WASHINGTON STATE PARKS & RECREATION COMMISSION

KEN BOUNDS, CHAIR

SOPHIA DANENBERG — LAURIE CONNELLY

MICHAEL LATIMER — SCOTT MERRIMAN

ALI RAAD — HOLLY WILLIAMS

DIANA DUPUIS, DIRECTOR

APPROVED FOR CONSTRUCTION

Mike E. Wenger — 03/21/2024
REGION MANAGER *date*

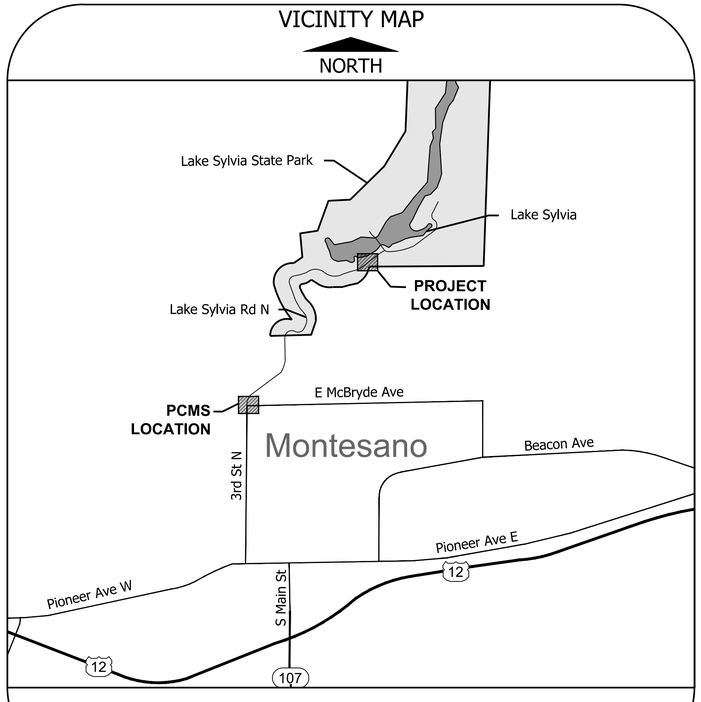
Kyle Murphy — 03/26/2024
CAPITAL PROGRAM MANAGER *date*

AREA MANAGER: JOSEPH FERNANDEZ

LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

VICINITY MAP



46.99505 , -123.59565

PROJECT LOCATION

LAKE SYLVIA RD N. MONTESANO WA 98563
SEC-5 T-17-N R-7-W
GRAYS HARBOR COUNTY TAX PARCEL NUMBER 617070522003

INDEX

CAD#: X000-2022 SPECIFICATION NUMBER PROJECT TITLE = PROJECT MANAGER TO PROVIDE

CONSTRUCTION DRAWINGS

PROJECT TEAM

OWNER: STATE OF WASHINGTON
PARKS AND RECREATION COMMISSION
1111 ISRAEL ROAD SOUTHWEST
POST OFFICE BOX 42650
OLYMPIA, WASHINGTON 98504-2650
www.parks.wa.gov

OWNER'S REPRESENTATIVE: WASHINGTON STATE PARKS AND RECREATION COMMISSION
1111 ISRAEL ROAD SOUTHWEST
OLYMPIA, WASHINGTON 98504-2650

BRIAN YEAROUT
SW CAPITAL REGION MANAGER
TELEPHONE: (360) 725-9763
CELL: (360) 581-0390
brian.yearout@parks.wa.gov

PROJECT ARCHITECTURAL AND ENGINEERING CONSULTANTS

ENGINEER & PROJECT LEAD:

KPFF CONSULTING ENGINEERS
612 WOODLAND SQUARE LOOP SE
SUITE 100
LACEY, WA 98503
www.kpff.com

MATTHEW MISKOVIC, PE
PROJECT CIVIL ENGINEER
TELEPHONE: (360) 292-7230
matthew.miskovic@kpff.com

STRUCTURAL ENGINEER:

KPFF CONSULTING ENGINEERS
1601 FIFTH AVE
SUITE 1600
SEATTLE, WA 98101
www.kpff.com

AARON OLSON, PE
PROJECT STRUCTURAL ENGINEER
TELEPHONE: (425) 314-3431
aaron.olson@kpff.com

LAND SURVEYOR:

JAMESTOWN LAND SURVEY
431 BUSINESS PARK LOOP
SEQUIM, WA 98362
www.jamestownlandsurvey.com

TOBY BAUER, PLS
SURVEYOR MANAGER
TELEPHONE: (360) 683-4586
survey@jamestowntribe.org

PROPERTY NOTES

PROPERTY ADDRESS: LAKE SYLVIA STATE PARK
LAKE SYLVIA RD N
MONTESANO, WA
LAT: 46.99505
LONG: -123.59565

PARCEL TAX NUMBER(S): 617070522003

PROPERTY DESCRIPTION : MONTE AC TAX 58A

ABBREVIATIONS

APPROX	APPROXIMATELY	FT	FEET	RD	ROOF DRAIN, ROAD
AR	AIR RELEASE	GA	GAUGE	S	SOUTH, SLOPE
AVE	AVENUE	GRVL	GRAVEL	SCH	SCHEDULE
BCR	BEGINNING OF CURB RETURN	HDPE	HIGH DENSITY POLYETHYLENE	SE	SOUTHEAST
BLDG	BUILDING	HORIZ, HORZ	HORIZONTAL	SEC	SECTION
BLVD	BOULEVARD	IE	INVERT ELEVATION	SF	SQUARE FEET
BMP	BEST MANAGEMENT PRACTICE	LF	LINEAR FEET	SD	STORM DRAIN
BO	BLOW-OFF	MAX	MAXIMUM	SS	SANITARY SEWER
CB	CATCH BASIN	MECH	MECHANICAL	SSMH	SEWER MANHOLE
CO	CLEANOUT	MIN	MINIMUM	ST	STREET
CPP	CORRUGATED POLYETHYLENE PIPE	MJ	MECHANICAL JOINT	STA	STATION
DI	DUCTILE IRON	N	NORTH, NORTHING	STD	STANDARD
DIA	DIAMETER	NE	NORTHEAST	SW	SOUTHWEST
DWG	DRAWING	NIC	NOT IN CONTRACT	T	TOWNSHIP
E	EAST, EASTING	NTS	NOT TO SCALE	TYP	TYPICAL
ECP	END OF CURB RETURN	NW	NORTHWEST	VERT	VERTICAL
ELEV	ELEVATION	PC	POINT OF CURVE	VC	VERTICAL CURVE
EP	EDGE OF PAVEMENT	PI	POINT OF TANGENT INTERSECTION	VPC	VERTICAL POINT OF CURVE
EX	EXISTING	POC	POINT OF CONNECTION	VPT	VERTICAL POINT OF TANGENT
FDC	FIRE DEPARTMENT CONNECTION	PT	POINT OF TANGENT	W	WEST
FF	FINISHED FLOOR	PVC	POLYVINYL CHLORIDE	W/	WITH
FM	FORCE MAIN	R	RANGE, RADIUS	WM	WATER MAIN

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	MTM	02/23/24
DRAWN	KMS	02/23/24
CHECKED (FIELD)		
CHECKED (HDQTS.)		

MATTHEW THOMAS MISKOVIC
STATE OF WASHINGTON
44712
REGISTERED
PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

PROJECT TEAM & NOTES
C1.1

SCALE
NONE

PARKS FILE#

SUMMARY OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	EST QTY
1	MOBILIZATION	LS	1
2	CLEARING AND GRUBBING	ACRE	0.5
3	REMOVAL OF STRUCTURES AND OBSTRUCTIONS	LS	1
4	ROADWAY EXCAVATION INCL. HAUL	CY	450
5	GRAVEL BORROW INCL. HAUL	TON	260
6	CHANNEL EXCAVATION INCL. HAUL	CY	2580
7	QUARRY SPALLS	TON	4
8	SOLID WALL PVC STORM SEWER PIPE 12 IN. DIAM.	LF	17
9	SOLID WALL PVC STORM SEWER PIPE 8 IN. DIAM.	LF	90
10	CATCH BASIN TYPE 1	EACH	4
11	UNDERDRAIN PIPE 6 IN. DIAM.	LF	50
12	STREAMBED SEDIMENT	TON	60
13	STREAMBED COBBLES 10”	TON	60
14	TEMPORARY STREAM DIVERSION	LS	1
15	STRUCTURE EXCAVATION CLASS A INCL. HAUL	CY	1100
16	SHORING OR EXTRA EXCAVATION CL. A	CY	2000
17	STRUCTURAL EARTH WALLS	SF	2700
18	FALL PROTECTION RAILING	LF	110
19	BRIDGE INSTALLATION	LS	1
20	DUCTILE IRON SEWER PIPE 3 IN. DIAM.	LF	55
21	HDPE SEWER PIPE 3 IN. DIAM.	LF	120
22	DUCTILE IRON PIPE FOR WATER MAIN 12 IN. DIAM.	LF	150
23	GATE VALVE 12 IN.	EACH	2
24	CRUSHED SURFACING BASE COURSE	TON	420
25	CRUSHED SURFACING TOP COURSE	TON	110
26	HMA CL. ½ IN. PG 58H-22	TON	170
27	EROSION CONTROL AND WATER POLLUTION PREVENTION	LS	1
28	SEEDING, FERTILIZING, & MULCHING	ACRE	0.3
29	COIR LOG	LF	1200
30	PSIPE RED ALDER (#2 CONT.)	EACH	25
31	PSIPE WESTERN HEMLOCK (#2 CONT.)	EACH	13
32	PSIPE WESTERN RED CEDAR (#2 CONT.)	EACH	13
33	PSIPE SALMONBERRY (#1 CONT.)	EACH	117
34	PSIPE SALAL (#1 CONT.)	EACH	32
35	PSIPE WESTERN SWORDFERN (#1 CONT.)	EACH	163
36	PSIPE VINE MAPLE (#1 CONT.)	EACH	40
37	PSIPE OSOBERRY (#1 CONT.)	EACH	60
38	PSIPE THIMBLEBERRY (#1 CONT.)	EACH	39
39	PSIPE RED ELDERBERRY (#1 CONT.)	EACH	32
40	PSIPE DEVILS CLUB (#1 CONT.)	EACH	32
41	PSIPE PACIFIC NINEBARK (#1 CONT.)	EACH	7
42	PSIPE CASCARA (#1 CONT.)	EACH	7
43	PSIPE SLOUGH SEDGE (PLUG)	EACH	2697
44	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1
45	PERMANENT SIGNING	LS	1
46	PAINT LINE	LF	275
47	AES. TR. BEAM GUARDRAIL TYPE 31 – 8 FT. LONG POST	LF	305
48	AES. TR. BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL	EACH	2
49	AES. TR. BEAM GUARDRAIL TYPE 31 BURIED TERMINAL TYPE 2	LF	65
50	AES. TR. BEAM GUARDRAIL TRANSITION SECTION TYPE 24	EACH	4
51	MINOR CHANGE	LS	1
52	SPCC PLAN	LS	1
53	GRAVEL BORROW FOR STRUCTURAL EARTH WALL INCL. HAUL	CY	700
54	GRAVEL BACKFILL FOR DRAIN	CY	15
55	CEMENT CONC PAVEMENT CL 4000	SY	40
56	TEMPORARY UTILITY RELOCATION	LS	1
57	WOODY MATERIAL – LOG WITH ROOTWAD DBH 10”-30”	EACH	6

ALL QUANTITIES ARE APPROXIMATE AND PROVIDED FOR CONTRACTORS CONVENIENCE.
CONTRACTOR IS EXPECTED TO VISIT THE SITE AND DETERMINE FINAL VALUES.

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REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

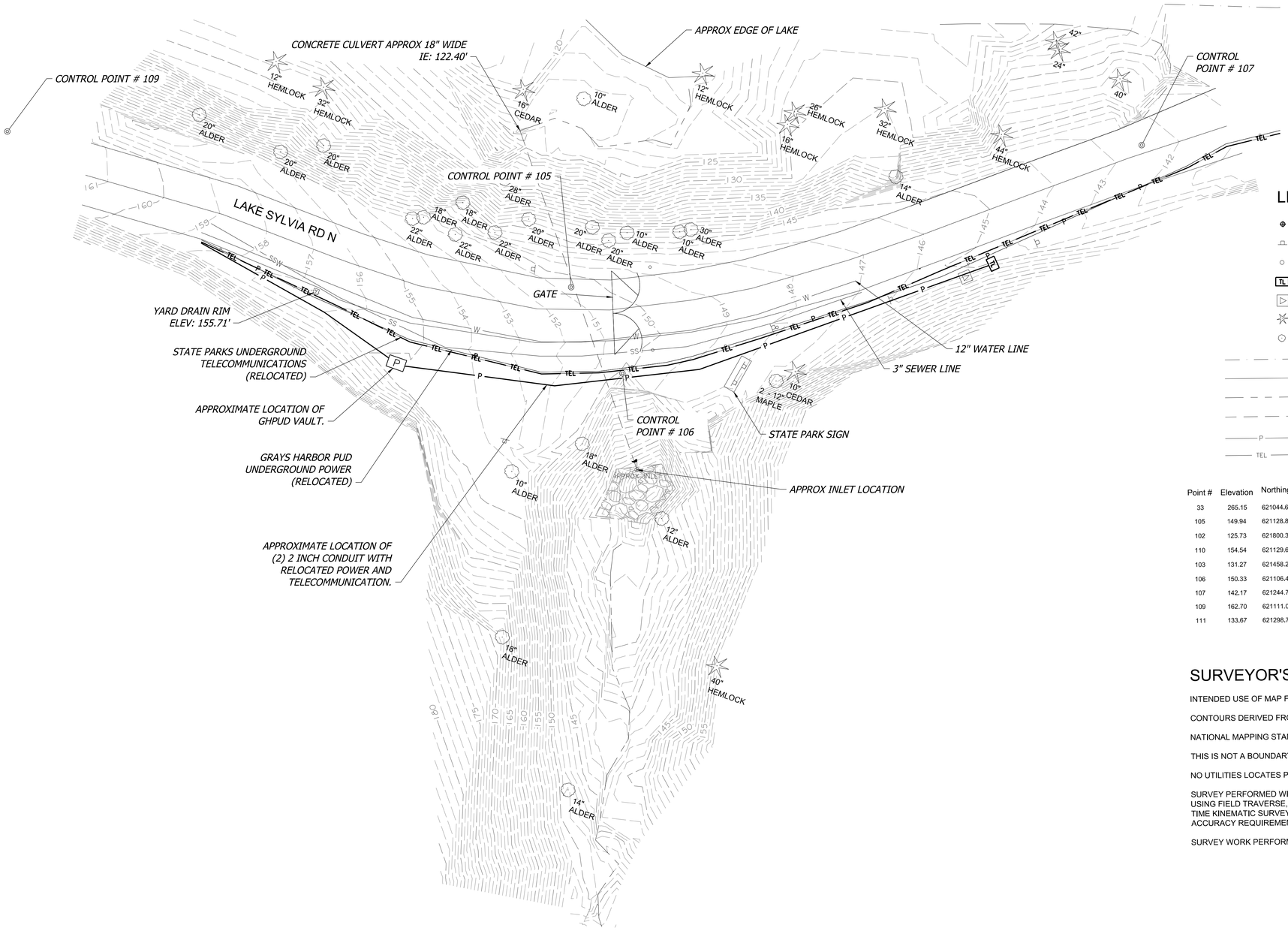
CULVERT REPLACEMENT

SUMMARY OF QUANTITIES C1.2

SCALE

NONE

PARKS FILE#



SURVEY / EXISTING CONDITIONS

LEGEND

- CONTROL POINT
- SIGN
- GUARD POST
- TELEPHONE PULL BOX
- CONCRETE PAD FOR TRANSFORMER
- CONIFEROUS TREE
- DECIDUOUS TREE
- EDGE OF GRAVEL
- EDGE OF LAKE
- CREEK CENTERLINE
- APPROXIMATE LOCATION CULVERT
- POWER CONDUIT
- TELECOMMUNICATIONS CONDUIT

Point #	Elevation	Northing	Easting	Description
33	265.15	621044.67	866592.01	Set Hub and Tack
105	149.94	621128.85	868121.25	Set Hub and Tack
102	125.73	621800.39	868477.66	Found Spike
110	154.54	621129.64	867957.80	Set Hub and Tack
103	131.27	621458.24	868613.86	Found Spike
106	150.33	621106.42	868148.26	Set Hub and Tack
107	142.17	621244.78	868291.57	Set PKNail w/Flasher
109	162.70	621111.03	867916.29	Set PKNail w/Flasher
111	133.67	621298.78	868333.32	Set Hub and Tack

SURVEYOR'S NOTES

INTENDED USE OF MAP FOR CIVIL ENGINEERING DESIGN

CONTOURS DERIVED FROM DIRECT FIELD OBSERVATIONS

NATIONAL MAPPING STANDARDS. ONE-HALF THE CONTOUR INTERVAL

THIS IS NOT A BOUNDARY SURVEY

NO UTILITIES LOCATES PERFORMED ON THIS SURVEY

SURVEY PERFORMED WITH A 3" TOTAL STATION AND/OR GNSS RECEIVE USING FIELD TRAVERSE, GNSS BASED RELATIVE STATIC AND/OR REAL TIME KINEMATIC SURVEY METHODS. SURVEY MEETS OR EXCEEDS ACCURACY REQUIREMENTS CONTAINED IN WAC 332.130.090

SURVEY WORK PERFORMED IN JULY OF 2022

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

SHEET 4 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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MATTHEW THOMAS MISKOVIC
STATE OF WASHINGTON
44712
REGISTERED
PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

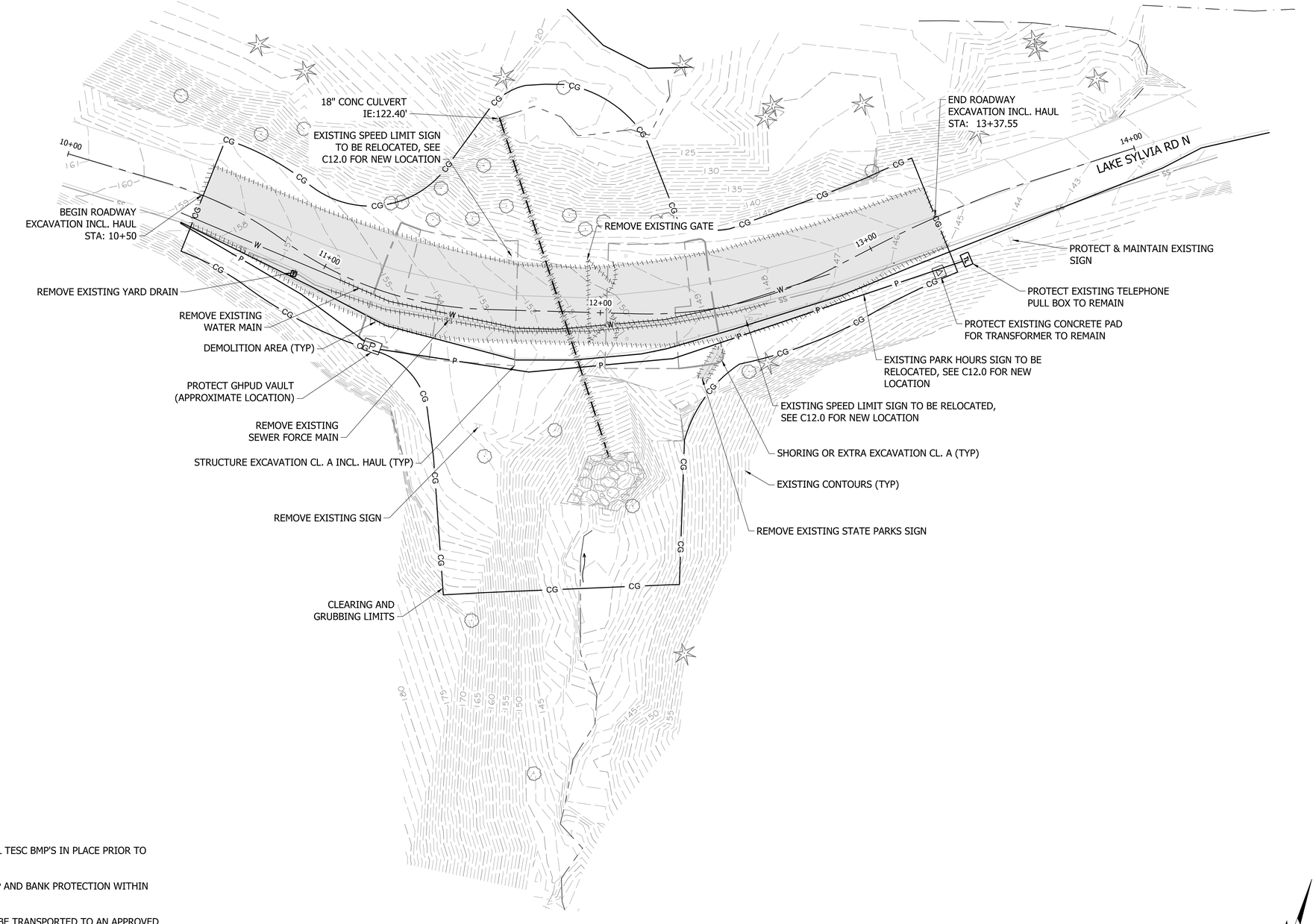
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

SURVEY/EXISTING CONDITIONS C2.0

SCALE
20'
0 40'

PARKS FILE#



SITE PREP & DEMO PLAN

DEMO NOTES:

1. CONTRACTOR SHALL HAVE ALL TESC BMP'S IN PLACE PRIOR TO CONSTRUCTION.
2. REMOVE ALL EXISTING RIPRAP AND BANK PROTECTION WITHIN EXCAVATION LIMITS.
3. EXCAVATED MATERIAL SHALL BE TRANSPORTED TO AN APPROVED WASTE SITE.
4. STATE PARK ENTRANCE SIGN AND GATE OVER CROSSING TO BE REMOVED. SEE SHEET C12.0 FOR NEW SIGN LOCATION.
5. ALL RELOCATED SIGNS SHALL INCLUDE NEW SIGN SUPPORTS PER WSDOT STANDARD PLAN G-22.10-04.
6. SEE SHEET C3.1 FOR TREE REMOVAL PLAN.

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

SHEET 5 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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MATTHEW THOMAS MISSOTTEN
STATE OF WASHINGTON
44712
REGISTERED
PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

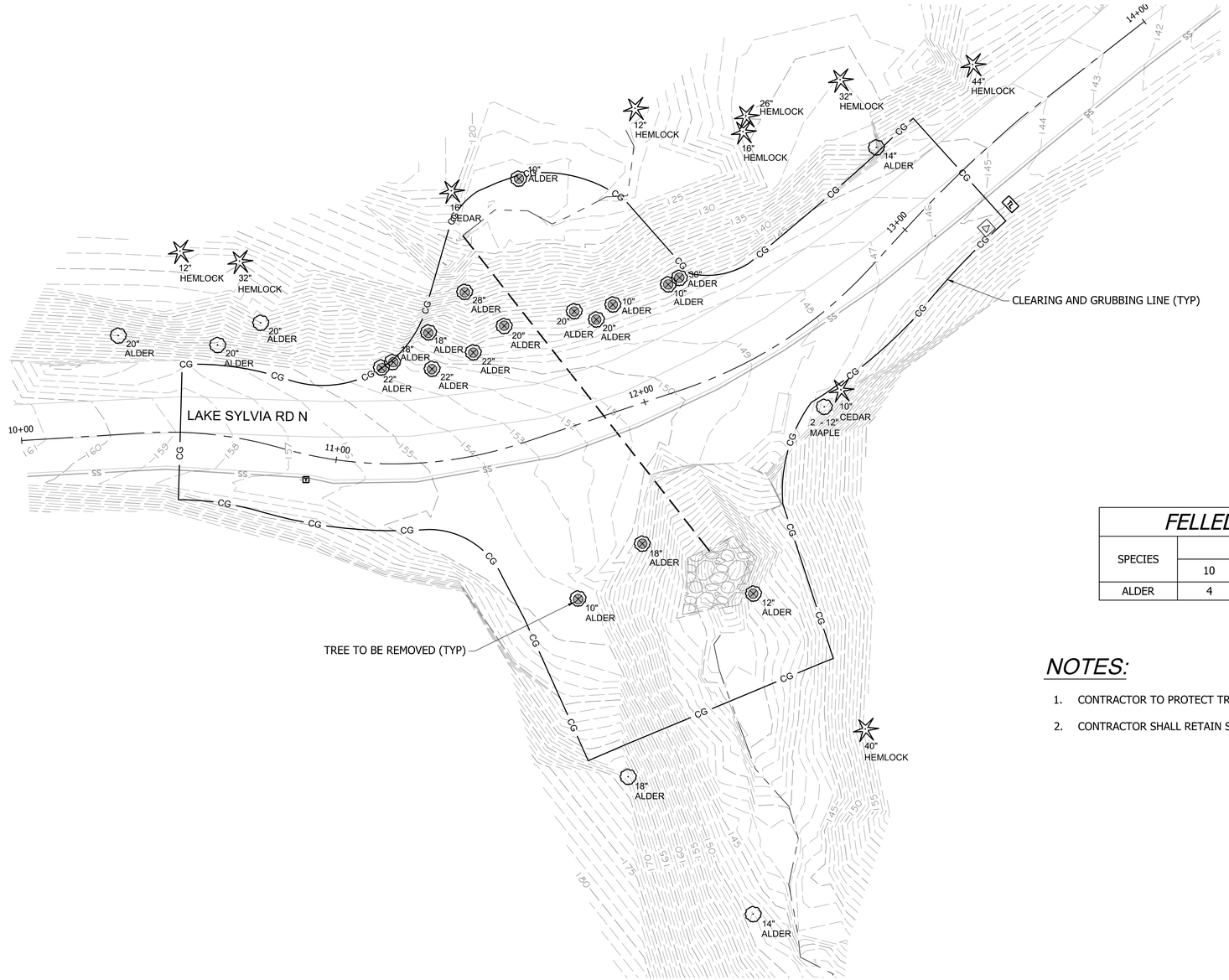
LAKE SYLVIA
STATE PARK

CULVERT
REPLACEMENT

SITE PREP & DEMO
PLAN
C3.0

SCALE
20'
0 40'

PARKS FILE#



TREE REMOVAL PLAN

FELLED TREES INSIDE CLEARING LIMITS

SPECIES	DBH (IN)							SUM
	10	12	18	20	22	28	30	
ALDER	4	1	3	3	3	1	1	16

NOTES:

1. CONTRACTOR TO PROTECT TREES TO REMAIN.
2. CONTRACTOR SHALL RETAIN SIX CUT TREES TO BE REUSED AS LWM ON SITE.

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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MATTHEW THOMAS MISOVIC
STATE OF WASHINGTON
44712
REGISTERED PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

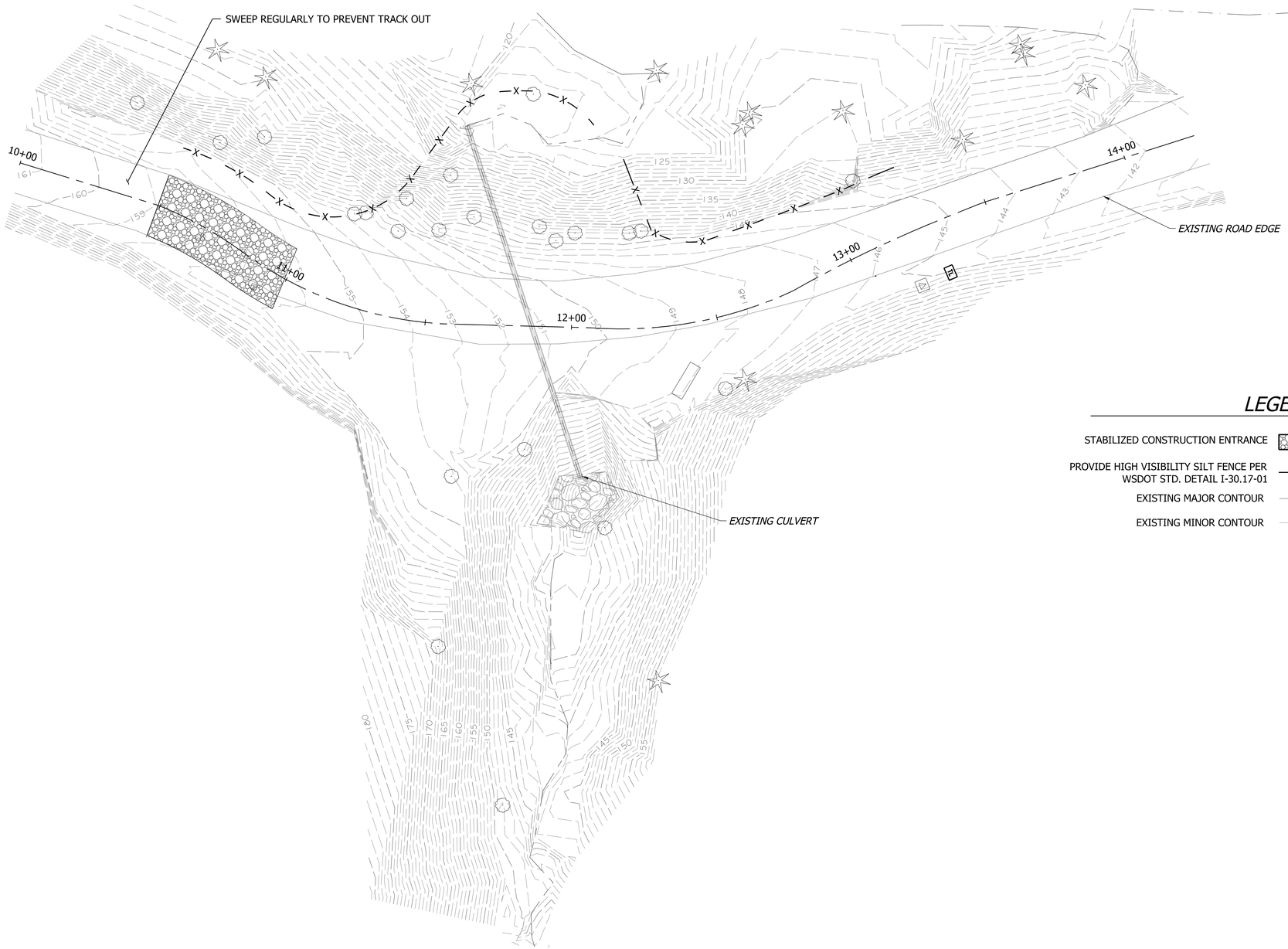
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

TREE REMOVAL PLAN
C3.1

SCALE
20'
0 40'

PARKS FILE#



TESC PLAN

LEGEND

STABILIZED CONSTRUCTION ENTRANCE — 1 / 6 | 7

PROVIDE HIGH VISIBILITY SILT FENCE PER WSDOT STD. DETAIL I-30.17-01 —X—

EXISTING MAJOR CONTOUR — XX —

EXISTING MINOR CONTOUR ———

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

SHEET 7 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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MATTHEW THOMAS MISOVIC — STATE OF WASHINGTON — 44712 — REGISTERED PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

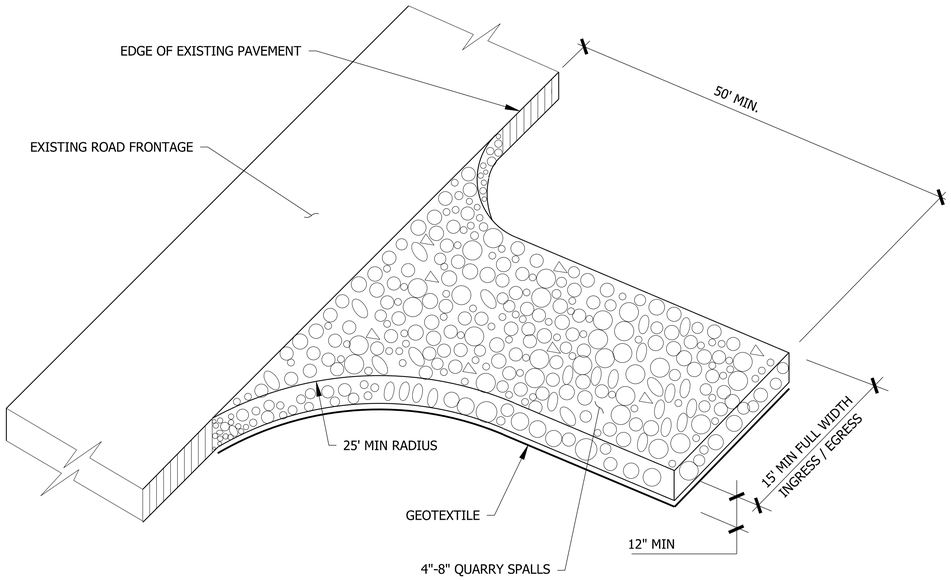
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

TESC PLAN C4.0

SCALE 20' — 0 — 40'

PARKS FILE#



1 STABILIZED CONSTRUCTION ENTRANCE

CONSTRUCTION ENTRANCE NOTES:

1. MATERIAL SHALL BE 4 INCH TO 8 INCH QUARRY SPALLS AND MAY BE TOP-DRESSED WITH 1 INCH TO 3 INCH ROCK. (STATE STANDARD SPECIFICATIONS, SECTION 8-15.)
2. THE ROCK PAD SHALL BE AT LEAST 12 INCHES THICK AND 50 FEET LONG. WIDTH SHALL BE THE FULL WIDTH OF THE VEHICLE INGRESS AND EGRESS AREA.
3. ADDITIONAL ROCK SHALL BE ADDED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF THE PAD.
4. IF THE PAD DOES NOT ADEQUATELY REMOVE THE MUD FROM THE VEHICLE WHEELS, THE WHEELS SHALL BE HOSED OFF BEFORE THE VEHICLE ENTERS A PAVED STREET. THE WASHING SHALL BE DONE ON AN AREA COVERED WITH CRUSHED ROCK AND WASH WATER SHALL DRAIN TO A SEDIMENT RETENTION FACILITY OR THROUGH A SILT FENCE.

