

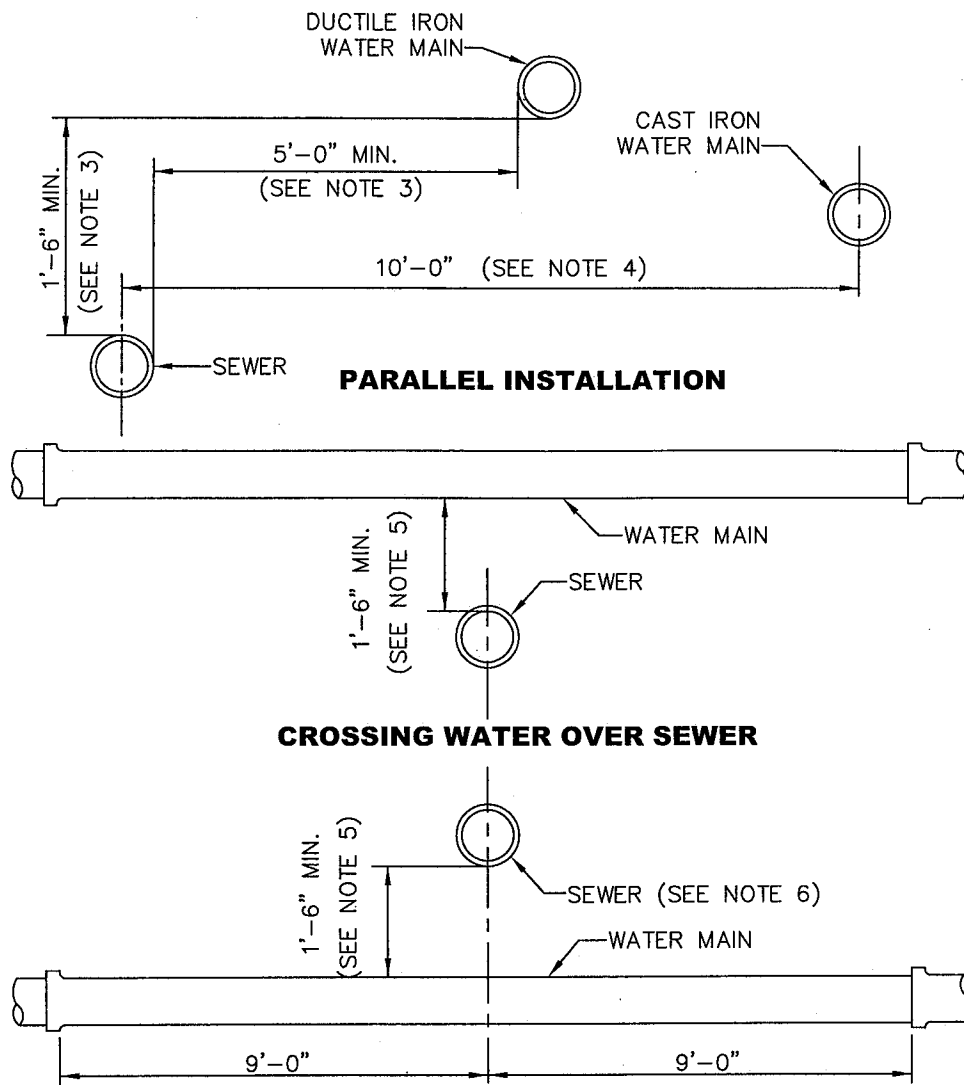
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(over for City plan holders list)

City Plan Holders List

Standards Book
Utilities Operations Manager
Assistant City Engineer
Utility and Site Improvement Inspector
CRT
SR Development Engineer
City Engineer
Internet



STANDARD SINGLE 18'-0" NOMINAL LENGTH DUCTILE IRON WATER MAIN SECTION CENTERED AT THE POINT OF CROSSING.

CROSSING WATER UNDER SEWER

NOTES

1. ANY EXCEPTIONS TO THE STANDARD PLAN MAY BE APPROVED BY THE CITY ENGINEER.
2. "SEWER" INCLUDES SANITARY SEWER, COMBINED SEWER AND SIDE SEWER.
3. WHERE MINIMUM CLEARANCES CANNOT BE MET, SEWER SHALL BE CONSTRUCTED OF MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS INCLUDING WATER MAIN PRESSURE TESTING REQUIREMENTS.
4. NO VERTICAL CLEARANCE REQUIRED.
5. IF VERTICAL SEPARATION CANNOT BE MET, WATER MAIN SHALL BE A STANDARD SINGLE 18'-0' NOMINAL LENGTH DUCTILE IRON WATER MAIN SECTION CENTERED AT THE POINT OF CROSSING.
6. SEWER SHALL HAVE ADEQUATE FOUNDATION SUPPORT TO PREVENT SETTLEMENT ON THE WATER MAIN AN TO PREVENT DEFLECTION OF WATER MAIN JOINTS.
7. CROSSINGS AT AN ANGLE BETWEEN 90° AND 45° MAY OCCUR BETWEEN 9'-0" AND 6'-0" OF WATER MAIN JOINT FOR CROSSINGS LESS THAN 45°, SEE NOTE 1.



CITY OF MERCER ISLAND STANDARD DETAILS SEWER

WATER & SEWER CLEARANCES AND MATERIAL REQUIREMENTS

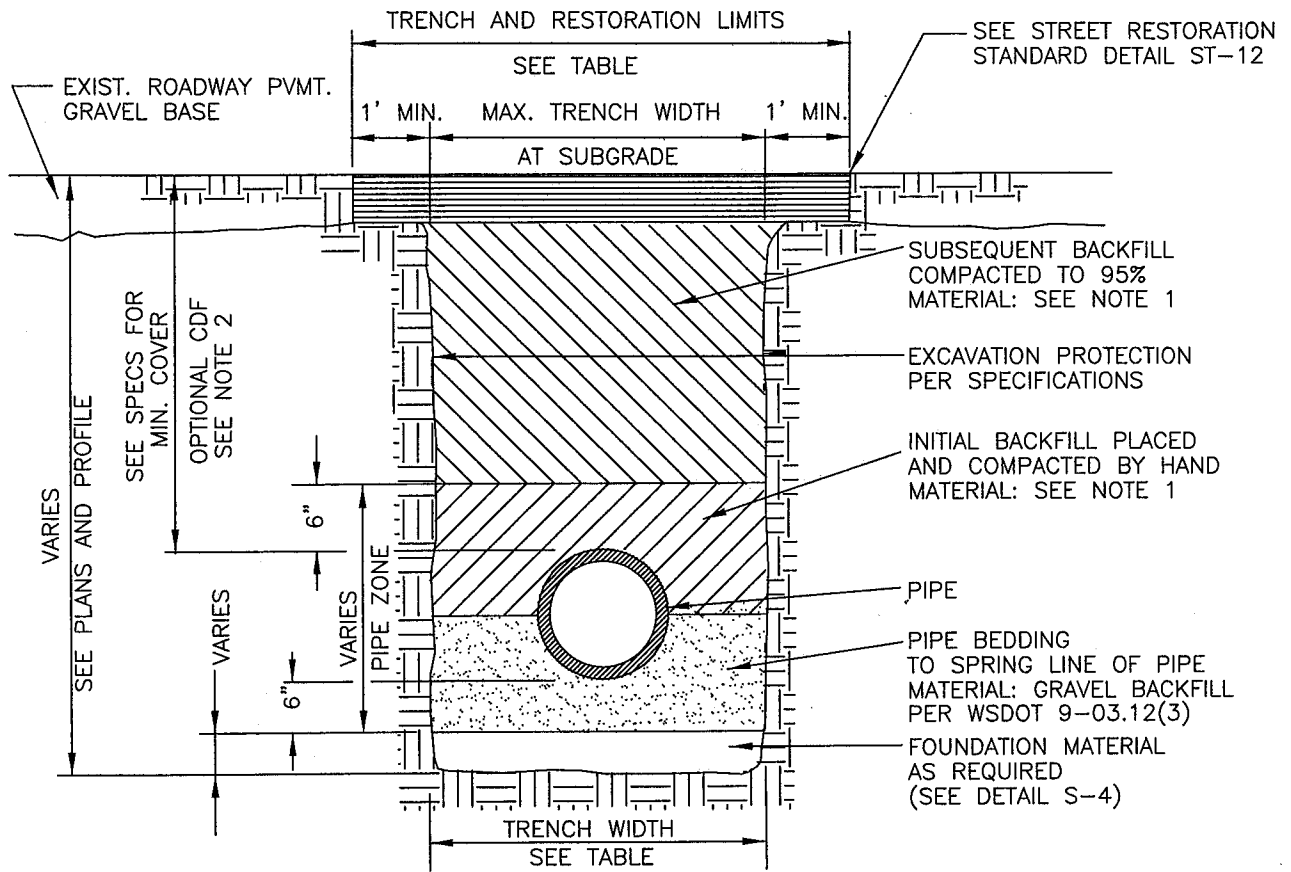
6-5-2009

NO SCALE

S-2

REV DATE

APPROVED



NOTES

1. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS.
2. CDF FOR BACKFILL MAY BE REQUIRED BY CITY ENGINEER WHEN PROPER COMPACTION AROUND EXISTING UTILITIES MAY NOT BE POSSIBLE. CDF SHALL BE PER WSDOT 2-09.3(1)E.
3. SEE S-4 FOR PIPE BEDDING DETAILS.

TRENCH WIDTH			
PIPE SIZE	PIPE ZONE MAX. TRENCH WIDTH	MAX. TRENCH WIDTH AT SUBGRADE	MAX. RESTORATION WIDTH AT SURFACE
SIDE SEWER	2'-0"	2'-0"	6'-0"
4" OR 6"	2'-2"	3'-0"	8'-0"
8"	2'-4"	4'-0"	8'-0"
10"	2'-6"	4'-0"	8'-0"
12"	2'-8"	4'-6"	8'-6"



**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

**SEWER
TRENCH DETAIL**

6-5-2009

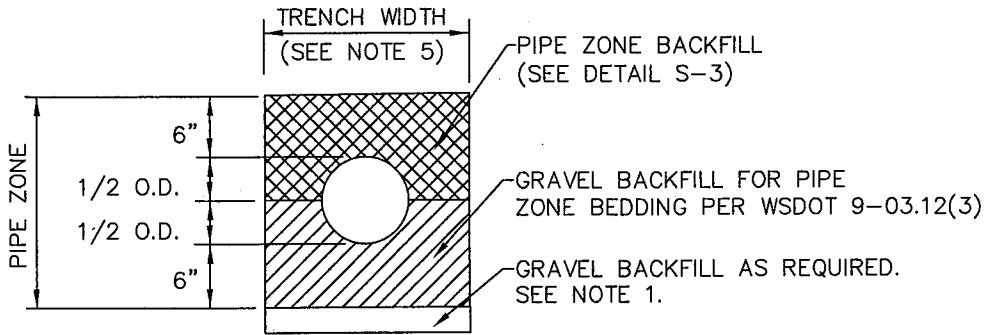
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S-3

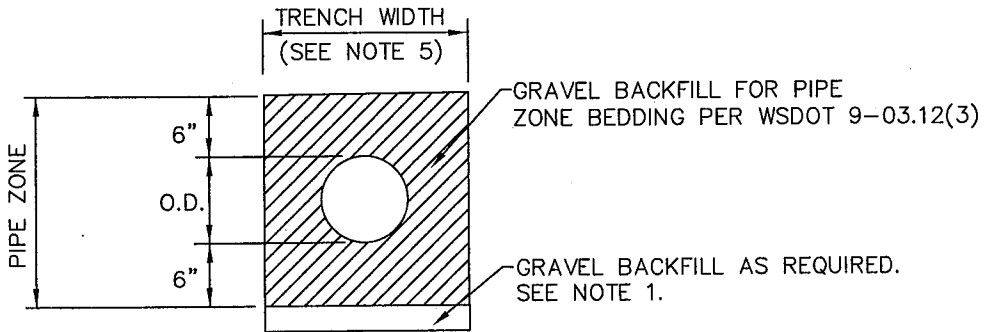
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BEDDING FOR RIGID PIPE MATERIAL




