

January 10th, 2024

CHELAN COUNTY NATURAL RESOURCE DEPARTMENT
EAST FORK MISSION CREEK FLOODPLAIN
RESTORATION PROJECT



ADDENDUM NO. 1

To the Contractors, Subcontractors, Planholders and Suppliers:

The following items contain additions, deletions, or modifications to the Plans and/or Specifications. This Addendum forms as a part of the Contract Documents. All updated contract Documents including the updated Project Manual and Final Contract Drawings can be found at <https://www.co.chelan.wa.us/natural-resources/pages/current-opportunities>.

Bidders must acknowledge receipt of this Addendum on the Bid Proposal Declaration within the Bid Package.

A. SPECIAL PROVISIONS

A.1 TABLE OF CONTENTS

A.1.1 APPENDICES

“Appendix E: Site Access Photos” is added.

A.2 DIVISION 1: GENERAL REQUIREMENTS

A.2.1 1-09 MEASUREMENT AND PAYMENT

The following new subsection is added:

1-09.7 Mobilization

Section 1-09.7 is supplemented with:

(*****)

The Contractor is advised that mobilization of equipment and materials to the project site requires use of unpaved Forest Service roads and crossing a bridge with loading restrictions. The Contractor shall be responsible for familiarizing themselves with the state of the unpaved roads as well as the load ratings and, if necessary, coordinating with the Forest Service to obtain any necessary overload permits prior to mobilization to the site. The Forest Service has indicated that loads of 28 tons and 45 tons are allowable with an overload permit for Type 3 and Type 3S2 vehicles, respectively. All costs associated with coordination, documentation, and any necessary special accommodations for importing equipment and materials to the project site shall be made incidental to the bid item “Mobilization”.

A.3 DIVISION 8: MISCELLANEOUS CONSTRUCTION

**A.3.1 8-19 TEMPORARY ACCESS AND STAGING; Section 8-19.1
Description**

This section is revised to read: “The Contractor shall construct, maintain, decommission, remove, and cleanup temporary access roads, temporary stream crossings, and staging areas, as shown on the Plans and described in these special provisions including establishing access over flowing channel(s) on the project site where shown on the Plans. This work may include removal and reinstallation of existing gates and fences. “

A.3.2 8-19 TEMPORARY ACCESS AND STAGING; Section 8-19.3(2)
Temporary Access Roads and Staging Areas

The first two paragraphs of this section are revised to read: “The Contractor shall be responsible for determining and implementing a temporary access and staging plan that allows for completion of the Work. The Contractor shall make use of the existing road adjacent the East Fork Mission Creek to the maximum extent possible, only establishing new temporary access roads or expanding existing roads when necessary.

The existing road may require temporary improvements to allow equipment and vehicle use; the Contractor shall bear the responsibility of examining the project site and the Plans to make a determination of the exact means and methods necessary to establish any necessary temporary improvements and to implement them as described in an approved temporary access and staging plan. If temporary improvements require the placement of any fill below the Ordinary High-Water Mark, all such fill shall be placed within an isolated and dewatered work area. All fill placement for access road improvements shall be removed when no longer necessary unless the fill was placed in accordance with these Special Provisions and is to remain in place as a permanent feature. At least one location between the upper and lower project areas will require site isolation and temporary fill placement to facilitate vehicle and equipment access (approximately 1.1 miles upstream of Reach 1 near station RD 56+00); annotated photos with approximate dimensions for this site have been included in Appendix E for consideration by bidders. When temporary fill is necessary to establish site access the Contractor may choose to import material or utilize material generated on-site for use as temporary fill. “

A.3.3 8-26 ENGINEERED LOGJAM CONSTRUCTION; Section 8-26.3(2)D
Backfill

The first paragraph is revised to read: “Once all logs, boulders, racking material, slash, and mechanical connections have been placed and established as shown on the Plans the Contractor shall backfill the assembled ELJ as shown on the Plans. Material excavated for ELJ construction and work shall be used for backfill. Gravel and cobble shall be used selectively as the initial layers of backfill on the ELJ. Backfill in lifts of approximately 12-18-inches at a time, gradually reducing the median particle size placed as backfill with each lift.”

A.3.4 8-26 ENGINEERED LOGJAM CONSTRUCTION; Section 8-26.5
Payment

The first sentence of this section is revised to read: “When measured per each, the unit contract price paid for “ELJ Structure, ____” shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for completing all Work required for installation of the structure as described in the Plans, and these Special Provisions which may include, but is not limited to the following: furnishing or harvesting, hauling, and temporary staging of woody material; hauling, and placement of any additional necessary materials as shown on the project plans, site preparation, excavation and backfill associated with placement of logs, placement of logs, placement of racking material, backfilling the assembled structure to the dimensions shown on the Plans, final grading for a smooth transition, installation of all mechanical connections as shown on the Plans, and other Work that may be needed.”

A.3.5 APPENDICES

“Appendix E: Site Access Photos” is added and is included as Attachment A to this Addendum.

B. FINAL CONTRACT DRAWINGS

The Final Contract Drawings for the project have been issued. The following changes are reflected in the Final Contract Drawings:

Replacement of the term “site” with the term “reach” consistently; Revised title block to read ‘FINAL DESIGN – FOR CONSTRUCTION’; Revised title block to use updated NSD+CGS logo; Revised construction note 2 (working hours) to be consistent with the project Special Provisions; Revised ELJ Note 1 to clarify acceptable species of logs if/when imported; Deleted ELJ Note 6 on sheet 2 (tags for logs); Revised callouts for fill material on Sheet 15 sections to match project Special Provisions; Added seeding acreage and seed mix to Sheet 19; Added note to temporary log crossing notes to clarify that decking may be used for vehicle/equipment access.

The Final Contract Drawings have been uploaded to the above referenced website, replacing the previously provided drafts. A copy of the Final Contract Drawings is also included as Attachment B to this addendum.

END OF
ADDENDUM NO. 1



X

Hannah Pygott, Sr. Natural Resource Specialist
Chelan County Natural Resources Department

Attachment A: Appendix E: Site Access
Photos

East Fork Mission Creek Floodplain
Restoration Project

Addendum NO. 1

Appendix E: Site Imagery for Road Washout/Site Isolation Requirements



Road washout approximately halfway through project area. Not associated with floodplain grading or logjam placement.



Approximate dimensions of road washout, looking upstream at washout area.



Site isolation needs for road washout.



Looking downstream at washout area.

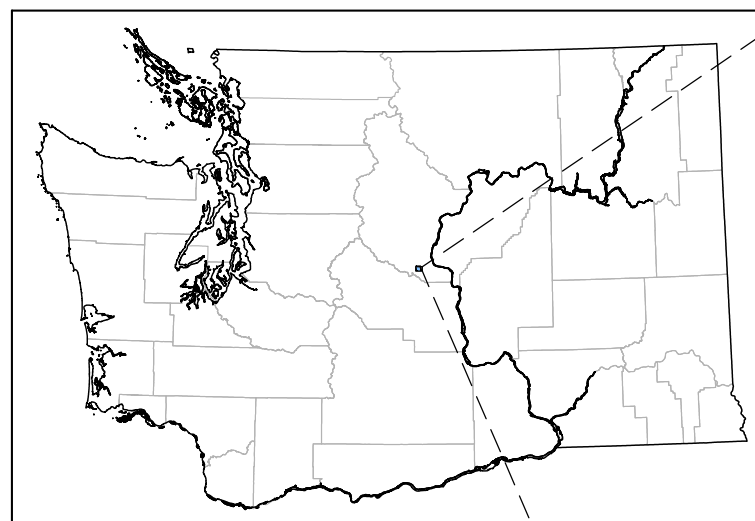
Attachment B: Final Contract Drawings

East Fork Mission Creek Floodplain
Restoration Project

Addendum NO. 1

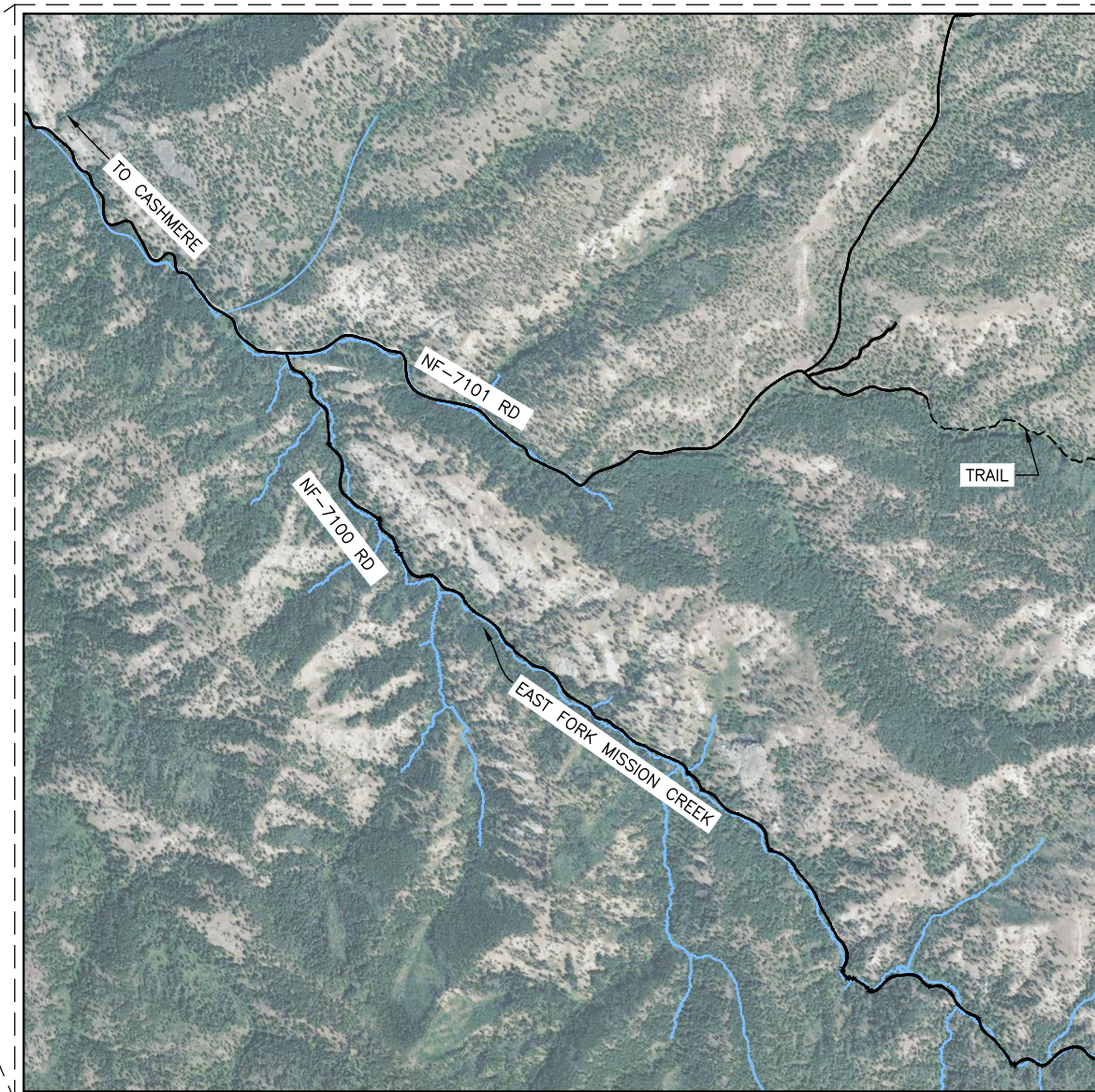
EAST FORK MISSION CREEK

AQUATIC HABITAT RESTORATION CHELAN COUNTY NATURAL RESOURCE DEPARTMENT



VICINITY MAP

SCALE: 1" = 50'



PROJECT LOCATION MAP

SCALE: 1" = 1,000'

DRAWING LIST	
SHEET NUMBER	SHEET TITLE
01	COVER SHEET
02	GENERAL NOTES
03	LEGEND
04	PROJECT OVERVIEW
05	UPPER PROJECT OVERVIEW
06	LOWER PROJECT OVERVIEW
07	REACH 1
08	REACH 2
09	REACH 3
10	REACH 9
11	REACH 10 (1)
12	REACH 10 (2)
13	REACH 11 (1)
14	REACH 11 (2)
15	REACH 11 (3)
16	WATER MANAGEMENT (1)
17	WATER MANAGEMENT (2)
18	WATER MANAGEMENT (3)
19	ROAD DECOMMISSIONING TYPICAL DETAILS
20	TYPE 1 ELJ DETAILS
21	TYPE 1 ELJ SEQUENCING
22	TYPE 2 ELJ & HABITAT TREE DETAILS
23	ELJ & TEMPORARY ACCESS DETAILS
24	ELJ & TEMPORARY ACCESS DETAILS (2)
25	TESC DETAILS

CONTACT INFORMATION

NATURAL SYSTEMS DESIGN, INC

1900 N NORTHLAKE WAY, SUITE 211
SEATTLE, WA 98103
(206) 834-0175

CHELAN COUNTY NATURAL RESOURCE DEPARTMENT

411 WASHINGTON STREET, SUITE 201
WENATCHEE, WA 98801
PHONE (509) 667-6533



1/8/2024

IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



Natural Systems Design
+ Coastal Geologic Services

NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED NT	LATITUDE 47°21'47"N
CHECKED RLE	LONGITUDE 120°27'47"W
DRAWN LZ, KS	TN/SC/RG T22N/S28.33/R19E
CHECKED JS	DATE

EAST FORK MISSION CREEK
RESTORATION PROJECT

COVER SHEET

01

SHEET 01 OF 25

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Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

GENERAL NOTES

1. THESE PLANS HAVE BEEN PREPARED FOR THE EXCLUSIVE USE OF CHELAN COUNTY NATURAL RESOURCE DEPARTMENT, HEREAFTER REFERRED TO AS "OWNER", AND THEIR AUTHORIZED AGENTS OR "CONTRACTING OFFICER."
2. NATURAL SYSTEMS DESIGN, HEREAFTER REFERRED TO AS "ENGINEER" IS RESPONSIBLE FOR THE PREPARATION OF THESE ORIGINAL PLANS AND ASSOCIATED SPECIFICATIONS; AND WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGE, OR USE, OF THESE PLANS WHICH INCLUDES ALTERATION, DELETION, OR EDITING OF THIS DOCUMENT WITHOUT EXPLICIT WRITTEN PERMISSION FROM THE ENGINEER. ANY OTHER UNAUTHORIZED USE OF THIS DOCUMENT IS PROHIBITED.
3. THE LOCATION OF ALL FEATURES SHOWN IS APPROXIMATE. FINAL LOCATIONS SHALL BE FLAGGED IN THE FIELD BY THE ENGINEER OR CONTRACTOR PRIOR TO CONSTRUCTION, AS INDICATED IN THESE PLANS.

PERMIT NOTES

1. THE CONTRACTOR SHALL CONDUCT THE ACTIVITIES SHOWN IN THESE PLANS IN A MANNER THAT MINIMIZES THE ADVERSE IMPACT ON WATER QUALITY, FISH AND WILDLIFE, AND THE NATURAL ENVIRONMENT.
2. ALL WORK SHALL BE IN COMPLIANCE WITH PERMIT CONDITIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO HAVE COPIES OF ALL PERMITS ON THE JOB SITE, UNDERSTAND AND COMPLY WITH ALL PERMIT CONDITIONS.
3. IF AT ANY TIME FISH ARE OBSERVED IN DISTRESS, A FISH KILL OCCURS, OR WATER QUALITY PROBLEMS DEVELOP (INCLUDING EQUIPMENT LEAKS OR SPILLS), OPERATIONS SHALL CEASE AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.
4. AVOID AND MINIMIZE ADVERSE IMPACTS TO WATERS OF THE UNITED STATES, INCLUDING MINIMIZING THE NUMBER, DURATION, AND EXTENT OF WORK BELOW ORDINARY HIGH WATER AND EQUIPMENT CROSSINGS OF WETTED CHANNELS.
5. IF, DURING CONSTRUCTION, ARCHAEOLOGICAL REMAINS ARE ENCOUNTERED, CONSTRUCTION IN THE VICINITY SHALL BE HALTED, AND THE STATE OFFICE OF HISTORIC PRESERVATION AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY.

SURVEY NOTES

1. LIDAR FOR THIS PROJECT WAS COLLECTED IN 2016, AND SUPPLEMENTED WITH SURVEY COLLECTED IN 2022. ARTIFICIAL SURFACE WAS CREATED IN AREAS WHERE ANOMALIES WERE PRESENT IN LIDAR DATA DUE TO VEGETATION INTERFERENCE. DATA IS REPRESENTATIVE OF 2022 CONDITIONS. THE VERTICAL DATUM IS NAVD88 (FT). THE HORIZONTAL DATUM IS NAD83 WASHINGTON STATE PLANE NORTH AND THE UNIT IS US SURVEY FEET.
2. GATES, FENCELINES, AND UTILITIES WERE NOT SURVEYED. CONTRACTOR TO VERIFY IN FIELD.
3. PARCEL BOUNDARIES ARE FROM CHELAN COUNTY ASSESSOR'S OFFICE AND ARE NOT SURVEYED.
4. AERIAL IMAGERY WAS COLLECTED IN 2019 (BING IMAGERY).

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY.
2. CONSTRUCTION HOURS SHALL BE WEEKDAYS BETWEEN 7:00 A.M. AND 7:00 P.M. UNLESS PRIOR APPROVAL IS RECEIVED FROM THE OWNER.
3. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO PROCEEDING WITH THE WORK.
4. THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, VEGETATION, AND IMPROVEMENTS NOT INDICATED FOR REMOVAL.
5. THE CONTRACTOR SHALL KEEP THE JOB SITE CLEAN AND HAZARD FREE.
6. THE CONTRACTOR SHALL DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH GENERATED BY THE WORK. UPON COMPLETION OF WORK, CONTRACTOR SHALL REMOVE ALL MATERIAL AND EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY.
7. NO TREES OR VEGETATION SHALL BE REMOVED UNLESS NOTED ON THE PLANS OR SPECIFIED ON-SITE BY THE OWNER OR THE ENGINEER. NO GRADING SHALL TAKE PLACE WITHIN THE DRIP LINE OF TREES NOT TO BE REMOVED UNLESS OTHERWISE APPROVED.

8. THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS ON THE JOB SHOWING "AS-CONSTRUCTED" CHANGES MADE TO DATE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUPPLY TO OWNER A SET OF PLANS, MARKED UP TO THE SATISFACTION OF THE OWNER, REFLECTING THE AS-CONSTRUCTED MODIFICATIONS.

ELJ NOTES

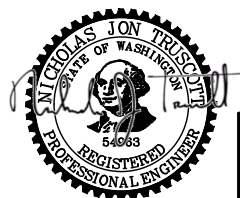
1. ALL LOGS SHALL BE CONIFEROUS SPECIES HARVESTED ON-SITE. IF THE CONTRACTOR ELECTS TO IMPORT LOGS RATHER THAN HARVEST ON-SITE OR IF IMPORT OF ADDITIONAL LOGS IS NECESSARY ALL IMPORTED LOGS SHALL MEET THE REQUIREMENTS IN THE SPECIAL PROVISIONS.
2. ALL PILES SHALL BE ROUND, UNTREATED TIMBER PILES AND SHALL BE DOUGLAS FIR. PILES SHALL BE FREE FROM DEFECTS, CRACKS, AND SPLITTING AT THE TIME OF DRIVING.
3. LOGS SHALL HAVE SPECIFIED DIAMETERS AS MEASURED AT DBH, DEFINED AS 4.5 FEET ABOVE GROUND WHEN TREE WAS STANDING.
4. EXISTING WOODY MATERIAL AT THE STRUCTURE LOCATION SHALL BE MOVED OR PROTECTED FROM CONSTRUCTION ACTIVITIES AND THEN INCORPORATED INTO THE STRUCTURE AS DIRECTED BY THE CONTRACTING OFFICER.
5. PILE EMBEDMENT DEPTH FOR EACH ELJ SHALL BE MEASURED RELATIVE TO THE CHANNEL THALWEG. EXCAVATION DEPTHS AND QUANTITIES IN THE STRUCTURE SCHEDULE ARE BASED ON TOPOGRAPHIC DATA COLLECTED IN 2016 AND 2022, AND EXISTING GRADE ELEVATIONS AND ASSOCIATED EXCAVATION DEPTHS MAY BE OFF BY SEVERAL FEET. ACTUAL EXCAVATION DEPTHS SHALL BE PROVIDED BY THE ENGINEER WHEN THE STRUCTURE LOCATION IS STAKED PRIOR TO CONSTRUCTION.

