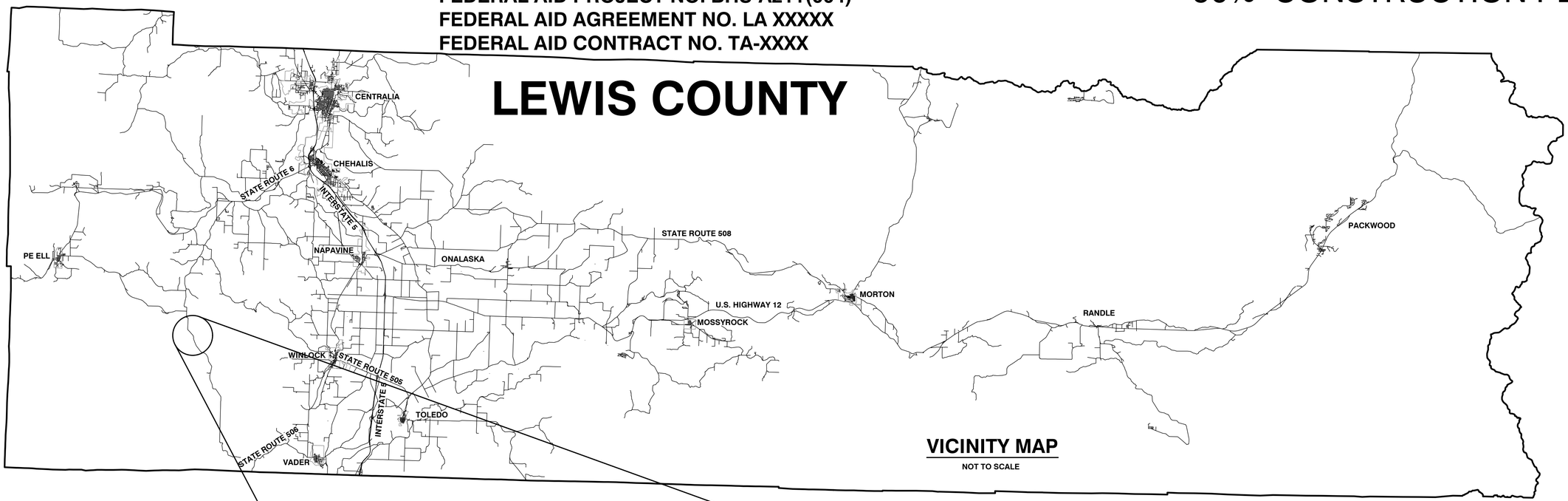
WILDWOOD RD MP 10.14 BRIDGE SCOUR REPAIR

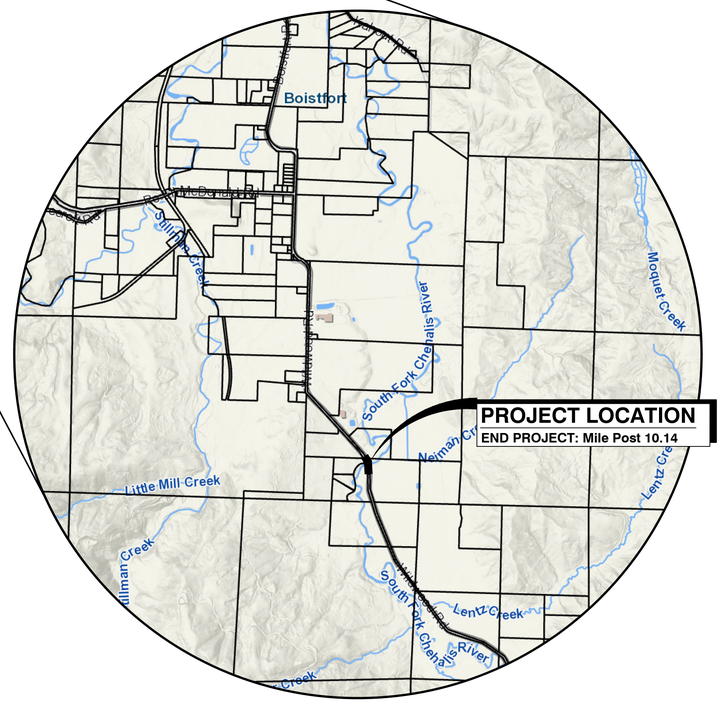
COUNTY ROAD PROJECT NO: 2159S
FEDERAL AID PROJECT NO. BHS-A211(004)
FEDERAL AID AGREEMENT NO. LA XXXXX
FEDERAL AID CONTRACT NO. TA-XXXX

90% CONSTRUCTION PLANS

LEWIS COUNTY



VICINITY MAP
NOT TO SCALE



PROJECT LOCATION
END PROJECT: Mile Post 10.14

LEWIS COUNTY
DEPARTMENT OF PUBLIC WORKS
APPROVED FOR CONSTRUCTION:

Assistant County Engineer _____ Date _____

COMMISSIONERS:

SEAN D. SWOPE, DISTRICT 1
LINDSEY R. POLLOCK, DVM, DISTRICT 2
SCOTT J. BRUMMER, DISTRICT 3

Lewis County
Department of Public Works

ENGINEERING-DESIGN SECTION

SHEET INDEX

LEGEND

GENERAL LINETYPES

LINETYPE EXISTING	LINETYPE PROPOSED	DESCRIPTION
		EDGE OF PAVEMENT
		CENTER LINE
OHL		OVERHEAD ELECTRIC
5440	**5440**	5' CONTOUR
5441	5441	1' CONTOUR
		STORM/CULVERT LINE
		DITCH CENTER LINE
		WETLAND BOUNDARY
OHW		ORDINARY HIGH WATER
		RIGHT OF WAY LINE
		PROPERTY LINE
		GATE
X X X		FENCE
		SAWCUT LINE
		HIGH VISIBILITY SILT FENCE
		MATCH LINE (GRADING LIMITS)
		PROJECT DISTURBANCE LIMITS
		TEMPORARY CONSTRUCTION EASEMENT

OTHER GENERAL SYMBOLS

SYMBOLS	DESCRIPTION
A B C	SURVEY TOPO SHOT A = POINT ID B = POINT DESCRIPTION C = POINT ELEVATION
	SURVEY TRAVERSE POINT
	FLOW ARROW

HATCH KEY

SYMBOLS	DESCRIPTION
	ROADWAY REMOVAL AND REPLACEMENT
	CONSTRUCTION AREA
	CRUSHED SURFACING BASE COURSE
	PROTECTED SLOPE

SURFACE/LANDSCAPE SYMBOLS

SYMBOLS EXIST.	SYMBOLS PROP.	DESCRIPTION
		DECIDUOUS TREE
		CONIFEROUS TREE
		SIGN

OTHER UTILITY SYMBOLS

SYMBOLS EXIST.	SYMBOLS PROP.	DESCRIPTION
		GUY ANCHOR
		POWER POLE

ABBREVIATIONS

APPRX	=	APPROXIMATE
CL	=	CENTERLINE
CONC	=	CONCRETE
DBH	=	DIAMETER AT BREAST HEIGHT
DBL	=	DOUBLE
DCDES	=	DEPARTMENT OF COMMUNITY DEVELOPMENT, ENGINEERING SERVICES
DIA	=	DIAMETER
EX	=	EXISTING
EL	=	ELEVATION
FG	=	FINISHED GRADE
HMA	=	HOT MIX ASPHALT
HORIZ	=	HORIZONTAL
LF	=	LINEAR FEET
MAX	=	MAXIMUM
MIN	=	MINIMUM
OC	=	ON CENTER
OHL	=	OVERHEAD LINE
OHW	=	ORDINARY HIGH WATER
R	=	RADIUS
RD	=	ROAD
S	=	SLOPE
SB	=	STREAM BANK
ST	=	STREET
STA	=	STATION
TEMP	=	TEMPORARY
TYP	=	TYPICAL
VERT	=	VERTICAL

Lewis County
Department of Public Works
57 W. MAIN ST.
CHEHALIS WA 98532
PHONE # (360) 740-1123
FAX # (360) 740-2719

DESIGNED BY : NJB
DRAWN BY : JMM
CHECKED BY :DLS
DATE : MAR 2026

NO.	DATE	REVISION	BY	APP.

WILDWOOD MP 10.14 BRIDGE
SCOUR REPAIR

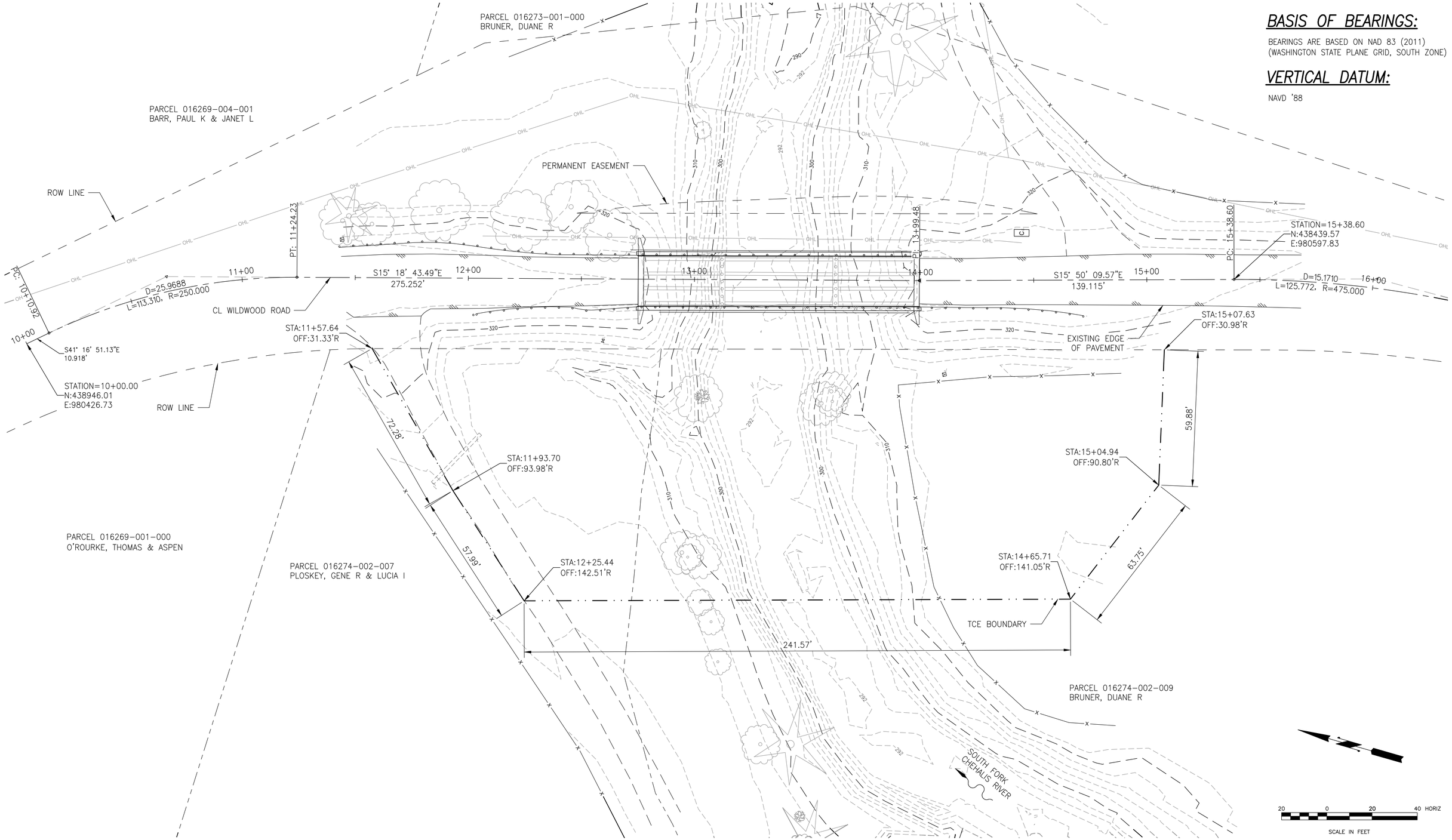
90% CONSTRUCTION PLANS
COUNTY ROAD PROJECT NO: 2159S

