Tillamook County

DEPARTMENT OF COMMUNITY DEVELOPMENT
BUILDING, PLANNING & ON-SITE SANITATION SECTIONS

1510 – B Third Street
Tillamook, Oregon 97141
www.tillamook.or.us
Building (503) 842-3407
Planning (503) 842-3408
Sanitation (503) 842-3409
FAX (503) 842-1819
Toll Free 1(800) 488-8280

Land of Cheese, Trees and Ocean Breeze

Floodway Development Permit, 851-21-000288-PLNG: WISE
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: August 10, 2021

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

851-21-000288-PLNG: A review of a Floodway Development Permit for the placement of a single-family dwelling. The subject property is accessed from Resort Drive, a County road, and is designated as Tax Lot 5902, of Section 19AC of Township 4 South, Range 10 West of the Willamette Meridian, Tillamook County, Oregon. The property is located in the Pacific City/Woods Medium Density Residential (PCW-R2) Zone. The applicant and property owner is Michael Wise.

Written comments received by the Department of Community Development prior to 4:00p.m. on August 24, 2021 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 25, 2021.

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

Melissa Jenck, CFM, Land Use Planner II

Sarah Absher

Sarah Absher, CFM, Director
Enc. Applicable Ordinance Criteria, Maps

REVIEW CRITERIA

ARTICLE III – ZONE REGULATIONS

TCLUO SECTION 3.510: FLOOD HAZARD OVERLAY ZONE

(14) DEVELOPMENT PERMIT PROCEDURES

...

(b) Development Permit Review Criteria

(1) The fill is not within a Coastal High Hazard Area.

(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,

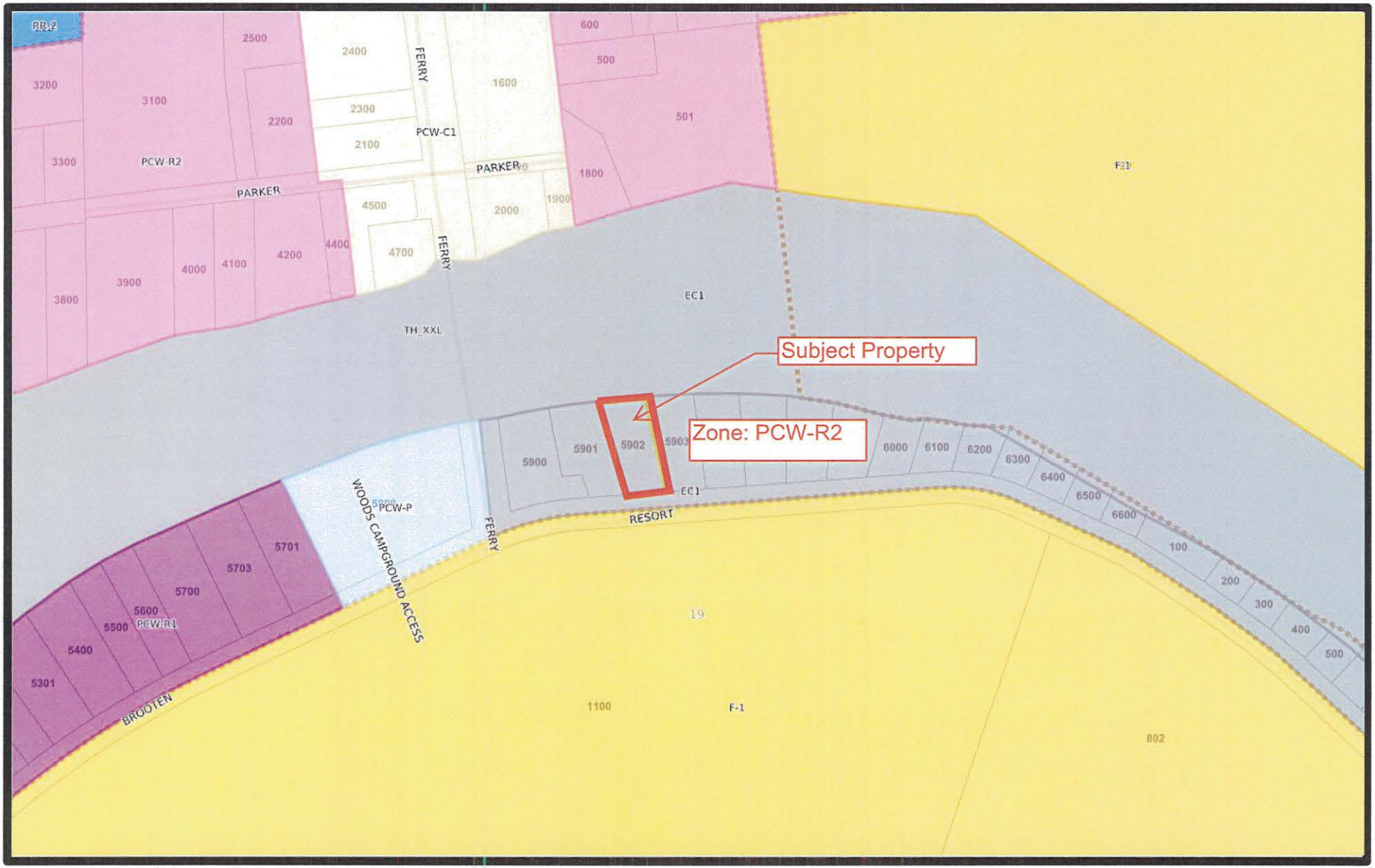
v. Slope of fill shall be no steeper than 1.5 horizontal to 1 vertical,

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.

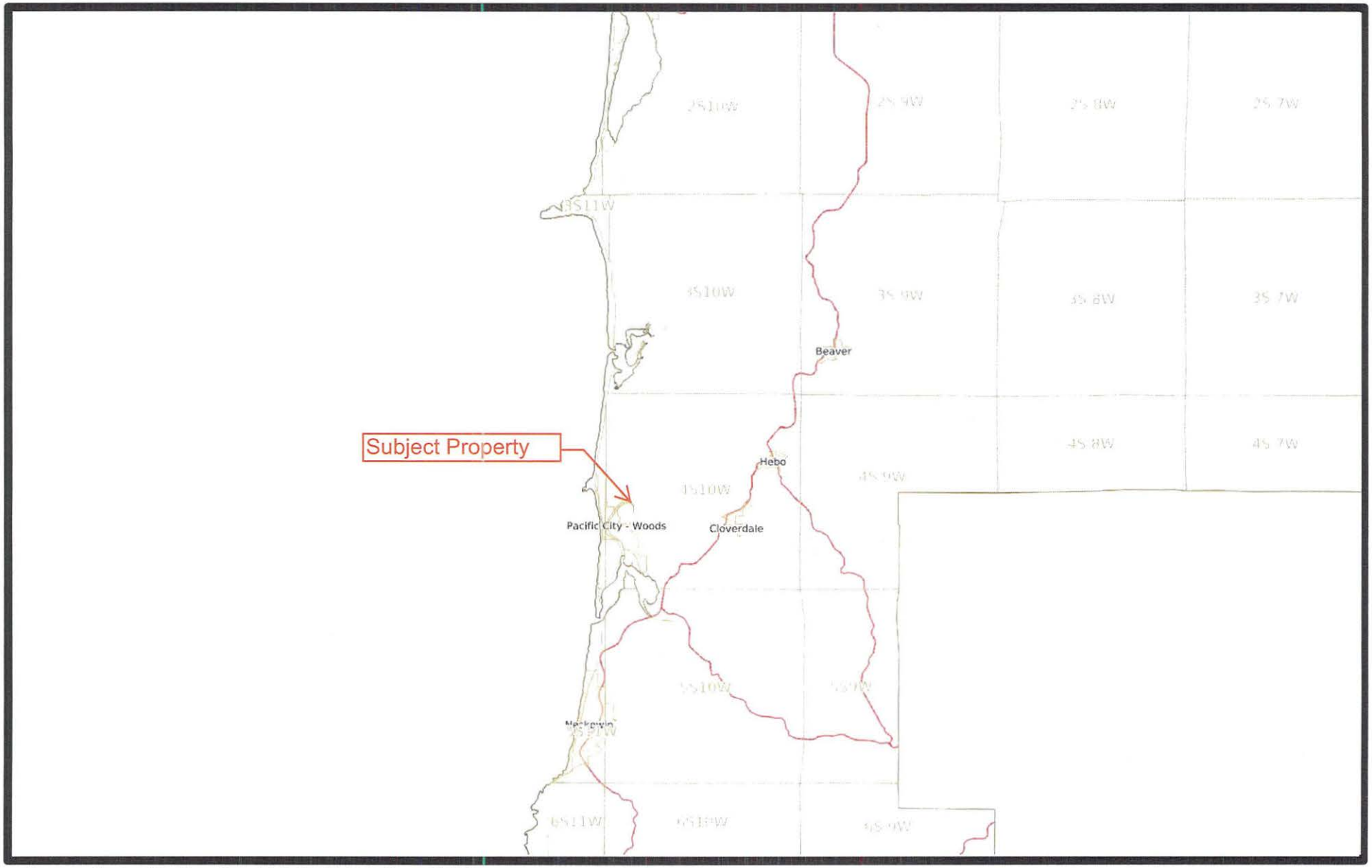
EXHIBIT A

Zoning Map



Generated with the GeoMOOSE Printing Utilities

Vicinity Map



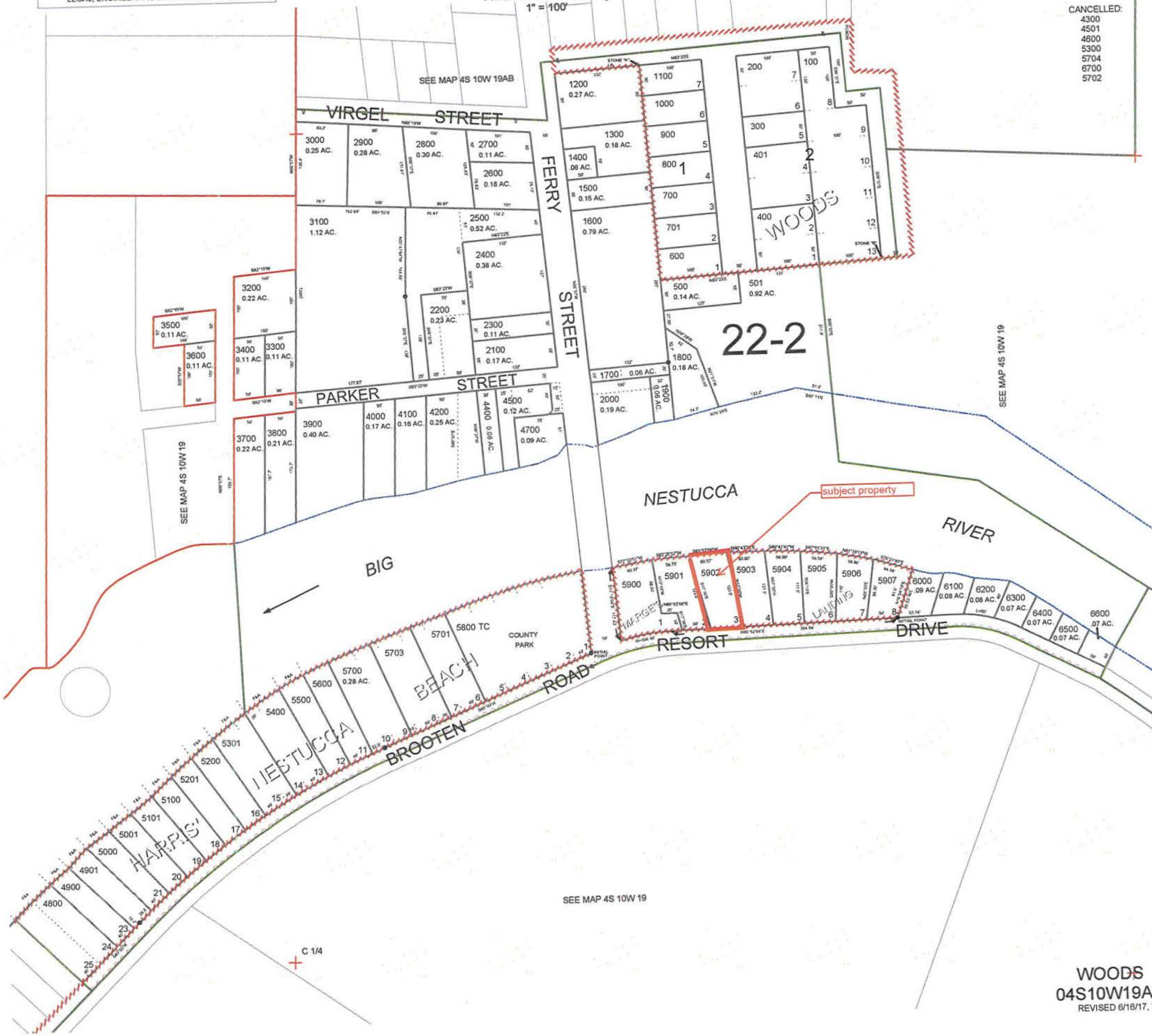
Generated with the GeoMOOSE Printing Utilities

04S10W19AC
WOODS

FOR ASSESSMENT AND TAXATION ONLY, NOT SUITABLE FOR LEGAL, ENGINEERING, OR SURVEY PURPOSES

S.W.1/4 N.E.1/4 SEC.19 T.4S. R.10W. W.M.
Tillamook County
1" = 100'

CANCELLED:
4300
4501
4600
5300
5704
6700
5702



WOODS
04S10W19AC
REVISED 6/16/17, WS

TILLAMOOK County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2020

August 10, 2021 1:03:32 pm

Account #	401148	**Tax Status**	ASSESSABLE
Map #	4S1019AC05902	**Acct Status**	ACTIVE
Code - Tax #	2202-401148	**Subtype**	NORMAL
Legal Descr	MARGE'S LANDING Lot - 3		
Mailing Name	WISE, MICHAEL & SARAH	**Deed Reference #**	2019-8029
Agent		**Sales Date/Price**	12-19-2019 / $40,500.00
In Care Of		**Appraiser**	ROBERT BUCKINGHAM
Mailing Address	1736 SW SONGBIRD ST MCMINNVILLE, OR 97128		

Prop Class	101	**MA**	**SA**	**NH**	**Unit**
RMV Class	101	09	WF	903	1138-1

Situs Address(s)	Situs City

Value Summary

Code Area		RMV	MAV	AV	RMV Exception		CPR %
2202	Land	70,660			Land	0	
	Impr.	5,650			Impr.	0	
Code Area Total		76,310	81,660	76,310		0	
Grand Total		76,310	81,660	76,310		0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	Trended RMV
2202	0	☑		PCW-R 1	Market	97	A	0.15		70,660
						Grand Total		0.15		70,660

Improvement Breakdown

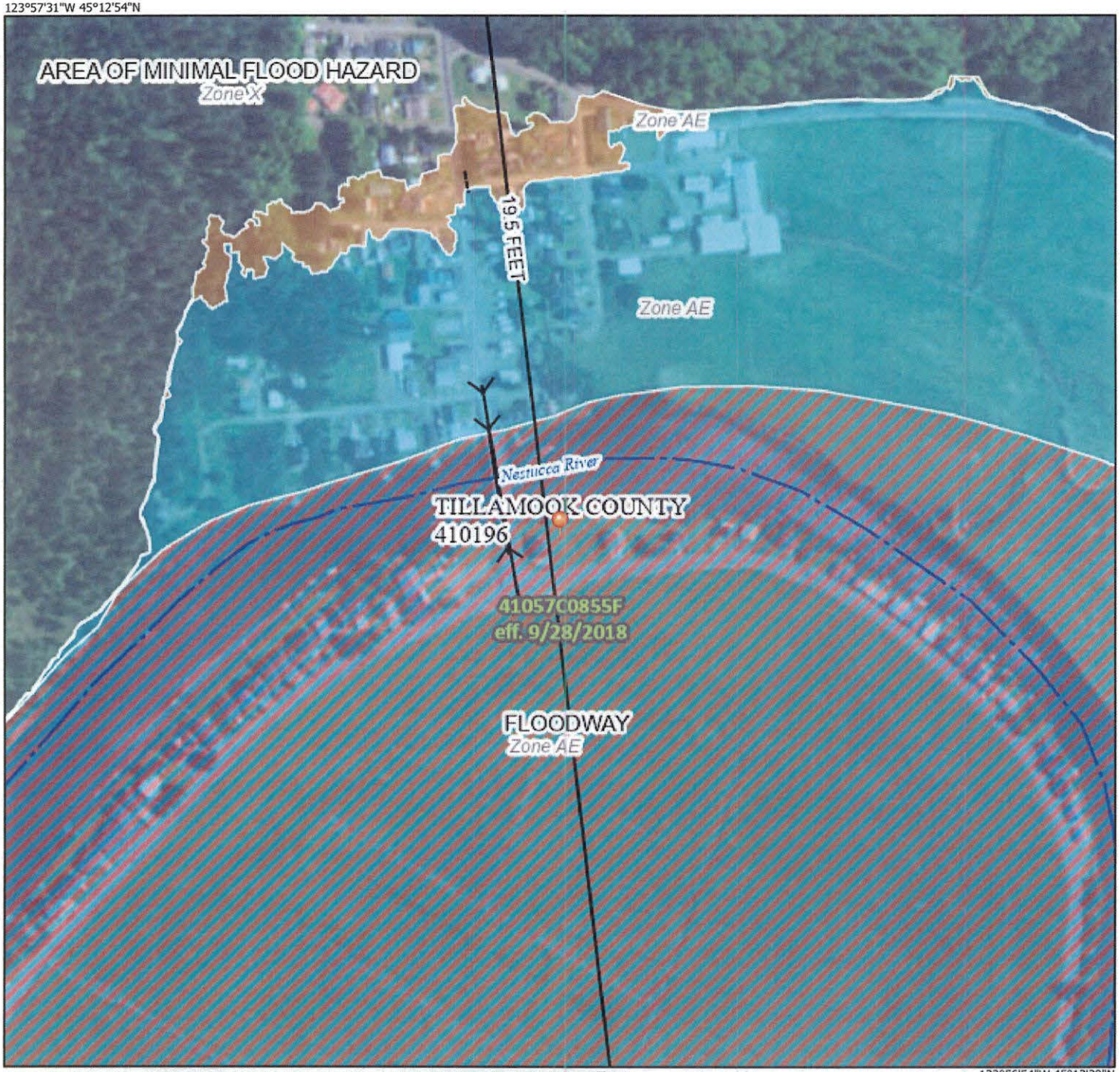
Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
2202	1	2002	110	Residential Other Improvements	116	0			5,650
				Grand Total		0			5,650

Comments: 7/3/03 Added new Dock. dv. 5/24/06-Entered Inventory-LM 8/3/09 PCA review. Changed PCA to 101. Not in commercial zone. KF 5/13 Accnt. review. RCW 01/27/14 Reappraised land; tabled values. RBB

National Flood Hazard Layer FIRMette

FEMA

123°57'31"W 45°12'54"N



123°56'54"W 45°12'29"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

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, Area 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*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 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

N

The pin displayed on the map is an approximate point selected by the user and does not represe 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

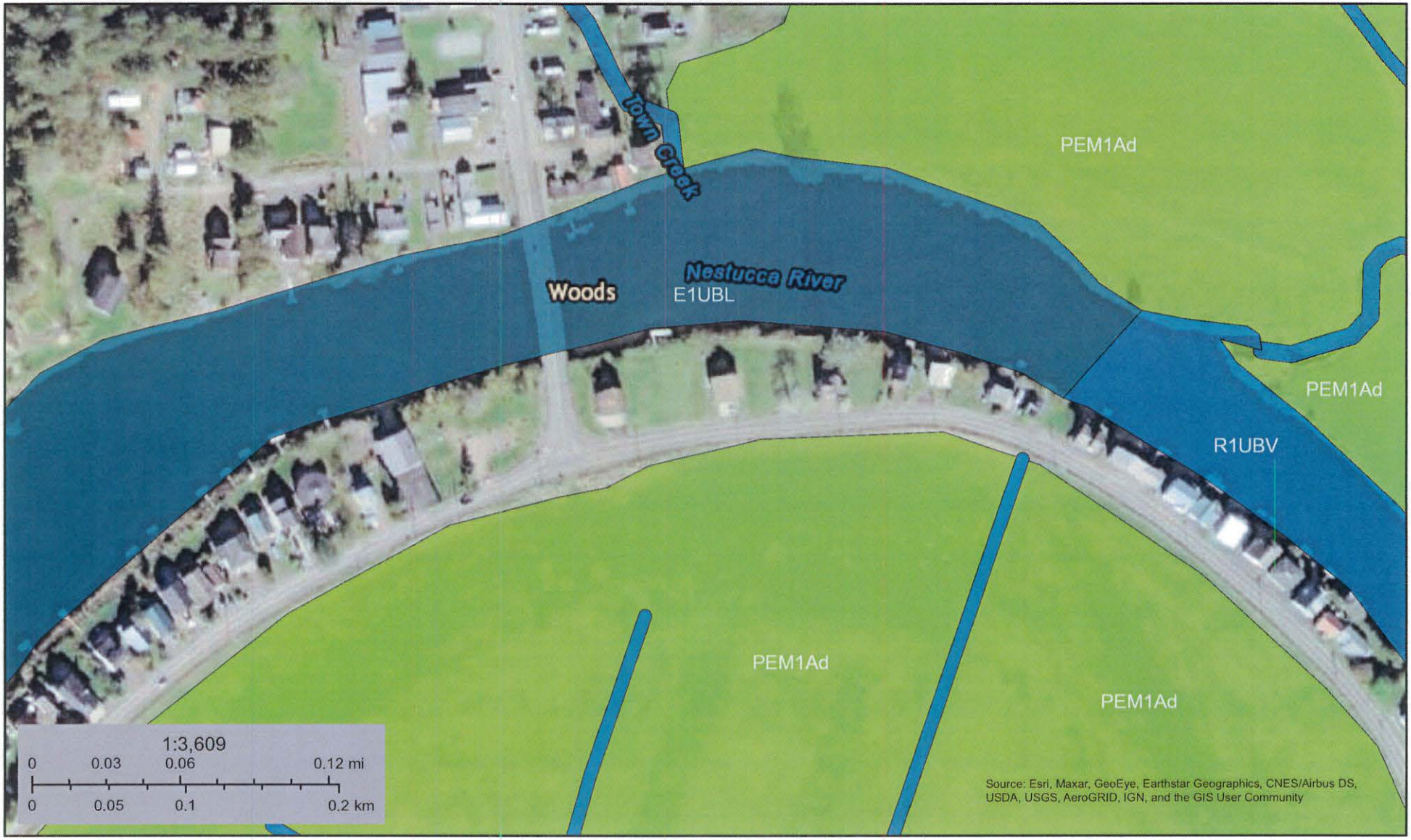
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/10/2021 at 4:07 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by 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.

U.S. Fish and Wildlife Service

National Wetlands Inventory

Wise Map



August 10, 2021

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

EXHIBIT B

Tillamook County Department of Community Development
1510-B Third Street. Tillamook, OR 97141 | Tel: 503-842-3408 Fax: 503-842-1819
www.co.tillamook.or.us

PLANNING APPLICATION

OFFICE USE ONLY
Date Stamp:
RECEIVED
JUN 03 2021
Email
☐Approved ☐Denied
Received by:
Receipt #:
Fees: 983.00
Permit No:
851-21-000209-PLNG

Applicant ☑ *(Check Box if Same as Property Owner)*
Name: Michael Wise Phone: 503-857-7484
Address: 1736 SW Songbird St
City: mcminnville State: OR Zip: 97128
Email: wise_mike_scott@yahoo.com

Property Owner
Name: Phone:
Address:
City: State: Zip:
Email:

Request: build in Pacific City

Type II	Type III	Type IV
☐ Farm/Forest Review	☐ Appeal of Director's Decision	☐ Appeal of Planning Commission Decision
☐ Conditional Use Review	☐ Extension of Time	☐ Ordinance Amendment
☐ Variance	☐ Detailed Hazard Report	☐ Large-Scale Zoning Map Amendment
☐ Exception to Resource or Riparian Setback	☐ Conditional Use (As deemed by Director)	☐ Plan and/or Code Text Amendment
☐ Nonconforming Review (Major or Minor)	☐ Ordinance Amendment	
☒ Development Permit Review for Estuary Development	☐ Map Amendment	
☐ Non-farm dwelling in Farm Zone	☐ Goal Exception	
☐ Foredune Grading Permit Review		
☐ Neskowin Coastal Hazards Area		

Location:
Site Address: 5902
Map Number: 4S (Township) 10 (Range) 19AC (Section) ~~502~~ (Tax Lot(s))

Clerk's Instrument #:

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.