AQUATIC RESTORATION BIOLOGICAL OPINION II (ARBO II) NOTES

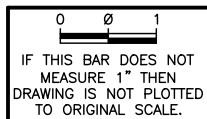
1. THIS PROJECT HAS BEEN DESIGNED IN ACCORDANCE WITH THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)'S 2013 AQUATIC RESTORATION BIOLOGICAL OPINION II (ARBOII)'S GENERAL AQUATIC CONSERVATION MEASURES AND PROJECT DESIGN CRITERIA FOR AQUATIC RESTORATION ACTIVITY CATEGORIES (GUIDELINES AND CONSERVATION MEASURES, GCM) ISSUED FOR NWP-2013-9644.
2. SPECIFIC GCMS ARE INCLUDED THROUGHOUT THESE PLANS. REFERENCES TO THE FOLLOWING GCMS HAVE BEEN MADE:

- SECTION 1.3.2, PARAGRAPH 13. FISH PASSAGE
- SECTION 1.3.2, PARAGRAPH 15. POLLUTION AND EROSION CONTROL MEASURES
- SECTION 1.3.2, PARAGRAPH 16. SITE PREPARATION
- SECTION 1.3.2, PARAGRAPH 17. HEAVY EQUIPMENT USE
- SECTION 1.3.2, PARAGRAPH 19. MONITORING
- SECTION 1.3.3, PARAGRAPH 24. CHANNEL RECONSTRUCTION/RELOCATION
- SECTION 1.3.3, PARAGRAPH 32. ROAD AND TRAIL EROSION CONTROL AND DECOMMISSIONING
- SECTION 1.3.3, PARAGRAPH 22. LARGE WOOD, BOULDER, AND GRAVEL PLACEMENT

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Natural Systems Design
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DESIGNED NT	LATITUDE 47°21'47"N
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DRAWN LZ, KS	TN/SC/RG T22N/S28.33/R19E
CHECKED JS	DATE

EAST FORK MISSION CREEK
RESTORATION PROJECT

GENERAL NOTES

02

SHEET 02 OF 25

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

GENERAL LEGEND

- PROPERTY LINE
- EXISTING ROAD
- FORMER ROAD SEGMENT
- LOW FLOW CHANNEL
- EXISTING MATURE VEGETATION
- CUT LIMIT
- FILL LIMIT
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- CONTROL POINT LOCATION
- AVAILABLE HABITAT TREES

TEMPORARY EROSION CONTROL LEGEND

- SILT BOOM
- BLOCK NETS
- SILT FENCE
- STRAW WATTLE
- DEWATERING LINE DISCHARGE
- PROPOSED STAGING AREA
- BULK BAG COFFERDAM
- TEMPORARY ACCESS ROAD
- TEMPORARY ACCESS BRIDGE
- PUMP DISCHARGE OUTLET
- DEWATERING / STREAM BYPASS PUMP

DETAIL AND SECTION REFERENCING

- NOTE REFERENCING NUMBER
- DETAIL REFERENCE NUMBER SHEET ON WHICH DETAIL APPEARS
- SPECIFIES THAT DETAIL IS UNIFORMLY TYPICAL THROUGHOUT PROJECT EXCEPT WHERE OTHERWISE NOTED
- SECTION 3-2: REACH 3, SECTION 2

LOG NOMENCLATURE (LETTER-NUMBER)

LETTER	DBH (IN)	NUMBER	LENGTH (FT)
A	28	2	20
B	24	3	30
C	22	4	40
D	20	5	50
E	18	6	60
F	16		
G	14		
H	12		
I	10		

PREFIXES:
R=ROOTWAD, P=PILE

RESTORATION LEGEND

- TYPE 1 ENGINEERED LOG JAM (ELJ) (TYPE-NUMBER)
T1-#
- TYPE 2 ELJ (TYPE-NUMBER)
T2-#
- HABITAT TREE (TYPE-NUMBER)
HT-#
- ROAD DECOMMISSIONING

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NSD + Coastal Geologic Services
CGS

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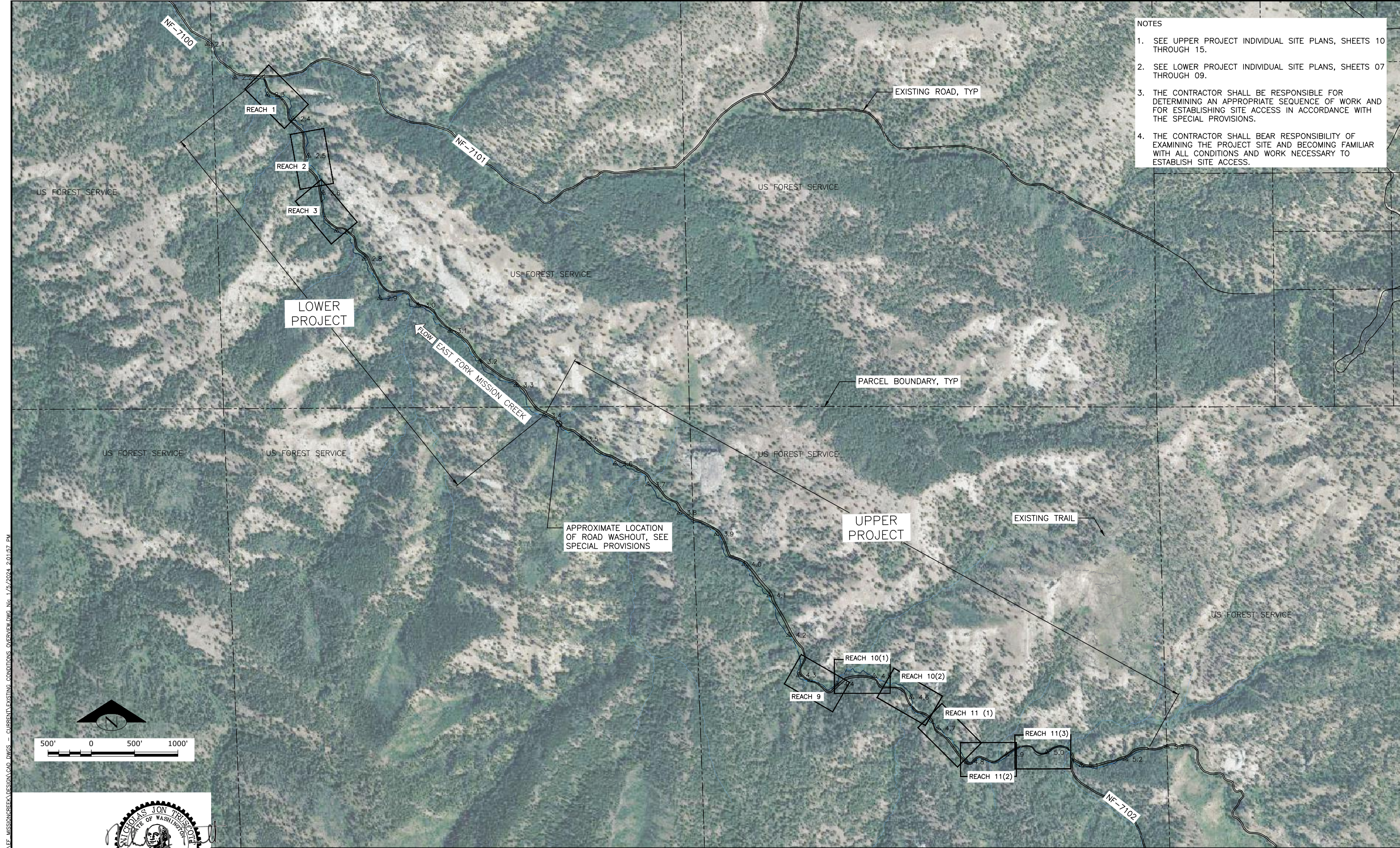
EAST FORK MISSION CREEK RESTORATION PROJECT

LEGEND

03
SHEET **03** OF **25**

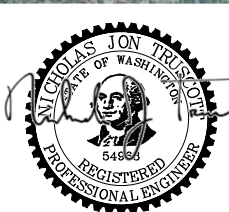
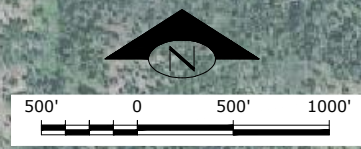
Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

- NOTES
1. SEE UPPER PROJECT INDIVIDUAL SITE PLANS, SHEETS 10 THROUGH 15.
 2. SEE LOWER PROJECT INDIVIDUAL SITE PLANS, SHEETS 07 THROUGH 09.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AN APPROPRIATE SEQUENCE OF WORK AND FOR ESTABLISHING SITE ACCESS IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
 4. THE CONTRACTOR SHALL BEAR RESPONSIBILITY OF EXAMINING THE PROJECT SITE AND BECOMING FAMILIAR WITH ALL CONDITIONS AND WORK NECESSARY TO ESTABLISH SITE ACCESS.



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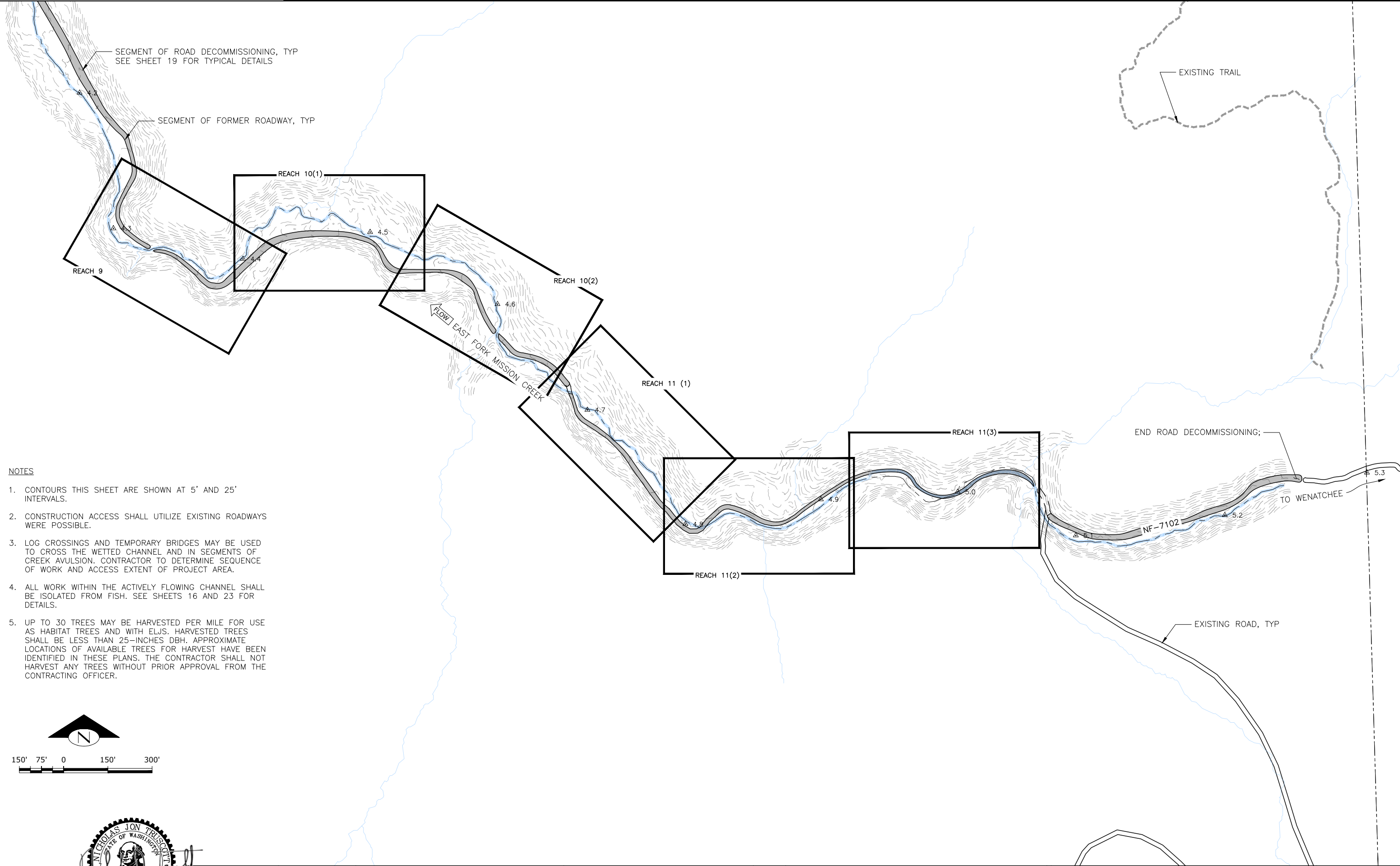
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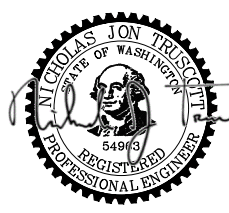
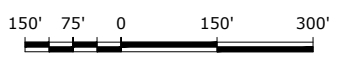
EAST FORK MISSION CREEK RESTORATION PROJECT

PROJECT OVERVIEW

04
SHEET **04** OF **25**



- NOTES**
1. CONTOURS THIS SHEET ARE SHOWN AT 5' AND 25' INTERVALS.
 2. CONSTRUCTION ACCESS SHALL UTILIZE EXISTING ROADWAYS WERE POSSIBLE.
 3. LOG CROSSINGS AND TEMPORARY BRIDGES MAY BE USED TO CROSS THE WETTED CHANNEL AND IN SEGMENTS OF CREEK AVULSION. CONTRACTOR TO DETERMINE SEQUENCE OF WORK AND ACCESS EXTENT OF PROJECT AREA.
 4. ALL WORK WITHIN THE ACTIVELY FLOWING CHANNEL SHALL BE ISOLATED FROM FISH. SEE SHEETS 16 AND 23 FOR DETAILS.
 5. UP TO 30 TREES MAY BE HARVESTED PER MILE FOR USE AS HABITAT TREES AND WITH ELJS. HARVESTED TREES SHALL BE LESS THAN 25-INCHES DBH. APPROXIMATE LOCATIONS OF AVAILABLE TREES FOR HARVEST HAVE BEEN IDENTIFIED IN THESE PLANS. THE CONTRACTOR SHALL NOT HARVEST ANY TREES WITHOUT PRIOR APPROVAL FROM THE CONTRACTING OFFICER.



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EAST FORK MISSION CREEK RESTORATION PROJECT

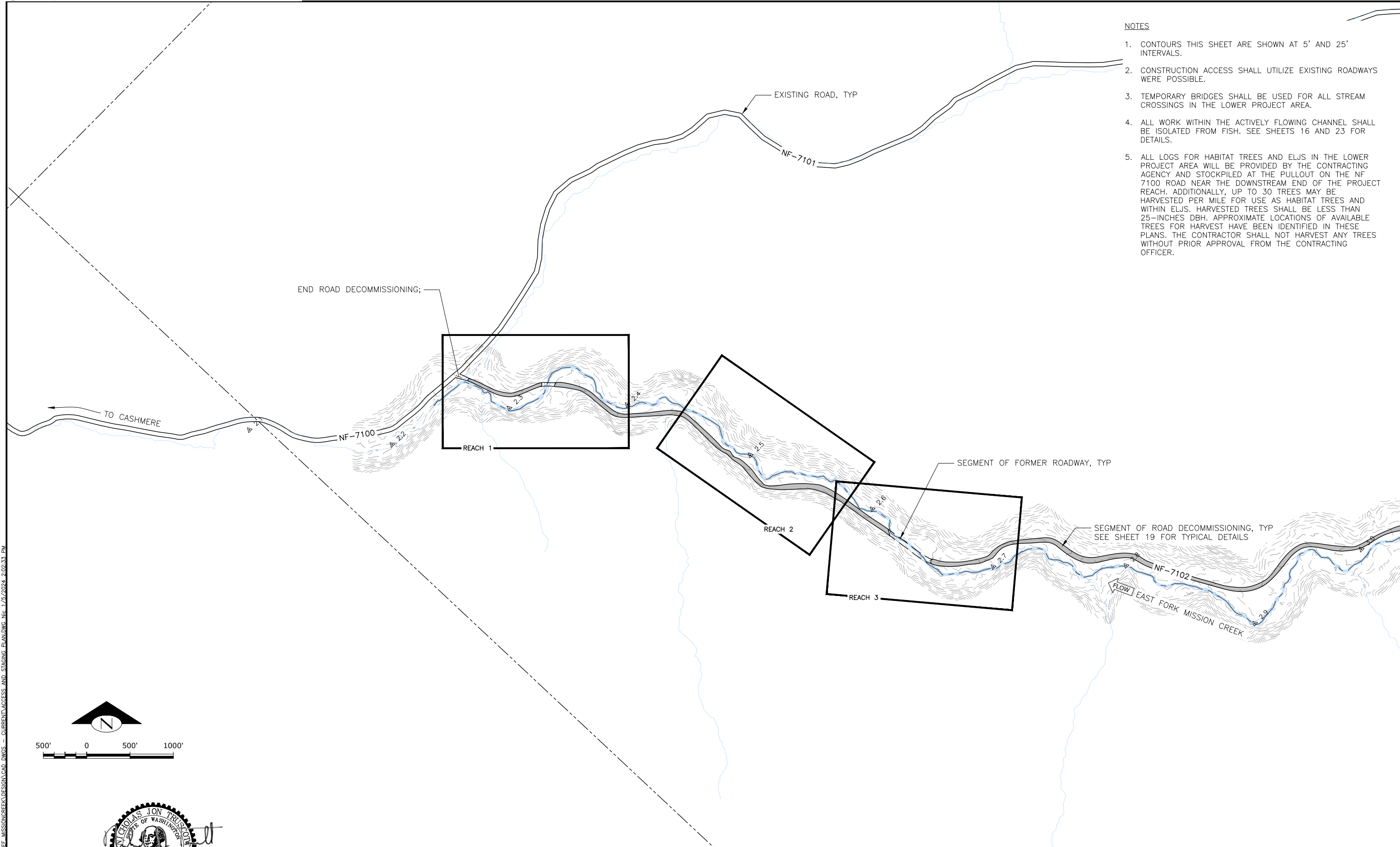
UPPER PROJECT OVERVIEW

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Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

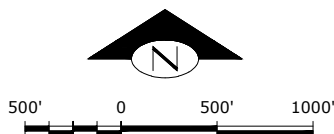
NOTES

1. CONTOURS THIS SHEET ARE SHOWN AT 5' AND 25' INTERVALS.
2. CONSTRUCTION ACCESS SHALL UTILIZE EXISTING ROADWAYS WERE POSSIBLE.
3. TEMPORARY BRIDGES SHALL BE USED FOR ALL STREAM CROSSINGS IN THE LOWER PROJECT AREA.
4. ALL WORK WITHIN THE ACTIVELY FLOWING CHANNEL SHALL BE ISOLATED FROM FISH. SEE SHEETS 16 AND 23 FOR DETAILS.
5. ALL LOGS FOR HABITAT TREES AND ELJS IN THE LOWER PROJECT AREA WILL BE PROVIDED BY THE CONTRACTING AGENCY AND STOCKPILED AT THE PULLOUT ON THE NF 7100 ROAD NEAR THE DOWNSTREAM END OF THE PROJECT REACH. ADDITIONALLY, UP TO 30 TREES MAY BE HARVESTED PER MILE FOR USE AS HABITAT TREES AND WITHIN ELJS. HARVESTED TREES SHALL BE LESS THAN 25-INCHES DBH. APPROXIMATE LOCATIONS OF AVAILABLE TREES FOR HARVEST HAVE BEEN IDENTIFIED IN THESE PLANS. THE CONTRACTOR SHALL NOT HARVEST ANY TREES WITHOUT PRIOR APPROVAL FROM THE CONTRACTING OFFICER.