GENERAL NOTES & LEGEND

SHEET 2 OF 15

CALL 48 HOURS BEFORE YOU DIG
1-800-424-5555
"It's the Law"
Utilities Underground Location Center

Otak



BASIS OF BEARINGS:

BEARINGS ARE BASED ON NAD 83 (2011)
(WASHINGTON STATE PLANE GRID, SOUTH ZONE)

VERTICAL DATUM:

NAVD '88

Lewis County
Department of Public Works

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WILDWOOD MP 10.14 BRIDGE SCOUR REPAIR

90% CONSTRUCTION PLANS
COUNTY ROAD PROJECT NO: 2159S

SURVEY CONTROL

SHEET 3 OF 15

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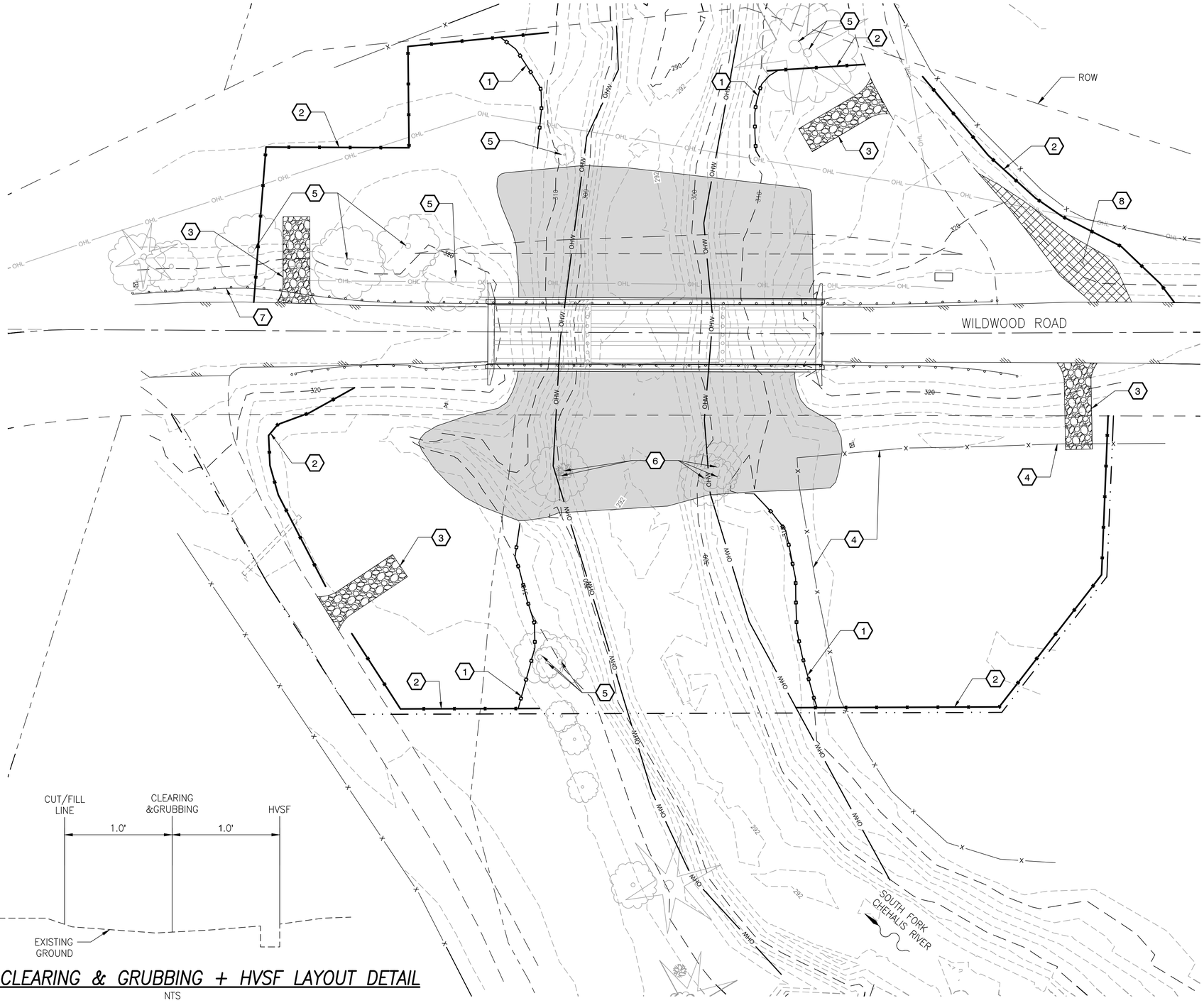

TYPICAL CLEARING & GRUBBING + HVSF LAYOUT DETAIL

NTS

EROSION CONTROL NOTES:

1. THE IMPLEMENTATION OF THIS TESC PLAN AND CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE CONSTRUCTION SWPPP FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL WORK IS COMPLETED AND APPROVED.
2. THE BMP'S SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE BMP'S SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT–LADEN WATER DO NOT LEAVE THE SITE.
3. THE BMP'S SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTION. THE CONSTRUCTION SWPPP FACILITIES ON INACTIVE SITE SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A MAJOR STORM EVENT.
4. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM PER WASHINGTON STATE DEPARTMENT OF ECOLOGY'S STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON B–2 VOLUME II – CONSTRUCTION STORMWATER POLLUTION PREVENTION JULY 2019.
5. ADDITIONAL MEASURES MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

CONSTRUCTION NOTES:

1. HIGH VISIBILITY SILT FENCE PER WSDOT STANDARD PLAN 1–30.17
2. HIGH VISIBILITY FENCE PER WSDOT STANDARD PLAN 1–10.10
3. STABILIZED CONSTRUCTION ENTRANCE PER WSDOT STANDARD PLAN 1–80.10
4. REMOVE AND REPLACE PORTION OF FENCE
5. PROTECT TREE
6. REMOVE TREE
7. REMOVE AND REPLACE A PORTION OF THE GUARDRAIL
8. APPROACH WIDENING, SEE DETAILS XX

LEGEND

- STABILIZED CONSTRUCTION ENTRANCE
- APPROACH WIDENING
- PROTECTED SLOPE
- HIGH VISIBILITY SILT FENCE
- HIGH VISIBILITY FENCE
- TEMPORARY CONSTRUCTION EASEMENT
- OHW — ORDINARY HIGH WATER

20 0 20 40 HORIZ

SCALE IN FEET

Lewis County
Department of Public Works
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CHEHALIS WA 98532
PHONE # (360) 740-1123
FAX # (360) 740-2719

DESIGNED BY :
DRAWN BY :
CHECKED BY :
DATE :

NO.	DATE	REVISION	BY	APP.

WILDWOOD MP 10.14 BRIDGE SCOUR REPAIR

90% CONSTRUCTION PLANS
COUNTY ROAD PROJECT NO: 2159S

SITE PREPARATION & TEMPORARY EROSION CONTROL PLAN

SHEET 4 OF 15

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Utilities Underground Location Center

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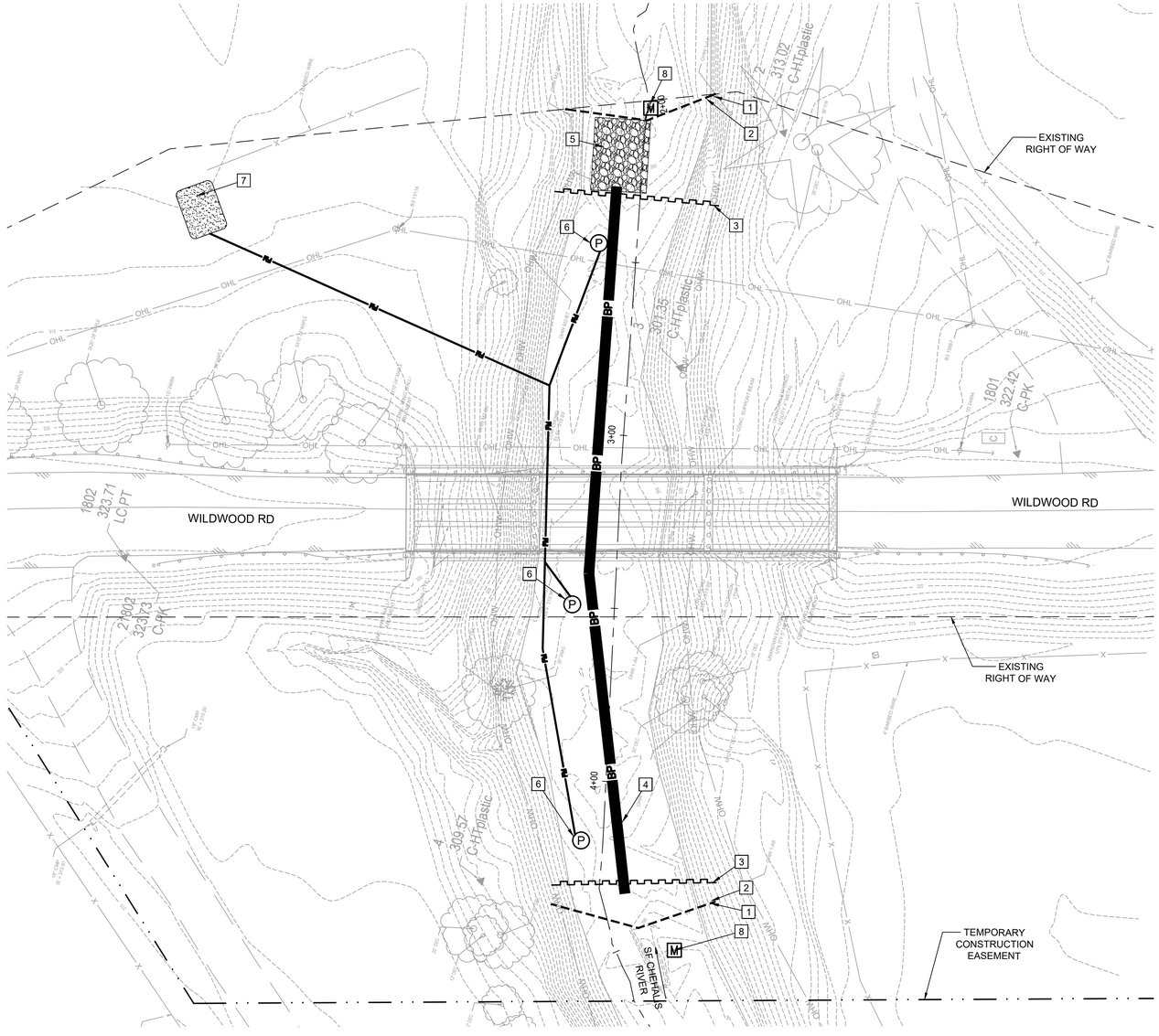

GENERAL NOTE:

1. ALL MATERIAL AND WORK SHALL BE IN ACCCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" 2026 EDITION AND SPECIAL PROVISIONS.

TEMPORARY STREAM DIVERSION NOTES:

1. THE TEMPORARY STREAM DIVERSION SHOWN IS CONCEPTUAL. SEE SPECIAL PROVISIONS.
2. CONTRACTOR SHALL SUBMIT THE TEMPORARY STREAM DIVERSION PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL WITHIN 7 DAYS OF NOTICE TO PROCEED.
3. THE TEMPORARY STREAM DIVERSION SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING.
4. THE STREAM DIVERSION SYSTEM SHALL BE CAPABLE OF CONVEYING THE FLOW SPECIFIED IN THE CONTRACT DOCUMENTS.
5. FISH EXCLUSION AND FISH REMOVAL SHALL BE PERFORMED BY THE CONTRACTOR, BEFORE IN-WATER WORK IN ACCORDANCE WITH THE WASHINGTON DEPARTMENT OF FISH AND WILDLIFE HPA.

