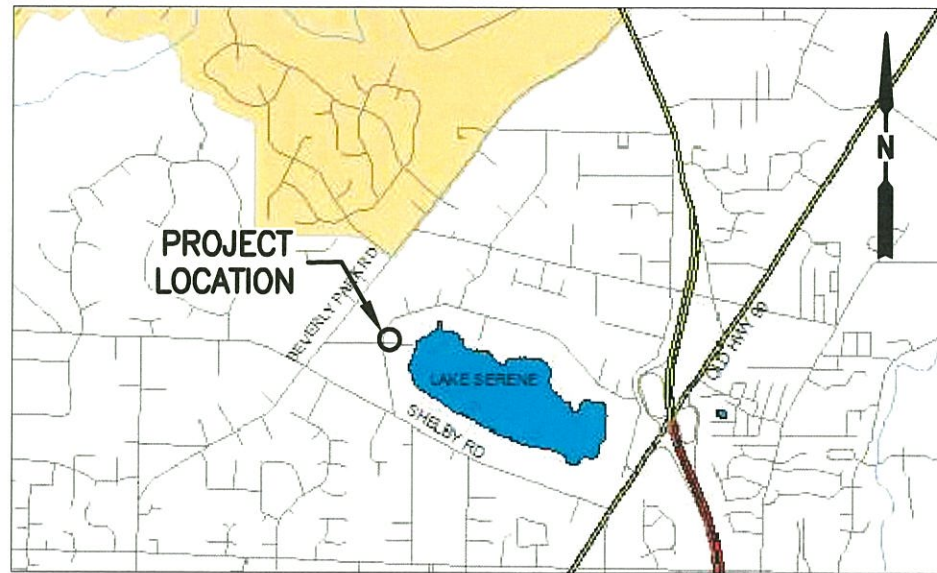


DRAINAGE IMPROVEMENT NEAR 140TH ST SE & SERENE WAY

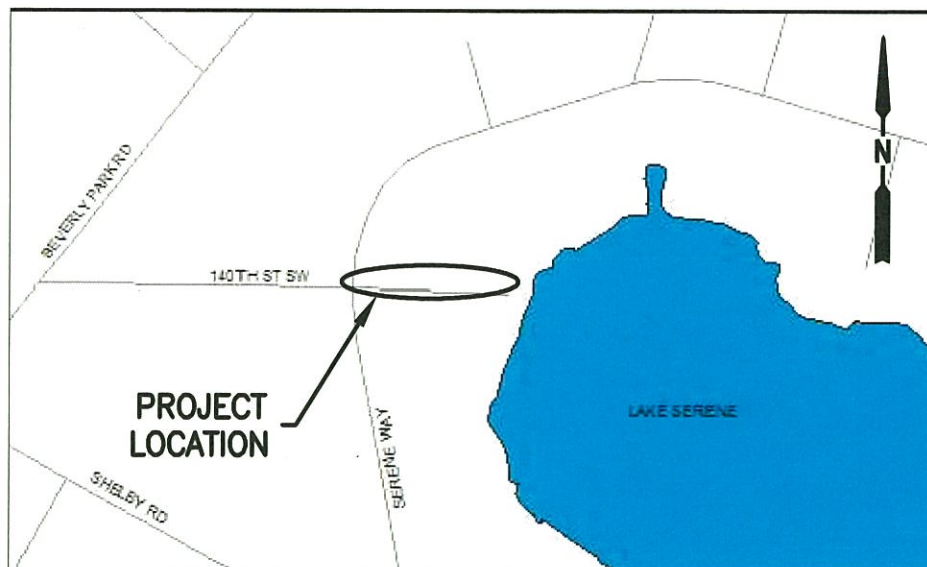
SNOHOMISH COUNTY DEPARTMENT OF PUBLIC WORKS

SURFACE WATER MANAGEMENT

PROJECT RR48837



LOCATION MAP
N.T.S.



VICINITY MAP
N.T.S.



Snohomish County Officials

DIRECTOR OF PUBLIC WORKS
STEVEN E. THOMSEN, P.E.

COUNTY ENGINEER
OWEN B. CARTER, P.E.

EXECUTIVE
DAVE SOMERS

COUNCIL MEMBERS
NATE NEHRING – DIST. 1
BRIAN SULLIVAN – DIST. 2
STEPHANIE WRIGHT – DIST. 3
TERRY RYAN – DIST. 4
SAM LOW – DIST. 5

SHEET INDEX

SHEET NAME	SHEET #
COVER	1
NOTES & LEGEND	2
SURVEY CONTROL & ALIGNMENT PLAN	3
PLAN & PROFILE	4
TESC PLAN	5
DETAILS	6-7

GENERAL NOTES

1. ALL MATERIALS AND CONSTRUCTION ARE TO COMPLY WITH THE CURRENT EDITION OF THE SNO. CO. P.W. ENGINEERING DESIGN AND DEVELOPMENT STANDARDS (EDDS), SNOHOMISH COUNTY CODE TITLE 30, AND/OR 2016 W.S.D.O.T. STANDARD PLANS AND SPECIFICATIONS, UNLESS NOTED OTHERWISE.
2. UTILITY LOCATIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. UTILITY LOCATE SERVICE (1-800-424-5555). UTILITIES TO BE RELOCATED BY ALDERWOOD WATER & WASTE WATER DISTRICT. CONTACT MIKE JOHNSON 425-478-3875
3. DETOURS, ROAD CLOSURES, AND TRAFFIC CONTROL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. A PRE-CONSTRUCTION CONFERENCE SHALL BE SCHEDULED BETWEEN THE CONTRACTOR AND THE DESIGNER PRIOR TO ACTUAL CONSTRUCTION.
5. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS, OR AS SHOWN ON PLANS, BY THE CONTRACTOR.

CONSTRUCTION SEQUENCE

1. INSTALL EROSION/SEDIMENT CONTROL BMP'S PER SWPP.
2. CLEAR AND GRUB CONSTRUCTION AREA.
3. SAWCUT AND REMOVE ROAD PAVEMENT. PLATE ROAD TO PROVIDE ACCESS.
4. INSTALL TEMPORARY DEWATERING PUMP PER TESC IF NEEDED.
5. STARTING WITH CB #3, INSTALL ONE SECTION OF PROPOSED PIPE/CB'S, WORKING UP STREAM.
6. THE LAST PIPE SECTION THAT EXTENDS INTO THE LAKE SHOULD BE A FULL 20' STICK OF PIPE. IF NEEDED, TEMPORARILY PLUG THE UPSTREAM END OF THE PIPE WITH A PNEUMATIC PLUG AFTER INSTALLATION.
7. INSTALL THE 24" PIPE LAST, AND CONNECT TO THE EXISTING CB.
8. MOVE DEWATERING SYSTEM AS NEEDED.
9. RESTORE ROAD SURFACE, ROAD SHOULDER, DRIVEWAY, AND OTHER DISTURBED AREAS.
10. REMOVE BMP'S/CLEAN-UP.

