



PUBLIC WORKS DEPARTMENT  
801 228TH AVENUE SE  
SAMMAMISH, WA 98075

# CITY OF SAMMAMISH

KING COUNTY, WASHINGTON

## ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT

### FINAL SET - APRIL 2018

**Otak**  
11241 Willows Road NE, Suite 200  
Redmond, WA 98052  
425.822.4446  
www.otak.com

## CITY OF SAMMAMISH

CHRISTIE MALCHOW  
MAYOR

TOM HORNISH  
DEPUTY MAYOR

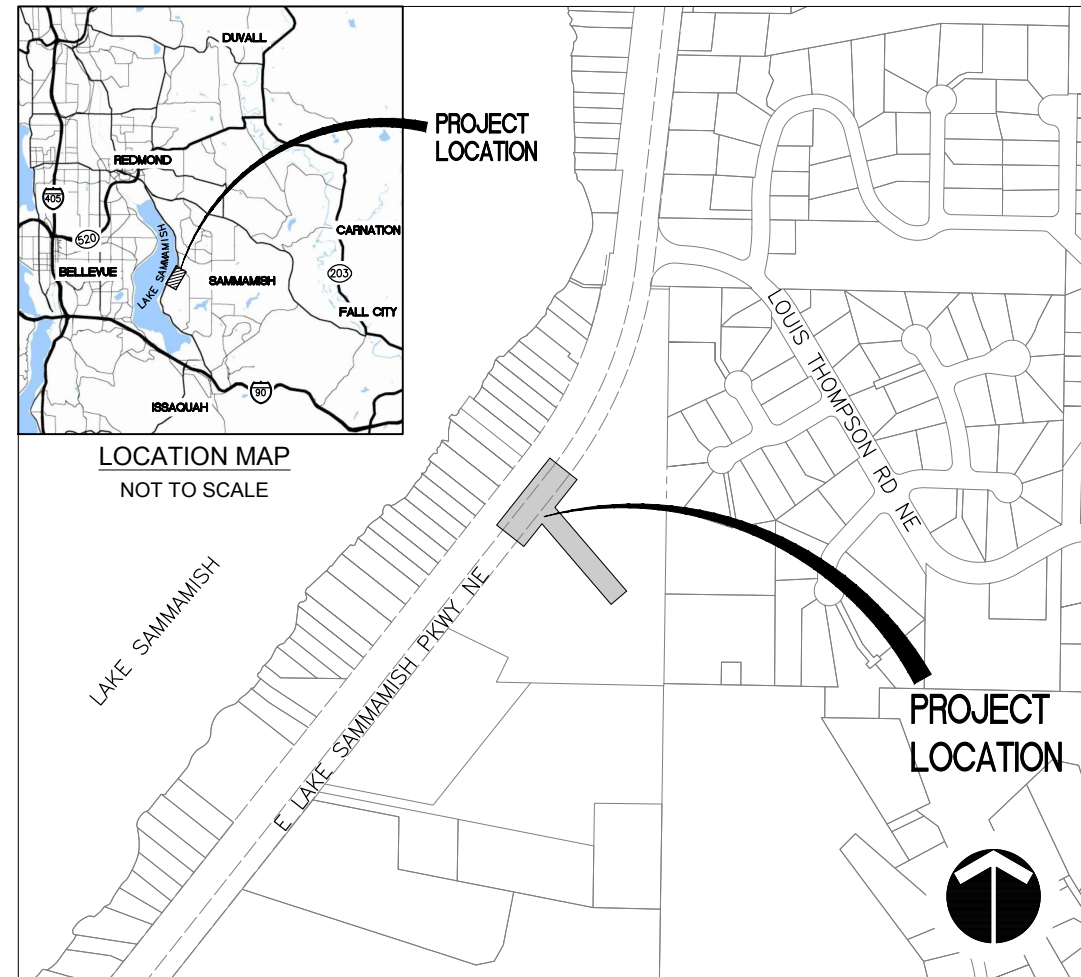
KAREN MORAN  
JASON RICHIE  
CHRIS ROSS  
PAMELA STEWART  
RAMIRO VALDERRAMA  
COUNCIL

LYMAN HOWARD  
CITY MANAGER

STEVE LENISZEWSKI, PE  
DIRECTOR OF PUBLIC WORKS

ANDREW ZAGARS, PE  
CITY ENGINEER

TAWNI DALZIEL, PE  
PROJECT MANAGER



LOCATION MAP  
NOT TO SCALE

VICINITY MAP  
NOT TO SCALE

#### CONTACT PERSONNEL

GREG LAIRD, DESIGN PM	(425) 822-4446
TAWNI DALZIEL, CITY PM	(425) 295-0567
CITY OF SAMMAMISH M&O	(425) 952-2115
EASTSIDE FIRE AND RESCUE	(425) 392-3433
SAMMAMISH PLATEAU WATER	(425) 392-6256
COMCAST	(425) 263-5353
FRONTIER	(425) 261-6342
PUGET SOUND ENERGY (GAS)	(425) 449-7410
PUGET SOUND ENERGY (POWER)	(425) 457-4542
CENTURY LINK	(206) 261-1402

#### SCHEDULE A1, A2 & A3 SHEET INDEX

SHEET NAME	SHEET NO.	SHEET TITLE
<b>GENERAL</b>		
G01	1	COVER SHEET, VICINITY MAP, AND SHEET INDEX
G02	2	LEGEND, GENERAL NOTES, AND ABBREVIATIONS
G03	3	EXISTING SURVEY CONDITIONS
<b>RIGHT-OF-WAY</b>		
RW01	4	ROADWAY CONSTRUCTION CENTERLINE, SURVEY CONTROL PLAN AND SCHEDULE LIMITS
RW02	5	CREEK CONSTRUCTION CENTERLINE AND SURVEY CONTROL PLAN
RW03	6	TEMPORARY CONSTRUCTION EASEMENT PLAN
<b>TRAFFIC CONTROL</b>		
TC01	7	DETOUR PLAN
TC02	8	TRAFFIC CONTROL PLAN
<b>TESC AND DEMOLITION</b>		
EC01	9	TESC AND DEMOLITION PLAN 1 OF 2
EC02	10	TESC AND DEMOLITION PLAN 2 OF 2
EC03	11	TESC DETAILS
BP01	12	STREAM BYPASS PLAN
BP02	13	STREAM BYPASS DETAILS
<b>CULVERT AND WINGWALL</b>		
ST01	14	CULVERT LAYOUT
ST02	15	CULVERT DETAILS 1 OF 2
ST03	16	CULVERT DETAILS 2 OF 2
<b>STREAM REALIGNMENT</b>		
SR01	17	STREAM CHANNEL GRADING PLAN AND PROFILE
SR02	18	STREAM CHANNEL PLAN AND PROFILE
SR03	19	STREAM CHANNEL TYPICAL SECTIONS
SR04	20	STREAM IMPROVEMENT DETAILS 1 OF 2
SR05	21	STREAM IMPROVEMENT DETAILS 2 OF 2
<b>ROADWAY RESTORATION</b>		
RD01	22	ROADWAY PLAN AND PROFILE
RD02	23	ROADWAY TYPICAL SECTION AND DETAILS
RD03	24	GUARDRAIL AND CHANNELIZATION PLAN
RD04	25	CULVERT RAIL DETAILS 1 OF 2
RD05	26	CULVERT RAIL DETAILS 2 OF 2
<b>UTILITY</b>		
UT01	27	UTILITY RELOCATION PLAN AND PROFILE TEMPORARY UTILITY BYPASS
UT02	28	UTILITY RELOCATION PLAN AND PROFILE FINAL CONFIGURATION
<b>LANDSCAPE AND PLANTING</b>		
LS01	29	STREAM RESTORATION: SHRUB UNDERSTORY PLANTING PLAN SHEET 1 OF 2
LS02	30	STREAM RESTORATION: SHRUB UNDERSTORY PLANTING PLAN SHEET 2 OF 2
LS03	31	STREAM RESTORATION: TREE PLANTING PLAN SHEET 1 OF 2
LS04	32	STREAM RESTORATION: TREE PLANTING PLAN SHEET 2 OF 2
LS05	33	ROADWAY EMBANKMENT & STAGING AREA RESTORATION PLANS
LS06	34	PLANTING DETAILS

RECOMMENDED FOR APPROVAL:

PROJECT ENGINEER  
APPROVED BY:

CITY ENGINEER PUBLIC WORKS DIRECTOR

ZACKUSE CREEK  
FISH WINDOW  
JULY 1 - SEPT 30



Know what's below.  
Call before you dig.

SHEET OF  
1 34

**LEGEND**

LINES	EXISTING	PROPOSED	DESCRIPTION
	----	----	CONTOUR
	----	----	CREEK/DITCH CENTERLINE
	X X		FENCE
	□ □ □ □	□ □ □ □	GUARDRAIL
	=====	=====	PAVEMENT/SIDEWALK
	○ ○ ○ ○ ○ ○ ○ ○ ○ ○		ROCK FENCING
	OHW OHW		ORDINARY HIGH WATER MARK
	-----		WETLAND BOUNDARY
	-----		WETLAND BUFFER
<b>EROSION AND SEDIMENT CONTROL:</b>			
	////	////	HIGH VISIBILITY SILT FENCE
	HVF		HIGH VISIBILITY FENCE
	○ ○ ○ ○ ○ ○ ○ ○ ○ ○		WATTLE
	-----		CLEARING LIMITS
<b>SURVEY:</b>			
	----	----	CENTERLINE
	----	----	EASEMENT
	----	----	PROPERTY LINE
	----	----	RIGHT-OF-WAY
<b>UTILITIES:</b>			
	COM COM		BURIED COMMUNICATION LINE
	FO FO		BURIED FIBER OPTIC LINE
	G G		BURIED GAS LINE
	P P		BURIED POWER LINE
	OHL OHL		OVERHEAD POWER LINE
	SD SD		BURIED STORM DRAIN LINE
	SS SS		BURIED SANITARY SEWER LINE
	W W		BURIED WATER LINE

SYMBOLS	EXISTING	PROPOSED	DESCRIPTION
<b>DRAINAGE:</b>			
	----		STORM DRAIN PIPE
	□		TYPE 1 CATCH BASIN PER WSDOT STD PLAN B-5.20-02
	○		TYPE 2 CATCH BASIN PER WSDOT STD PLAN B-10.20-01
	----	=====	CULVERT
<b>EROSION AND SEDIMENT CONTROL:</b>			
		□	ARBORIST WOOD CHIP MULCH
		○	PUMP
		∧	FISH SCREEN
<b>SURVEY:</b>			
	△		CONTROL POINT
	+		BENCH MARK
	○		BLOCK CORNER
	□		MAILBOX
	⊕		MONUMENT (IN CASE)
	⊗		MONUMENT (SURFACE)
	+		POTHOLE LOCATION
	★	★	TREE (CONIFER)
	⊙	⊙	TREE (DECIDUOUS)
	□	■	SIGN
	○		SIGN POST
<b>UTILITIES:</b>			
	⊙		COMMUNICATION MANHOLE
	□		COMMUNICATION RISER
	⊕		FIRE HYDRANT
	⊕		GAS VALVE
	⊕		POWER MANHOLE
	⊕		SANITARY SEWER MANHOLE
	⊕		TRAFFIC SIGNAL CONTROL CAB
	⊕		UTILITY POLE
	⊕		WATER MANHOLE
	⊕		WATER METER
	⊕	⊕	WATER VALVE

**ABBREVIATIONS**

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	GALV	GALVANIZED	SPEC	SPECIFICATION(S)
ABAND	ABANDONED	GC	GENERAL CONTRACTOR	SR	STATE ROUTE
AC	ACRE, ASBESTOS CEMENT	GEN	GENERAL	SS	SANITARY SEWER
ADA	AMERICANS WITH DISABILITIES ACT	GIS	GEOGRAPHIC INFORMATION SYSTEM	SST	STAINLESS STEEL
ADDL	ADDITIONAL	GND	GROUND	ST	STREET
ADDM	ADDENDUM	GV	GAS VALVE	STA	STATION
ADJ	ADJUST	HMA	HOT MIX ASPHALT	STD	STANDARD
ALT	ALTERNATIVE	HORIZ, HORZ	HORIZONTAL	SUB	SUBSTITUTE
AL	ALUMINUM	HPA	HYDRAULIC PROJECT APPROVAL	SW	SOUTHWEST
ALUM	ALUMINUM	HR	HOUR	S/W	SIDEWALK
APPD	APPROVED	HT	HEIGHT	SY	SQUARE YARD
APPROX	APPROXIMATE	HUND	HUNDRED	SYS	SYSTEM
APPX	APPROXIMATE	ID	INSIDE DIAMETER	TEL	TELEPHONE
AP	ANGLE POINT	IE	INVERT ELEVATION	TAN	TANGENT
APWA	AMERICAN PUBLIC WORKS ASSOCIATION	IN, "	INCH(ES)	TBM	TEMPORARY BENCH MARK
ASPH	ASPHALT	INCL	INCLUDE	TCE	TEMPORARY CONSTRUCTION EASEMENT
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	INFO	INFORMATION	TECH	TECHNICAL
AVE	AVENUE	JB	JUNCTION BOX	TEMP	TEMPORARY
AVG	AVERAGE	JT	JOINT	TESC	TEMPORARY EROSION & SEDIMENT CONTROL
BFW	BANKFULL WIDTH	LB	POUND	THK	THICK
BLDG	BUILDING	LF	LINEAR FOOT/FEET	TYP	TYPICAL
BLVD	BOULEVARD	LN	LANE	UD	UNDERDRAIN PIPE
BM	BENCH MARK	LOC	LOCATE	UG	UNDERGROUND
BMP	BEST MANAGEMENT PRACTICE	LRFD	LOAD AND RESISTANCE FACTOR DESIGN	UNO	UNLESS NOTED OTHERWISE
BOC	BACK OF CURB	LS	LUMP SUM	UTIL	UTILITY
BP	BEGIN POINT	LT	LEFT	VAR	VARIATION, VARIES
BTWN	BETWEEN	MATL	MATERIAL	VERT	VERTICAL
BW	BOTTOM WIDTH	MAX	MAXIMUM	VMS	VARIABLE MESSAGE SIGN
CALCS	CALCULATIONS	MEAS	MEASURE	W	WEST, WATER
CB	CATCH BASIN	MH	MANHOLE	W/	WITH
CD	CONTRACT DOCUMENT	MIN	MINIMUM	WM	WATER METER
CERT	CERTIFY	MISC	MISCELLANEOUS	W/O	WITHOUT
CF	CUBIC FEET	MOD	MODIFY	WSE	WATER SURFACE ELEVATION
CFS	CUBIC FEET PER SECOND	MON	MONUMENT	WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
CI	CAST IRON	MP	MIDPOINT	WW	WATER VALVE
CIP	CAST IN PLACE	MPH	MILES PER HOUR	XS	CROSS SECTION
CL	CLASS	MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES	YD	YARD
CL	CENTERLINE	N	NORTH	YR	YEAR
CMP	CORRUGATED METAL PIPE	N/A	NOT APPLICABLE	&	AND
COS	CITY OF SAMMAMISH	NE	NORTHEAST		
COM	COMMUNICATION LINE	NIC	NOT IN CONTRACT		
COMB	COMBINED, COMBINATION	NO	NUMBER		
CONC	CONCRETE	NTS	NOT TO SCALE		
CONIN	CONNECT	NW	NORTHWEST		
CONST	CONSTRUCTED	OC	ON CENTER		
CONT	CONTINUE(OUS)	OD	OUTER DIAMETER		
CPSSP	CORRUGATED POLYETHYLENE STORM SEWER PIPE	OHL	OVERHEAD UTILITY LINE		
CSBC	CRUSHED SURFACING BASE COURSE	OHW	ORDINARY HIGH WATER		
CSTC	CRUSHED SURFACING TOP COURSE	OP	OVERHEAD POWER		
CTR	CENTER	OPP	OPPOSITE		
CY	CUBIC YARDS	OT	OVERHEAD TELEPHONE		
D	DRAIN PIPE	P	POLE, POWER		
DBH	DIAMETER AT BREAST HEIGHT	PC	POINT OF CURVATURE		
DET	DETAIL	PED	PEDESTRIAN		
DI	DUCTILE IRON	PERF	PERFORATED		
DIAG	DIAGONAL	PERM	PERMANENT		
DIAM	DIAMETER	PH	POTHLING		
DIM	DIMENSION	PI	POINT OF INTERSECTION		
DIST	DISTANCE, DISTRIBUTE(ION)	PL	PROPERTY LINE		
DWG	DRAWING	PNT	PAINT(ED)		
DWY	DRIVEWAY	PP	POWER POLE		
E	EAST	PRELIM	PRELIMINARY		
EA	EACH	PREP	PREPARE(ATION)		
EG	EXISTING GROUND	PROP	PROPERTY		
ELEV	ELEVATION	PSF	POUNDS PER SQUARE FOOT		
ELEC	ELECTRICAL	PSI	POUNDS PER SQUARE INCH		
ELSP	EAST LAKE SAMMAMISH PARKWAY	PVC	POLYVINYL CHLORIDE		
EMB	EMBANKMENT	PVMT	PAVEMENT		
ENGR	ENGINEER	QTY	QUANTITY		
EOP	EDGE OF PAVEMENT	R	RADIUS		
EP	END POINT	RD	ROAD		
EQ	EQUAL	REF	REFERENCE		
EQUIP	EQUIPMENT	REG	REGULATION		
EQUIV	EQUIVALENT	REINF	REINFORCED		
ES	EACH SIDE	RELOC	RELOCATE		
ESMT	EASEMENT	REQD	REQUIRED		
EST	ESTIMATE	REV	REVISE, REVISION		
ETC	ET CETERA	RFI	REQUEST FOR INFORMATION		
EXCL	EXCLUDE	ROW, R/W	RIGHT-OF-WAY		
EXIST	EXISTING	RT	RIGHT		
FCA	FLANGED COUPLING ADAPTOR	S	SLOPE, SOUTH		
FG	FINISHED GROUND	SCHED	SCHEDULE		
FH	FIRE HYDRANT	SD	STORM DRAIN		
FIG	FIGURE	SE	SOUTHEAST		
FO	FIBER OPTIC	SECT	SECTION		
FOC	FACE OF CURB	SEP	SEPARATE		
FT, '	FOOT/FEET	SERV	SERVICE		
FL	FLOW LINE	SF	SQUARE FOOT/FEET		
FROP	FLOW RESTRICTOR/OIL POLLUTION	SHT	SHEET		
G	GAS LINE	SIM	SIMILAR		
GAL	GALLON				

**PROJECT GENERAL NOTES:**

1. PROTECTION OF THE ENVIRONMENT: NO CONSTRUCTION RELATED ACTIVITY SHALL CONTRIBUTE TO THE DEGRADATION OF THE ENVIRONMENT, ALLOW MATERIAL TO ENTER SURFACE OR GROUND WATER, OR ALLOW PARTICULATE EMISSIONS TO ENTER THE ATMOSPHERE, WHICH EXCEED STATE OR FEDERAL STANDARDS. ANY ACTIONS THAT POTENTIALLY ALLOW A DISCHARGE TO STATE WATERS MUST HAVE PRIOR APPROVAL FROM THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.
2. CONTRACTOR SHALL VERIFY LOCATION AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

SEE APPLICABLE DISCIPLINE FOR ADDITIONAL LEGEND

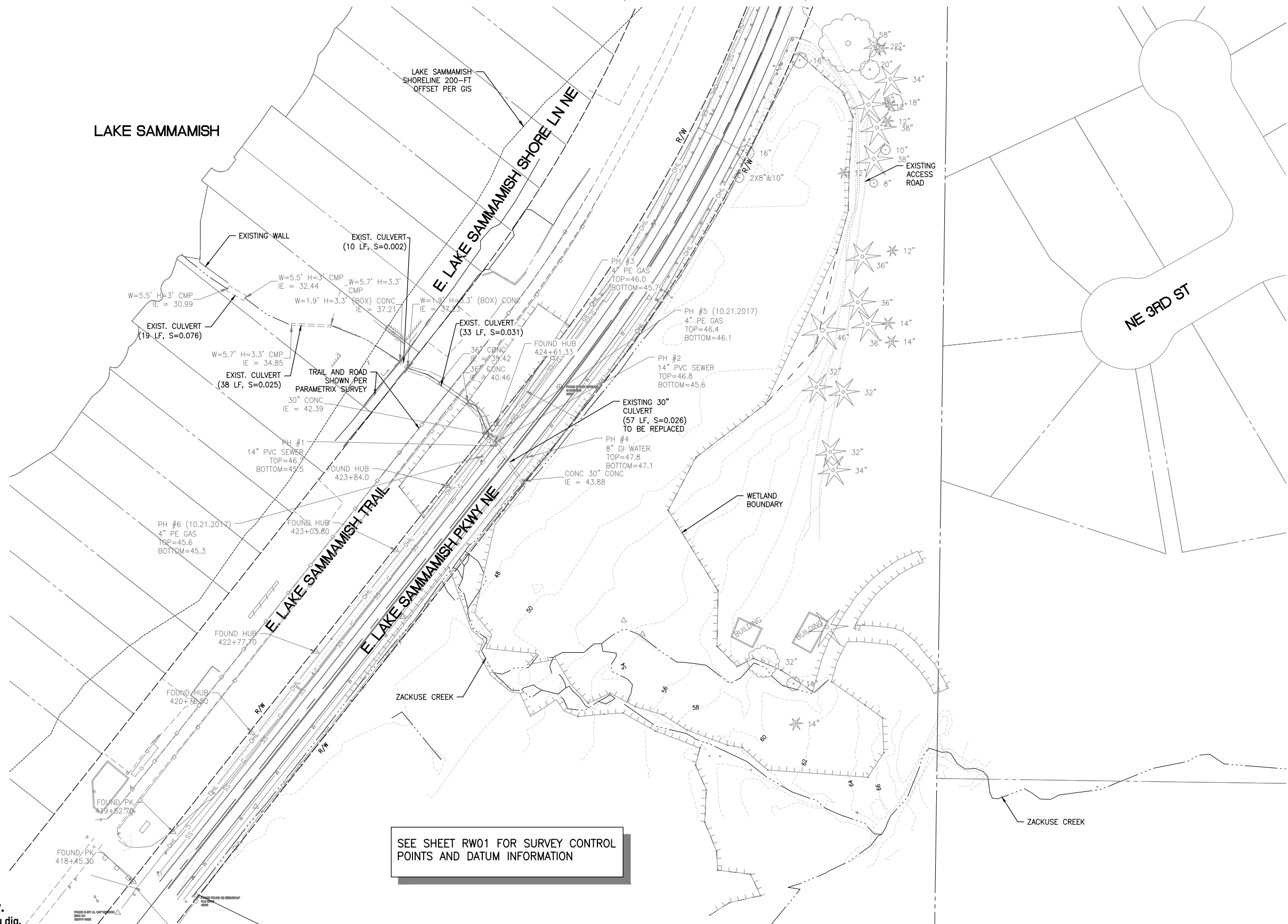


ZACKUSE CREEK FISH WINDOW JULY 1 - SEPT 30

Know what's below. Call before you dig.

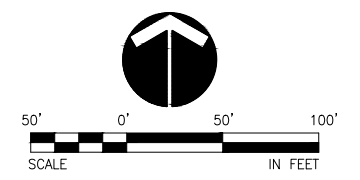
<p>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</p>	NO.	REVISIONS	DATE	DATE: 02/23/2018			<p>LEGEND, GENERAL NOTES, AND ABBREVIATIONS</p>	G02	
	1			DESIGNED BY: BS/DC/BD/MM/CEM/EH				SHEET	OF
	2								
	3							DRAWN BY: AK	
	4							REVIEWED BY:	
5					2	34			

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



NE 3RD ST

SEE SHEET RW01 FOR SURVEY CONTROL POINTS AND DATUM INFORMATION



<p>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</p>	NO.	REVISIONS	DATE	DATE: 02/23/2018			<p>EXISTING SURVEY CONDITIONS</p>	G03	
	1			DESIGNED BY: BS/DC/BD/MM/CEM/EH				SHEET	OF
	2				DRAWN BY: AK	3	34		
	3				REVIEWED BY:				
	4								
5									

LAKE SAMMAMISH

**SCHEDULE DESCRIPTION OF WORK**

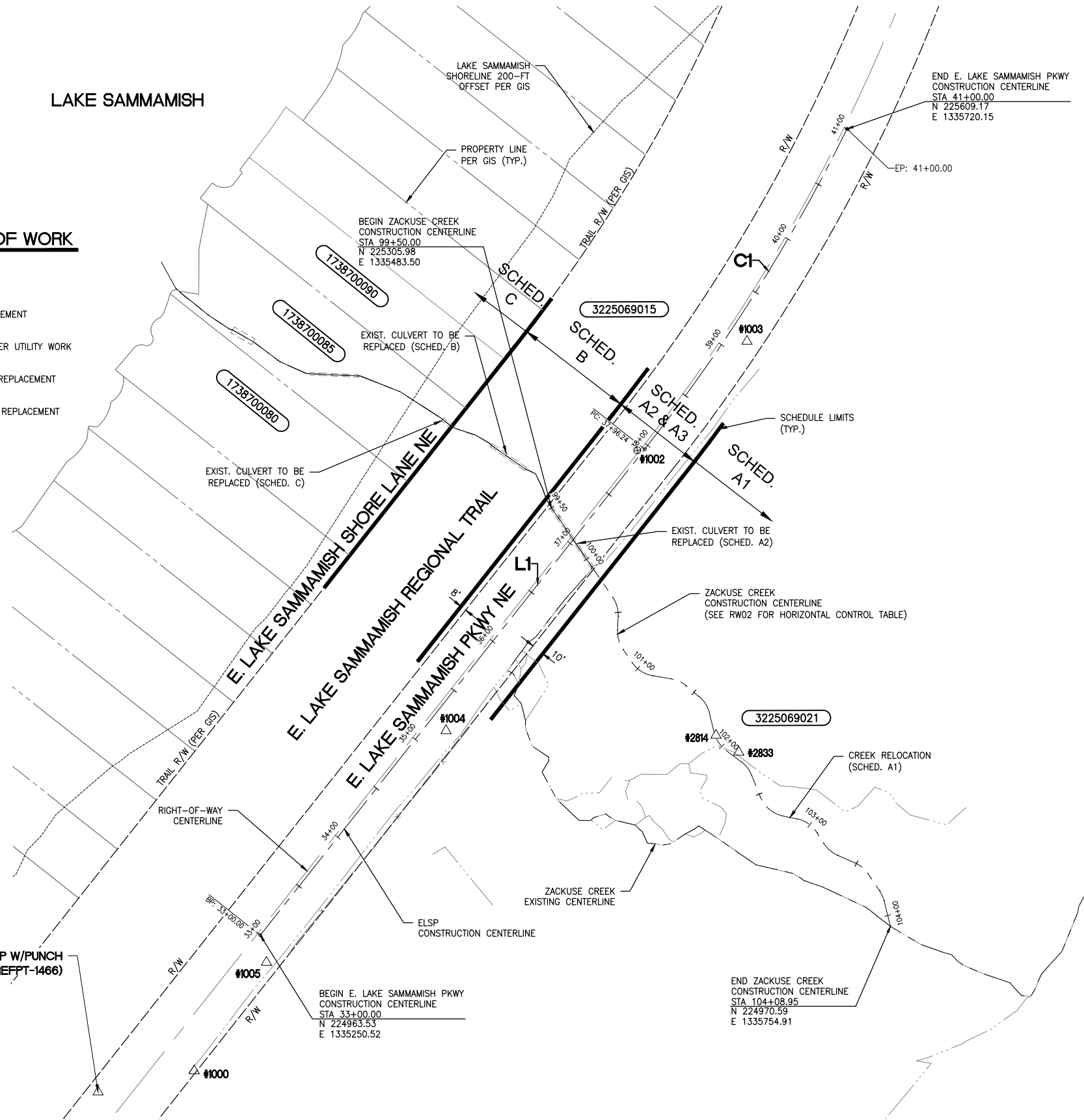
SCHEDULE A1 (CITY OF SAMMAMISH)  
 • ZACKUSE CREEK RELOCATION

SCHEDULE A2 (CITY OF SAMMAMISH)  
 • E LAKE SAMMAMISH PARKWAY CULVERT REPLACEMENT

SCHEDULE A3 (CITY OF SAMMAMISH)  
 • E LAKE SAMMAMISH PARKWAY WATER AND SEWER UTILITY WORK

SCHEDULE B (KING COUNTY)  
 • E LAKE SAMMAMISH REGIONAL TRAIL CULVERT REPLACEMENT

SCHEDULE C (KING COUNTY)  
 • E LAKE SAMMAMISH SHORE LANE NE CULVERT REPLACEMENT



**SURVEY NOTES**

- HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83/91.  
 BASED ON WASHINGTON STATE REFERENCE NETWORK AND CONSTRAINED TO PUBLISHED COORDINATES OF KING COUNTY CONTROL POINTS 1966, 1499, AND 1561, AS DESCRIBED IN CONTROL TABLE.  
 PROJECT HORIZONTAL CONTROL WAS ESTABLISHED BY A COMBINATION OF FIELD TRAVERSE AND GPS RTK THAT MEETS OR EXCEEDS WAC 332-130-090.  
 ALL UNITS IN US SURVEY FEET.
- VERTICAL DATUM: NAVD88  
 BASED ON ELEVATION INFORMATION FOR KING COUNTY CONTROL POINT 1499, WITH A PUBLISHED ELEVATION 58.86'.
- FIELD SURVEY PERFORMED BY OTAK, INC. BETWEEN OCTOBER 2016 AND JANUARY 2017.
- ALL LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN ESTABLISHED BY FIELD SURVEY OF ABOVE GROUND FACILITIES AND LOCATED PAINT MARKS BY APS INC. OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE.

SAMMAMISH PKWY CONSTRUCTION CENTERLINE						
NUMBER	BEGIN STATION	LENGTH	END STATION	RADIUS	BEARING	DELTA
L1	33+00.00	496.24'	37+96.24		N38°19'49"E	
C1	37+96.24	303.76'	41+00.00	1435.19'	N32°16'01"E	12°07'36"

NOTE:  
 CONSTRUCTION CENTERLINE DOES NOT EQUAL RIGHT-OF-WAY CENTERLINE

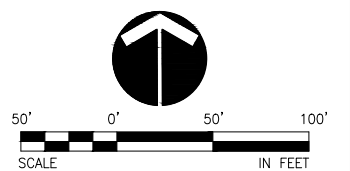
SURVEY CONTROL				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1000	224855.01	1335197.60	50.00	FOUND 1/2 REBAR/CAP
1001	224682.11	1335063.23	51.11	FOUND PK NAIL IN FENCE POST BASE
1002	225351.85	1335552.27	50.27	FOUND 3" MON W/PUNCH
1003	225439.14	1335640.06	52.80	SET PK NAIL
1004	225127.34	1335399.19	48.81	SET PK W/WASHER
1005	224941.79	1335255.43	49.20	SET MAG W/OTAK WASHER
1019	223160.85	1333822.12	51.27	FOUND 2-1/2" BRASS DISK W/PUNCH
1020	224664.14	1335916.86	94.67	FOUND 1-3/4" IRON PIPE
1466	224837.97	1335120.70	49.02	FOUND 3-1/4" AL CAP W/PUNCH KING CO
1489	223958.96	1334477.51	44.96	FOUND 2" AL MON IN CONC BASE (MON BOX)
1499	226078.91	1335855.74	58.86	FOUND 1-1/2" BRASS DISK W/"X" IN CASE
2814	225123.63	1335615.25	53.46	2" IRON PIPE
2833	225110.10	1335633.50	54.19	2" IRON PIPE, 1.6' ABOVE GROUND

**LEGEND**

- XXXXXX PARCEL NUMBER
- △ SURVEY CONTROL POINT

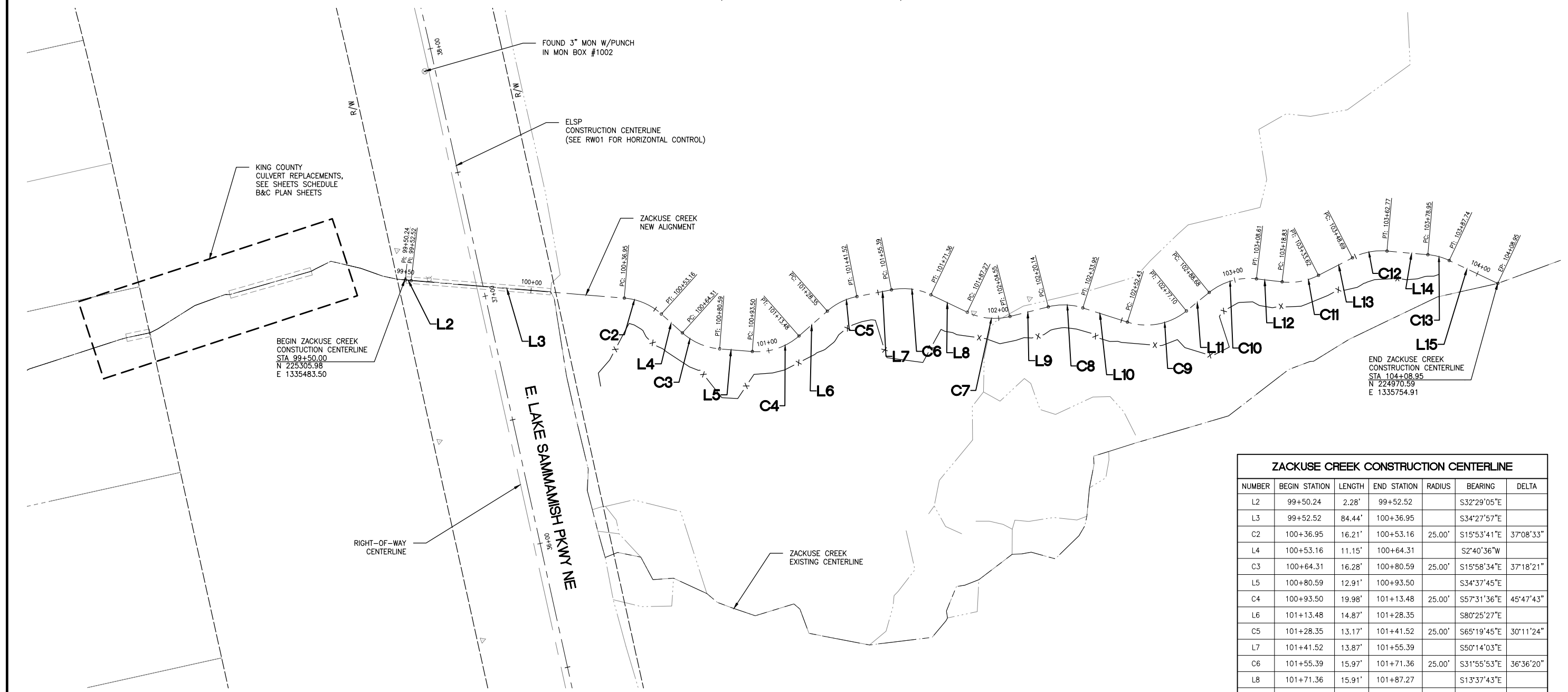


Know what's below.  
 Call before you dig.



ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON	NO.	REVISIONS	DATE	DATE: 02/23/2018		ROADWAY CONSTRUCTION CENTERLINE, SURVEY CONTROL PLAN AND SCHEDULE LIMITS	RW01	
	1			DESIGNED BY: BS/DC/BD/MM/CEM/EH			SHEET	OF
	2							
	3							
	4						DRAWN BY: AK	
5				REVIEWED BY:	4	34		

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.