TESC NOTES

1. EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE BEGINNING OF CONSTRUCTION. THE PROJECT ENGINEER INSPECT AND APPROVE THE INSTALLATION OF EROSION CONTROL MEASURES PRIOR TO BEGINNING CONSTRUCTION.
2. EROSION CONTROL MEASURES ARE NOT LIMITED TO THE ITEMS ON THIS PLAN. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES. NO SILTATION OF EXISTING OR PROPOSED DRAINAGE FACILITIES SHALL BE ALLOWED. CARE SHALL BE TAKEN TO PREVENT MIGRATION OF SILTS TO OFF-SITE PROPERTIES.
3. THE CONTRACTOR SHALL MAKE DAILY OBSERVATION OF ALL EROSION CONTROL MEASURES AND MAKE ANY NECESSARY REPAIRS OR ADDITIONS TO THE EROSION CONTROL MEASURES. THE CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION CONTROL MEASURES AS DETERMINED NECESSARY BY THE PROJECT ENGINEER.
4. DURING THE WET SEASON, NOVEMBER TO MARCH, ALL DISTURBED SOILS SHALL BE STABILIZED WITHIN 48 HOURS AFTER STOP OF WORK. EROSION CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, COVERING THE EFFECTED AREA, INCLUDING SPOIL PILES, WITH PLASTIC SHEETING, STRAW MATTING, JUTE MATTING, STRAW MULCH, OR WOOD CHIPS. SEEDING OF THE DISTURBED AREAS SHALL TAKE PLACE AS WEATHER PERMITS.
5. ALL SEEDED OR SODDED AREAS SHALL BE CHECKED REGULARLY TO MAKE SURE VEGETATIVE COVERAGE IS COMPLETE. AREAS SHALL BE REPAIRED, RESEEDED, AND FERTILIZED AS REQUIRED.
6. TRACKING OF SOIL OFF-SITE WILL NOT BE ALLOWED. IF ANY SOIL IS TRACKED ONTO A PUBLIC STREET IT SHALL BE REMOVED BY THE END OF THAT WORKING DAY. ANY FURTHER TRACKING OF MUD SHALL THEN BE PREVENTED BY SWEEPING OR WASHING OF THE VEHICLE'S TIRES BEFORE DRIVING ON A PUBLIC STREET.
7. NO MORE THAN 500 LF OF TRENCH ON A DOWNSLOPE OF MORE THAN 5% SHALL BE OPENED AT ONE TIME.
8. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
9. TRENCH DEWATERING DEVICES SHALL BE DISCHARGED IN A MANNER THAT WILL NOT ADVERSELY AFFECT FLOWING STREAMS, DRAINAGE SYSTEMS, OR OFF-SITE PROPERTIES.
10. ALL STORM SEWER INLETS RECEIVING RUNOFF FROM THE PROJECT DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER WILL BE FILTERED BEFORE ENTERING THE CONVEYANCE SYSTEM.
11. ALL OFF-SITE CATCH BASINS IMMEDIATELY ADJACENT TO THE SITE SHALL BE PROTECTED FROM SILTATION.
12. ALL DISTURBED AREAS SHALL BE SEEDED OR SODDED UPON COMPLETION OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT COMPLETE COVERAGE OF THE DISTURBED AREAS IS PROVIDED & THAT GROWTH OF THE VEGETATION IS MAINTAINED.
13. THESE PLANS ARE FOR GRADING AND EROSION CONTROL ONLY. REFER TO OTHER PLAN SHEETS FOR DESIGN, SIZING, CONFIGURATION, AND / OR ELEVATIONS RELATED TO OTHER IMPROVEMENTS.

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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MATTHEW THOMAS MISKOVIC
STATE OF WASHINGTON
44712
REGISTERED
PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

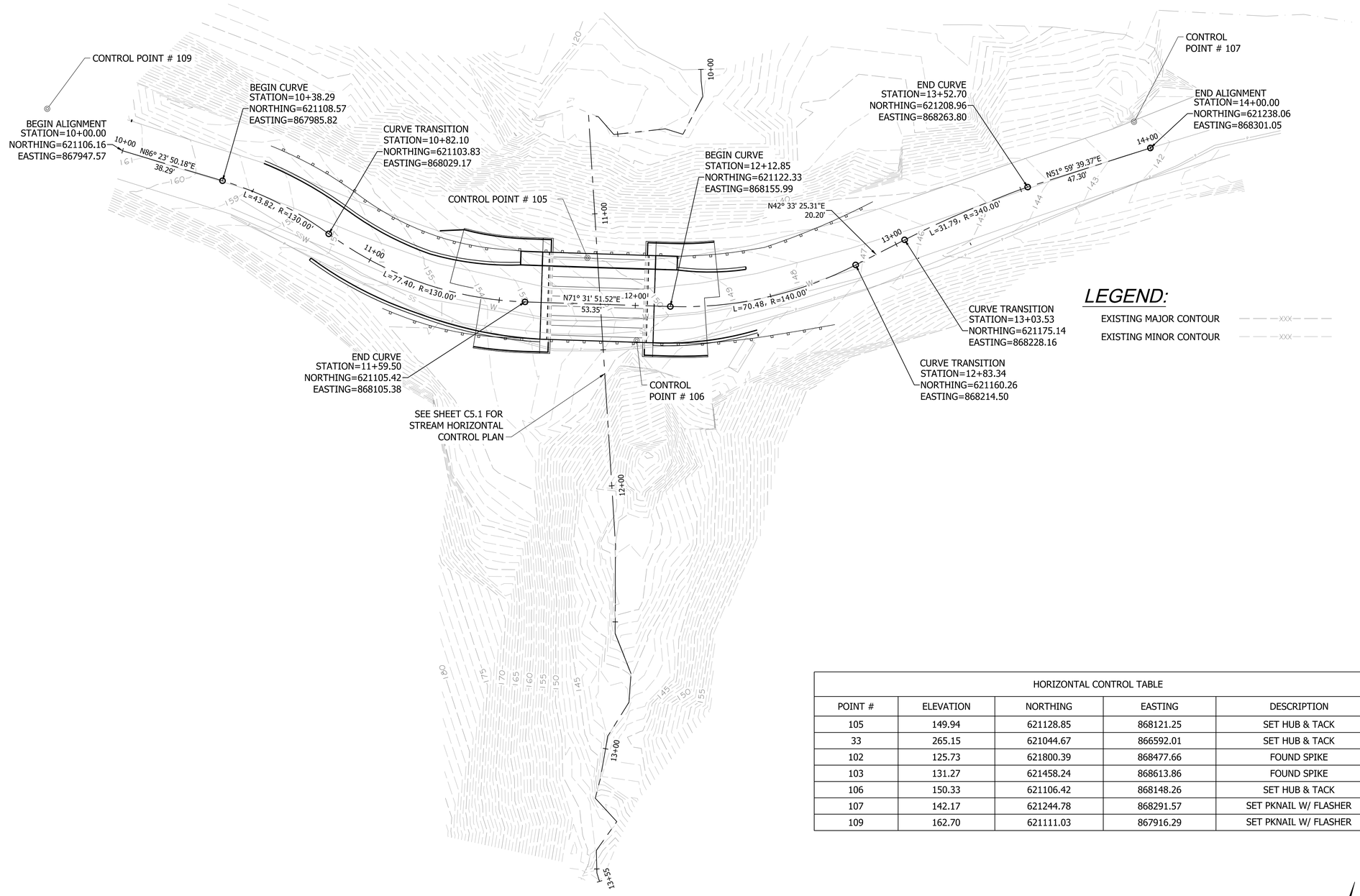
CULVERT REPLACEMENT

TESC NOTES C4.1

SCALE

NONE

PARKS FILE#



HORIZONTAL CONTROL PLAN

HORIZONTAL CONTROL TABLE				
POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
105	149.94	621128.85	868121.25	SET HUB & TACK
33	265.15	621044.67	866592.01	SET HUB & TACK
102	125.73	621800.39	868477.66	FOUND SPIKE
103	131.27	621458.24	868613.86	FOUND SPIKE
106	150.33	621106.42	868148.26	SET HUB & TACK
107	142.17	621244.78	868291.57	SET PKNAIL W/ FLASHER
109	162.70	621111.03	867916.29	SET PKNAIL W/ FLASHER

LEGEND:

EXISTING MAJOR CONTOUR

EXISTING MINOR CONTOUR

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

SHEET 9 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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DESIGNED	SDS	02/23/24
DRAWN	CM/AB	02/23/24
CHECKED (FIELD)		
CHECKED (HDQTS.)		

STRATEN DENNIS SCHMITZ
STATE OF WASHINGTON
48228
REGISTERED
PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

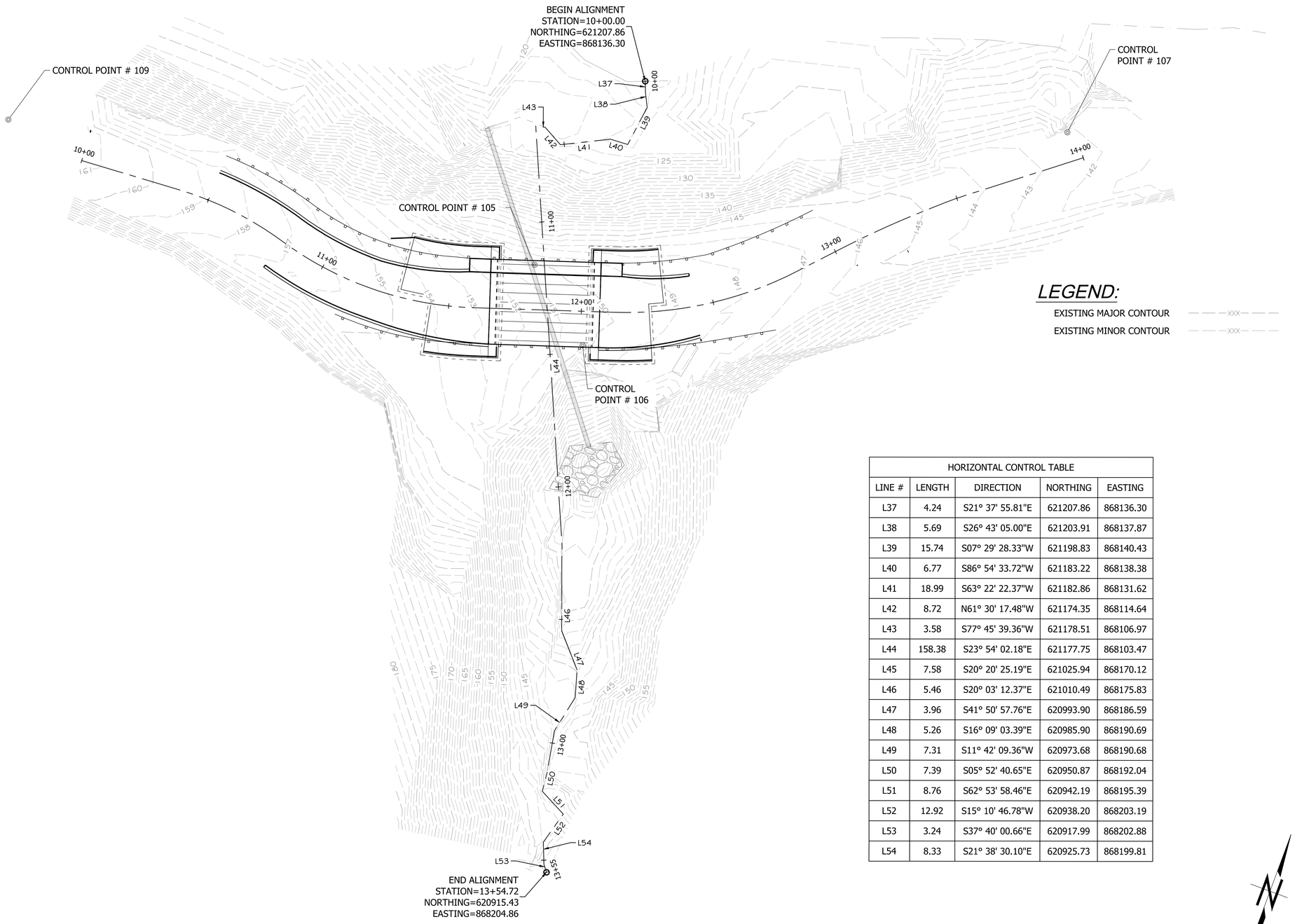
LAKE SYLVIA
STATE PARK

CULVERT
REPLACEMENT

ROAD HORIZONTAL
CONTROL PLAN
C5.0

SCALE
20'
0 40'

PARKS FILE#



STREAM HORIZONTAL CONTROL PLAN

LEGEND:

EXISTING MAJOR CONTOUR ——— XXX ———

EXISTING MINOR CONTOUR ——— XXX ———

HORIZONTAL CONTROL TABLE

LINE #	LENGTH	DIRECTION	NORTHING	EASTING
L37	4.24	S21° 37' 55.81"E	621207.86	868136.30
L38	5.69	S26° 43' 05.00"E	621203.91	868137.87
L39	15.74	S07° 29' 28.33"W	621198.83	868140.43
L40	6.77	S86° 54' 33.72"W	621183.22	868138.38
L41	18.99	S63° 22' 22.37"W	621182.86	868131.62
L42	8.72	N61° 30' 17.48"W	621174.35	868114.64
L43	3.58	S77° 45' 39.36"W	621178.51	868106.97
L44	158.38	S23° 54' 02.18"E	621177.75	868103.47
L45	7.58	S20° 20' 25.19"E	621025.94	868170.12
L46	5.46	S20° 03' 12.37"E	621010.49	868175.83
L47	3.96	S41° 50' 57.76"E	620993.90	868186.59
L48	5.26	S16° 09' 03.39"E	620985.90	868190.69
L49	7.31	S11° 42' 09.36"W	620973.68	868190.68
L50	7.39	S05° 52' 40.65"E	620950.87	868192.04
L51	8.76	S62° 53' 58.46"E	620942.19	868195.39
L52	12.92	S15° 10' 46.78"W	620938.20	868203.19
L53	3.24	S37° 40' 00.66"E	620917.99	868202.88
L54	8.33	S21° 38' 30.10"E	620925.73	868199.81

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

SHEET 10 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	SDS	02/23/24
DRAWN	CM/AB	02/23/24
CHECKED (FIELD)		
CHECKED (HDQTS.)		

STEVEN DENNIS SCHMITZ
STATE OF WASHINGTON
48228
REGISTERED
PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

STREAM HORIZONTAL CONTROL PLAN
C5.1

SCALE
20'
0 40'

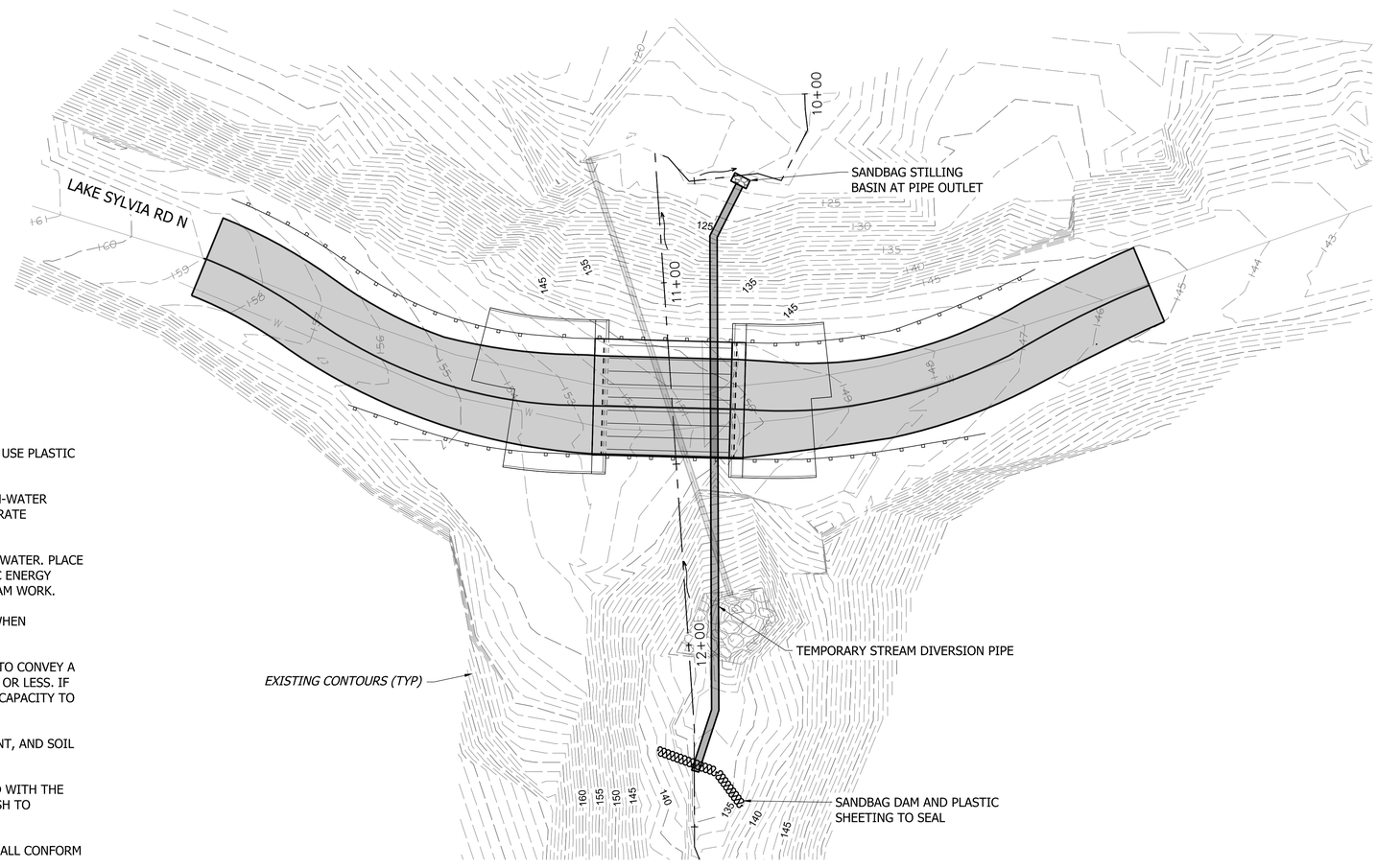
PARKS FILE#

CONSTRUCTION SEQUENCE:

1. INSTALL STREAM DIVERSION PIPE AND DAM OR CUTOFF WALL.
2. REMOVE EXISTING CULVERTS AND ASSOCIATED EMBANKMENT.
3. CONSTRUCT STREAM AND INSTALL STRUCTURE PER STRUCTURAL SHEETS.
4. SLOWLY RETURN STREAM FLOW TO RESTORED CHANNEL, MINIMIZING SEDIMENTATION.
5. REMOVE STREAM DIVERSION PIPE.

NOTES:

1. PLACE SAND BAGS FIRMLY AGAINST GROUND LINE AND ADJACENT SAND BAGS. USE PLASTIC SHEETING TO PROVIDE SEAL.
2. METHOD OF PLACEMENT AND REMOVAL OF DAMS, DIVERSION PIPE, AND ALL IN-WATER ITEMS SHALL BE APPROVED BY THE ENGINEER. CONTRACTOR SHALL DEMONSTRATE EFFECTIVENESS OF THE DAM AND DIVERSION PIPE AND MAINTAIN AS NEEDED.
3. DIVERSION OUTFALL SHALL BE PLACED TO MINIMIZE THE ENERGY OF FALLING WATER. PLACE OUTFALL AS CLOSE TO GROUND ELEVATION AS FEASIBLE. PROVIDE HYDRAULIC ENERGY DISSIPATION SYSTEM. OUTFALL SHALL BE REMOVED AT COMPLETION OF STREAM WORK.
4. ALL SAND BAGS AND PLASTIC SHEETING SHALL BE REMOVED FROM THE SITE WHEN DIVERSION IS REMOVED.
5. GRAVITY DIVERSION SYSTEM, IF USED BY THE CONTRACTOR, SHALL BE SIZED TO CONVEY A MINIMUM OF 2.5 CFS WITH A HEADWATER TO DIAMETER (HW/D) RATIO OF 0.5 OR LESS. IF PUMP IS USED, THE CONTRACTOR SHALL USE PUMPING EQUIPMENT OF EQUAL CAPACITY TO THE MINIMUM FLOW RATE OF A GRAVITY PIPE.
6. IF STREAM DIVERSION PIPE IS BORED, ALL SLURRY, DRILLING FLUID, LUBRICANT, AND SOIL DISCHARGE SHALL BE COLLECTED AND NOT ALLOWED TO ENTER THE STREAM.
7. STREAM DIVERSION PUMP SCREEN INTAKES, IF USED, SHALL BE BACKWATERED WITH THE PLACEMENT OF THE DOWNSTREAM TEMPORARY ISOLATION DAM TO ALLOW FISH TO VOLITIONALLY AVOID THE INTAKE SCREEN AND PREVENT IMPINGEMENT.
8. CONTRACTOR'S TEMPORARY STREAM DIVERSION PLAN AND EFFECTIVENESS SHALL CONFORM TO PERMIT REQUIREMENTS.



TEMPORARY STREAM DIVERSION PLAN

TSD PLANS ARE CONCEPTUAL DESIGN FOR REFERENCE ONLY. CONTRACTOR TO PROVIDE FINAL DESIGN.

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

SHEET 11 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	MTM	02/23/24
DRAWN	KMS	02/23/24
CHECKED (FIELD)		
CHECKED (HDQTS.)		

MATTHEW THOMAS MISKOVIC
STATE OF WASHINGTON
44712
REGISTERED PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

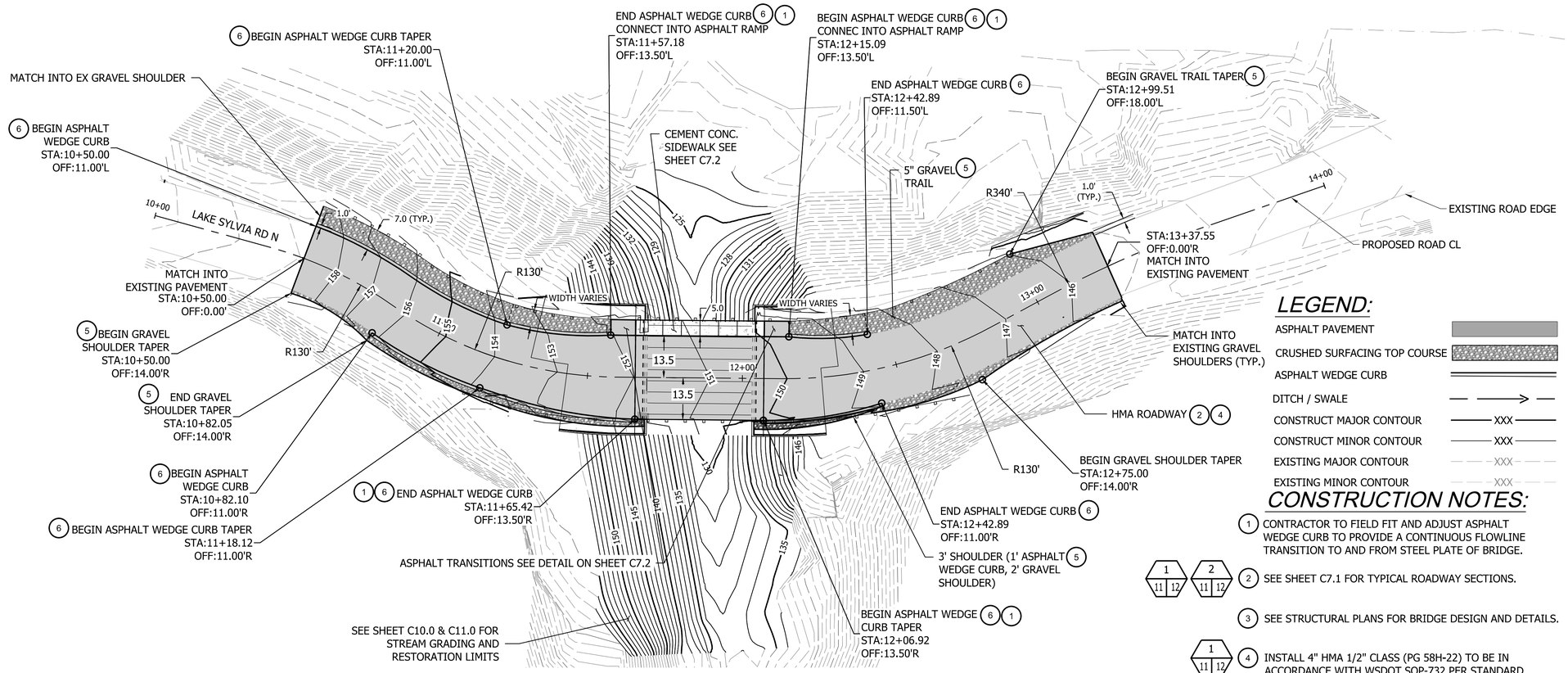
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

TEMPORARY STREAM DIVERSION PLAN C6.0

SCALE
20'
0 40'

PARKS FILE#



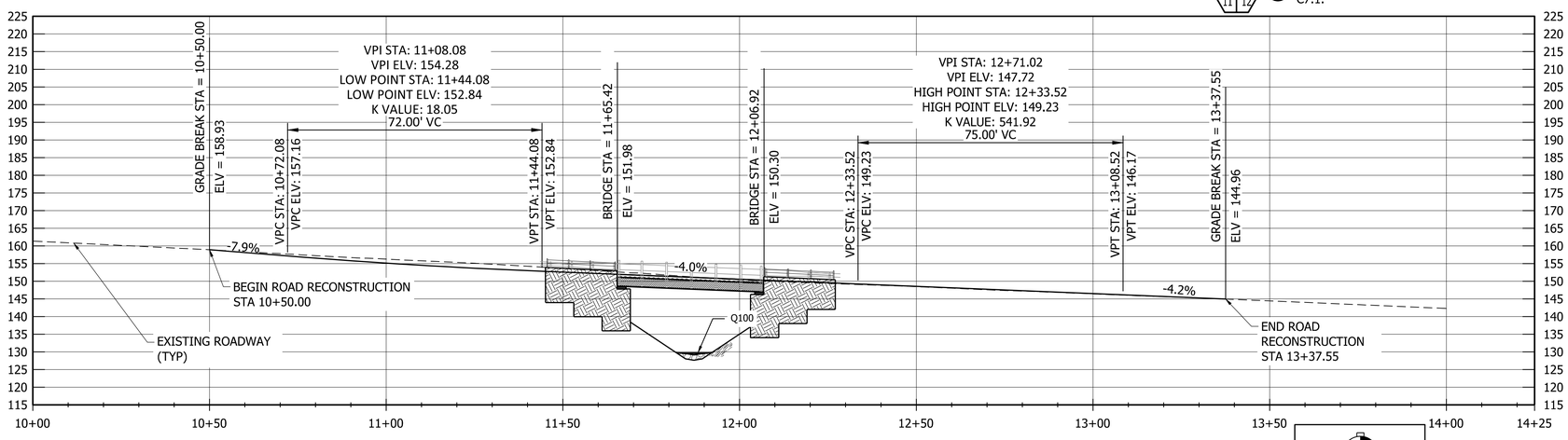
ROADWAY PLAN

LEGEND:

- ASPHALT PAVEMENT
- CRUSHED SURFACING TOP COURSE
- ASPHALT WEDGE CURB
- DITCH / SWALE
- CONSTRUCT MAJOR CONTOUR — XXX
- CONSTRUCT MINOR CONTOUR — XXX
- EXISTING MAJOR CONTOUR — XXX
- EXISTING MINOR CONTOUR — XXX

CONSTRUCTION NOTES:

1. CONTRACTOR TO FIELD FIT AND ADJUST ASPHALT WEDGE CURB TO PROVIDE A CONTINUOUS FLOWLINE TRANSITION TO AND FROM STEEL PLATE OF BRIDGE.
2. SEE SHEET C7.1 FOR TYPICAL ROADWAY SECTIONS.
3. SEE STRUCTURAL PLANS FOR BRIDGE DESIGN AND DETAILS.
4. INSTALL 4" HMA 1/2" CLASS (PG 58H-22) TO BE IN ACCORDANCE WITH WSDOT SOP-732 PER STANDARD SPECIFICATIONS SECTION 5-04.
5. INSTALL 3" DEPTH OF 1/2" CRUSHED SURFACING TOP COURSE PER WSDOT STANDARD SPECIFICATION 9-03.9(3).
6. INSTALL 3"x12" HMA WEDGE CURB SEE DETAIL A ON SHEET C7.1.



ROADWAY PROFILE

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

SHEET 12 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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ACTION	BY	DATE
DESIGNED	SDS	02/23/24
DRAWN	CM/AB	02/23/24
CHECKED (FIELD)		
CHECKED (HDQTS.)		

STEVEN DENNIS SCHMITZ — STATE OF WASHINGTON — 48228 — REGISTERED PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

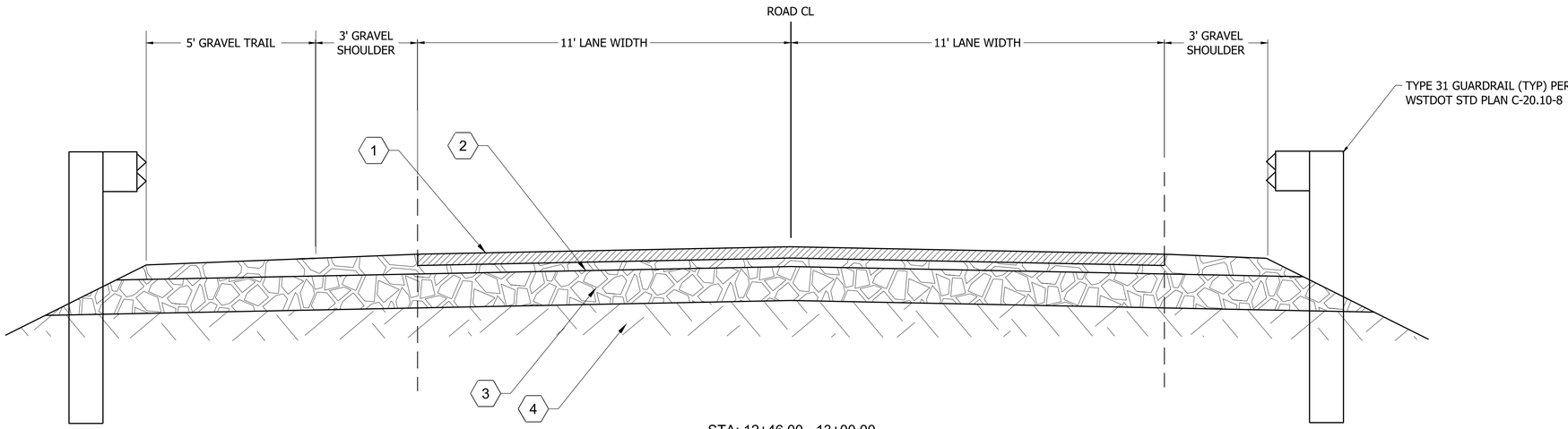
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

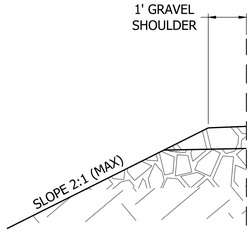
ROADWAY PLAN & PROFILE
C7.0

SCALE
20'
0 40'

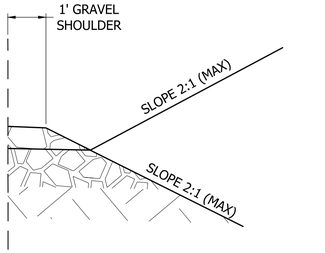
PARKS FILE#



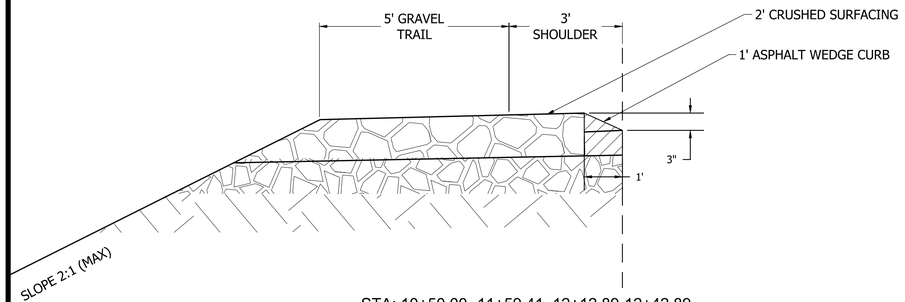
STA: 12+46.00 - 13+00.00
ROADWAY TYPICAL SECTION
SCALE: 1" = 2'



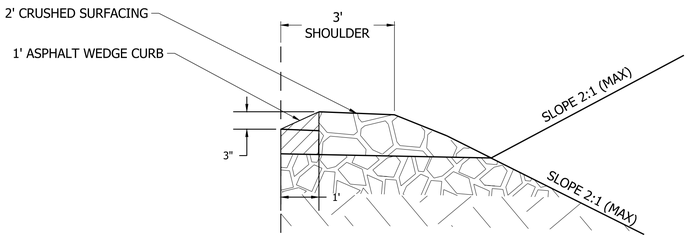
STA: 12+42.89-13+37.55
SHOULDER SECTION



STA: 10+50.00-10+82.10, 12+75.00-13+37.55
SHOULDER SECTION



STA: 10+50.00 -11+59.41, 12+12.89-12+42.89
SHOULDER SECTION



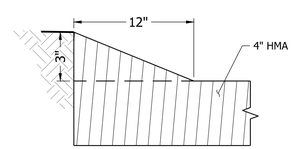
STA: 10+82.10-11+65.42, 12+06.92-12+42.89
SHOULDER SECTION

LEGEND:

1. 4" DEPTH COMPACTED HMA CLASS 1/2" (PG 58H-22) PER STANDARD SPECIFICATIONS SECTION 5-04.
2. 3" DEPTH COMPACTED 1/2" CSTC PER WSDOT STANDARD SPEC 9-03.9(3) & WSDOT SOP 606.
3. 12" DEPTH COMPACTED NO.4 CSBC PER WSDOT STANDARD SPEC 9-03.9(3) & WSDOT SOP 606.
4. GRAVEL BORROW INCL. HAUL PER WSDOT STANDARD SPECIFICATION 9-03.14 (2) OR NATIVE MATERIAL COMPACTED TO 95% COMPACTION.