UTILITY CONTACT INFORMATION

ALDERWOOD WATER AND WASTEWATER DISTRICT
 3826 156TH ST SW
 LYNNWOOD, WA 98087-5021
 CONTACT: BRIGITTE MCCARTY
 (425)743-4605
 MAINTENANCE/OPERATIONS
 CONTACT: MIKE JOHNSON
 (425)478-3875

ATT
 12805 412TH AVE SE
 NORTH BEND, WA 98045
 CONTACT: CARL ACUFF
 (425)888-0559
 (360)951-5920

COMCAST
 1525 75TH ST SW, STE 200
 EVERETT, WA 98203
 CONTACT: CASEY BROWN
 CASEY_BROWN@CABLE.COMCAST.COM
 (425)754-0064

SNOHOMISH COUNTY PUD NO. 1
 120 E FREMONT ST
 MONROE, WA 98272
 CONTACT: GAYLE DANAHY
 (360)794-3919

SNOHOMISH COUNTY PUD NO. 1 (POWER)
 1802 75TH ST SW
 PO BOX 1107, MS #02
 EVERETT, WA 98206
 CONTACT: ERIN BURKE
 EFBURKE@SNOFUD.COM
 (425)783-4745
 CONTACT: DANA LIM
 (360)629-5712

SPRINT
 5309 S 2ND AVE
 EVERETT, WA 98203
 CONTACT: GENE HANK
 (425)750-9598


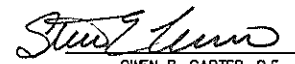
WAVE BROADBAND
 PO BOX 1630
 LA CONNER, WA 98257
 CONTACT: ED KNIPPER
 EDK@WAVEBROADBAND.COM
 (425)508-9586

SUMMARY OF QUANTITIES

ITEM NO.	QUANTITY	UNIT	STD. ITEM NO.	DESCRIPTION
1	378	L.F.	---	SINGLE WALLED CPSSP 18 IN. DIAM.
2	15	L.F.	3607	CPSSP 18 IN. DIAM
3	144	L.F.	3608	CPSSP 24 IN. DIAM.
4	1	EA.	3105	CATCH BASIN TYPE 2 48 IN. DIAM.
5	2	EA.		CATCH BASIN TYPE 1L
6	95	C.Y.	7017	GRAVEL BACKFILL FOR PIPE ZONE BEDDING
7	1	EA.	---	OUTLET STRUCTURE
8	148	C.Y.	6407	TOPSOIL TYPE A
9	0.14	ACRE	6412	SEEDING AND FERTILIZING
10	50	L.F.	6635	SILT FENCE
11	2	EA.	6471	INLET PROTECTION
12	1	EA.	---	CONNECT TO DRAINAGE STRUCTURE
13	1	L.S.	---	COFFER DAM (SUPER SACKS & SANDBAGS)
14	9	TON	5767	HMA CLASS 1/2 INCH PG 64-22
15	102	L.F.	---	4" PERF. PIPE
16	36	L.F.	---	4" PVC
17	20	C.Y.	---	DRAIN ROCK
18	1	L.S.	---	ENERGY DISSIPATOR (COIR LOGS)

LEGEND

- EDGE OF PAVEMENT (EXISTING)
- - - - - BUILDING LINE (EXISTING)
- BUILDING OVERHANG
- CONCRETE (EXISTING)
- CONCRETE (PROPOSED)
- PAVEMENT (PROPOSED)
- - - - - DITCH CENTERLINE (EXISTING)
- DITCH CENTERLINE (PROPOSED)
- FENCE (EXISTING)
- GRAVEL (EXISTING)
- LAKE WATER EDGE
- SF ----- SILT FENCE
- CONTOUR (MINOR-EXISTING)
- - - - - CONTOUR (MAJOR-EXISTING)
- CONTOUR (MINOR-PROPOSED)
- CONTOUR (MAJOR-PROPOSED)
- EASEMENT (EXISTING)
- EASEMENT (PROPOSED)
- PROPERTY LINE
- RIGHT-OF-WAY @ (EXISTING)
- RIGHT-OF-WAY (EXISTING)
- STORM DRAIN (PROPOSED)
- TV ----- CABLE TELEVISION (AERIAL)
- P ----- POWER (AERIAL)
- S ----- SANITARY SEWER
- FM ----- SANITARY SEWER (FORCE MAIN)
- SD ----- STORM DRAINAGE (STR TO STR)
- T ----- TELEPHONE (AERIAL)
- V ----- WATER