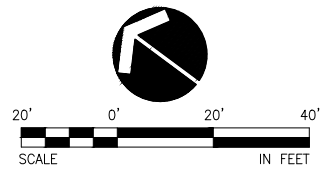


SEE SHEET RW01 FOR SURVEY CONTROL POINTS AND DATUM INFORMATION

ZACKUSE CREEK CONSTRUCTION CENTERLINE						
NUMBER	BEGIN STATION	LENGTH	END STATION	RADIUS	BEARING	DELTA
L2	99+50.24	2.28'	99+52.52		S32°29'05"E	
L3	99+52.52	84.44'	100+36.95		S34°27'57"E	
C2	100+36.95	16.21'	100+53.16	25.00'	S15°53'41"E	37°08'33"
L4	100+53.16	11.15'	100+64.31		S2°40'36"W	
C3	100+64.31	16.28'	100+80.59	25.00'	S15°58'34"E	37°18'21"
L5	100+80.59	12.91'	100+93.50		S34°37'45"E	
C4	100+93.50	19.98'	101+13.48	25.00'	S57°31'36"E	45°47'43"
L6	101+13.48	14.87'	101+28.35		S80°25'27"E	
C5	101+28.35	13.17'	101+41.52	25.00'	S65°19'45"E	30°11'24"
L7	101+41.52	13.87'	101+55.39		S50°14'03"E	
C6	101+55.39	15.97'	101+71.36	25.00'	S31°55'53"E	36°36'20"
L8	101+71.36	15.91'	101+87.27		S13°37'43"E	
C7	101+87.27	17.29'	102+04.55	25.00'	S33°26'12"E	39°36'59"
L9	102+04.55	15.58'	102+20.14		S53°14'42"E	
C8	102+20.14	13.81'	102+33.95	25.00'	S37°24'58"E	31°39'27"
L10	102+33.95	18.48'	102+52.43		S21°35'15"E	
C9	102+52.43	24.67'	102+77.10	25.00'	S49°51'36"E	56°32'43"
L11	102+77.10	11.58'	102+88.68		S78°07'57"E	
C10	102+88.68	19.93'	103+08.61	25.00'	S55°17'35"E	45°40'44"
L12	103+08.61	10.22'	103+18.83		S32°27'13"E	
C11	103+18.83	14.79'	103+33.62	25.00'	S49°24'09"E	33°53'50"
L13	103+33.62	15.07'	103+48.69		S66°21'04"E	
C12	103+48.69	14.07'	103+62.77	25.00'	S50°13'25"E	32°15'19"
L14	103+62.77	16.18'	103+78.95		S34°05'45"E	
C13	103+78.95	8.80'	103+87.74	25.00'	S24°00'56"E	20°09'39"
L15	103+87.74	21.21'	104+08.95		S13°56'06"E	

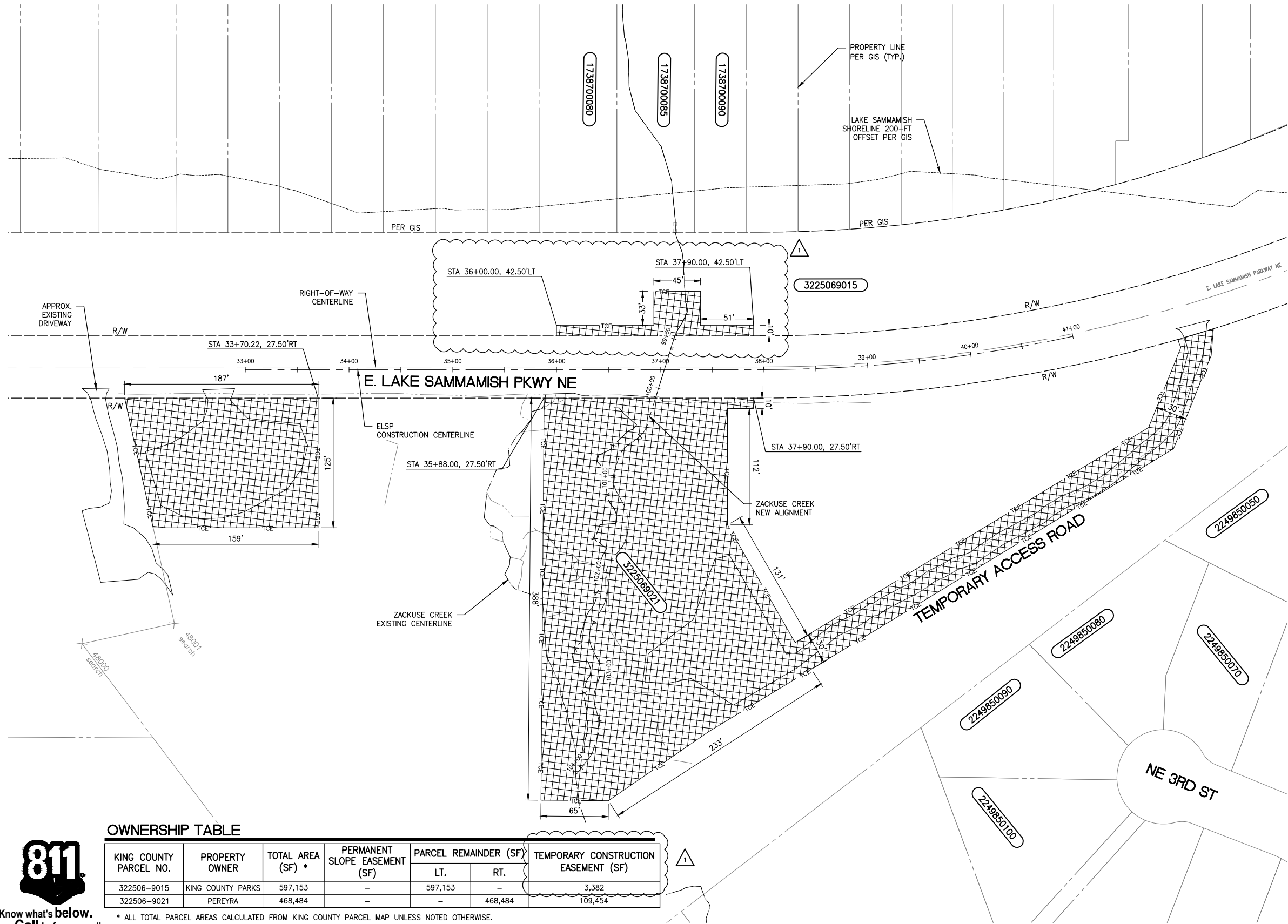


Know what's below.  
Call before you dig.



<b>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</b>	NO.	REVISIONS	DATE	DATE: 02/23/2018			<b>CREEK CONSTRUCTION CENTERLINE AND SURVEY CONTROL PLAN</b>	RW02
	1			DESIGNED BY: BS/DC/BD/MM/CEM/EH				SHEET
	2							OF
	3			DRAWN BY: AK				5
	4			REVIEWED BY:				34
5								

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



**LEGEND**

- PROPERTY LINE
- RIGHT-OF-WAY
- TEMPORARY CONSTRUCTION EASEMENT
- PARCEL NUMBER

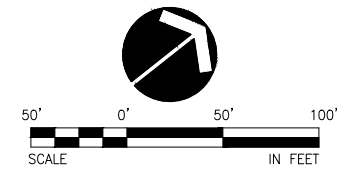
**OWNERSHIP TABLE**

KING COUNTY PARCEL NO.	PROPERTY OWNER	TOTAL AREA (SF) *	PERMANENT SLOPE EASEMENT (SF)	PARCEL REMAINDER (SF)		TEMPORARY CONSTRUCTION EASEMENT (SF)
				LT.	RT.	
322506-9015	KING COUNTY PARKS	597,153	-	597,153	-	3,382
322506-9021	PEREYRA	468,484	-	-	468,484	109,454

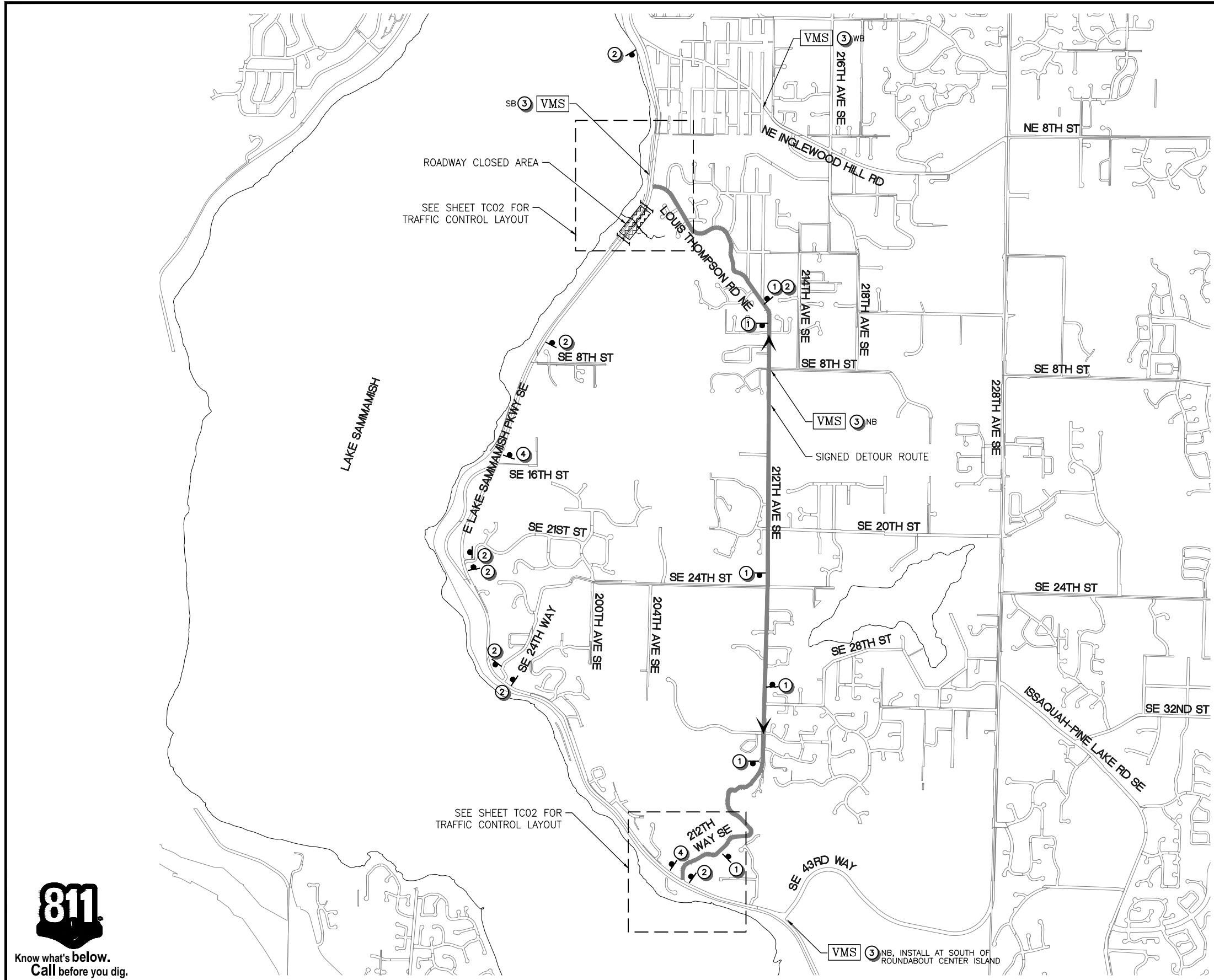
\* ALL TOTAL PARCEL AREAS CALCULATED FROM KING COUNTY PARCEL MAP UNLESS NOTED OTHERWISE.



Know what's below.  
Call before you dig.



<b>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</b>	NO.	REVISIONS	DATE	DATE: 02/23/2018			<b>TEMPORARY CONSTRUCTION EASEMENT PLAN</b>	1	TCE LIMITS	04/24/2018	DESIGNED BY: BS/DC/BD/MM/CEM/EH	RW03 SHEET OF 6 34
	2			DRAWN BY: AK								
	3			REVIEWED BY:								
	4											
	5											



**CONSTRUCTION NOTES**

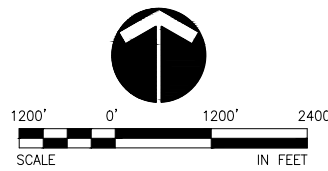
- ① INSTALL M4-9 "DETOUR" (UP) WITH D3-101 "E LAKE SAMMAMISH PKWY NE".
- ② INSTALL R11-3 (MODIFIED) "E LAKE SAMMAMISH PKWY NE CLOSED AT LOUIS THOMPSON RD NE (DATE) TO (DATE) ALTERNATE ROUTE ADVISED". INSTALL TWO WEEKS PRIOR TO CLOSURE AND REMOVE IMMEDIATELY AFTER ROAD IS OPEN TO TRAFFIC.
- ③ PROVIDE VARIABLE MESSAGE SIGN (VMS) CHANGE MESSAGE ON VMS AS DIRECTED BY THE CITY. LOCATION TO BE AS DIRECTED BY THE CITY.
- ④ INSTALL R11-4 "ROAD CLOSED TO THRU TRAFFIC" WITH "LOCAL TRAFFIC ONLY".

**GENERAL NOTES**

1. SIGN POSITIONS SHOWN ARE NOT TO SCALE.
2. SEE WASHINGTON STATE "SIGN FABRICATION MANUAL" FOR CODE REFERENCES.
3. VMS BOARD TO BE INSTALLED 2 WEEKS PRIOR TO START OF CONSTRUCTION WORK AT SITE AND MESSAGE CHANGED 2 WEEKS PRIOR TO ELSP ROAD CLOSURE.
4. EXISTING MARKINGS IN CONFLICT WITH THE PROPOSED CHANNELIZATION IN TRAFFIC PLAN SHALL BE REMOVED.

**LEGEND**

- ROAD/LANE CLOSED AREA
- SIGNED DETOUR ROUTE
- TYPE III BARRICADE
- VARIABLE MESSAGE SIGN
- TEMPORARY SIGN LOCATION



**ZACKUSE CREEK  
FISH PASSAGE AND STREAM  
RESTORATION PROJECT  
SAMMAMISH, WASHINGTON**

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018  
 DESIGNED BY: BS/DC/BD/MM/CEM/EH  
 DRAWN BY: AK  
 REVIEWED BY:



DETOUR PLAN

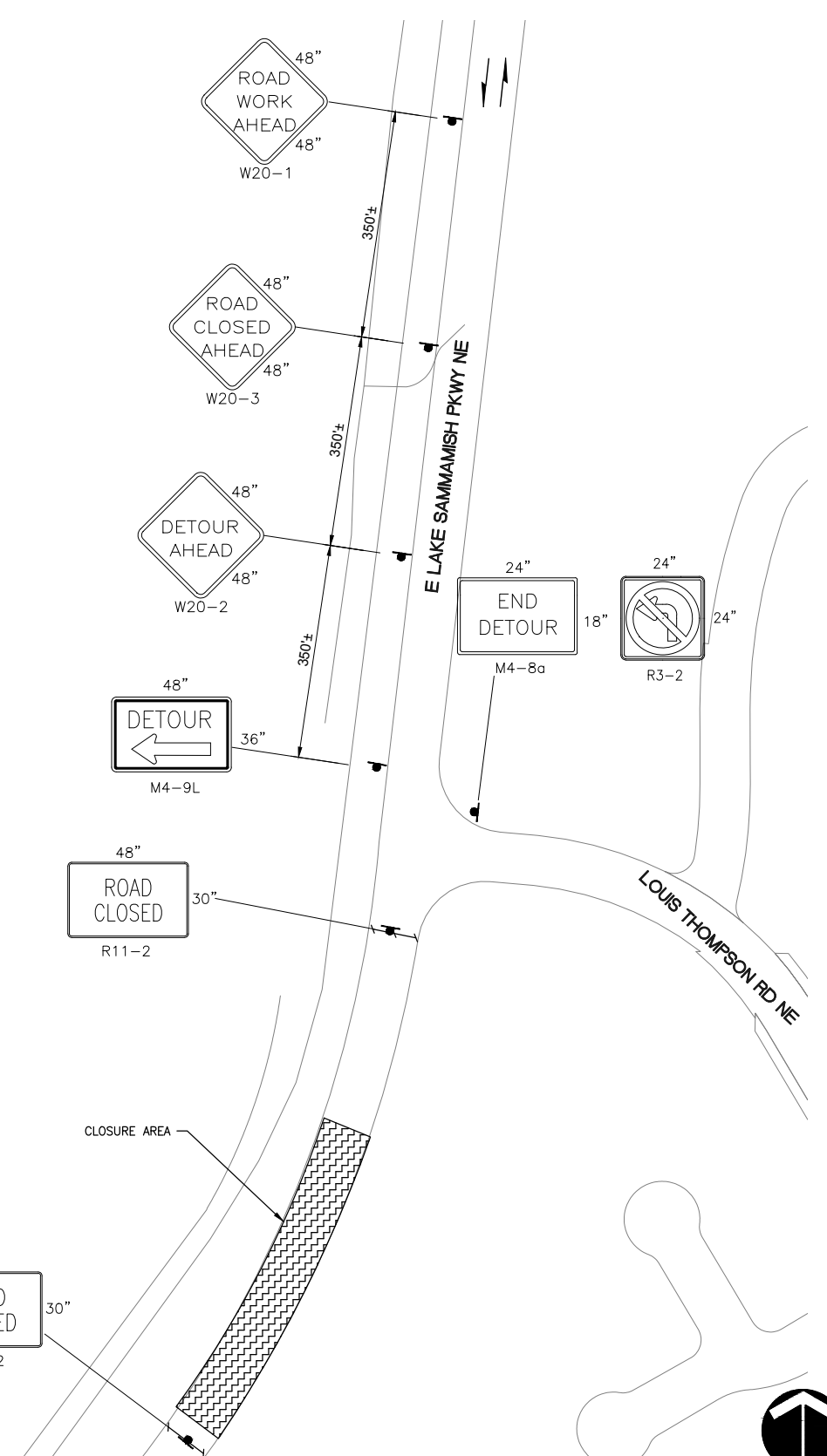
TC01	
SHEET	OF
7	34

**GENERAL NOTES**

- SIGN SPACING SHALL BE AS FOLLOWS:  
25/30 MPH - 200'  
35/40 MPH - 350'
- SIGN POSITIONS SHOWN ARE NOT TO SCALE.
- SEE WASHINGTON STATE "SIGN FABRICATION MANUAL" FOR CODE REFERENCES.
- SEE CITY OF SAMMAMISH STANDARD PLAN FIG09-01 TO FIG09-15 FOR WORK ZONE TRAFFIC CONTROL FOR TEMPORARY ROAD/LANE CLOSURE. PROVIDE ALL REQUIRED TRAFFIC CONTROL DEVICES.
- NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
- SEE SPECIAL PROVISION SECTION 1-08, FOR WORK HOUR RESTRICTIONS.
- TYPICAL APPLICATION SHOWN. ADJUST FOR SITE CONDITIONS AND WORK SCHEDULE AS NECESSARY.
- FULL ROAD CLOSURE OF ELSP LIMITED TO TWO WEEKS MAXIMUM.

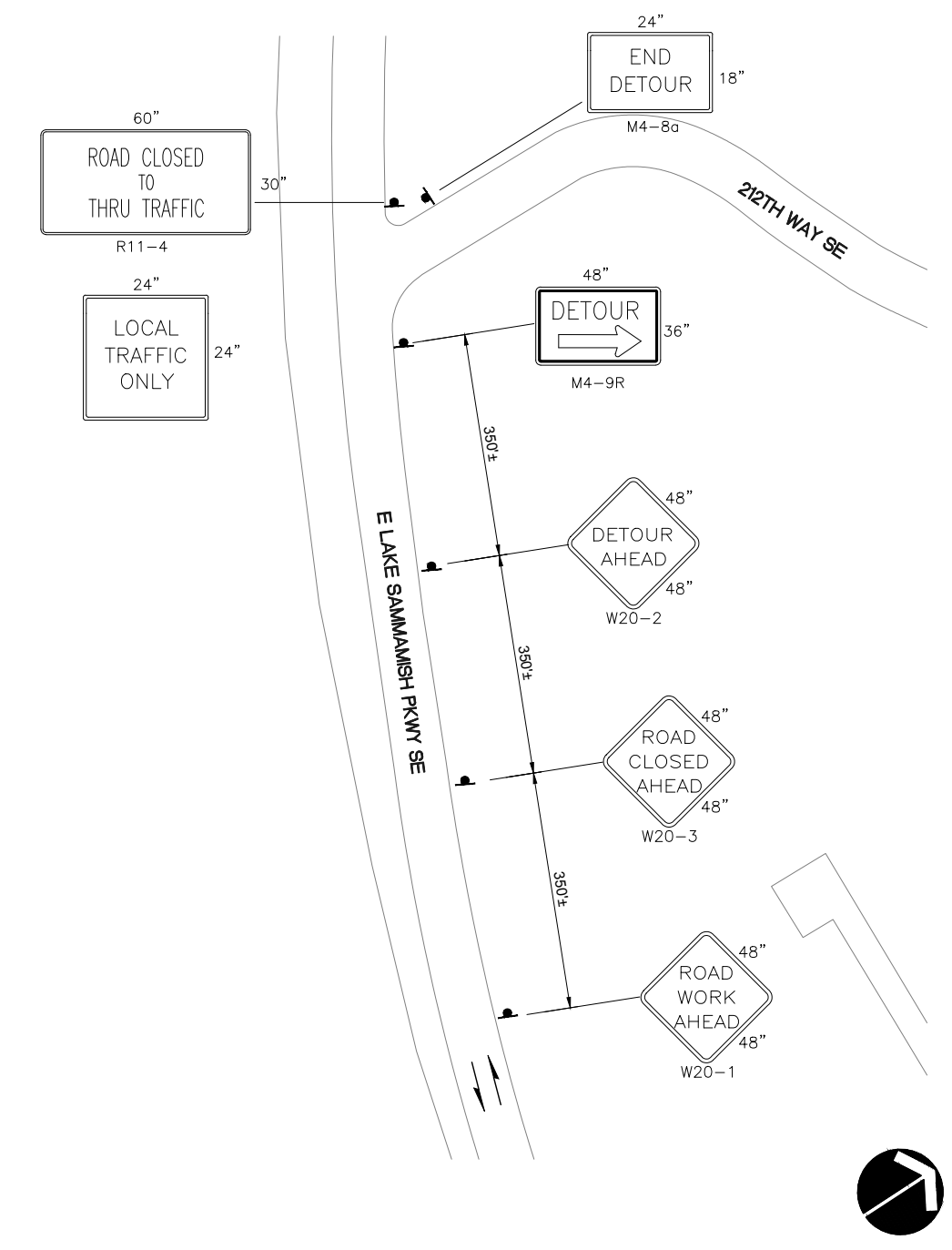
**LEGEND**

- TYPE III BARRICADE
- TEMPORARY SIGN LOCATION
- CLOSURE AREA



**E LAKE SAMMAMISH PKWY NE AND LOUIS THOMPSON RD NE**

NOT TO SCALE



**E LAKE SAMMAMISH PKWY NE AND 212TH WAY SE**

NOT TO SCALE



**ZACKUSE CREEK  
FISH PASSAGE AND STREAM  
RESTORATION PROJECT  
SAMMAMISH, WASHINGTON**

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

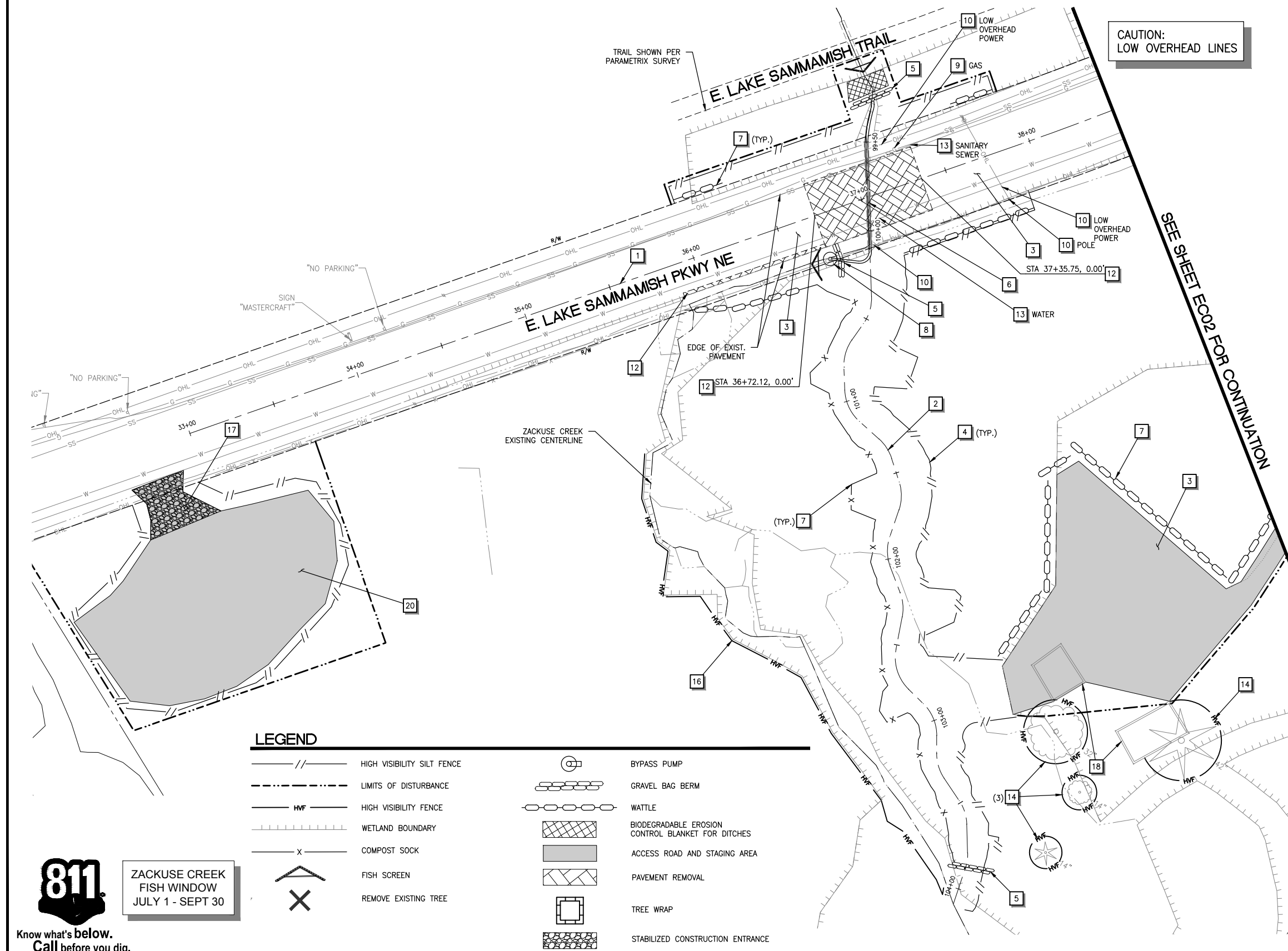
DATE: 02/23/2018  
DESIGNED BY: BS/DC/BD/MM/CEM/EH  
DRAWN BY: AK  
REVIEWED BY:



TRAFFIC CONTROL PLAN

TC02	
SHEET	OF
8	34





CAUTION:  
LOW OVERHEAD LINES

SEE SHEET EC02 FOR CONTINUATION

**TESC & DEMOLITION NOTES**

- 1 ELSP CONSTRUCTION CENTERLINE, SEE SHEET RW01 FOR DETAILS.
- 2 ZACKUSE CREEK CONSTRUCTION CENTERLINE, SEE SHEET RW02 FOR DETAILS
- 3 CONSTRUCT ACCESS ROAD (NOMINALLY 12' WIDE) AND STAGING AREA FOR STREAM RESTORATION AS NECESSARY. LOCATION SHALL BE FIELD LOCATED AND APPROVED BY ENGINEER. CONTRACTOR MAY PROPOSE ALTERNATIVES THAT REDUCE WETLAND IMPACTS (IF APPROVED BY CITY) AND USE CLOSURE ON ELSP NE FOR STAGING AREA, PROTECT EXISTING PAVEMENT. SEE SHEET EC03 FOR DETAILS.
- 4 INSTALL HIGH VISIBILITY SILT FENCE PER WSDOT STD. PLAN 1-30.16-00.
- 5 INSTALL TEMPORARY GRAVEL BAG BERM PER LOCATIONS AND DETAILS SHOWN ON SHEETS BP01-BP02.
- 6 REMOVE EXISTING CULVERT, 36" DIAMETER, 55' LENGTH.
- 7 INSTALL STRAW WATTLE PER WSDOT STD PLAN 1-30.30-01, OR COMPOST SOCK PER STD PLAN 1-30.40-01.
- 8 TEMPORARY STREAM BYPASS. SEE PLAN ON SHEET BP01 AND DETAILS ON SHEET BP02.
- 9 PROTECT EXISTING UTILITY DURING CONSTRUCTION.
- 10 CONTRACTOR SHALL COORDINATE WITH PSE FOR SUPPORTING AND PROTECTING EXISTING POLE, POWER LINES, AND GUY WIRE DURING CONSTRUCTION.
- 11 REMOVE EXISTING TREES. TREE TO BE USED AS NEEDED IN WOOD STRUCTURE CONSTRUCTION FOR STREAM RESTORATION. REPLACE IN KIND, ON EASTERN SIDE OF ROAD, WITH WESTERN RED CEDAR OR SITKA SPRUCE, SIZING PER SHEET LS06.
- 12 SAWCUT AND REMOVE EXISTING PAVEMENT, INCLUDING HMA PAVEMENT AND CONC. PANEL UNDERNEATH.
- 13 EXISTING UTILITY TO BE RELOCATED/ADJUSTED, SEE SHEETS UT01-UT02 FOR DETAILS.
- 14 PROTECT EXISTING TREE PER TREE/SHRUB PROTECTION DETAIL ON SHEET EC03.
- 15 PROTECT EXISTING TREE PER TREE WRAP PROTECTION, SEE SHEET EC03 FOR DETAILS.
- 16 INSTALL HIGH VISIBILITY FENCE PER WSDOT STD 1-10.10-01.
- 17 INSTALL STABILIZED CONSTRUCTION ENTRANCE PER WSDOT STD PLAN 1-80.10-02. PROVIDE TEMPORARY CULVERT UNDER CONSTRUCTION ENTRANCE TO MAINTAIN DRAINAGE.
- 18 EXISTING STRUCTURES TO BE DEMOLISHED. DEMOLITION WILL REQUIRE A CITY OF SAMMAMISH DEMOLITION PERMIT ACQUIRED BY CONTRACTOR. FILL VOID WITH COMMON BORROW.
- 19 REMOVE EXISTING GUARDRAIL, LIMITS PER PLAN.
- 20 EXISTING TREES 8" AND GREATER CALIPER (DBH) SHALL BE PROTECTED WITHIN STAGING AREA. TREES SMALLER THAN 8" MAY BE REMOVED. APPROX. STAGING AREA IS SHOWN.

**GENERAL NOTES**

1. SEE SHEET EC02 FOR TREES ALONG THE TEMPORARY ACCESS ROAD THAT HAVE BEEN IDENTIFIED TO BE PROTECTED (PER DETAILS ON SHEET EC03) OR TO BE FELLED AND USED AS PART OF THE STREAM RESTORATION CONSTRUCTION.
2. TESC MEASURES SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL FIELD LOCATE TO ACCOMMODATE SITE CONDITIONS AND WORK SCHEDULE.
3. PROTECT ALL EXISTING FEATURES AND VEGETATION NOT CALLED TO BE REMOVED.
4. SEE SHEET EC03 FOR EROSION AND SEDIMENT CONTROL NOTES.

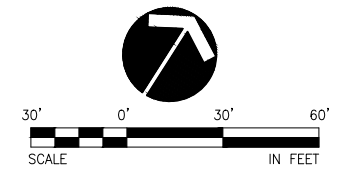
**LEGEND**

	HIGH VISIBILITY SILT FENCE		BYPASS PUMP
	LIMITS OF DISTURBANCE		GRAVEL BAG BERM
	HIGH VISIBILITY FENCE		WATTLE
	WETLAND BOUNDARY		BIODEGRADABLE EROSION CONTROL BLANKET FOR DITCHES
	COMPOST SOCK		ACCESS ROAD AND STAGING AREA
	FISH SCREEN		PAVEMENT REMOVAL
	REMOVE EXISTING TREE		TREE WRAP
			STABILIZED CONSTRUCTION ENTRANCE

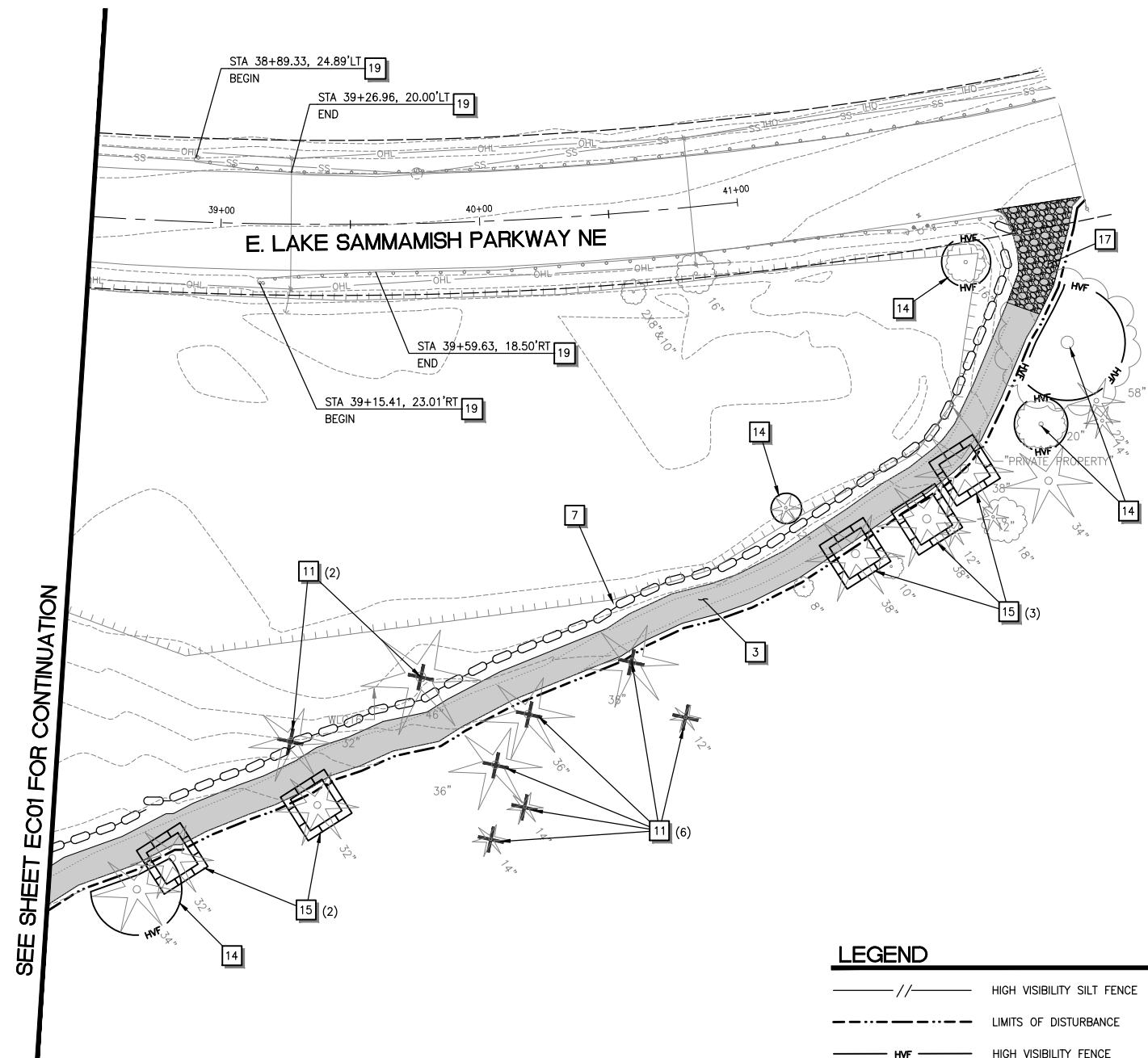


ZACKUSE CREEK  
FISH WINDOW  
JULY 1 - SEPT 30

Know what's below.  
Call before you dig.



<b>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</b>	NO.	REVISIONS	DATE	DATE: 02/23/2018			<b>TESC AND DEMOLITION PLAN 1 OF 2</b>	EC01		
	1			DESIGNED BY: BS/DC/BD/MM/CEM/EH				SHEET	OF	
	2									
	3							DRAWN BY: AK		
	4							REVIEWED BY:		
5					9	34				



SEE SHEET EC01 FOR CONTINUATION

**TESC & DEMOLITION NOTES**

- 1 ELSP CONSTRUCTION CENTERLINE, SEE SHEET RW01 FOR DETAILS.
- 2 ZACKUSE CREEK CONSTRUCTION CENTERLINE, SEE SHEET RW02 FOR DETAILS
- 3 CONSTRUCT ACCESS ROAD (NOMINALLY 12' WIDE) AND STAGING AREA FOR STREAM RESTORATION AS NECESSARY. LOCATION SHALL BE FIELD LOCATED AND APPROVED BY ENGINEER. CONTRACTOR MAY PROPOSE ALTERNATIVES THAT REDUCE WETLAND IMPACTS (IF APPROVED BY CITY) AND USE CLOSURE ON ELSP NE FOR STAGING AREA, PROTECT EXISTING PAVEMENT. SEE SHEET EC03 FOR DETAILS.
- 4 INSTALL HIGH VISIBILITY SILT FENCE PER WSDOT STD. PLAN I-30.16-00.
- 5 INSTALL TEMPORARY GRAVEL BAG BERM PER LOCATIONS AND DETAILS SHOWN ON SHEETS BP01-BP02.
- 6 REMOVE EXISTING CULVERT, 36" DIAMETER, 55' LENGTH.
- 7 INSTALL STRAW WATTLE PER WSDOT STD PLAN I-30.30-01, OR COMPOST SOCK PER STD PLAN I-30.40-01.
- 8 TEMPORARY STREAM BYPASS. SEE PLAN ON SHEET BP01 AND DETAILS ON SHEET BP02.
- 9 PROTECT EXISTING UTILITY DURING CONSTRUCTION.
- 10 CONTRACTOR SHALL COORDINATE WITH PSE FOR SUPPORTING AND PROTECTING EXISTING POLE, POWER LINES, AND GUY WIRE DURING CONSTRUCTION.
- 11 REMOVE EXISTING TREES. TREE TO BE USED AS NEEDED IN WOOD STRUCTURE CONSTRUCTION FOR STREAM RESTORATION. REPLACE IN KIND, ON EASTERN SIDE OF ROAD, WITH WESTERN RED CEDAR OR SITKA SPRUCE, SIZING PER SHEET LS06.
- 12 SAWCUT AND REMOVE EXISTING PAVEMENT, INCLUDING HMA PAVEMENT AND CONC. PANEL UNDERNEATH.
- 13 EXISTING UTILITY TO BE RELOCATED/ADJUSTED, SEE SHEETS UT01-UT02 FOR DETAILS.
- 14 PROTECT EXISTING TREE PER TREE/SHRUB PROTECTION DETAIL ON SHEET EC03.
- 15 PROTECT EXISTING TREE PER TREE WRAP PROTECTION, SEE SHEET EC03 FOR DETAILS.
- 16 INSTALL HIGH VISIBILITY FENCE PER WSDOT STD I-10.10-01.
- 17 INSTALL STABILIZED CONSTRUCTION ENTRANCE PER WSDOT STD PLAN I-80.10-02. PROVIDE TEMPORARY CULVERT UNDER CONSTRUCTION ENTRANCE TO MAINTAIN DRAINAGE.
- 18 EXISTING STRUCTURES TO BE DEMOLISHED. DEMOLITION WILL REQUIRE A CITY OF SAMMAMISH DEMOLITION PERMIT ACQUIRED BY CONTRACTOR. FILL VOID WITH COMMON BORROW.
- 19 REMOVE EXISTING GUARDRAIL, LIMITS PER PLAN.
- 20 EXISTING TREES 8" AND GREATER CALIPER (DBH) SHALL BE PROTECTED WITHIN STAGING AREA. TREES SMALLER THAN 8" MAY BE REMOVED. APPROX. STAGING AREA IS SHOWN.