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Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION



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NSD Natural Systems Design
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NAME OR INITIALS AND DATE
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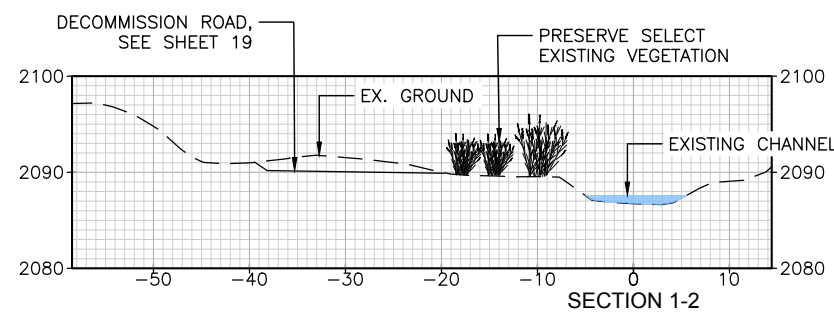
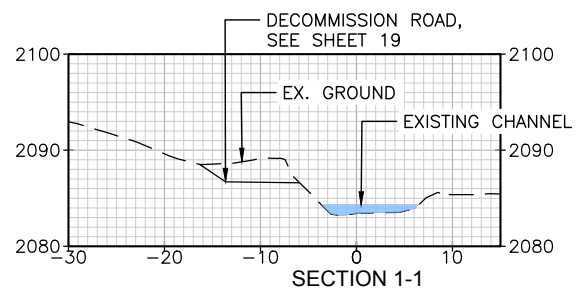
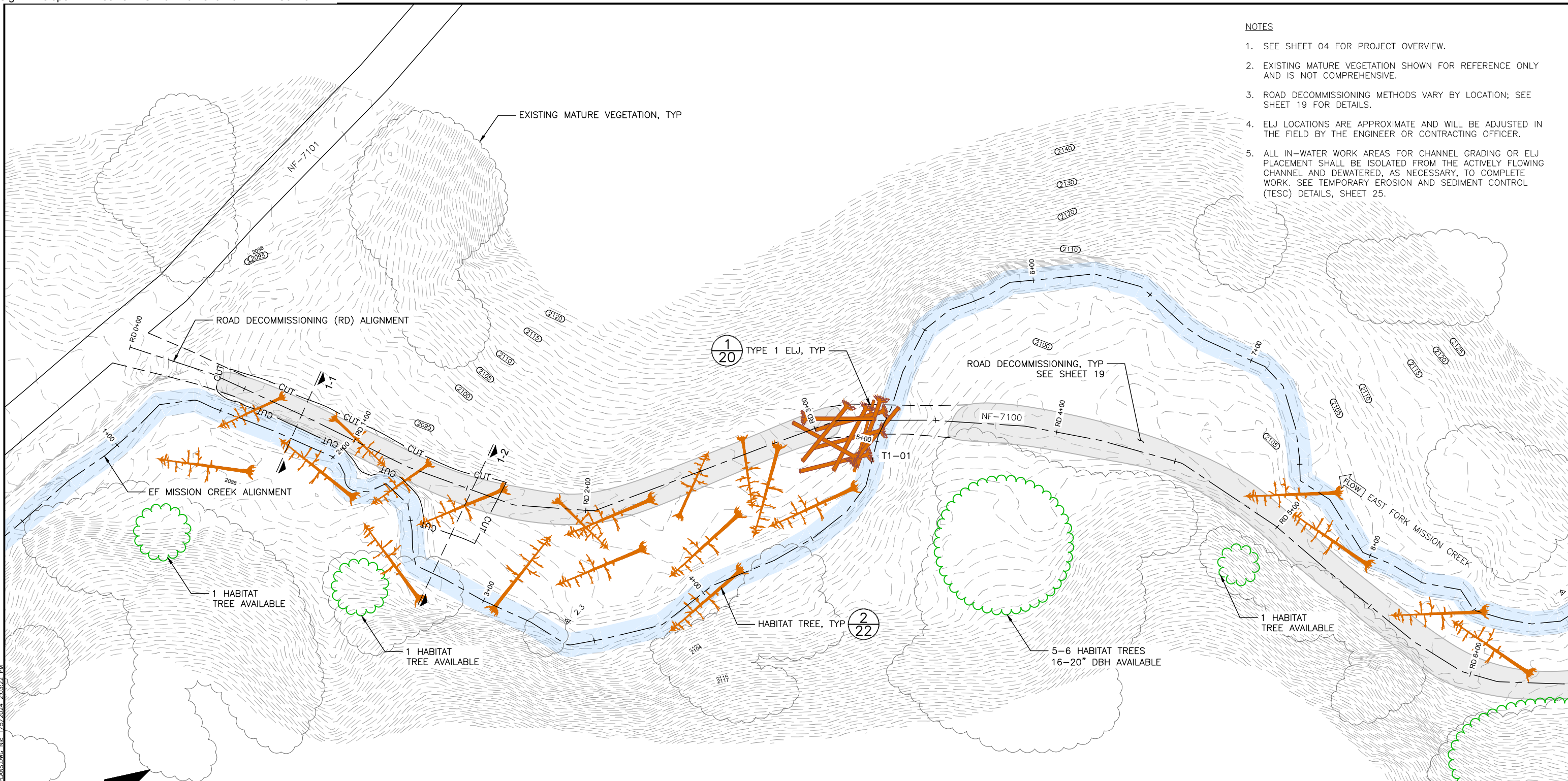
GEOGRAPHIC INFORMATION
LATITUDE 47°21'47"N
LONGITUDE 120°27'47"W
TN/SC/RG T22N/S28.33/R19E
DATE

EAST FORK MISSION CREEK RESTORATION PROJECT

LOWER PROJECT OVERVIEW

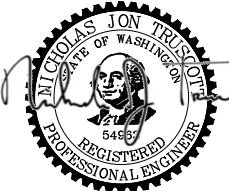
06
SHEET **06** OF **25**

- NOTES**
1. SEE SHEET 04 FOR PROJECT OVERVIEW.
 2. EXISTING MATURE VEGETATION SHOWN FOR REFERENCE ONLY AND IS NOT COMPREHENSIVE.
 3. ROAD DECOMMISSIONING METHODS VARY BY LOCATION; SEE SHEET 19 FOR DETAILS.
 4. ELJ LOCATIONS ARE APPROXIMATE AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER OR CONTRACTING OFFICER.
 5. ALL IN-WATER WORK AREAS FOR CHANNEL GRADING OR ELJ PLACEMENT SHALL BE ISOLATED FROM THE ACTIVELY FLOWING CHANNEL AND DEWATERED, AS NECESSARY, TO COMPLETE WORK. SEE TEMPORARY EROSION AND SEDIMENT CONTROL (TESC) DETAILS, SHEET 25.



NA\PROJECTS\CONRD\EF MISSIONCREEK\DESIGN\CAD\DWGS - CURRENT\SITE PLANS\DWG No. 1/8/2024 2:03:22 PM

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION



1/8/2024

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



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NAME OR INITIALS AND DATE	
DESIGNED	NT
CHECKED	RLE
DRAWN	LZ, KS
CHECKED	JS

GEOGRAPHIC INFORMATION	
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DATE	

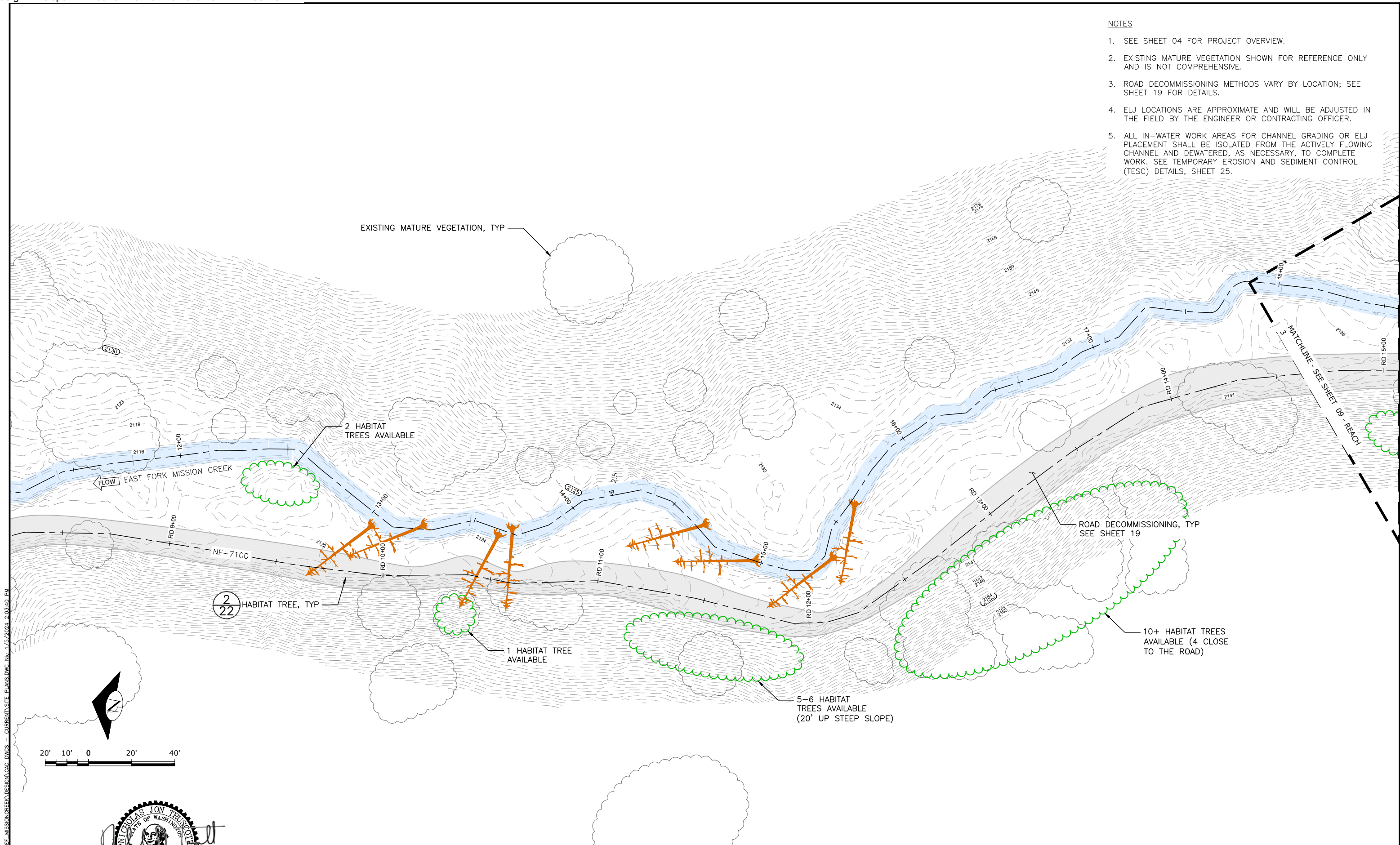
EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 1

07
SHEET 07 OF 25

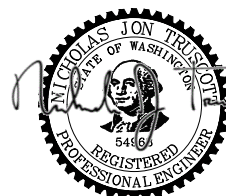
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DESIGNED NT	LATITUDE 47°21'47"N
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CHECKED JS	DATE

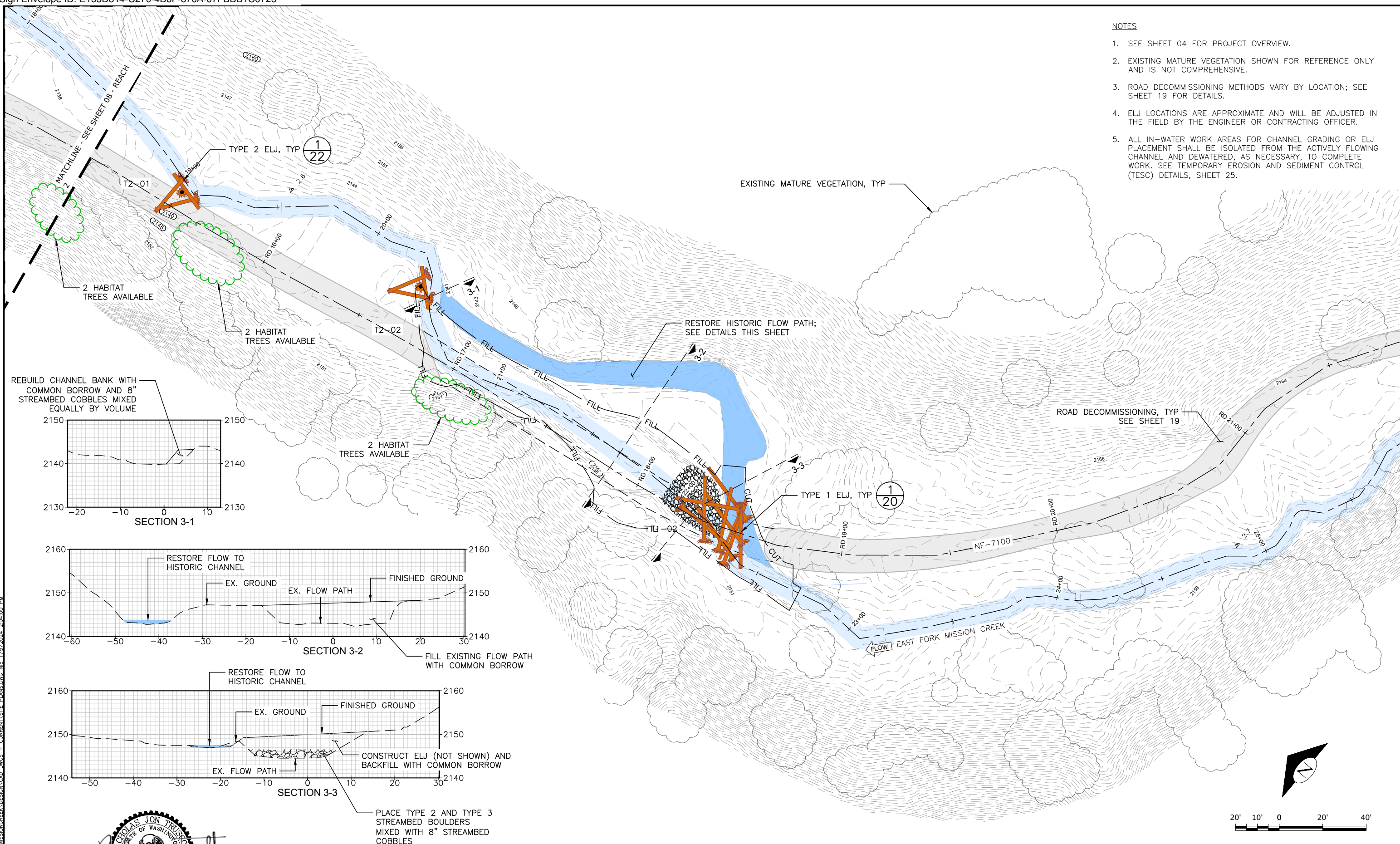
EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 2

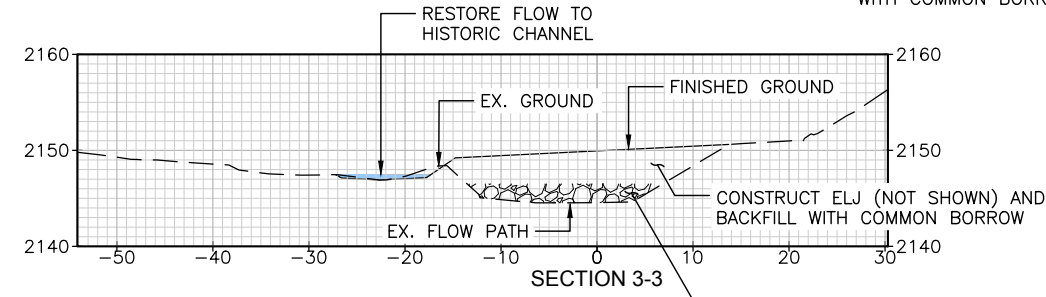
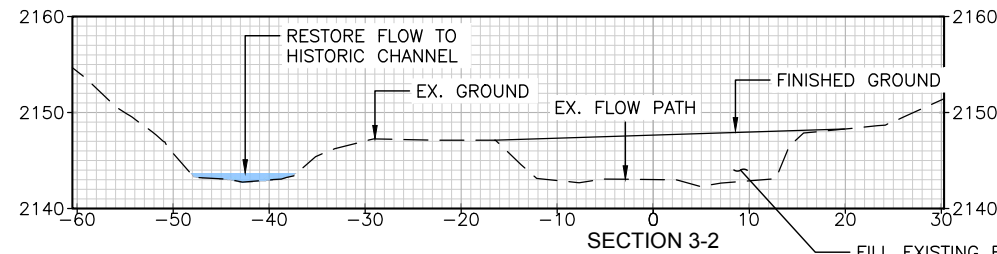
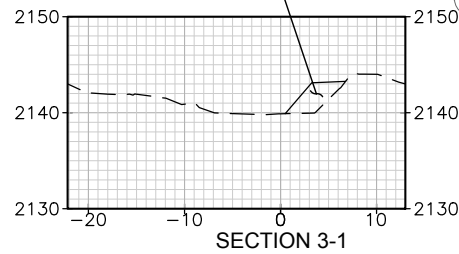
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SHEET **08** OF **25**

NOTES

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REBUILD CHANNEL BANK WITH COMMON BORROW AND 8" STREAMBED COBBLES MIXED EQUALLY BY VOLUME



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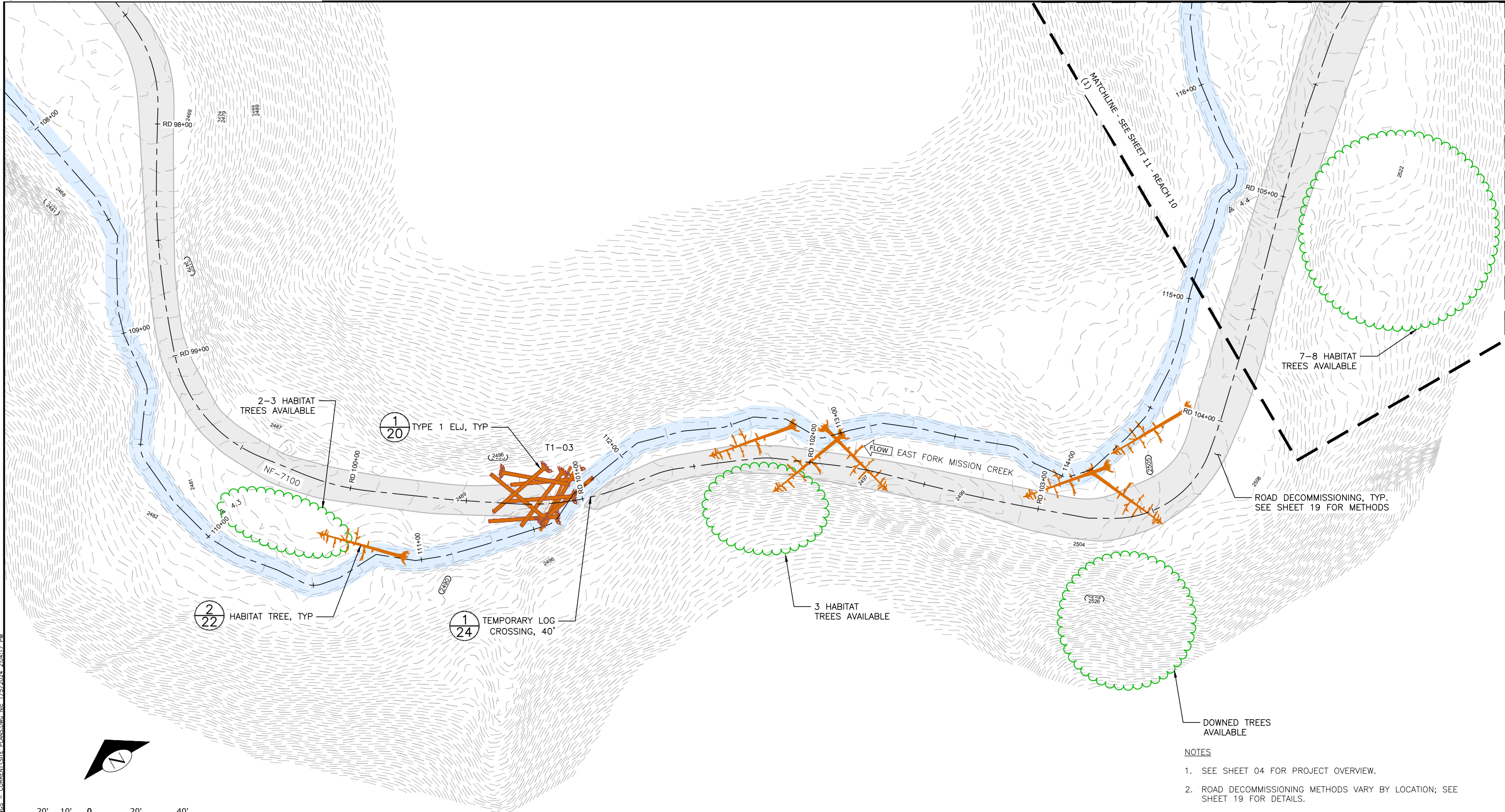
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EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 3

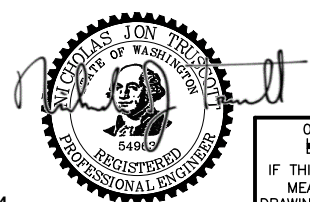
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SHEET **09** OF **25**

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION



- NOTES**
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NAME OR INITIALS AND DATE	
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CHECKED	JS

