



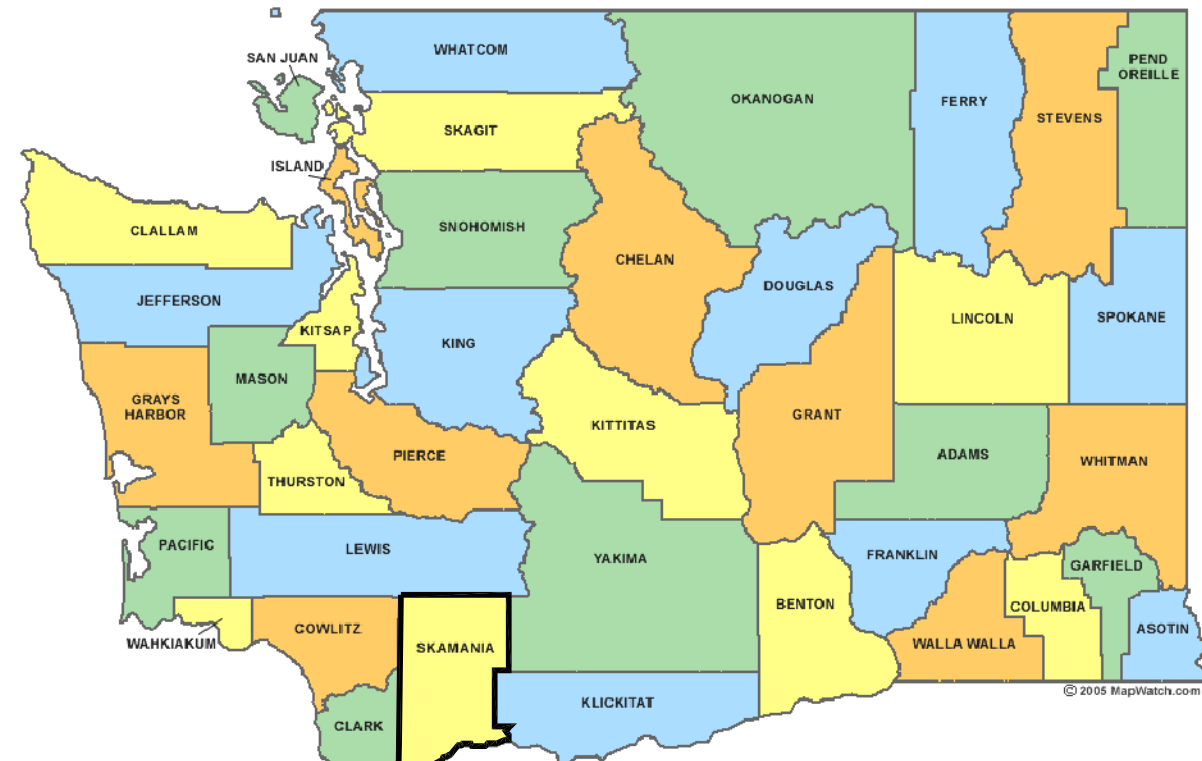
McMILLEN, LLC

PACIFICORP ENERGY
LEWIS RIVER
MUDDY RIVER ACCLIMATION POND

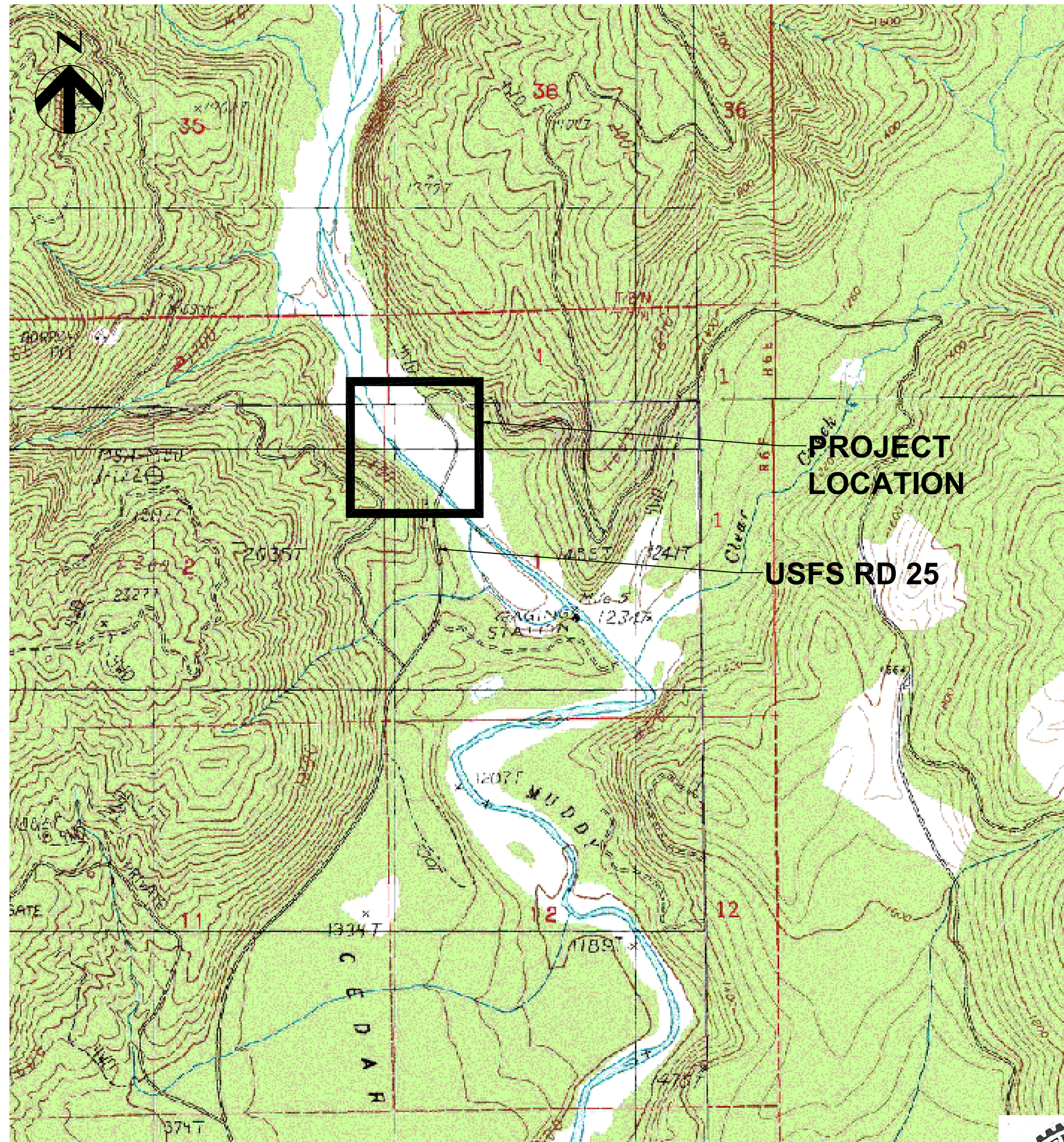
VOLUME IV - CONSTRUCTION DRAWINGS
JUNE 2011

ISSUED FOR CONSTRUCTION

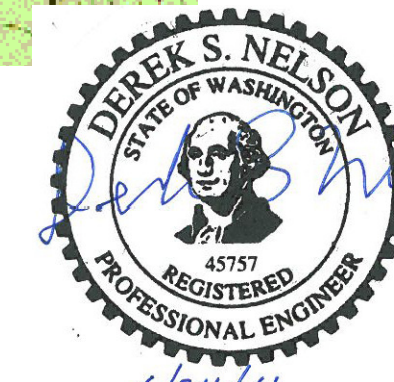
PACIFICORP ENERGY LEWIS RIVER MUDDY RIVER ACCLIMATION POND



SKAMANIA COUNTY
LOCATION MAP
NTS



PROJECT LIMITS
SECTION 1, TOWNSHIP 7N, RANGE 6E
WILLAMETTE MERIDIAN
SKAMANIA COUNTY, WASHINGTON



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VICINITY MAP
NTS

SAP#				LEWIS RIVER MUDDY RIVER ACCLIMATION POND LOCATION MAP, VICINITY MAP, AND DRAWING INDEX	
PL#				PACIFICORP ENERGY HYDRO	
DATE	6/24/11	DES	DSN	REV.	0
ENG	DSN	DES	DSN	SCALE:	NONE
DR	RLG	CH	MDM	SHEET	G-1
APPROVAL					

A	DRAWING No.	REFERENCE DRAWINGS	DRAWING No.	REFERENCE DRAWINGS	DRAWING No.	REFERENCE DRAWINGS	DRAWING No.	REFERENCE DRAWINGS
B								
C								
D								
E								
F								

PLOT SCALE: 1" = 1000'

ABBREVIATIONS

A/E ARCHITECT/ENGINEER	D DEEP, DIFFUSER	HR HOUR	PAR PARALLEL	TAN TANGENT
AB ANCHOR BOLT	DB DUCT BANK, DECIBEL, DRY BULB	HS HIGH STRENGTH	PC POINT OF CURVE, PRECAST	TBF TURBULENT FOUNTAIN SCREEN
ABC AGGREGATE BASE COURSE	DBA DEFORMED BAR ANCHOR	HSS HOLLOW STRUCTURAL SHAPE	PCC POINT OF COMPOUND CURVATURE	TBM TEMPORARY BENCHMARK
ABAN ABANDON	DC DIRECT CURRENT	HT HEIGHT	PCF POUNDS PER CUBIC FOOT	TEMP TEMPORARY, TEMPERATURE
AC ALTERNATING CURRENT	DEG DEGREE	HWL HIGH WATER LEVEL	PCT PERCENT	THD THREAD
ACK ACKNOWLEDGE	DEG C DEGREE CENTIGRADE	HYD HYDRAULIC	PED PEDESTAL	TOB TOP OF BANK
ACP ASPHALTIC CONCRETE PAVEMENT	DEG F DEGREE FAHRENHEIT		PEN PENETRATION	TOC TOP OF CONCRETE
AD ADDENDUM, AREA DRAIN	DEMO DEMOLITION		PERF PERFORATED	TOD TOP OF DUCT
ADDL ADDITIONAL	DET DETAIL	ID INSIDE DIAMETER	PERM PERMANENT	TOF TOP OF FOOTING
ADH ADHESIVE	DI DUCTILE IRON	IE INVERT ELEVATION	PERP PERPENDICULAR	TOG TOP OF GRATING
ADJ ADJUSTABLE, ADJACENT	DIA DIAMETER	IF INSIDE FACE	PH PHASE	TOL TOLERANCE
AF AMP FRAME, AMP FUSE	DIAG DIAGONAL, DIAGRAM	IN INCH	PI POINT OF INTERSECTION	TOP TOP OF PLATE
AFF ABOVE FINISH FLOOR	DIFF DIFFERENTIAL, DIFFERENCE	INC INCLUDE	PJP PARTIAL JOINT PENETRATION	TOPO TOPOGRAPHY
AFG ABOVE FINISH GRADE	DIM DIMENSION	INF INFLUENT	PL PLATE, PROPERTY LINE	TOS TOP OF SLAB, TOP OF STEEL
AGGR AGGREGATE	DISCH DISCHARGE	INSTR INSTRUMENTATION	POS POSITIVE, POSITION	TOW TOP OF WALL
AI AREA INLET	DIST DISTANCE, DISTRIBUTION	INT INTERSECTION	PP POWER POLE	TP TELEPHONE POLE
ALIG ALIGNMENT	DIV DIVISION	INTR INTERMEDIATE	PRC POINT OF REVERSE CURVATURE	TRANS TRANSITION
ALUM ALUMINUM	DMJ DOUBLE MECHANICAL JOINT	INV INVERT	PREFAB PREFABRICATED	TRD TRENCH DRAIN
AMB AMBIENT	DP DEPTH	IPS IRON PIPE SIZE	PRELIM PRELIMINARY	TRD TRENCH DRAIN
ANC ANCHOR	DUP DUPLICATE	IPT INTERNAL PIPE THREAD	PREP PREPARE	TRD TRENCH DRAIN
AP ACCESS PANEL	DWG DRAWING	IRR IRRIGATION	PRES PRESSURE	TRD TRENCH DRAIN
APRX APPROXIMATE		ISO ISOMETRIC	PRI PRIMARY	TRD TRENCH DRAIN
APVD APPROVED			PROP PROPERTY	TRD TRENCH DRAIN
ASSY ASSEMBLY	E EAST, ELECTRICAL (DWG DISCIPLINE)		PROT PROTECTION	TRD TRENCH DRAIN
AT AMP TRIP	EA EACH		PS PIPE SUPPORT	TRD TRENCH DRAIN
ATM ATMOSPHERE	EDB ELECTRICAL DUCT BANK	JB JUNCTION BOX	PSF POUNDS PER SQUARE FOOT	TRD TRENCH DRAIN
AUTO AUTOMATIC	EE EACH END	JCT JUNCTION	PSI POUNDS PER SQUARE INCH	TRD TRENCH DRAIN
AUX AUXILIARY	EF EACH FACE	JF JOINT FILLER	PSIA POUNDS PER SQUARE INCH ABSOLUTE	TRD TRENCH DRAIN
AVE AVENUE	EFF EFFLUENT, EFFICIENCY	JT JOINT	PSIG POUNDS PER SQUARE INCH GAGE	TRD TRENCH DRAIN
AVG AVERAGE	EL ELEVATION		PT POINT, POINT OF TANGENCY	TRD TRENCH DRAIN
	ELEV EMBEDDED	KO KNOCK OUT	PVC POLYVINYL CHLORIDE	TRD TRENCH DRAIN
BD BOARD	EMER EMERGENCY		PVMT PAVEMENT	TRD TRENCH DRAIN
BE BOTH ENDS, BELL END	ENCL ENCLOSURE	L LENGTH	PZ PIEZOMETER	TRD TRENCH DRAIN
BF BOTH FACES, BOTTOM FACE,	ENGR ENGINEER	LAD LADDER		TRD TRENCH DRAIN
	EOP END OF PIPE	LATL LATERAL	Q RATE OF FLOW	TRD TRENCH DRAIN
BITUM BITUMINOUS	EQ EQUAL	LB LAG BOLT, POUND	QTR QUARTER	TRD TRENCH DRAIN
BKG BACKING	EQUIP EQUIPMENT	LE LIFTING EYE	QTY QUANTITY	TRD TRENCH DRAIN
BL BASE LINE	EQUIV EQUIVALENT	LF LINEAR FOOT	QUAL QUALITY	TRD TRENCH DRAIN
BLDG BUILDING	ES EACH SIDE, EQUAL SPACE,	LG LONG	R&R REMOVE AND REPLACE	TRD TRENCH DRAIN
BLK BLOCK	EST ESTIMATE	LIN LINEAR	R&S REMOVE AND SALVAGE	TRD TRENCH DRAIN
BLKG BLOCKING	EW EACH WAY	LIQ LIQUID	R RADIUS	TRD TRENCH DRAIN
BM BENCHMARK, BEAM	EXC EXCAVATION	LLH LONG LEG HORIZONTAL	RB ROCK BEAM	TRD TRENCH DRAIN
BQC BACK OF CURB	EXST EXISTING	LLV LONG LEG VERTICAL	REC RECESS	TRD TRENCH DRAIN
BOP BOTTOM OF PIPE, BEGINNING OF PIPE	EXP EXPANSION, EXPOSED	LNG LONGITUDINAL	RECD RECEIVED	TRD TRENCH DRAIN
BOT BOTTOM	EXT EXTERIOR, EXTERNAL, EXTENSION	LOC LOCATION	RECT RECTANGULAR	TRD TRENCH DRAIN
BP BASE PLATE		LP LOW POINT	RED REDUCER	TRD TRENCH DRAIN
BRG BEARING		LT LEFT	REF REFERENCE	TRD TRENCH DRAIN
BRGP BEARING PLATE	FAB FABRICATE	LTD LIMITED	REINF REINFORCING	TRD TRENCH DRAIN
BRKT BRACKET	FBO FURNISHED BY OWNER	LW LIGHTWEIGHT	REM REMOVE	TRD TRENCH DRAIN
BS BOTH SIDES	FC FLUSHING CONNECTION	LWC LIGHTWEIGHT CONCRETE	REQD REQUIRED	TRD TRENCH DRAIN
BTW BETWEEN	FCA FLANGED COUPLING ADAPTER	LWL LOW WATER LEVEL	RESIL RESILIENT	TRD TRENCH DRAIN
BTWLD BUTT WELD	FD FLOOR DRAIN		RET RETAINING	TRD TRENCH DRAIN
BU BELL UP, BUILT UP	FDC FLEXIBLE DUCT CONNECTION	MACH MACHINED	REV REVISION	TRD TRENCH DRAIN
BUR BUILT-UP ROOFING	FDTN FOUNDATION	MAINT MAINTENANCE	RGH ROUGH	TRD TRENCH DRAIN
BW BOTH WAYS	FE FANGED END	MAN MANUAL	RCS RIGID GALVANIZED STEEL	TRD TRENCH DRAIN
BYP BYPASS	FES FIRE EXTINGUISHER CABINET	MATL MATERIAL	RCS-PVC PVC COATED RGS	TRD TRENCH DRAIN
	FG FINISHED GRADE	MAX MAXIMUM	RND ROUND	TRD TRENCH DRAIN
C TO C CENTER TO CENTER	FIG FIGURE	MB MACHINE BOLT	R/W RIGHT OF WAY	TRD TRENCH DRAIN
C CONDUIT	FL FLOW, FLOW LINE	MC MECHANICAL COUPLING	RPM REVOLUTIONS PER MINUTE	TRD TRENCH DRAIN
CAV CONTINUOUS ACTING AIR VALVE	FLEX FLEXIBLE	MECH MECHANICAL	RR RAILROAD	TRD TRENCH DRAIN
CB CATCH BASIN	FLG FLANGE	MED MEDIUM	RSP ROCK SLOPE PROTECTION	TRD TRENCH DRAIN
CCB CONCRETE BLOCK	FLR FLOOR	MFR MANUFACTURER	RT RIGHT	TRD TRENCH DRAIN
CCW COUNTER CLOCKWISE	FN FINISHED OPENING	MH MANHOLE	S SOUTH	TRD TRENCH DRAIN
CE CONCRETE EDGE	FOC FACE OF CONCRETE	MIN MINIMUM	SB SANITARY	TRD TRENCH DRAIN
CF CUBIC FEET (FOOT)	FOT FLAT ON TOP	MIR MIRROR	SCH SCHEDULE	TRD TRENCH DRAIN
CHFR CHAMFER	FFT FEMALE PIPE THREAD	MISC MISCELLANEOUS	SCHEM SCHEMATIC	TRD TRENCH DRAIN
CHD CHORD	FR FRAME	MJ MECHANICAL JOINT	SCRN SCREEN	TRD TRENCH DRAIN
CHH COMMUNICATION HANDHOLE	FRP FIBERGLASS REINFORCED PLASTIC	MEMB MEMBRANE	SE STEEL/ALUMINUM EDGE	TRD TRENCH DRAIN
CIP CAST-IN-PLACE	FS FLOOR SINK	MASONRY MASONRY OPENING	SEC SECONDARY, SECONDS	TRD TRENCH DRAIN
CJ CONSTRUCTION JOINT	FT FEET, FOOT	MOD MODIFY	SECT SECTION	TRD TRENCH DRAIN
CJP COMPLETE JOINT PENETRATION	FUT FUTURE	MON MONUMENT	SEP SEPARATE	TRD TRENCH DRAIN
CL CENTERLINE, CLASS, CLOSE	FW FIELD WELD	MPT MALE PIPE THREAD	SFT SQUARE FOOT	TRD TRENCH DRAIN
CLJ CONTROL JOINT	FWD FORWARD	MSL MEAN SEA LEVEL	SHT SHEET	TRD TRENCH DRAIN
CLR CLEAR	FWE FURNISHED WITH EQUIPMENT	MT MOUNT	SHTG SHEATHING	TRD TRENCH DRAIN
CMP CORRUGATED METAL PIPE		MU MASONRY UNIT	SL SLOPE	TRD TRENCH DRAIN
CO CLEAN OUT, CONCRETE OPENING		MW MONITORING WELL	SLTD SLOTTED	TRD TRENCH DRAIN
COL COLUMN			SLV SLEEVE	TRD TRENCH DRAIN
COM COMMON	GA GAGE (METAL THICKNESS)	N NORTH, NEUTRAL	SMLS SEAMLESS	TRD TRENCH DRAIN
COMB COMBINATION	GAL GALLON	NA NOT APPLICABLE	SOG SLAB ON GRADE	TRD TRENCH DRAIN
COMP COMPOSITION, COMPRESSIBLE,	GALV GALVANIZED	NAT NATURAL	SOP STAKEOUT POINT	TRD TRENCH DRAIN
	GB GRADE BREAK	NEG NEGATIVE	SPA STANDPIPE	TRD TRENCH DRAIN
CONC CONCRETE	GC GROOVED COUPLING	NO NUMBER	SPEC SPECIFICATION	TRD TRENCH DRAIN
CONN CONNECTION	GEN GENERAL	NOM NOMINAL	SPLY SUPPLY	TRD TRENCH DRAIN
CONST CONSTRUCTION	GND GROUND	NPS NOMINAL PIPE SIZE	SPT SET POINT	TRD TRENCH DRAIN
CONT CONTINUOUS	GP GUY POLE	NPT NATIONAL PIPE THREAD	SQ SQUARE	TRD TRENCH DRAIN
COORD COORDINATE	GPNF GIFFORD PINCHOT NATIONAL FOREST	NTS NOT TO SCALE	SST STAINLESS STEEL	TRD TRENCH DRAIN
CORR CORRUGATED	GR GRADE	NWL NORMAL WATER LEVEL	ST STREET	TRD TRENCH DRAIN
CP CONTROL POINT	GRTG GRATING		STD STANDARD	TRD TRENCH DRAIN
CPLG COUPLING	GT GREASE TRAP	O TO O OUT-TO-OUT	STIF STIFFENER	TRD TRENCH DRAIN
CRL CORROSION RESISTANT LINING	GVL GRAVEL	OC ON CENTER	STIR STIRRUP	TRD TRENCH DRAIN
CSC COMPRESSION SLEEVE COUPLING		OD OUTSIDE DIAMETER	STL STEEL	TRD TRENCH DRAIN
CSK COUNTERSINK		OED OPEN END DUCT	STOR STORAGE	TRD TRENCH DRAIN
CTR CENTER	H HIGH	OG ORIGINAL GROUND	STR STRAIGHT	TRD TRENCH DRAIN
CTRL CONTROL	HC HORIZONTAL CENTERLINE	OH OVERHEAD	SUB SUBSTITUTE	TRD TRENCH DRAIN
CVT CULVERT	HDR HEADER	OHWM ORDINARY HIGH WATER MARK	SUC SUCTION	TRD TRENCH DRAIN
CU CUBIC	HEX HEXAGONAL	OPNG OPENING	SUSP SUSPENDED	TRD TRENCH DRAIN
CW CLOCKWISE	HH HANDHOLE	OPP OPPOSITE	SY SQUARE YARD	TRD TRENCH DRAIN
CY CUBIC YARD	HID HIGH INTENSITY DISCHARGE HOLLOW METAL	OPT OPTIONAL	SYM SYMBOL	TRD TRENCH DRAIN
	HORIZ HORIZONTAL	OR ORIGINAL	SYMM SYMMETRICAL	TRD TRENCH DRAIN
	HP HORSEPOWER	ORIG ORIGINAL	SYN SYNTHETIC	TRD TRENCH DRAIN
	HPC HORIZONTAL POINT OF CURVATURE	OVFL OVERFLOW		TRD TRENCH DRAIN
	HPT HORIZONTAL POINT OF TANGENCY	OVHG OVERHANG		TRD TRENCH DRAIN
	HR HOUR	OZ OUNCE		TRD TRENCH DRAIN

SYMBOLS

ARROW INDICATES DIRECTION OF PLAN NORTH

PLAN
SCALE: 1/2" = 1'-0"

SECTION IDENTIFICATION

(1) SECTION CUT ON DRAWING C102:

SECTION NUMBER
DRAWING WHERE SECTION IS DRAWN

(2) ON DRAWING C103 THIS SECTION IS IDENTIFIED AS:

SECTION VIEW
SCALE: 1/2" = 1'-0"

SECTION LETTER
DRAWING WHERE DETAIL OCCURS*

DETAIL IDENTIFICATION

(1) DETAIL CALL-OUT ON DRAWING C102:

DETAIL NUMBER
DRAWING WHERE DETAIL IS SHOWN

(2) ON DRAWING C103 THIS SECTION IS IDENTIFIED AS:

DETAIL
SCALE: 1/2" = 1'-0"

DETAIL NUMBER
DRAWING WHERE DETAIL OCCURS*

*NOTE: IF PLAN AND SECTION (OR DETAIL CALL-OUT AND DETAIL) ARE SHOWN ON SAME DRAWING, DRAWING NUMBER IS REPLACED BY A LINE.