**GENERAL NOTES**

1. SEE SHEET EC02 FOR TREES ALONG THE TEMPORARY ACCESS ROAD THAT HAVE BEEN IDENTIFIED TO BE PROTECTED (PER DETAILS ON SHEET EC03) OR TO BE FELLED AND USED AS PART OF THE STREAM RESTORATION CONSTRUCTION.
2. TESC MEASURES SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL FIELD LOCATE TO ACCOMMODATE SITE CONDITIONS AND WORK SCHEDULE.
3. PROTECT ALL EXISTING FEATURES AND VEGETATION NOT CALLED TO BE REMOVED.

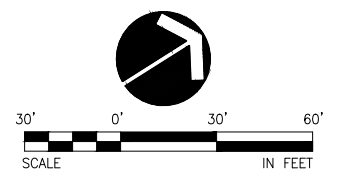
**LEGEND**

	HIGH VISIBILITY SILT FENCE		BYPASS PUMP
	LIMITS OF DISTURBANCE		GRAVEL BAG BERM
	HIGH VISIBILITY FENCE		WATTLE
	WETLAND BOUNDARY		BIODEGRADABLE EROSION CONTROL BLANKET FOR DITCHES
	COMPOST SOCK		ACCESS ROAD AND STAGING AREA
	FISH SCREEN		PAVEMENT REMOVAL
	REMOVE EXISTING TREE		TREE WRAP
			STABILIZED CONSTRUCTION ENTRANCE

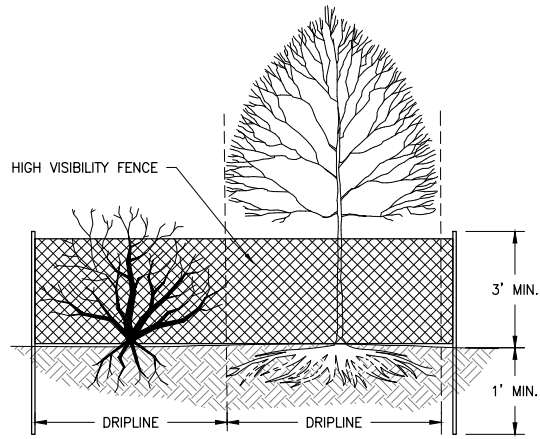


ZACKUSE CREEK  
FISH WINDOW  
JULY 1 - SEPT 30

Know what's below.  
Call before you dig.



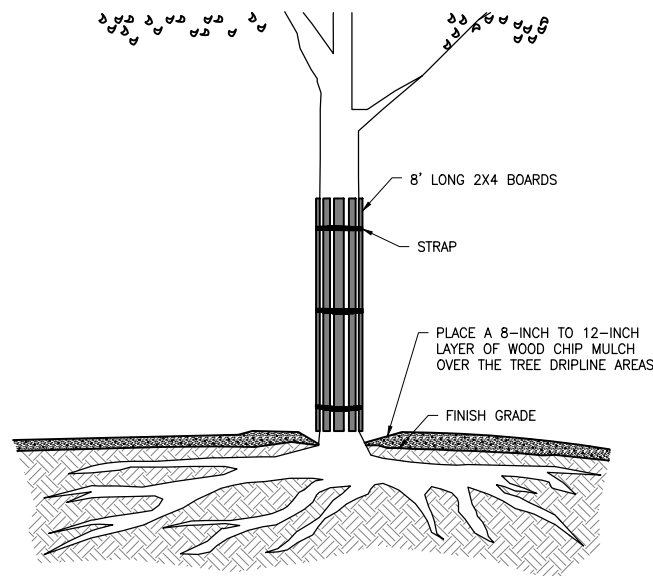
<b>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</b>	NO.	REVISIONS	DATE	DATE: 02/23/2018		<b>TESC AND DEMOLITION PLAN 2 OF 2</b>	1		DESIGNED BY: BS/DC/BD/MM/CEM/EH	<b>EC02</b>
	2			DRAWN BY: AK			SHEET	OF		
	3			REVIEWED BY:			10	34		
	4									
	5									



- NOTES:**
- 3' HIGH VISIBILITY FENCE SHALL BE PLACED AT DRIPLINE OF TREE TO BE SAVED UNLESS OTHERWISE SHOWN ON PLAN. FENCE SHALL COMPLETELY ENCIRCLE TREE(S). AVOID DRIVING POSTS OR STAKES INTO MAJOR ROOTS.
  - TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER 1" IN DIAMETER DAMAGED DURING CONSTRUCTION, MAKE A CLEAN, STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND COVERED WITH SOIL AS SOON AS POSSIBLE.
  - WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING.
  - SEE SPECS FOR ADDITIONAL DETAILS.

**TREE/SHRUB PROTECTION DETAIL**

NOT TO SCALE



- NOTES:**
- PRUNE TO CROWN RAISE THE CANOPY TO PROVIDE SUFFICIENT CLEARANCE FOR CONSTRUCTION EQUIPMENT AND VEHICLES.
  - REMOVE TRUNK PROTECTION STRUCTURE AT CONCLUSION OF PROJECT.
  - THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE TREE PROTECTION TECHNIQUES IF A PROTECTED TREE WILL BE PROTECTED TO AN EQUAL OR GREATER DEGREE THAN THROUGH ALTERNATIVE TECHNIQUES.

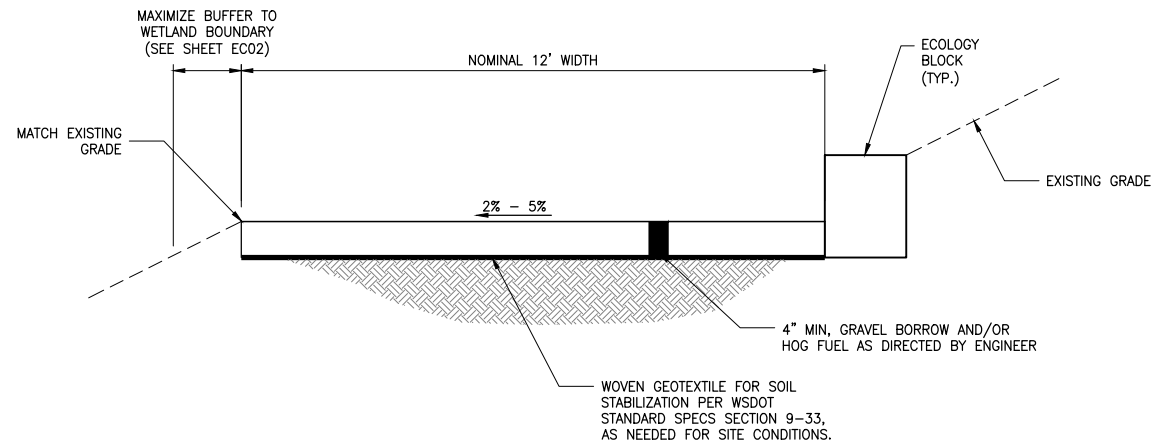
**TREE WRAP PROTECTION DETAIL**

NOT TO SCALE



ZACKUSE CREEK  
FISH WINDOW  
JULY 1 - SEPT 30

Know what's below.  
Call before you dig.



**ACCESS ROAD TYPICAL SECTION**

NOT TO SCALE

1. ACCESS ROAD SHALL BE MAINTAINED DURING CONSTRUCTION AND REPAIR DAMAGES AS NECESSARY PRIOR TO COMPLETION OF SCHEDULE A1



**EROSION & SEDIMENT CONTROL NOTES**

- THE TEMPORARY EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO ANY GRADING OR EXTENSIVE LAND CLEARING IN ACCORDANCE WITH THE PLANS AND AS DIRECTED BY THE ENGINEER. THESE FACILITIES MUST BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION AND LANDSCAPING ARE COMPLETED, AND SITE IS STABILIZED. SEDIMENT LADEN WATER SHALL NOT ENTER THE NATURAL DRAINAGE SYSTEMS.
- TEMPORARY SILT FENCE SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL, AND AT LEAST DAILY DURING PROLONGED RAINFALL. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED WATTLES, END RUNS, AND UNDER-CUTTING BENEATH WATTLES. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- ALL CLEARING, GRUBBING, AND GRADING SHALL BE CONTAINED WITHIN THE LIMITS ESTABLISHED BY THE ENGINEER. ALL VEGETATION OUTSIDE DESIGNATED LIMITS SHALL REMAIN UNDISTURBED.
- ALL STOCKPILES ARE TO BE LOCATED IN SAFE AREAS AND PROTECTED FROM EROSION BY MECHANICAL OR VEGETATIVE MEANS.
- ALL EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY SEEDING, MULCHING, MATTING OR PLASTIC COVERING. FROM OCT. 1 TO APRIL 30 NO SOILS SHALL REMAIN UNSTABILIZED FOR MORE THAN 2 DAYS. FROM MAY 1 TO SEPT. 30, NO SOILS SHALL REMAIN UNSTABILIZED FOR MORE THAN 7 DAYS.
- ALL PROPERTIES ADJACENT TO THE PROJECT SHALL BE PROTECTED FROM SEDIMENT DEPOSIT.
- DE-WATERING DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP, SEDIMENT POND, OR OTHER DEVICE APPROVED BY THE ENGINEER.
- ALL POLLUTANTS OTHER THAN SEDIMENTS THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORM WATER. SEE DEPARTMENT OF ECOLOGY STORM WATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON, 2012, VOLUME 2, CHAPTER 4.
- SEDIMENTS TRANSPORTED ONTO A ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR SWEEPING AND BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA. SEE SPECIAL PROVISION, DISPOSAL OF SURPLUS MATERIAL. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
- CITY OF SAMMAMISH WILL TRANSFER GENERAL STORMWATER CONSTRUCTION PERMIT TO CONTRACTOR.

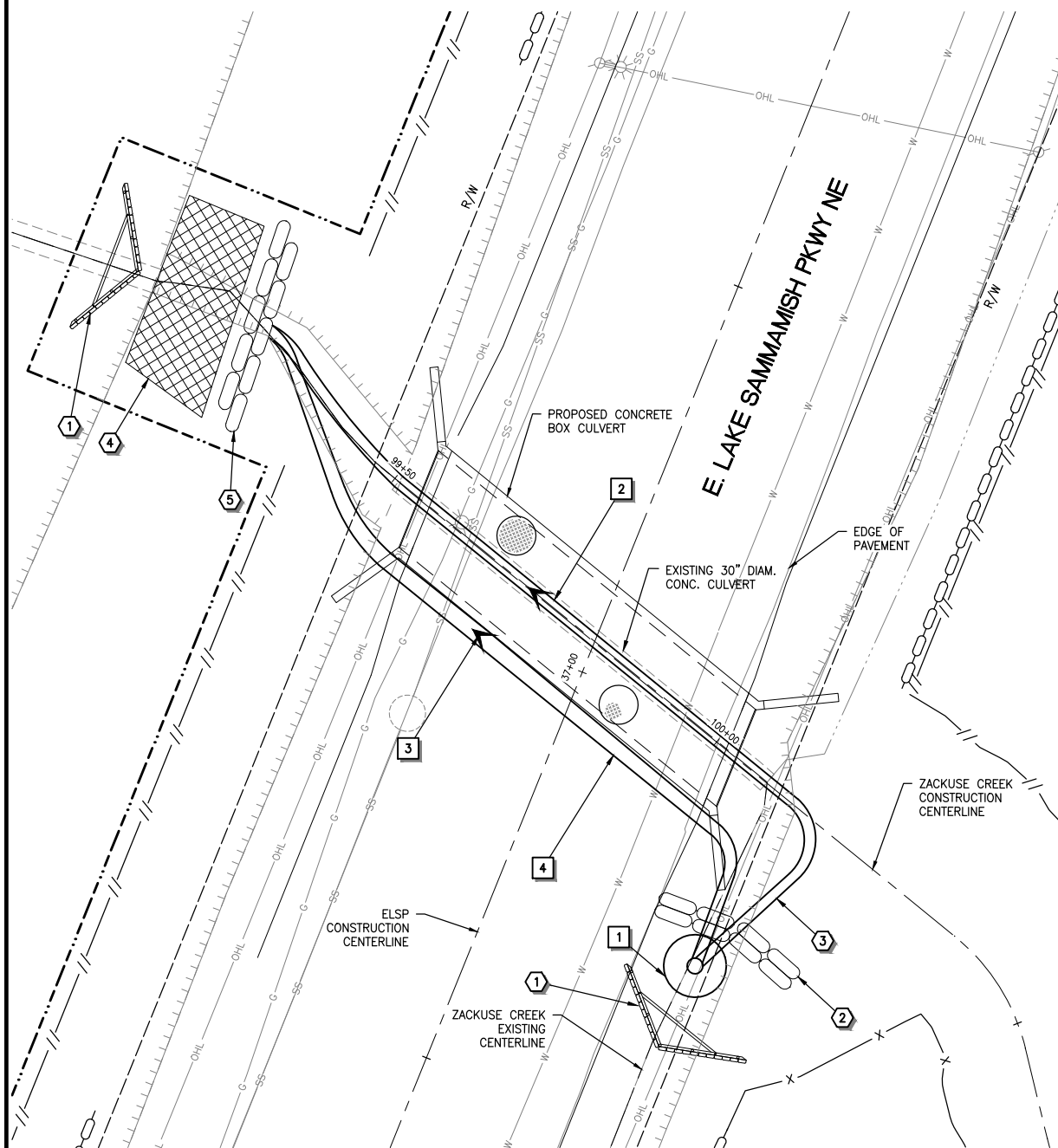
ZACKUSE CREEK  
FISH PASSAGE AND STREAM  
RESTORATION PROJECT  
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE	DATE:
1	ACCESS ROAD CLARIFICATION	04/25/2018	02/23/2018
2			DESIGNED BY: BS/DC/BD/MM/CEM/EH
3			DRAWN BY: AK
4			REVIEWED BY:
5			



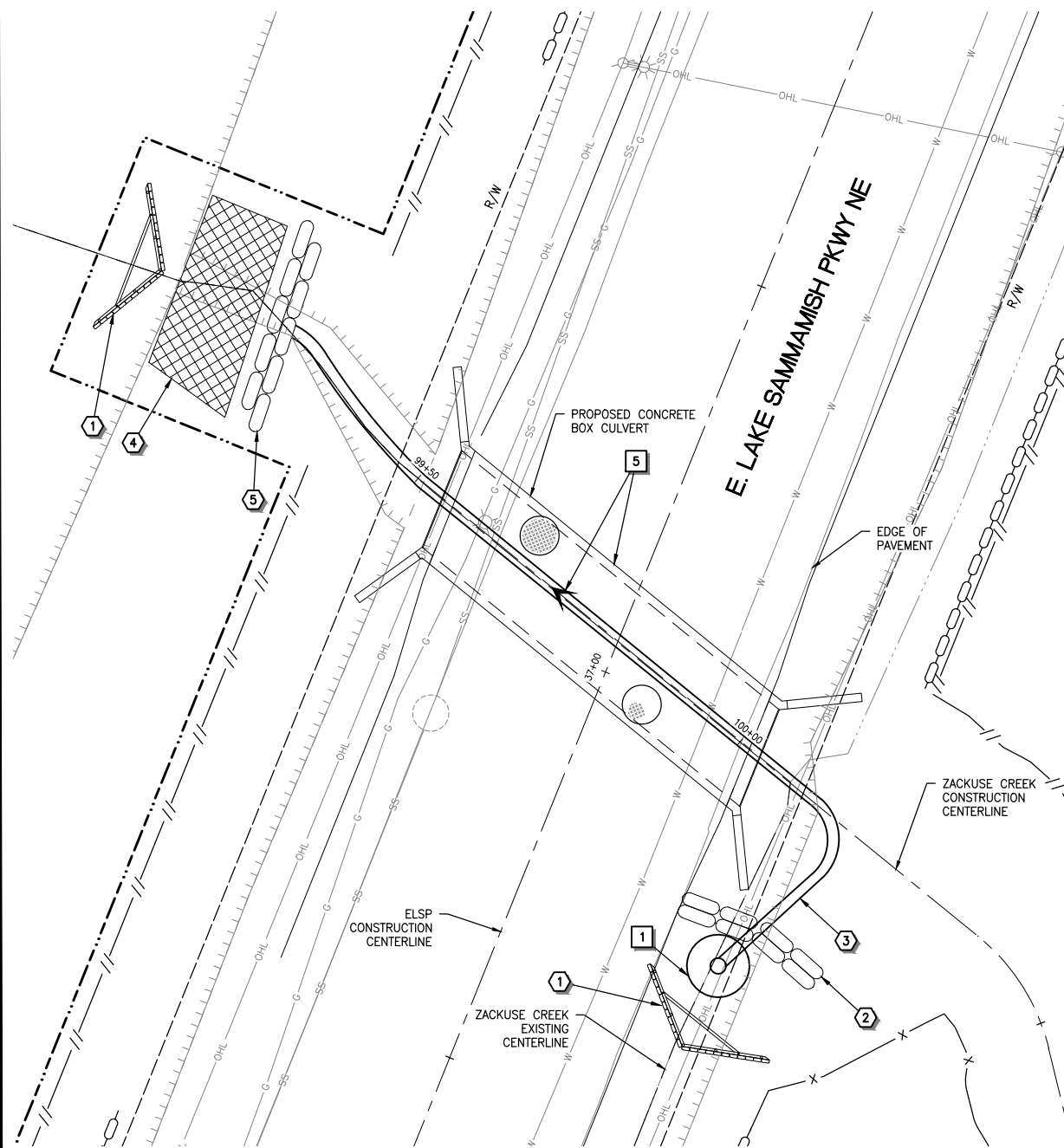
TESC DETAILS

EC03  
SHEET OF  
11 34



STAGE 1: SLIP-LINE TEMPORARY BYPASS THROUGH EXISTING CULVERT

STAGE 2: MOVE TEMPORARY BYPASS PIPE WITHIN LIMITS OF EXCAVATION TRENCH



STAGE 3: TEMPORARY BYPASS PIPE IN PLACE UNTIL END OF PROJECT

**STREAM BYPASS NOTES**

- 1 INSTALL FISH SCREEN PER DETAIL ON SHEET BP02.
- 2 INSTALL TEMP. GRAVEL BAG BERM PER DETAIL ON SHEET BP02.
- 3 INSTALL 24" DIAM. BYPASS PIPE. SEE PROFILES ON THIS SHEET. INSTALL GRAVEL BAGS ON/AROUND PIPE INLET TO STABILIZE.
- 4 INSTALL BIODEGRADABLE EROSION CONTROL BLANKET FOR DITCHES, PER DETAIL ON SHEET BP02.
- 5 INSTALL SUFFICIENT GRAVEL BAGS AT BYPASS OUTFALL TO PREVENT EROSION.

**IN-WATER WORK TESC PLAN NOTES AND RECOMMENDED SEQUENCING**

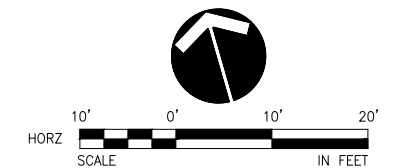
- 1 PROVIDE TEMPORARY PUMP SYSTEM FOR DEWATERING AS NEEDED. APPROXIMATE LOCATION SHOWN. DISCHARGE TO SEDIMENT FILTER MAT OR OTHER APPROVED TESC MEASURE. SEE SPECIFICATIONS FOR DEWATERING REQUIREMENTS.
- 2 INSTALL TEMPORARY STORM DRAIN PIPE THROUGH EXISTING 30" DIAM. CONC. CULVERT IN THE APPROXIMATE LOCATION SHOWN.
- 3 EXCAVATE NEW CHANNEL WITH EXISTING PIPE IN PLACE.
- 4 INSTALL TEMPORARY DIVERSION PIPE IN NEW CHANNEL FOR REMOVAL OF EXISTING 30" DIAM. CONC. CULVERT.
- 5 INSTALL CONCRETE BOX CULVERT BOTTOM AND STREAMBED GRAVELS. TRANSFER TEMPORARY DIVERSION PIPE TO WITHIN BOX CULVERT FOR REMAINDER OF BOX CULVERT CONSTRUCTION AND RESTORATION WORK.

**IN-WATER WORK TESC PLAN GENERAL NOTES**

1. THE CONTRACTOR SHALL SUBMIT THE TEMPORARY BYPASS AND ISOLATION SYSTEM PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL. THE TEMPORARY BYPASS SYSTEM AND ISOLATION BERM SHOWN ON PLAN IS SUGGESTED ONLY.
2. THE TEMPORARY BYPASS AND ISOLATION SYSTEM PLAN SHALL MEET ALL PERMIT REQUIREMENTS. CONTRACTOR SHALL REMOVE ALL TEMPORARY BYPASS MEASURES AFTER COMPLETION OF PROJECT.
3. THE TEMPORARY STREAM BYPASS SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTION.
4. PEAK FLOW RATES ANTICIPATED DURING THE PERIOD OF CONSTRUCTION COULD BE AS HIGH AS 15 CFS. FLOW MAY BE HIGHER DURING HIGH RAINFALL EVENTS. CONTRACTOR SHALL BE PREPARED TO PROTECT WORK SITE DURING HIGHER FLOWS.
5. FISH EXCLUSION AND FISH REMOVAL SHALL BE PERFORMED FOR IN-WATER WORK IN ACCORDANCE WITH THE WASHINGTON DEPARTMENT OF FISH AND WILDLIFE HPA.
6. PUMP SYSTEM WILL REQUIRE POWER FROM OVERHEAD UTILITY. GENERATORS WILL NOT BE ALLOWED. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY TO PROVIDE POWER DROP FROM OVERHEAD LINE.

**LEGEND**

- HIGH VISIBILITY SILT FENCE
- LIMITS OF DISTURBANCE
- FISH SCREEN
- BYPASS PUMP
- GRAVEL BAG BERM
- WATTLE
- BIODEGRADABLE EROSION CONTROL BLANKET FOR DITCHES



ZACKUSE CREEK  
FISH WINDOW  
JULY 1 - SEPT 30

ZACKUSE CREEK  
FISH WINDOW  
JULY 1 - SEPT 30

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE:	02/23/2018
DESIGNED BY:	BS/DC/BD/MM/CEM/EH
DRAWN BY:	AK
REVIEWED BY:	

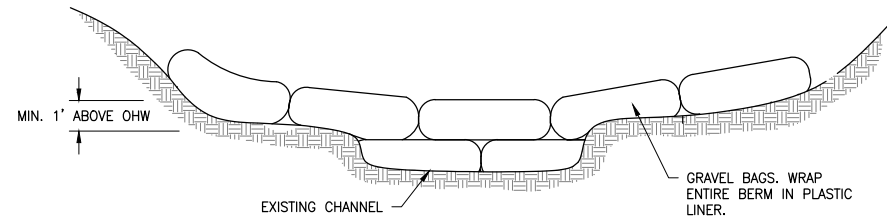


STREAM BYPASS PLAN

BP01

SHEET OF

12 34

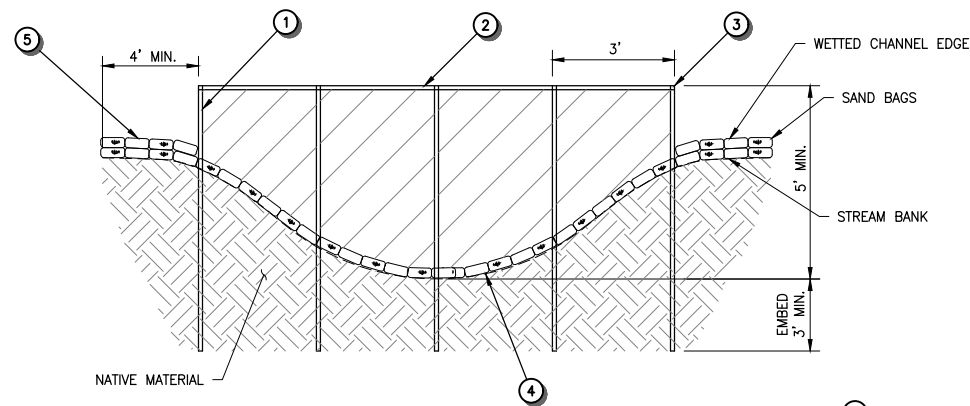


**NOTES:**

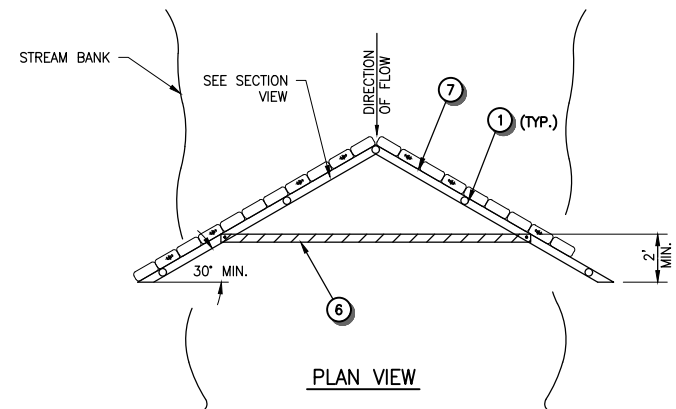
1. GRAVEL BAGS SHALL BE FILLED WITH STREAMBED SEDIMENT PER WSDOT SPEC. 9-03.11(1). STREAMBED SEDIMENT SHALL BE WASTED TO UPSTREAM END OF HABITAT CHANNEL UPON COMPLETION OF WORK.
2. INITIAL ROW OF GRAVEL BAGS SHALL BE KEYED INTO THE GROUND SUCH THAT THEY MAKE TIGHT CONTACT WITH THE GROUND FOR THE LENGTH OF THE BERM.

**TEMPORARY GRAVEL BAG BERM DETAIL**

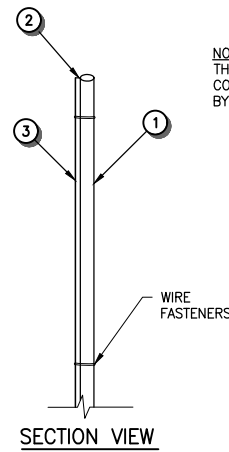
NOT TO SCALE



**FRONT VIEW**



**PLAN VIEW**

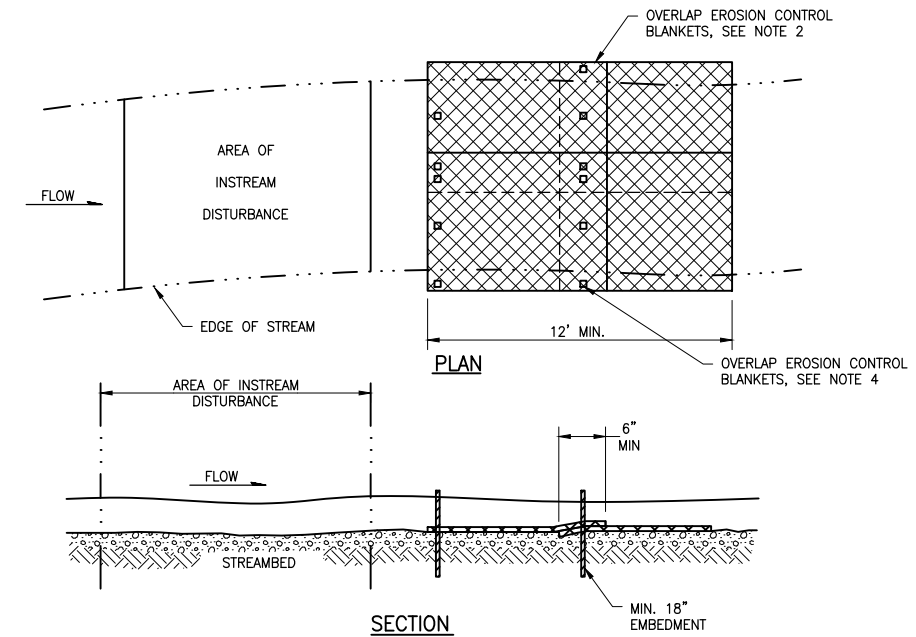


**SECTION VIEW**

**FISH SCREEN CONSTRUCTION SEQUENCE**

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

**NOTE:**  
THIS IS A RECOMMENDED METHOD FOR CONSTRUCTION SEQUENCE. CONTRACTOR MAY SUBMIT AN ALTERNATE FISH PLAN FOR APPROVAL BY THE ENGINEER.



**PLAN**

**SECTION**

**NOTES:**

1. INSTALL EROSION CONTROL BLANKETS FLAT ON THE STREAM BOTTOM AT DOWNSTREAM EDGE OF DISTURBED AREA IMMEDIATELY PRIOR TO INSTREAM DISTURBANCE AND REMOVE IMMEDIATELY AFTER INSTREAM ACTIVITIES ARE COMPLETED.
2. OVERLAP THE TRAILING EDGE OF UPSTREAM EROSION CONTROL BLANKETS OVER THE LEADING EDGE OF DOWNSTREAM EROSION CONTROL BLANKETS BY AT LEAST 6". OVERLAP SIDES A MINIMUM OF 6".
3. HOLD THE LEADING EDGE OF THE MATS TIGHTLY TO STREAMBED CONTOURS WITH ROCKS OR OTHER WEIGHTS SUFFICIENT TO PREVENT MAT FROM LIFTING. ROCKS SHALL BE LARGE ENOUGH THAT THE FORCE OF A 2-YR STORM EVENT WILL NOT CAUSE THE EROSION CONTROL BLANKETS FROM DISLODGING.
4. SECURE UPSTREAM CORNERS AND CENTERS OF EROSION CONTROL BLANKETS IN THE STREAMBED WITH 2"x2"x2' LONG WOOD STAKES.
5. IF STREAM VELOCITY IS HIGH. ENGINEER MAY REQUIRE ADDITIONAL LENGTH OF EROSION CONTROL BLANKET.

**TESC EROSION CONTROL BLANKET DETAIL**

NOT TO SCALE

**FISH SCREEN DETAIL**

NOT TO SCALE



ZACKUSE CREEK  
FISH WINDOW  
JULY 1 - SEPT 30

Know what's below.  
Call before you dig.

ZACKUSE CREEK  
FISH PASSAGE AND STREAM  
RESTORATION PROJECT  
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE	DATE:
1			02/23/2018
2			DESIGNED BY: BS/DC/BD/MM/CEM/EH
3			DRAWN BY: AK
4			REVIEWED BY:
5			



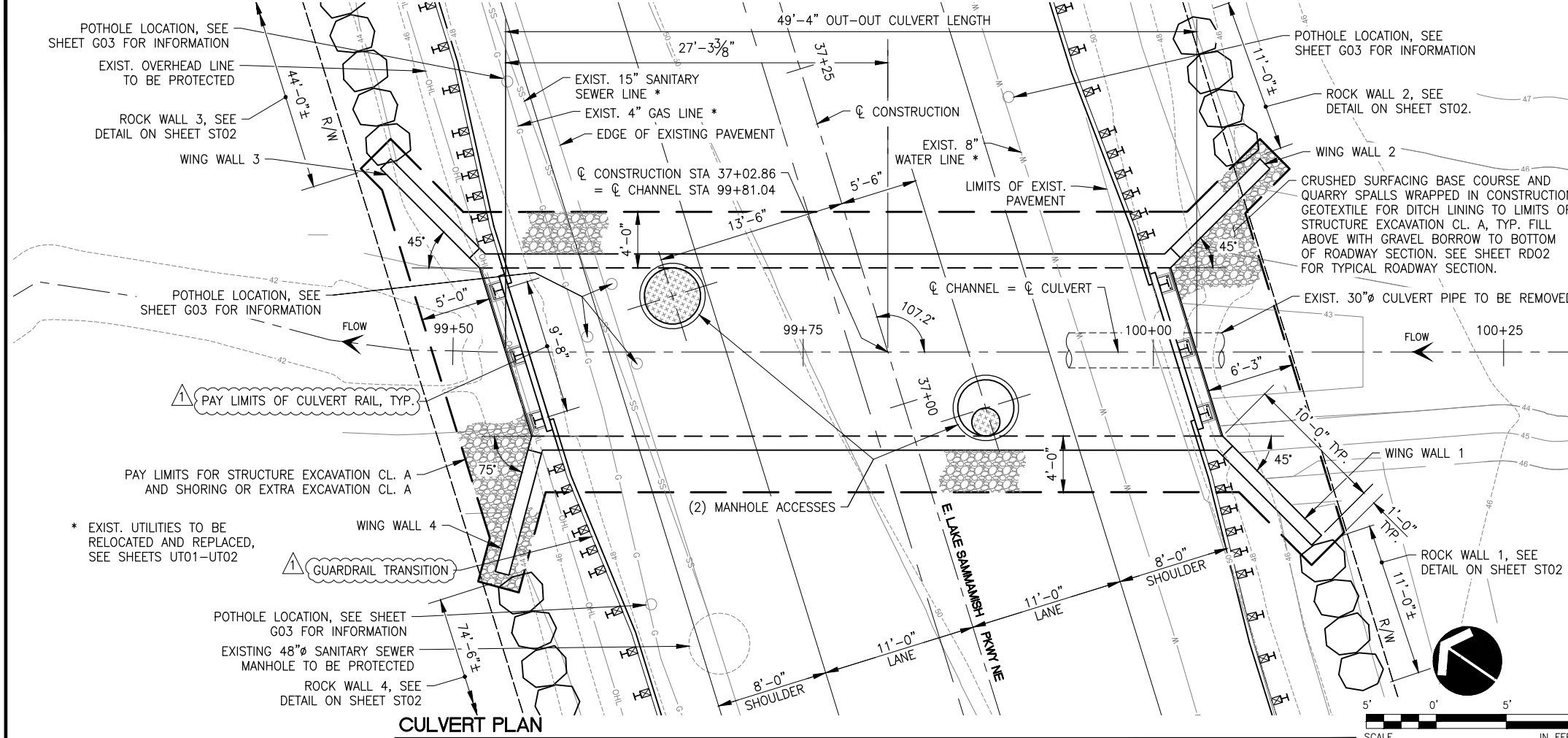
STREAM BYPASS DETAILS

BP02

SHEET OF

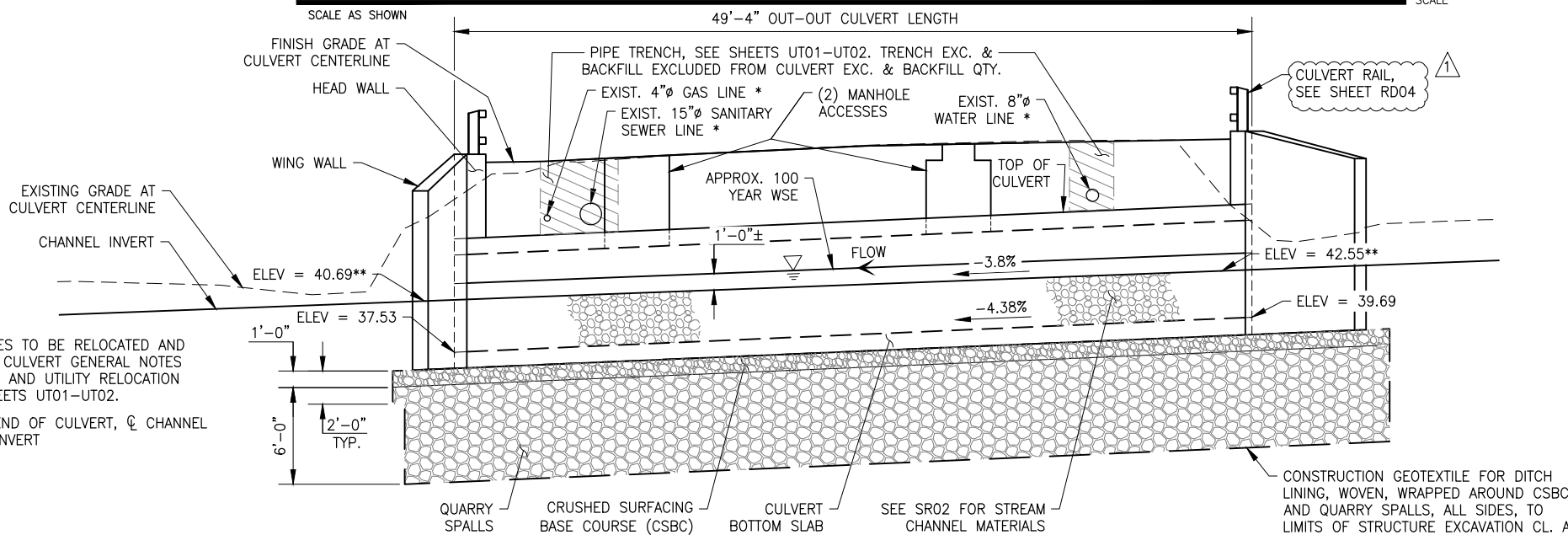
13 34

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



**CULVERT PLAN**

SCALE AS SHOWN



**CULVERT ELEVATION**

SCALE AS SHOWN

**CULVERT GENERAL NOTES**

- ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION DATED 2016, AND AMENDMENTS.
- THE PRECAST REINFORCED CONCRETE BOX CULVERT (PRCBC) WILL BE PROVIDED BY THE CITY, INCLUDING WING WALLS, HEAD WALLS, AND MANHOLE RISERS, LADDER AND LID FOR THE MANHOLE TO BE INSTALLED IN THE NORTHBOUND LANE. THE CULVERT WILL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 7TH EDITION 2014 WITH INTERIM THROUGH 2016. PRECAST BOX UNITS WILL BE MANUFACTURED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 6-02.3(28) WITH SHEAR KEYS. THE FABRICATOR WILL DESIGN FOR LIFTING AND TRANSPORTING PER STANDARD SPECIFICATION SECTION 7-02.3(6)A2.
- THE CONTRACTOR SHALL TRANSPORT AND INSTALL THE CULVERT. JOINTS SHALL BE SEALED WITH SEALANT PER ASTM C 990 AND WRAPPED WITH EXTERNAL SEALING BAND PER ASTM C 877.
- MANHOLE ACCESS WILL CONSIST OF 48"Ø BLOCKOUTS THROUGH CULVERT TOP SLAB WITH RISERS AND LIDS IN ACCORDANCE WITH THE FOLLOWING. SEE THE SPECIAL PROVISIONS FOR MANHOLE LID REQUIREMENTS.
  - THE CONTRACTOR SHALL PROVIDE AND CONSTRUCT THE MANHOLE IN THE SHOULDER OF THE SOUTHBOUND LANE WHICH SHALL CONSIST OF 48"Ø CONCRETE RISERS, 48"Ø LID AND GALVANIZED STEEL LADDER.
  - THE MANHOLE AND LID IN THE NORTHBOUND LANE WILL BE PROVIDED BY THE CITY AND SHALL BE INSTALLED BY THE CONTRACTOR WHICH WILL CONSIST OF 48"Ø AND 24"Ø CONCRETE RISERS, 24"Ø LID AND GALVANIZED STEEL LADDER.
- CONCRETE SHALL BE CLASS 4000 MIN.
- STEEL PLATES AND SHAPES SHALL BE ASTM A36 OR ASTM A 992. BOLTS, NUTS AND WASHERS (UNLESS NOTED OTHERWISE) SHALL BE ASTM A 307 AND COMPLY WITH STANDARD SPECIFICATION SECTION 9-16.3(4), AND RESIN BONDED ANCHORS SHALL BE ASTM A 193 GRADE B7, OR ASTM A 449. STEEL PLATES SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AFTER FABRICATION. BOLTS AND HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232.
- UNLESS OTHERWISE SHOWN IN THE PLANS, CONCRETE COVER MEASURED FROM THE FACE OF CONCRETE TO THE FACE OF ANY REINFORCING STEEL SHALL BE 2" AT THE TOP OF THE TOP SLAB, 1 1/2" AT THE BOTTOM OF THE TOP SLAB, 3" AT THE BOTTOM OF THE BOTTOM SLAB, AND 2" AT ALL OTHER LOCATIONS.
- BACKFILL ON BOTH SIDES OF THE BOX SHALL BE PLACED IN SEQUENCE AND COMPACTED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 2-09.3(1)E. THE MAXIMUM FILL HEIGHT DIFFERENCE BETWEEN EACH SIDE OF THE CULVERT SHALL BE NO MORE THAN 2'-0".
- SEE PROJECT GEOTECHNICAL REPORT PREPARED BY ASPECT CONSULTING, DATED 9/14/2017 FOR SUBSURFACE INFORMATION.
- POTHOLES REPRESENT UTILITY LOCATES AND WERE SURVEYED AT THE LOCATIONS SHOWN. CONTRACTOR SHALL VERIFY UTILITY LOCATIONS. SEE SHEET G03 FOR POTHOLE INFORMATION NOT SHOWN.
- EXISTING FEATURES INCLUDING, BUT NOT LIMITED TO, TREES, UTILITIES, PAVEMENT AND STREAM, SHALL BE PROTECTED UNLESS OTHERWISE SHOWN TO BE RELOCATED, GRADED, REMOVED OR ADJUSTED. DAMAGE TO EXISTING FEATURES THAT SHOULD BE PROTECTED SHALL BE REPAIRED. REPAIR COSTS SHALL BE INCLUDED IN THE BID PRICE OF ADJACENT WORK.
- PROVIDE 6" MIN. CLEARANCE BETWEEN BOTTOM OF SANITARY SEWER PIPE AND TOP OF CULVERT. BASED ON POTHOLE INFORMATION, THE LOWEST BOTTOM OF SEWER PIPE ELEVATION OVER THE CULVERT IS APPROXIMATELY 45.31'. BOTTOM OF PIPE ELEVATION AT CULVERT AND AT EXISTING 48"Ø SEWER MANHOLE SHALL BE FIELD VERIFIED.

