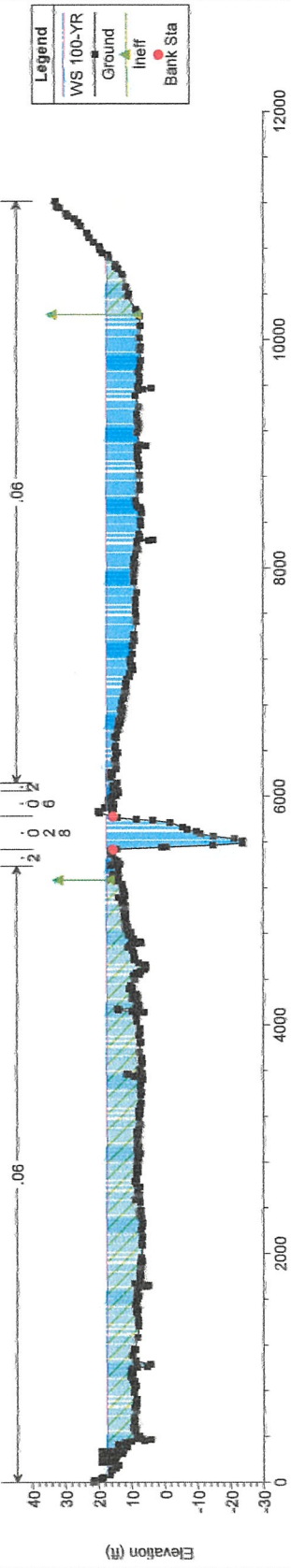
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 5.17



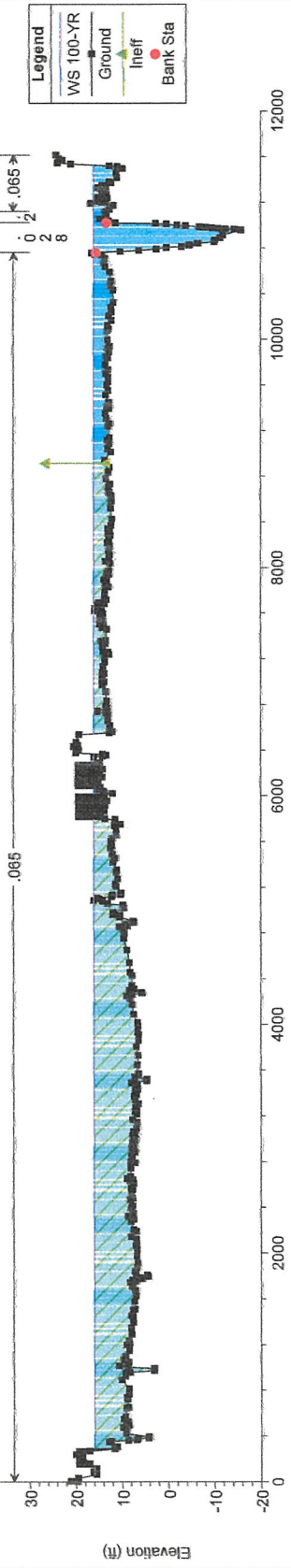
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

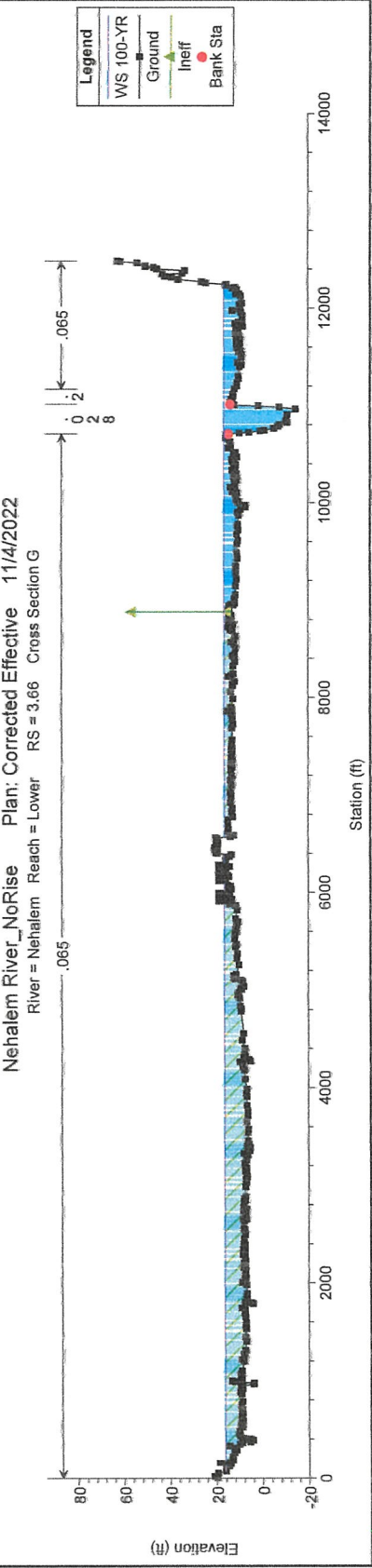
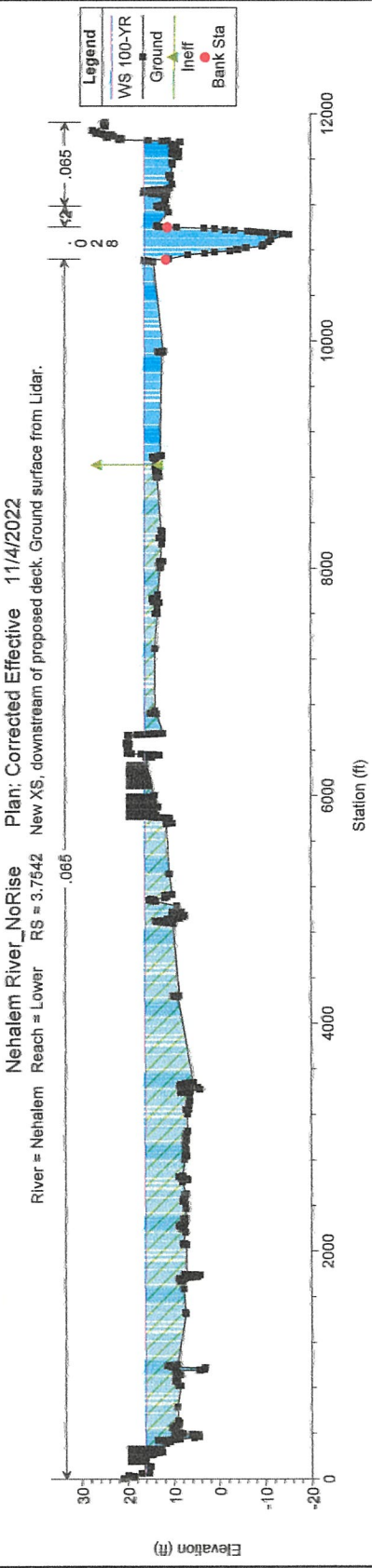
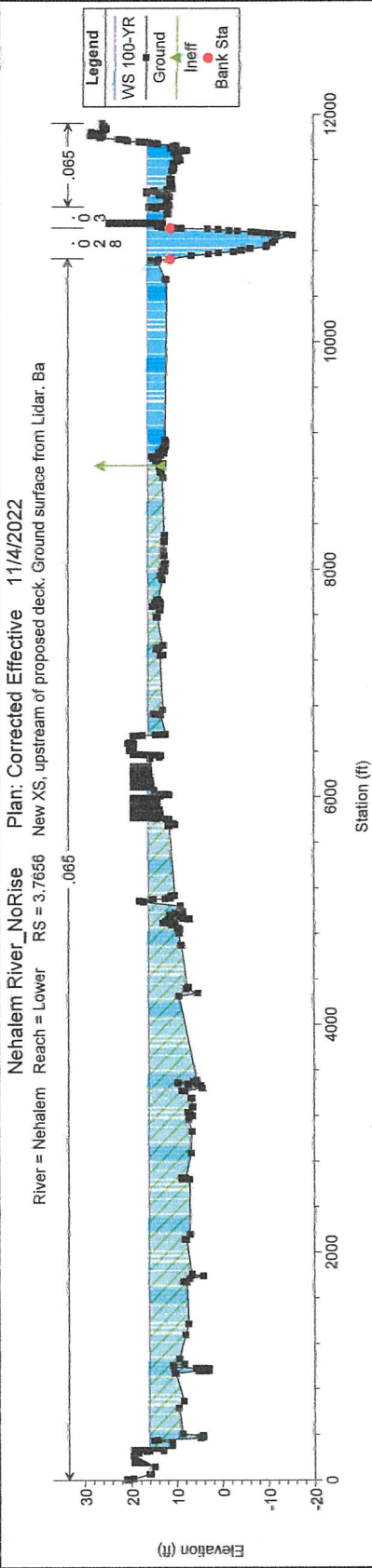
River = Nehalem Reach = Lower RS = 4.78 Cross Section H



Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

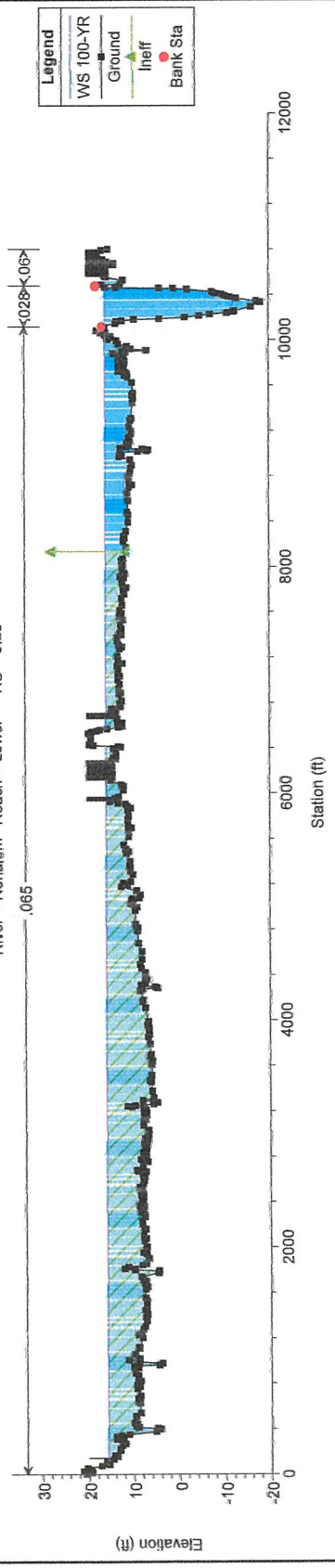
River = Nehalem Reach = Lower RS = 3.8





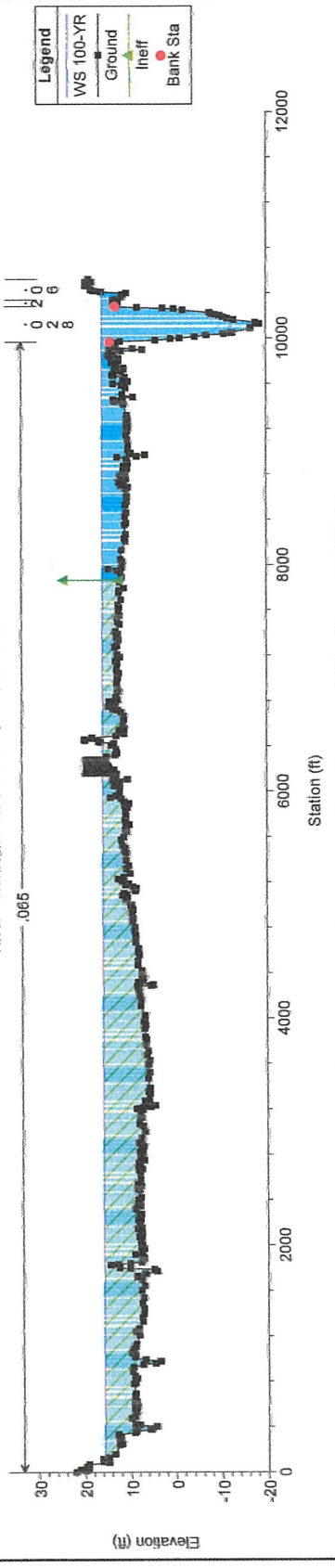
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 3.28



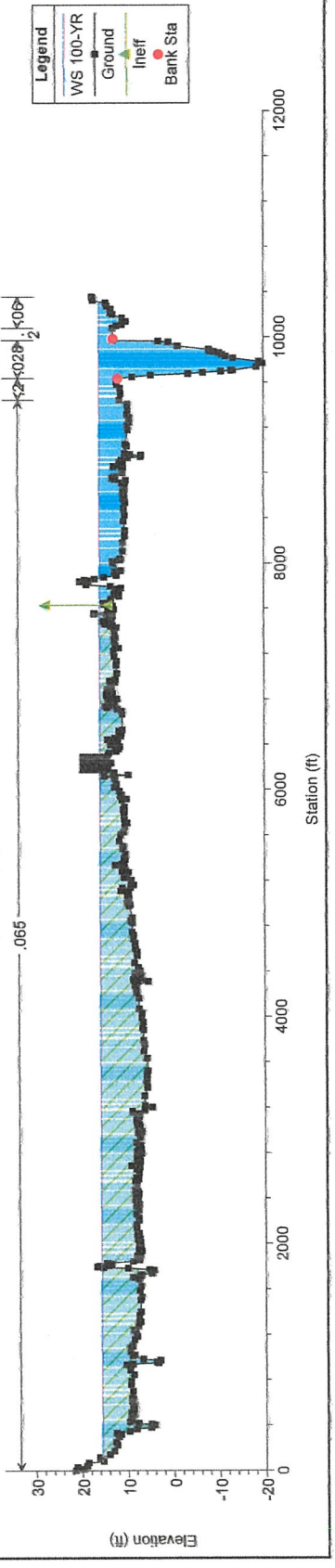
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 3.24



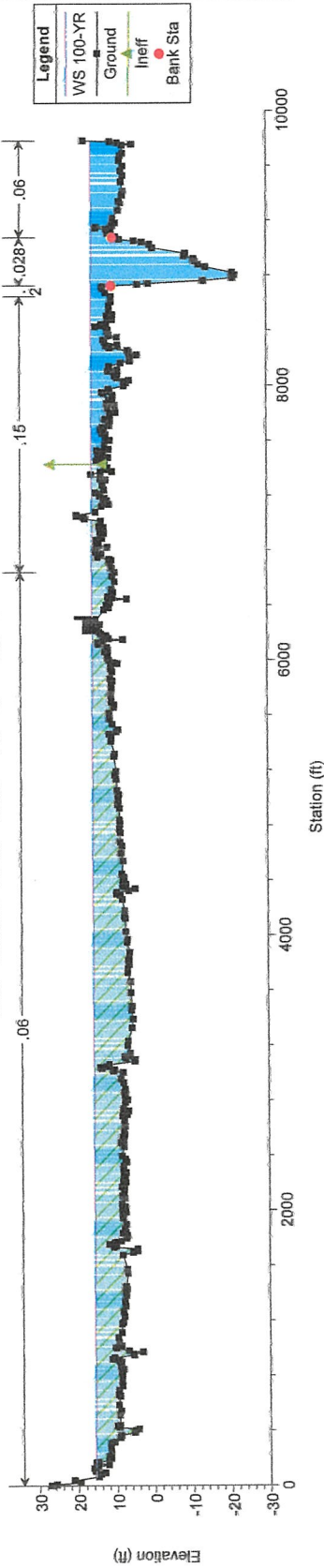
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 3.12



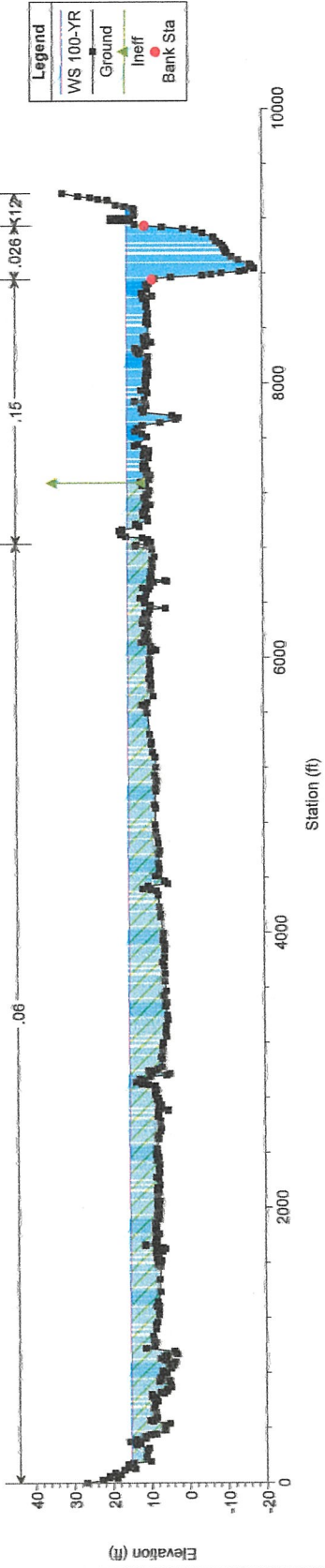
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 2,92 Cross Section F



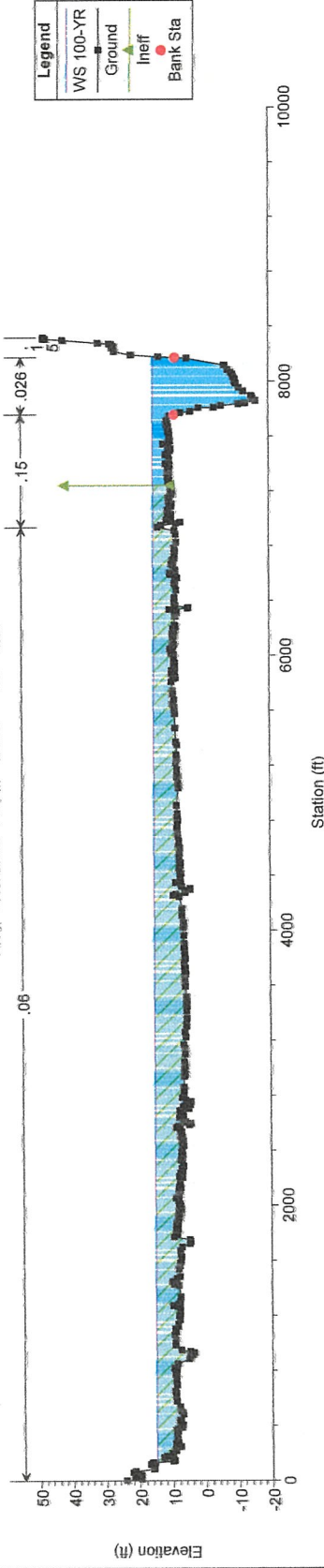
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 2,49