Michael Wise — Property Owner Signature (Required) — 5/11/21 Date

Applicant Signature — Date

RIVER

NOTE

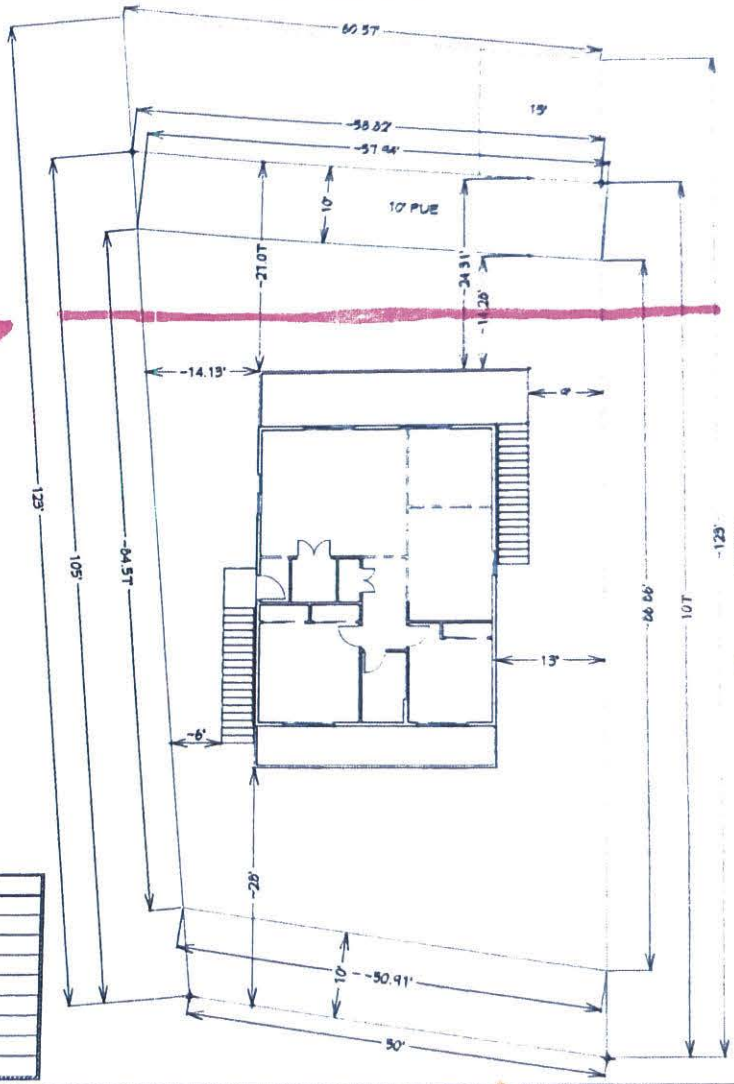
CONTRACTOR TO VERIFY ALL DIMENSIONS IN FIELD

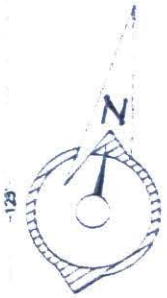
ALL UTILITY LOCATIONS ARE TO BE DETERMINED BY CONTRACTOR

ALL PROPERTY ELEVATIONS TO BE DETERMINED BY CONTRACTOR

BUILDER:
OWNER BUILDER

Riparian
Set Back





MARGE'S LANDING
LOT 3
SCALE: 1" = 6'

TABLE OF CONTENTS	
B1	COVER / SITE PLAN
B2	FRONT & REAR ELEVATIONS
B3	SIDE ELEVATIONS
L1	CROSS SECTION ELEVATIONS
B4	MAIN FLOOR PLAN
B5	DIMENSIONS PLAN
L3	ROOF PLAN
B6	MAIN FLOOR ENGINEERING PLAN
B7	FOUNDATION PLAN

SITE PLAN
SCALE: 1" = 6'-0"

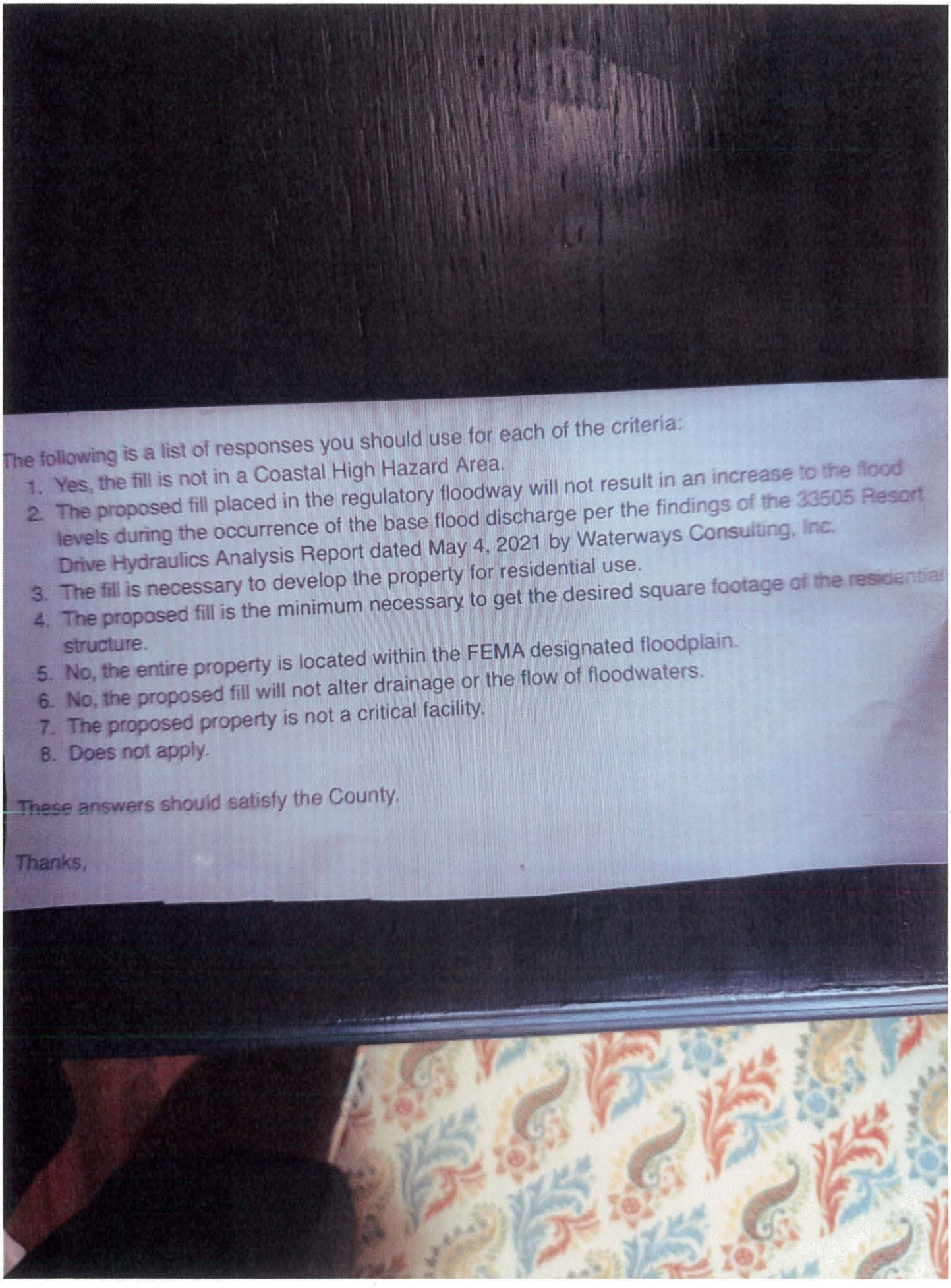
LOT 3
MARGE'S LANDING
PACIFIC CITY, OR

COVER / SITE PLAN

DATE 6/22/2021
SCALE 1" = 6'-0"
PROJECT # 21-0414-044
PAGE/SHEET B1

RECEIVED
JUL 7 2021
BY:

Road



The following is a list of responses you should use for each of the criteria:

1. Yes, the fill is not in a Coastal High Hazard Area.
2. The proposed fill placed in the regulatory floodway will not result in an increase to the flood levels during the occurrence of the base flood discharge per the findings of the 33505 Resort Drive Hydraulics Analysis Report dated May 4, 2021 by Waterways Consulting, Inc.
3. The fill is necessary to develop the property for residential use.
4. The proposed fill is the minimum necessary to get the desired square footage of the residential structure.
5. No, the entire property is located within the FEMA designated floodplain.
6. No, the proposed fill will not alter drainage or the flow of floodwaters.
7. The proposed property is not a critical facility.
8. Does not apply.

These answers should satisfy the County.

Thanks,

DEPARTMENT OF COMMUNITY DEVELOPMENT
BUILDING, PLANNING & ON-SITE SANITATION SECTIONS

1510-B Third Street
Tillamook Oregon 97141
503-842-3408

Land of Cheese, Trees and Ocean Breeze

Building (503) 842-3407
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On-Site Sanitation (503) 842-3409
FAX (503) 842-1819
Toll Free 1 (800) 488-8280

CONSOLIDATED BUILDING/ZONING PERMIT APPLICATION	Permit #: 851-21-	
	Received By:	Date:

JOB INFORMATION

Applicant/Contractor ☒ (Check Box if Same as Property Owner)	Property Owner
Applicant/Contractor: Michael Wise	Owner:
Address: 1736 SW Songbird St mcminnville	Address:
Phone #: 503-857-7484	Phone #:
Applicant/Contractor Email: wise_mike_scott yahoo	Owner Email:

CONTRACTOR / INSTALLER E-Mail _____
Building Contractor_____ CCB No._____ Phone _____
Mobile Home Installer_____ MDI. No._____ Phone _____

Site Address: 33625 Resort DR Lot 3
Map Number: Township Range Section Tax Lot(s)

(Please supply all the information requested – missing information will delay review/approval process)

CATEGORY OF CONSTRUCTION
☒ Single Family Dwelling ☐ Multi-Family
☐ Accessory Structure ☐ Manufactured
☐ Commercial / Industrial ☐ Public

TYPE OF WORK (each type requires a separate permit)
☒ New / Replacement ☐ Addition (adding sq. ft.)
☐ Accessory Structure (garage, carport, shed, etc.)
☐ Alteration (no change to sq. ft.)
☐ Demolition
☐ Other (deck, pool, retaining wall, solar, driveway, etc.)

PROJECT DESCRIPTION:
Build House

ROAD ACCESS
☐ State Highway ☐ City Street
☒ County Road/Public Way
☐ Private Road

MOBILE HOME/RECREATION VEHICLE
_____ License No. or ID No.
_____ Make/Model
_____ Year

WIND EXPOSURE: B C D (circle one)
☐☐☐

DESCRIPTION OF THE STRUCTURE
29 X 37 Dimensions
19.5 Height
2 Stories
_____ # of Dwelling Units
2 BdRms 1 Bathrooms
1,600 Living Area (sq. ft.)
300 Deck (sq. ft.)
_____ Covered Patio (sq. ft.)
under house Garage / Utility / Storage

ZONE DEVELOPMENT STANDARDS
_____ Front Yard
_____ Rear Yard
_____ Right Side
_____ Left Side
✓ River / Estuary / Creek
_____ Slope (%)

WATER SUPPLY
☒ Public District_____
☐ Private {Creek / Spring / Well } (circle one)

WASTE DISPOSAL
☒ Sewer District _____
☐ Septic Tank / Drain Field

VALUATION $ _____

AN EQUAL OPPORTUNITY EMPLOYER

Melissa Jenck

From: mike wise <wise_mike_scott@yahoo.com>
Sent: Thursday, May 27, 2021 5:56 AM
To: Melissa Jenck
Subject: EXTERNAL: Fw: 4S1019AC05902
Attachments: 4S1019AC05902.JPG; PXL_20210222_211815644.jpg; PXL_20210222_211752614.jpg

Sent from Yahoo Mail on Android

----- Forwarded Message -----
From: "Robert Bradley" <Robert.Bradley@state.or.us>
To: "Melissa Jenck" <mjenck@co.tillamook.or.us>, "Sheila Shoemaker" <sshoemak@co.tillamook.or.us>
Cc: "Sarah Absher" <sabsher@co.tillamook.or.us>, "Angela Rimoldi" <arimoldi@co.tillamook.or.us>, "wise_mike_scott@yahoo.com" <wise_mike_scott@yahoo.com>
Sent: Mon, Feb 22, 2021 at 3:11 PM
Subject: 4S1019AC05902

Attached is an aerial photo for the listed lot in Woods. The red line approximately marks the 50 foot setback line. I also attached a couple of photos of the line marked on the ground also.

The area is heavily developed. The 50 foot setback is similar to the adjacent properties. Nearby properties encroach further into the setback however.

Let me know if you have any questions.

Robert

Robert W. Bradley

District Fish Biologist

Oregon Department of Fish and Wildlife

North Coast Watershed District

4907 Third St

Tillamook, OR 97141

503-842-2741 x18613 (w)

503-842-8385 (fax)


BIG NESTUCCA RIVER
FERRY ST
5900
5901
5902
5903
5904
5905
5906
5907
6000
6100
5800
RESORT DR
FERRY ST
WOODS CAMPGROUND ACCESS
1100

FEMA

NATIONAL FLOOD INSURANCE PROGRAM

ELEVATION CERTIFICATE

AND

INSTRUCTIONS

2019 EDITION

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

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.

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

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

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
Mike Wise

Policy Number:

A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.
No current address - Vacant Lot

Company NAIC Number:

City	State	ZIP Code
Pacific City	Oregon	97135

A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)
Lot 3 of Marges Landing, Tax Lot 4S1019AC05901

A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) Residential

A5. Latitude/Longitude: Lat. 45°12'41.2"N Long. 123°57'11.6" Horizontal Datum: ☐ NAD 1927 ☒ 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 1A

A8. For a building with a crawlspace or enclosure(s):

a) Square footage of crawlspace or enclosure(s) 991.00 sq ft

b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade 10

c) Total net area of flood openings in A8.b 1280.00 sq in

d) Engineered flood openings? ☒ Yes ☐ No

A9. For a building with an attached garage:

a) Square footage of attached garage N/A sq ft

b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade N/A

c) Total net area of flood openings in A9.b N/A sq in

d) Engineered flood openings? ☐ Yes ☐ No

SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number	B2. County Name	B3. State
410196 Tillamook County	Tillamook	Oregon

B4. Map/Panel Number	B5. Suffix	B6. FIRM Index Date	B7. FIRM Panel Effective/ Revised Date	B8. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth)
41057C0855	F	09-28-2018	09-28-2018	AE	19.5'

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9:
☐ FIS Profile ☒ FIRM ☐ Community Determined ☐ Other/Source:

B11. Indicate elevation datum used for BFE in Item B9: ☐ NGVD 1929 ☒ NAVD 1988 ☐ Other/Source:

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? ☐ Yes ☒ No
Designation Date: ☐ CBRS ☐ 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. No current address - Vacant Lot			Policy Number:
City Pacific City	State Oregon	ZIP Code 97135	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: ORGN-RTK Vertical Datum: NAVD88

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)	12.5	☒ feet	☐ meters
b) Top of the next higher floor	23.6	☒ feet	☐ meters
c) Bottom of the lowest horizontal structural member (V Zones only)	N/A	☐ feet	☐ meters
d) Attached garage (top of slab)	N/A	☐ feet	☐ meters
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)	N/A	☐ feet	☐ meters
f) Lowest adjacent (finished) grade next to building (LAG)	11.8	☒ feet	☐ meters
g) Highest adjacent (finished) grade next to building (HAG)	12.6	☒ feet	☐ meters
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	N/A	☐ feet	☐ 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 Jack White	License Number 91987PLS	
Title Professional Land Surveyor		
Company Name S&F Land Services		
Address 1725 N. Roosevelt Dr. Suite B		
City Seaside	State Oregon	ZIP Code 97138

REGISTERED PROFESSIONAL LAND SURVEYOR

Jack L. White II

OREGON
SEPTEMBER 10, 2019
JACK L WHITE II
91987PLS

Signature	Date	Telephone	Ext.
Jack L. White II	05-26-2021	(503) 738-3425	

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)

Site is a vacant lot. Future construction is planned. Floor heights provided from construction drawing.

Bottom floor is proposed Garage

Next higher floor is living space

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. No current address - Vacant Lot			Policy Number:
City Pacific City	State Oregon	ZIP Code 97135	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. No current address - Vacant Lot			Policy Number:
City Pacific City	State Oregon	ZIP Code 97135	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.

ELEVATION CERTIFICATE

BUILDING PHOTOGRAPHS

See Instructions for Item A6.

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. No current address - Vacant Lot			Policy Number:
City Pacific City	State Oregon	ZIP Code 97135	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 Front

Clear Photo One

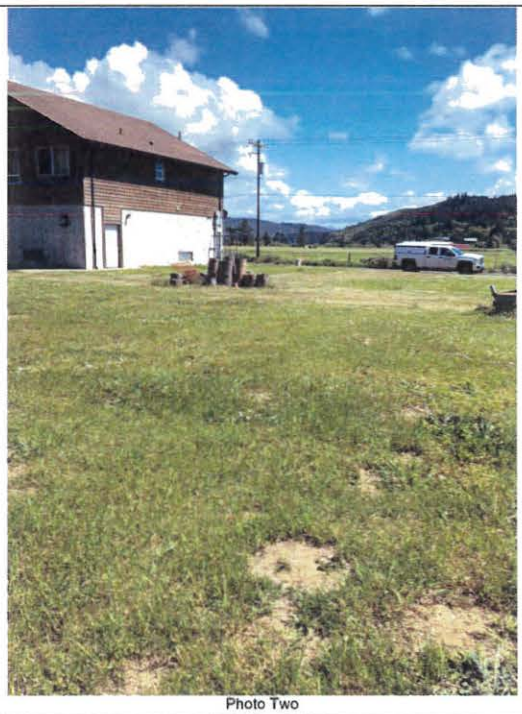


Photo Two

Photo Two Caption Rear

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. No current address - Vacant Lot			Policy Number:
City Pacific City	State Oregon	ZIP Code 97135	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

Photo Three Caption

Clear Photo Three

Photo Four

Photo Four

Photo Four Caption

Clear Photo Four

33505 Resort Drive
Pacific City, OR

Hydraulics Analysis Report

prepared for

Michael Wise

prepared by

Jake Hofeld, P.E.

REGISTERED PROFESSIONAL ENGINEER
77870PE
OREGON
JANUARY 3, 2011
JAKE DYLAN HOFELD

2021.05.04 16:16:33 -07'00'

EXPIRES: 6/30/2021

WATERWAYS CONSULTING, INC.

May 04, 2021

WATERWAYS CONSULTING

Contents

List of Figures

List of Attachments

INTRODUCTION

Waterways Consulting Inc. (Waterways) has been retained by Michael Wise (client) to evaluate the hydraulic effects on the Nestucca River during a 100-year base flood discharge from a proposed residential structure. The proposed residential structure is located on the south (left) bank floodplain of the Nestucca River at Marge's Landing Lot 3 along Resort Drive in Pacific City, Oregon. The existing site is currently an undeveloped parcel covered with grasses along the protected embankment of the river (Figure 1). Existing residential structures are located on the adjacent properties on Marge's Landing Lot 1 and Marge's Landing Lot 4.

The proposed development on Lot 3 will add a residential structure and development to the floodplain adjacent to the Nestucca River. The entire property being developed will occur within the FEMA designated floodway, effective September 28, 2018 (Figure 2).

The following report has been prepared to support floodplain development permitting with Tillamook County for the proposed project and presents our hydraulic analysis of existing and proposed conditions for the 100-year flood event along the Nestucca River within the vicinity of the proposed residential structure. This report is based on the guidance outlined in Section 3.510(9)(a) of the Tillamook County Land Use Ordinance which requires, "...certification is provided by a professional registered civil engineer demonstrating through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that such encroachment shall not result in any increase in flood levels during the occurrence of the based flood discharge."

HYDRAULIC MODELING METHODOLOGY

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) has mapped Nestucca River at the project area as a Special Flood Hazard Area (SFHA) within the regulatory floodway Zone AE (Figure 3). Tillamook County provided Waterways with a hydraulic model of the Nestucca River covering the project area for a Letter of Map Revision (LOMR), effective September 24, 2015 (Case. Number 14-10-1727P). The LOMR and corresponding hydraulic model conducted in the United States Army Corps of Engineers (USACE) Hydraulic Engineering Center River Analysis Software (HEC-RAS) by West Consultants updated the previous modeling and FIRM Panels dated August 1, 1978. All elevations are referenced to a NAVD 88 vertical datum. This model was used as the basis for all hydraulic modeling.

Waterways updated the hydraulic analysis using HEC-RAS, version 5.0.7. A one-dimensional hydraulic model was completed to characterize the existing and proposed conditions at the project site during the 100-year recurrence interval peak flow at the Nestucca River. Additional cross sections were added to the provided model in the vicinity of the project area. The two modeling scenarios include the Existing Conditions Model ("Ex. Cond." is the Plan identifier in the model) and the Proposed Conditions Model ("Prop. Cond." is the Plan identifier in the model). Figure 2 shows the proposed project location, cross section locations used in the hydraulic analysis, and the effective FEMA floodplain and floodway boundaries (FEMA 2018).

Existing Conditions Model

Additional cross sections added to the LOMR model were sampled from a terrain surface derived from LiDAR data from the Department of Geology and Mineral Industries (DOGAMI) North Coast collected by Watershed Sciences Inc. in 2009. Bathymetry for the additional cross sections were interpolated from upstream and downstream cross sections of the LOMR model.

The downstream model boundary extends approximately 2.5 miles downstream of the project area and the upstream model boundary extends approximately 1.4 miles upstream of the project area, see Figure 2. The bridge crossing geometry at Ferry Street and at Pacific Avenue downstream of the project area were included in the model from drawings provided by Oregon Department of Transportation (ODOT) and Tillamook County. Hydraulic roughness values for the additional cross sections were based on values published in the provided model. Hydraulic roughness values, known as Manning's Roughness, for the additional cross sections are outlined in Table 1.

Table 1. *Manning's Roughness for Different Land Use Types*

Land Use Type	Manning's 'n'
Channel	0.03
Open Pervious Areas (grassed)	0.04 - 0.05
Residential Area	0.07 - 0.08
Open Pervious Areas (trees)	0.10

Proposed Conditions Model

The proposed conditions model included the additional cross sections created in the existing conditions model. The existing conditions terrain was updated with the approximate proposed residential structure first floor footprint of 37.17 feet by 29 feet provided by design drawings supplied from the client (Figure 4). The proposed residential structure was modeled as a blocked obstruction at cross sections located at the upstream and downstream sides of the proposed building. The location of the proposed residential structure is approximate based on the sketch provided by the client, but is considered accurate enough for the purposes of this analysis (Figure 5). Structural posts supporting the raised deck and stairwells of the residential structure were not included in the model because these are assumed to have negligible effect on the river hydraulics (i.e. the river can flow unimpeded through these areas).

Boundary Conditions

The downstream boundary condition used in the two models was set to a known water surface elevation of 14.15 feet (NAVD 88) per the provided model. The downstream boundary condition is located downstream of FEMA Cross Section A near where Nestucca River meets the Nestucca Bay.

Peak Flow Hydrology

According to the FEMA FIS report and the provided model, the 100-year peak flow event for this portion of the Nestucca River is 49,700 cubic feet per second (cfs). Therefore, 49,700 cfs was assumed for the 100-year peak flow (i.e. base flood discharge) in all models.

RESULTS

Results of the hydraulic modeling are presented in Attachment A. These results show that the proposed building will not result in a rise in water surface elevations anywhere in the model. No change between the Existing Conditions Model and Proposed Conditions Model can likely be attributed to the relatively small building footprint as compared to a much larger/wider floodplain area.

CONCLUSIONS

The results of this hydraulic analysis indicated no rise in the 100-year water surface elevations for the Proposed Conditions Model when compared to the Existing Conditions Model. Based on this, the proposed project satisfies the requirement of Section 3.510(9)(a) of the Tillamook County Land Use Ordinance.

REFERENCES

Federal Emergency Management Agency. 2018. Flood Insurance Rate Maps (FIRMs) for Tillamook County (panel 0855), Oregon and Incorporated Areas. September 28, 2018.

Federal Emergency Management Agency. 2018. Flood Insurance Study (FIS) for Tillamook County, Oregon and Incorporated Areas. September 8, 2018.

U.S. Army Corps of Engineers. Hydrologic Engineering Center. Computer Program HEC-RAS Version 5.0.7 Davis, California. March 2019.

U.S. Army Corps of Engineers. Hydrologic Engineering Center. Hydraulic Reference Manual. Version 5.0 Davis, California. February 2016.

Watershed Sciences. LiDAR Remote Sensing Data Collection Oregon North Coast. Prepared for Department of Geology and Mineral Industries (DOGAMI). December 21, 2009.

West Consultants. Hydraulic Engineering Center River Analysis Software (HEC-RAS) Model of the Nestucca River. 2014.