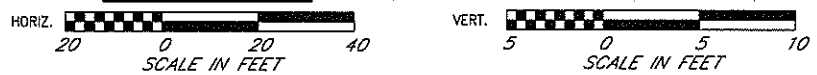
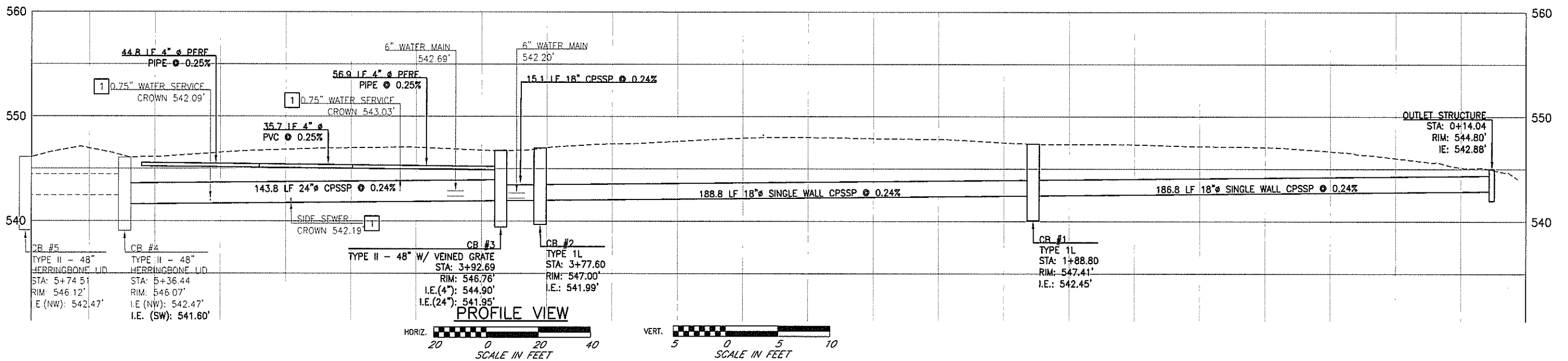
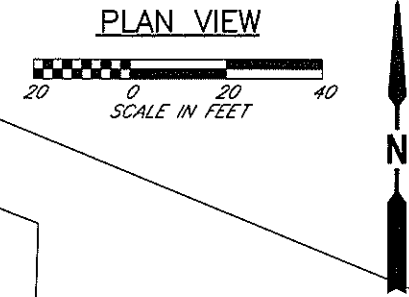
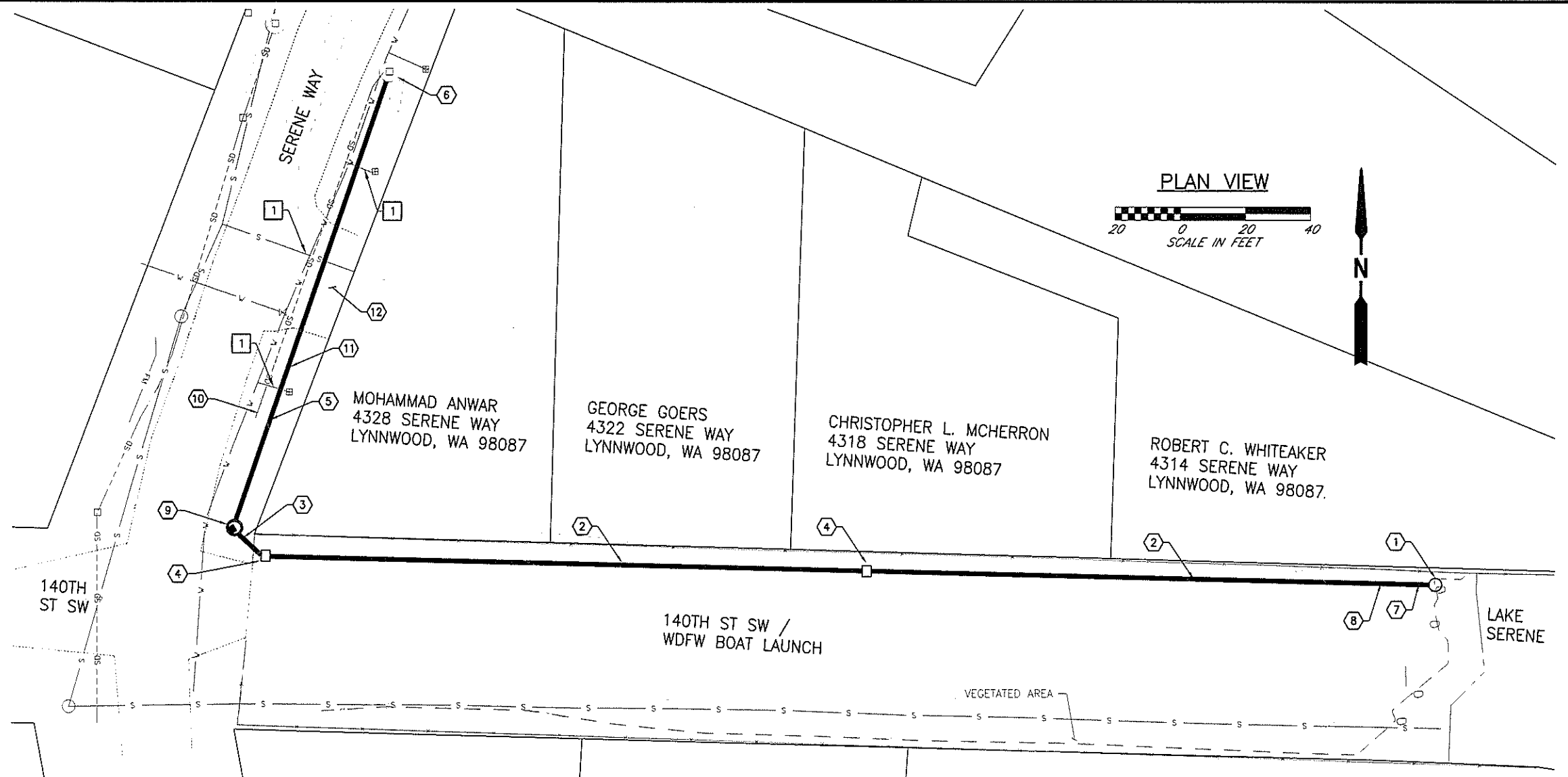
PLAN CHECK	BY	DATE																									
Last Saved By: spwd\h Feb 21, 2017 - 9:40am										REGION NO.	STATE	FED. AID PROJ. NO.	SURVEY NO.														
										DESIGNED BY:	D. HOWE	DRAWN BY:	D. HOWE														
										FIELD BOOK(S):			UPI#	14-0142-1													
														REVIEWED AND APPROVED FOR CONSTRUCTION  OWEN B. CARTER, P.E. SNOHOMISH COUNTY ENGINEER 2-22-17 DATE APPROVED:				SNOHOMISH COUNTY DEPARTMENT OF PUBLIC WORKS FUNDING NO. RR48837				EMERGENCY BYPASS LAKE SERENE OUTLET NOTES				REFERENCE SHEET NO.	SHEET 2 OF 7 SHEETS

CONSTRUCTION NOTES

- 1 INSTALL LAKE OUTLET STRUCTURE PER DETAIL.
- 2 INSTALL 18" SINGLE WALL CPSSP STORM DRAIN PIPE PER TYPICAL TRENCH DETAIL
- 3 INSTALL 18" DOUBLE WALL CPSSP STORM DRAIN PIPE PER TYPICAL TRENCH DETAIL
- 4 INSTALL TYPE 1L CB WITH SOLID LID
- 5 INSTALL 24" CPSSP STORM DRAIN PIPE PER TYPICAL TRENCH DETAIL
- 6 CONNECT TO EXISTING STRUCTURE
- 7 INSTALL GROUNDWATER SEEPAGE COLLAR TO PREVENT WATER PIPING THROUGH TRENCH BACKFILL PER DETAIL
- 8 ENSURE THAT THE MOST UPSTREAM PIPE SECTION IS A FULL 20' STICK OF PIPE.
- 9 INSTALL TYPE II - 48" CB WITH VEINED GRATE. SLOPE SURROUNDING GRADE TOWARDS THE CATCH BASIN.
- 10 REMOVE EXISTING 12" CONCRETE PIPE, AND 4" PERF. PIPE COMBINATION SYSTEM.
- 11 INSTALL 4" ϕ PERF. PIPE AT 0.25% SLOPE ABOVE 24" ϕ PIPE. SLOPE TOWARDS CB 3. MINIMUM 6" OF COVER AT UPSTREAM END. BACKFILL WITH DRAIN ROCK TO SURFACE. INSTALL SOLID 4" PVC UNDER DRIVEWAY. OR AS DIRECTED FIELD ENGINEER.
- 12 REMOVE AND RESTORE EXISTING DRIVEWAY AS NEEDED UP TO THE EDGE OF THE RIGHT OF WAY. IN NO CASE SHALL STRIPS OF ASPHALT LESS THAN 2' IN WIDTH BE LEFT AFTER RESTORATION TO ENSURE THE LONGEVITY OF THE DRIVEWAY APRON.

UTILITY NOTES

- 1 UTILITY HAS BEEN POTHOLED AND APPROXIMATE LOCATION SHOWN ON PROFILE. UTILITY TO BE RELOCATED BY OTHERS; CONTRACTOR SHALL COORDINATE THE UTILITY RELOCATION.



PLAN CHECK	BY	DATE	
DATE	NO.	REVISION	BY

Last Saved By: spwdh Feb 21, 2017 - 4:54pm			
REGION NO.	STATE	FED. AID PROJ. NO.	SURVEY NO.
10	WASH		
DESIGNED BY: D. HOWE		DRAWN BY: D. HOWE	
FIELD BOOK(S):		UPI# 14-0142-1	