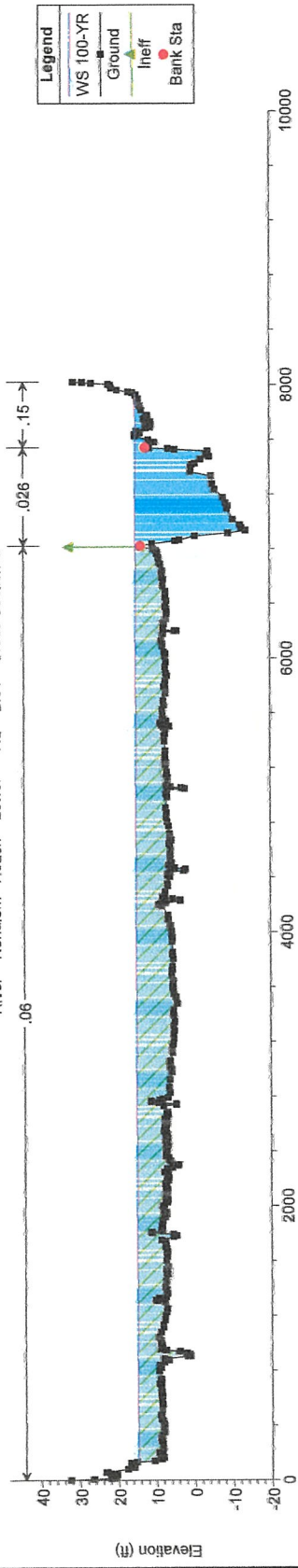
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 2,28



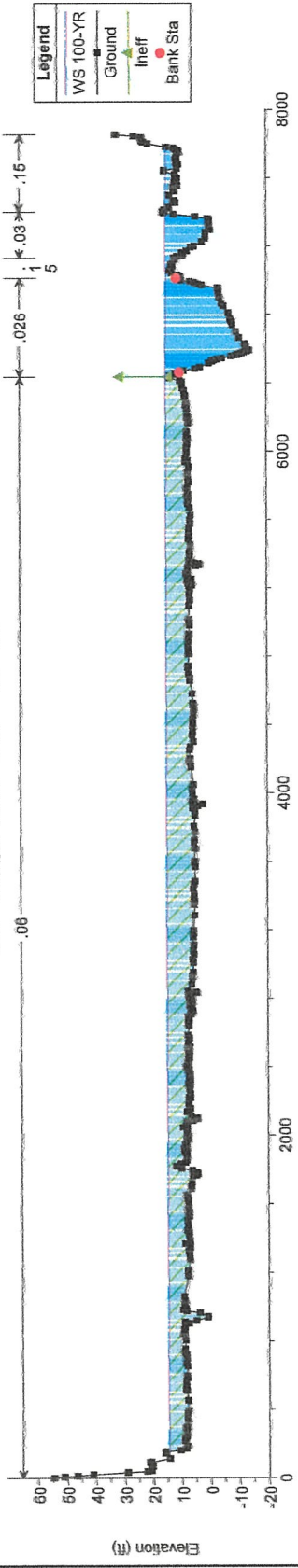
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 2.01 Cross Section E



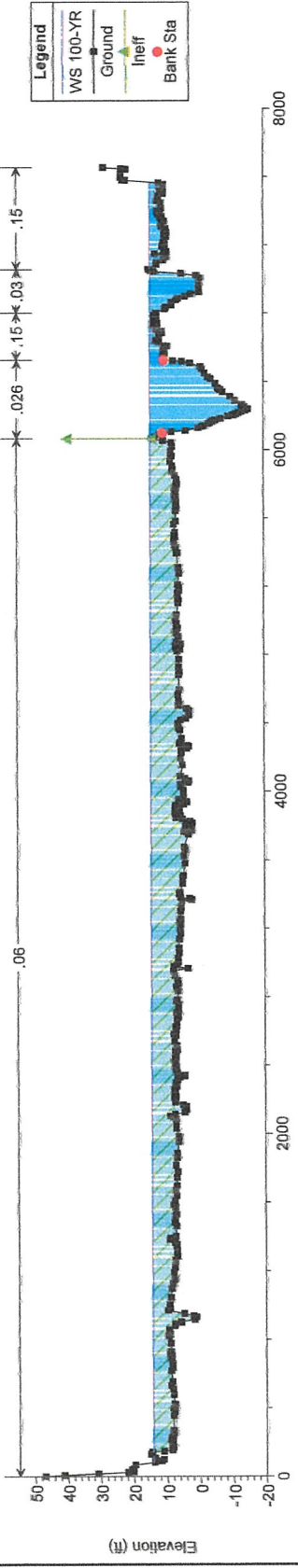
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 1.92



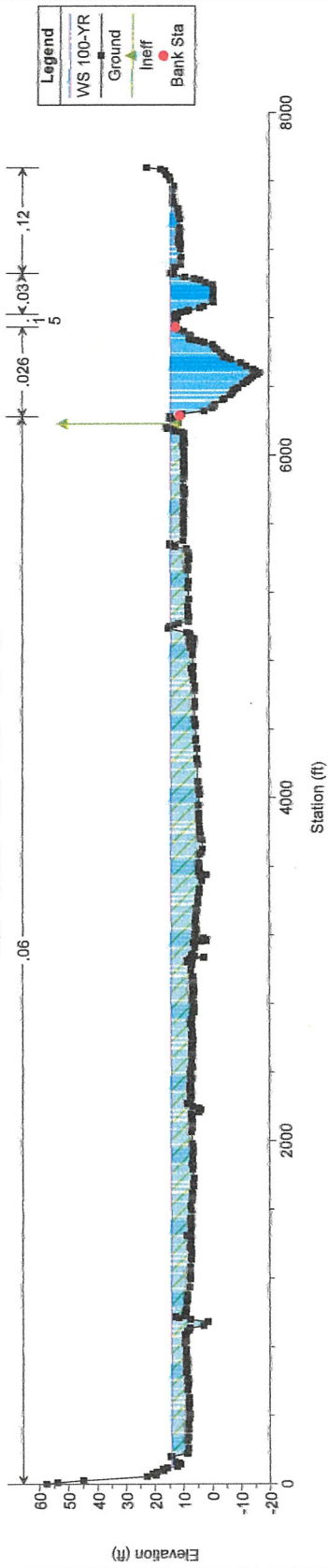
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 1.74



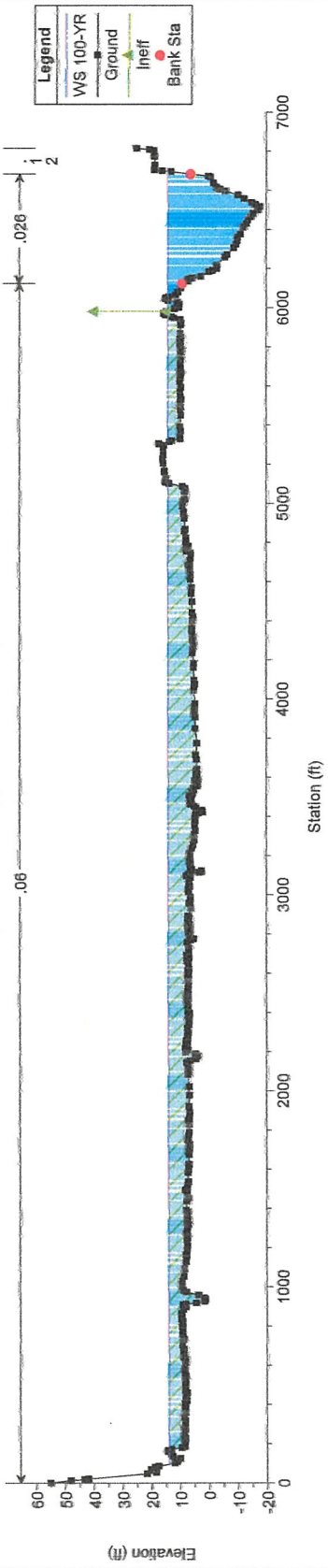
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 1,5



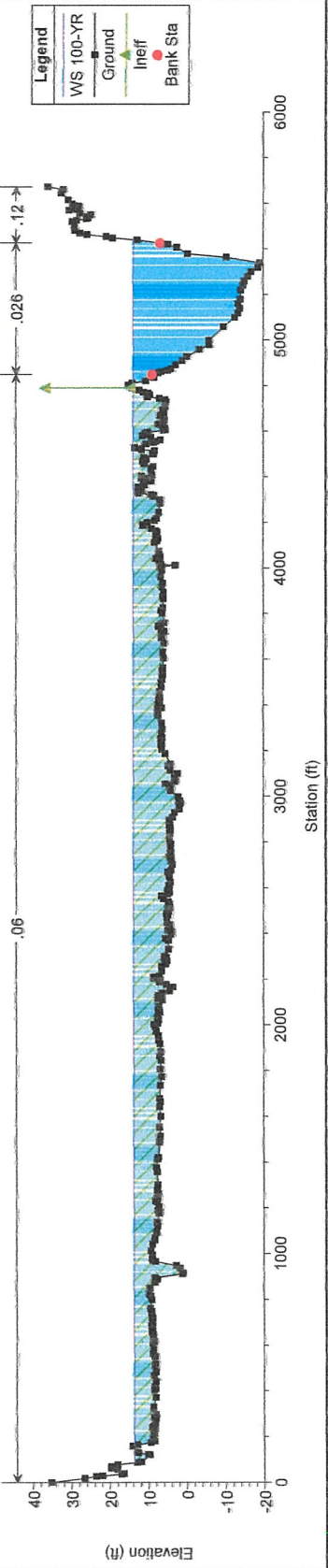
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 1,33



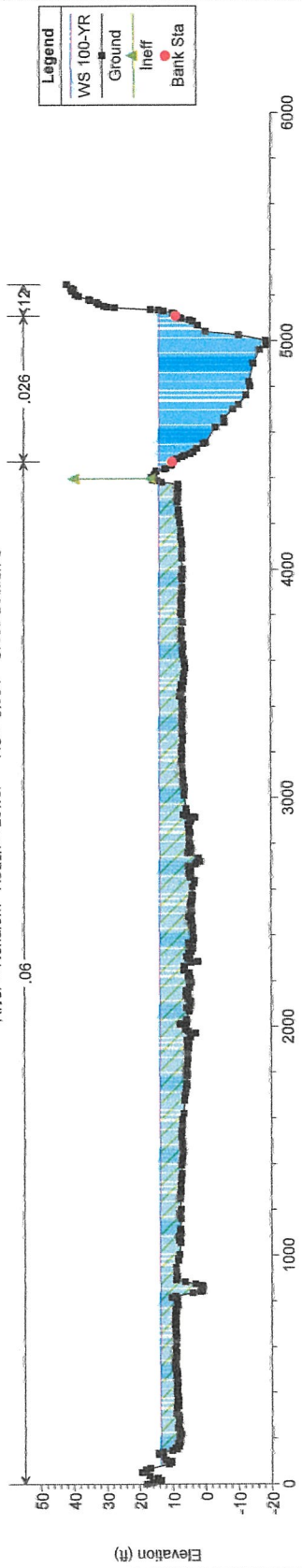
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 1,05 Cross Section D



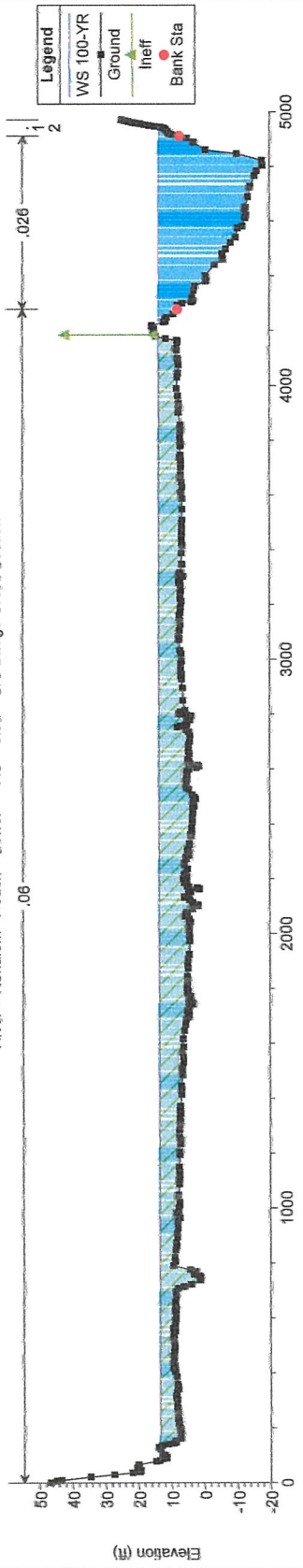
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 0.994 Cross Section C



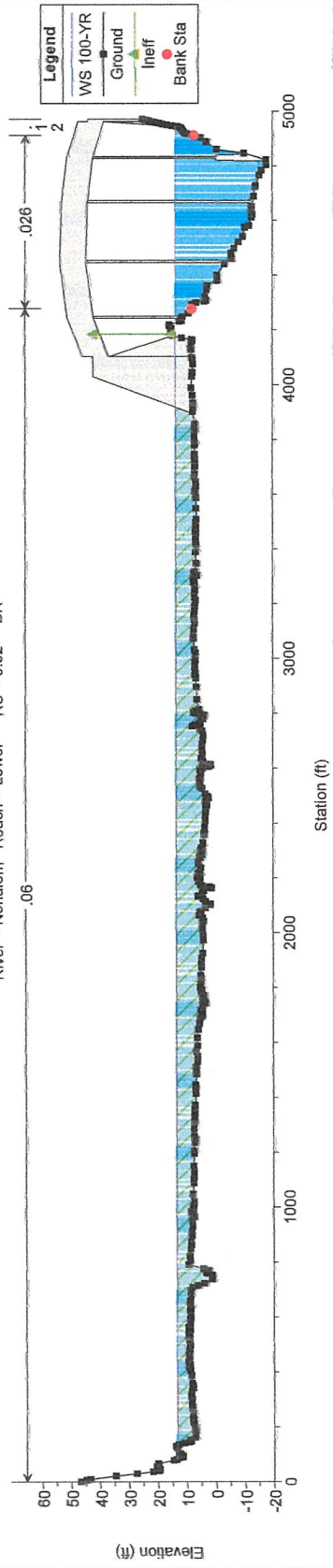
Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

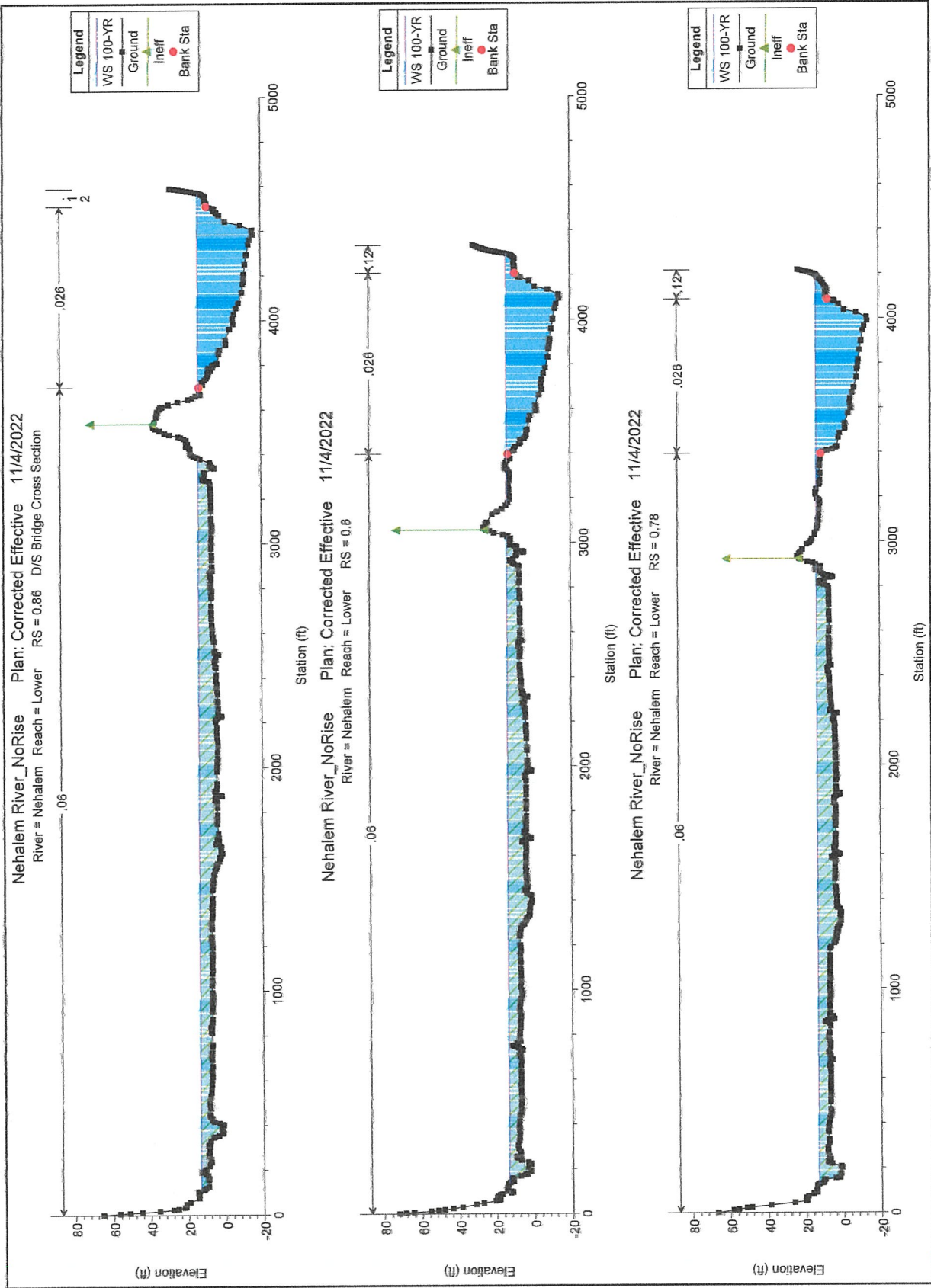
River = Nehalem Reach = Lower RS = 0.95 U/S Bridge Cross Section