GEOGRAPHIC INFORMATION	
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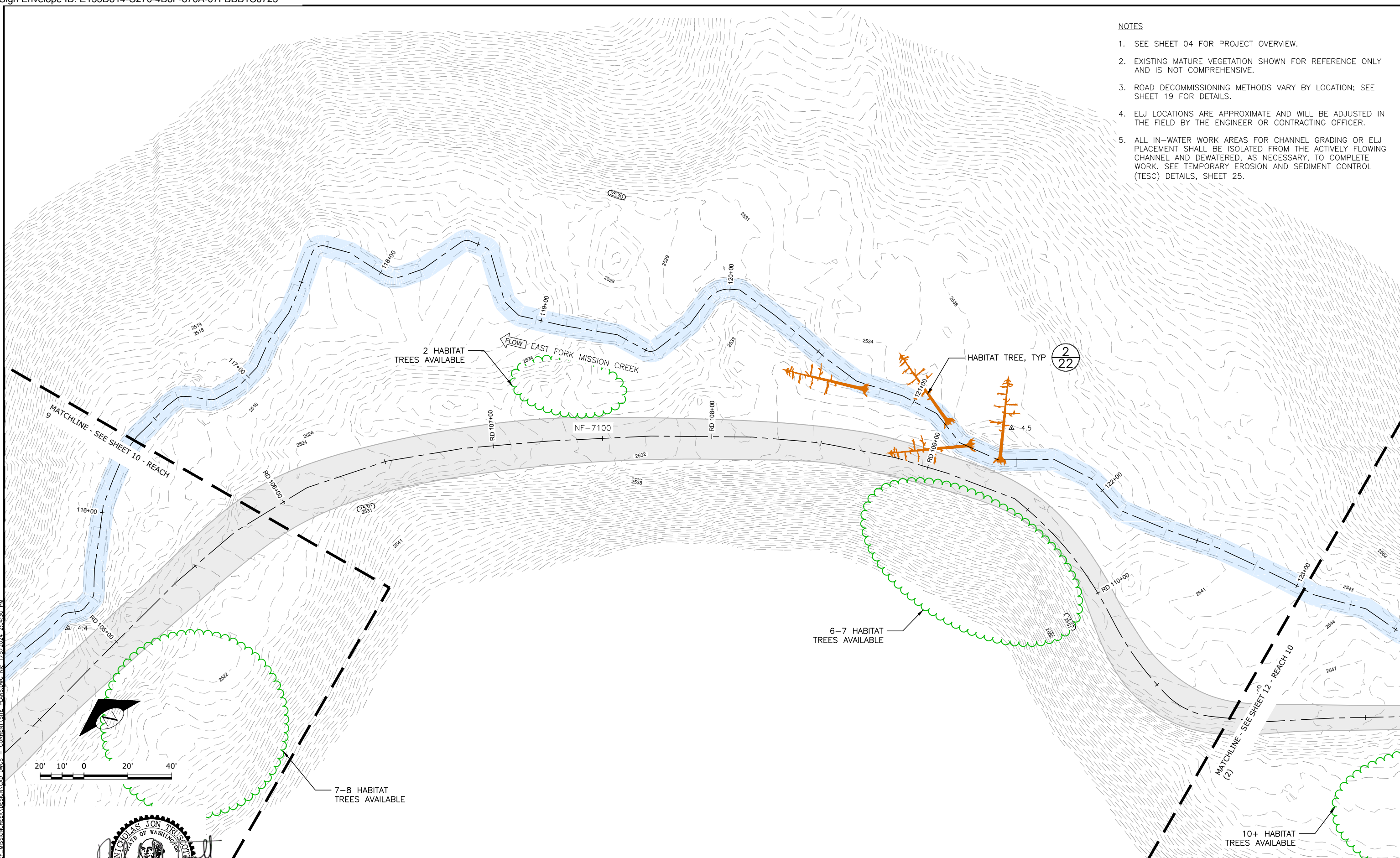
EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 9

10
SHEET 10 OF 25

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

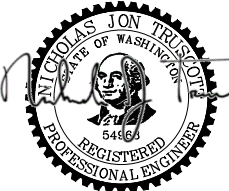
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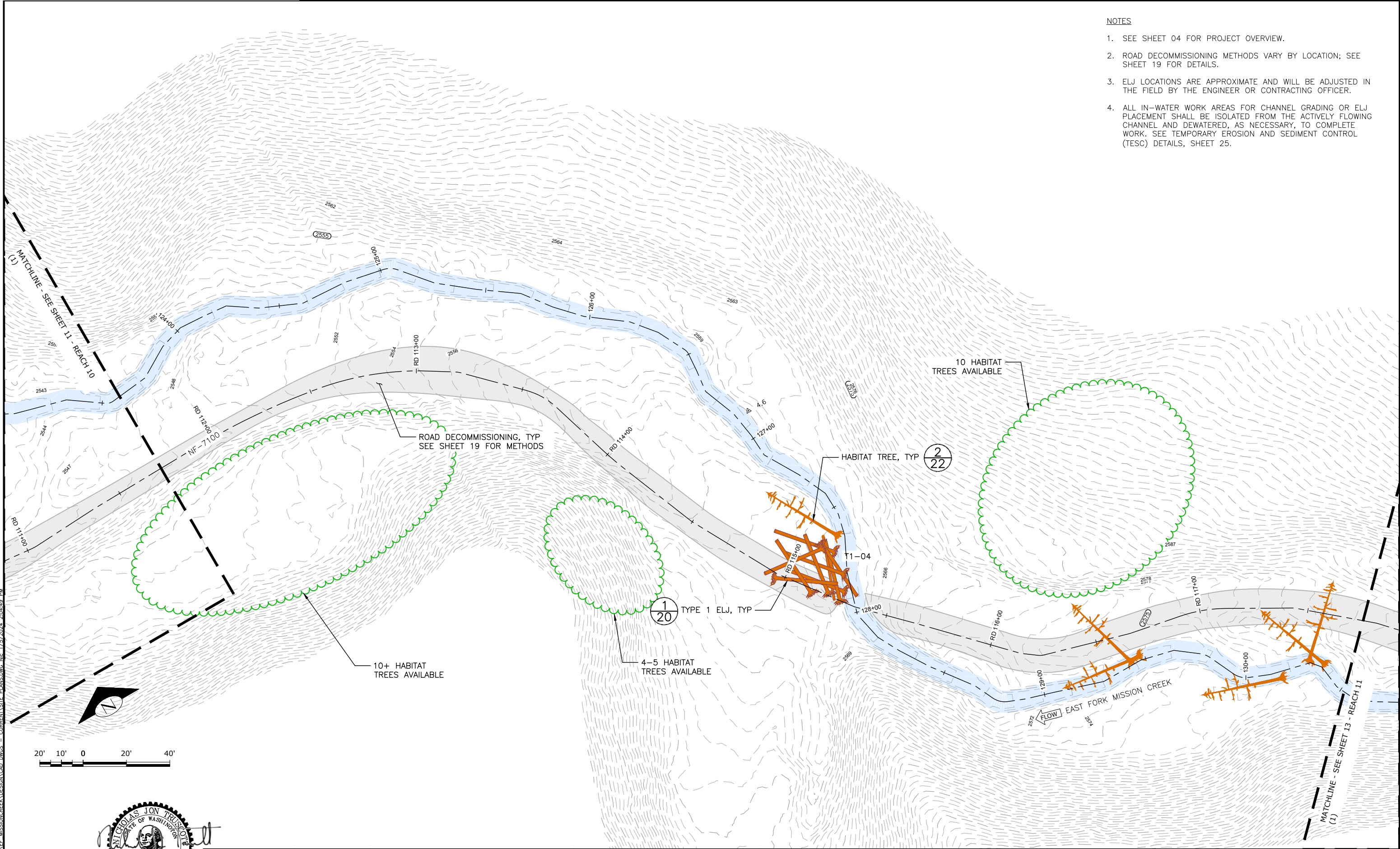
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DATE	

EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 10 (1)

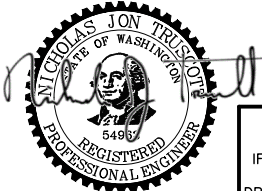
11
SHEET 11 OF 25

- NOTES**
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CHECKED JS	DATE

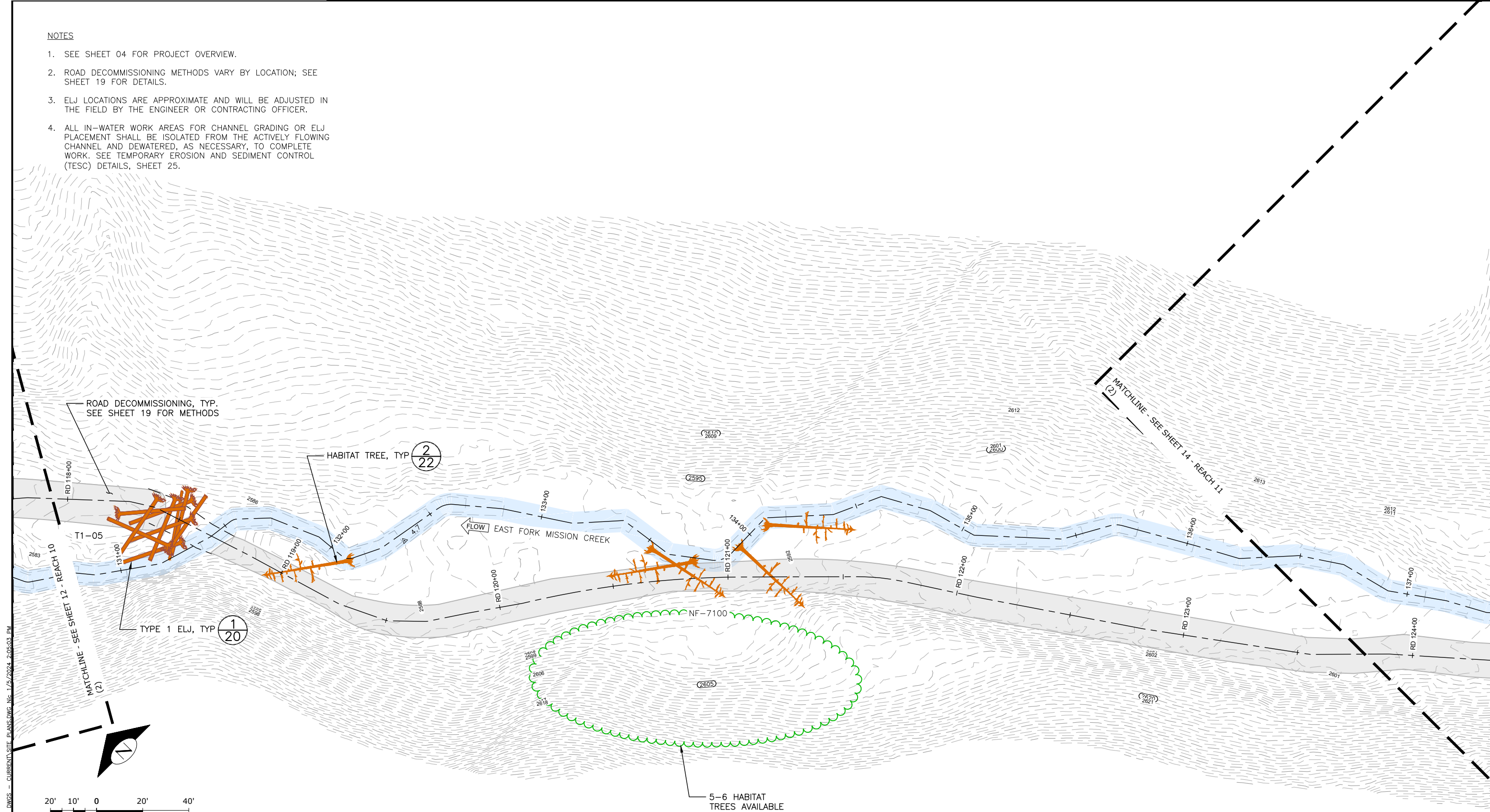
EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 10 (2)

12
SHEET 12 OF 25

NOTES

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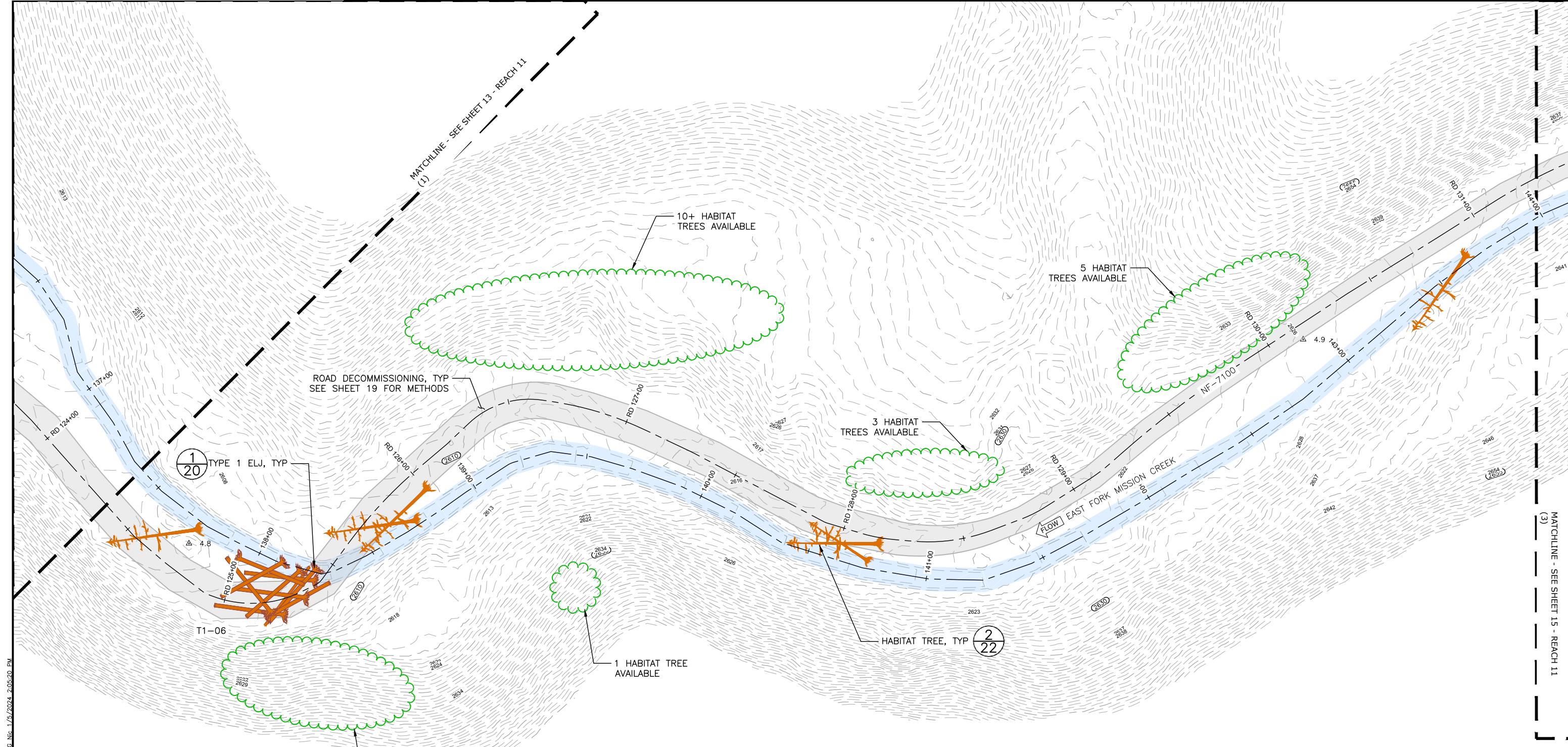
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LONGITUDE	120°27'47"W
TN/SC/RG	T22N/S28.33/R19E
DATE	

EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 11 (1)

13
SHEET **13** OF **25**



- NOTES**
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Jan 05, 2024 FINAL DESIGN -- FOR CONSTRUCTION

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



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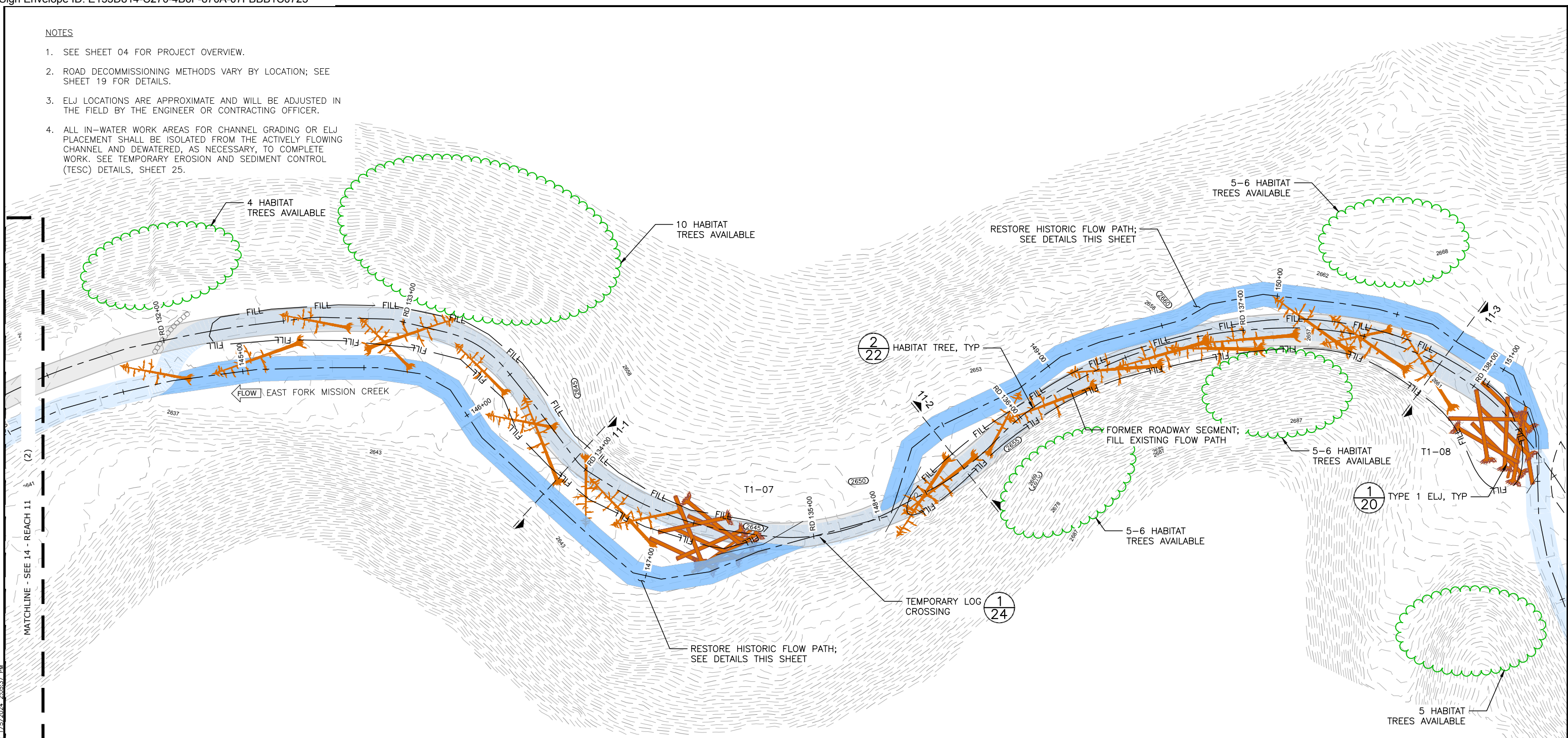
EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 11 (2)

14
SHEET 14 OF 25

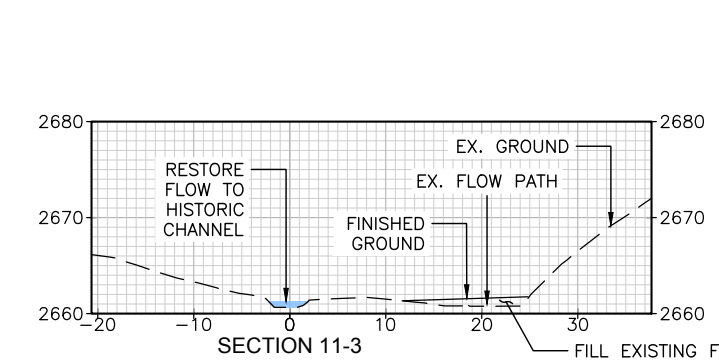
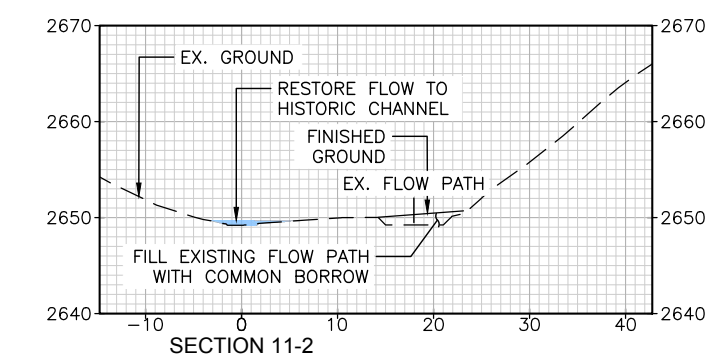
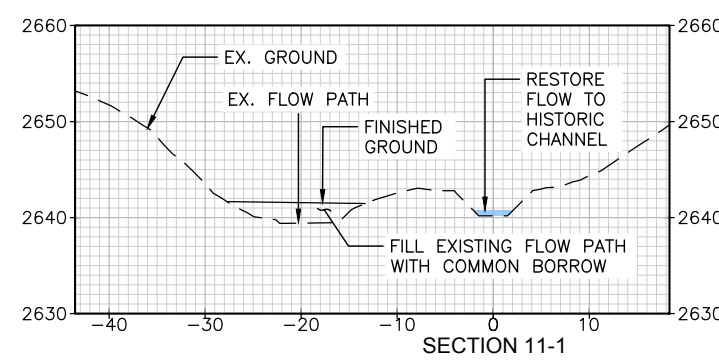
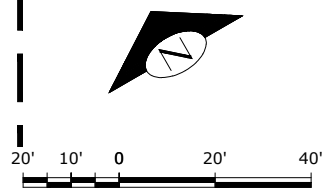
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MATCHLINE - SEE 14 - REACH 11