TEMPORARY STREAM DIVERSION KEY NOTES:

1. INSTALL FISH SCREEN. SEE DETAIL 2 ON SHEET 6.
2. CAPTURE AND REMOVE ALL FISH BETWEEN THE FISH SCREENS IN ACCORDANCE WITH THE HPA. FISH CAPTURE SHALL BE PERFORMED UNDER THE SUPERVISION OF AN EXPERIENCED FISHERY BIOLOGIST.
3. INSTALL COFFERDAM. SEE DETAIL 1 ON SHEET 6.
4. INSTALL TEMPORARY STREAM DIVERSION PIPE. ADJUST LOCATION OF DIVERSION PIPE AS NEEDED TO PERFORM WORK.
5. INSTALL OUTLET PROTECTION TO PREVENT EROSION AT TEMPORARY DIVERSION OUTFALL. OUTLET PROTECTION SHALL BE REMOVED WHEN CONSTRUCTION IS COMPLETE. SEE DETAIL 1 ON SHEET 6.
6. INSTALL DEWATERING PUMP(S) AND PIPES AS NEEDED DURING CONSTRUCTION. ADJUST LOCATION OF DEWATERING PUMPS AND PIPES AS NEEDED TO PERFORM WORK.
7. INSTALL FILTER BAG FOR SEDIMENT REMOVAL FROM ANY DEWATERING ACTIVITIES THAT MAY BE NECESSARY DURING CONSTRUCTION. SEE DETAIL 3 ON SHEET 6.
8. TURBIDITY MONITORING STATION. SEE SPECIAL PROVISIONS FOR TURBIDITY MONITORING REQUIREMENTS.

LEGEND

- COFFER DAM
- FISH SCREEN
- BP — CONCEPTUAL 36-IN SMOOTH BORE HDPE GRAVITY BYPASS PIPE FOR THE TEMPORARY STREAM DIVERSION
- FM — FORCE MAIN
- P — PUMP
- M — MONITORING WELL
- TEMPORARY QUARRY SPALLS
- FILTER BAG

20 0 20 40
SCALE IN FEET

Lewis County
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WILDWOOD MP 10.14 BRIDGE SCOUR REPAIR

90% CONSTRUCTION PLANS
COUNTY ROAD PROJECT NO: 2159S

TEMPORARY STREAM DIVERSION PLAN

SHEET 5 OF 15

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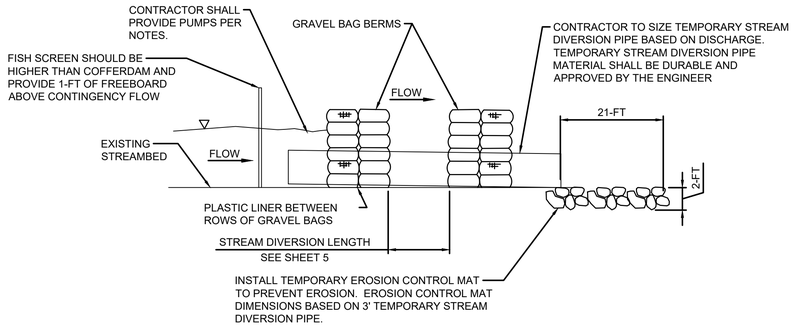
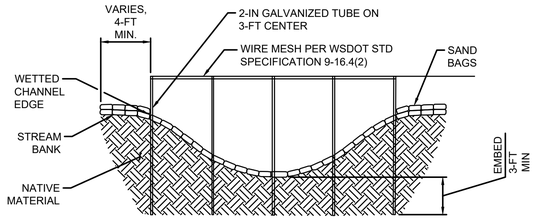
GENERAL NOTE:

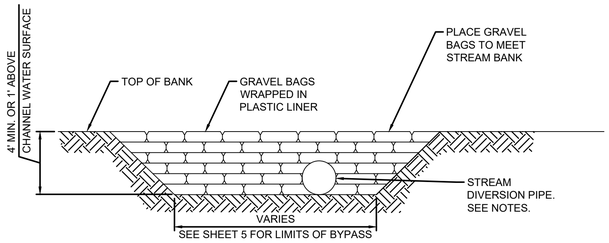
1. THE TEMPORARY STREAM DIVERSION DETAILS SHOWN ARE CONCEPTUAL. SEE SPECIAL PROVISIONS.



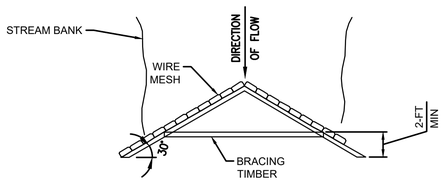
SIDE VIEW



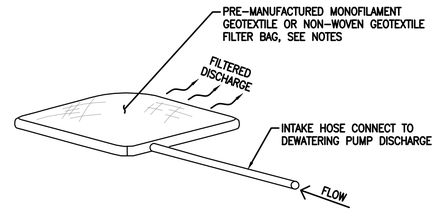
FRONT VIEW



FRONT VIEW



PLAN VIEW



NOTES:

1. COFFERDAM SHALL BE CONSTRUCTED BY THE CONTRACTOR WITH ROUNDED PEA GRAVEL BAGS, OR OTHER MEANS PRE-APPROVED BY THE ENGINEER. GRAVEL BAGS SHALL BE CONSTRUCTED OF WOVEN SYNTHETIC FIBER. NO ANGULAR OR CRUSHED MATERIALS MAY BE USED. GRAVEL BAGS SHALL BE WASTEHAULED AFTER REMOVAL OF TEMPORARY STREAM DIVERSION.
2. THE HEIGHT AND WIDTH OF THE COFFERDAM SHALL BE DETERMINED BY THE CONTRACTOR BASED ON THE WATER SURFACE ELEVATION AND CHANNEL SHAPE AT THE TIME OF CONSTRUCTION. THE COFFERDAMS SHALL BE REVIEWED AND APPROVED BY THE ENGINEER. THE AVERAGE MAXIMUM DAILY FLOW AND MAXIMUM DAILY FLOW DURING THE IN-STREAM WORK WINDOW FROM USGS GAGE #12021000 IS 31 CFS (BASE FLOW) AND 118 CFS (CONTINGENCY FLOW), RESPECTIVELY.
3. REMOVE LOOSE COBBLES AND BOULDERS FROM THE STREAMBED PRIOR TO INSTALLING COFFERDAM.
4. EXTEND BOTH ENDS OF THE COFFERDAM UP THE BANKS OF THE CHANNEL AS NEEDED TO PREVENT THE STREAM FROM END-RUNNING THE COFFERDAM.
5. COFFERDAM SHALL BE MAINTAINED BY THE CONTRACTOR AND IMPROVED AS NECESSARY AND DIRECTED BY THE ENGINEER.
6. CONTRACTOR SHALL HAVE ON SITE, EMERGENCY DIVERSION PIPE AND APPURTENANCES IN THE EVENT OF HIGH FLOWS. SEE THE CONTRACT PROVISIONS AND HPA FOR ADDITIONAL INFORMATION ON TEMPORARY STREM DIVERSION.
7. COFFERDAM MATERIALS SHALL BE REMOVED FROM THE SITE AND BECOME PROPERTY OF CONTRACTOR.

1/5 COFFER DAM DETAIL
NOT TO SCALE

CONSTRUCTION SEQUENCE

1. INSTALL 2-IN GALVANIZED TUBES ON 3-FT CENTERS.
2. SECURE WIRE MESH TO 2-IN GALVANIZED TUBES WITH WIRE FASTENER.
3. SECURE 1/8-IN MAX FISH NYLON NET TO UPSTREAM SIDE OF WIRE MESH WITH WIRE FASTENER.
4. SECURE NYLON FISH NET TO STREAM BOTTOM WITH SAND BAGS.
5. EXTEND SAND BAGS 4-FT MIN INTO STREAM BANKS.
6. ADD BRACING TIMBER AS NEEDED TO SUPPORT THE SCREEN
7. REMOVAL OF DEBRIS FROM THE UPSTREAM SIDE OF THE FENCE IS NECESSARY OTHERWISE THE SCREEN WILL BECOME CLOGGED AND WATER MAY TOPPLE OR BREACH THE SCREEN.

2/5 FISH SCREEN DETAIL
NOT TO SCALE

NOTES:

1. FILTER BAG SHALL BE MINIMUM 10-FT X 15-FT AND REPLACED AS NEEDED TO ACCOMMODATE ACTUAL SEDIMENT LOAD CONDITIONS (I.E. VOLUME, TYPE OF SEDIMENT, ETC.)
2. DRAIN FILTER BAG TO COUNTY APPROVED RECEIVING AREA. RECEIVING AREA SHALL BE VEGETATED AND UPLAND OF THE OHWM AND TURBIDITY MONITORING STATION.
3. FILTER BAG SYSTEM TO BE INSPECTED DAILY WHEN IN USE TO VERIFY ADEQUATE PERFORMANCE.
4. TURBIDITY MONITORING STATION INSTALLED AND MAINTAINED. SEE SPECIAL PROVISIONS FOR TURBIDITY MONITORING REQUIREMENTS. SHOULD A TURBIDITY EXCEEDENCE OCCUR, THE FILTER BAG SYSTEM IS TO BE INSPECTED IMMEDIATELY AND REPLACED IF ANOTHER SEDIMENT SOURCE IS NOT IDENTIFIED.

3/5 FILTER BAG DETAIL
NOT TO SCALE

Lewis County Department of Public Works
57 W. MAIN ST.
CHEHALIS WA 98532
PHONE # (360) 740-1123
FAX # (360) 740-2719

DESIGNED BY : MNZ
DRAWN BY : JAR
CHECKED BY : LCR
DATE : MAR 2026

NO.	DATE	REVISION	BY	APP.

WILDWOOD MP 10.14 BRIDGE SCOUR REPAIR

90% CONSTRUCTION PLANS
COUNTY ROAD PROJECT NO: 2159S

TEMPORARY STREAM DIVERSION DETAILS

SHEET 6 OF 15

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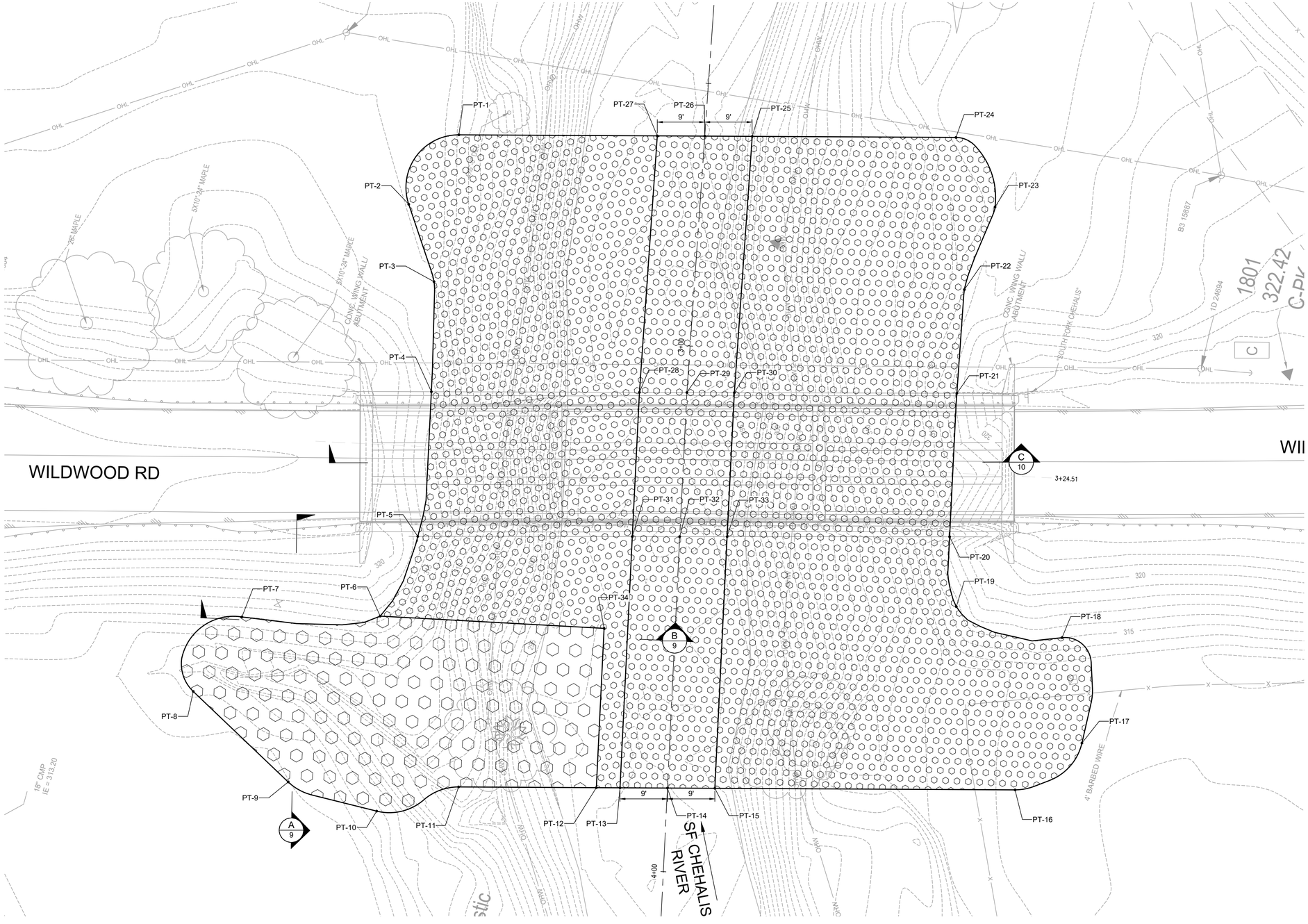