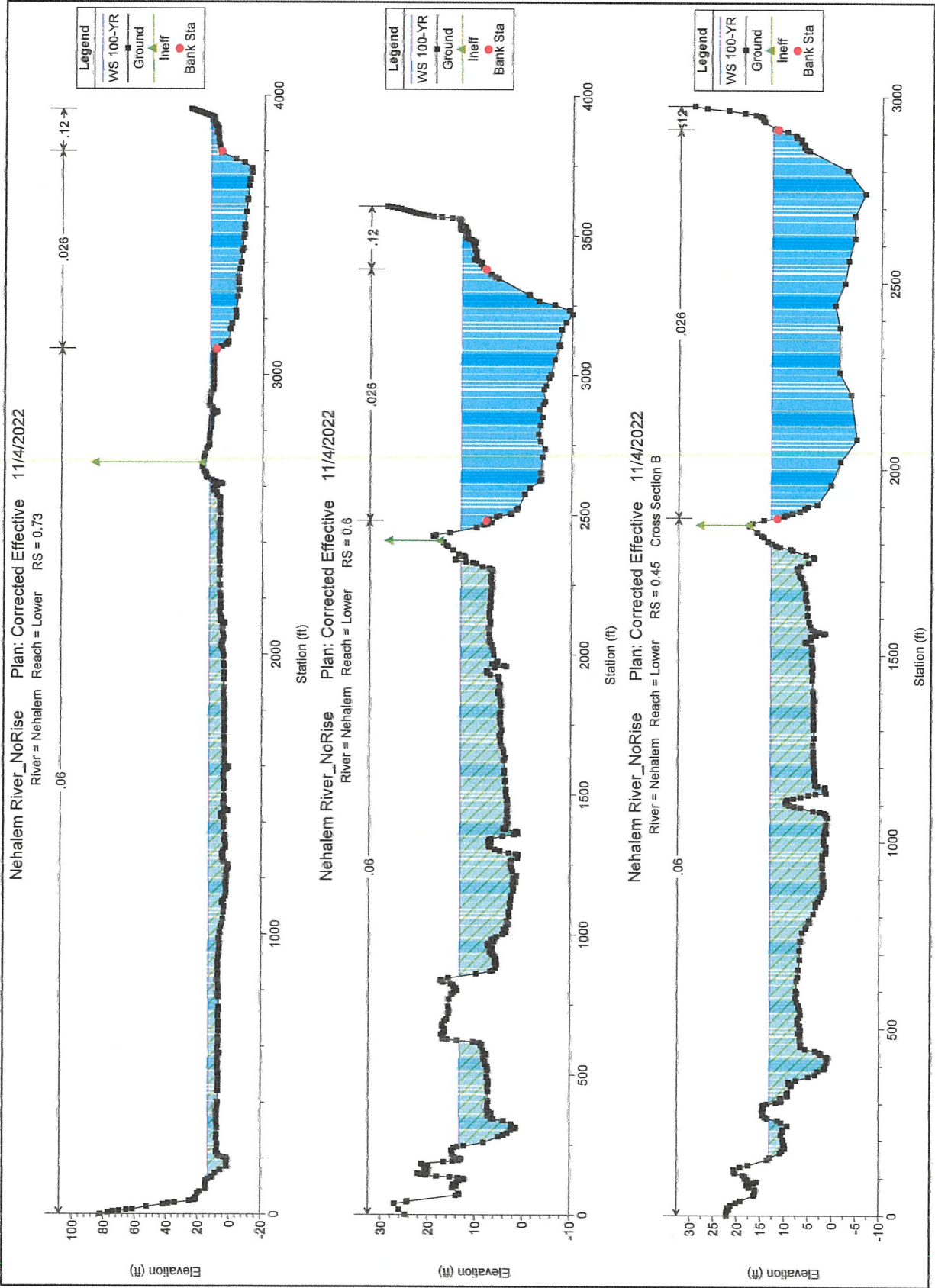


Nehalem River_NoRise Plan: Corrected Effective 11/4/2022

River = Nehalem Reach = Lower RS = 0.92 BR







APPENDIX B

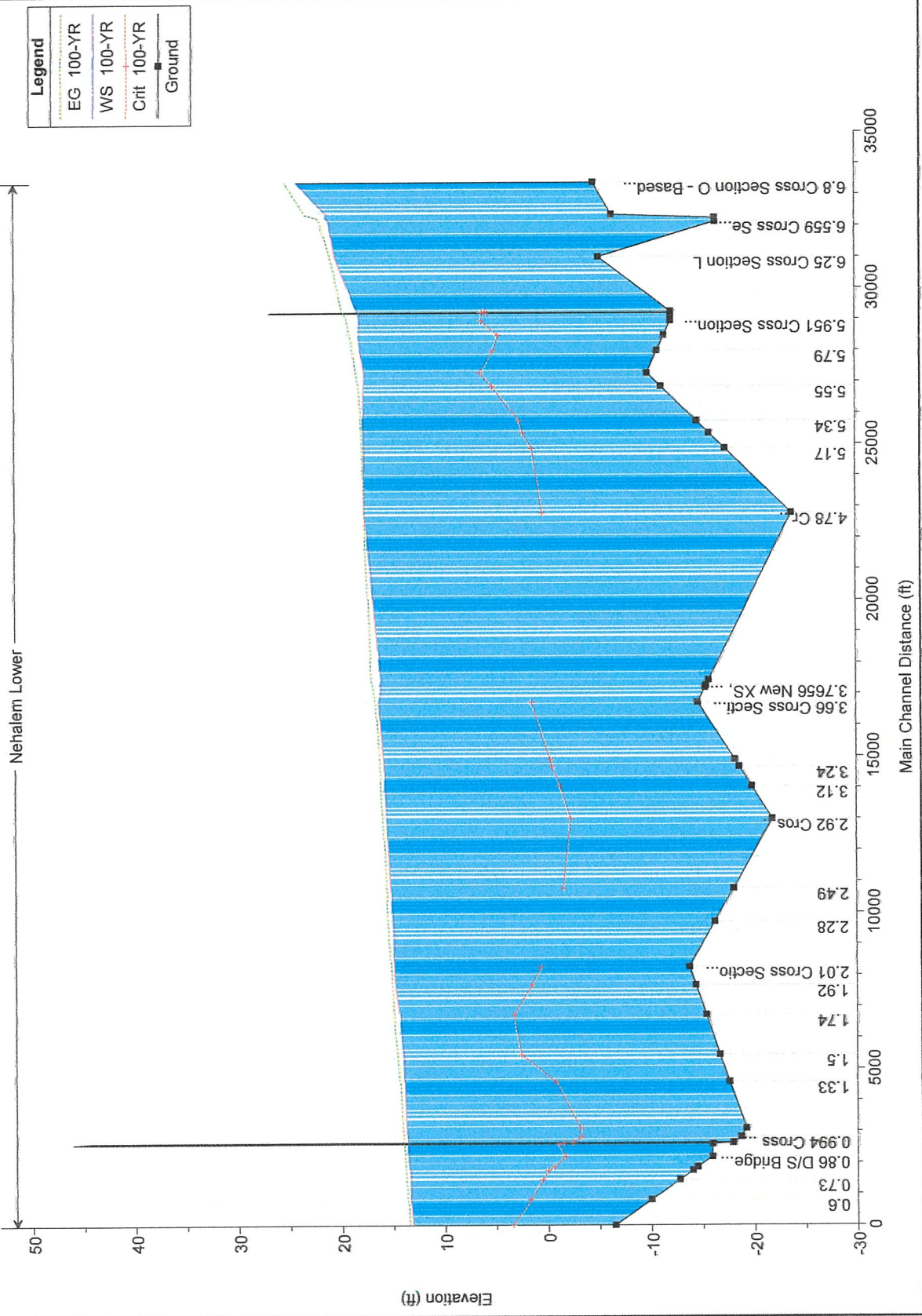
Proposed Conditions Hydraulic Model Output

Profile

Output Summary

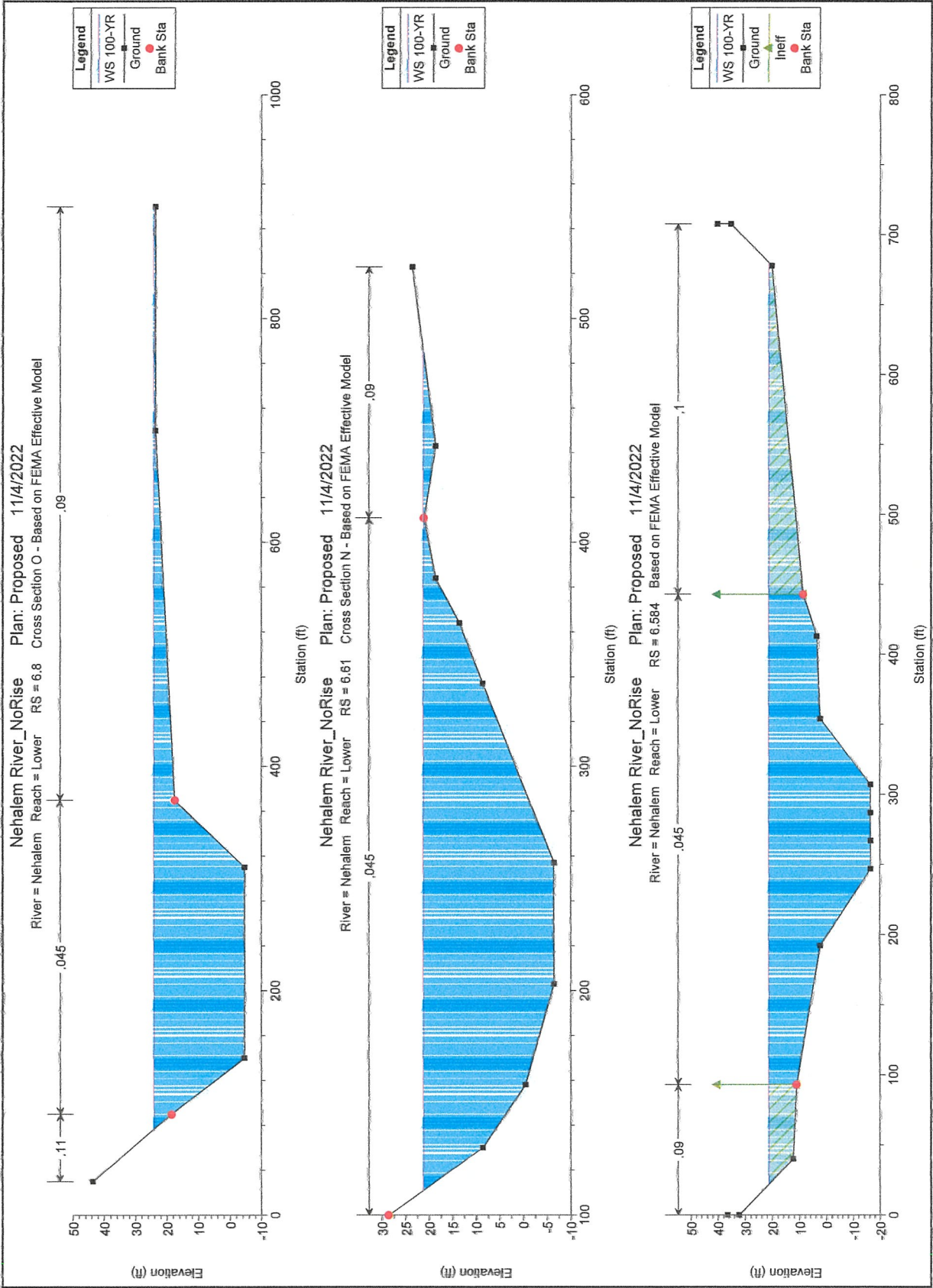
Cross-Sections

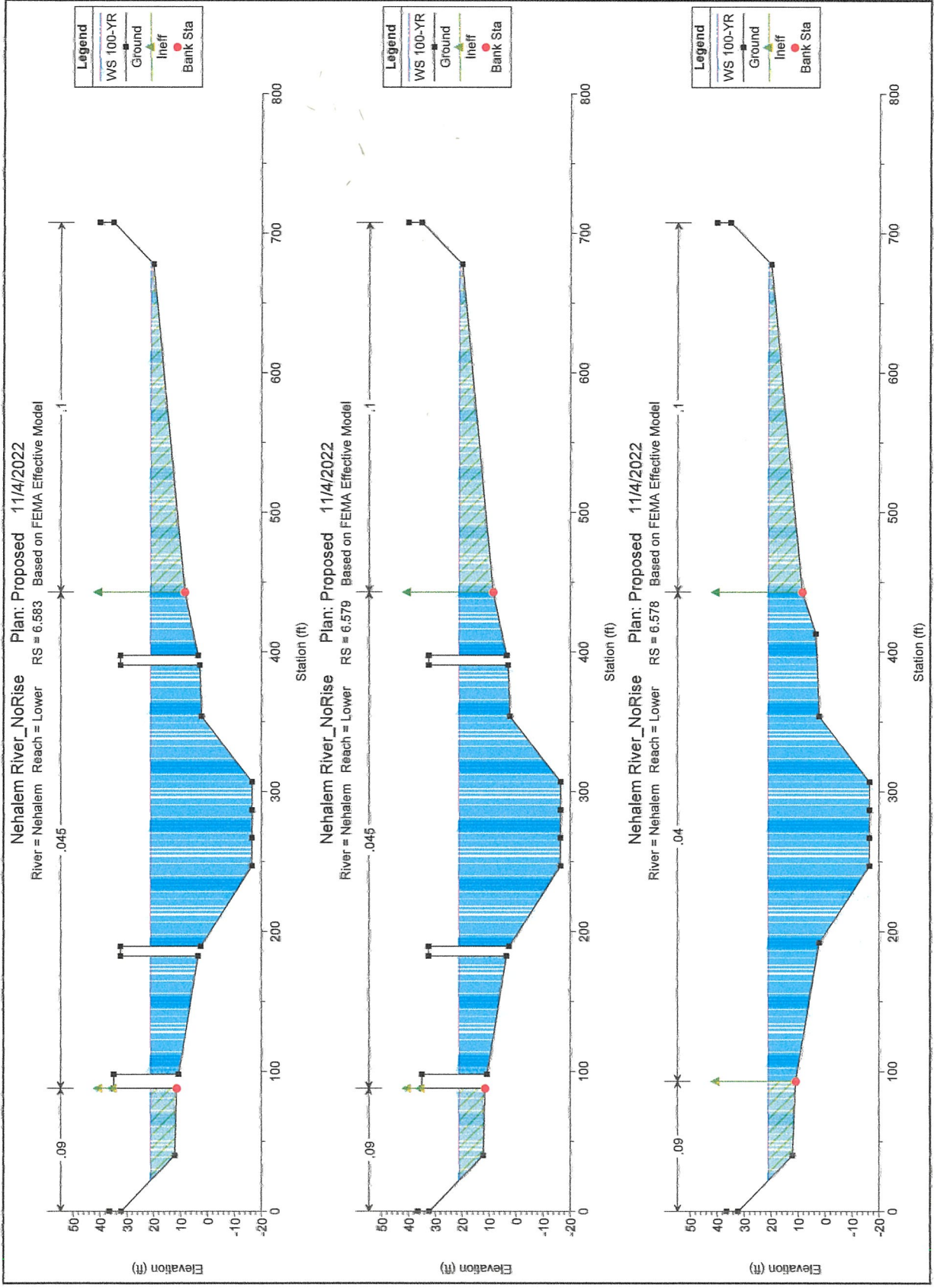
Nehalem River_NoRise Plan: Proposed 11/4/2022

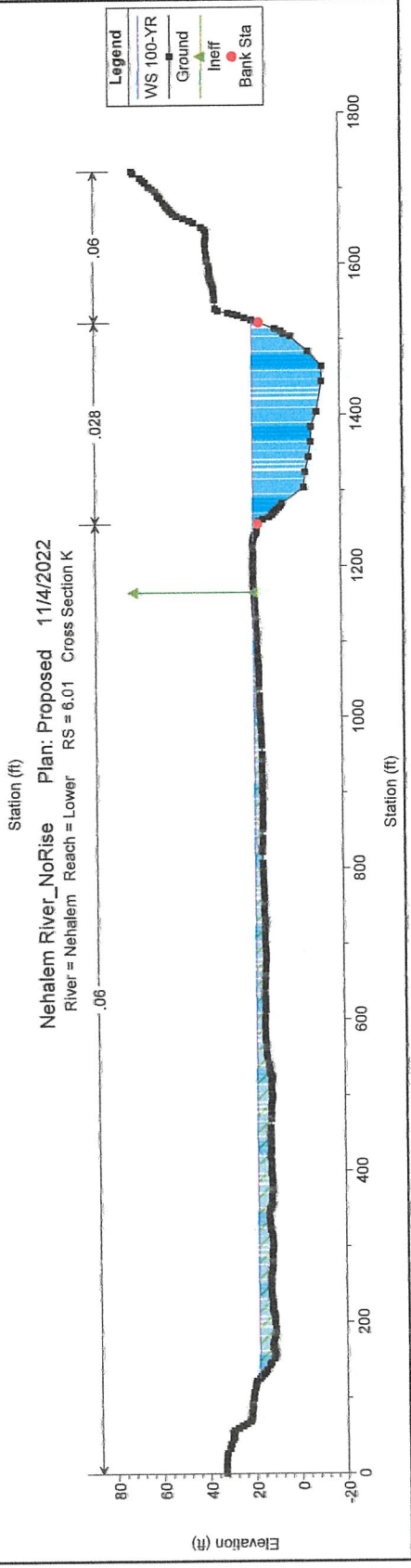
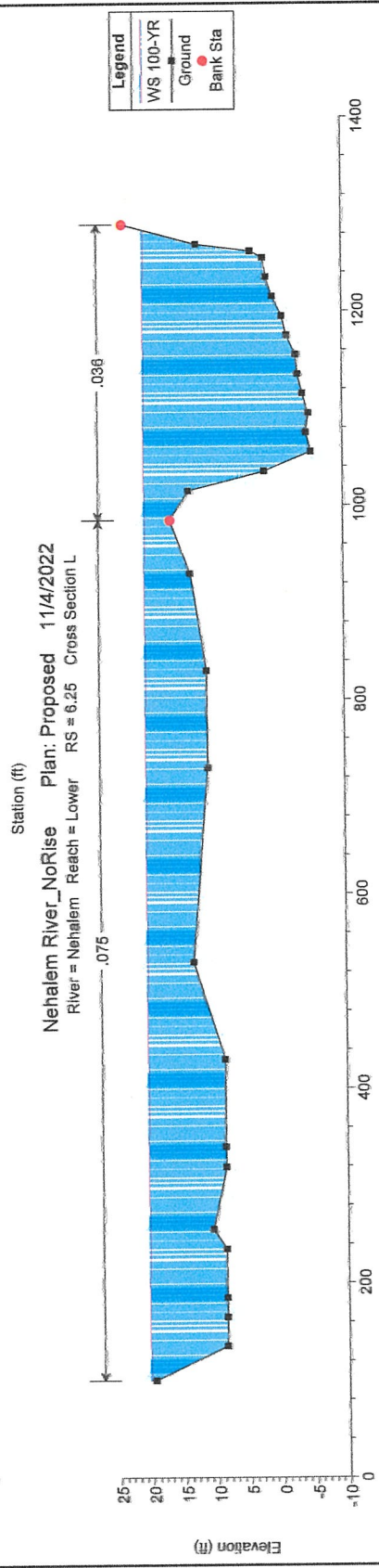
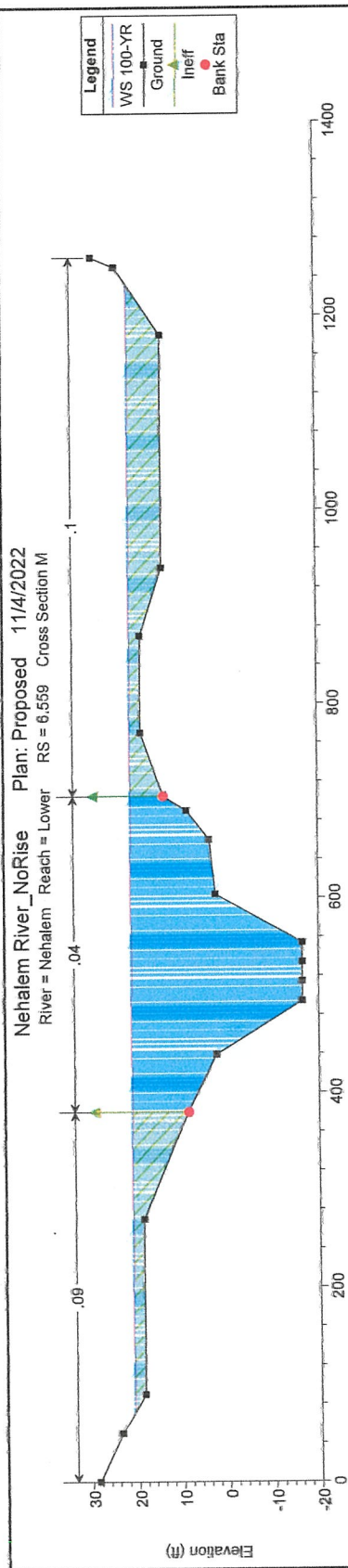