CONSTRUCTION NOTES:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE STATE OF WASHINGTON STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION (WSDOT/APWA). IN MOST CASES OF CONFLICT, THE MOST STRINGENT STANDARD SHALL APPLY.
2. THE CONTRACTOR SHALL BE IN COMPLIANCE WITH ALL SAFETY STANDARDS AND REQUIREMENTS AS SET FORTH BY OSHA, WISHA AND THE STATE OF WASHINGTON, DEPARTMENT OF LABOR AND INDUSTRIES.
3. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT 811 NOT LESS THAN TWO BUSINESS DAYS AND NOT MORE THAN 10 BUSINESS DAYS PRIOR TO ANY EXCAVATION. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR MAINTAINING ALL LOCATE MARKS ONCE THE UTILITIES HAVE BEEN LOCATED.
4. EROSION CONTROL/WATER POLLUTION MEASURES SHALL BE REQUIRED IN ACCORDANCE WITH SECTION 1-07.15 OF THE WSDOT/APWA STANDARDS SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION. AT NO TIME WILL SILTS OR DEBRIS BE ALLOWED TO DRAIN INTO AN EXISTING OR NEWLY INSTALLED FACILITY.
5. ANY CHANGES TO THE DESIGN SHALL FIRST BE REVIEWED AND APPROVED IN WRITING BY THE PROJECT ENGINEER.
6. ALL GUARDRAIL, POSTS, BLOCKS, AND TERMINALS SHALL HAVE AESTHETIC TREATMENT PER 8-11 OF THE SPECIAL PROVISIONS.



A ASPHALT WEDGE CURB
SCALE: NTS

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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CHECKED (FIELD)		
CHECKED (HDQTS.)		

STEVEN DENNIS SCHMITZ
STATE OF WASHINGTON
48228
REGISTERED PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

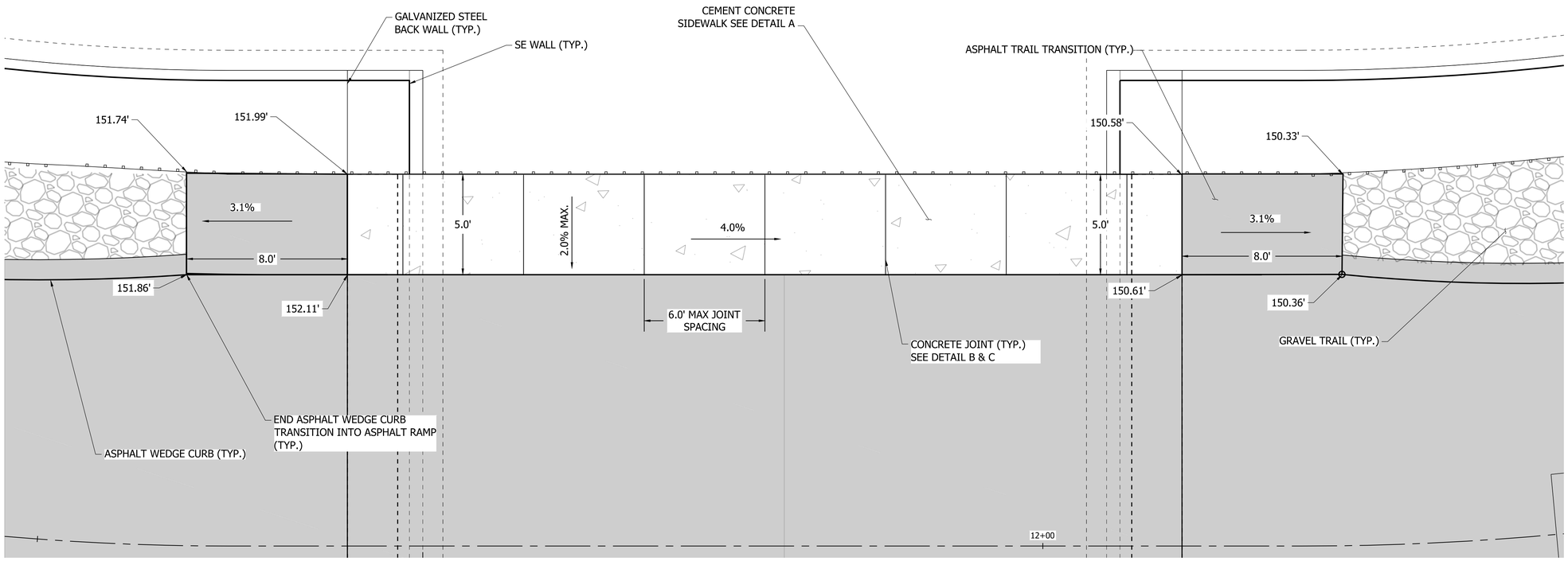
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

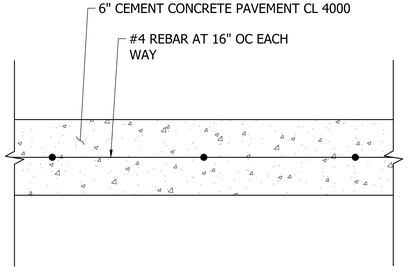
ROADWAY TYPICAL SECTION
C7.1

SCALE
2'
0 4'

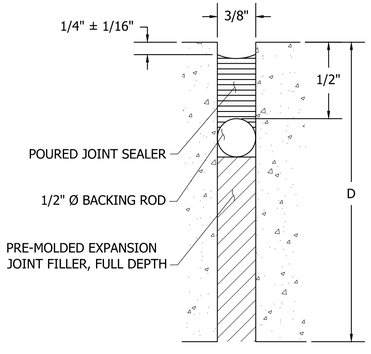
PARKS FILE#



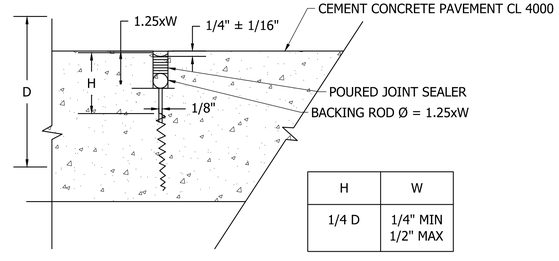
ASPHALT TRANSITIONS DETAIL



A CEMENT CONCRETE SIDEWALK SECTION
SCALE: NTS



B CONCRETE ISOLATION JOINT
SCALE: NTS



H	W
1/4 D	1/4" MIN 1/2" MAX

C CONCRETE CONTROL JOINT
SCALE: NTS

NOTES:

1. CONTROL JOINTS TO BE PLACED AT 10' SPACING MAX.
2. ISOLATION JOINTS SHALL BE PLACED ALONG THE PERIMETER OF THE CONCRETE SIDEWALK.

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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STEVEN DENNIS SCHMITZ — STATE OF WASHINGTON — 48228 — REGISTERED PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

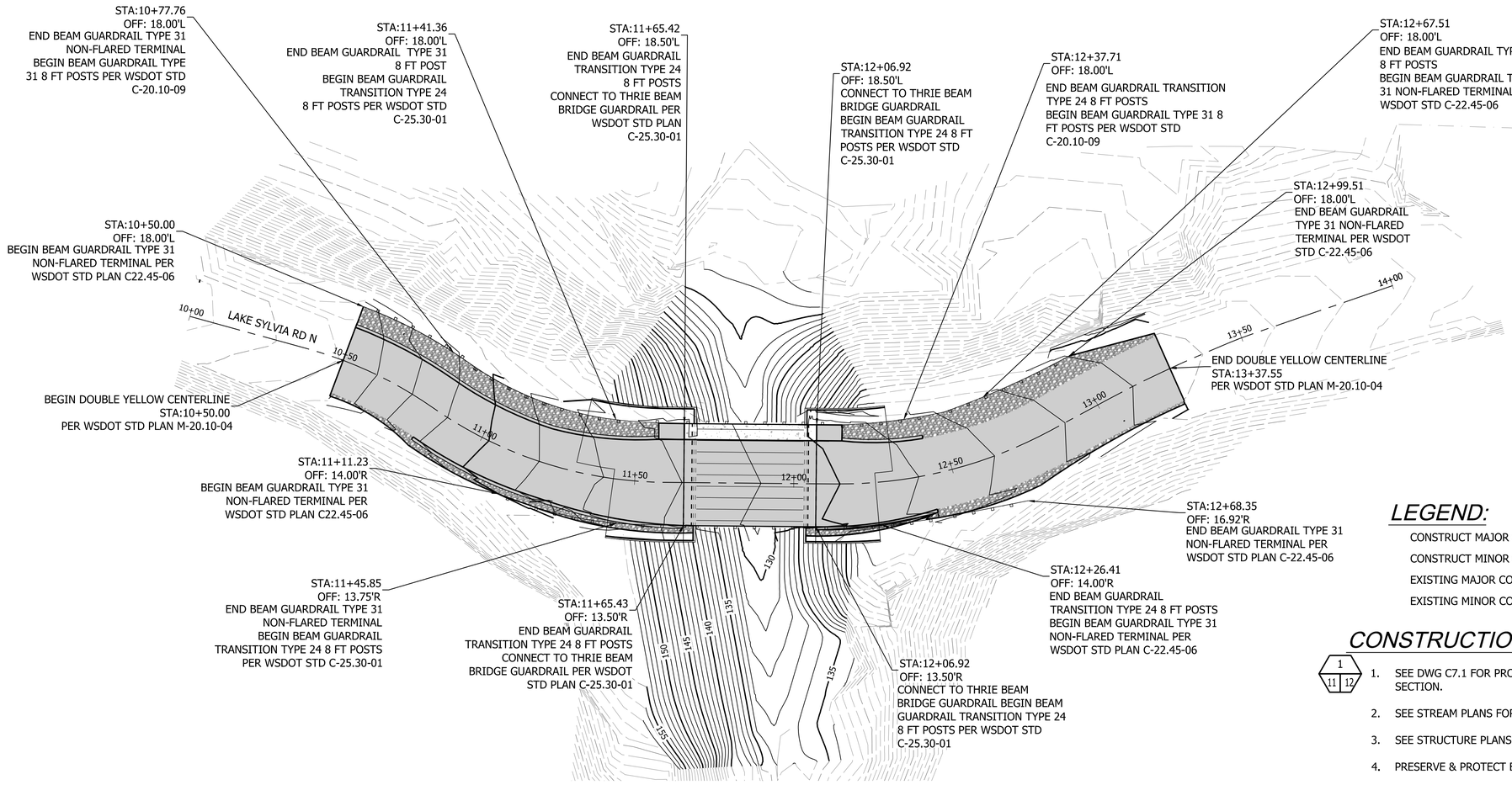
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

ROADWAY DETAILS C7.2

SCALE 3' 0 6'

PARKS FILE#



GUARDRAIL PLAN

LEGEND:

- CONSTRUCT MAJOR CONTOUR ——— XXX ———
- CONSTRUCT MINOR CONTOUR ——— XXX ———
- EXISTING MAJOR CONTOUR — — XXX — —
- EXISTING MINOR CONTOUR — — XXX — —

CONSTRUCTION NOTES:

1. SEE DWG C7.1 FOR PROPOSED ROADWAY TYPICAL SECTION.
2. SEE STREAM PLANS FOR STREAM DETAILS.
3. SEE STRUCTURE PLANS FOR STRUCTURE DETAILS.
4. PRESERVE & PROTECT EXISTING UTILITIES.
5. GUARDRAIL, POSTS, BLOCKS, & TERMINALS SHALL HAVE AESTHETIC TREATMENT PER SECTION 8-11 OF THE SPECIAL PROVISIONS.
6. ALL STATION & OFFSETS ARE TO FACE OF RAIL.

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

SHEET 15 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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STEVEN DENNIS SCHMITZ
STATE OF WASHINGTON
48228
REGISTERED PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

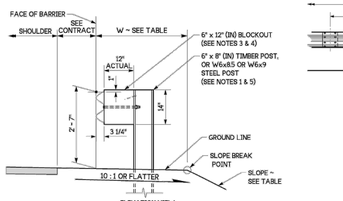
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

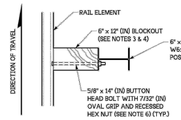
GUARDRAIL & STRIPING PLAN C7.3

SCALE 20' 0 40'

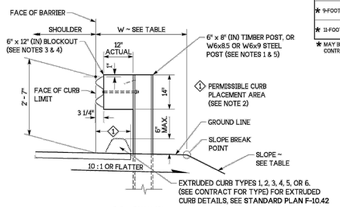
PARKS FILE#



TYPICAL ELEVATION ~ WITHOUT CURB

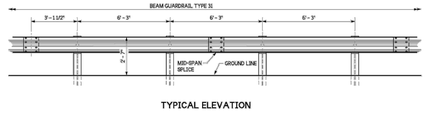


PLAN VIEW

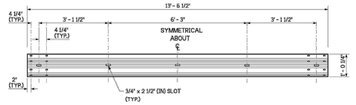


EXTRUDED CURB TYPES 1, 2, 3, 4, 5, OR 6. (SEE CONTRACT FOR TYPE) FOR EXTRUDED CURB DETAILS, SEE STANDARD PLAN F-10.42

TYPICAL SECTION ~ WITH CURB



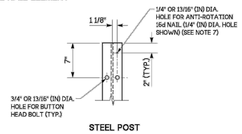
TYPICAL ELEVATION



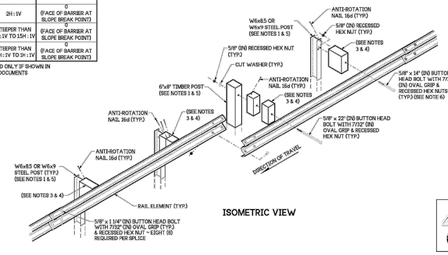
TYPICAL RAIL ELEMENT

SLOPE/EMBANKMENT TABLE FOR 6', 8', 9', AND 11' LONG POSTS		
POST LENGTH	SLOPE	W (FT)
6-FOOT	2H : 1V OR FLATTER	2.5 MIN.
6-FOOT	3H : 1V OR FLATTER	4.0 MIN.
8-FOOT	STEEPER THAN 3H : 1V TO 3H : 1V	2.5 MIN.
8-FOOT	2H : 1V	0' (FACE OF BARRIER AT SLOPE BREAK POINT)
★ 9-FOOT	STEEPER THAN 2H : 1V TO 1.5H : 1V	0' (FACE OF BARRIER AT SLOPE BREAK POINT)
★ 11-FOOT	STEEPER THAN 1.5H : 1V TO 3H : 1V	0' (FACE OF BARRIER AT SLOPE BREAK POINT)

★ MAY BE USED ONLY IF SHOWN IN CONTRACT DOCUMENTS



STEEL POST



ISOMETRIC VIEW

NOTES

1. Refer to **Standard Plan C-1b** for additional details not shown on this plan.
2. Extend shoulder pavement to provide a base for the extruded curb. See Contract Plans for exceptions to distances shown.
3. Use a single block or combination of blocks (no more than two (2) to achieve the actual 12" (in) offset. See **Standard Specification Section 9-16.3(2)**. Wood blocks shall be secured to the posts with anti-rotation nails. If combination blocks are used, the adjacent blocks shall be toenailed with two 16d galvanized nails to prevent block rotation.
4. Wood blocks are shown. Blocks of an approved alternative material may be used. See **Standard Specification Section 9-16.3(2)**.
5. All posts for any standard barrier run shall be of the same type: timber or steel.
6. Attach blockouts to steel posts using bolt holes on approaching traffic side of post web.
7. Anti-rotation holes in steel posts are not required when using blocks with anti-rotation features (e.g., routered blocks).

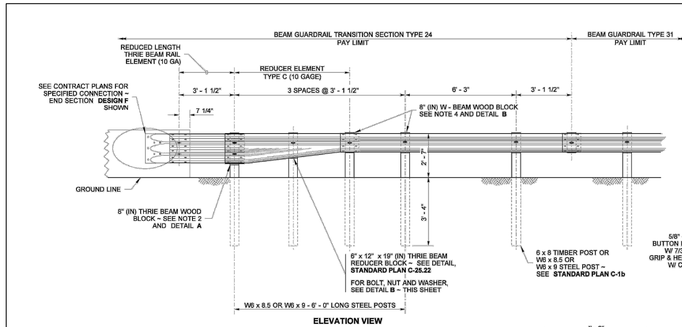
Oct 12, 2023

BEAM GUARDRAIL TYPE 31

STANDARD PLAN C-20.10-09

SHEET 1 OF 1 SHEET

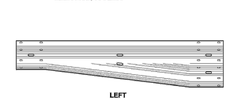
APPROVED FOR PUBLICATION
Mark A Swartz
Oct 12, 2023
STATE DESIGN ENGINEER
Washington State Department of Transportation

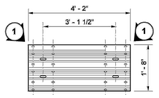


ELEVATION VIEW

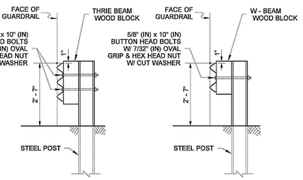
NOTES

1. This guardrail transition is for connection to a vertical concrete shape, a single slope, or a safety-shape barrier. The toe of the single slope and the safety-shape barrier shall be tapered or the barrier blocked out so that the toe of the barrier does not project beyond the face of the approach guardrail.
2. See **Standard Plan C-1b** for thrie beam wood block detail.
3. See **Standard Plan C-20.10** for typical components (nuts,washers and bolts) at splices.
4. See **Standard Plan C-1b** for W-Beam wood block detail.
5. All rail sections shall be lapped in the direction of traffic.
6. See **Standard Plan C-24.10** for details regarding connection to bridge rail or traffic barrier.
7. See **Standard Plans A-50.10,** or **A-50.40** for beam guardrail transition grading details at bridge ends.



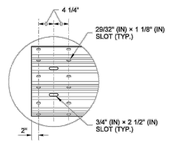


REDUCED LENGTH THRIE-BEAM RAIL ELEMENT 10 GAGE

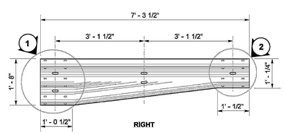


DETAIL A

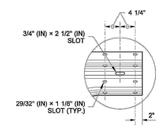
DETAIL B



DETAIL 1



REDUCER ELEMENT TYPE C



DETAIL 2

Aug 17, 2021

BEAM GUARDRAIL (TYPE 31) TRANSITION SECTION TYPE 24 (POSTED SPEED 45 MPH AND BELOW)

STANDARD PLAN C-25.30-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Aug 20, 2021
STATE DESIGN ENGINEER
Washington State Department of Transportation

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	SDS	02/23/24
DRAWN	CM/AB	02/23/24
CHECKED (FIELD)		
CHECKED (HDQTS.)		

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

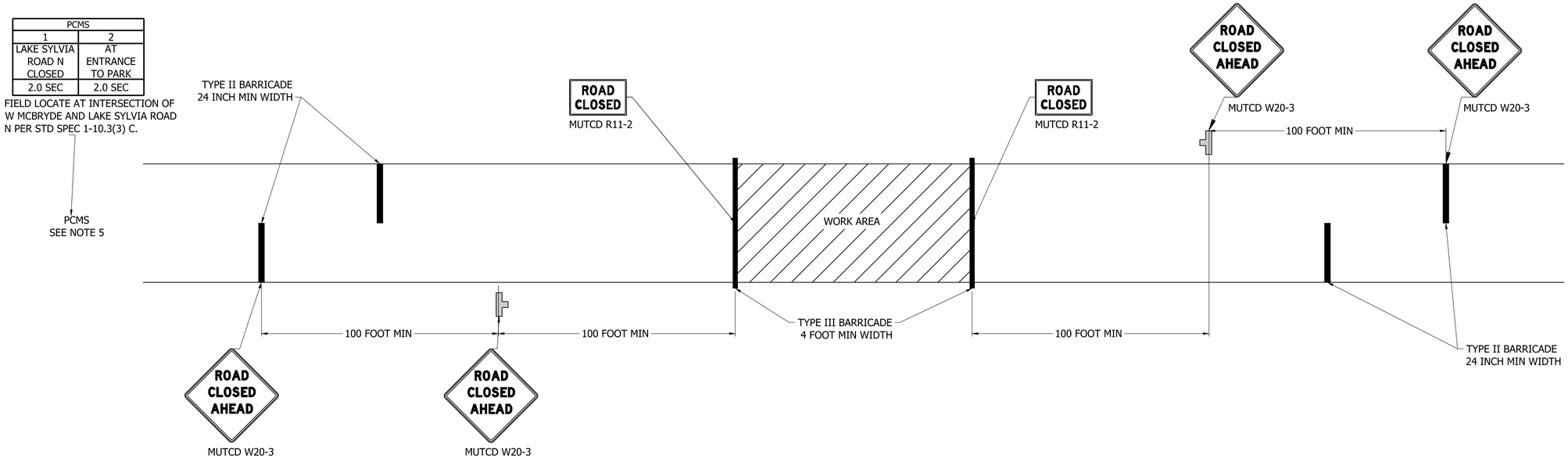
CULVERT REPLACEMENT

GUARDRAIL DETAILS C7.4

SCALE

NONE

PARKS FILE#



TRAFFIC CONTROL PLAN FOR ROAD CLOSURE:

1. TRAFFIC CONTROL DEVICES SHALL BE MAINTAINED FOR DURATION OF CLOSURE.
2. ALL SIGNS SHALL CONFORM WITH MUTCD SECTIONS 2A-11 THROUGH 2A-16, 5G-1 THROUGH 5G-5, 6B-1, AND 6B-2 OF THE CURRENT EDITION.
3. POST AND MAINTAIN R11-2 SIGN ON ROAD LAKE SYLVIA ROAD N AT 100' IN BOTH DIRECTIONS.
4. SIGNS, LOCATIONS, AND INSTALLATION DETAILS PER MUTCD (CURRENT EDITION).
5. PLACE PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) BOARD AT THE CORNER OF W MCBRYDE AVE AND LAKE SYLVIA ROAD N TWO WEEKS PRIOR TO START OF CONSTRUCTION WARNING OF CONSTRUCTION DATES AND ROAD CLOSURES. PCMS SHALL READ "LAKE SYLVIA ROAD N CLOSED AT ENTRANCE TO PARK." CONTRACTOR SHALL COORDINATE THE PCMS LOCATION WITH THE CITY OF MONTESANO.

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STEVEN DENNIS SCHMITZ
STATE OF WASHINGTON
48228
REGISTERED PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

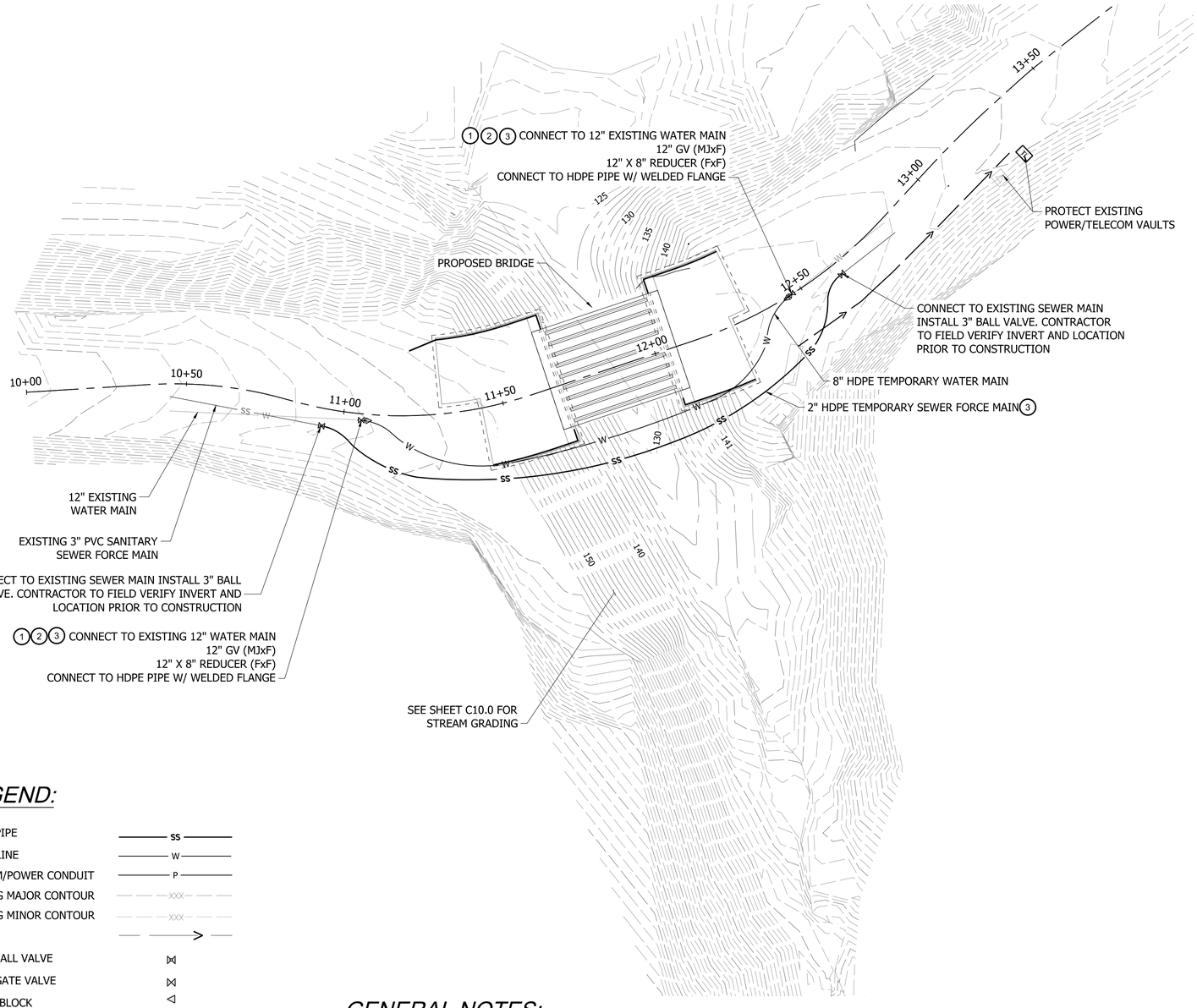
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

ROAD CLOSURE PLAN
C8.0

SCALE
NONE

PARKS FILE#



TEMPORARY UTILITY RELOCATION PLAN

TEMPORARY UTILITY NOTES:

1. CONTRACTOR SHALL PROVIDE ALL MATERIALS TO PROVIDE TEMPORARY SERVICE, ALL LABOR, THRUST BLOCKING, BACKFILL, AND ANY MATERIAL INCIDENTALS NECESSARY TO PROVIDE A WORKING SYSTEM.
2. ALL PIPE, VALVES, FITTINGS, AND THRUST BLOCKING ASSEMBLIES SHALL BE INSTALLED PER CITY OF MONTESANO, WSDOT SPECIFICATIONS, AND THE PROJECT SPECIAL PROVISIONS.
3. SEWER/WATER MAINS SHALL BE HDPE SCHEDULE SDR 11.
4. GATE VALVES SHALL BE RESILIENT WEDGE, NRS (NON RISING STEM) WITH O-RING SEALS. VALVE ENDS SHALL BE MECHANICAL JOINT OR ANSI FLANGES. VALVES SHALL CONFORM TO AWWA C-515 LATEST REVISION. VALVES SHALL BE MUELLER, M & H, KENNEDY, CLOW R/W, WATEROUS SERIES 2500, EJ FLOWMASTER OR AMERICAN AVK.
5. EXISTING VALVES SHALL BE OPERATED BY CITY EMPLOYEES ONLY.
6. THE CONTRACTOR WITH THE ASSISTANCE OF THE CITY INSPECTOR SHALL INSTALL, CHLORINATE AND FILL THE WATER MAIN. TESTING SHALL INCLUDE THE MAIN, VALVES, SERVICE LINES AND APPURTENANCES. AFTER TESTING IS COMPLETED, THE NEWLY CONSTRUCTED SYSTEM SHALL BE FLUSHED. AFTER FLUSHING CHLORINATED WATER FROM DISINFECTED LINES, THE CITY SHALL MEASURE CHLORINE RESIDUAL TO VERIFY THAT FLUSHING IS COMPLETE. THIS WILL BE COMPLETED PRIOR TO THE CITY TAKING MICROBIOLOGICAL SAMPLES.
7. THE CITY/OWNER SHALL BE GIVEN 72 HOURS NOTICE PRIOR TO SCHEDULING A SHUTDOWN. WHERE CONNECTIONS REQUIRE "FIELD VERIFICATION", CONNECTION POINTS SHALL BE EXPOSED BY THE CONTRACTOR AND FITTINGS VERIFIED 72 HOURS PRIOR.
8. SEPARATION BETWEEN WATER AND SEWER SHALL BE MAINTAINED PER DOE STANDARDS.
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND DEPTH OF THE EXISTING MAIN AND PROVIDE THE FITTINGS REQUIRED TO MAKE THE CONNECTION TO THE EXISTING MAIN.

UTILITY PROVIDER:

WATER - CITY OF MONTESANO

SEWER - WASHINGTON STATE PARKS

POWER - GRAYS HARBOR PUD

COMMUNICATIONS - WASHINGTON STATE PARKS

LEGEND:

SEWER PIPE	SS
WATER LINE	W
TELECOM/POWER CONDUIT	P
EXISTING MAJOR CONTOUR	XXX
EXISTING MINOR CONTOUR	XXX
DITCH	
SEWER BALL VALVE	
WATER GATE VALVE	
THRUST BLOCK	

CONSTRUCTION NOTES:

1. INSTALL THRUST BLOCKING PER DETAIL 1 ON SHEET C9.1. (1 / 17 | 18)
2. INSTALL GATE VALVE PER DETAIL 2 ON SHEET C9.1. (2 / 17 | 18)
3. CONTRACTOR SHALL FIELD FIT AND ADJUST TEMPORARY UTILITY CONNECTIONS AS NECESSARY.

GENERAL NOTES:

1. ALL JOINTS SHALL BE FULLY RESTRAINED.
2. PERMANENT WATER LINES SHALL BE DUCTILE IRON AWWA CISI PER WSDOT STANDARD SPECIFICATION 9-30.1(1).
3. ALL SANITARY SEWER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 7-08.
4. TEMPORARY HDPE SANITARY WATER/SEWER PIPE SHALL BE ASTM D3350 PER WSDOT STANDARD SPECIFICATIONS 9-05.23.
5. 3" DUCTILE IRON SEWER SHALL BE ANSI A 21.51 PER WSDOT STANDARD SPECIFICATION 9-05.13.
6. UTILITY CONNECTION POINTS SHOWN ARE APPROXIMATE AND SHALL BE FIELD ADJUSTED BASED ON EXCAVATION/SHORING LIMITS.

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

N

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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STEVEN DENNIS SCHMITZ — STATE OF WASHINGTON — 48228 — REGISTERED PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

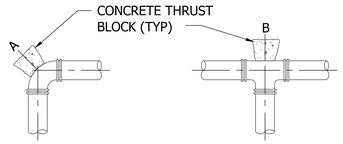
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

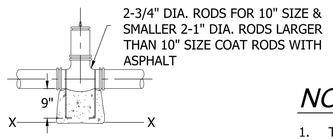
TEMPORARY UTILITY RELOCATION PLAN C9.0

SCALE
20'
0 40'

PARKS FILE#



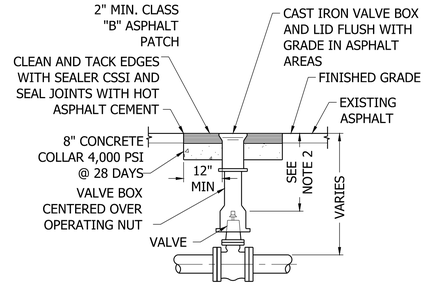
THRUST BLOCK - TABLE						
	MINIMUM BEARING AREA AGAINST UNDISTURBED SOIL SQUARE FEET					
PIPE SIZE	A	B	C	D	E	X
4"	3	2	2	1	NONE	NONE
6"	6	4	3	2	1	NONE
8"	11	8	6	3	2	3
10"	16	11	9	5	3	4
12"	24	17	13	7	4	5
14"	33	23	18	9	5	7
16"	23	23	17	9	5	10



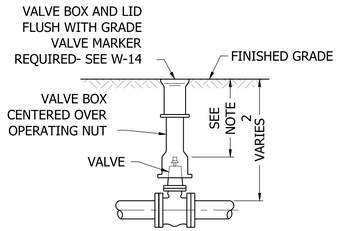
NOTES:

1. THRUST BLOCKS SHALL BE CAST IN PLACE CEMENT CONCRETE WITH MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
2. THRUST BLOCKS SHALL BEAR AGAINST FITTINGS ONLY AND BE CLEAR OF JOINTS.

1 HORIZONTAL THRUST BLOCK DETAIL



VALVE BOX IN ASPHALT AREA

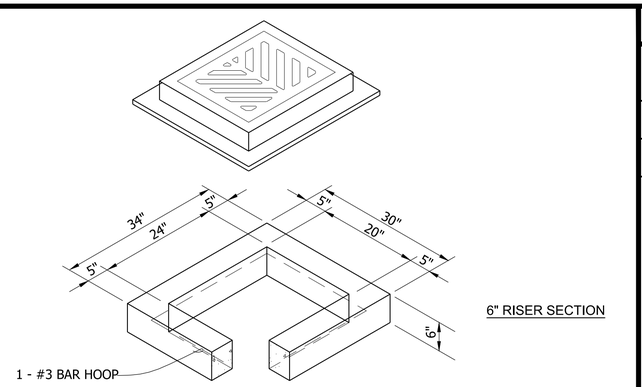


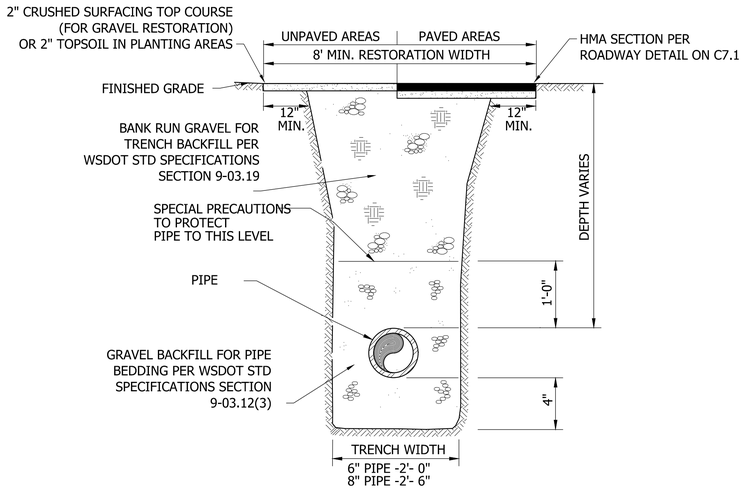
VALVE BOX IN UNIMPROVED AREA
(VALVE MARKER REQUIRED)

NOTES:

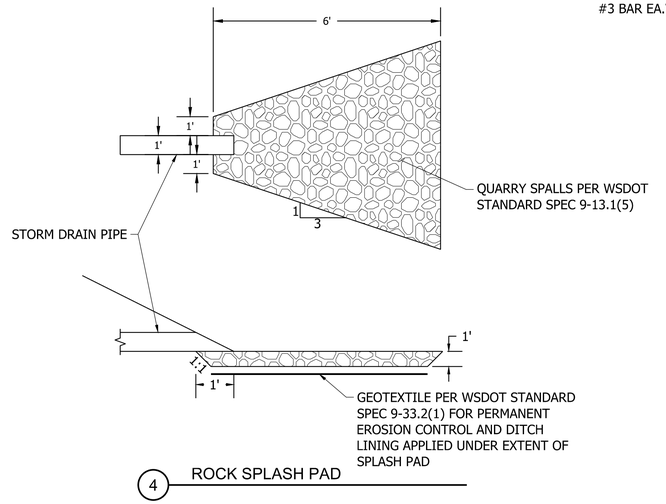
1. EACH VALVE SHALL BE PROVIDED WITH AN ADJUSTABLE CAST IRON VALVE BOX OF (5-1/8") INSIDE DIAMETER. VALVE BOXES SHALL HAVE A TOP SECTION WITH AN EIGHTEEN INCH (18") MIN. LENGTH. VALVE BOX EARS SHALL BE PLACED IN LINE WITH THE PIPE IT SERVES.
2. 18" MINIMUM, 24" MAXIMUM FOR OPERATOR NUT. EXTENSION MAY BE REQUIRED.