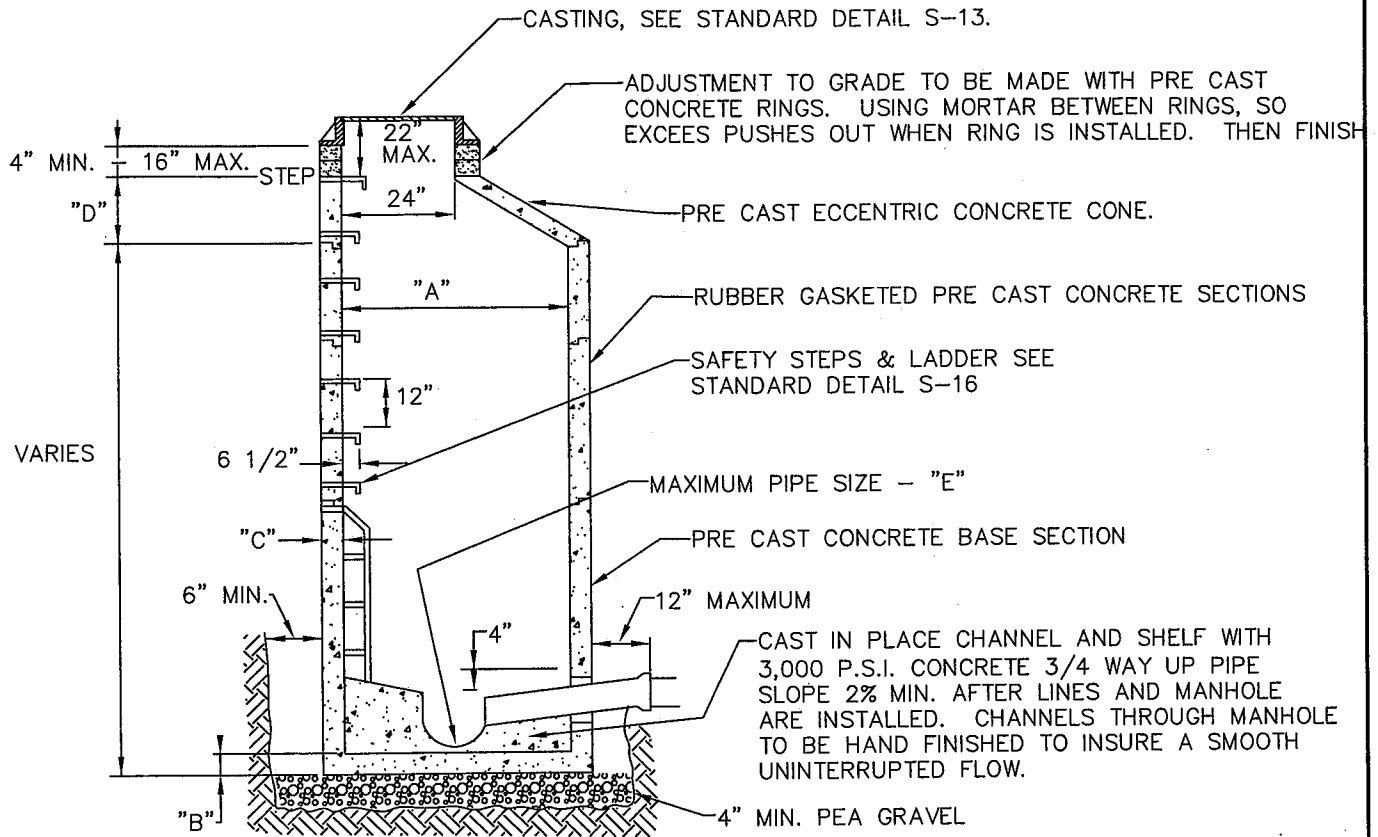
BEDDING FOR FLEXIBLE PIPE MATERIAL



NOTES

1. EXCAVATE UNSTABLE MATERIAL DOWN TO FIRM SOIL. REPLACE WITH GRAVEL BACKFILL PER WSDOT 9-03.12(3) AS DIRECTED BY THE CITY ENGINEER.
2. PROVIDE UNIFORM SUPPORT UNDER BARREL.
3. HAND TAMP UNDER HAUNCHES.
4. COMPACT BEDDING AND BACKFILL MATERIAL TO 95% MAX. DENSITY EXCEPT DIRECTLY OVER PIPE. HAND TAMP ONLY UNTIL MINIMUM 6" ABOVE TOP OF PIPE.
5. 30" MAXIMUM TRENCH WIDTH FOR PIPE UP TO AND INCLUDING 12", FOR PIPE LARGER THAN 12", USE O.D. PLUS 16".


	CITY OF MERCER ISLAND STANDARD DETAILS SEWER	
	PIPE BEDDING	
6-5-2009	NO SCALE	S-4
REV DATE		APPROVED

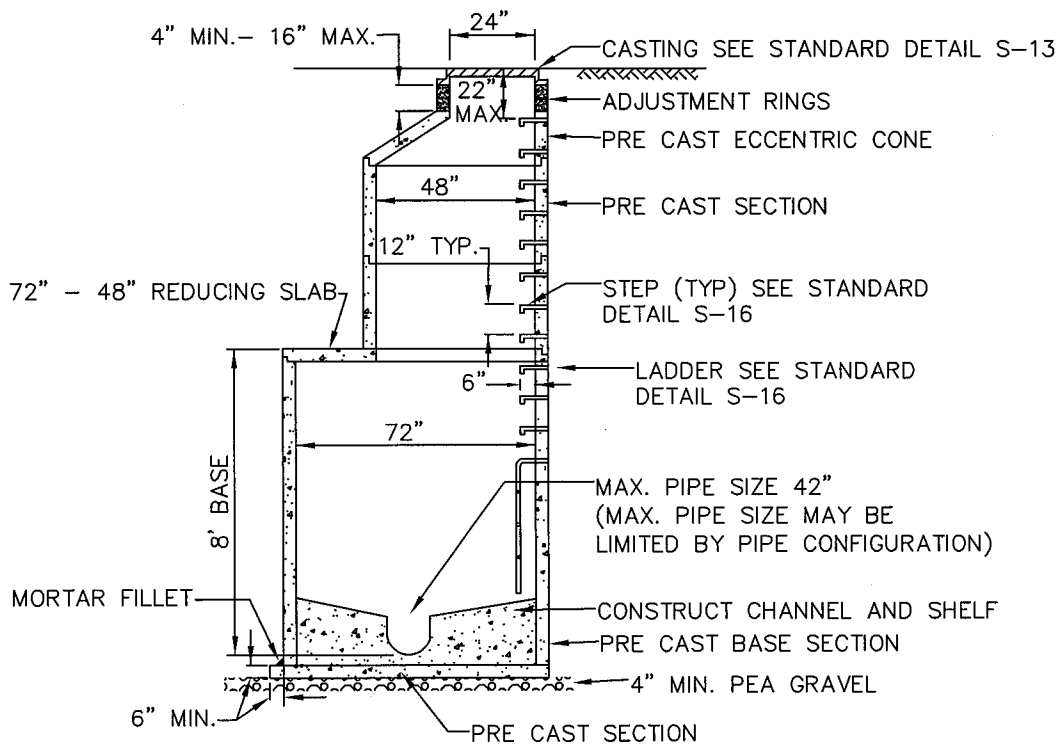


	"A"	"B"	"C"	"D"	"E"
48" MH	48"	6" MIN.	5" MIN.	24" MIN.	21" I.D.
54" MH	54"	8" MIN.	5.5" MIN.	24" MIN.	24" I.D.
60" MH	60"	8" MIN.	6" MIN.	42" MIN.	30" I.D.

NOTES

- PRE CAST SECTIONS SHALL BE REINFORCED PER ASTM SPECS FOR CORRESPONDING SEWER PIPE.
- SAFETY STEPS, 1" MINIMUM, SEE STANDARD DETAILS S-16. STEPS IN PRE CAST BASE SECTION MAY BE CAST IN PLACE OR MOVABLE SAFETY LADDER GROUTED IN PLACE.
- ALL HOLES FOR PIPE SHALL BE BLOCKED OUT AT THE TIME OF CASTING THE SECTION.
- ALL RUBBER GASKETED MANHOLES SHALL BE FURNISHED WITH RUBBER GASKET JOINT CONFORMING ASTM C-443.
- MINIMUM 2% SLOPE ACROSS MANHOLE.
- SEE STANDARD DETAIL S-13 FOR MANHOLE FRAME AND COVER.
- CONNECTION TO MANHOLE WITH PVC PIPE REQUIRES A PVC x CONCRETE ADAPTER.
- ALL PIPE THROUGH MANHOLE WALL SHALL HAVE A "KOR-N-SEAL" WITH "WEDGE KORBAND" MANUFACTURED BY NPC. INC. OR APPROVED EQUAL.
- BEDDING AND FOUNDATION MATERIAL REQUIRED AS SHOWN ON DETAIL AND AS NOTED IN THE SPECIFICATIONS.
- LOCATION OF MANHOLE STEPS SHALL NOT BE OVER FLOW LINES AND SHALL BE APPROVED BY THE CITY ENGINEER.

	CITY OF MERCER ISLAND STANDARD DETAILS SEWER	
	TYPE 1 MANHOLE 48" - 60"	
6-5-2009	NO SCALE	S-5
REV DATE		APPROVED



72" MANHOLE

NOTES

1. PRE CAST SECTIONS SHALL BE REINFORCED PER ASTM SPECS FOR CORRESPONDING SEWER PIPE.
2. SAFETY STEPS, 1" MINIMUM, SEE STANDARD DETAILS S-16. STEPS IN PRE CAST BASE SECTION MAY BE CAST IN PLACE OR MOVABLE SAFETY LADDER GROUTED IN PLACE.
3. ALL HOLES FOR PIPE SHALL BE BLOCKED OUT AT THE TIME OF CASTING THE SECTION.
4. ALL RUBBER GASKETED MANHOLES SHALL BE FURNISHED WITH RUBBER GASKET JOINT CONFORMING ASTM C-443.
5. MINIMUM 2% SLOPE ACROSS MANHOLE.
6. SEE STANDARD DETAIL S-13 FOR MANHOLE FRAME AND COVER.
7. CONNECTION TO MANHOLE WITH PVC PIPE REQUIRES A PVC x CONCRETE ADAPTER.
8. ALL PIPE THROUGH MANHOLE WALL SHALL HAVE A "KOR-N-SEAL" WITH "WEDGE KORBAND" MANUFACTURED BY NPC. INC. OR APPROVED EQUAL.
9. BEDDING AND FOUNDATION MATERIAL REQUIRED AS SHOWN ON DETAIL AND AS NOTED IN THE SPECIFICATIONS.
10. LOCATION OF MANHOLE STEPS SHALL NOT BE OVER FLOW LINES AND SHALL BE APPROVED BY THE CITY ENGINEER.
11. SEE STANDARD DETAIL S-15 FOR THE INSTALLATION OF A MANHOLE OVER AN EXISTING SEWER LINE.



**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

TYPE II MANHOLE - 72"

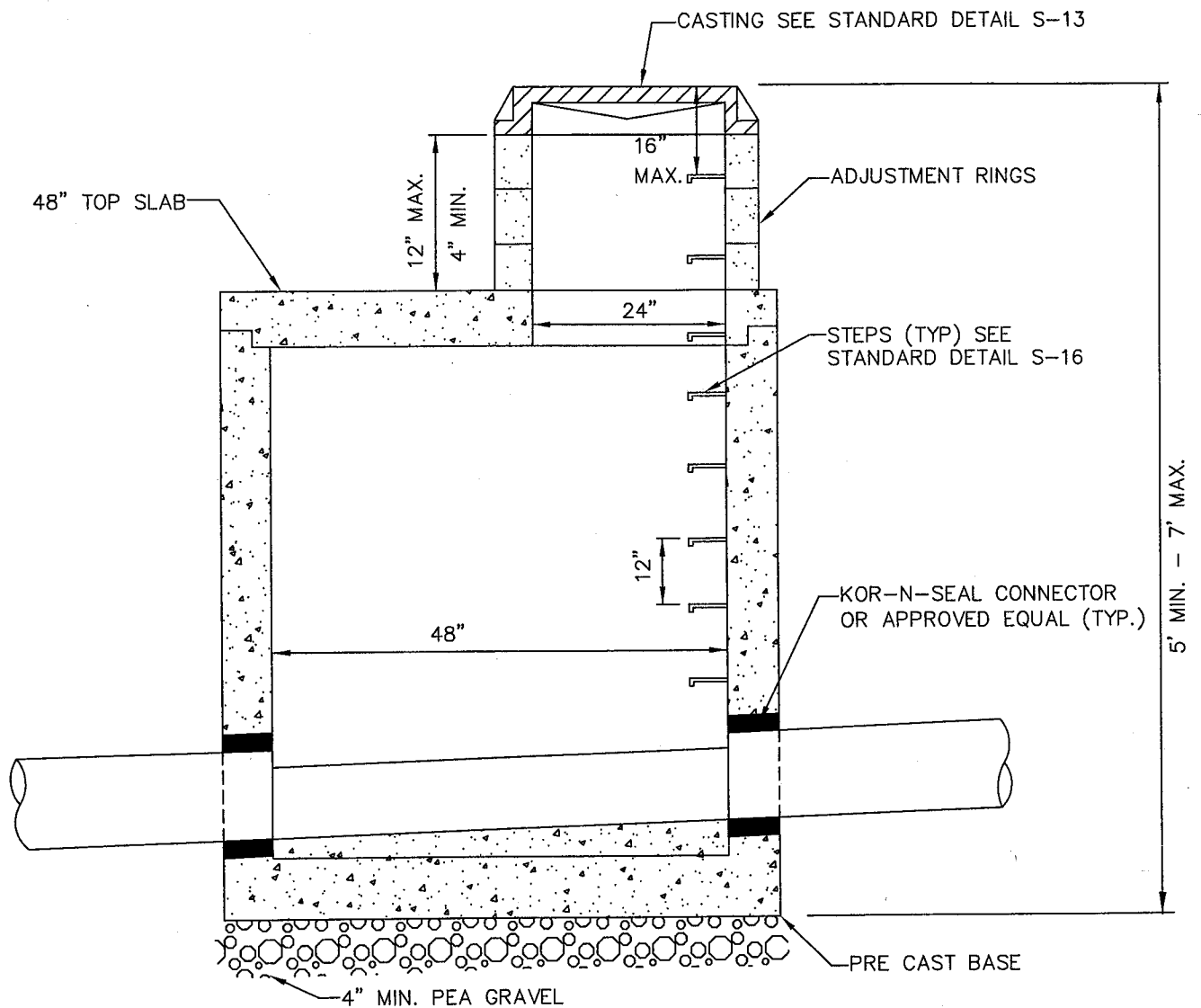
6-5-2009

NO SCALE

S-6

REV DATE

APPROVED



NOTES

1. PRE CAST SECTIONS SHALL BE REINFORCED PER ASTM SPECS FOR CORRESPONDING SEWER PIPE.
2. SAFETY STEPS, 1" MINIMUM, SEE STANDARD DETAILS S-16. STEPS IN PRE CAST BASE SECTION MAY BE CAST IN PLACE OR MOVABLE SAFETY LADDER GROUTED IN PLACE.
3. ALL HOLES FOR PIPE SHALL BE BLOCKED OUT AT THE TIME OF CASTING THE SECTION.
4. ALL RUBBER GASKETED MANHOLES SHALL BE FURNISHED WITH RUBBER GASKET JOINT CONFORMING ASTM C-443.
5. MINIMUM 2% SLOPE ACROSS MANHOLE.
6. SEE STANDARD DETAIL S-13 FOR MANHOLE FRAME AND COVER.
7. CONNECTION TO MANHOLE WITH PVC PIPE REQUIRES A PVC x CONCRETE ADAPTER.
8. ALL PIPE THROUGH MANHOLE WALL SHALL HAVE A "KOR-N-SEAL" WITH "WEDGE KORBAND" MANUFACTURED BY NPC. INC. OR APPROVED EQUAL.
9. BEDDING AND FOUNDATION MATERIAL REQUIRED AS SHOWN ON DETAIL AND AS NOTED IN THE SPECIFICATIONS.
10. LOCATION OF MANHOLE STEPS SHALL NOT BE OVER FLOW LINES AND SHALL BE APPROVED BY THE CITY ENGINEER.