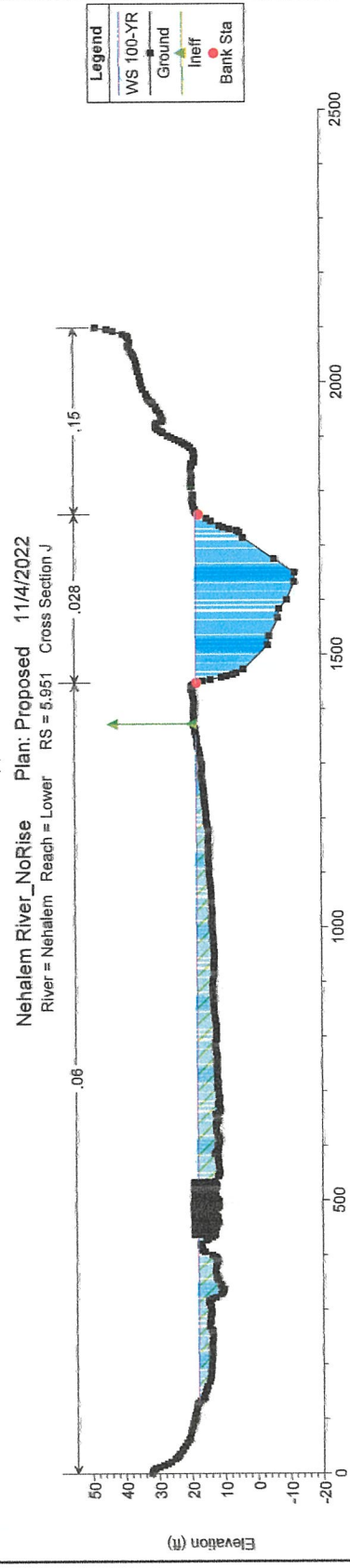
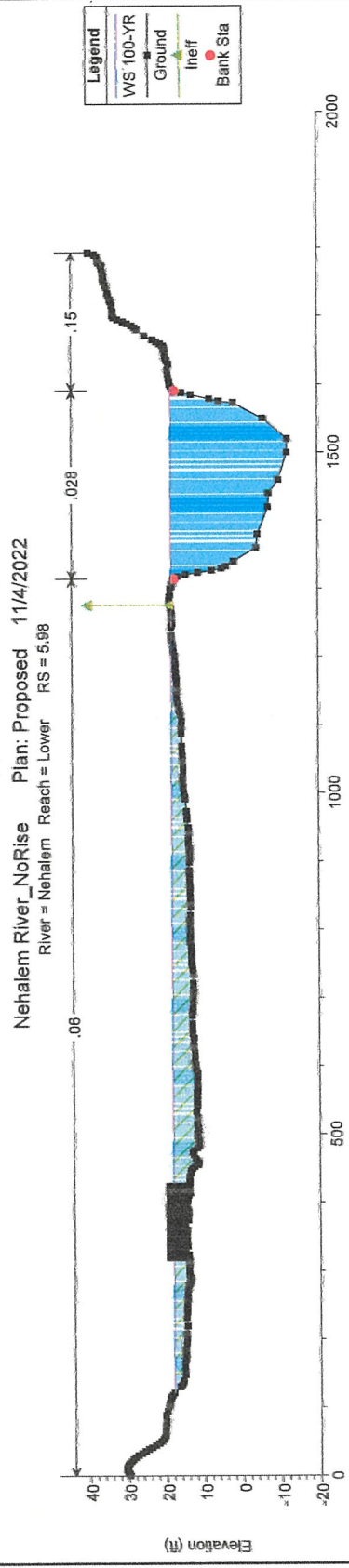
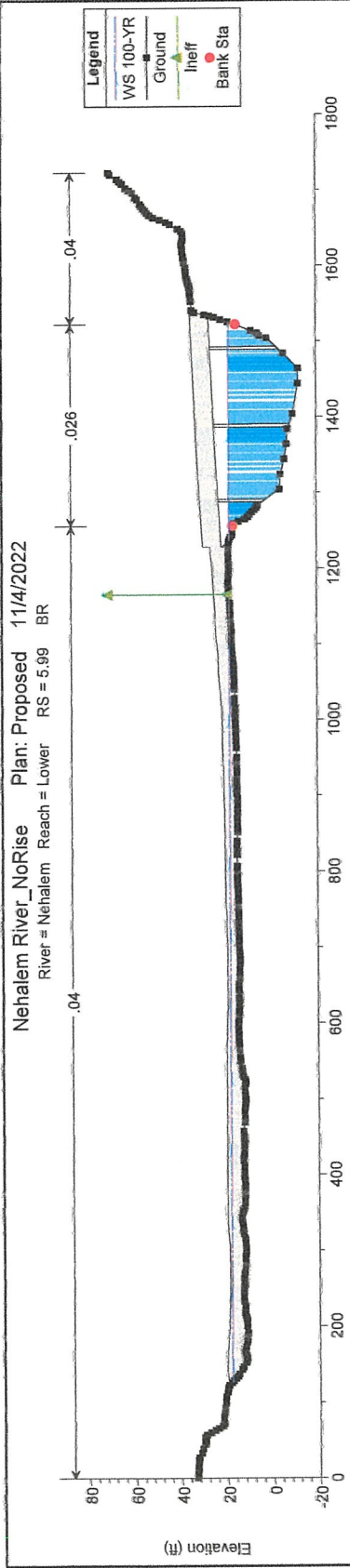
HEC-RAS Plan: Proposed River: Nehalem Reach: Lower Profile: 100-YR

Reach	River Sta	Profile	Q Total (cfs)	Min Chl Elev (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Lower	6.8	100-YR	59000.00	-4.66	24.09		25.19	0.000981	8.49	8120.84	823.32	0.30
Lower	6.61	100-YR	59000.00	-6.46	21.20		23.17	0.002661	11.25	5335.78	374.63	0.47
Lower	6.564	100-YR	59000.00	-16.46	21.30		22.12	0.000745	7.24	8145.95	657.94	0.26
Lower	6.583	100-YR	59000.00	-16.46	21.17		22.07	0.001092	7.61	7751.20	633.43	0.28
Lower	6.579	100-YR	59000.00	-16.46	21.15		22.05	0.001095	7.62	7743.74	633.34	0.28
Lower	6.578	100-YR	59000.00	-16.46	21.16		21.99	0.000600	7.29	8098.15	657.40	0.27
Lower	6.559	100-YR	59000.00	-16.46	20.98		21.88	0.000642	7.65	7713.52	1161.53	0.28
Lower	6.25	100-YR	59000.00	-6.16	20.33		20.91	0.000643	7.22	13692.81	1184.08	0.29
Lower	6.01	100-YR	56700.00	-12.16	18.23	5.84	19.63	0.000558	9.50	5999.57	1340.51	0.35
Lower	5.99	Bridge										
Lower	5.98	100-YR	54700.00	-12.16	18.06		19.25	0.000456	8.77	6244.93	1318.88	0.33
Lower	5.951	100-YR	54700.00	-12.16	18.00	6.21	19.19	0.000507	8.72	6275.69	1429.67	0.34
Lower	5.88	100-YR	54700.00	-11.52	18.11	4.60	18.88	0.000320	7.06	8622.83	2388.97	0.27
Lower	5.79	100-YR	54700.00	-10.84	17.89	5.05	18.70	0.000361	7.46	10111.57	3409.91	0.29
Lower	5.65	100-YR	54700.00	-8.86	17.53	6.25	18.41	0.000437	7.99	11568.22	4657.80	0.31
Lower	5.55	100-YR	54700.00	-11.18	17.58	5.07	18.18	0.000284	6.70	14757.94	5541.31	0.26
Lower	5.34	100-YR	54700.00	-14.61	17.89	2.63	17.87	0.000102	4.31	27736.84	6611.26	0.16
Lower	5.26	100-YR	54700.00	-15.84	17.66	2.23	17.83	0.000098	4.22	29536.22	7050.74	0.15
Lower	5.17	100-YR	54700.00	-17.37	17.64	1.36	17.77	0.000085	4.00	33449.73	7419.24	0.14
Lower	4.78	100-YR	54700.00	-23.76	17.56	0.30	17.66	0.000071	3.63	41855.25	10506.47	0.13
Lower	3.8	100-YR	54700.00	-15.74	16.03		16.94	0.000417	8.22	13126.32	10639.93	0.31
Lower	3.7856	100-YR	54700.00	-15.48	16.15		16.80	0.000333	7.32	16281.59	10806.40	0.28
Lower	3.7542	100-YR	54700.00	-15.39	16.06		16.78	0.000367	7.55	15683.24	10909.10	0.29
Lower	3.66	100-YR	52600.00	-14.66	16.22	1.47	16.56	0.000169	5.42	23223.57	11590.21	0.20
Lower	3.28	100-YR	52600.00	-18.19	15.79	-0.88	16.23	0.000214	5.87	17036.40	9955.88	0.22
Lower	3.24	100-YR	52600.00	-18.82	15.75	-0.58	16.19	0.000178	5.78	17935.52	10082.66	0.21
Lower	3.12	100-YR	52600.00	-19.83	15.68	-1.27	16.08	0.000162	5.45	18725.99	9947.19	0.20
Lower	2.82	100-YR	52900.00	-21.86	15.53	-2.28	15.91	0.000148	5.30	20021.14	9515.87	0.19
Lower	2.49	100-YR	52900.00	-18.06	15.15	-1.60	15.58	0.000133	5.39	17039.17	9030.33	0.19
Lower	2.28	100-YR	52900.00	-16.24	14.95		15.42	0.000153	5.57	11800.45	8050.01	0.21
Lower	2.01	100-YR	66400.00	-13.76	14.84	0.65	15.18	0.000129	4.68	14932.24	7786.01	0.19
Lower	1.92	100-YR	66400.00	-14.37	14.74	1.50	15.10	0.000151	5.15	15560.50	7606.61	0.20
Lower	1.74	100-YR	66400.00	-15.36	14.31	3.28	14.89	0.000256	6.64	13656.08	7451.94	0.26
Lower	1.5	100-YR	66400.00	-16.69	14.04	2.57	14.54	0.000250	6.10	13180.32	7425.06	0.26
Lower	1.33	100-YR	66400.00	-17.61	13.88	-0.78	14.35	0.000162	5.55	12351.71	6337.32	0.21
Lower	1.05	100-YR	66700.00	-18.16	13.70	-3.17	14.12	0.000135	5.20	12996.39	5319.91	0.19
Lower	0.994	100-YR	67000.00	-18.66	13.68	-3.15	14.06	0.000131	4.96	13691.29	4986.52	0.19
Lower	0.95	100-YR	67000.00	-17.89	13.63	-2.40	14.03	0.000142	5.09	13390.30	4808.98	0.20
Lower	0.92	Bridge										
Lower	0.86	100-YR	67000.00	-15.91	13.55	-1.63	13.87	0.000132	4.52	15040.76	4184.05	0.19
Lower	0.8	100-YR	67000.00	-14.48	13.50	-0.51	13.82	0.000139	4.59	15109.85	3994.19	0.19
Lower	0.78	100-YR	67000.00	-14.02	13.40	0.06	13.80	0.000157	5.07	14066.78	3874.91	0.21
Lower	0.73	100-YR	67000.00	-12.75	13.36	0.69	13.75	0.000150	5.06	14091.68	3594.73	0.21
Lower	0.6	100-YR	67000.00	-10.00	13.32	1.72	13.63	0.000147	4.49	15373.60	2975.78	0.19
Lower	0.45	100-YR	74000.00	-6.46	13.11	3.38	13.48	0.000207	4.89	15150.11	2656.06	0.23



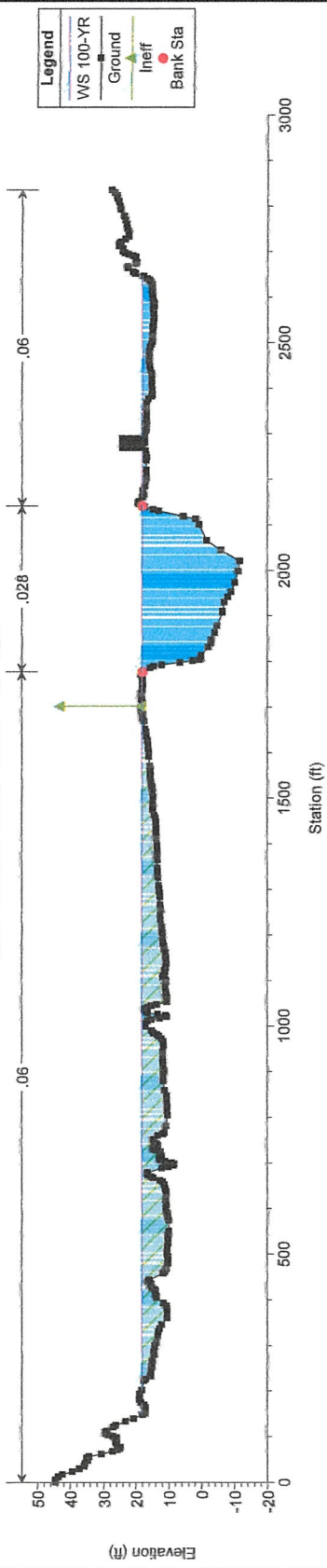






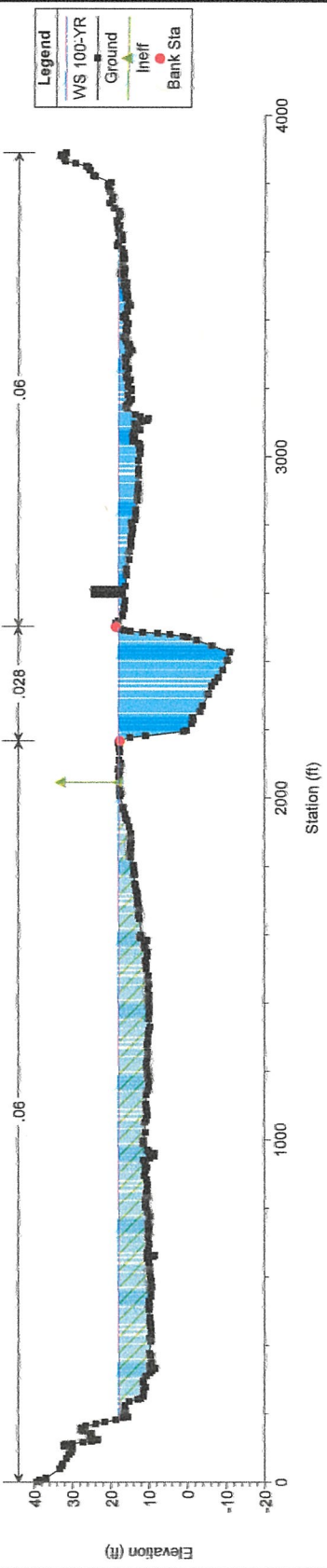
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 5.88



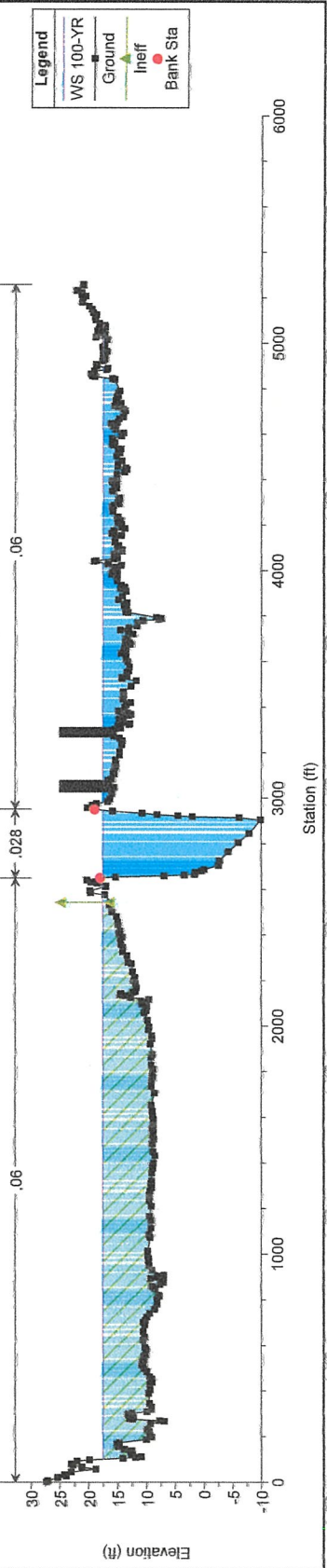
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 5.79



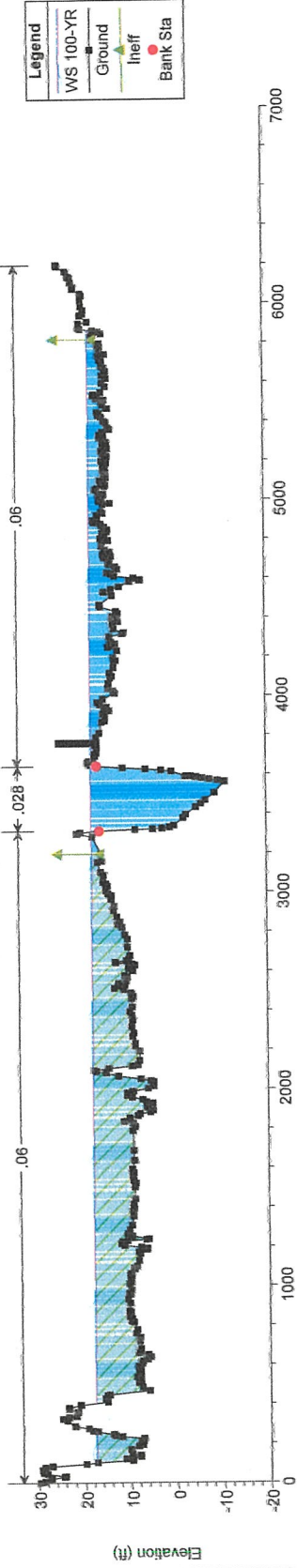
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 5.65 Cross Section I



