

XREF Filename: _____ Filename: C2 - Summary of Quantities and Legend.dwg	Drawn By: _____ TH	Surveyed By: APSJ _____ Date: MAY 2015 Field Bk/Pg: _____ Datum: NAVD 88	Recorded Survey: SNOWHUSH COUNTY AP# _____ Vol/Bk _____ Page _____	Aerial Mapping & Control Survey Firm: _____ Date: _____ Date: _____ GIS Cont Pnts: _____ Field BK/PG: _____	Constructed By: _____ Date: _____
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Summary of Quantities								
Item No.	Total Quantity	Sub-Total Section 1-07.2(1)	Sub-Total Section 1-07.2(2)	Std. Item No.	Unit	Item	City of Mukilteo	Mukilteo Water and Wastewater
							Group 1 61st Place Culvert Improvements	Group 2 61st Place Culvert Improvements
						SECTION 1: PREPARATION		
1	1	1		0001	L.S.	MOBILIZATION	1	
2	1	1		0035	L.S.	CLEARING AND GRUBBING	1	
3	3	3		0049	EACH	REMOVING DRAINAGE STRUCTURE	3	
4	1	1		0050	L.S.	REMOVAL OF STRUCTURE AND OBSTRUCTION	1	
5	260	260		0120	S.Y.	REMOVING ASPHALT CONC. PAVEMENT	260	
						SECTION 2: GRADING		
6	40	40		0310	C.Y.	ROADWAY EXCAVATION INCL. HAUL	40	
7	850	850		0431	TON	GRAVEL BORROW INCL. HAUL	847	3
						SECTION 4: DRAINAGE		
8	200	200		1030	C.Y.	DITCH EXCAVATION INCL. HAUL	200	
9	49	49		1065	L.F.	CEMENT CONC. GUTTER	49	
10	71	71		1093	TON	STREAMBED SEDIMENT	71	
11	115	115		0902	TON	STREAMBED COBBLES 8 IN.	115	
12	77	77		0904	TON	STREAMBED COBBLES 12 IN.	77	
13	140	140		0907	EACH	STREAMBED BOULDER TWO MAN	140	
14	192	192		0921	TON	ROCK FOR EROSION AND SCOUR PROTECTION CLASS A	192	
15	69	69		1171	L.F.	DRAIN PIPE 8 IN. DIAM.	69	
16	29	29		3008	L.F.	CORRUGATED POLYETHYLENE CULV. PIPE 12 IN. DIAM.	29	
17	33	33		1245	L.F.	CL III REINF. CONC. CULV. PIPE 12 IN. DIAM.	33	
18	1	1		3026	L.S.	PRECAST REINF. CONC. THREE SIDED STRUCTURE NO. 1	1	
19	1	1		3075	L.S.	TEMPORARY STREAM DIVERSION	1	
						SECTION 5: STORM SEWER		
20	2	2		3091	EACH	CATCH BASIN TYPE 1	2	
						SECTION 6: SANITARY SEWER		
21	18	18		3772	L.F.	DUCTILE IRON SEWER PIPE 8 IN. DIAM.		18
						SECTION 8: STRUCTURE		
22	120	120		4006	C.Y.	STRUCTURE EXCAVATION CLASS A INCL. HAUL	120	
23	1	1		4013	L.S.	SHORING OR EXTRA EXCAVATION CL. A	1	
24	900	900		-	L.F.	PIN PILE	900	
25	1	1		-	L.S.	CEMENT CONC. PILE CAP SLAB	1	
						SECTION 9: SURFACING		
26	110	110		5120	TON	CRUSHED SURFACING TOP COURSE	110	
						SECTION 14: HOT MIX ASPHALT		
27	150	150		5767	TON	HMA CL. 1/2 IN. PG 64-22	150	
						SECTION 17: EROSION CONTROL AND ROADSIDE PLANTING		
28	18	18		6403	DAY	ESC LEAD	18	
29	2	2		6471	EACH	INLET PROTECTION	2	
30	90	90		6500	L.F.	COMPOST SOCK	90	
31	EST.	EST.		6490	EST.	EROSION/WATER POLLUTION CONTROL	EST.	
32	1	1		6416	L.S.	SEEDING, FERTILIZING, AND MULCHING	1	
33	60	60		6409	C.Y.	TOPSOIL TYPE C	60	
34	6	6		6552	EACH	PSIPE - RED ALDER	6	
35	4	4		6552	EACH	PSIPE - DOUGLAS FIR	4	
36	4	4		6552	EACH	PSIPE - WESTERN RED CEDAR	4	
37	57	57		6552	EACH	PSIPE - PACIFIC WILLOW	57	
38	57	57		6552	EACH	PSIPE - SCOULER'S WILLOW	57	
39	57	57		6552	EACH	PSIPE - BLACK TWINBERRY	57	
40	8	8		6552	EACH	PSIPE - SALMONBERRY	8	
41	68	68		6552	EACH	PSIPE - REDOSIER DOGWOOD	68	
42	8	8		6552	EACH	PSIPE - SNOWBERRY	8	
43	12	12		6552	EACH	PSIPE - INDIAN PLUM	12	
44	8	8		6552	EACH	PSIPE - VINE MAPLE	8	
45	8	8		6552	EACH	PSIPE - SWORD FERN	8	
46	60.0	60.0		6480	C.Y.	FINE COMPOST	60	

Summary of Quantities								
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							Group 1	Group 2
							61st Place Culvert Improvements	61st Place Culvert Improvements
47	35.0	35.0		6581	C.Y.	BARK OR WOOD CHIP MULCH	35	
48	450	450		6635	L.F.	HIGH VISIBILITY SILT FENCE	450	
49	240	240		6455	S.Y.	BIODEGRADABLE EROSION CONTROL BLANKET	240	
						SECTION 18:TRAFFIC		
50	138	138		6757	L.F.	BEAM GUARDRAIL TYPE 31	138	
51	2	2		6719	EACH	BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL	2	
52	2	2		6766	EACH	BEAM GUARDRAIL ANCHOR TYPE 10	2	
53	1	1		6890	L.S.	PERMANENT SIGNING	1	
54	1	1		6971	L.S.	PROJECT TEMPORARY TRAFFIC CONTROL	1	
						SECTION 19: OTHER ITEMS		
55	97	97		6982	S.F.	CONSTRUCTION SIGNS CLASS A	97	
56	44	44		7006	C.Y.	STRUCTURE EXCAVATION CLASS B INCL. HAUL	35	9
57	170	170		7008	S.F.	SHORING OR EXTRA EXCAVATION CLASS B	90	80
58	1	1		7038	L.S.	ROADWAY SURVEYING	1	
59	30	30		7114	L.F.	REMOVING AND RESETTNG CHAIN LINK FENCE	30	
60	79	79		7150	C.Y.	GABION CRIBBING	79	
61	3	3		3080	EACH	ADJUST MANHOLE		3
62	EST.	EST.		7715	EST.	FORCE ACCOUNT POTHOLING EXSITING UTILITIES	EST.	
63	EST.	EST.		7715	EST.	FORCE ACCOUNT WOODY DEBRIS REMOVAL	EST.	
64	EST.	EST.		7715	EST.	FORCE ACCOUNT UTILITY RELOCATION	EST.	
65	EST.	EST.		7715	EST.	UNEXPECTED SITE CHANGES	EST.	
66	EST.	EST.		7480	EST.	ROADSIDE CLEANUP	EST.	
67	1	1		7490	L.S.	TRIMMING AND CLEANUP	1	
68	1	1		7736	L.S.	SPCC PLAN	1	
69	79	79		7550	S.Y.	CONSTRUCTION GEOTEXTILE FOR UNDERGROUND DRAINAGE	79	
70	370	370		7552	S.Y.	CONSTRUCTION GEOTEXTILE FOR SOIL STABILIZATION	370	

LEGEND			
	FOUND REBAR AND CAP		EXISTING RIGHT OF WAY LINE
	EXISTING STORM DRAIN MANHOLE		EXISTING CURB AND GUTTER
	EXISTING STORM DRAIN CATCH BASIN		EXISTING EDGE OF GRAVEL
	EXISTING FIRE HYDRANT		EXISTING EDGE OF PAVEMENT
	EXISTING WATER VALVE		EXISTING SANITARY SEWER LINE
	EXISTING UTILITY POLE		EXISTING STORM DRAIN LINE
	EXISTING POLE ANCHOR		EXISTING WATER LINE
	EXISTING SIGN		EXISTING FIBER OPTIC LINE
	EXISTING LIGHT POLE		EXISTING OVERHEAD POWER LINE
	EXISTING ELECTRICAL JUNCTION BOX		EXISTING GAS LINE
	EXISTING WATER/POWER METER		EXISTING CONTOUR
	EXISTING TREE		EXISTING THALWEG OF STREAM
	PROPOSED ASPHALT		PROPOSED PAVEMENT MARKINGS
	PROPOSED CONCRETE		PROPOSED STORM DRAIN LINE
	PROPOSED CATCH BASIN		PROPOSED FILL LIMIT LINE
	PROPOSED MANHOLE		PROPOSED CUT LIMIT LINE
	PROPOSED SIGN		COMPOST SOCK
	INLET PROTECTION		HIGH VISIBILITY SILT FENCE
	SURVEY CONTROL POINT		PARCEL NUMBER
			ASPH
			ASTM
			CB
			CL/C-L
			CONC
			CPEP
			DEC
			D.I.
			DR
			E
			EA
			ELEV
			EST
			EX/EXST
			HMA
			HORIZ
			IE
			JB
			LF
			LT
			MUTCD
			N
			NAD
			NAVD
			ASPHALT
			AMERICAN SOCIETY FOR TESTING AND MATERIALS
			CATCH BASIN
			CLASS/CENTERLINE
			CONCRETE
			CORRUGATED POLYETHYLENE PIPE
			DECIDUOUS
			DUCTILE IRON PIPE
			DRIVE
			EAST/EASTING
			EACH
			ELEVATION
			ESTIMATE
			EXISTING
			HOT MIX ASPHALT
			HORIZONTAL
			INVERT ELEVATION
			JUNCTION BOX
			LINEAR FEET
			LEFT
			MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
			NORTH/NORTHING
			NORTH AMERICAN DATUM
			NORTH AMERICAN VERTICAL DATUM
			NGVD
			NO NUMBER ON CENTER
			OHWM
			PROPPOSED
			PSI
			PVC
			R
			R.O.W.
			RD
			RT
			SD
			SF
			SR
			SSMH
			STA
			SY
			TYPICAL
			VERTICAL
			WM
			WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
			WATER VALVE
			WSDOT
			WV

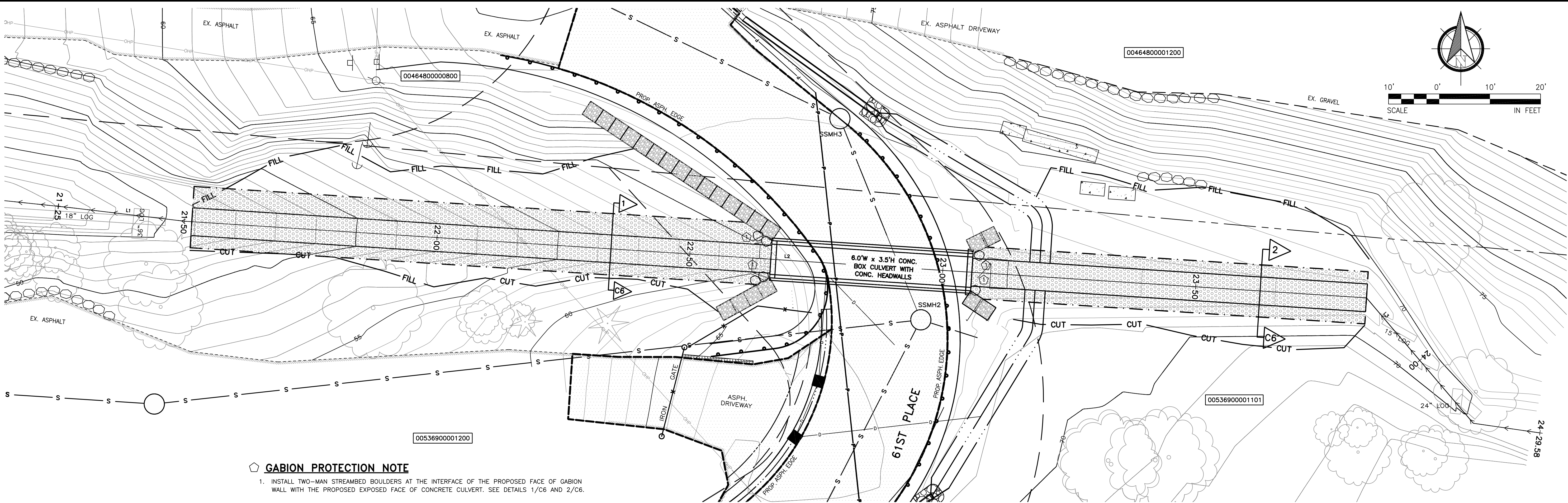
			PLAN PRINTED AT 11"x17" DEPICTS A 1:2 SCALE RATIO (I.E. 1"=10' TO 1"=20')		Scale: — Horiz: — Vert: — Designed By: — Inspected By: — W.O. No.: — Date: 10-12-2015		 CITY OF MUKILTEO		CITY OF MUKILTEO PUBLIC WORKS DEPARTMENT 11930 Cyrus Way Mukilteo, Washington 98275 425 355-4141 FAX 425 347-4544 http://ci.mukilteo.wa.us				61st Place West Culvert Improvement Project		SUMMARY OF QUANTITIES AND LEGEND		SHEET NO. C2 OF 15 TOTAL SHEETS	
NO.	DATE	BY	REVISION															

Drawn By: JTH
Checked By: JST
KREF Filename: P:\14-001\61st Place Culvert\Log\Drawings\Plan Sheets\C5-Stream and Culvert Plan and Profile.dwg