**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

48" SHALLOW MANHOLE ASSEMBLY

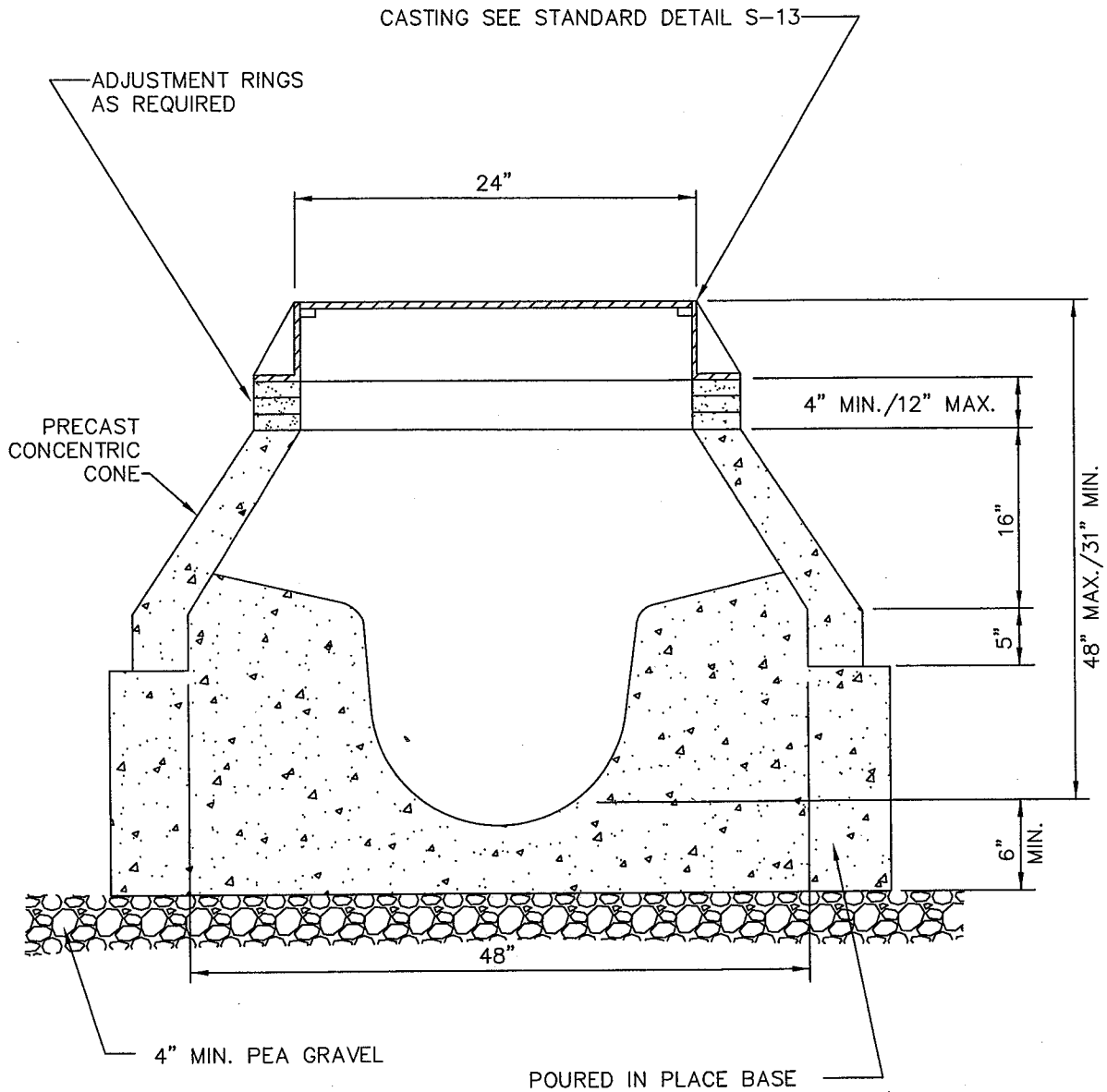
6-5-2009


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S-7

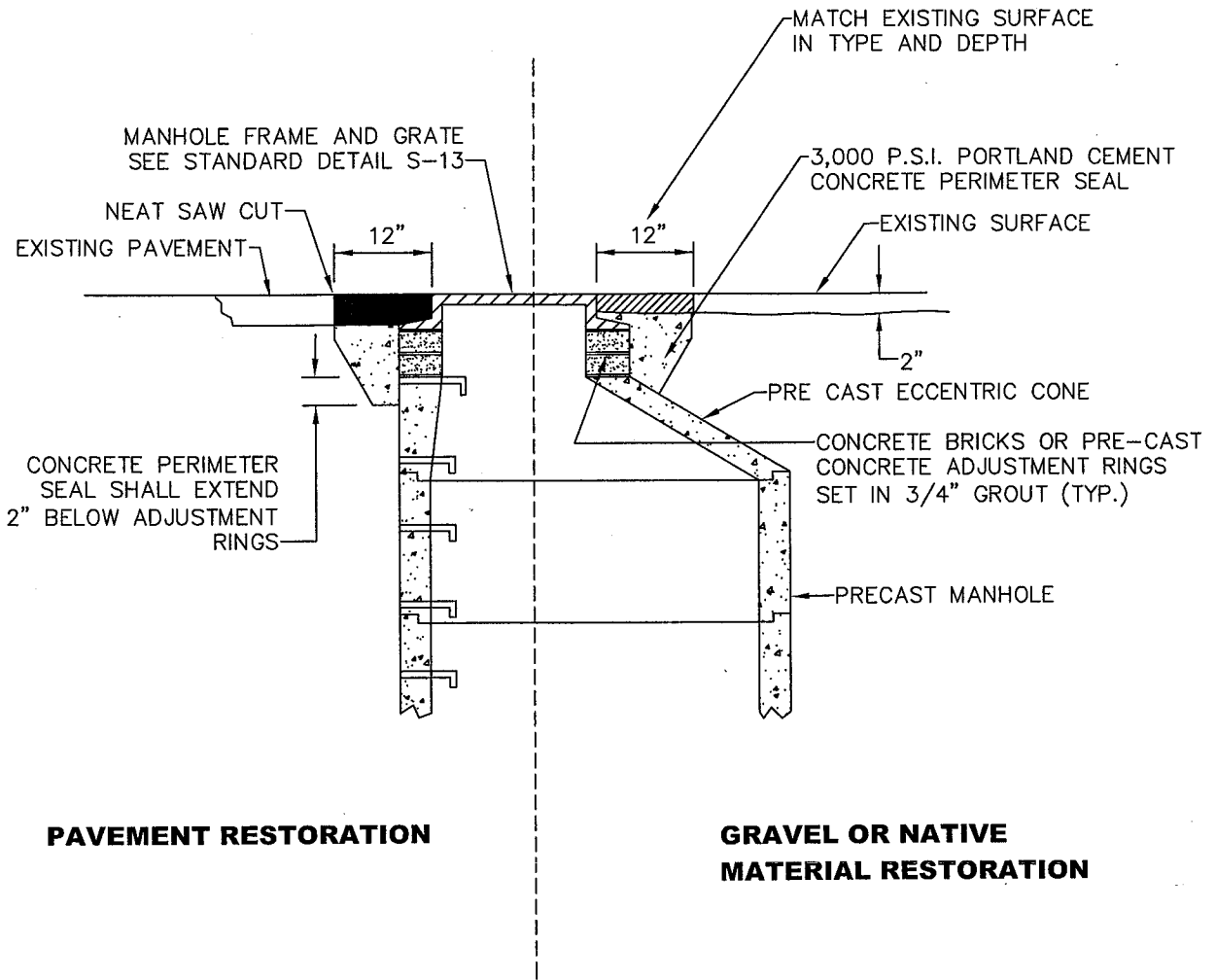
REV DATE

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	CITY OF MERCER ISLAND STANDARD DETAILS SEWER	
	EXTRA SHALLOW MANHOLE ASSEMBLY	
6-5-2009	NO SCALE	S-8

REV DATE					APPROVED
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**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

**MANHOLE
ADJUSTMENT DETAIL**

6-5-2009

NO SCALE

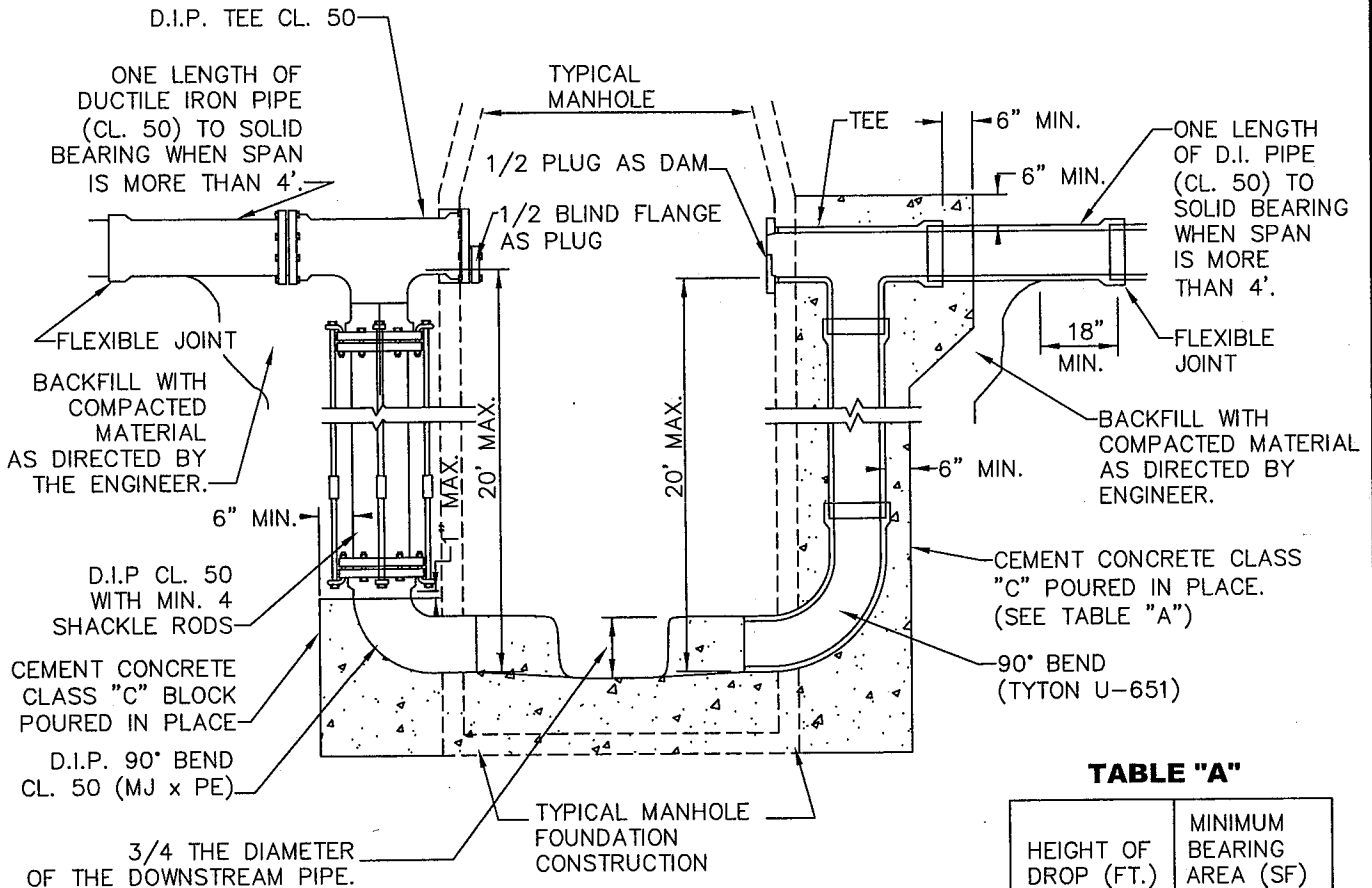
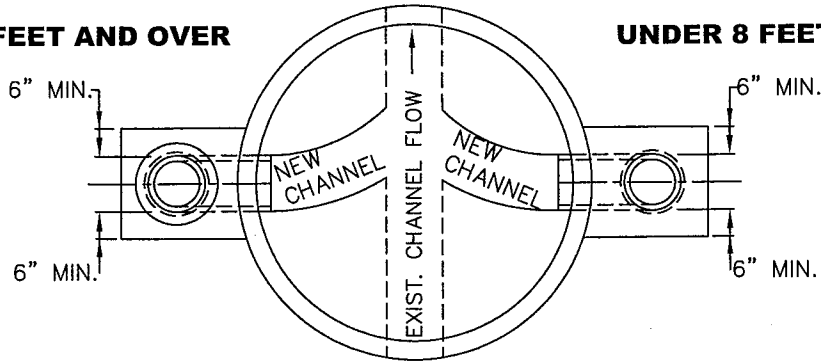
S-9

REV DATE

APPROVED

8 FEET AND OVER

UNDER 8 FEET DEEP



**DUCTILE IRON
DROP CONNECTION**

**CONCRETE ENCASED
DROP CONNECTION**

TABLE "A"

HEIGHT OF DROP (FT.)	MINIMUM BEARING AREA (SF)
2.5 - 5	1.0
6 - 10	2.0
11 - 15	2.5
16 - 20	3.0
21 - 25	4.0

BEARING AREA BASED ON 2,000 P.S.I. BEARING LOAD (UP TO 18" DIAMETER PIPE).

NOTES

1. ALL DUCTILE IRON PIPE SHALL BE CL. 50.
2. OUTSIDE DROP STRUCTURE SHALL BE INSTALLED ONLY WHERE APPROVED BY THE CITY ENGINEER.
3. DROP TEE TO BE INSTALLED MINIMUM 3' BELOW CONE SECTION.