**12'-0" SPAN X 6'-0" RISE X 49'-4" LONG**  
**PRECAST REINFORCED CONCRETE BOX CULVERT (PRCBC)**  
**LOADING: AASHTO HL-93**



Know what's below.  
Call before you dig.

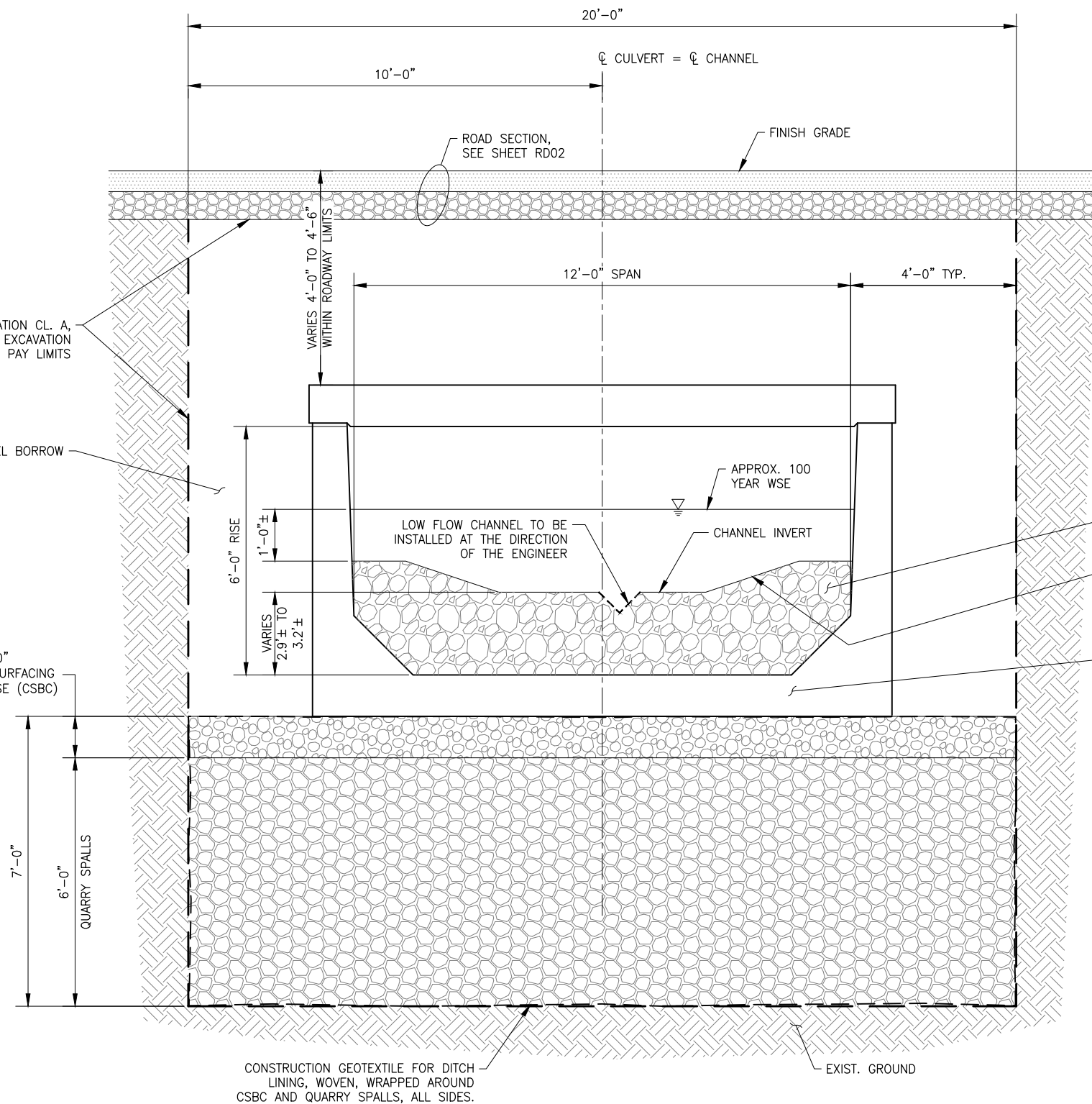
ZACKUSE CREEK  
FISH PASSAGE AND STREAM  
RESTORATION PROJECT  
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE	DATE:
1	CULVERT RAIL MATERIAL AND COATING	4/25/2018	02/23/2018
2			DESIGNED BY: BS/DC/BD/MM/CEM/EH
3			DRAWN BY: AK
4			REVIEWED BY:
5			



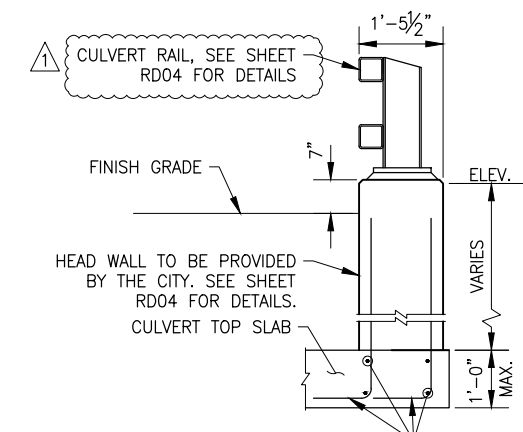
CULVERT LAYOUT

ST01  
SHEET 14 OF  
14 34



**CULVERT TYPICAL SECTION**

SCALE AS SHOWN



NOTES:  
SEE WING WALL LAYOUT TABLE ON SHEET ST03 FOR ELEV. C.

**HEADWALL DETAIL**

SCALE AS SHOWN

SEE SR02 FOR STREAM CHANNEL MATERIALS AND GEOMETRY.

SIDE SLOPE VARIES, SEE SHEET SR02 AND KING COUNTY PLANS. TRANSITION SIDE SLOPE OVER 10' MIN. LENGTH OF STREAM JUST PRIOR TO TIE-IN WITH KING COUNTY GRADING.

CONCRETE BOTTOM SLAB



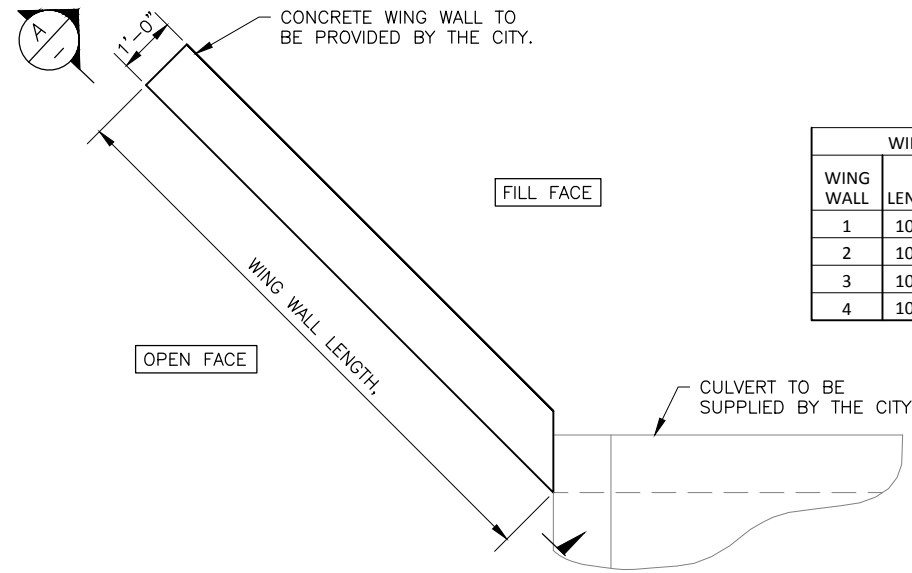
ZACKUSE CREEK  
FISH PASSAGE AND STREAM  
RESTORATION PROJECT  
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE	DATE:
1	CULVERT RAIL MATERIAL AND COATING	4/25/2018	02/23/2018
2			DESIGNED BY: BS/DC/BD/MM/CEM/EH
3			DRAWN BY: AK
4			REVIEWED BY:
5			



CULVERT DETAILS 1 OF 2

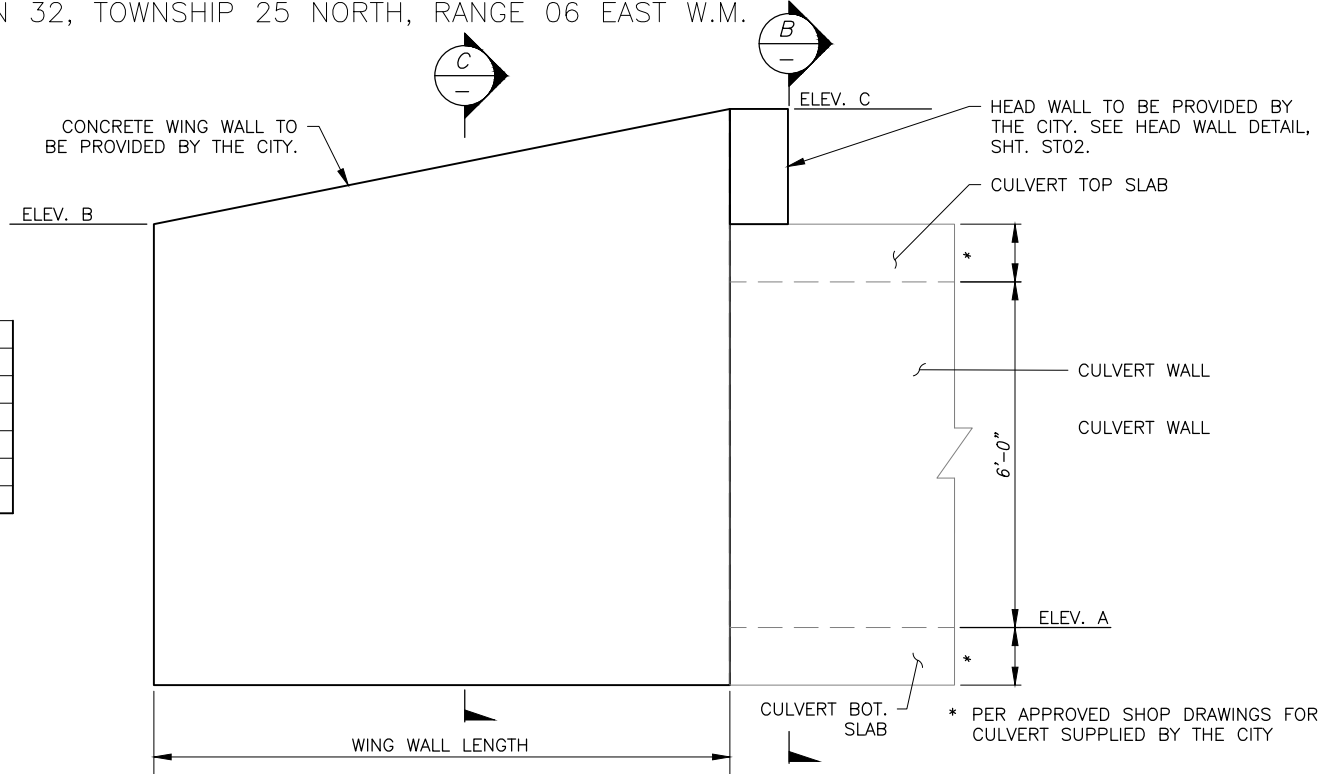
ST02  
SHEET 15 OF  
15 34



WING WALL	LENGTH	ELEV.		
		A	B	C
1	10'-0"	39.9'	49.5'	50.5'
2	10'-0"	39.9'	48.0'	50.5'
3	10'-0"	37.7'	48.5'	49.3'
4	10'-0"	37.7'	47.5'	49.3'

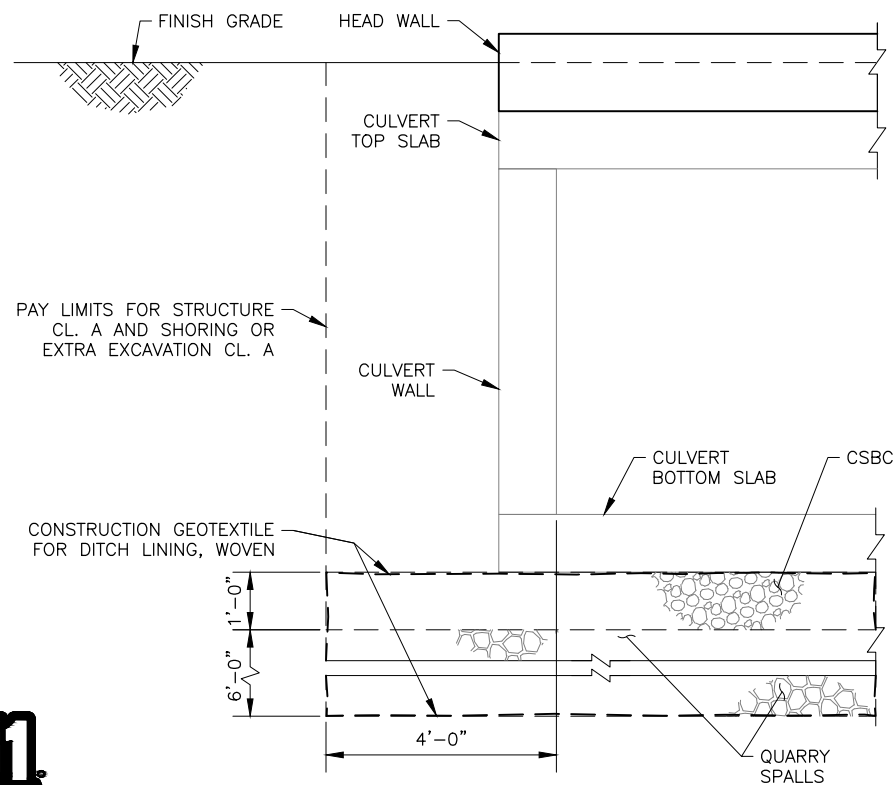
**WINGWALL PLAN**

SCALE AS SHOWN



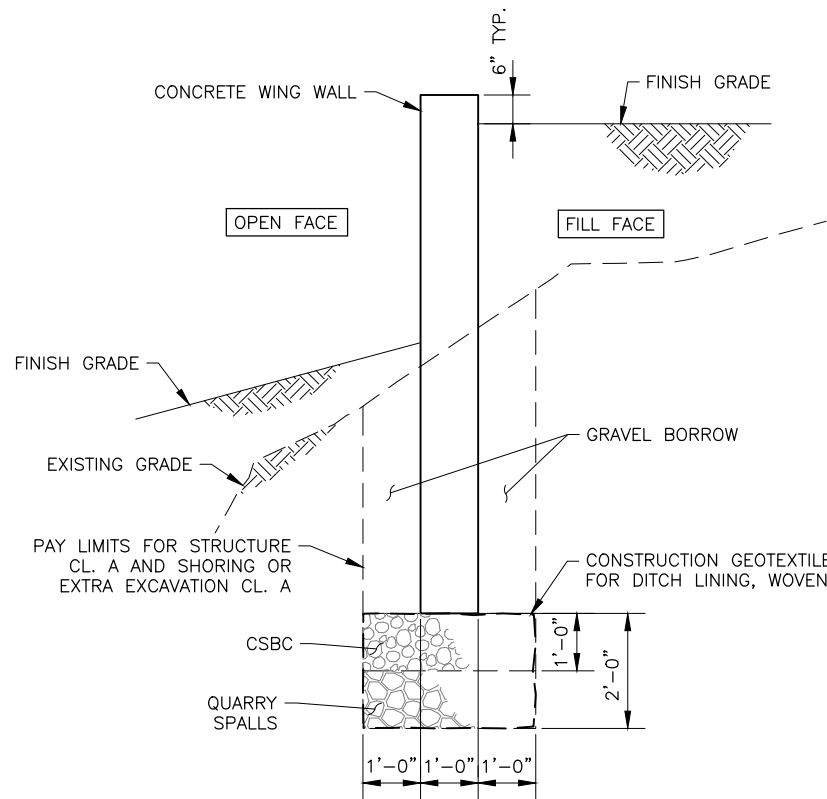
**A VIEW**

SCALE AS SHOWN



**B SECTION**

SCALE AS SHOWN

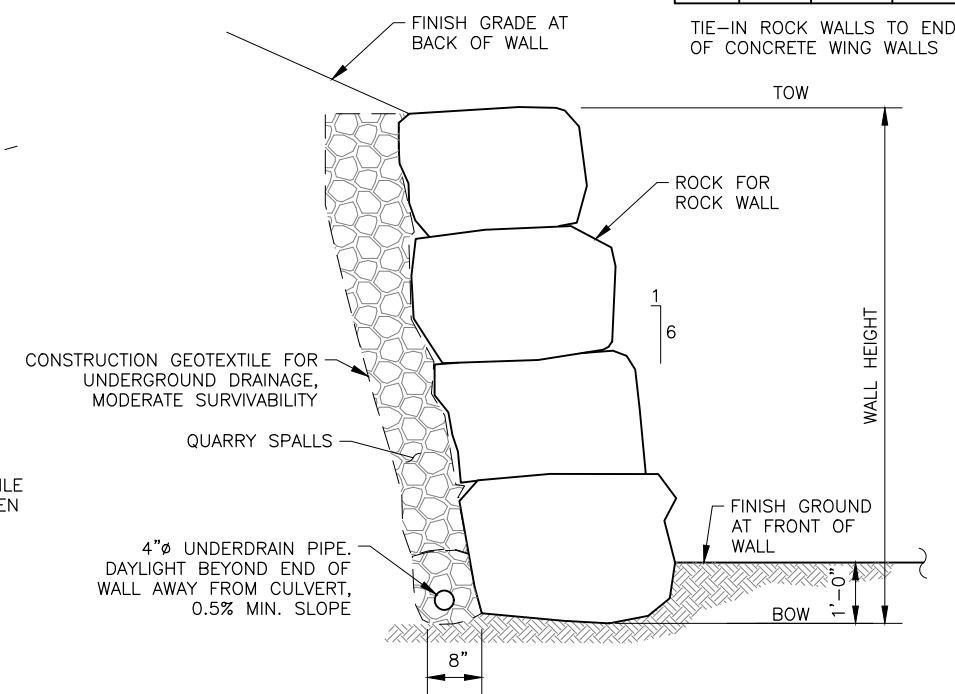


**C SECTION**

SCALE AS SHOWN

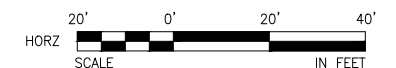
ROCK WALL	LENGTH	ELEV.	
		BOW	TOW
1	11'-0"	45.0'	49.5'
2	11'-0"	46.0'	48.0'
3	44'-0"	43.0'	48.5'
4	74'-6"	43.0'	47.5'

TIE-IN ROCK WALLS TO END OF CONCRETE WING WALLS



**ROCK WALL**

SCALE AS SHOWN



Know what's below.  
Call before you dig.

ZACKUSE CREEK  
FISH PASSAGE AND STREAM  
RESTORATION PROJECT  
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE	DATE:
1			02/23/2018
2			DESIGNED BY: BS/DC/BD/MM/CEM/EH
3			DRAWN BY: AK
4			REVIEWED BY:
5			



CULVERT DETAILS 2 OF 2

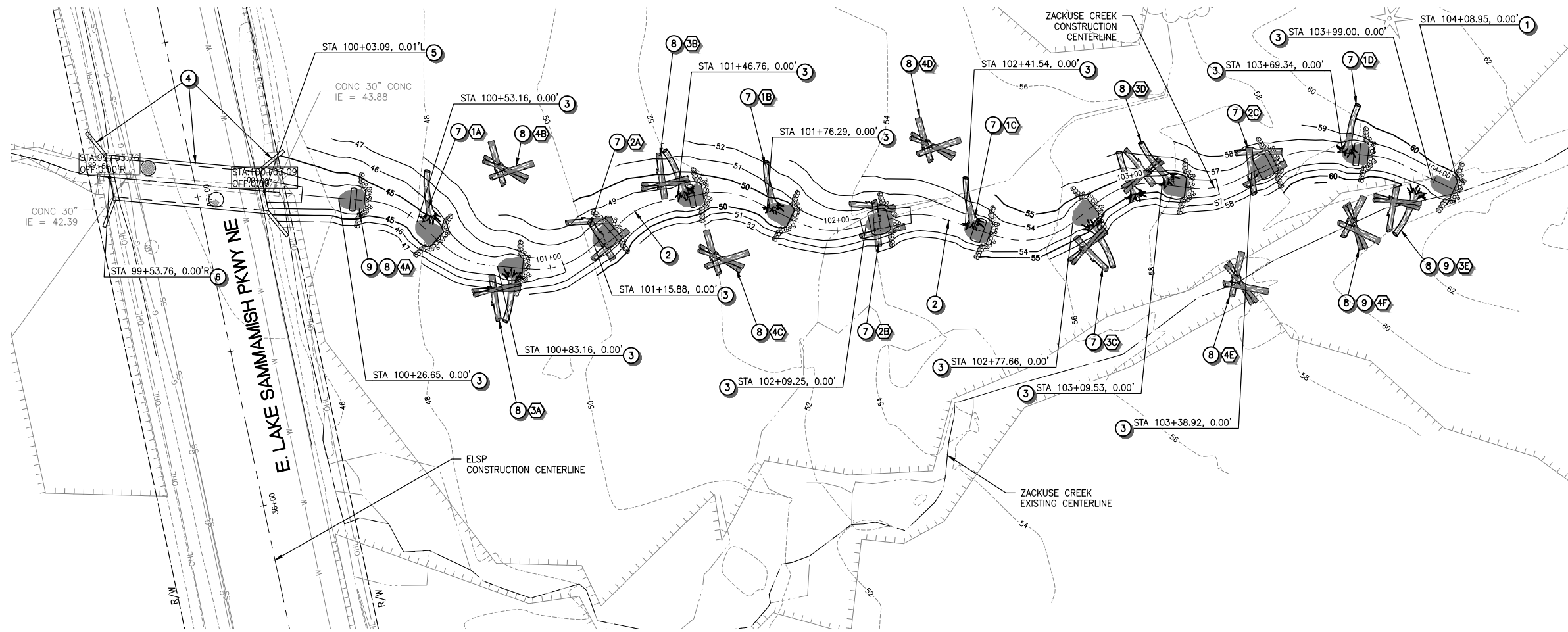
ST03

SHEET OF

16 34



A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



**CONSTRUCTION NOTES**

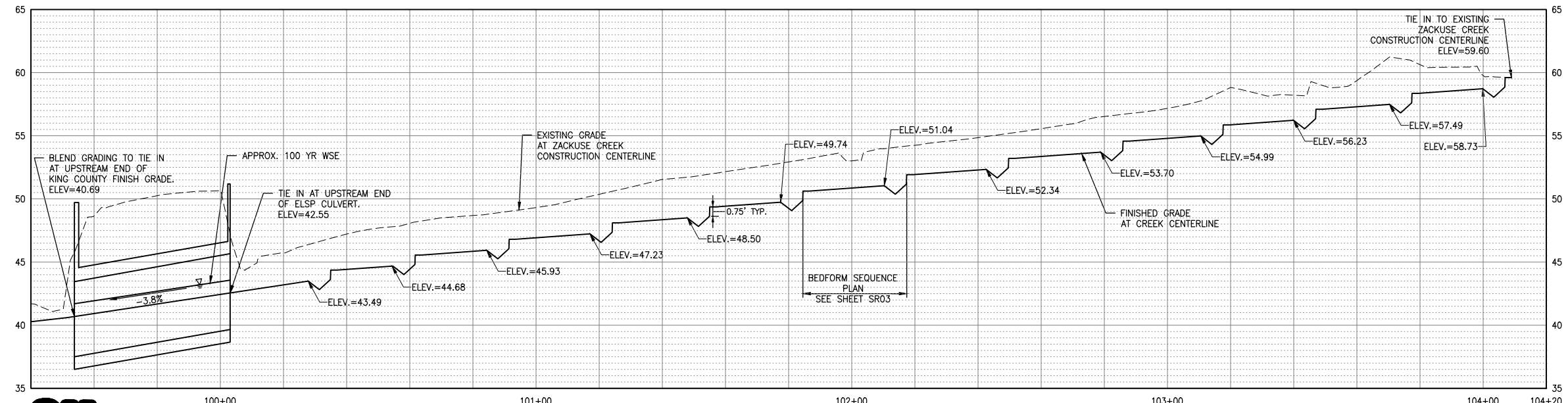
- 1 TIE IN TO EXISTING ZACKUSE CREEK CENTERLINE.
- 2 CONSTRUCT STREAM CHANNEL ALIGNMENT SHOWN ON SHEET RW02 AND PER PROFILE ON THIS SHEET AND TYPICAL BEDFORM AND CROSS-SECTION DETAIL ON SHEET SR03.
- 3 CONSTRUCT TYPICAL STREAM BEDFORM STEP AND POOL PER DETAILS ON SHEET SR03. SEE SHEET SR03 FOR CONTROL POINT LOCATION.
- 4 INSTALL CULVERT AND WING WALLS PER DETAILS ON SHEETS ST01-ST06.
- 5 TIE IN UPSTREAM END OF PROPOSED CULVERT TO STREAM CHANNEL PER DETAILS ON SHEETS ST01-ST03.
- 6 TIE IN DOWNSTREAM END OF PROPOSED CULVERT TO KING COUNTY FINISH GRADE. SEE SHEET ST01 FOR ELSP CULVERT PROFILE AND SHEETS KC-XX TO KC-XX FOR DOWNSTREAM GRADING PLANS.
- 7 CONSTRUCT TYPE 1 OR TYPE 2 WOOD STRUCTURE PER DETAILS ON SHEET SR04, STRUCTURE TYPE AS INDICATED.
- 8 CONSTRUCT TYPE 3 OR TYPE 4 WOOD STRUCTURE PER DETAILS ON SHEET SR05, STRUCTURE TYPE AS INDICATED.
- 9 INSTALL DIVERSION LOG STRUCTURES ONCE STREAM IS ESTABLISHED IN CONSTRUCTED CHANNEL.

**LEGEND**

- STEP POOL
- LARGE WOOD STRUCTURE - SEE NOTE FOR TYPE
- LARGE WOOD STRUCTURE TYPE (NUMBER) AND ID NAME (LETTER)

**GENERAL NOTES**

1. LOG STRUCTURES SHOWN IN PLAN VIEW ARE APPROXIMATE REPRESENTATIONS OF DETAIL TYPE. REFER TO SHEETS SR04-SR05 FOR DETAILS AND SECTIONS FOR EACH TYPE.

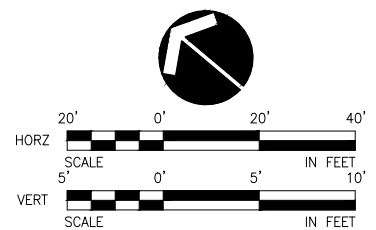


**ZACKUSE CREEK PROFILE**



ZACKUSE CREEK  
FISH WINDOW  
JULY 1 - SEPT 30

Know what's below.  
Call before you dig.



ZACKUSE CREEK  
FISH PASSAGE AND STREAM  
RESTORATION PROJECT  
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

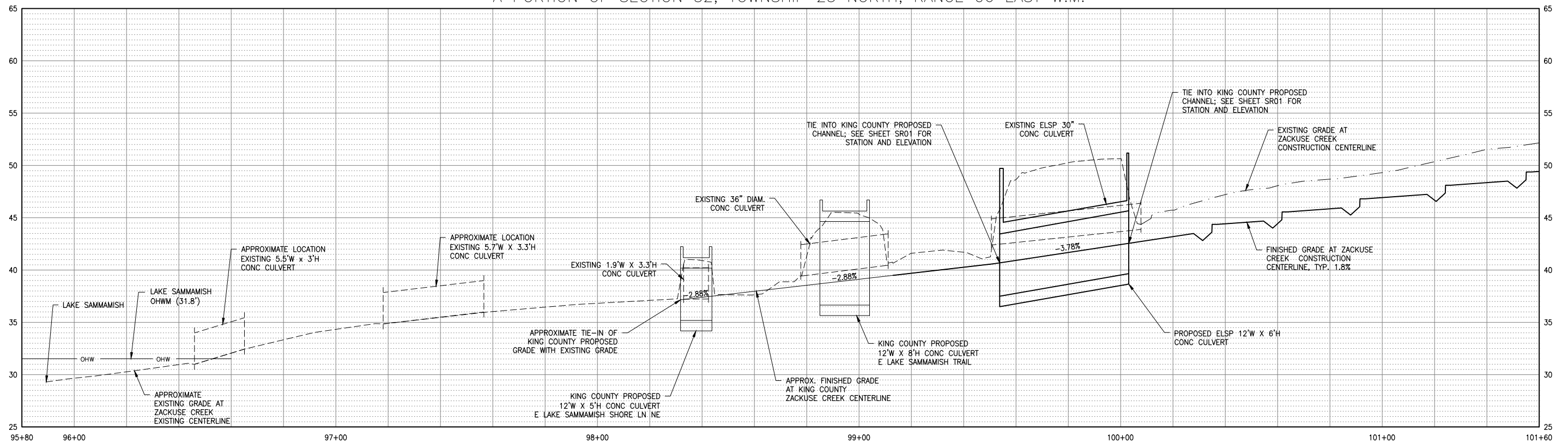
DATE: 02/23/2018  
DESIGNED BY: BS/DC/BD/MM/CEM/EH  
DRAWN BY: AK  
REVIEWED BY:



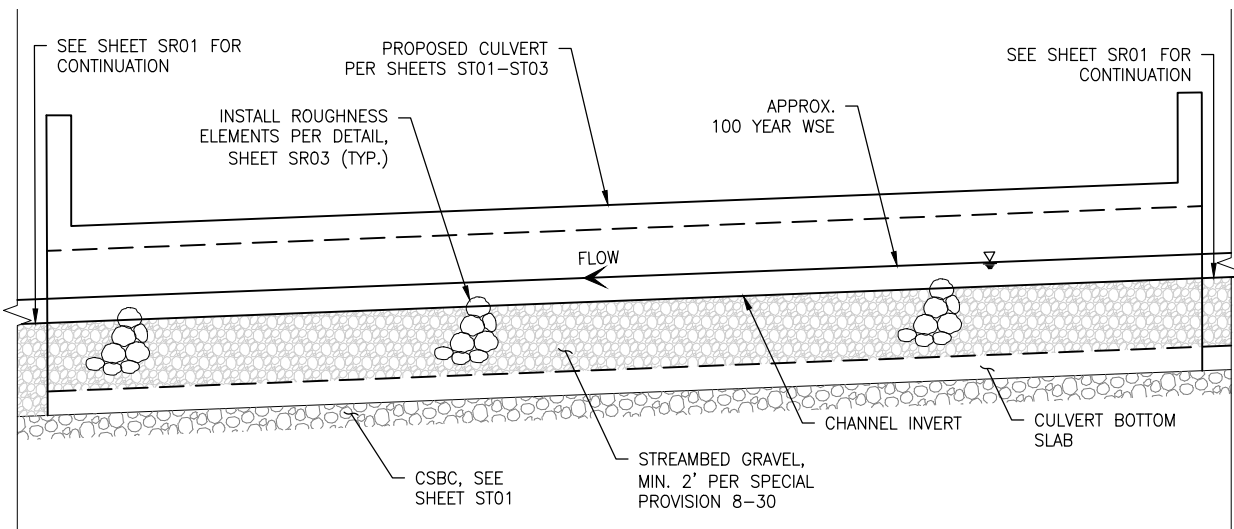
STREAM CHANNEL GRADING  
PLAN AND PROFILE

SR01  
SHEET OF  
17 34

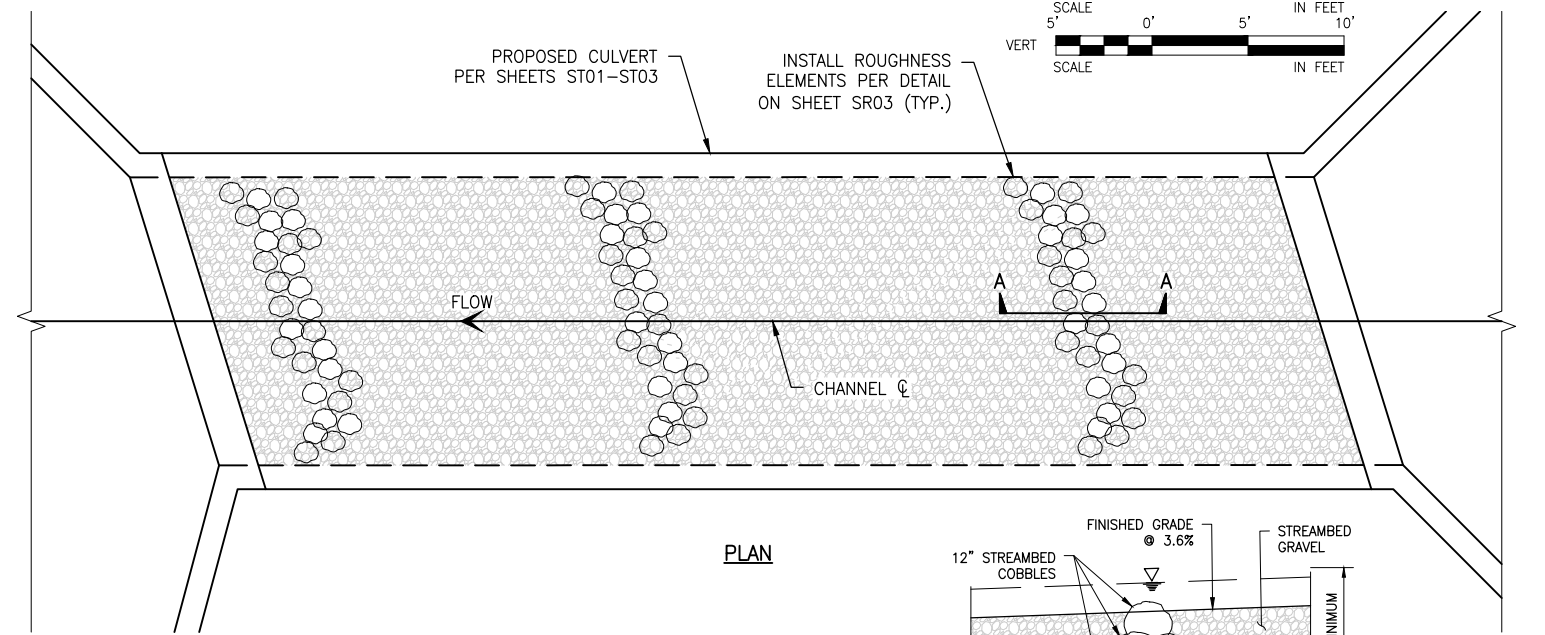
A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



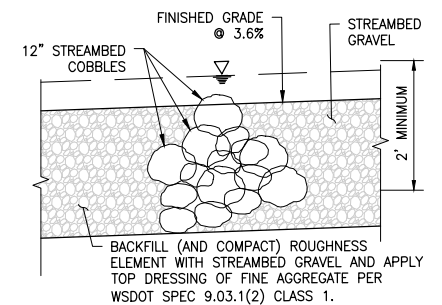
**ZACKUSE CREEK CHANNEL PROFILE, LAKE SAMMAMISH TO STA 101+60**



**PROFILE**



**PLAN**



**SECTION A-A**



**ZACKUSE CREEK  
FISH WINDOW  
JULY 1 - SEPT 30**

Know what's below.  
Call before you dig.