FIGURES

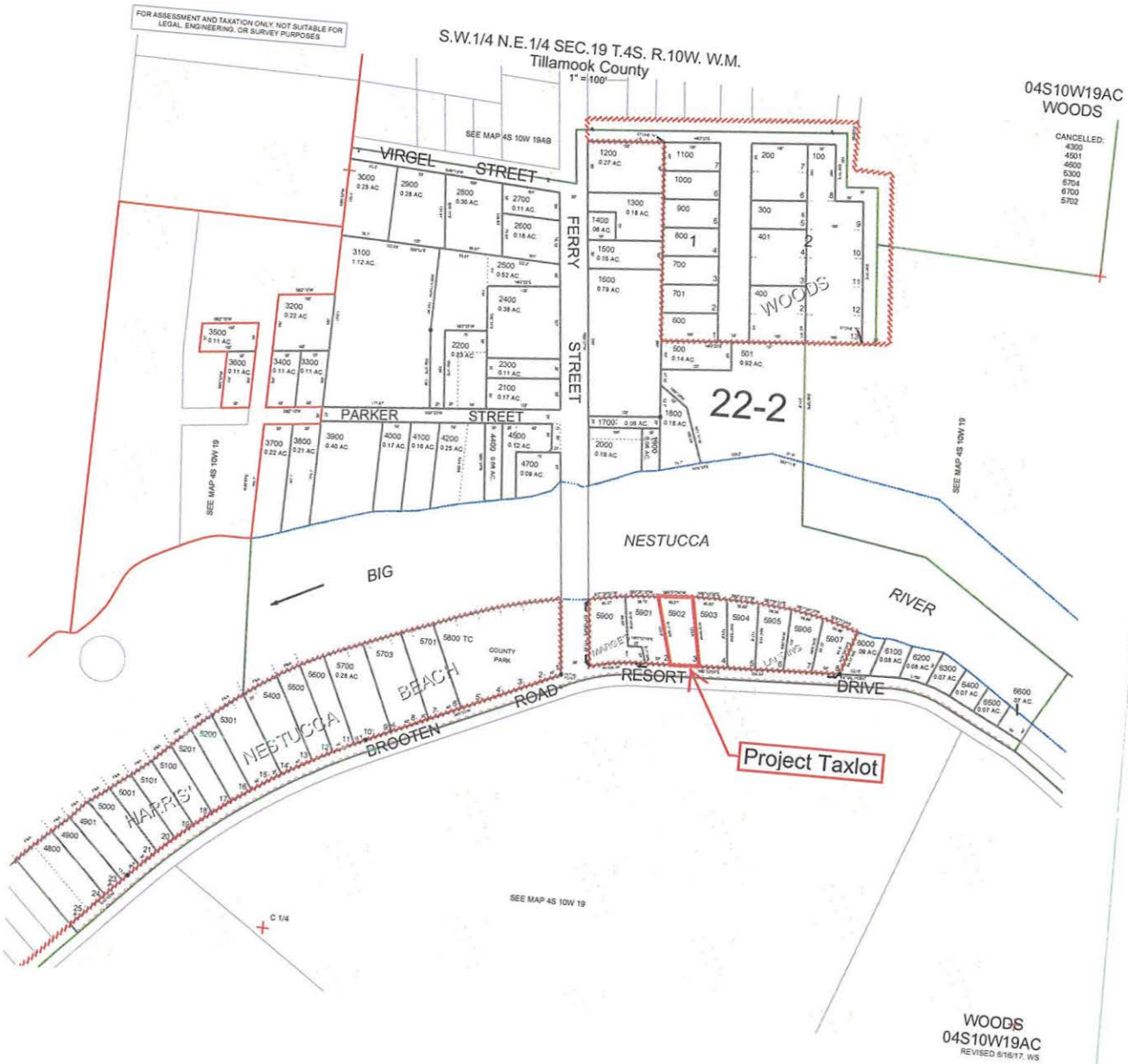


Figure 1. Project Taxlot Location

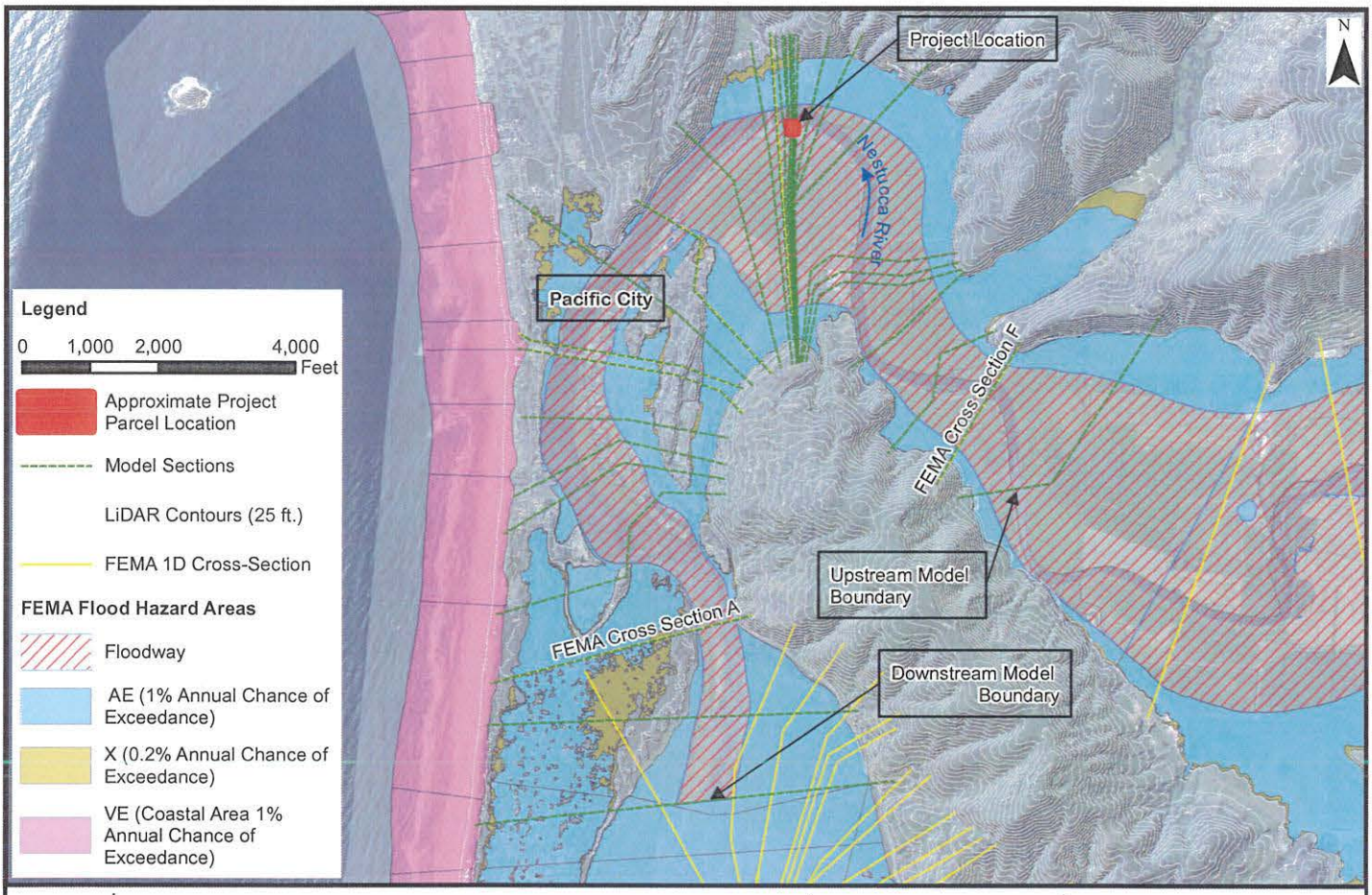
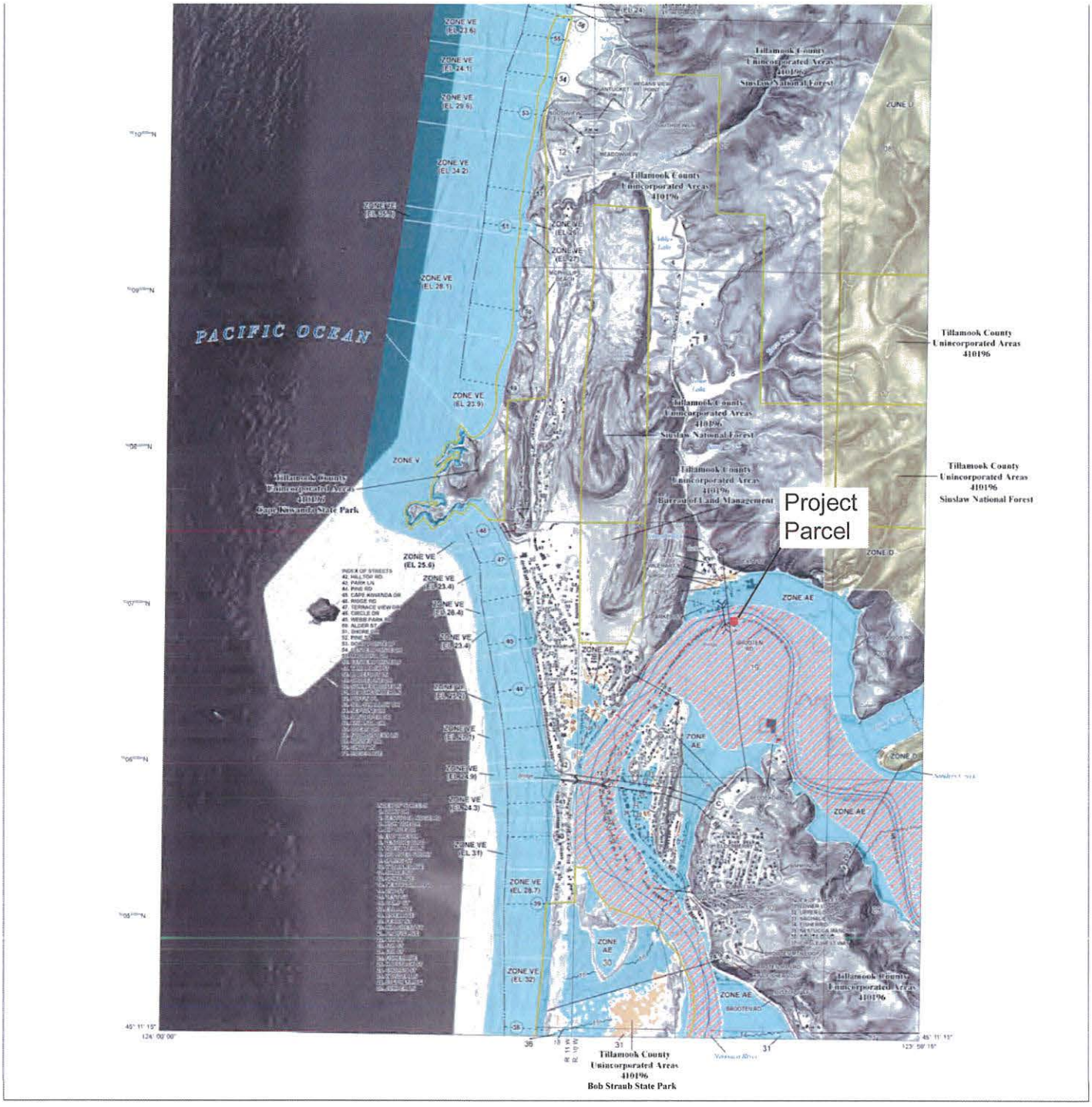


FIGURE 2

Hydraulic Analysis Overview Map of Proposed Project

Marge's Landing
Lot 3
Hydraulic Analysis

WATERWAYS CONSULTING, INC.
Santa Cruz, CA | watways.com | Portland, OR



FLOOD HAZARD INFORMATION

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

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTP://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) Zone A, AO, With BFE or Depth
- Regulatory Floodway
- 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
- Future Conditions 1% Annual Chance Flood Hazard

OTHER AREAS OF FLOOD HAZARD
- Area with Reduced Flood Risk due to Levee See Notes.
- Area with Flood Risk due to Levee

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard
- Area of Undetermined Flood Hazard

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

NOTES TO USERS

SCALE

1 inch = 1,000 feet 1:12,000

0 1,000 2,000 4,000 Feet

0 255 510 1,020 Meters

PANEL LOCATOR

FEMA

National Flood Insurance Program

NATIONAL FLOOD INSURANCE PROGRAM

TILLAMOOK COUNTY, OREGON

PANEL 855 OF 1075

COMMUNITY	NUMBER	PANEL	SUFFIX
TILLAMOOK COUNTY	410196	0855	

Figure 3. FEMA Flood Insurance Rate Map (FIRM)

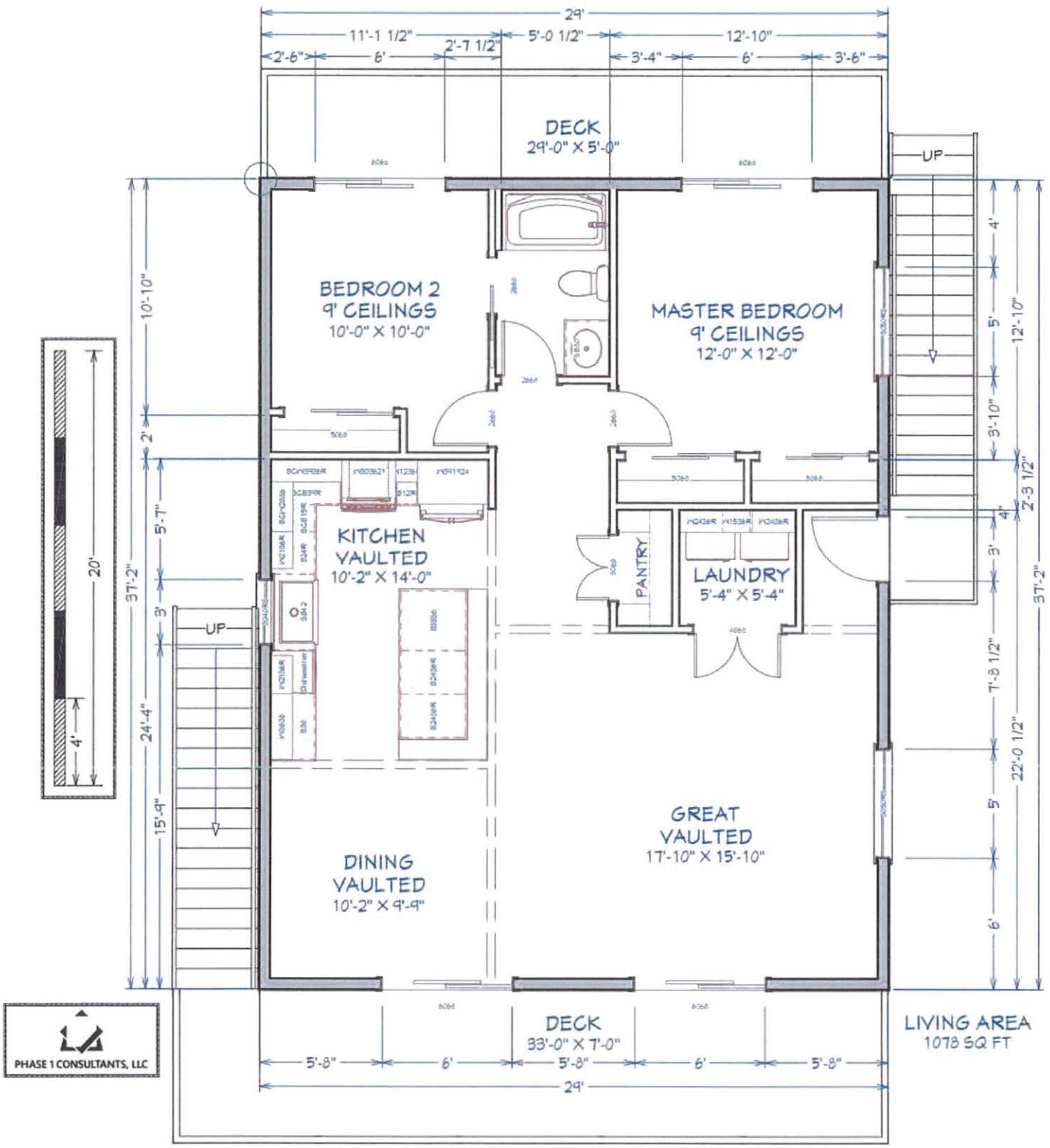


Figure 4. Proposed Residential Structure

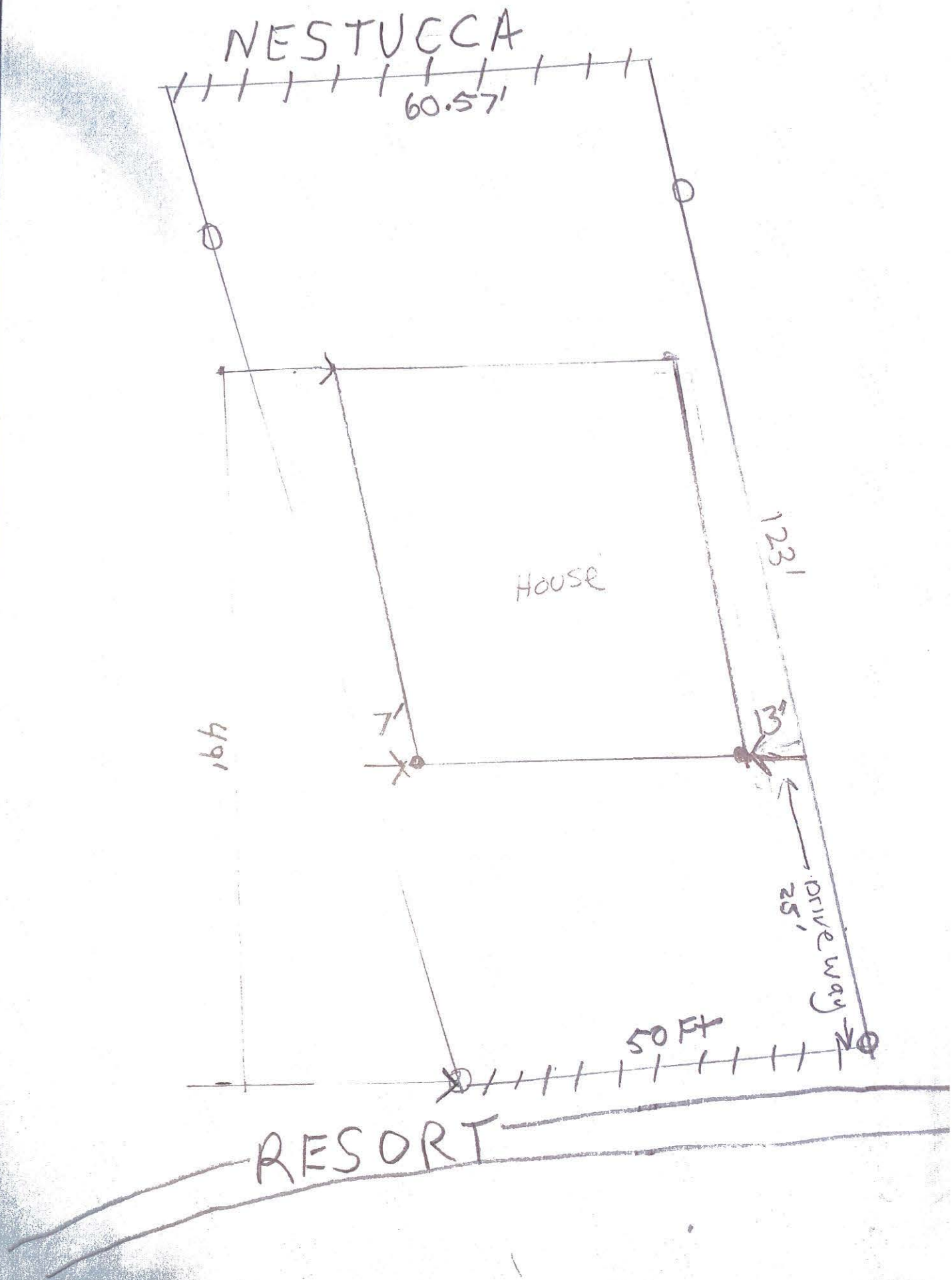


Figure 5. Proposed Residential Footprint

Attachment A

HEC-RAS Output Files

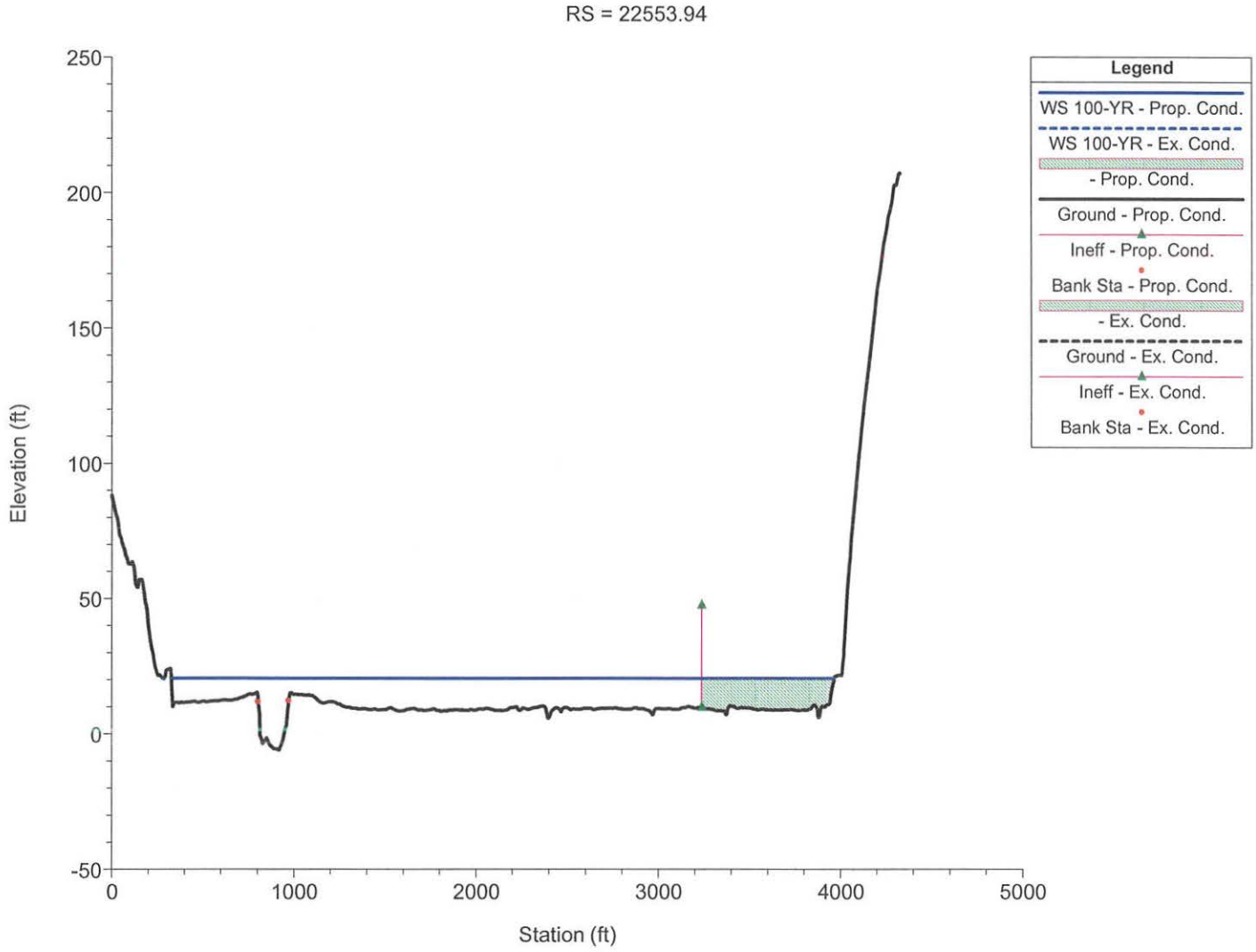
HEC-RAS River: Nestucca River Reach: Lower Profile: 100-YR