Surveyed By: APSJ
Date: MAY 2015
Field Bk/Pg: 88
Datum: NAD 88

Recorded Survey: SNOHOMISH COUNTY
AF-
Vol/Bk: Page

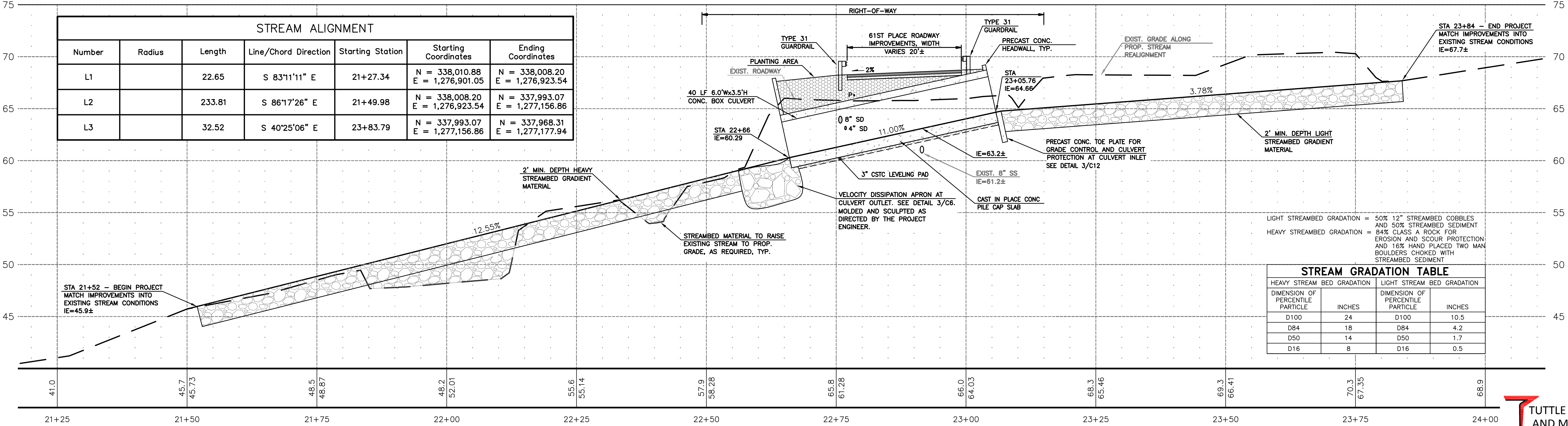
Constructed By: Aerial Mapping & Control Survey
Firm: Date: Date:
Field Bk/Pg: Date:



GABION PROTECTION NOTE

1. INSTALL TWO-MAN STREAMBED BOULDERS AT THE INTERFACE OF THE PROPOSED FACE OF GABION WALL WITH THE PROPOSED EXPOSED FACE OF CONCRETE CULVERT. SEE DETAILS 1/C6 AND 2/C6.

STREAM ALIGNMENT						
Number	Radius	Length	Line/Chord Direction	Starting Station	Starting Coordinates	Ending Coordinates
L1		22.65	S 83°11'11" E	21+27.34	N = 338,010.88 E = 1,276,901.05	N = 338,008.20 E = 1,276,923.54
L2		233.81	S 86°17'26" E	21+49.98	N = 338,008.20 E = 1,276,923.54	N = 337,993.07 E = 1,277,156.86
L3		32.52	S 40°25'06" E	23+83.79	N = 337,993.07 E = 1,277,156.86	N = 337,968.31 E = 1,277,177.94



CITY OF MUKILTEO
PUBLIC WORKS DEPARTMENT
11930 Cyrus Way Mukilteo, Washington 98275
425 355-4141 FAX 425 347-4544
<http://ci.mukilteo.wa.us>



61st Place West
Culvert Improvement Project

STREAM AND CULVERT
PLAN AND PROFILE

SHEET NO.
C5
OF
15
TOTAL SHEETS

Preliminary - Not For Construction

Constructed By: _____ Date: _____

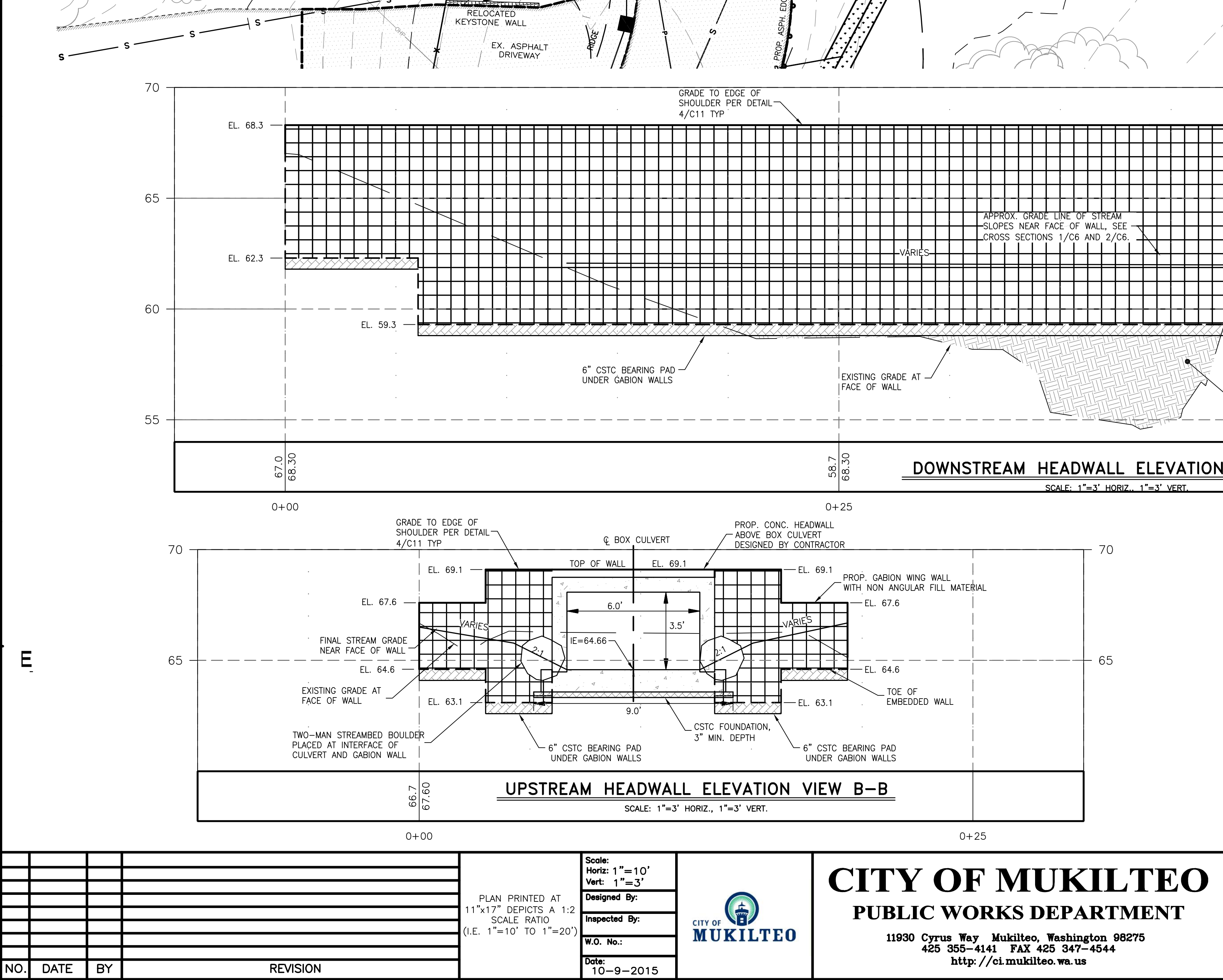
Aerial Mapping & Control Survey
Firm: _____ From: _____
Date: _____ Date: _____
GIS Cntl Pnts: _____ Field BK/Pg: _____

Recorded Survey: SNOHOMISH COUNTY
AF- _____
Vol/Bk: _____ Page: _____

Surveyed By: AFSL
Date: MAY 2015
Field BK/Pg: _____
Datum: NAD 88

Drawn By: JTH
Checked By: JST

XREF Filename: _____
Filename: C7 - Structural Plan and Profile.dwg



10' 0' 10' 20'
SCALE IN FEET

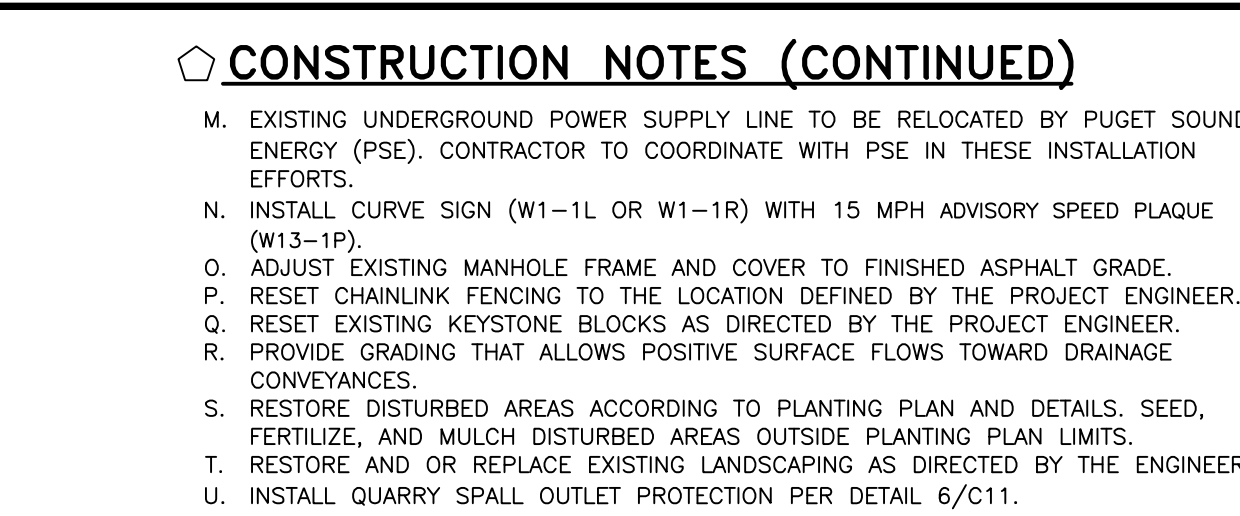
DOWNSTREAM WALL FACE ALIGNMENT

Number	Radius	Length	Line/Chord Direction	Starting Station	Starting Coordinates	Ending Coordinates
L6		45.00	S 56°17'18" E	0+00.00	N = 338,029.33 E = 1,277,002.11	N = 338,004.36 E = 1,277,039.55
L7		7.34	S 03°40'28" W	0+45.00	N = 338,004.36 E = 1,277,039.55	N = 337,997.03 E = 1,277,039.07
L8		12.00	S 61°08'19" W	0+52.34	N = 337,997.03 E = 1,277,039.07	N = 337,991.24 E = 1,277,028.56

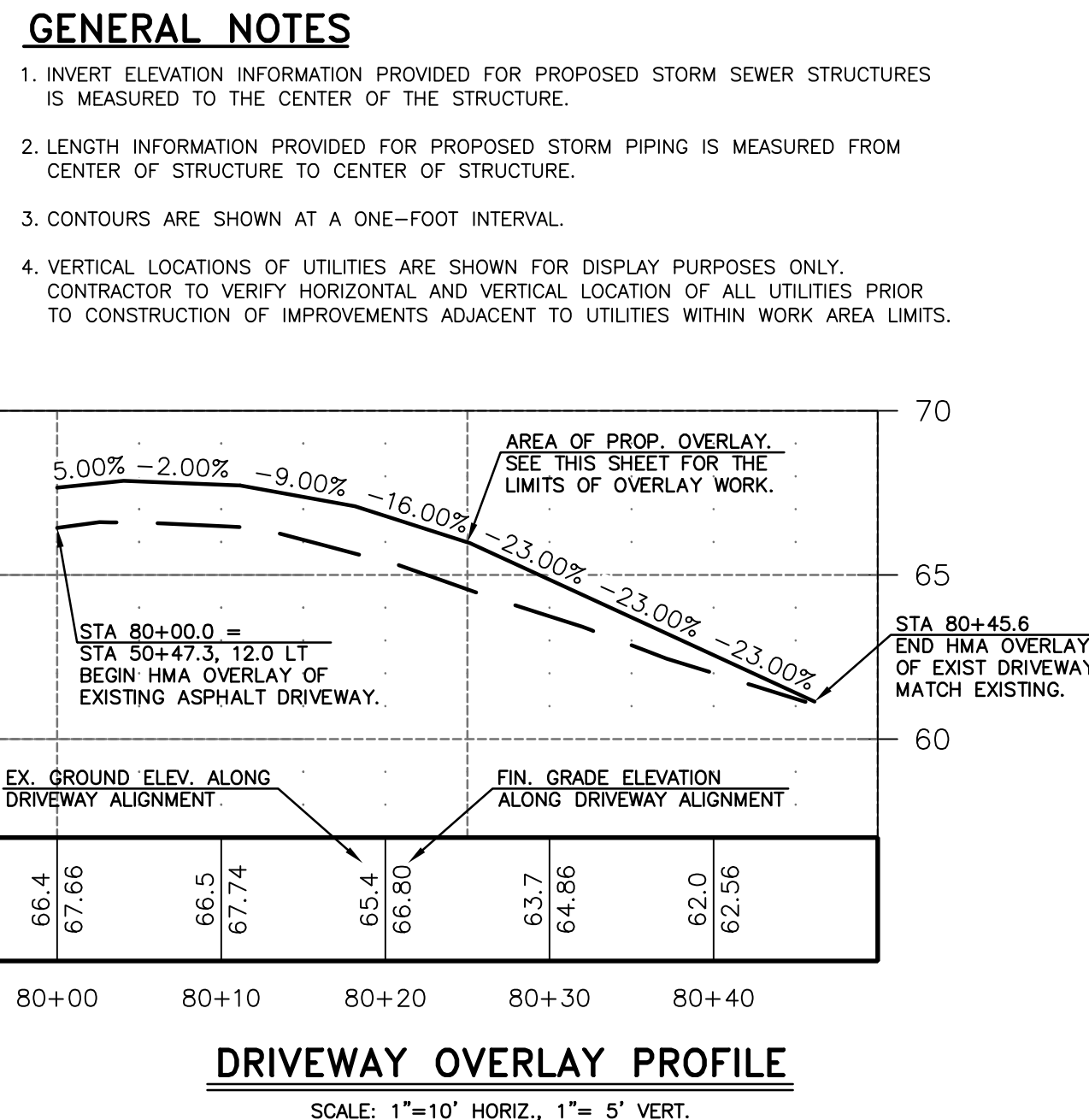
UPSTREAM WALL FACE ALIGNMENT

Number	Radius	Length	Line/Chord Direction	Starting Station	Starting Coordinates	Ending Coordinates
L9		6.00	N 56°18'09" W	0+00.00	N = 337,991.13 E = 1,277,083.74	N = 337,994.46 E = 1,277,078.75
L10		7.34	N 03°41'09" E	0+06.00	N = 337,994.46 E = 1,277,078.75	N = 338,001.78 E = 1,277,079.22
L11		6.00	N 63°42'34" E	0+13.34	N = 338,001.78 E = 1,277,079.22	N = 338,004.44 E = 1,277,084.60