**ZACKUSE CREEK CULVERT ROUGHNESS ELEMENT PLACEMENT**

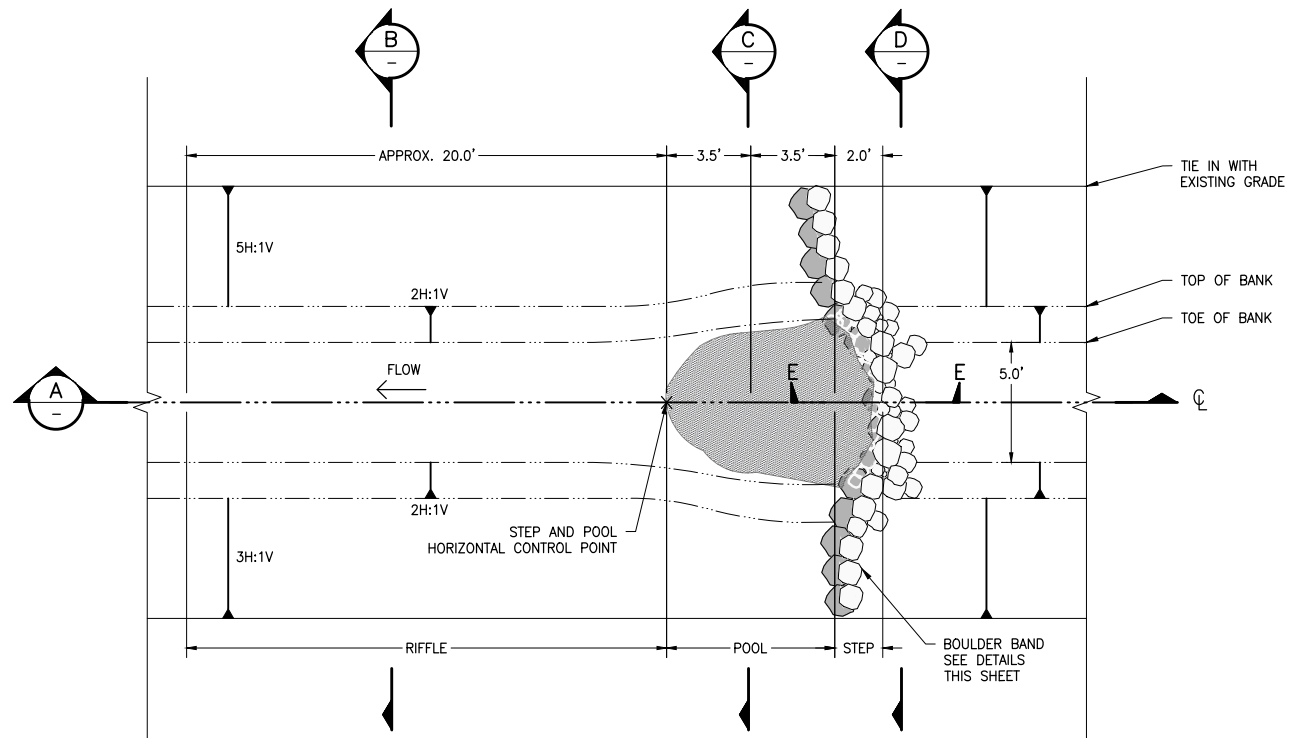
NOT TO SCALE

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON		NO.	REVISIONS	DATE	DATE: 02/23/2018
		1			DESIGNED BY: BS/DC/BD/MM/CEM/EH
		2			
		3			DRAWN BY: AK
		4			REVIEWED BY:
		5			



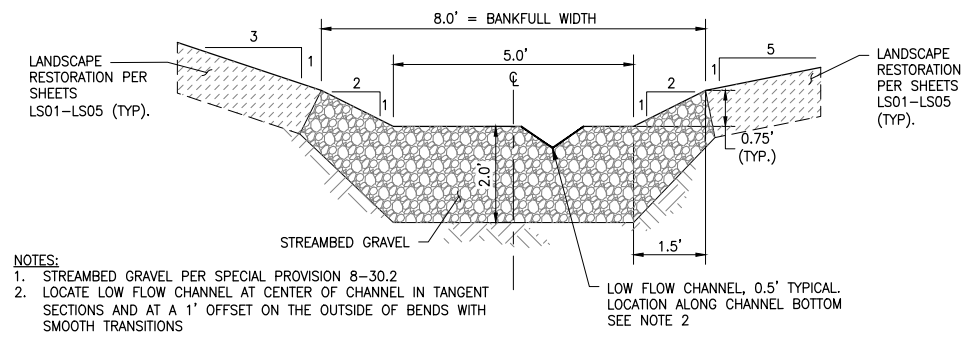
**STREAM CHANNEL  
PLAN AND PROFILE**

**SR02**  
SHEET OF  
**18 34**



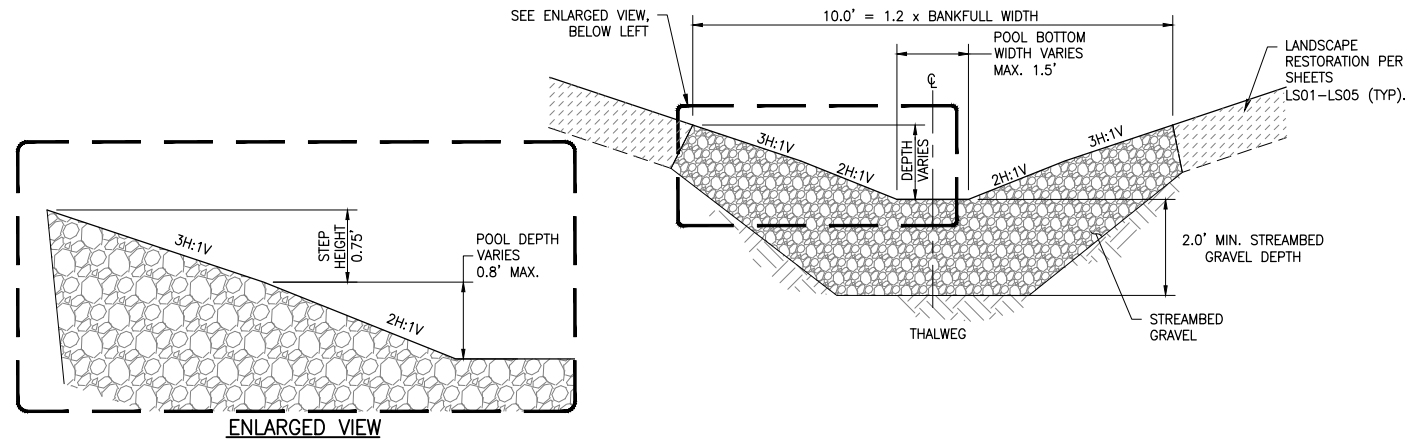
**BEDFORM SEQUENCE PLAN**

NOT TO SCALE



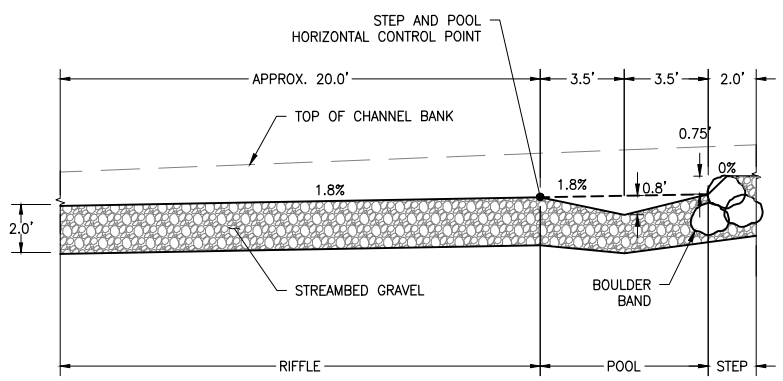
**B TYPICAL CHANNEL, HABITAT RIFFLE SECTION**

NOT TO SCALE



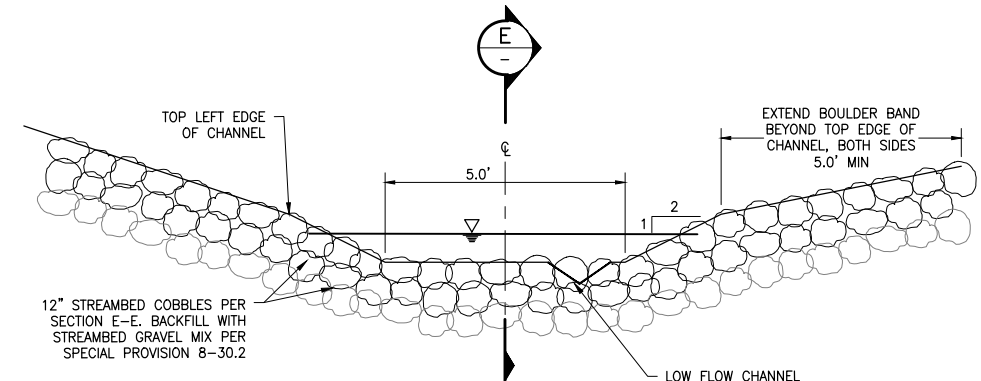
**C TYPICAL POOL SECTION**

NOT TO SCALE



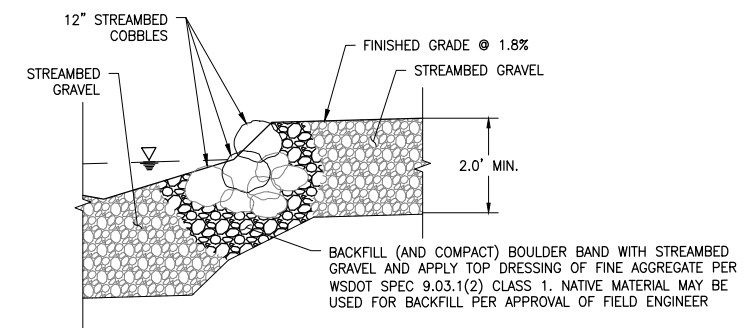
**A STREAM BEDFORM SECTION**

NOT TO SCALE



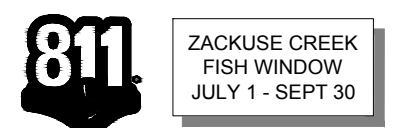
**D TYPICAL BOULDER BAND SECTION**

NOT TO SCALE



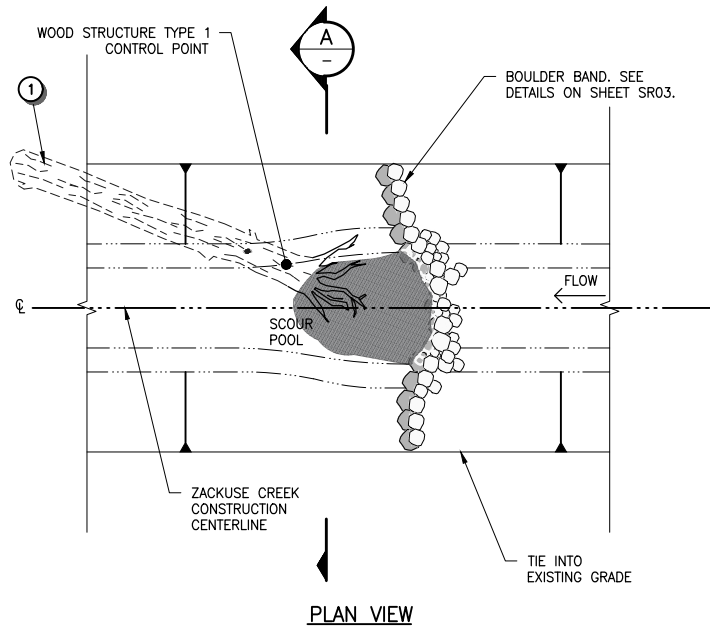
**E BOULDER BAND DETAIL**

NOT TO SCALE



Know what's below. Call before you dig.

<b>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT</b> SAMMAMISH, WASHINGTON	NO.	REVISIONS	DATE	DATE: 02/23/2018			<b>SR03</b> STREAM CHANNEL TYPICAL SECTIONS	SHEET OF 19 34
	1			DESIGNED BY: BS/DC/BD/MM/CEM/EH				
	2			DRAWN BY: AK				
	3			REVIEWED BY:				
	4							



PLAN VIEW

STRUCTURE #	STATION	OFFSET	ELEVATION	# LOGS*
1A	100+53.97	5.08' L	45.6180	1
1B	101+76.76	2.50' L	49.7280	1
1C	102+42.70	3.37' L	52.4160	1
1D	103+70.71	3.68' L	57.7400	1

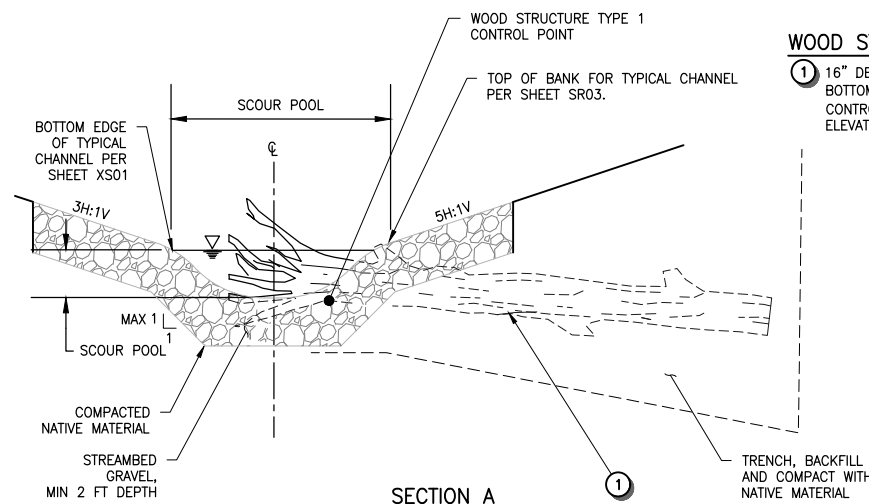
\* SEE NOTES IN SECTION VIEW BELOW FOR APPROXIMATE LOG LENGTHS, DIAMETERS, AND ROOTWAD OR BRANCH REQUIREMENTS.

TYPE 1 LARGE WOOD STRUCTURE MATERIAL SCHEDULE (PER STRUCTURE)						
LOG ORDER	DBH (IN)	LENGTH (FT)	ROOTWAD ATTACHED?	MIN PERCENT OF LOG BURIED (%)	MIN END BURIAL DEPTH (FT)	STEM TILT ANGLE (DEG)
1	16	12	Yes	75	1.5	0

\*ANGLE (TILT) FROM LOG TO VERTICAL  
 0 DEG = STEM LYING FLAT, PARALLEL TO STREAM BED  
 (+) DEG = STEM TILTED UP FROM STREAM BED; ROOTWAD TILTED DOWN (90 DEG MAX.)  
 (-) DEG = STEM TILTED DOWN TOWARDS STREAM BED; ROOTWAD TILTED UP (90 DEG MAX.)

**WOOD STRUCTURE TYPE 1 NOTES**

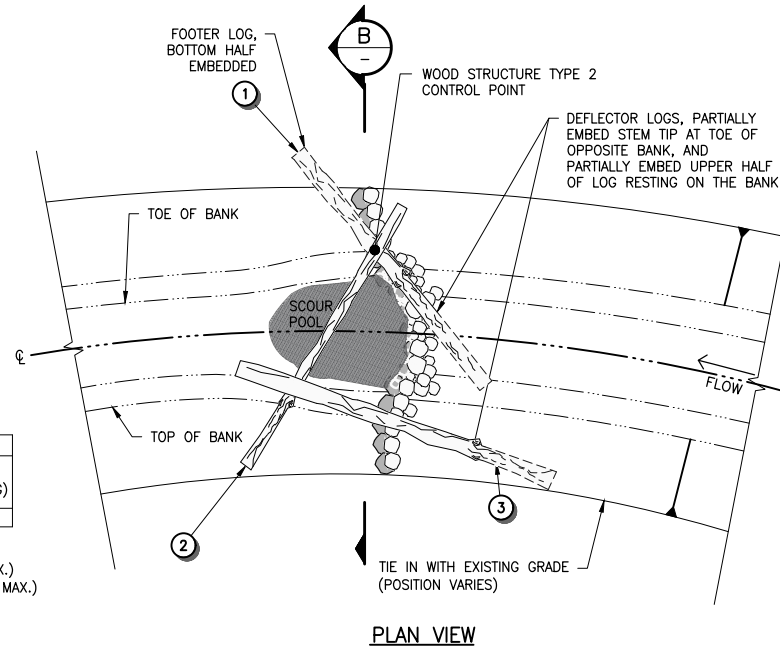
- 1 16" DBH; PARTIALLY BURIED WITH ROOTWAD; SET ROOTWAD BOTTOM CROWN AT MIN. ELEVATION OF POOL (12' L). CONTROL POINT SHOWN AT BOTTOM (FINISH GRADE) ELEVATION AT BANK SLOPE INTERSECTION



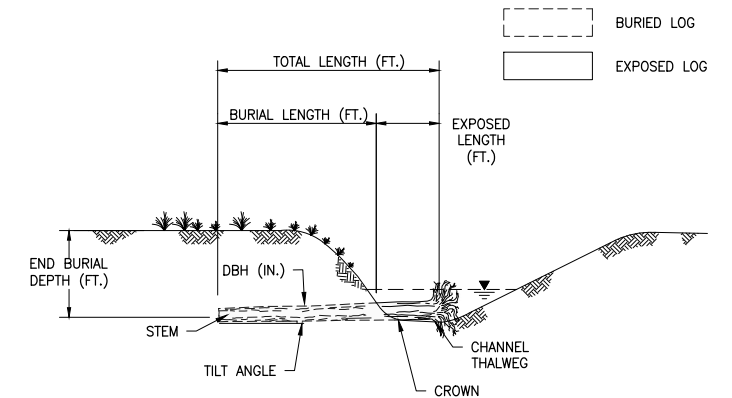
SECTION A

**WOOD STRUCTURE TYPE 1 - ROOTWAD DETAIL**

NOT TO SCALE



PLAN VIEW



**A TYPICAL LOG REFERENCE KEY AND LEGEND**  
 NOT TO SCALE

**WOOD STRUCTURE TYPE 2 TREE DIMENSION NOTES**

- 1 16" DBH; PARTIALLY BURIED (16' L).
- 2 12" DBH; PARTIALLY BURIED (15' L).
- 3 16" DBH; PARTIALLY BURIED (20' L).

**GENERAL NOTES**

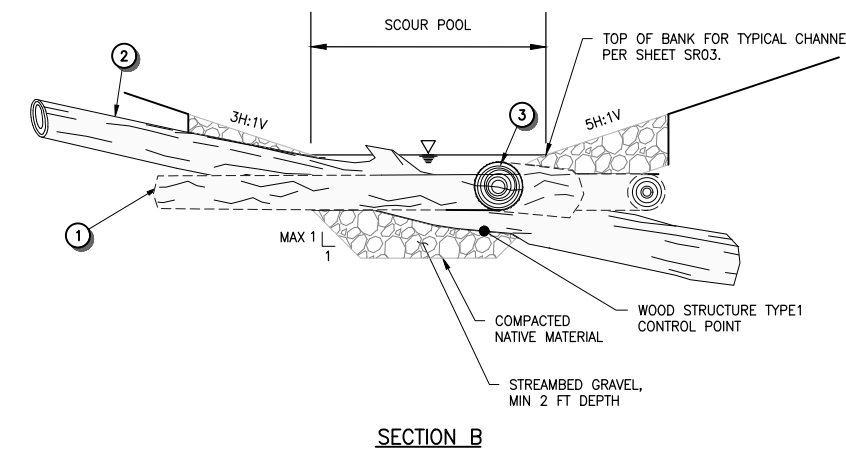
- 1. CONTROL POINT SHOWN AT BOTTOM (FINISH GRADE) ELEVATION AT BANK SLOPE INTERSECTION.

STRUCTURE #	STATION	OFFSET	ELEVATION	# LOGS*
2A	101+18.27	3.19' R	47.0020	3
2B	102+12.32	3.20' R	50.6550	3
2C	103+38.10	2.65' R	56.2490	3

\* SEE NOTES IN SECTION VIEW BELOW FOR APPROXIMATE LOG LENGTHS, DIAMETERS, AND ROOTWAD OR BRANCH REQUIREMENTS.

TYPE 2 LARGE WOOD STRUCTURE MATERIAL SCHEDULE (PER STRUCTURE)						
LOG ORDER	DBH (IN)	LENGTH (FT)	ROOTWAD ATTACHED?	MIN PERCENT OF LOG BURIED (%)	MIN END BURIAL DEPTH (FT)	STEM TILT ANGLE (DEG)
1	16	18	No	60	1.75	0
2	12	15	No	60	3	9
3	16	20	No	65	2.75	-5

\*ANGLE (TILT) FROM LOG TO VERTICAL  
 0 DEG = STEM LYING FLAT, PARALLEL TO STREAM BED  
 (+) DEG = STEM TILTED UP FROM STREAM BED; ROOTWAD TILTED DOWN (90 DEG MAX.)  
 (-) DEG = STEM TILTED DOWN TOWARDS STREAM BED; ROOTWAD TILTED UP (90 DEG MAX.)



SECTION B

**WOOD STRUCTURE TYPE 2 - CREST STRUCTURE DETAIL**

NOT TO SCALE

**GENERAL NOTES:**

- LARGE WOOD MATERIALS: SPECIES OF WOOD FOR USE IN LARGE WOOD STRUCTURES SHALL BE DOUGLAS-FIR OR WESTERN RED CEDAR, OR SITKA SPRUCE. SIZE OF LARGE WOOD MATERIAL SHALL BE PER DRAWINGS AND SPECIFICATIONS PER SHEETS SR04-SR05. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IF A SPECIFIED LOG SIZE IS NOT AVAILABLE. WOOD MATERIAL SHALL BE FREE OF CRACKS, DECAY, OR OTHER STRUCTURAL DEFICIENCIES, AND SHALL BE DISEASE AND PARASITIC INSECT-FREE. LARGE WOOD MATERIAL FOR STRUCTURES SHALL BE SECURED FROM THE FOLLOWING SOURCES:
  - SALVAGED TREES AND EXISTING LOGS REMOVED DURING CONSTRUCTION GRADING ACTIVITIES PER SHEET EC02, AS APPROVED BY THE ENGINEER (LIMITED QUANTITY AVAILABLE)
  - IMPORTED LARGE WOOD FROM AN OFF-SITE SOURCE (PROCURED AND HAULED TO SITE BY CONTRACTOR)
- THE CONTRACTOR SHALL PROVIDE A LIST OF THE LOGS THAT ARE AVAILABLE (ONSITE AND OFFSITE) TO BE USED FOR THE PROJECT. FOR EACH LOG, THE LIST SHALL DESCRIBE THE TREE SPECIES, DIAMETER (DBH), LENGTH, AND ROOTWAD DIAMETER. THE LARGE WOOD STRUCTURE CONFIGURATIONS AND MATERIAL SCHEDULES SHOWN IN THE PLANS ARE CONSIDERED PRELIMINARY, AND ARE SUBJECT TO REVISION BY THE ENGINEER UPON RECEIPT OF THE LIST OF LOG MATERIAL. SPECIFIED DIAMETER OF LOGS SHALL BE MEASURED AT BREST HEIGHT (DBH). LENGTHS OF LOGS SHALL INCLUDE THE ROOTWAD PORTIONS OF THE LOG, IF ROOTWAD IS PRESENT. LOG SIZE SHALL BE WITHIN THE SPECIFIED RANGE OF DIAMETERS SHOWN ON THE PLANS. ROOTWAD DIAMETER SHALL TYPICALLY BE A MINIMUM OF 3 TIMES THE DBH OF THE LOG, UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE ROOTWADS FROM DAMAGE DURING HANDLING OF LARGE WOOD MATERIAL.
- THE LOCATION AND CONFIGURATION OF LARGE WOOD STRUCTURES AS NOTED IN DETAIL TABLES MAY VARY IN FIELD DUE TO SITE CONDITIONS, AND THE FINAL LOCATION OF THESE STRUCTURES WILL BE FLAGGED BY THE ENGINEER DURING CONSTRUCTION.
- THE CONTRACTOR MAY SALVAGE STOCKPILED COTTONWOOD MATERIALS ON SITE. COORDINATE WITH PROPERTY OWNER. COTTONWOOD MAY ONLY BE USED IN TYPE 4 STRUCTURES. THE AREA USED BY THE PROPERTY OWNER FOR STOCKPILING WOOD SHALL NOT BE USED BY THE CONTRACTOR FOR STAGING/STOCKPILING OTHER MATERIALS.



ZACKUSE CREEK FISH WINDOW JULY 1 - SEPT 30

Know what's below. Call before you dig.

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE	DATE:
1			02/23/2018
2			DESIGNED BY: BS/DC/BD/MM/CEM/EH
3			DRAWN BY: AK
4			REVIEWED BY:
5			

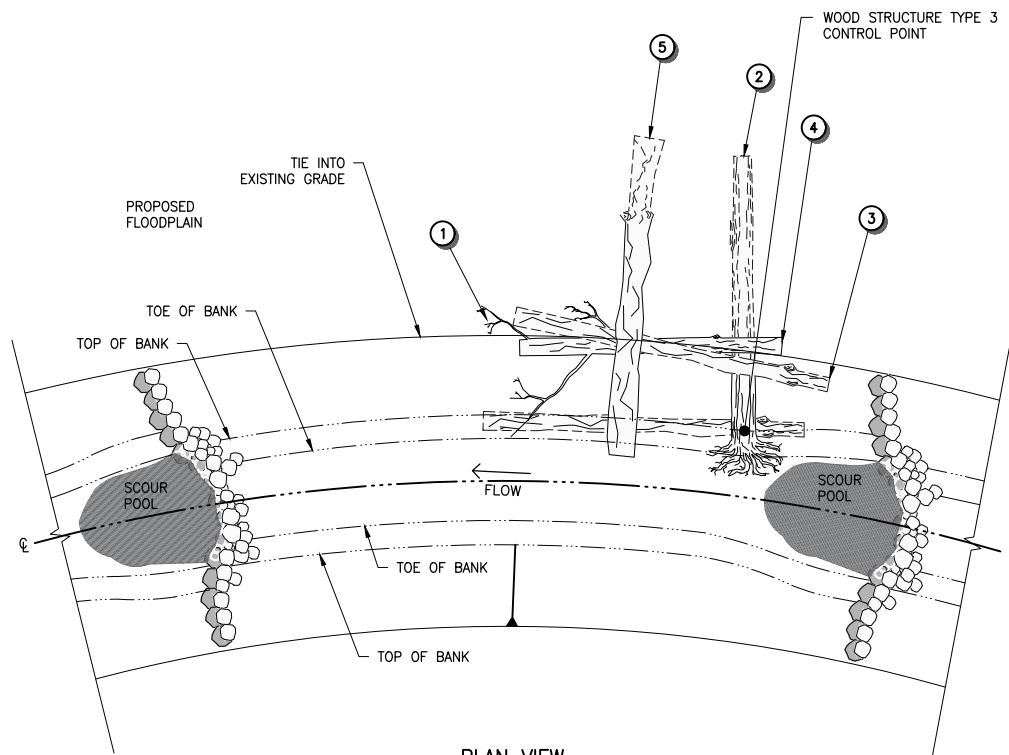


STREAM IMPROVEMENT DETAILS 1 OF 2

SR04

SHEET OF

20 34



PLAN VIEW

STRUCTURE #	STATION	OFFSET	ELEVATION	# LOGS*
3A	100+88.20	4.03' R	45.7860	5
3B	101+49.11	2.92' L	48.2720	5
3C	102+81.74	6.17' R	55.4050	5
3D	103+10.26	2.72' L	54.9800	5
3E	104+01.29	8.42' R	59.5500	5

\* SEE NOTES IN SECTION VIEW BELOW FOR APPROXIMATE LOG LENGTHS, DIAMETERS, AND ROOTWAD OR BRANCH REQUIREMENTS.

TYPE 3 LARGE WOOD STRUCTURE MATERIAL SCHEDULE (PER STRUCTURE)						
LOG ORDE	DBH (IN)	LENGT H (FT)	ROOTWAD ATTACHED?	MIN PERCENT OF LOG BURIED (%)	MIN END BURIAL DEPTH (FT)	STEM TILT ANGLE (DEG)
1	10	20	No	70	2	-2
2	16	12	Yes	75	2	-3
3	6	20	No	65	1	5
4	6	20	No	75	1.5	3.5
5	12	15	No	60	1.25	-2

\*ANGLE (TILT) FROM LOG TO VERTICAL  
 0 DEG = STEM LYING FLAT, PARALLEL TO STREAM BED  
 (+) DEG = STEM TILTED UP FROM STREAM BED; ROOTWAD TILTED DOWN (90 DEG MAX.)  
 (-) DEG = STEM TILTED DOWN TOWARDS STREAM BED; ROOTWAD TILTED UP (-90 DEG MAX.)

**WOOD STRUCTURE TYPE 3 - REVETMENT STRUCTURE DETAIL**

NOT TO SCALE



ZACKUSE CREEK  
 FISH WINDOW  
 JULY 1 - SEPT 30

Know what's below.  
 Call before you dig.

ZACKUSE CREEK  
 FISH PASSAGE AND STREAM  
 RESTORATION PROJECT  
 SAMMAMISH, WASHINGTON

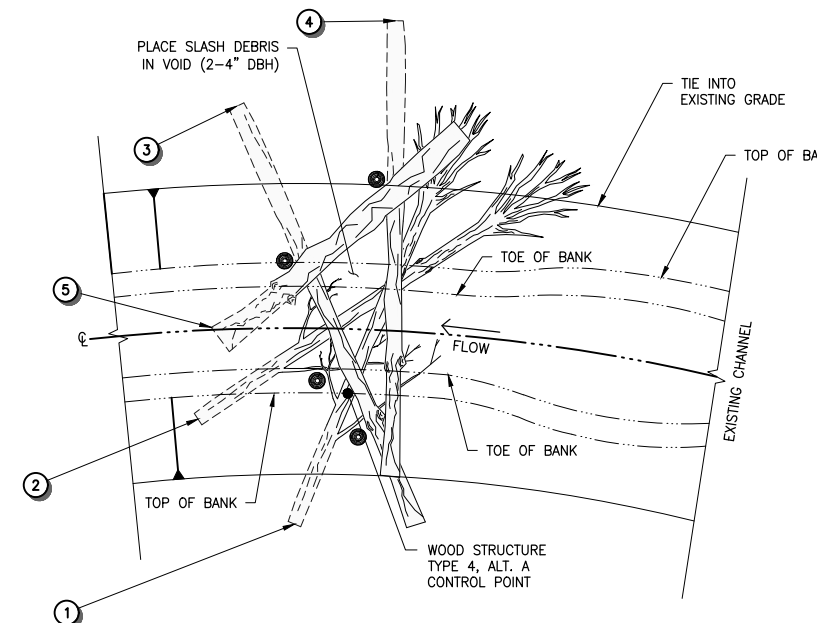
NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE:	02/23/2018
DESIGNED BY:	BS/DC/BD/MM/CEM/EH
DRAWN BY:	AK
REVIEWED BY:	

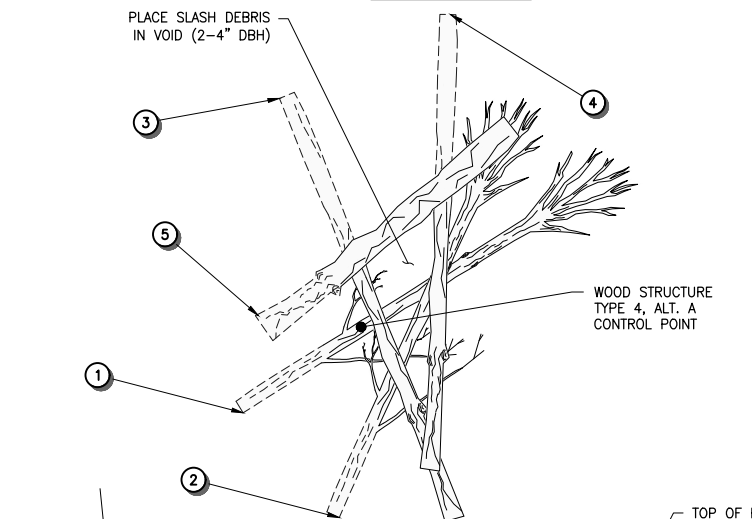


STREAM IMPROVEMENT DETAILS  
 2 OF 2

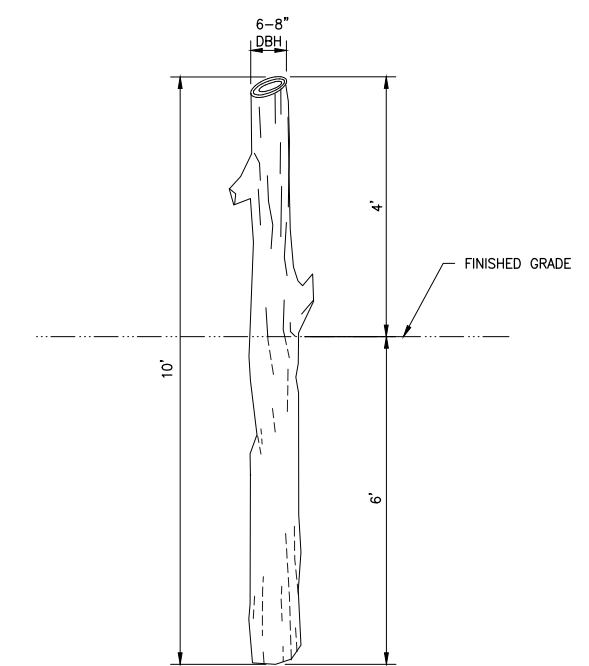
SR05  
 SHEET OF  
 21 34



ALTERNATIVE A  
 PLAN VIEW



ALTERNATIVE B  
 PLAN VIEW



PILE SECTION VIEW

STRUCTURE #	ALT.	STATION	OFFSET	ELEVATION
4B	B	100+56.97	29.87' L	49.0830
4C	B	101+52.42	17.22' R	51.9180
4D	B	102+25.86	24.73' L	54.2990
4E	A	103+24.19	30.33' R	56.8240
4F	A	103+88.89	24.67' R	59.2570

\* SEE NOTES IN SECTION VIEW BELOW FOR APPROXIMATE LOG LENGTHS, DIAMETERS, AND ROOTWAD OR BRANCH REQUIREMENTS.

**WOOD STRUCTURE TYPE 4  
 TREE DIMENSION NOTES**

- 1 6-10" DBH WITH BRANCHES (20' L).
- 2 6-10" DBH WITH BRANCHES (20' L).
- 3 6-10" DBH (20' L).
- 4 6-8" DBH (20' L).
- 5 8-12" DBH (20' L). PARTIALLY BURIED, ANGLES ABOVE OTHER BASE STRUCTURE.