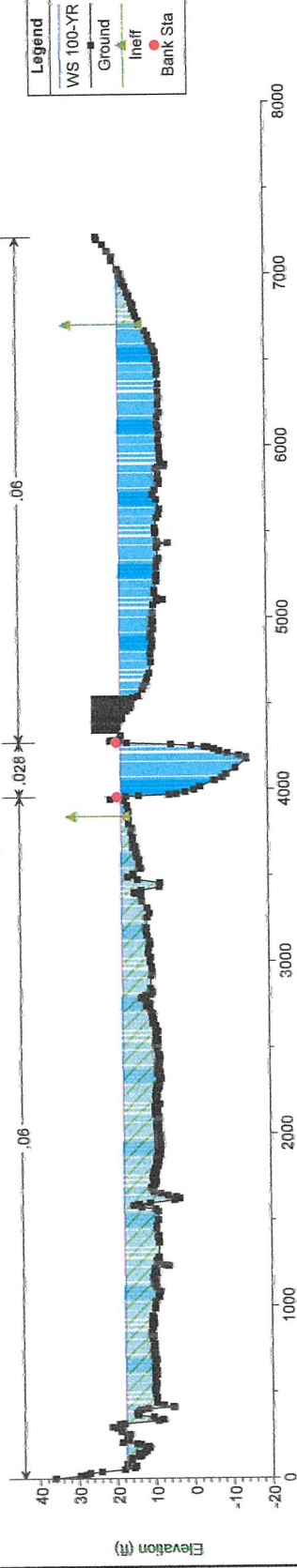
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 5.55



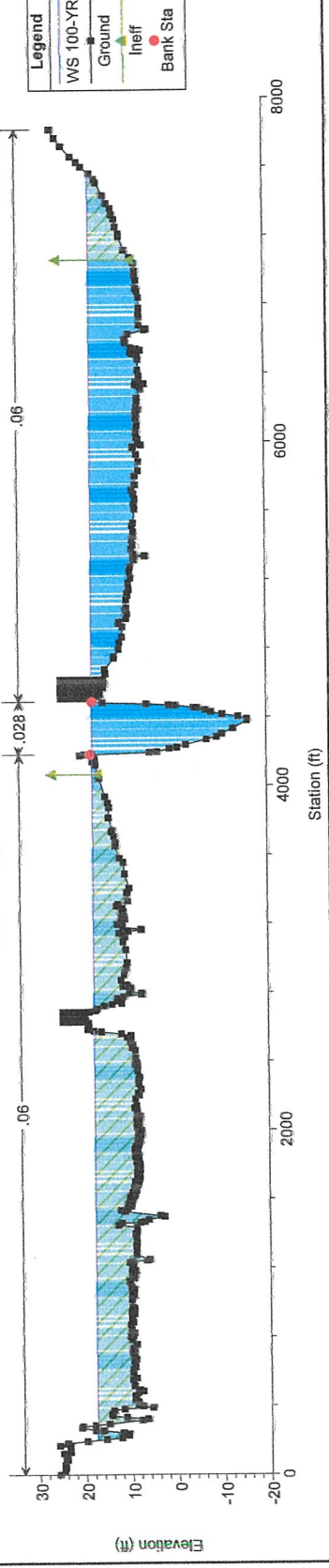
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 5.34



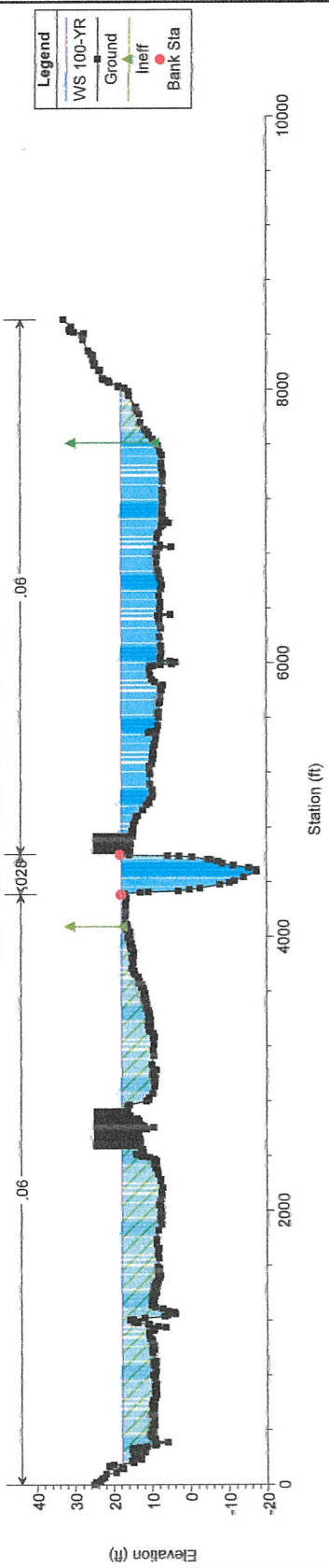
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 5.26



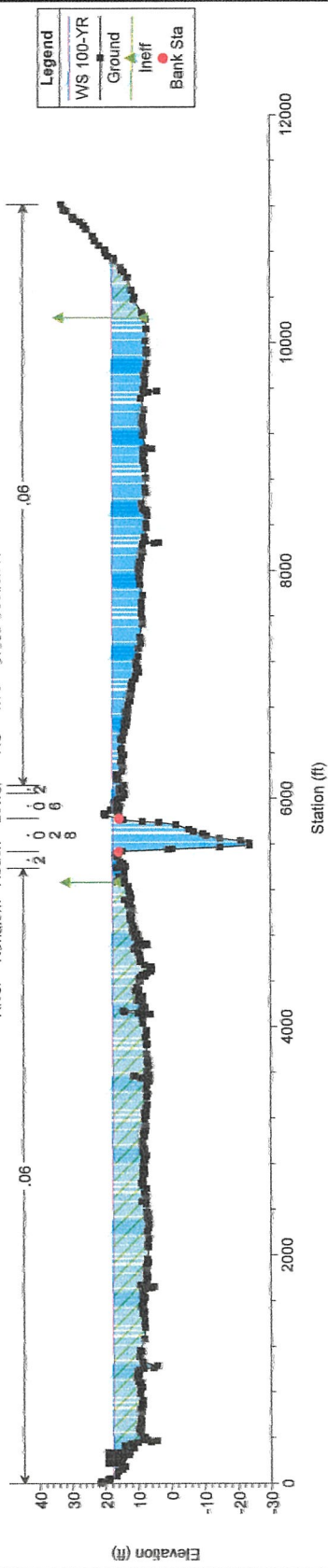
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 5.17



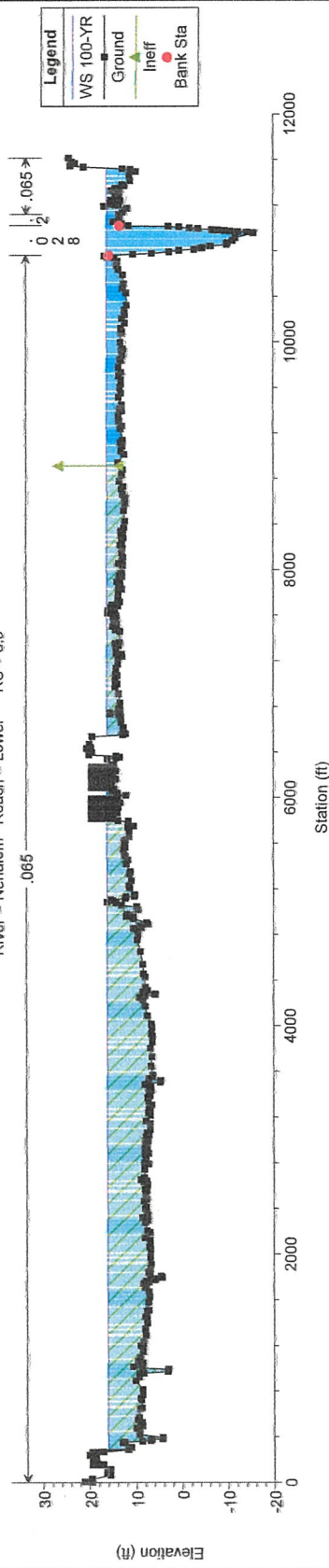
Nehalem River_NoRise Plan: Proposed 11/4/2022

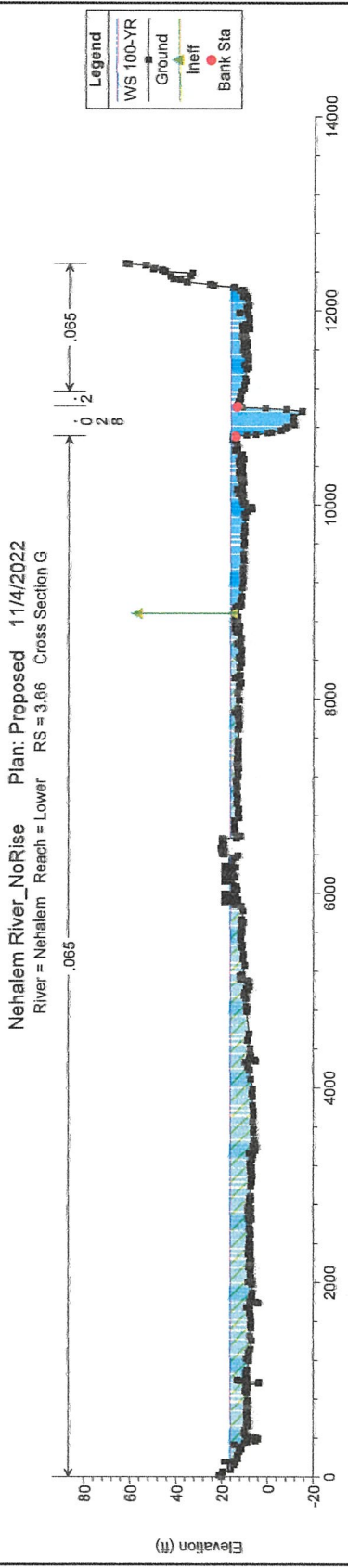
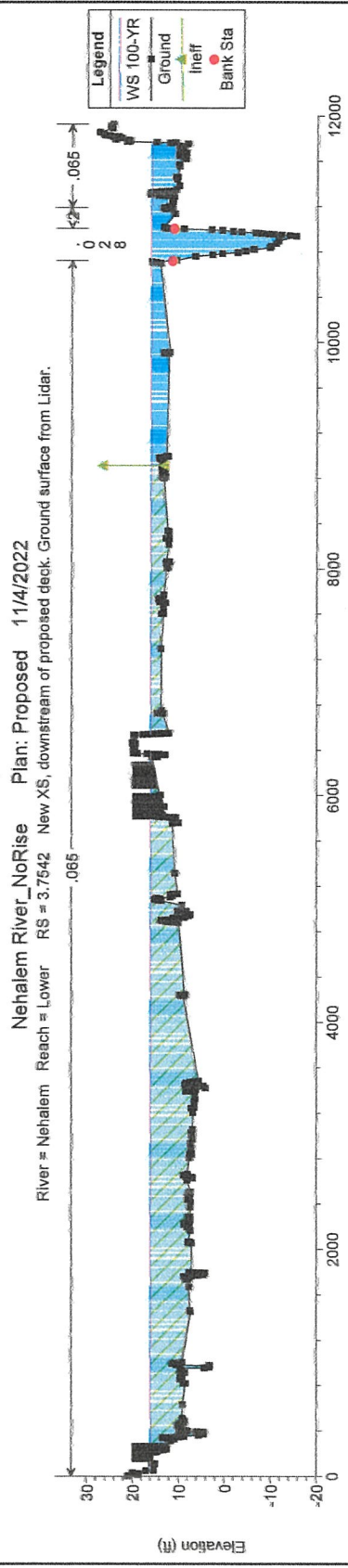
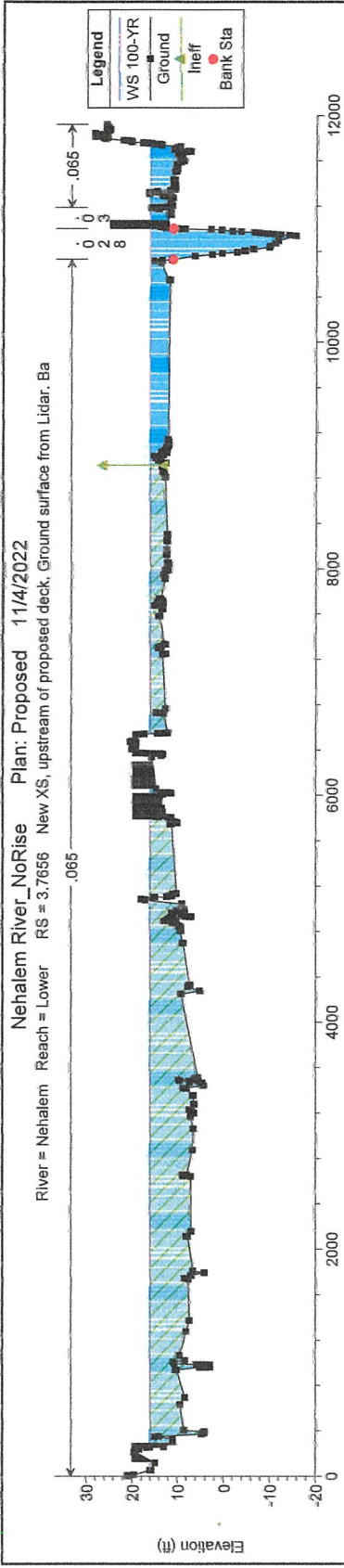
River = Nehalem Reach = Lower RS = 4.78 Cross Section H

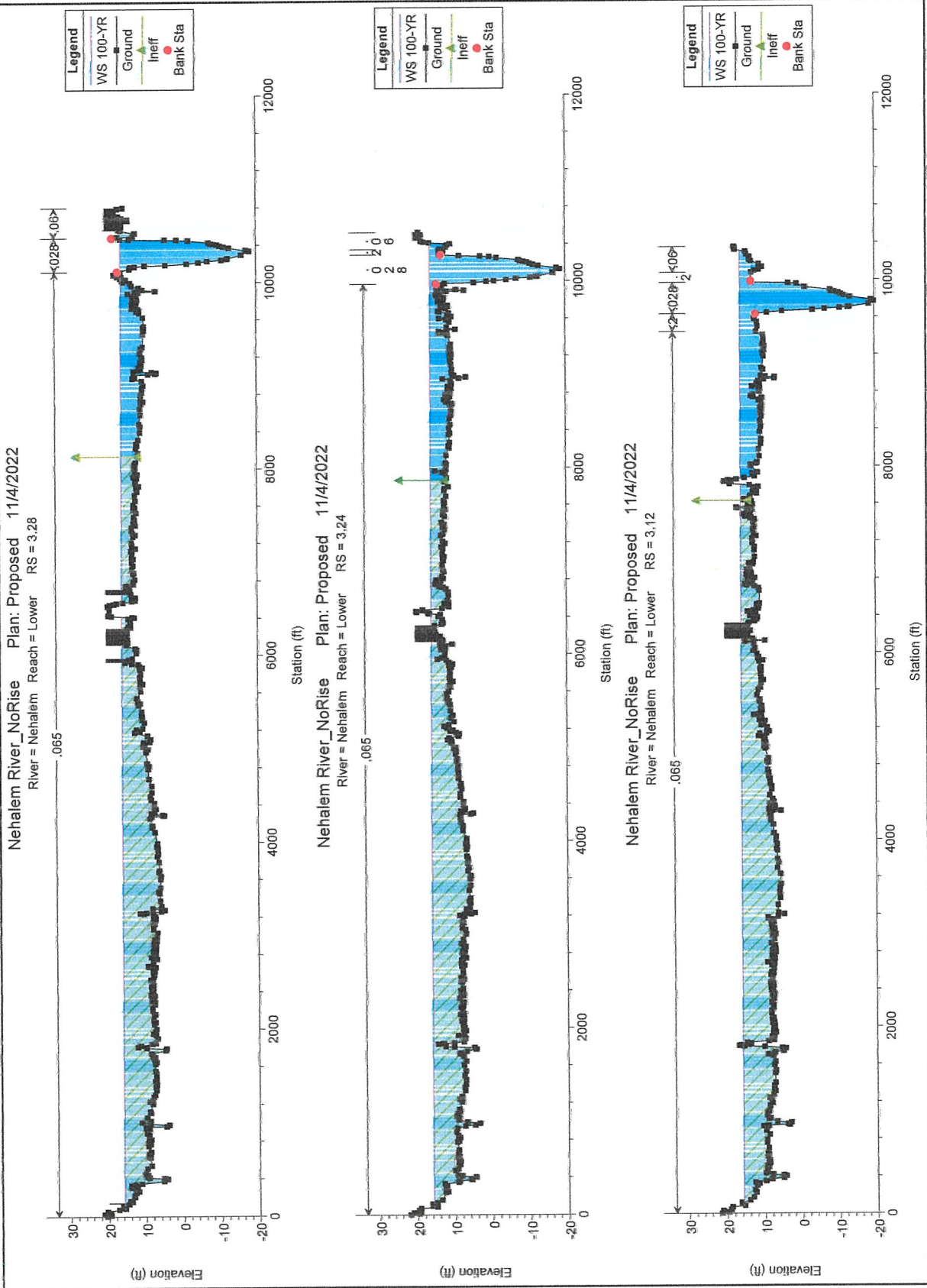


Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 3.8

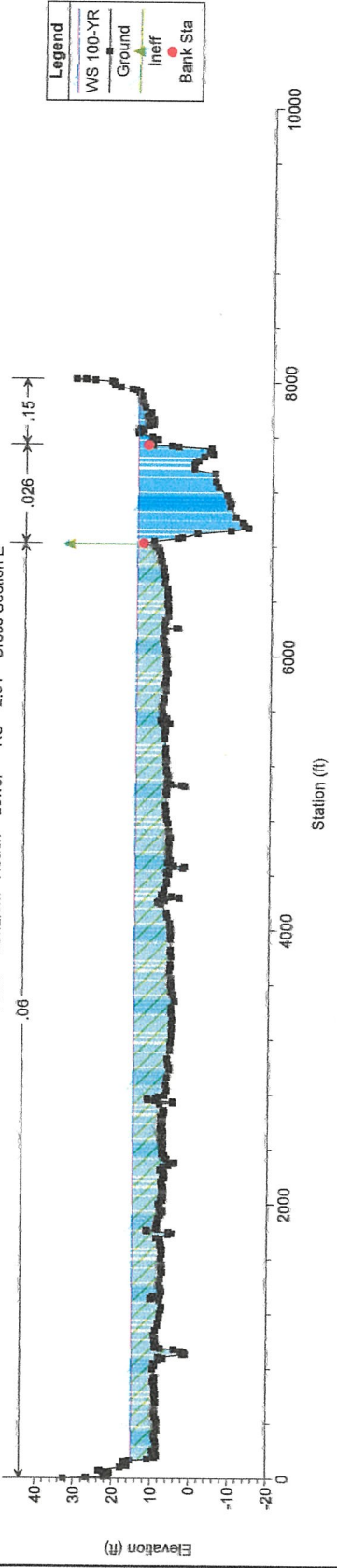






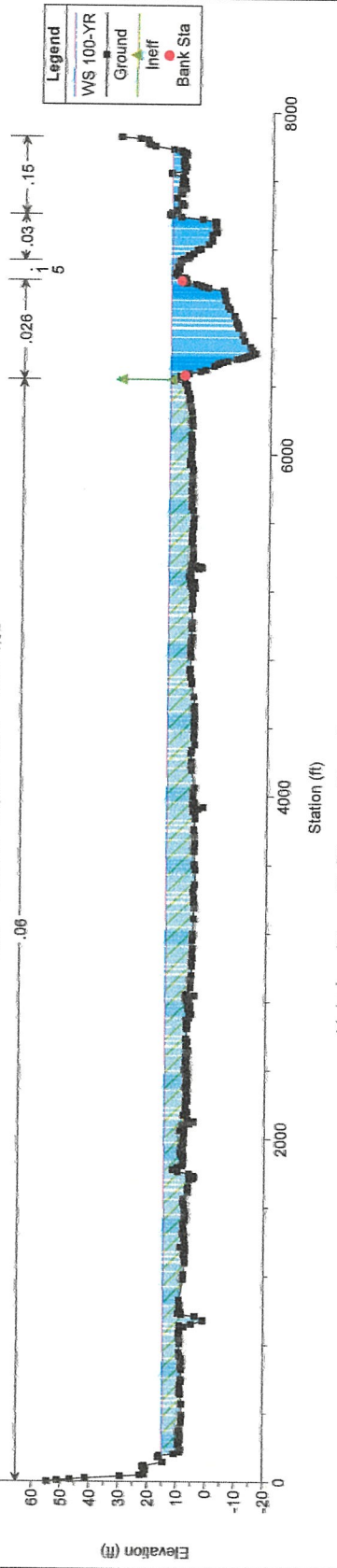
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 2.01 Cross Section E