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ROADWAY ALIGNMENT						
Number	Radius	Length	Line/Chord Direction	Starting Station	Starting Coordinates	Ending Coordinates
L4		21.01	N 53°34'47" E	50+00.00	N = 337,930.89 E = 1,277,021.69	N = 337,943.36 E = 1,277,038.59
C1	56.00	123.63	N 09°39'52" W	50+21.01	N = 337,943.36 E = 1,277,021.80	N = 338,041.95 E = 1,277,021.80
L5		22.29	N 72°54'30" W	51+44.63	N = 338,041.95 E = 1,277,021.80	N = 338,048.50 E = 1,277,000.50
DRIVEWAY ALIGNMENT						
Number	Radius	Length	Line/Chord Direction	Starting Station	Starting Coordinates	Ending Coordinates
C2	140.00	45.60	N 81°34'58" W	80+00.00	N = 337,968.65 E = 1,276,999.74	N = 337,975.30 E = 1,276,999.74
SOUTH DITCH ALIGNMENT						
Number	Radius	Length	Line/Chord Direction	Starting Station	Starting Coordinates	Ending Coordinates
L12		36.64	N 31°25'47" E	30+00.00	N = 337,954.01 E = 1,277,071.17	N = 337,985.28 E = 1,277,090.27
C3	5.00	2.41	N 17°37'48" E	30+36.64	N = 337,985.28 E = 1,277,090.99	N = 337,987.55 E = 1,277,090.99
L13		7.02	N 03°49'48" E	30+39.05	N = 337,987.55 E = 1,277,090.99	N = 337,994.56 E = 1,277,091.46
NORTH DITCH ALIGNMENT						
Number	Radius	Length	Line/Chord Direction	Starting Station	Starting Coordinates	Ending Coordinates
L14		6.87	N 03°42'34" E	40+00.00	N = 338,000.01 E = 1,277,092.40	N = 338,006.86 E = 1,277,092.85
C4	5.00	5.51	N 27°51'33" W	40+06.87	N = 338,006.86 E = 1,277,090.40	N = 338,011.49 E = 1,277,090.40
L15		34.69	N 59°25'41" W	40+12.38	N = 338,011.49 E = 1,277,090.40	N = 338,029.13 E = 1,277,060.54



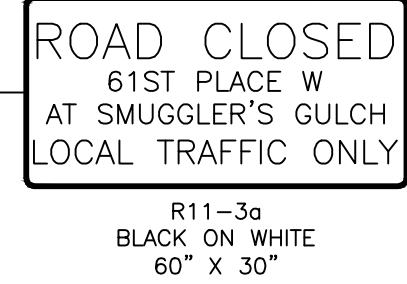
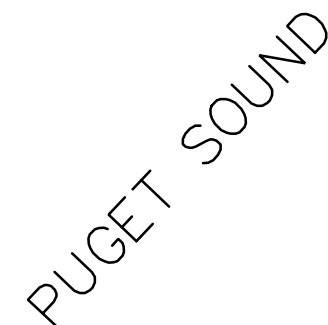
SHEET NO.

C8

OF

15

TOTAL SHEETS



1. THE TRAFFIC CONTROL AND DETOUR STRATEGY SHOWN ON THIS DRAWING IS ONE APPROACH. THE CONTRACTOR MAY SUBMIT AN ALTERNATE PLAN WITH CONTRACTOR-DEFINED TRAFFIC CONTROL PER STANDARD SPECIFICATION 1-10.2(2).
2. ALL TEMPORARY ROADWAY STRIPING AND SIGNING SHALL BE SHOWN ON THE CONTRACTOR-PROVIDED TRAFFIC CONTROL PLAN.
3. COORDINATE IMPROVEMENTS WITH ALL UTILITY WORK.
4. THE CONTRACTOR SHALL ADJUST CHANNELIZATION DEVICES AS NEEDED TO SUIT TRAFFIC AND VISIBILITY CONDITIONS. REVISED LAYOUTS SHALL BE APPROVED BY THE PROJECT ENGINEER.
5. SIGNS WITHIN WORK AREAS SHALL BE IN ACCORDANCE WITH WSDOT STANDARD PLANS AND THE MUTCD.
6. ACCOMPLISH ROAD CLOSURES PER STANDARD PLANS K-80.20-00.

1. THIS PLAN ASSUMES DROP-OFFS OF MORE THAN TWO INCHES WILL NOT BE EXPOSED TO TRAFFIC DURING NON-WORKING HOURS. SEE STANDARD SPECIFICATION 1-07.23(1) FOR FURTHER GUIDANCE.
2. MINIMUM TEMPORARY ACCESS LANE WIDTH IS 10 FEET. ACTUAL WIDTHS AND OFFSETS MAY VARY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ADJUST THE WORK AS NECESSARY WITH APPROVAL FROM THE PROJECT ENGINEER.
3. "MOTORCYCLES USE EXTREME CAUTION" SIGNS (W21-1701) SHALL BE INSTALLED THROUGHOUT THE WORK ZONE WHEN THE FOLLOWING SIGNIFICANT CONDITIONS EXIST:
 - GROOVED PAVEMENT
 - ABRUPT LANE EDGE
 - STEEL PLATES
 - LOOSE GRAVEL OR EARTH

SPECIFIC SIGNS FOR EACH OF THE CONDITIONS NOTED ABOVE SHALL BE INSTALLED ALONG WITH A "MOTORCYCLES USE EXTREME CAUTION" SIGN.

5. FLAGGER STATIONS SHALL BE ILLUMINATED DURING HOURS OF DARKNESS.
6. PROVISIONS MUST BE MADE BY THE CONTRACTOR TO ENSURE DAILY ACCESS AND DELIVERY OF GOODS AND SERVICES TO THE EXISTING ADJACENT RESIDENCES ARE MAINTAINED THROUGHOUT THE CONSTRUCTION WITH NO DELAYS BEING CREATED.
7. IF SIGNS ARE IN PLACE FOR MORE THAN THREE WORKING DAYS, THEN THEY SHALL BE POST MOUNTED. SEE STANDARD PLAN K-80.10-00.
8. OTHER WARNING SIGNS, SUCH AS LOOSE GRAVEL, BUMP, ABRUPT PAVEMENT EDGE, ETC. MAY BE USED AS NECESSARY.
9. CONTRACTOR MAY USE LARGER SIGNS THAN SHOWN, BUT QUANTITIES SHALL ONLY BE PAID FOR AS SPECIFIED.

Preliminary - Not For Construction

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PLAN PRINTED AT
11"x17" DEPICTS A 1:2
SCALE RATIO
(I.E. 1"=10' TO 1"=20')

Scale: Horiz: 1" = 100' Vert: —
Designed By:
Inspected By:
W.O. No.:
Date: 10-9-2015



11930 Cyrus Way Mukilteo, Washington 98275
425 355-4141 FAX 425 347-4544
<http://ci.mukilteo.wa.us>

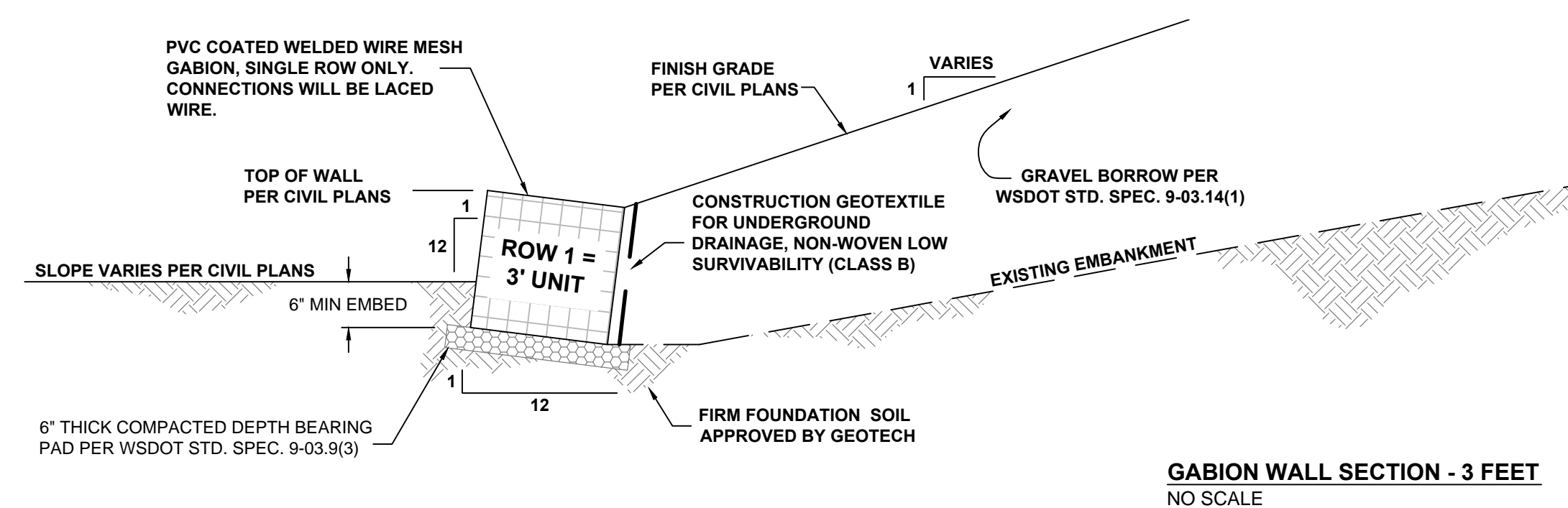


61st Place West Culvert Improvement Project

TRAFFIC CONTROL AND
CLASS "A" SIGN PLAN

**TUTTLE ENGINEERING
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SHEET NO.
C9
OF
15
TOTAL SHEETS



NOTES:

1. THE FOLLOWING DESIGN VALUES WERE USED:
INTERNAL ANGLE OF FRICTION FOR RETAINED SOIL = 32 DEGREES
UNIT WEIGHT OF SOIL = 125 LB/CU FT
MAXIMUM WALL HEIGHT = 9' INCLUDING EMBEDMENT
BATTER OF WALL = 1H: 12V
BACKFILL SLOPE = 3H:1V WITH 250 PSF TRAFFIC LOAD
EMBEDMENT DEPTH = AS SHOWN
2. CONTRACTOR TO VERIFY ALL LOCATIONS, ELEVATIONS, AND DIMENSIONS.

GENERAL NOTES:

WALL UNITS:

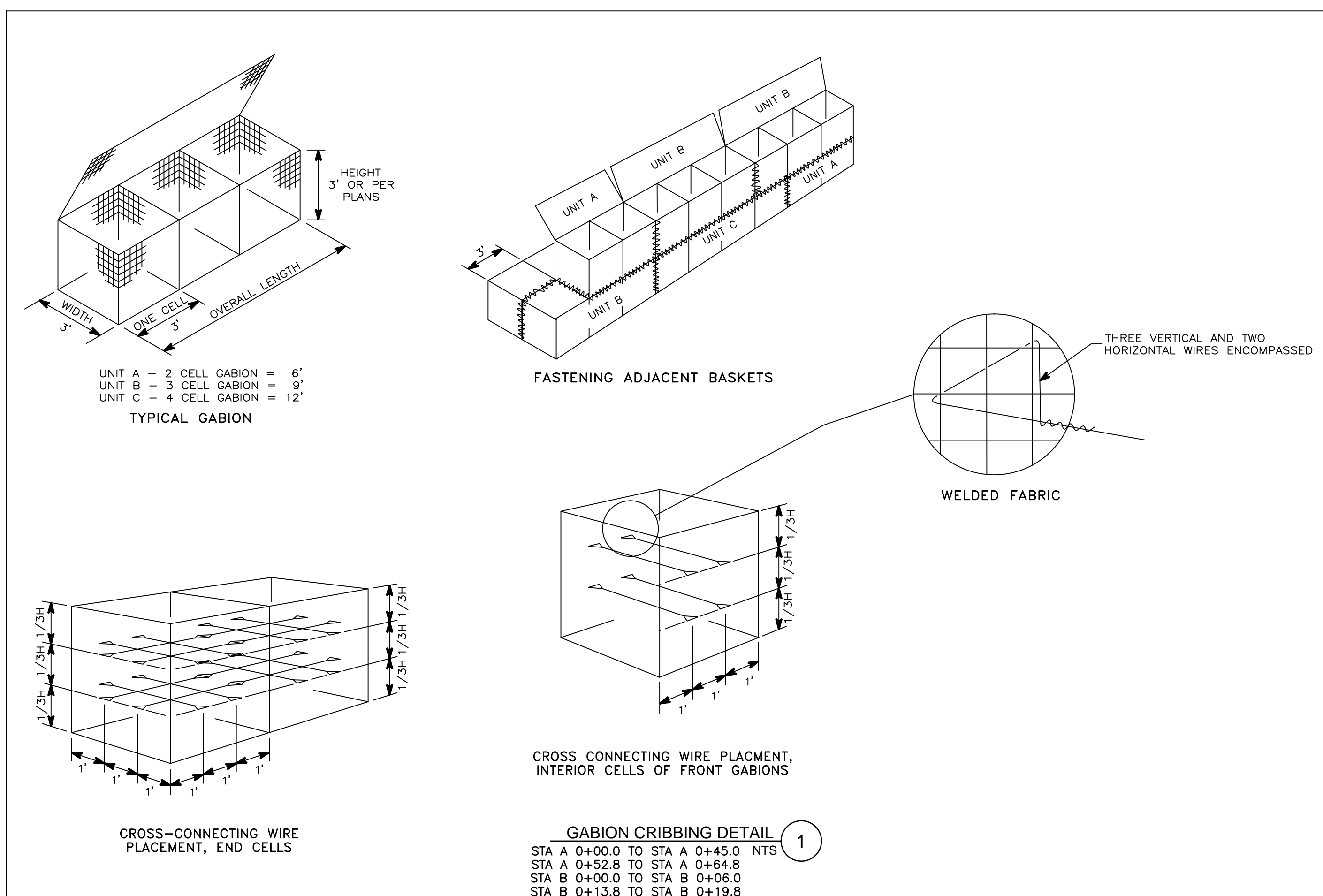
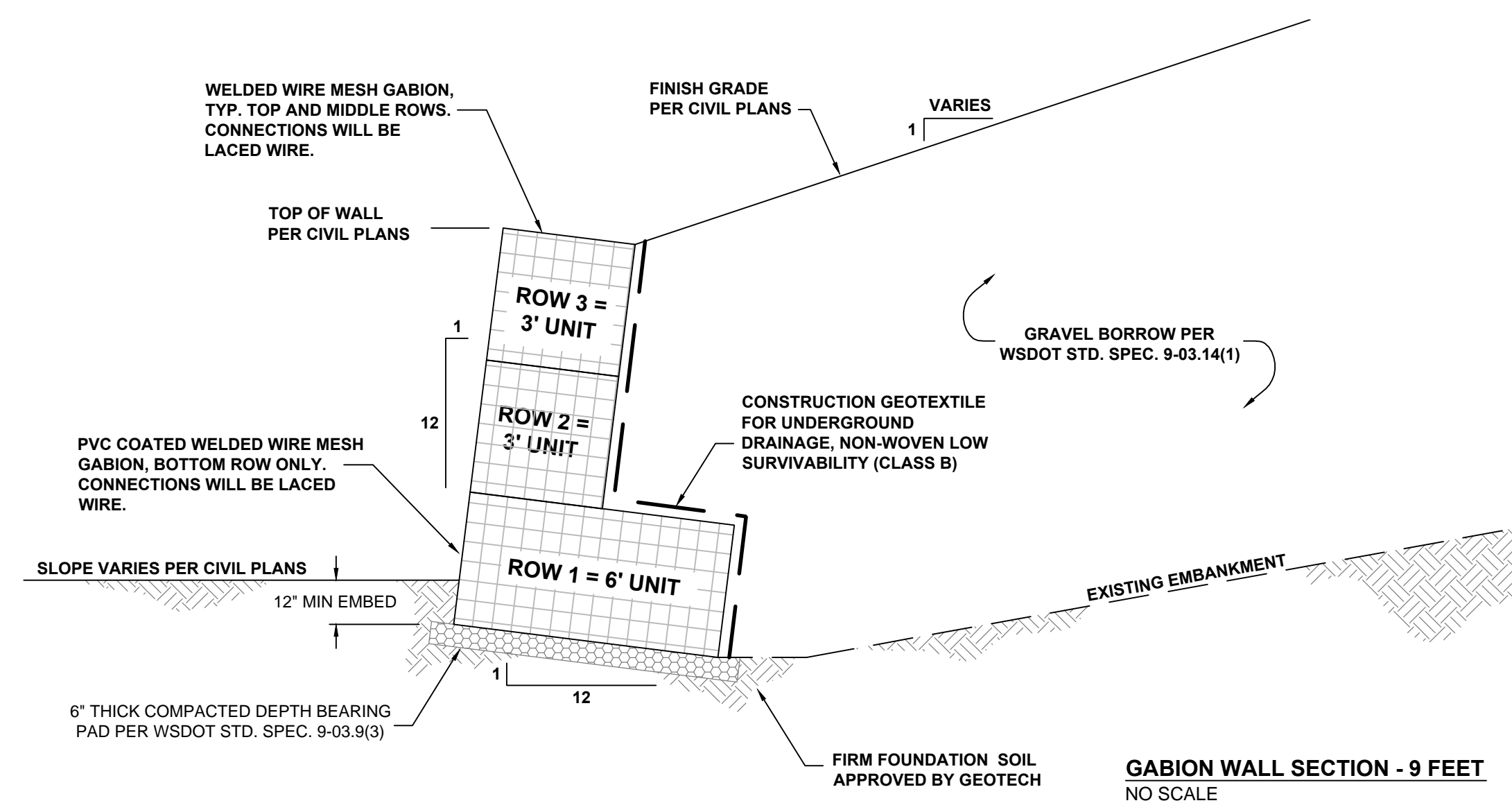
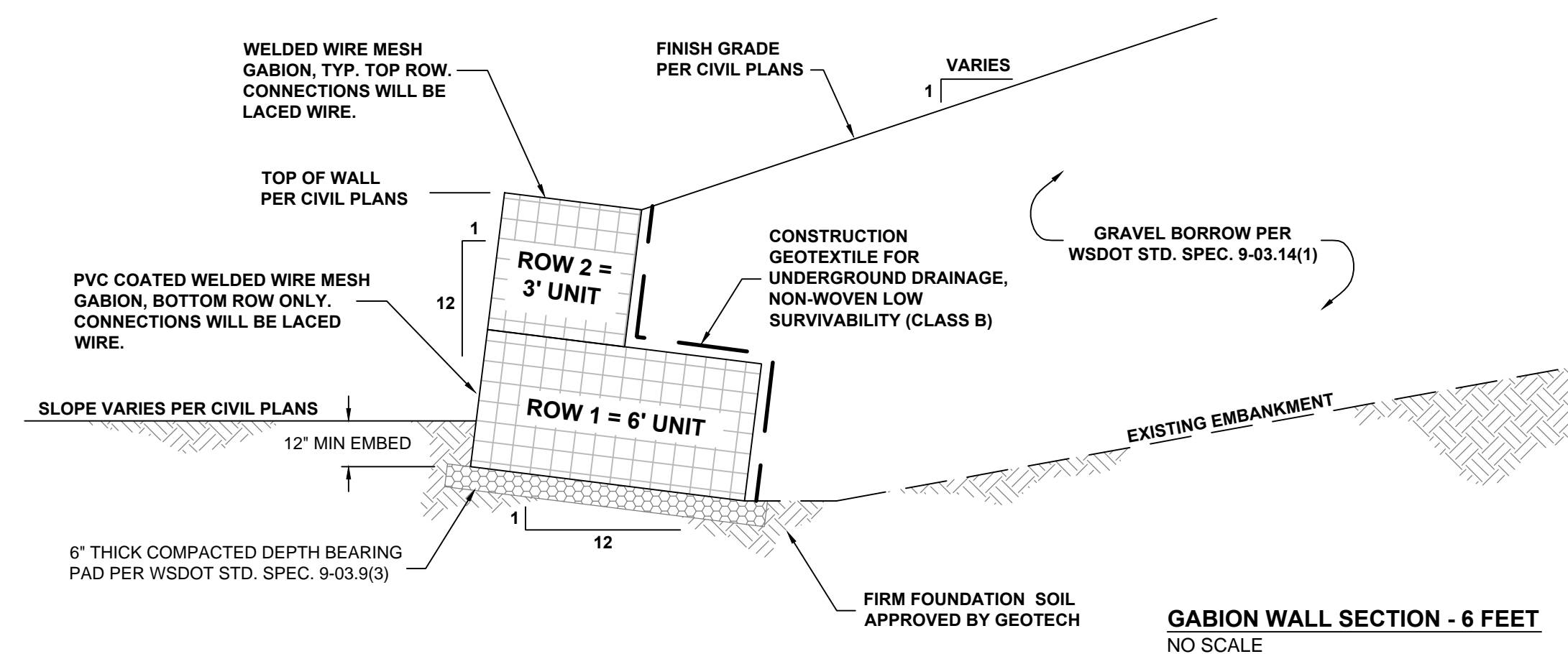
1. TOP UNIT MAY BE ALTERNATED WITH 1/2 HEIGHT UNITS.

BEARING PAD CONSTRUCTION:

1. FOUNDATION SOIL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MODIFIED PROCTOR; MAXIMUM DENSITY AS DEFINED BY ASTM D-1557, OR OTHERWISE APPROVED BY GEOTECHNICAL ENGINEER.
2. BEARING PAD MATERIAL SHALL BE COMPACTED TO PROVIDE A HARD SURFACE ON WHICH TO PLACE THE FIRST COURSE OF UNITS. COMPACTION WILL BE WITH MECHANICAL PLATE COMPACTORS TO AT LEAST 95 PERCENT OF ASTM D-1557.
3. BEARING PAD SHALL BE PREPARED TO ENSURE INTIMATE CONTACT OF UNITS WITH PAD.

COMMON BACKFILL (RETAINED SOIL):

1. BACKFILL SHALL BE COMPACTED TO A MINIMUM 95 PERCENT OF ASTM D-1557.



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XREF Filename: _____ Filename: C:\0 - Mail Details.dwg	Drawn By: _____ TH	Surveyed By: APSJ Date: MAY 2015 Field Bk/Pg: _____ Datum: NAVD 88	Recorded Survey: _____ AF - _____ Vol/Bk _____ Page _____	Aerial Mapping & Control Survey Firm: _____ Date: _____ Date: _____ GIS Cntl Pnts: _____ Field Bk/Pg: _____	Constructed By: _____
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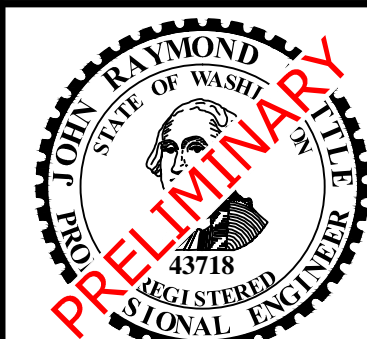
PLAN PRINTED AT
11"x17" DEPICTS A 1:2
SCALE RATIO
(I.E. 1"=10' TO 1"=20')

Scale:	
Horiz: —	
Vert: —	
Designed By:	
Inspected By:	
W.O. No.:	
Date:	10-9-2015



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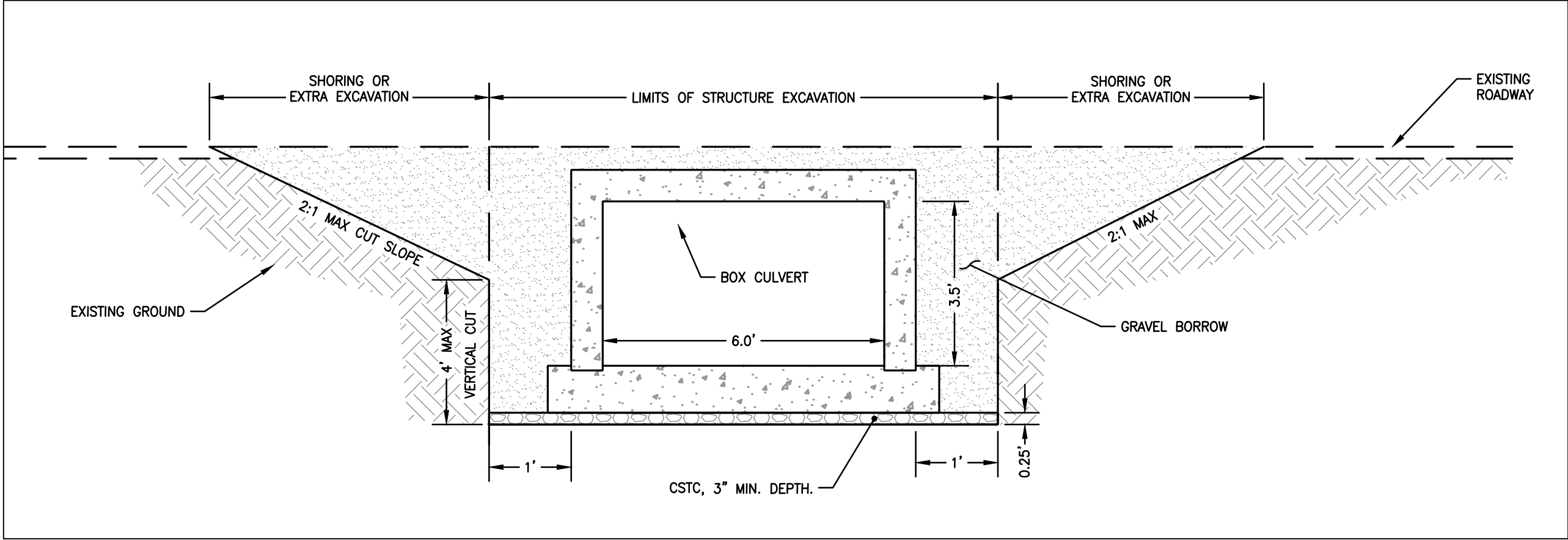
61st Place West Culvert Improvement Project