**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

**OUTSIDE
DROP STRUCTURE**

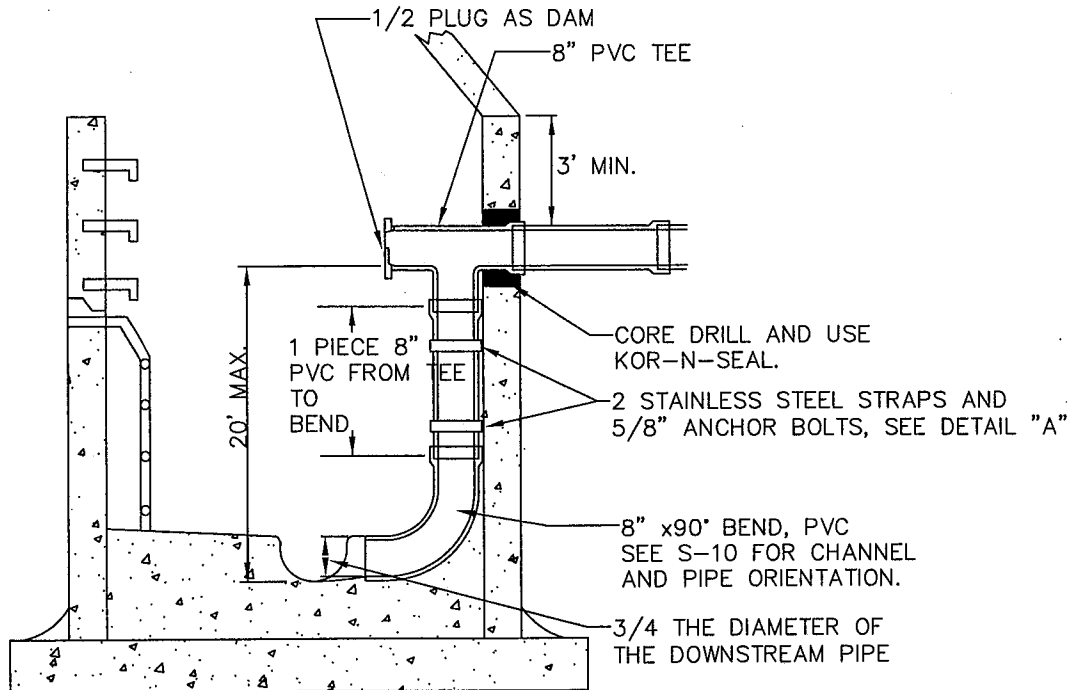
6-5-2009

NO SCALE

S-10

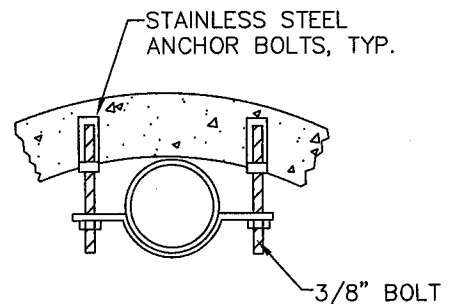
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NOTES

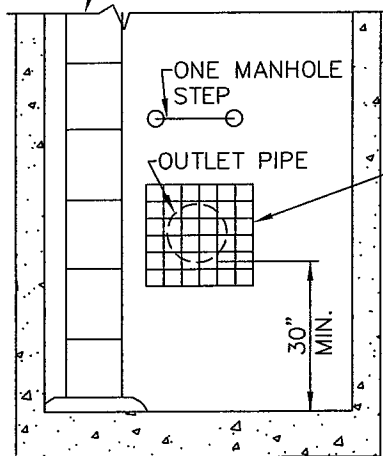
1. PVC PIPE IS TO BE ASTM 3034 SDR 35, WITH RUBBER GASKET JOINTS.
2. DROP TEE TO BE INSTALLED MINIMUM 3' BELOW CONE SECTION.
3. INSIDE DROP STRUCTURE SHALL BE INSTALLED ONLY WHERE APPROVED BY THE CITY ENGINEER.



DETAIL "A"

	CITY OF MERCER ISLAND STANDARD DETAILS SEWER	
	INSIDE DROP STRUCTURE	
	6-5-2009	NO SCALE
REV DATE		APPROVED

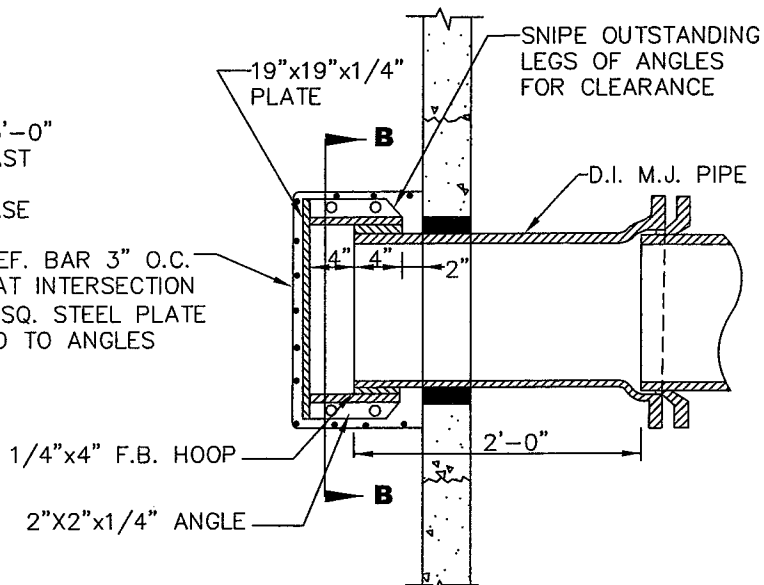
STANDARD MANHOLE LADDER OR SAFETY RUNGS, SEE STANDARD DETAILS S-16.



SECTION A-A

54" DIA. x 5'-0" STD. PRE CAST CONCRETE MANHOLE BASE

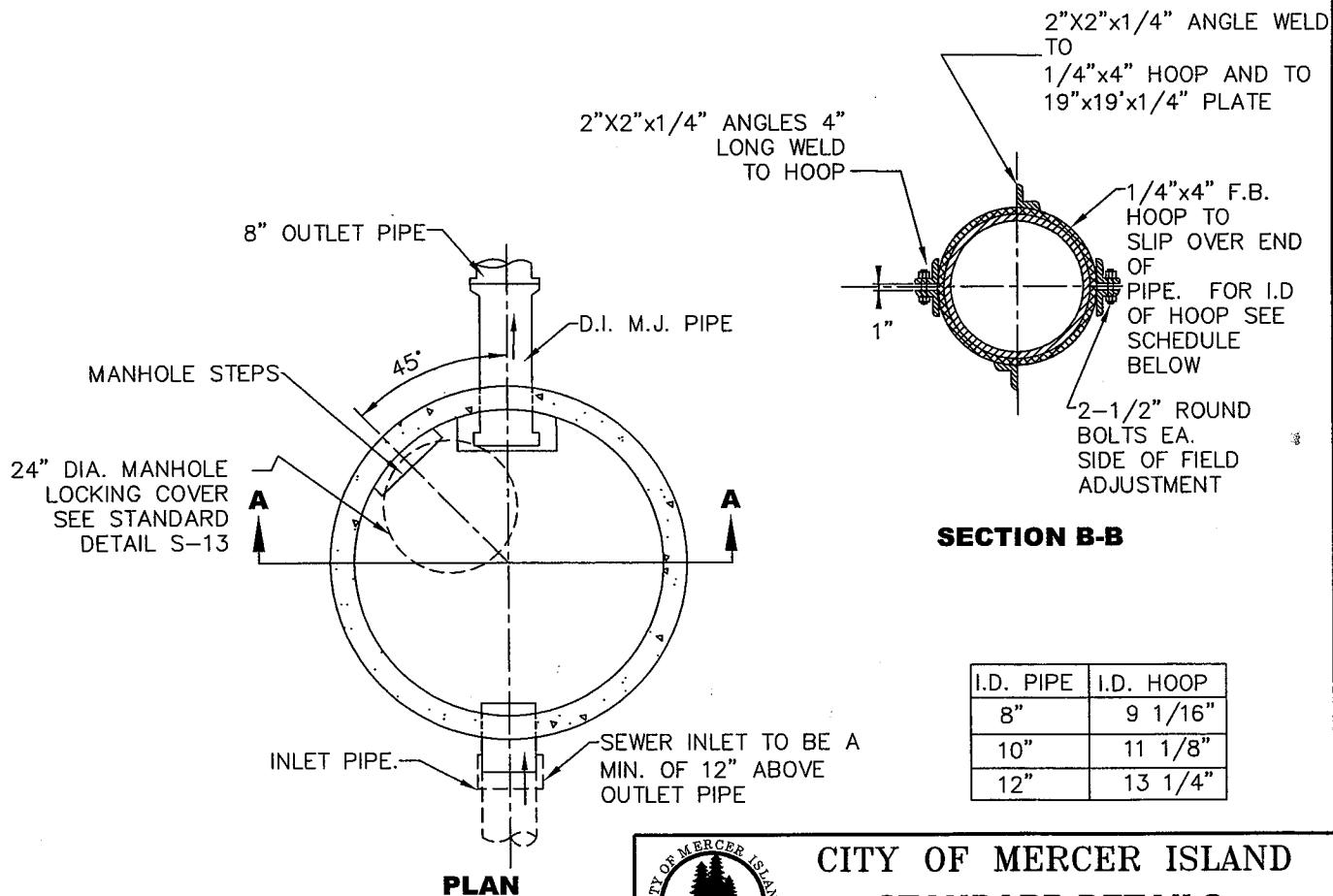
#3 ROUND DEF. BAR 3" O.C. TACK WELD AT INTERSECTION AND TO 19" SQ. STEEL PLATE DO NOT WELD TO ANGLES



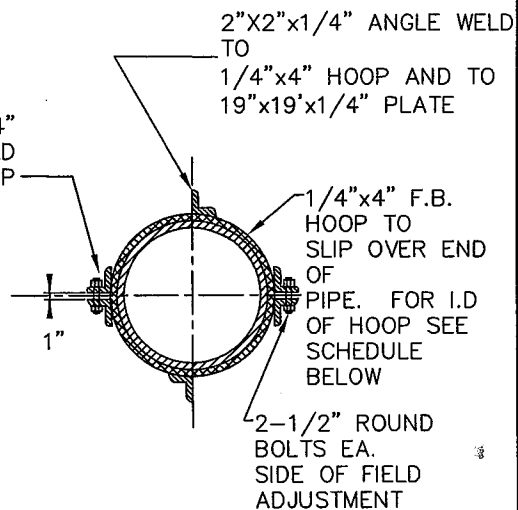
1/4"x4" F.B. HOOP

2"x2"x1/4" ANGLE

SNIP OUTSTANDING LEGS OF ANGLES FOR CLEARANCE



PLAN



SECTION B-B

I.D. PIPE	I.D. HOOP
8"	9 1/16"
10"	11 1/8"
12"	13 1/4"

NOTES

1. COMPLETE ASSEMBLY TO BE GALVANIZED.



**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

CATCHMENT MANHOLE DETAIL

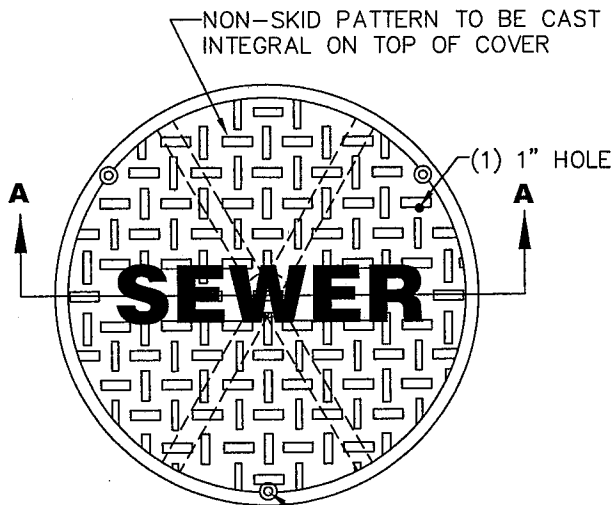
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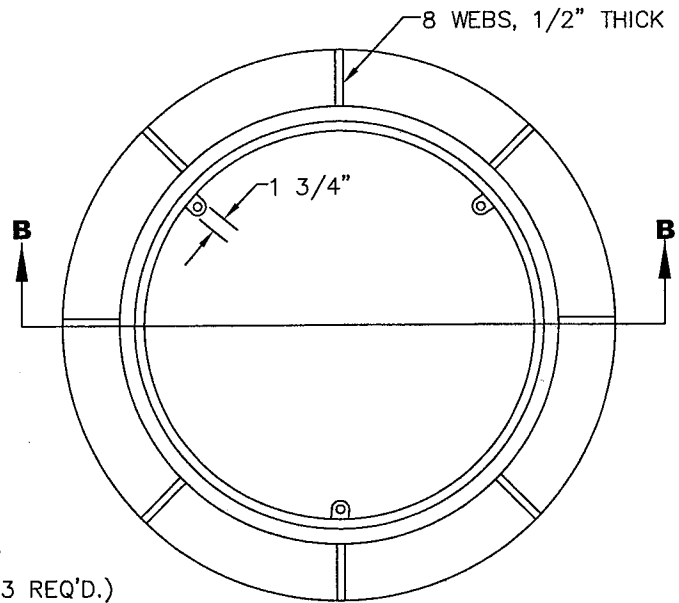
S-12

REV DATE

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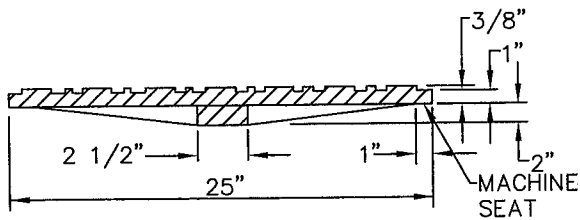


MANHOLE COVER PLAN



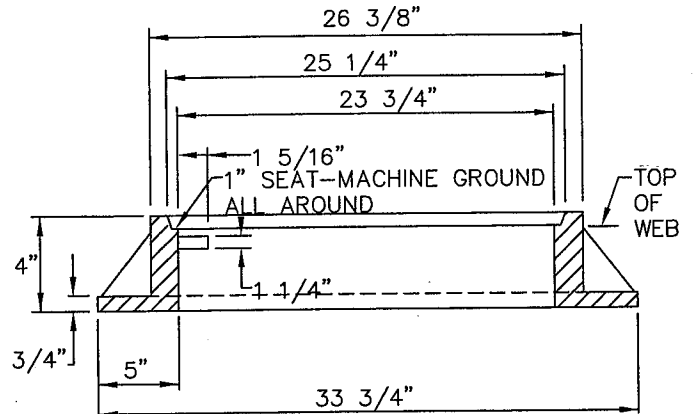
FRAME PLAN

FOR 5/8" - NC x 1 1/4"
SS SOC HD CAP SCREW (3 REQ'D.)
(WHEN LOCKING LIDS ARE REQUIRED)



SECTION A-A

CAST IRON—LOCKING COVER
MINIMUM WEIGHT 150 LBS.