2 VALVE BOX

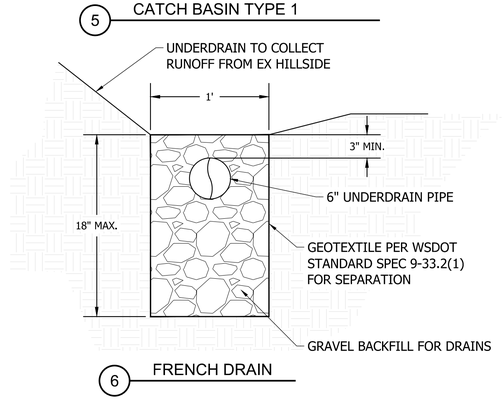




3 PIPE TRENCH RESTORATION



4 ROCK SPLASH PAD



5 CATCH BASIN TYPE 1

6 FRENCH DRAIN

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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STEVEN DENNIS SCHMITZ — STATE OF WASHINGTON — 48228 — REGISTERED PROFESSIONAL ENGINEER — 02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

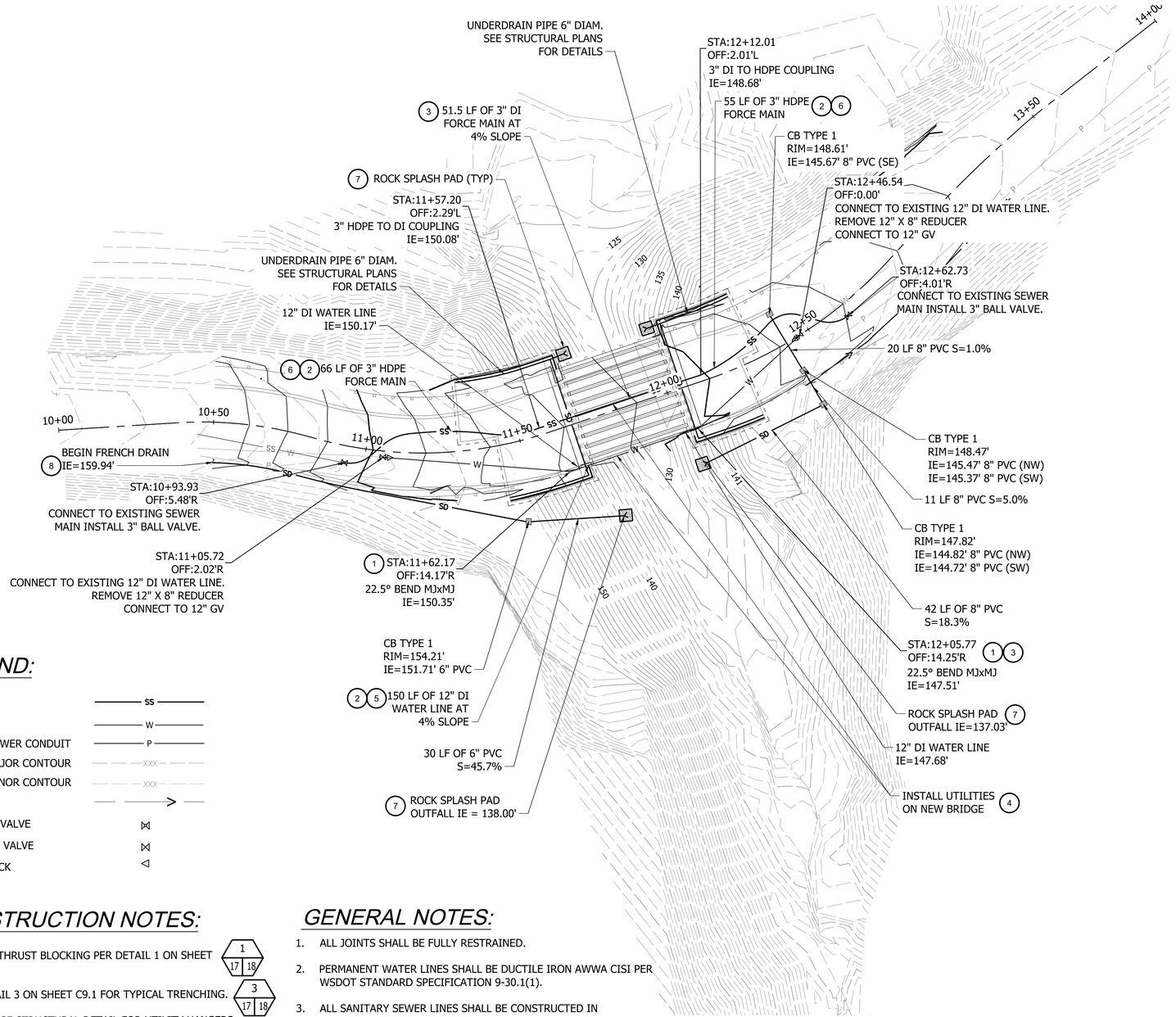
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

UTILITY RELOCATION DETAILS - WATER
C9.1

SCALE
NONE

PARKS FILE#



UTILITY PLAN

LEGEND:

SEWER PIPE	SS
WATER LINE	W
TELECOM/POWER CONDUIT	P
EXISTING MAJOR CONTOUR	XXX
EXISTING MINOR CONTOUR	XXX
DITCH	
SEWER BALL VALVE	
WATER GATE VALVE	
THRUST BLOCK	

CONSTRUCTION NOTES:

1. INSTALL THRUST BLOCKING PER DETAIL 1 ON SHEET C9.1.
2. SEE DETAIL 3 ON SHEET C9.1 FOR TYPICAL TRENCHING.
3. SEE BRIDGE STRUCTURAL DETAIL FOR UTILITY HANGERS.
4. EXPOSED WATER AND SEWER LINES SHALL HAVE 2" MODULAR AND REMOVAL INSULATION. CONTRACTOR TO PROVIDE ALL HANGERS, COUPLERS, BOOTS, INSULATION, SADDLES, AND SUPPORTS. SEE SPECIAL PROVISIONS FOR BASIS OF DESIGN.
5. 12" DUCTILE IRON SHALL BE INSTALLED PER WSDOT STANDARD SPECIFICATION 7-09.3.
6. 3" HDPE SANITARY SEWER LINE SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 7-08.
7. SEE DETAIL 4 ON SHEET 9.1 FOR ROCK SPLASH PAD.
8. SEE DETAIL 6 ON SHEET 9.1 FOR FRENCH DRAIN.

GENERAL NOTES:

1. ALL JOINTS SHALL BE FULLY RESTRAINED.
2. PERMANENT WATER LINES SHALL BE DUCTILE IRON AWWA CISI PER WSDOT STANDARD SPECIFICATION 9-30.1(1).
3. ALL SANITARY SEWER LINES SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 7-08.
4. TEMPORARY HDPE SANITARY WATER/SEWER PIPE SHALL BE ASTM D3350 PER WSDOT STANDARD SPECIFICATIONS 9-05.23.
5. 3" DUCTILE IRON SEWER SHALL BE ANSI A 21.51 PER WSDOT STANDARD SPECIFICATION 9-05.13.
6. UTILITY CONNECTION POINTS SHOWN ARE APPROXIMATE AND SHALL BE FIELD ADJUSTED BASED ON EXCAVATION/SHORING LIMITS.

PERMANENT UTILITY NOTES:

1. CONTRACTOR SHALL PROVIDE ALL MATERIALS TO PROVIDE TEMPORARY SERVICE, ALL LABOR, THRUST BLOCKING, BACKFILL, AND ANY MATERIAL INCIDENTALS NECESSARY TO PROVIDE A WORKING SYSTEM.
2. ALL PIPE, VALVES, FITTINGS, AND THRUST BLOCKING ASSEMBLIES SHALL BE INSTALLED PER CITY OF MONTESANO, WSDOT SPECIFICATIONS, AND THE PROJECT SPECIAL PROVISIONS.
3. GATE VALVES SHALL BE RESILIENT WEDGE, NRS (NON RISING STEM) WITH O-RING SEALS. VALVE ENDS SHALL BE MECHANICAL JOINT OR ANSI FLANGES. VALVES SHALL CONFORM TO AWWA C-515 LATEST REVISION. VALVES SHALL BE MUELLER, M & H, KENNEDY, CLOW R/W, WATEROUS SERIES 2500, EJ FLOWMASTER OR AMERICAN AVK.
4. EXISTING VALVES SHALL BE OPERATED BY CITY EMPLOYEES ONLY.
5. THE CONTRACTOR WITH THE ASSISTANCE OF THE CITY INSPECTOR SHALL INSTALL, CHLORINATE AND FILL THE WATER MAIN. TESTING SHALL INCLUDE THE MAIN, VALVES, SERVICE LINES AND APPURTENANCES. AFTER TESTING IS COMPLETED, THE NEWLY CONSTRUCTED SYSTEM SHALL BE FLUSHED. AFTER FLUSHING CHLORINATED WATER FROM DISINFECTED LINES, THE CITY SHALL MEASURE CHLORINE RESIDUAL TO VERIFY THAT FLUSHING IS COMPLETE. THIS WILL BE COMPLETED PRIOR TO THE CITY TAKING MICROBIOLOGICAL SAMPLES.
6. ALL PIPE AND SERVICES SHALL BE INSTALLED WITH CONTINUOUS DETECTABLE MARKING TAPE INSTALLED 12" TO 18" UNDER THE FINAL GROUND SURFACE. THE MARKER SHALL BE PLASTIC NON-BIODEGRADABLE, METAL CORE BACKING MARKED PER WSDOT STANDARD SPECIFICATIONS 9-15.18 WHICH CAN BE DETECTED BY A STANDARD METAL DETECTOR. TAPE SHALL BE 3 INCH WIDE TERRA TAPE "D" OR APPROVED EQUAL. IN ADDITION TO DETECTABLE MARKING TAPE, INSTALL DIRECT BURY, U.S.E. 12 GAUGE BLUE COATED COPPER WIRE, WRAPPED AROUND OR TAPED TO THE PIPE. LOW VOLTAGE GREASE-TYPE SPLICE KITS SHALL BE USED ON TRACER WIRE. AFTER THE WIRE NUT IS USED TO CONNECT THE WIRE TOGETHER AN OVERHAND KNOT SHALL BE TIED JUST OUTSIDE THE GREASE KIT TO PREVENT IT FROM COMING APART.
7. THE CITY, OWNER, OR CONTRACTING AGENCY WILL BE GIVEN 72 HOURS NOTICE PRIOR TO SCHEDULING A SHUTDOWN. WHERE CONNECTIONS REQUIRE "FIELD VERIFICATION", CONNECTION POINTS SHALL BE EXPOSED BY THE CONTRACTOR AND FITTINGS VERIFIED 72 HOURS.
8. SEPARATION BETWEEN WATER AND SEWER SHALL BE MAINTAINED PER DOE STANDARDS.
9. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION AND DEPTH OF THE EXISTING MAIN AND PROVIDE THE FITTINGS REQUIRED TO MAKE THE CONNECTION TO THE EXISTING MAIN.
10. THE CONTRACTOR SHALL INSTALL A TEMPORARY 2 INCH BRASS BLOW OFF FOR FLUSHING AND SAMPLING ON THE EXISTING AND/OR NEW WATER MAIN. THE BLOW OFF SHALL BE CONSTRUCTED WITH A STANDARD 2 INCH TAPPING SADDLE AND FORD BRASS CORPORATION STOP WITH 2 INCH BRASS PIPE EXTENDED UP TO FINISHED GRADE. WHEN FLUSHING AND SAMPLING ARE COMPLETED, THE 2 INCH PIPE SHALL BE REMOVED. THE CORPORATION STOP SHALL BE SHUT OFF AND CAPPED TIGHT WITH A THREADED BRASS CAP.
11. ALL VALVE BOXES AND BLOW-OFFS SHALL BE CLEAN AND CLEAR OF ASPHALT OR CONCRETE BEFORE SCHEDULING A WALK THROUGH.

UTILITY PROVIDER:

WATER - CITY OF MONTESANO

SEWER - WASHINGTON STATE PARKS

POWER - GRAYS HARBOR PUD

COMMUNICATIONS - WASHINGTON STATE PARKS

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

N

SHEET 20 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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CHECKED (HDQTS.)		

STEVEN DENNIS SCHMITZ
STATE OF WASHINGTON
48228
REGISTERED
PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

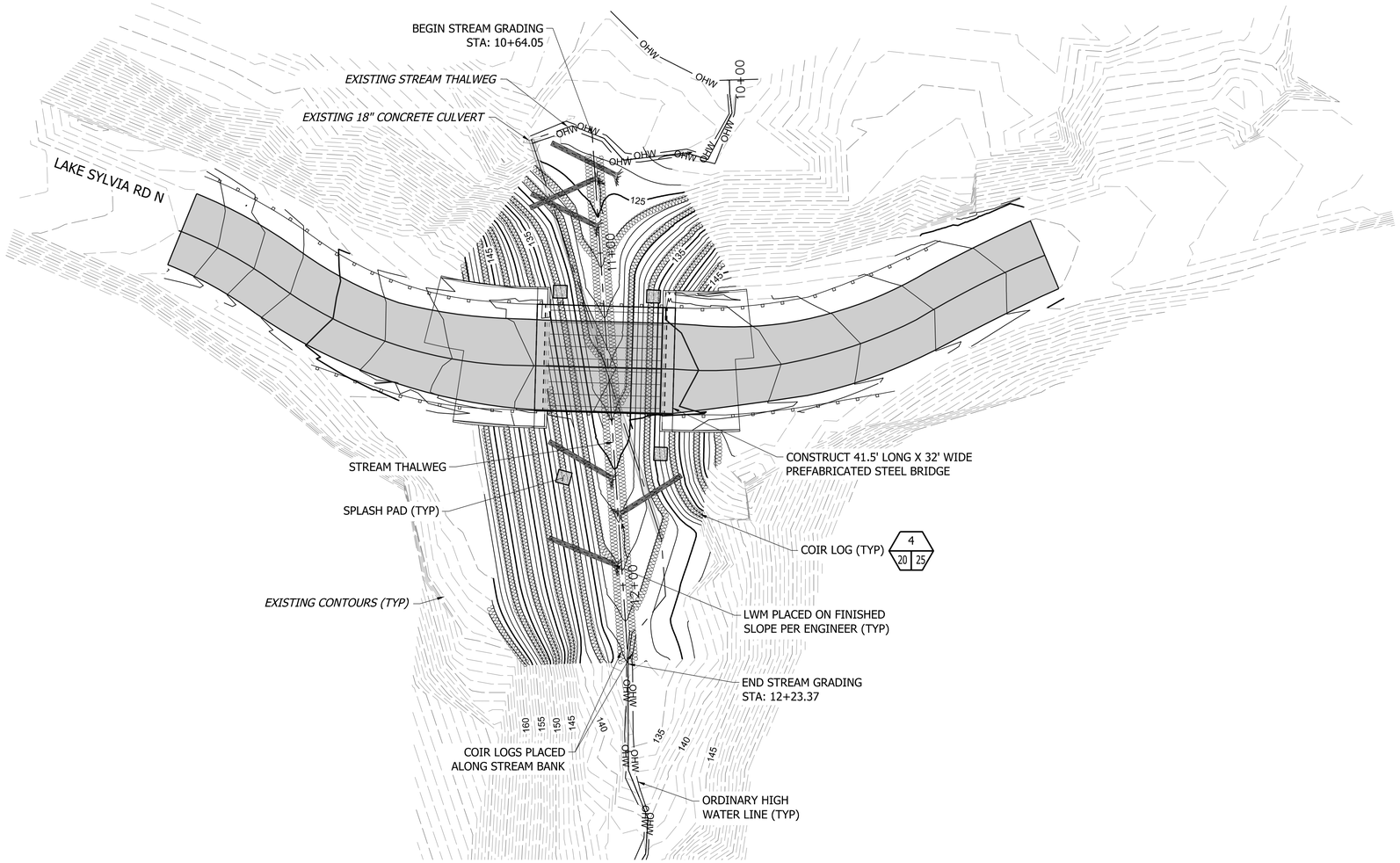
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

UTILITY PLAN
C9.2

SCALE
20'
0 40'

PARKS FILE#



STREAM PLAN

NOTES:

1. SEE ROADWAY PLANS FOR ROADWAY DETAILS.
2. SEE STRUCTURE PLANS FOR STRUCTURE DETAILS.

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

SHEET 21 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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MATTHEW THOMAS MISKOVIC
STATE OF WASHINGTON
44712
REGISTERED
PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

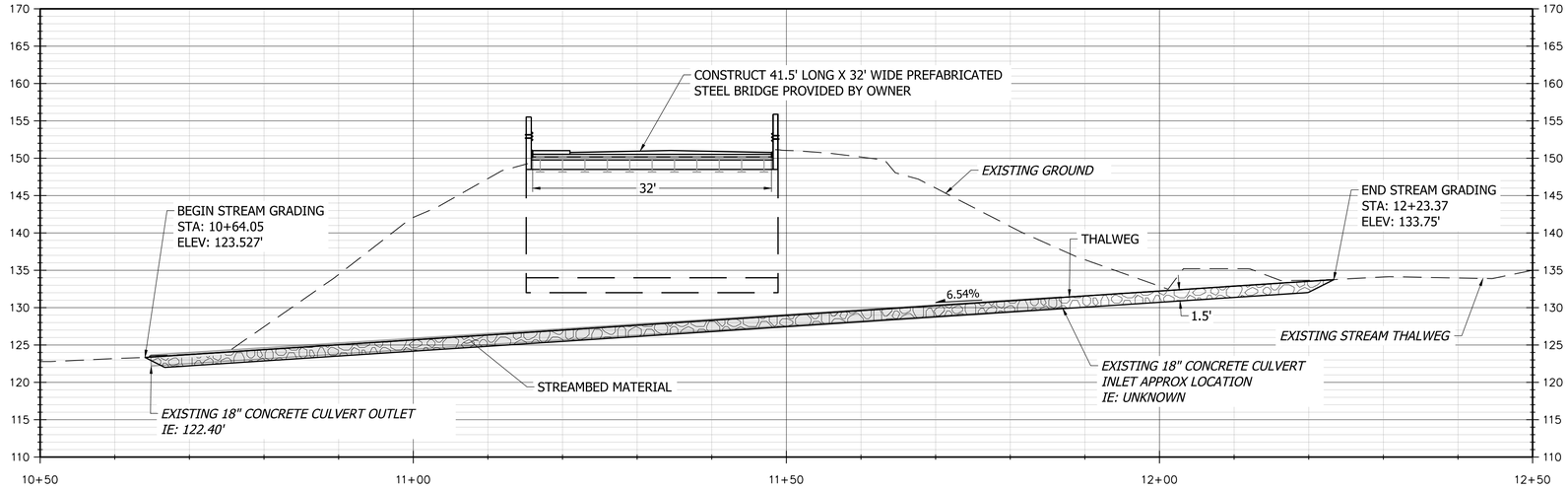
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

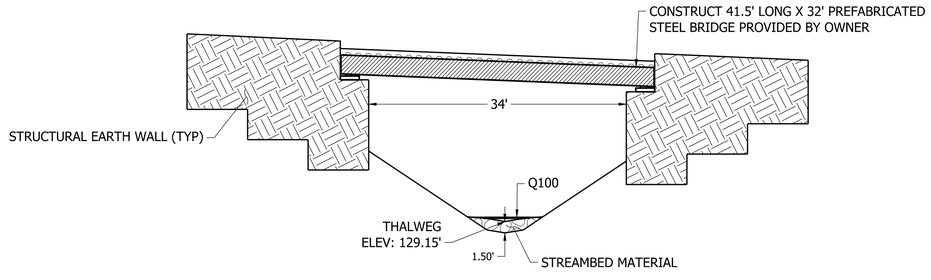
STREAM PLAN
C10.0

SCALE
20'
0
40'

PARKS FILE#



STREAM PROFILE ALONG THALWEG



STREAM CROSS SECTION AT SOUTH WALL FACE

NOTES:

1. BANKFULL WIDTH = 2.2 FEET.
2. 2080 PROJECTED BANKFULL WIDTH = 2.38 FEET.
3. PREVAILING UPSTREAM GRADIENT = 11.75%.
   PROPOSED STREAM GRADIENT = 6.54%.
4. SEE STRUCTURE PLANS FOR STRUCTURE DETAILS.
5. SEE ROADWAY PLANS FOR ROAD DETAILS.
6. RAILING NOT SHOWN FOR CLARITY.

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

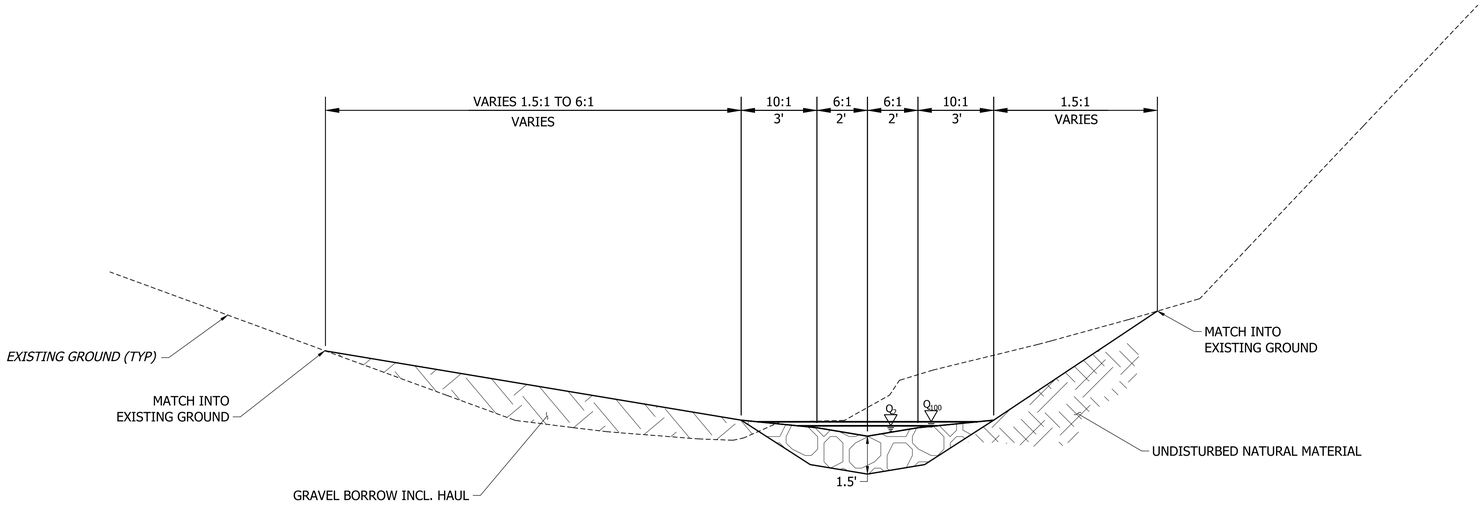
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

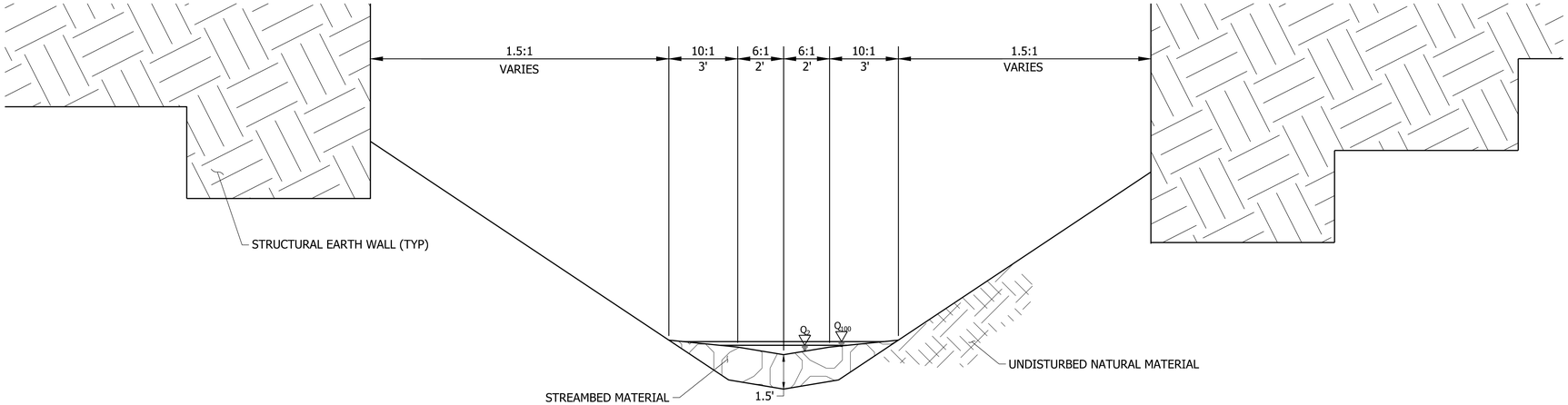
STREAM PROFILE AND CROSS SECTION
C10.1

SCALE
10'
0 20'

PARKS FILE#



TYPICAL STREAM CROSS SECTION



TYPICAL STREAM CROSS SECTION UNDER BRIDGE

NOTE:

1. GRADUALLY TRANSITION STREAM GRADING TO NATURAL CROSS SECTION.

STREAMBED MATERIAL SPECIFICATION		
COMPONET		% BY VOLUME
STREAMBED SEDIMENT	WSDOT GSP 8-SA4.FR8	50%
STREAMBED COBBLES 10"	WSDOT GSP 8-SA4.FR8	50%

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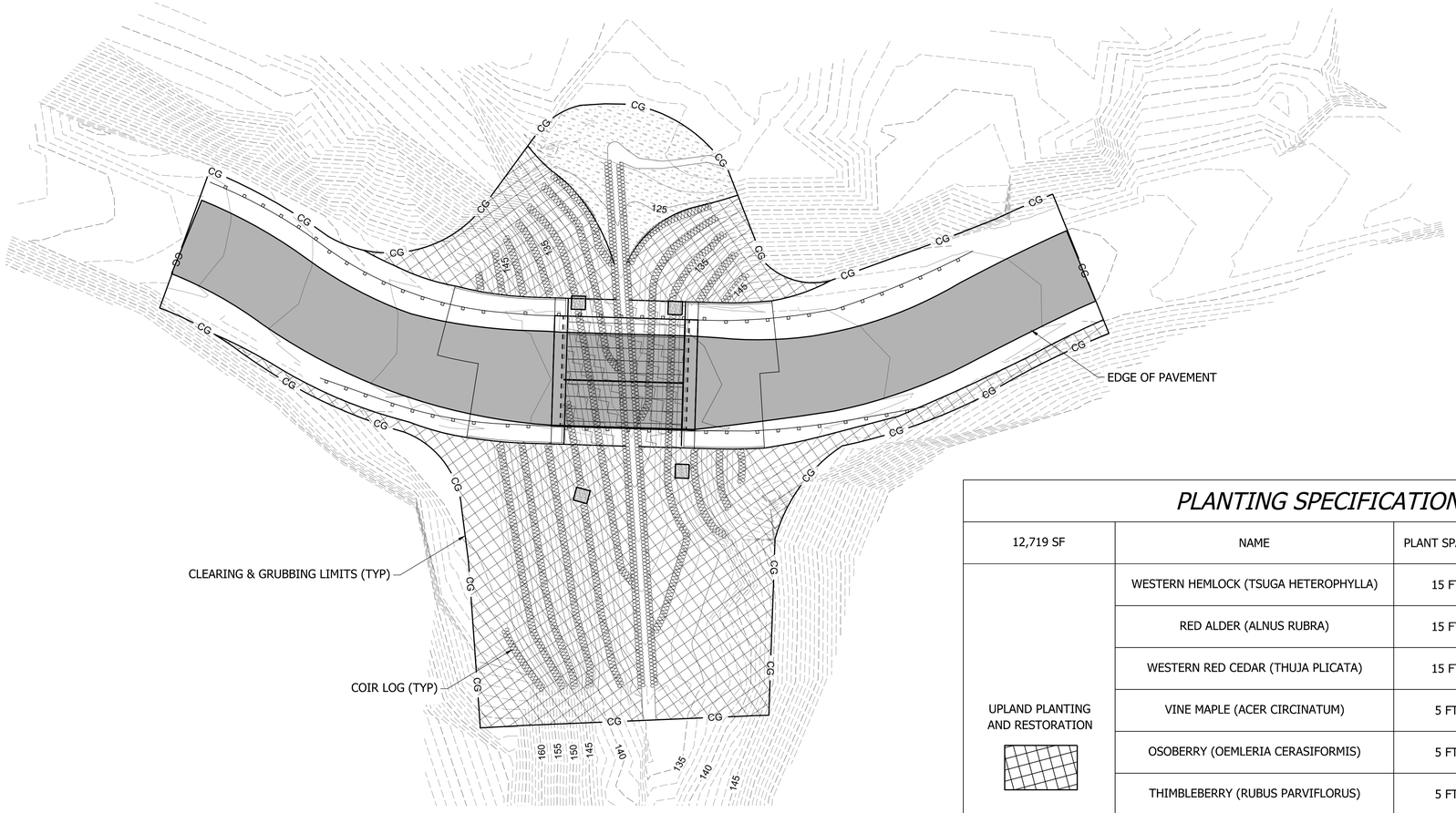
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

STREAM DETAILS C10.2

SCALE 3' 0 6'

PARKS FILE#



PLANTING PLAN

PLANT ESTABLISHMENT PLAN - 1 YEAR DURATION

THE PLANT ESTABLISHMENT PLAN SHALL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 8-02. THE PLAN SHALL SHOW THE PROPOSED SCHEDULING OF ACTIVITIES, MATERIALS, EQUIPMENT TO BE UTILIZED FOR THE FIRST-YEAR PLANT ESTABLISHMENT, AND AN EMERGENCY CONTACT PERSON. THE PLAN SHALL INCLUDE THE MANAGEMENT OF THE IRRIGATION SYSTEM, WHEN APPLICABLE. SHOULD THE PLAN BECOME UNWORKABLE AT ANY TIME DURING THE FIRST-YEAR PLANT ESTABLISHMENT, THE CONTRACTOR SHALL SUBMIT A REVISED PLAN PRIOR TO PROCEEDING WITH FURTHER WORK.

NOTES:

1. THE TOTAL PROJECT AREA IS APPROXIMATELY 23,300 SQUARE FEET.
2. APPROXIMATELY 16 TREES WILL BE REMOVED.
3. THE TOTAL REPLANTING AREA IS 12,719 SQUARE FEET.
4. PROVIDE A 5 FOOT SETBACK FROM NEW AND EXISTING SITE FEATURES TO REMAIN (WALLS, GUARDRAIL/BARRIER, EDGE OF ROADWAY, SIGNS, OTHER EXISTING VEGETATION ETC.).
5. ALL REPLANTING AREAS SHALL REQUIRE 3" DEPTH BARK OR WOOD CHIP MULCH ON TOP OF 6" DEPTH TOPSOIL TYPE A.
6. PLANT SPACING PER DETAIL 3, DWG C11.1.
7. PLANTING TO TAKE PLACE FROM OCTOBER 15TH TO DECEMBER 15TH, 2024.
8. ANY PLANT SUBSTITUTIONS SHALL BE APPROVED BY STATE PARKS PRIOR TO INSTALLATION.
9. ALL PLANTS SHALL CONFORM TO AMERICAN STANDARDS FOR NURSERY STOCK (ANSI Z60.1)

3 / 23 / 24

PLANTING SPECIFICATIONS

12,719 SF	NAME	PLANT SPACING	TYPE OF PLANT	QUANTITY
UPLAND PLANTING AND RESTORATION	WESTERN HEMLOCK (TSUGA HETEROPHYLLA)	15 FT	#2 CONT.	13
	RED ALDER (ALNUS RUBRA)	15 FT	#2 CONT.	25
	WESTERN RED CEDAR (THUJA PLICATA)	15 FT	#2 CONT.	13
	VINE MAPLE (ACER CIRCINATUM)	5 FT	#1 CONT.	33
	OSOBERRY (OEMLERIA CERASIFORMIS)	5 FT	#1 CONT.	60
	THIMBLEBERRY (RUBUS PARVIFLORUS)	5 FT	#1 CONT.	32
	RED ELDERBERRY (SAMBUCUS RACEMOSA)	5 FT	#1 CONT.	32
	WESTERN SWORDFERN (POLYSTICHUM MUNITUM)	5 FT	#2 CONT.	110
	SALAL (GULTHERIA SHALLON)	5 FT	#1 CONT.	32
	DEVILS CLUB (OPLOPANAX HORRIDUS)	5 FT	#1 CONT.	32
10,115 SF	SALMONBERRY (RUBUS SPECTABILIS)	5 FT	#2 CONT.	85
RIPARIAN PLANTING AND RESTORATION	SLOUGH SEDGE (CARTEX OBNUPTA)	9 IN	PLUG	2697
	SALMONBERRY (RUBUS SPECTABILIS)	5 FT	#2 CONT.	32
	VINE MAPLE (ACER CIRCINATUM)	5 FT	#1 CONT.	7
	PACIFIC NINEBARK (PHYSOCARPUS CAPITATUS)	5 FT	#1 CONT.	7
	CASCARA (FRANGULA PURSHIANA)	5 FT	#1 CONT.	7
1,344 SF	THIMBLEBERRY (RUBUS PARVIFLORUS)	5 FT	#1 CONT.	7
UNDER BRIDGE PLANTING AND RESTORATION	WESTERN SWORDFERN (POLYSTICHUM MUNITUM)	5 FT	#2 CONT.	53
1,260 SF				

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

SHEET 24 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	MTM	02/23/24
DRAWN	KMS	02/23/24
CHECKED (FIELD)		
CHECKED (HDQTS.)		