REVIEWED AND APPROVED FOR CONSTRUCTION

Stuart

OWEN B. CARTER, P.E.
SNOHOMISH COUNTY ENGINEER

2-22-17

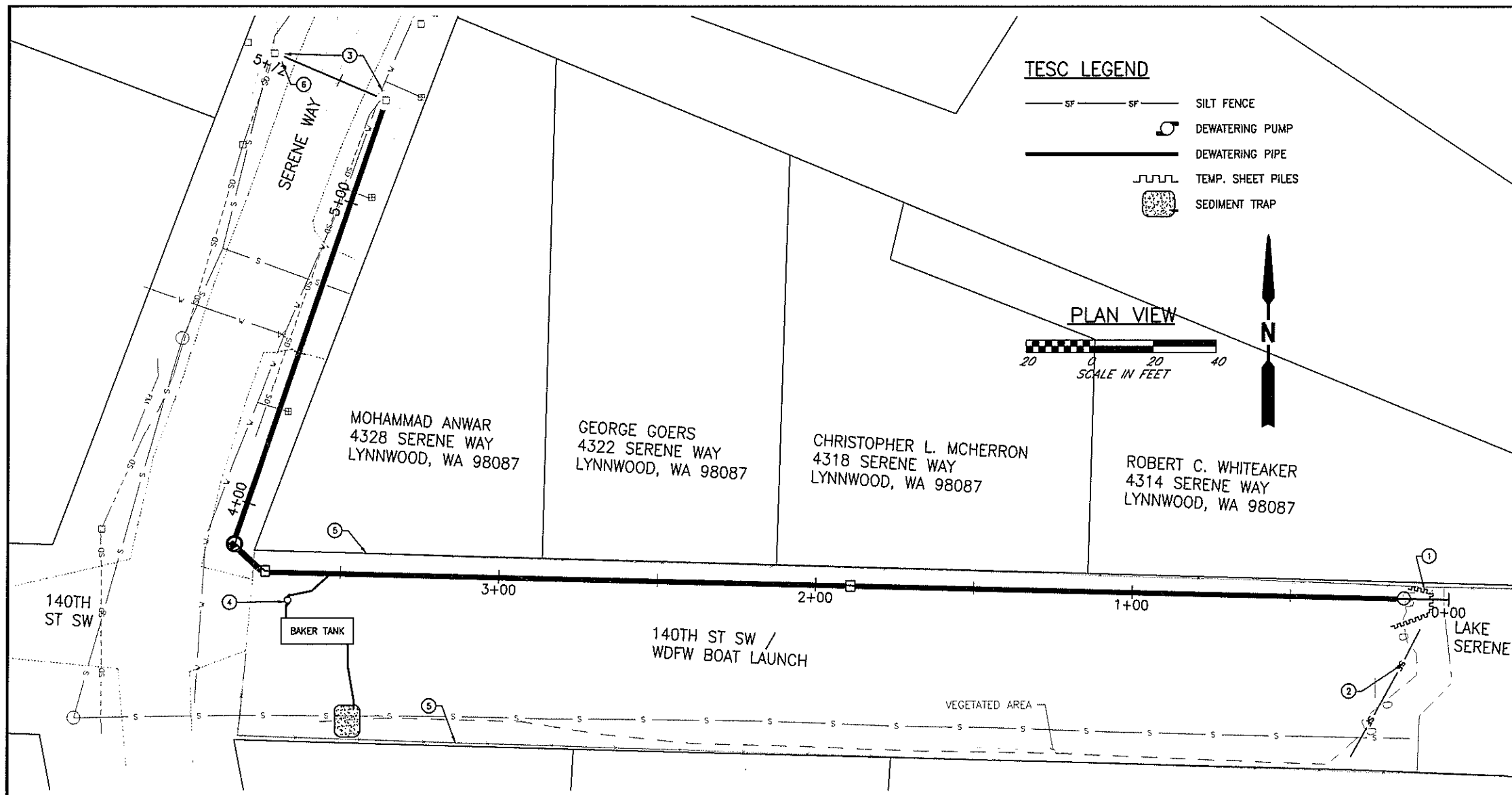
DATE APPROVED:

SNOHOMISH COUNTY
DEPARTMENT OF
PUBLIC WORKS

FUNDING NO. RR48837

**EMERGENCY BYPASS
LAKE SERENE OUTLET
PLAN & PROFILE**

REFERENCE SHEET NO.
SHEET
4
OF
7
SHEETS



TESC LEGEND

- SF — SF SILT FENCE
- DEWATERING PUMP
- DEWATERING PIPE
- TEMP. SHEET PILES
- SEDIMENT TRAP

PLAN VIEW

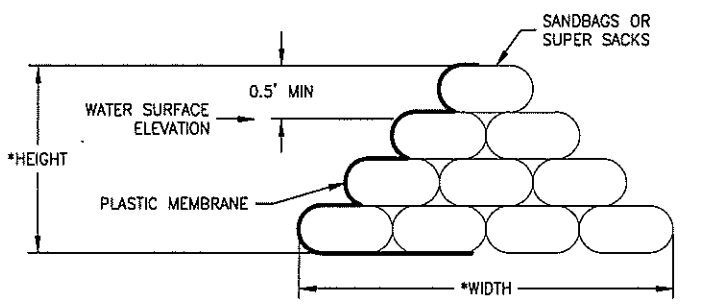
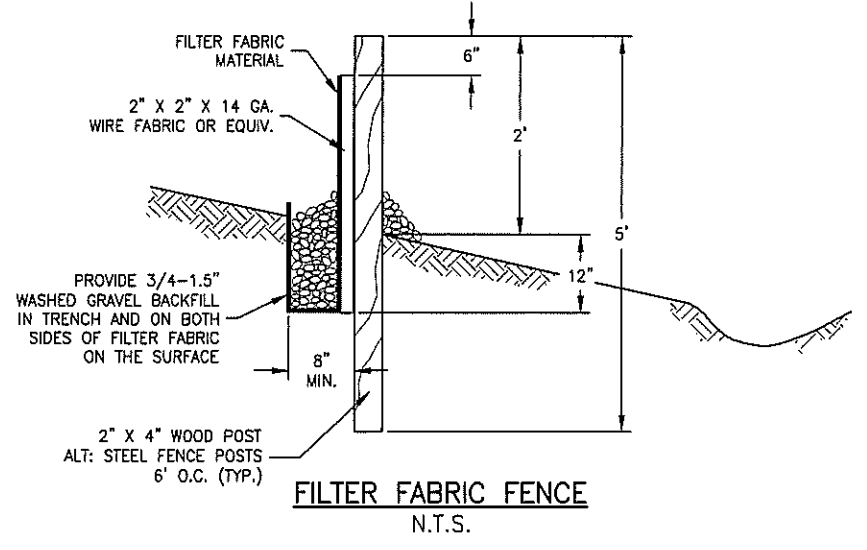