SECTION B-B

CAST IRON FRAME
MINIMUM WEIGHT: 150 LBS

NOTES

- COVER SHALL HAVE THE WORD "SEWER" IN 2" RAISED LETTERS.
- MANHOLE FRAME AND COVER 24" ROUND SHALL BE OLYMPIC FOUNDRY #MH30D/T.
- WHEN LOCKING LIDS ARE REQUIRED, PROVIDE WRENCH FOR CAP SCREW TO CITY AS REQUIRED.



**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

**24" MANHOLE
FRAME WITH COVER**

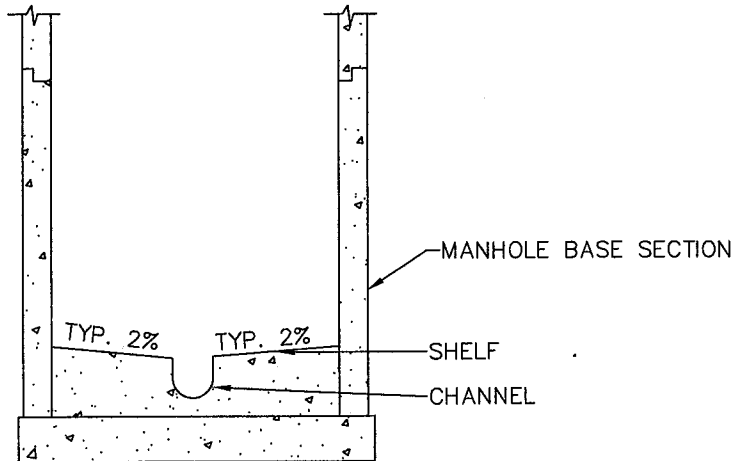
6-5-2009

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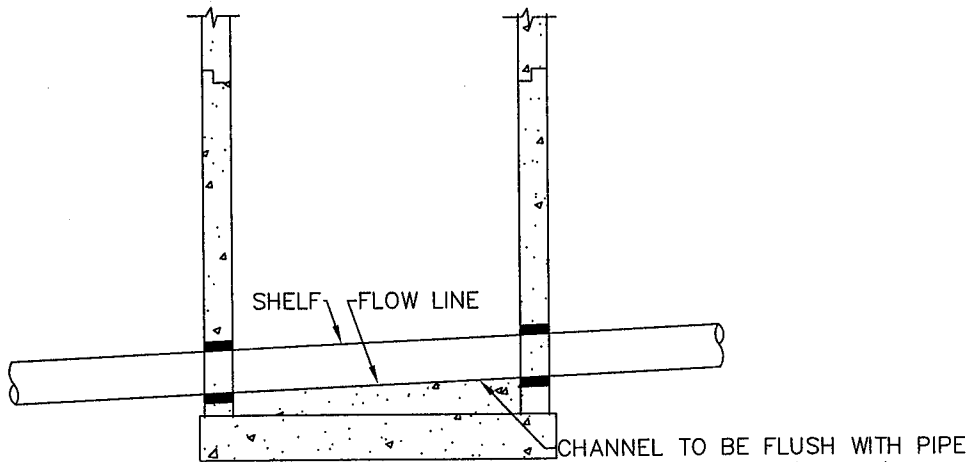
S-13

REV DATE

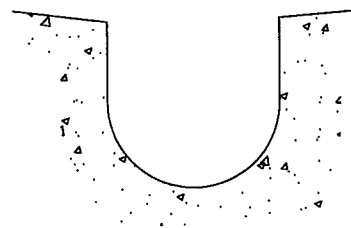
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CROSS SECTION




PROFILE



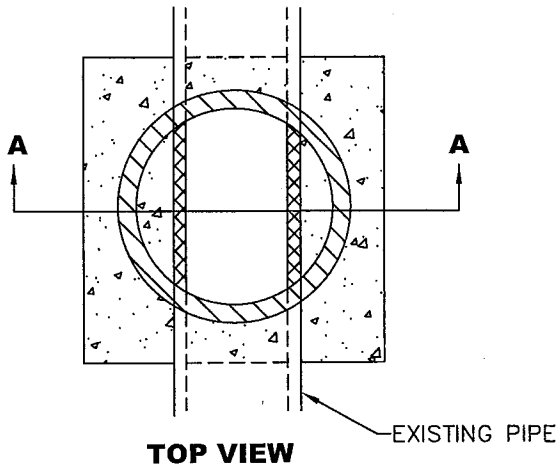
CHANNEL DETAIL

NOTES

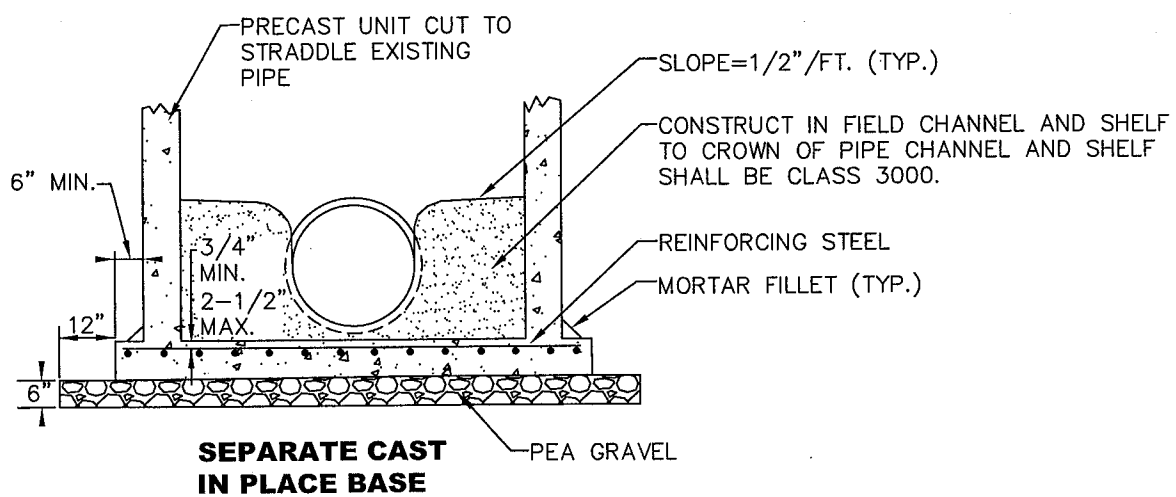
1. MIN. 0.1' DROP ACROSS CHANNEL MAX. 1.0' DROP ACROSS CHANNEL.
2. DEPTH OF CHANNEL MUST BE SAME AS PIPE DIAMETER.

	CITY OF MERCER ISLAND STANDARD DETAILS SEWER	
	SEWER MANHOLE MAIN CHANNEL AND SHELF	
6-5-2009	NO SCALE	S-14

REV DATE						APPROVED
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MANHOLE DIMENSION TABLE			
INSIDE DIAMETER	WALL THICKNESS	BASE THICKNESS	MAXIMUM HOLE SIZE
48"	4"	6"	36"
54"	4 1/2"	8"	42"
60"	5"	8"	48"
72"	6"	8"	48"
84"	8"	12"	48"
96"	8"	12"	48"
108"	10"	12"	48"
120"	11"	12"	48"



NOTES

1. EXISTING PIPE SHALL BE SUPPORTED AT ALL TIMES.
2. NO WEIGHT OF THE PRECAST UNIT SHALL BEAR ON THE EXISTING PIPE.
3. CONCRETE FOR CAST-IN-PLACE BASE SHALL BE CLASS 4000.
4. PRECAST MANHOLE SECTION SHALL BE INSTALLED IN ACCORDANCE WITH THE STANDARD PLAN FOR THE SPECIFIED MANHOLE SIZE AND TYPE.
5. MANHOLE SECTIONS SHALL NOT BE INSTALLED UNTIL CONCRETE BASE HAS SET FOR 12 HOURS.
6. THE EXISTING MAIN SHALL BE LEFT IN PLACE AND THE TOP PORTION OF THE MAIN SHALL BE REMOVED. THE BOTTOM PORTION OF THE MAIN SHALL BE TIED IN AS THE CHANNEL OF THE NEW MANHOLE.
7. GROUT ALL OPENINGS TO ENSURE WATER TIGHT STRUCTURE.
8. A FLEXIBLE PIPE-TO-MANHOLE CONNECTOR SHALL BE EMPLOYED IN ALL CONNECTIONS OF RIGID AND FLEXIBLE PIPES TO NEW PRECAST CONCRETE MANHOLES. THE CONNECTOR SHALL BE "KOR-N-SEAL" WITH "WEDGE KORBAND" MANUFACTURED BY NPC. INC., OR APPROVED EQUAL.
9. BASE REINFORCING STEEL SHALL BE PER MANUFACTURER'S RECOMMENDATION.

CITY OF MERCER ISLAND

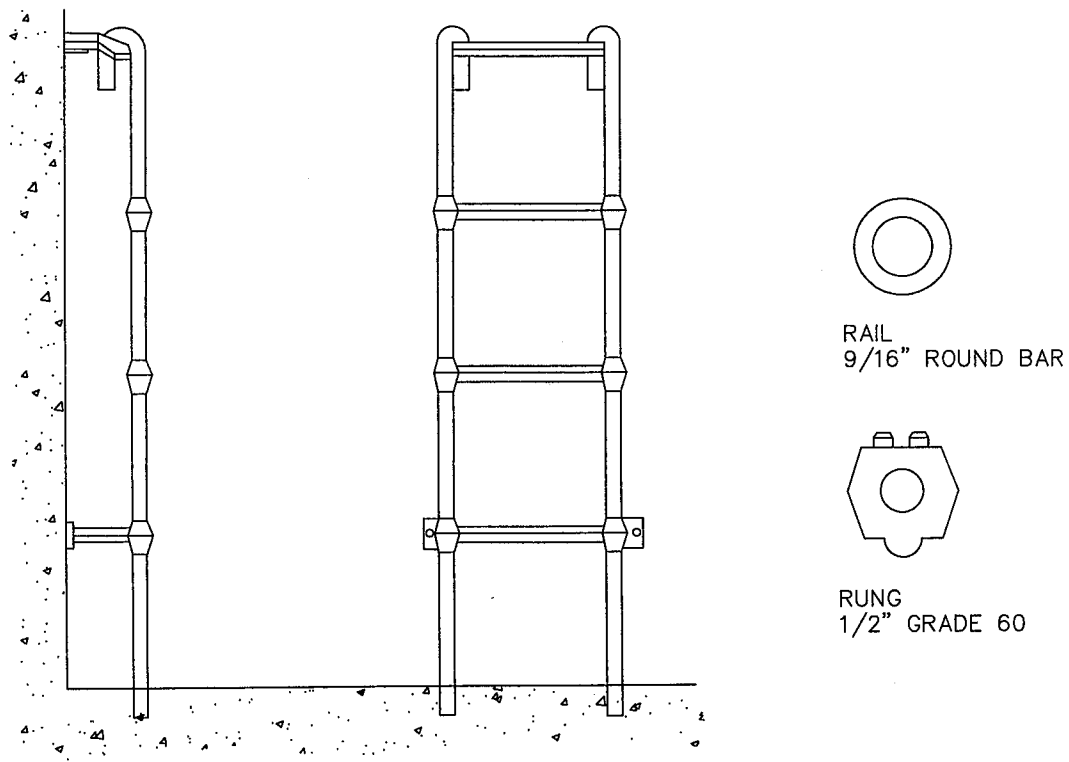
STANDARD DETAILS

SEWER

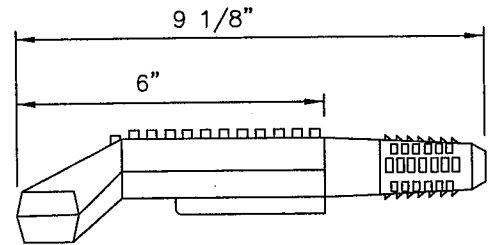
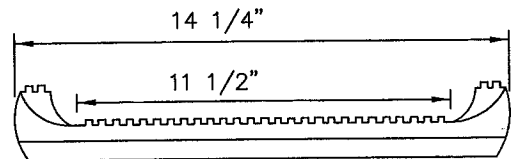
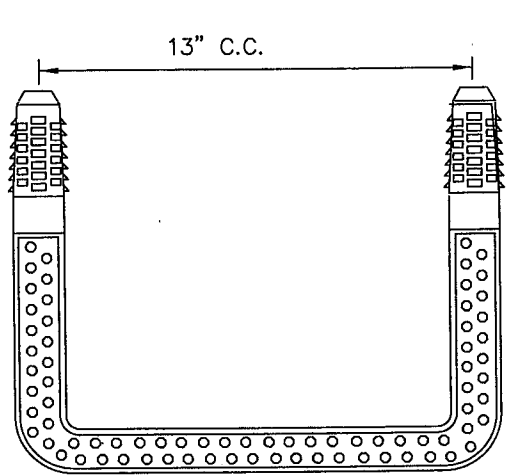
NEW MANHOLE OVER AN EXISTING SEWER LINE

6-5-2009	NO SCALE	S-15
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REV DATE						APPROVED
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POLYPROPYLENE HANGING LADDER