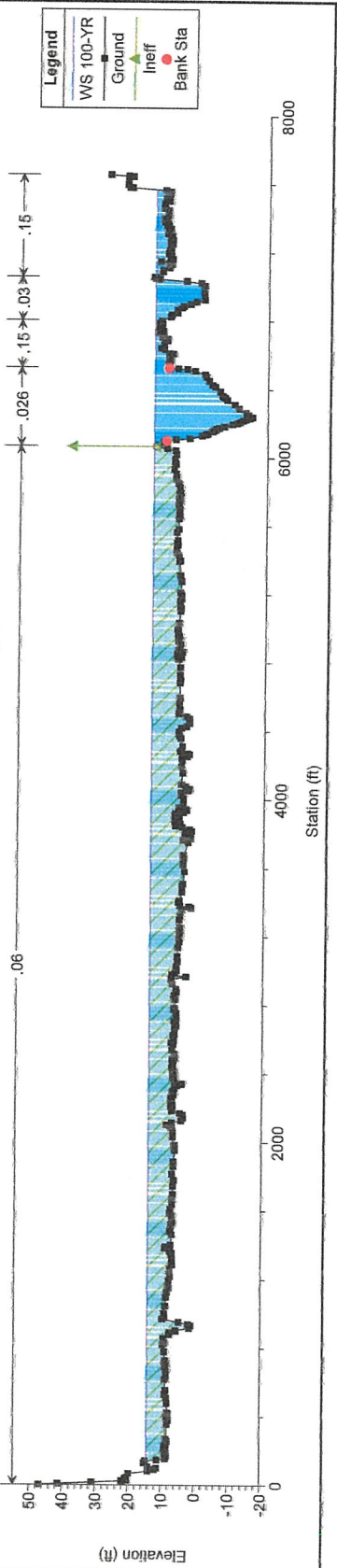
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 1.92



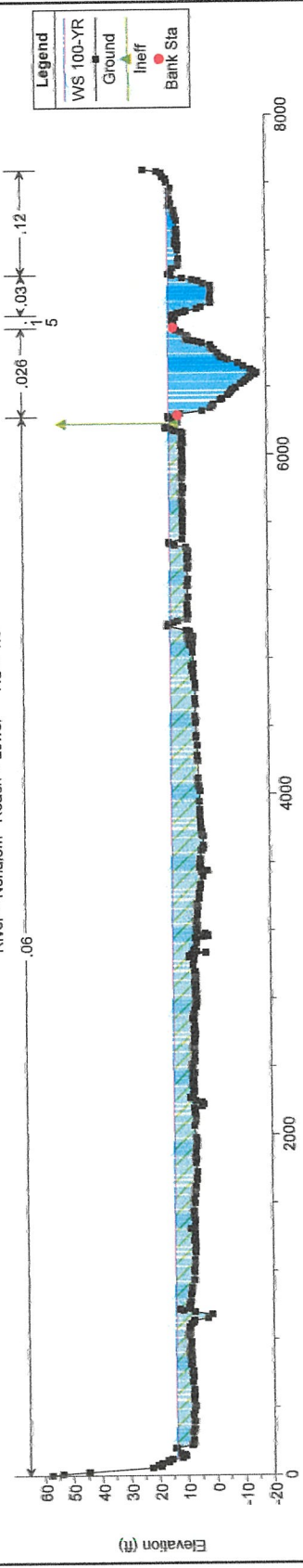
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 1.74



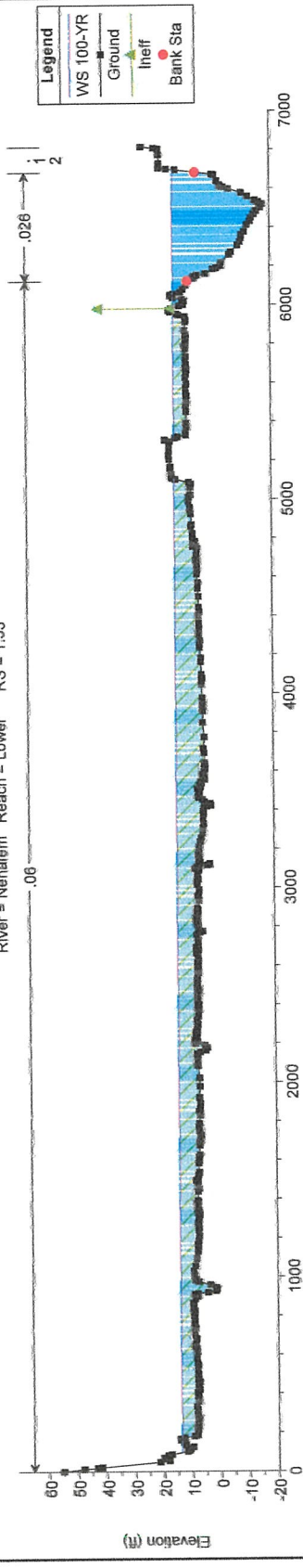
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 1.5



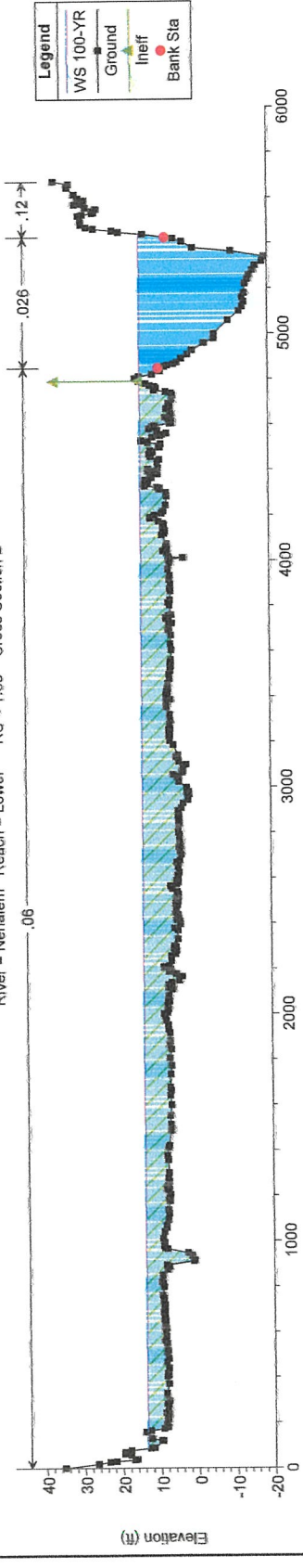
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 1.33

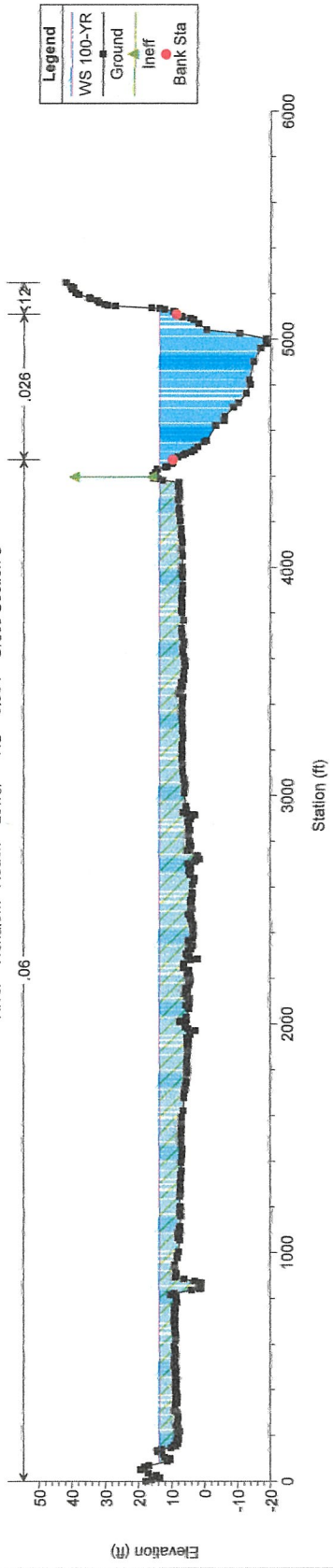


Nehalem River_NoRise Plan: Proposed 11/4/2022

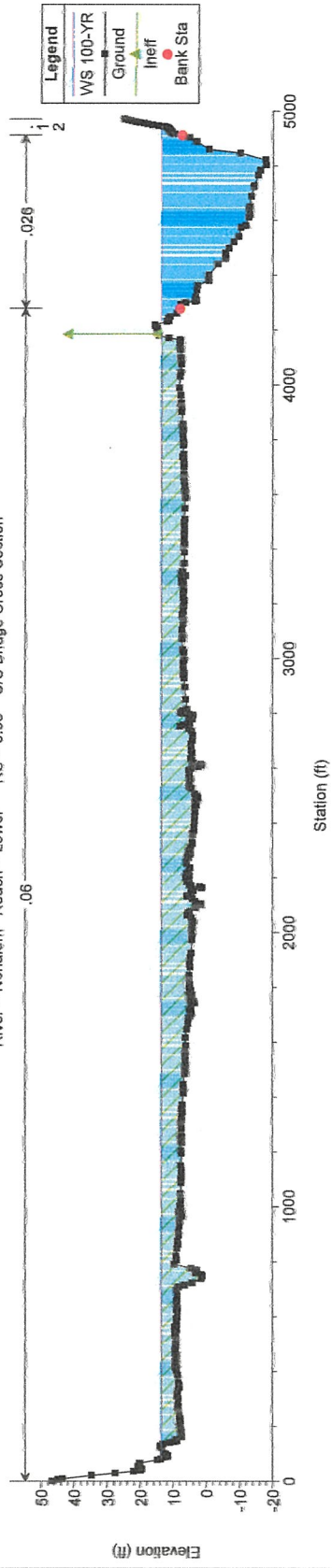
River = Nehalem Reach = Lower RS = 1.05 Cross Section D



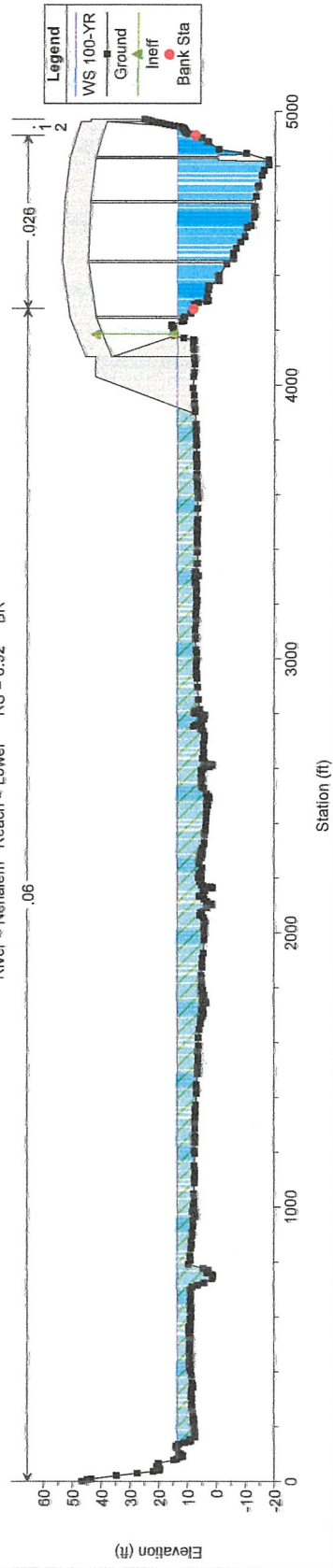
Nehalem River_NoRise Plan: Proposed 11/4/2022
 River = Nehalem Reach = Lower RS = 0.994 Cross Section C

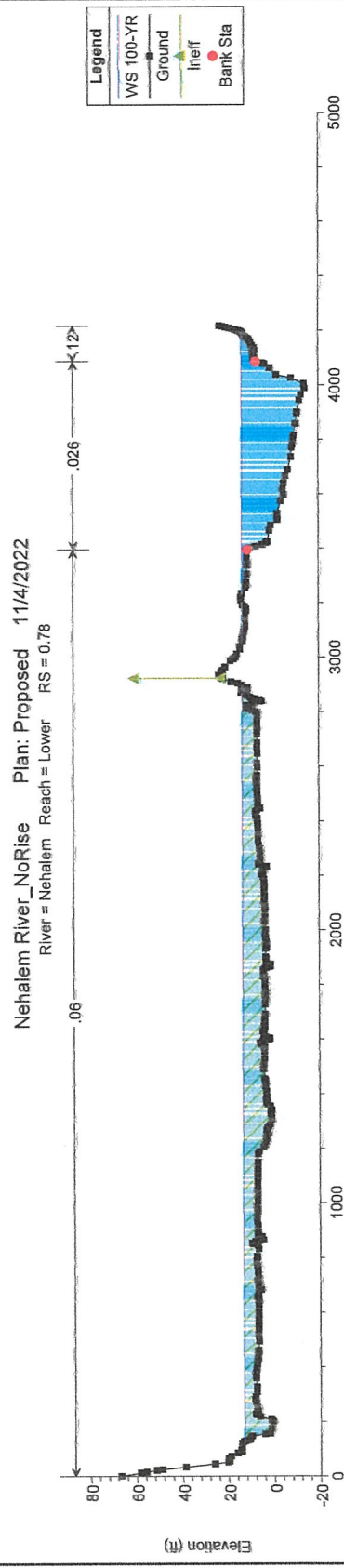
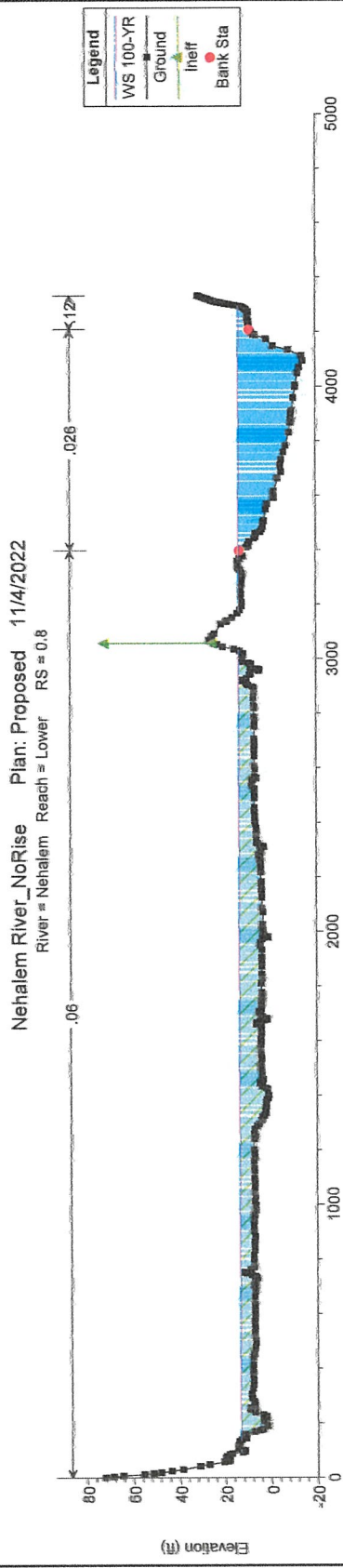
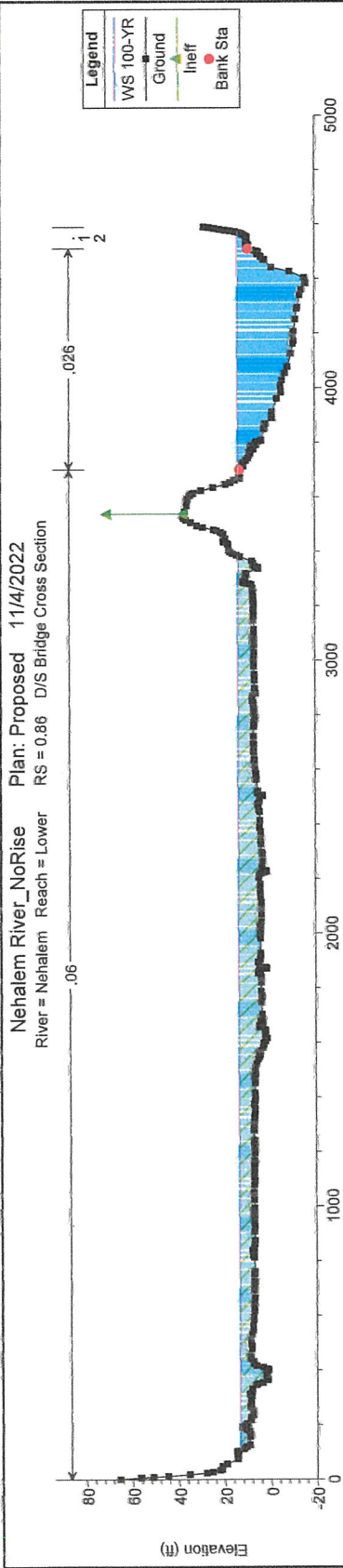


Nehalem River_NoRise Plan: Proposed 11/4/2022
 River = Nehalem Reach = Lower RS = 0.95 U/S Bridge Cross Section



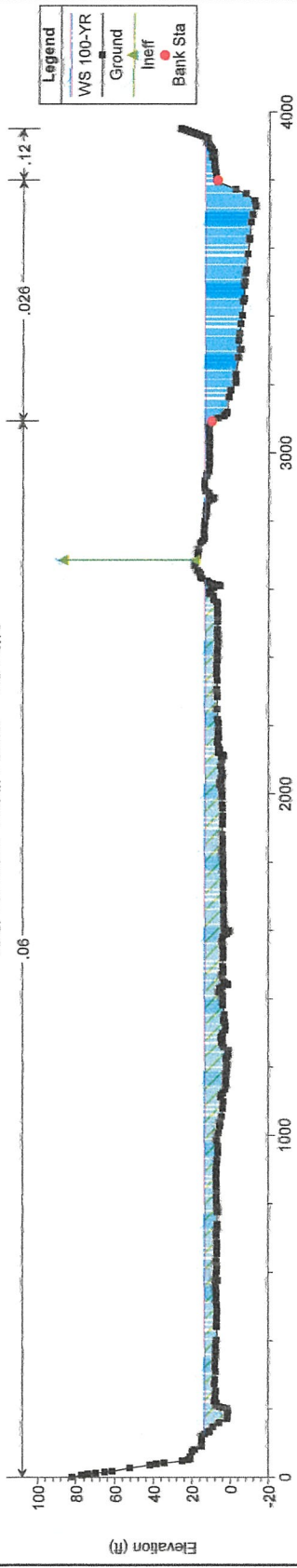
Nehalem River_NoRise Plan: Proposed 11/4/2022
 River = Nehalem Reach = Lower RS = 0.92 BR