TESC NOTES

1. ALL CLEARING, GRUBBING, AND GRADING SHALL BE CONTAINED WITHIN THE LIMITS ESTABLISHED BY THE ENGINEER. AREAS OUTSIDE OF THE CLEARING/CONSTRUCTION LIMITS ARE TO BE PROTECTED BY INSTALLATION OF TEMPORARY HIGH VISIBILITY FENCING AND/OR FILTER FENCING AS NECESSARY.
2. ALL VEGETATION OUTSIDE DESIGNATED LIMITS SHALL REMAIN UNDISTURBED. ALL PROPERTIES ADJACENT TO THE PROJECT SHALL BE PROTECTED FROM SEDIMENT DEPOSIT.
3. DEWATERING DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP, SEDIMENT POND, OR OTHER DEVICE APPROVED BY THE ENGINEER.
4. THE TEMPORARY EROSION AND SEDIMENT CONTROL FACILITY SHALL BE CONSTRUCTED PRIOR TO ANY GRADING OR EXTENSIVE LAND CLEARING IN ACCORDANCE WITH THE PLANS AND DIRECTED BY THE ENGINEER. THESE FACILITIES MUST BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION AND LANDSCAPING ARE COMPLETED, AND SITE IS STABILIZED. SEDIMENT LADEN WATERS SHALL NOT ENTER THE NATURAL DRAINAGE SYSTEM.
5. 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.
6. ALL STOCKPILES ARE TO BE LOCATED IN SAFE AREAS AND PROTECTED FROM EROSION BY MECHANICAL OR VEGETATIVE MEANS.
7. DUST CONTROL: MINIMIZE THE PERIOD OF SOIL EXPOSURE THROUGH THE USE OF TEMPORARY GROUND COVER AND APPROVED STABILIZATION PRACTICES. EXPOSED DUST PRODUCING SURFACES SHALL BE SPRINKLED DAILY UNTIL WET; AVOID PRODUCING RUNOFF. REPEAT AS NEEDED. PAVED STREETS SHALL BE SWEEPED DAILY FOLLOWING CONSTRUCTION ACTIVITIES. EXPOSED SOIL AREAS SHALL BE SPRAYED WITH AN APPROVED DUST SUPPRESSANT.
8. ALL EXISTING OR INSTALLED INLETS SHALL BE PROTECTED SO THAT STORMWATER RUNOFF SHALL NOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT DURING CONSTRUCTION.
9. AFTER COMPLETION OF PROJECT, REMOVE BOTH SEDIMENT BUILD-UP AT BMP'S AND BMP'S UNLESS STATED OTHERWISE.
10. ALL EXPOSED SOILS RESULTING FROM CONSTRUCTION ARE TO BE REVEGETATED WITH SEED, FERTILIZER, AND MULCH OR OTHER ACCEPTABLE METHOD UNLESS SPECIFIED OTHERWISE.
11. CONTRACTOR SHALL COORDINATE WITH COUNTY STAFF WHO WILL INSTALL FISH SCREENS AND REMOVE FISH FROM WORK AREA PRIOR TO COMMENCING CONSTRUCTION. APPLICABLE STATE AND FEDERAL REGULATIONS SHALL BE FOLLOWED.
12. CLEAN, NON TURBID DEWATERING WATER, SUCH AS WELL-POINT GROUND WATER CAN BE DISCHARGED TO SYSTEMS TRIBUTARY TO STATE SURFACE WATERS PROVIDED THE DEWATERING FLOWS DOES NOT CAUSE EROSION OR FLOODING OF RECEIVING WATERS. THESE CLEAN WATERS SHOULD NOT BE ROUTED THROUGH STORMWATER SEDIMENT PONDS. HIGHLY TURBID OR CONTAMINATED DEWATERING WATER FROM CONSTRUCTION EQUIPMENT OPERATION, OPEN TRENCHES OR WORK INSIDE A COFFER DAM SHALL BE HANDLED SEPARATELY FROM STORMWATER. OTHER DISPOSAL OPTIONS FOR DEWATERING MAY INCLUDE:
 - a) ONSITE INFILTRATION,
 - b) TRANSPORT OFF SITE IN VEHICLE, SUCH AS A VACUUM FLUSH TRUCK, FOR LEGAL DISPOSAL IN A MANNER THAT DOES NOT POLLUTE STATE WATERS.
 - c) ONSITE TREATMENT USING CHEMICAL TREATMENT OR OTHER SUITABLE TREATMENT TECHNOLOGIES,
 - d) SANITARY SEWER DISCHARGE WITH LOCAL SEWER DISTRICT APPROVAL, OR
 - e) USE OF A SEDIMENTATION BAG WITH OUTFALL TO A DITCH OR SWALE FOR SMALL VOLUMES OF LOCALIZED DEWATERING.
13. CONTRACTOR SHALL STOCKPILE ON SITE PLASTIC SHEETING AND STRAW BALES IN SUFFICIENT QUANTITY TO COVER ALL DISTURBED AREAS WITH A 2-INCH LAYER OF STRAW AND A SINGLE LAYER OF PLASTIC SHEETING. THESE PROTECTION MEASURES SHALL BE APPLIED WHEN DIRECTED BY THE COUNTY IF SEVERE PROLONGED INCLEMENT WEATHER IS FORECAST OR AS REQUESTED BY THE CONTRACTOR AND APPROVED BY THE COUNTY IF THE CONTRACTOR ANTICIPATES SEVERE CONDITIONS THAT MAY ADVERSELY IMPACT CONSTRUCTION.

TESC CONSTRUCTION NOTES

- ① INSTALL COFFER DAM USING SUPER SACKS & SAND BAGS PER DETAIL.
- ② INSTALL TEMPORARY SILT FENCE.
- ③ INSTALL STORM DRAIN INLET PROTECTION TO PREVENT SEDIMENT FROM ENTERING STREAM.
- ④ DEWATERING PUMP WITH BAKER TANK MAY BE USED WITHIN THE CONSTRUCTION LIMITS TO DEWATER THE EXCAVATION. DISCHARGE TO VEGETATED AREA ON SOUTH SIDE OF BOAT LAUNCH WITH SEDIMENT TRAP.
- ⑤ EXISTING FENCE TO ACT AS CONSTRUCTION LIMITS
- ⑥ IF NEEDED, PLUG INLET PIPES WITH PNEUMATIC PLUGS.
- ⑦ MONITOR OPEN CHANNEL DOWNSTREAM OF PROJECT SITE FOR SIGNS OF EROSION. IF NECESSARY, INSTALL COIR LOGS AS DIRECTED BY ENGINEER FOR ENERGY DISSIPATION AT START OF THE OPEN CHANNEL SECTION.

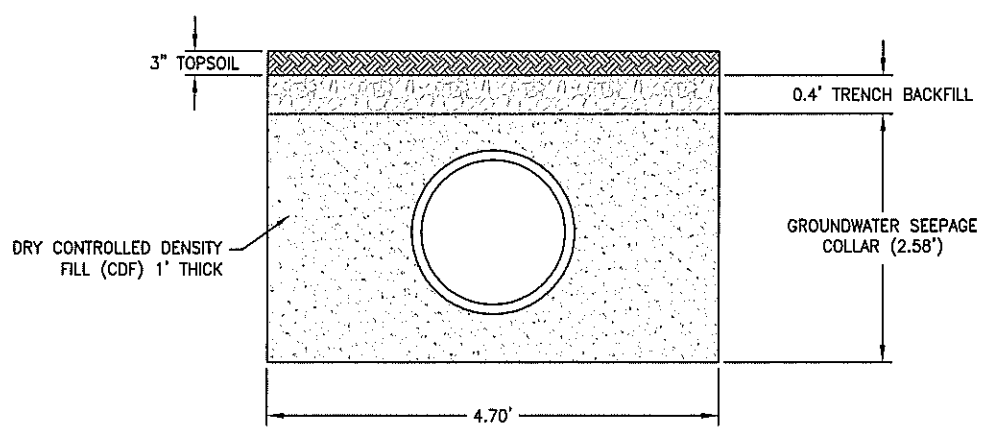
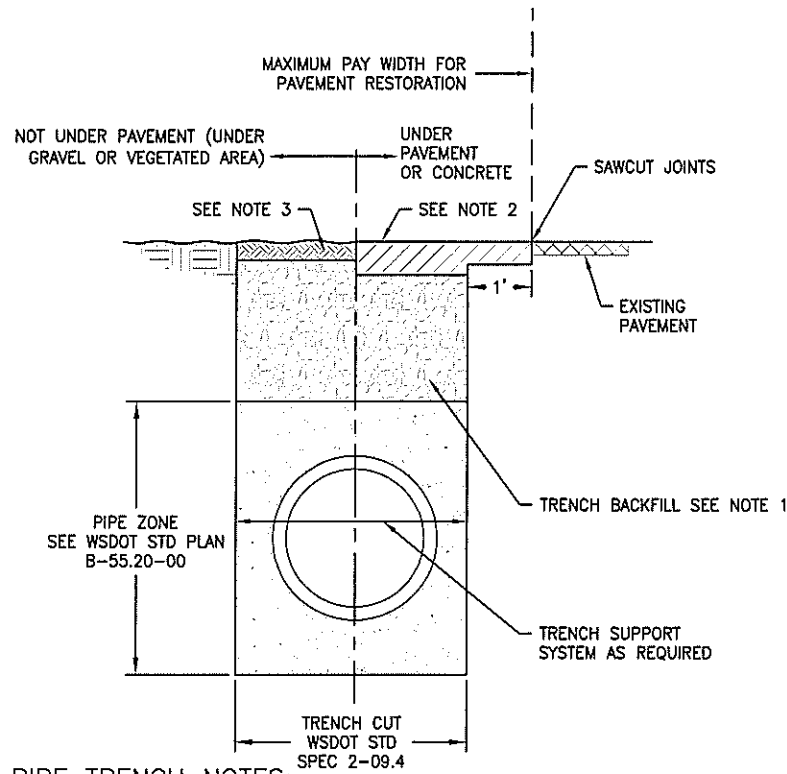