MATTHEW THOMAS MISKOVIC
STATE OF WASHINGTON
44712
REGISTERED PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

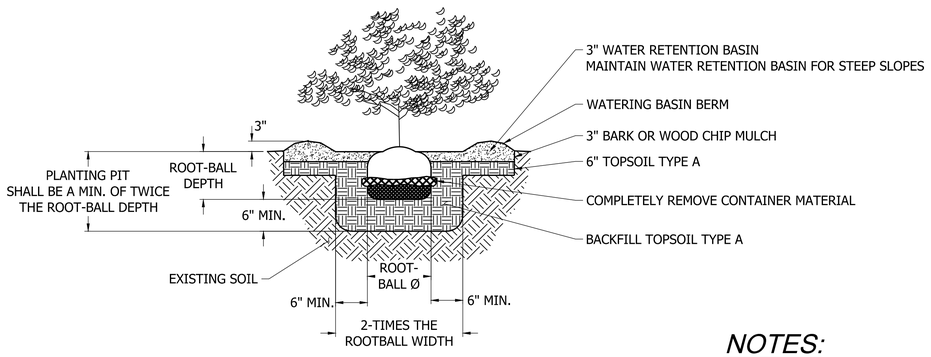
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

PLANTING PLAN
C11.0

SCALE
20'
0 40'

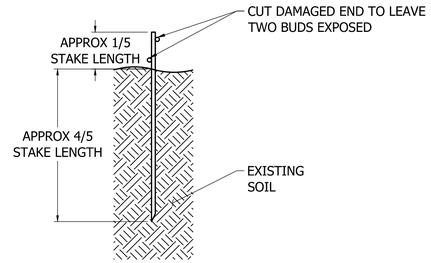
PARKS FILE#



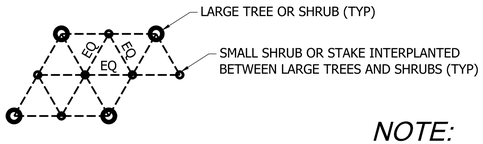
1 - TREE AND SHRUB PLANTING DETAIL

NOTES:

1. REMOVE TREATED OR SYNTHETIC BURLAP COMPLETELY.
2. BREAK UP ROOTBALL OF CONTAINER PLANTS AND PRUNE CIRCLING ROOTS.



2 - LIVE STAKE INSTALLATION DETAIL



3 - PLANT SPACING DETAIL

NOTE:

1. REFER TO PLANT SCHEDULE FOR SPACING.

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	MTM	02/23/24
DRAWN	KMS	02/23/24
CHECKED (FIELD)		
CHECKED (HDQTS.)		

MATTHEW THOMAS MASON
STATE OF WASHINGTON
44712
REGISTERED
PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

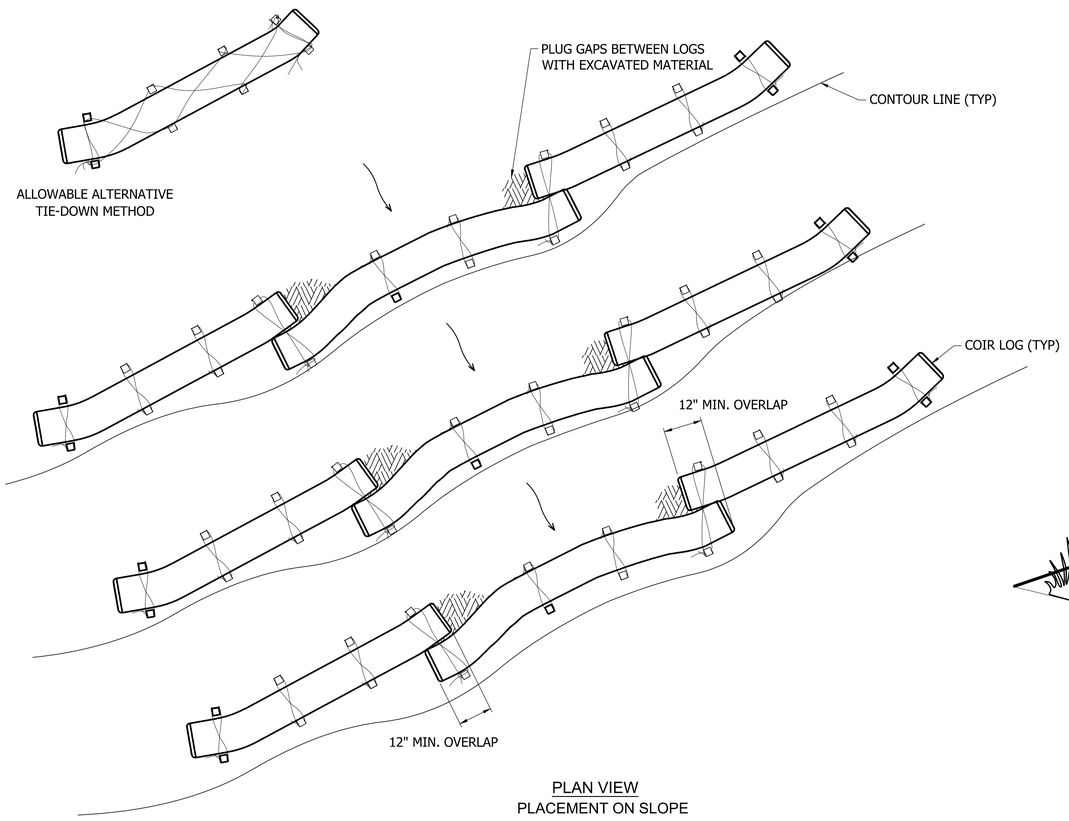
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

PLANTING DETAILS
C11.1

SCALE
NONE

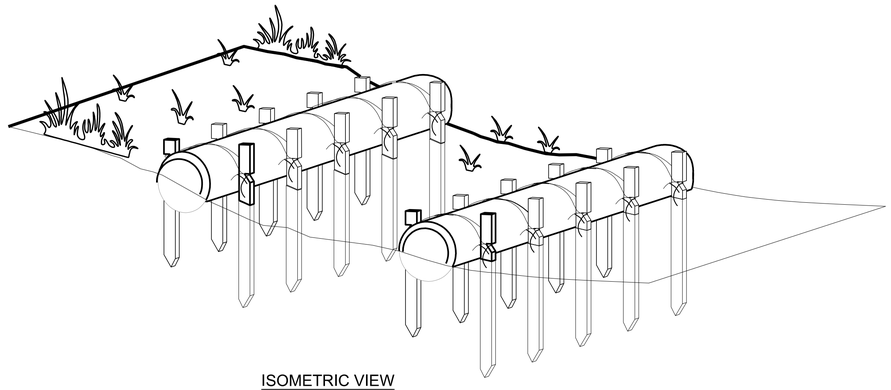
PARKS FILE#



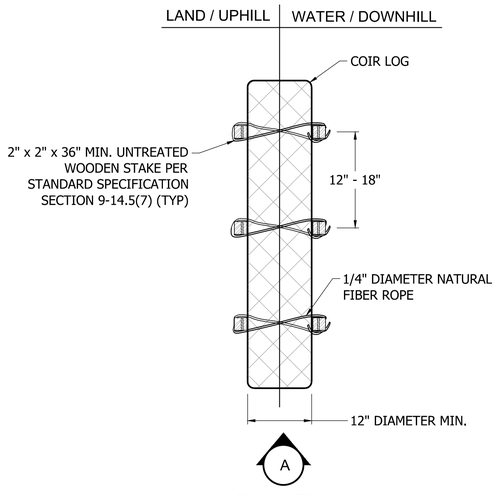
PLAN VIEW
PLACEMENT ON SLOPE

NOTES:

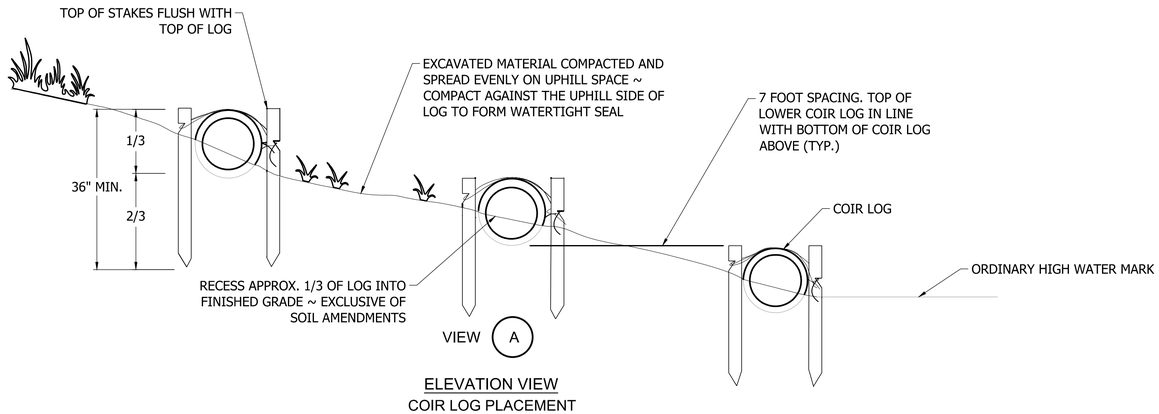
1. COIR LOGS SHALL BE INSTALLED STARTING AT THE BOTTOM OF THE SLOPE AND WORKING UPHILL.
2. EXCAVATED MATERIAL SHALL BE SPREAD EVENLY ALONG THE UPHILL SLOPE AND COMPACTED BY HAND TAMPING OR OTHER METHODS APPROVED BY THE ENGINEER.
3. OVERLAP COIR LOG ENDS BY 12" (IN) TO PREVENT WATER FROM MOVING BETWEEN LOGS.
4. ALWAYS INSTALL COIR LOG PERPENDICULAR TO SLOPE ALONG CONTOUR LINES. ENDS SHALL ANGLE UPHILL TO PREVENT FLOW AROUND THE COIR LOG.
5. USE AN ADEQUATE NUMBER OF STAKES TO ENSURE LOGS ARE SECURE.
6. COIR LOGS SHALL BE IN ACCORDANCE WITH STANDARD SPECIFICATION, SECTION 9-14.6(7), AND BE INSTALLED IN ACCORDANCE WITH STANDARD SPECIFICATION, SECTION 8-01.3(6)A. ALL MATERIALS USED IN COIR LOGS SHALL BE 100% BIODEGRADABLE.
7. PERFORM MAINTENANCE IN ACCORDANCE WITH STANDARD SPECIFICATION, SECTION 8-01.3(15).



ISOMETRIC VIEW



PLAN VIEW



ELEVATION VIEW
COIR LOG PLACEMENT

4 COIR LOG DETAIL

SHEET 26 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	MTM	02/23/24
DRAWN	KMS	02/23/24
CHECKED (FIELD)		
CHECKED (HDQTS.)		

MATTHEW THOMAS MISKOVIC
STATE OF WASHINGTON
44712
REGISTERED PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

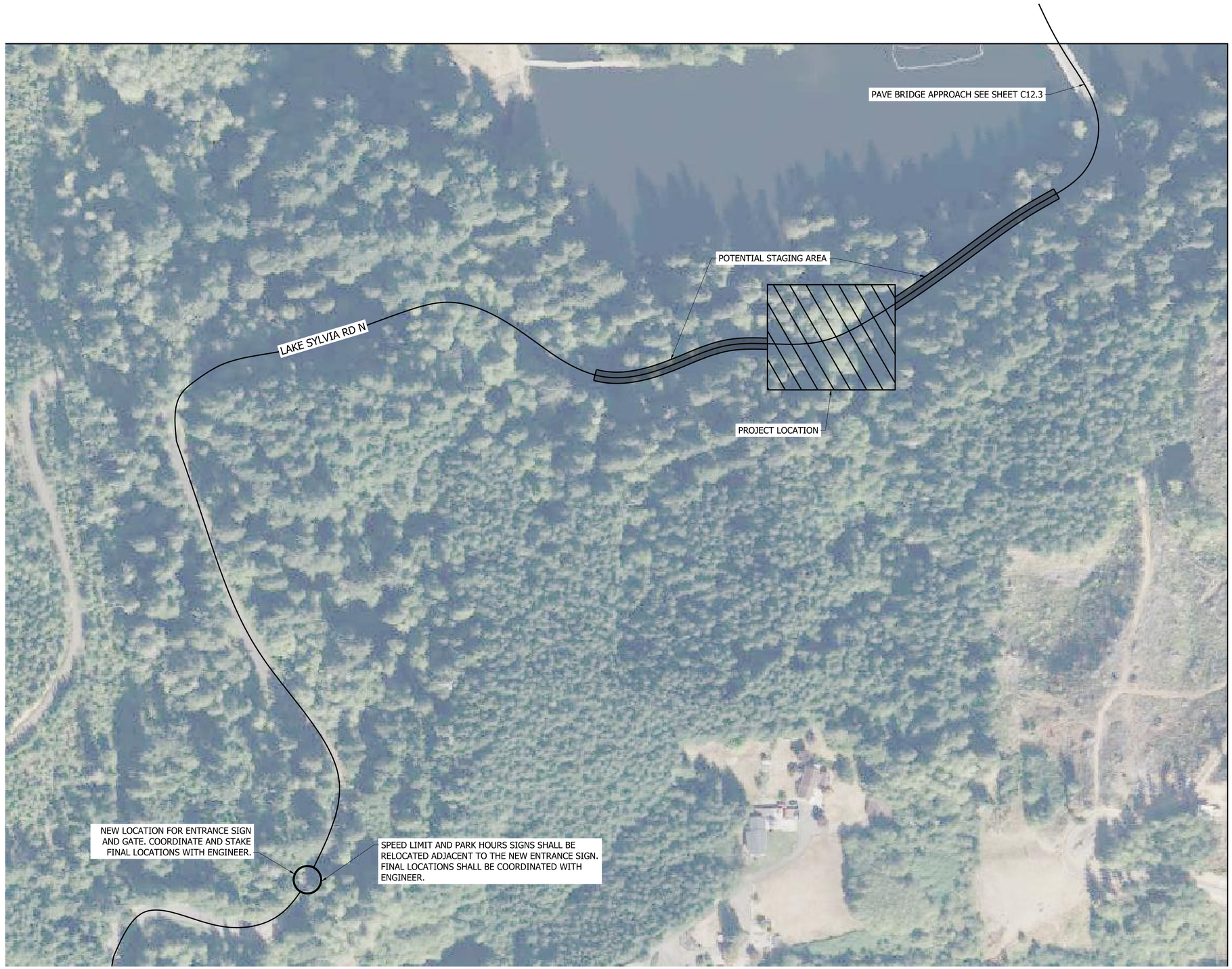
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

COIR LOG DETAIL
C11.2

SCALE
NONE

PARKS FILE#



VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

SHEET 27 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	MTM	02/23/24
DRAWN	KMS	02/23/24
CHECKED (FIELD)		
CHECKED (HDQTS.)		

MATTHEW THOMAS MISSOTTI
STATE OF WASHINGTON
44712
REGISTERED
PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

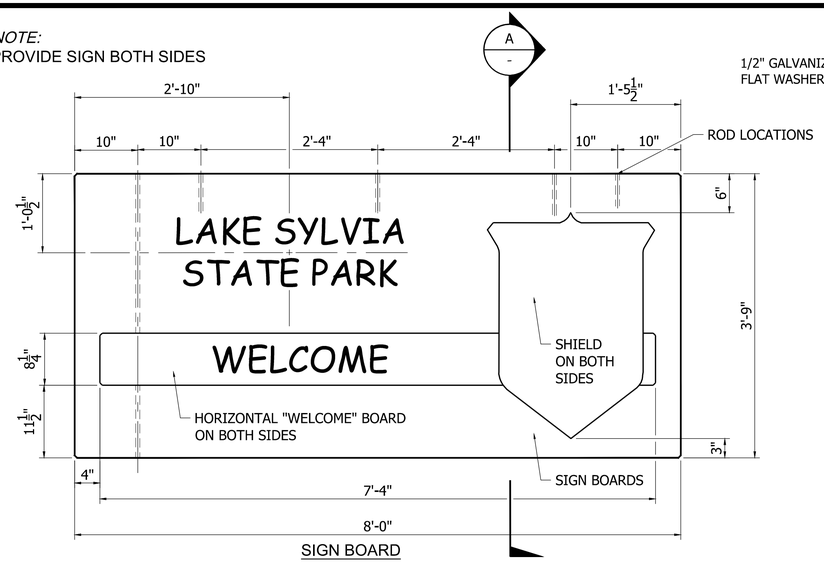
GATE, SIGN, & BRIDGE APPROACH PAVING LOCATIONS C12.0

SCALE

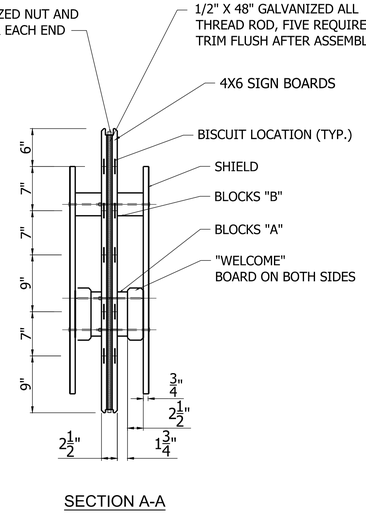
NONE

PARKS FILE#

NOTE:
PROVIDE SIGN BOTH SIDES



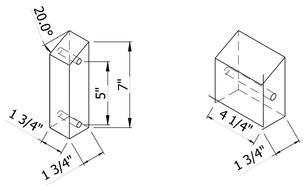
SIGN BOARD



SECTION A-A

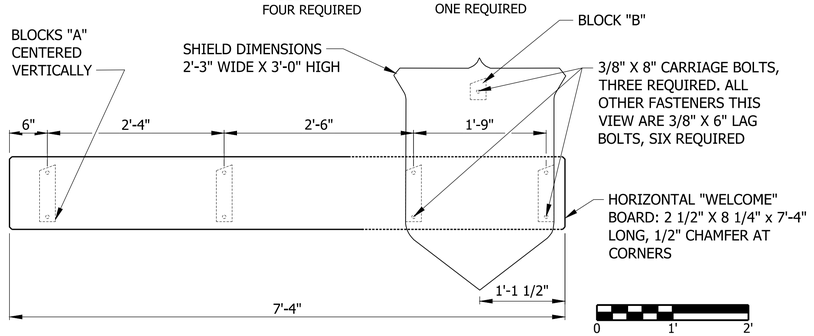
1 - SIGN BOARD & SIGNAGE LETTER DETAIL

0 1' 2'



BLOCKS "A"
FOUR REQUIRED

BLOCKS "B"
ONE REQUIRED



0 1' 2'

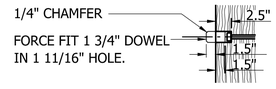
2 - SUPPORT BLOCKS & FASTENERS & LOCATION

ENTRY SIGNAGE NOTES:

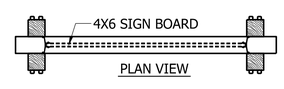
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS IDENTIFYING THE MATERIALS AND DIMENSIONS TO CREATE A HIGH QUALITY DURABLE AND LONG-LASTING PARK SIGNAGE.
2. ALL TIMBERS TO BE ROUGH CUT, FULL DIMENSION 8" X 8" DOUGLAS FIR. PRESSURE TREAT TIMBERS TO A.W.P.A. SPECIFICATIONS TO A NET RETENTION OF 0.4 LBS. PER CUBIC FOOT. ALL MATERIALS SHALL BE CUT BEFORE TREATING. STAIN TIMBERS WITH SEMI-TRANSPARENT STAIN. COLOR TO BE SELECTED.
3. NORTH SIDE TO MATCH SOUTH SIDE OF SIGN FOR VISIBILITY FROM EACH DIRECTION OF TRAFFIC.

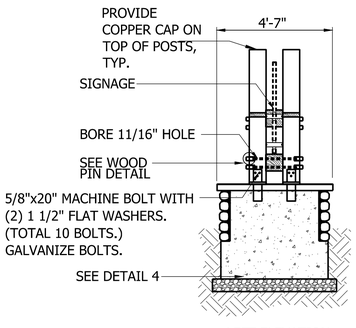
SIGN MATERIAL NOTES:

1. GENERAL: ALL LUMBER CLEAR WESTERN RED CEDAR OR ALASKAN YELLOW CEDAR. SHIELD IS 1/8" ALUMINUM BONDED TO 3/4" EXTERIOR PLYWOOD. ALL DIMENSIONS SHOWN ARE NET, FINISHED, DIMENSIONS. PROVIDE SIGNS ON BOTH SIDES. SIGN BOARDS TO BE 4X6 MATERIAL.
2. FASTENERS AND HARDWARE: HOT DIP GALVANIZED NUTS, BOLTS, AND HARDWARE. ACCEPTABLE ALTERNATIVES TO LAG BOLTS ARE FASTENMASTER LEDGERLOK HEAVY DUTY WOOD SCREWS OR GRK RUGGED STRUCTURAL SCREWS.
3. PAINT: SIGN BOARD - OLYMPIC SEMI-TRANSPARENT STAIN NO. 722. HORIZONTAL BOARD - "AVOCADO" OLYMPIC SOLID COLOR STAIN.
   LETTERING - PARKER MARATHON SOLID COLOR WHITE.
4. LETTERING: SIGNBOARD - NATIONAL PARK SERVICE MODIFIED GOTHIC, SERIES D, 4" HIGH, ROUTED AND PAINTED.
5. HORIZONTAL BOARD - NATIONAL PARK SERVICE MODIFIED GOTHIC, SERIES E. WIDE, 4" HIGH ROUTED AND PAINTED.
6. SHIELD: SHIELD SCREEN IN STANDARD COLORS ON 0.125" ALUMINUM, BONDED WITH 3M NEOPRENE CONTACT CEMENT #1357 TO 1/8" ROUNDOVER 3/4" ABX PLYWOOD, STAIN COLOR "AVOCADO" OLYMPIC SOLID COLOR STAIN.
7. JOIN BOARDS WITH #20 BISCUITS FRONT AND BACK OF EACH JOINT, 1/2" BELOW BOARD FACE, SPACED 3' APART.

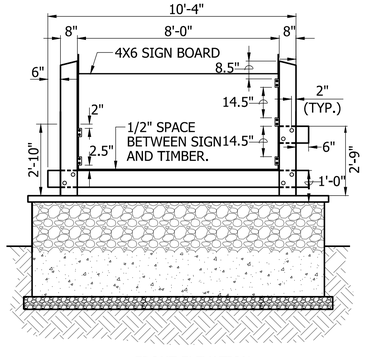


SIMULATED WOOD PIN DETAIL
NOT TO SCALE

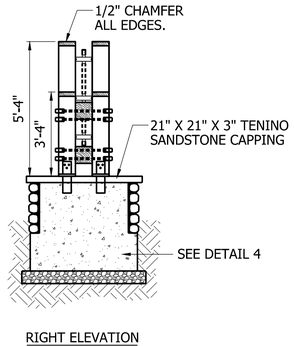




LEFT ELEVATION



FRONT ELEVATION



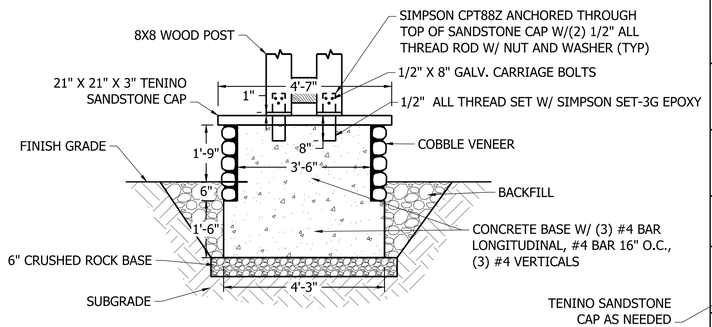
RIGHT ELEVATION

3 - ENTRY SIGNAGE

0 3' 6'

WALL NOTES:

1. STONE FACING TO BE WASHED RIVER ROCK COBBLES FROM A LOCAL QUARRY IN THE SIZE RANGE MATCHING COLOR AND SHAPE OF THE ROCK WALL AT THE COMFORT STATION. MANUFACTURED STONE VENEER WILL NOT BE ACCEPTED AND A ROCK SUBMITTAL IS REQUIRED.
2. FACE OF WALL SHALL HAVE A UNIFORM AND FLUSH FACE APPEARANCE WITH ALL POINTING RECESSED FROM THE STONES IN THE FACING BY 1" +/-
3. PRECAST WALL CAP SHALL OVERHANG FACE OF STONES BY APPROXIMATELY 1 1/2"
4. PROVIDE ALL TIES AND ACCESSORIES AS REQUIRED PER SPECS AND AS NORMALLY USED BY THE TRADE FOR THE WALL CONSTRUCTION.
5. PROVIDE LIQUID MEMBRANE WATERPROOFING ON THE BURIED PORTIONS OF THE CMU WALL AND SEAL ALL FINISHED STONEWORK AND CAPPING PER SPECS.



PLAN VIEW

4 - COBBLE VENEER WALL

0 2' 4'

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	JB	4/8/22
DRAWN	YD	4/8/22
CHECKED (FIELD)		
CHECKED (HDQTS.)		

MATTHEW THOMAS MISSOTTI
STATE OF WASHINGTON
44712
REGISTERED
PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

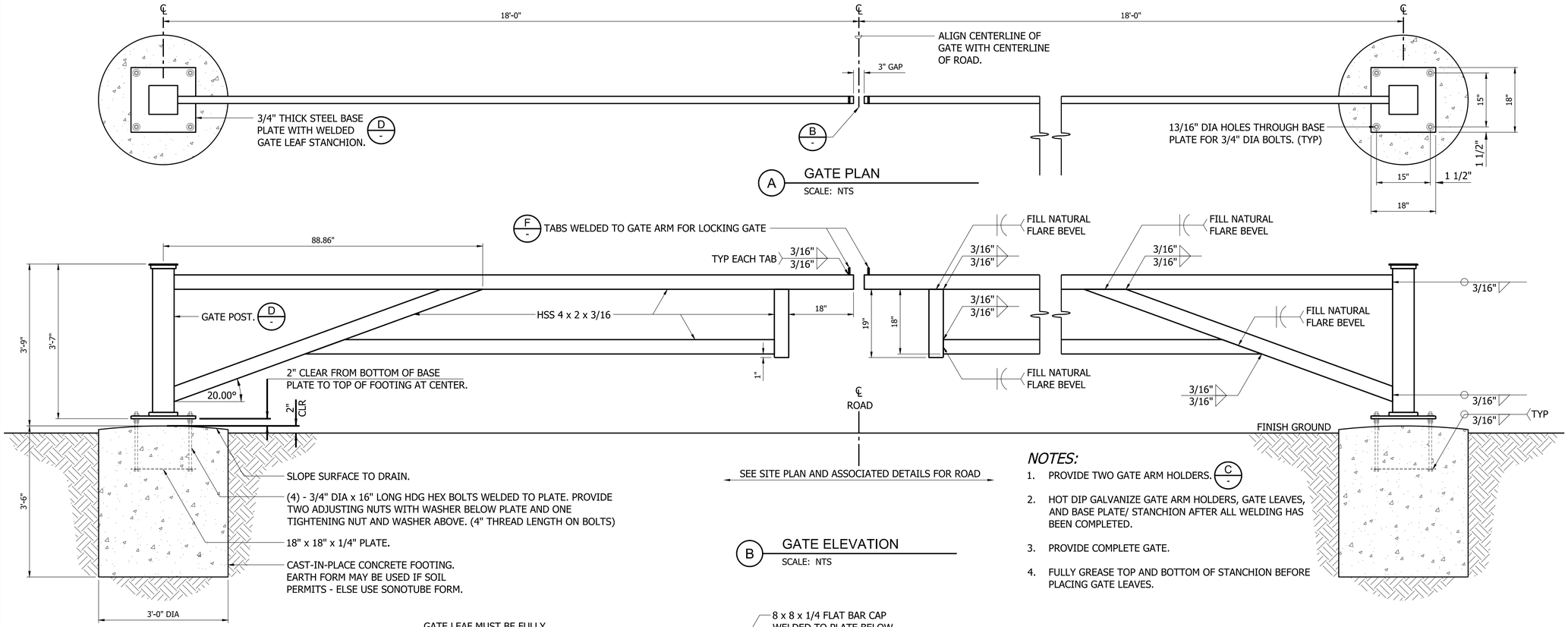
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

ENTRY SIGN DETAILS
C12.1

SCALE
AS SHOWN

PARKS FILE#



NOTES:

1. GATES AND GATE POSTS WILL BE FABRICATED AND PROVIDED BY OWNER.
2. CONTRACTOR SHALL COORDINATE DELIVERY AND UNLOADING WITH OWNER.
3. CONTRACTOR SHALL PROVIDE CAST-IN-PLACE CONCRETE FOOTING, 18" PLATES, AND HARDWARE NECESSARY TO INSTALL OWNER PROVIDED GATE AND GATE ARM HOLDER.

SHEET 29 OF 49

CAD NO. N550-2015-1-SHT-9.DWG

REVISIONS	NO.	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	SWD	2015
DRAWN	CLO	2015
CHECKED (FIELD)		
CHECKED (HDQTS.)		

MATTHEW THOMAS MASON — STATE OF WASHINGTON — 14212 — REGISTERED PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

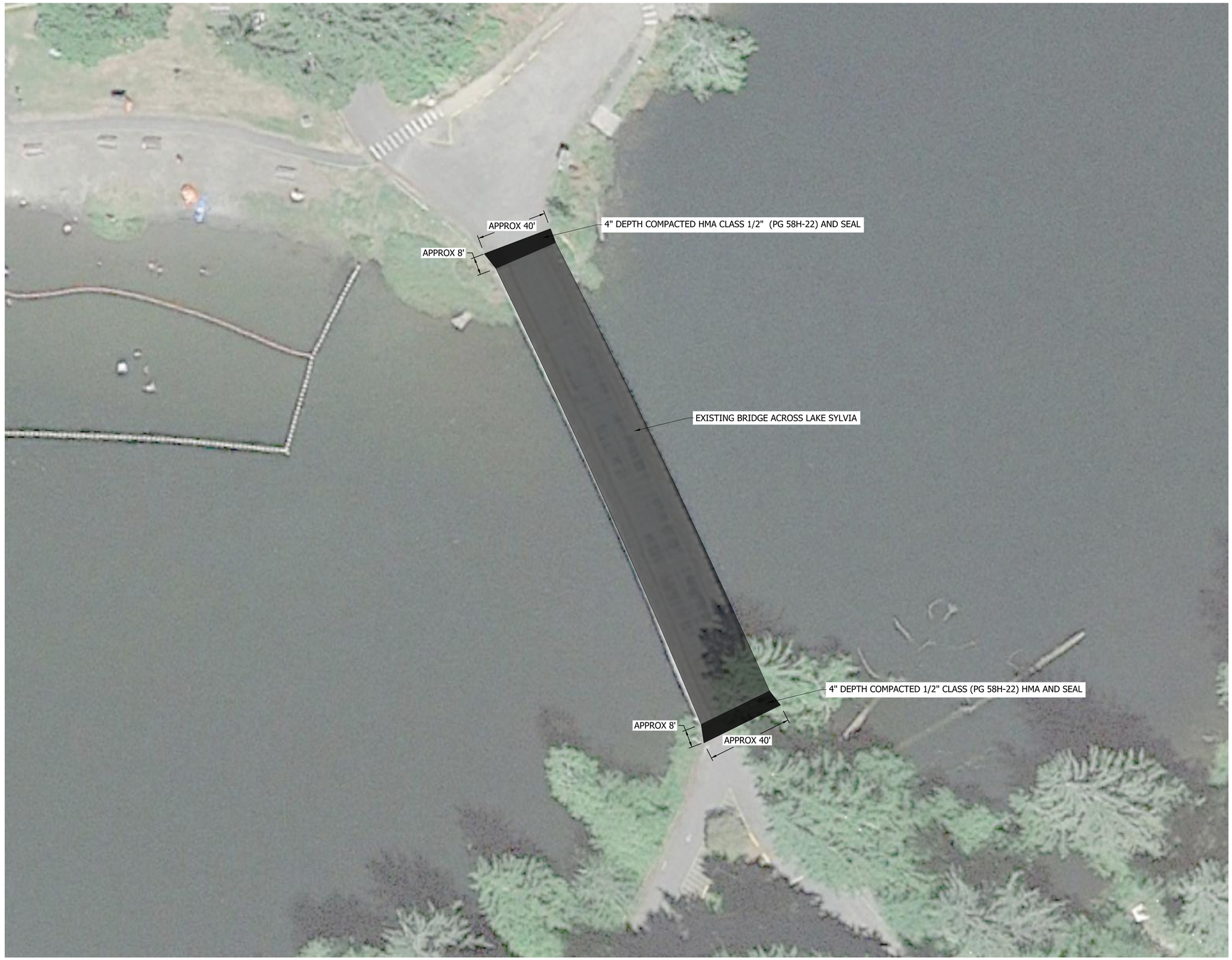
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

GATE DETAILS C12.2

SCALE: NO SCALE

PARKS FILE#



NOTES:

1. STATE PARKS TO PROVIDE BRIDGE REPAIRS AND SUBGRADE. CONTRACTOR TO PROVIDE PAVING AND SEAL.
2. ALL HMA TO BE PER STANDARD SPECIFICATIONS SECTION 5-04.