STRUCTURAL DETAILS

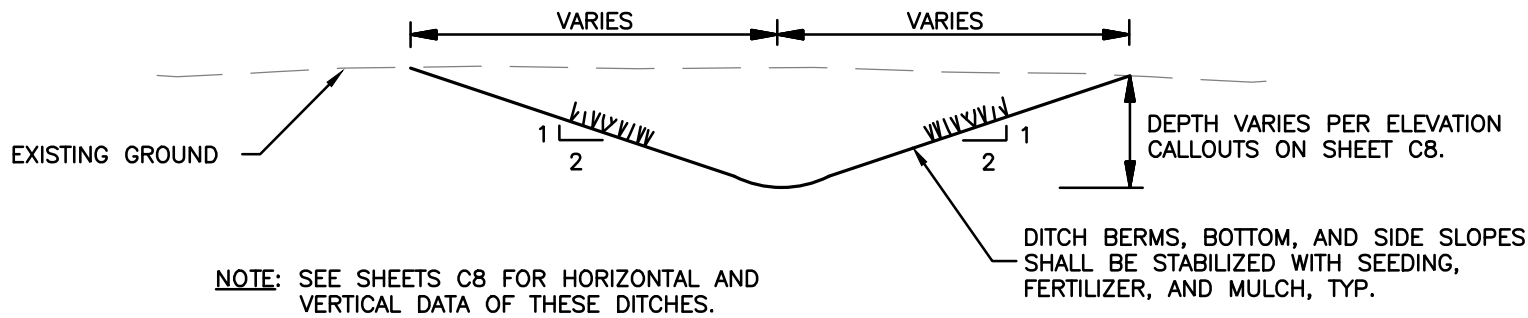
SHEET NO.
C10
OF
15
TOTAL SHEETS

Preliminary - Not For Construction

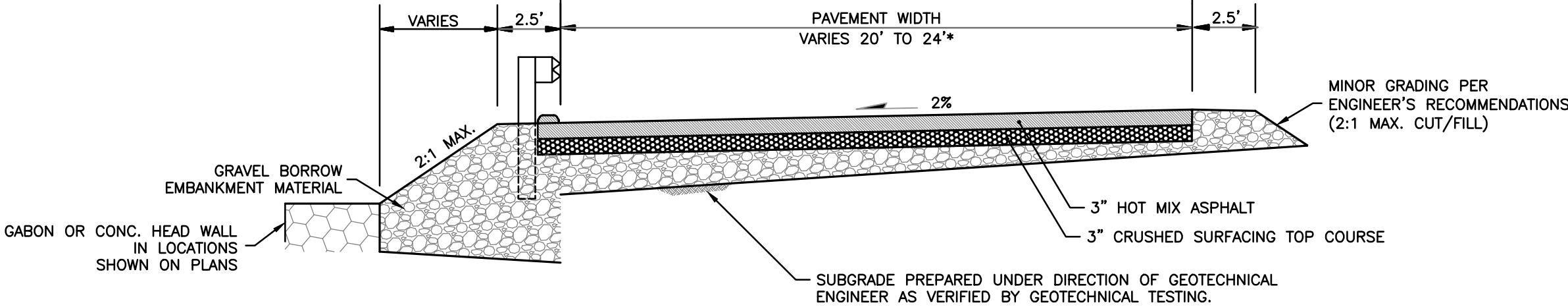
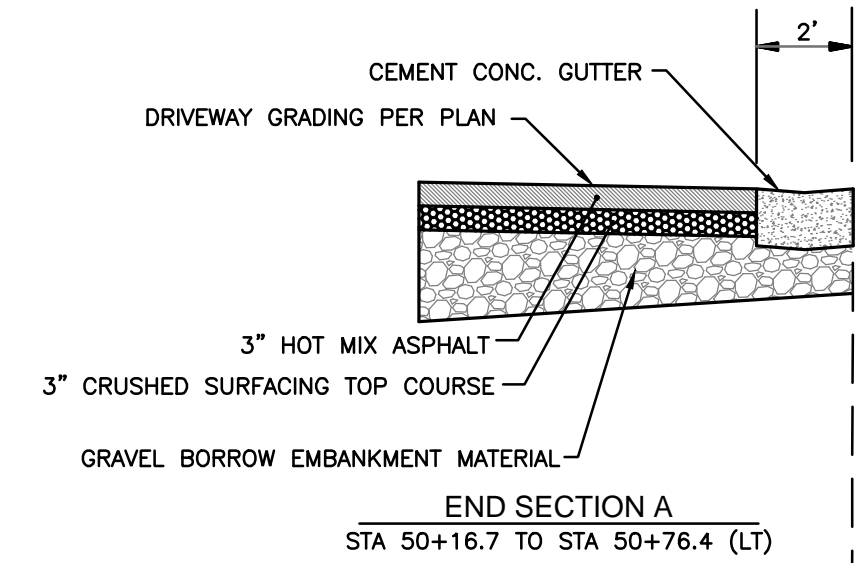
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Aerial Mapping & Control Survey	Form:	Date:	Field BK/Pg:
Recorded Survey:	SNOMISH COUNTY	AF-	Page
Surveyed By: AFSI	Date: MAY 2015	Field BK/Pg:	Drawn: WAD 88
Drawn By: JTH	Checked By: JST		
File Name:	011 - Details and Notes.dwg		



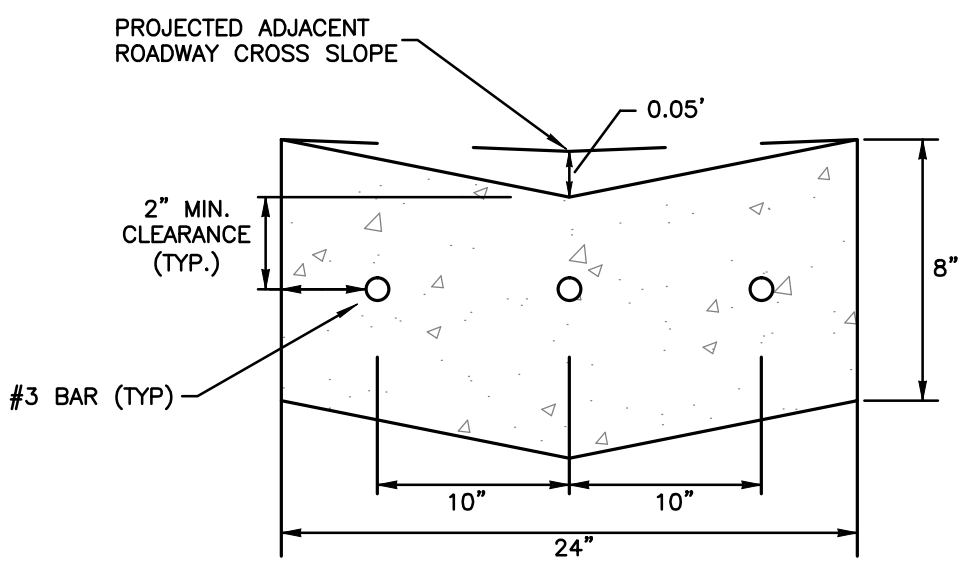
TYPICAL BOX CULVERT CUT SECTION
NTS 1



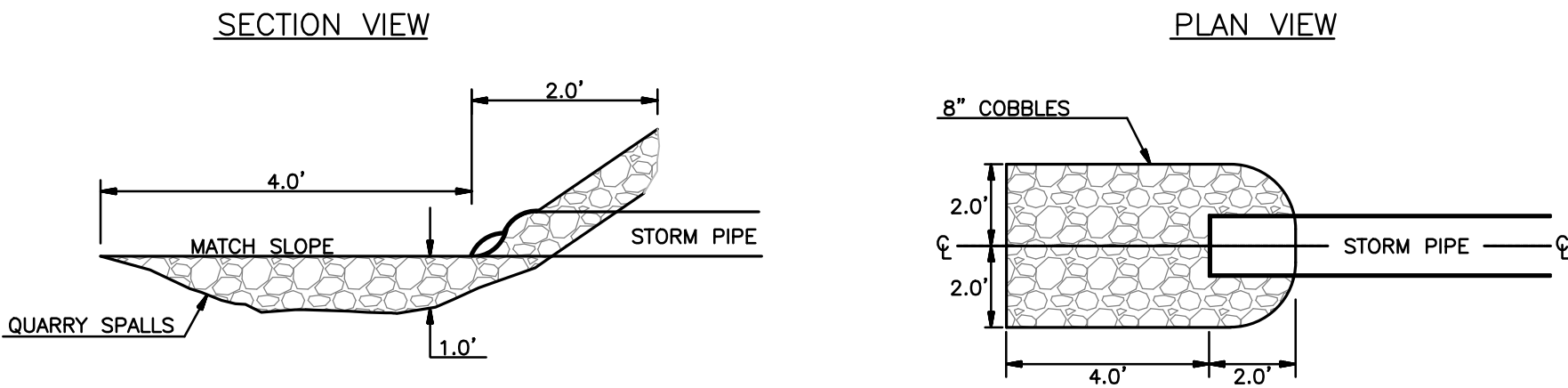
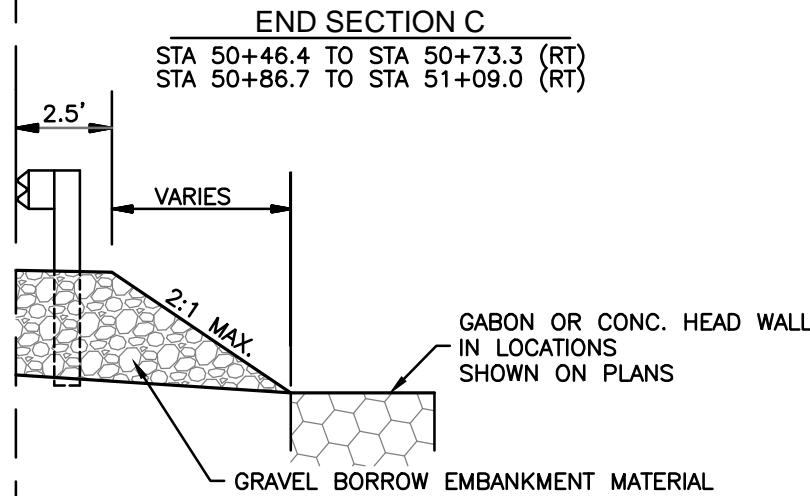
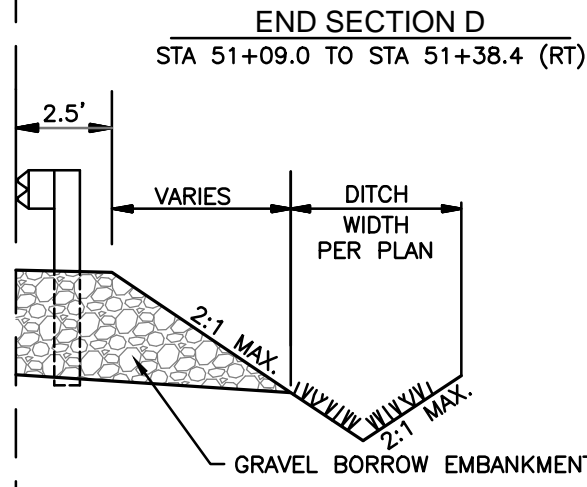
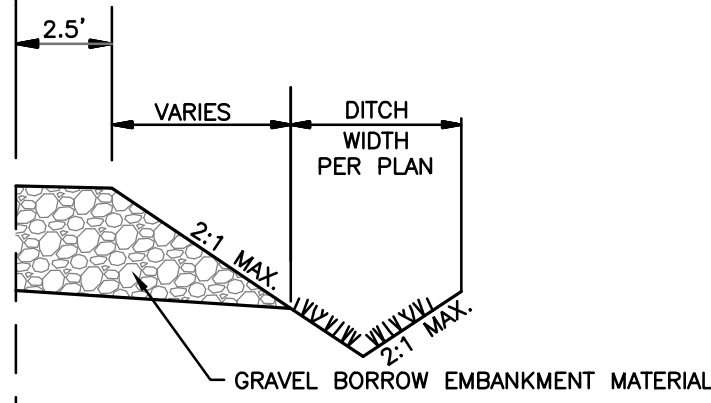
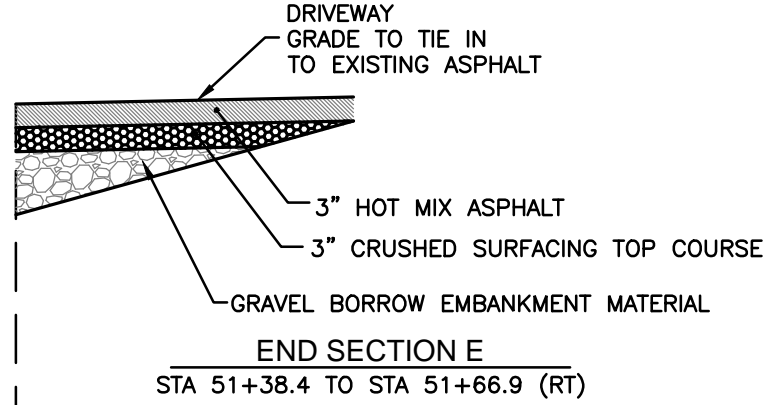
CONVEYANCE DITCH DETAIL
NTS 3



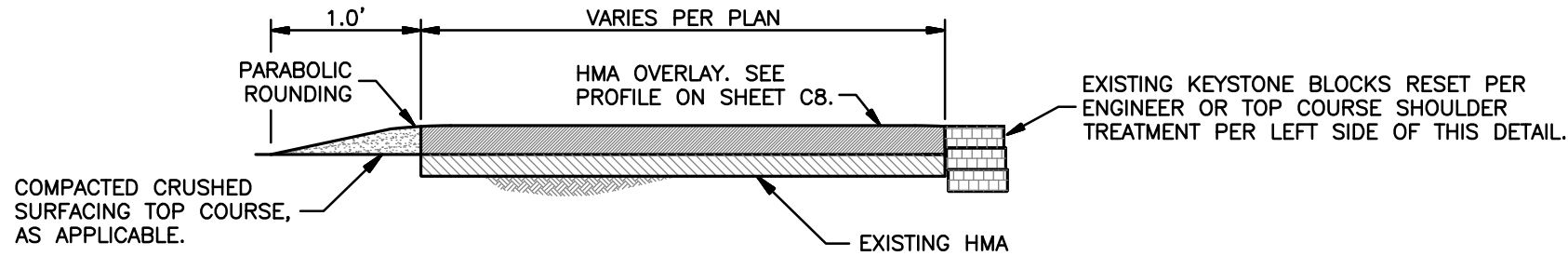
ROADWAY SECTION DETAIL
NTS 4



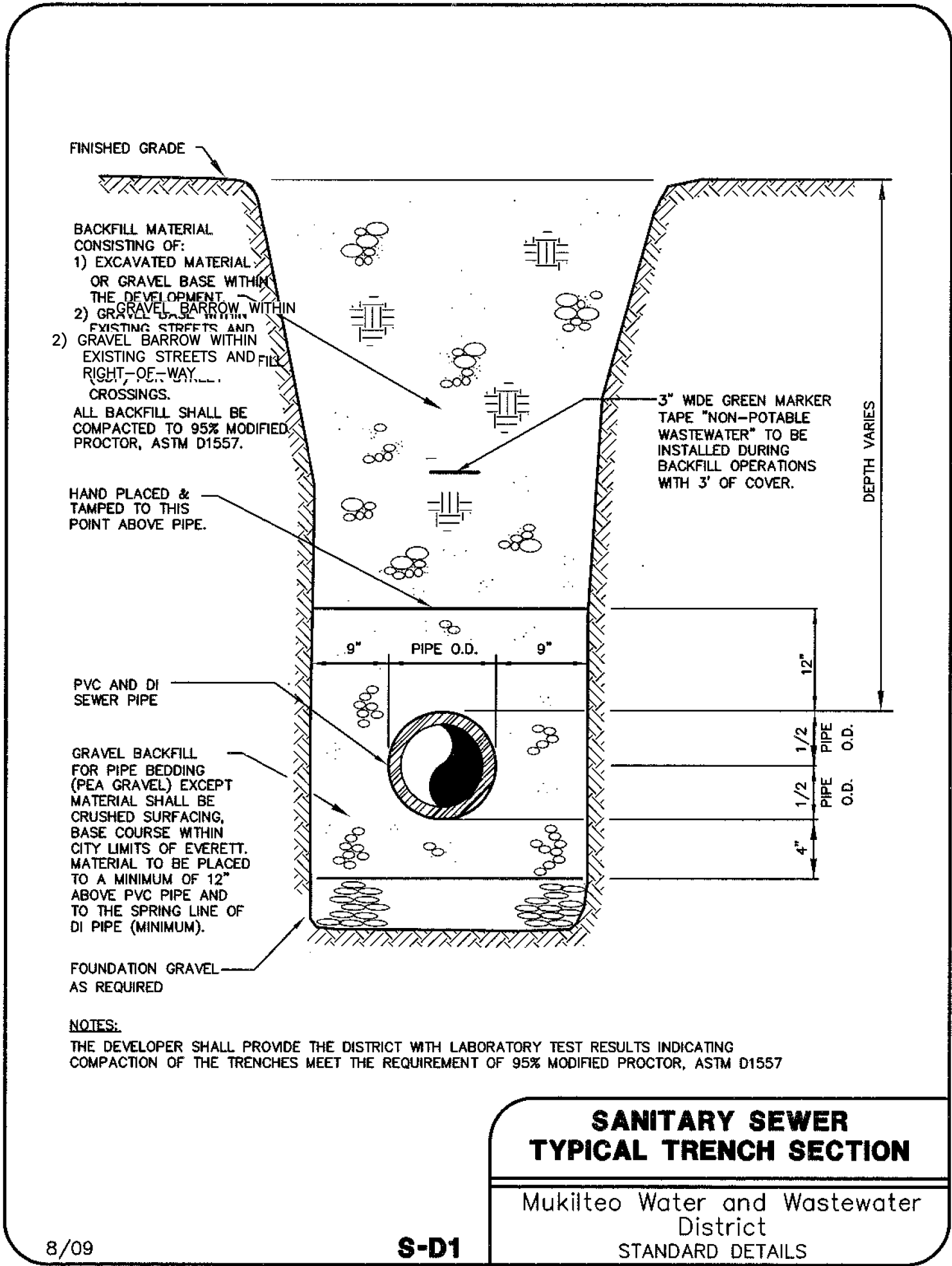
CEMENT CONC. GUTTER DETAIL
NTS 2



QUARRY SPALL PROTECTION DETAIL
NTS 6



DRIVEWAY OVERLAY DETAIL
NTS 7



SANITARY SEWER TYPICAL TRENCH SECTION DETAIL
NTS 5

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275 West Rio Vista, Suite 1, Burlington, WA 98233 | P: (360) 899-5953
M: (360) 920-7098 | E: TTT@TUTTLE-TEAM.COM