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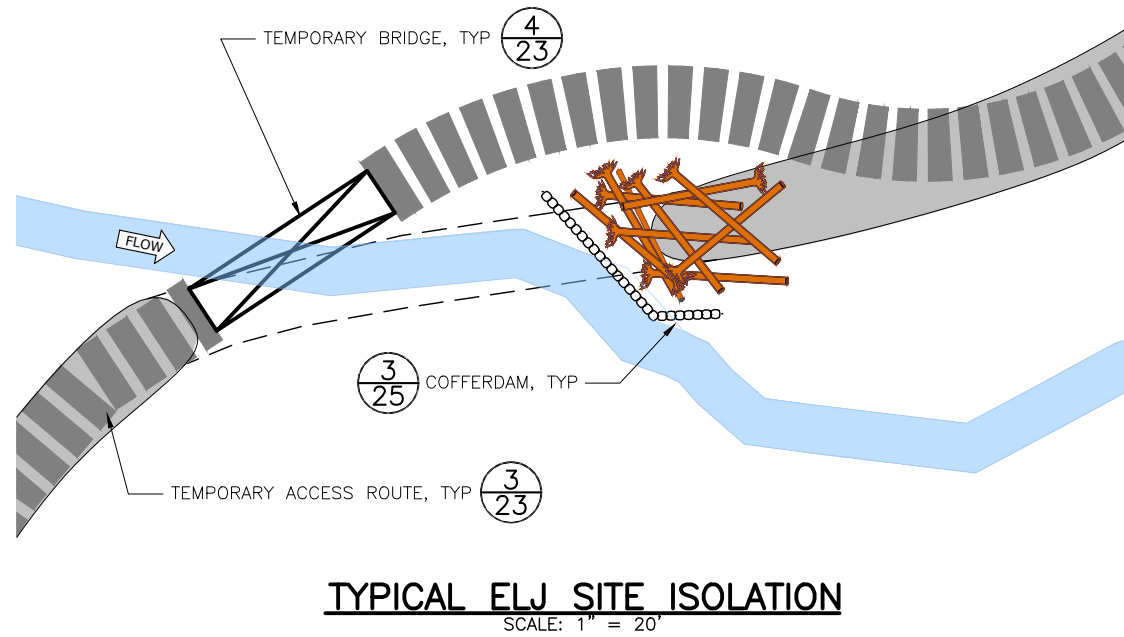
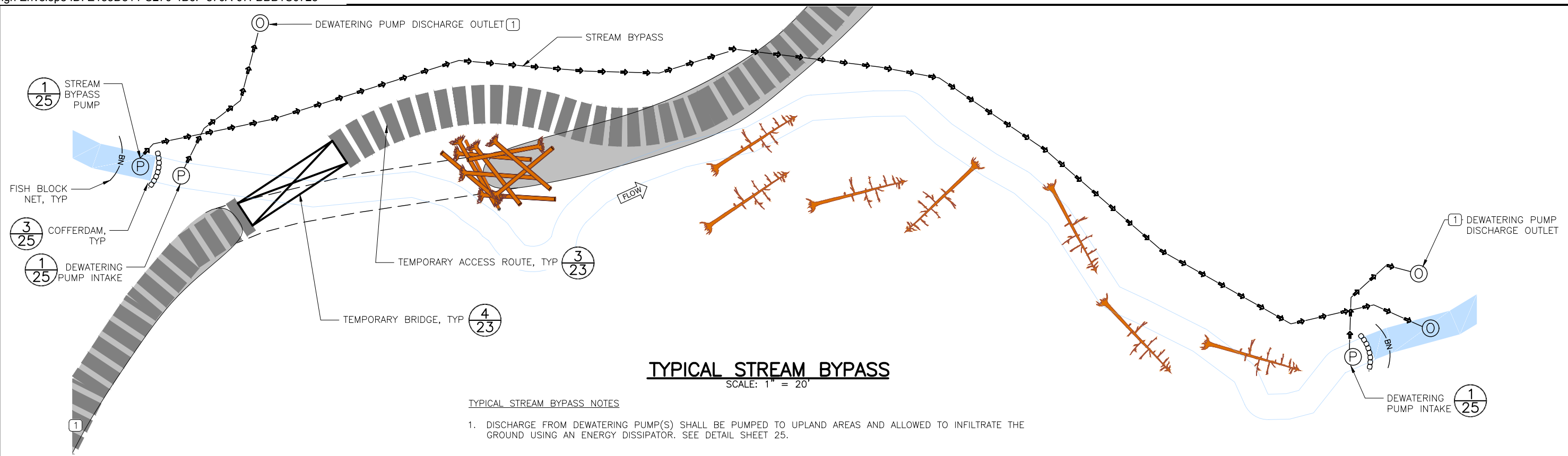
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DRAWN	LZ, KS	TN/SC/RG	T22N/S28.33/R19E
CHECKED	JS	DATE	

EAST FORK MISSION CREEK RESTORATION PROJECT

REACH 11 (3)

15
SHEET 15 OF 25

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION



TYPICAL TYPE 1 ELJ SITE ISOLATION NOTES

- IF SPACE ALLOWS, THE CONTRACTOR MAY ELECT TO BYPASS FLOW AROUND THE WORK AREA BY ISOLATING THE WORK AREA AND ALLOWING WATER TO FLOW PAST THE WORK AREA.
- FISH AND OTHER AQUATIC LIFE SHALL BE REMOVED FROM THE ISOLATED WORK AREA PRIOR TO ANY WORK.
- THE CONTRACTOR MAY ELECT TO UTILIZE SAND BAGS OR BULK BAGS FOR COFFERDAM CONSTRUCTION.

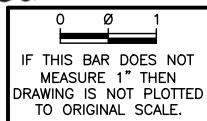
GENERAL WATER MANAGEMENT NOTES

- TYPICALS SHOWN ON THIS SHEET ARE EXAMPLES OF ACCEPTABLE APPROACHES FOR WATER MANAGEMENT. IF ANOTHER APPROACH IS DESIRED, THE CONTRACTOR SHALL DEVELOP A WATER MANAGEMENT PLAN FOR APPROVAL BY THE CONTRACTING OFFICER.
- ALL WORK WITHIN THE ACTIVELY FLOWING CHANNEL SHALL BE PERFORMED WITHIN AN AREA ISOLATED FROM FISH.
- THE CONTRACTING AGENCY WILL PERFORM FISH REMOVAL.

WATER MANAGEMENT 1/16
SCALE: AS NOTED



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DESIGNED: NT	LATITUDE: 47°21'47"N
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CHECKED: JS	DATE: _____

EAST FORK MISSION CREEK RESTORATION PROJECT

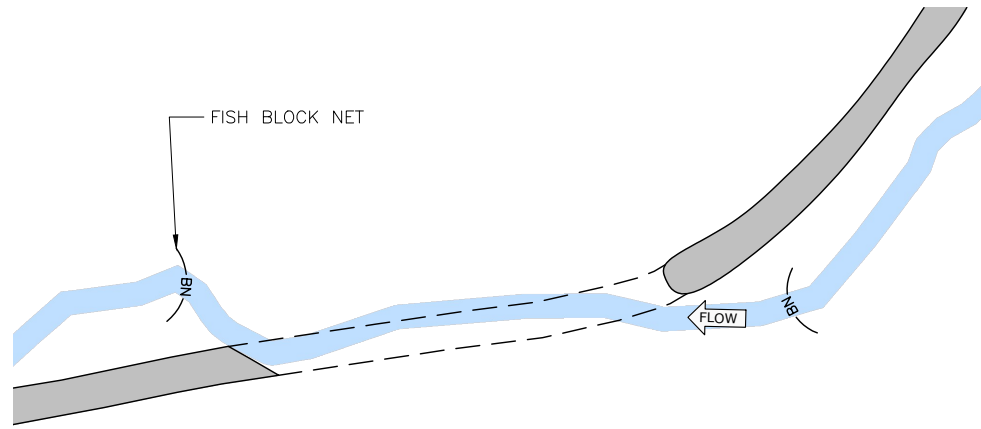
WATER MANAGEMENT (1)

16

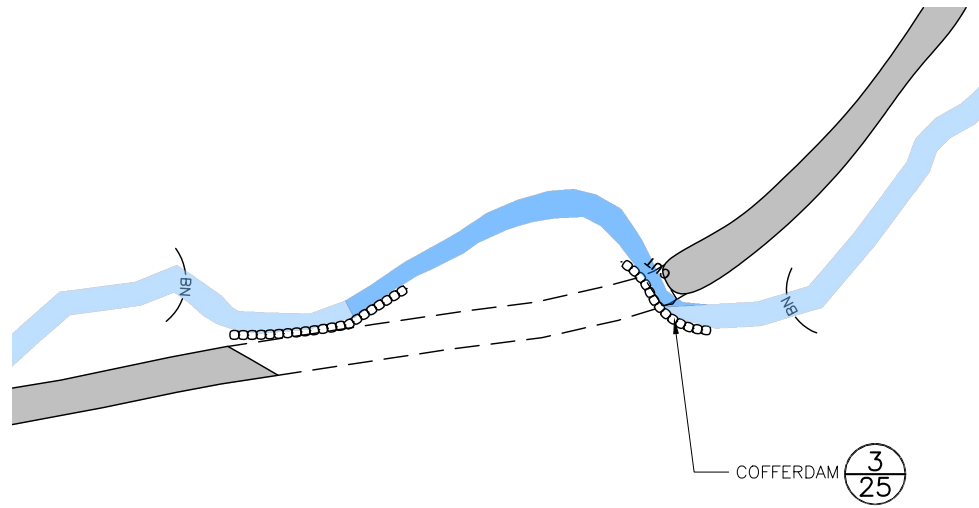
SHEET 16 OF 25

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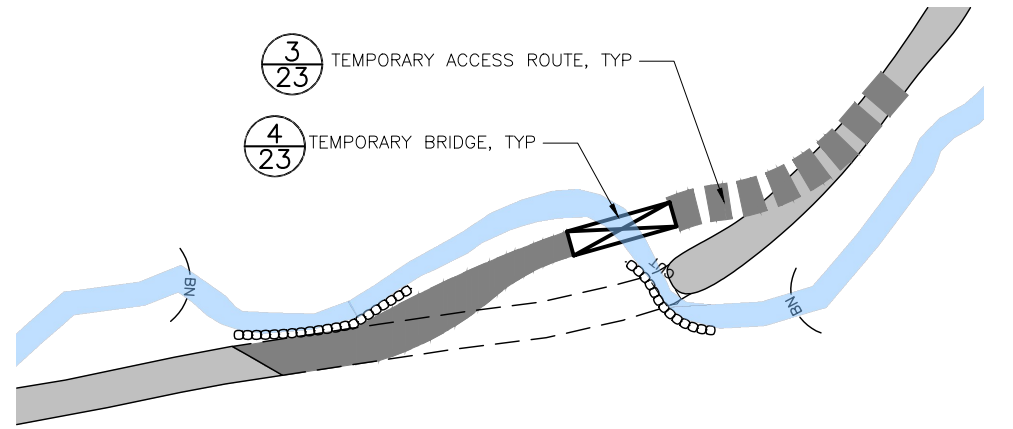
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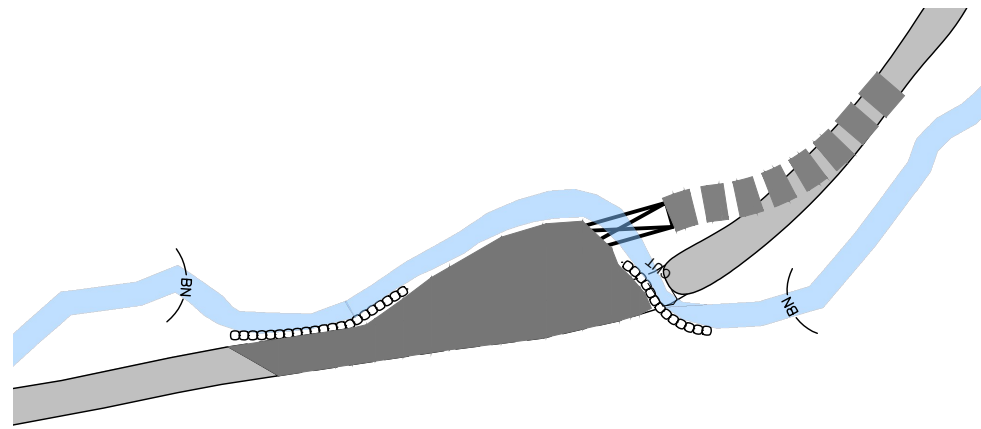
STEP 1: BLOCK NETS SHALL BE INSTALLED BY THE CONTRACTING AGENCY UPSTREAM AND DOWNSTREAM OF THE DESIRED ISOLATION AREA. THE AREA BETWEEN THE BLOCK NETS SHALL BE DEFISHED BY THE CONTRACTING AGENCY AFTER THE INSTALLATION OF BLOCK NETS.



STEP 2: SANDBAG COFFERDAMS SHALL BE PLACED ALONG HISTORIC FLOW PATH. EXCAVATE A PILOT CHANNEL AS NECESSARY TO ENSURE POSITIVE DRAINAGE INTO HISTORIC FLOW PATH.



STEP 3: PLACE FILL ACROSS TO CREATE A TEMPORARY ACCESS ROAD THROUGH THE SITE. INSTALL A TEMPORARY BRIDGE TO PROVIDE ACCESS TO UPSTREAM WORK.



STEP 4: FILL PREVIOUSLY EXISTING CHANNEL AND FLOODPLAIN TO MAINTAIN THE OLD HISTORIC FLOW PATH.



STEP 5: BUILD TYPE 1 ELJ STRUCTURE, REMOVE TEMPORARY ACCESS ROADS, BLOCK NETS AND COFFERDAMS.

GENERAL WATER MANAGEMENT NOTES

1. TYPICALS SHOWN ON THIS SHEET ARE EXAMPLES OF ACCEPTABLE APPROACHES FOR WATER MANAGEMENT AND WORK SEQUENCING. IF ANOTHER APPROACH IS DESIRED, THE CONTRACTOR SHALL DEVELOP A WATER MANAGEMENT PLAN FOR APPROVAL BY THE CONTRACTING OFFICER.
2. ALL WORK WITHIN THE ACTIVELY FLOWING CHANNEL SHALL BE PERFORMED WITHIN AN AREA ISOLATED FROM FISH.
3. THE CONTRACTING AGENCY WILL PERFORM FISH REMOVAL.

WATER MANAGEMENT REACH 3 1/17
SCALE: 1" = 40'



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EAST FORK MISSION CREEK RESTORATION PROJECT

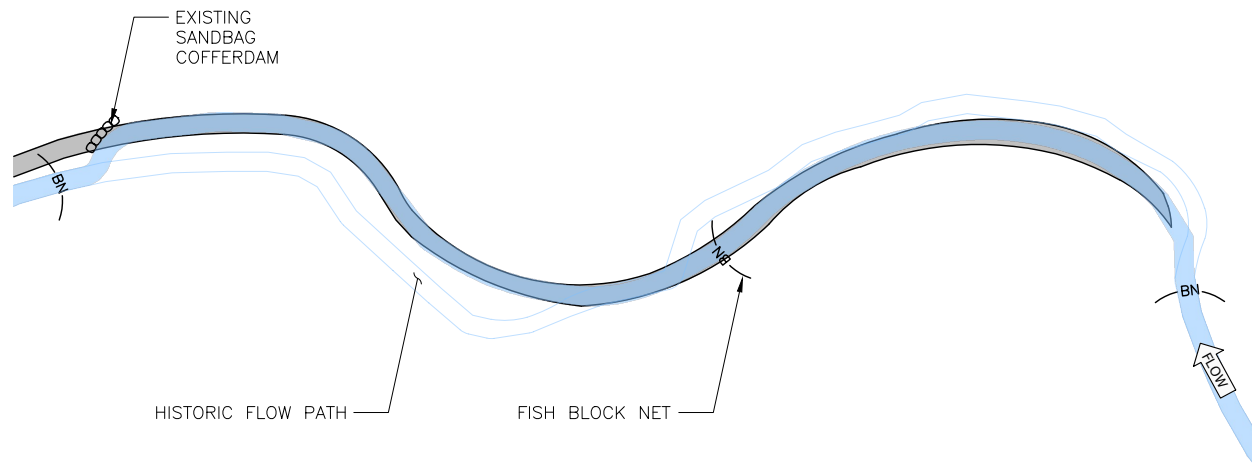
WATER MANAGEMENT (2)

17
SHEET 17 OF 25

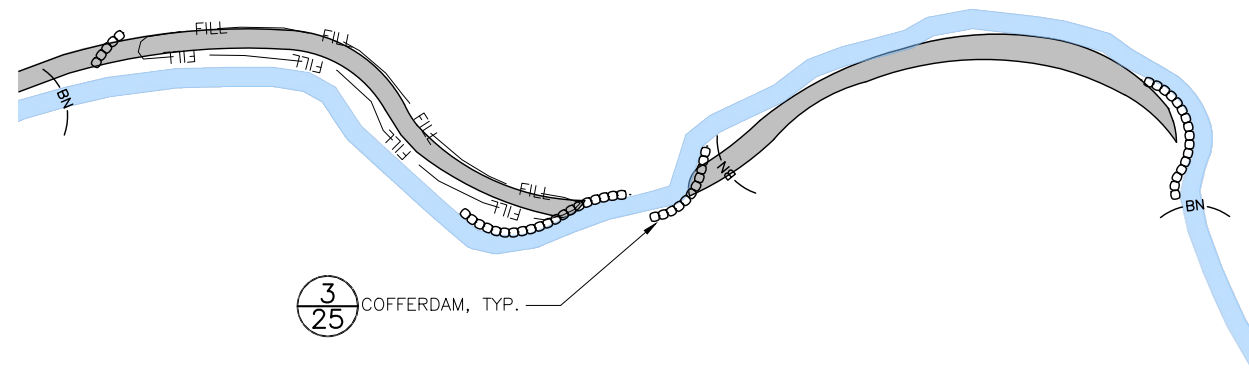
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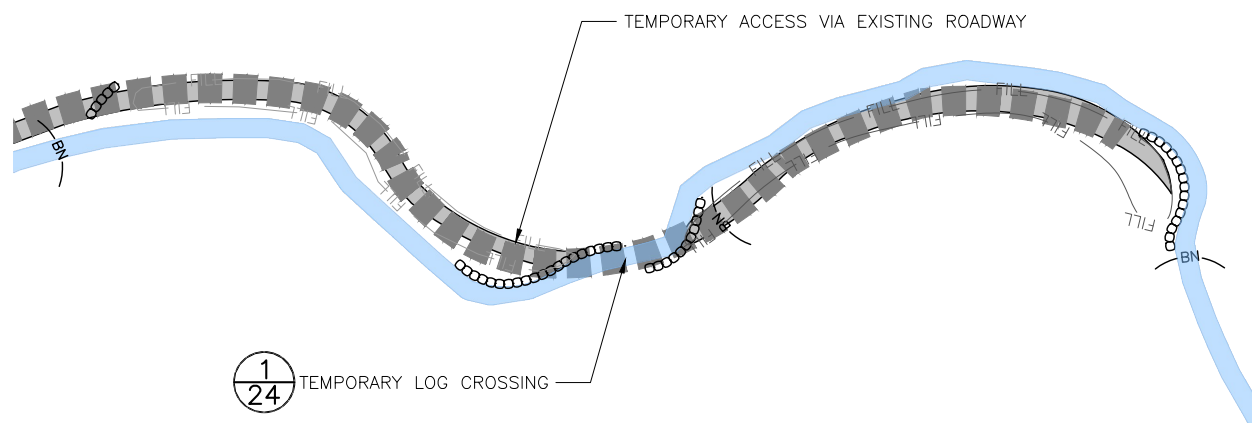
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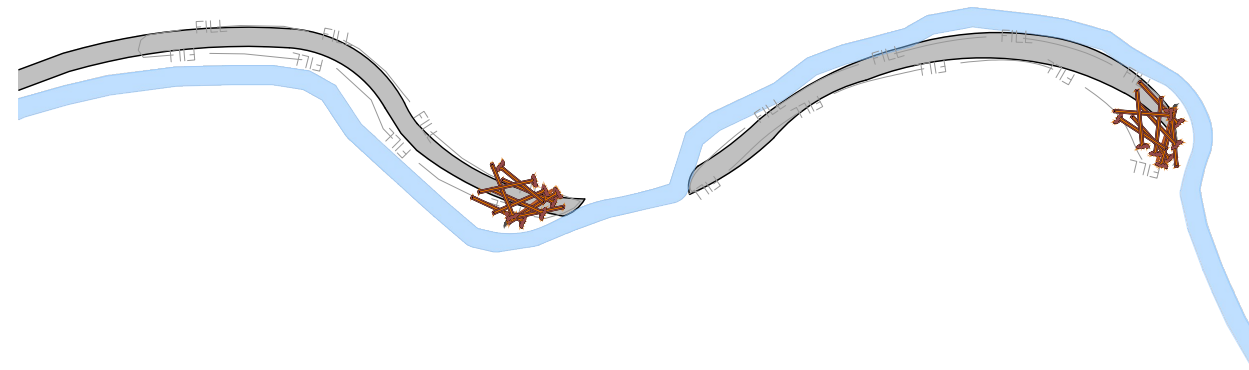
STEP 1: BLOCK NETS SHALL BE INSTALLED BY THE CONTRACTING AGENCY UPSTREAM AND DOWNSTREAM OF THE DESIRED ISOLATION AREA. THE AREA BETWEEN THE BLOCK NETS SHALL BE DEFISHED BY THE CONTRACTING AGENCY AFTER THE INSTALLATION OF BLOCK NETS.