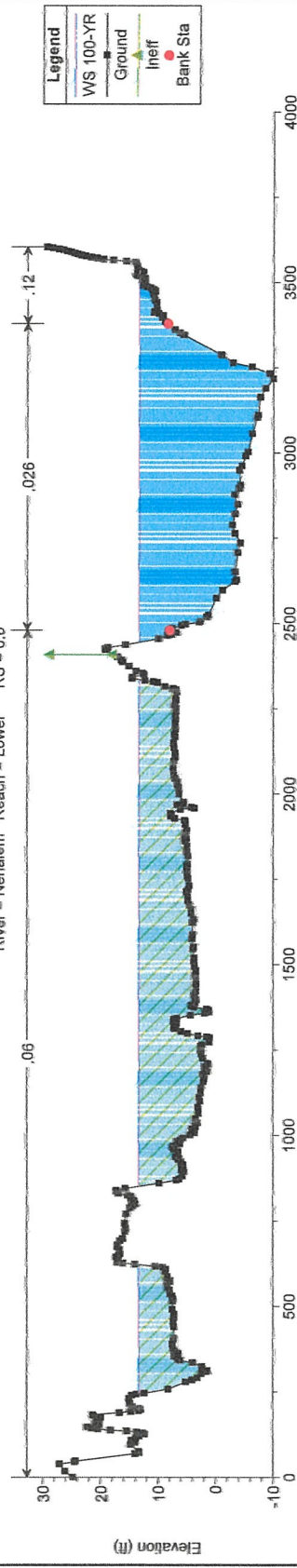
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 0.73



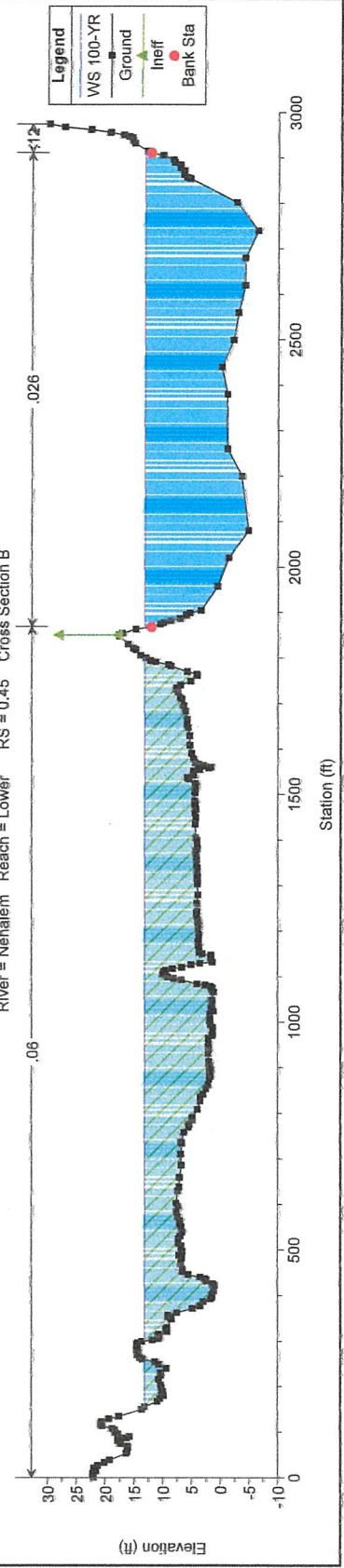
Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 0.6



Nehalem River_NoRise Plan: Proposed 11/4/2022

River = Nehalem Reach = Lower RS = 0.45 Cross Section B



APPENDIX C

Proposed Deck Construction Plans by Stricker Engineering

GENERAL NOTES

- These plans were designed to conform to the latest edition of the Oregon Structural Specialty Code (OSCC) (2003) and the International Residential Code (IRC) (2003). The contractor shall verify all dimensions, materials, and construction methods to meet or exceed the standards of these plans and specifications. It is the contractor's responsibility to obtain all necessary permits and to coordinate with all applicable local, state, and federal agencies. The contractor shall be responsible for obtaining all necessary permits and for coordinating with all applicable local, state, and federal agencies. The contractor shall be responsible for obtaining all necessary permits and for coordinating with all applicable local, state, and federal agencies.
- When dimensions shall have precedence over scaled dimensions, DO NOT SCALE.
- When dimensions shall have precedence over scaled dimensions, DO NOT SCALE.
- Stricker Engineering does not guarantee the availability of any specified product. The contractor is advised to verify the availability of all materials and products prior to construction and verify the availability of all materials and products prior to construction and verify the availability of all materials and products prior to construction.
- The contractor shall be responsible for construction means and methods, procedures, and job site safety. The contractor shall be responsible for construction means and methods, procedures, and job site safety. The contractor shall be responsible for construction means and methods, procedures, and job site safety.
- The contractor shall provide adequate bracing or shoring support all portions of the structure until all members have been permanently assembled, or the building they proposed shall be made without the consent of the owner and Stricker Engineering. All changes are made without the consent of the owner and Stricker Engineering. All changes are made without the consent of the owner and Stricker Engineering.
- All drawings and designs are to remain the sole property of Stricker Engineering. Any use of these drawings shall be in accordance with the contract documents, if any.

STRUCTURAL DESIGN NOTES

- Structure is for occupancy: R.
- Design dead live and wind: OS, PSF.
- WIND DESIGN: Wind V_{max} = 120 MPH.
- 1.1.1. Wind exposure: C.
- 1.1.2. Wind directionality factor: K_d = 0.85.
- 1.1.3. Design wind pressure used for components and cladding: F_r = 3.3 PSF.
- 1.1.4. Design wind pressure used for roof: F_r = 1.9 PSF.
- SEISMIC DESIGN: Seismic hazard factor: S_s = 1.000.
- 2.1. Seismic design category: D.
- 2.2. Design spectral response parameter: S₁ = 0.167, S₂ = 0.167, S₃ = 0.167.
- 2.3. Seismic design category: D.
- 2.4. Site classification: D.
- 2.5. Seismic design spectral response parameter: S₁ = 0.167, S₂ = 0.167, S₃ = 0.167.
- Design loading parameters: ASCE 7-10.

FOUNDATIONS

- Dimensions shown are for reference only. Confirm all existing conditions on site.
- Confirm foundation conditions, including soil type, groundwater table, and adjacent structures.
- Confirm foundation conditions, including soil type, groundwater table, and adjacent structures.
- Confirm foundation conditions, including soil type, groundwater table, and adjacent structures.
- All footing are to be cast under columns unless noted otherwise. All wood posts to have minimum 4" diameter and be treated with preservative.
- All exterior walls to have minimum 8" thick, masonry or concrete block masonry, or structural masonry.

CONCRETE

- All foundations, walls, columns, and slabs shall develop a tensile/compressive strength of 3,000 psi at 28 days.
- Apply "PARASOL" or equal foundation coating on all exterior finish of walls below grade.

REINFORCING STEEL

- All reinforcing steel shall be delivered steel bars conforming to ASTM A615, grade 60, for #4 and larger; grade 40 for #2.
- Reinforcing steel shall be delivered steel bars conforming to ASTM A615, grade 60, for #4 and larger; grade 40 for #2.
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- Reinforcing steel shall be delivered steel bars conforming to ASTM A615, grade 60, for #4 and larger; grade 40 for #2.

WOOD FRAMING

- All solid saw lumber shall be Douglas Fir-Larch (D.F.L.), available as noted on the plans and shall be graded in accordance with current Western Wood Products Association (WWPA) standard grading rules. Lumber grades shall be as follows:
2. All solid saw lumber shall be Douglas Fir-Larch (D.F.L.), available as noted on the plans and shall be graded in accordance with current Western Wood Products Association (WWPA) standard grading rules. Lumber grades shall be as follows:
3. All solid saw lumber shall be Douglas Fir-Larch (D.F.L.), available as noted on the plans and shall be graded in accordance with current Western Wood Products Association (WWPA) standard grading rules. Lumber grades shall be as follows:
4. All solid saw lumber shall be Douglas Fir-Larch (D.F.L.), available as noted on the plans and shall be graded in accordance with current Western Wood Products Association (WWPA) standard grading rules. Lumber grades shall be as follows:
5. All solid saw lumber shall be Douglas Fir-Larch (D.F.L.), available as noted on the plans and shall be graded in accordance with current Western Wood Products Association (WWPA) standard grading rules. Lumber grades shall be as follows:
6. All solid saw lumber shall be Douglas Fir-Larch (D.F.L.), available as noted on the plans and shall be graded in accordance with current Western Wood Products Association (WWPA) standard grading rules. Lumber grades shall be as follows:
7. All solid saw lumber shall be Douglas Fir-Larch (D.F.L.), available as noted on the plans and shall be graded in accordance with current Western Wood Products Association (WWPA) standard grading rules. Lumber grades shall be as follows:
8. All solid saw lumber shall be Douglas Fir-Larch (D.F.L.), available as noted on the plans and shall be graded in accordance with current Western Wood Products Association (WWPA) standard grading rules. Lumber grades shall be as follows:
9. All solid saw lumber shall be Douglas Fir-Larch (D.F.L.), available as noted on the plans and shall be graded in accordance with current Western Wood Products Association (WWPA) standard grading rules. Lumber grades shall be as follows:
10. All solid saw lumber shall be Douglas Fir-Larch (D.F.L.), available as noted on the plans and shall be graded in accordance with current Western Wood Products Association (WWPA) standard grading rules. Lumber grades shall be as follows:



SHEET INDEX:

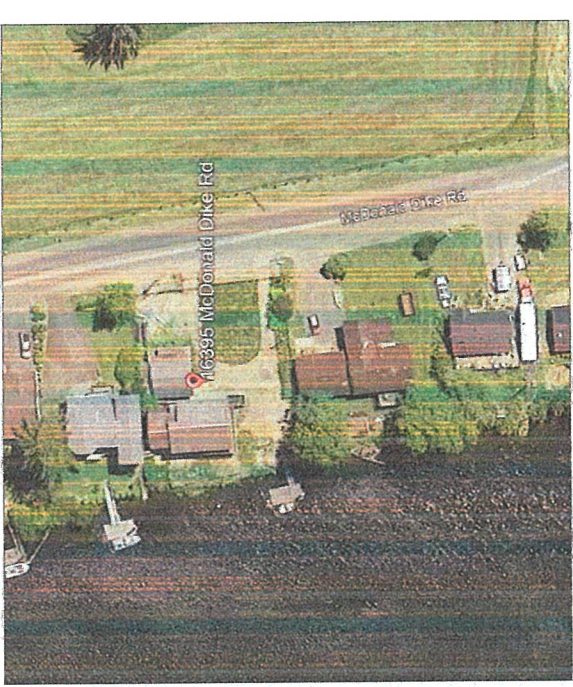
- 30.0 - COVER SHEET
- 31.0 - SITE PLAN
- 32.0 - DECK FOUNDATION PLAN
- 33.0 - 2ND FLOOR DECK FRAMING PLAN
- 34.0 - 3RD FLOOR DECK FRAMING PLAN
- 35.0 - FOUNDATION AND FRAMING DETAILS
- 36.0 - WEST AND SOUTH HOUSE ELEVATIONS

NAILING SCHEDULE

- Joist to joist or beam: (1) 16d nails @ 12" o/c
- Joist to joist or beam: (2) 16d nails @ 12" o/c
- Joist to joist or beam: (3) 16d nails @ 12" o/c
- Joist to joist or beam: (4) 16d nails @ 12" o/c
- Joist to joist or beam: (5) 16d nails @ 12" o/c
- Joist to joist or beam: (6) 16d nails @ 12" o/c
- Joist to joist or beam: (7) 16d nails @ 12" o/c
- Joist to joist or beam: (8) 16d nails @ 12" o/c
- Joist to joist or beam: (9) 16d nails @ 12" o/c
- Joist to joist or beam: (10) 16d nails @ 12" o/c
- Joist to joist or beam: (11) 16d nails @ 12" o/c
- Joist to joist or beam: (12) 16d nails @ 12" o/c
- Joist to joist or beam: (13) 16d nails @ 12" o/c
- Joist to joist or beam: (14) 16d nails @ 12" o/c
- Joist to joist or beam: (15) 16d nails @ 12" o/c

NAILING SCHEDULE NOTES

- All nails shall have a minimum length of 1 1/2" for U.G.N.
- Top plates shall be nailed on all walls, U.G.N.
- Formwork shall be nailed to the concrete to keep joints.
- Use 4" blocking in all beam webs.
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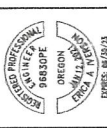


TRÉNT AND KELLIE DAVIS
HOUSE RENOVATION
8395 MCDONALD RD
MEHLEM, OR 97131

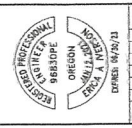
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REVISION: 03/15/11
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JOB NO: 107898P

Drawing No: S0.0

105 East Cypress
Camden, OR 97116
503-922-2442
john@strickerengineering.com



REVISIONS	
NO.	DESCRIPTION
1	ISSUED FOR PERMIT REVIEW
2	REVISED PER PLAN AND DIMENSION CHANGES
3	REVISED PER PLAN AND DIMENSION CHANGES
4	REVISED PER PLAN AND DIMENSION CHANGES
5	REVISED PER PLAN AND DIMENSION CHANGES



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3		REVISED PER COMMENTS
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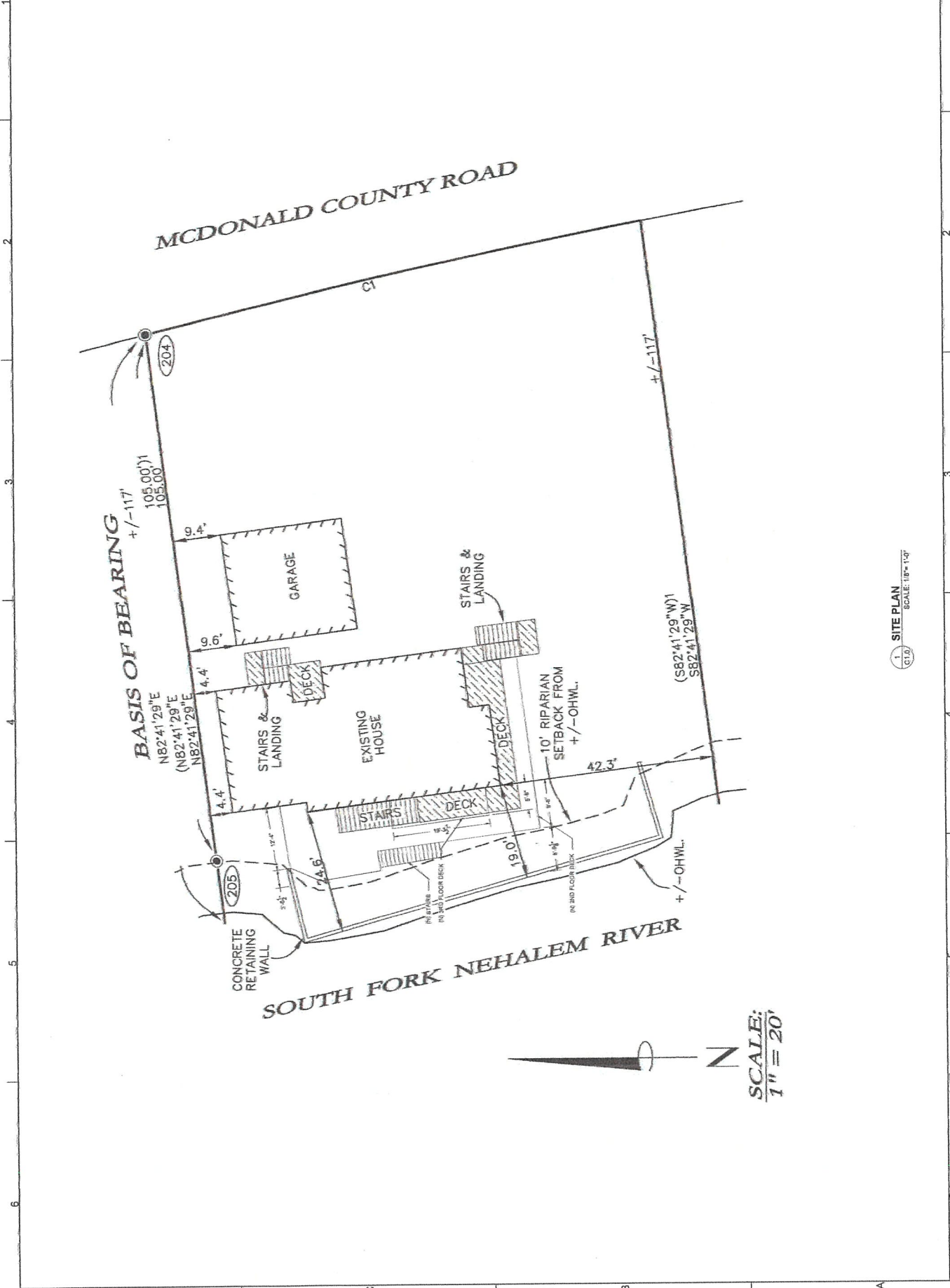
105 East Cypress
Garfield, OH 97118
503-322-2442
strockengineering.com
john@strockengineering.com



TRENT AND KELLIE DAVIS
HOUSE RENOVATION
16995 McDONALD RD
NEHALEM, OH 97131

DRAWN: K.DAVIS
CHECKED: T.DAVIS
SCALE: AS SHOWN
JOB NO: 170008
Drawing N.C.

C1.0



1 SITE PLAN
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SCALE:
1" = 20'



S1.0

Drawing N.O.