Scale:	Horiz: — Vert: —
Designed By:	
Inspected By:	
W.D. No.:	
Date:	10-9-2015



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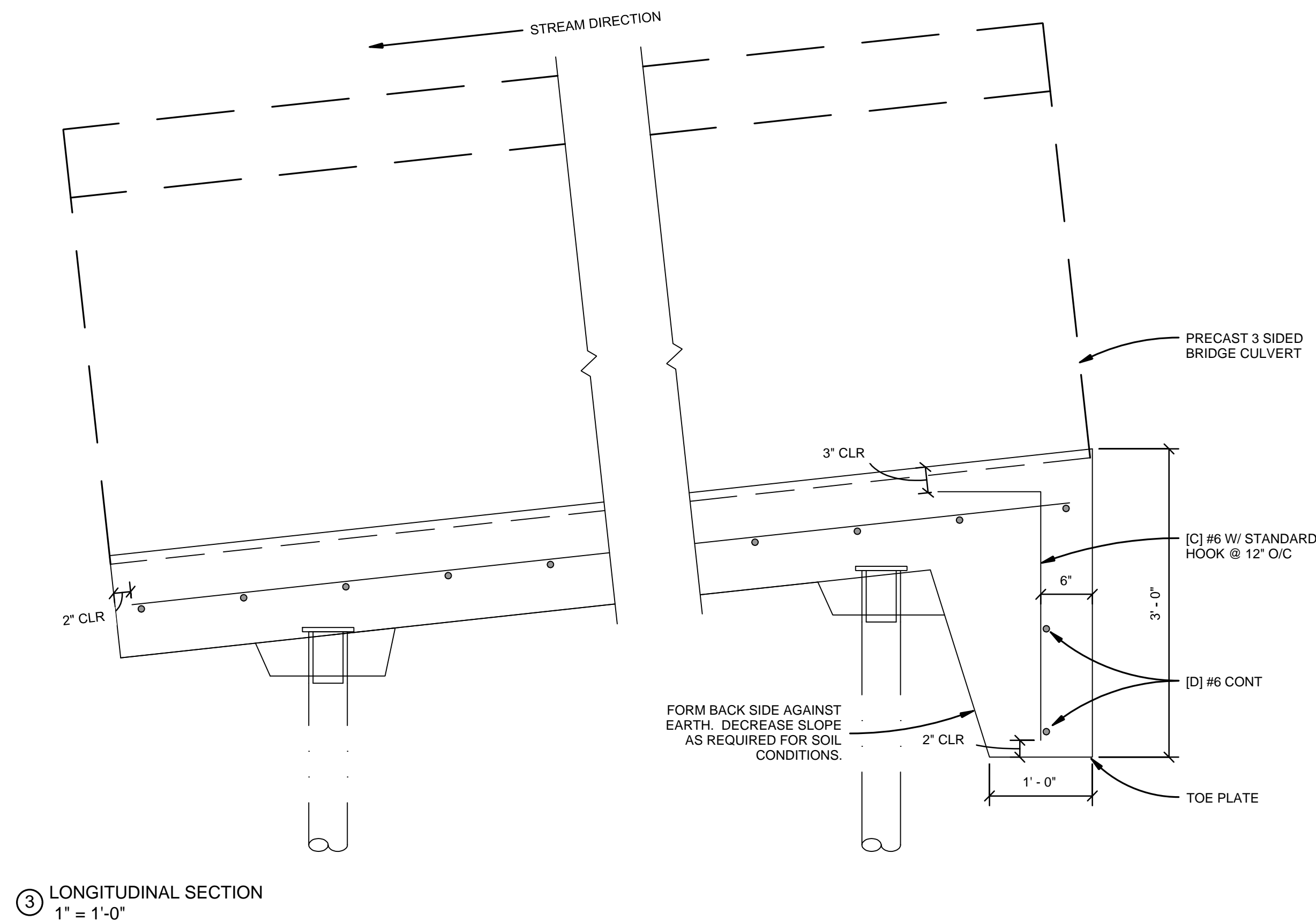
61st Place West
Culvert Improvement Project

DETAILS

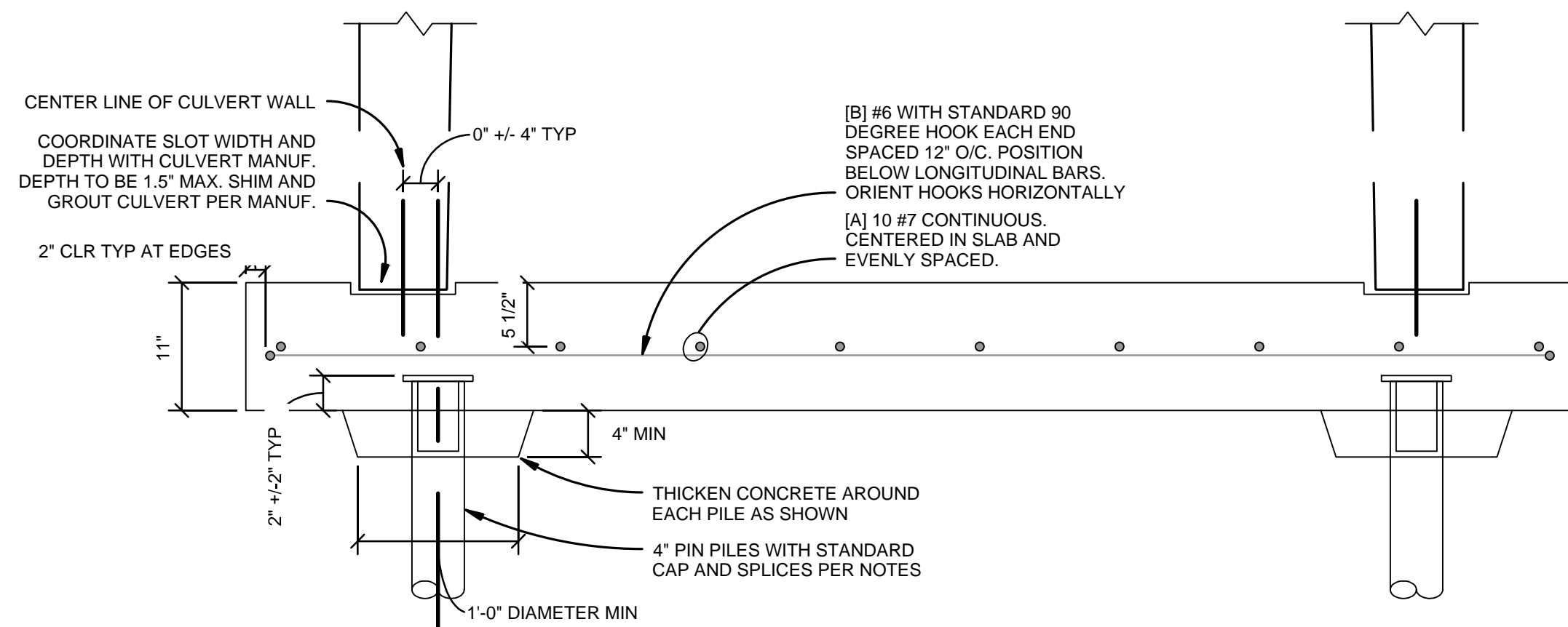
SHEET NO.
C11
OF
15
TOTAL SHEETS

Preliminary - Not For Construction

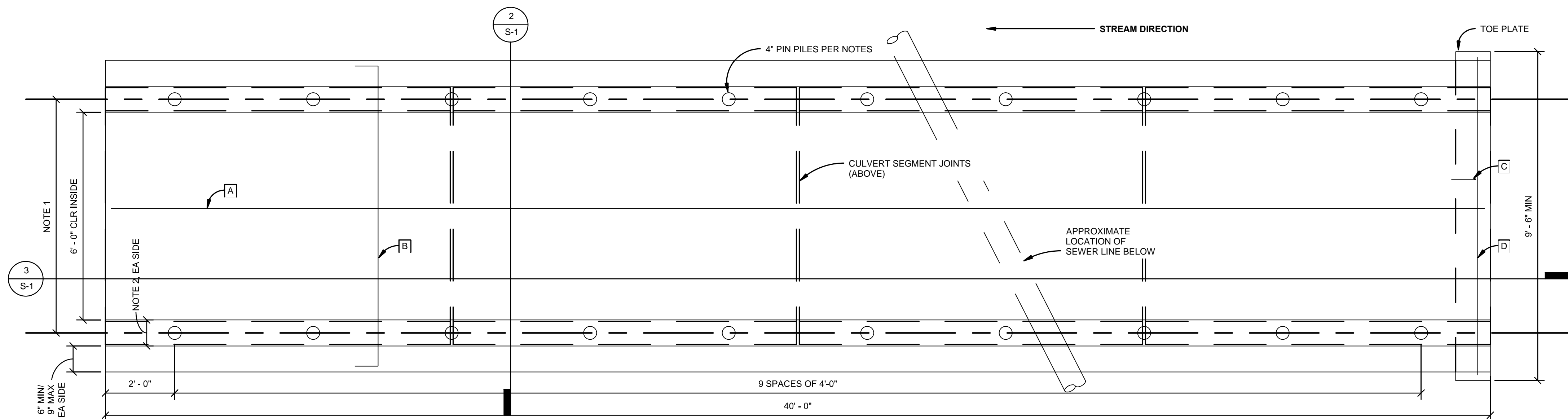
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	Checked By: <u>JRT</u> Filename: C12 - Culvert Foundation Detailing	Field BK/Pg: _____ Datum: NAVD 88			



③ LONGITUDINAL SECTION
1" = 1'-0"



② SECTION
1" = 1'-0"



① CULVERT PILE CAP SLAB PLAN
1/2" = 1'-0"

[illegible]

<p>PLAN PRINTED AT 11"x17" DEPICTS A 1:2 SCALE RATIO (I.E. 1"=10' TO 1"=20')</p>	<p>Scale: Horiz: — Vert: —</p>
	<p>Designed By: _____</p>
	<p>Inspected By: _____</p>
	<p>W.O. No.: _____</p>
	<p>Date: 10-9-2015</p>



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CULVERT FOUNDATION DETAILS

SHEET NO.

C12

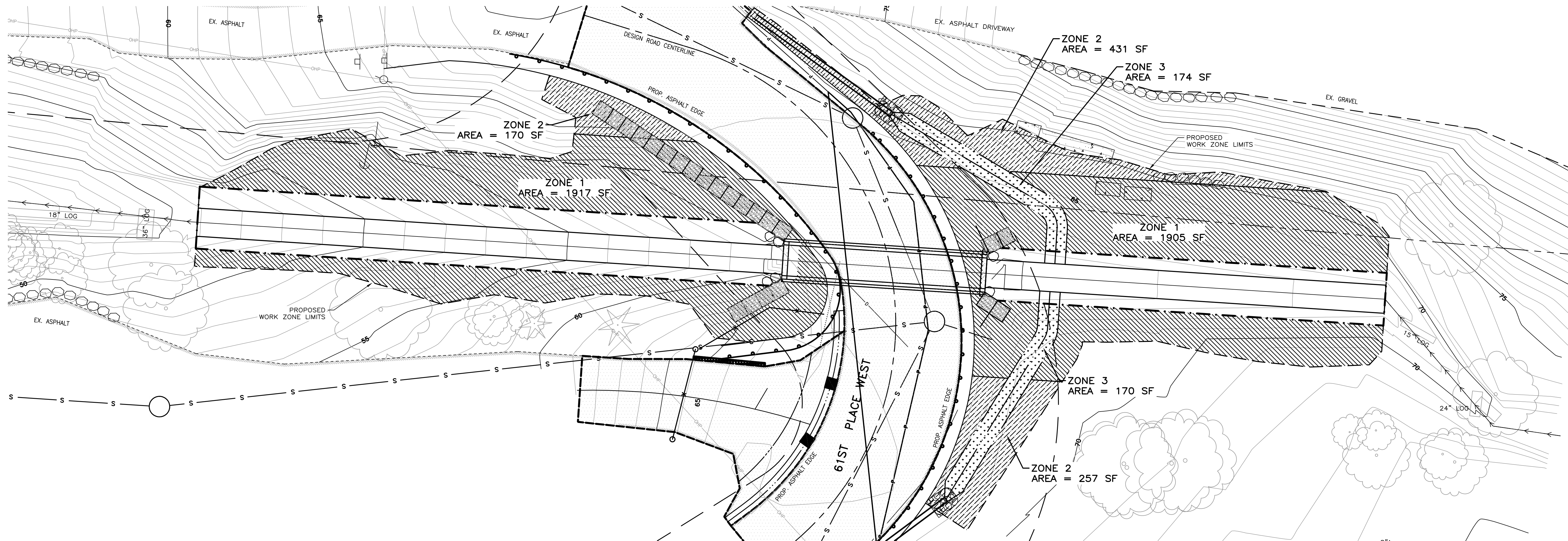
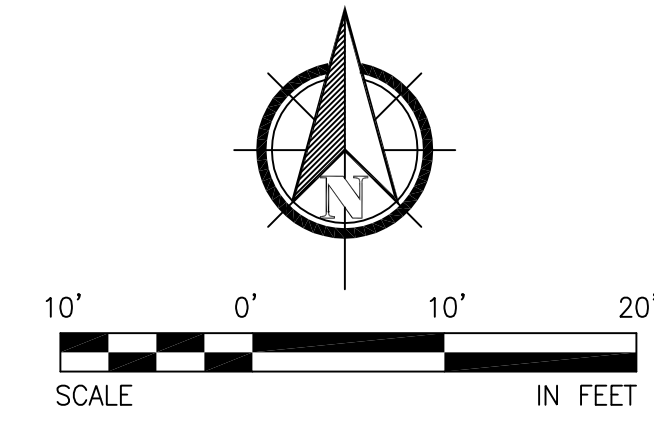
OF