STANDARD DETAIL IDENTIFICATION

(1) DETAIL CALL-OUT ON PLAN OR SECTION:

STANDARD DETAIL NUMBER

(2) ON DETAIL DRAWINGS, IDENTIFIED AS:

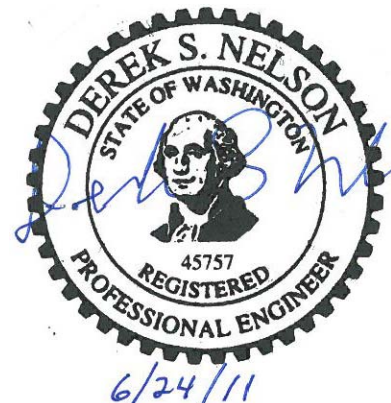
DETAIL

STANDARD DETAIL NUMBER

* IF PLAN AND SECTION, OR DETAIL CALL-OUT AND DETAIL ARE SHOWN ON SAME SHEET, SHEET NUMBER IS REPLACED BY A LINE (-).

GENERAL NOTES:

- THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF CONTRACT DRAWINGS.
- LISTING OF ABBREVIATIONS DOES NOT IMPLY ALL ABBREVIATIONS ARE USED IN THE CONTRACT DRAWINGS.
- ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE VARIATIONS OF THE WORD. FOR EXAMPLE, "MOD" MAY MEAN MODIFY OR MODIFICATION; "INC" MAY MEAN INCLUDED OR INCLUDING; "REINF" MAY MEAN EITHER REINFORCE OR REINFORCING.
- SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.

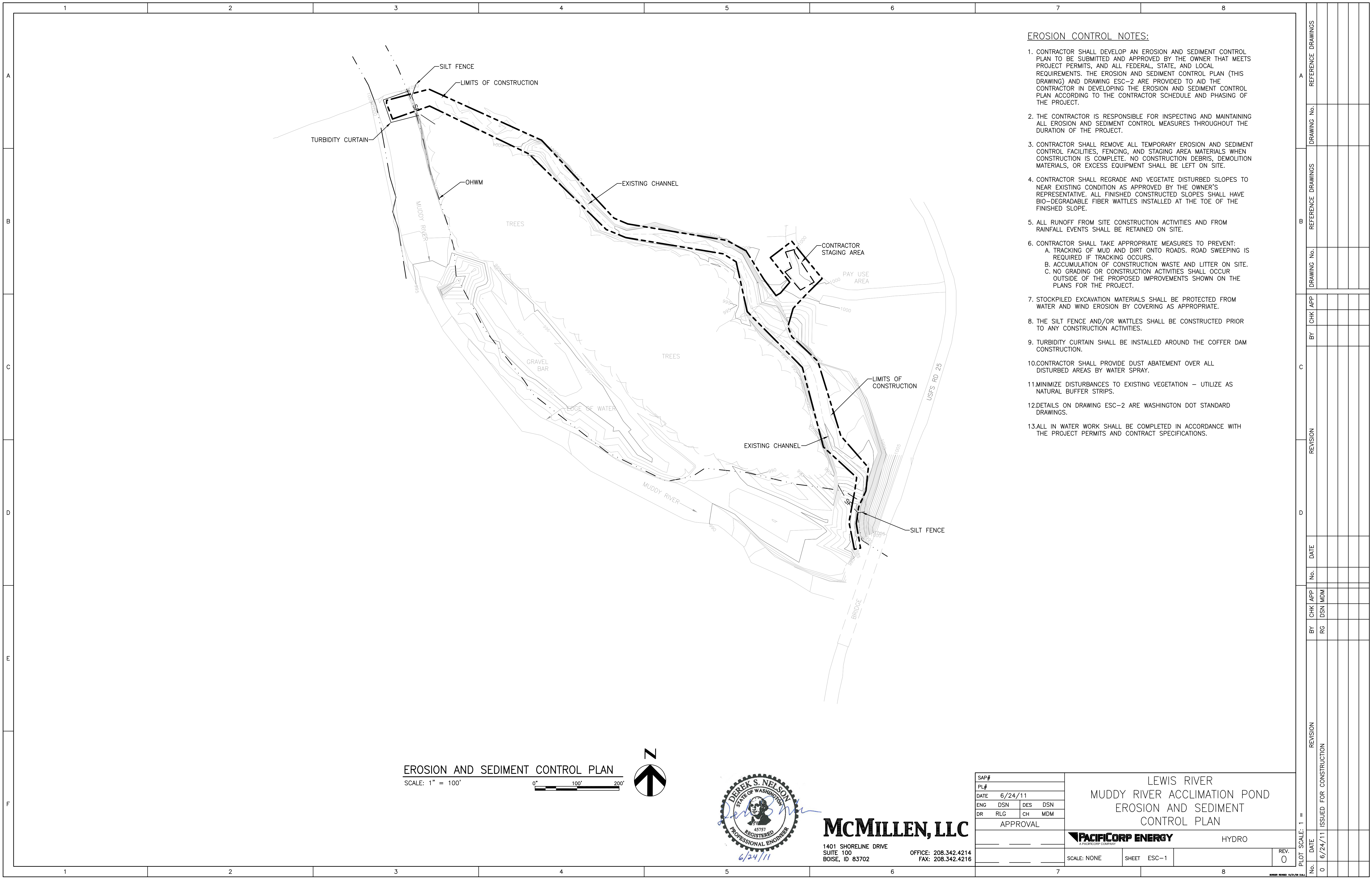


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PL#	MUDDY RIVER ACCLIMATION POND		
DATE	6/24/11	DES	DSN
ENG	DSN	DES	DSN
DR	RLG	CH	MDM
APPROVAL			
PACIFICORP ENERGY HYDRO			
SCALE: NONE	SHEET	G-2	REV. 0

REFERENCE DRAWINGS							
DRAWING No.							
REFERENCE DRAWINGS							
DRAWING No.							
CHK APP							
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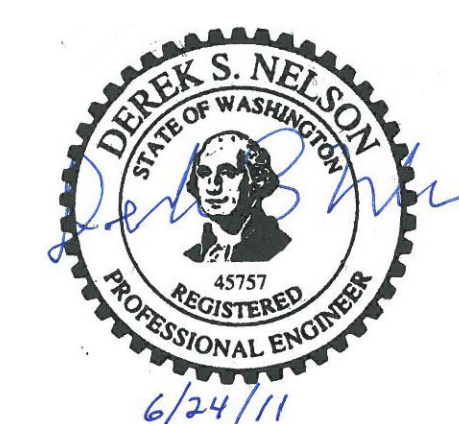
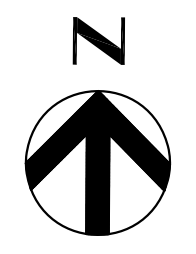
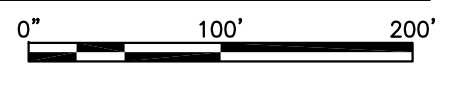


EROSION CONTROL NOTES:

1. CONTRACTOR SHALL DEVELOP AN EROSION AND SEDIMENT CONTROL PLAN TO BE SUBMITTED AND APPROVED BY THE OWNER THAT MEETS PROJECT PERMITS, AND ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS. THE EROSION AND SEDIMENT CONTROL PLAN (THIS DRAWING) AND DRAWING ESC-2 ARE PROVIDED TO AID THE CONTRACTOR IN DEVELOPING THE EROSION AND SEDIMENT CONTROL PLAN ACCORDING TO THE CONTRACTOR SCHEDULE AND PHASING OF THE PROJECT.
2. THE CONTRACTOR IS RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT.
3. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL FACILITIES, FENCING, AND STAGING AREA MATERIALS WHEN CONSTRUCTION IS COMPLETE. NO CONSTRUCTION DEBRIS, DEMOLITION MATERIALS, OR EXCESS EQUIPMENT SHALL BE LEFT ON SITE.
4. CONTRACTOR SHALL REGRADE AND VEGETATE DISTURBED SLOPES TO NEAR EXISTING CONDITION AS APPROVED BY THE OWNER'S REPRESENTATIVE. ALL FINISHED CONSTRUCTED SLOPES SHALL HAVE BIO-DEGRADABLE FIBER WATTLES INSTALLED AT THE TOE OF THE FINISHED SLOPE.
5. ALL RUNOFF FROM SITE CONSTRUCTION ACTIVITIES AND FROM RAINFALL EVENTS SHALL BE RETAINED ON SITE.
6. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PREVENT:
 - A. TRACKING OF MUD AND DIRT ONTO ROADS. ROAD SWEEPING IS REQUIRED IF TRACKING OCCURS.
 - B. ACCUMULATION OF CONSTRUCTION WASTE AND LITTER ON SITE.
 - C. NO GRADING OR CONSTRUCTION ACTIVITIES SHALL OCCUR OUTSIDE OF THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS FOR THE PROJECT.
7. STOCKPILED EXCAVATION MATERIALS SHALL BE PROTECTED FROM WATER AND WIND EROSION BY COVERING AS APPROPRIATE.
8. THE SILT FENCE AND/OR WATTLES SHALL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION ACTIVITIES.
9. TURBIDITY CURTAIN SHALL BE INSTALLED AROUND THE COFFER DAM CONSTRUCTION.
10. CONTRACTOR SHALL PROVIDE DUST ABATEMENT OVER ALL DISTURBED AREAS BY WATER SPRAY.
11. MINIMIZE DISTURBANCES TO EXISTING VEGETATION - UTILIZE AS NATURAL BUFFER STRIPS.
12. DETAILS ON DRAWING ESC-2 ARE WASHINGTON DOT STANDARD DRAWINGS.
13. ALL IN WATER WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE PROJECT PERMITS AND CONTRACT SPECIFICATIONS.

EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1" = 100'



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ENG	DSN
DR	RLG
DES	DSN
CH	MDM
APPROVAL	

LEWIS RIVER
MUDDY RIVER ACCLIMATION POND
EROSION AND SEDIMENT
CONTROL PLAN

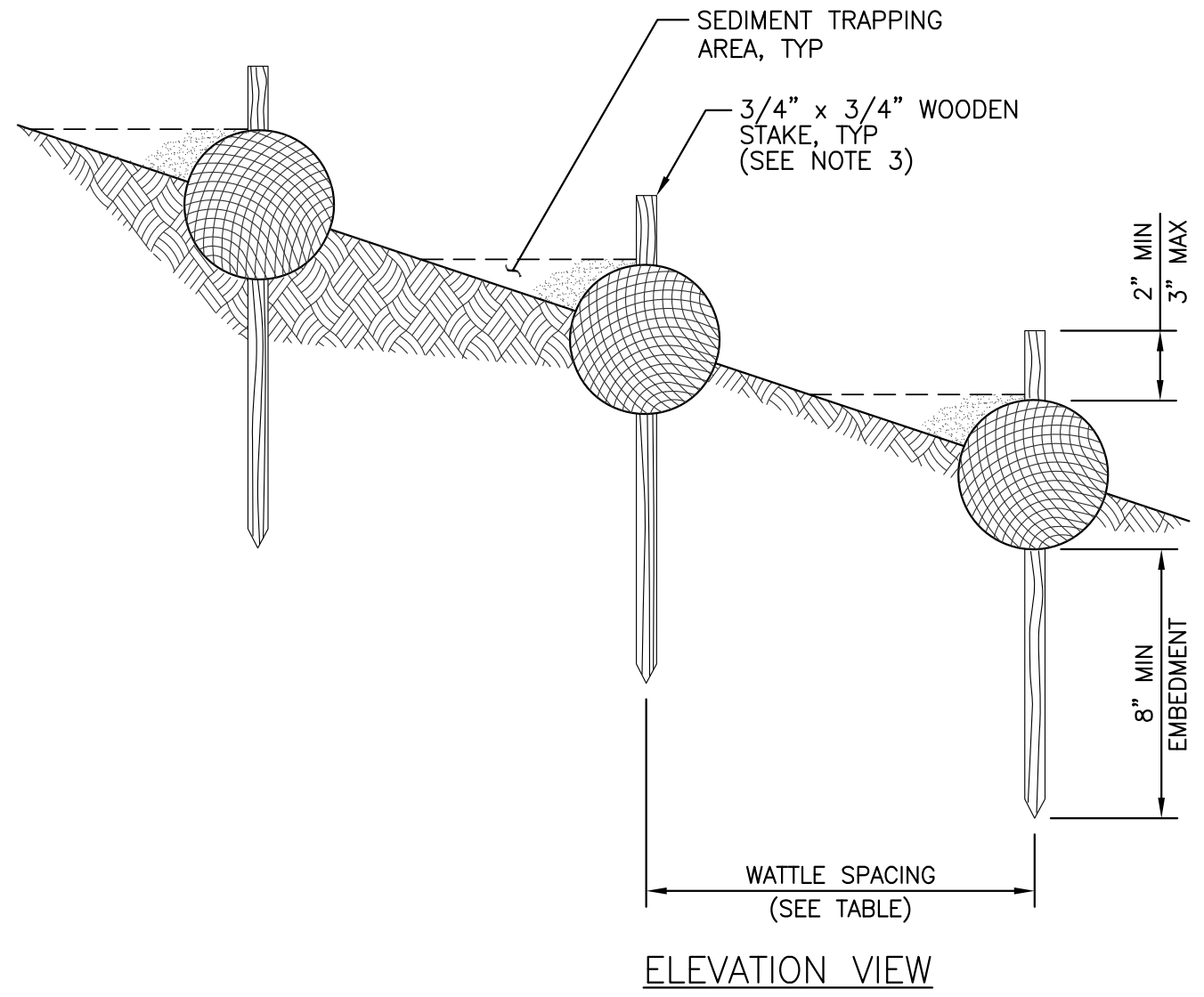


HYDRO

SCALE: NONE	SHEET ESC-1	REV. 0
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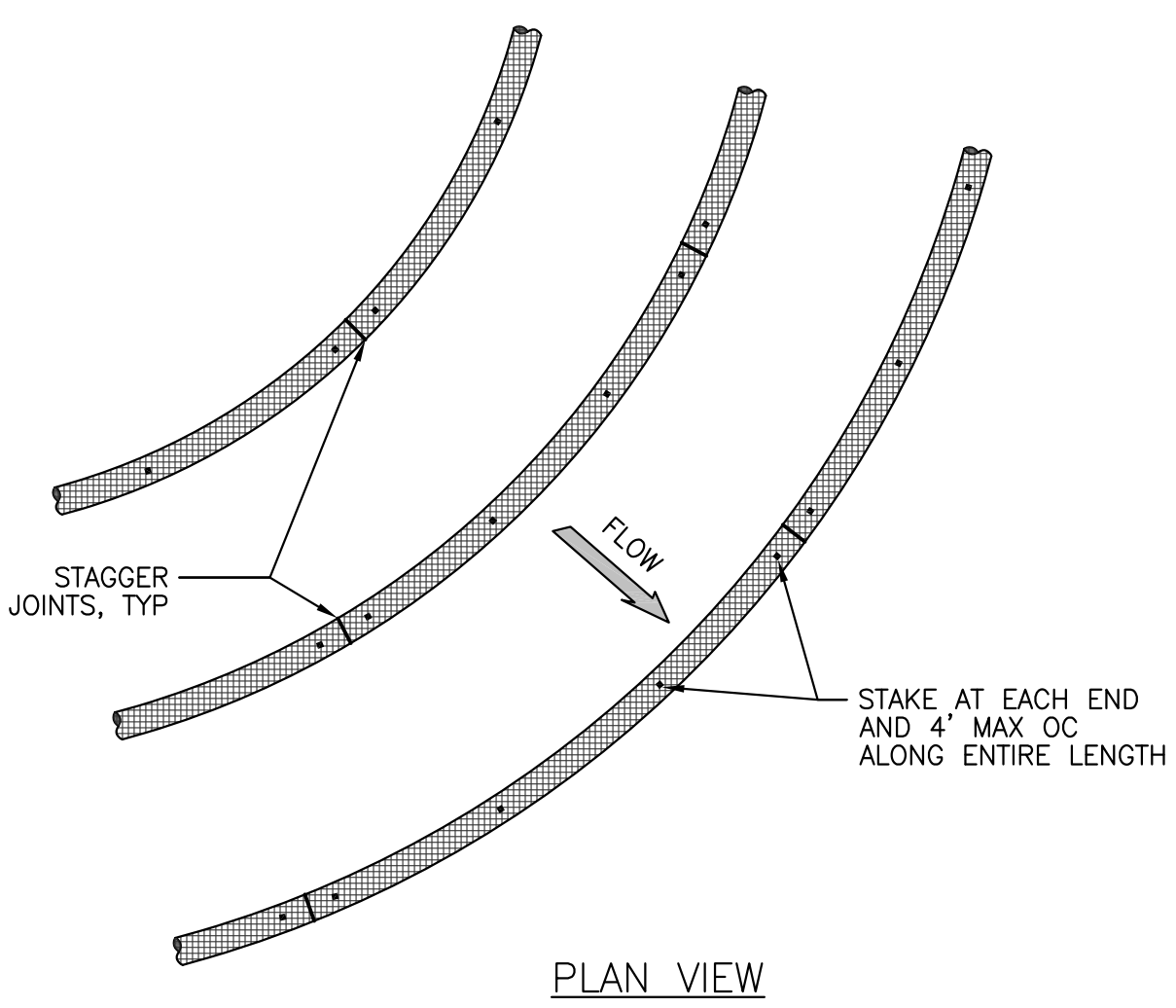
NO.	DATE	REVISION	BY		CHK APP		DRAWING No.	REFERENCE DRAWINGS
			RG	DSN	MDM			
0	6/24/11	ISSUED FOR CONSTRUCTION						

PLOT SCALE: 1" = 100'