SCOUR COUNTERMEASURE NOTES:

1. SEE SCOUR COUNTERMEASURE LAYOUT TABLE ON THIS SHEET FOR LAYOUT POINTS AND TOP OF COUNTERMEASURE ELEVATIONS.
2. SEE SHEET 8 FOR SCOUR COUNTERMEASURE PROFILE.
3. SEE SHEETS 9 AND 10 FOR SCOUR COUNTERMEASURE SECTIONS.
4. MINIMIZE DISTURBANCE OF THE STREAMBED OUTSIDE OF THE SCOUR COUNTERMEASURE FOOTPRINT TO THE MAXIMUM EXTENT PRACTICABLE. STREAMBED OUTSIDE THE SCOUR COUNTERMEASURE LIMITS THAT IS DISTURBED SHALL BE RETURNED TO EXISTING CONDITIONS.
5. SEE SHEET 11 FOR ALIGNMENT LAYOUT TABLE.

LEGEND

ROCK FOR EROSION AND SCOUR PROTECTION CLASS B, 3-FOOT THICKNESS

ROCK FOR EROSION AND SCOUR PROTECTION CLASS B, 6-FOOT THICKNESS

CONTROL POINT TABLE

POINT ID	STA	OFFSET	TOP OF COUNTER MEASURE ELEVATION
PT-1	2+63.0	46.6' R	312.9'
PT-2	2+76.9	55.2' R	315.0'
PT-3	2+91.2	49.4' R	315.0'
PT-4	3+11.1	48.5' R	315.0'
PT-5	3+38.6	49.7' R	315.0'
PT-6	3+54.1	56.1' R	315.0'
PT-7	3+55.6	82.3' R	315.0'
PT-8	3+70.2	90.9' R	311.9'
PT-9	3+86.4	72.0' R	313.1'
PT-10	3+91.2	55.0' R	308.2'
PT-11	3+85.8	39.6' R	300.7'
PT-12	3+84.7	13.5' R	291.4'
PT-13	3+84.5	9.0' R	288.4'
PT-14	3+84.1	0.0' C	288.4'
PT-15	3+83.7	9.0' L	288.4'
PT-16	3+81.2	66.0' L	312.3'
PT-17	3+71.7	78.2' L	312.9'
PT-18	3+51.9	73.5' L	315.0'
PT-19	3+47.0	53.1' L	315.0'
PT-20	3+33.7	51.2' L	315.0'
PT-21	3+05.4	51.2' L	315.0'
PT-22	2+85.7	51.2' L	315.0'
PT-23	2+69.6	56.0' L	315.0'
PT-24	2+57.0	47.6' L	314.1'
PT-25	2+59.5	9.0' L	287.9'
PT-26	2+60.0	0.0' C	287.9'
PT-27	2+60.6	9.0' R	287.9'
PT-28	3+09.3	9.0' R	288.1'
PT-29	3+08.9	0.0' C	288.1'
PT-30	3+08.3	9.0' L	288.1'
PT-31	3+36.7	9.0' R	288.1'
PT-32	3+36.3	0.0' C	288.1'
PT-33	3+35.8	9.0' L	288.1'
PT-34	3+54.4	13.5' R	291.2'

10 0 10 20

SCALE IN FEET

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Department of Public Works
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WILDWOOD MP 10.14 BRIDGE SCOUR REPAIR

90% CONSTRUCTION PLANS
COUNTY ROAD PROJECT NO: 2159S

SCOUR COUNTERMEASURE PLAN

SHEET 7 OF 15

CALL 48 HOURS BEFORE YOU DIG
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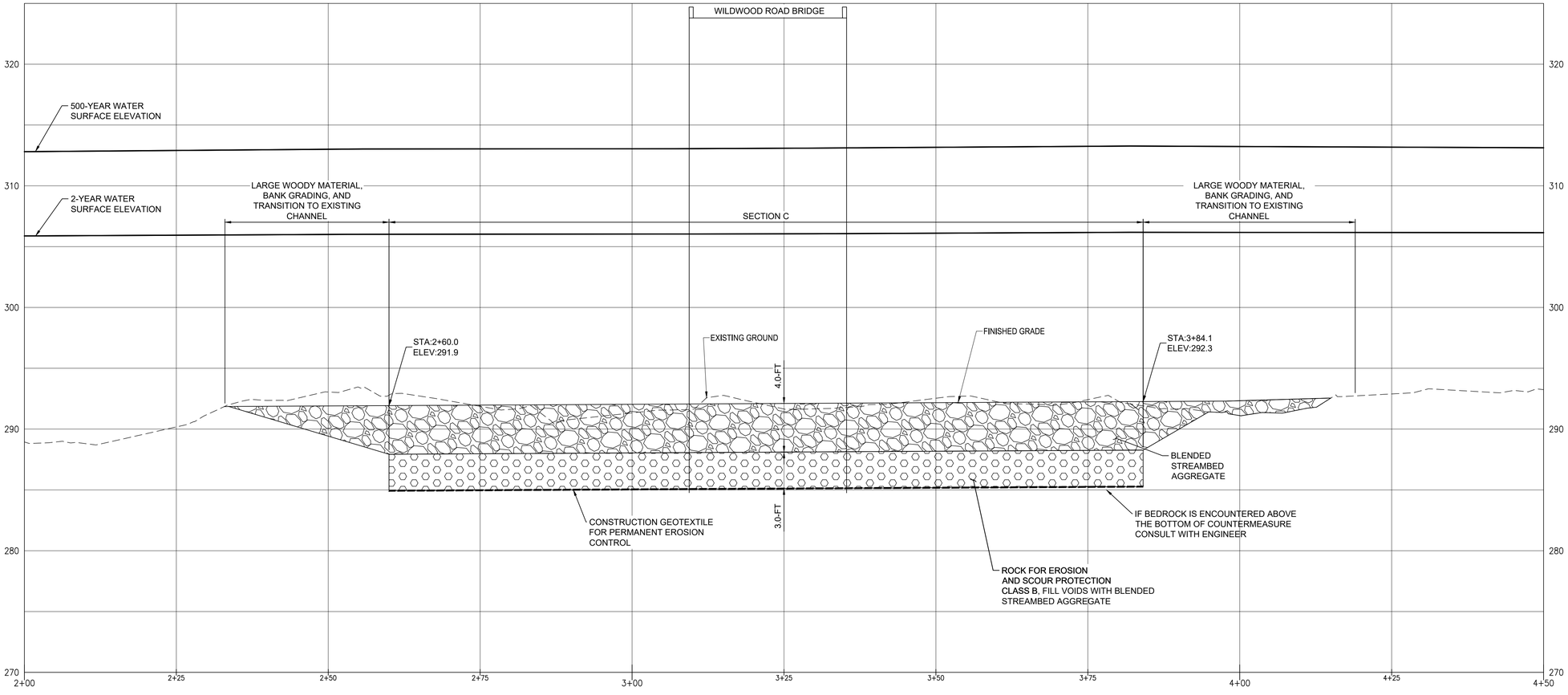
GENERAL NOTES:

1. ALL MATERIAL AND WORK SHALL BE IN ACCCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" 2026 EDITION AND SPECIAL PROVISIONS.
2. SEE SHEETS 9 AND 10 FOR TYPICAL SCOUR COUNTERMEASURE AND STREAM RECONSTRUCTION SECTION.
3. SEE SHEET 12 FOR LARGE WOODY MATERIAL DETAILS.

LEGEND

ROCK FOR EROSION AND SCOUR PROTECTION CLASS B, 3-FOOT THICKNESS

BLENDED STREAMBED AGGREGATE



PROFILE VIEW

H: 1"=10', V: 1"=5'

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90% CONSTRUCTION PLANS
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SCOUR COUNTERMEASURE PROFILE

SHEET 8 OF 15

CALL 48 HOURS BEFORE YOU DIG
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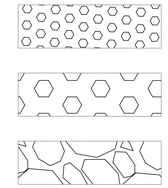
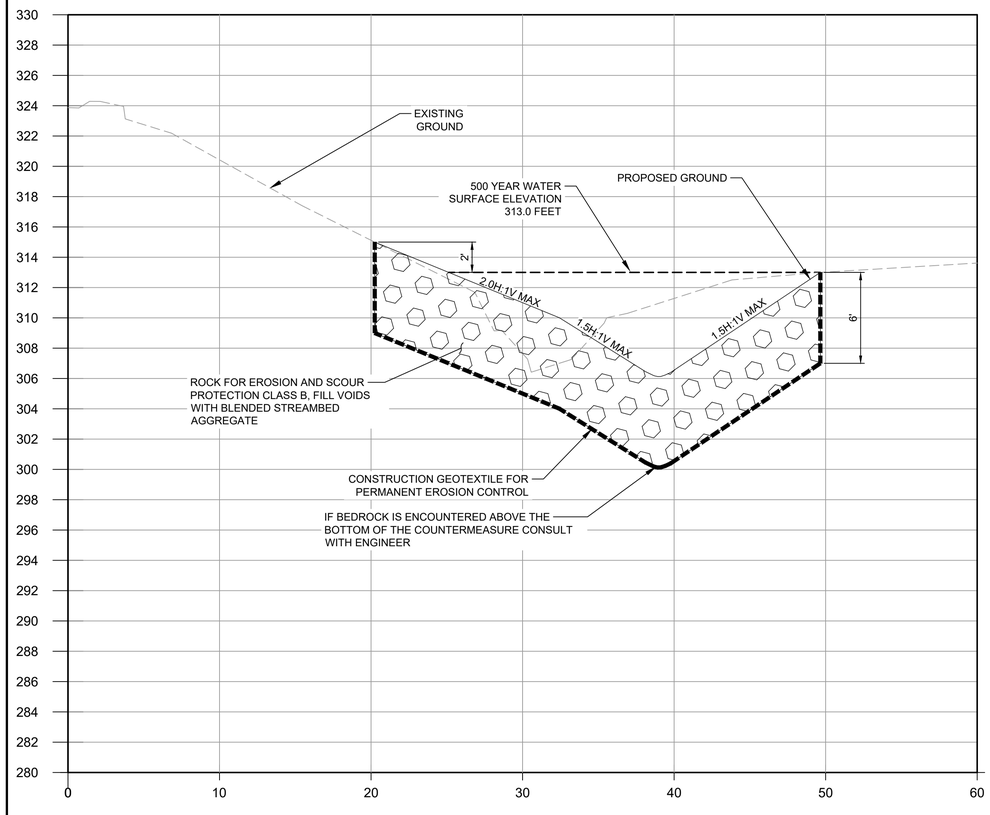
GENERAL NOTES:

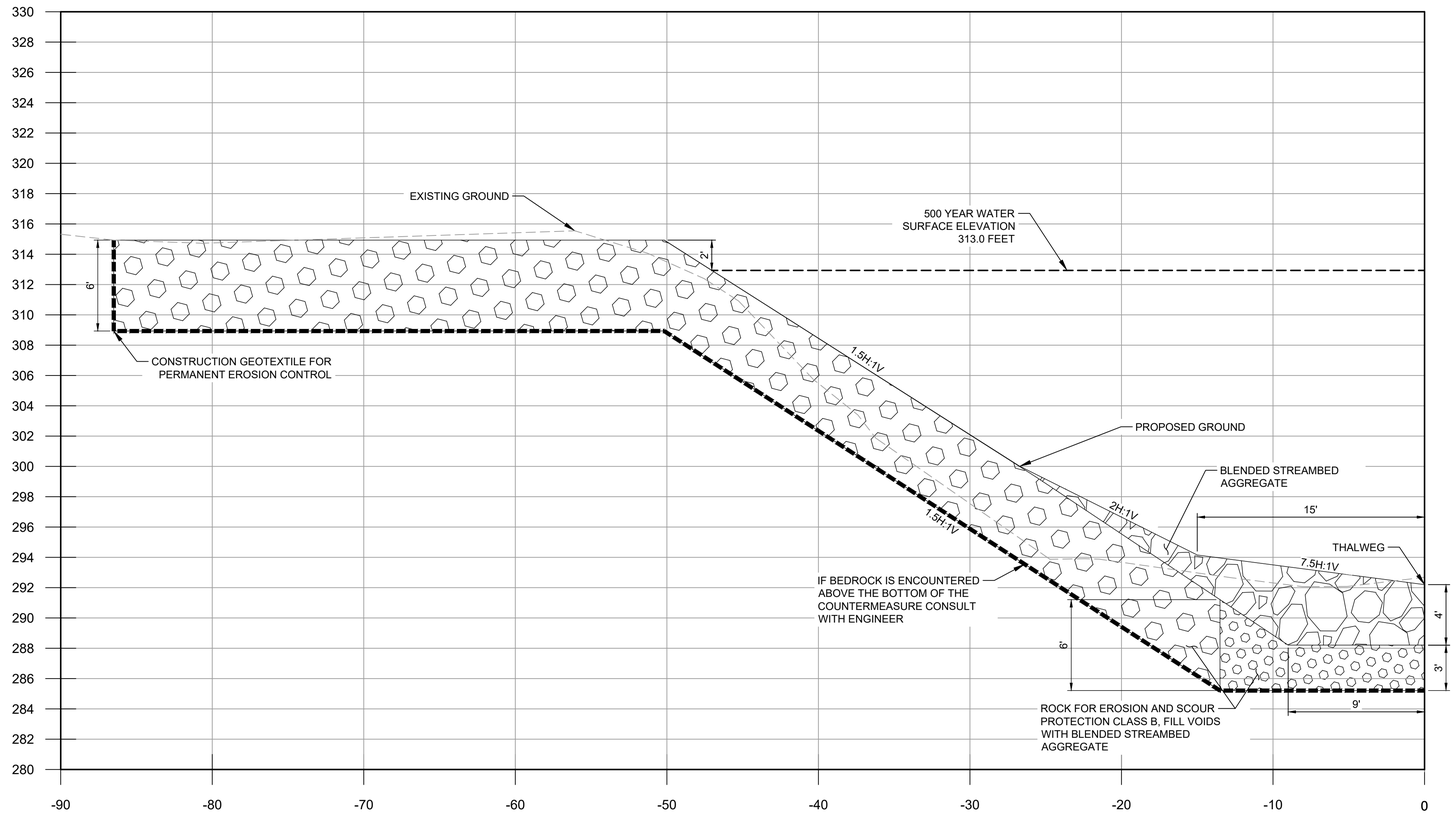
1. BLENDED STREAMBED AGGREGATE IS 75% STREAMBED SEDIMENT AND 25% 4-INCH COBBLES. SEE STANDARD SPECIFICATION 8-30 "STREAMS, RIVERS, AND WATERBODIES."

LEGEND





SECTION A - SCOUR COUNTERMEASURE TYPICAL SECTION ALONG BRIDGE APPROACH



SECTION B - SCOUR COUNTERMEASURE TYPICAL SECTION WITH INCREASED RIPRAP THICKNESS

Lewis County
Department of Public Works

57 W. MAIN ST.
CHEHALIS WA 98532
PHONE # (360) 740-1123
FAX # (360) 740-2719

DESIGNED BY : MNZ
DRAWN BY : JAR
CHECKED BY : LCR
DATE : MAR 2026

NO.	DATE	REVISION	BY	APP.

WILDWOOD MP 10.14 BRIDGE SCOUR REPAIR

90% CONSTRUCTION PLANS
COUNTY ROAD PROJECT NO: 2159S

SCOUR COUNTERMEASURE DETAILS

SHEET 9 OF 15

CALL 48 HOURS BEFORE YOU DIG
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Utilities Underground Location Center

Osborn Consulting

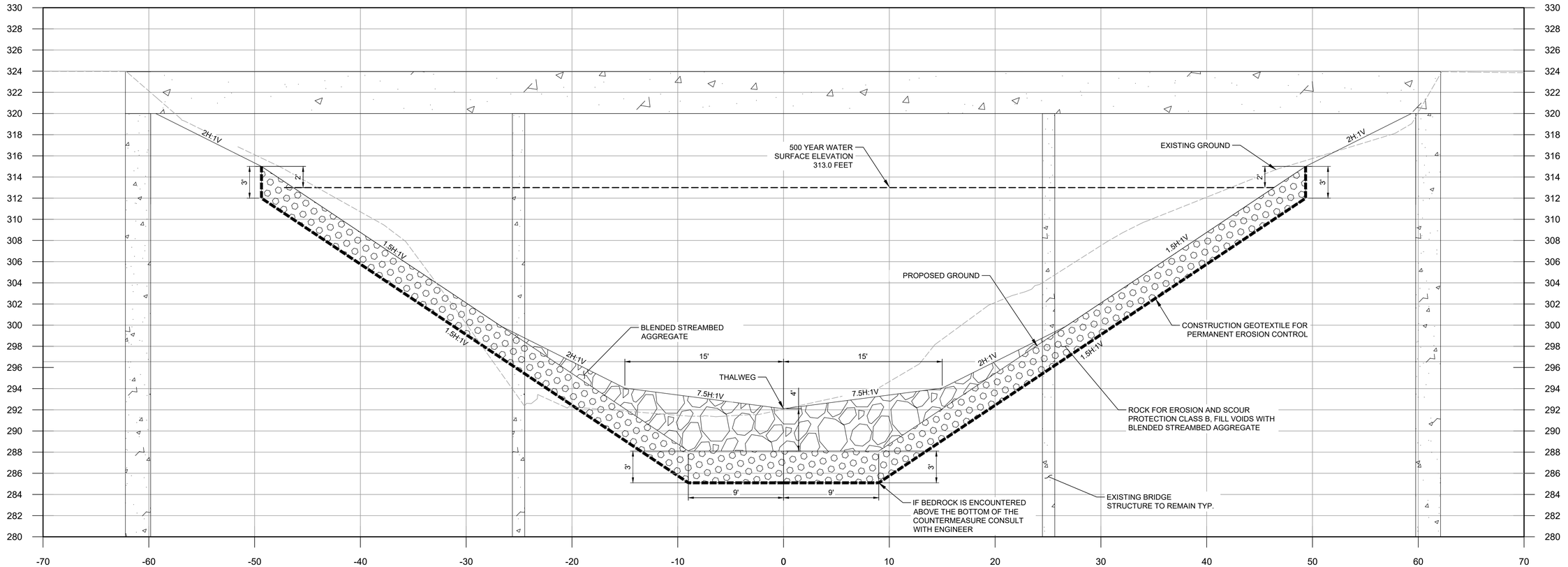
GENERAL NOTES:

1. BLENDED STREAMBED AGGREGATE IS 75% STREAMBED SEDIMENT AND 25% 4-INCH COBBLES. SEE STANDARD SPECIFICATION 8-30 "STREAMS, RIVERS, AND WATERBODIES."

LEGEND

ROCK FOR EROSION AND SCOUR PROTECTION CLASS B, 3-FOOT THICKNESS

BLENDED STREAMBED AGGREGATE



SECTION C - TYPICAL SCOUR COUNTERMEASURE AND STREAM RECONSTRUCTION SECTION

Lewis County Department of Public Works

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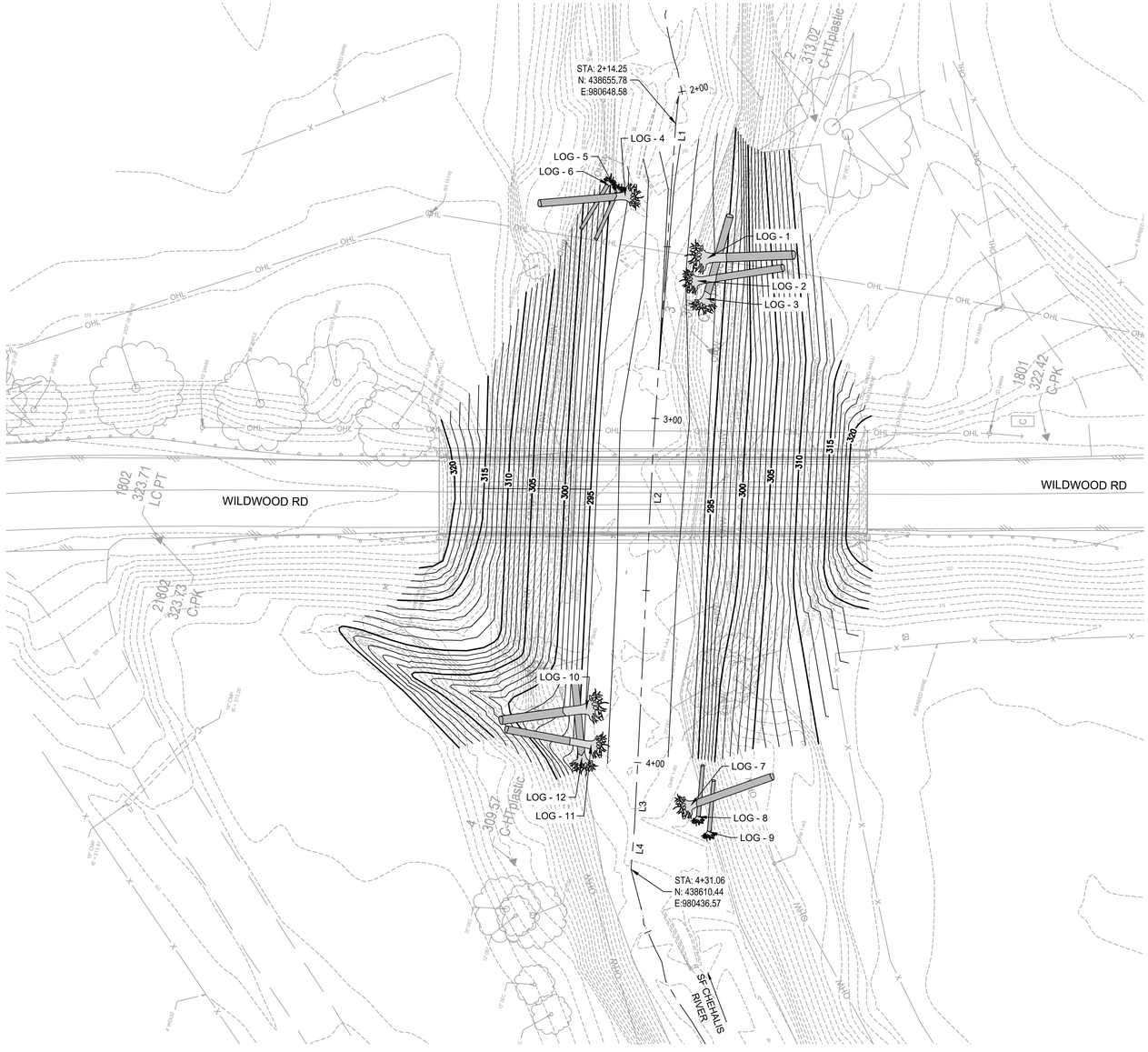
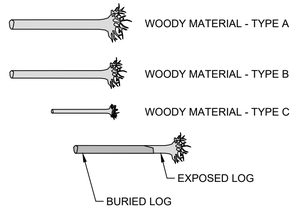


GENERAL NOTE:

1. ALL MATERIAL AND WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION, "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" 2026 EDITION AND SPECIAL PROVISIONS.
2. SEE SHEET 12 FOR LARGE WOODY MATERIAL DETAILS.
3. SEE SHEET 10 FOR TYPICAL STREAM SECTION.
4. SEE SHEET 8 FOR STREAM PROFILE.