STEP 2: INSTALL COFFERDAMS TO DIVERT FLOW INTO HISTORIC FLOW PATH THEN FILL EXISTING CHANNEL TO FIRST CROSSING AND INSTALL SANDBAG COFFERDAMS ALONG HISTORIC FLOW PATH TO DIRECT FLOW.



STEP 3: USE EXISTING ROAD AS A TEMPORARY ACCESS ROUTE. INSTALL A TEMPORARY LOG CROSSING TO ALLOW ACCESS TO UPSTREAM WORK AREA. FILL EXISTING CHANNEL.



STEP 4: BUILD TYPE 1 ELJ STRUCTURES, REMOVE TEMPORARY ACCESS ROAD, BLOCK NETS, AND COFFERDAMS AND MAINTAIN THE HISTORIC FLOW PATH.

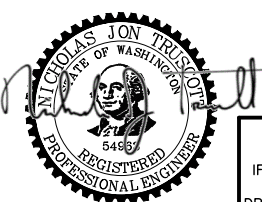
GENERAL WATER MANAGEMENT NOTES

1. TYPICALS SHOWN ON THIS SHEET ARE EXAMPLES OF ACCEPTABLE APPROACHES FOR WATER MANAGEMENT AND WORK SEQUENCING. IF ANOTHER APPROACH IS DESIRED, THE CONTRACTOR SHALL DEVELOP A WATER MANAGEMENT PLAN FOR APPROVAL BY THE CONTRACTING OFFICER.
2. ALL WORK WITHIN THE ACTIVELY FLOWING CHANNEL SHALL BE PERFORMED WITHIN AN AREA ISOLATED FROM FISH.
3. THE CONTRACTING AGENCY WILL PERFORM FISH REMOVAL.

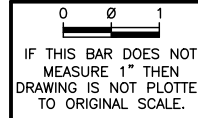
NA\PROJECTS\CONDOLEE MISSIONCREEK\DESIGN\CAD DWGS - CURRENT\WATER MANAGEMENT.DWG, No: 1/5/2024, 2:06:05 PM

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WATER MANAGEMENT - REACH 11(3) 1/18
SCALE: 1" = 50'



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NAME OR INITIALS AND DATE	DESIGNED NT
CHECKED RLE	DRAWN LZ, KS
CHECKED JS	

GEOGRAPHIC INFORMATION	LATITUDE 47°21'47"N
LONGITUDE 120°27'47"W	TN/SC/RG T22N/S28.33/R19E
DATE	

EAST FORK MISSION CREEK RESTORATION PROJECT

WATER MANAGEMENT (3)

18
SHEET 18 OF 25

UPPER PROJECT ROAD DECOMMISSIONING

DNSTRM STA	UPSTRM STA	ROAD DECOMMISSIONING TYPE
RD 54+56	RD 67+20	TYPE 1
RD 67+20	RD 71+00	TYPE 2
RD 71+00	RD 72+63	TYPE 1
RD 72+63	RD 94+86	TYPE 2
RD 94+86	RD 98+00	TYPE 1
RD 98+00	RD 114+00	TYPE 2
RD 114+00	RD 115+32	TYPE 1
RD 115+32	RD 119+00	TYPE 2
RD 119+00	RD 124+54	TYPE 1
RD 124+54	RD 124+75	TYPE 2
RD 124+75	RD 126+00	TYPE 1
RD 126+00	RD 126+70	TYPE 2
RD 126+70	RD 127+23	TYPE 1
RD 127+23	RD 128+40	TYPE 2
RD 128+40	RD 133+58	TYPE 1
RD 133+58	RD 138+40	N/A – SEE GRADING DETAILS
RD 138+40	RD 148+25	TYPE 1

LOWER PROJECT ROAD DECOMMISSIONING

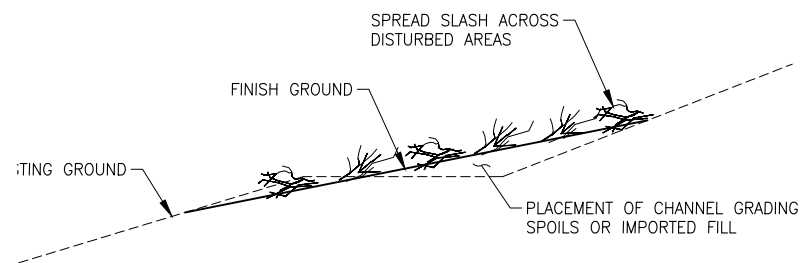
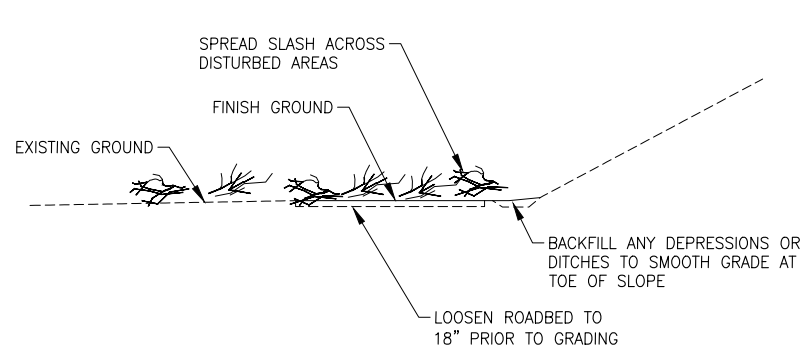
DNSTRM STA	UPSTRM STA	ROAD DECOMMISSIONING TYPE
RD 0+00	RD 3+33	N/A – SEE GRADING DETAILS
RD 3+33	RD 4+25	TYPE 1
RD 4+25	RD 9+76	TYPE 2
RD 9+76	RD 13+78	TYPE 1
RD 13+78	RD 14+48	TYPE 2
RD 14+48	RD 17+00	TYPE 1
RD 17+00	RD 18+65	N/A – SEE GRADING DETAILS
RD 18+65	RD 23+65	TYPE 1
RD 23+65	RD 25+00	TYPE 2
RD 25+00	RD 27+40	TYPE 1
RD 27+40	RD 32+50	TYPE 2
RD 32+50	RD 36+33	TYPE 1
RD 36+33	RD 43+34	TYPE 2
RD 43+34	RD 51+00	TYPE 1
RD 51+00	RD 51+91	TYPE 2
RD 51+91	RD 54+56	TYPE 1

ROAD DECOMMISSIONING NOTES

1. STATIONING CORRESPONDS WITH ROAD DECOMMISSIONING (RD) ALIGNMENT. ALIGNMENT FILE SHALL BE PROVIDED TO THE CONTRACTOR.
2. FOR METHODS, SEE ROAD DECOMMISSIONING TYPE DETAILS 1–3, THIS SHEET.
3. STATIONING AND ROAD DECOMMISSIONING METHOD IS APPROXIMATE; EXISTING CONDITIONS MAY DIFFER FROM THOSE INDICATED IN THESE PLANS.

GENERAL ROAD DECOMMISSIONING DETAIL NOTES

1. INTENT OF ROAD DECOMMISSIONING IS TO ACHIEVE NATURAL APPEARING TOPOGRAPHY AND BLEND CUT AND FILL AREAS INTO EXISTING HILLSLOPES.
2. CROSS SECTIONS SHOWN ARE A REPRESENTATIVE TYPICAL AND WILL VARY BASED ON STATIONING, SUBGRADE CONDITIONS, PROXIMITY TO CREEK AVULSIONS, AND ANY EXISTING VEGETATION THAT IS DIRECTED TO BE PRESERVED OR REMOVED.
3. ALL CULVERTS AND NON-NATURAL DEBRIS SHALL BE REMOVED PRIOR TO ROAD FILL.
4. EXCAVATED MATERIAL SHALL BE PLACED OVER FORMER ROADBED AND AGAINST EXISTING EMBANKMENT. LIMIT FILL PLACEMENT TO AREAS WITHOUT WOODY VEGETATION AS DIRECTED BY THE CONTRACTING OFFICER.
5. CONTRACTOR SHALL PLACE A MAXIMUM OF 12" LIFTS AND COMPACT BY TRACKWALKING THE ENTIRE FINISHED SURFACE OF EACH LIFT A MINIMUM OF TWO PASSES WITH A BULLDOZER OR EXCAVATOR.
6. SLASH SHALL BE SPREAD OVER THE DISTURBED AREA FOLLOWING FILL PLACEMENT.
7. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED WITH CERTIFIED WEED-FREE STRAW AT A RATE OF 2,000 LBS/ACRE FOLLOWING GRADING. WORK SHOWN ON THESE PLANS IS ESTIMATED TO REQUIRE SEEDING AND MULCHING OF 5.7 ACRES.

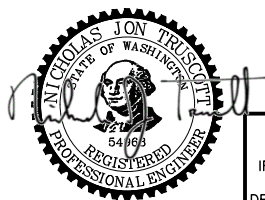


TYPE 1 ROAD DECOMMISSIONING 1
NOT TO SCALE 19

TYPE 2 ROAD DECOMMISSIONING 2
NOT TO SCALE 19

SEED MIX		
SPECIES	COMMON NAME	LBS PLS/ACRE
<i>Achillea millefolium</i>	Western Yarrow	0.5
<i>Agropyron spicatum</i>	Bluebunch Wheatgrass	10
<i>Bromus carinatus</i>	Mountain Brome	1
<i>Elymus glaucus</i>	Wild Rye	1
<i>Festuca idahoensis</i>	Idaho Fescue	5
<i>Linum lewisii</i>	Prairie Flax	0.25
<i>Lomatium dissectum</i>	Desert Parsley	1
<i>Lomatium nudicaule</i>	Barestem Biscuitroot	1
<i>Lupinus sericeus</i>	Silky Lupine	0.25
<i>Triticum aestivum x secale cereale</i>	Sterile Triticale	5
<i>Poa secunda</i>	Sandberg Bluegrass	10

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IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



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NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED NT	LATITUDE 47°21'47"N
CHECKED RLE	LONGITUDE 120°27'47"W
DRAWN LZ, KS	TN/SC/RG T22N/S28.33/R19E
CHECKED JS	DATE

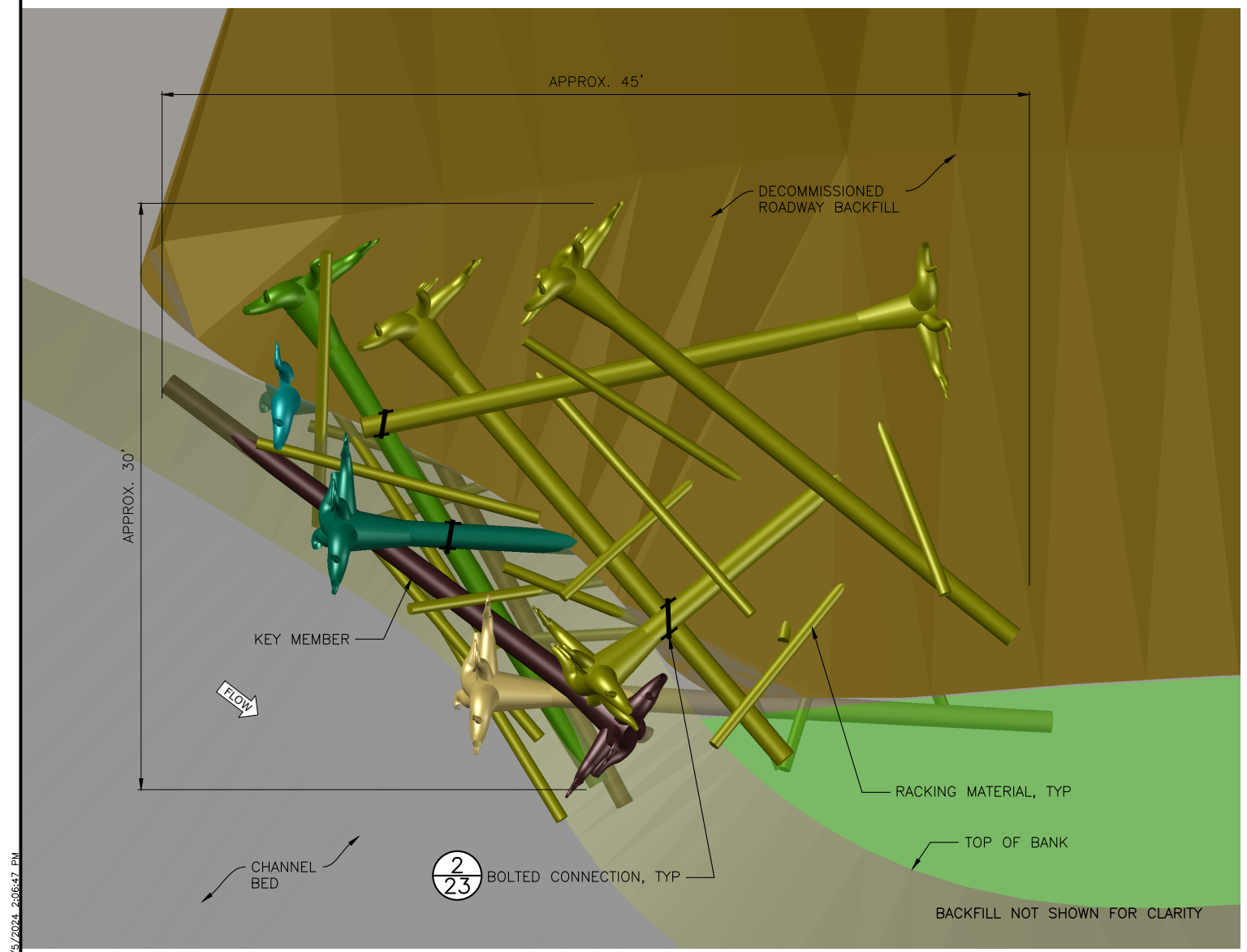
EAST FORK MISSION CREEK RESTORATION PROJECT

ROAD DECOMMISSIONING TYPICAL DETAILS

19

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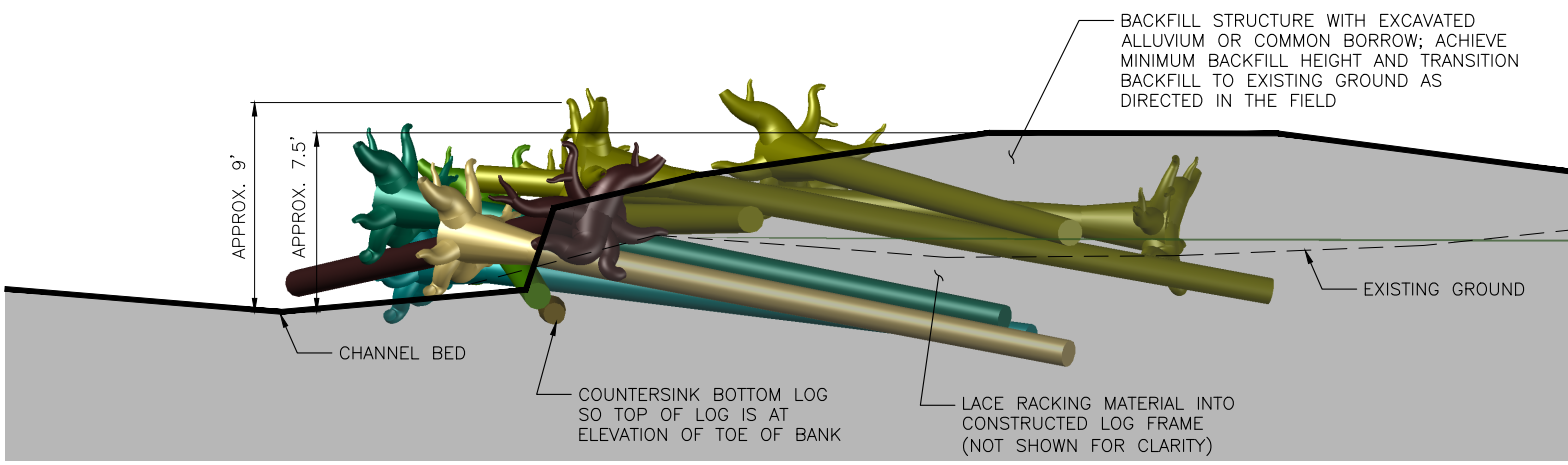
TYPE 1 PLAN VIEW
SCALE: 1" = 4'

NOTES

1. ALL LOGS SHALL BE CONIFEROUS SPECIES. THE CONTRACTOR MAY HARVEST TREES ON-SITE TO GENERATE NECESSARY LOGS, OR MAY CHOOSE TO IMPORT NECESSARY WOODY MATERIALS.
2. THE CONTRACTOR SHALL PLACE LOGS AS ILLUSTRATED ON THIS SHEET UNLESS DIRECTED OTHERWISE BY THE CONTRACTING OFFICER.
3. RACKING LOGS SHALL CONSIST OF TREES WITH BRANCHES HAVING A BASE DIAMETER OF 4-10 INCHES AND A LENGTH OF 10-25 FEET. RACKING MATERIAL SHALL OCCUR WITH EACH LAYER TO ENSURE THAT RACKING MATERIAL EXTENDS THROUGH THE STRUCTURE AND IS PINNED BY SUBSEQUENT LAYERS. SLASH MATERIAL SHALL CONSIST OF LIMBS AND BRANCHES AND A BASE DIAMETER BETWEEN 1 AND 3 INCHES.
4. INCORPORATE SLASH INTO THE ELJ AT THE DIRECTION OF THE CONTRACTING OFFICER.
5. BACKFILL EXTENTS MAY VARY AND ARE TO BE CONSTRUCTED WITH NATIVE ALLUVIUM FROM EXCAVATION FOR STRUCTURE PLACEMENT OR COMMON BORROW GENERATED THROUGH ROAD DECOMMISSIONING ACTIVITIES.
6. FINAL ELJ HEIGHT TO BE ACHIEVED AS SPECIFIED REGARDLESS OF ACTUAL LOG DIAMETERS USED OR STACKING ARRANGEMENT.