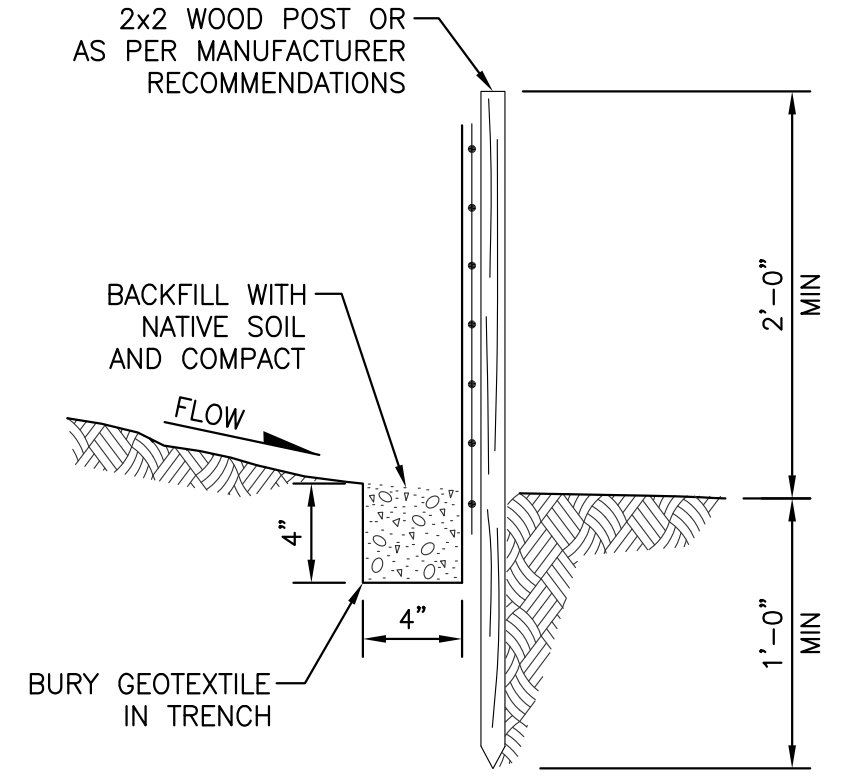
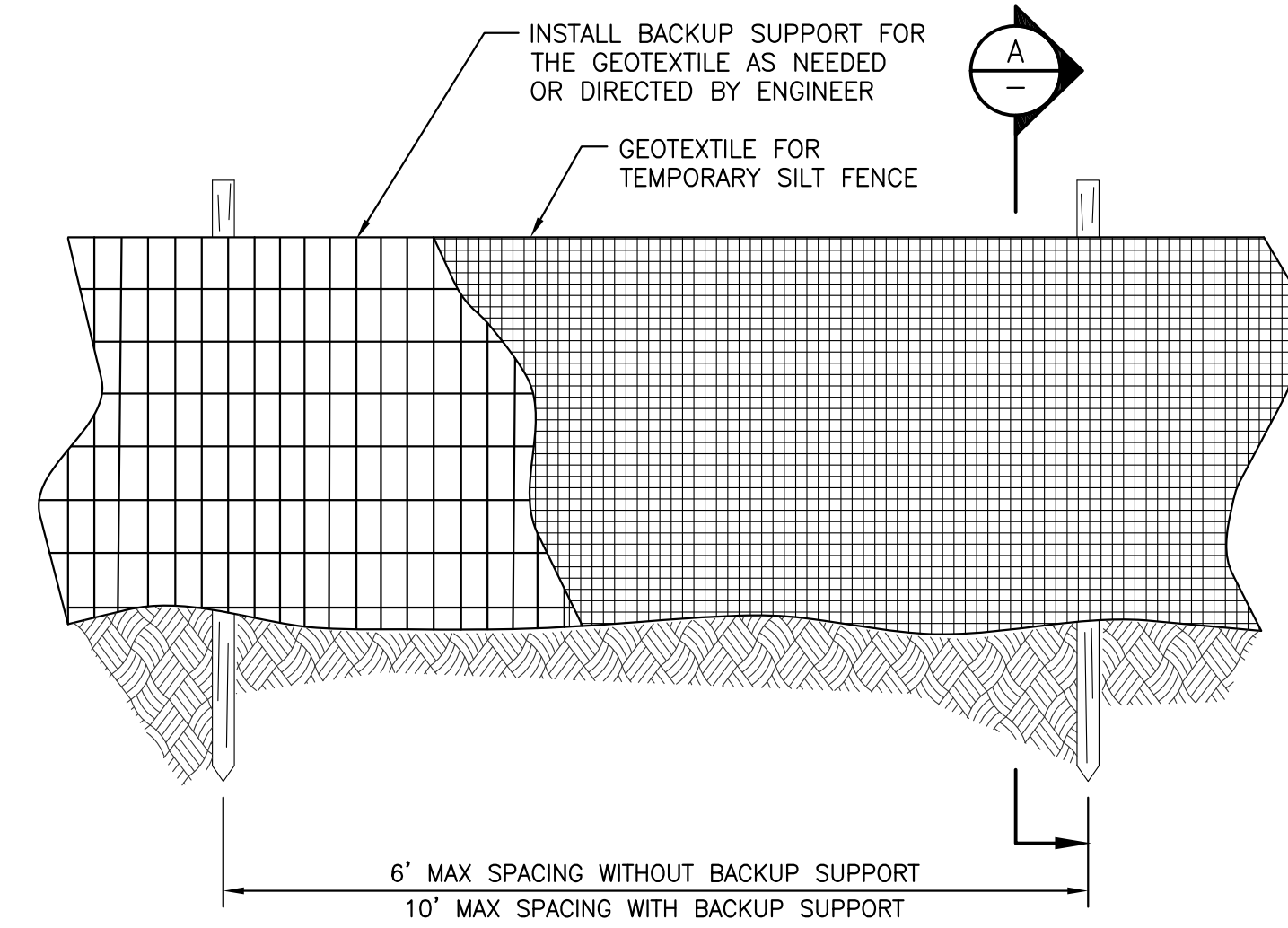


WATTLE SPACING TABLE	
SLOPE	MAXIMUM SPACING
1:1	10 FEET
2:1	20 FEET
3:1	30 FEET
4:1	40 FEET
>4:1	80 FEET

- NOTES**
1. INSTALL WATTLES ALONG CONTOURS.
 2. WATTLES SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RUNOFF PRODUCING RAINFALL, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.
 3. LIVE STAKES MAY BE USED FOR PERMANENT INSTALLATIONS.
 4. INSTALL WATTLES SNUGLY INTO THE TRENCH. ADJACENT WATTLES TIGHTLY, END TO END, WITHOUT OVERLAPPING THE ENDS.
 5. PILOT HOLES MAY BE DRIVEN THROUGH THE WATTLE AND INTO THE SOIL, WHEN SOIL CONDITIONS REQUIRE.
 6. INSTALL AT TOE OF SLOPES. SLOPES GREATER THAN 15' IN LENGTH SHALL HAVE A WATTLE INSTALLED MID SLOPE.
 7. WATTLES SHALL MEET WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, 2008 REQUIREMENTS.

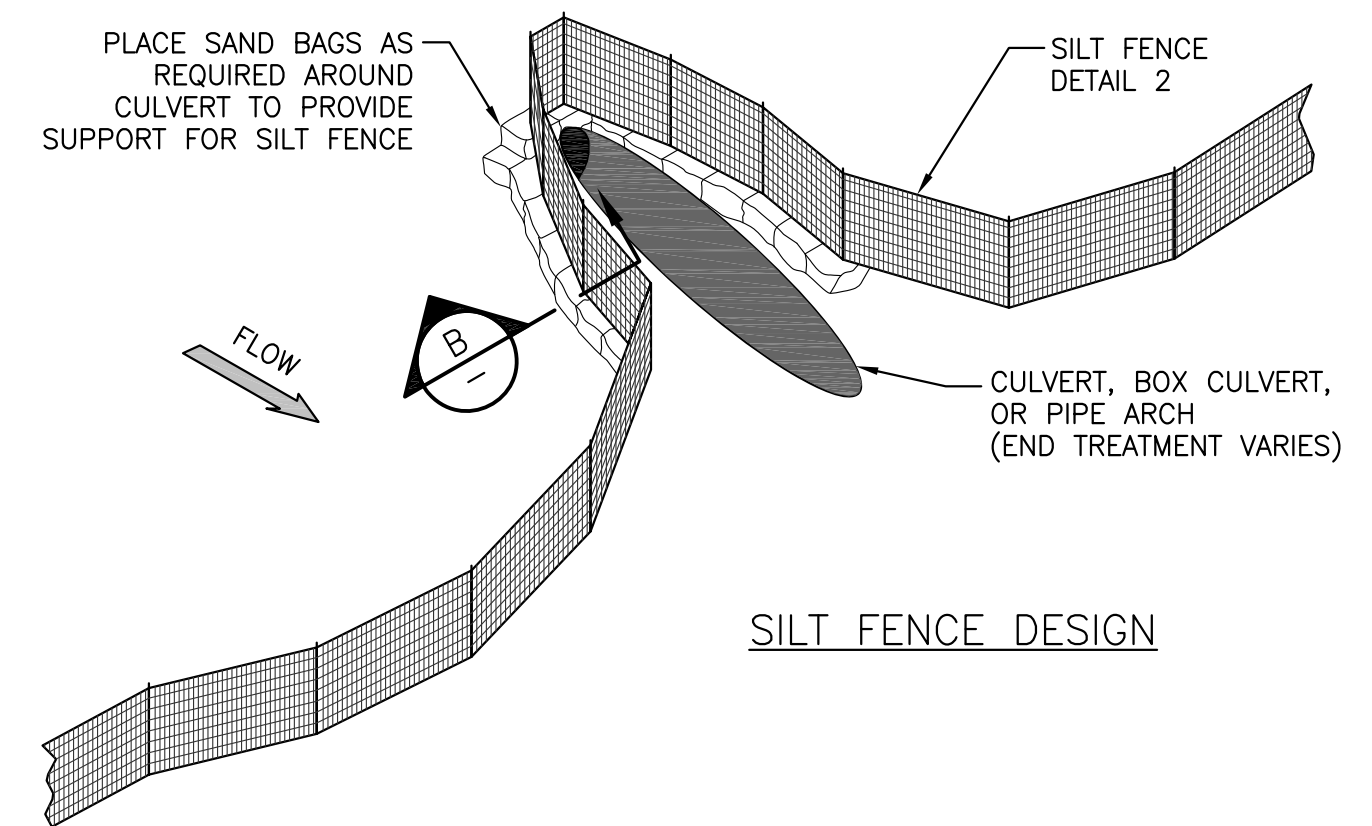


WSDOT WATTLE INSTALLATION ON SLOPE
SCALE: NTS



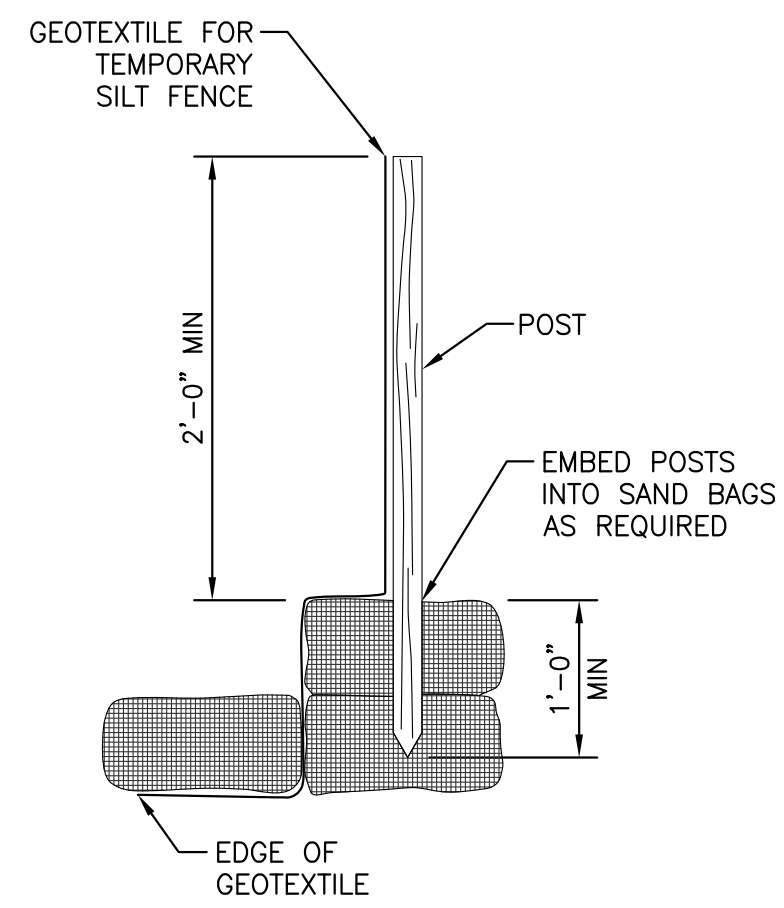
WSDOT SILT FENCE
SCALE: NTS

SECTION
SCALE: NTS

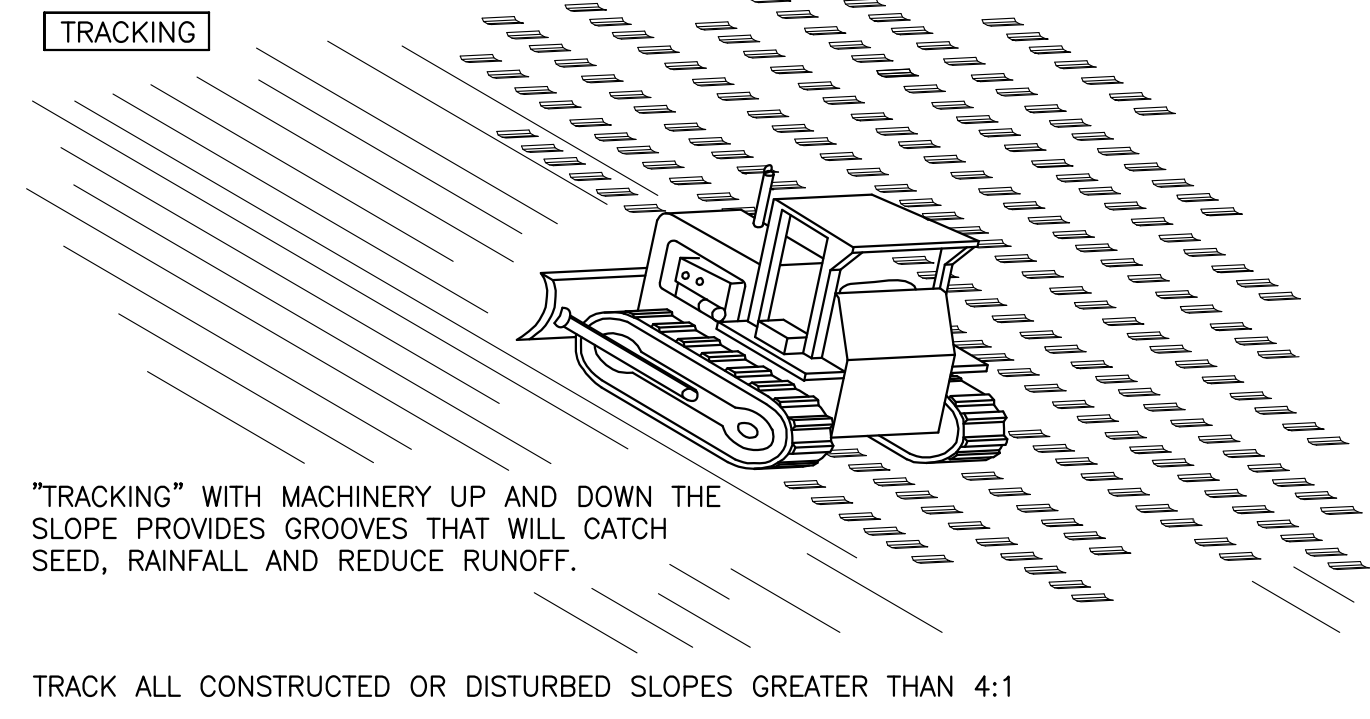


NOTE:
PERFORM MAINTENANCE IN ACCORDANCE WITH DETAIL 2 ON THIS SHEET.

WSDOT EROSION CONTROL AT CULVERT ENDS
SCALE: NTS

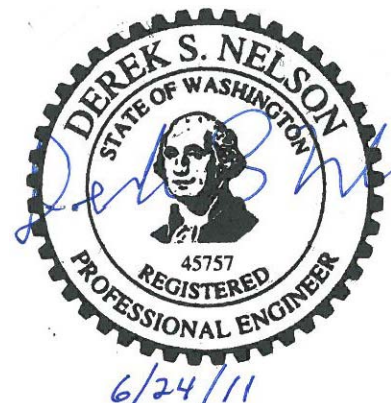


SECTION
SCALE: NTS



TRACKED SLOPES
SCALE: NTS

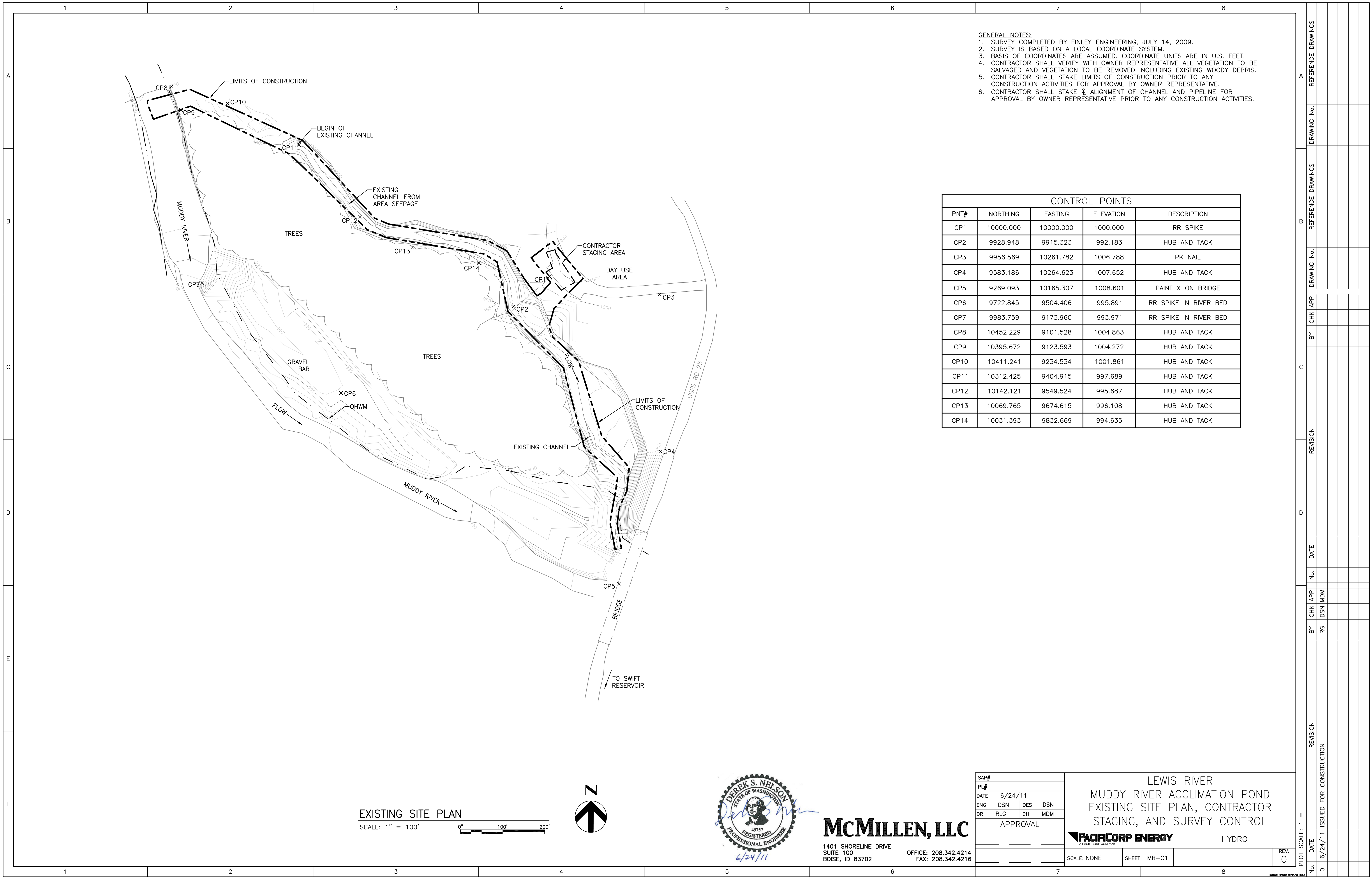
- GENERAL NOTES:**
1. REFERENCE SPECIFICATION SECTION 31 35 26, EROSION CONTROL BARRIER FOR MATERIAL SPECIFICATIONS.
 2. REFERENCE SPECIFICATION SECTION 31 35 28, EROSION CONTROL, FOR REQUIREMENTS ON ALL DISTURBED AREAS THAT ARE NOT TO BE PAVED OR OTHERWISE TREATED AREAS WITHIN THE GPNF INCLUDING SEEDING, FERTILIZER, AND MULCH.



McMILLEN, LLC
1401 SHORELINE DRIVE
SUITE 100
BOISE, ID 83702
OFFICE: 208.342.4214
FAX: 208.342.4216

SAP#	LEWIS RIVER		
PL#	MUDDY RIVER ACCLIMATION POND		
DATE	6/24/11	EROSION AND SEDIMENT CONTROL DETAILS	
ENG	DSN	DES	DSN
DR	RLG	CH	MDM
APPROVAL			
SCALE: NONE		SHEET	ESC-2
PLOT SCALE: 1 =		REV.	0
No.	DATE	ISSUED FOR CONSTRUCTION	
0	6/24/11		

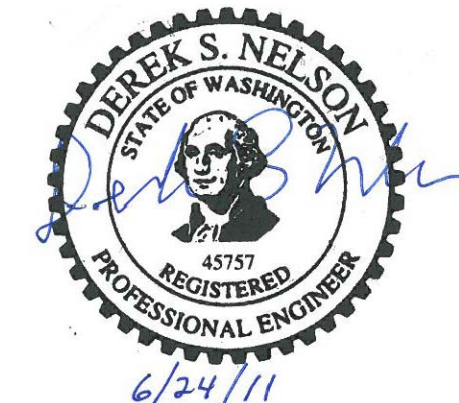
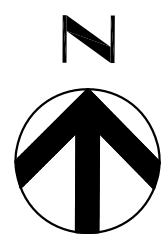
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No.	DATE						
BY	CHK APP						



- GENERAL NOTES:
1. SURVEY COMPLETED BY FINLEY ENGINEERING, JULY 14, 2009.
 2. SURVEY IS BASED ON A LOCAL COORDINATE SYSTEM.
 3. BASIS OF COORDINATES ARE ASSUMED. COORDINATE UNITS ARE IN U.S. FEET.
 4. CONTRACTOR SHALL VERIFY WITH OWNER REPRESENTATIVE ALL VEGETATION TO BE SALVAGED AND VEGETATION TO BE REMOVED INCLUDING EXISTING WOODY DEBRIS.
 5. CONTRACTOR SHALL STAKE LIMITS OF CONSTRUCTION PRIOR TO ANY CONSTRUCTION ACTIVITIES FOR APPROVAL BY OWNER REPRESENTATIVE.
 6. CONTRACTOR SHALL STAKE \odot ALIGNMENT OF CHANNEL AND PIPELINE FOR APPROVAL BY OWNER REPRESENTATIVE PRIOR TO ANY CONSTRUCTION ACTIVITIES.