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Lower	22553.94	100-YR	Ex. Cond.	49700.00	-5.99	20.500	12.22	20.56	0.000090	3.06	32254.27	3644.77	0.11
Lower	22553.94	100-YR	Prop. Cond.	49700.00	-5.99	20.500	12.22	20.56	0.000090	3.06	32254.56	3644.78	0.11
Lower	21008.6	100-YR	Ex. Cond.	49700.00	-8.92	20.094		20.31	0.000259	5.18	17870.37	1743.79	0.20
Lower	21008.6	100-YR	Prop. Cond.	49700.00	-8.92	20.094		20.31	0.000259	5.18	17870.56	1743.79	0.20
Lower	20157.05	100-YR	Ex. Cond.	49700.00	-9.15	19.947	12.36	20.10	0.000212	4.43	20020.03	2302.32	0.17
Lower	20157.05	100-YR	Prop. Cond.	49700.00	-9.15	19.947	12.36	20.10	0.000212	4.43	20020.25	2302.32	0.17
Lower	19079.89	100-YR	Ex. Cond.	49700.00	-11.85	19.707		19.89	0.000228	5.02	20301.33	1888.76	0.18
Lower	19079.89	100-YR	Prop. Cond.	49700.00	-11.85	19.707		19.89	0.000228	5.02	20301.57	1888.76	0.18
Lower	18019.8	100-YR	Ex. Cond.	49700.00	-7.69	19.545	11.35	19.68	0.000186	4.31	22196.93	2668.29	0.16
Lower	18019.8	100-YR	Prop. Cond.	49700.00	-7.69	19.545	11.35	19.68	0.000186	4.31	22197.21	2668.29	0.16
Lower	17875.97	100-YR	Ex. Cond.	49700.00	-7.60	19.527	11.05	19.66	0.000168	4.13	23071.69	2677.08	0.16
Lower	17875.97	100-YR	Prop. Cond.	49700.00	-7.60	19.527	11.05	19.66	0.000168	4.13	23071.97	2677.08	0.16
Lower	17653.2	100-YR	Ex. Cond.	49700.00	-4.67	19.541	11.28	19.61	0.000095	3.21	29290.61	3181.67	0.12
Lower	17653.2	100-YR	Prop. Cond.	49700.00	-4.67	19.541	11.28	19.61	0.000095	3.21	29290.97	3181.67	0.12
Lower	15949.74	100-YR	Ex. Cond.	49700.00	-7.67	19.497	9.86	19.52	0.000032	1.90	46760.86	4377.65	0.07
Lower	15949.74	100-YR	Prop. Cond.	49700.00	-7.67	19.497	9.86	19.52	0.000032	1.90	46761.38	4377.65	0.07
Lower	15178	100-YR	Ex. Cond.	49700.00	-9.08	19.462		19.49	0.000039	2.00	41528.15	4144.42	0.08
Lower	15178	100-YR	Prop. Cond.	49700.00	-9.08	19.462		19.49	0.000039	2.00	41528.65	4144.42	0.08
Lower	14833	100-YR	Ex. Cond.	49700.00	-9.71	19.440		19.48	0.000039	2.32	39196.43	3935.51	0.09
Lower	14833	100-YR	Prop. Cond.	49700.00	-9.71	19.440		19.48	0.000039	2.32	39196.92	3935.52	0.09
Lower	14821	100-YR	Ex. Cond.	49700.00	-9.73	19.439		19.48	0.000040	2.33	38944.46	3937.38	0.09
Lower	14821	100-YR	Prop. Cond.	49700.00	-9.73	19.439		19.48	0.000040	2.33	38689.70	3900.17	0.09
Lower	14777	100-YR	Ex. Cond.	49700.00	-9.81	19.437		19.47	0.000041	2.39	38373.04	3877.17	0.09
Lower	14777	100-YR	Prop. Cond.	49700.00	-9.81	19.436		19.47	0.000042	2.40	38109.40	3839.95	0.09
Lower	14765	100-YR	Ex. Cond.	49700.00	-9.83	19.436		19.47	0.000042	2.39	38261.42	3884.16	0.09
Lower	14765	100-YR	Prop. Cond.	49700.00	-9.83	19.436		19.47	0.000042	2.39	38261.42	3884.16	0.09
Lower	14728.64	100-YR	Ex. Cond.	49700.00	-9.90	19.432	10.23	19.47	0.000043	2.46	37305.84	3855.65	0.09
Lower	14728.64	100-YR	Prop. Cond.	49700.00	-9.90	19.432	10.23	19.47	0.000043	2.46	37305.84	3855.65	0.09
Lower	14621.23			Bridge									

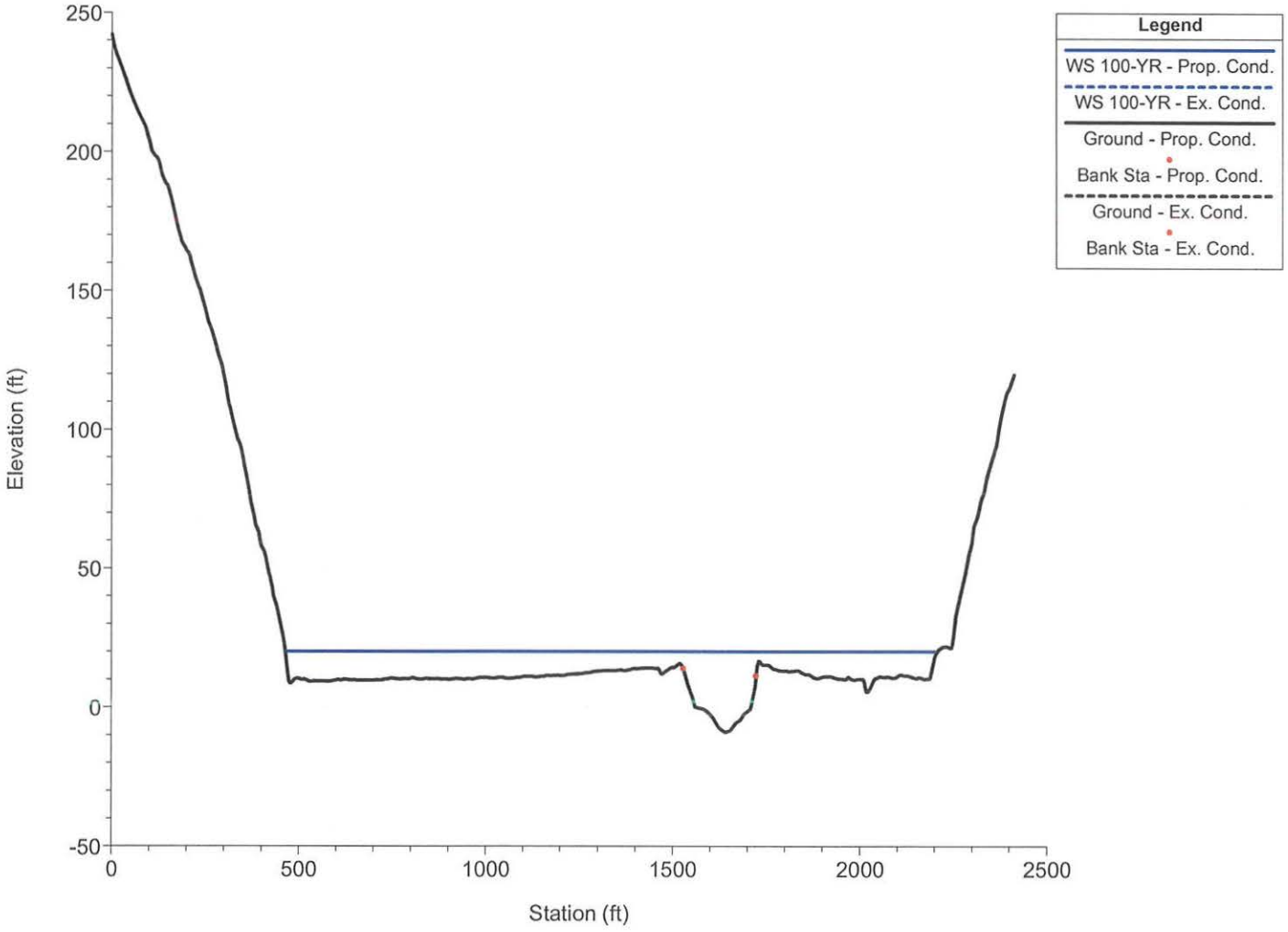
Project Area

HEC-RAS River: Nestucca River Reach: Lower Profile: 100-YR (Continued)

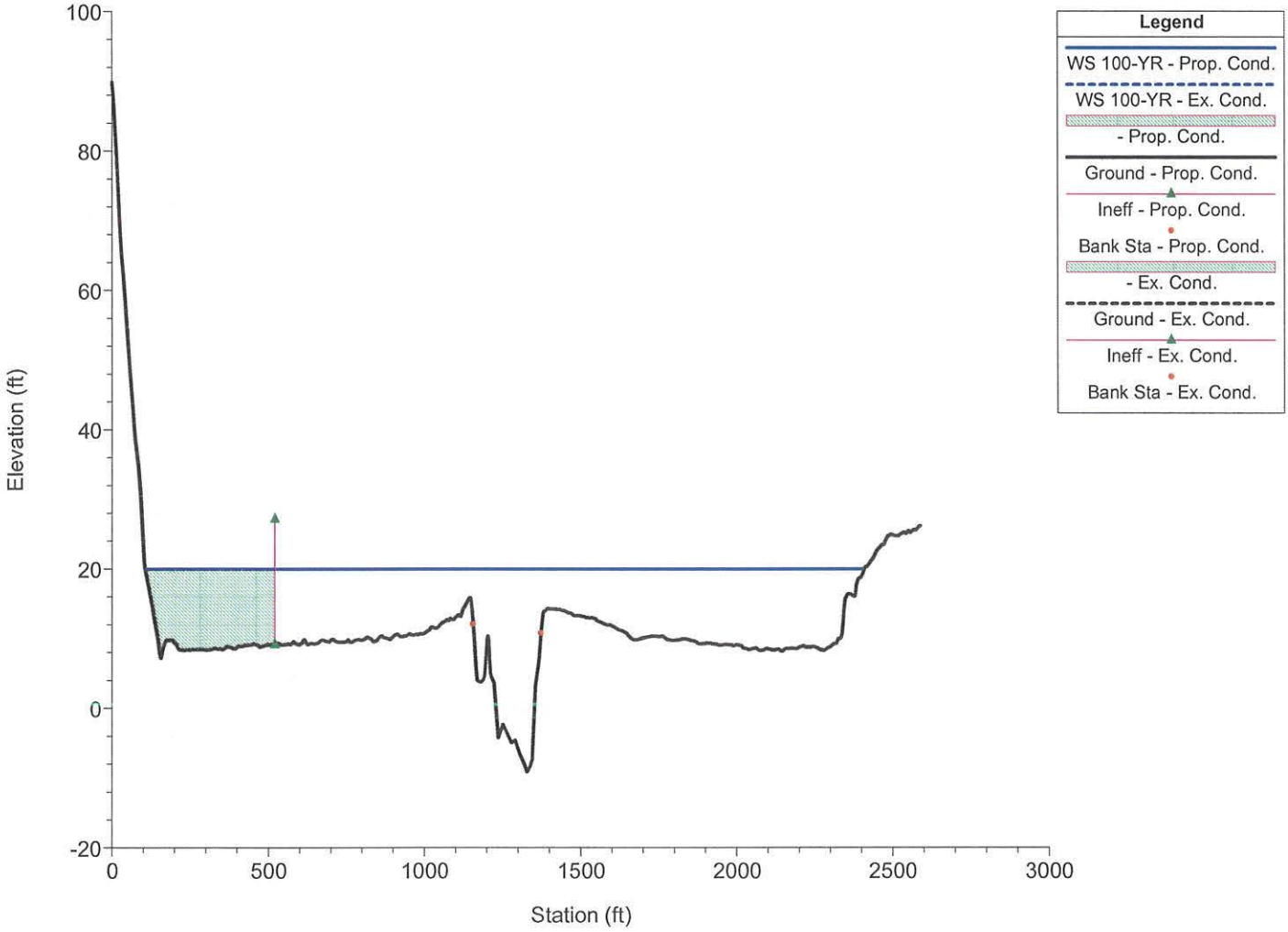
Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Lower	14544.91	100-YR	Ex. Cond.	49700.00	-8.62	19.414	10.32	19.46	0.000045	2.54	36889.98	3870.99	0.10
Lower	14544.91	100-YR	Prop. Cond.	49700.00	-8.62	19.414	10.32	19.46	0.000045	2.54	36889.98	3870.99	0.10
Lower	13541.26	100-YR	Ex. Cond.	49700.00	-7.81	19.367	10.21	19.41	0.000052	2.50	32776.04	3280.36	0.10
Lower	13541.26	100-YR	Prop. Cond.	49700.00	-7.81	19.367	10.21	19.41	0.000052	2.50	32776.04	3280.36	0.10
Lower	12396	100-YR	Ex. Cond.	49700.00	-3.59	18.502		19.22	0.000463	7.06	9092.69	2049.83	0.30
Lower	12396	100-YR	Prop. Cond.	49700.00	-3.59	18.502		19.22	0.000463	7.06	9092.69	2049.83	0.30
Lower	11367.2	100-YR	Ex. Cond.	49700.00	-3.05	17.729	9.51	18.65	0.000621	7.83	7532.11	2017.15	0.34
Lower	11367.2	100-YR	Prop. Cond.	49700.00	-3.05	17.729	9.51	18.65	0.000621	7.83	7532.11	2017.15	0.34
Lower	10048.77	100-YR	Ex. Cond.	49700.00	-3.49	16.972	9.18	17.81	0.000619	7.53	8674.57	2062.18	0.34
Lower	10048.77	100-YR	Prop. Cond.	49700.00	-3.49	16.972	9.18	17.81	0.000619	7.53	8674.57	2062.18	0.34
Lower	9942.323			Bridge									
Lower	9904.361	100-YR	Ex. Cond.	49700.00	-8.44	16.825	8.05	17.51	0.000542	6.93	10023.92	2094.07	0.31
Lower	9904.361	100-YR	Prop. Cond.	49700.00	-8.44	16.825	8.05	17.51	0.000542	6.93	10023.92	2094.07	0.31
Lower	8988.11	100-YR	Ex. Cond.	49700.00	-4.80	16.608	8.14	16.97	0.000329	5.36	12949.13	1986.55	0.24
Lower	8988.11	100-YR	Prop. Cond.	49700.00	-4.80	16.608	8.14	16.97	0.000329	5.36	12949.13	1986.55	0.24
Lower	8192.259	100-YR	Ex. Cond.	49700.00	-18.19	16.351	6.30	16.72	0.000308	5.47	12921.58	2041.81	0.23
Lower	8192.259	100-YR	Prop. Cond.	49700.00	-18.19	16.351	6.30	16.72	0.000308	5.47	12921.58	2041.81	0.23
Lower	7839.108	100-YR	Ex. Cond.	49700.00	-6.96	16.249	6.76	16.61	0.000310	5.16	12464.76	1879.15	0.23
Lower	7839.108	100-YR	Prop. Cond.	49700.00	-6.96	16.249	6.76	16.61	0.000310	5.16	12464.76	1879.15	0.23
Lower	6628.945	100-YR	Ex. Cond.	49700.00	-1.36	16.042	6.84	16.27	0.000208	3.91	14212.35	3171.30	0.19
Lower	6628.945	100-YR	Prop. Cond.	49700.00	-1.36	16.042	6.84	16.27	0.000208	3.91	14212.35	3171.30	0.19
Lower	4746.314	100-YR	Ex. Cond.	49700.00	-11.72	14.757	7.45	15.56	0.000672	7.30	7417.23	2442.34	0.34
Lower	4746.314	100-YR	Prop. Cond.	49700.00	-11.72	14.757	7.45	15.56	0.000672	7.30	7417.23	2442.34	0.34
Lower	3370.732	100-YR	Ex. Cond.	49700.00	-3.40	14.279	6.63	14.73	0.000430	5.53	9803.55	3594.57	0.27
Lower	3370.732	100-YR	Prop. Cond.	49700.00	-3.40	14.279	6.63	14.73	0.000430	5.53	9803.55	3594.57	0.27
Lower	2099.855	100-YR	Ex. Cond.	49700.00	-3.90	14.150	5.85	14.31	0.000175	3.42	17693.71	5262.50	0.17
Lower	2099.855	100-YR	Prop. Cond.	49700.00	-3.90	14.150	5.85	14.31	0.000175	3.42	17693.71	5262.50	0.17

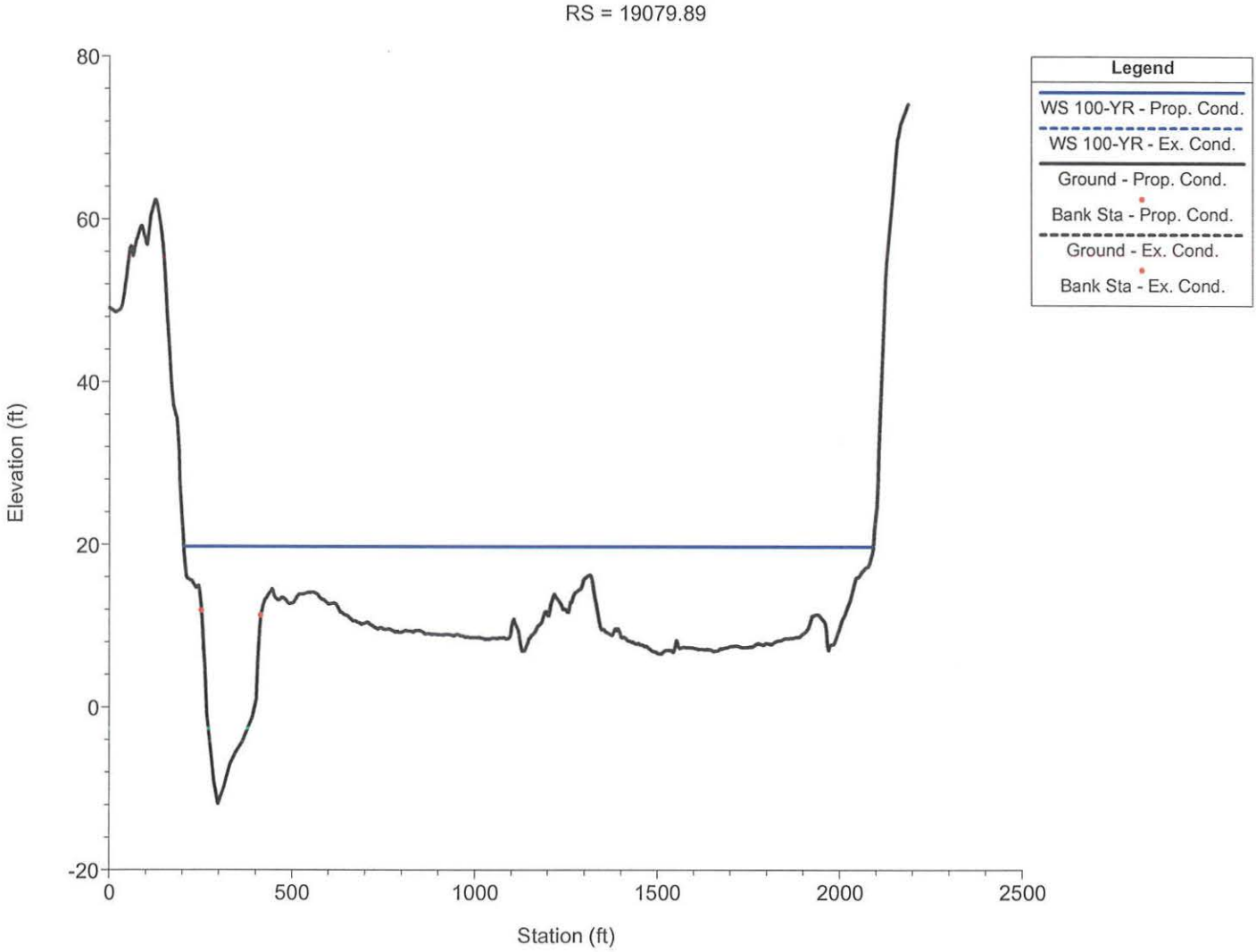

RS = 22553.94
Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
250
200
150
100
50
0
-50
0
1000
2000
3000
4000
5000
Station (ft)

RS = 21008.6

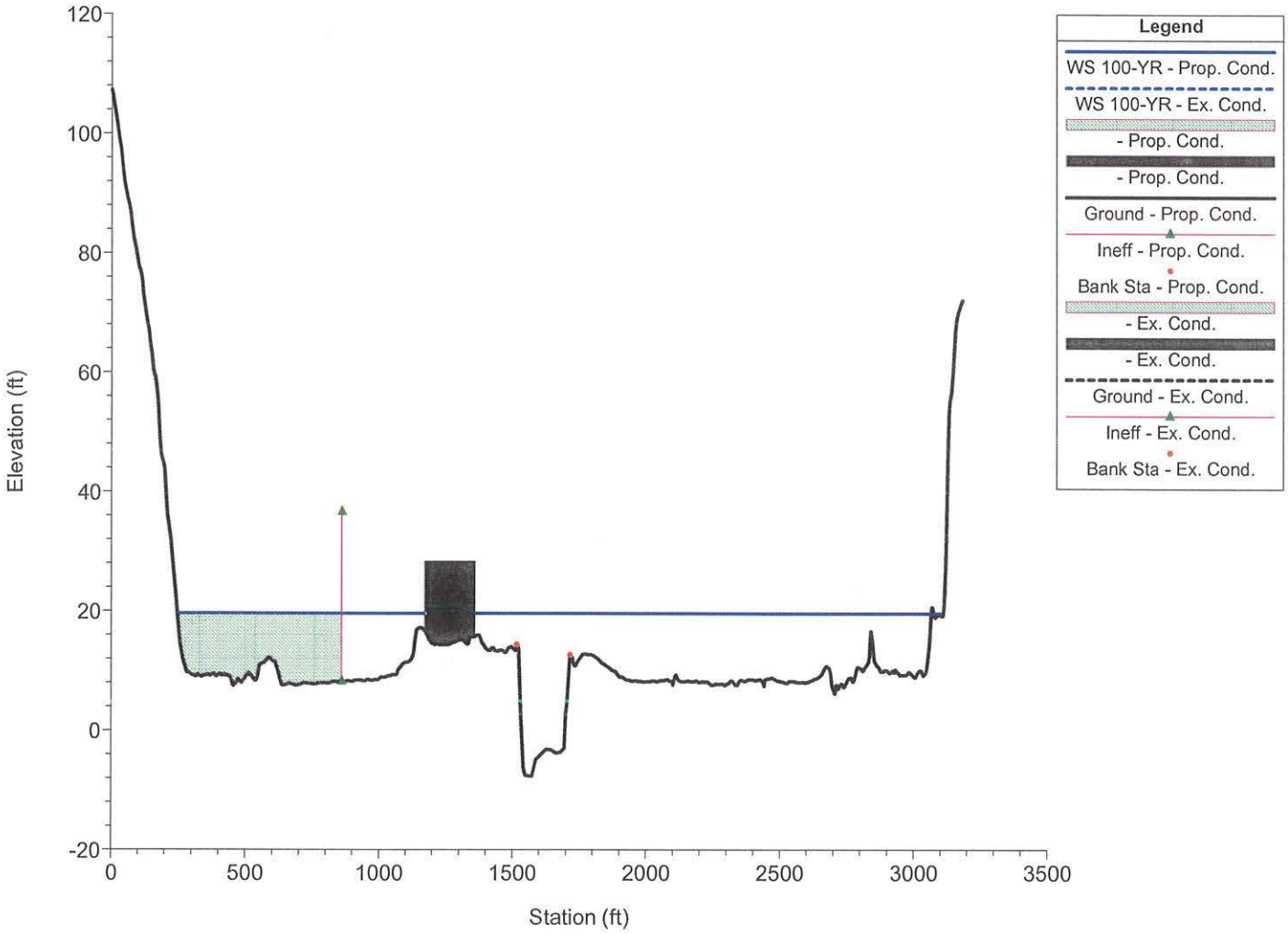

Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
Ground - Prop. Cond.
Bank Sta - Prop. Cond.
Ground - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
250
200
150
100
50
0
-50
0
500
1000
1500
2000
2500
Station (ft)

RS = 20157.05


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
100
80
60
40
20
0
-20
0
500
1000
1500
2000
2500
3000
Station (ft)


RS = 19079.89
Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
Ground - Prop. Cond.
Bank Sta - Prop. Cond.
Ground - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
80
60
40
20
0
-20
0
500
1000
1500
2000
2500
Station (ft)

RS = 18019.8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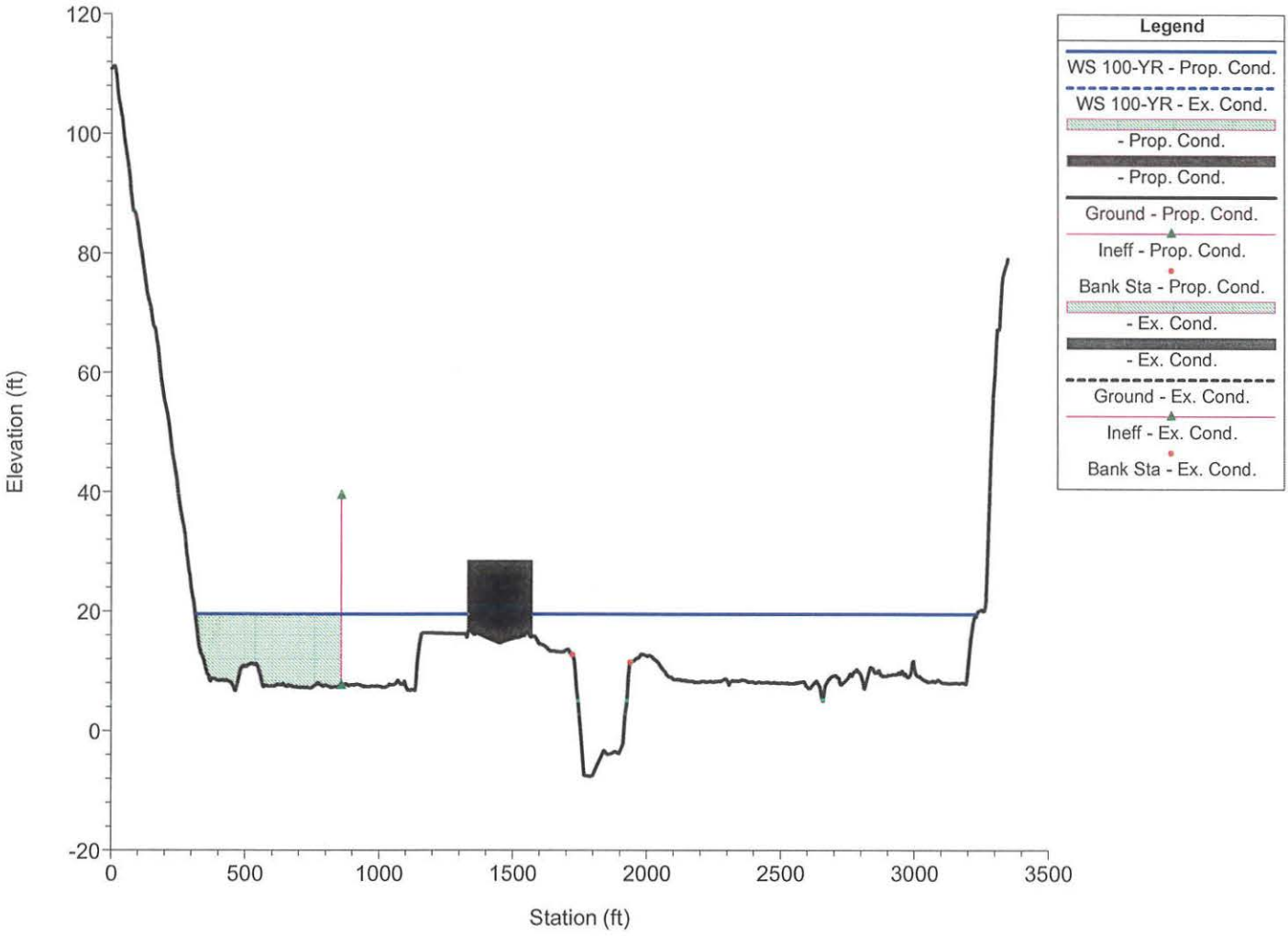
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
120
100
80
60
40
20
0
-20
0
500
1000
1500
2000
2500
3000
3500
Station (ft)