TYPE 1 ELJ MATERIALS SCHEDULE				
LOG ID	DIA* (IN)	LENGTH** (FT)	ROOTWAD (Y/N)	QUANTITY PER STRUCTURE
RE-3	16	30	Y	9
F-3	14	30	N	1
RACKING	4-8	10-25	N	25
SLASH	1-3	2-6	N	10 CY

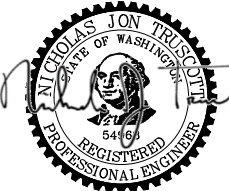
* MINIMUM DIAMETER AT BREAST HEIGHT, NOT INCLUDING BARK THICKNESS
** TOTAL LENGTH INCLUDING ROOTWAD



TYPE 1 PROFILE VIEW
SCALE: 1" = 4'

TYPE 1 DETAILS (1/20)
SCALE: AS NOTED

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NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED: NT	LATITUDE: 47°21'47"N
CHECKED: RLE	LONGITUDE: 120°27'47"W
DRAWN: LZ, KS	TN/SC/RG: T22N/S28.33/R19E
CHECKED: JS	DATE: _____

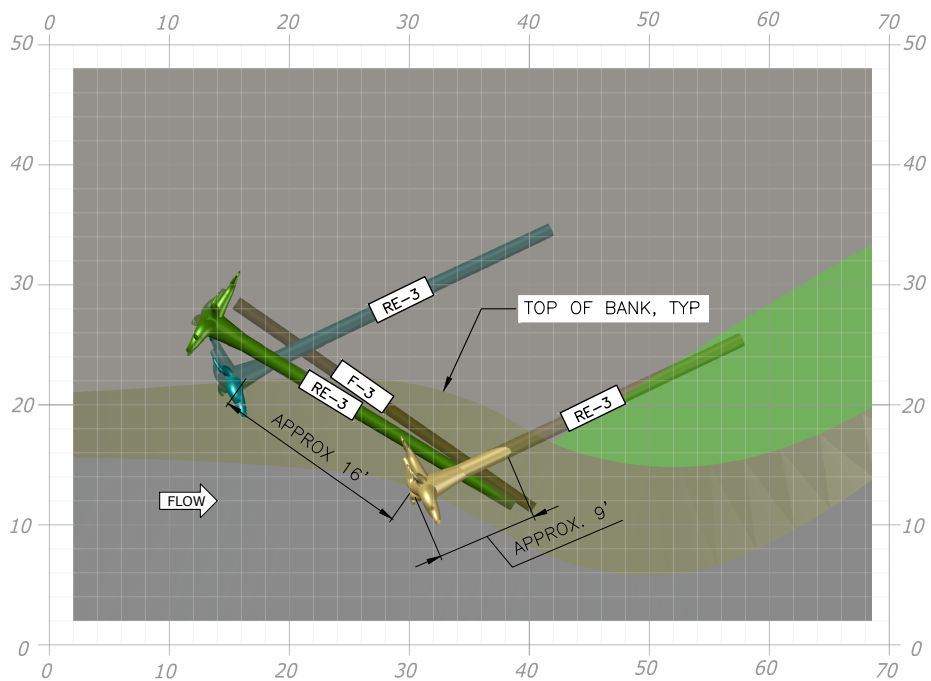
EAST FORK MISSION CREEK RESTORATION PROJECT

TYPE 1 ELJ DETAILS

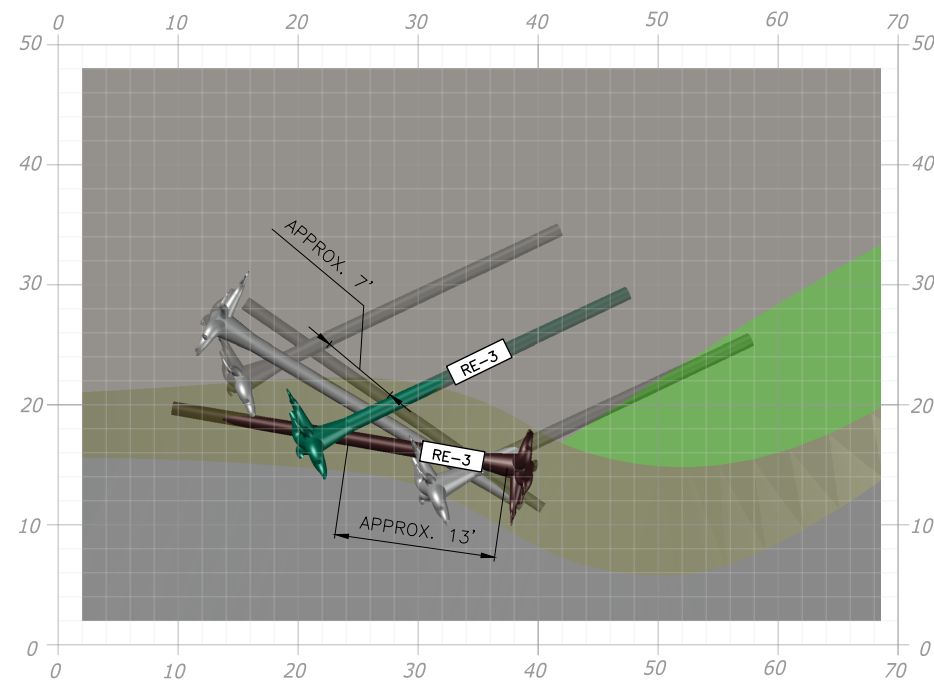
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SHEET 20 OF 25

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION

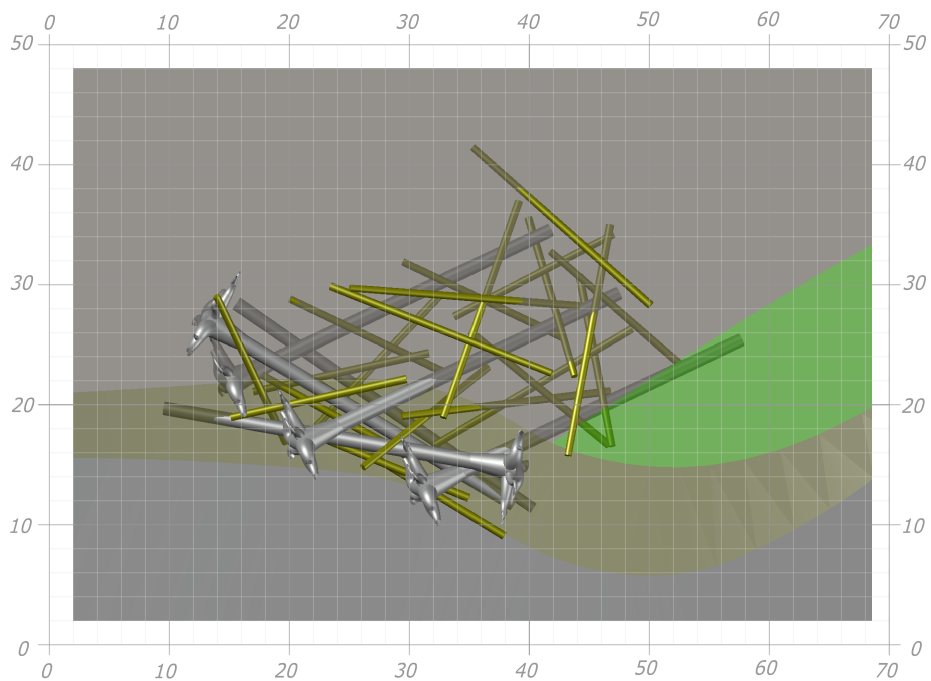
ANTICIPATED CONSTRUCTION SEQUENCE



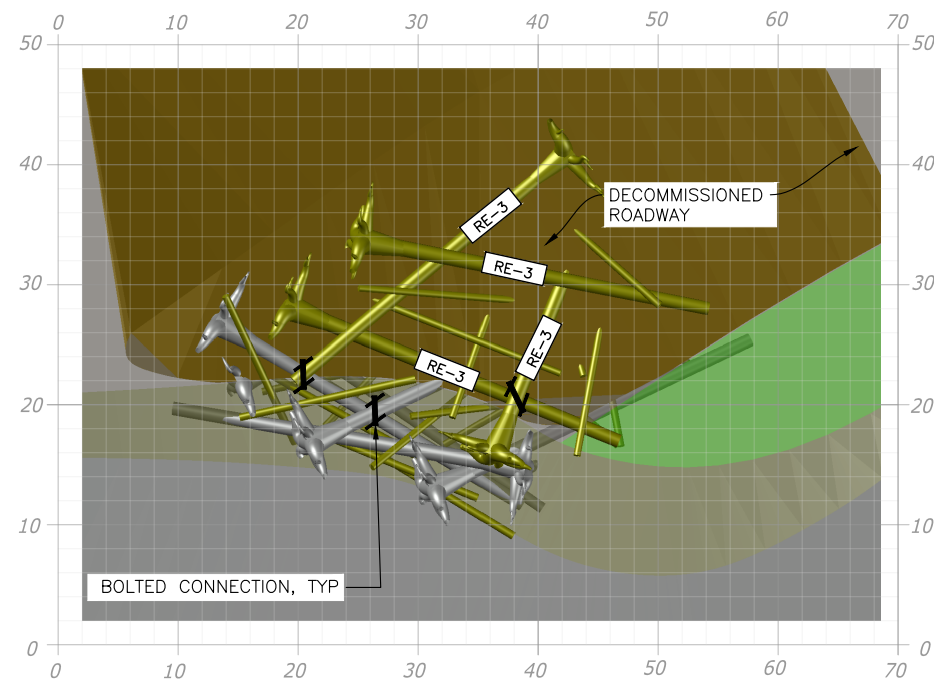
STEP 1: COUNTERSINK TOE LOG (TOP OF LOG EQUAL WITH ELEVATION OF TOE OF BANK) AND PLACE ROOTWAD LOGS AS SHOWN.



STEP 2: PLACE TWO ADDITIONAL ROOTWAD LOGS.



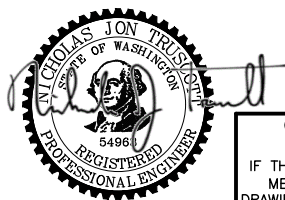
STEP 3: LACE RACKING MATERIAL INTO THE FRAME OF THE ELJ, INTERTWINING RACKING PIECES WITH STRUCTURAL FRAME COMPONENTS OF THE ELJ.



STEP 4: INSTALL BOLTED CONNECTIONS WHERE SHOWN. PLACE THE REMAINING 4 ROOTWAD MEMBERS AND BACKFILL STRUCTURE (NOT SHOWN).

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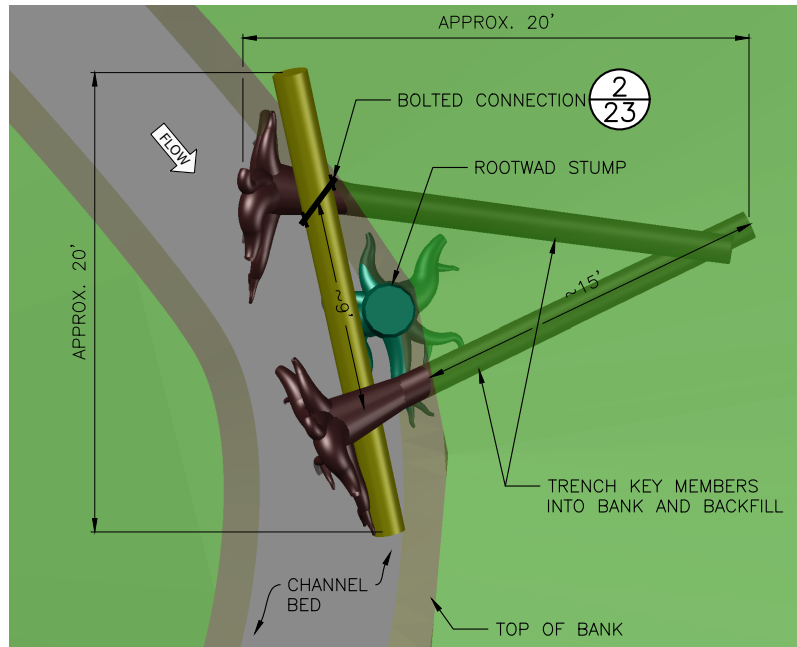
NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	NT	LATITUDE	47°21'47"N
CHECKED	RLE	LONGITUDE	120°27'47"W
DRAWN	LZ, KS	TN/SC/RG	T22N/S28.33/R19E
CHECKED	JS	DATE	

EAST FORK MISSION CREEK RESTORATION PROJECT

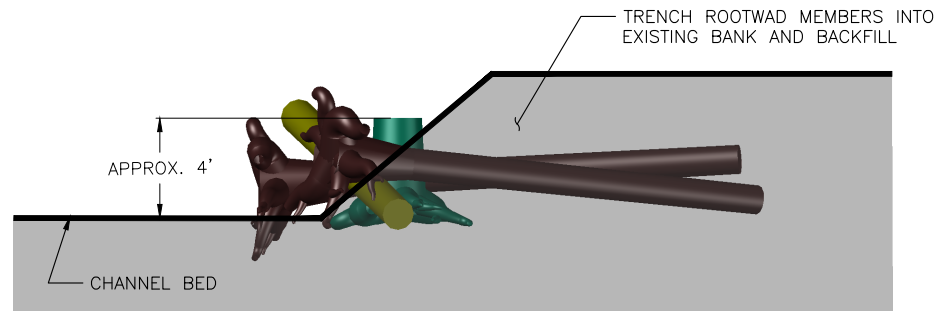
TYPE 1 ELJ SEQUENCING

21
SHEET 21 OF 25

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION



TYPE 2 PLAN VIEW
SCALE: 1" = 4'



TYPE 2 PROFILE VIEW
SCALE: 1" = 4'

TYPE 2 ELJ NOTES

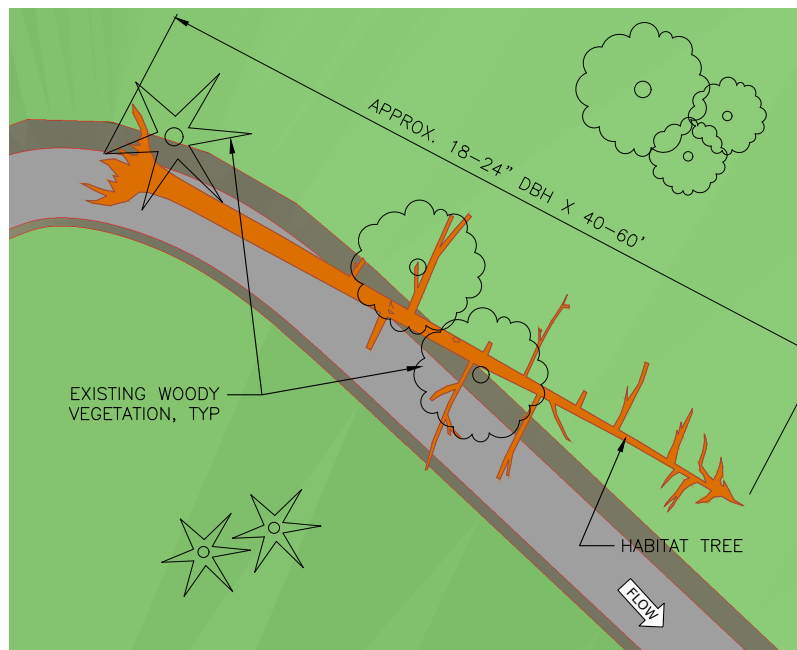
1. ALL LOGS SHALL BE CONIFEROUS SPECIES. THE CONTRACTOR MAY HARVEST TREES ON-SITE TO GENERATE NECESSARY LOGS, OR MAY CHOOSE TO IMPORT NECESSARY WOODY MATERIALS.
2. THE CONTRACTOR SHALL PLACE LOGS AS ILLUSTRATED ON THIS SHEET UNLESS DIRECTED OTHERWISE BY THE CONTRACTING OFFICER.
3. RACKING LOGS SHALL CONSIST OF TREES WITH BRANCHES HAVING A BASE DIAMETER OF 4-10 INCHES AND A LENGTH OF 10-25 FEET. RACKING MATERIAL SHALL OCCUR WITH EACH LAYER TO ENSURE THAT RACKING MATERIAL EXTENDS THROUGH THE STRUCTURE AND IS PINNED BY SUBSEQUENT LAYERS. SLASH MATERIAL SHALL CONSIST OF LIMBS AND BRANCHES AND A BASE DIAMETER BETWEEN 1 AND 3 INCHES.
4. INCORPORATE SLASH INTO THE ELJ AT THE DIRECTION OF THE CONTRACTING OFFICER.
5. FINAL ELJ HEIGHT TO BE ACHIEVED AS SPECIFIED REGARDLESS OF ACTUAL LOG DIAMETERS USED OR STACKING ARRANGEMENT.

TYPE 2 ELJ MATERIALS SCHEDULE

LOG ID	DIA* (IN)	LENGTH** (FT)	ROOTWAD (Y/N)	QUANTITY PER STRUCTURE
RE-2	16	20	Y	2
F-2	14	20	N	1
RB-S1	18	4	Y	1
RACKING	4-8	10-25	N	10
SLASH	1-3	2-6	N	5 CY

* MINIMUM DIAMETER AT BREAST HEIGHT, NOT INCLUDING BARK THICKNESS
** TOTAL LENGTH INCLUDING ROOTWAD

TYPE 2 ELJ DETAILS (1/22)
SCALE: AS NOTED



HABITAT TREE PLAN VIEW
SCALE: 1" = 8'

HABITAT TREE NOTES

1. HABITAT TREES SHALL BE HARVESTED ON-SITE IN ACCORDANCE WITH SPECIAL PROVISIONS, OR IMPORTED.
2. HABITAT TREES SHALL BE FROM CONIFEROUS SPECIES WITH BRANCHES INTACT.
3. HABITAT TREES SHALL BE PLACED OR OPPORTUNISTICALLY TIPPED AS DIRECTED BY THE CONTRACTING OFFICER. EXISTING HABITAT TREES SHALL MEET THE FOLLOWING CRITERIA:
 - 3.1. LESS THAN 25 DBH (DIAMETER AT BREAST HEIGHT)
 - 3.2. TREES SHALL BE TIPPED SINGULARLY OR IN PAIRS. THE CONTRACTOR SHALL PRESERVE SURROUNDING VEGETATION.
 - 3.3. TREES SHALL BE TIPPED OR HARVESTED NEARBY LOCATION OF FINAL PLACEMENT.
 - 3.4. SNAGS SHALL NOT BE USED AS HABITAT TREES.
4. PLACE TREES TO MAXIMIZE ENTANGLEMENT WITH EXISTING STABLE VEGETATION AND TREES. WHERE POSSIBLE, PLACE TREES BETWEEN EXISTING TREES TO RESIST MOBILIZATION IN MULTIPLE DIRECTIONS.
5. TREES SHALL BE PLACED SINGLY OR IN TANDEM DEPENDING ON SITE CONDITIONS. PLACE TREES AS SHOWN ON SITE PLANS OR AS DIRECTED IN THE FIELD.
6. TREES SHALL BE PLACED TO MINIMIZE DISTURBANCE TO EXISTING VEGETATION.

HABITAT TREE DETAILS (2/22)
SCALE: AS NOTED

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DESIGNED NT	LATITUDE 47°21'47"N
CHECKED RLE	LONGITUDE 120°27'47"W
DRAWN LZ, KS	TN/SC/RG T22N/S28.33/R19E
CHECKED JS	DATE

EAST FORK MISSION CREEK RESTORATION PROJECT

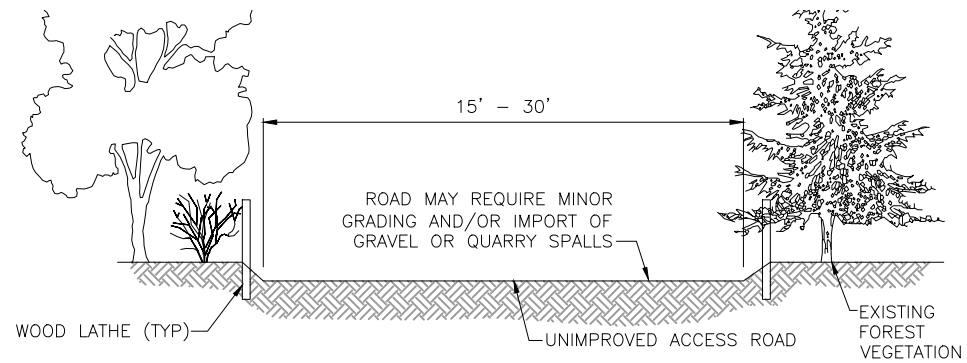
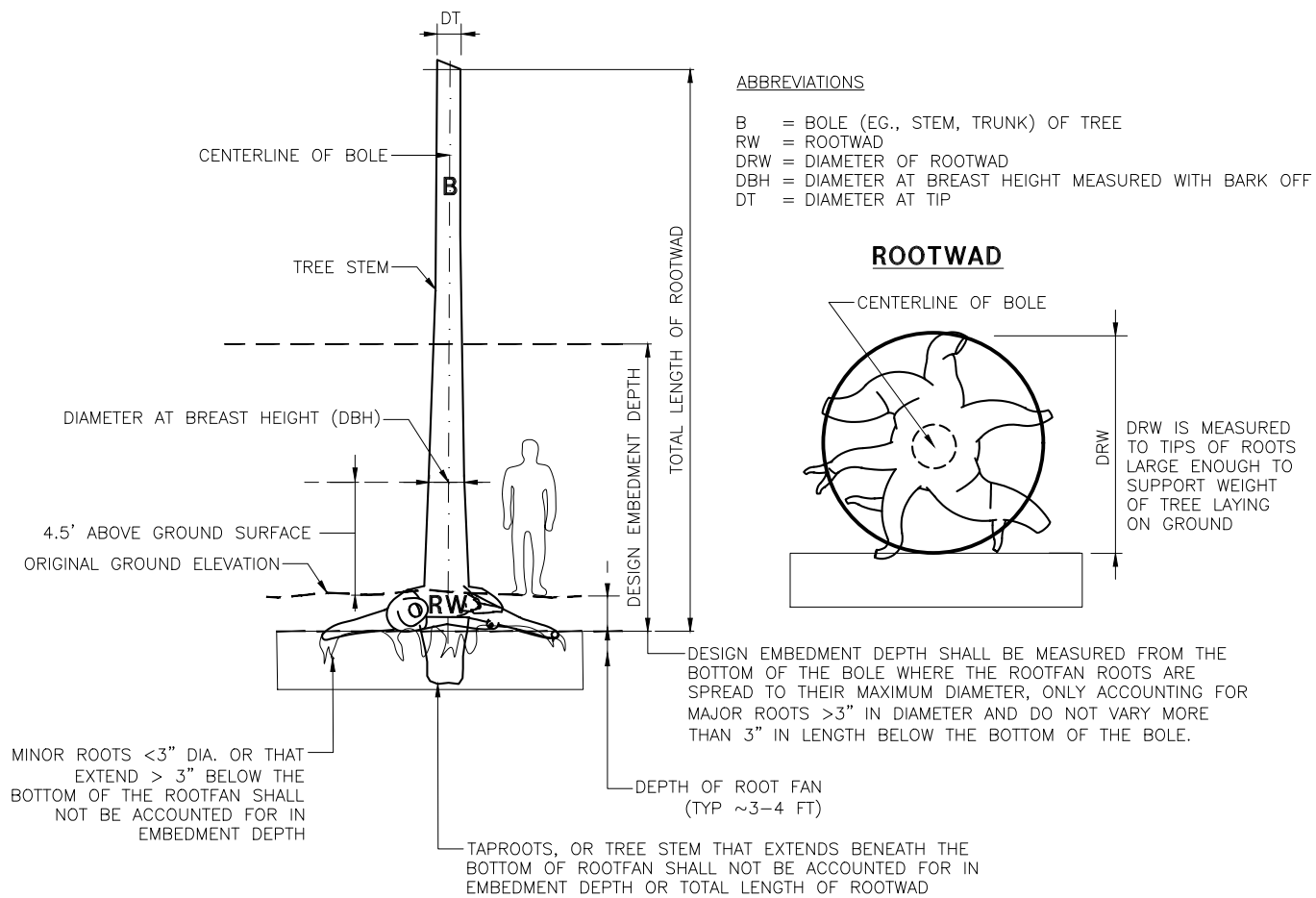
TYPE 2 ELJ & HABITAT TREE DETAILS

22
SHEET 22 OF 25

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ROOTWAD/ROOTWAD POST



TEMPORARY CLEARED ACCESS NOTES

1. TEMPORARY ACCESS SHALL BE ACCOMPLISHED USING EXISTING ROADWAYS WHERE POSSIBLE.
2. WHEN NECESSARY, TEMPORARY CLEARED ACCESS SHALL BE ROUTED TO MINIMIZE VEGETATION DISTURBANCE AND CLEARING.
3. TEMPORARY CLEARED ACCESS SHALL NOT CAUSE EROSION OR TURBIDITY IN NEARBY WATERWAYS. IF NECESSARY, USE OF EROSION CONTROL METHODS CONSISTENT WITH THE 2019 STORMWATER MANAGEMENT MANUAL FOR EASTERN WASHINGTON SHALL BE EMPLOYED AS DIRECTED BY THE CONTRACTING OFFICER.
4. CONTRACTOR SHALL MARK CLEARING LIMITS WITH FLAGGING FOR APPROVAL BY THE CONTRACTING OFFICER PRIOR TO ANY CLEARING ACTIVITIES.
5. ANY TREES GREATER THAN 18" Ø SHALL BE REMOVED W/ ROOTWADS INTACT AND STOCKPILED FOR USE IN ELJ CONSTRUCTION.
6. TREES AND SHRUBS WITH 6"-18" Ø SHALL BE STOCKPILED FOR USE AS RACKING MATERIAL IN ELJ CONSTRUCTION.
7. REMAINDER OF VEGETATION AND ORGANIC SOIL SHALL BE STOCKPILED AND BROADCASTED ON ROAD ALIGNMENT FOLLOWING TERMINATION OF WORK PER SHEET 19.
8. ACCESS SHALL BE MAINTAINED BY MINOR GRADING AND IMPORTATION OF WOOD CHIPS, GRAVEL AND/OR QUARRY SPALLS AS NECESSARY.
9. ALL GRAVEL OR QUARRY SPALLS PLACED SHALL BE UNDERLAIN WITH A GEOTEXTILE AND REMOVED AT TERMINATION OF WORK IF UTILIZED.
10. CLEARED ACCESS SHALL BE SCARIFIED AND DECONSTRUCTED TO PREVENT FUTURE ACCESS AT THE TERMINATION OF WORK.
11. SALVAGED ORGANIC SOIL SHALL BE REPLACED ON SCARIFIED ROAD BED.
12. SEE SHEET 19 FOR SITE RESTORATION FOLLOWING TEMPORARY ACCESS AND ROAD DECOMMISSIONING.