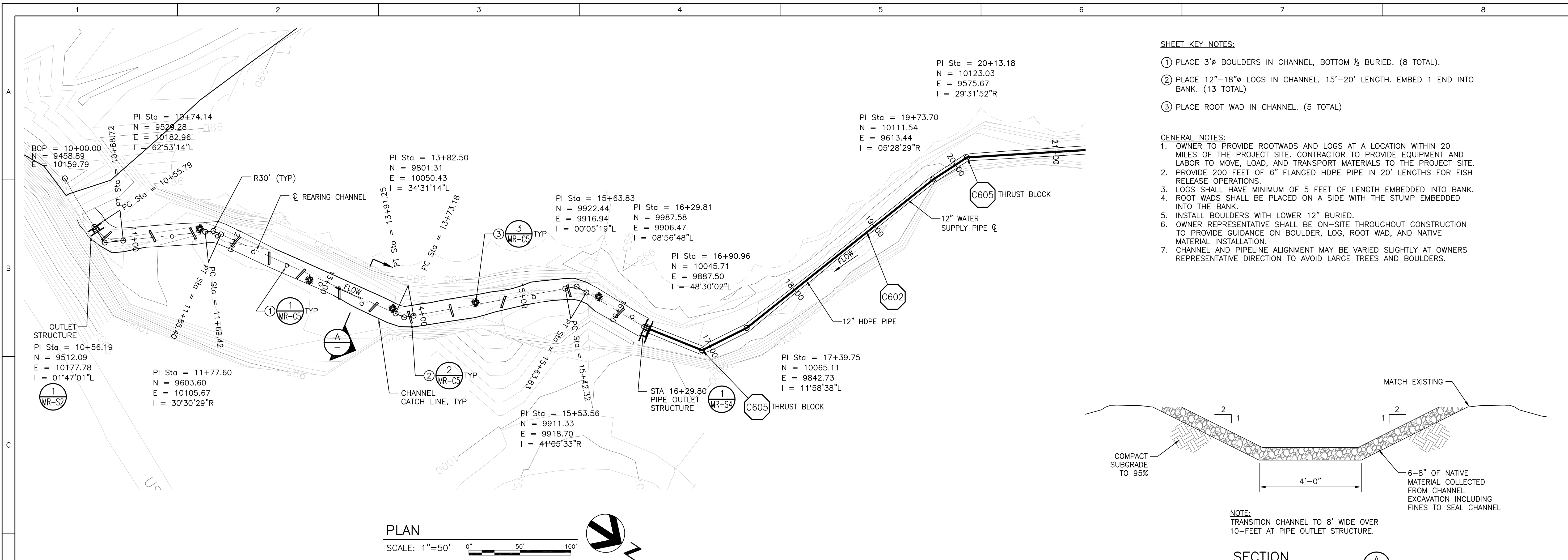
CONTROL POINTS				
PNT#	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP1	10000.000	10000.000	1000.000	RR SPIKE
CP2	9928.948	9915.323	992.183	HUB AND TACK
CP3	9956.569	10261.782	1006.788	PK NAIL
CP4	9583.186	10264.623	1007.652	HUB AND TACK
CP5	9269.093	10165.307	1008.601	PAINT X ON BRIDGE
CP6	9722.845	9504.406	995.891	RR SPIKE IN RIVER BED
CP7	9983.759	9173.960	993.971	RR SPIKE IN RIVER BED
CP8	10452.229	9101.528	1004.863	HUB AND TACK
CP9	10395.672	9123.593	1004.272	HUB AND TACK
CP10	10411.241	9234.534	1001.861	HUB AND TACK
CP11	10312.425	9404.915	997.689	HUB AND TACK
CP12	10142.121	9549.524	995.687	HUB AND TACK
CP13	10069.765	9674.615	996.108	HUB AND TACK
CP14	10031.393	9832.669	994.635	HUB AND TACK

EXISTING SITE PLAN
SCALE: 1" = 100'



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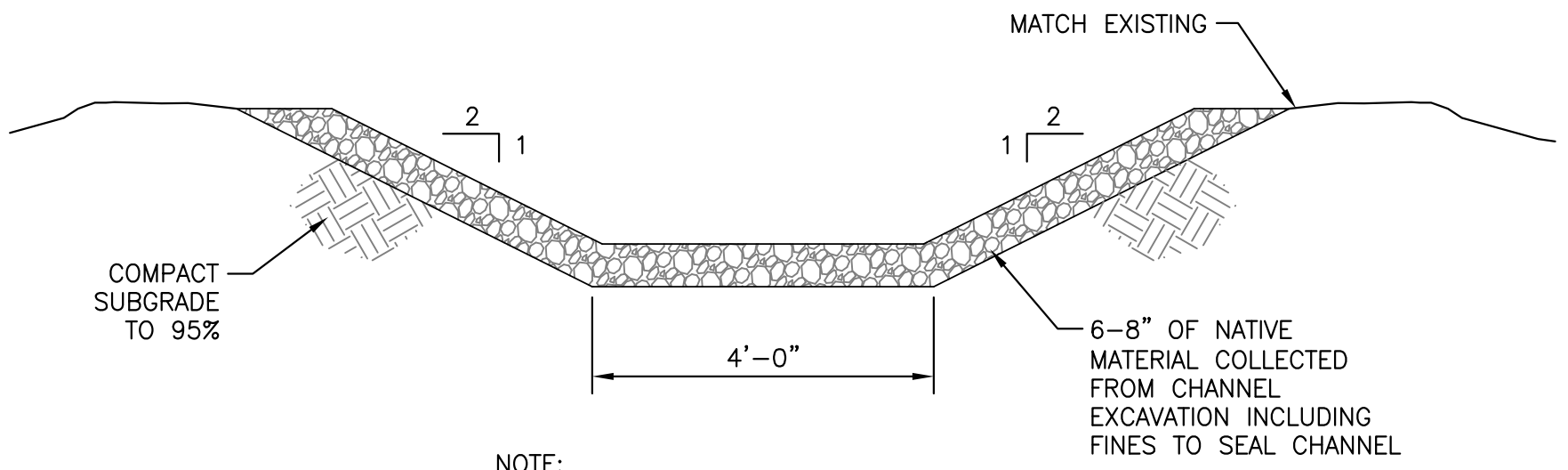
SAP#	
PL#	
DATE	6/24/11
ENG	DSN DES DSN
DR	RLG CH MDM
APPROVAL	



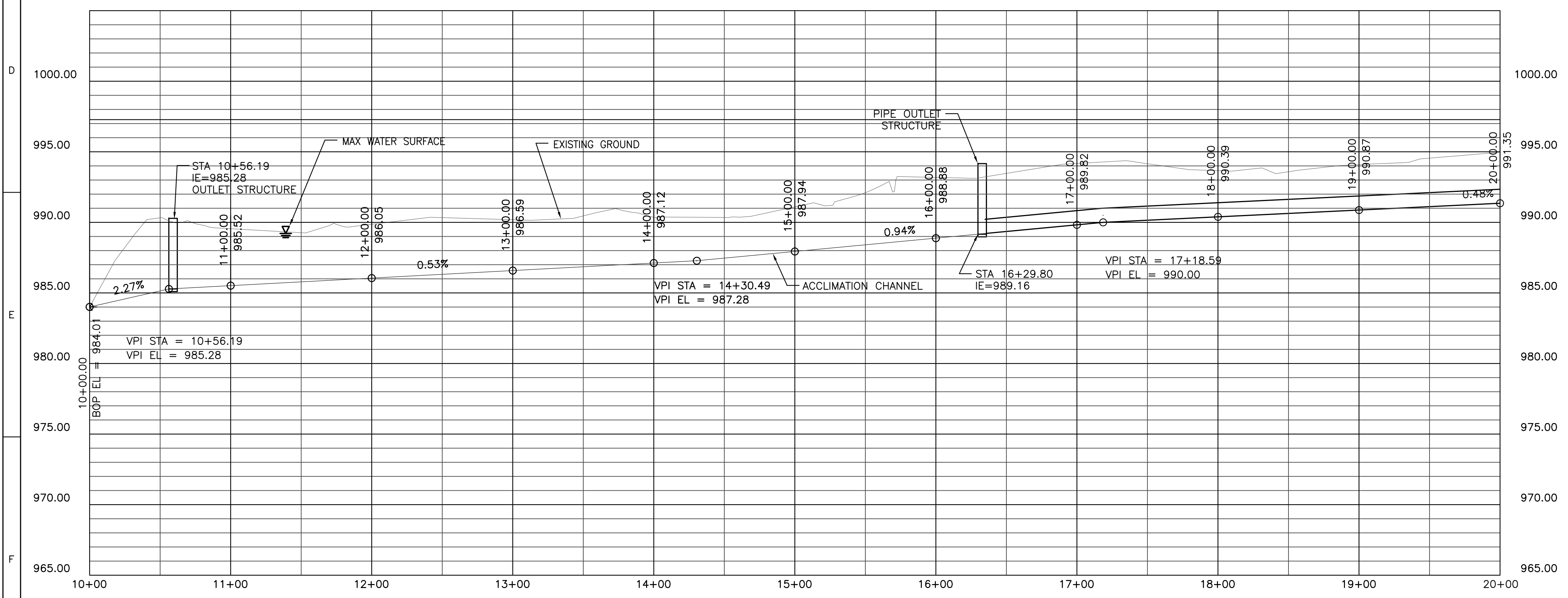
PLAN
SCALE: 1"=50'

- SHEET KEY NOTES:**
- PLACE 3'Ø BOULDERS IN CHANNEL, BOTTOM 1/3 BURIED. (8 TOTAL)
 - PLACE 12"-18"Ø LOGS IN CHANNEL, 15'-20' LENGTH. EMBED 1 END INTO BANK. (13 TOTAL)
 - PLACE ROOT WAD IN CHANNEL. (5 TOTAL)

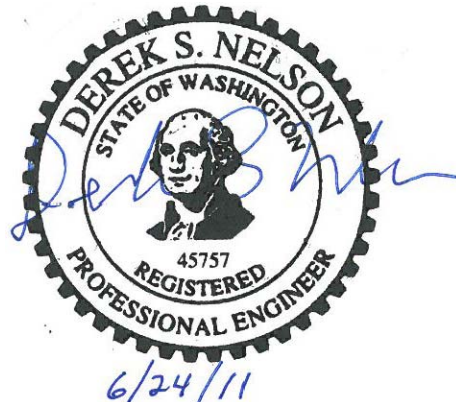
- GENERAL NOTES:**
- OWNER TO PROVIDE ROOTWADS AND LOGS AT A LOCATION WITHIN 20 MILES OF THE PROJECT SITE. CONTRACTOR TO PROVIDE EQUIPMENT AND LABOR TO MOVE, LOAD, AND TRANSPORT MATERIALS TO THE PROJECT SITE.
 - PROVIDE 200 FEET OF 6" FLANGED HDPE PIPE IN 20' LENGTHS FOR FISH RELEASE OPERATIONS.
 - LOGS SHALL HAVE MINIMUM OF 5 FEET OF LENGTH EMBEDDED INTO BANK.
 - ROOT WADS SHALL BE PLACED ON A SIDE WITH THE STUMP EMBEDDED INTO THE BANK.
 - INSTALL BOULDERS WITH LOWER 12" BURIED.
 - OWNER REPRESENTATIVE SHALL BE ON-SITE THROUGHOUT CONSTRUCTION TO PROVIDE GUIDANCE ON BOULDER, LOG, ROOT WAD, AND NATIVE MATERIAL INSTALLATION.
 - CHANNEL AND PIPELINE ALIGNMENT MAY BE VARIED SLIGHTLY AT OWNERS REPRESENTATIVE DIRECTION TO AVOID LARGE TREES AND BOULDERS.



SECTION
SCALE: 1/2"= 1'-0"



PROFILE
SCALE: 1"=50' HOR, 1"=5' VERT



McMILLEN, LLC

THE SONNA BUILDING
910 MAIN ST. SUITE 258 OFFICE: 208.342.4214
BOISE, ID 83702 FAX: 208.342.4216

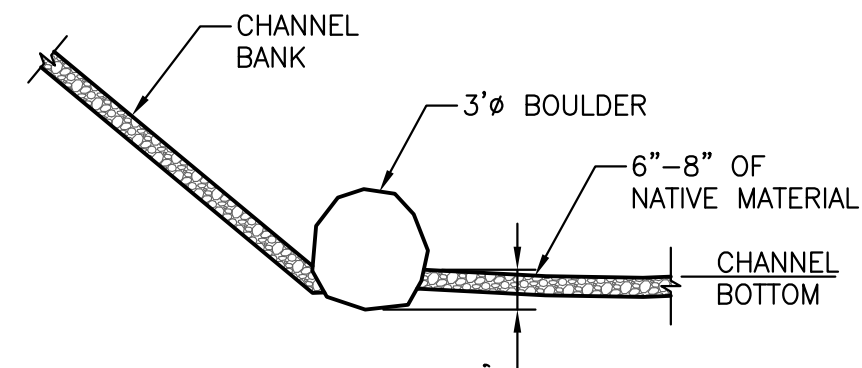
SAP#	
PL#	
DATE	6/24/11
ENG	DSN
DR	RLG
APPROVAL	
SCALE: NONE	
SHEET MR-C3	
REV. 0	

LEWIS RIVER
MUDDY RIVER ACCLIMATION POND
ACCLIMATION POND AND PIPE
PLAN AND PROFILE 1



HYDRO

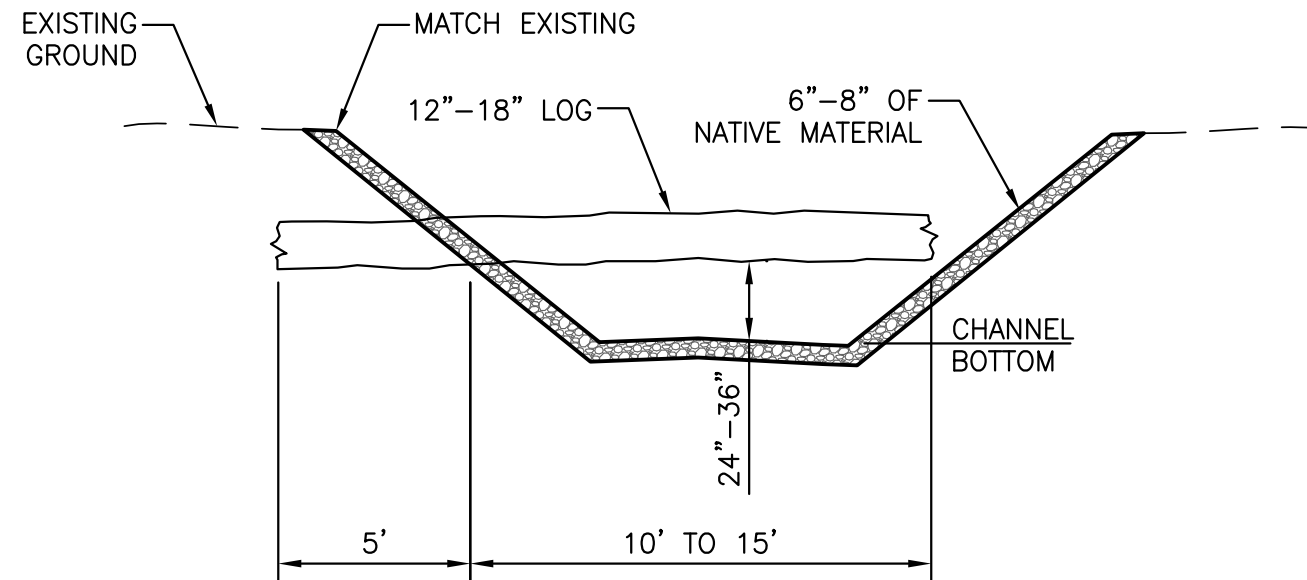
NO.	DATE	REVISION	BY	CHK APP	DATE	NO.	DATE	REVISION
0	6/24/11	ISSUED FOR CONSTRUCTION	RG	DSN MDM				



NOTE:
ALTERNATE SIDES FOR BOULDER INSTALLATION
AS DIRECT BY OWNER REPRESENTATIVE.

HABITAT BOULDERS

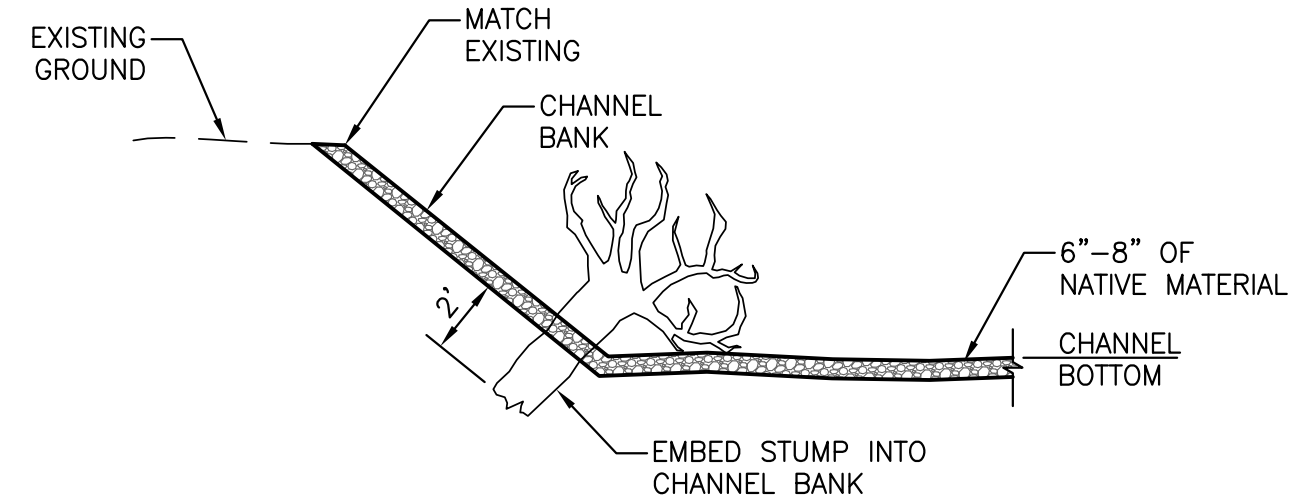
SCALE: NTS



NOTE:
ALTERNATE SIDES FOR LOG INSTALLATION AS
DIRECT BY OWNER REPRESENTATIVE.

HABITAT LOGS

SCALE: NTS



NOTE:
ALTERNATE SIDES FOR ROOT WAD INSTALLATION
AS DIRECT BY OWNER REPRESENTATIVE.

ROOT WAD

SCALE: NTS



McMILLEN, LLC

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SUITE 100
BOISE, ID 83702
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FAX: 208.342.4216

SAP#	LEWIS RIVER		
PL#	MUDDY RIVER ACCLIMATION POND		
DATE	6/24/11	ACCLIMATION DETAILS	
ENG	DSN	DES	DSN
DR	RLG	CH	MDM
APPROVAL			
PACIFICORP ENERGY		HYDRO	
SCALE: AS NOTED	SHEET MR-C5	REV. 0	

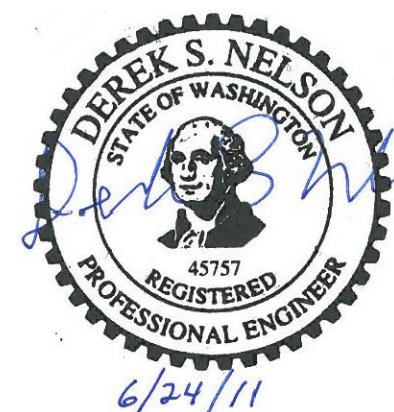
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		NO.	DATE					NO.	DATE				
	6/24/11	ISSUED FOR CONSTRUCTION		RG	DSN	MDM							

STRUCTURAL NOTES:

- 1) GENERAL:
- A. IBC = 2009 INTERNATIONAL BUILDING CODE
- B. CONSTRUCTION DOCUMENTS:
1. THE CONTRACTOR SHALL REVIEW THE APPROVED CONSTRUCTION DOCUMENTS AND NOTIFY THE ENGINEER OF ANY ERRORS OR DISCREPANCIES PRIOR TO THE START OF CONSTRUCTION.
 2. THE CONTRACTOR SHALL FURNISH AND INSTALL EVERYTHING REQUIRED TO PROVIDE A COMPLETE STRUCTURE AS SHOWN HEREIN. IF THERE IS AN OMISSION ON THE PLANS, SUCH OMISSION SHALL NOT BE CONSTRUED TO MEAN THAT THE CONTRACTOR IS NOT REQUIRED TO FURNISH OR PROVIDE EVERYTHING THAT IS NECESSARY TO COMPLETE THE PROJECT TO THE MINIMUM REQUIREMENTS OF THE 2009 INTERNATIONAL BUILDING CODE AND ALL OTHER SPECIFICATIONS, CODES AND STANDARDS NOTED ON THE APPROVED CONSTRUCTION DOCUMENTS.
 3. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IF ANY UNIDENTIFIED EXISTING UNDERGROUND UTILITIES ARE DISCOVERED. THE ENGINEER IS NOT RESPONSIBLE FOR THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES WHETHER OR NOT SHOWN ON THE DRAWINGS.
 4. THE STRUCTURAL CONSTRUCTION DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, BRACING AND/OR SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. CONTRACTOR AT HIS/HER OWN EXPENSE SHALL ENGAGE PROPERLY QUALIFIED PERSONS TO DESIGN BRACING, SHORING, ETC. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT INCLUDE OBSERVATION OF THE ABOVE NOTED ITEMS.
 5. UNDER NO CIRCUMSTANCES CAN STRUCTURAL COMPONENTS BE SUBSTITUTED, OMITTED, OR ALTERED FROM THE APPROVED SET OF CONSTRUCTION DOCUMENTS WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.
- C. DIMENSIONS AND NOTATIONS:
1. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS.
 2. ABBREVIATIONS USED ON THE APPROVED CONSTRUCTION DOCUMENTS SHALL BE CONSIDERED TYPICAL ABBREVIATIONS FOR THE INDUSTRY. THE CONTRACTOR SHALL BE RESPONSIBLE TO NOTIFY THE ENGINEER IMMEDIATELY OF ANY ABBREVIATIONS THAT ARE UNKNOWN TO THE CONTRACTOR.
- D. SHOP DRAWINGS:
1. SHOP DRAWINGS, AS REQUIRED PER THESE STRUCTURAL NOTES, SHALL BE SUBMITTED TO THE ENGINEER IN A TIMELY FASHION PRIOR TO FABRICATION TO ALLOW FOR PROPER REVIEW AS REQUIRED PER IBC SECTION 107.3.4.2.
 2. SHOP DRAWING ITEMS SHALL NOT BE INSTALLED UNTIL THE CONSTRUCTION DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL AND SHOP DRAWINGS HAVE BEEN APPROVED BY THE ENGINEER PER IBC SECTION 107.3.4.2.
 3. DURING SHOP DRAWING REVIEW, DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER AND MUST BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW AND STAMP SHOP DRAWINGS PRIOR TO REVIEW BY ENGINEER.
- E. SPECIAL INSPECTION:
1. THE OWNER SHALL EMPLOY A SPECIAL INSPECTION SERVICE AS REQUIRED PER THESE STRUCTURAL NOTES.
- F. TYPICAL NOTES AND DETAILS:
1. SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER STANDARD TYPICAL NOTES AND DETAILS.
 2. STANDARD TYPICAL NOTES AND DETAILS ARE TO BE USED WHEN REFERRED TO OR WHEN NO OTHER MORE RESTRICTIVE OR DIFFERENT DETAILS ARE SHOWN ON THE DRAWINGS.
 3. WORK NOT PARTICULARLY SHOWN OR SPECIFIED SHALL BE THE SAME AS SIMILAR PARTS THAT ARE SHOWN OR SPECIFIED.
- G. CODE REQUIREMENTS:
1. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING CODES:
 - 2009 INTERNATIONAL BUILDING CODE (IBC)
 - ANY OTHER REGULATING AGENCIES WHICH MAY HAVE AUTHORITY OVER ANY PORTION OF THE WORK, INCLUDING THE STATE OF WASHINGTON.
 2. SPECIFICATIONS, CODES AND STANDARDS NOTED SHALL BE OF THE LATEST APPROVED ISSUE, INCLUDING SUPPLEMENTS, UNLESS NOTED OTHERWISE.
 3. CONTRACTOR SHALL BE PROPERLY REGISTERED IN THE STATE OF WASHINGTON PER WASHINGTON STATE LAW.