NOTES:

- * HEIGHT AND WIDTH OF COFFER DAM SHALL BE DETERMINED BY THE WATER SURFACE ELEVATION AT THE TIME OF CONSTRUCTION.
- 1. SANDBAGS OR SUPER SACKS SHALL BE USED IN ACCORDANCE WITH APPLICABLE PERMITS.
- 2. INSTALL COFFER DAM AND DE-WATER SITE PRIOR TO CONSTRUCTION.
- 3. PROVIDE ADEQUATE FREEBOARD.
- 4. INSTALL IMPERMEABLE PLASTIC MEMBRANE ON FACE OF COFFER DAM BOTTOM EDGE SHALL BE KEYED INTO BOTTOM TWO ROWS OF SANDBAGS OR BOTTOM OF SUPER SACKS

TEMP. COFFER DAM CROSS-SECTION
N.T.S.

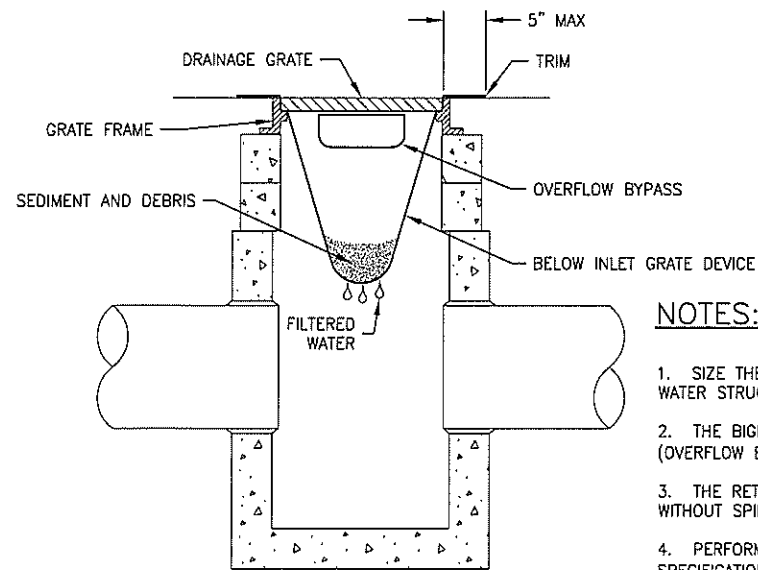
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REGION NO.		STATE		FED. AID PROJ. NO.				SURVEY NO.											
10		WASH																	
DESIGNED BY:				DRAWN BY:															
D. HOWE				D. HOWE															
FIELD BOOK(S):				UPI#															
				14-0142-1				REVIEWED AND APPROVED FOR CONSTRUCTION OWEN B. CARTER, P.E. SNOHOMISH COUNTY ENGINEER 2-22-17 DATE APPROVED:				SNOHOMISH COUNTY DEPARTMENT OF PUBLIC WORKS FUNDING NO. RR48837				EMERGENCY BYPASS LAKE SERENE OUTLET TESC REFERENCE SHEET NO. SHEET 5 OF 7 SHEETS			
DATE		NO.		REVISION				BY											



TYPICAL PIPE TRENCH NOTES:

1. BACKFILL MATERIAL SHALL BE GRAVEL BORROW, WSDOT 2016 STD. SPEC. 9-03.14(1). PLACEMENT SHALL COMPLY WITH WSDOT 2016 STD. SPEC. 7-08.3(3).
2. FOR PAVEMENT RESTORATION, ASPHALT SHALL BE HMA CLASS CL. 1/2 IN PG 64-22 WITH A DEPTH OF 8 INCHES FOR TRANSVERSE TRENCHES AND 6 INCHES FOR LONGITUDINAL TRENCHES. PAVEMENT SHALL BE SAWCUT FOR A SMOOTH JOINT PRIOR TO PAVING. PATCH SHALL BE MACHINE ROLLED FLUSH WITH EXISTING PAVEMENT AND SHALL BE PLACED PER SECTION 5-04 OF WSDOT SPECIFICATIONS.
3. FOR GRAVEL AREAS RESTORATION, MINIMUM DEPTH OF GRAVEL SHALL BE 6" CSTC, PAID FOR BY "CRUSHED SURFACING TOP COURSE". VEGETATED AREAS RESTORATION SHALL HAVE THE TOP 8 INCHES FINISHED WITH TOPSOIL TYPE A.