15

TOTAL SHEETS



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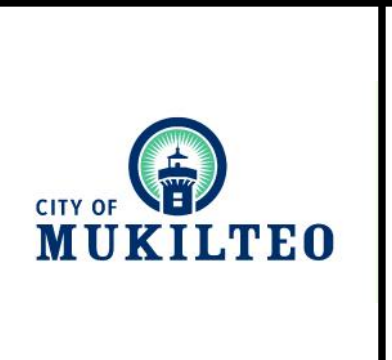


- PLANTING ZONES:
- ZONE 1 TOTAL COMBINED AREA = 3822 SF
 - ZONE 2 TOTAL COMBINED AREA = 688 SF
 - ZONE 3 TOTAL COMBINED AREA = 344 SF

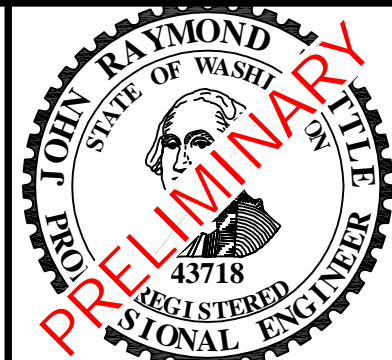
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Filepath:	Checked By:	Field Bk/Pg:	AF-	Date:	
61st Place Culvert Log Drawing\Plan Sheets\1-12 - Upland Planting Plan and Detailing	JST	Datum: NAD 88	Vol/Bk Page	Field Bk/Pg:	

NO.	DATE	BY	REVISION

PLAN PRINTED AT 11"x17" DEPICTS A 1:2 SCALE RATIO (I.E. 1"=10' TO 1"=20')	Scale: Horiz: 1"=10' Vert: —
	Designed By:
	Inspected By:
	W.O. No.:
	Date: 10-12-2015



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UPLAND PLANTING PLAN

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M: (206) 890-7890 E: JTUTTLE@TUTTLETEAM.COM

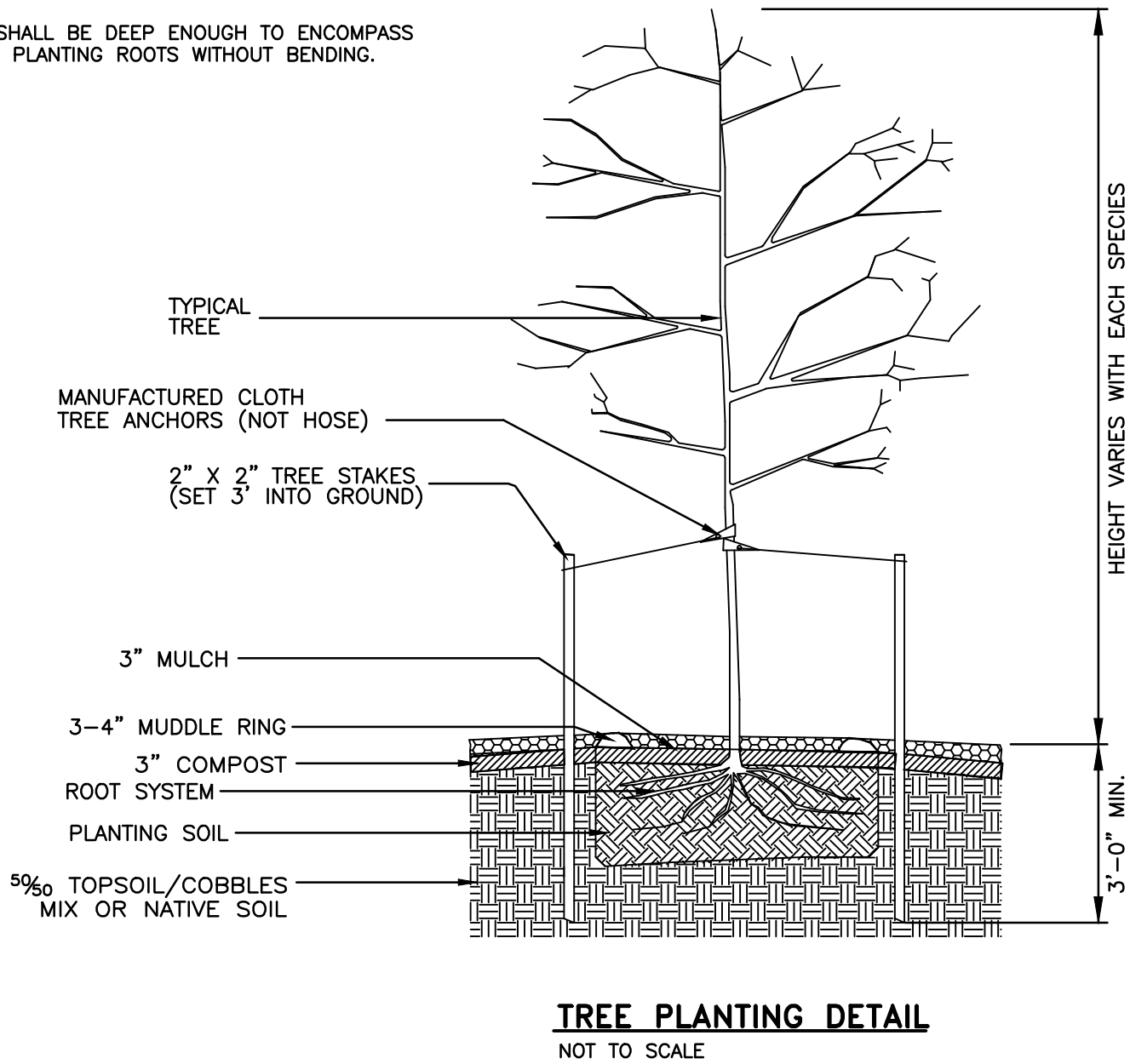
IN ASSOCIATION WITH

Northwest
Environmental Consulting, LLC

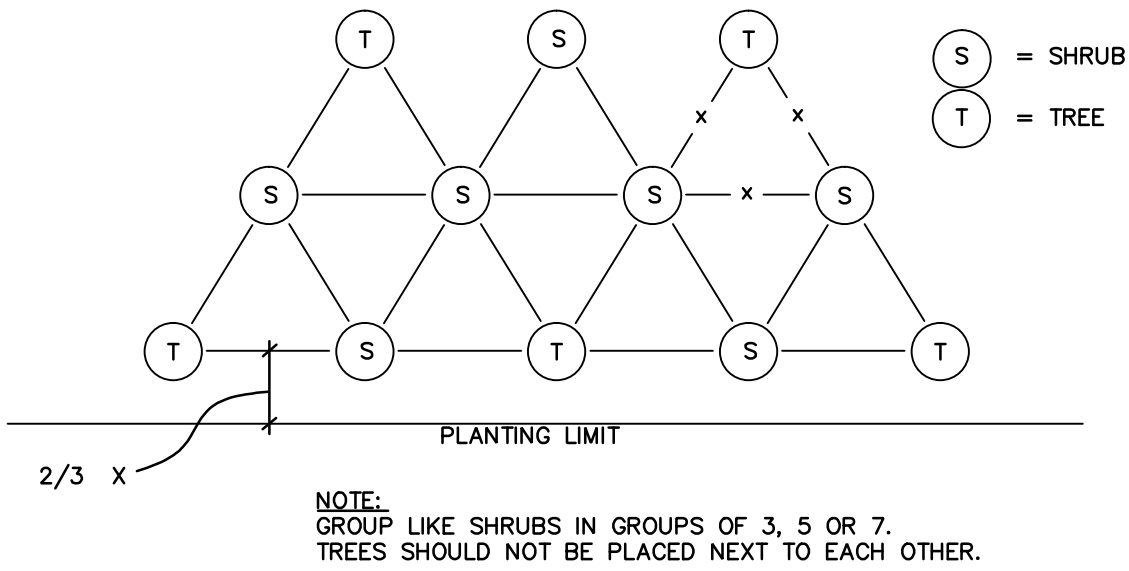
Preliminary - Not For Construction

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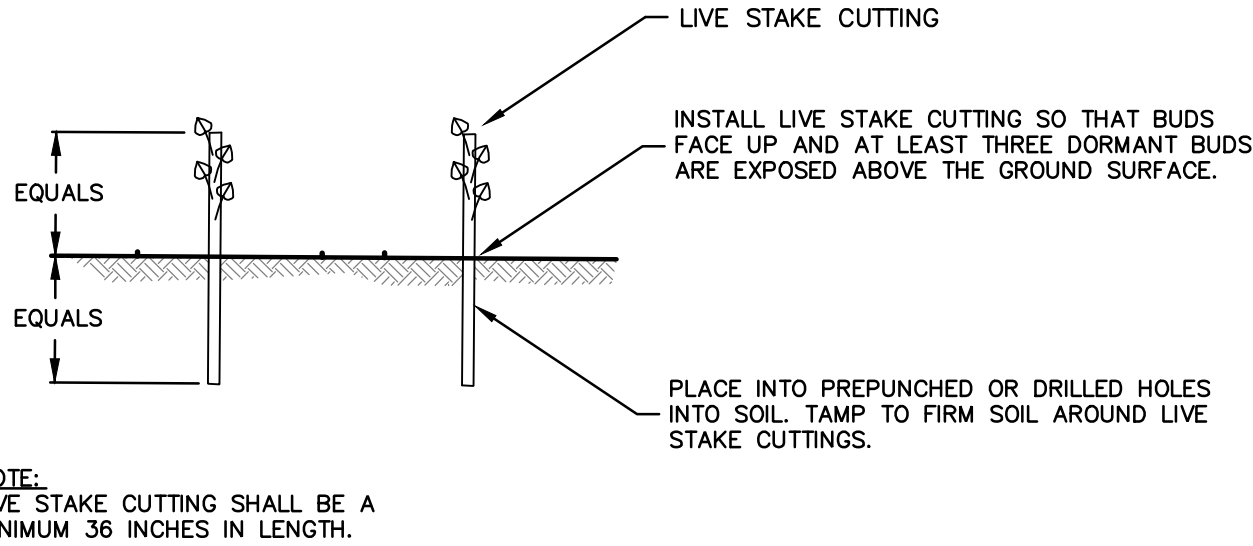
1. ALL TREES OVER 1-1/4" DIAMETER ARE TO BE STAKED (2 PER TREE).
2. PLANTING PIT SHALL BE DEEP ENOUGH TO ENCOMPASS ROOT BALL OR PLANTING ROOTS WITHOUT BENDING.



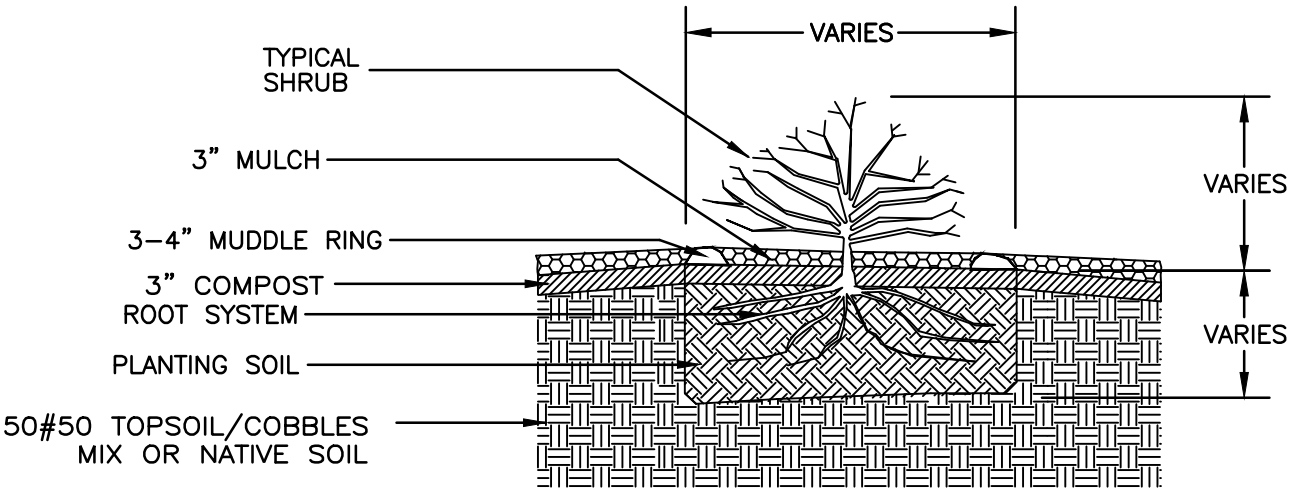
TREE PLANTING DETAIL
NOT TO SCALE



TYPICAL PLANT SPACING DETAIL
X = PLANT SPACING



LIVE STAKE INSTALLATION DETAIL
NOT TO SCALE



SHRUB PLANTING DETAIL
NOT TO SCALE

TREE AND SHRUB PLANTING SCHEDULE

SEE SHEET P1 FOR AREAS

Common Name	Scientific Name	Minimum Height	Spacing on center	Zone 1 Qty	Zone 2 Qty	Total
Trees						
Red Alder	Alnus rubra	18" Bare Root	4'		6	6
Douglas fir	Pseudotsuga menziesii	18" Bare Root	4'		4	4
Western red cedar	Thuja plicata	18" Bare Root	4'		4	4
Pacific willow	Salix lucida	36" Live Stake	4'	57		57
Scouler's willow	Salix scouleriana	36" Live State	4'	57		57
Shrubs						
Black Twinberry	Lonicera involucrata	12" Bare Root	4'	57		57
Salmonberry	Rubus spectabilis	12" Bare Root	4'		8	8
Redosier Dogwood	Cornus sericea	12" Bare Root	4'	68		68
Snowberry	Symphoricarpos albus	12" Bare Root	4'		8	8
Indian plum	Oemleria cerasiformis	12" Bare Root	4'		12	12
Vine maple	Acer circinatum	12" Bare Root	4'		8	8
Sword fern	Polystichum munitum	12" Bare Root	4'		8	8
Total				239	58	297

HYDROSEED MIX SCHEDULE

SEE SHEET P1 FOR AREAS

Zone 3 - Hydroseed Mix				
Common name	Scientific Name	% weight	% purity	% germination
Tall fescue	Festuca arundinacea	60-70	98	90
Creeping bentgrass	Agrostis palustris	10-15	98	85
Meadow foxtail	Alepocurus pratensis	10-15	90	80
Alsike clover	Trifolium hybridum	1-6	98	90
Redtop bentgrass	Agrostis alba	1-6	92	85
Application Rate: 60 pounds per acre				

SITE PREPARATION NOTE

1. REMOVE ALL LITTER AND WASTE DEBRIS FROM PROPOSED PLANTING AREAS AND BELOW THE ORDINARY HIGH WATER MARK PRIOR TO INITIATION OF PLANTING WORK.