VERTICAL DATUM
NAVD 88
PT 33 ELV: 265.15

SHEET 30 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

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DESIGNED	MTM	02/23/24
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MATTHEW THOMAS MASON
STATE OF WASHINGTON
44712
REGISTERED
PROFESSIONAL ENGINEER
02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

BRIDGE APPROACH PAVING
C12.3

SCALE
NONE

PARKS FILE#

GENERAL STRUCTURAL NOTES

1. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON DEPARTMENT OF TRANSPORTATION (WSDOT) "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION", DATED 2024 WITH AMENDMENTS AND THE PROJECT SPECIAL PROVISIONS.

2. THIS SUBSTRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9TH EDITION, 2020.

3. THE SEISMIC DESIGN OF THIS STRUCTURE HAS BEEN COMPLETED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN, 2ND EDITION AND INTERIMS THROUGH 2022. THE FOLLOWING PARAMETERS WERE USED FOR THE SEISMIC DESIGN: PGA = 0.418G, SS = 0.966G, S1 = 0.421G, SITE CLASS D.

4. UNLESS OTHERWISE SHOWN IN THE PLANS, CONCRETE COVER MEASURED FROM THE FACE OF THE CONCRETE TO THE FACE OF ANY REINFORCING BAR SHALL BE 3" FOR CONCRETE CAST AGAINST GROUND SURFACE AND 2" AT OTHER LOCATIONS.

5. ALL EXTERIOR CONCRETE CORNERS AND EDGES SHALL HAVE A 3/4" CHAMFER, AND ALL INTERIOR CONCRETE CORNERS SHALL HAVE A 3/4" FILLET.

6. MATERIALS:
   ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO AASHTO M31, GRADE 60 OR ASTM A706 GR 60, UNLESS NOTED OTHERWISE.

   CONCRETE MAY BE MIXED ON-SITE PER SECTION 6-02.3(4)B. CONCRETE SHALL BE CLASS 4000.

   ALL STRUCTURAL STEEL FOR BRIDGE AND RAILING SHALL BE WEATHERING STEEL AND ADHERE TO ASTM A588.

   MATERIALS NOT IDENTIFIED IN THESE GENERAL NOTES ARE IDENTIFIED ON RELEVANT PLANS OR IN THE SPECIFICATIONS.

7. LANDAU ASSOCIATES INC. PROVIDED THE GEOTECHNICAL BASIS FOR DESIGN IN THE REPORT DATED 10/25/2022.

8. DESIGN LOADS:
   DEAD LOAD:

CONCRETE SIDEWALK	- 155 PCF
STEEL	- 490 PCF
ASPHALT WEARING SURFACE	- 140 PCF
UTILITIES	- 175 PLF

   LIVE LOAD:

VEHICLE	- AASHTO HL93 W/IMPACT
RAILING	- TL-3 RATING

9. SEE SPECIAL PROVISIONS FOR CONTRACTING AGENCY PROVIDED PREFABRICATED STEEL GIRDER SUPERSTRUCTURE, PRECAST CONCRETE SILL AND BACKWALL STORAGE LOCATION. CONTRACTING AGENCY PROVIDED STRUCTURE SHALL BE INSTALLED BY THE CONTRACTOR.

10. REMOVE PROVIDED BRIDGE THRIE-BEAM AND REPLACE WITH AESTHETIC TREATED THRIE BEAM RAIL TO MATCH GUARDRAIL.

GRS-IBS ABUTMENT NOTES:

1. THE GRS-IBS ABUTMENT IS A CONTRACTOR DESIGNED ELEMENT AND SHALL MEET THE REQUIREMENTS OF SECTION 6-13 OF THE STANDARD SPECIFICATIONS AND THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) 2018 DESIGN AND CONSTRUCTION GUIDELINES FOR GEOSYNTHETIC REINFORCED SOIL ABUTMENTS AND INTEGRATED BRIDGE DESIGN. SOIL REINFORCEMENT SHALL BE A HIGH STRENGTH GEOSYNTHETIC REINFORCEMENT WOVEN GEOTEXTILE OR GEOGRID THAT SHALL MEET THE REQUIREMENTS OF 6-13 AND 9-33 OF THE STANDARD SPECIFICATIONS. THE SOIL REINFORCEMENT SHALL HAVE THE MINIMUM TENSILE PROPERTIES:

   GRS-IBS ZONE:
   MINIMUM ULTIMATE DESIGN STRENGTH OF 16,500 LB/FT WITH GRAVEL BORROW FOR GEOSYNTHETIC RETAINING WALL.

   GRS-IBS ABUTMENT SHALL BE DESIGNED USING THE FOLLOWING UNFACTORED BRIDGE SUPERSTRUCTURE REACTIONS AT EACH ABUTMENT:

DC	27.75 KIPS	TU	19.6 KIPS (LONGITUDINAL)
DW	74.14 KIPS	BR	36.0 KIPS (LONGITUDINAL)
LL	134.55 KIPS	EQ	92.2 KIPS (LONGITUDINAL)
LL (+IM)	170.70 KIPS		

   CONFIRM REACTIONS LISTED ABOVE AND UPDATED AS NECESSARY WITH FINAL DESIGN REACTIONS FROM THE BRIDGE SUPPLIER.

2. GEOSYNTHETIC SPACING IN GRS-IBS ABUTMENT - SHALL NOT TO EXCEED 8".

   GEOSYNTHETIC SPACING BEHIND GIRDER BACKWALL AND PRECAST CONCRETE SILL SHALL BE 12" MAXIMUM.

   GEOSYNTHETIC SHALL BE A CONTINUOUS PIECE (NO SEAMS) FROM FRONT FACE OF ABUTMENT TO END OF REINFORCEMENT ZONE. SPLICES ARE ALLOWED PARALLEL TO BRIDGE LAYOUT LINE. SPLICES SHALL OVERLAP A MINIMUM OF 2FT.

3. THE GEOTECHNICAL ENGINEER SHALL INSPECT THE GRS-IBS AND WINGWALL SUBGRADE PRIOR TO FILL PLACEMENT.

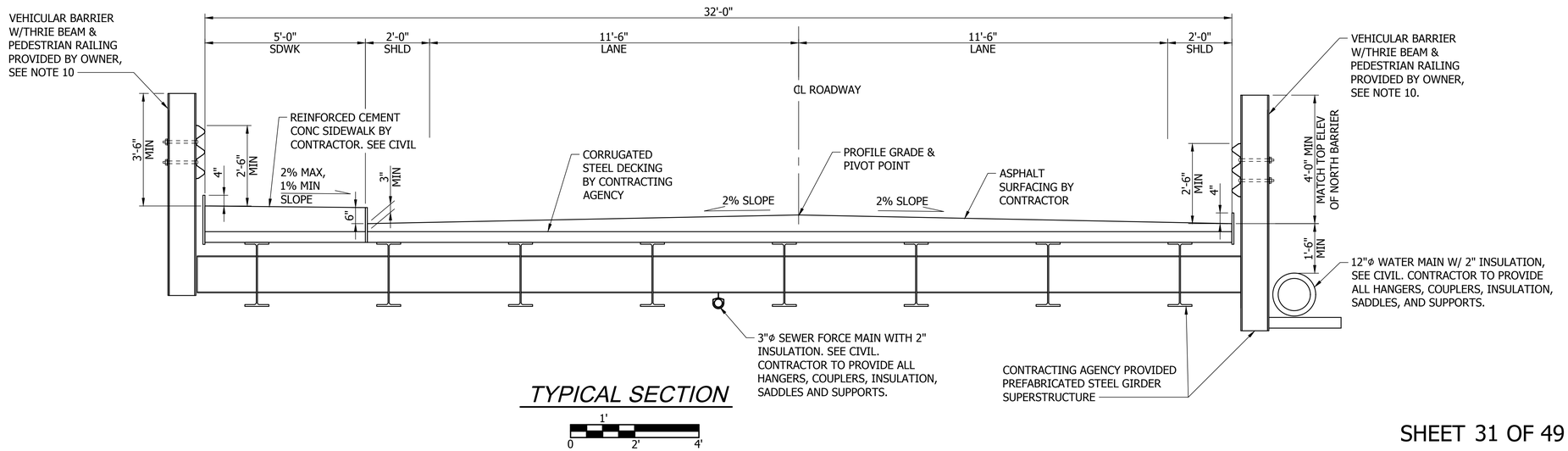
4. ALL DESIGN, FABRICATION AND CONSTRUCTION REQUIRED FOR THE GRS-IBS ABUTMENT SHALL BE INCLUDED IN THE BID ITEM "BRIDGE INSTALLATION".

5. SOIL AND WALL PARAMETERS FOR GRS-IBS DESIGN:

ITEM	PROPERTIES
WALL BACKFILL MATERIAL GRAVEL BORROW FOR STRUCTURAL EARTH WALLS	UNIT WEIGHT = 135 PCF FRICTION ANGLE = 38 DEGREES COHESION = 0 PSF
RETAINED SOIL GRAVEL BORROW	UNIT WEIGHT = 135 PCF FRICTION ANGLE = 38 DEGREES COHESION = 0 PSF
RETAINED SOIL NATIVE SOILS	UNIT WEIGHT = 115 PCF FRICTION ANGLE = 28 DEGREES COHESION = 0 PSF
FOUNDATION SOIL MARINE SEDIMENTARY ROCK	UNIT WEIGHT = 125 PCF FRICTION ANGLE = 30 DEGREES COHESION = 500 PSF UNFACTORED BEARING CAPACITY = 20 KSF SERVICE (1" SETTLEMENT) BEARING CAPACITY = 7 KSF
FOUNDATION SOIL GRAVEL BACKFILL	UNIT WEIGHT = 135 PCF FRICTION ANGLE = 38 DEGREES COHESION = 0 PSF UNFACTORED BEARING CAPACITY = 20 KSF SERVICE (1" SETTLEMENT) BEARING CAPACITY = 7 KSF
SEISMIC PARAMETER	A_S = 0.452G

LEGEND

- C / S2.0 — IDENTIFIES SECTION, VIEW OR DETAIL; TAKEN OR SHOWN ON SHEET NO S2.0
- C / - — TAKEN OR SHOWN ON THE SAME SHEET
- EXISTING CULVERT
- 1593 — EXISTING CONTOUR
- GUARDRAIL
- 1593 — FINISHED CONTOUR
- UD — UD — UNDERDRAIN



TYPICAL SECTION

1' 0 2' 4'

SHEET 31 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	JPG	02/23/2024
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CHECKED (HDQTS.)	XX	-

02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

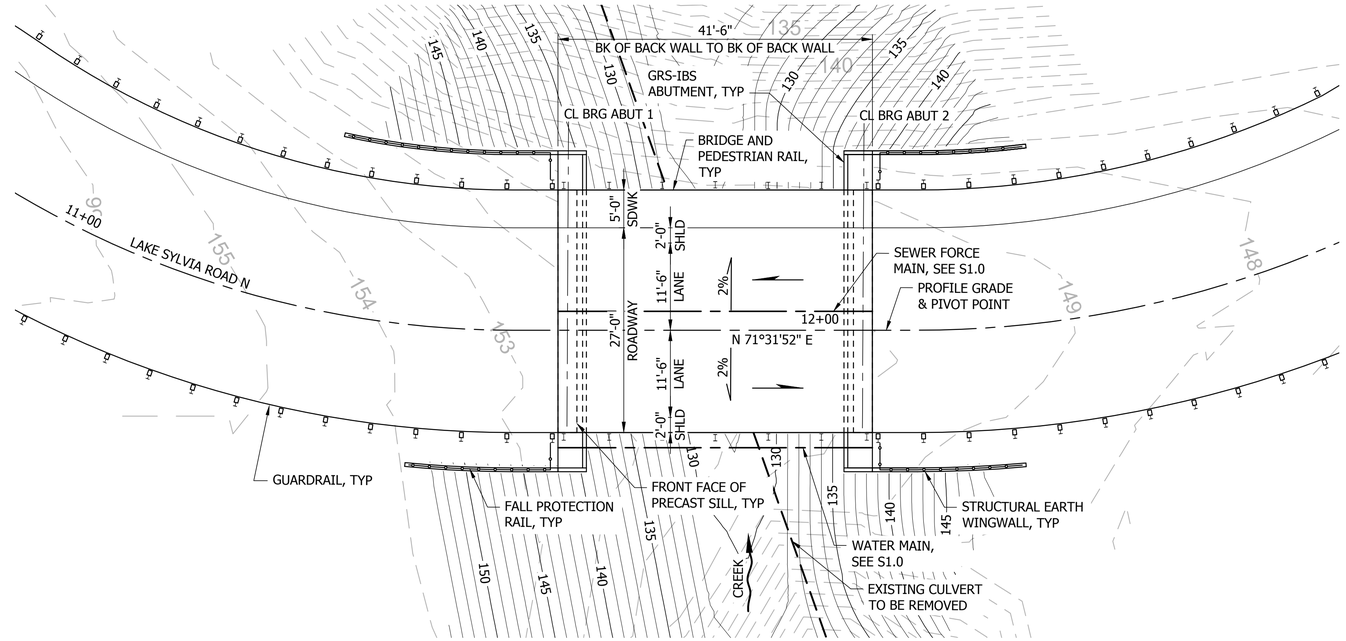
BRIDGE GENERAL NOTES, TYPICAL SECTION S1.0

SCALE

PARKS FILE#

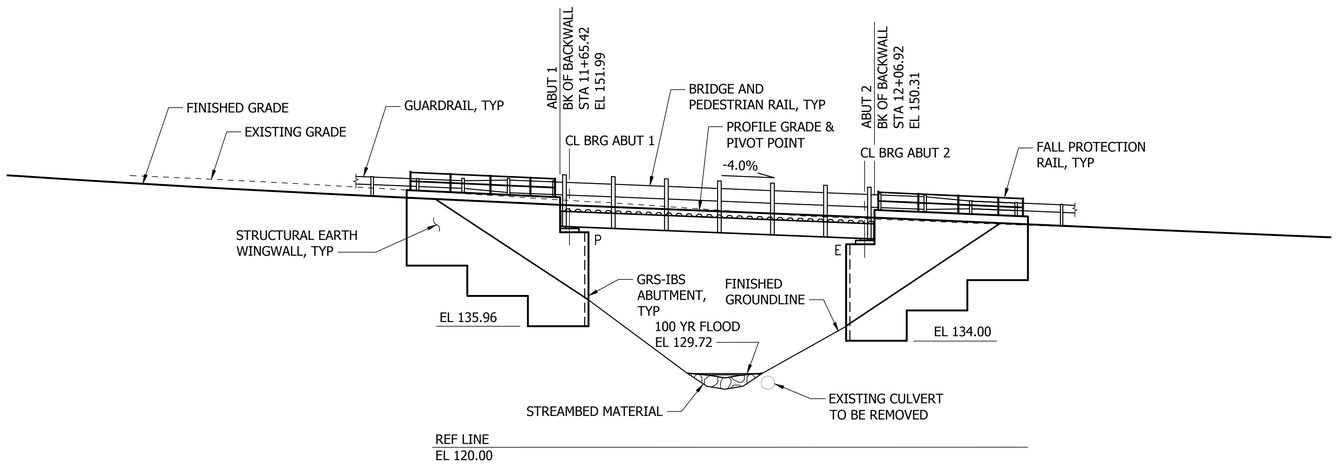
Feb 23, 2024 1:51pm dlemt V:\2300012 (Lake Sylvia State Park Culvert REPL-Ph2)\02_Design (v2022)\LS-S1.0.dwg Layout

SECTION 5 TOWNSHIP 17 N RANGE 7 W
GRAYS HARBOR COUNTY, WA



PLAN

10' 0 20'



ELEVATION

VERTICAL DATUM = NAVD 88

10' 0 20'

NOTES:

1. EXISTING CULVERT LOCATION IS APPROXIMATE. CONTRACTOR TO LOCATE CULVERT IN SITU.
2. SEE CIVIL SHEETS FOR SEWER FORCE MAIN AND WATER MAIN BEYOND BRIDGE LIMITS.

STEEL GIRDER PREFABRICATED SUPERSTRUCTURE
LOADING: HL-93

SHEET 32 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
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CHECKED (HDQTS.)	XX	-

ALLEN WINSTON OLSON — STATE OF WASHINGTON — 20005505 — REGISTERED PROFESSIONAL ENGINEER

02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

BRIDGE PLAN AND ELEVATION S2.0

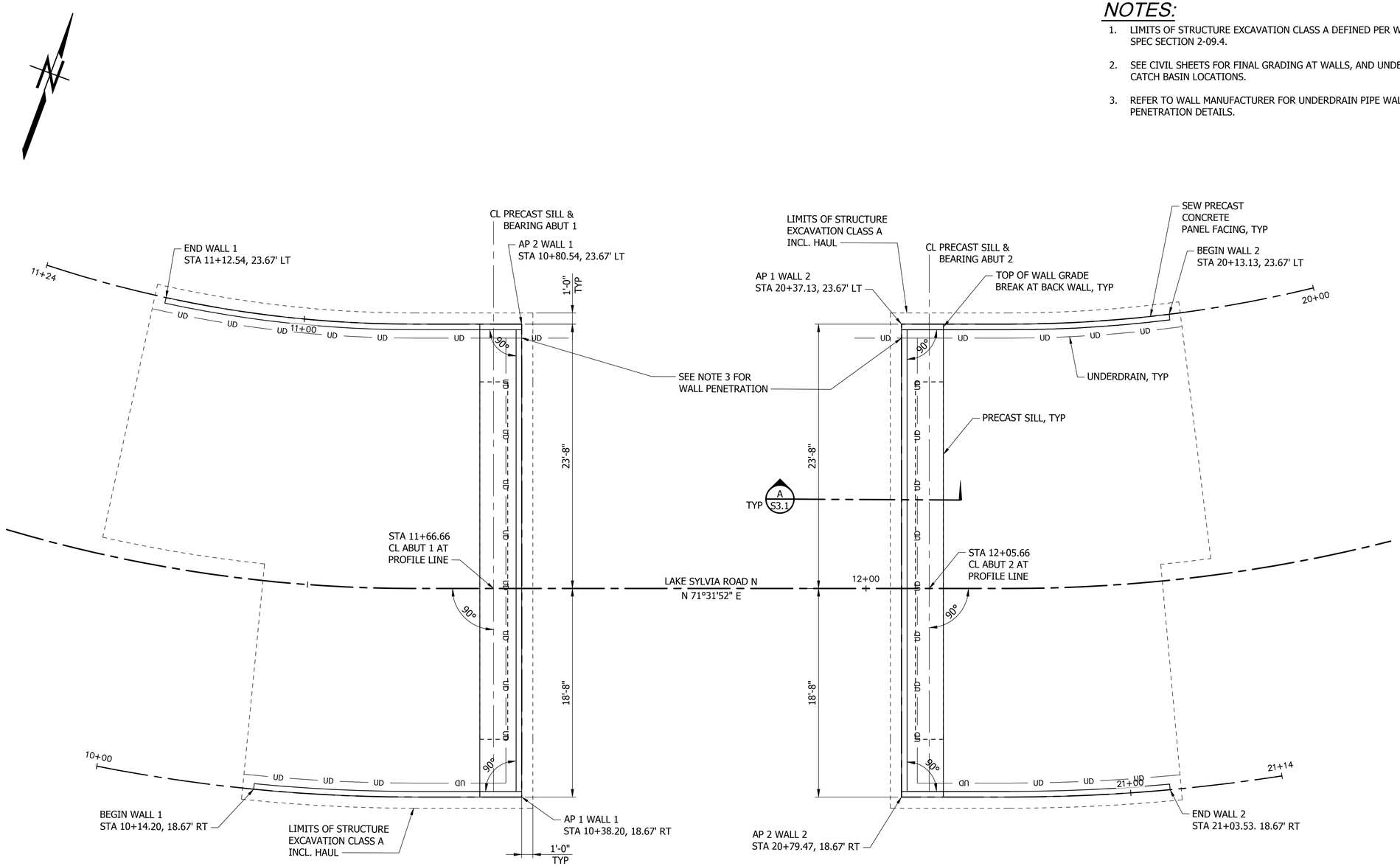
SCALE

PARKS FILE#

Feb 23, 2024 1:53pm dlemt V:\2300012 (Lake Sylvia State Park Culvert REPL-Phi2)\02_Design \v2022\\LS-S2.0.dwg Layout

NOTES:

1. LIMITS OF STRUCTURE EXCAVATION CLASS A DEFINED PER WSDOT STD SPEC SECTION 2-09.4.
2. SEE CIVIL SHEETS FOR FINAL GRADING AT WALLS, AND UNDERDRAIN CATCH BASIN LOCATIONS.
3. REFER TO WALL MANUFACTURER FOR UNDERDRAIN PIPE WALL PENETRATION DETAILS.



FOUNDATION PLAN

5'
0 10'

SHEET 33 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME		
		DATE
		APP.
		INT.
		REVISIONS
		NO.

ACTION	BY	DATE
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CHECKED (FIELD)	XX	-
CHECKED (HDQTS.)	XX	-

ALLEN WINSTON OLSON
STATE OF WASHINGTON
22005505
REGISTERED
PROFESSIONAL ENGINEER

02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

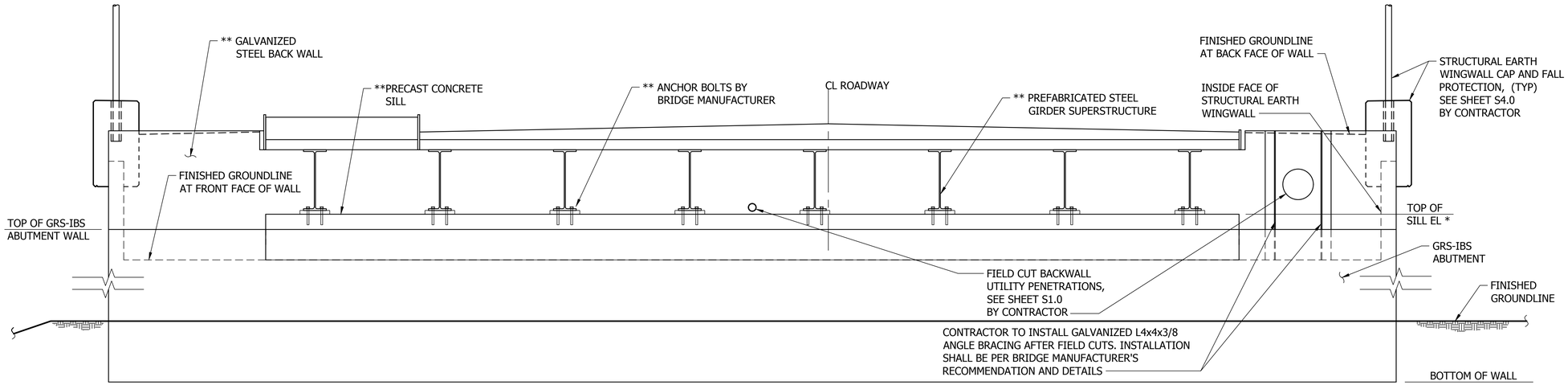
CULVERT REPLACEMENT

FOUNDATION PLAN
S3.0

SCALE

PARKS FILE#

Feb 23, 2024 1:53pm dlemt V:\23000112 (Lake Sylvia State Park Culvert REPL-Ph2)\02_Design (v2022)\LS-S3.0.dwg Layout



ABUTMENT ELEVATION

ABUTMENT 1 SHOWN. ABUTMENT 2 SIMILAR

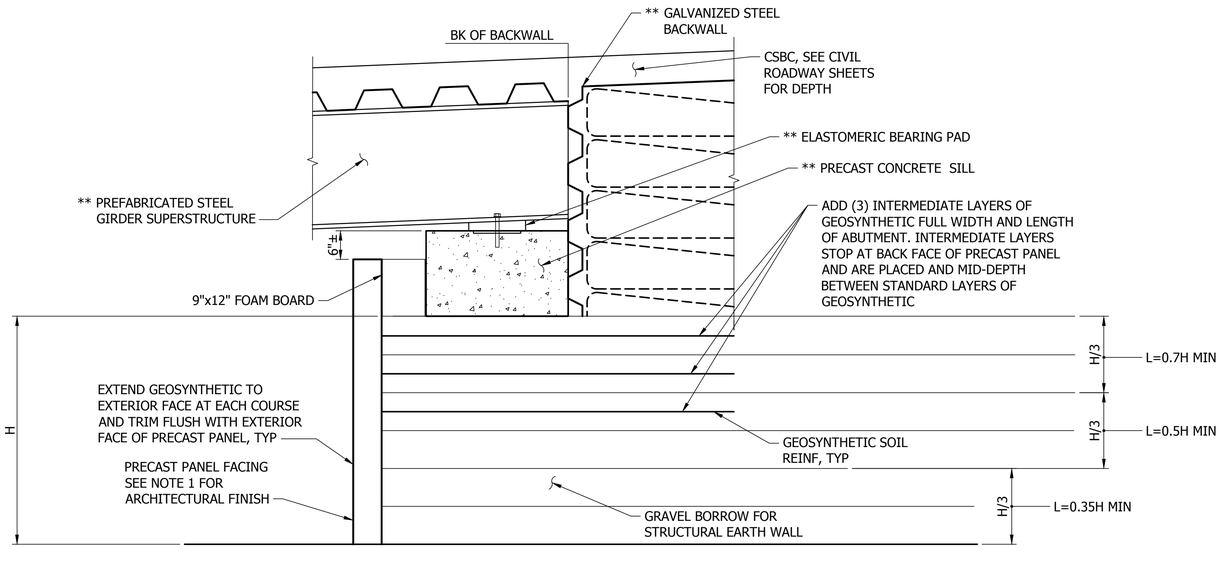
2' 0 4'

** CONTRACTING AGENCY SUPPLIED ELEMENT TO BE INSTALLED BY CONTRACTOR

* ABUT 1 TOP OF SILL EL = 148.94

ABUT 2 TOP OF SILL EL = 147.36

TOP OF SILL ELEVATION BASED ON SILL WIDTH OF 2'-6", TOTAL SUPERSTRUCTURE DEPTH OF 3'-0" AT CL ROADWAY (GIRDERS, ROADWAY SURFACING AND BEARINGS). CONTRACTOR SHALL ADJUST ELEVATION BASE ON ACTUAL BRIDGE STRUCTURE DEPTH.



L = MINIMUM GEOSYNTHETIC SOIL REINFORCEMENT LENGTH

A S3.0 *SECTION*

1' 0 2'

NOTES:

1. SEE PROJECT SPECIFICATION FOR ARCHITECTURAL FINISH STYLE.
2. MINIMUM GEOSYNTHETIC SOIL REINFORCEMENT LENGTH BEHIND BRIDGE BACKWALL IS 0.7 H.
3. BACKWALL PENETRATION LOCATIONS, AREAS WITH DAMAGED PAINT, AND BACKWALL ANGLE BRACING SHALL BE PAINTED WITH BLACK ONE COAT CORATHANE 1 COAL TAR PER PROJECT SPECIFICATIONS.

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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CHECKED (HDQTS.)	XX	-

ALLAN WINSTON OLSON STATE OF WASHINGTON 22005505 REGISTERED PROFESSIONAL ENGINEER

02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

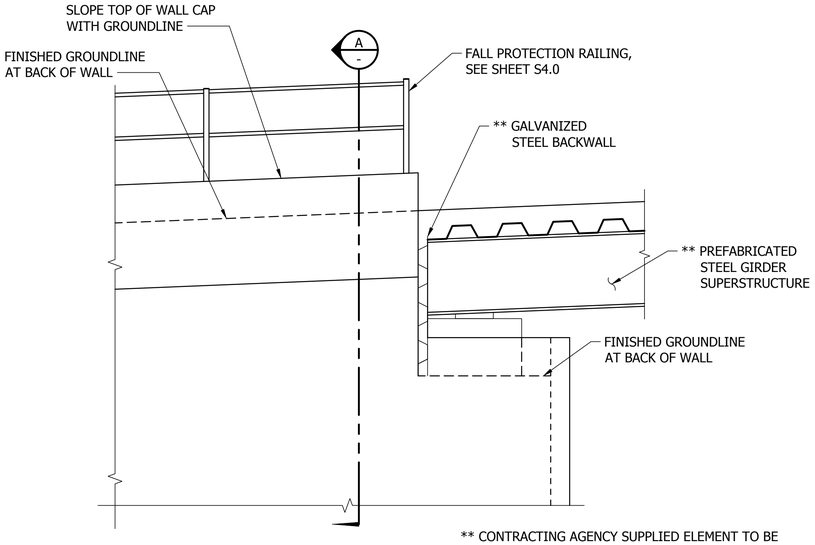
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

ABUTMENT ELEVATION AND SECTION S3.1

SCALE

PARKS FILE#

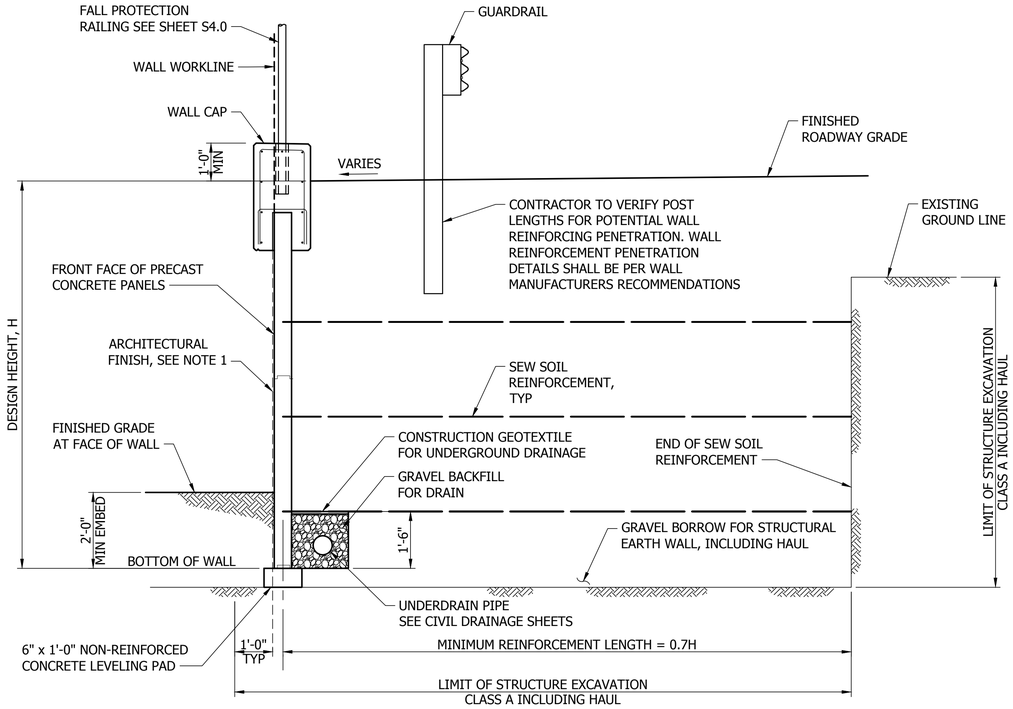


WINGWALL ELEVATION

2'
0 4'

NOTES:

1. SEE PROJECT SPECIFICATION FOR ARCHITECTURAL FINISH STYLE.
2. SEE WSDOT STANDARD SPECIFICATIONS SECTIONS 6-13.3 AND 9-03.14 FOR ADDITIONAL REQUIREMENTS.



SECTION

A
-
2'
0 4'

SHEET 35 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME			
			DATE
			APP.
			INT.
			REVISIONS
			NO.

ACTION	BY	DATE
DESIGNED	JPG	02/23/2024
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ALLEN WINSTON OLSON
STATE OF WASHINGTON
20005505
REGISTERED
PROFESSIONAL ENGINEER

02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

WINGWALL DETAILS S4.0

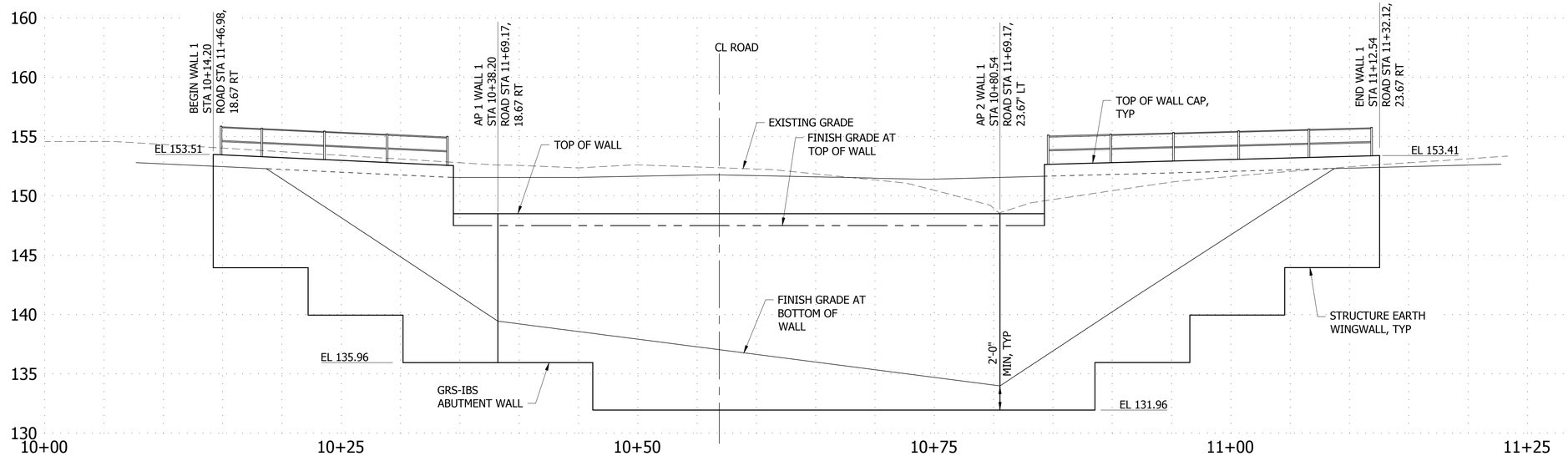
SCALE

PARKS FILE#

Feb 23, 2024 1:54pm dlent V:\2300012 (Lake Sylvia State Park Culvert REPL Ph2)\02_Design (v2022)\LS-S4.0.dwg Layout

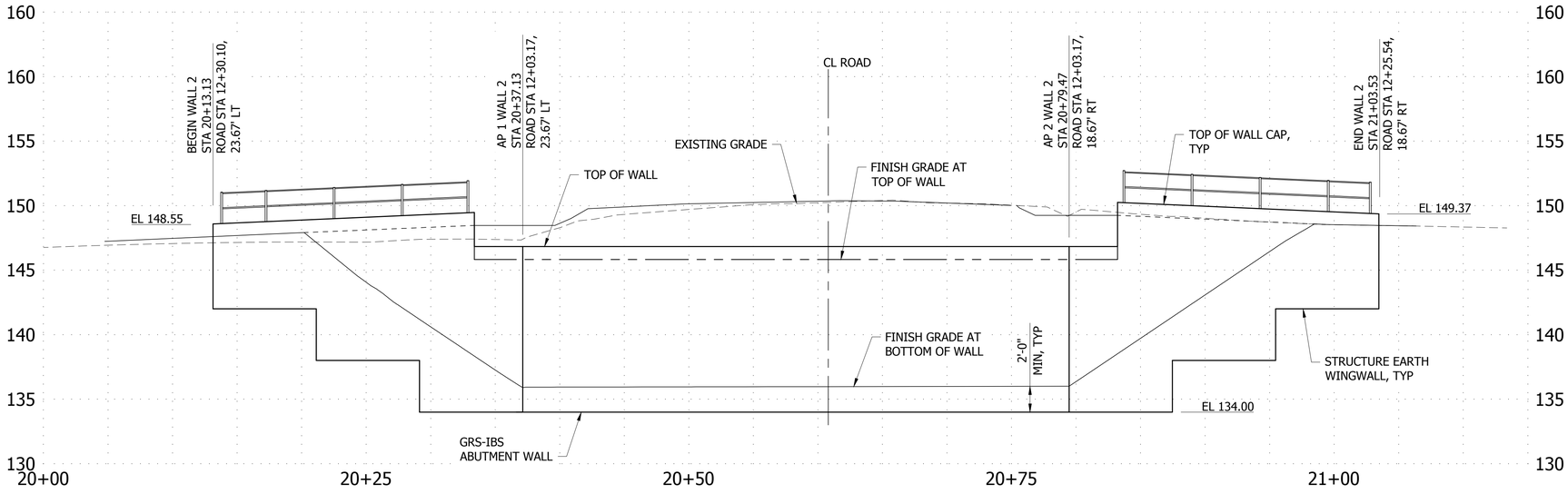
NOTES:

1. BOTTOM OF WALL SHOWN IS FOR DETERMINATION OF QUANTITIES ONLY. ACTUAL BOTTOM OF WALL/STEP LOCATIONS TO BE SET BY WALL MANUFACTURER. WALL SUBGRADE SHALL BE MARINE SEDIMENTARY ROCK LAYER, OR OVEREXCAVATED UNSUITABLE FILL TO MSR AND BACKFILLED WITH GRAVEL BORROW.
2. WALL ELEVATIONS ARE TAKEN AT OUTSIDE FACE OF WALL.
3. GRS-IBS ABUTMENT WALL GEOSYMTHETIC SOIL REINFORCEMENT LENGTHS PER DETAIL A S3.0.
4. WINGWALL SEW SOIL REINFORCEMENT LENGTHS SHALL MEET 0.7H MINIMUM AND EMBEDMENT PER AASHTO LRFD BRIDGE DESIGN SPECS.