- 2) DESIGN CRITERIA:
- A. IBC
- B. DESIGN LOADS:
1. HYDROSTATIC:
 - A) LIVE LOAD = 62.4 PCF
 2. BACKFILL:
 - A) LIVE LOAD = 45 PCF (EQUIVALENT FLUID PRESSURE)
 3. ALUMINUM LIDS:
 - A) LIVE LOAD = 80 PSF
 - B) SNOW LOAD = 100 PSF
- 3) FOUNDATIONS:
- A. MAXIMUM ALLOWABLE FOUNDATION SOIL BEARING PRESSURE = 1500 PSF.
- B. FOR FROST PROTECTION, THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE 24 INCHES MINIMUM BELOW ADJACENT FINISHED GRADE, UNO.
- C. STRUCTURAL BACKFILL SHALL BE COMPACTED TO 95 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D1557. BRACE WALLS AND PIERS AS REQUIRED DURING BACKFILLING OPERATIONS.
- 4) TESTING:
- A. CONCRETE TESTING REQUIRED:
1. STRENGTH TEST
 2. SLUMP TEST
 3. AIR CONTENT TEST
 4. CONCRETE TEMPERATURE TEST

F



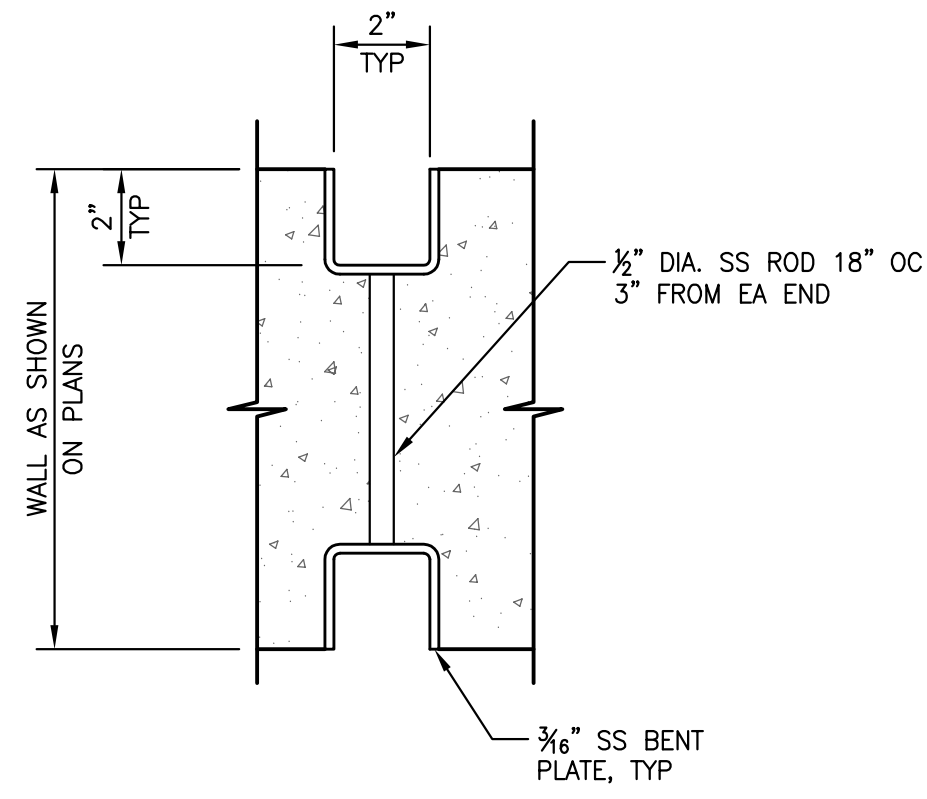
McMILLEN, LLC

1401 SHORELINE DRIVE
SUITE 100
BOISE, ID 83702

OFFICE: 208.342.4214
FAX: 208.342.4216

SAP#	LEWIS RIVER		
PL#	MUDDY RIVER ACCLIMATION POND		
DATE	6/24/11	STANDARD STRUCTURAL NOTES	
ENG	DSN	DES	DSN
DR	RLG	CH	MDM
APPROVAL			
PLOT SCALE: 1 =		HYDRO	
No.	DATE	SHEET	REV.
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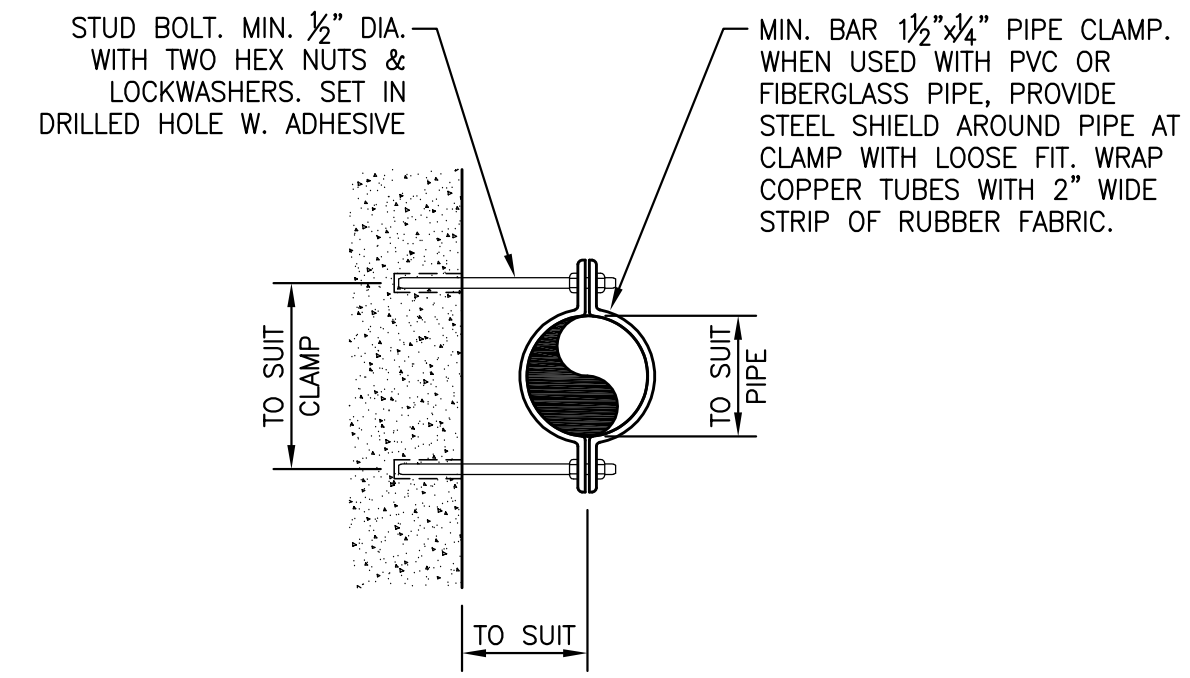


PLAN AT INTERIOR WALL

GUIDE SLOT DETAIL

SCALE: 3" = 1'-0"

S304



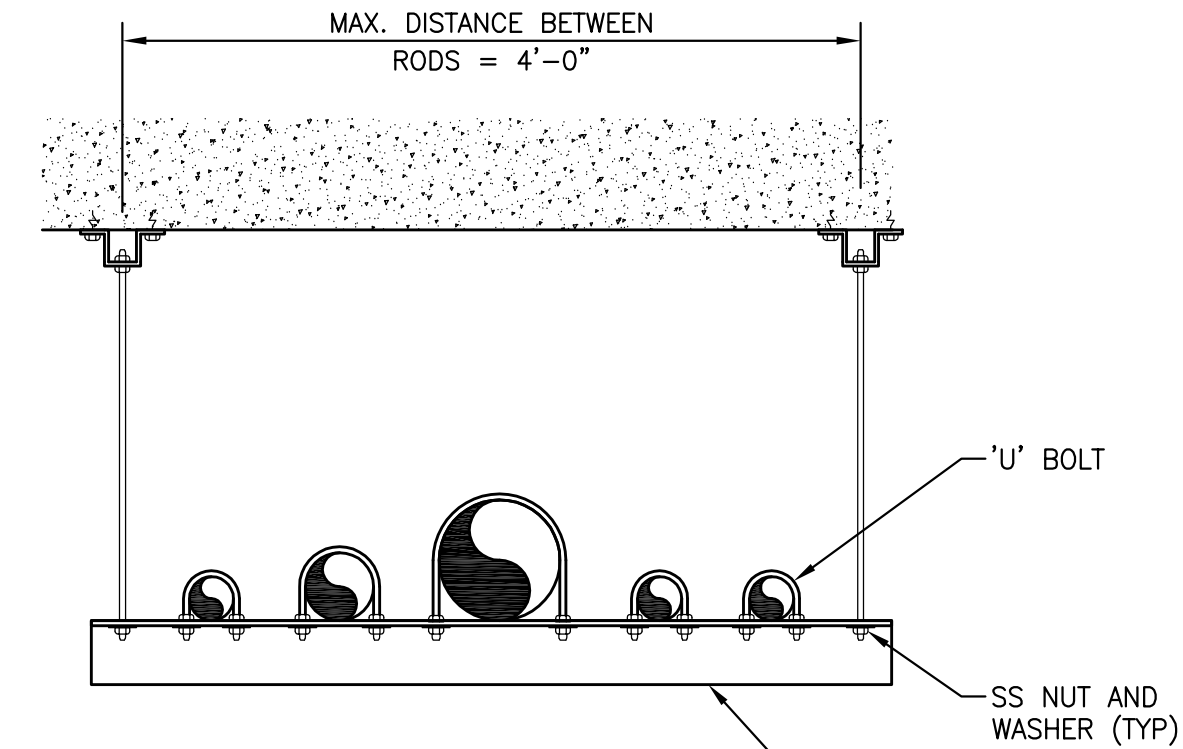
NOTES:

1. PIPE CLAMPS, NUTS, LOCKWASHERS, ANCHORS AND SHIELDS TO BE TYPE 316 STAINLESS STEEL.

PIPE CLAMP

SCALE: N.T.S.

S305



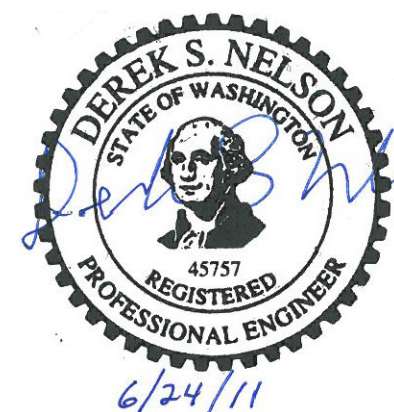
NOTE:

1. WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE STEEL SHIELD AROUND PIPE AT 'U'-BOLT WITH LOOSE FIT.
2. WHERE SUBMERGED, PIPE CLAMPS, NUTS, LOCKWASHERS, ANCHORS AND SHIELDS TO BE TYPE 316 STAINLESS STEEL.

TRAPEZE PIPE HANGER

SCALE: N.T.S.

S306



McMILLEN, LLC

1401 SHORELINE DRIVE
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BOISE, ID 83702
OFFICE: 208.342.4214
FAX: 208.342.4216

SAP#	
PL#	
DATE	6/24/11
ENG	DSN DES DSN
DR	RLG CH MDM
APPROVAL	

LEWIS RIVER
MUDDY RIVER ACCLIMATION POND
STANDARD
STRUCTURAL DETAILS 2

PACIFICORP ENERGY
A PACIFICORP COMPANY

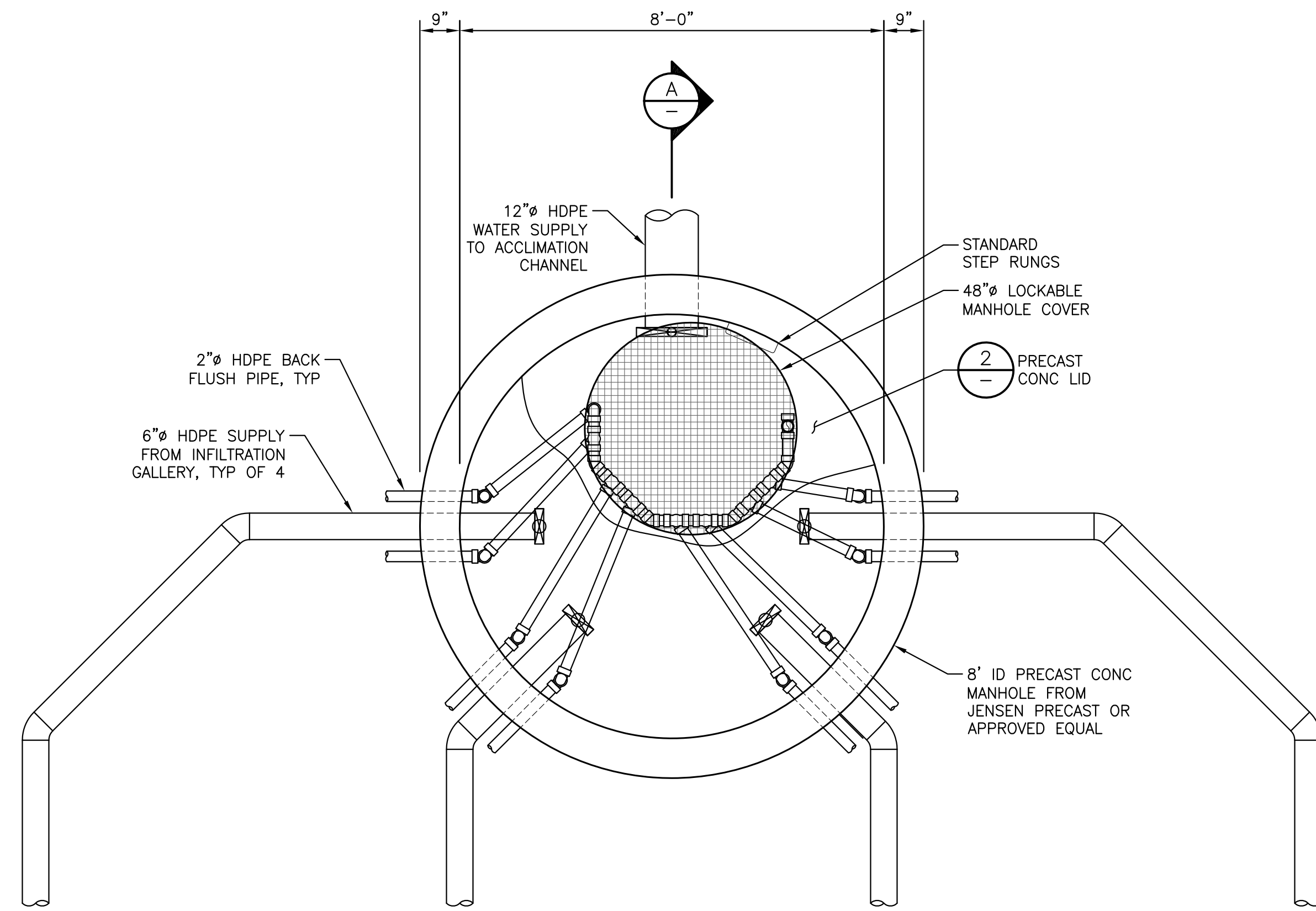
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SCALE: NONE

SHEET GS-3

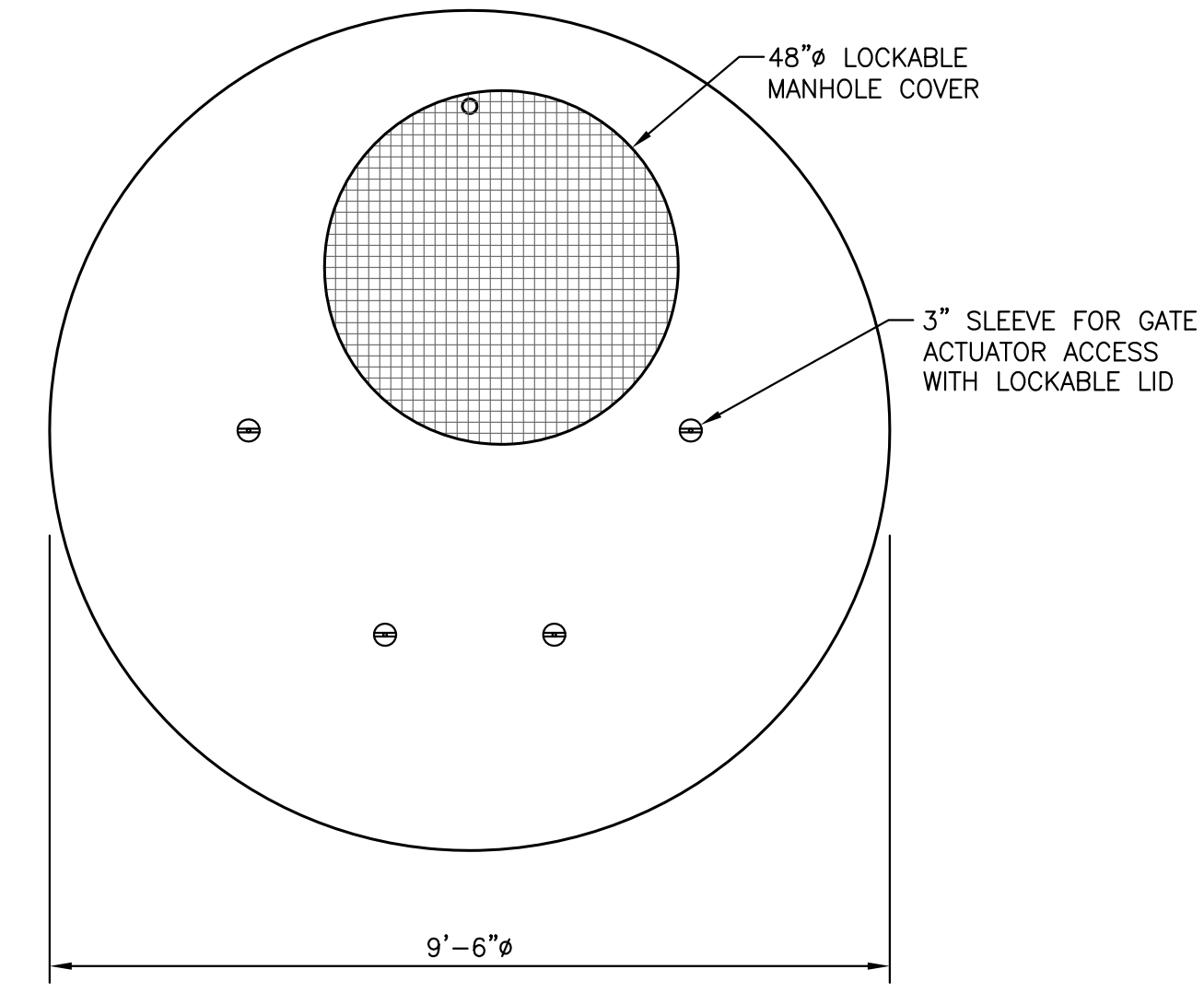
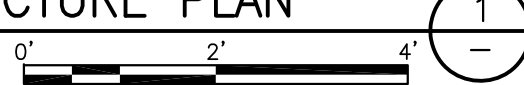
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PLOT SCALE: 1" =	DATE	6/24/11	ISSUED FOR CONSTRUCTION
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REVISION	BY	CHK APP	
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REFERENCE DRAWINGS	REFERENCE DRAWINGS		



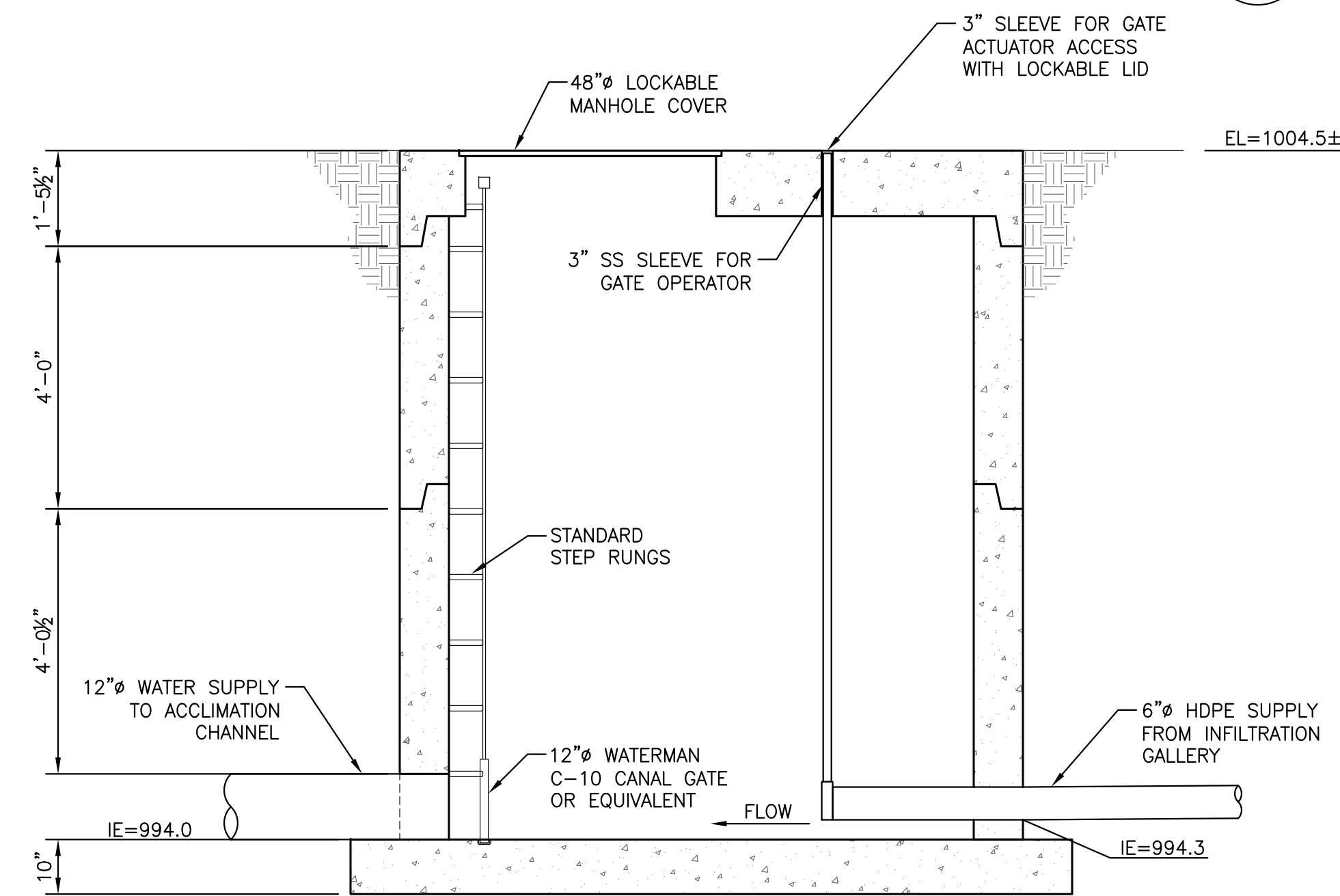
NOTE:
SEE MR-C7 FOR PIPING DETAILS

WATER SUPPLY CONTROL STRUCTURE PLAN
SCALE: 1/2" = 1'-0"

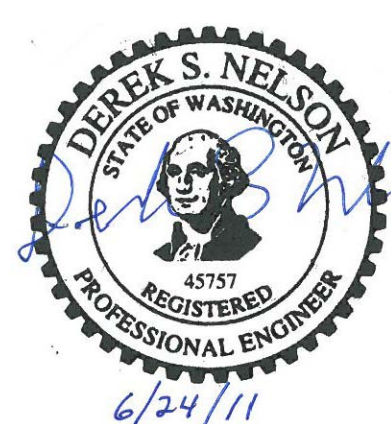


PRECAST CONC LID DETAIL
SCALE: 1/2" = 1'-0"

- NOTES:
- CONTRACTOR SHALL COORDINATE BUTTERFLY VALVE EXTENDED OPERATORS SO AS NOT TO INTERFERE WITH BACKFLUSH PIPING SYSTEM.