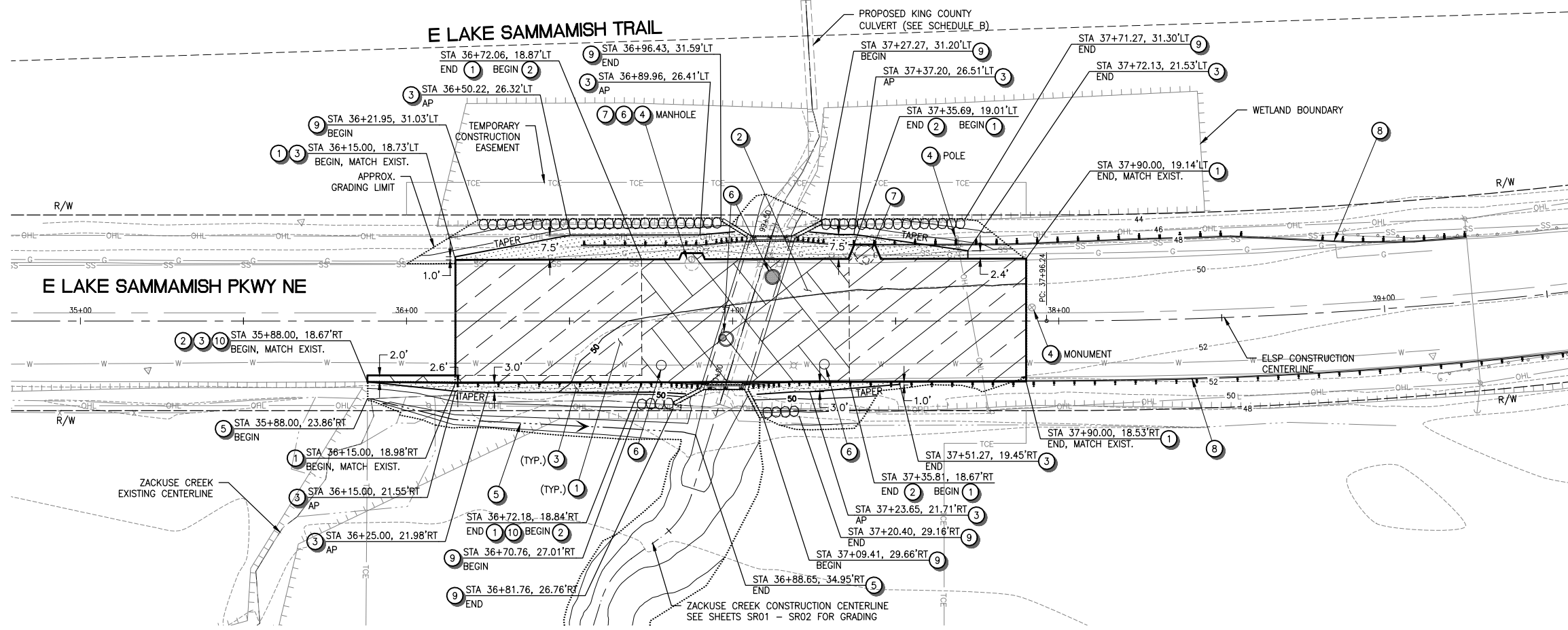
**GENERAL NOTES**

- 1. ALT. A CONTROL POINT SHOWN AT BOTTOM (FINISH GRADE) ELEVATION OF LOG 1 INTERSECTION WITH TOP OF BANK.
- 2. ALT. B CONTROL POINT SHOWN AT BOTTOM (FINISH GRADE) ELEVATION OF LOG 1 INTERSECTION WITH MATCHLINE TO EXISTING GRADE.
- 3. LOG 4 IN ALT. A SHALL BE PLACED PERPENDICULAR TO CHANNEL CENTERLINE.
- 4. LOGS SHOWN AS PARTIALLY BURIED SHOULD BE BURIED A MINIMUM OF 0.5-1 FT FOR ALTERNATIVE B AND 1-1.5 FT FOR ALTERNATIVE A.

**WOOD STRUCTURE TYPE 4 - OFF CHANNEL STRUCTURE DETAIL**

NOT TO SCALE

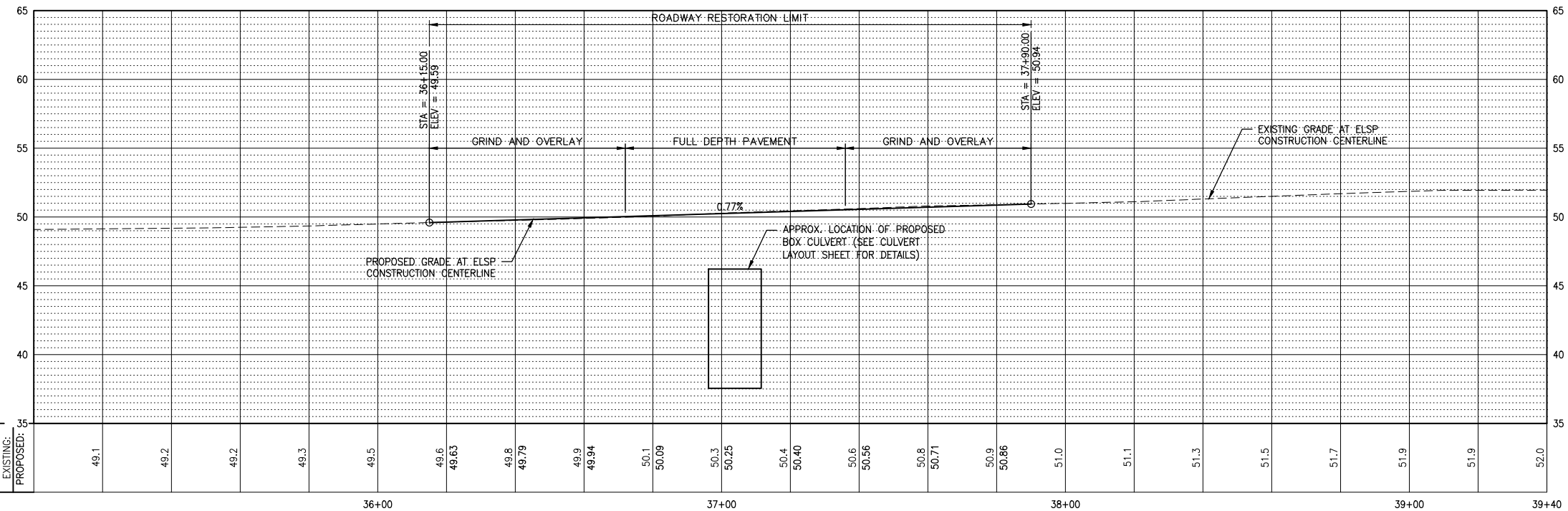
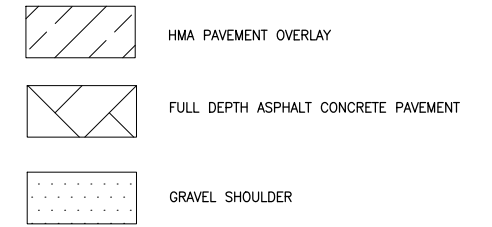
A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



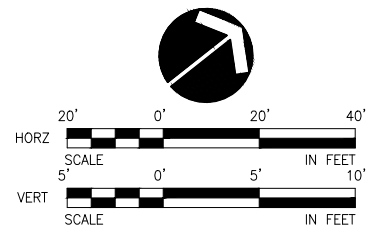
**CONSTRUCTION NOTES**

- 1 GRIND AND OVERLAY ASPHALT PAVEMENT, LIMITS PER PLAN. SEE SHEET RD02 FOR DETAILS.
- 2 CONSTRUCT FULL DEPTH ASPHALT CONCRETE PAVEMENT PER ROADWAY SECTION ON SHEET RD02, LIMITS PER PLAN.
- 3 INSTALL GRAVEL SHOULDER PER ROADWAY SECTION ON SHEET RD02, LIMITS PER PLAN.
- 4 EXISTING FEATURES OR STRUCTURE TO REMAIN, PROTECT DURING CONSTRUCTION.
- 5 RESTORE RELOCATED ZACKUSE CREEK CHANNEL PER DETAIL ON SHEET RD02.
- 6 ADJUST EXISTING UTILITY COVER TO FINISHED GRADE.
- 7 PROVIDE PAVEMENT AROUND MANHOLE.
- 8 NEW GUARDRAIL, SEE SHEET RD03 FOR DETAILS.
- 9 INSTALL ROCKERY WALL PER DETAIL ON SHEET ST03.
- 10 EXCAVATE UNSUITABLE MATERIAL AND RESTORE PER DETAIL ON SHEET RD02, LIMITS PER PLAN.

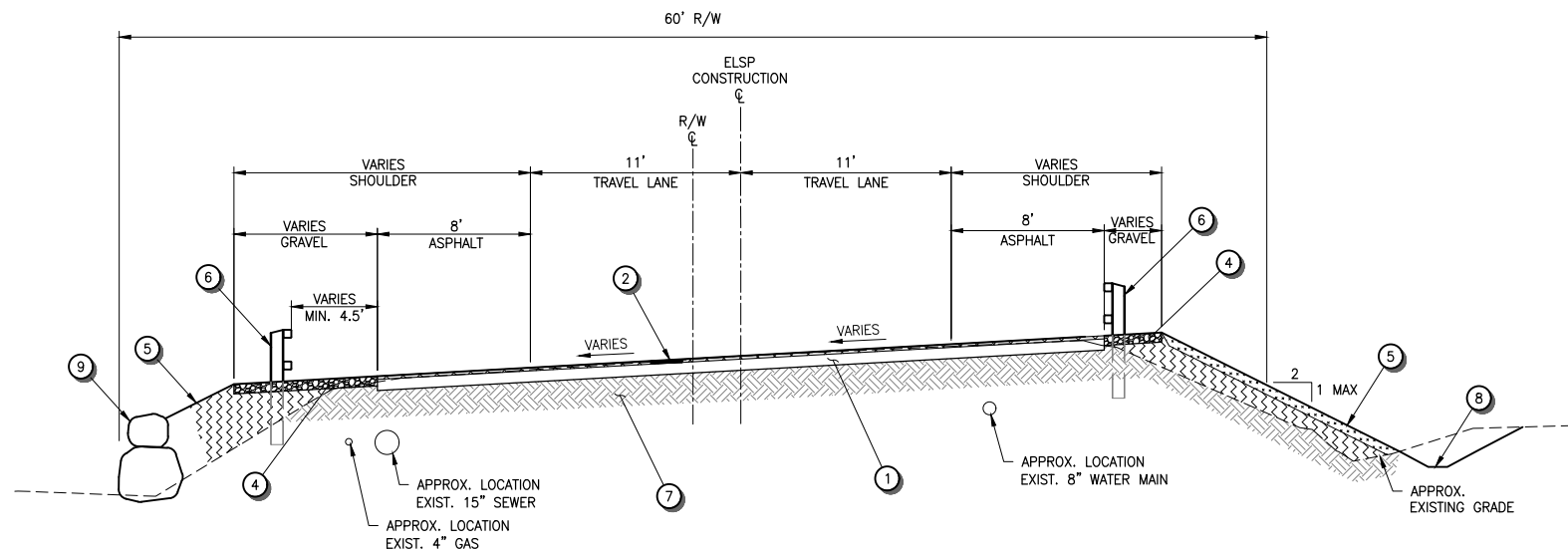
**LEGEND**



Know what's below.  
Call before you dig.



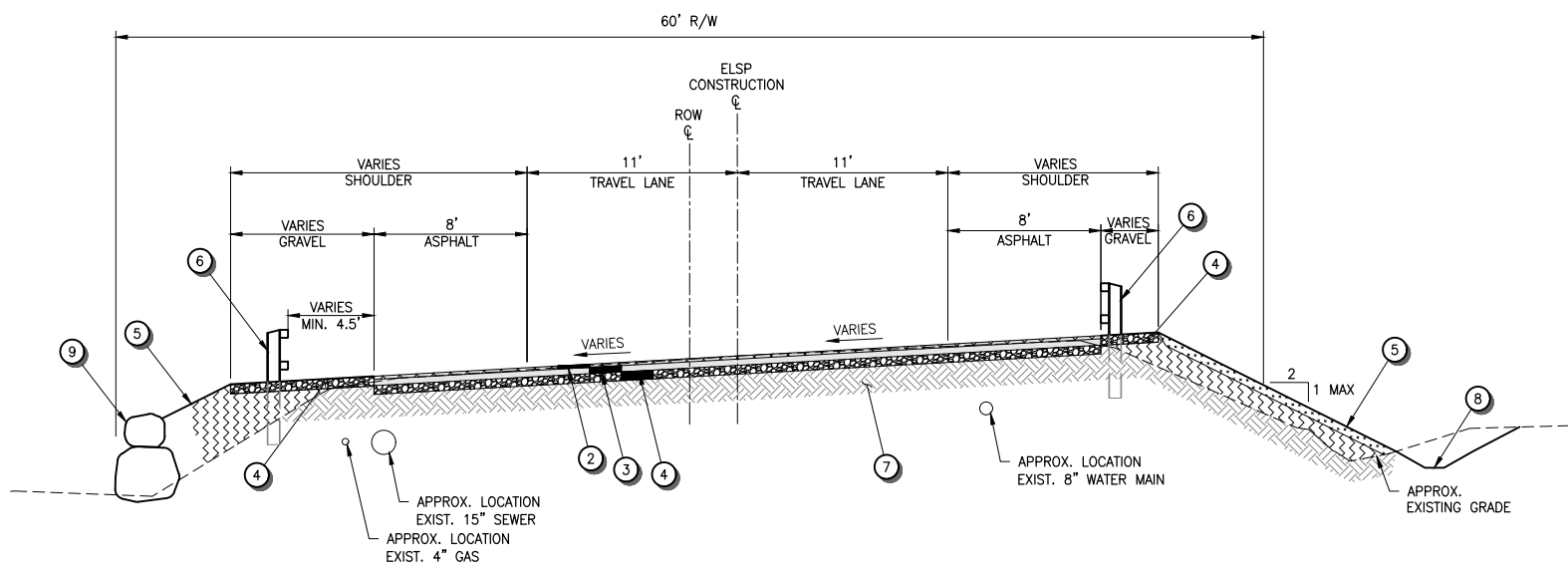
<b>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</b>	NO.	REVISIONS	DATE	DATE: 02/23/2018			<b>RD01</b> ROADWAY PLAN AND PROFILE	DESIGNED BY: BS/DC/BD/MM/CEM/EH	
	1			DRAWN BY: AK				SHEET	OF
	2			REVIEWED BY:				22	34
	3								
	4								



**HMA PAVEMENT OVERLAY SECTION**

NOT TO SCALE

STA. 36+15 TO STA. 36+72  
STA. 37+36 TO STA. 37+90



**FULL DEPTH PAVEMENT SECTION**

NOT TO SCALE

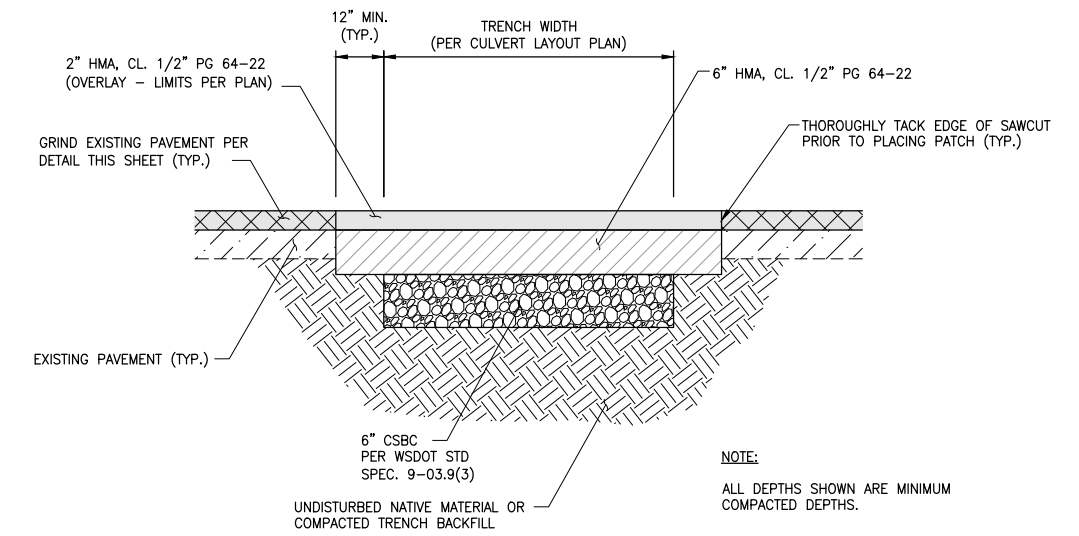
STA. 36+72 TO STA. 37+36  
(STA. 36+90 TO STA. 37+20 SEE DWG ST01 FOR CULVERT SECTION)

**PAVEMENT SECTION NOTES**

- ① EXISTING HMA PAVEMENT.
- ② 2" HMA OVERLAY, CLASS 1/2" PG 64-22.
- ③ 6" HMA, CLASS 1/2" PG 64-22.
- ④ 6" CRUSHED SURFACING BASE COURSE (CSBC).
- ⑤ EXISTING GRADE OR PROPOSED FINISHED GRADE. FINISHED GRADE SHALL NOT BE STEEPER THAN 2H:1V UNLESS NOTED OTHERWISE. SEE LANDSCAPE AND PLANTING PLAN FOR SURFACE TREATMENT.
- ⑥ GUARDRAIL PER DETAILS ON SHEET RD03, LOCATION AND LIMITS PER PLAN.
- ⑦ COMPACTED SUBGRADE OR UNDISTURBED NATIVE MATERIAL.
- ⑧ CREEK CHANNEL RELOCATION PER DETAIL THIS SHEET, LOCATION PER PLAN.
- ⑨ ROCKERY WALL PER DETAIL ON SHEET ST03, LIMITS PER PLAN ON SHEET RD01.

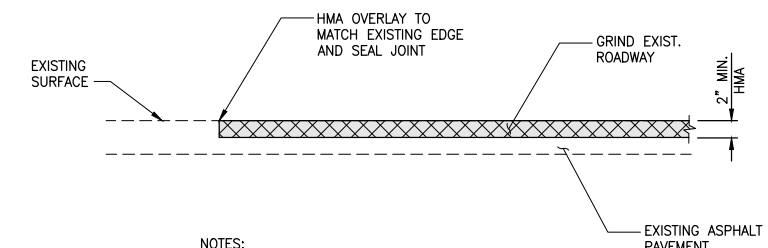


Know what's below.  
Call before you dig.



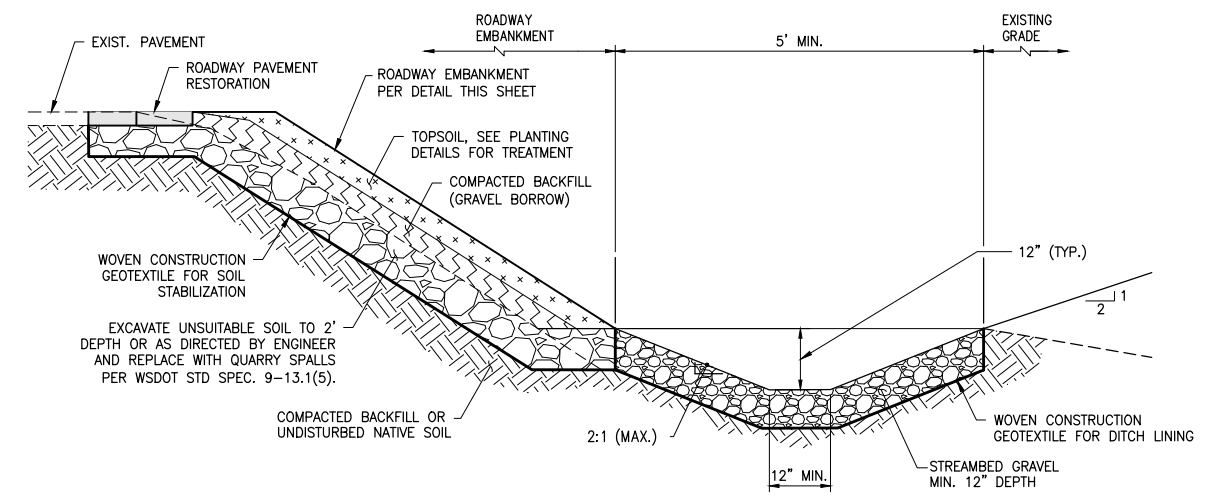
**ROADWAY PAVEMENT RESTORATION**

NOT TO SCALE



**PAVEMENT PLANING AND OVERLAY**

NOT TO SCALE



**RELOCATED ZACKUSE CREEK CHANNEL AND UNSUITABLE EXCAVATION**

NOT TO SCALE

ELSP ROADWAY STA 35+88 (RT) - STA 36+89 (RT)

ZACKUSE CREEK  
FISH PASSAGE AND STREAM  
RESTORATION PROJECT  
SAMMAMISH, WASHINGTON

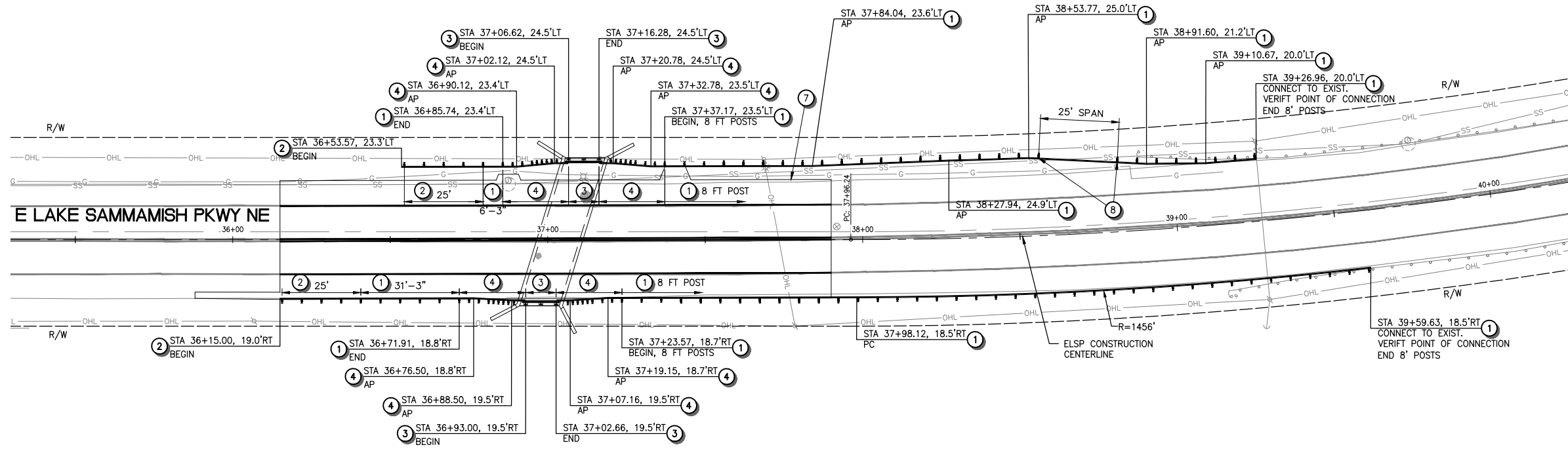
NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018  
DESIGNED BY: BS/DC/BD/MM/CEM/EH  
DRAWN BY: AK  
REVIEWED BY:



ROADWAY TYPICAL SECTION AND DETAILS

RD02  
SHEET OF  
23 34



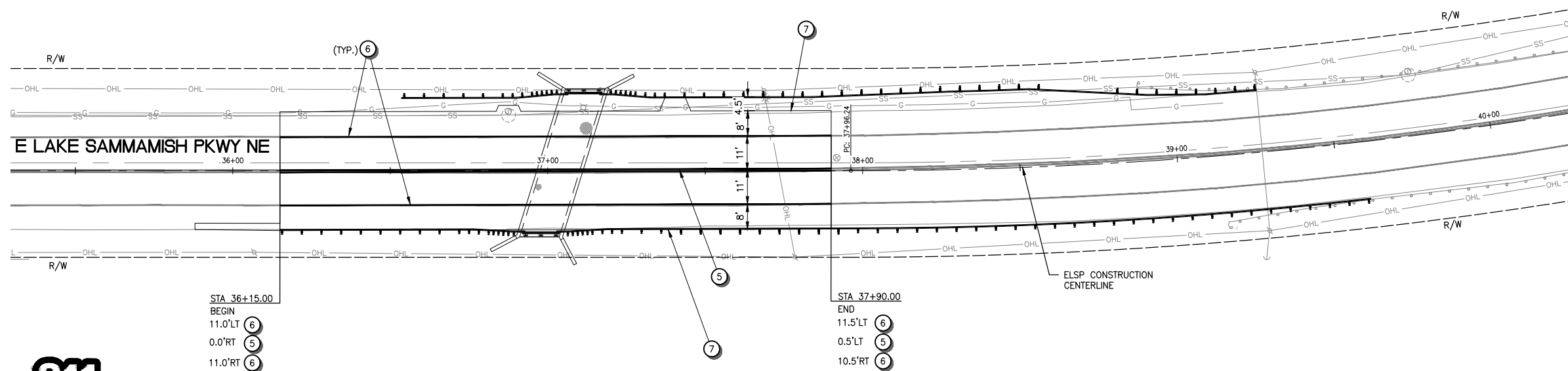
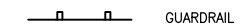
**GUARDRAIL PLAN**

SCALE AS SHOWN

**CONSTRUCTION NOTES**

- 1 INSTALL BEAM GUARDRAIL TYPE 31 PER WSDOT STD PLAN C-20.10-04. 6' GUARDRAIL POSTS UNLESS NOTED OTHERWISE.
- 2 INSTALL BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL MSKT-SP-MGS (TL-2) PER WSDOT STD PLAN C-22.45-03.
- 3 INSTALL WEATHERED STEEL GUARDRAIL PER DETAIL ON SHEET RD04.
- 4 INSTALL WEATHERED STEEL GUARDRAIL TRANSITION PER DETAIL ON SHEET RD05.
- 5 INSTALL PAINTED DOUBLE YELLOW CENTERLINE SUPPLEMENTED WITH TYPE 2YY RPM PER COS STD PLAN FIG. 04-03A.
- 6 INSTALL 8-INCH PAINTED WIDE LINE PER COS STD PLAN FIG. 04-03A.
- 7 PROPOSED EDGE OF NEW PAVEMENT, SEE SHEET RD01 FOR LIMIT AND DETAILS.
- 8 POT HOLE EXISTING UTILITY AND NOTIFY THE ENGINEER IF CONFLICTS EXIST.

**LEGEND**

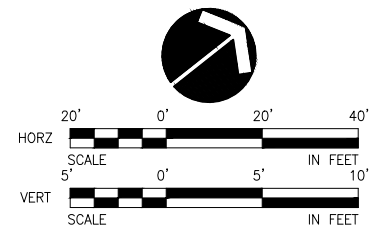


**CHANNELIZATION PLAN**

SCALE AS SHOWN



Know what's below.  
Call before you dig.



ZACKUSE CREEK  
FISH PASSAGE AND STREAM  
RESTORATION PROJECT  
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

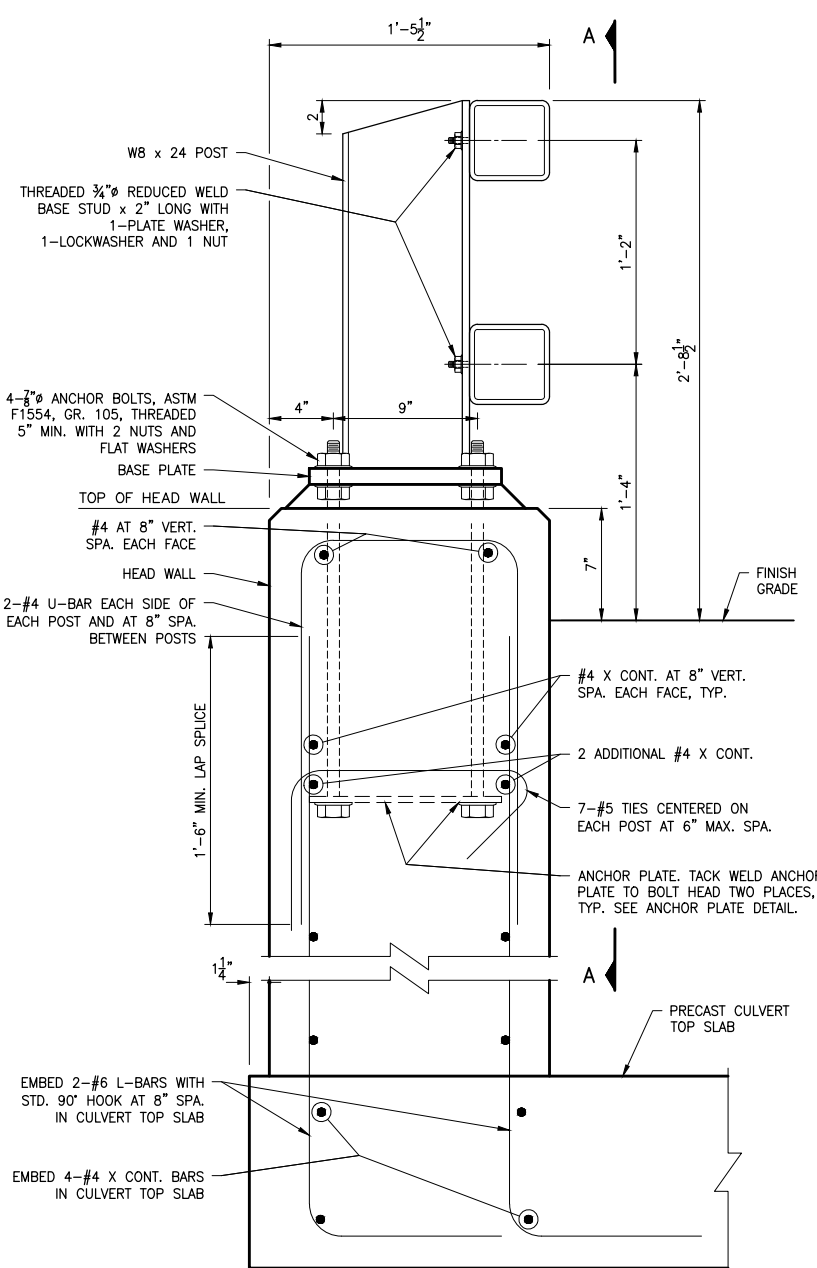
DATE: 02/23/2018  
DESIGNED BY: BS/DC/BD/MM/CEM/EH  
DRAWN BY: AK  
REVIEWED BY:



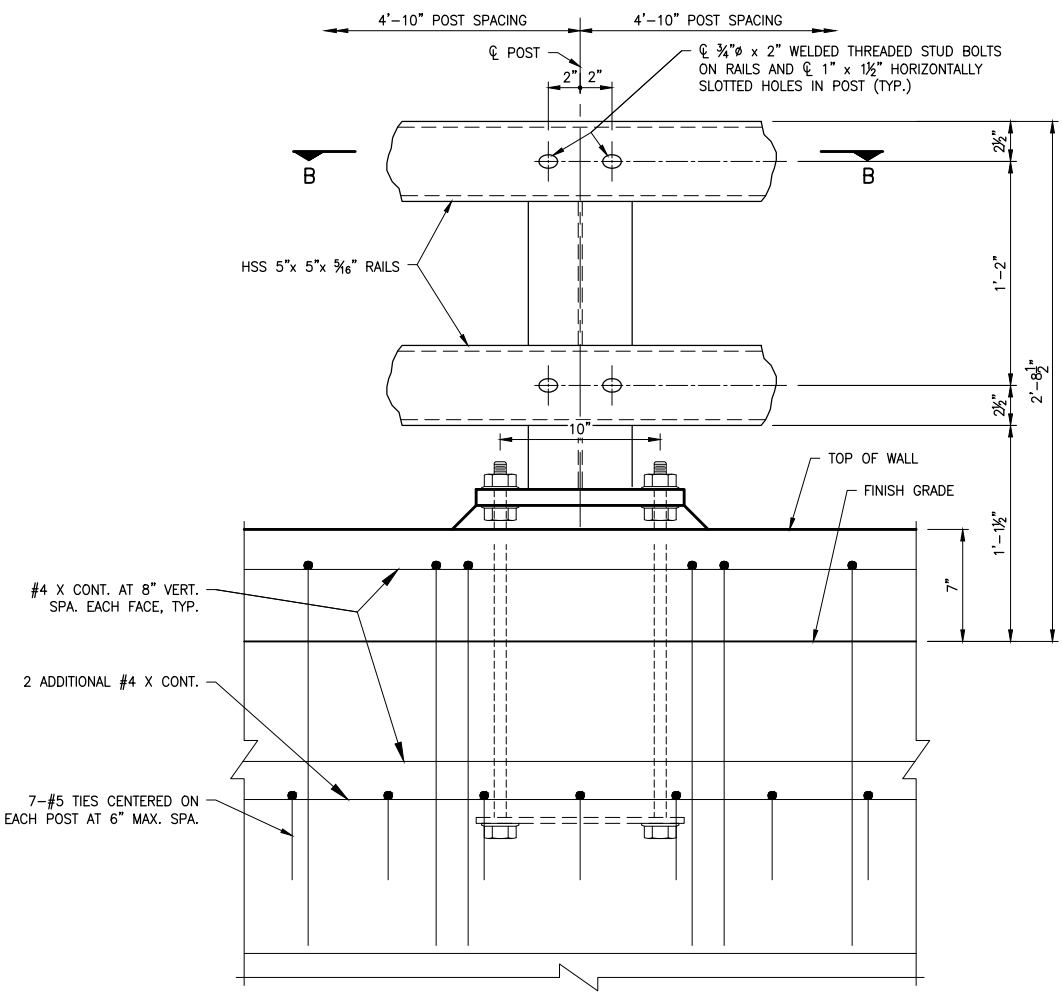
GUARDRAIL AND CHANNELIZATION PLAN

RD03  
SHEET OF  
24 34

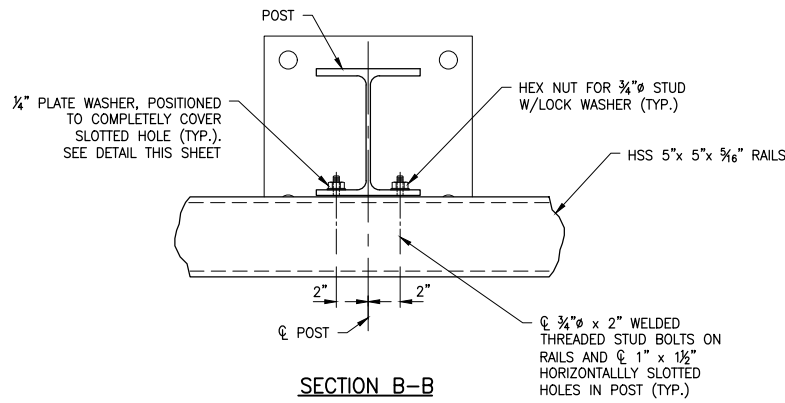




**RAIL TYPICAL SECTION**



**VIEW A-A**



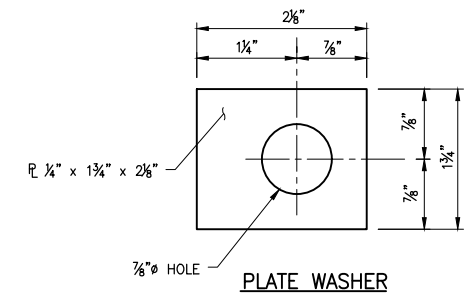
**SECTION B-B**

**GENERAL NOTES**

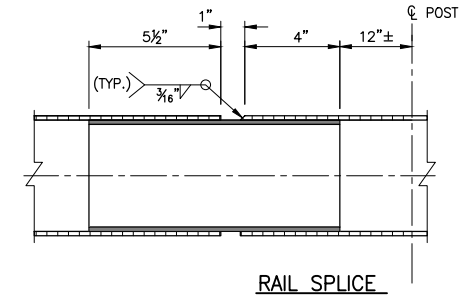
**MATERIALS:**  
 STEEL POSTS, BASE PLATES, PLATE WASHERS AND SPLICE SLEEVE SHALL CONFORM TO AASHTO M183 (ASTM A36). STRUCTURAL TUBING FOR RAILS SHALL CONFORM TO ASTM A500, GRADE B, OR ASTM A501. BOLTS SHALL CONFORM TO ASTM F3125, GRADE A325, TYPE 1. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GRADE 105. NUTS SHALL CONFORM TO ASTM A563, GRADE DH OR AASHTO M292, GRADE 2H. WASHERS SHALL CONFORM TO ASTM F436. STEEL AND HARDWARE SHALL BE GALVANIZED AFTER FABRICATION. STRUCTURAL TUBING, POSTS AND BASE PLATES SHALL BE POWDER COATED AFTER GALVANIZING IN CONFORMANCE WITH WSDOT STD. SPECIFICATION 6-07 AND THE SPECIAL PROVISIONS. EXPOSED BOLTS, NUTS AND WASHERS CONNECTING POWDER COATED PIECES SHALL BE FIELD PAINTED AFTER INSTALLATION TO MATCH THE APPROVED POWDER COATING COLOR.

**FABRICATION:**  
 STRUCTURAL STEEL SHALL BE SHOP FABRICATED. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION. WELDING SHALL CONFORM TO THE ANSI/AASHTO/AWS D1.5, AND SHALL BE BY A CERTIFIED WELDER. WELDING FOR WELDED STUD BOLTS SHALL CONFORM TO ANSI/AASHTO/AWS D1.5, CHAPTER 7.

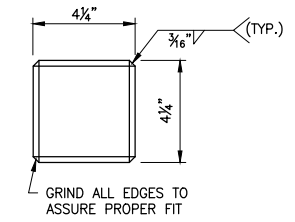
**ERECTION:**  
 NO FIELD CUTTING OR WELDING IS PERMITTED UNLESS APPROVED BY THE ENGINEER. ALL RAIL POSTS SHALL BE SET VERTICALLY AND THE RAILING ERECTED PARALLEL TO THE ROADWAY PROFILE.