FOUNDATION WALL 1 DEVELOPED ELEVATION

1' 6'
0 3'



FOUNDATION WALL 2 DEVELOPED ELEVATION

1' 6'
0 3'

SHEET 36 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME		
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		INT.
		REVISIONS
		NO.

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ALLEN WINSTON OLSON
STATE OF WASHINGTON
20005508
REGISTERED
PROFESSIONAL ENGINEER

02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

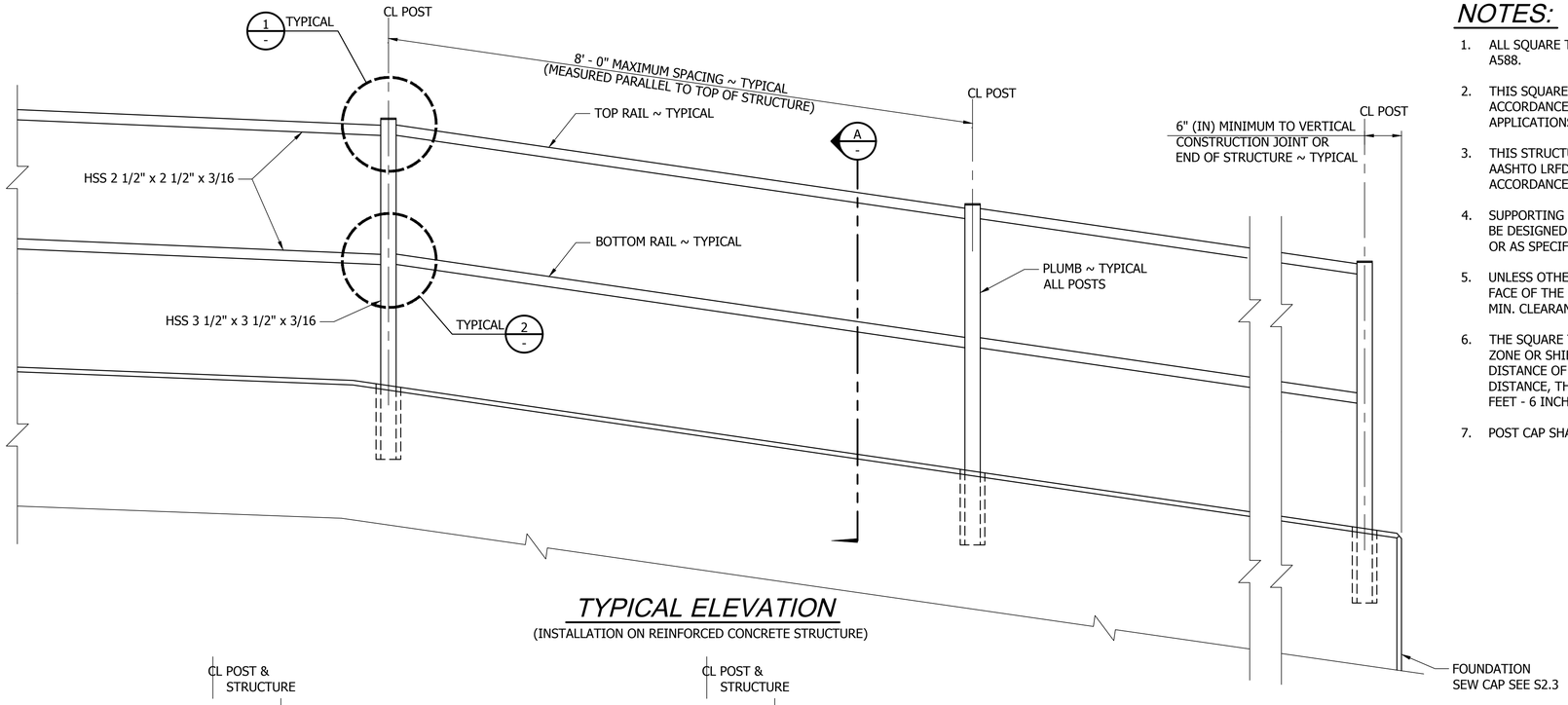
CULVERT REPLACEMENT

FOUNDATION WALL ELEVATIONS S4.1

SCALE

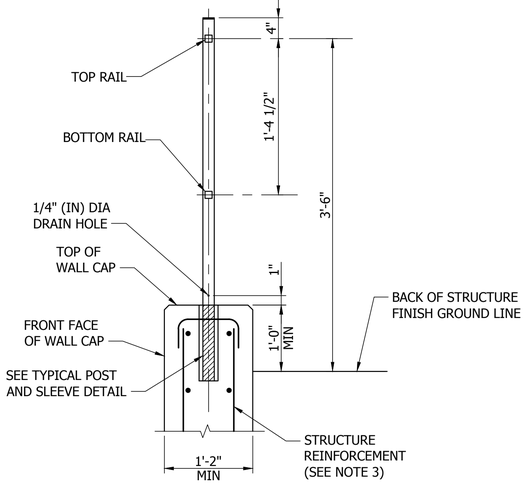
PARKS FILE#

Feb 23, 2024 1:55pm dlemt V:\2300012 (Lake Sylvia State Park Culvert REPL-Ph2)\02_Design (v2022)\LS-S4.1.dwg Layout

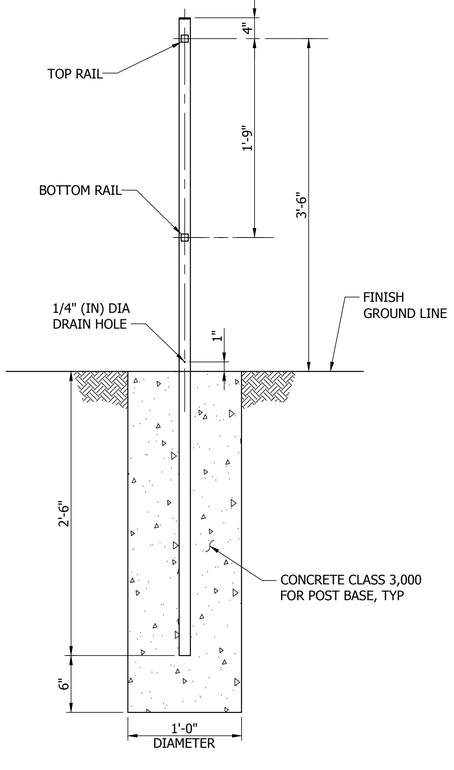


TYPICAL ELEVATION

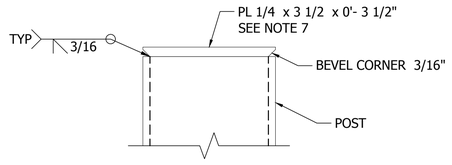
(INSTALLATION ON REINFORCED CONCRETE STRUCTURE)



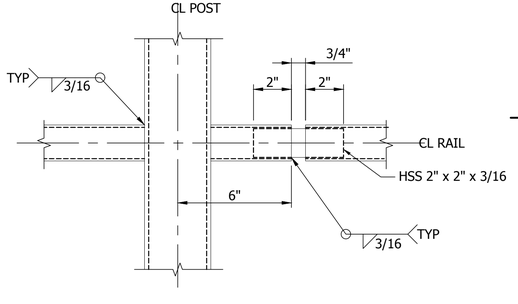
A WALL SECTION



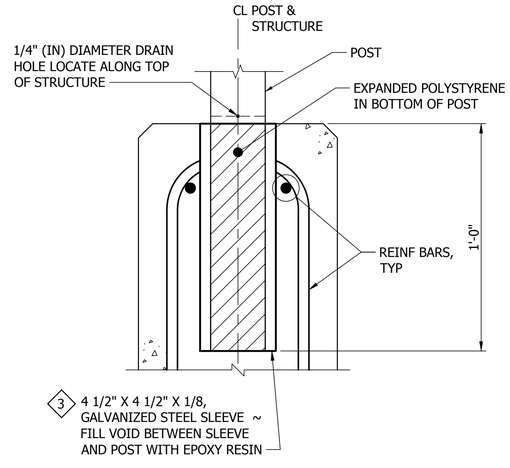
AT GRADE SECTION



1 POST CAP DETAIL



2 SLEEVE SPLICE DETAIL



TYPICAL POST & WALL SLEEVE DETAIL

NOTES:

1. ALL SQUARE TUBE FENCE STEEL SHALL BE WEATHERING STEEL AND ADHERE TO ASTM A588.
2. THIS SQUARE TUBE FENCE MEETS THE REQUIREMENTS FOR FALL PROTECTION IN ACCORDANCE WITH WAC 296-880 AND SHALL NOT BE USED FOR PEDESTRIAN APPLICATIONS.
3. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 9TH EDITION 2020, AND LOADING IN ACCORDANCE WITH WAC 296-880.
4. SUPPORTING STRUCTURE SHALL ACCOUNT FOR THE ATTACHMENTS SHOWN HERE AND BE DESIGNED FOR FALL PROTECTION LOADING IN ACCORDANCE WITH WAC 296-880 OR AS SPECIFIED IN THE CONTRACT.
5. UNLESS OTHERWISE SHOWN IN THE PLANS, CONCRETE COVER MEASURED FROM THE FACE OF THE CONCRETE TO THE FACE OF ANY REINFORCING STEEL SHALL BE 2" (IN) MIN. CLEARANCE.
6. THE SQUARE TUBE FENCE SHALL BE PLACED OUTSIDE THE ROADWAY DESIGN CLEAR ZONE OR SHIELDED BY A TRAFFIC BARRIER AND PLACED OUTSIDE THE DEFLECTION DISTANCE OF THE TRAFFIC BARRIER. FOR TRAFFIC BARRIER HAVING NO DEFLECTION DISTANCE, THE FENCE SHALL BE PLACED A MINIMUM HORIZONTAL DISTANCE OF 3 FEET - 6 INCHES AS MEASURED FROM THE TOP FRONT FACE OF THE BARRIER.
7. POST CAP SHALL BE CUT WITH RADIUS CORNERS TO MATCH POST SECTION.

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	JPG	02/23/2024
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CHECKED (HDQTS.)	XX	-

ALLEN WINSTON OLSON
STATE OF WASHINGTON
20005505
REGISTERED
PROFESSIONAL ENGINEER

02-23-2024

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

FALL PROTECTION DETAILS
S5.0

SCALE

PARKS FILE#

A

41'-6" x 32'-0"

LAKE SYLVIA BRIDGE

MONTESANO, WA

REVIEW AND APPROVAL		
APPROVED	APPROVED AS NOTED	REVISE & RESUBMIT
☐	☐	☐
REVIEWED BY:		
COMPANY:		
DATE:		
PLEASE CHECK ONE BOX AND ADD COMMENTS AS NEEDED ON APPROPRIATE SHEETS.		

SEAN LEE JOHNSON
STATE OF WASHINGTON
45018
REGISTERED
PROFESSIONAL ENGINEER

2/20/24

CERTIFIED FABRICATOR

MARK	DATE	REVISION DESCRIPTION	BY
B	2/20/2024	REVISED PER CUSTOMER COMMENTS	DBA
A	1/26/2024	REVISED PER CUSTOMER COMMENTS	DBA

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
19060 Cr 66 Greeley, CO 80631
800-328-2047 320-345-9126 320-566-3148 FAX

BIG R

CONTECH
CONTRACT
DRAWING

41'-6" x 32'-0"
LAKE SYLVIA BRIDGE
ROLLED GIRDER - SITE-SPECIFIC MODULAR
MONTESANO, WA

PROJECT No.:	SEQ. No.:	DATE:
756910	010	1/9/2024
DESIGNED: DBA		DRAWN: JRJ
CHECKED: DBA		APPROVED: SLJ
SHEET NO.: 1 OF 12		

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	MTM	02/23/24
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CHECKED (FIELD)		
CHECKED (HDQTS.)		

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

BRIDGE SHOP DRAWINGS S6.0

SCALE
NONE

PARKS FILE#

SHEET 38 OF 49

GENERAL NOTES:

1. CONTECH ENGINEERED SOLUTIONS IS RESPONSIBLE FOR THE DESIGN AND SHOP FABRICATION OF THE BRIDGE STRUCTURE ONLY. ALL MEANS, METHODS, AND EQUIPMENT USED FOR FIELD ASSEMBLY AND INSTALLATION OF THE BRIDGE STRUCTURE, INCLUDING PREPARATION OR REVIEW AND APPROVAL OF PROJECT SPECIFIC ERECTION PLANS, ARE OUTSIDE OF CONTECH'S RESPONSIBILITY.

2. DESIGN IS IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 9th EDITION 2020

3. MATERIALS: (UNLESS NOTED OTHERWISE):
   a. STRUCTURAL STEEL: ASTM A588 WEATHERING STEEL
   b. BRIDGE PLANK: ASTM A653 GRADE 50 CLASS 1 GALV.
   c. STRUCTURAL BOLTS: ASTM F3125 GRADE A325 TYPE 3
   d. ELASTOMERIC PADS: GRADE 4, 60 DUROMETER
   e. BRIDGE RAIL/CURB: AASHTO M180 TYP IV WEATHERING
   f. BRIDGE RAIL BOLTS: AASHTO M180

4. DESIGN BASED ON LOAD COMBINATIONS OF THE FOLLOWING LOADS:
   a. BRIDGE DEAD LOAD
   b. TOTAL WEARING SURFACE OF 100 PSF
   c. VEHICLE LIVE LOAD:
   A DESIGN VEHICLE: HL-93, MAX ADTT = 443, LL DEFLECTION LIMIT = L/500
   d. WIND LOADING PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 3.8:
      WIND SPEED = 110 MPH
      WIND EXPOSURE CATEGORY = C
      MAX HEIGHT OF STRUCTURE = 33 FT.
   e. SEISMIC LOADING PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 3.10. TRANSVERSE LOADS CALCULATED USING THE TRANSVERSE PERIOD OF THE BRIDGE AND LONGITUDINAL LOADS CALCULATED USING A PERIOD OF ZERO. A RESPONSE MODIFICATION FACTOR OF 1.0 IS USED FOR THE CALCULATION OF BEARING REACTIONS. IT SHALL BE THE RESPONSIBILITY OF THE FOUNDATION ENGINEER TO DETERMINE THE FORCES USED FOR THE FOUNDATION DESIGN. SEISMIC PARAMETERS USED ARE AS FOLLOWS:
      SITE CLASS: D
      PGA = 0.418
      S_S = 0.966
      S_1 = 0.421
      TRANSVERSE PERIOD OF BRIDGE = T_m = 0.015 SEC
   f. OTHER LOADS:
      UTILITY LOAD TO EXTERIOR GIRDER OF 125 PLF MAX
      UTILITY LOAD TO INTERIOR GIRDER OF 20 PLF MAX

5. BRIDGE RAIL DESIGNED FOR TL-3 LOADING IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS APPENDIX A13.2 (RAIL HAS NOT BEEN CRASH TESTED)

6. BRIDGE STRUCTURE SHALL BE SHOP FABRICATED IN ACCORDANCE WITH AWS D1.5.

7. ALL SHOP WELDING SHALL USE THE GAS METAL ARC WELDING OR FLUX CORED ARC WELDING PROCESS.

8. CLEANING: ALL SURFACES OF STEEL TO BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS NO. 6, SSPC-SP6 COMMERCIAL BLAST CLEANING.

9. ALL STRUCTURAL BOLTED CONNECTIONS ARE CONSIDERED TO BE PRETENSIONED CONNECTIONS. ALL BOLTS ARE TO BE PRETENSIONED PER THE REQUIREMENTS OF SECTION 8.2 OF THE SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS BY RCSC.

10. ALL FIELD INSTALLED BOLTS, NUTS AND WASHERS SHALL BE FURNISHED IN THE AMOUNT OF 5% IN EXCESS OF THE NUMBER REQUIRED FOR EACH SIZE AND LENGTH. IF FIELD INSTALLED BOLTS DO NOT SMOOTHLY ENGAGE UP TO SNUG-TIGHT, THERE MAY BE AN OBSTRUCTION WITHIN THE THREADS, THE BOLTS SHOULD BE REMOVED, THE THREADS ON THE BOLT AND NUT CLEANED AND RETAPPED IF NECESSARY TO ALLOW SMOOTH INSTALLATION OF THE BOLT.

11. MAINTENANCE NOTE: CONTECH ENGINEERED SOLUTIONS RECOMMENDS NOT APPLYING DE-ICING OR DUST PROHIBITIVE CHEMICALS OR SALTS TO ANY PART OF THE BRIDGE STRUCTURE. IF DE-ICING OR DUST PROHIBITIVE CHEMICALS OR SALTS ARE APPLIED TO ANY PART OF THE BRIDGE STRUCTURE, CONTECH ENGINEERED SOLUTIONS WILL NOT BE RESPONSIBLE FOR ANY RESULTANT ACCELERATED CORROSION.

12. SURFACE WATER DRAINAGE OFF OF THE BRIDGE DECK IS NOT THE RESPONSIBILITY OF CONTECH ENGINEERED SOLUTIONS. IF DECK DRAINS OR ANY OTHER MODIFICATIONS TO THE DECK SYSTEM ARE NEEDED FOR DECK DRAINAGE, THEY MAY BE ADDED, HOWEVER THE DETAILS MUST BE APPROVED BY CONTECH ENGINEERED SOLUTIONS PRIOR TO THE MODIFICATIONS BEING MADE.

BRIDGE PLANK DECK NOTES:

1. BRIDGE PLANK FASTENING: WELD EACH PIECE TO ALL GIRDERS WITH PLATE THICKNESS x 3" FILLET WELDS. WELD BETWEEN GIRDERS AT OVERLAPPING WITH 3" FILLET WELDS EVERY 36". PLACE 1 ½" FILLET WELD ON EDGE OF DECKING AT EACH SIDE OF LIFTING LUG. TOUCH UP WELDS WITH ZINC RICH PAINT MEETING THE MATERIAL AND PERFORMANCE REQUIREMENTS OF ASTM A 780.

2. WEARING SURFACE INSTALLATION: WEARING SURFACE WEIGHT SHALL NOT EXCEED THE TOTAL WEARING SURFACE LOAD PER GENERAL NOTE 4b. THE TOTAL WEARING SURFACE LOAD SHALL BE CALCULATED BY ADDING THE THICKNESS OF THE WEARING SURFACE ABOVE THE TOP OF THE BRIDGE PLANK PLUS THE AVERAGE THICKNESS OF THE INFILL AREA OF THE CORRUGATIONS AND MULTIPLYING BY THE UNIT WEIGHT OF THE WEARING SURFACE MATERIAL. THE AVERAGE THICKNESS OF THE INFILL AREA OF THE CORRUGATION SHALL BE 2 1/8".
   a. GRAVEL WEARING SURFACE INSTALLATION PROCEDURE (WHEN APPLICABLE):
      - FILL DECK AREA WITH GRAVEL TO THE DESIRED DEPTH ABOVE THE TOP OF THE BRIDGE PLANK.
      - GRADE GRAVEL ALONG THE LENGTH OF THE BRIDGE DECK SURFACE AS NECESSARY.
      - COMPACT GRAVEL AS NEEDED USING PLATE OR ROLLER COMPACTORS. USE CAUTION COMPACTING NEAR THE SIDE DAMS.
   b. ASPHALT WEARING SURFACE INSTALLATION PROCEDURE (WHEN APPLICABLE):
      - CLEAN BRIDGE PLANKS OF ALL FOREIGN MATTER.
      - APPLY TACK COAT OVER BRIDGE PLANK SURFACE, FILL AND COMPACT ALL CORRUGATIONS WITH ASPHALT, AS AN ALTERNATIVE TO FILLING CORRUGATIONS WITH ASPHALT, THE CORRUGATIONS MAY BE FILLED WITH LEAN CONCRETE OR COMPACTED CRUSHED BASE.
      - OVERLAY A LEVELING COURSE AND ADDITIONAL COURSES AS NECESSARY TO FINAL SURFACE ELEVATION AND COMPACT TO REQUIRED DENSITY.
      - COMPACT ASPHALT USING PLATE OR ROLLER COMPACTORS. USE CAUTION COMPACTING NEAR THE SIDE DAMS.
   c. CONCRETE WEARING SURFACE INSTALLATION PROCEDURE (WHEN APPLICABLE):
      - CLEAN BRIDGE PLANKS OF ALL FOREIGN MATTER.
      - PLACE FORM WORK AS NEEDED.
      - PLACE CRACK CONTROL REINFORCING STEEL. CONTECH ENGINEERED SOLUTIONS RECOMMENDS #3 BARS AT 12" EACH WAY OR WWF WITH 2" TOP COVER FOR CRACK CONTROL REINFORCING STEEL.
      - PLACE AND FINISH CONCRETE. CONTECH ENGINEERED SOLUTIONS RECOMMENDS USING 3,000 PSI MINIMUM CONCRETE WITH 5% ± 1% AIR CONTENT.
      - IF LATERAL SHIFTING OR UPLIFT OF THE DECK IS A CONCERN, CONTECH ENGINEERED SOLUTIONS RECOMMENDS ADDING 1/2" HEADED ANCHOR STUDS IN THE BRIDGE PLANK VALLEYS AT 3'-0" x 3'-0" TO HELP TIE THE CONCRETE WEARING SURFACE TO THE BRIDGE PLANK.
   d. WOOD BOARD WEARING SURFACE INSTALLATION PROCEDURE (WHEN APPLICABLE):
      - FIT WOOD BOARDS WITH STAGGERED JOINTS AND 1/2" MAXIMUM GAPS AT BOARDS. IF BOARDS ARE SHOP INSTALLED, LEAVE 1/8" MINIMUM GAPS AT LOOSE BOARDS. USE (2) 1/2" Ø GALVANIZED CARRIAGE BOLTS AT EACH END OF THE WOOD BOARDS AND ALTERNATE CENTERS AT 4'-0". USE A LIQUID THREAD LOCKER OR DAMAGE THE THREADS UPON INSTALLATION OF THE NUTS TO PREVENT LOOSENING.
      - IF REQUIRED, WOOD MATERIAL SHALL BE TREATED TO MEET AWPA U1 UC4A GROUND CONTACT. ACCEPTABLE TREATMENTS ARE COPPER AZOLE TYPE C (CA-C) TO A 0.15 PCF RETENTION OR TO REFUSAL OR EQUAL.

QUALITY ASSURANCE NOTES:

1. BRIDGE STRUCTURE SHALL BE INSPECTED IN ACCORDANCE WITH AWS D1.5 AND CONTECH'S QUALITY MANUAL. ADDITIONAL INSPECTIONS, INCLUDING FIELD, AND ANY SPECIAL INSPECTIONS, ARE OUTSIDE OF CONTECH'S RESPONSIBILITY.

SEAN LEE JOHNSON
STATE OF WASHINGTON
45018
REGISTERED
PROFESSIONAL ENGINEER
2/20/24

CERTIFIED FABRICATOR

MARK	DATE	REVISION DESCRIPTION	BY
B	2/20/2024	REVISED PER CUSTOMER COMMENTS	DBA
A	1/26/2024	REVISED PER CUSTOMER COMMENTS	DBA

CONTECH ENGINEERED SOLUTIONS LLC
www.ContechES.com
19060 Cr 66 Greeley, CO 80631
800-328-2047 320-345-9126 320-566-3148 FAX

BIG R

CONTECH CONTRACT DRAWING

41'-6" x 32'-0"
LAKE SYLVIA BRIDGE
ROLLED GIRDER - SITE-SPECIFIC MODULAR
MONTESANO, WA

PROJECT No.:	SEQ. No.:	DATE:
756910	010	1/9/2024
DESIGNED: DBA		DRAWN: JRJ
CHECKED: DBA		APPROVED: SLJ
SHEET NO.: 2 OF 12		

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

	DATE	APP.	INT.	REVISIONS	NO.

ACTION	BY	DATE
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CHECKED (FIELD)		
CHECKED (HDQTS.)		

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

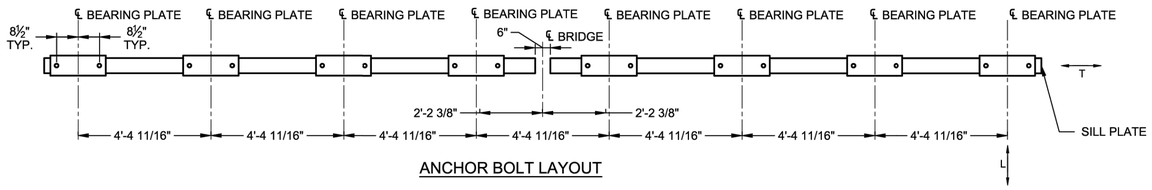
CULVERT REPLACEMENT

BRIDGE SHOP DRAWINGS S6.0

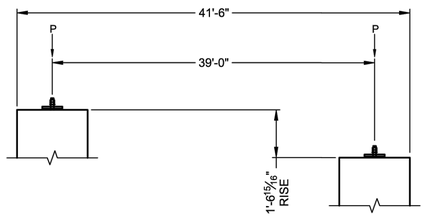
SCALE
NONE

PARKS FILE#

SHEET 39 OF 49



ANCHOR BOLT LAYOUT



⚠A ANCHOR BOLT ELEVATION

⚠B

BEARING REACTION IN KIPS		MAX AT INTERIOR GIRDER			MAX AT EXTERIOR GIRDER			TOTAL AT ABUTMENT		
		P	T	L	P	T	L	P	T	L
DEAD LOAD (DC)		3.09			4.93			28.37		
WEARING SURFACE LOAD (DW)		9.08			8.17			70.82		
HL-93 DESIGN VEHICLE	VEHICLE LOAD (LL)	40.36			29.59			134.55		
	VEHICLE LOAD + DYNAMIC LOAD ALLOWANCE (LL+IM)	51.21			37.54			170.70		
WIND LOAD (WS)		-13.28*	0.78			0.78		-13.28*	6.23	
THERMAL LOAD (TU)				2.45			2.45			19.58
BRAKING FORCE (BR)				4.50			4.50			36.00
SEISMIC LOAD (EQ)			6.55	11.21		6.55	11.21		52.40	89.72

"P": VERTICAL LOAD
"T": HORIZONTAL LOAD TRANSVERSE TO THE STRUCTURE
"L": HORIZONTAL LOAD LONGITUDINAL TO THE STRUCTURE
* WIND LOAD UPLIFT ASSUMES FULL 20 PSF TO DECK AREA IS APPLIED TO ONE GIRDER LINE

⚠A

LIFTING WEIGHTS			
ITEM	QTY	UNIT WEIGHT (LBS)	TOTAL WEIGHT (LBS)
BRIDGE MODULE #1	1	11,090	11,090
BRIDGE MODULE #2	1	11,650	11,650
BRIDGE MODULE #3	1	11,650	11,650
BRIDGE MODULE #4	1	13,470	13,470
PRECAST SILL ASSEMBLY	4	9430	37,720
BACKWALL ASSEMBLY	2	920	1,840
LOOSE ITEMS	1	9410	9,410
TOTAL BRIDGE WEIGHT:			96,830

SEAN LEE JOHNSON
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BIG R
CONTECH CONTRACT DRAWING

41'-6" x 32'-0"
LAKE SYLVIA BRIDGE
ROLLED GIRDER - SITE-SPECIFIC MODULAR
MONTESANO, WA

PROJECT NO.:	SEQ. No.:	DATE:
756910	010	1/9/2024
DESIGNED: DBA		DRAWN: JRJ
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SHEET NO.: 3 OF 12		

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REVISIONS			
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REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

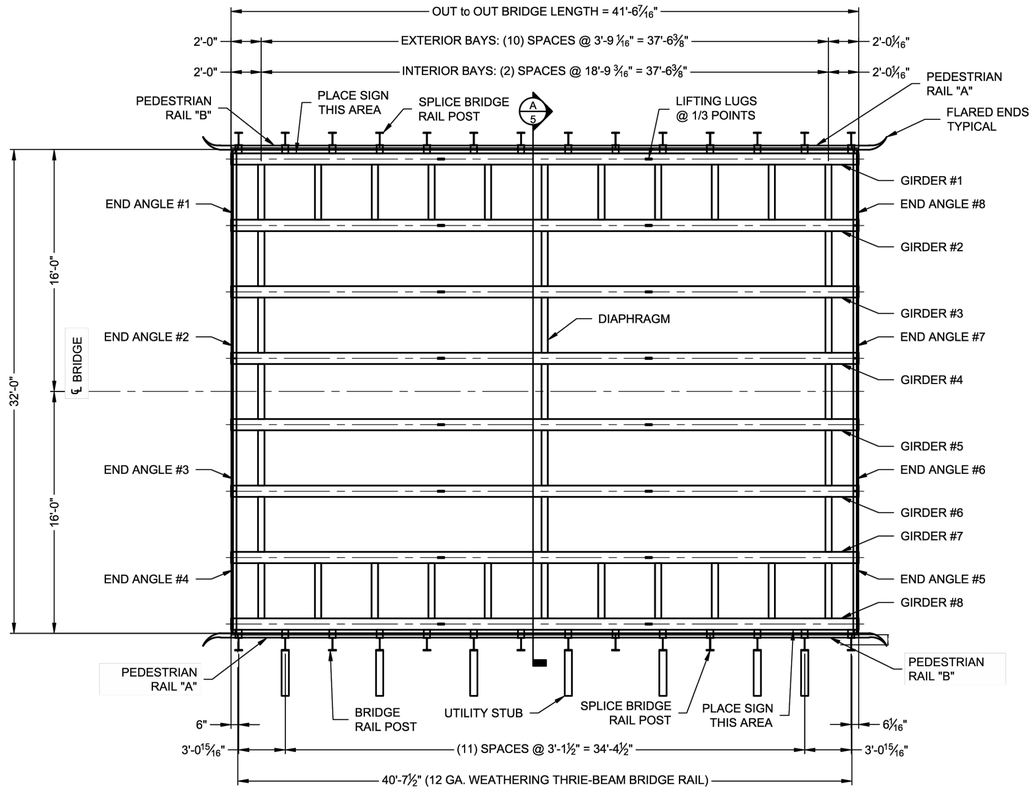
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

BRIDGE SHOP DRAWINGS
S6.0

SCALE
NONE

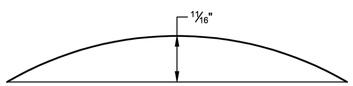
PARKS FILE#



A FRAMING PLAN

MEMBERS	DESCRIPTION
GIRDER	W 24x76
BRIDGE PLANK	12" x 4 1/4" x 7-Ga.
DIAPHRAGM	W 14x22
POST BLOCK	WT 7x11
SIDE DAM	₹ 1/4" x 8"
SIDE DAM EXTENSION	₹ 1/4"
CENTER SPLICE PLATE	₹ 1/4" x 5"
END ANGLE	L 4x4x3/8
END DAM	₹ 1/4"
PEDESTRIAN RAIL	L 2x2x3/16

NOTE:
ALL LONGITUDINAL DIMENSIONS MEASURED ALONG GRADE.