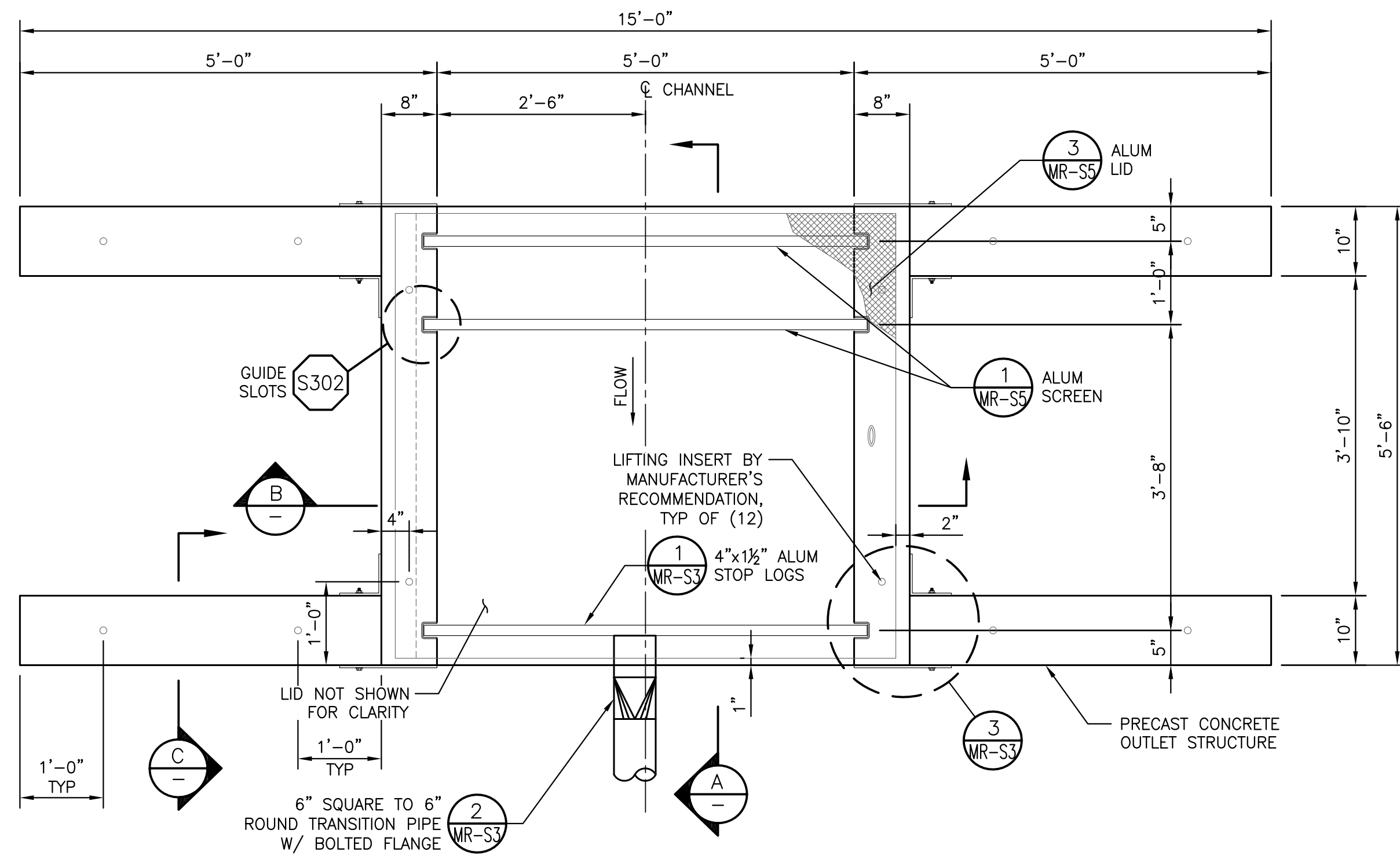
SECTION
SCALE: 1/2" = 1'-0"



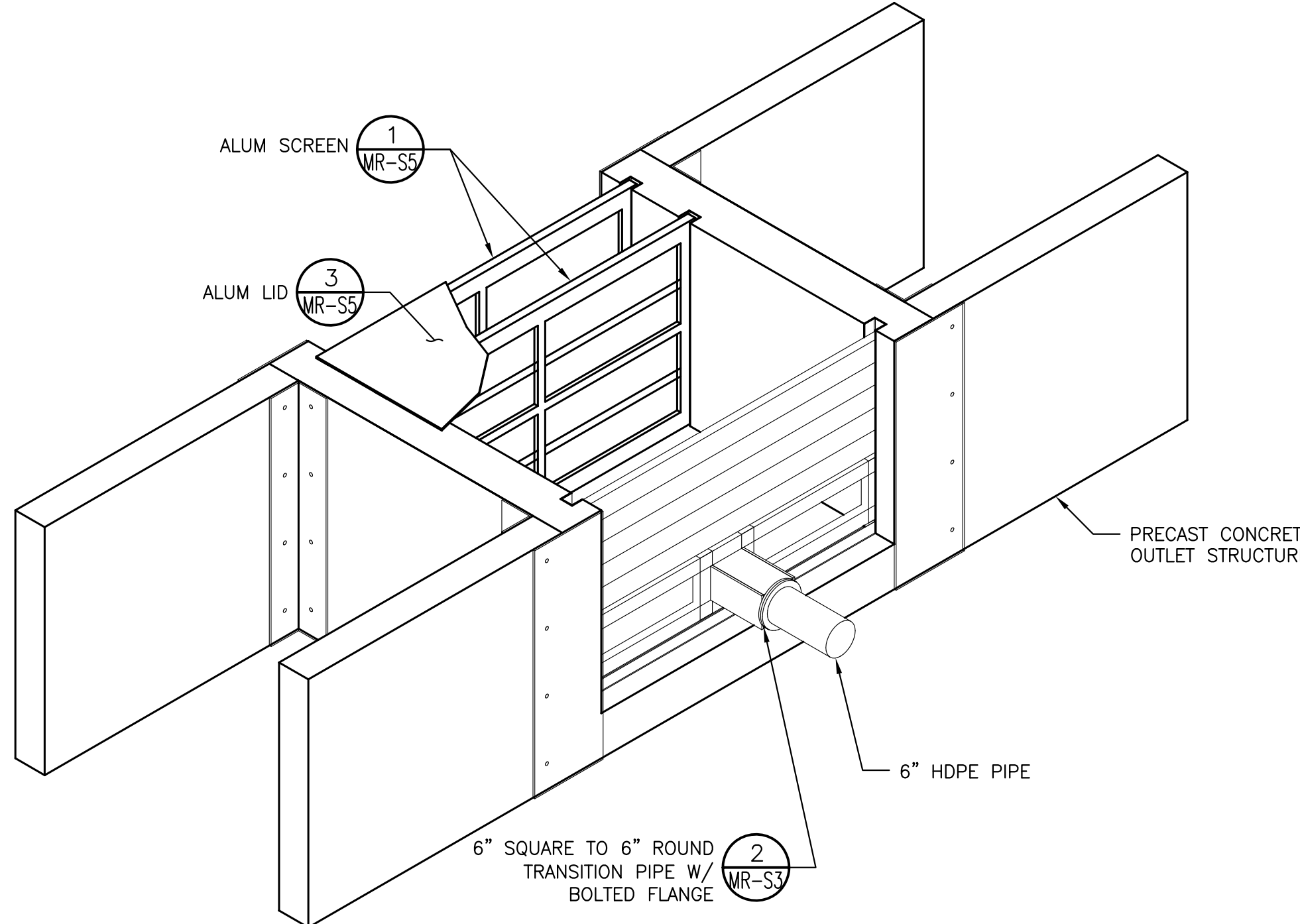
McMILLEN, LLC
1401 SHORELINE DRIVE
SUITE 100
BOISE, ID 83702
OFFICE: 208.342.4214
FAX: 208.342.4216

SAP#	LEWIS RIVER		
PL#	MUDDY RIVER ACCLIMATION POND		
DATE	6/24/11	WATER SUPPLY CONTROL STRUCTURE	
ENG	DSN	DES	DSN
DR	RLG	CH	MDM
APPROVAL			
PACIFICORP ENERGY		HYDRO	
SCALE: AS NOTED	SHEET MR-S1	REV. 0	

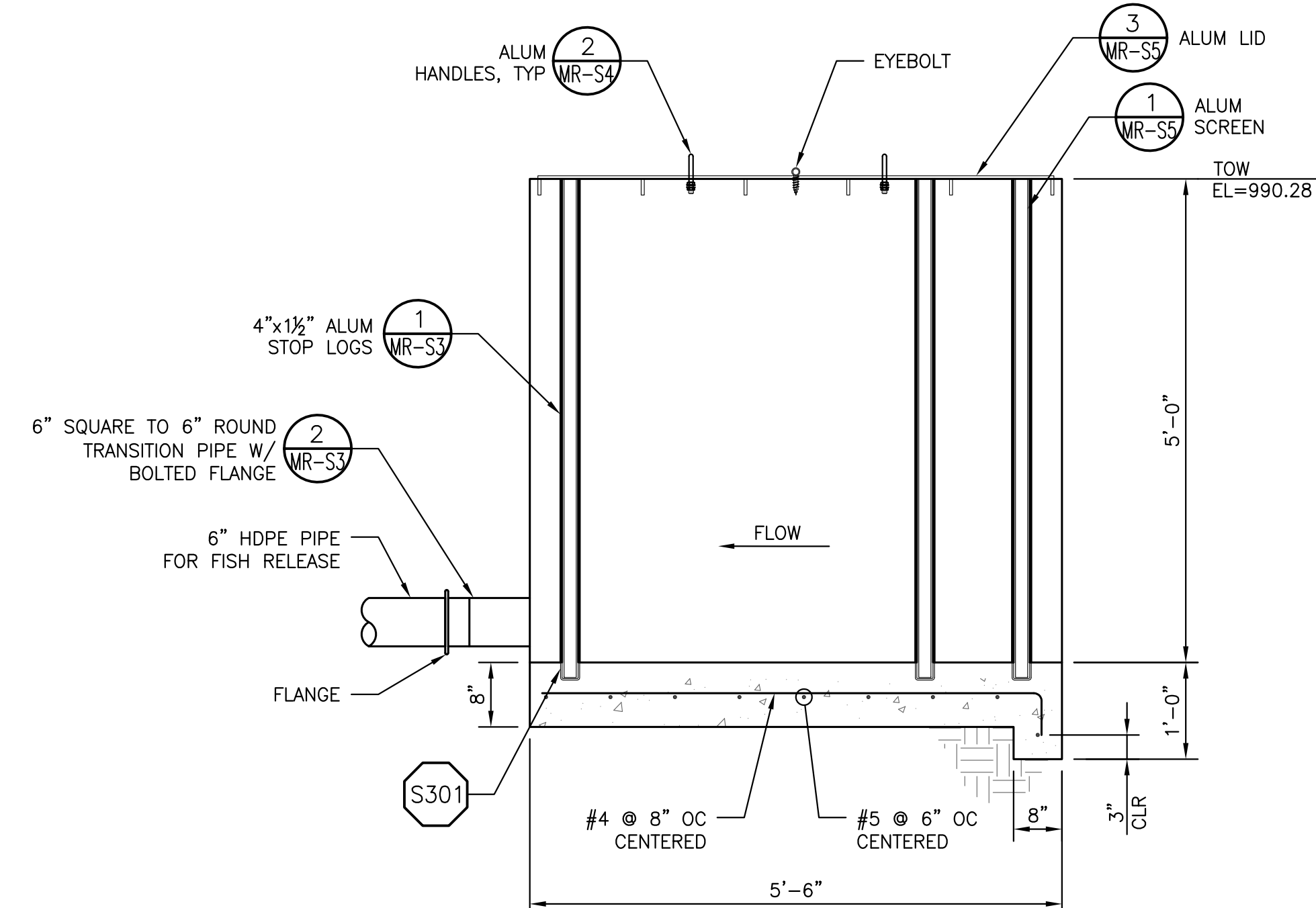
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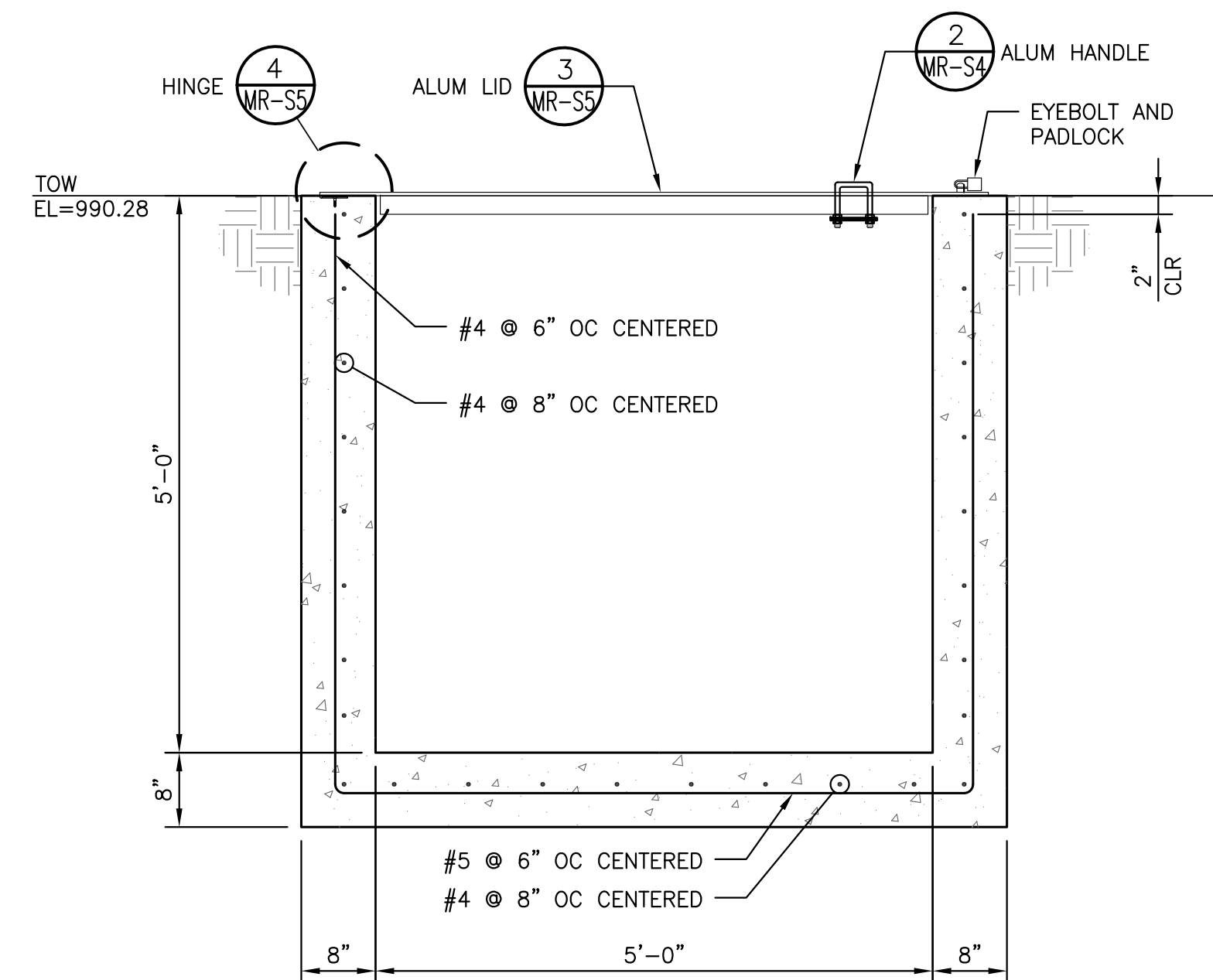
OUTLET STRUCTURE PLAN
SCALE: 3/4" = 1'-0"



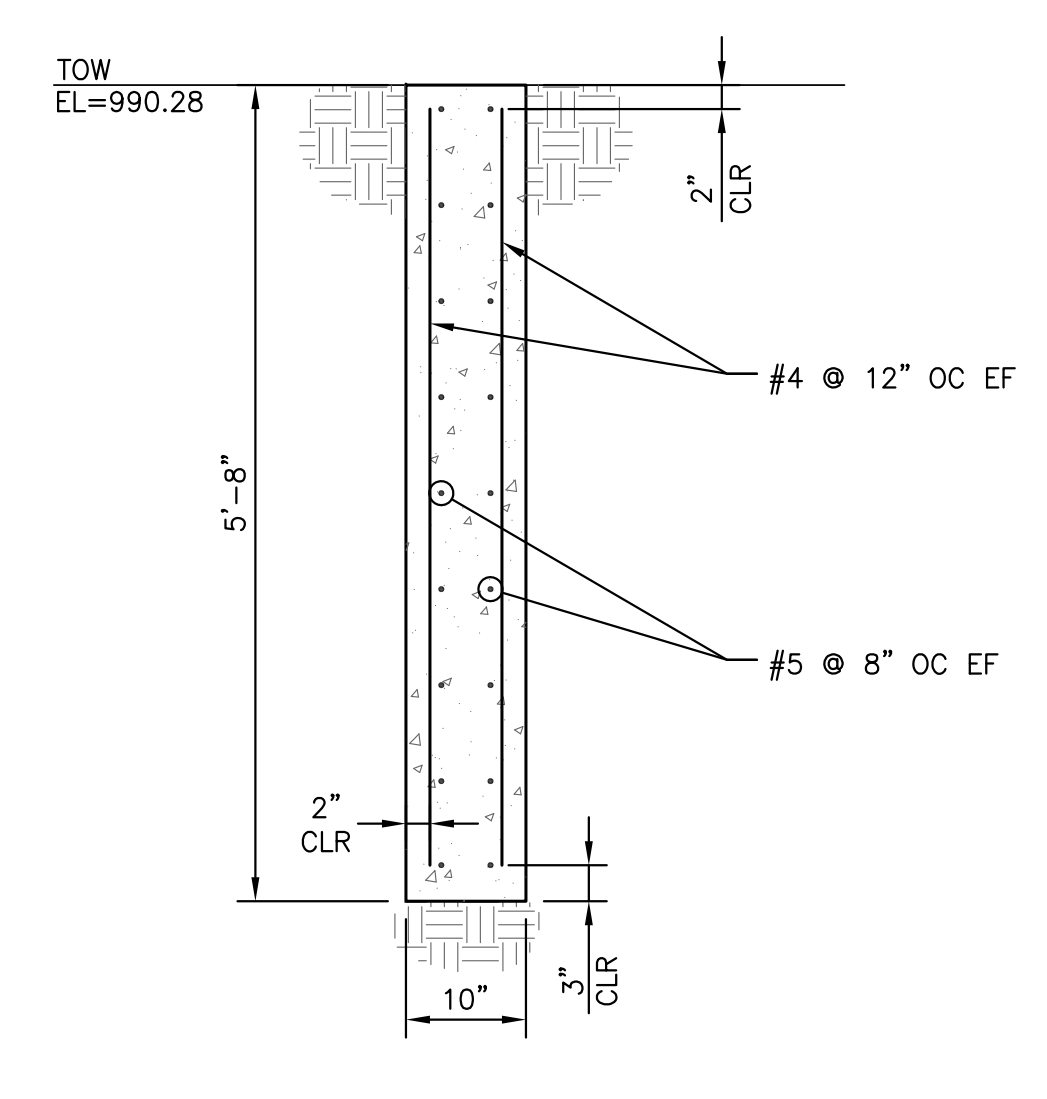
ISOMETRIC
SCALE: NONE



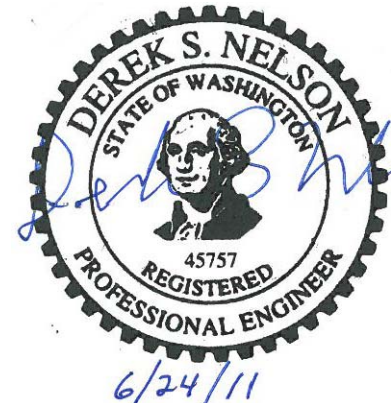
SECTION A-A
SCALE: 3/4" = 1'-0"