LEGEND



LOG LAYOUT TABLE

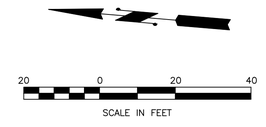
LOG ID	ROOTWAD CROWN STA OFFSET	ROOTWAD CROWN ELEVATION	LOG END STA OFFSET	LOG END ELEVATION	LWM TYPE AND DETAIL
1	2+52.5, 12.0' L	295.8'	2+49.9, 36.3' L	294.8'	LWM TYPE A, SEE DETAIL 1
2	2+59.3, 9.6' L	295.5'	2+53.9, 33.5' L	295.0'	LWM TYPE B, SEE DETAIL 1
3	2+64.3, 12.3' L	293.5'	2+40.3, 17.4' L	293.0'	LWM TYPE B, SEE DETAIL 1
4	2+36.1, 13.2' R	296.2'	2+40.0, 37.4' R	295.7'	LWM TYPE B, SEE DETAIL 2
5	2+35.1, 15.7' R	294.2'	2+49.0, 20.7' R	293.9'	LWM TYPE C, SEE DETAIL 2
6	2+33.2, 18.4' R	294.9'	2+46.3, 25.2' R	294.6'	LWM TYPE C, SEE DETAIL 2
7	4+11.6, 16.1' L	295.5'	4+02.3, 38.8' L	295.0'	LWM TYPE B, SEE DETAIL 2
8	4+14.9, 18.4' L	293.5'	4+00.1, 18.9' L	293.2'	LWM TYPE C, SEE DETAIL 2
9	4+19.1, 21.8' L	293.6'	4+04.3, 22.2' L	293.3'	LWM TYPE C, SEE DETAIL 2
10	3+85.2, 15.7' R	295.8'	3+89.3, 39.7' R	294.8'	LWM TYPE A, SEE DETAIL 1
11	3+95.6, 13.8' R	295.5'	3+92.3, 38.1' R	295.0'	LWM TYPE B, SEE DETAIL 1
12	3+99.5, 16.2' R	293.5'	3+74.9, 19.6' R	293.0'	LWM TYPE B, SEE DETAIL 1

LOG SCHEDULE

LOG TYPE	LOG SIZE	QUANTITY
A	25' LOG WITH ROOTWAD DBH 30"	2
B	25' LOG WITH ROOTWAD DBH 24"	6
C	15' LOG WITH ROOTWAD DBH 12"	4

CENTERLINE LINE DATA

NO.	BEARING	DISTANCE
L1	S78°28'57"W	94.60
L2	S77°20'46"W	27.41
L3	S77°22'10"W	21.16
L4	S79°12'38"W	11.96



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90% CONSTRUCTION PLANS
COUNTY ROAD PROJECT NO: 2159S

STREAM RECONSTRUCTION PLAN

SHEET 11 OF 15

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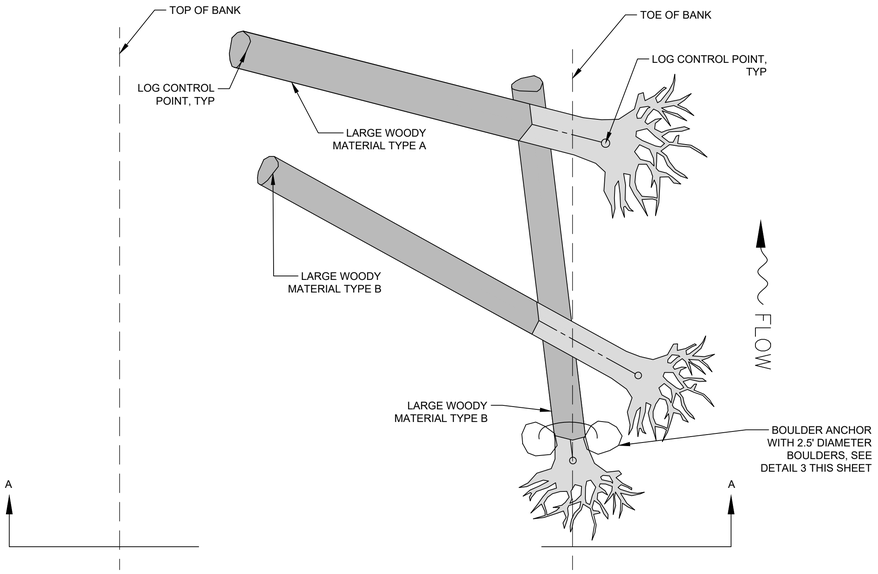
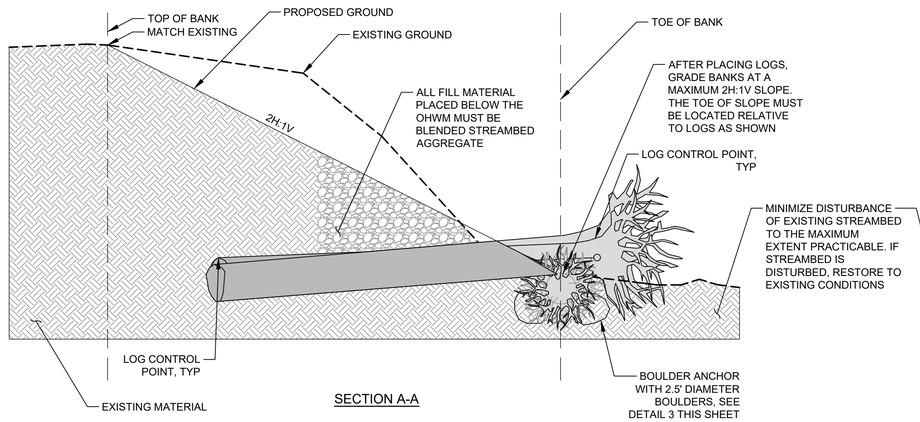


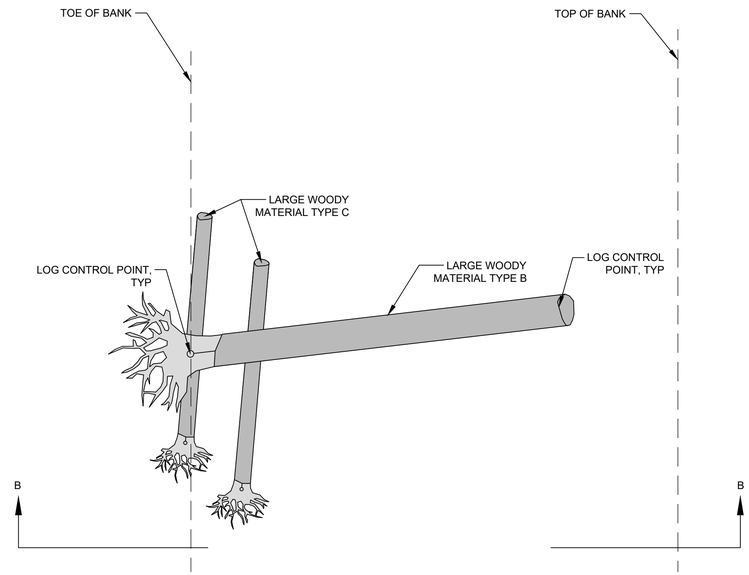
PLAN VIEW



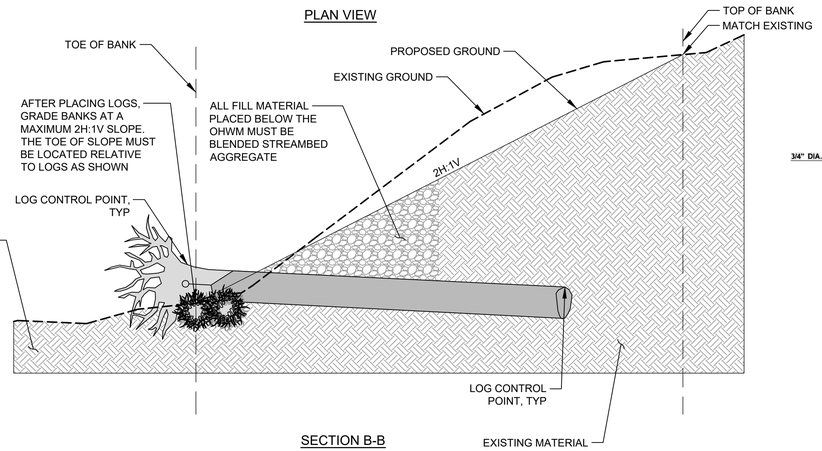
SECTION A-A

1/11 LARGE WOODY MATERIAL (LWM) LOG JAM - DETAIL 1

NOT TO SCALE



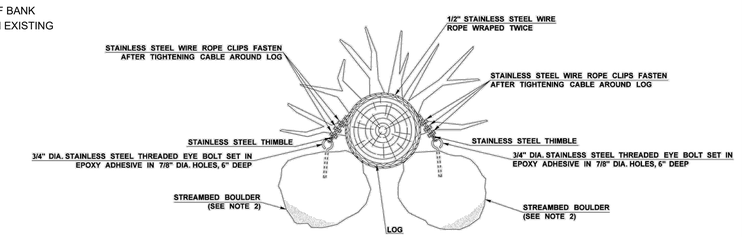
PLAN VIEW



SECTION B-B

2/11 LARGE WOODY MATERIAL (LWM) LOG JAM - DETAIL 2

NOT TO SCALE



NOTES:

1. SEE SPECIAL PROVISIONS "WOODY MATERIAL" FOR DESCRIPTION OF MATERIALS AND CONSTRUCTION REQUIREMENTS.
2. SEE STANDARD SPECIFICATIONS 8-30 "WATER CROSSINGS" FOR BOULDER DESCRIPTION.

3/12 BOULDER ANCHOR - DETAIL 3

NOT TO SCALE

STREAM RECONSTRUCTION NOTES:

1. DETAILS SHOWN ON THIS SHEET MAY BE ROTATED OR MIRRORED. SEE SHEET 11 FOR LARGE WOODY MATERIAL (LWM) ORIENTATIONS.
2. SEE LWM LAYOUT TABLE AND LWM SCHEDULE ON SHEET 11 FOR LOG CONTROL POINTS, TOP OF LOG ELEVATIONS, AND LOG DIMMENSIONS.
3. SEE SPECIAL PROVISIONS 8-33 "LOG STRUCTURES" FOR LWM.
4. LOCATIONS AND ORIENTATIONS OF STREAMBED FEATURES ARE APPROXIMATE AND SHALL BE STAKED PER PLAN BY THE CONTRACTOR AND APPROVED BY THE FIELD STREAM DESIGN ENGINEER. FINAL LOCATION AND ORIENTATION OF THESE STREAMBED FEATURES SHALL BE APPROVED BY THE FIELD STREAM DESIGN ENGINEER.
5. BLENDED STREAMBED AGGREGATE IS 25% 4-INCH COBBLES AND 75% STREAMBED SEDIMENT. SEE STANDARD SPECIFICATIONS 8-30 "STREAM, RIVERS, AND WATERBODIES."
6. ALL LWM DETAIL SECTIONS ON THIS SHEET ARE LOOKING DOWNSTREAM.