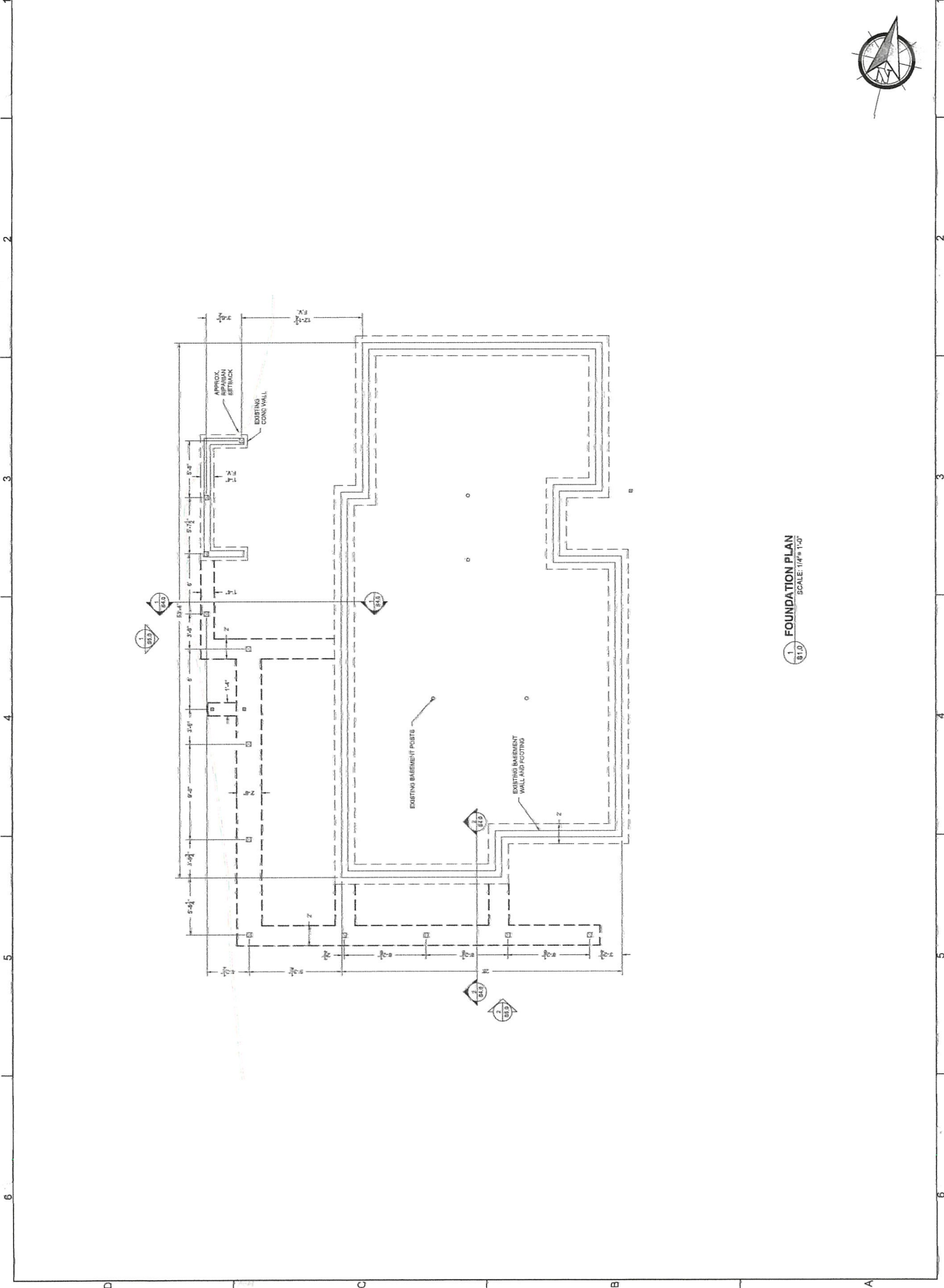
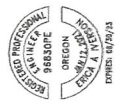
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JOB NO.: 131001

TRENT AND KELIE DAVIS
HOUSE RENOVATION
8395 McDONALD RD
NEHALEM, OR 97131
DECK FOUNDATION PLAN



105 East Dymore
Cathlamet, OR 97116
503-492-2442
strickerengineering.com
john@strickerengineering.com

REVISIONS	
REV	DATE
1	
2	
3	
4	
5	



1 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



Drawing NO: **S2.0**

1. 2ND FLOOR DECK FRAMING PLAN
SCALE: 1/4" = 1'-0"

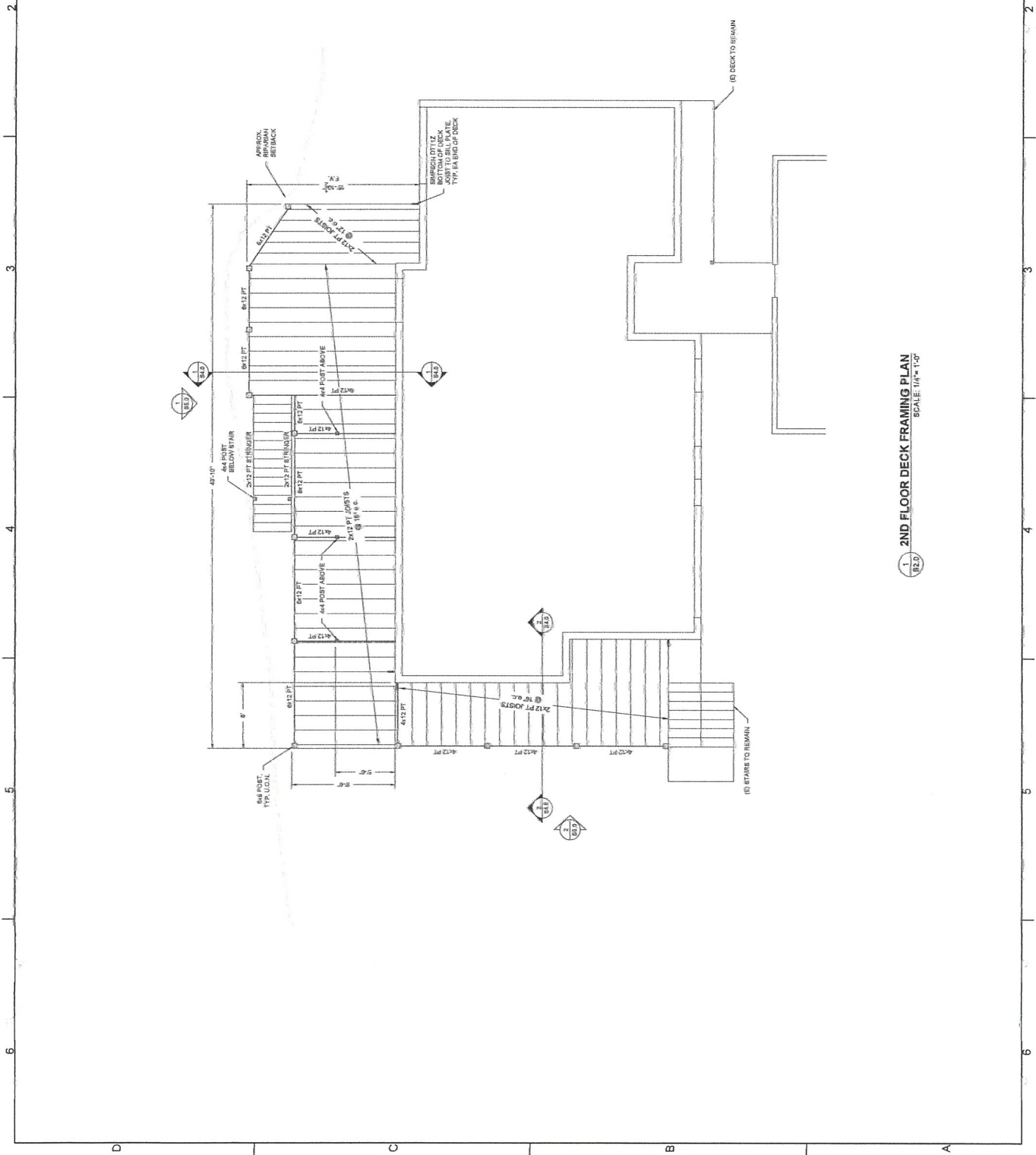
TRENT AND KELIE DAVIS
HOUSE RENOVATION
36395 McDONALD RD
NEHELEM, OR 97131
2ND FLOOR DECK FRAMING PLAN

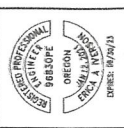


105 East Oyrass
Garibaldi, OR 97118
503-922-2442
strickereengineering.com
john@strickereengineering.com

REV#	DATE	DESCRIPTION
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2	10/20/23	RFE PLAN AND ELECTRICAL WORKERS
3	10/20/23	APPROVAL NETWORK

REVISIONS





DIRS: WF/121

REV	DATE	DESCRIPTION
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2	01/12/24	PERMIT REVISIONS
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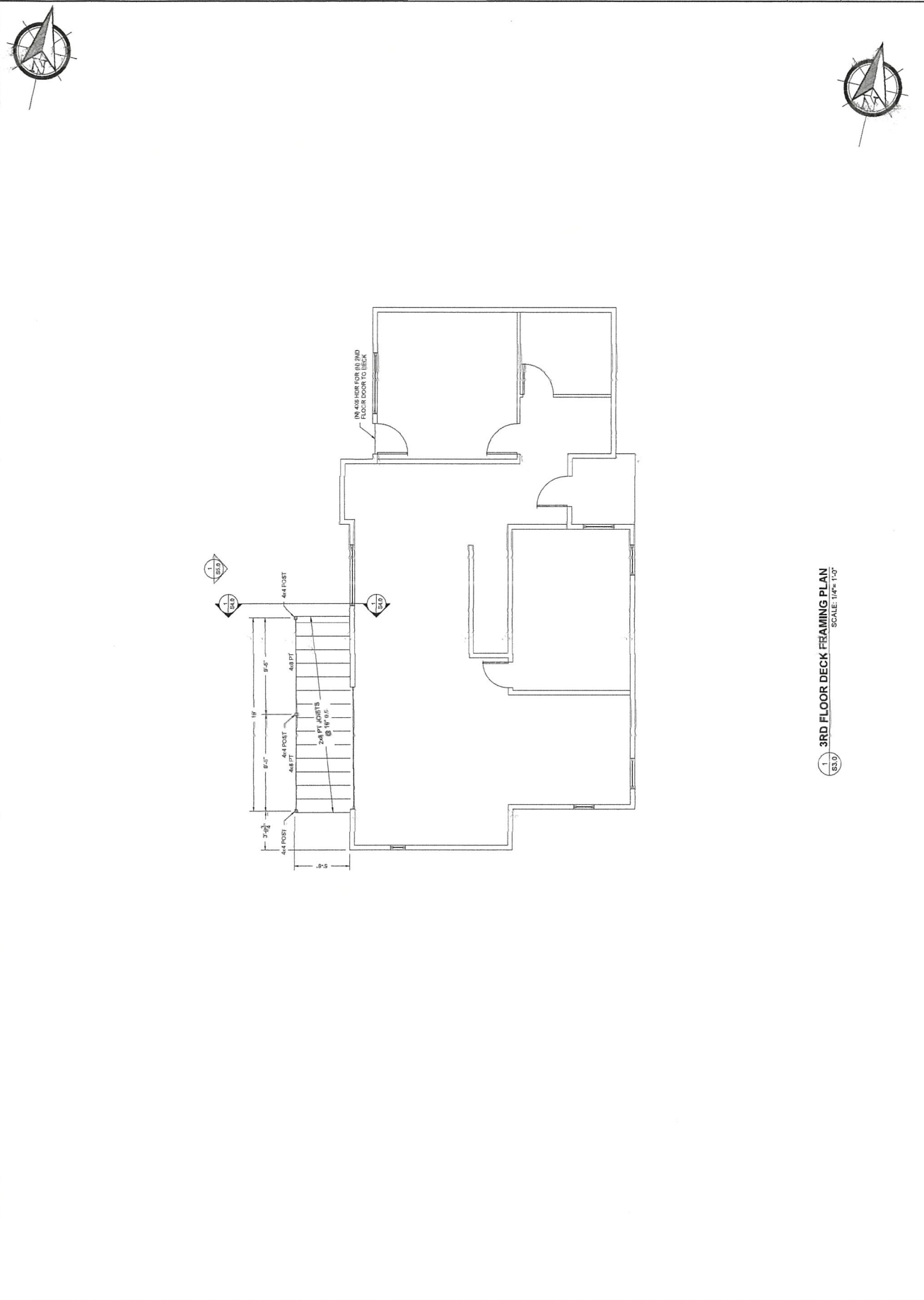
105 East Cypress
 Garfield, OR 97118
 503-922-2442
 strikeengineering.com
 john@strikeengineering.com



TRENT AND KELLIE DAVIS
 HOUSE RENOVATION
 1695 McDONALD RD
 NEHALEM, OR 97131
 3RD FLOOR DECK FRAMING PLAN

DRAWN: 3/20/24
 REVISION: 3/22/24
 SCALE: AS SHOWN
 JOB NO: 197885

Drawing N.O.:
S3.0



1. 3RD FLOOR DECK FRAMING PLAN
 SCALE: 1/4" = 1'-0"



S4.0

Drawing N.O.

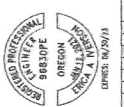
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TRENT AND KELIE DAVIS
 HOUSE RENOVATION
 6395 MCDONALD RD
 NEHALEM, OR 97131

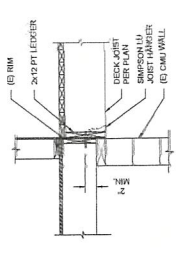
FOUNDATION AND FRAMING DETAILS



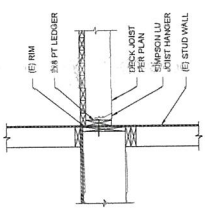
105 East Olympia
 Gresham, OR 97118
 503-252-2442
 john@strickerengineering.com



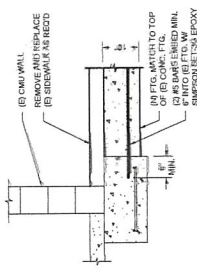
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3		REVISIONS
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5		REVISIONS
6		REVISIONS



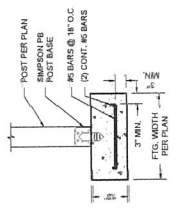
1 2ND FLOOR DECK LEDGER
 SCALE: 1/4" = 1'-0"



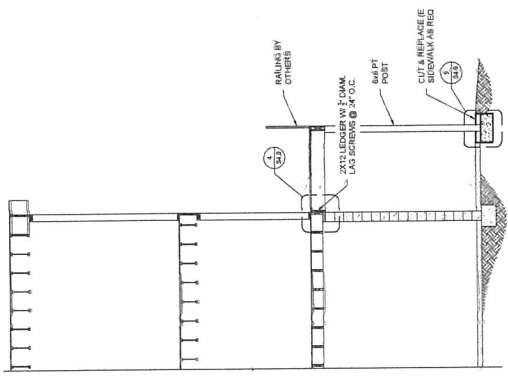
3 3RD FLOOR DECK LEDGER
 SCALE: 1/4" = 1'-0"



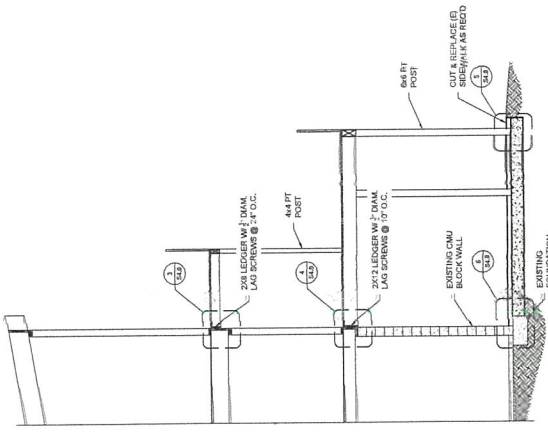
6 (N) FOOTING @ (E) FOOTING
 SCALE: 1/4" = 1'-0"



5 TYPICAL POST FOOTING
 SCALE: 1/4" = 1'-0"



2 SOUTH DECK SECTION
 SCALE: 1/4" = 1'-0"



1 WEST DECK SECTION
 SCALE: 1/4" = 1'-0"

S5.0

Drawing N.C.

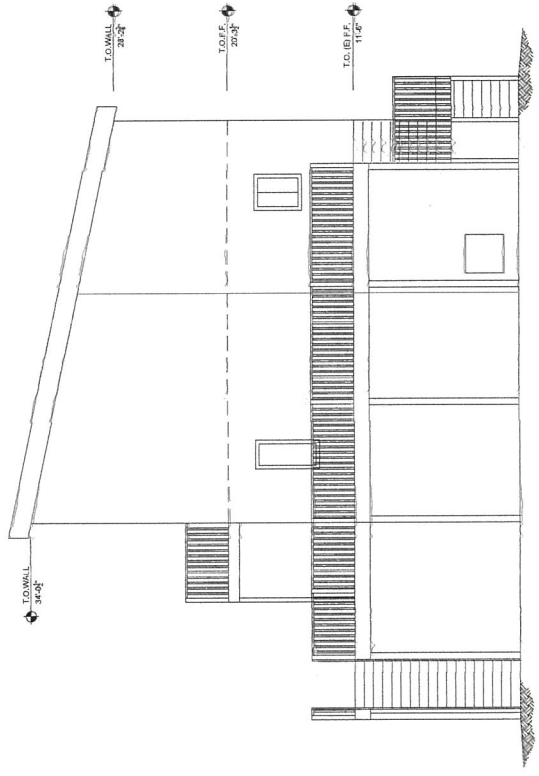
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CHECKED: 8/24/11
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HOUSE RENOVATION
16395 McDONALD RD
NEHALEM, OR 97131
TRENT AND KELLIE DAVIS
SOUTH AND WEST MAIN HOUSE ELEVATIONS

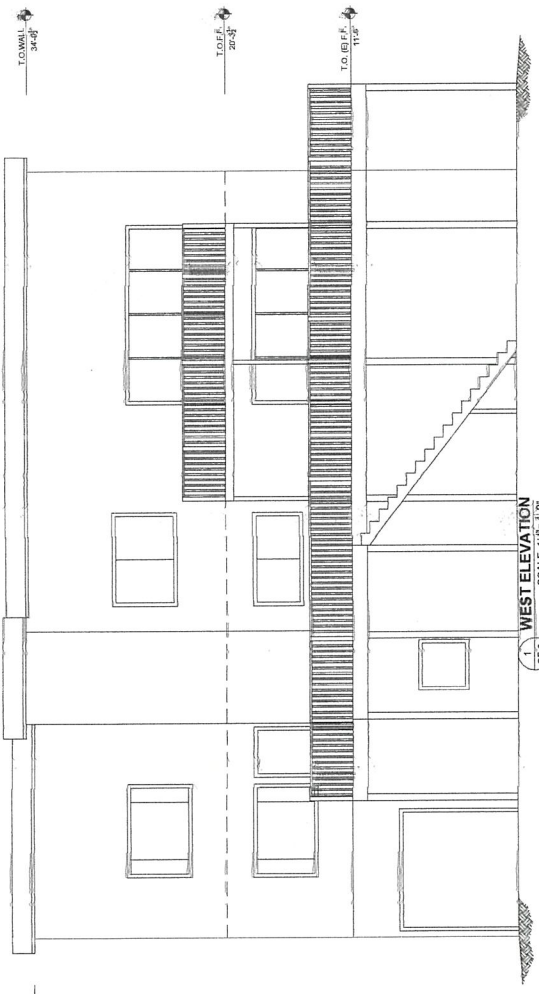


105 East Cypress
Camden, OR 97118
503-922-2442
strickerengineering.com
john@strickerengineering.com

NO.	DATE	DESCRIPTION
1	8/28/11	PERMITS REVISIONS
2	8/28/11	PERMITS REVISIONS
3	8/28/11	PERMITS REVISIONS
4	8/28/11	PERMITS REVISIONS



2 SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



1 WEST ELEVATION
SCALE: 1/4" = 1'-0"



APPENDIX D

Photo Log



Photo 1:
West side of Davis property

Western side of the Davis property, with the Nehalem River on the left, the existing deck and house on the right, and a grass lawn between the two.



Photo 2:
Nehalem River - Upstream

Looking upstream at the Nehalem River from the Davis property.





Photo 3:
*Nehalem River -
Downstream*

Looking downstream at
the Nehalem River from
the Davis property.