RS = 17875.97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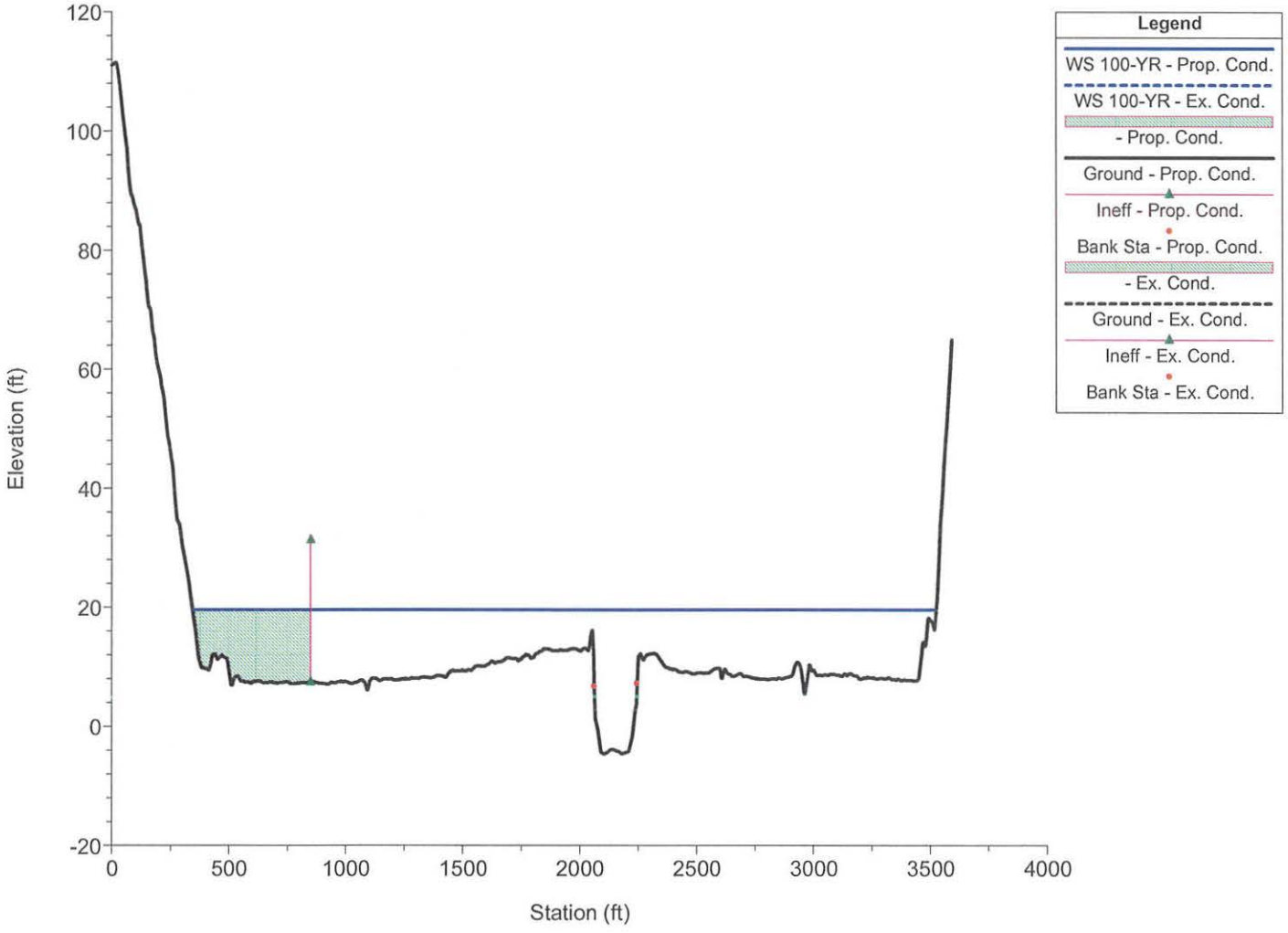
WS 100-YR - Ex. Cond.
- Prop. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
120
100
80
60
40
20
0
-20
0
500
1000
1500
2000
2500
3000
3500
Station (ft)

RS = 17653.2


Legend
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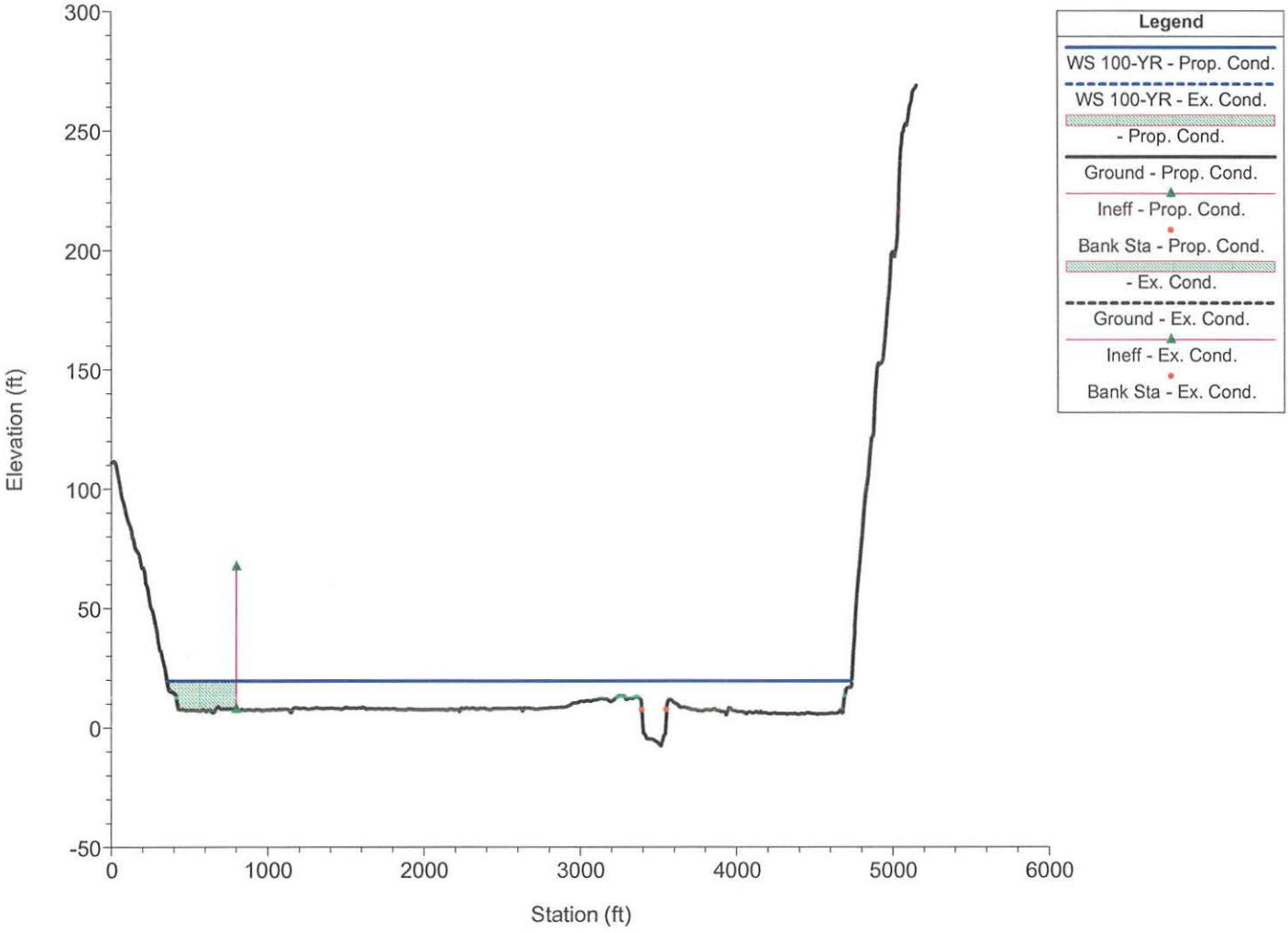
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
120
100
80
60
40
20
0
-20
0
500
1000
1500
2000
2500
3000
3500
4000
Station (ft)

RS = 15949.74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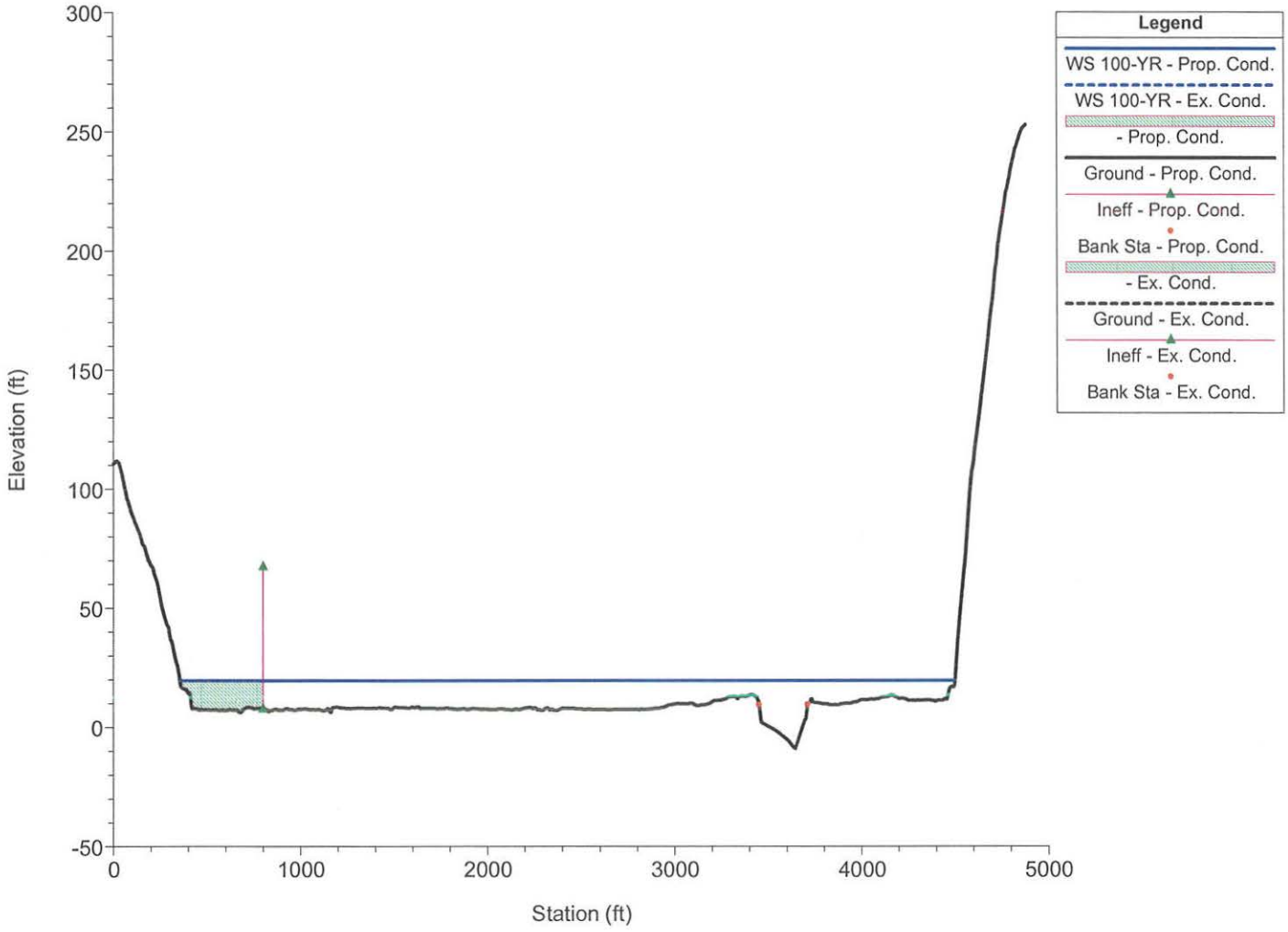
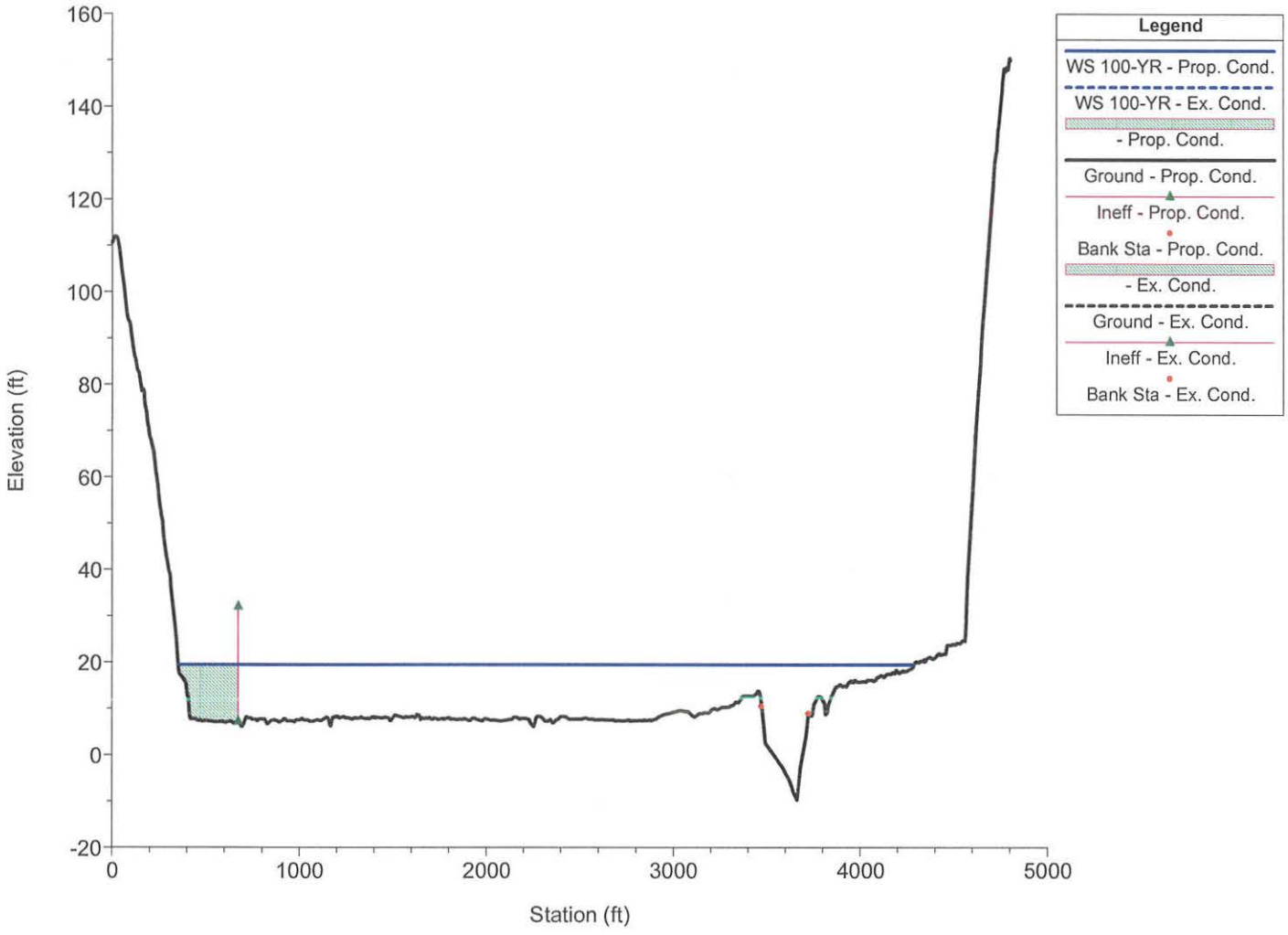
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
300
250
200
150
100
50
0
-50
0
1000
2000
3000
4000
5000
6000
Station (ft)

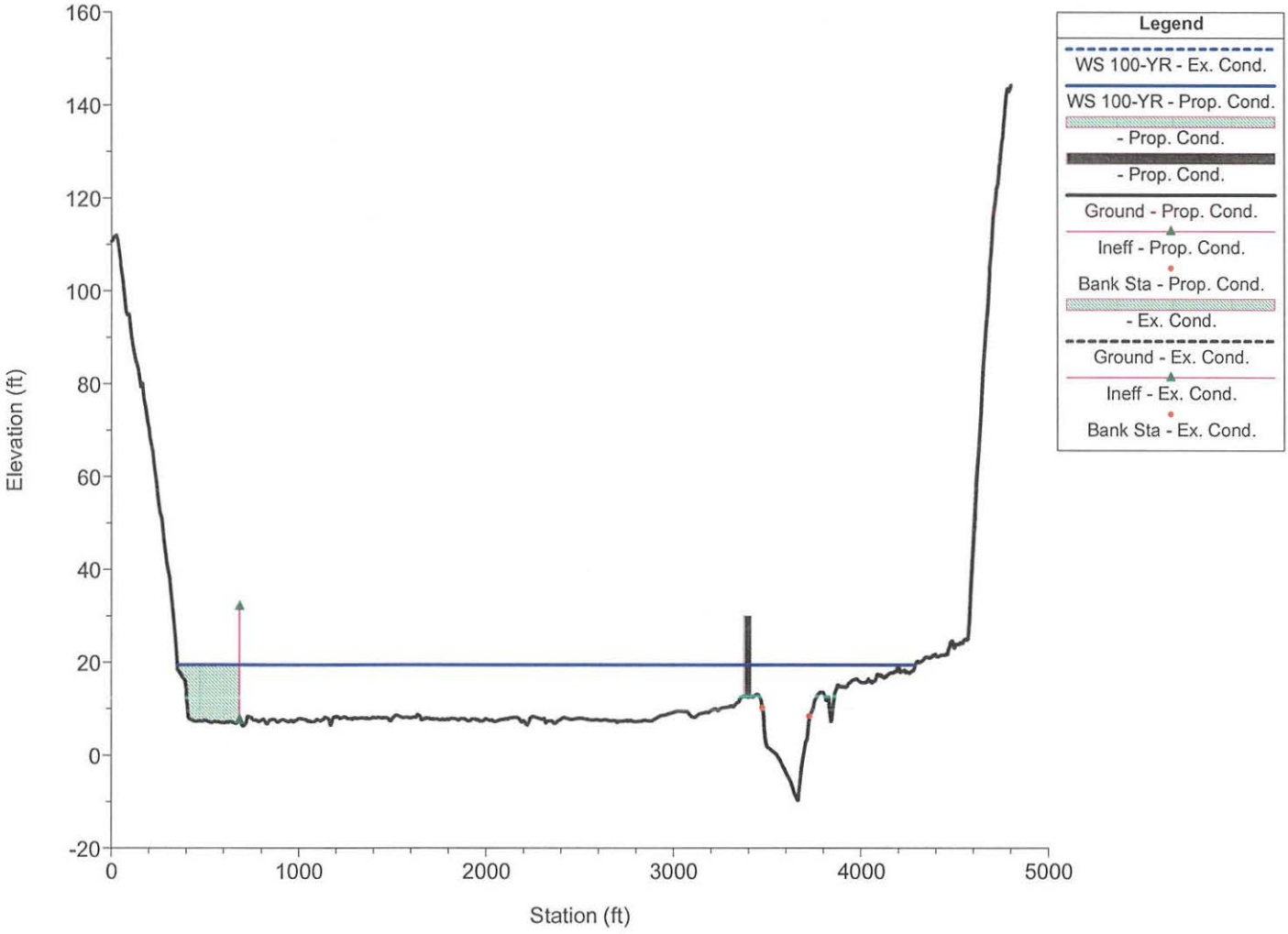
RS = 15178


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
300
250
200
150
100
50
0
-50
0
1000
2000
3000
4000
5000
Station (ft)

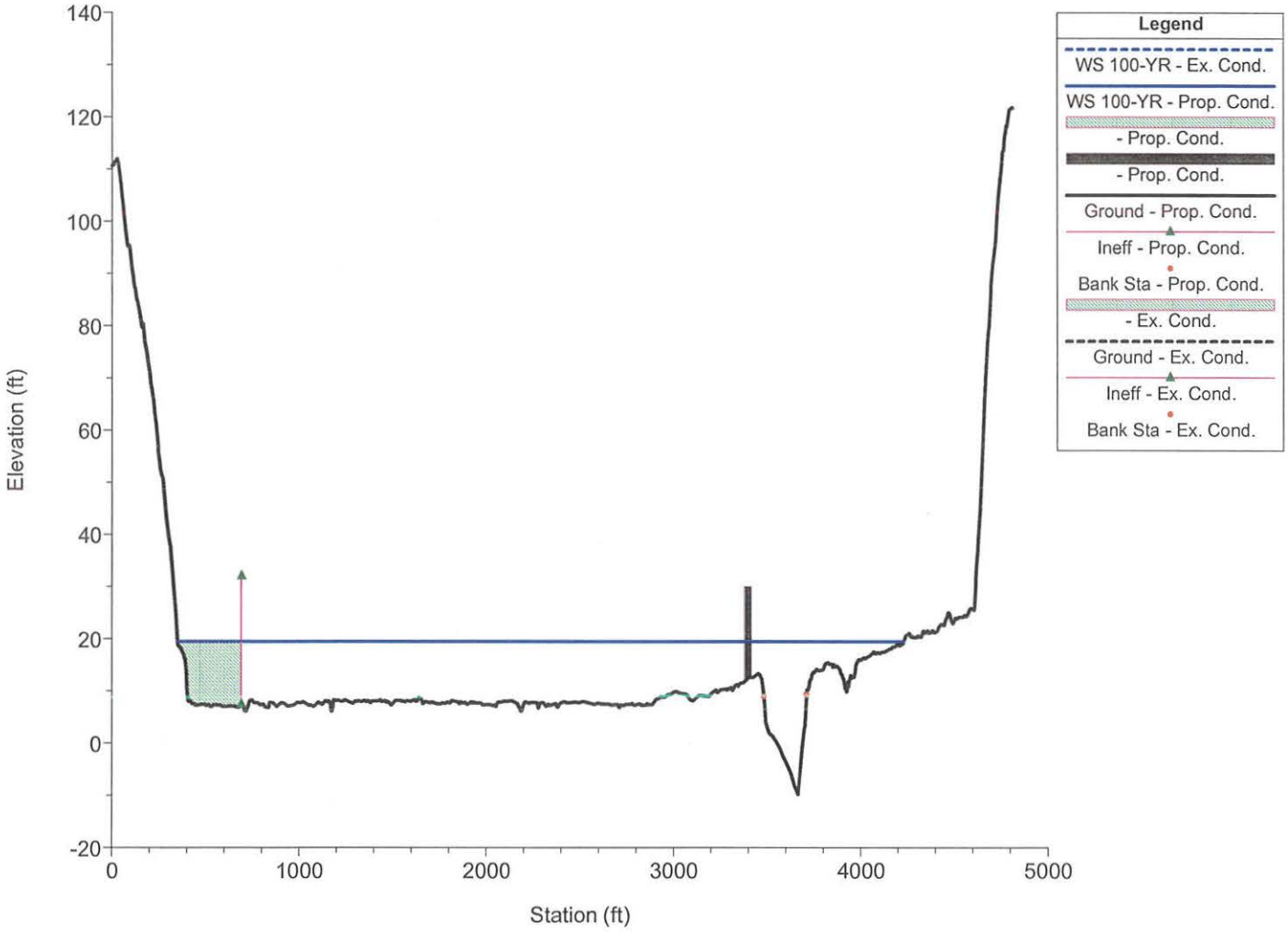
RS = 14833


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
160
140
120
100
80
60
40
20
0
-20
0
1000
2000
3000
4000
5000
Station (ft)