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STREAM RECONSTRUCTION DETAILS

SHEET 12 OF 15

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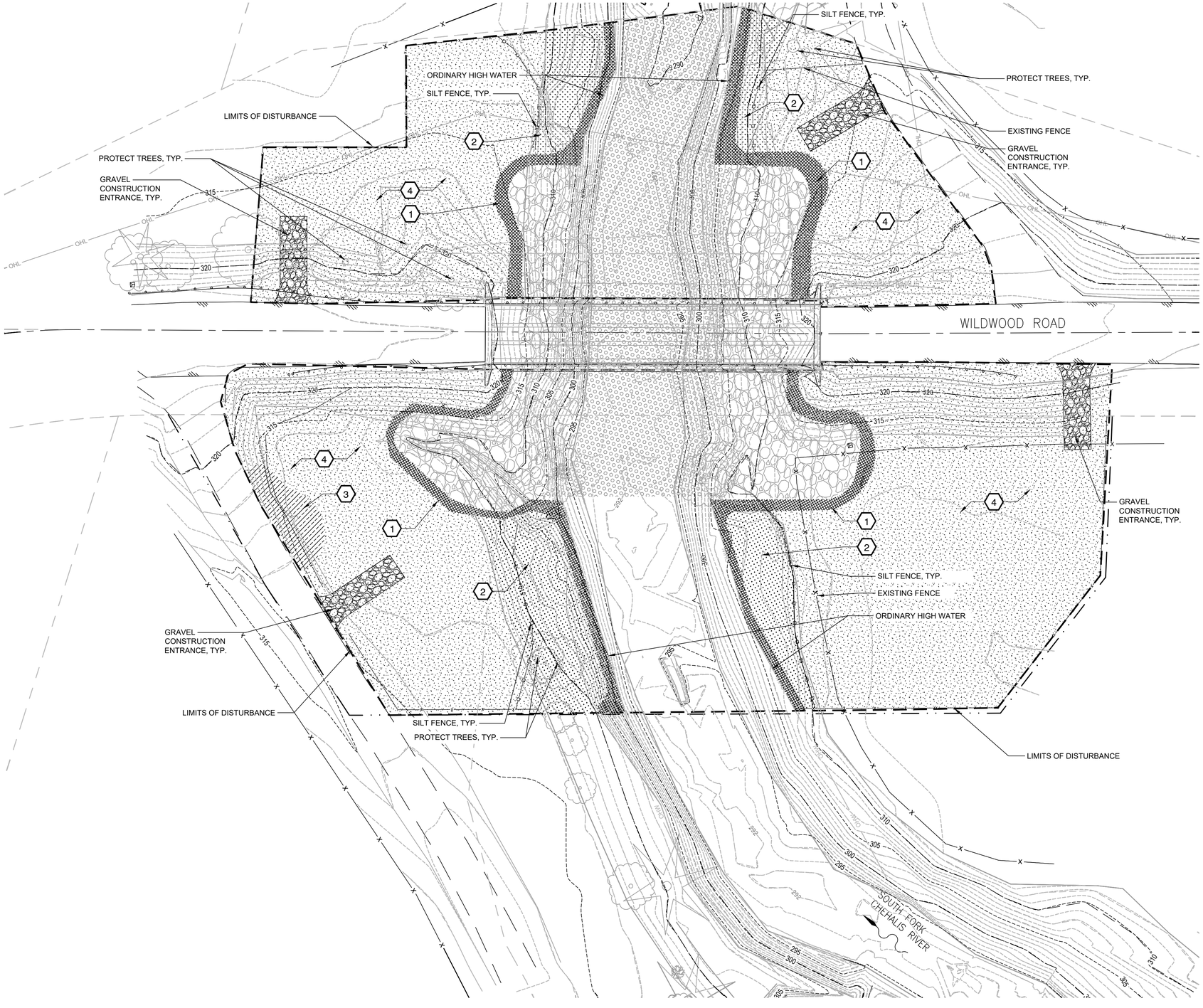

CONSTRUCTION NOTES:

1. LIVE STAKES
2. RIPARIAN SEED MIX AND PLANTING
   -PLACE 12 INCHES OF TYPE B TOPSOIL
   -PLACE 24 DIAM. MULCH RING AT TREES/SHRUBS
   -INSTALL BROWSE PROTECTORS
3. UPLAND SEED MIX AND PLANTING
   -PLACE 12 INCHES OF TYPE B TOPSOIL
   -PLACE 24 DIAM. MULCH RING AT TREES/SHRUBS
   -INSTALL BROWSE PROTECTORS
4. UPLAND SEED MIX
   -PLACE 4 INCHES OF TYPE B TOPSOIL

NOTE: ALL PLANTING WORK PAID WITH 'LANDSCAPE RESTORATION' BID ITEM

GENERAL NOTES:

1) SEE PLANT SCHEDULE, DETAILS AND NOTES SHEET 14.
2) ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED IN ACCORDANCE WITH PROJECT PLANS AND CONSTRUCTION SPECIFICATIONS.
3) STAKE THE LIMITS OF PLANTING AREAS FOR APPROVAL BY THE ENGINEER PRIOR TO PLANTING INSTALLATION.
4) SEE STREAM SHEETS, REVETMENT PLANS, AND DETAILS.

PLANTING LEGEND:

- PLANTING ZONE 1 - LIVE STAKES
- PLANTING ZONE 2 - RIPARIAN SEED MIX AND PLANTING
- PLANTING ZONE 3 - UPLAND SEED MIX AND PLANTING
- PLANTING ZONE 4 - UPLAND SEED MIX

STREAM LEGEND:

- EXPOSED RIP RAP
- STREAMBED COBBLES 10 IN.
- LARGE WOOD DEBRIS

20 0 20 40 HORIZ

SCALE IN FEET

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90% CONSTRUCTION PLANS
COUNTY ROAD PROJECT NO: 2159S

PLANTING PLAN

SHEET 13 OF 15

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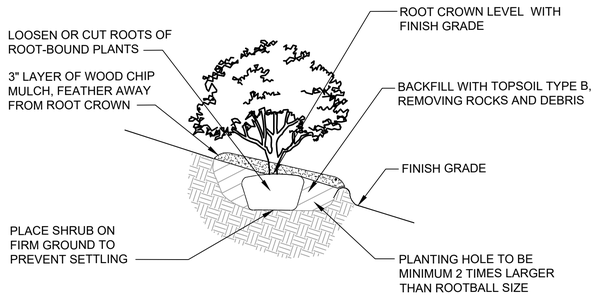
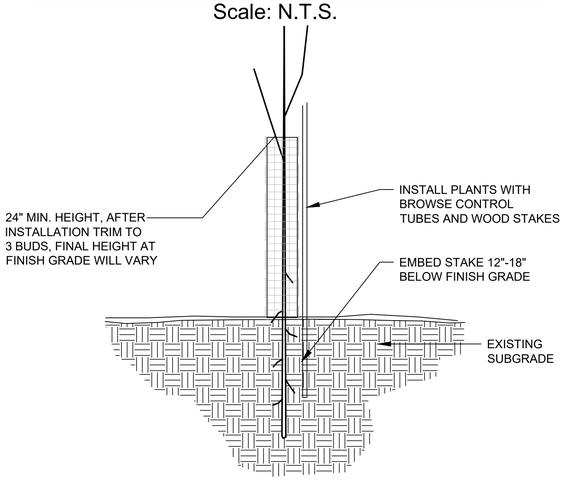


RESTORATION SHRUB/TREE PLANTING ON SLOPE
Scale: N.T.S.



BROWSE GUARD
Scale: N.T.S.

PLANT MATERIAL:

1. PLANT MATERIAL MUST BE SOURCED FROM NATURALLY OCCURRING POPULATIONS BELOW 1,000 FEET ELEVATION IN AN AREA BOUNDED BY THE COAST RANGE TO THE WEST, THE CASCADE RANGE TO THE EAST, CENTRALIA, WA TO THE NORTH, AND COTTAGE GROVE, OR TO THE SOUTH. CONTRACTOR SHALL PROVIDE PROOF OF SOURCE TO OWNER PRIOR TO DELIVERING THE PLANT MATERIAL TO THE SITE.
2. PLANT TREES IN GROUPS OF 3-5 AND SHRUBS IN GROUPS OF 5, IN ACCORDANCE WITH DETAILS AND NOTES.
3. UNIFORMLY DISTRIBUTE PLANT SPECIES IN EACH CONTIGUOUS AREA AND AS DIRECTED BY THE ENGINEER.
4. PLANT MATERIAL INSTALLATION MEANS AND METHODS TO BE IN ACCORDANCE WITH WSDOT STANDARD PLAN.

UTILITY NOTES:

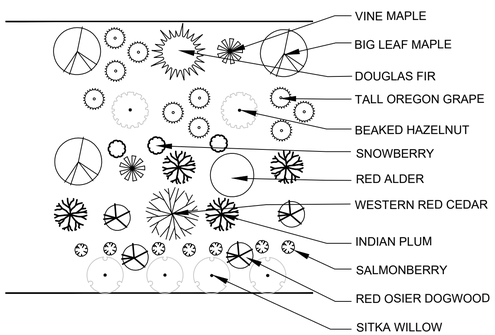
1. CONTRACTOR IS CAUTIONED THAT EXISTING UNDERGROUND FACILITIES OCCUR THROUGHOUT THE WORK AREAS INCLUDING BUT NOT LIMITED TO POWER, GAS, TELEPHONE, WATER SUPPLY, AND IRRIGATION. CONTRACTOR SHALL MARK THE FACILITIES BEFORE WORK, POTHOLE WHERE NECESSARY, AND PROTECT DURING CONSTRUCTION. IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE IF ANY CONFLICTS ARE FOUND.

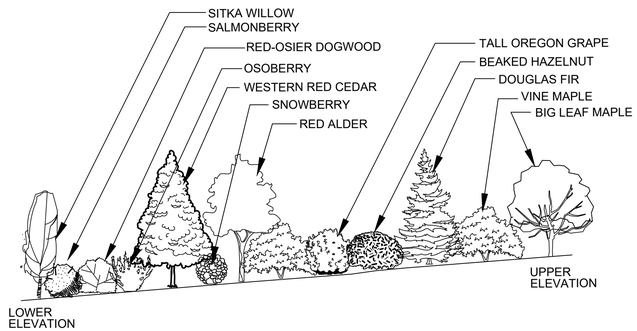
LANDSCAPE NOTES:

1. THE LANDSCAPE CONTRACTOR IS TO THOROUGHLY REVIEW THE SITE. IF THERE ARE ANY DISCREPANCIES BETWEEN THE PLAN AND THE EXISTING CONDITIONS NOTIFY THE ENGINEER IMMEDIATELY.
2. PROVIDE QUANTITY OF PLANT MATERIAL INDICATED IN PLANT LIST OR THE QUANTITY REQUIRED TO COVER AREAS INDICATED AT SPECIFIED SPACING, WHICHEVER IS GREATER.
3. LEAVE PLANT NAME IDENTIFICATION TAGS ON TEN PERCENT OF ALL TREES AND SHRUBS INSTALLED TO AID INSPECTORS IN VERIFYING THAT SPECIFIED PLANTS HAVE BEEN INSTALLED.
4. INVASIVE SPECIES/WEED CONTROL: REMOVE ALL WEEDS AND INVASIVE SPECIES INCLUDING BUT NOT LIMITED TO BLACKBERRY, TEASEL, ST. JOHN'S WART, REED CANARY GRASS, BIRDSFOOT TREFOIL, PRICKLY LETTUCE, SOWTHISTLE, AND TANSY RAGWORT WITHIN PROJECT LIMITS UNLESS OTHERWISE DIRECTED. MEANS AND METHODS TO BE IN ACCORDANCE WITH LEWIS COUNTY STANDARDS.
5. LANDSCAPE RESTORATION, INCLUDING PLANTING AREA PREPARATION, PLANT SELECTION AND INSTALLATION, AND PLANT ESTABLISHMENT, SHALL CONFORM WITH THE REQUIREMENTS LISTED IN THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, CHAPTER 8-02 ROADSIDE RESTORATION, AND THE SPECIAL PROVISIONS FOR THIS PROJECT.