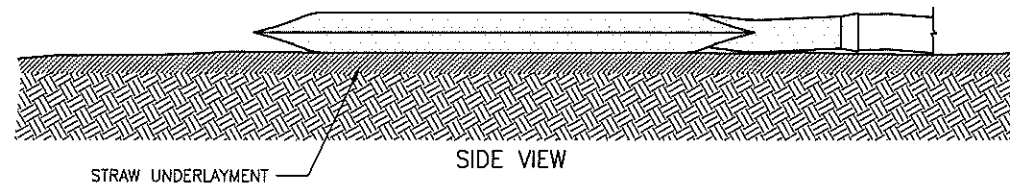
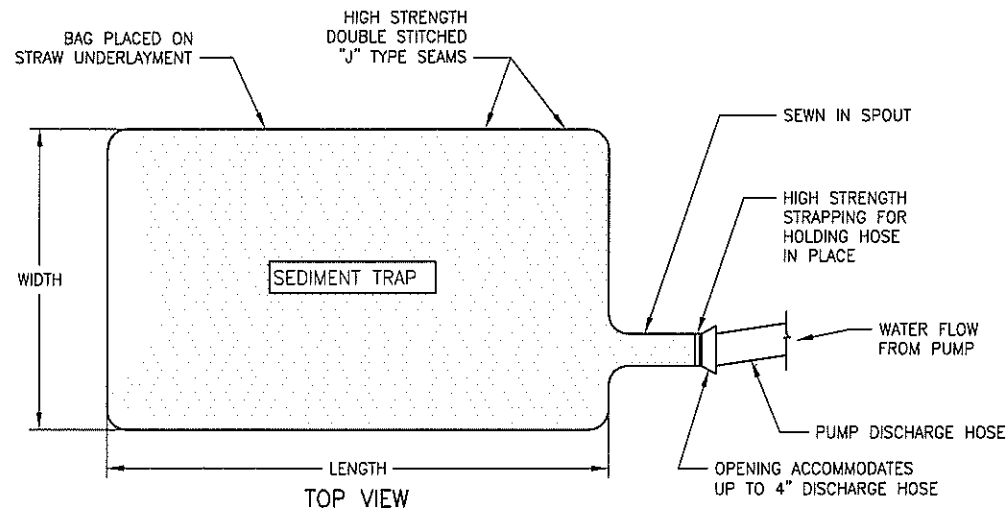
TYPICAL PIPE TRENCH SECTION
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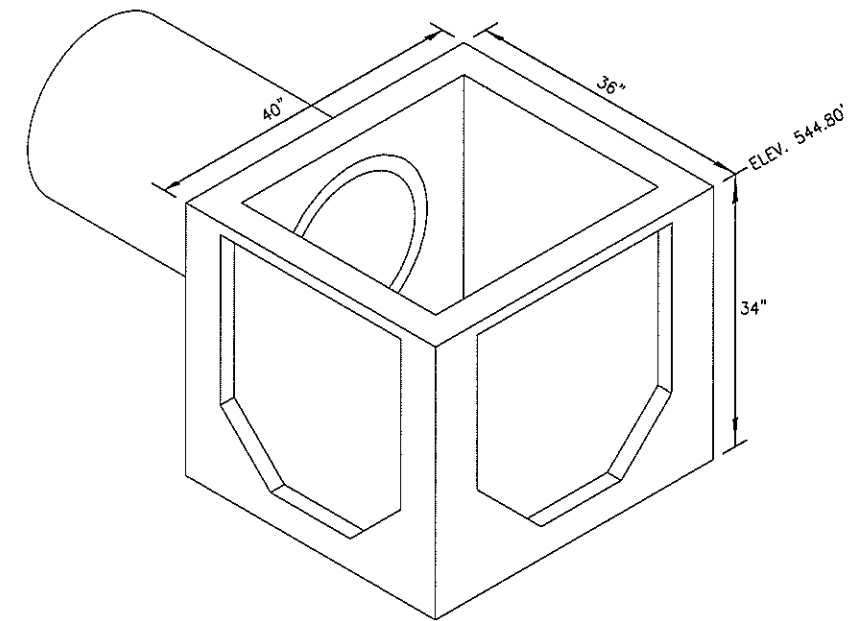
NOTES:

1. SIZE THE BELOW INLET GRATE DEVICE (BIGD) FOR THE STORM WATER STRUCTURE IT WILL SERVICE.
2. THE BIGD SHALL HAVE A BUILT-IN HIGH-FLOW RELIEF SYSTEM (OVERFLOW BYPASS).
3. THE RETRIEVAL SYSTEM MUST ALLOW REMOVAL OF THE BIGD WITHOUT SPILLING THE COLLECTED MATERIAL.
4. PERFORM MAINTENANCE IN ACCORDANCE WITH STANDARD SPECIFICATION 8-01.3(15).

STORM DRAIN INLET PROTECTION
N.T.S.



SEDIMENT TRAP DEVICE DETAIL
N.T.S.



LAKE OUTLET STRUCTURE - PHASE 1 DETAIL
N.T.S.

PLAN CHECK	BY	DATE	NO.	REVISION	BY

Last Saved By: spwdh Feb 21, 2017 - 4:54pm			
REGION NO.	STATE	FED. AID PROJ. NO.	SURVEY NO.
10	WASH		
DESIGNED BY: D. HOWE		DRAWN BY: D. HOWE	
FIELD BOOK(S):		UPI# 14-0142-1	

REVIEWED AND APPROVED FOR CONSTRUCTION

Owen B. Carter

OWEN B. CARTER, P.E.
SNOHOMISH COUNTY ENGINEER

2-22-17

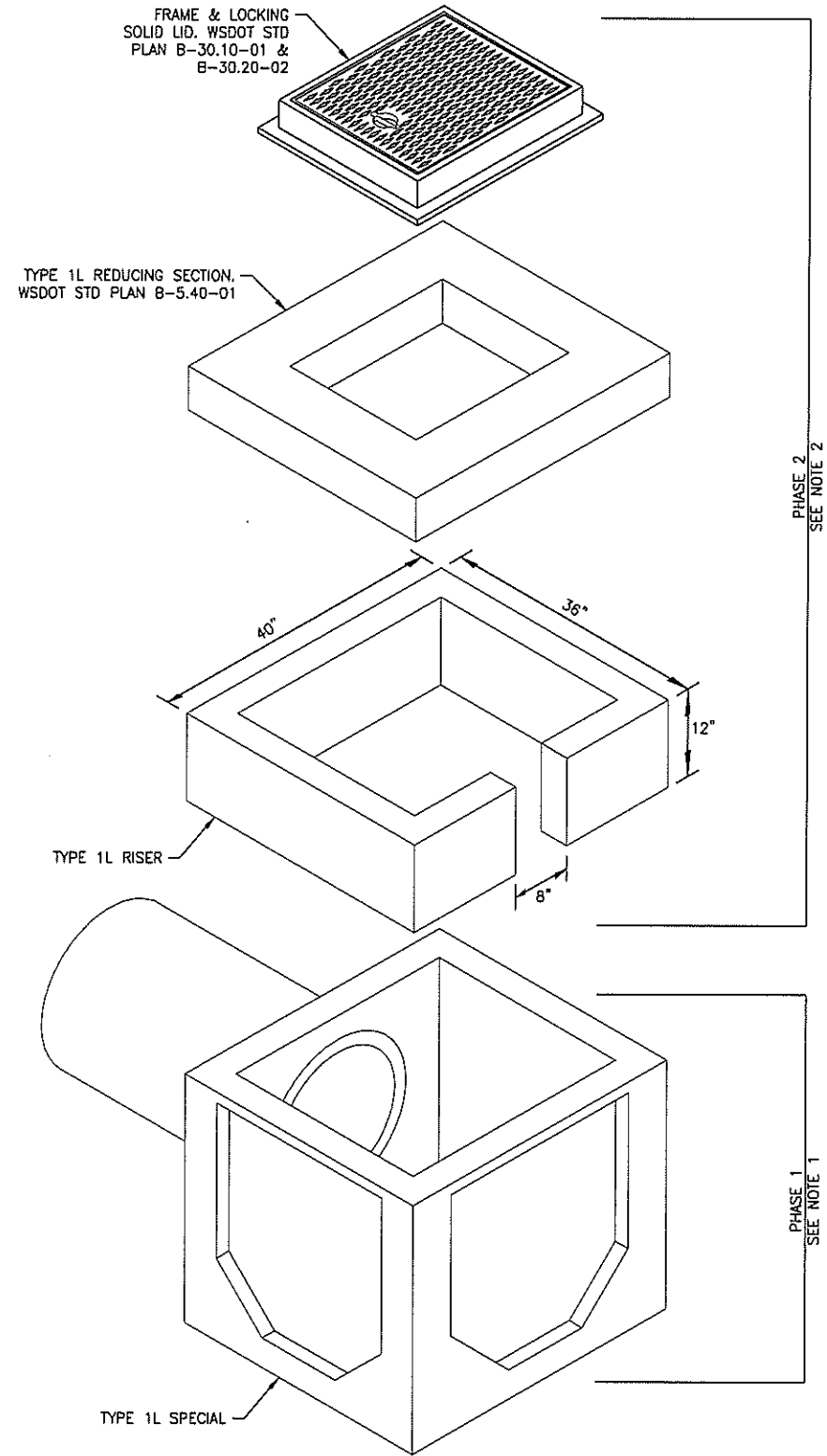
DATE APPROVED:

SNOHOMISH COUNTY
DEPARTMENT OF
PUBLIC WORKS

FUNDING NO. RR48837

**EMERGENCY BYPASS
LAKE SERENE OUTLET
DETAILS 1**

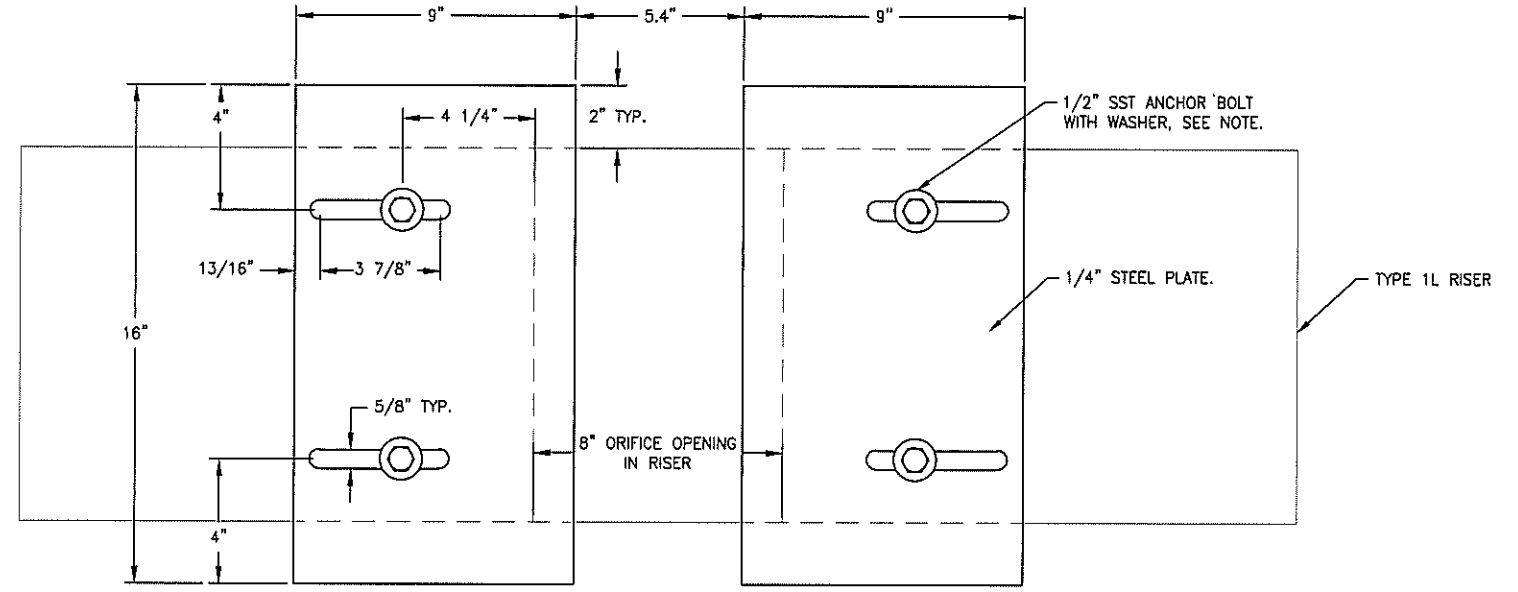
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SHEET 6 OF 7 SHEETS



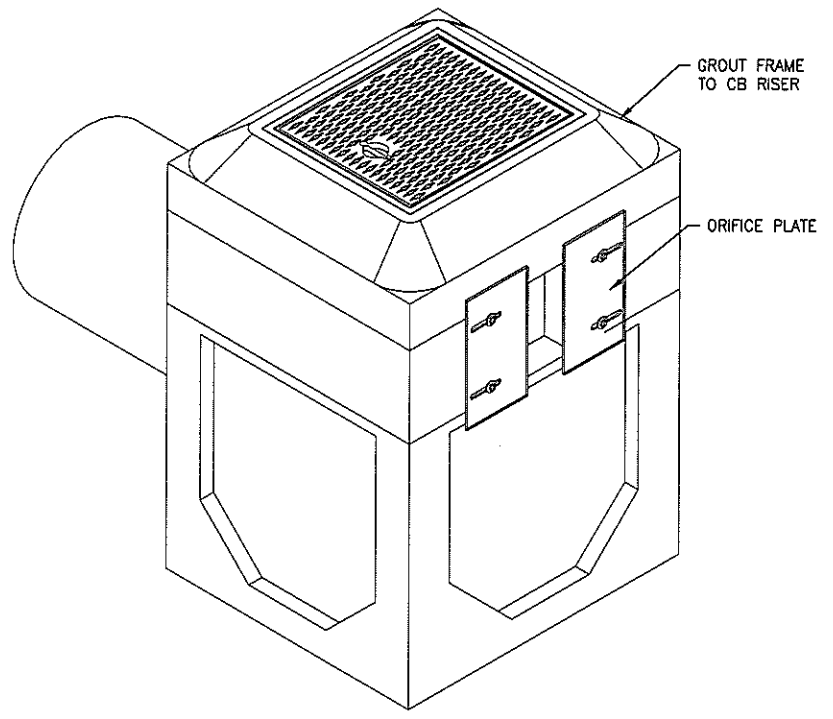
COMPONENT DETAIL
N.T.S.

PHASE 2
SEE NOTE 2

PHASE 1
SEE NOTE 1



ORIFICE PLATE DETAIL
N.T.S.



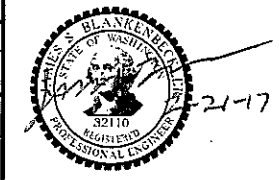
ASSEMBLED DETAIL
N.T.S.

NOTES:

1. INSTALL TYPE 1L SPECIAL CB IN PHASE 1 TO LOWER LAKE LEVELS. USE STEEL PLATE OVER TOP OPENING TO RESTRICT FLOW AS DIRECTED BY ENGINEER.
2. WHEN LAKE LEVEL IS AT RIM OF CB, OR AS DIRECTED BY ENGINEER, INSTALL COMPONENTS SHOWN IN PHASE 2. GROUT ALL CONCRETE PIECES TOGETHER USING QUICK SETTING GROUT.
3. ORIFICE PLATE ANCHOR BOLTS SHALL BE EMBEDDED 2" MIN. IN CONCRETE. BOLTS MAY BE SUBSTITUTED WITH EMBEDDED LUGS AND NUTS.

PLAN CHECK	BY	DATE	REVISION	BY

Last Saved By: spwd1h Feb 21, 2017 - 9:40am			
REGION NO.	STATE	FED. AID PROJ. NO.	SURVEY NO.
10	WASH		
DESIGNED BY: D. HOWE		DRAWN BY: D. HOWE	
FIELD BOOK(S):		UPI# 14-0142-1	



REVIEWED AND APPROVED FOR CONSTRUCTION
Owen B. Carter
OWEN B. CARTER, P.E.
SNOHOMISH COUNTY ENGINEER
2-22-17
DATE APPROVED:

SNOHOMISH COUNTY
DEPARTMENT OF
PUBLIC WORKS
FUNDING NO. RR48837

**EMERGENCY BYPASS
LAKE SERENE OUTLET
DETAILS 2**

REFERENCE SHEET NO.
SHEET 7 OF 7 SHEETS