GENERAL NOTES

1. THE PLANTING AREA INCLUDES THE ENTIRE GROUND SURFACE REGARDLESS OF SURFACE COVER BETWEEN PLANTS.
2. VERIFY IN-WATER WORK RESTRICTIONS WITH THE CITY OF MUKILTEO AND PROJECT PERMITTING PRIOR TO PLANTING.
3. FOR A NATURAL APPEARANCE, SPACE ALL PLANTS IRREGULARLY AT THE DESIGNATED LOCATIONS AND SPACING.
4. AFTER FINISH GRADING, 50% TOPSOIL AND COBBLE MIX PLACEMENT AND COIR MAT INSTALLATION COVER COIR MAT WITH 3" OF COMPOST, AND THEN PLANT AS SPECIFIED. ALL DISTURBED AREAS OUTSIDE COIR MAT, RESTORE AREA BY SPREADING 3 INCHES OF FINE COMPOST, FOLLOWED BY THREE INCHES OF MULCH, AND THEN PLANT AS SPECIFIED.
5. INTERMIX SPECIES IN GROUPS OF THREE, FIVE, OR SEVEN.
6. PLANT MATERIAL SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1-2001) FOR PLANT SIZE AND CONDITION FOR SPECIFIED MATERIAL.
7. PLANT MATERIAL SHALL BE LOCALLY GROWN (PUGET SOUND REGION) AND SHALL BE IN A HEALTHY AND VIGOROUS GROWING CONDITION.
8. PLANTS LOCATED ON THE PLAN ARE SCHEMATIC AND MAY NEED ADJUSTMENT TO MEET ACTUAL FIELD CONDITIONS. WHEN A CONFLICT WITH FIELD CONDITIONS IS APPARENT, CONSULT WITH THE PROJECT BIOLOGIST.

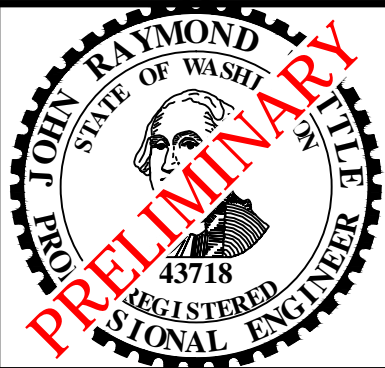
**TUTTLE ENGINEERING
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M: (360) 920-7030 E: JTUTTLE@TUTTLE-TEAM.COM

IN
ASSOCIATION
WITH

**Northwest
Environmental Consulting, LLC**

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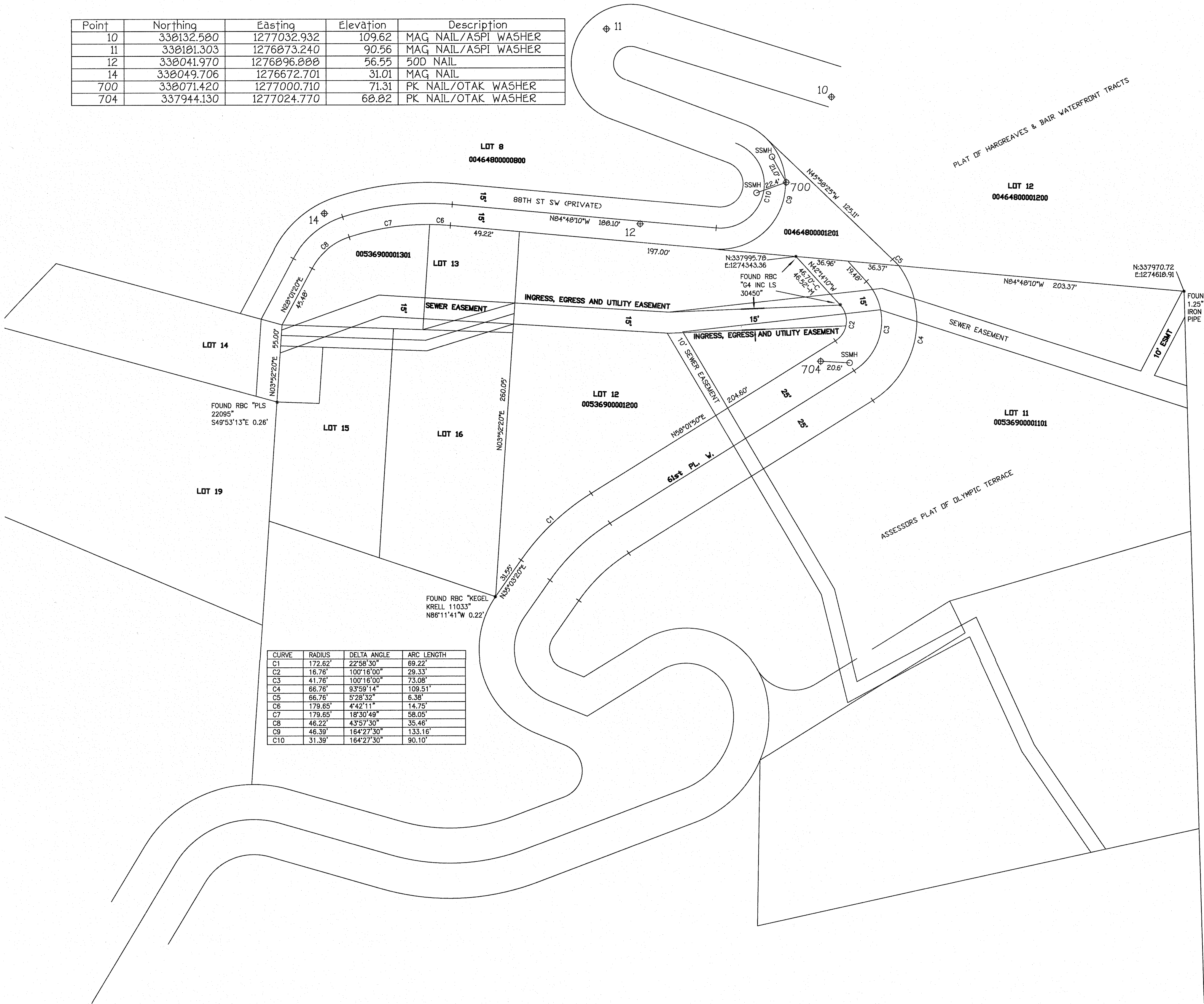
61st Place West
Culvert Improvement Project

PLANTING DETAILS

SE 1/4, NE 1/4, SEC. 17, TWP. 28 N., RGE. 4 E, W.M.

SURVEY CONTROL DIAGRAM

Point	Northing	Easting	Elevation	Description
10	338132.580	1277032.932	109.62	MAG NAIL/ASPI WASHER
11	338181.303	1276873.240	90.56	MAG NAIL/ASPI WASHER
12	338041.970	1276896.888	56.55	50D NAIL
14	338049.706	1276672.701	31.01	MAG NAIL
700	338071.420	1277000.710	71.31	PK NAIL/OTAK WASHER
704	337944.130	1277024.770	68.82	PK NAIL/OTAK WASHER



CURVE	RADIUS	DELTA ANGLE	ARC LENGTH
C1	172.62'	22°58'30"	69.22'
C2	16.76'	100°16'00"	29.33'
C3	41.76'	100°16'00"	73.08'
C4	66.76'	93°59'14"	109.51'
C5	66.76'	5°28'32"	6.38'
C6	179.65'	4°42'11"	14.75'
C7	179.65'	18°30'49"	58.05'
C8	48.22'	4°57'30"	35.48'
C9	48.39'	164°27'30"	133.16'
C10	31.39'	164°27'30"	90.10'

BASIS OF BEARING

N 10°42'13" W BETWEEN FOUND PK NAIL & WASHERS (PT #5 704 & 700) STAMPED 'OTAK' AS SHOWN ON SHEET C2 OF A PRELIMINARY PLAN SET FOR THE CITY OF MUKILTEO DATED MARCH 2011.

DATUM NAVD 88
BENCHMARK

NAVD88 VERIFIED BY GPS (WITH OPUS BASED SOLUTION) ON CONTROL POINTS 704 & 700 AS SHOWN ON SHEET C2 OF A PRELIMINARY PLAN SET FOR THE CITY OF MUKILTEO DATED MARCH 2011.

SURVEY REFERENCES

ASSESSORS PLAT OF OLYMPUS TERRACE, AFN 1678926
PLAT OF HARGREAVES & BAIR WATERFRONT TRACTS, VOL. 11, P. 106
RECORD OF SURVEY AFN 9710295009
RECORD OF SURVEY AFN 200210195001

RIGHT OF WAY NOTES

SURVEY CONTROL, RIGHT OF WAY AND EASEMENT INFORMATION BASED ON PLANS BY GRAY & OSBORNE, INC. DATED 12/7/10 FOR THE LIFT STATION NO. 5 ACCESS IMPROVEMENT PROJECT AND ON PRELIMINARY PLANS BY OTAK FOR THE 61ST PLACE W CULVERT REPLACEMENT PROJECT DATED MARCH 2011.

SURVEY NOTES

EQUIPMENT: 5" ELECTRONIC TOTAL STATION AND/OR TOPCON GB 500 RTK GPS

METHOD: FIELD TRAVERSE AND/OR RTK GPS

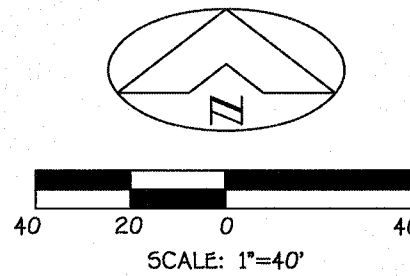
THE CLOSURES OF THIS FIELD TRAVERSE CONDUCTED DURING THIS SURVEY MEET OR EXCEED THE MINIMUM CLOSURE STANDARDS STATED IN WAC 332-130-090.

UTILITY NOTES

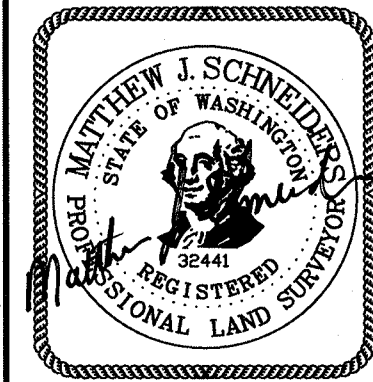
IN PROVIDING THIS SURVEY, NO ATTEMPT HAS BEEN MADE TO OBTAIN OR SHOW DATA CONCERNING CONDITION OR CAPACITY OF ANY UTILITY EXISTING ON THIS SITE, WHETHER PRIVATE, MUNICIPAL OR PUBLIC OWNED.

UTILITIES OTHER THAN THOSE SHOWN MAY EXIST ON THE SITE, UNDERGROUND UTILITY LOCATIONS SHOWN HEREON ARE TAKEN FROM A COMPILATION OF PUBLIC RECORDS AND VISIBLE FIELD EVIDENCE. WE ASSUME NO LIABILITY FOR THE ACCURACY OF THE PUBLIC RECORDS. UNDERGROUND UTILITY LOCATIONS ARE ONLY APPROXIMATE. UNDERGROUND CONNECTIONS ARE SHOWN AS STRAIGHT LINES BETWEEN VISIBLE SURFACE LOCATIONS BUT MAY CONTAIN BENDS OR CURVES NOT SHOWN. FIELD VERIFICATION IS NECESSARY PRIOR TO OR DURING ANY CONSTRUCTION.

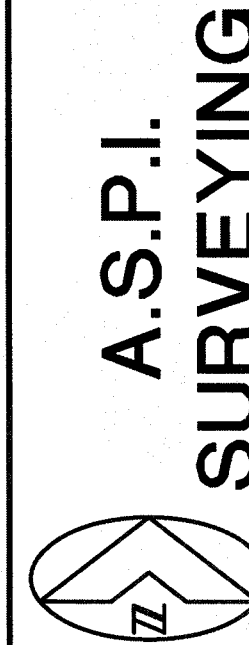
SUBSURFACE AND ENVIRONMENTAL CONDITIONS WERE NOT SURVEYED OR EXAMINED OR CONSIDERED AS PART OF THIS SURVEY. NO EVIDENCE OR STATEMENT IS MADE CONCERNING THE EXISTENCE OF UNDERGROUND OR OVERHEAD CONDITIONS, CONTAINERS OR FACILITIES THAT MAY AFFECT THE USE OR DEVELOPMENT OF THIS PROPERTY.



MAY 18, 2015



61 ST PLACE WEST
CULVERT REPLACEMENT



4542B EVERGREEN WAY, EVERETT, WA 98203 (425) 252-1894

SURVEY CONTROL
for
CITY OF MUKILTEO
11930 CYRUS WAY
MUKILTEO, WA 98215

SE 1/4, NE 1/4, SEC. 17, TWP. 28 N., RGE. 4 E, W.M.

PROJ. NO.	DRAWN BY:
214175	MJS
DATE:	5/18/15
SCALE:	1"=40'
DRAWING NO.	
SHEET 1 OF 1	