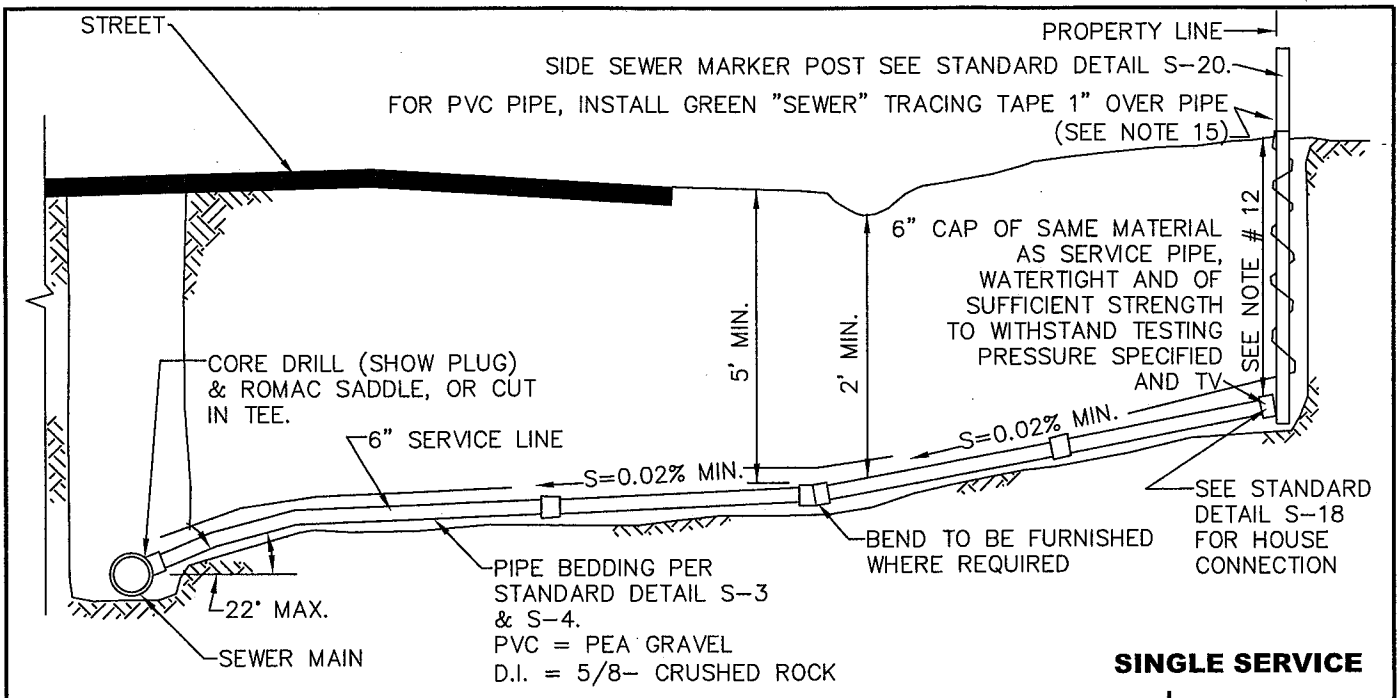


SAFETY STEPS

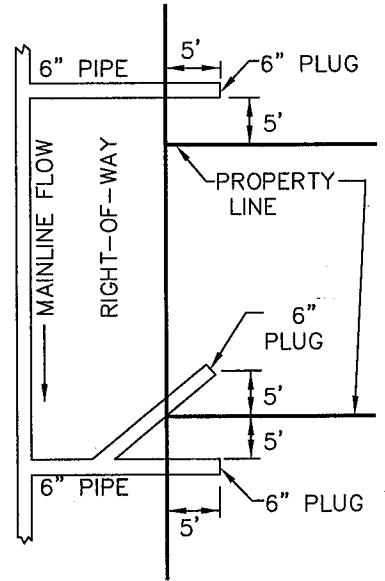
NOTES

1. ALL STEPS SHALL MEET THE REQUIREMENTS OF ASTM C-478, AASHTO M-199, WISHA AND ALL OSHA SPECIFICATIONS. THE POLYPROPYLENE CONFORM TO ASTM D-4101. THE 1/2" GRADE 60 DEFORMED REINFORCING BAR MEETS ASTM-A-615. 9/16" COLD DRAWN BAR MEET ASTM C-1018.
2. THE STEPS MAY BE INSTALLED IN THE FOLLOWING MANNER.
 - A. CAST IN PLACE.
 - B. DRIVEN INTO PREFORMED HOLES WITH CONCRETE CURED TO 3,000 P.S.I. MINIMUM.
 - C. DRIVEN INTO PARALLEL 1" DIAMETER HOLES DRILLED 13" ON CENTER, 3 1/2" DEEP.
 - D. DRILL TWO 1 1/8" OR 1 1/4" HOLES 3 1/2" DEEP. APPLY EPOXY IN THE HOLE AND AROUND THE BARDS OF THE STEP. PUSH THE STEP INTO THE HOLES ALLOWING THE EPOXY TO FLOW OUT TO THE SQUARE SHOULDER OF THE STEP. ANY OF THE ABOVE METHODS SHALL RESIST A PULLOUT FORCE OF OVER 1,000 LBS.

	CITY OF MERCER ISLAND	
	STANDARD DETAILS	
SEWER		
POLYPROPYLENE LADDER AND MANHOLE STEPS		
6-5-2009	NO SCALE	S-16
REV DATE		APPROVED




SINGLE SERVICE

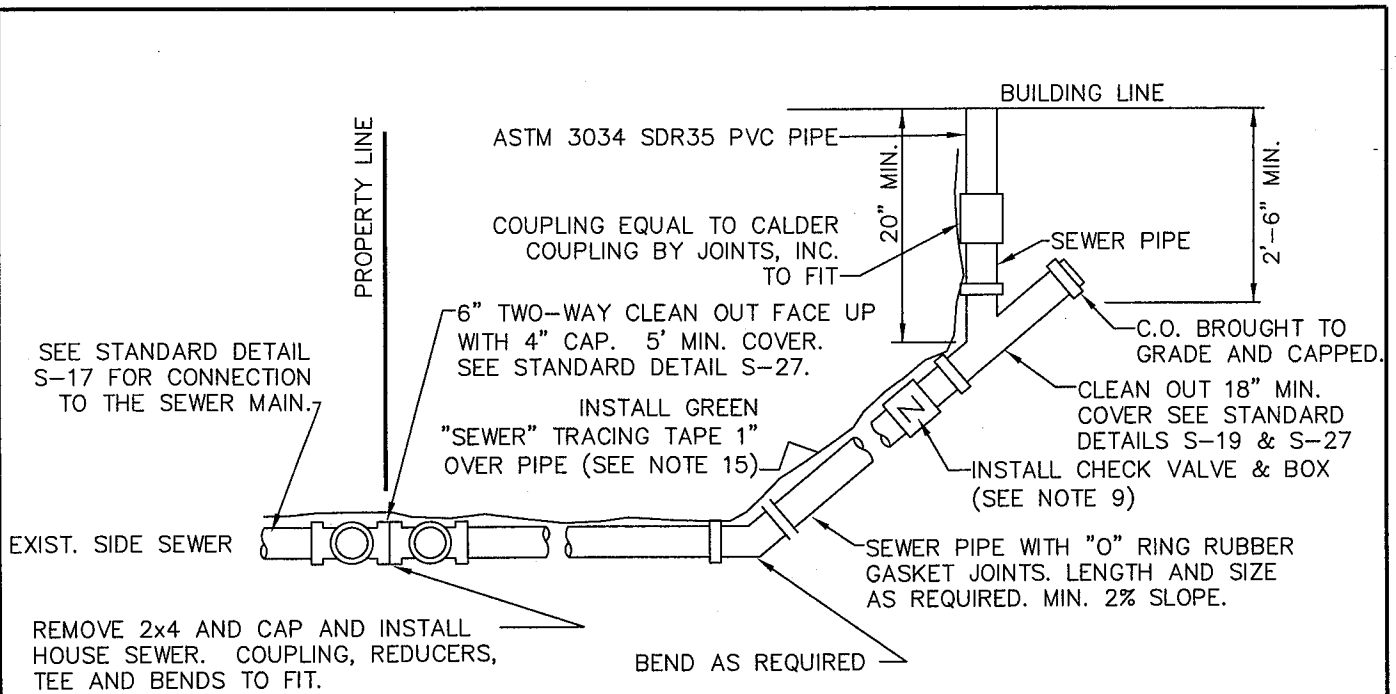


DOUBLE SERVICE

NOTES

1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. RIGHT-OF-WAY RESTORATION SHALL MATCH OR EXCEED THE ORIGINAL CONDITION AND BE IN ACCORDANCE WITH CITY STANDARDS.
4. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS OR MAY BE CDF WHEN DIRECTED BY THE CITY ENGINEER (SEE DETAIL S-3).
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH 1/8 BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 6" SEWER PIPE MINIMUM SIZE IN RIGHT-OF-WAY, AND ELSEWHERE AS DIRECTED BY ENGINEER. 2% MIN. GRADE (UNLESS DIRECTED BY ENGINEER), 50% MAXIMUM.
7. ALL A.C. MAINS TO BE TAPPED IN ACCORDANCE WITH WAC 296-62-00775 STATE/FEDERAL GUIDELINES AND CERTIFICATION.
8. CONSTRUCTION IN RIGHT-OF-WAY MUST BE DONE BY A REGISTERED AND LICENSED CONTRACTOR.
9. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT CITY SEWER ORDINANCES.
10. WHERE CITY ENGINEER ALLOWS SIDE SEWER CONNECTIONS TO MANHOLE, INVERT OF SIDE SEWER SHALL BE EQUAL TO OR ABOVE MAIN SEWER CROWN, BUT NOT TO EXCEED 18" ABOVE INVERT OF MAIN SEWER.
11. UNLESS OTHERWISE INDICATED ON PLAN, SIDE SEWER SHALL BE MIN. OF 6' DEEP AT PROPERTY LINE, OR 5' LOWER THAN THE LOWEST ELEVATION, WHICH EVER IS LOWER.
12. ALL PIPE MATERIALS NOT TO STANDARDS WILL BE ABANDONED AND REPLACED WITH DUCTILE IRON OR PVC PIPE OF THE SAME SIZE.
13. IF A BUILDING SEWER IS TO SERVE MORE THAN ONE PROPERTY, BY JOINT AGREEMENT OF THE OWNERS, AN APPROVED EASEMENT INSURING THAT ALL PROPERTIES INVOLVED SHALL HAVE PERPETUAL USE OF THE SIDE SEWER, HAVING PROVISIONS FOR OPERATION, MAINTENANCE, RECONSTRUCTION AND FOR ACCESS FOR REPAIR PURPOSES, SHALL BE SIGNED BY THE OWNERS. THIS EASEMENT SHALL BE RECORDED WITH THE COUNTY AUDITOR. A SIX INCH (MINIMUM) DIAMETER PIPE SHALL BE USED FOR THE COMMON LINE AND A SIX INCH CLEANOUT EXTENDING TO WITHIN 12 INCHES OF THE GROUND SURFACE SHALL BE PROVIDED AT THE WYE WHERE THE UPPER GRADE CONNECTIONS ARE MADE. BACKWATER VALVES SHALL BE INSTALLED ON SERVICE LINES UPSTREAM OF THE CONNECTION TO THE SHARED SIDE SEWER.
14. THE CITY ENGINEER MAY REQUIRE BACKWATER VALVES ON SIDE SEWERS WHEN DEEMED NECESSARY. THE EFFECTIVE OPERATION AND MAINTENANCE OF ANY BACKWATER VALVE SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE SIDE SEWER.
15. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.


	CITY OF MERCER ISLAND STANDARD DETAILS SEWER	
	SIDE SEWER CONNECTION AND STUB	
6-5-2009	NO SCALE	S-17
REV DATE	APPROVED	

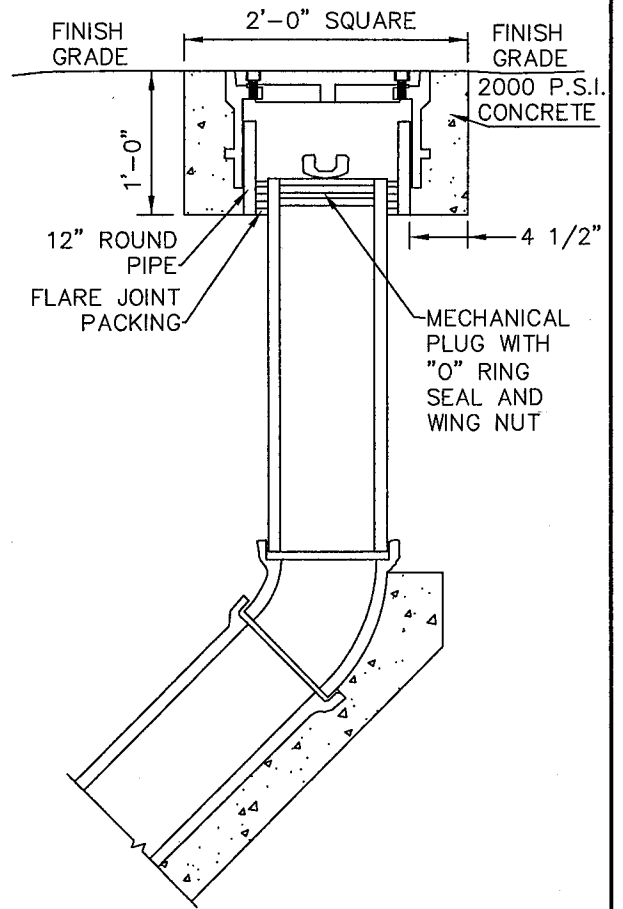
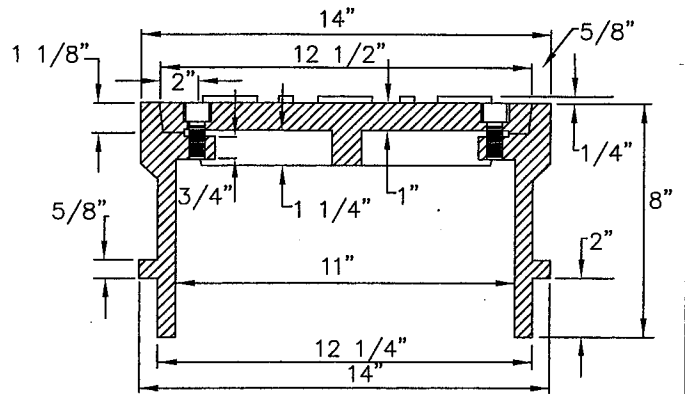
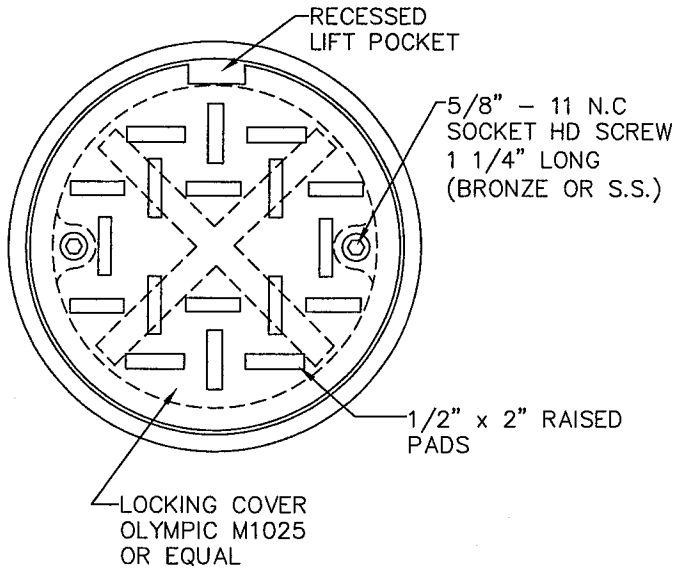