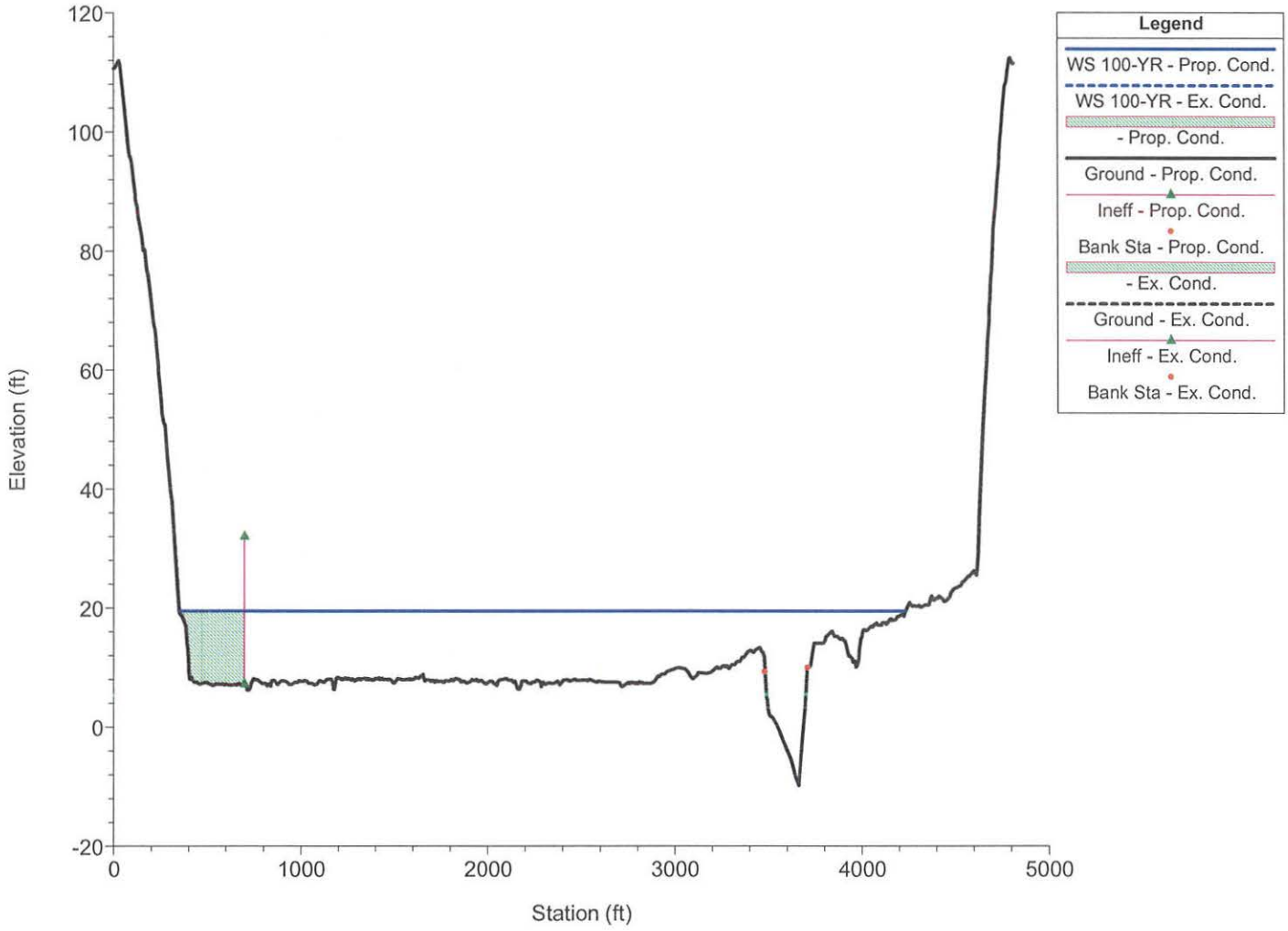
RS = 14821


Legend
WS 100-YR - Ex. Cond.
WS 100-YR - Prop. Cond.
- Prop. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
160
140
120
100
80
60
40
20
0
-20
0
1000
2000
3000
4000
5000
Station (ft)

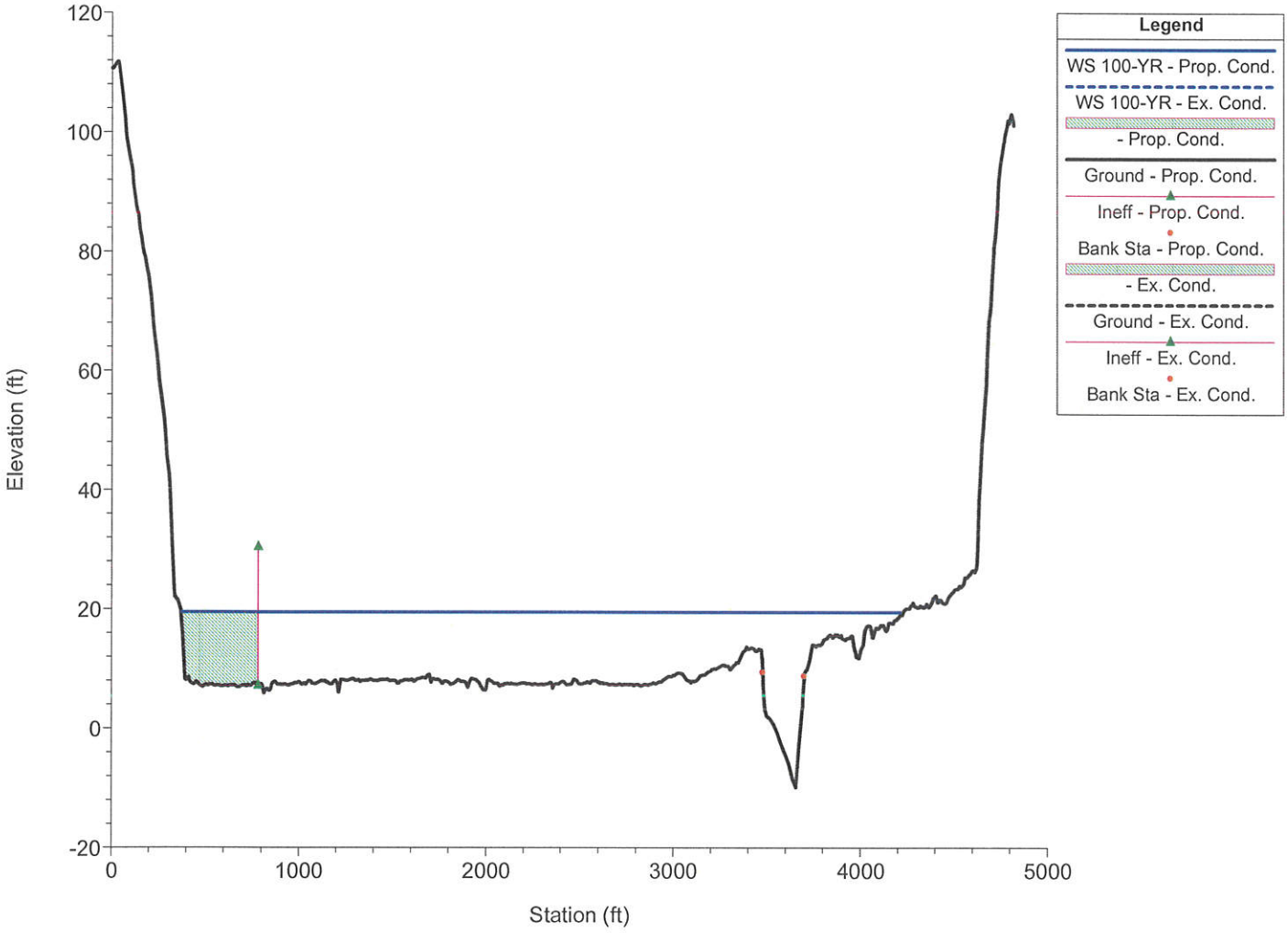
RS = 14777

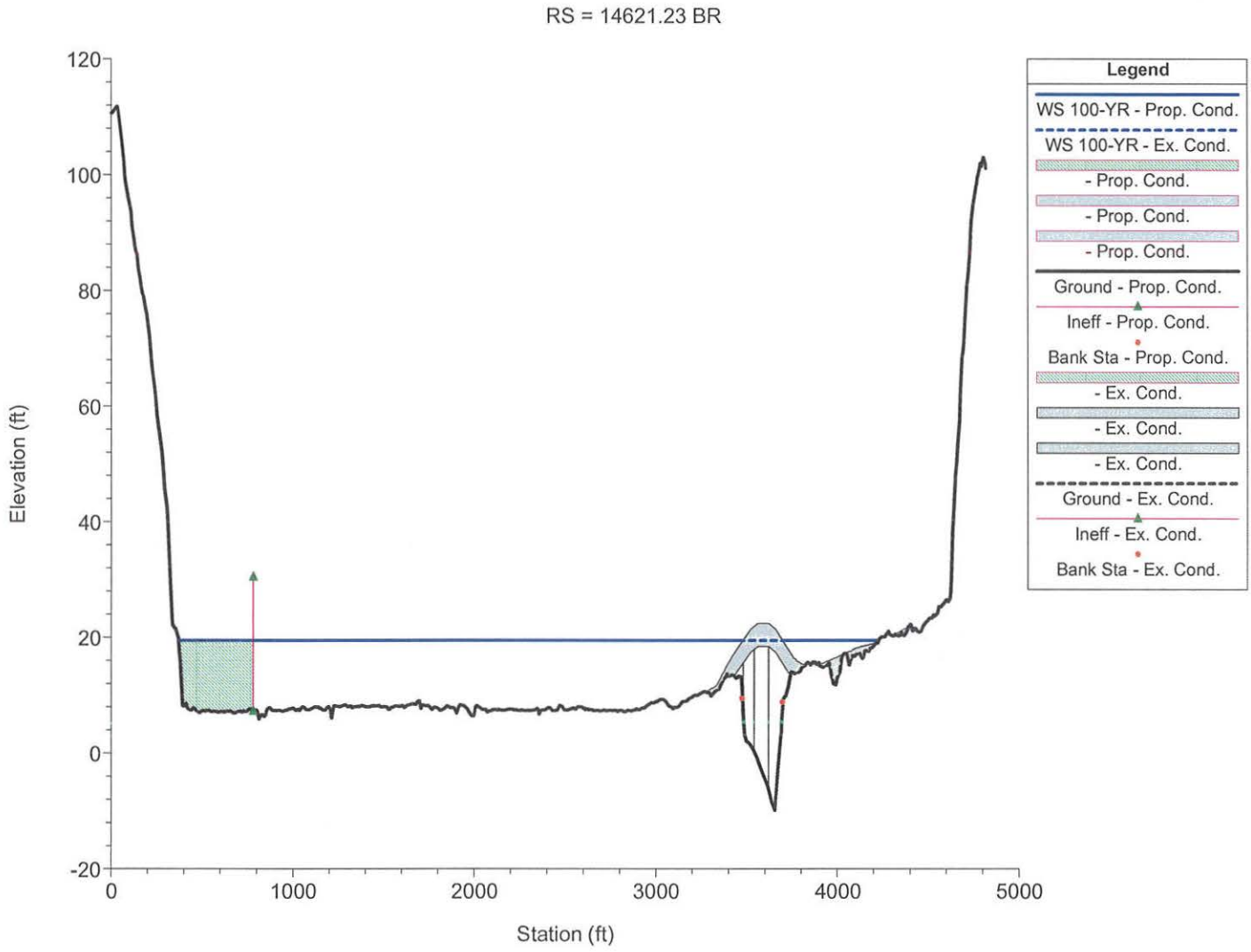

Legend
WS 100-YR - Ex. Cond.
WS 100-YR - Prop. Cond.
- Prop. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
140
120
100
80
60
40
20
0
-20
0
1000
2000
3000
4000
5000
Station (ft)

RS = 14765

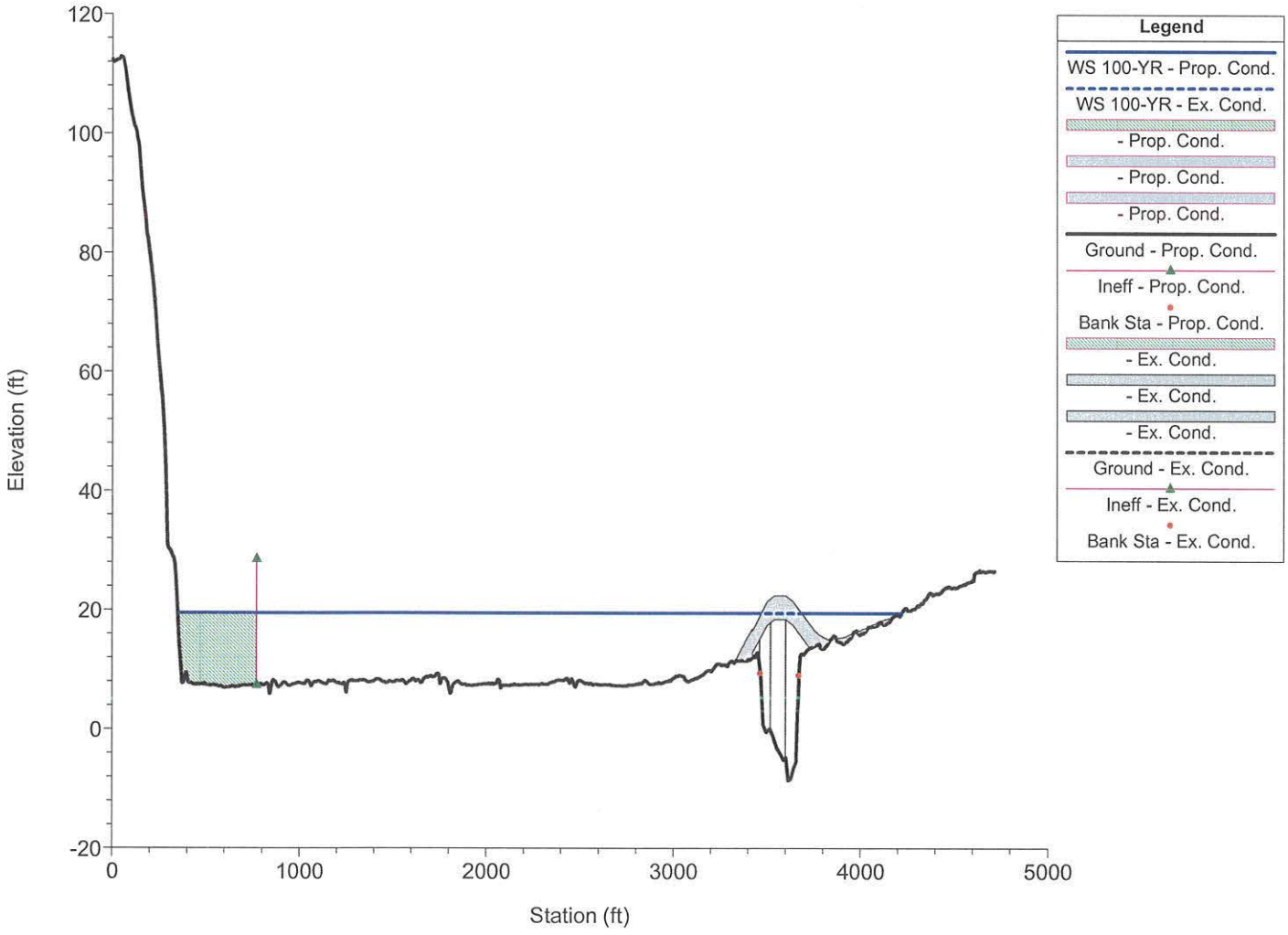

Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
120
100
80
60
40
20
0
-20
0
1000
2000
3000
4000
5000
Station (ft)

RS = 14728.64

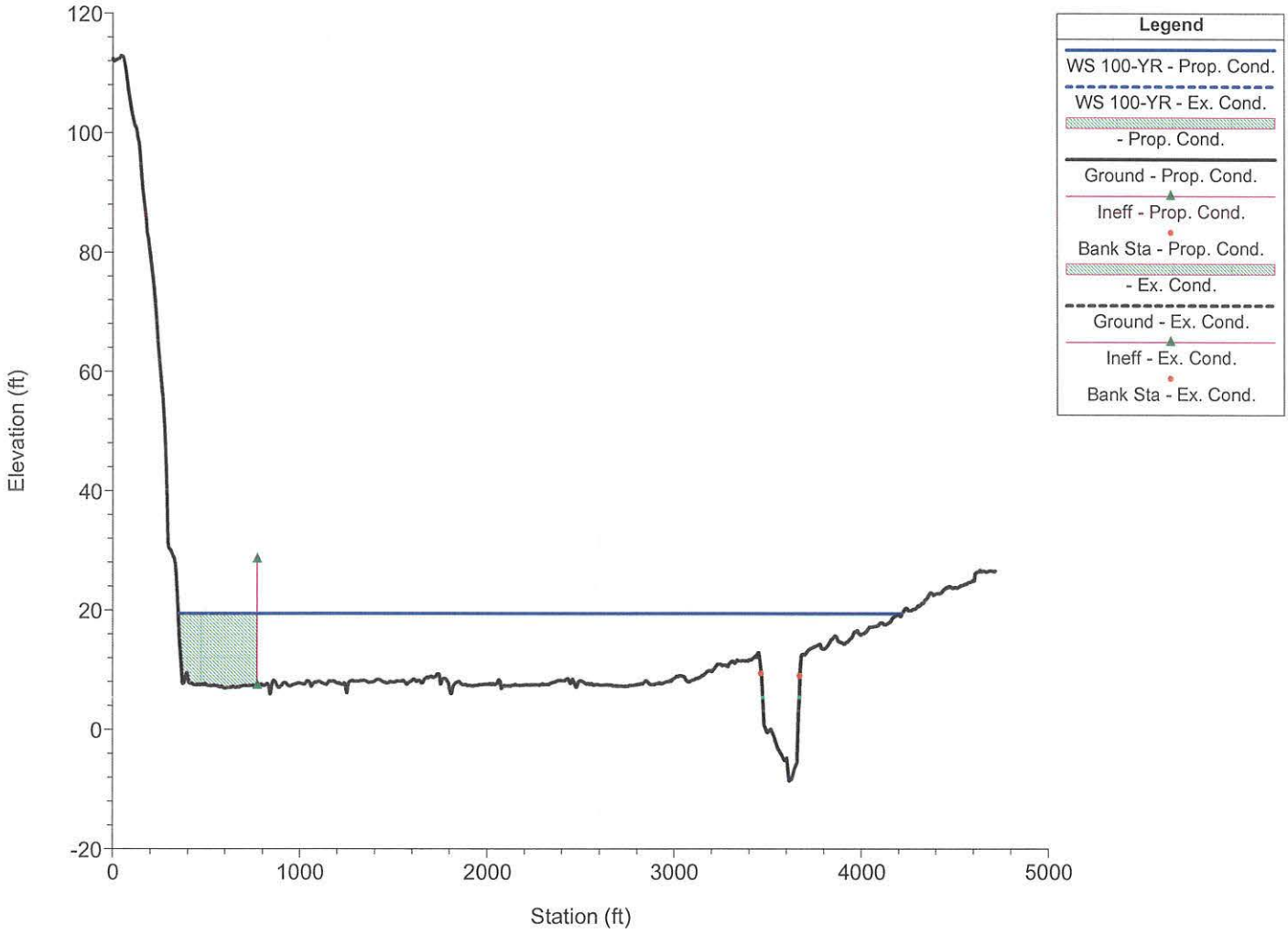

Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
120
100
80
60
40
20
0
-20
0
1000
2000
3000
4000
5000
Station (ft)

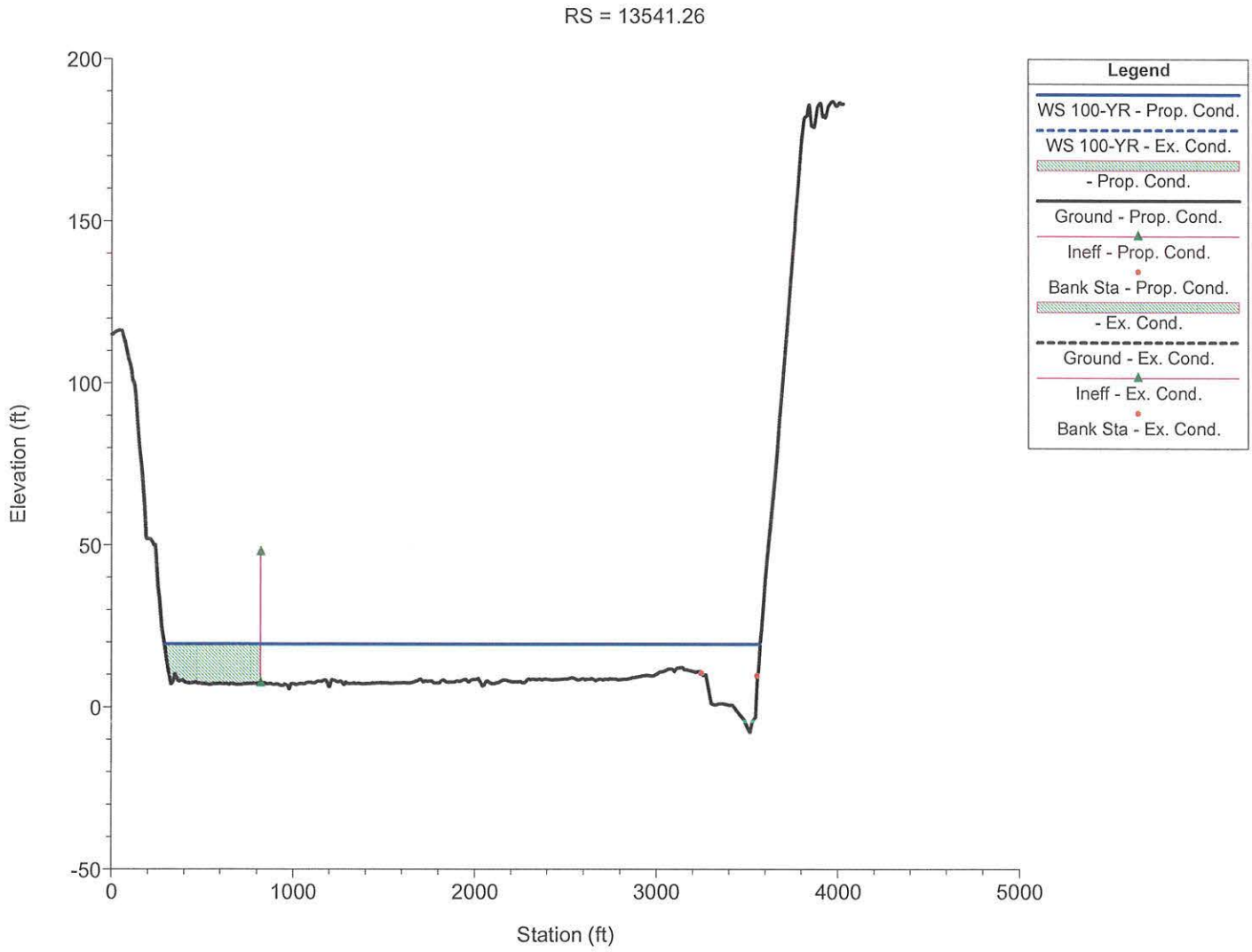

RS = 14621.23 BR
Elevation (ft)
120
100
80
60
40
20
0
-20
0
1000
2000
3000
4000
5000
Station (ft)
Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
- Prop. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
- Ex. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.