A CAMBER DETAIL

SEAN LEE JOHNSON
STATE OF WASHINGTON
45018
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PROFESSIONAL ENGINEER
2/20/24

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BIG R

CONTECH
CONTRACT
DRAWING

41'-6" x 32'-0"
LAKE SYLVIA BRIDGE
ROLLED GIRDER - SITE-SPECIFIC MODULAR
MONTESANO, WA

PROJECT No.:	SEQ. No.:	DATE:
756910	010	1/9/2024
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SHEET NO.: 4 OF 12		

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CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

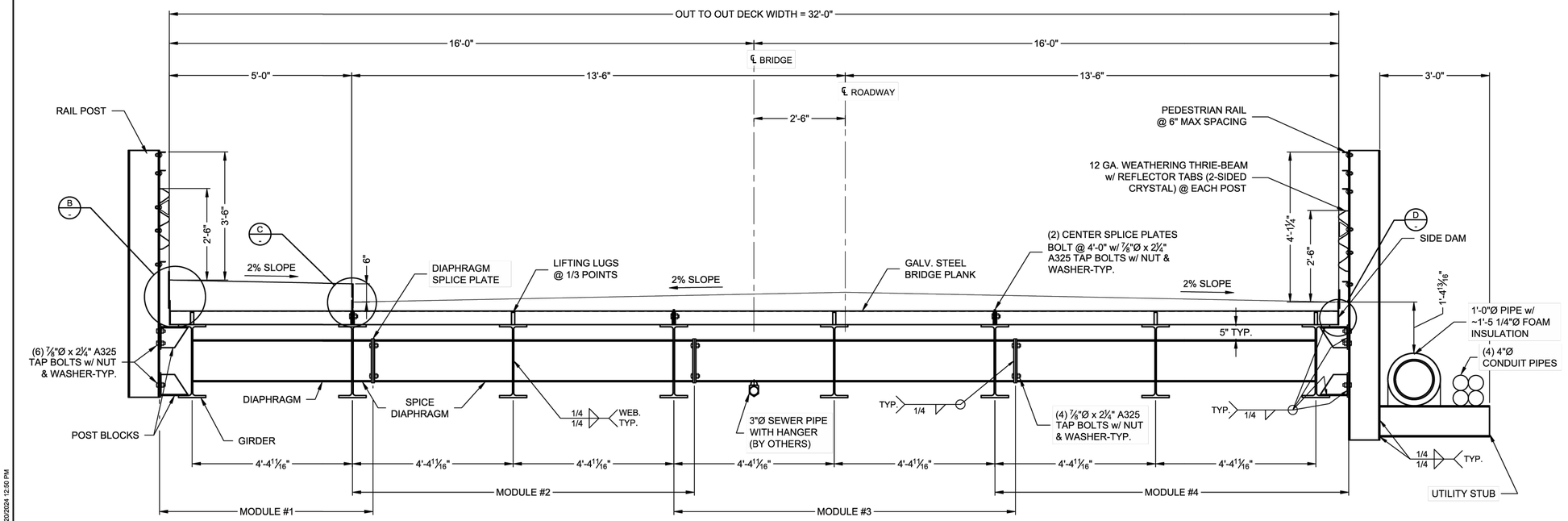
CULVERT REPLACEMENT

BRIDGE SHOP DRAWINGS S6.0

SCALE
NONE

PARKS FILE#

SHEET 41 OF 49



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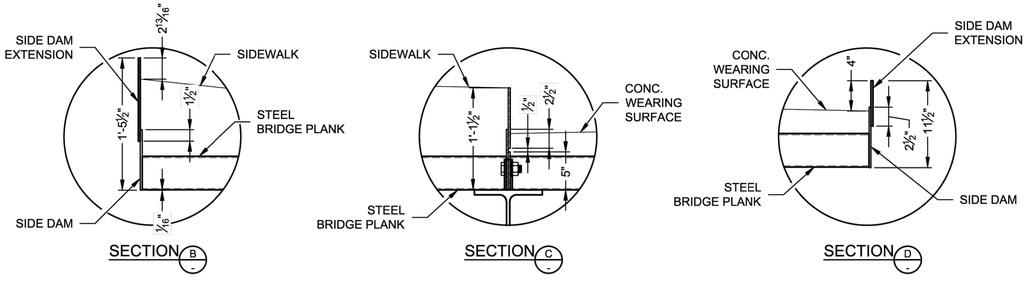

SEAN LEE JOHNSON
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2/20/24

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SHEET NO.: 5 OF 12		

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA
STATE PARK

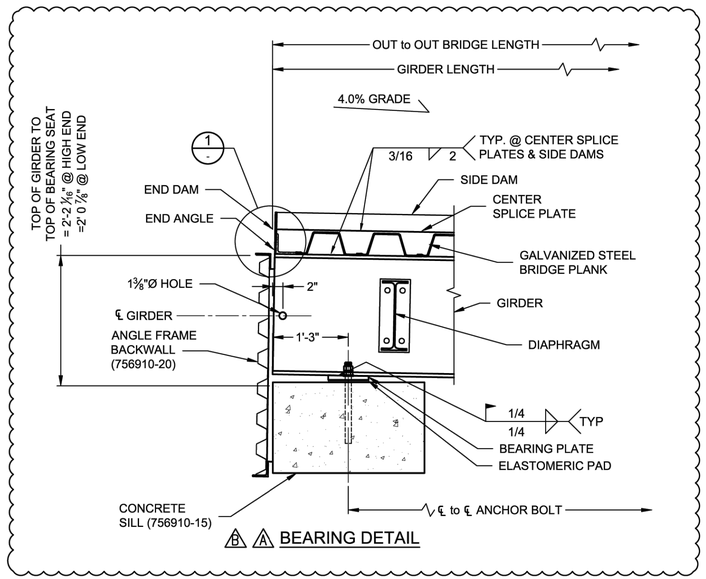
CULVERT
REPLACEMENT

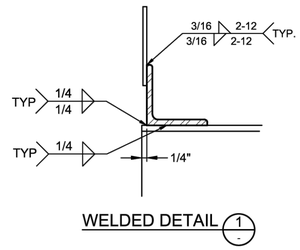
BRIDGE SHOP
DRAWINGS
S6.0

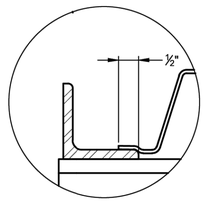
SCALE
NONE

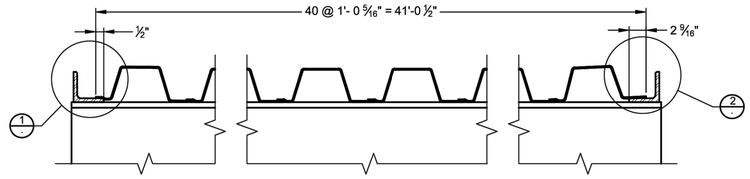
PARKS FILE#

SHEET 42 OF 49

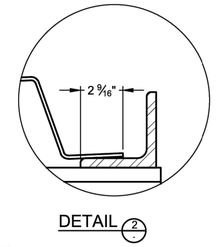








A DECK PLANK LAYOUT



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BIG R
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CONTRACT
DRAWING

41'-6" x 32'-0"
LAKE SYLVIA BRIDGE
ROLLED GIRDER - SITE-SPECIFIC MODULAR
MONTESANO, WA

PROJECT NO.:	SEQ. No.:	DATE:
756910	010	1/9/2024
DESIGNED: DBA	DRAWN: JRJ	
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SHEET NO.: 6 OF 12		

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

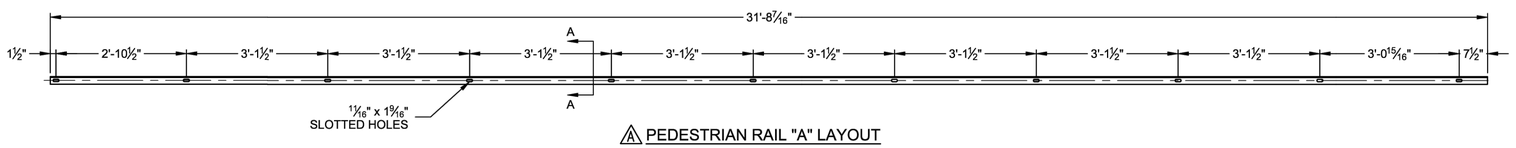
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

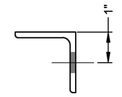
BRIDGE SHOP DRAWINGS
S6.0

SCALE
NONE

PARKS FILE#



A PEDESTRIAN RAIL "A" LAYOUT



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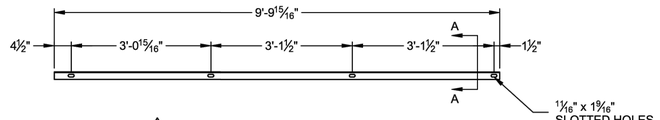
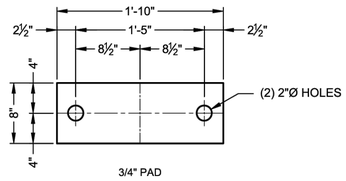
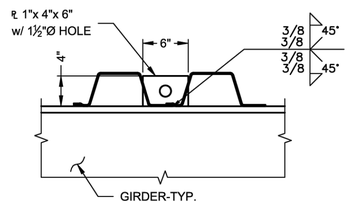


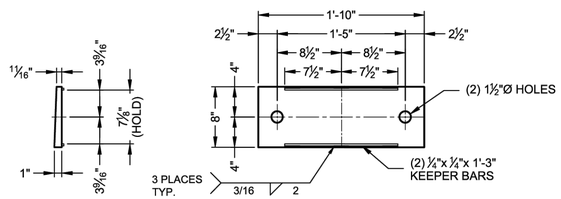
A PEDESTRIAN RAIL "B" LAYOUT



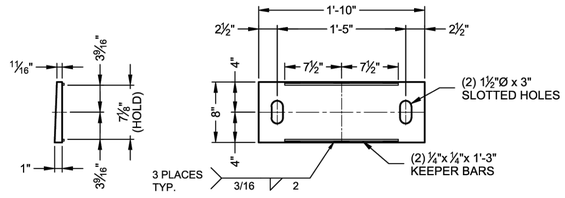
ELASTOMERIC PAD DETAIL
(SHIPS LOOSE)



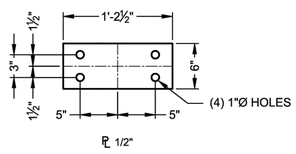
MAX. 24,000 # @ 45° LIFT ANGLE
LIFTING LUG DETAIL



TAPERED BEARING PLATE DETAIL (FIXED)
(SHIPS LOOSE)



TAPERED BEARING PLATE DETAIL (EXPANSION)
(SHIPS LOOSE)



DIAPHRAGM SPLICE PLATE DETAIL

SEAN LEE JOHNSON
STATE OF WASHINGTON
45018
REGISTERED
PROFESSIONAL ENGINEER

2/20/24

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BIG R

CONTECH
CONTRACT
DRAWING

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ROLLED GIRDER - SITE-SPECIFIC MODULAR
MONTESANO, WA

PROJECT No.:	SEQ. No.:	DATE:
756910	010	1/9/2024
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SHEET NO.: 7 OF 12		

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

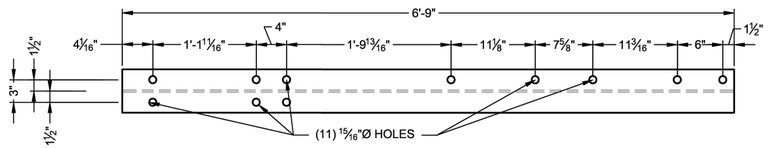
CULVERT REPLACEMENT

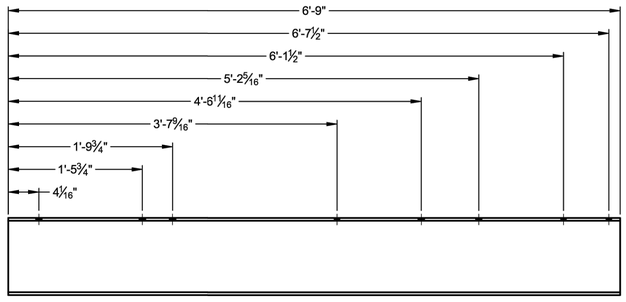
BRIDGE SHOP DRAWINGS S6.0

SCALE
NONE

PARKS FILE#

SHEET 44 OF 49

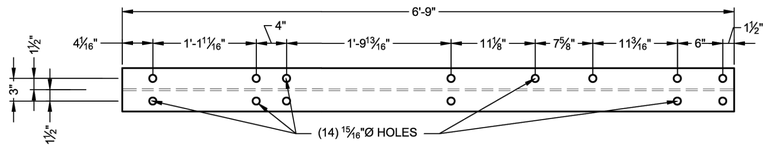




W10x26

⚠ NORTH BRIDGE RAIL POST DETAIL

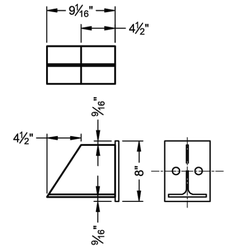
(SHIPS LOOSE)



W10x26

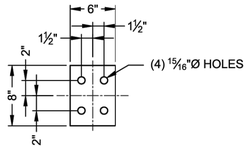
⚠ NORTH BRIDGE RAIL SPLICE POST DETAIL

(SHIPS LOOSE)



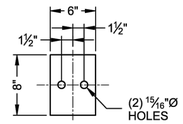
WT 7x11

POST BLOCK DETAIL



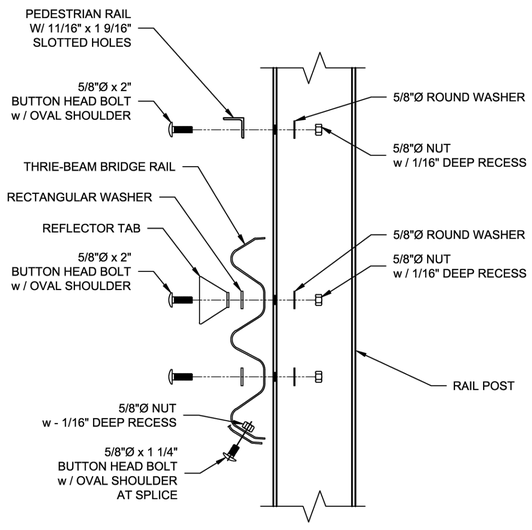
℄ 1/2"

TOP POST BLOCK PLATE DETAIL



℄ 1/2"

BOT. POST BLOCK PLATE DETAIL



THRIE-BEAM RAIL & PED. RAIL ATTACHMENT DETAIL

(W 8x18 POSTS)

2/20/24

AISC CERTIFIED FABRICATOR

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MARK	DATE	REVISION DESCRIPTION	BY
B	2/20/2024	REVISED PER CUSTOMER COMMENTS	DBA
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www.ContechES.com
19060 Cr 66 Greeley, CO 80631
800-328-2047 320-345-9126 320-566-3148 FAX

BIG R

CONTECH CONTRACT DRAWING

41'-6" x 32'-0"
LAKE SYLVIA BRIDGE
ROLLED GIRDER - SITE-SPECIFIC MODULAR
MONTESANO, WA

PROJECT No.:	SEQ. No.:	DATE:
756910	010	1/9/2024
DESIGNED: DBA		DRAWN: JRJ
CHECKED: DBA		APPROVED: SLJ
SHEET NO.: 8 OF 12		

SHEET 45 OF 49

CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

NO.	REVISIONS	INT.	APP.	DATE

ACTION	BY	DATE
DESIGNED	MTM	02/23/24
DRAWN	KMS	02/23/24
CHECKED (FIELD)		
CHECKED (HDQTS.)		

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA STATE PARK

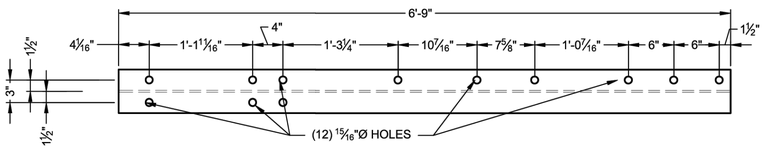
CULVERT REPLACEMENT

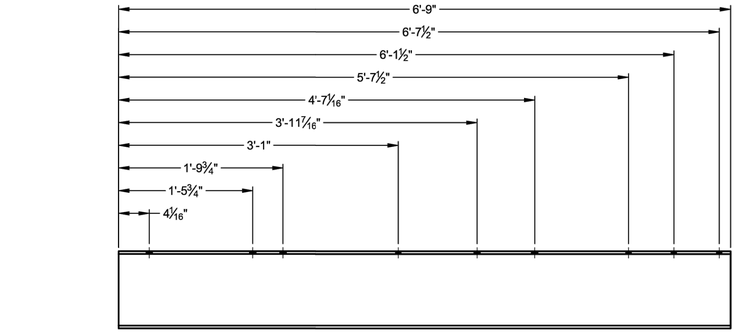
BRIDGE SHOP DRAWINGS S6.0

SCALE

NONE

PARKS FILE#

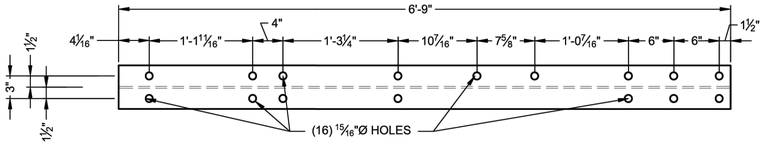




W10x26

⚠ SOUTH BRIDGE RAIL POST DETAIL

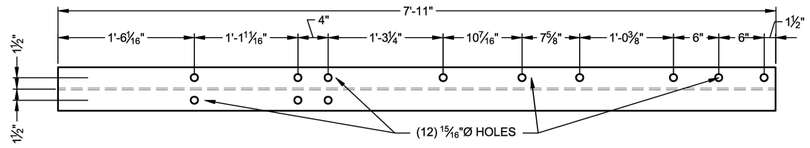
(SHIPS LOOSE)

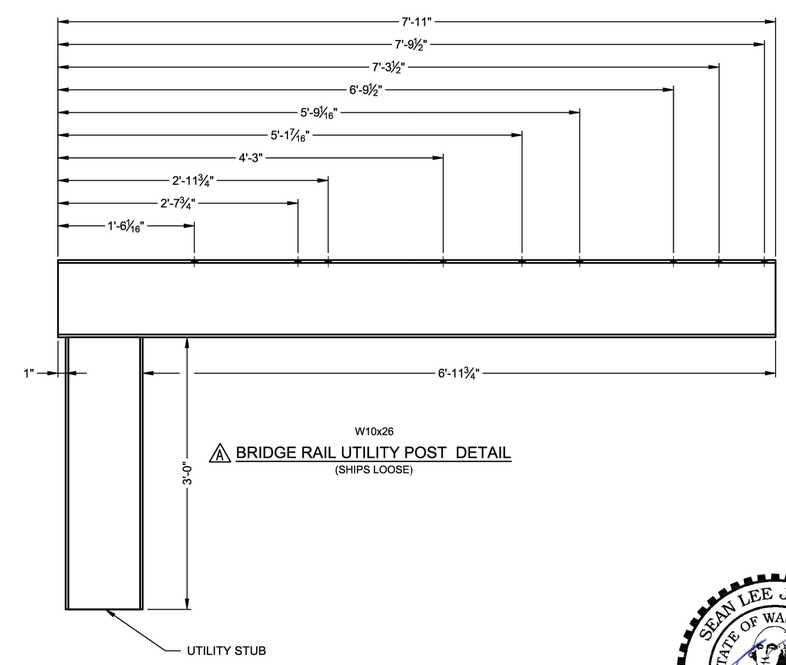


W10x26

⚠ SOUTH BRIDGE RAIL SPLICE POST DETAIL

(SHIPS LOOSE)





W10x26

⚠ BRIDGE RAIL UTILITY POST DETAIL

(SHIPS LOOSE)

SEAN LEE JOHNSON
STATE OF WASHINGTON
45018
REGISTERED
PROFESSIONAL ENGINEER

2/20/24

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BIG R

CONTECH CONTRACT DRAWING

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ROLLED GIRDER - SITE-SPECIFIC MODULAR
MONTESANO, WA

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SHEET NO.: 9 OF 12		

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CHECKED (HDQTS.)		

REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

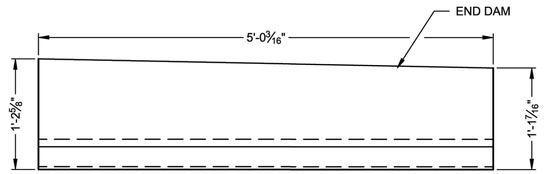
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

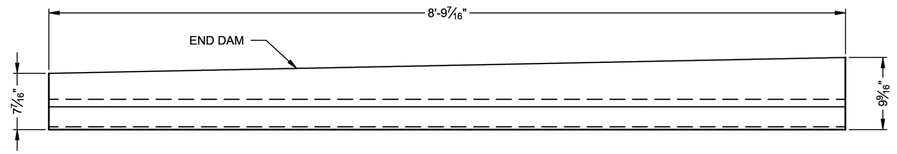
BRIDGE SHOP DRAWINGS S6.0

SCALE NONE

PARKS FILE#



L 4x4x3/8
A END ANGLE #1 ASSEMBLY



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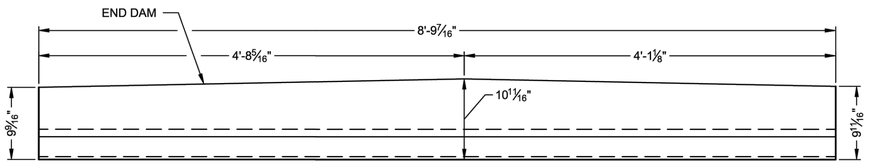
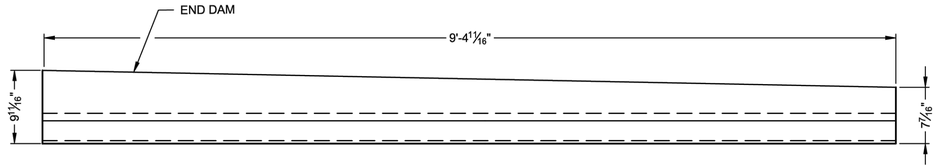
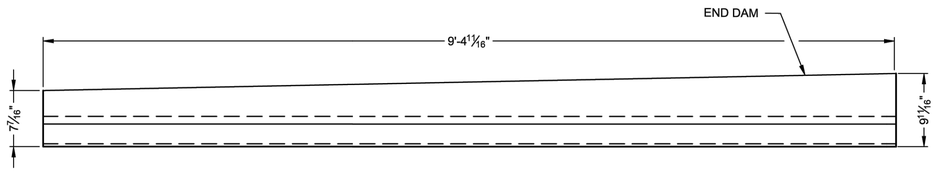
END ANGLE #2 ASSEMBLY



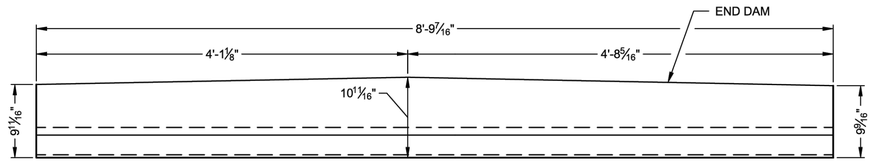
L 4x4x3/8
END ANGLE #3 ASSEMBLY



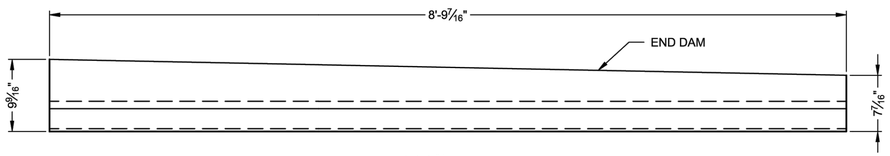
L 4x4x3/8
END ANGLE #4 ASSEMBLY



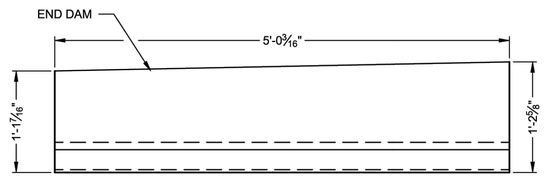
L 4x4x3/8
END ANGLE #5 ASSEMBLY



L 4x4x3/8
END ANGLE #6 ASSEMBLY



L 4x4x3/8
END ANGLE #7 ASSEMBLY



L 4x4x3/8
A END ANGLE #8 ASSEMBLY

SEAN LEE JOHNSON
STATE OF WASHINGTON
45018
REGISTERED
PROFESSIONAL ENGINEER

2/20/24

AISC CERTIFIED FABRICATOR

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800-328-2047 320-345-9126 320-566-3148 FAX

BIG R

CONTECH
CONTRACT
DRAWING

41'-6" x 32'-0"
LAKE SYLVIA BRIDGE
ROLLED GIRDER - SITE-SPECIFIC MODULAR
MONTESANO, WA

PROJECT No.:	SEQ. No.:	DATE:
756910	010	1/9/2024
DESIGNED: DBA		DRAWN: JRJ
CHECKED: DBA		APPROVED: SLJ
SHEET NO.: 10 OF 12		

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CAD NO. PARKCODE-PROJECTCODE-YEAR-FILENAME

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REGISTERED STAMP

WASHINGTON STATE PARKS AND RECREATION COMMISSION

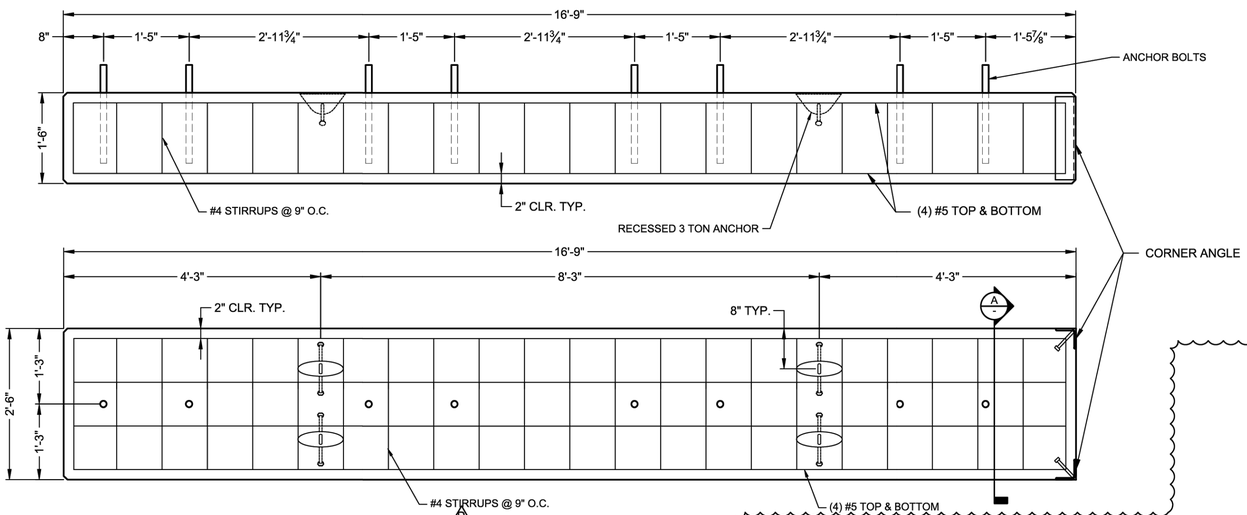
LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

BRIDGE SHOP DRAWINGS S6.0

SCALE
NONE

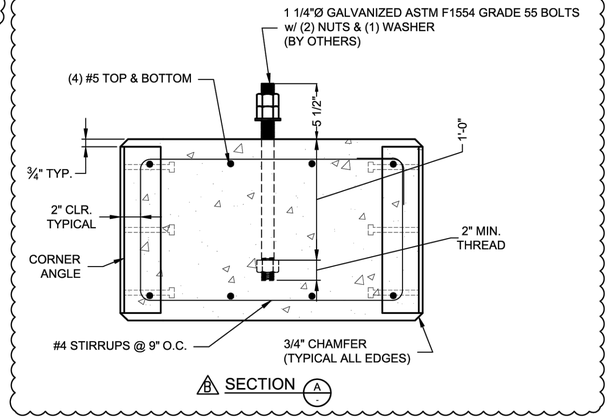
PARKS FILE#



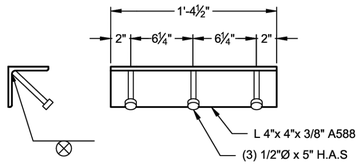
B PRECAST BEARING SILL DETAIL

LIFTING WEIGHT = 9,430 lb EACH
(4) REQUIRED

B A	BILL OF MATERIALS PER SILL (4 REQUIRED)			
	QTY.	MEMBERS	DESCRIPTION	LENGTH
	23	REBAR	#4 REBAR STIRRUP	7'-5"
	8	ANCHOR BOLTS	1 ¼" ASTM F1554 GR 55	1'-7 1/2"
	24	ANCHOR NUTS	1 ¼" Ø	-
	8	ANCHOR WASHERS	1 ¼" Ø	-
	8	REBAR	#5 STRAIGHT REBAR	16'-5"
	4	RECESSED 3 TON ANCHOR	CONAC 6CA14 OR EQUIVALENT	-
	2	CORNER ANGLE	L4x4x3/8 - A588	1'-4½"
	6	SHEAR STUDS	½" HAS STUDS	5"

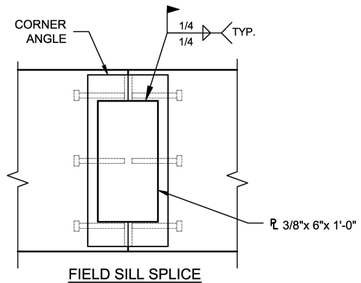


B SECTION A

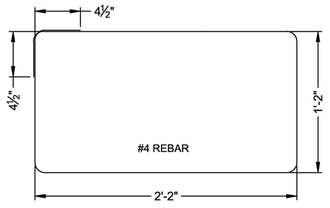


CORNER ANGLE DETAIL

L4x4x3/8 - A588
(2) PER SILL



FIELD SILL SPLICE



STIRRUPS

PRECAST SILL CONCRETE NOTES:

1. THE USE OF CONTECH PRECAST SILLS REQUIRES THE CUSTOMER TO DETERMINE SUITABILITY BASED ON SIZE OF STRUCTURE AND SOIL BEARING CAPACITY AT LOCATION OF INSTALLATION.
2. LOAD AT SILL IS:
   a. ULTIMATE = 4,890 PSF
   b. SERVICE = 3,090 PSF
3. CONCRETE MIX DESIGN, MATERIALS, QUANTITY, MIXING, PLACEMENT, FINISHING AND TESTING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 552 OF FEDERAL HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES ON FEDERAL HIGHWAY PROJECTS (FP-14). FP-14 CAN BE VIEWED OR DOWNLOADED AT: http://flh.fhwa.dot.gov/business/resources/specs/
4. MATERIALS:
   c. CONCRETE: CLASS A(AE) fc= 4500 PSI
      AIR CONTENT OF 6% ± 1.5%
      UNIT WEIGHT OF 145 PCF MAX
   d. REINFORCING STEEL: ASTM A615 GRADE 60
5. CONCRETE TO BE FINISHED WITH A CLASS 1 ORDINARY SURFACE FINISH PER SECTION 552.16 (a) OF FP-14.

SEAN LEE JOHNSON
STATE OF WASHINGTON
45018
REGISTERED
PROFESSIONAL ENGINEER
2/20/24

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BIG R
CONTECH CONTRACT DRAWING

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MONTESANO, WA

PROJECT NO.:	SEQ. NO.:	DATE:
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SHEET NO.: 11 OF 12		

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WASHINGTON STATE PARKS AND RECREATION COMMISSION

LAKE SYLVIA
STATE PARK

CULVERT
REPLACEMENT

BRIDGE SHOP
DRAWINGS
S6.0

SCALE
NONE

PARKS FILE#

SHEET 48 OF 49

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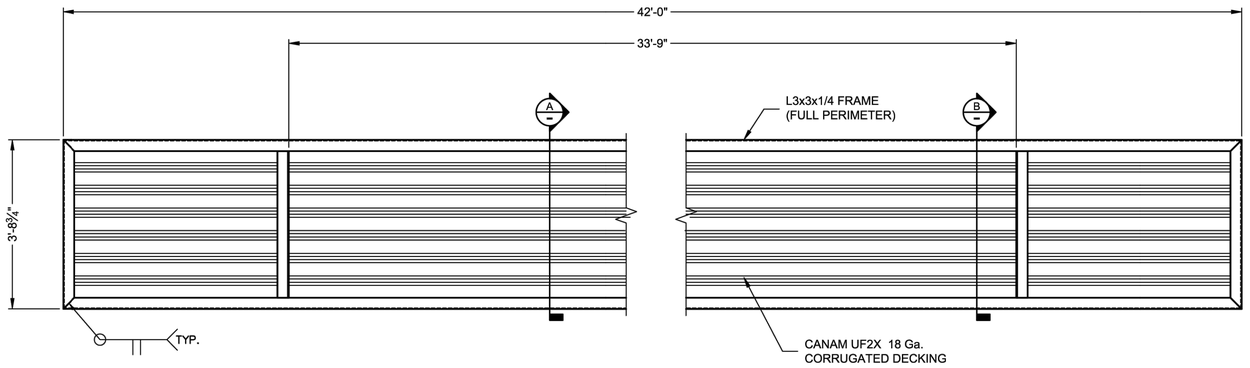
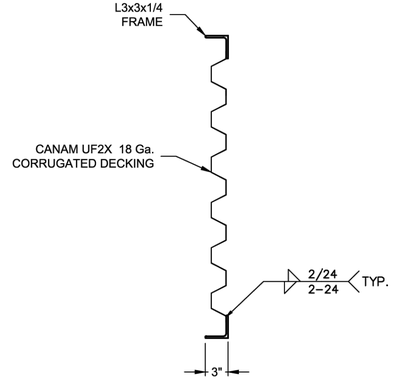
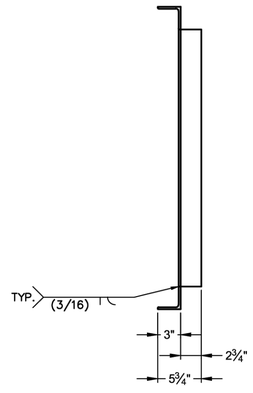


A ANGLE FRAME BACKWALL

NOTE:
EXCLUDES ANY HOLES NECESSARY FOR UTILITY LINES. ALL HOLES TO BE FIELD CUT / REINFORCED (IF REQUIRED) BY OTHERS.



SECTION A



SECTION B

FINISH:

1. PAINTED FRAME AND PAINTED PRE-GALVANIZED CORRUGATED DECKING WITH ONE COAT CORATHANE 1 COAL TAR BY SHERWIN WILLIAMS, COLOR TO BE BLACK.

SEAN LEE JOHNSON
STATE OF WASHINGTON
45018
REGISTERED
PROFESSIONAL ENGINEER
2/20/24

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LAKE SYLVIA STATE PARK

CULVERT REPLACEMENT

BRIDGE SHOP DRAWINGS
S6.0

SCALE
NONE

PARKS FILE#

SHEET 49 OF 49