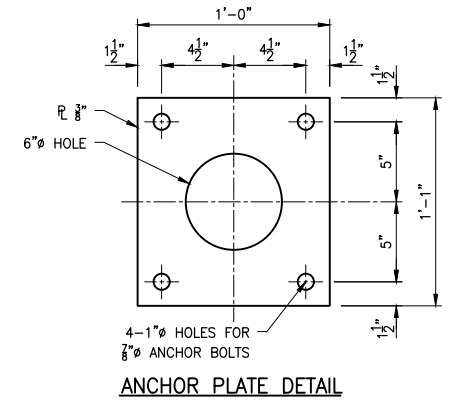
**PLATE WASHER**



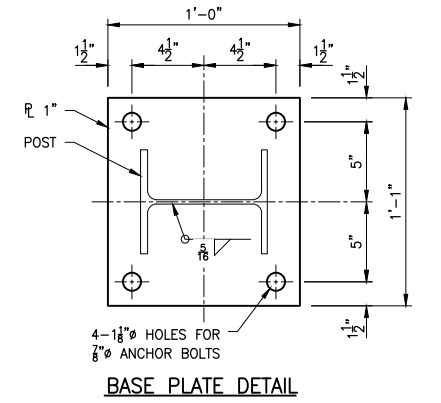
**RAIL SPLICE**



**GRIND ALL EDGES TO ASSURE PROPER FIT**



**ANCHOR PLATE DETAIL**

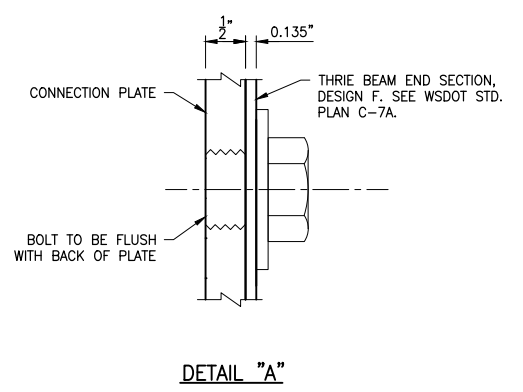
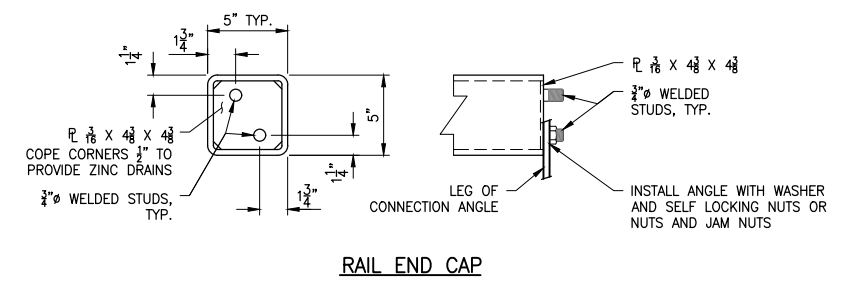
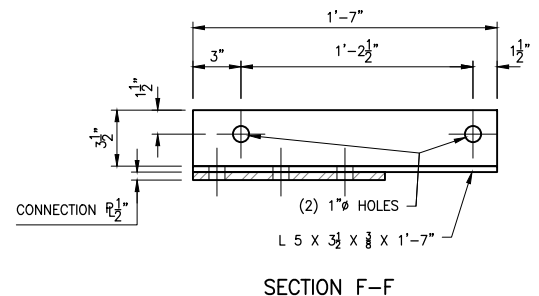
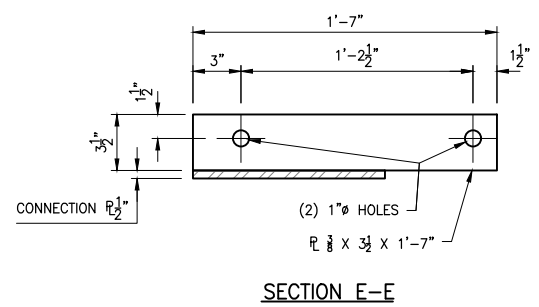
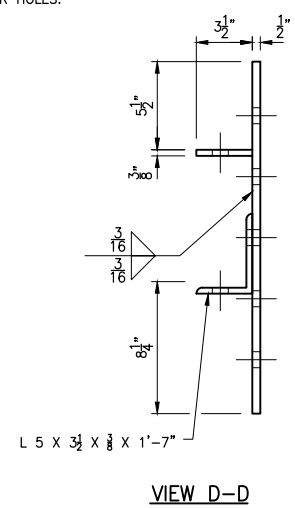
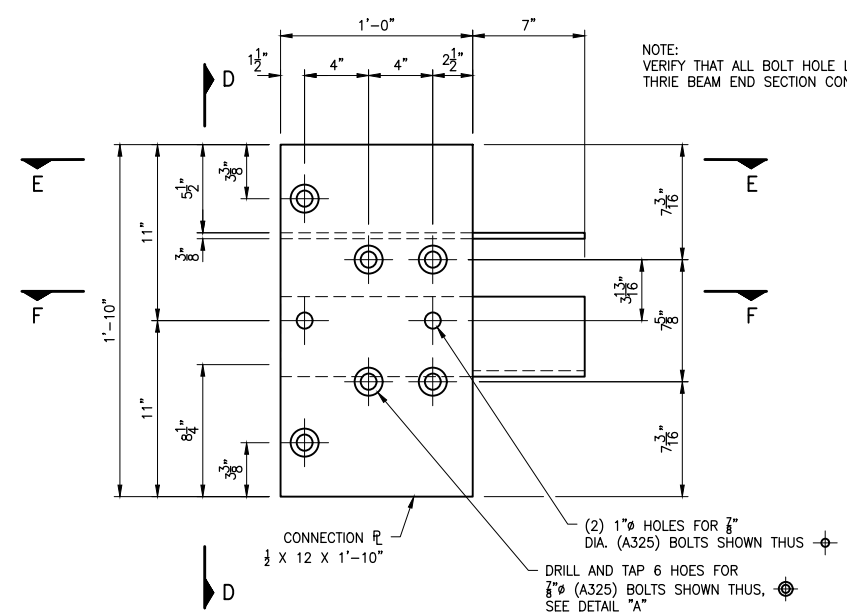
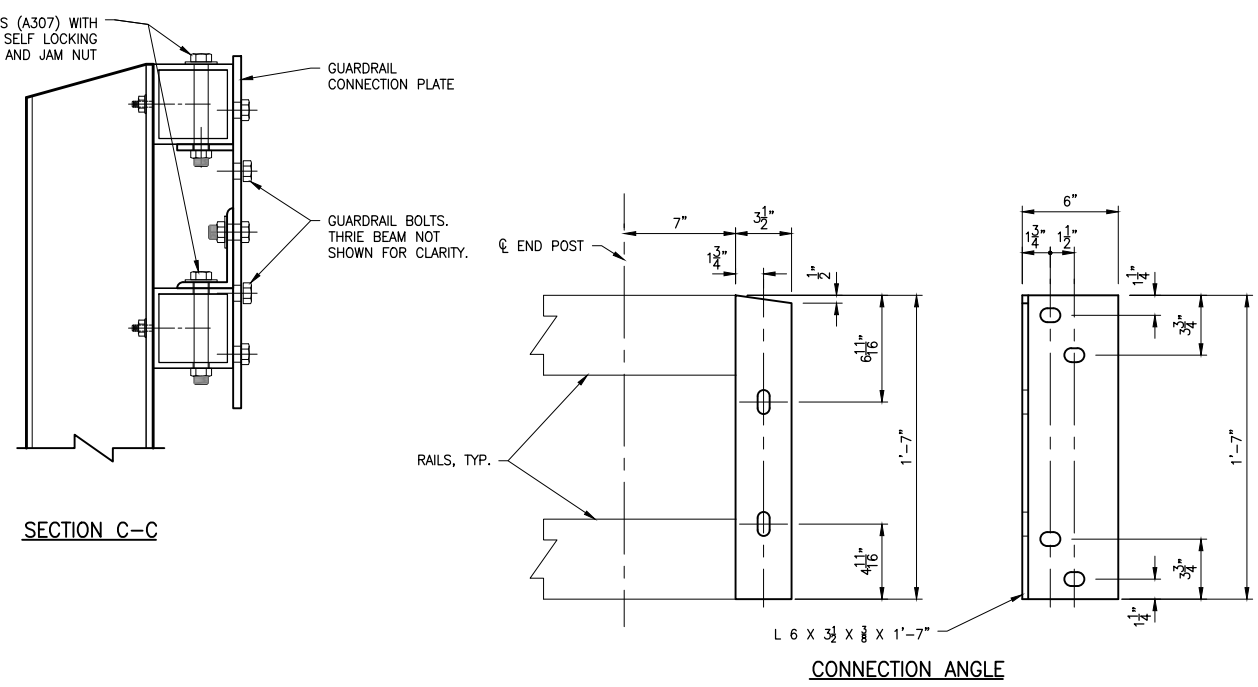
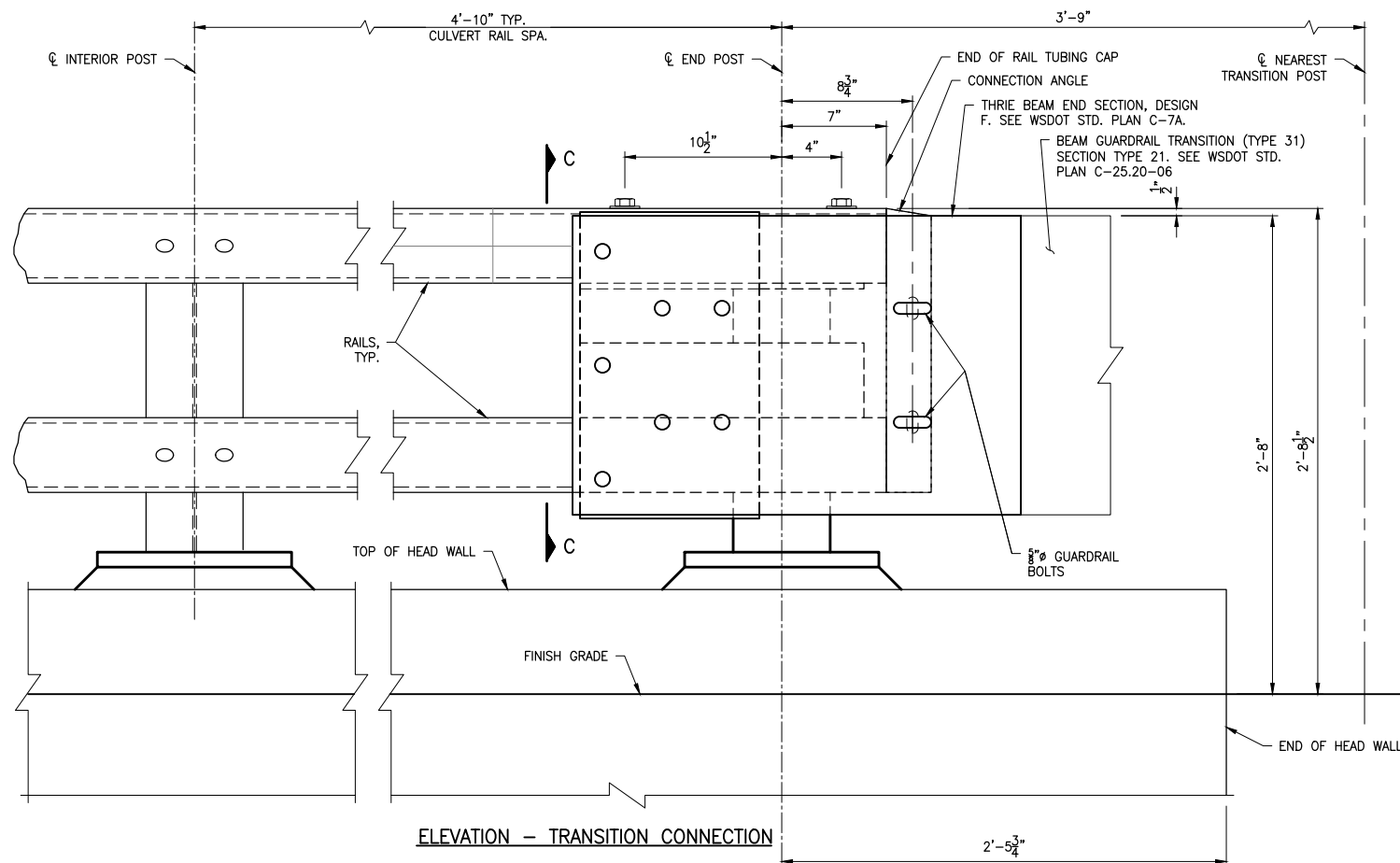


**BASE PLATE DETAIL**



Know what's below.  
 Call before you dig.

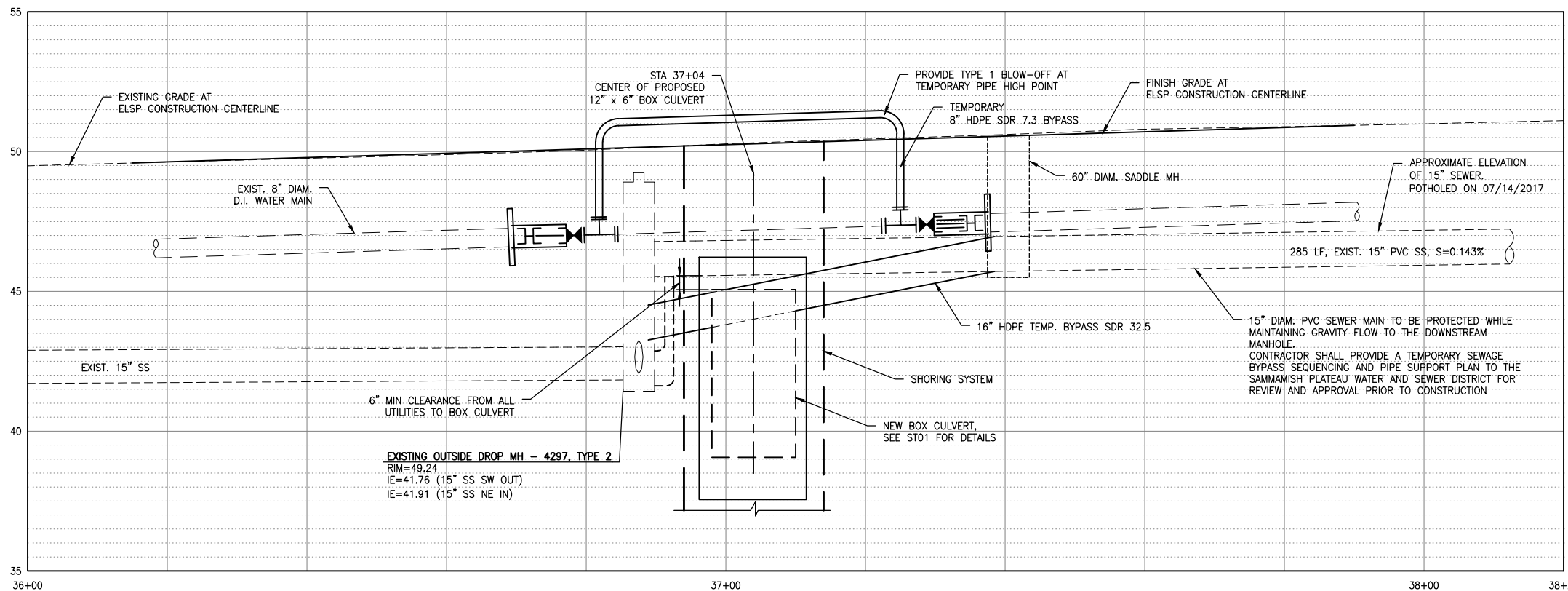
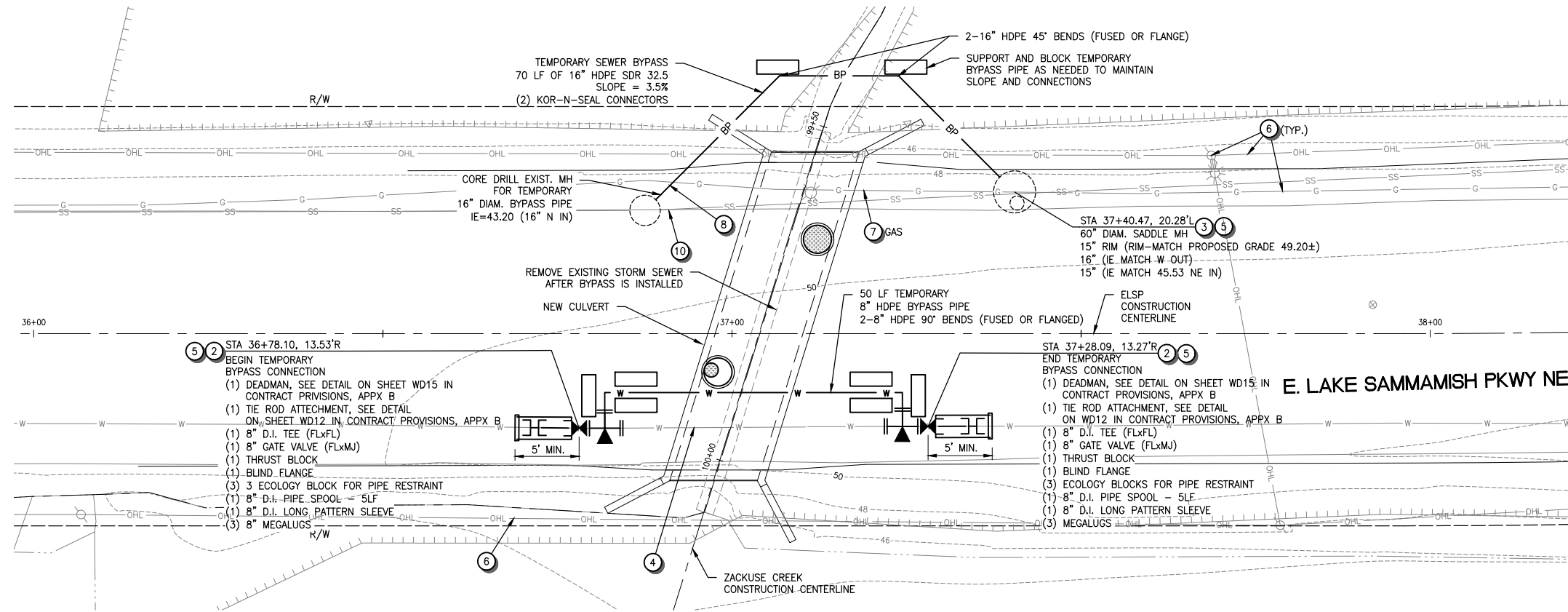
<b>ZACKUSE CREEK          FISH PASSAGE AND STREAM          RESTORATION PROJECT          SAMMAMISH, WASHINGTON</b>	NO.	REVISIONS	DATE	DATE: 02/23/2018		<b>CULVERT RAIL DETAILS 1 OF 2</b>	RD04	
	1	CULVERT RAIL MATERIAL AND COATING	4/25/2018	DESIGNED BY: BS/DC/BD/MM/CEM/EH			SHEET	OF
	2						25	34
	3							
	4							
5								



**GUARDRAIL CONNECTION PLATE**  
**CULVERT RAIL AND TRANSITION CONNECTION**  
 NOT TO SCALE

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON	NO.	REVISIONS	DATE	DATE: 02/23/2018			<b>CULVERT RAIL DETAILS 2 OF 2</b>	RD05	
	1	CULVERT RAIL MATERIAL AND COATING	4/25/2018	DESIGNED BY: BS/DC/BD/MM/CEM/EH				SHEET	OF
	2							26	34
	3								
	4								
5									

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



UTILITY RELOCATION NOTES

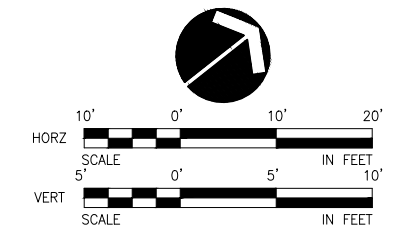
1. INSTALL 8" CLASS 52 DUCTILE IRON WATER MAIN RESTRAINED JOINT PER SAMMAMISH PLATEAU WATER AND SEWER DISTRICT STANDARD PLANS.
2. CONNECT TO EXISTING WATER MAIN. CONTRACTOR SHALL VERIFY FITTING PRIOR TO CONSTRUCTION. COORDINATE WITH SAMMAMISH PLATEAU WATER DISTRICT FOR SHUT DOWN.
3. INSTALL NEW MANHOLE, TYPE AND SIZE AS INDICATED.
4. REMOVE EXISTING 8" WATER MAIN BETWEEN NEW CONNECTIONS. AFTER INSTALLATION, DISINFECTION AND TESTING TEMPORARY BYPASS PIPE.
5. SEE CONTRACT PROVISIONS FOR SAMMAMISH PLATEAU WATER AND SEWER DISTRICT DETAILS.
6. EXISTING UTILITY TO BE PROTECTED, SHORED AND SUPPORTED DURING CONSTRUCTION.
7. EXISTING UTILITY TO BE RELOCATED BY OTHERS.
8. INSTALL TEMPORARY SEWER BYPASS AS SHOWN.
9. INSTALL PERMANENT SEWER AS SHOWN.
10. CONTRACTOR SHALL SURVEY EXISTING I.E. AT SEWER MAIN INLET TO DROP STRUCTURE AND PROVIDE TO SAMMAMISH PLATEAU WATER DISTRICT PRIOR TO REMOVING 15" PVC.

UTILITY RELOCATION GENERAL NOTES

1. THE CONTRACTOR SHALL PROTECT ALL PRIVATE AND PUBLIC UTILITIES FROM DAMAGE WHEN TRENCHING ACROSS OR BESIDE EXISTING UTILITIES.
2. ALL EXISTING UTILITY CONDITIONS INCLUDING BURIED DEPTH ARE APPROXIMATE.
3. SAMMAMISH PLATEAU IS RESPONSIBLE FOR WATER VALVES OPERATION. THE CONTRACTOR SHALL NOTIFY WATER DISTRICT AND THE CITY 72 HOURS PRIOR TO SCHEDULING A WATER SYSTEM SHUTDOWN.
4. MAINTAIN ALL WATER SERVICES UNTIL NEW MAIN IS ACTIVATED.
5. RELOCATED UTILITIES SHOWN HEREIN ARE ANTICIPATED LOCATION ONLY. UTILITY AGENCIES TO DETERMINE FINAL LOCATION, GRADES, AND TIMING OF CONSTRUCTION WORK. CONTRACTOR SHALL COORDINATE WITH UTILITY AGENCIES AND FIELD VERIFY EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THESE PLANS AND THE RELOCATED UTILITY.
6. THRUST BLOCKS SHALL BE INSTALLED IN ACCORDANCE WITH SAMMAMISH PLATEAU WATER AND SEWER DISTRICT STANDARD PLANS.
7. PROVIDE MIN. 6" VERTICAL CLEARANCE FROM BOX CULVERT TO SEWER MAIN.
8. PROVIDE MIN 6" VERTICAL CLEARANCE TO BOX CULVERT AND 3' COVER OVER WATER MAIN.

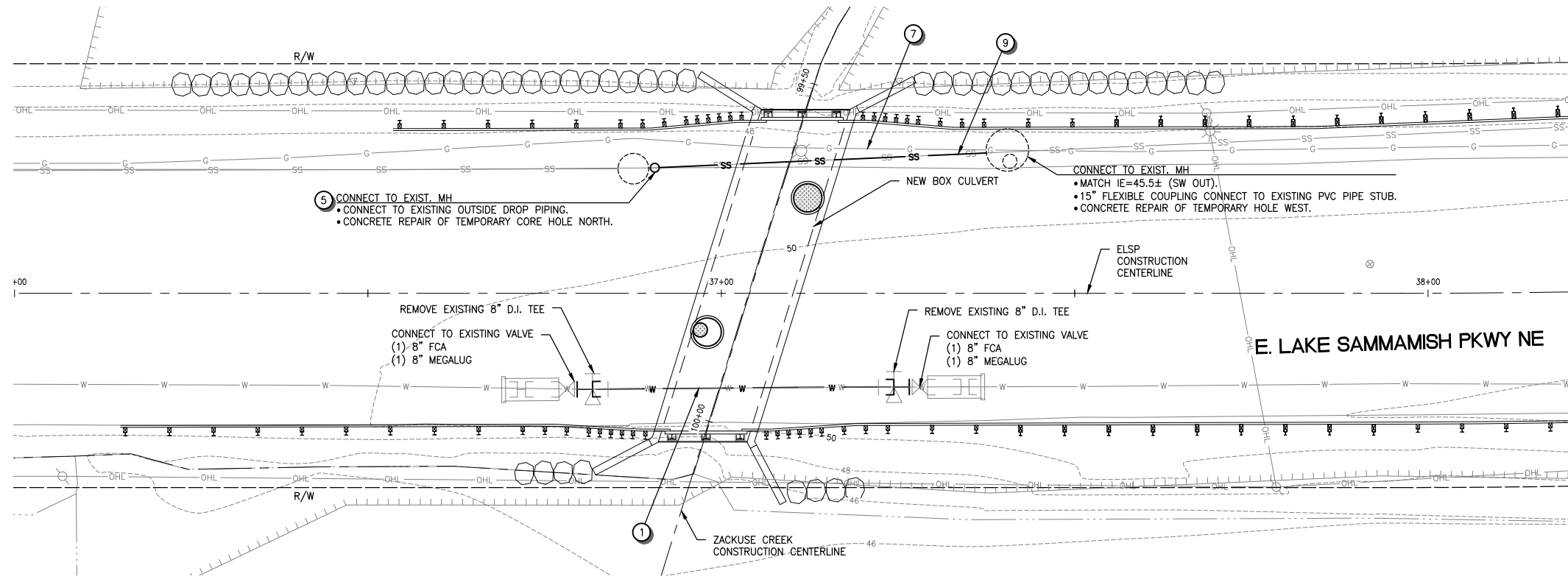
LEGEND

- J WATER LINE JOINT
- w PROPOSED WATER MAIN
- ▶ THRUST BLOCK
- ⋈ WATER VALVE
- ▭ ECOLOGY BLOCK



<b>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</b>	NO.	REVISIONS	DATE	DATE: 02/23/2018			<b>UTILITY RELOCATION PLAN AND PROFILE TEMPORARY UTILITY BYPASS</b>	1		DESIGNED BY: BS/DC/BD/MM/CEM/EH	UT01
	2			DRAWN BY: AK				SHEET	OF		
	3			REVIEWED BY:				27	34		
	4										
	5										

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



**UTILITY RELOCATION NOTES**

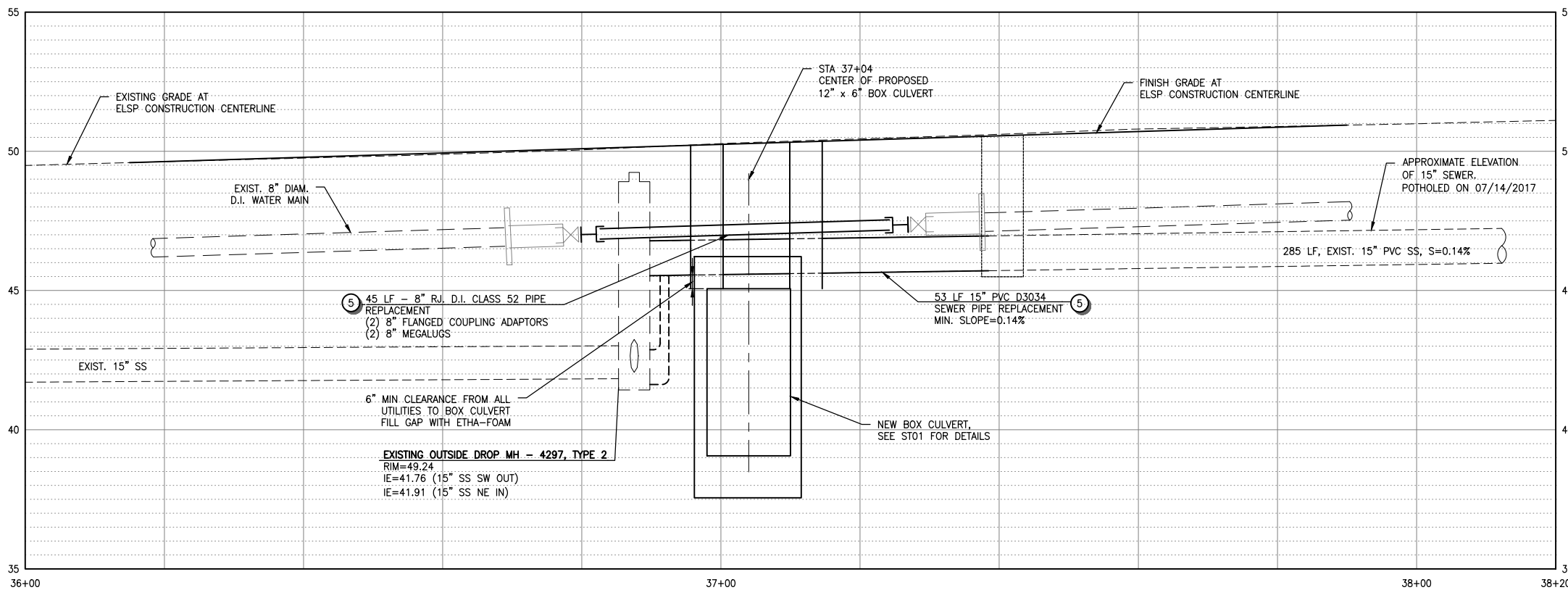
1. INSTALL 8" CLASS 52 DUCTILE IRON WATER MAIN RESTRAINED JOINT PER WSDOT STD PLAN B-55.20-00.
2. CONNECT TO EXISTING WATER MAIN. CONTRACTOR SHALL VERIFY FITTING PRIOR TO CONSTRUCTION. COORDINATE WITH SAMMAMISH PLATEAU WATER DISTRICT FOR SHUT DOWN.
3. INSTALL NEW MANHOLE, TYPE AND SIZE AS INDICATED.
4. REMOVE EXISTING 8" WATER MAIN BETWEEN NEW CONNECTIONS. AFTER INSTALLATION, DISINFECTION AND TESTING TEMPORARY BYPASS PIPE.
5. SEE CONTRACT PROVISIONS FOR SAMMAMISH PLATEAU WATER AND SEWER DISTRICT DETAILS.
6. EXISTING UTILITY TO BE PROTECTED, SHORED AND SUPPORTED DURING CONSTRUCTION.
7. EXISTING UTILITY TO BE RELOCATED BY OTHERS.
8. INSTALL TEMPORARY SEWER BYPASS AS SHOWN.
9. INSTALL PERMANENT SEWER AS SHOWN.
10. CONTRACTOR SHALL SURVEY EXISTING I.E. AT SEWER MAIN INLET TO DROP STRUCTURE AND PROVIDE TO SAMMAMISH PLATEAU WATER DISTRICT PRIOR TO REMOVING 15" PVC.

**UTILITY RELOCATION GENERAL NOTES**

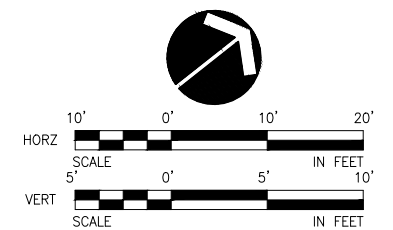
1. THE CONTRACTOR SHALL PROTECT ALL PRIVATE AND PUBLIC UTILITIES FROM DAMAGE WHEN TRENCHING ACROSS OR BESIDE EXISTING UTILITIES.
2. ALL EXISTING UTILITY CONDITIONS INCLUDING BURIED DEPTH ARE APPROXIMATE.
3. SAMMAMISH PLATEAU IS RESPONSIBLE FOR WATER VALVES OPERATION. THE CONTRACTOR SHALL NOTIFY WATER DISTRICT AND THE CITY 72 HOURS PRIOR TO SCHEDULING A WATER SYSTEM SHUTDOWN.
4. MAINTAIN ALL WATER SERVICES UNTIL NEW MAIN IS ACTIVATED.
5. RELOCATED UTILITIES SHOWN HEREIN ARE ANTICIPATED LOCATION ONLY. UTILITY AGENCIES TO DETERMINE FINAL LOCATION, GRADES, AND TIMING OF CONSTRUCTION WORK. CONTRACTOR SHALL COORDINATE WITH UTILITY AGENCIES AND FIELD VERIFY EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THESE PLANS AND THE RELOCATED UTILITY.
6. THRUST BLOCKS SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT STD PLANS B-90.40-00 AND B-90.50-00. SEE SHEET UT02.
7. PROVIDE MIN. 6" VERTICAL CLEARANCE FROM BOX CULVERT TO SEWER MAIN.
8. PROVIDE MIN 6" VERTICAL CLEARANCE TO BOX CULVERT AND 3' COVER OVER WATER MAIN.

**LEGEND**

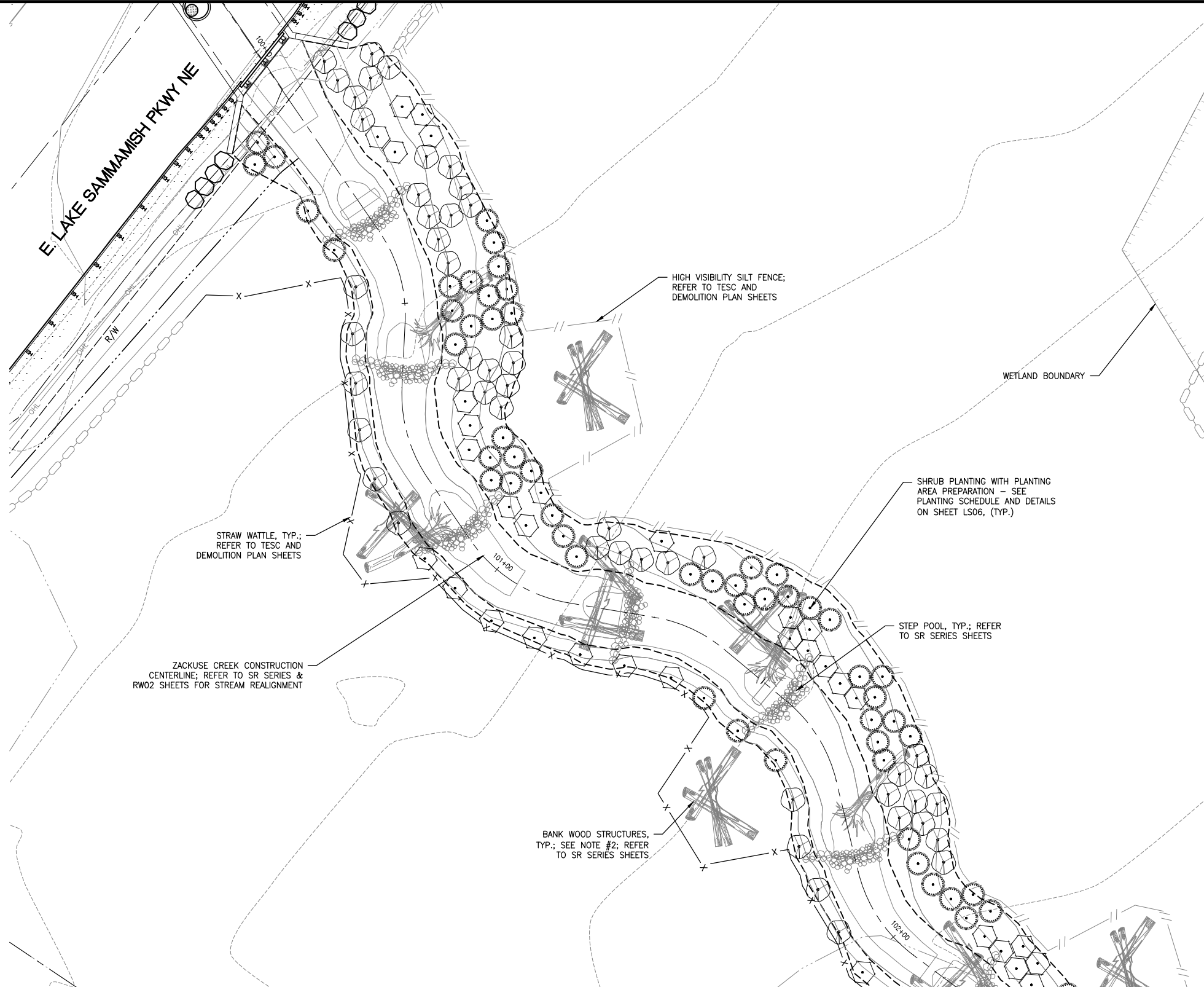
- J WATER LINE JOINT
- w PROPOSED WATER MAIN
- ▶ THRUST BLOCK
- ▬ GUARDRAIL
- ⋈ WATER VALVE



Know what's below.  
Call before you dig.



<b>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</b>	NO.	REVISIONS	DATE	DATE: 02/23/2018			<b>UTILITY RELOCATION PLAN AND PROFILE FINAL CONFIGURATION</b>	1	DESIGNED BY: BS/DC/BD/MM/CEM/EH	<b>UT02</b>
	2	DRAWN BY: AK	SHEET OF							
	3	REVIEWED BY:		28 34						
	4									
	5									



**SHRUB UNDERSTORY PLANTING LEGEND**

SHRUBS	BOTANICAL NAME / COMMON NAME
	CORNUS SERICEA / RED TWIG DOGWOOD
	LONICERA INVOLUCRATA / TWINBERRY
	PHYSOCARPUS CAPITATUS / PACIFIC NINEBARK
	ROSA PISOCARPA / CLUSTERED WILD ROSE
	RUBUS SPECTABILIS / SALMONBERRY
	SYMPHORICARPOS ALBUS / COMMON SNOWBERRY
	LIMITS OF PLANTING AREA TO RECEIVE PLANTING AREA PREPARATION; REFER TO DETAIL ON SHEET LS06

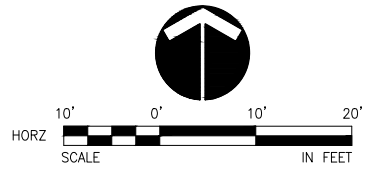
**GENERAL NOTES:**

1. TREE PLANTING SHOWN SEPARATELY ON SHEETS LS03 AND LS04;
2. MAINTAIN 4 FT. MIN. CLEARANCE FROM WOOD STRUCTURES TO CENTER OF TREES;

- PLANTING WORK TO BE DONE BY OTHERS.
- SITE PREPARATION AND SEEDING INCLUDED IN CONTRACT.