SECTION B-B
SCALE: 3/4" = 1'-0"



SECTION C-C
SCALE: 3/4" = 1'-0"

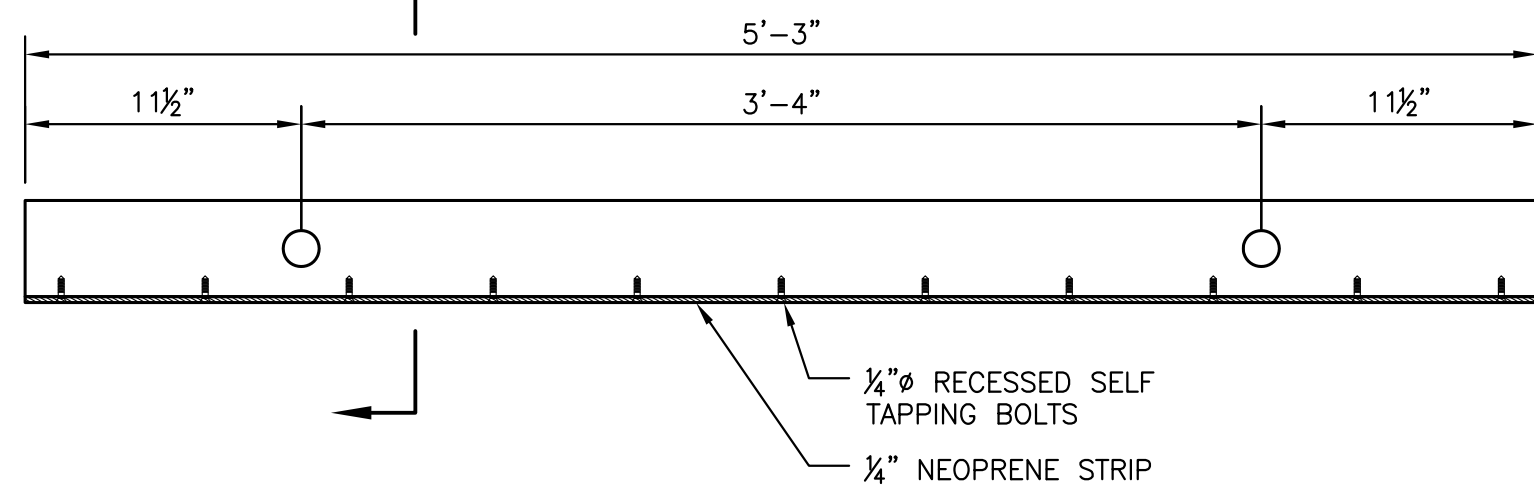


McMILLEN, LLC

1401 SHORELINE DRIVE
SUITE 100
BOISE, ID 83702
OFFICE: 208.342.4214
FAX: 208.342.4216

SAP#	LEWIS RIVER		
PL#	MUDDY RIVER ACCLIMATION POND		
DATE	6/24/11	OUTLET STRUCTURE	
ENG	DSN	DES	DSN
DR	RLG	CH	MDM
APPROVAL			
PACIFICORP ENERGY		HYDRO	
SCALE: AS NOTED	SHEET MR-S2	REV. 0	

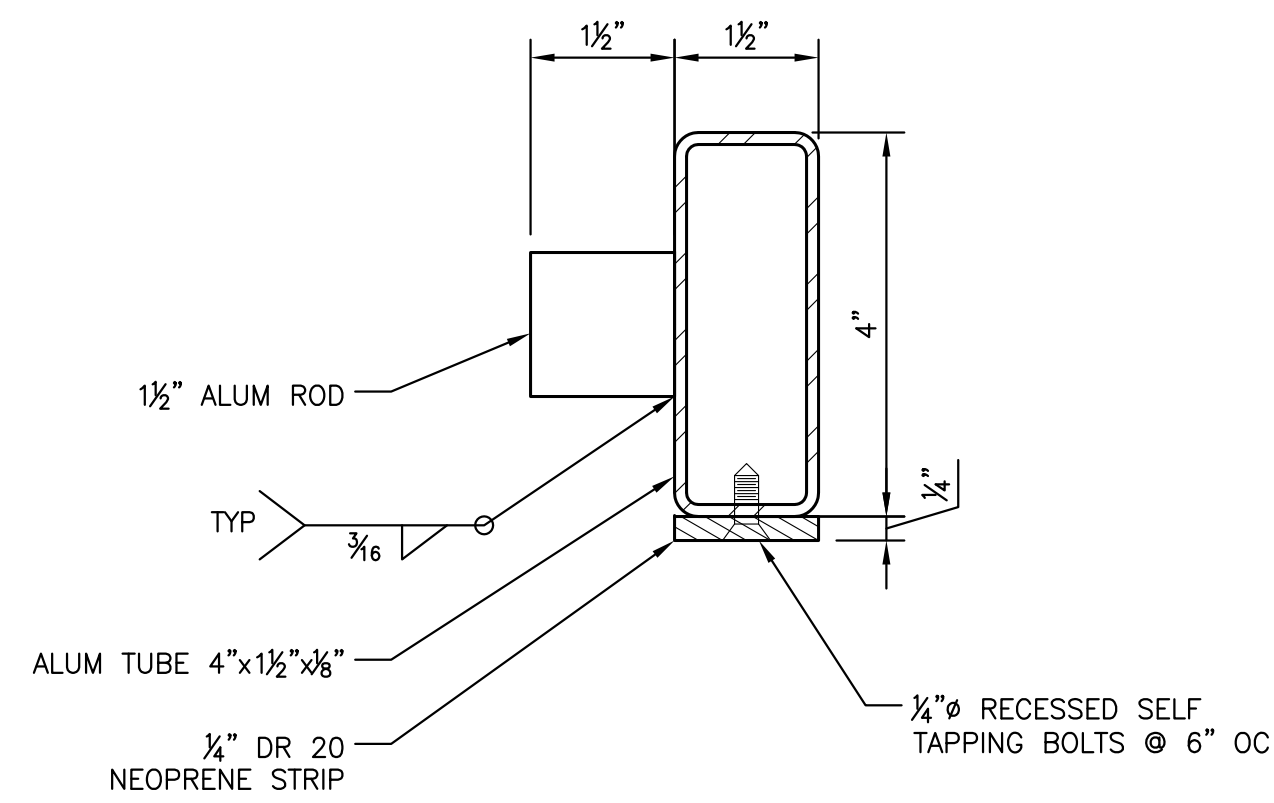
REVISION	DATE	BY	CHK APP	REVISION	DATE	BY	CHK APP
0	6/24/11	RG	DSN MDM	0	6/24/11	RG	DSN MDM
ISSUED FOR CONSTRUCTION				ISSUED FOR CONSTRUCTION			



STOPLOG DETAIL (12 REQ'D)

SCALE: 1 1/2" = 1'-0"

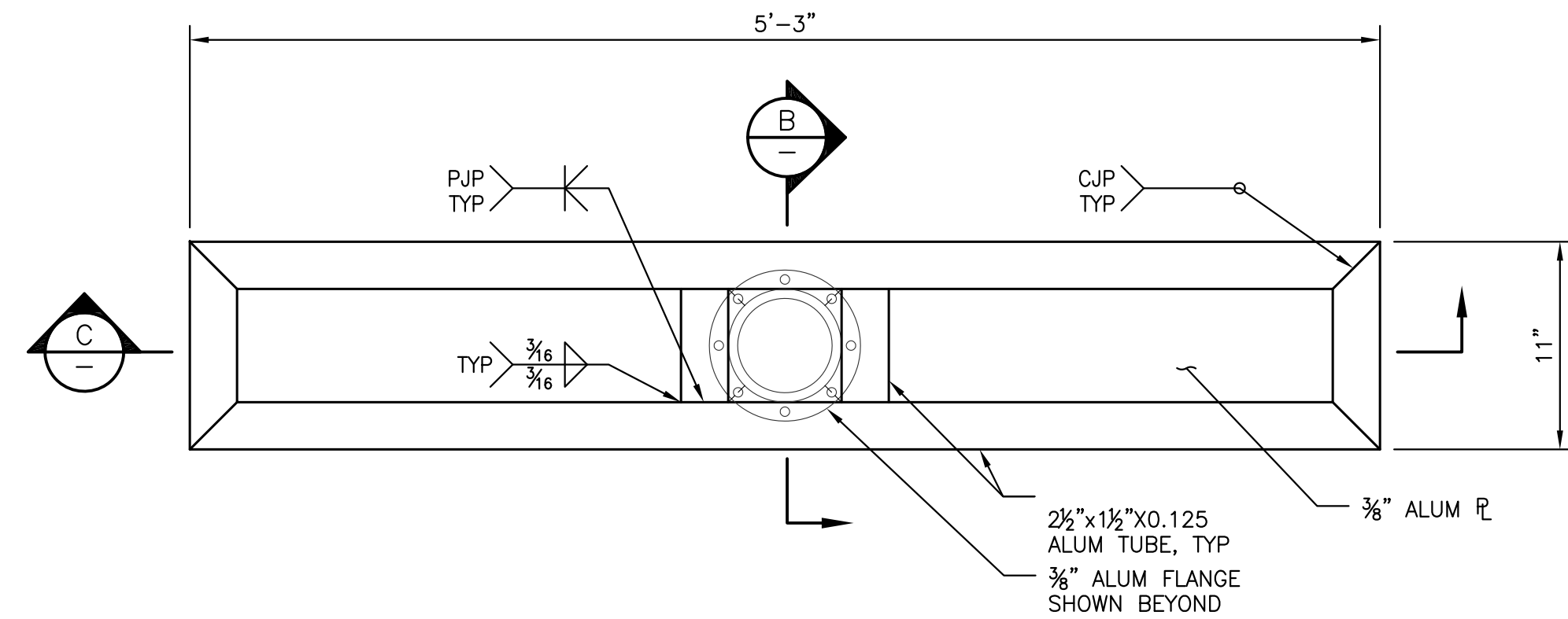
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MR-S2



SECTION

SCALE: 6" = 1'-0"

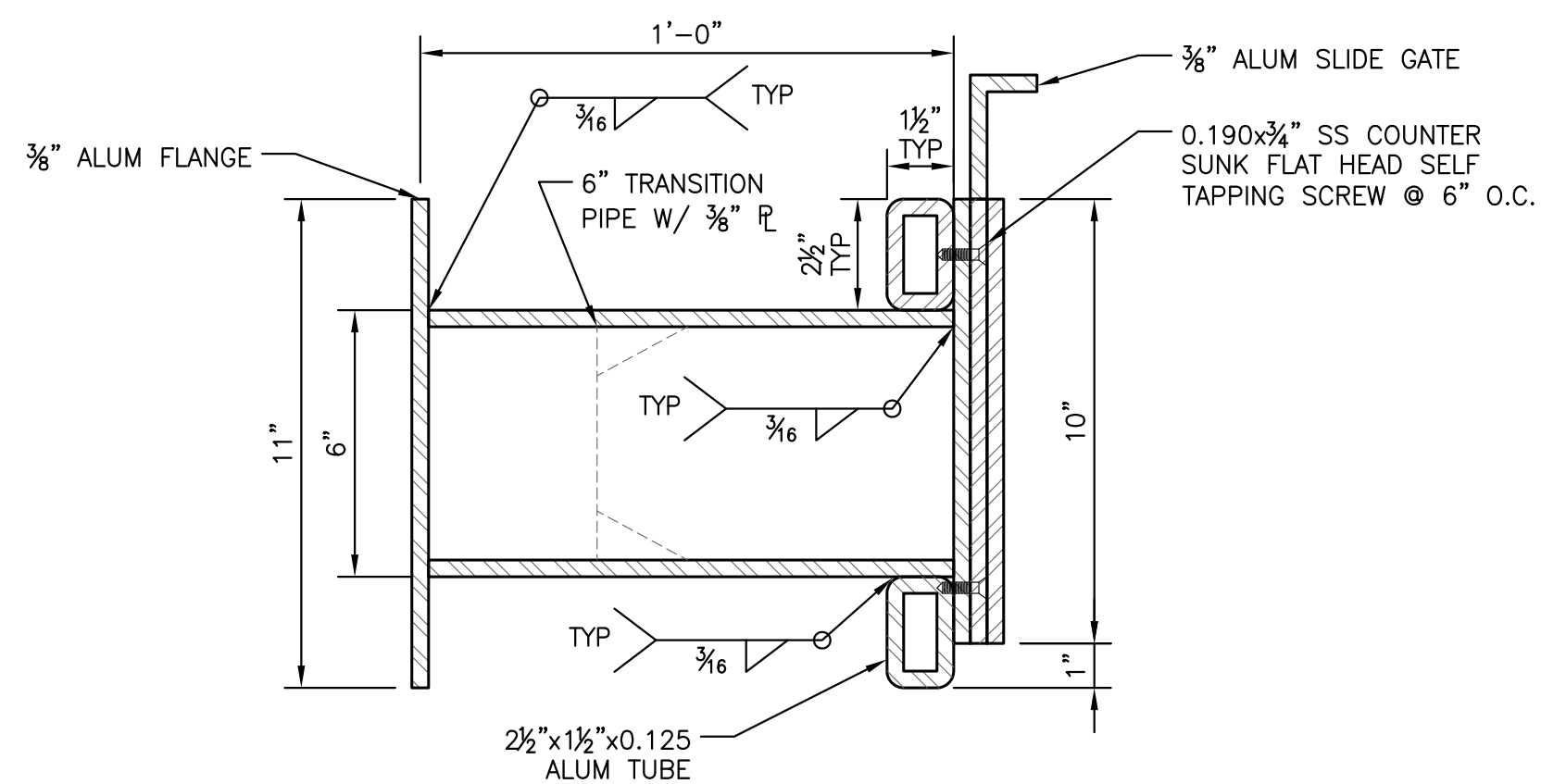
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TRANSITION PIPE STOPLOG DETAIL

SCALE: 1 1/2" = 1'-0"

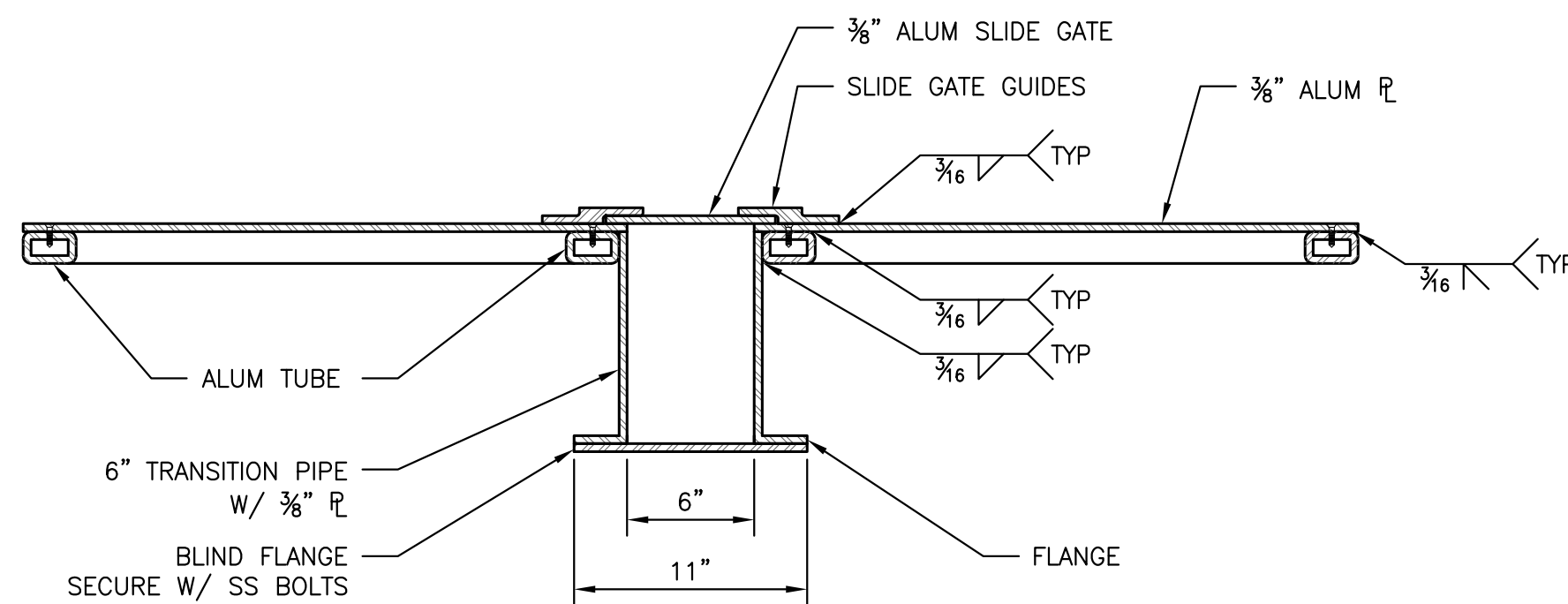
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MR-S2



SECTION

SCALE: 3" = 1'-0"

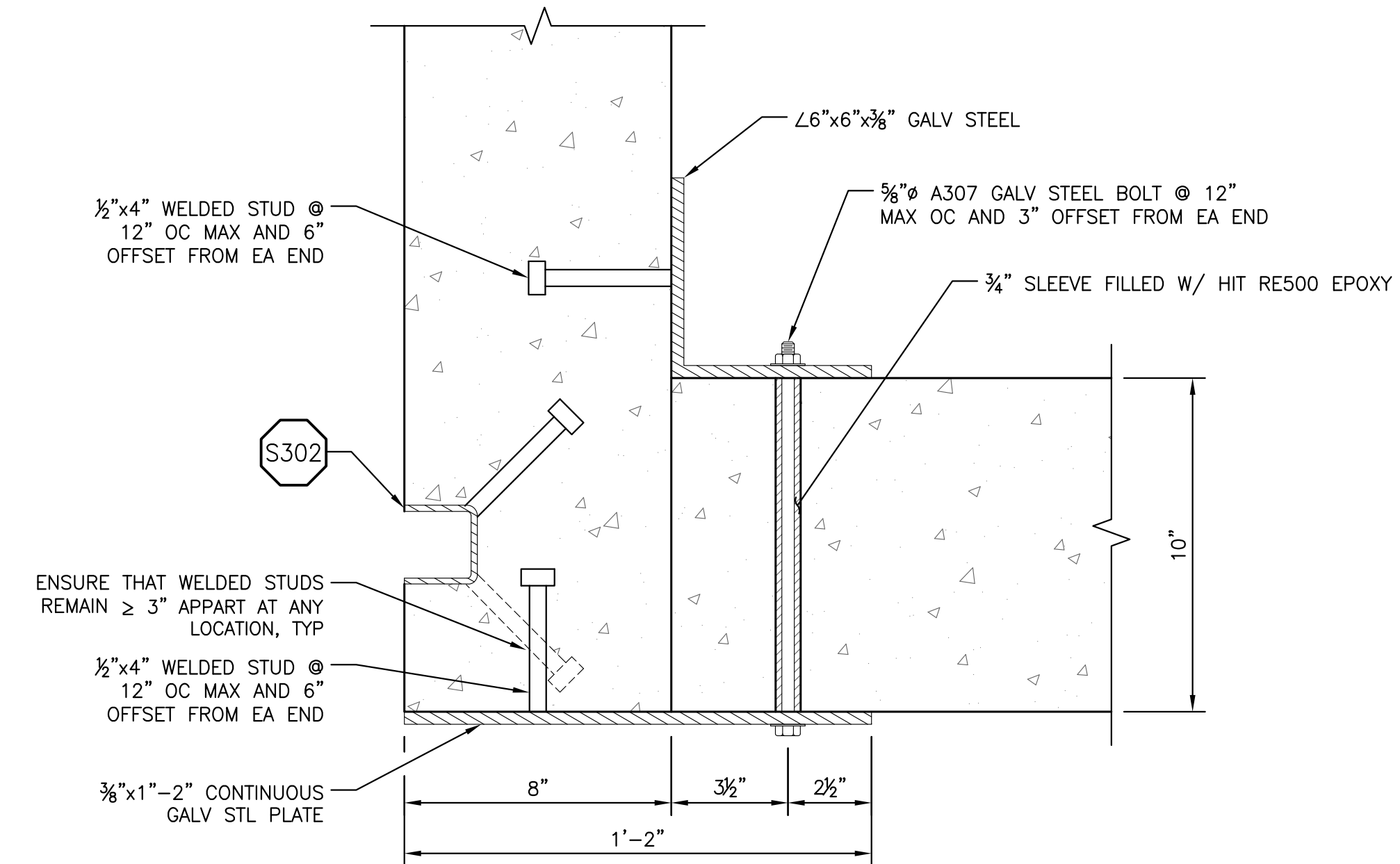
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SECTION

SCALE: 1 1/2" = 1'-0"

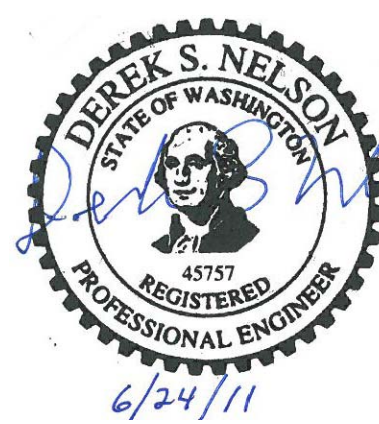
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DETAIL

SCALE: 3" = 1'-0"