PLANT SCHEDULE:

SYMBOL	COMMON NAME	BOTANICAL NAME	TYPE	SPACING/SEEDING RATE	QTY./LBS
	PLANTING ZONE 1-LIVE STAKES		***AREA (SF/AC) =2,986/0.06***		***747***
	Populus balsamifera	Black Cottonwood	3'L Cutting, 1/2" DIA	2 FT O.C. Clusters of same species	177
	Salix lasiandra	Pacific Willow	3'L Cutting, 1/2" DIA	2 FT O.C. Clusters of same species	190
	Salix scouleriana	Scouler Willow	3'L Cutting, 1/2" DIA	2 FT O.C. Clusters of same species	190
	Salix sitchensis	Sitka Willow	3'L Cutting, 1/2" DIA	2 FT O.C. Clusters of same species	190
	PLANTING ZONE 2 - RIPARIAN SEED MIX AND PLANTING		***AREA (SF/AC) =6,021/0.14***		
	SEED MIX				**6.02 LBS**
	Bromus carinatus	California brome	Seed	See Specifications	
	Elymus glaucus	Blue wildrye	Seed	See Specifications	
	Hordeum brachyantherum	Meadow Barley	Seed	See Specifications	
	SHRUBS				***167***
	Rubus spectabilis	Salmonberry	1 Gallon	6-FT OC	22
	Cornus sericea	Red-Osier Dogwood	1 Gallon	6-FT OC	30
	Mahonia aquifolium	Tall Oregon Grape	1 Gallon	6-FT OC	30
	Oemleria cerasiformis	Osoberry	1 Gallon	6-FT OC	30
	Symphoricarpos albus	Snowberry	1 Gallon	6-FT OC	30
	Rosa nutkana	Nootka Rose	1 Gallon	6-FT OC	25
	PLANTING ZONE 3 - UPLAND SEED MIX AND PLANTING		***AREA (SF/AC) = 525/0.01***		
	SEED MIX				**.525 LBS**
	Agrostis exerata	Spike bentgrass	Seed	See Specifications	
	Bromus carinatus	California brome	Seed	See Specifications	
	Elymus glaucus	Blue wildrye	Seed	See Specifications	
	Deschampsia cespitosa	Tufted Hair Grass	Seed	See Specifications	
	Hordeum brachyantherum	Meadow Barley	Seed	See Specifications	
	TREES				***7***
	Tree quantities include tree mitigation for the (#) tree removals				
	Thuja plicata	Western Red Cedar	2 Gallon	15-FT O.C.	1
	Alnus rubra	Red Alder	2 Gallon	15-FT O.C.	1
	Pseudotsuga menziesii	Douglas Fir	2 Gallon	15-FT O.C.	1
	Acer circinatum	Vine Maple	2 Gallon	15-FT O.C.	2
	Acer macrophyllum	Big Leaf Maple	2 Gallon	15-FT O.C.	2
	SHRUBS				***15***
	Rubus spectabilis	Salmonberry	1 Gallon	6-FT OC	3
	Cornus sericea	Red-Osier Dogwood	1 Gallon	6-FT OC	3
	Oemleria cerasiformis	Osoberry	1 Gallon	6-FT OC	2
	Symphoricarpos albus	Snowberry	1 Gallon	6-FT OC	2
	Mahonia aquifolium	Tall Oregon Grape	1 Gallon	6-FT OC	2
	Rosa nutkana	Nootka Rose	1 Gallon	6-FT OC	3
	PLANTING ZONE 4 - UPLAND SEED MIX		***AREA (SF/AC) = 40,467/0.92***		***40.65 LBS***
	Agrostis exerata	Spike bentgrass	Seed	See Specifications	
	Bromus carinatus	California brome	Seed	See Specifications	
	Elymus glaucus	Blue wildrye	Seed	See Specifications	
	Deschampsia cespitosa	Tufted Hair Grass	Seed	See Specifications	
	Hordeum brachyantherum	Meadow Barley	Seed	See Specifications	





TYPICAL UPLAND AND RIPARIAN PLANTING
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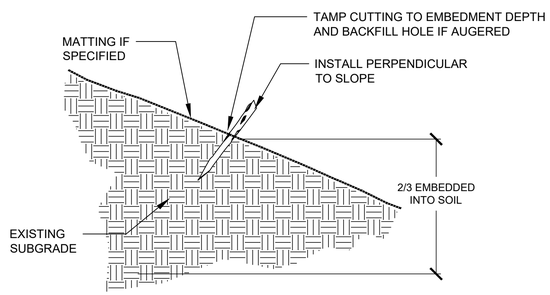

LIVE STAKE PLANTING ALONG OHW
Scale: N.T.S.

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90% CONSTRUCTION PLANS
COUNTY ROAD PROJECT NO: 2159S

PLANTING DETAILS

SHEET 14 OF 15

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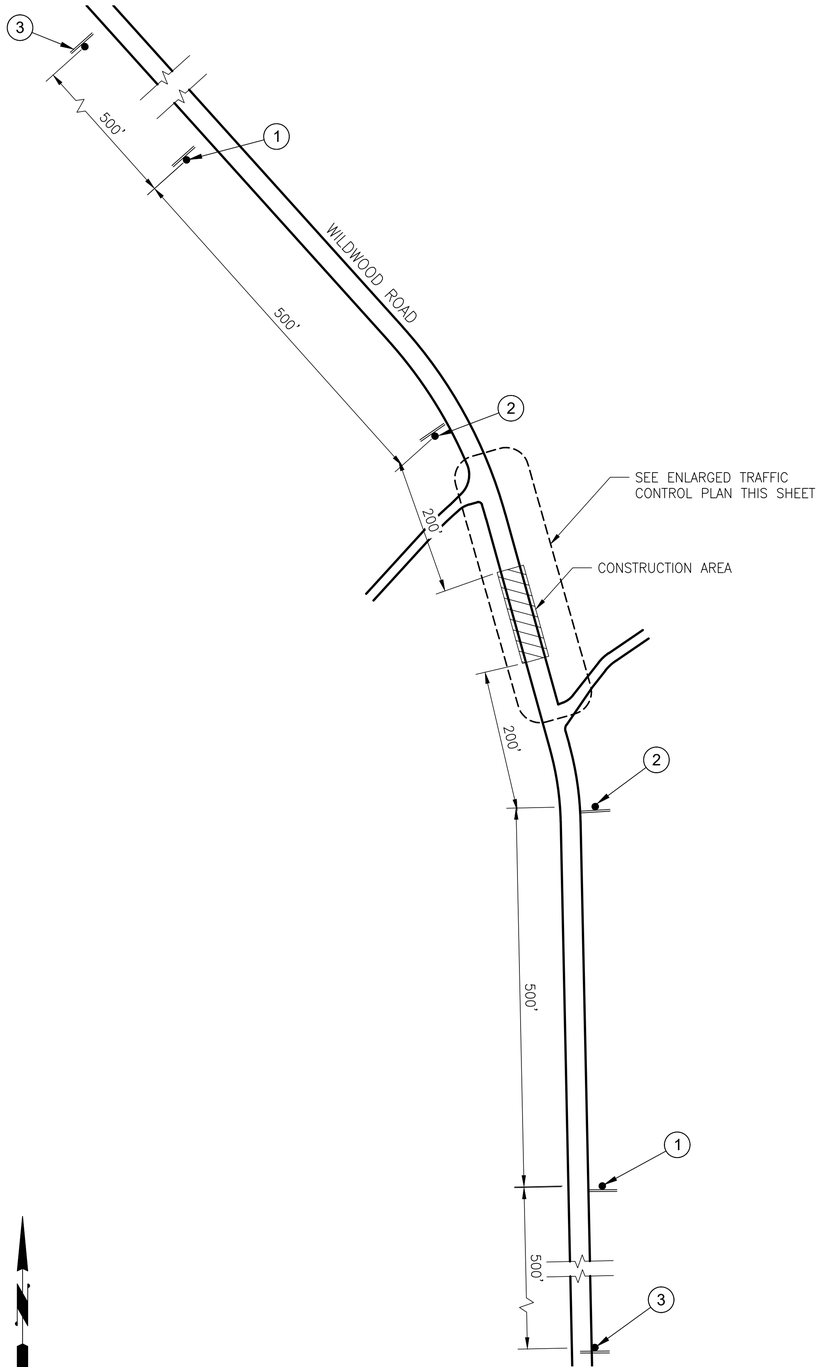
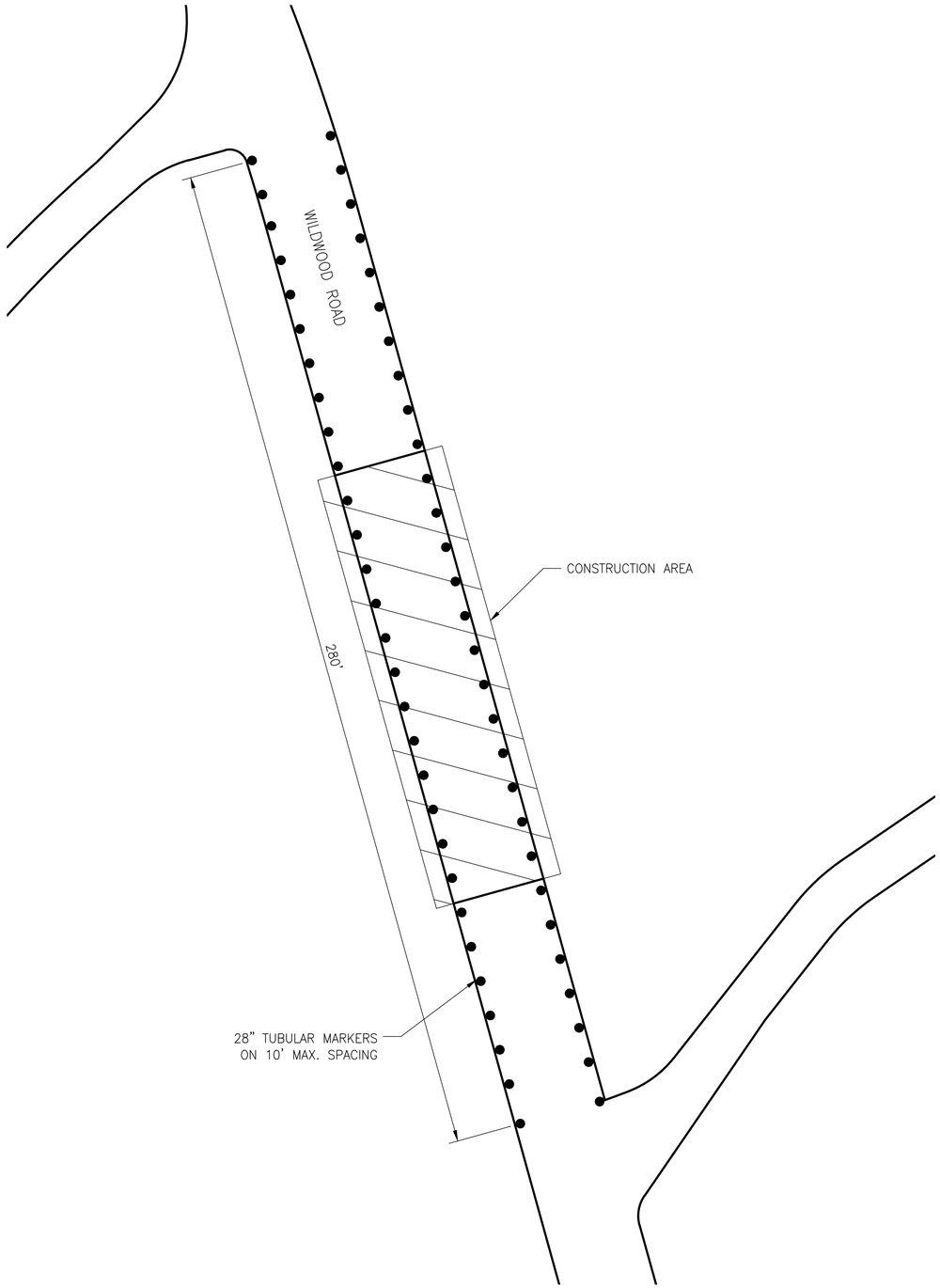


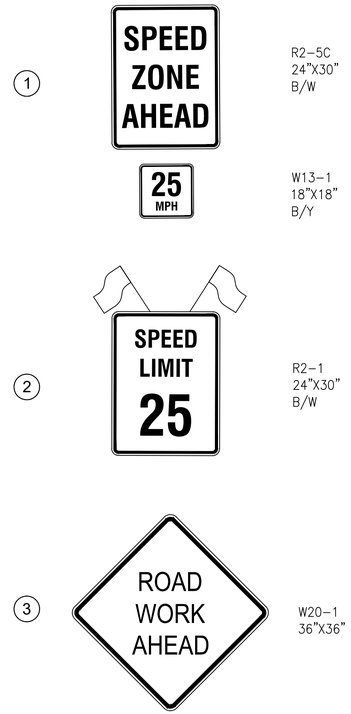
TRAFFIC CONTROL PLAN

1" = 100'



ENLARGED TRAFFIC CONTROL PLAN

1" = 20'



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TRAFFIC CONTROL PLAN

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