SEE SHEET LS05 FOR ROADWAY EMBANKMENT SEEDING

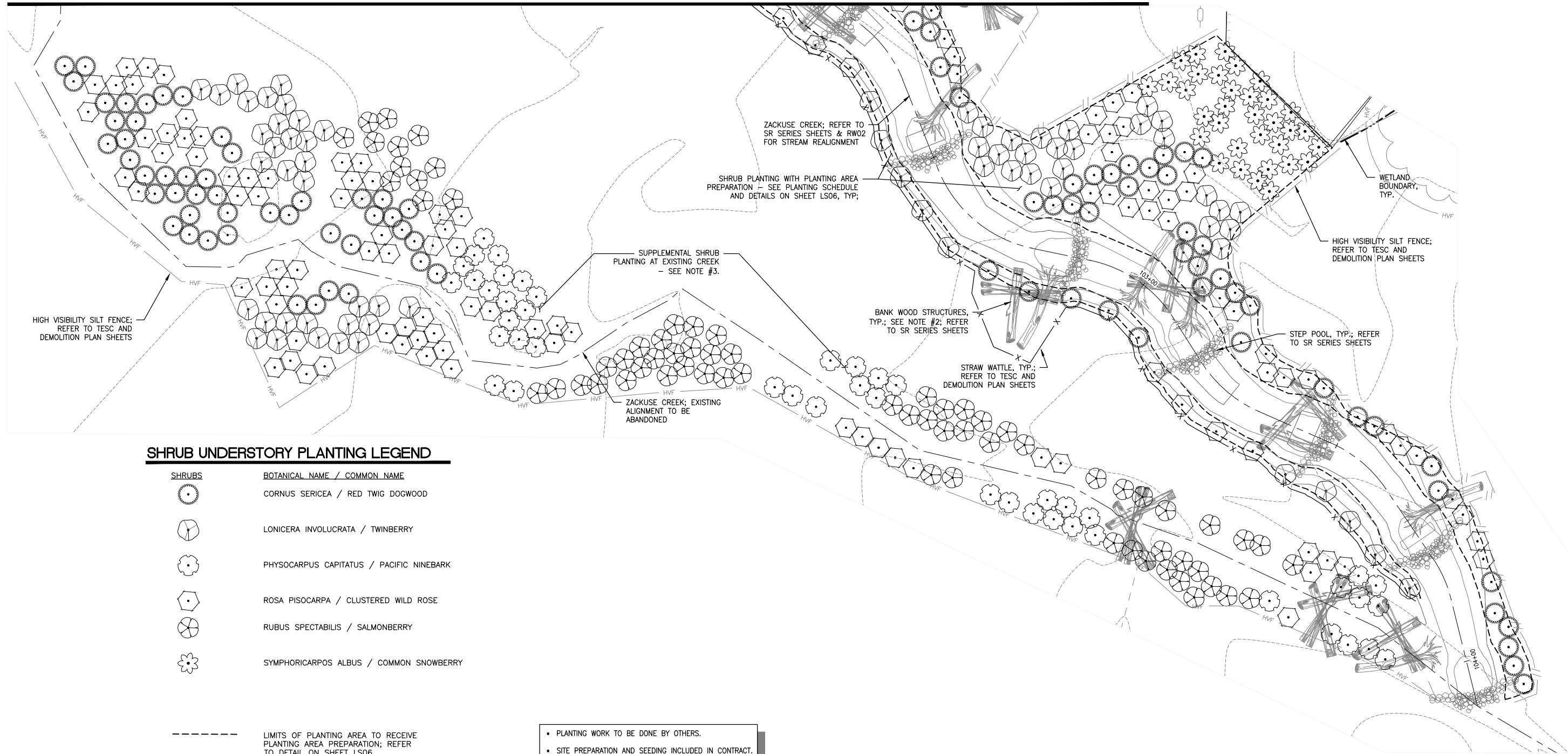
MATCHLINE SEE SHEET LS02



Know what's below.  
Call before you dig.

<b>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</b>	NO.	REVISIONS	DATE	DATE: 02/23/2018			<b>STREAM RESTORATION: SHRUB UNDERSTORY PLANTING PLAN SHEET 1 OF 2</b>	LS01	
	1			DESIGNED BY: CL/DC/BD/MM/CEM/EH				SHEET	OF
	2								
	3				DRAWN BY: BS				
	4				REVIEWED BY:				
5						29	34		

MATCHLINE SEE SHEET LS01



**SHRUB UNDERSTORY PLANTING LEGEND**

SHRUBS	BOTANICAL NAME / COMMON NAME
	CORNUS SERICEA / RED TWIG DOGWOOD
	LONICERA INVOLUCRATA / TWINBERRY
	PHYSOCARPUS CAPITATUS / PACIFIC NINEBARK
	ROSA PISOCARPA / CLUSTERED WILD ROSE
	RUBUS SPECTABILIS / SALMONBERRY
	SYMPHORICARPOS ALBUS / COMMON SNOWBERRY

--- LIMITS OF PLANTING AREA TO RECEIVE PLANTING AREA PREPARATION; REFER TO DETAIL ON SHEET LS06

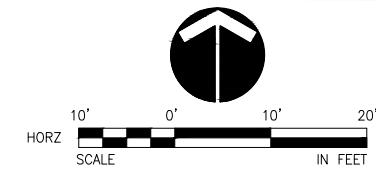
- PLANTING WORK TO BE DONE BY OTHERS.
- SITE PREPARATION AND SEEDING INCLUDED IN CONTRACT.

**GENERAL NOTES:**

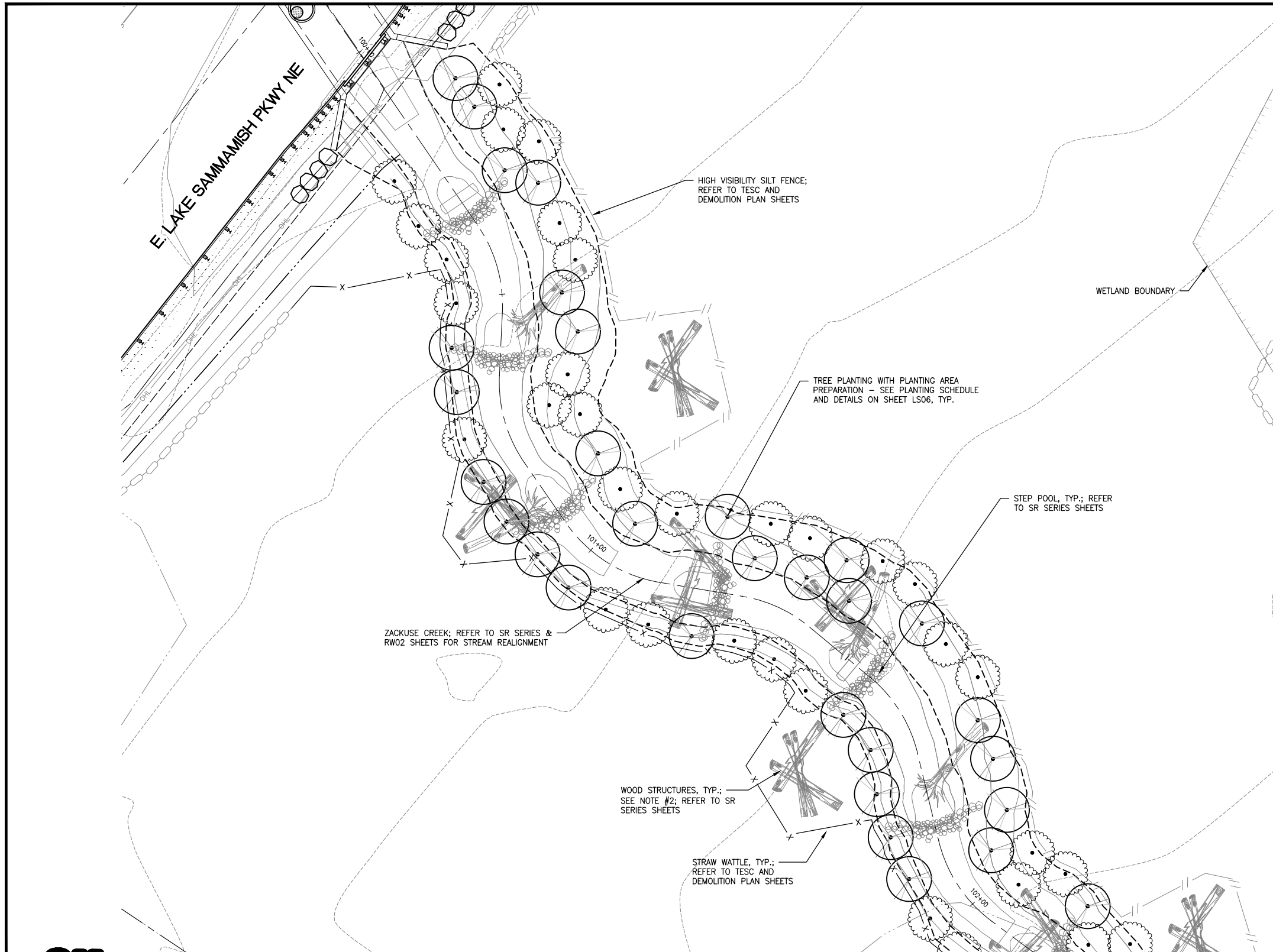
1. TREE PLANTING SHOWN SEPARATELY ON SHEETS LS03 AND LS04;
2. MAINTAIN 4 FT. MIN. CLEARANCE FROM WOOD STRUCTURES TO CENTER OF TREES;
3. DO NOT CLEAR AND GRUB PLANTING AREAS ADJACENT TO EXISTING CREEK. CLEAR ONLY INVASIVE SPECIES. SUPPLEMENT EXISTING NATIVE PLANTING WITH SHRUBS SHOWN ON THIS PLAN. APPLY ONE INCH DEPTH OF FINE COMPOST OVER EXISTING SOIL.



Know what's below.  
Call before you dig.



<b>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</b>	NO.	REVISIONS	DATE	DATE: 02/23/2018			<b>STREAM RESTORATION: SHRUB UNDERSTORY PLANTING PLAN SHEET 2 OF 2</b>	LS02	
	1			DESIGNED BY: CL/DC/BD/MM/CEM/EH				SHEET	OF
	2				DRAWN BY: BS	30		34	
	3				REVIEWED BY:				
	4								
5									



### TREE PLANTING LEGEND

TREES	BOTANICAL NAME / COMMON NAME
	MALUS FUSCA / WESTERN CRABAPPLE
	PICEA SITCHENSIS / SITKA SPRUCE
	POPULUS BALSAMIFERA SSP. TRICHOCARPA / BLACK COTTONWOOD
	SALIX HOOKERIANA / HOOKER'S WILLOW
	SALIX LASIANDRA / PACIFIC WILLOW
	THUJA PLICATA / WESTERN RED-CEDAR

--- LIMITS OF PLANTING AREA TO RECEIVE PLANTING AREA PREPARATION; REFER TO DETAIL ON SHEET LS06

- ### GENERAL NOTES:
- SHRUB UNDERSTORY PLANTING SHOWN SEPARATELY ON SHEETS LS01 AND LS02;
  - MAINTAIN 4 FT. MIN. CLEARANCE FROM WOOD STRUCTURES TO CENTER OF PLANTS;

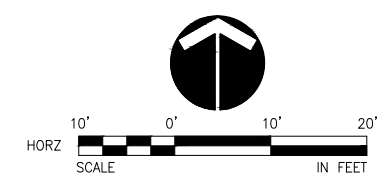
- PLANTING WORK TO BE DONE BY OTHERS.
- SITE PREPARATION AND SEEDING INCLUDED IN CONTRACT.

SEE SHEET LS05 FOR ROADWAY EMBANKMENT SEEDING

MATCHLINE SEE SHEET LS04

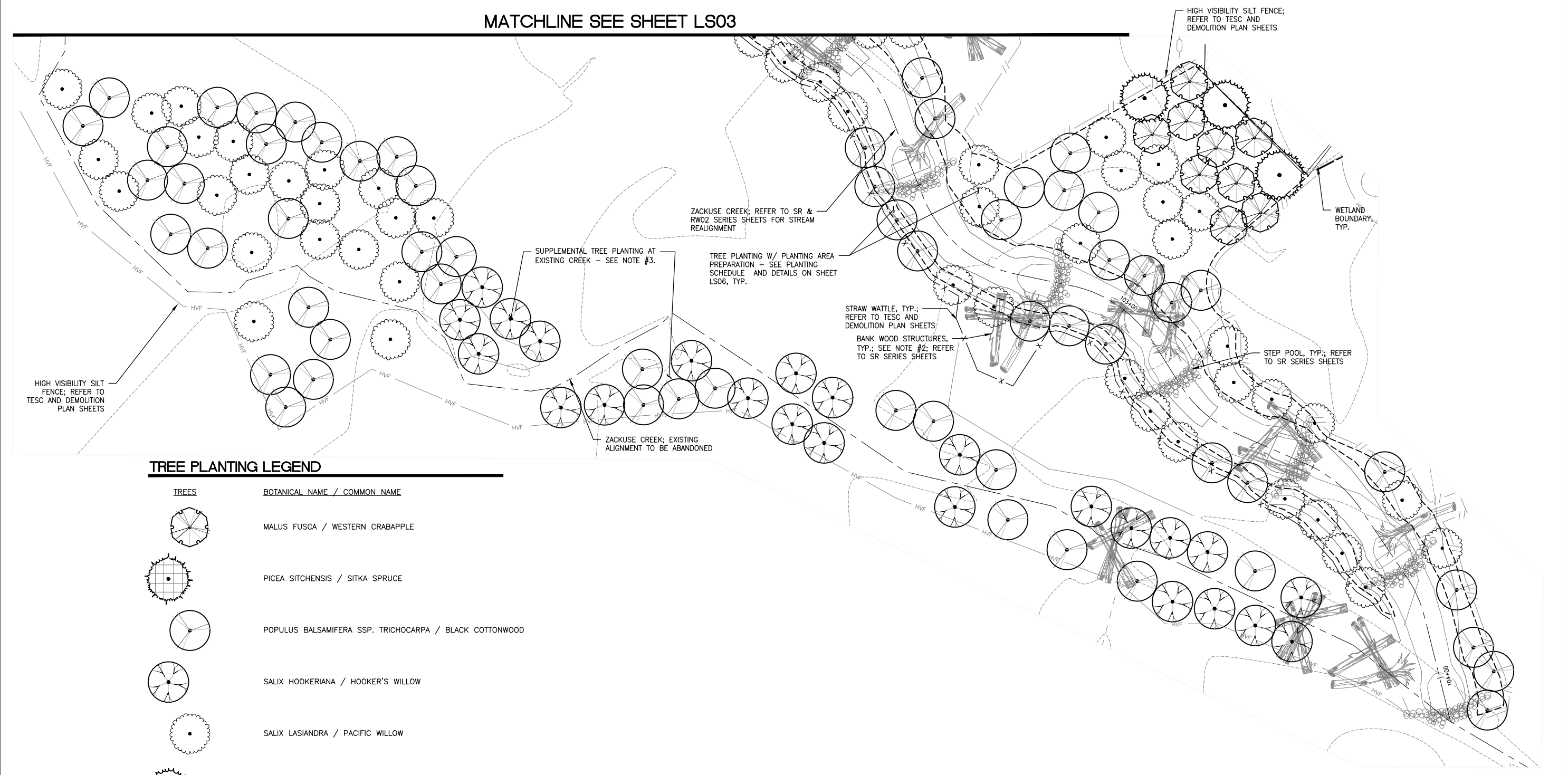


Know what's below.  
Call before you dig.



<b>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</b>	NO.	REVISIONS	DATE	DATE: 02/23/2018		<b>STREAM RESTORATION: TREE PLANTING PLAN SHEET 1 OF 2</b>	LS03	
	1			DESIGNED BY: CL/DC/BD/MM/CEM/EH			SHEET	OF
	2							
	3						DRAWN BY: BS	
	4						REVIEWED BY:	
5						31	34	

MATCHLINE SEE SHEET LS03



**TREE PLANTING LEGEND**

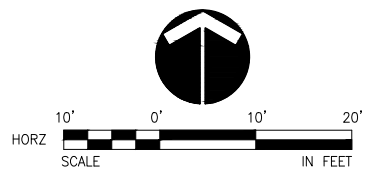
TREES	BOTANICAL NAME / COMMON NAME
	MALUS FUSCA / WESTERN CRABAPPLE
	PICEA SITCHENSIS / SITKA SPRUCE
	POPULUS BALSAMIFERA SSP. TRICHOCARPA / BLACK COTTONWOOD
	SALIX HOOKERIANA / HOOKER'S WILLOW
	SALIX LASIANDRA / PACIFIC WILLOW
	THUJA PLICATA / WESTERN RED-CEDAR

--- LIMITS OF PLANTING AREA TO RECEIVE PLANTING AREA PREPARATION; REFER TO DETAIL ON SHEET LS06

**GENERAL NOTES:**

- TREE PLANTING SHOWN SEPARATELY ON SHEETS LS03 AND LS04;
- MAINTAIN 4 FT. MIN. CLEARANCE FROM WOOD STRUCTURES TO CENTER OF TREES;
- DO NOT CLEAR AND GRUB PLANTING AREAS ADJACENT TO EXISTING CREEK. CLEAR ONLY INVASIVE SPECIES. SUPPLEMENT EXISTING NATIVE PLANTING WITH TREES SHOWN ON THIS PLAN. APPLY ONE INCH DEPTH OF FINE COMPOST OVER EXISTING SOIL.

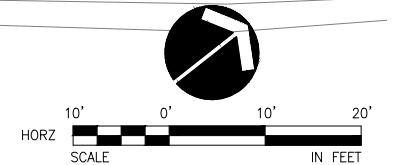
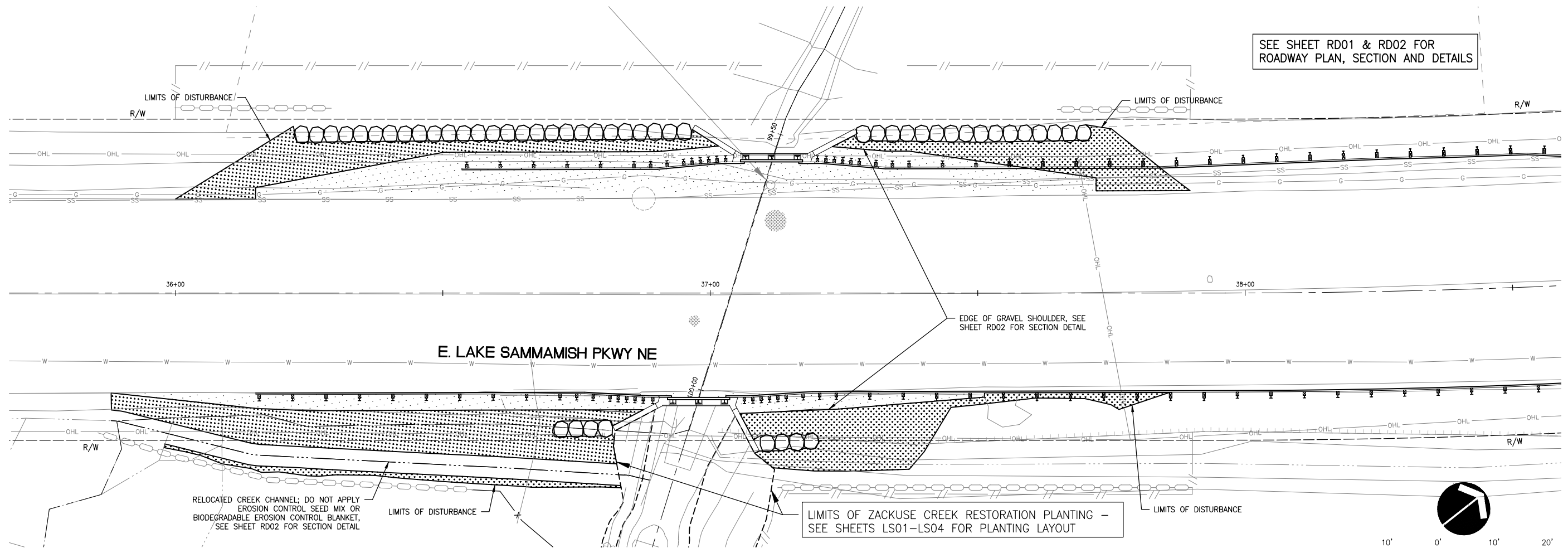
- PLANTING WORK TO BE DONE BY OTHERS.
- SITE PREPARATION AND SEEDING INCLUDED IN CONTRACT.



<p>ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON</p>	NO.	REVISIONS	DATE	DATE: 02/23/2018			<p>STREAM RESTORATION: TREE PLANTING PLAN SHEET 2 OF 2</p>	LS04	
	1			DESIGNED BY: CL/DC/BD/MM/CEM/EH				SHEET	OF
	2					32		34	
	3				DRAWN BY: BS				
	4				REVIEWED BY:				
5									



SEE SHEET RD01 & RD02 FOR ROADWAY PLAN, SECTION AND DETAILS

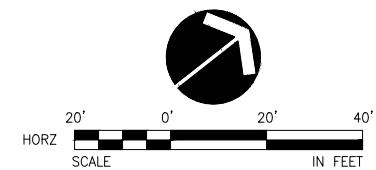
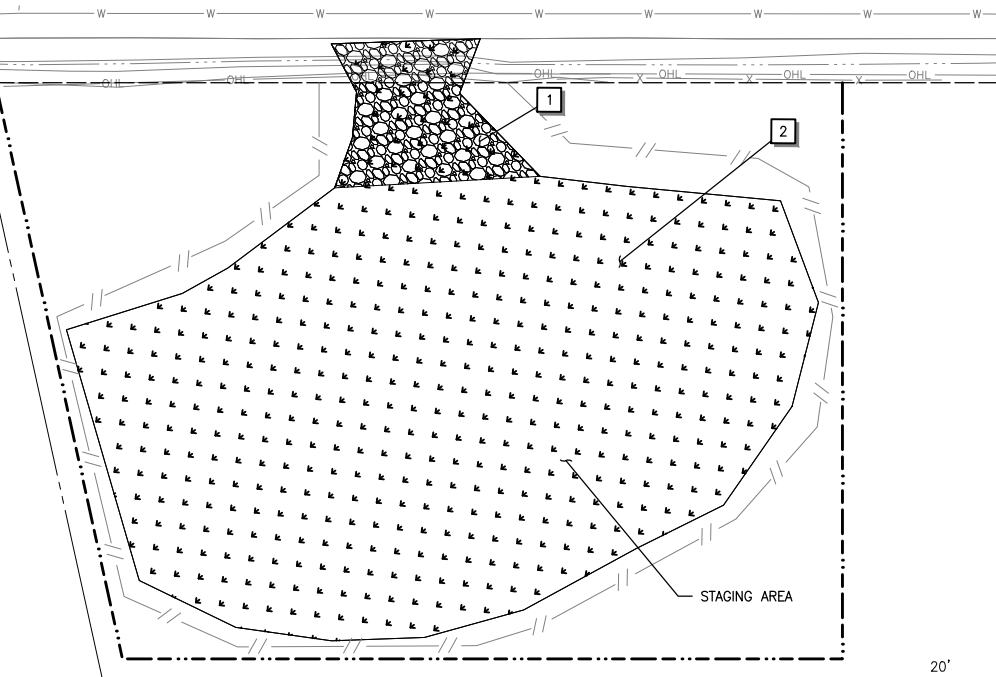


**CONSTRUCTION NOTES**

- 1 REMOVE STABILIZED CONSTRUCTION ENTRANCE
- 2 DECOMPACT (RIP) 2 DIRECTIONS; APPLY 4" TOPSOIL TYPE A; HYDROSEED WITH EROSION CONTROL SEED MIX

**LEGEND**

- APPLY EROSION CONTROL SEED MIX & BIODEGRADABLE EROSION CONTROL BLANKET WITHIN AREAS OF DISTURBANCE AT ROADWAY EMBANKMENT AS SHOWN - SEE SHEET LS06 FOR SCHEDULE & DETAIL
- RESTORED STAGING AREA
- REMOVED STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY EASEMENT LIMITS
- STAGING AREA LIMITS



ZACKUSE CREEK  
FISH PASSAGE AND STREAM  
RESTORATION PROJECT  
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		


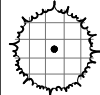



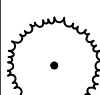
DATE: 02/23/2018  
DESIGNED BY: CL/DC/BD/MM/CEM/EH  
DRAWN BY: BS  
REVIEWED BY:



ROADWAY EMBANKMENT & STAGING AREA  
RESTORATION PLANS

LS05  
SHEET OF  
33 34

PLANT SCHEDULE

TREES	BOTANICAL NAME / COMMON NAME	QNT	QTY	REMARKS
	MALUS FUSCA / WESTERN CRABAPPLE	2 GAL.	9	
	PICEA SITCHENSIS / SITKA SPRUCE	5 GAL.	4	15' O.C. MIN.
	POPULUS BALSAMIFERA SSP. TRICHOCARPA / BLACK COTTONWOOD	1 GAL.	91	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	SALIX HOOKERIANA / HOOKER'S WILLOW	1 GAL.	24	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	SALIX LASIANDRA / PACIFIC WILLOW	1 GAL.	81	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	THUJA PLICATA / WESTERN RED-CEDAR	5 GAL.	7	15' O.C. MIN.

SHRUBS	BOTANICAL NAME / COMMON NAME	QNT	SPACING	QTY	REMARKS
	CORNUS SERICEA / RED TWIG DOGWOOD	1 GAL.	48" o.c.	145	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	LONICERA INVOLUCRATA / TWINBERRY	1 GAL.	48" o.c.	117	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	PHYSOCARPUS CAPITATUS / PACIFIC NINEBARK	1 GAL.	48" o.c.	46	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	ROSA PISOCARPA / CLUSTERED WILD ROSE	1 GAL.	48" o.c.	144	
	RUBUS SPECTABILIS / SALMONBERRY	1 GAL.	48" o.c.	69	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	SYMPHORICARPOS ALBUS / COMMON SNOWBERRY	1 GAL.	48" o.c.	33	

EROSION CONTROL SEED MIX AT ROADWAY EMBANKMENT (TOTAL AREA: 1,550 S.Y.)

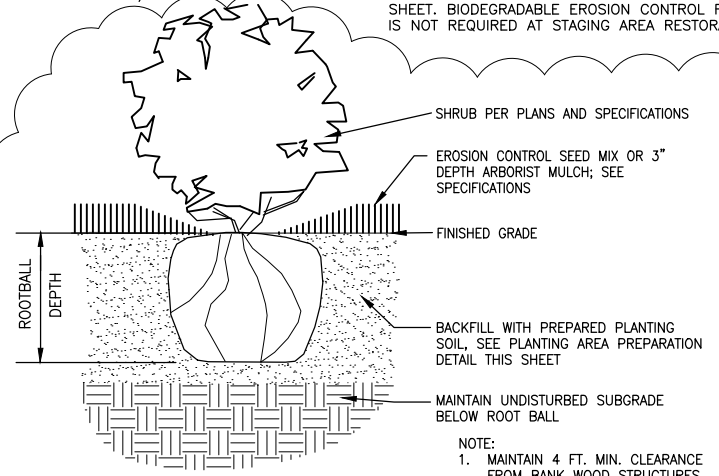
%	BOTANICAL NAME / COMMON NAME	REMARKS
30%	ELYMUS GLAUCUS / BLUE WILDRYE	ALL EROSION CONTROL SEEDING AT ROADWAY EMBANKMENT TO BE COVERED IN BIODEGRADABLE EROSION CONTROL BLANKETS PER WSDOT STANDARD SPECIFICATIONS. SEE DETAIL THIS SHEET. BIODEGRADABLE EROSION CONTROL FABRIC IS NOT REQUIRED AT STAGING AREA RESTORATION.
30%	DESCHAMPSIA CESPITOSA / TUFTED HAIRGRASS	
30%	FESTUCA RUBRA / NATIVE RED FESCUE	
10%	AGROSTIS GIGANTEA / REDTOP	



Know what's below. Call before you dig.

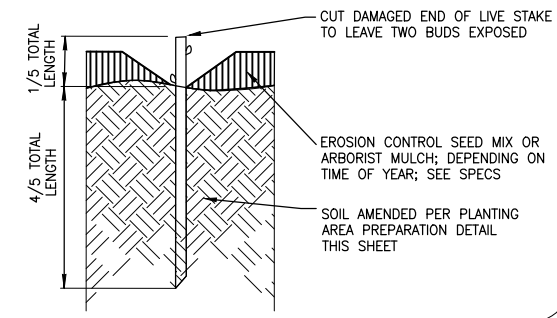
CONTAINER SHRUB PLANTING DETAIL

NOT TO SCALE



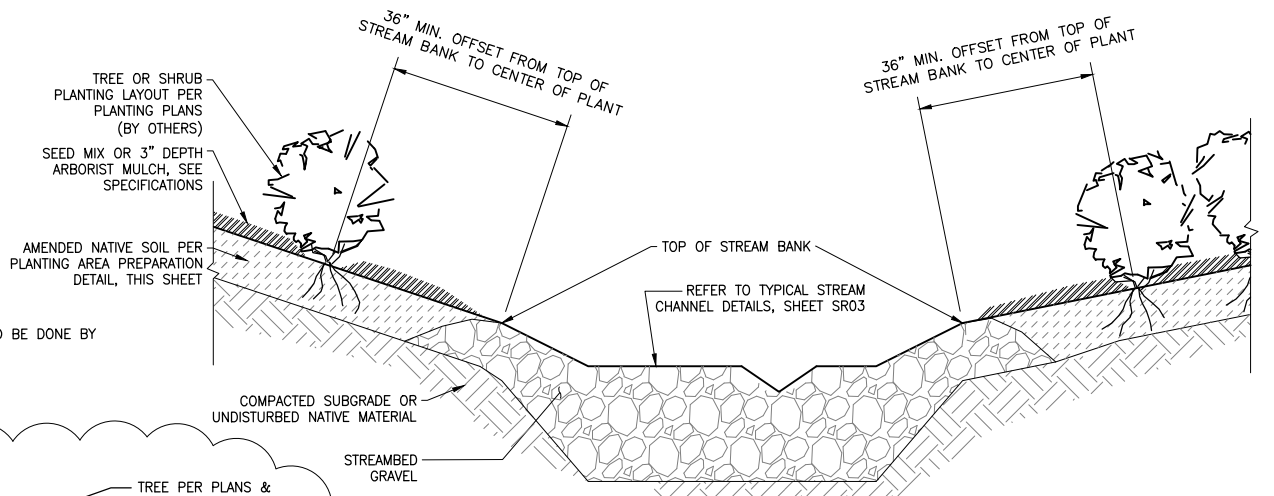
LIVE STAKE INSTALLATION NOTES:

- KEEP LIVE STAKES MOIST/WET IN BUCKETS OR WET BURLAP SACKS. ON HOT DAYS, KEEP STAKES IN THE SHADE UNTIL YOU PLANT THEM.
- IN HARD GROUND, USE AN IRON BAR OR STAR DRILL TO PREPARE THE HOLES FOR THE LIVE STAKE.
- PLACE LIVE STAKE IN PREPARED HOLE; DO NOT USE AXE OR SLEDGE FOR DRIVING LIVE STAKES.
- AVOID STRIPPING BARK OR BRUISING LIVE STAKES DURING INSTALLATION.
- BURY 4/5 OF LIVE STAKE LENGTH.
- AFTER LIVE STAKE IS PLACED IN GROUND, CUT DAMAGED END OF LIVE STAKE TO LEAVE AT LEAST TWO BUDS EXPOSED, MIN.
- FILL VOID AROUND LIVE STAKE WITH SOIL.
- LENGTH OF LIVE STAKES TO BE 36" MIN; DIAMETER TO BE 3/4" TO 1-1/2" OVER ENTIRE LENGTH
- MAINTAIN 4 FT. MIN. CLEARANCE FROM BANK WOOD STRUCTURES TO CENTER OF LIVE STAKES.



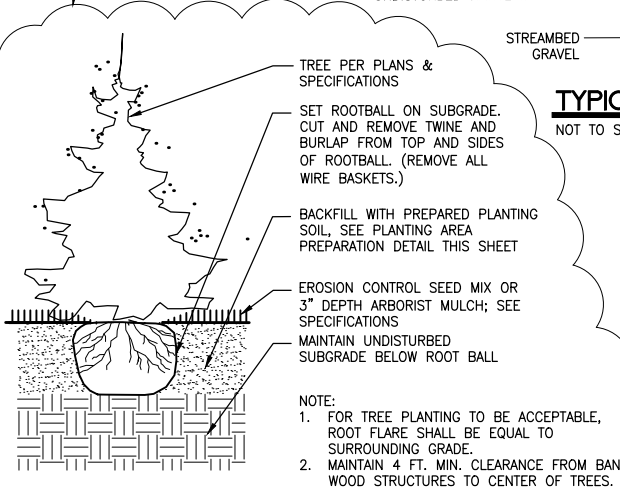
LIVE STAKE PLANTING DETAIL

NOT TO SCALE



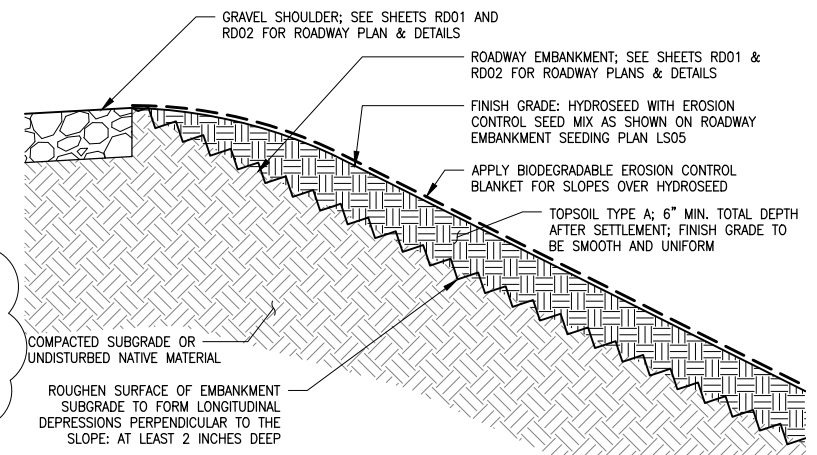
TYPICAL STREAM CHANNEL PLANTING - SECTION

NOT TO SCALE



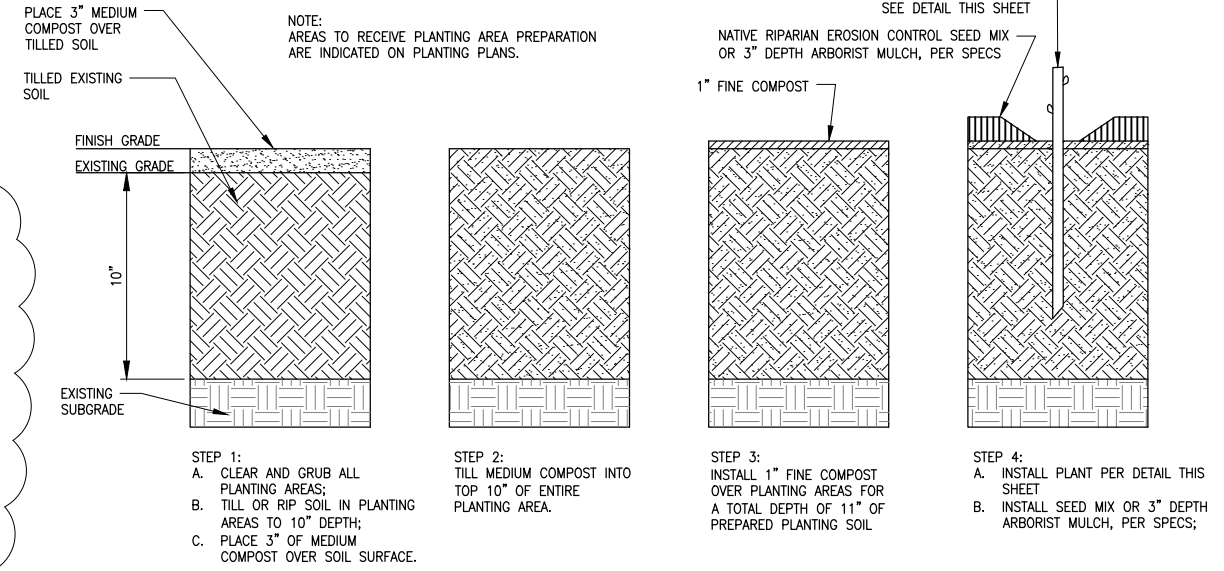
TREE PLANTING DETAIL

NOT TO SCALE



EROSION CONTROL SEEDING DETAIL

NOT TO SCALE



PLANTING AREA PREPARATION DETAIL

NOT TO SCALE

ZACKUSE CREEK  
FISH PASSAGE AND STREAM  
RESTORATION PROJECT  
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE	DATE:
1			02/23/2018
2			DESIGNED BY: CL/DC/BD/MM/CEM/EH
3			DRAWN BY: BS
4			REVIEWED BY:
5			



PLANTING DETAILS

LS06	
SHEET	OF
34	34