RS = 14621.23 BR

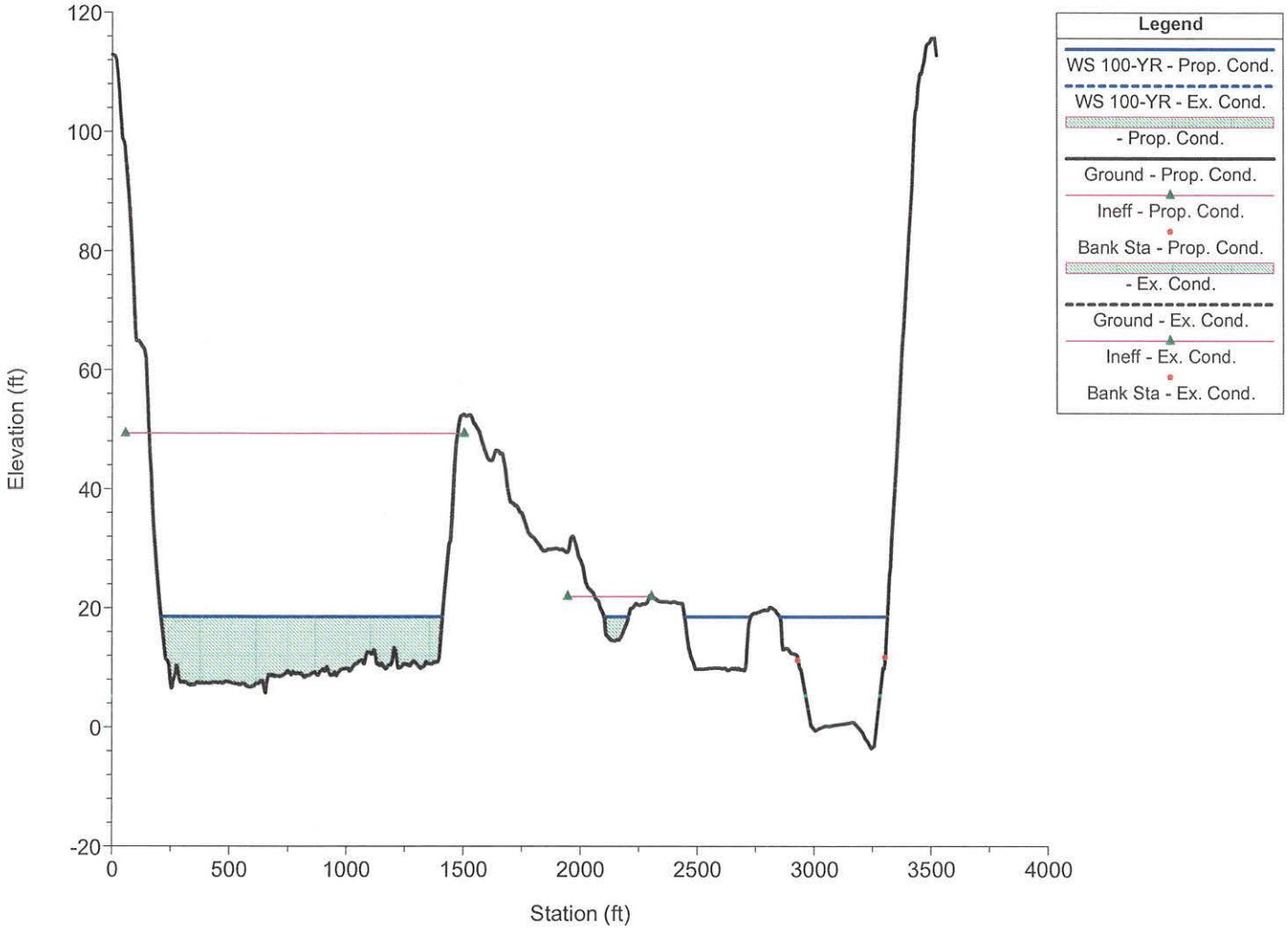


RS = 14544.91

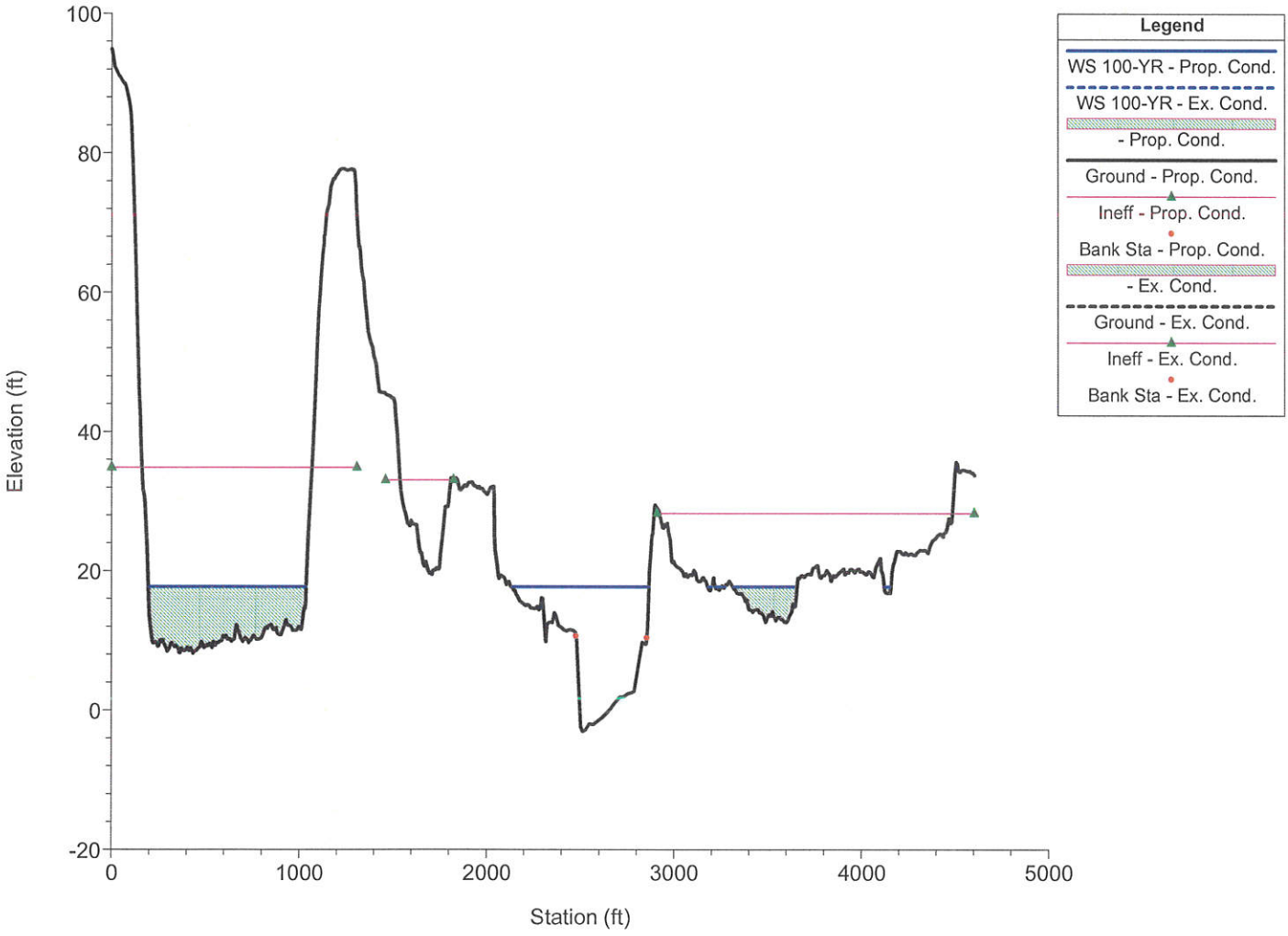

Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
120
100
80
60
40
20
0
-20
0
1000
2000
3000
4000
5000
Station (ft)

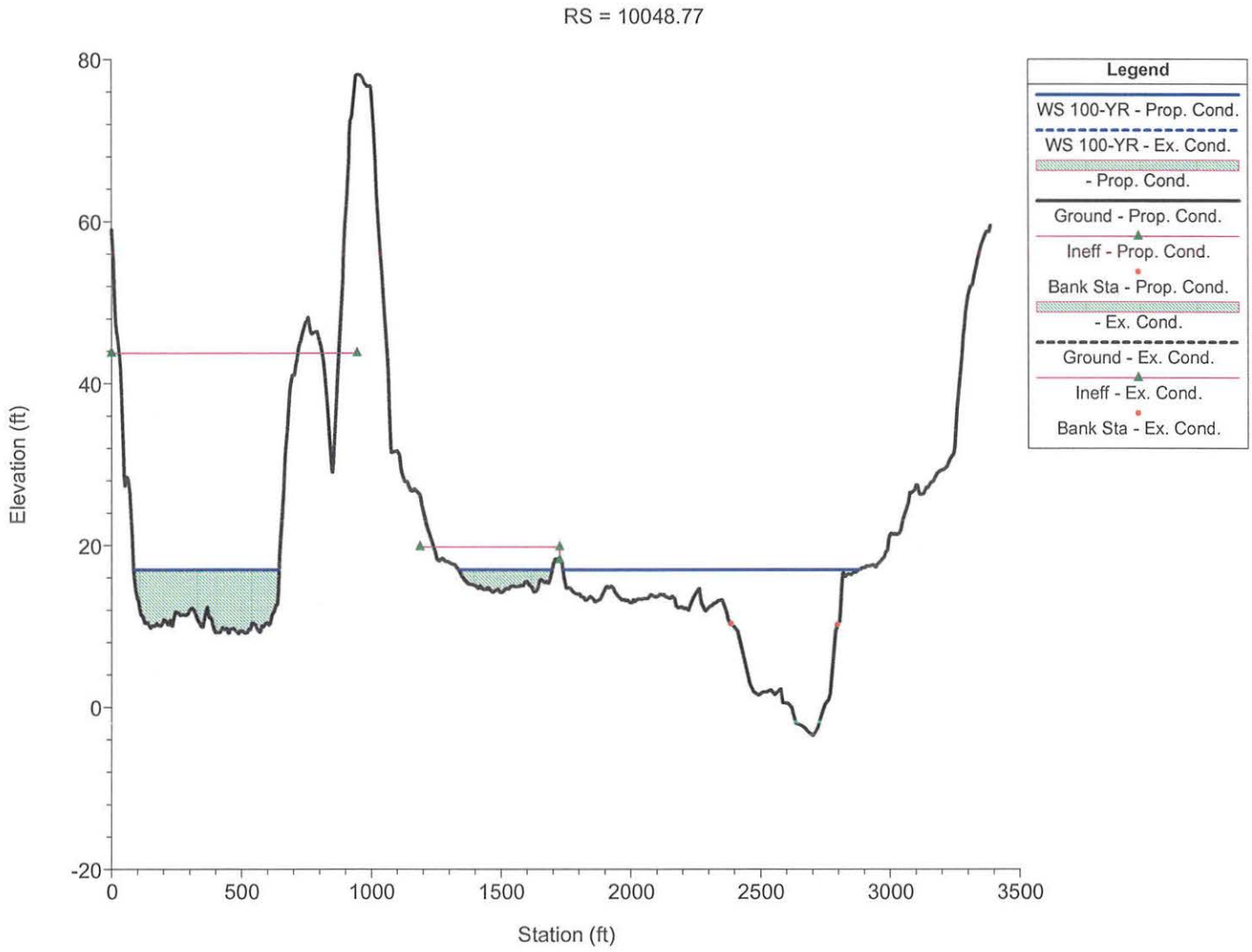

RS = 13541.26
Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
200
150
100
50
0
-50
0
1000
2000
3000
4000
5000
Station (ft)

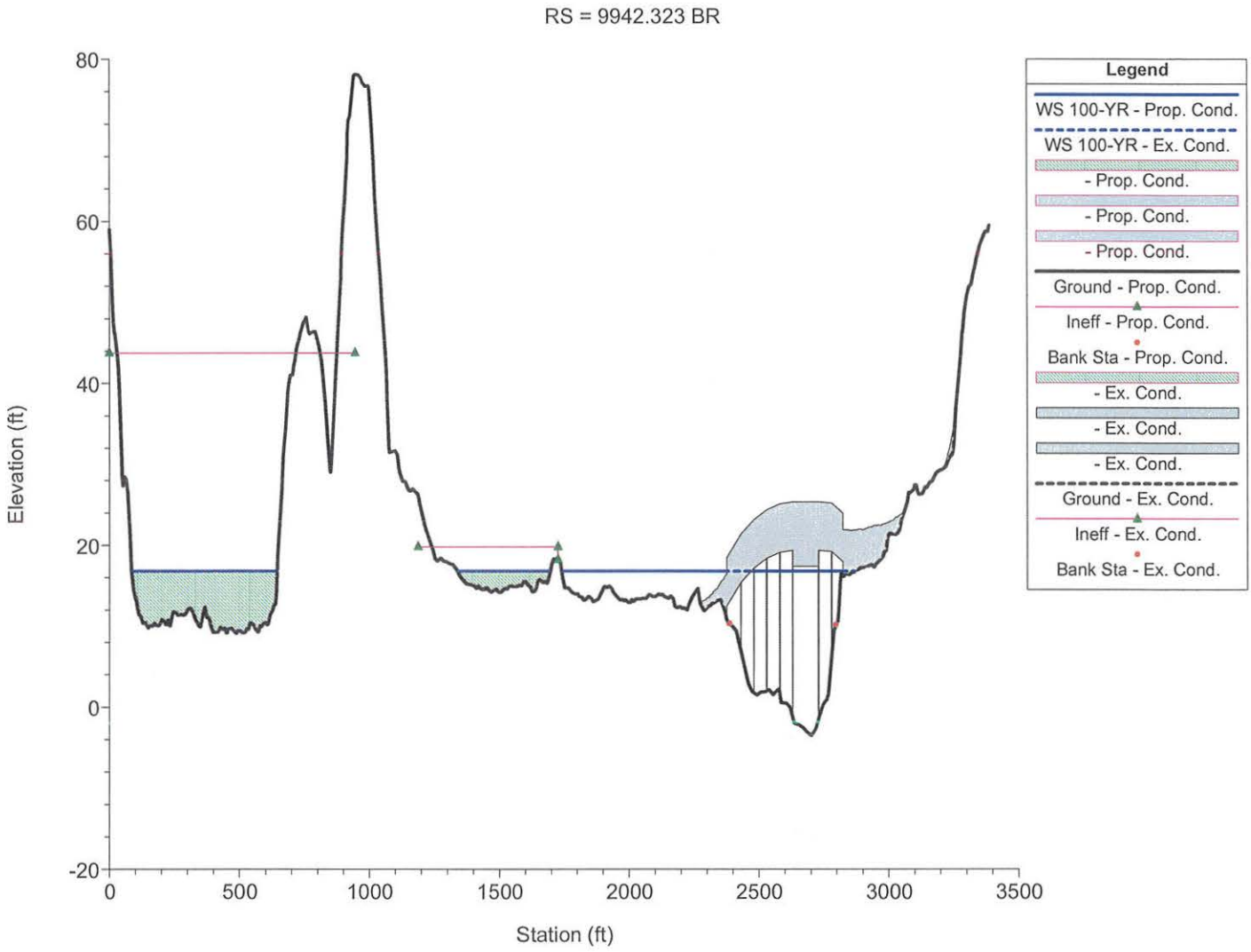
RS = 12396


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
120
100
80
60
40
20
0
-20
0
500
1000
1500
2000
2500
3000
3500
4000
Station (ft)

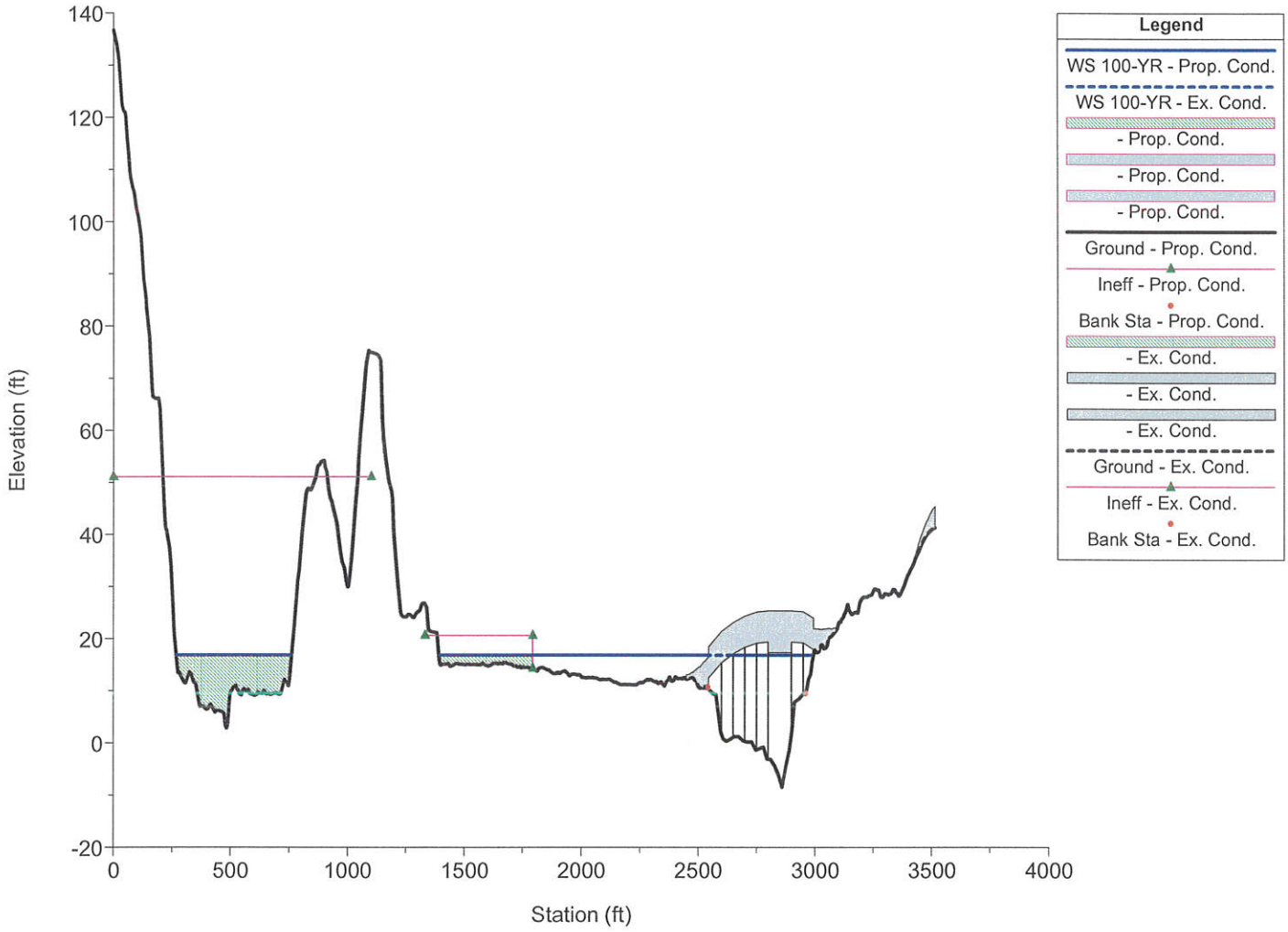
RS = 11367.2


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
100
80
60
40
20
0
-20
0
1000
2000
3000
4000
5000
Station (ft)

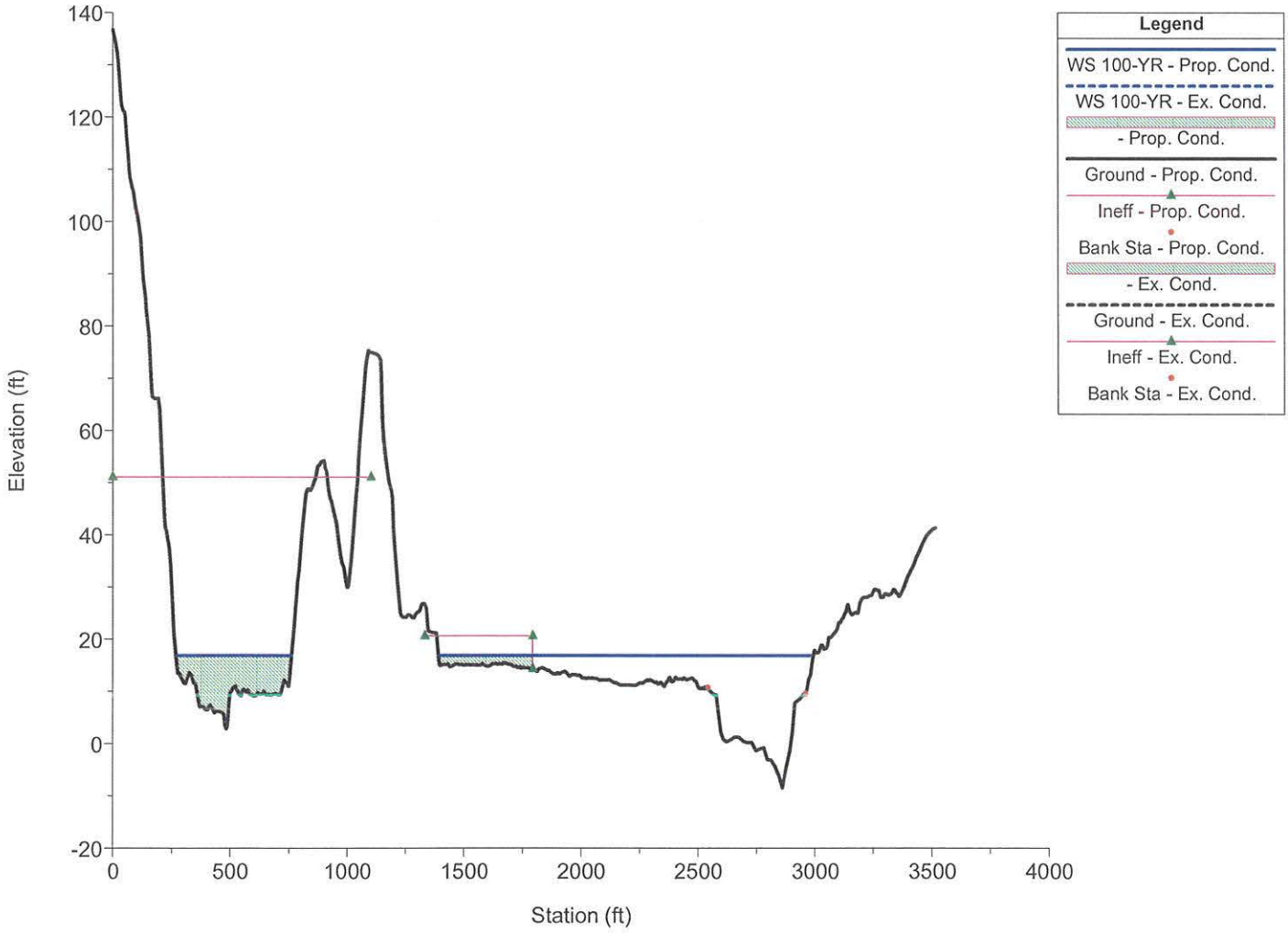

RS = 10048.77
Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
80
60
40
20
0
-20
0
500
1000
1500
2000
2500
3000
3500
Station (ft)


RS = 9942.323 BR
Elevation (ft)
80
60
40
20
0
-20
0
500
1000
1500
2000
2500
3000
3500
Station (ft)
Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
- Prop. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
- Ex. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.