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MR-S1

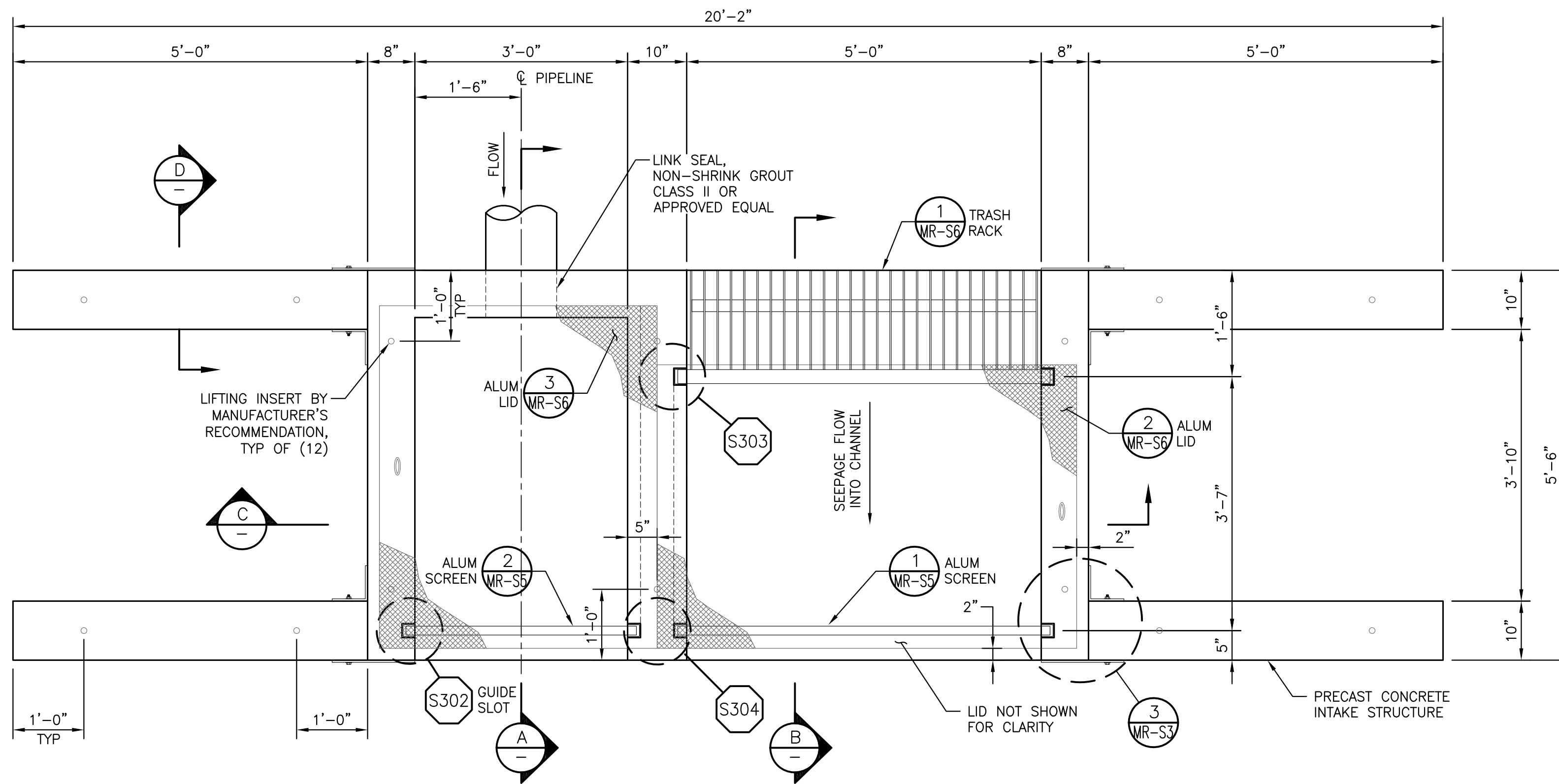


McMILLEN, LLC

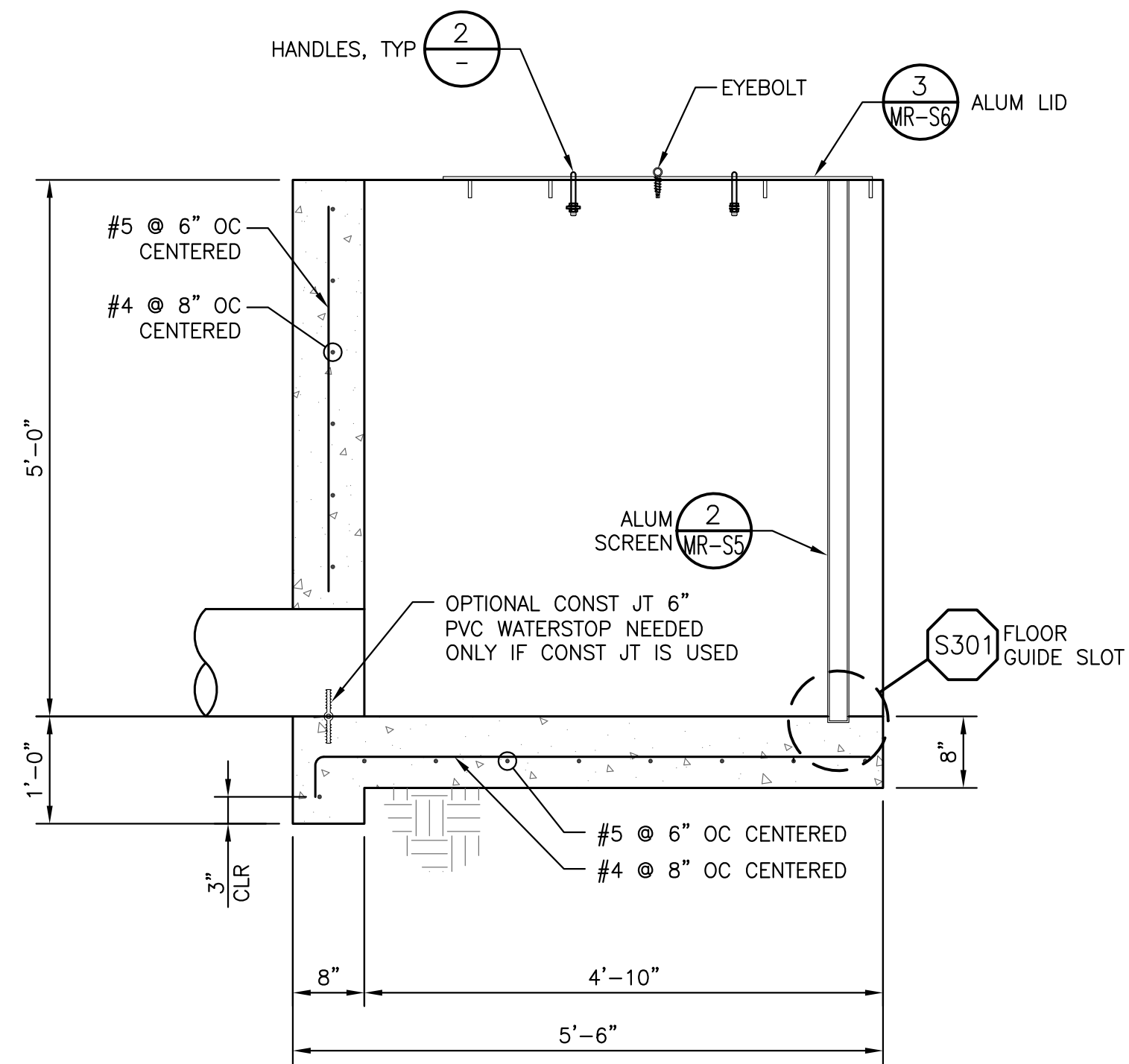
1401 SHORELINE DRIVE
SUITE 100
BOISE, ID 83702
OFFICE: 208.342.4214
FAX: 208.342.4216

SAP#	LEWIS RIVER		
PL#	MUDDY RIVER ACCLIMATION POND		
DATE	6/24/11	STOPLOG PLAN, SECTION, TRANSITION	
ENG	DSN	DES	JR
DR	RG	CH	MDM
APPROVAL			
PACIFICORP ENERGY		HYDRO	
SCALE: AS NOTED	SHEET MR-S3	REV. 0	

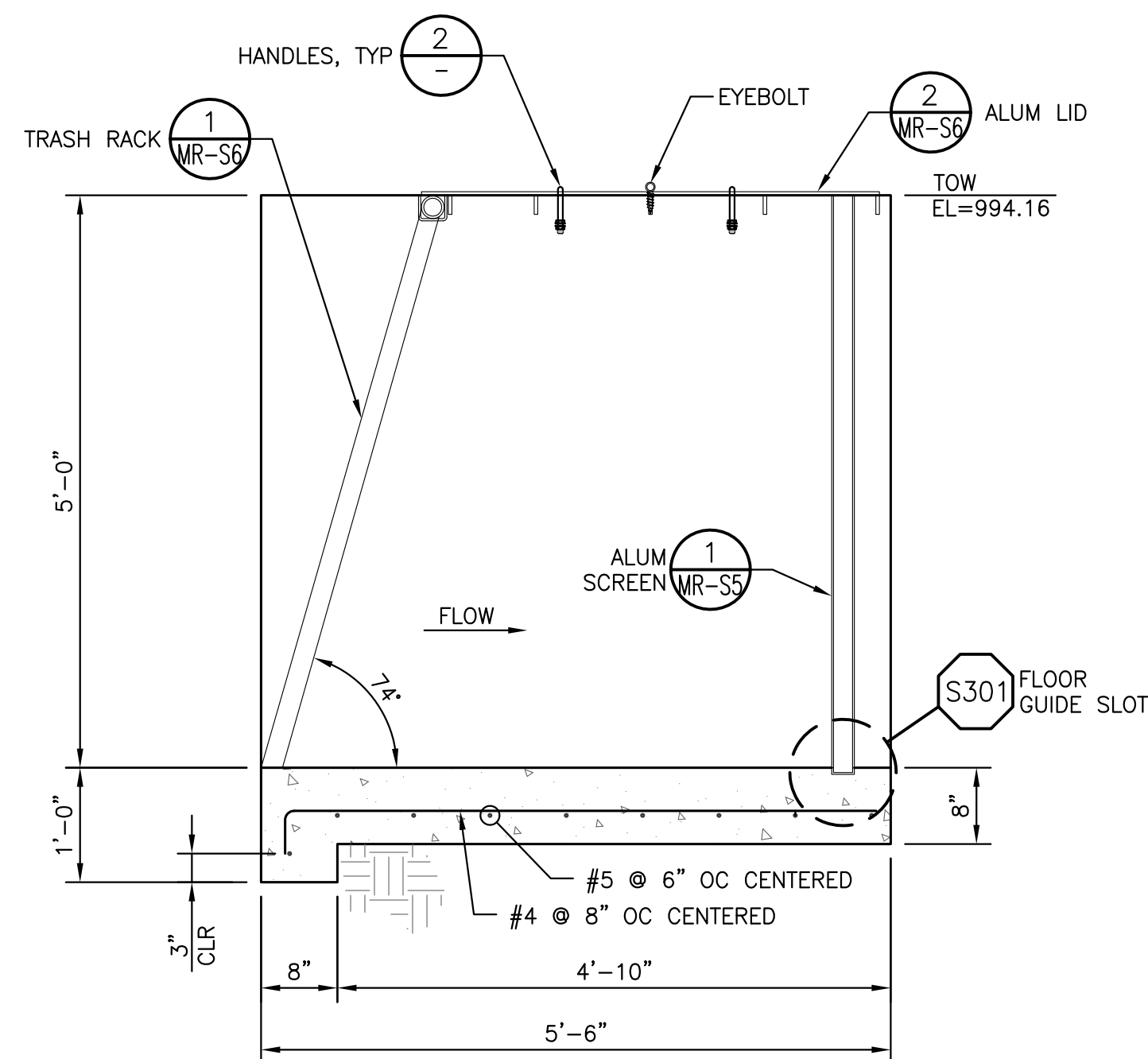
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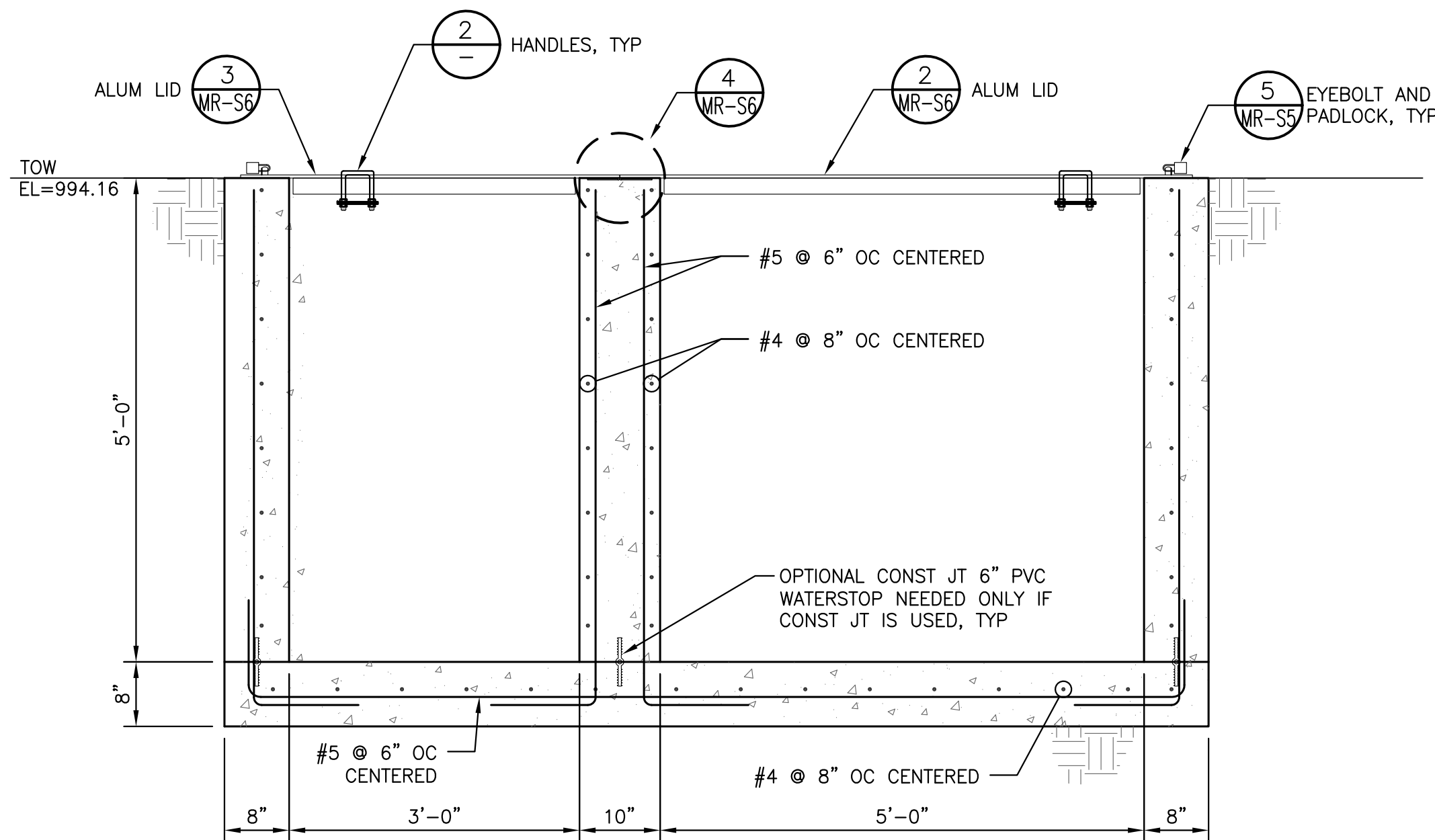
PIPE OUTLET STRUCTURE PLAN
SCALE: 3/4" = 1'-0"



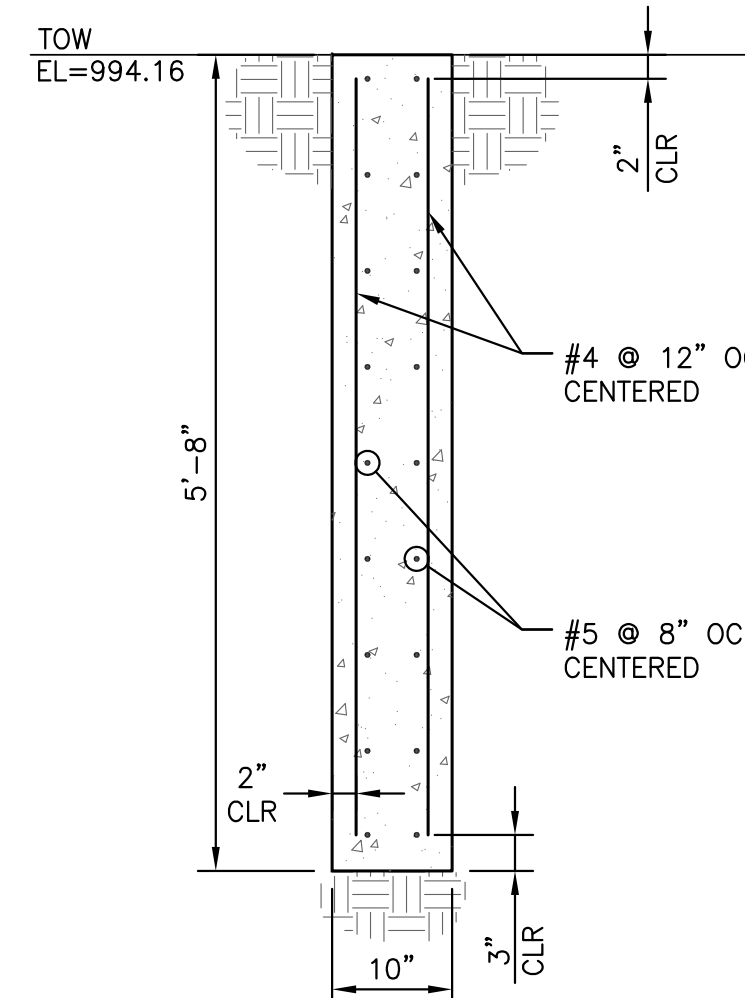
SECTION
SCALE: 3/4" = 1'-0"



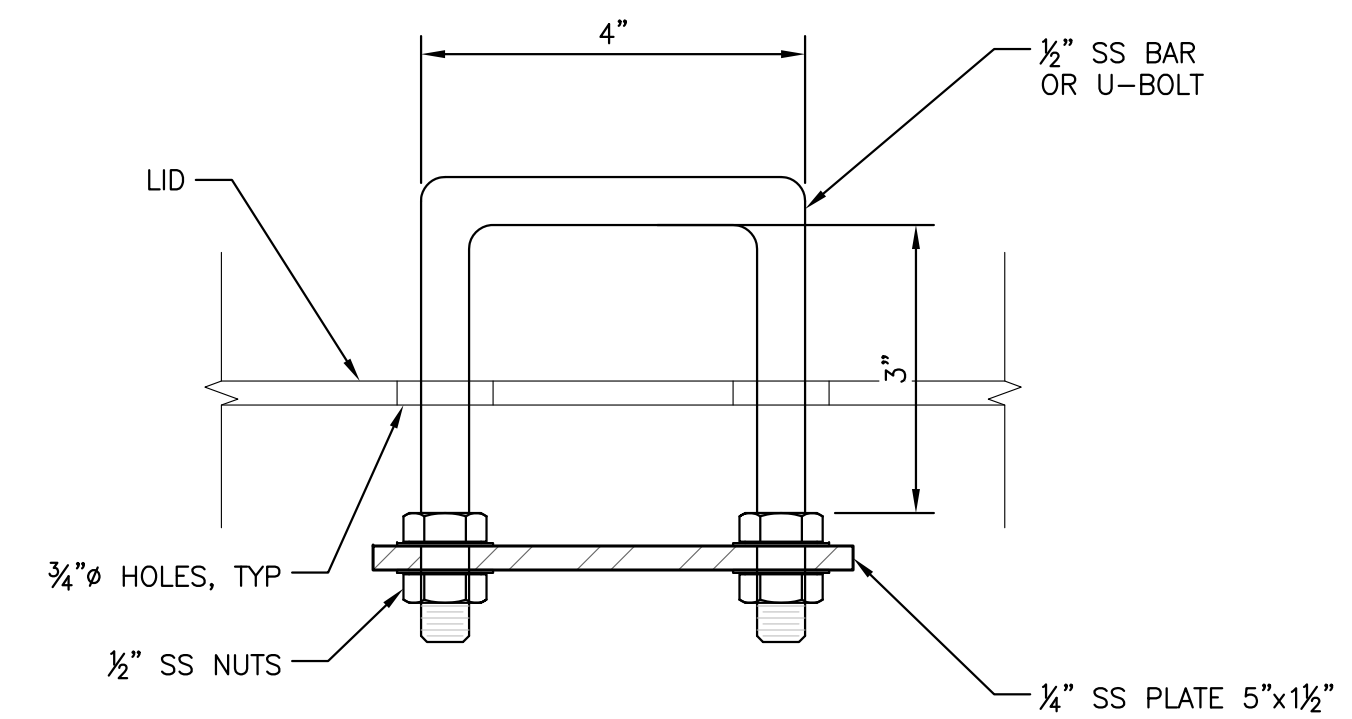
SECTION
SCALE: 3/4" = 1'-0"



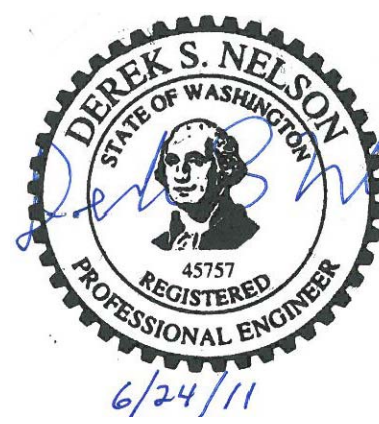
SECTION
SCALE: 3/4" = 1'-0"



SECTION
SCALE: 3/4" = 1'-0"



HANDLE
SCALE: 6" = 1'-0"



McMILLEN, LLC

1401 SHORELINE DRIVE
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SAP#	LEWIS RIVER		
PL#	MUDDY RIVER ACCLIMATION POND		
DATE	6/24/11	PIPE OUTLET STRUCTURE	
ENG	DSN	DES	DSN
DR	RLG	CH	MDM
APPROVAL			
PACIFICORP ENERGY		HYDRO	
SCALE: AS NOTED	SHEET MR-S4	REV. 0	

NO.	DATE	REVISION	BY	CHK	APP	DRAWING No.	REFERENCE DRAWINGS
0	6/24/11	ISSUED FOR CONSTRUCTION	RG	DSN	MDM		