ROOTWAD DIMENSIONING REQUIREMENTS

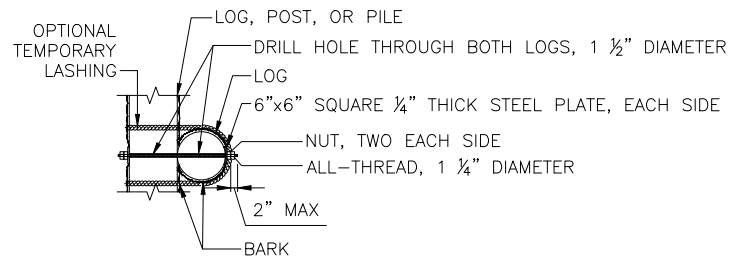
NOT TO SCALE

1
23

TEMPORARY CLEARED ACCESS

NOT TO SCALE

3
23



BOLTED CONNECTION

NOT TO SCALE

2
23

BOLTED CONNECTION NOTES

1. REMOVE BARK AT CONNECTION POINTS.
2. IF NECESSARY, INSTALL TEMPORARY LASHING TO AID INSTALLATION.
3. DRILL HOLE THROUGH CENTER OF LOGS.
4. TIGHTEN SUFFICIENTLY TO ELIMINATE GAP BETWEEN LOGS BUT NOT CRUSH BOLES. PEEN THREADS OR TACK WELD NUT TO ALL-THREAD FOLLOWING TIGHTENING.
5. ALL-THREAD TO BE ASTM TYPE A 307, GRADE A. LENGTH VARIES BY CONNECTION.



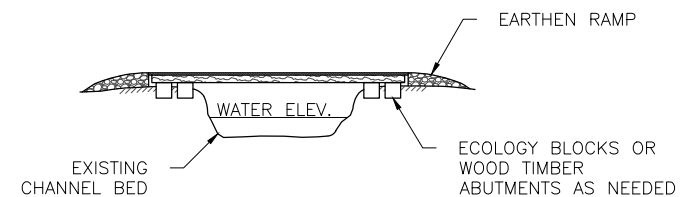
TEMPORARY BRIDGE NOTES

1. CONTRACTOR TO DESIGN TEMPORARY BRIDGE.
2. BRIDGE SHALL BE LOCATED SUCH THAT ONLY ONE SPAN IS USED TO ELIMINATE IMPACTS TO SUBSTRATE OF SIDE CHANNEL.
3. END OF BRIDGE SHALL BEAR ON HIGH BANKS WITH SUFFICIENT BEARING CAPACITY TO PREVENT SLOUGHING OR COLLAPSE OF SIDE CHANNEL BANKS.
4. CONCRETE ECOLOGY BLOCKS OR WOOD ABUTMENTS MAY BE USED TO SUPPORT ENDS OF TEMPORARY BRIDGE AS NEEDED.
5. BRIDGES MAY BE CONSTRUCTED FROM LOGS, RAIL CAR BEDS OR APPROVED EQUAL AND DECKED WITH STEEL SHEET, WOOD LAGGING OR APPROVED EQUAL.

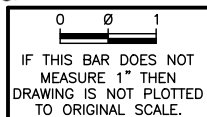
TEMPORARY BRIDGE

NOT TO SCALE

4
23



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EAST FORK MISSION CREEK RESTORATION PROJECT

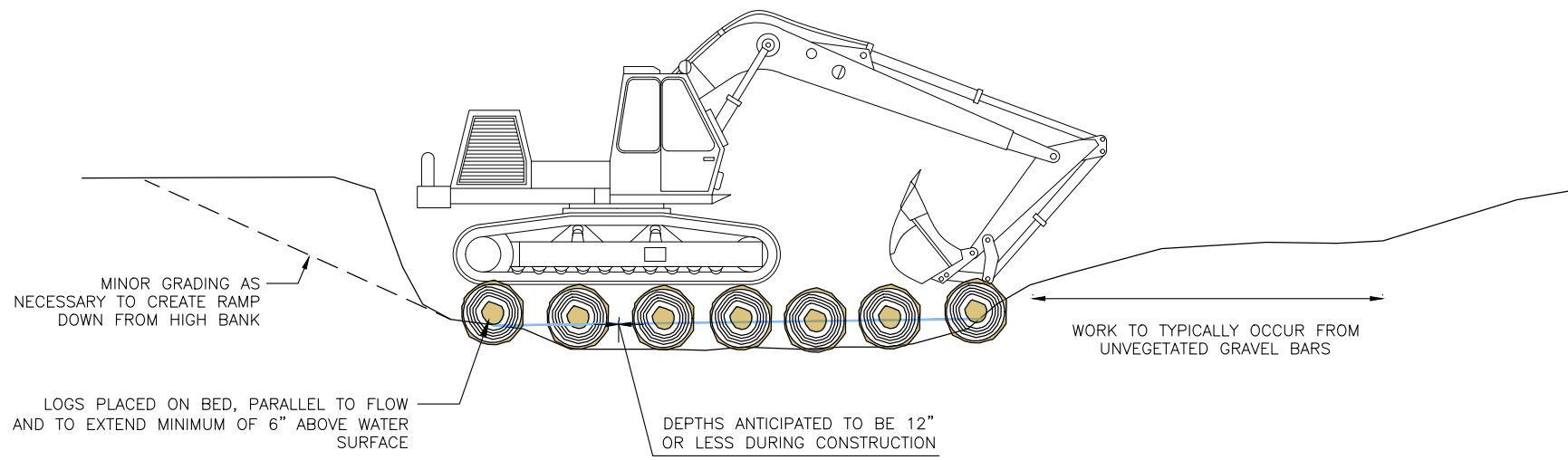
ELJ & TEMPORARY ACCESS DETAILS

23

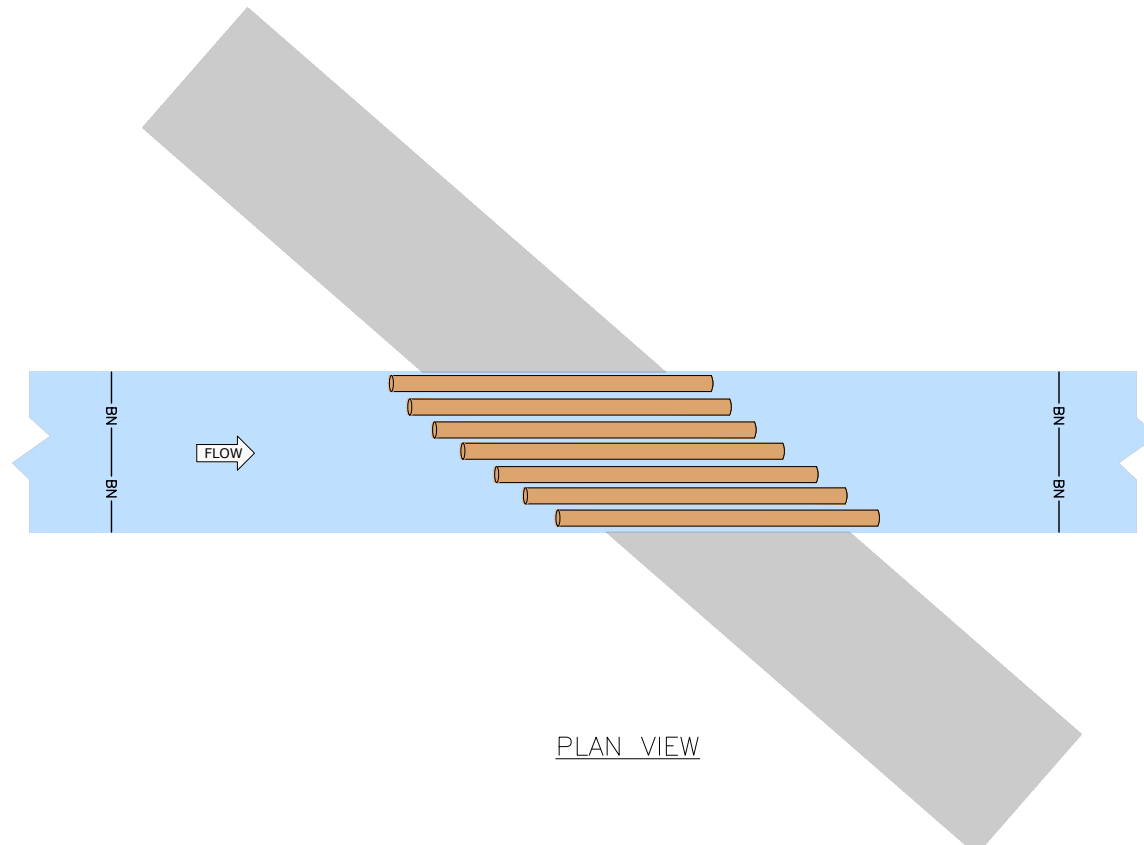
SHEET 23 OF 25

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PROFILE VIEW



PLAN VIEW

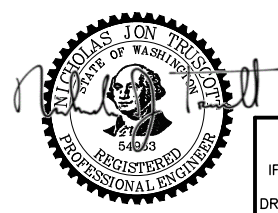
TEMPORARY LOG CROSSING NOTES

1. BLOCK NETS SHALL BE INSTALLED BY THE CONTRACTING AGENCY PRIOR TO THE LOG CROSSINGS BEING INSTALLED AND SHALL NOT BE REMOVED UNTIL AFTER THE LOG CROSSING IS REMOVED.
2. TEMPORARY CROSSING SHALL ONLY BE USED IN THE UPPER PROJECT AREA.
3. CROSSING SHALL ONLY BE LOCATED WHERE THE EXISTING ROAD CROSSES THE CREEK.
4. LOGS SHALL BE PLACE PARALLEL TO FLOW.
5. STEEL PLATES OR SIMILAR MATERIALS MAY BE USED AS DECKING MATERIAL FOR TEMPORARY LOG CROSSINGS.

TEMPORARY LOG CROSSING 1
24
NOT TO SCALE

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0 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT PLOTTED TO ORIGINAL SCALE.



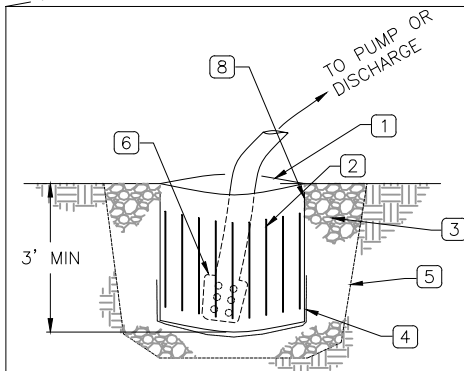
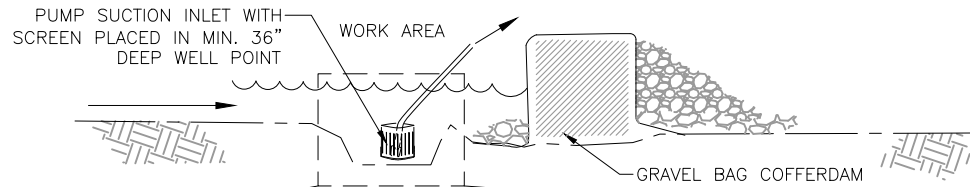
NSD
CGS
Natural Systems Design
+ Coastal Geologic Services

NAME OR INITIALS AND DATE	GEOGRAPHIC INFORMATION
DESIGNED NT	LATITUDE 47°21'47"N
CHECKED RLE	LONGITUDE 120°27'47"W
DRAWN LZ, KS	TN/SC/RG T22N/S28.33/R19E
CHECKED JS	DATE

EAST FORK MISSION CREEK RESTORATION PROJECT

ELJ & TEMPORARY ACCESS DETAILS (2)

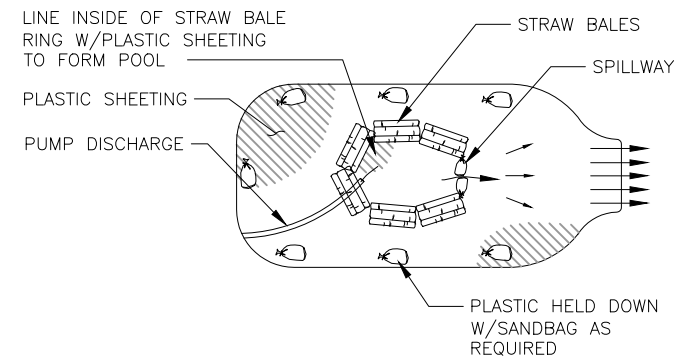
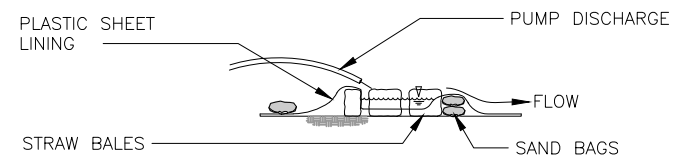
24
SHEET **24** OF **25**



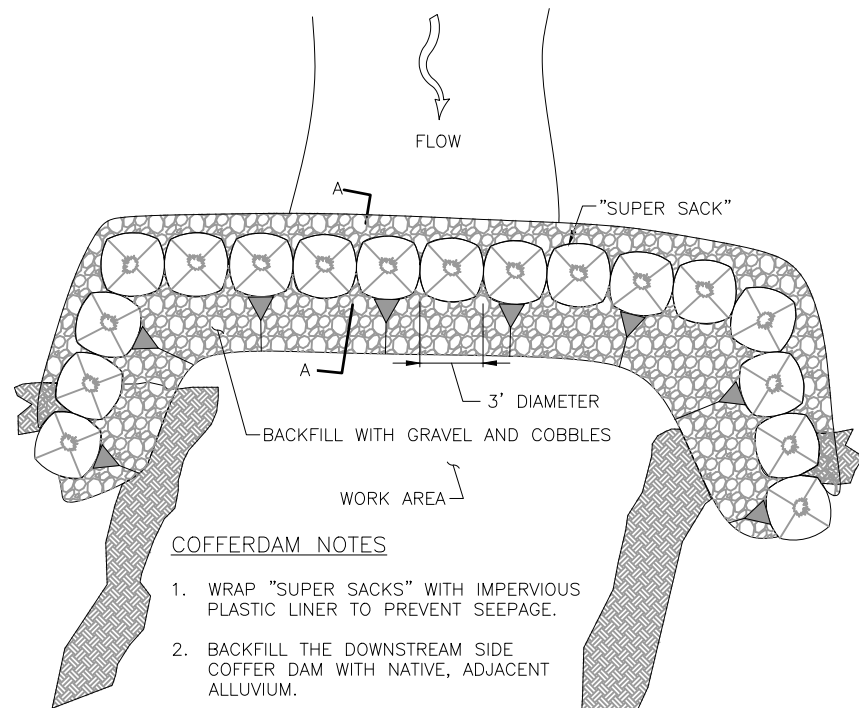
DEWATERING PUMP INTAKE NOTES

- 1 CORRUGATED PLASTIC OR METAL PIPE 36" MIN DIAMETER, ONE PER EACH PUMP.
- 2 ¼" SLOTS 24" LONG AT 4" SPACING ALL THE WAY AROUND PIPE.
- 3 STREAMBED SEDIMENT
- 4 WIRE SCREEN ½" MESH COVERING PIPE BOTTOM, ANCHORED TO PIPE.
- 5 LIMIT OF EXCAVATION. INSTALL PIPE AND BACKFILL WITH STREAMBED SEDIMENT.
- 6 PUMP SUCTION INTAKE OR ELECTRIC SUBMERSIBLE PUMP WITH 1" SCREEN INSTALLED AT INLET OR PUMP SUCTION FACE, OR OTHER SIZE RECOMMENDED BY PUMP SUPPLIER.
- 7 PUMP SUCTION SHALL BE OPERATIONAL ONLY WHILE ALL CREEK FLOW IS FULLY FILTERED BY FISH BLOCK NETS AND AFTER FISH EXCLUSION IS COMPLETED. BYPASS PUMPS SHALL BE SHUTDOWN DURING ANY FAILURE OF THE FISH BLOCK NET OR ANY CONDITION THAT CAN ALLOW FISH TO ENTER THE PUMP INTAKE.
- 8 DIRECT DISCHARGE TO APPROVED UPLAND DISPERSION AREA.

DEWATERING PUMP INTAKE 1
25
NOT TO SCALE

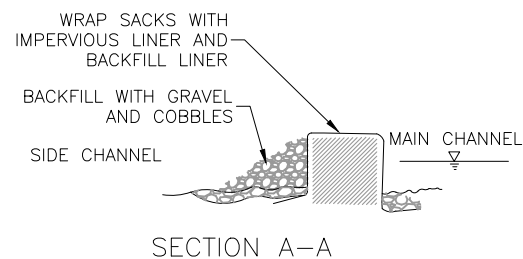


ENERGY DISSIPATOR 2
25
NOT TO SCALE



COFFERDAM NOTES

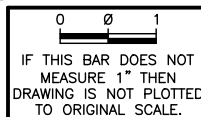
1. WRAP "SUPER SACKS" WITH IMPERVIOUS PLASTIC LINER TO PREVENT SEEPAGE.
2. BACKFILL THE DOWNSTREAM SIDE COFFER DAM WITH NATIVE, ADJACENT ALLUVIUM.
3. USE "SUPER SACKS" AS BUTTRESSES AS REQUIRED.
4. SAND BAGS MAY BE USED AS A REPLACEMENT FOR "SUPER SACKS".



COFFERDAM 3
25
NOT TO SCALE



1/8/2024



Natural Systems Design
+ Coastal Geologic Services

NAME OR INITIALS AND DATE		GEOGRAPHIC INFORMATION	
DESIGNED	NT	LATITUDE	47°21'47"N
CHECKED	RLE	LONGITUDE	120°27'47"W
DRAWN	LZ, KS	TN/SC/RG	T22N/S28.33/R19E
CHECKED	JS	DATE	

EAST FORK MISSION CREEK RESTORATION PROJECT

TESC DETAILS

25
SHEET **25** OF **25**

N:\PROJECTS\CONDOLEE_MISSIONCREEK\DESIGN\CAD.DWG - CURRENT\TESC_DETAILS.DWG - 1/5/2024 2:08:28 PM

Jan 05, 2024 FINAL DESIGN - FOR CONSTRUCTION