BUILDING CONNECTION

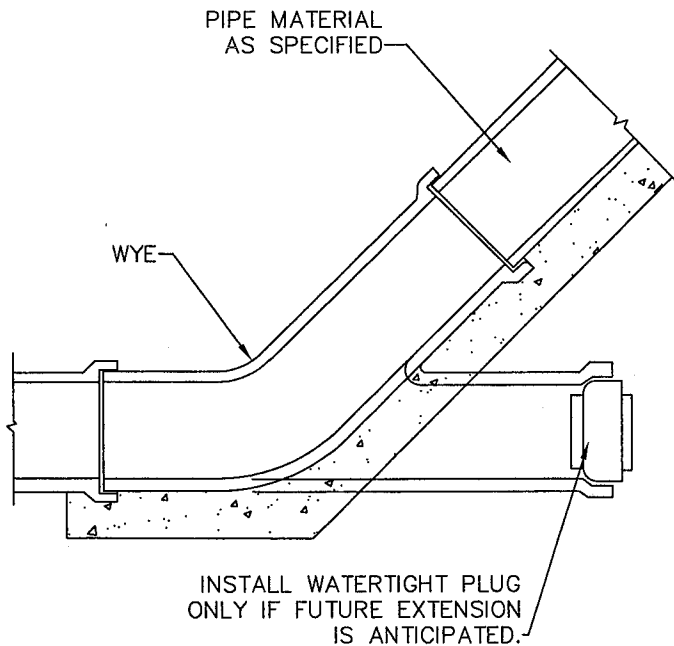
NOTES

1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100°.
3. ALL HOUSE PLUMBING OUTLETS MUST BE CONNECTED TO THE SEWER. NO DOWN SPOUTS OR STORM DRAINAGE MAY BE CONNECTED TO THE SEWER SYSTEM.
4. 18" MINIMUM COVERAGE OVER PIPE.
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH 1/8 BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 4" SEWER PIPE MINIMUM SIZE ON PROPERTY. 2% MINIMUM GRADE.
7. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT SEWER ORDINANCES.
8. ALL CONSTRUCTION REQUIRES A PLAN SHOWING PROPERTY AND DIMENSIONS AND COMPLETION OF SIDE SEWER APPLICATION AND MAINTENANCE AGREEMENT, AS NEEDED.
9. BACK WATER VALVE (CHECK VALVE) IS REQUIRED:
 - A. IF CONNECTED TO A SHARED SIDE SEWER.
 - B. IF CONNECTION AT HOUSE IS LOWER THAN BOTH UPSTREAM AND DOWNSTREAM MANHOLE.
 - C. SEE S-23 & S-24 FOR LAKE LINE REQUIREMENTS.
10. AS-BUILT DRAWING SHOWING LOCATION OF SIDE SEWER & ALL BENDS, C.O. ETC., IN RELATION TO THE HOUSE IS REQUIRED AFTER INSPECTION & INSTALLATION. SEE STANDARD DETAIL S-38 FOR A TYPICAL "AS BUILT".
11. THE MINIMUM PIPE SIZE FOR SIDE SEWERS SHALL BE:
 - 6" - WITHIN THE PUBLIC RIGHT-OF-WAY.
 - 4" - SINGLE FAMILY RESIDENCES.
 - 6" - 2 TO 6 SINGLE FAMILY RESIDENCES.
 - 6" - BUILDINGS OTHER THAN SINGLE FAMILY RESIDENCES.
12. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

	CITY OF MERCER ISLAND	
	STANDARD DETAILS	
SEWER		
HOUSE SEWER CONNECTION		
6-5-2009	NO SCALE	S-18
REV DATE		APPROVED



FOR PVC PIPE



NOTES

1. SEE S-27 FOR INSTALLATION DETAILS.



**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

CLEAN OUT DETAIL

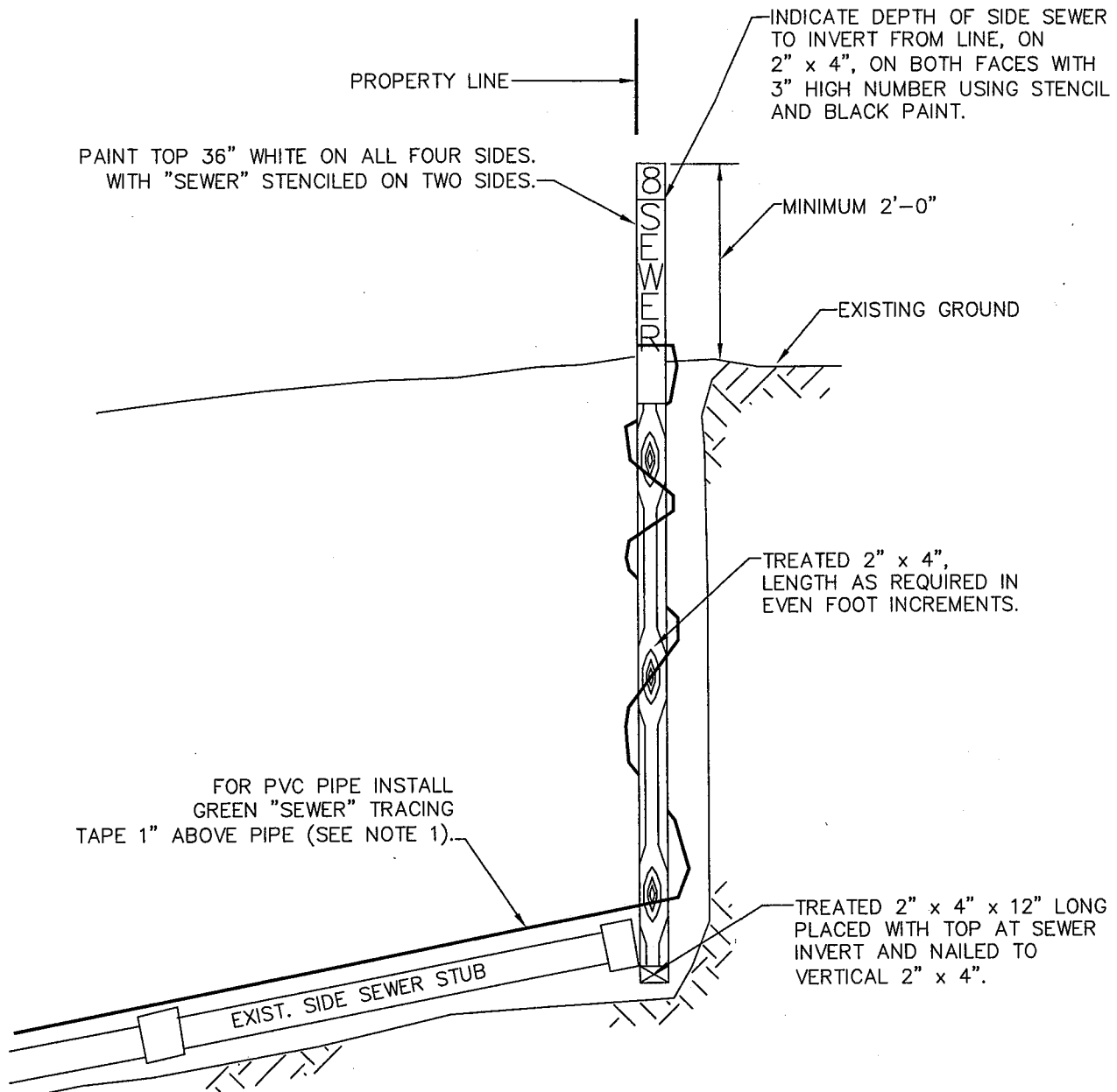
6-5-2009

NO SCALE

S-19

REV DATE

APPROVED



PAINT TOP 36" WHITE ON ALL FOUR SIDES.
WITH "SEWER" STENCILED ON TWO SIDES.

INDICATE DEPTH OF SIDE SEWER
TO INVERT FROM LINE, ON
2" x 4", ON BOTH FACES WITH
3" HIGH NUMBER USING STENCIL
AND BLACK PAINT.

MINIMUM 2'-0"

EXISTING GROUND

TREATED 2" x 4",
LENGTH AS REQUIRED IN
EVEN FOOT INCREMENTS.

FOR PVC PIPE INSTALL
GREEN "SEWER" TRACING
TAPE 1" ABOVE PIPE (SEE NOTE 1).

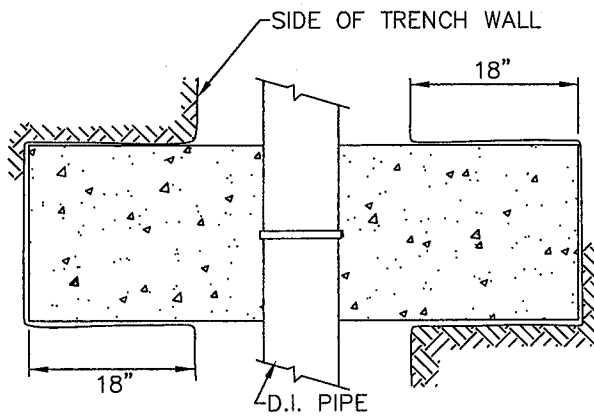
TREATED 2" x 4" x 12" LONG
PLACED WITH TOP AT SEWER
INVERT AND NAILED TO
VERTICAL 2" x 4".

EXIST. SIDE SEWER STUB

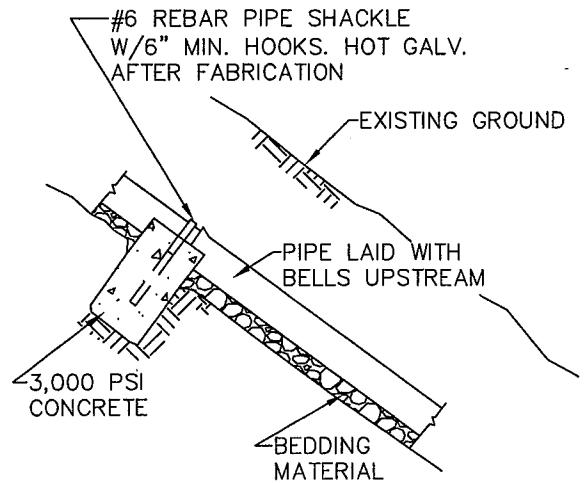
NOTES

1. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

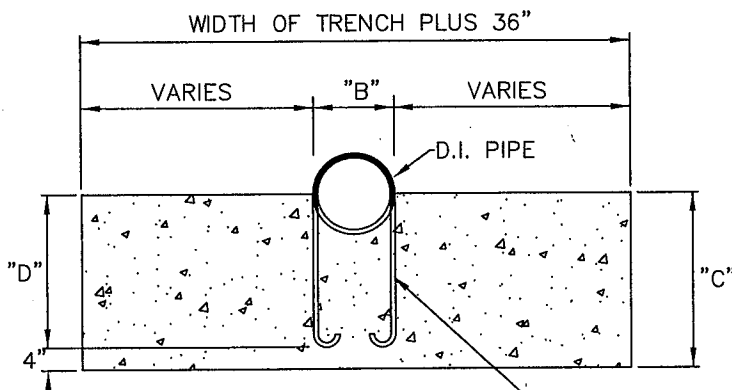
	CITY OF MERCER ISLAND STANDARD DETAILS SEWER	
	SIDE SEWER MARKER POST	
6-5-2009	NO SCALE	S-20
REV DATE		APPROVED



PLAN

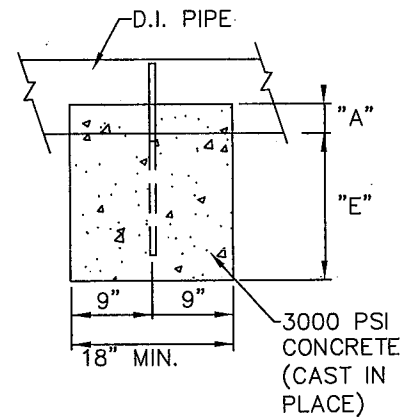


PROFILE



NO. 6 REBAR (COAT EXPOSED PORTION WITH ROYSTON ROSKOTE (SEE W-5 FOR DETAILS).

ELEVATION



SECTION

PIPE SIZE	DIMENSIONS INCHES				
	A	B	C	D	E
4"	2.4	4.8	17	13	14.6
6"	3.5	6.9	18	14	14.5
8"	4.5	9.1	19	15	14.5
10"	5.6	11.1	20	16	14.4
12"	6.6	13.2	21	17	14.4
14"	7.7	15.3	22	18	14.3
16"	8.7	17.4	23	19	14.3
18"	9.8	19.5	24	20	14.2

NOTES

1. PIPE ANCHORS TO BE USED ONLY AS APPROVED BY THE ENGINEER.
2. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 P.S.I.
3. TIE ROD ASSEMBLIES SHALL BE COATED WITH ROYSTON ROSKOTE #612SM OR APPROVED EQUAL.