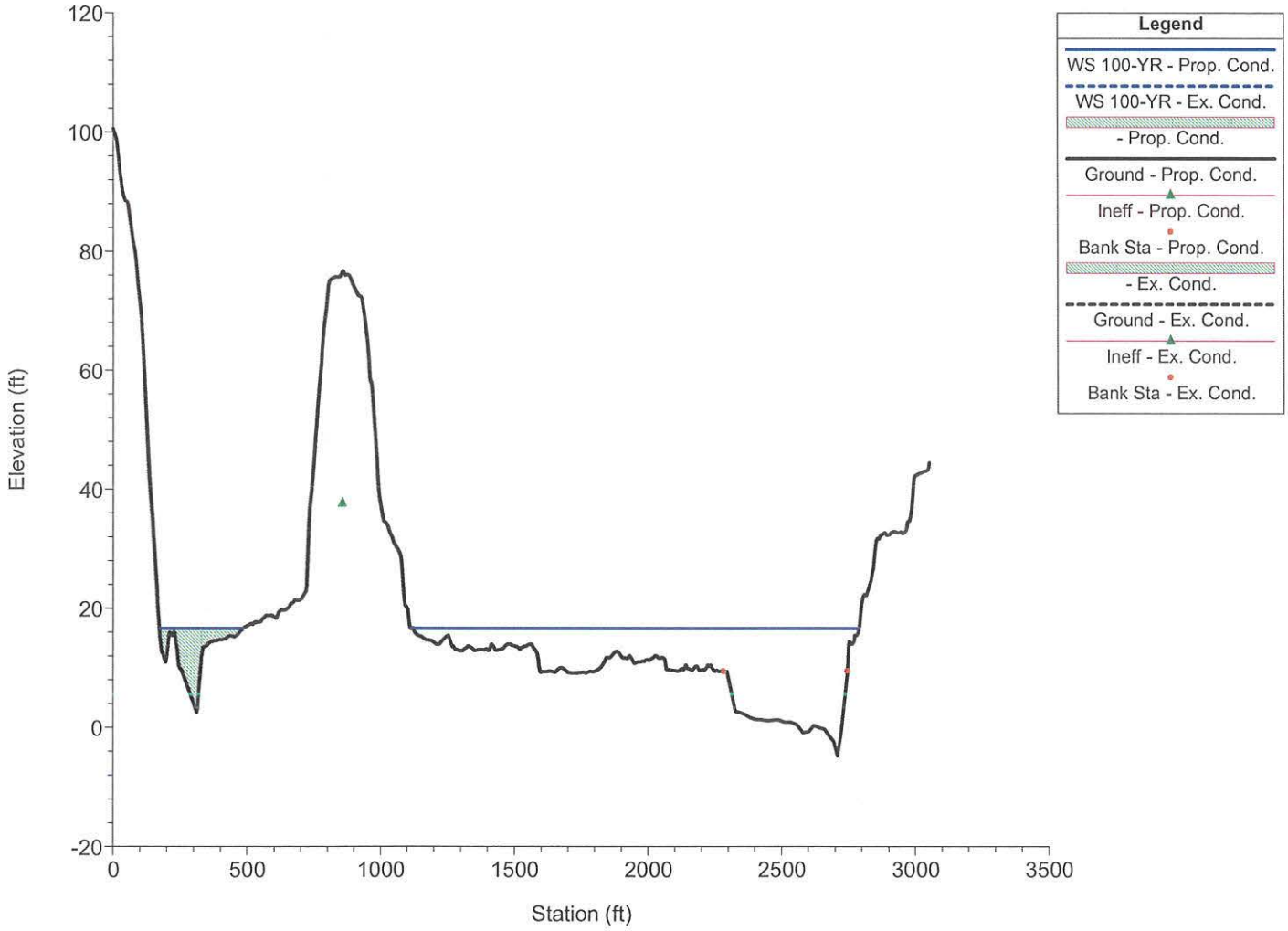
RS = 9942.323 BR



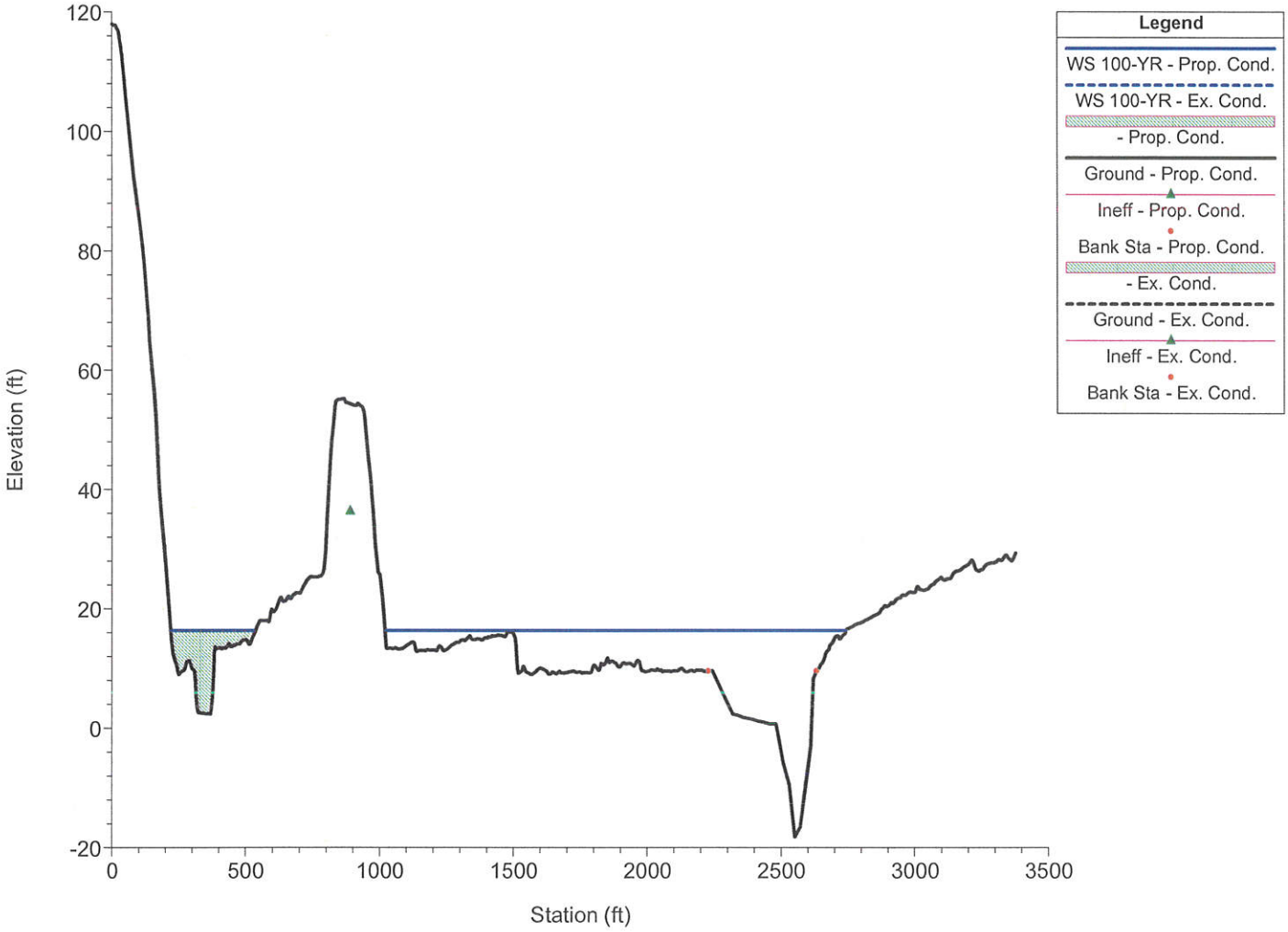
RS = 9904.361


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
140
120
100
80
60
40
20
0
-20
0
500
1000
1500
2000
2500
3000
3500
4000
Station (ft)

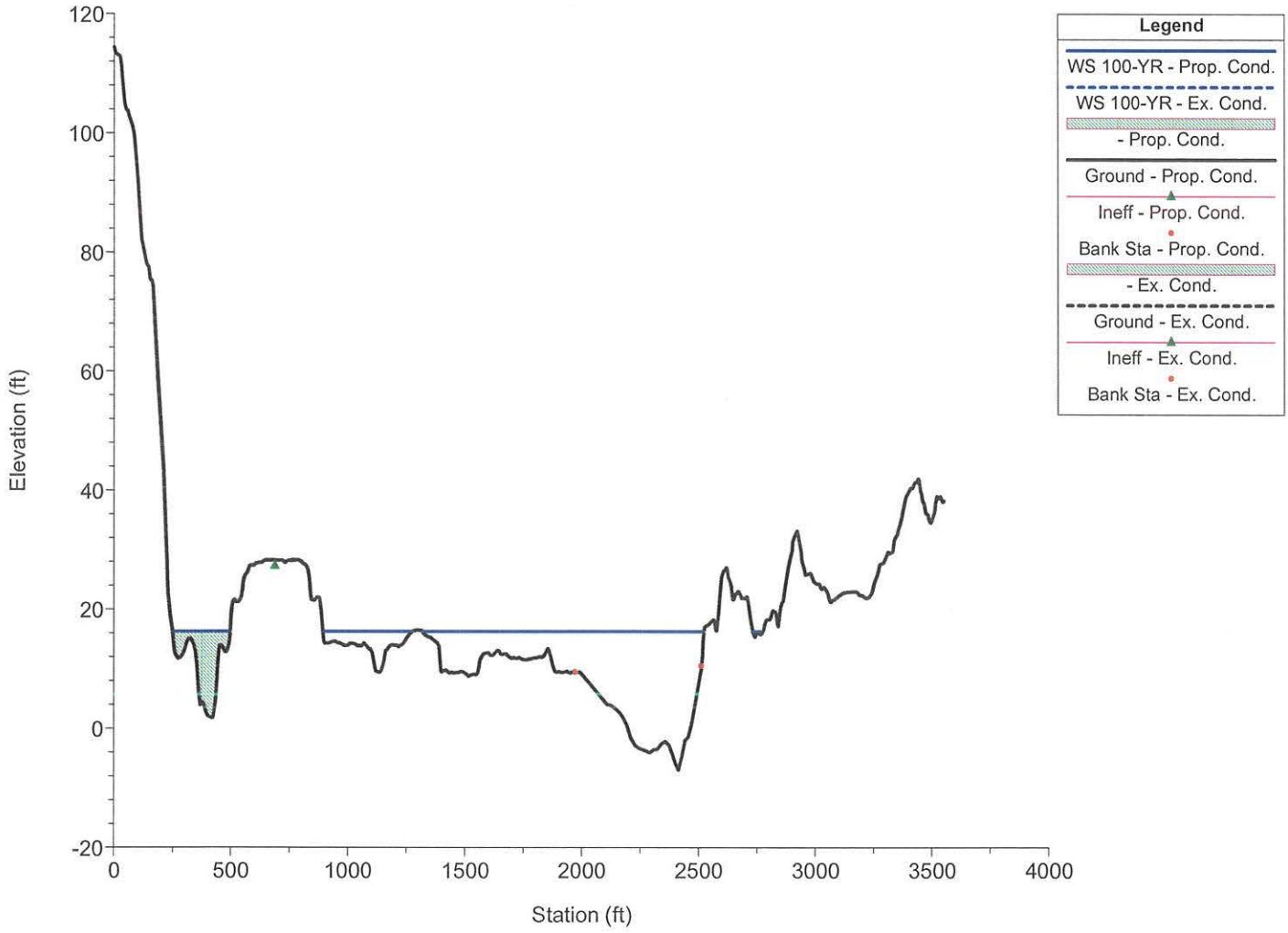
RS = 8988.11


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
120
100
80
60
40
20
0
-20
0
500
1000
1500
2000
2500
3000
3500
Station (ft)

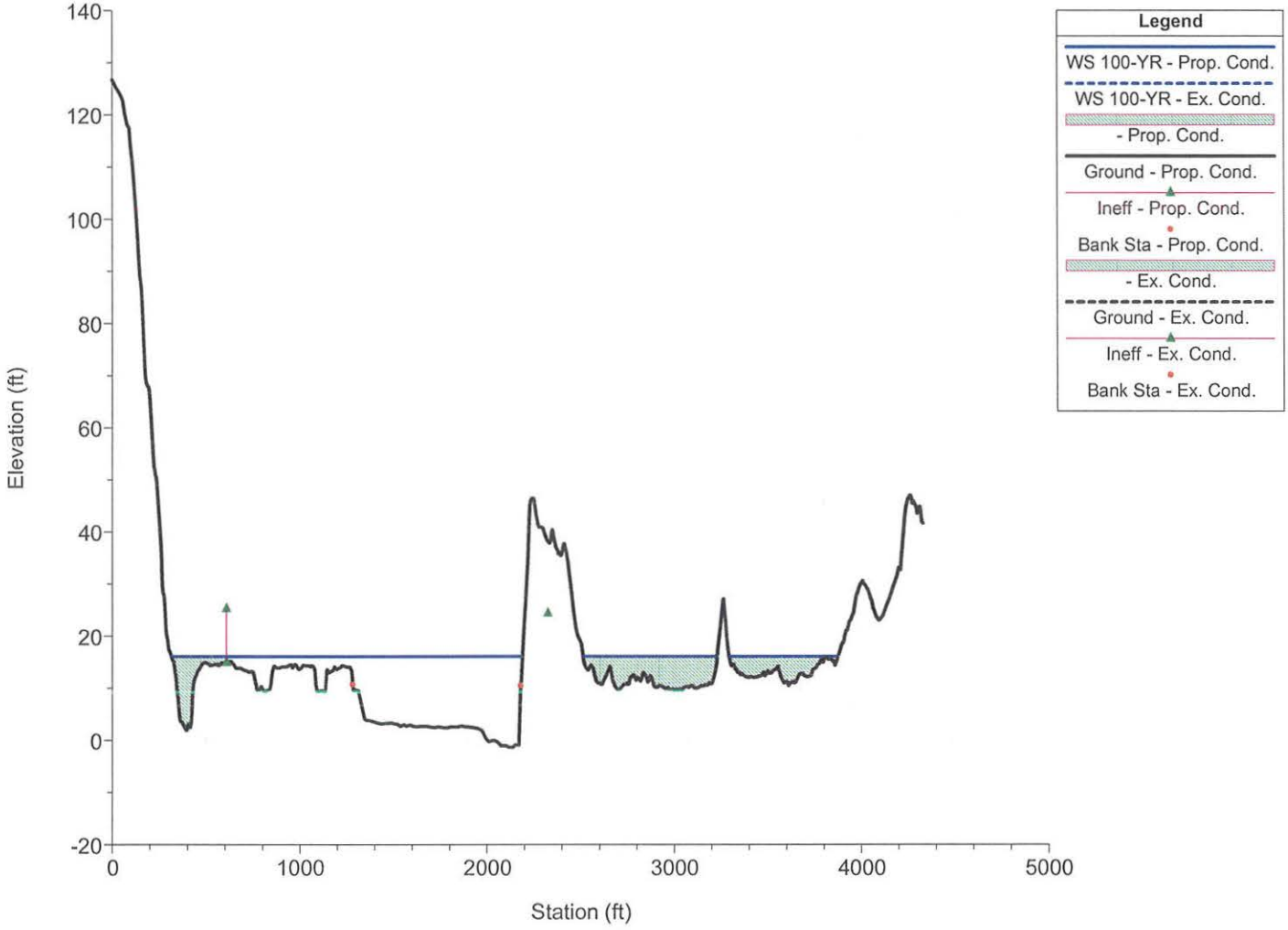
RS = 8192.259


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
120
100
80
60
40
20
0
-20
0
500
1000
1500
2000
2500
3000
3500
Station (ft)

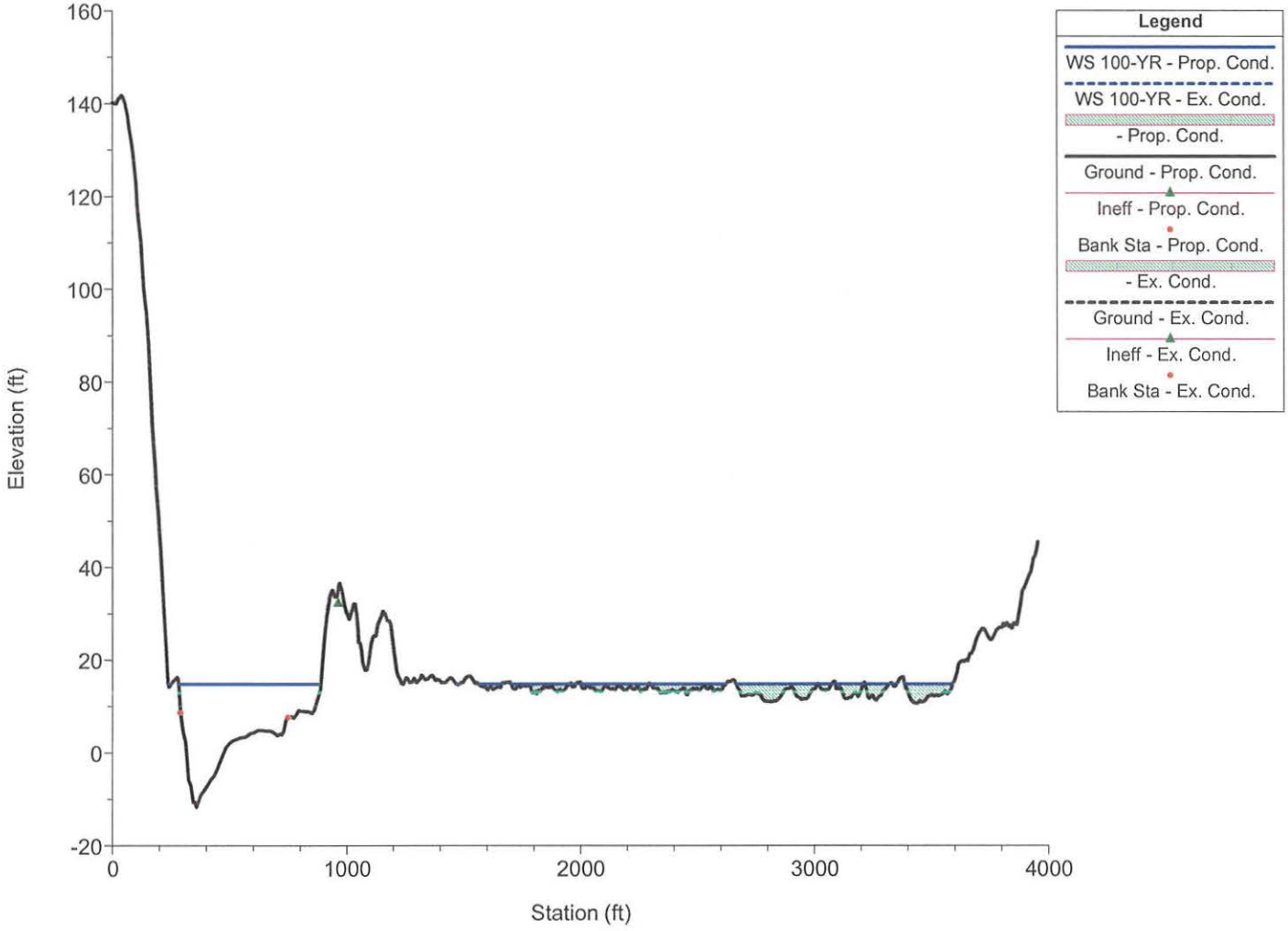
RS = 7839.108


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
120
100
80
60
40
20
0
-20
0
500
1000
1500
2000
2500
3000
3500
4000
Station (ft)

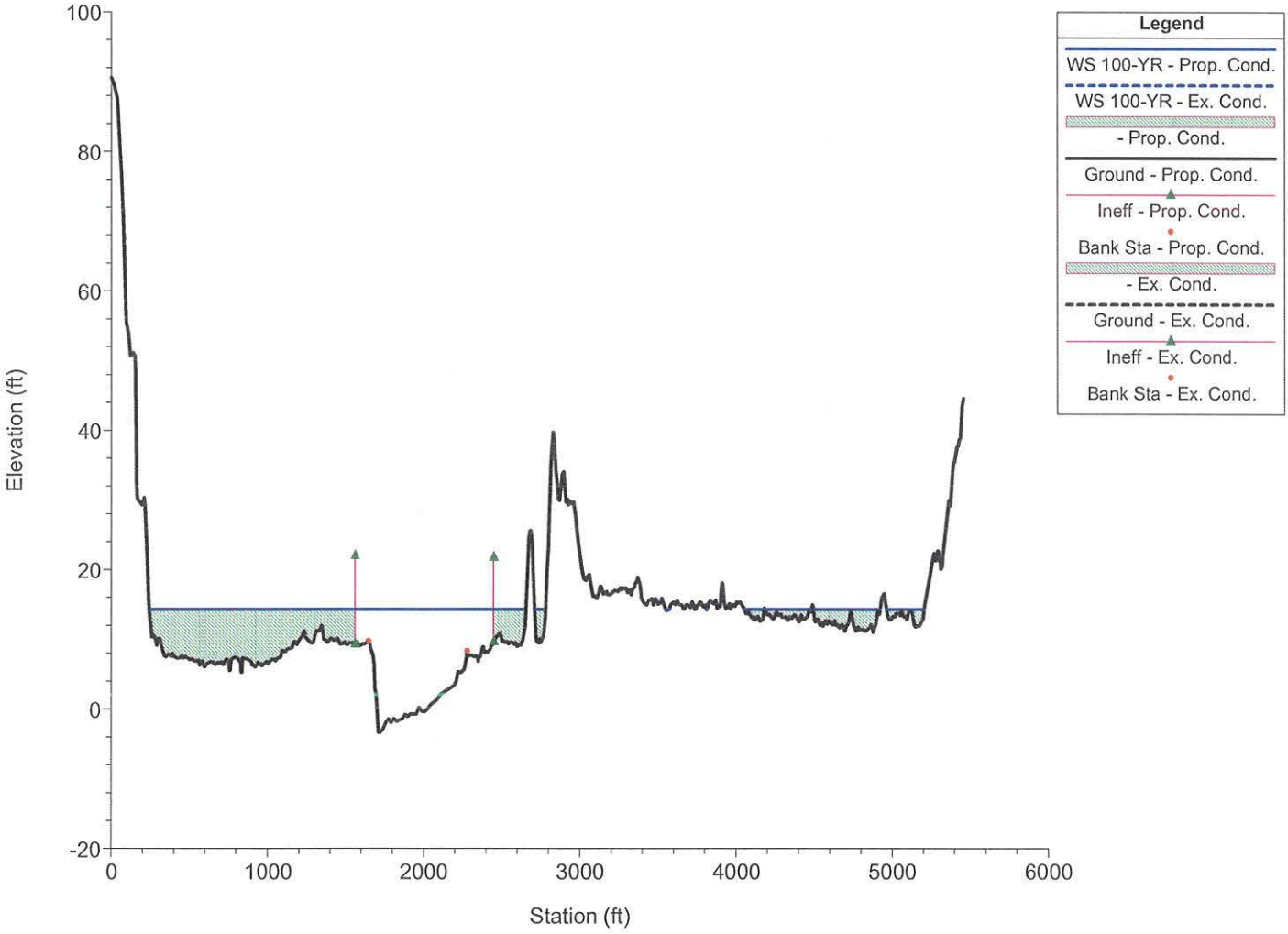
RS = 6628.945


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
140
120
100
80
60
40
20
0
-20
0
1000
2000
3000
4000
5000
Station (ft)

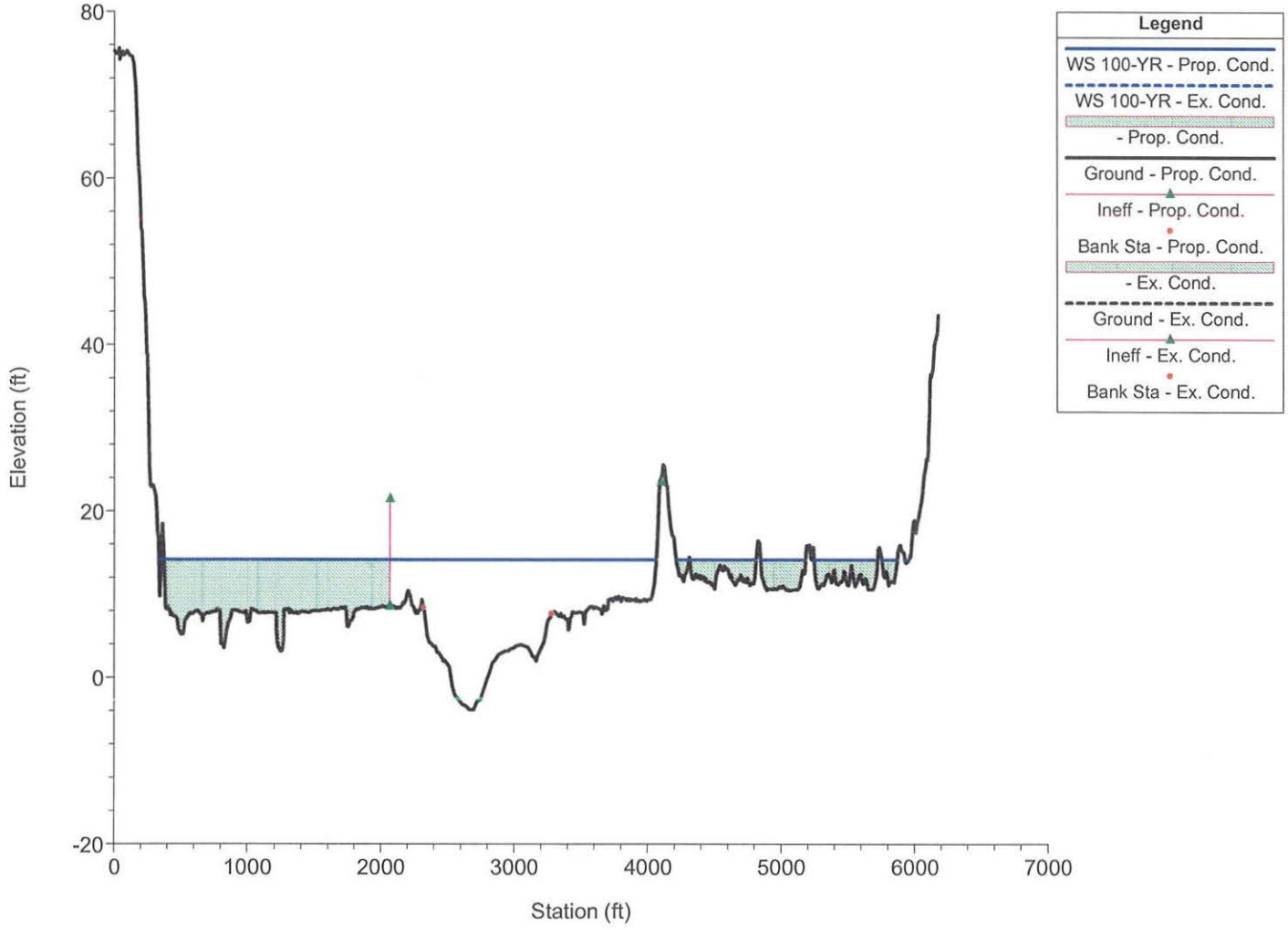
RS = 4746.314


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
160
140
120
100
80
60
40
20
0
-20
0
1000
2000
3000
4000
Station (ft)

RS = 3370.732


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
100
80
60
40
20
0
-20
0
1000
2000
3000
4000
5000
6000
Station (ft)

RS = 2099.855


Legend
WS 100-YR - Prop. Cond.
WS 100-YR - Ex. Cond.
- Prop. Cond.
Ground - Prop. Cond.
Ineff - Prop. Cond.
Bank Sta - Prop. Cond.
- Ex. Cond.
Ground - Ex. Cond.
Ineff - Ex. Cond.
Bank Sta - Ex. Cond.
Elevation (ft)
80
60
40
20
0
-20
0
1000
2000
3000
4000
5000
6000
7000
Station (ft)