**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

PIPE ANCHOR DETAIL

6-5-2009

NO SCALE

S-21

REV DATE

APPROVED

DISCONNECTION

WHEN DEMOLISHING AN EXISTING BUILDING, THE BUILDING SIDE SEWER SHALL BE DISCONNECTED PRIOR TO REMOVAL OF BUILDING FOUNDATIONS. THE CONTRACTOR SHALL INSTALL A MECHANICAL PLUG WITH NON-SHRINK GROUT AT THE END OF THE SIDE SEWER TO REMAIN IN PLACE. DISCONNECTION'S SHALL BE PERFORMED IN THE PRESENCE OF THE CITY'S UTILITY INSPECTOR. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT DRAWING DEPICTING THE DISCONNECTED SIDE SEWER UPON COMPLETION OF THE WORK.

RECONNECTION

WHEN RECONNECTING TO AN EXISTING SIDE SEWER, THE POINT OF RECONNECTION WILL BE DETERMINED BASED ON THE MAGNITUDE OF THE CONSTRUCTION ON THE PROPERTY.

1. PARTIAL INTERIOR REMODEL AND/OR BUILDING ADDITION WITH NO ADDITIONAL PLUMBING FIXTURES – NO SIDE SEWER REPLACEMENT REQUIRED UNLESS A KNOWN PROBLEM EXISTS IN THE SIDE SEWER.
2. PARTIAL INTERIOR REMODEL AND/OR BUILDING ADDITION WITH ADDITIONAL PLUMBING FIXTURES— ASSESS CONDITION OF EXISTING SIDE SEWER THROUGH VIDEO INSPECTION FROM BUILDING TO PROPERTY LINE AND REPLACE AS NEEDED.
3. COMPLETE INTERIOR REMODEL OF RESIDENCE – ASSESS CONDITION OF EXISTING SIDE SEWER THROUGH VIDEO INSPECTION FROM BUILDING TO PROPERTY LINE AND REPLACE AS NEEDED. IF EXISTING SIDE SEWER IS ASBESTOS CEMENT OR CONCRETE, SIDE SEWER SHALL BE REPLACED FROM BUILDING TO PROPERTY LINE, UNLESS THE APPLICANT PROVES, TO THE SATISFACTION OF THE CITY ENGINEER, THAT THE SIDE SEWER IS WATER TIGHT AND IN SOUND CONDITION.*
4. COMPLETE INTERIOR REMODEL AND BUILDING ADDITION – NEW SIDE SEWER FROM BUILDING TO PROPERTY LINE.*
5. CONSTRUCTION OF A NEW SINGLE FAMILY RESIDENCE – NEW SIDE SEWER FROM BUILDING TO PROPERTY LINE.*


BACK WATER VALVE INSTALLATION PER CITY ENGINEER, IF SCENARIO 2, 3, 4, OR 5 IS DIRECTLY ATTACHED TO THE LAKE LINE OR THE ELEVATION OF THE LOWEST DRAIN IN THE RESIDENCE IS LOWER THAN THE RIM ELEVATION OF THE UPSTREAM SEWER MANHOLE ON THE MAIN.

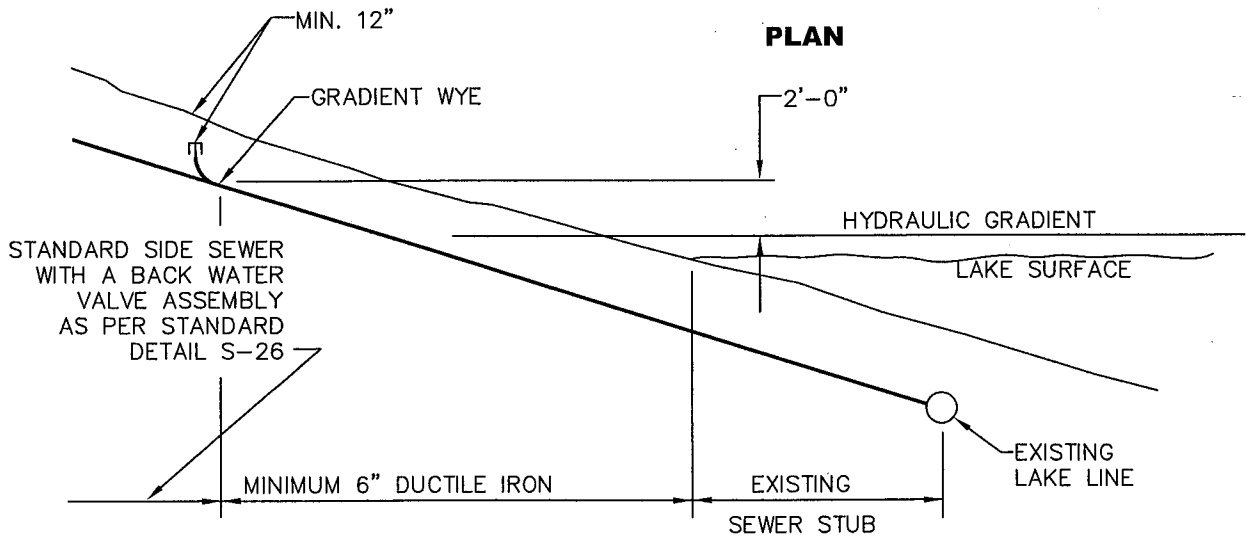
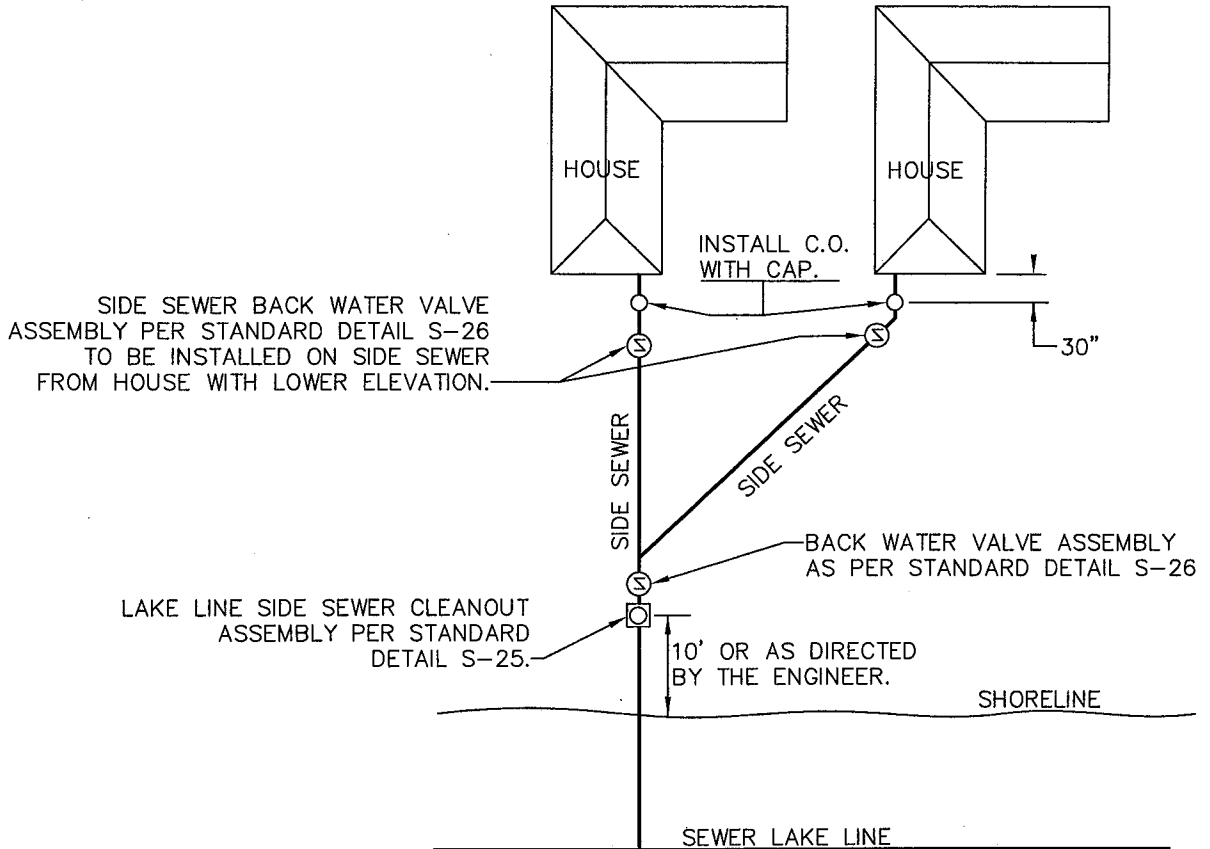
VIDEO INSPECTION OF THE EXISTING SIDE SEWER, BETWEEN THE PROPERTY LINE AND THE SEWER MAIN SHALL BE PERFORMED FOR SCENARIOS NUMBER 4 AND 5.

PROVIDE A COPY OF THE VIDEO DOCUMENTATION (VIDEO AND HARDCOPY REPORT) TO THE CITY ENGINEER.

REPLACEMENT OR REPAIR OF THAT PORTION OF THE SIDE SEWER BETWEEN THE PROPERTY LINE AND THE SEWER MAIN, WILL BE DETERMINED BY THE CITY ENGINEER, BASED ON THE VIDEO INSPECTION.

*IF THE EXISTING SIDE SEWER IS PVC AND IS LESS THAN TEN YEARS OLD, THE SIDE SEWER DOES NOT HAVE TO BE REPLACED IF A VIDEO INSPECTION AND/OR HYDROSTATIC PRESSURE TEST CONFIRMS THAT THE SIDE SEWER IS IN PROPER WORKING CONDITION. THESE TESTS SHALL BE PERFORMED AFTER ALL HEAVY EQUIPMENT THAT COULD DAMAGE THE SIDE SEWER IS OFF OF THE SITE.

	CITY OF MERCER ISLAND	
	STANDARD DETAILS	
SEWER		
RESIDENTIAL SIDE SEWER		
DISCONNECTION & RECONNECTION		
6-5-2009	NO SCALE	S-22
REV DATE		APPROVED

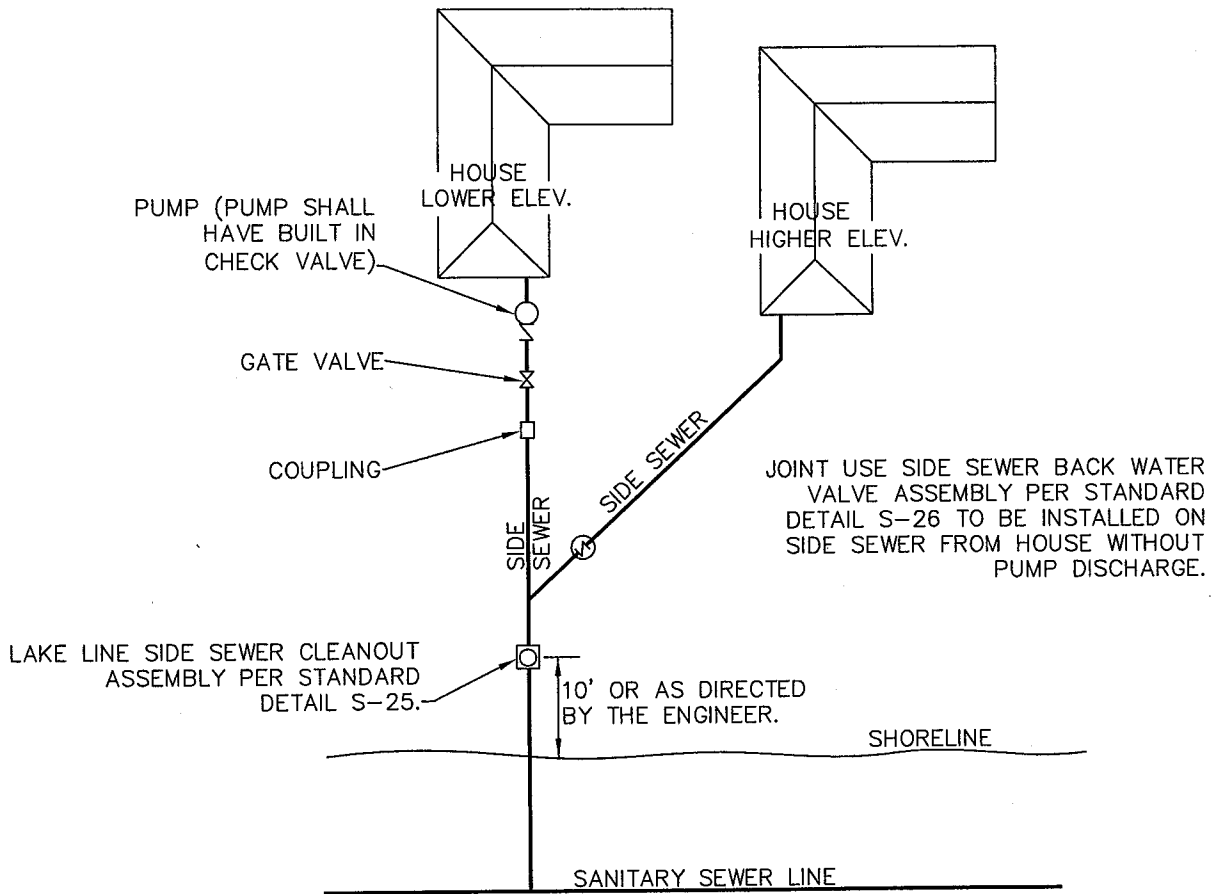


NOTES

1. BACK WATER VALVE ASSEMBLY IS PRIVATE AND SHALL BE THE PROPERTY OWNERS RESPONSIBILITY FOR MAINTENANCE.
2. PIPE AND MATERIAL SHALL BE DUCTILE IRON TO HYDRAULIC GRADIENT LINE.
3. INSTALL GRADIENT WYE AT HYDRAULIC GRADIENT PLUS 2.0' VERTICAL. CAST IRON WYE WITH MJ PLUG AND 12" OF COVER.
4. INSTALL BACK WATER VALVE BETWEEN WYE AND FIRST SERVICE CONNECTION.

	CITY OF MERCER ISLAND STANDARD DETAILS SEWER	
	LAKE LINE CLEANOUT & BACK WATER VALVE ASSEMBLY INSTALLATION ABOVE HYDRAULIC GRADIENT	
6-5-2009	NO SCALE	S-23


REV DATE							APPROVED
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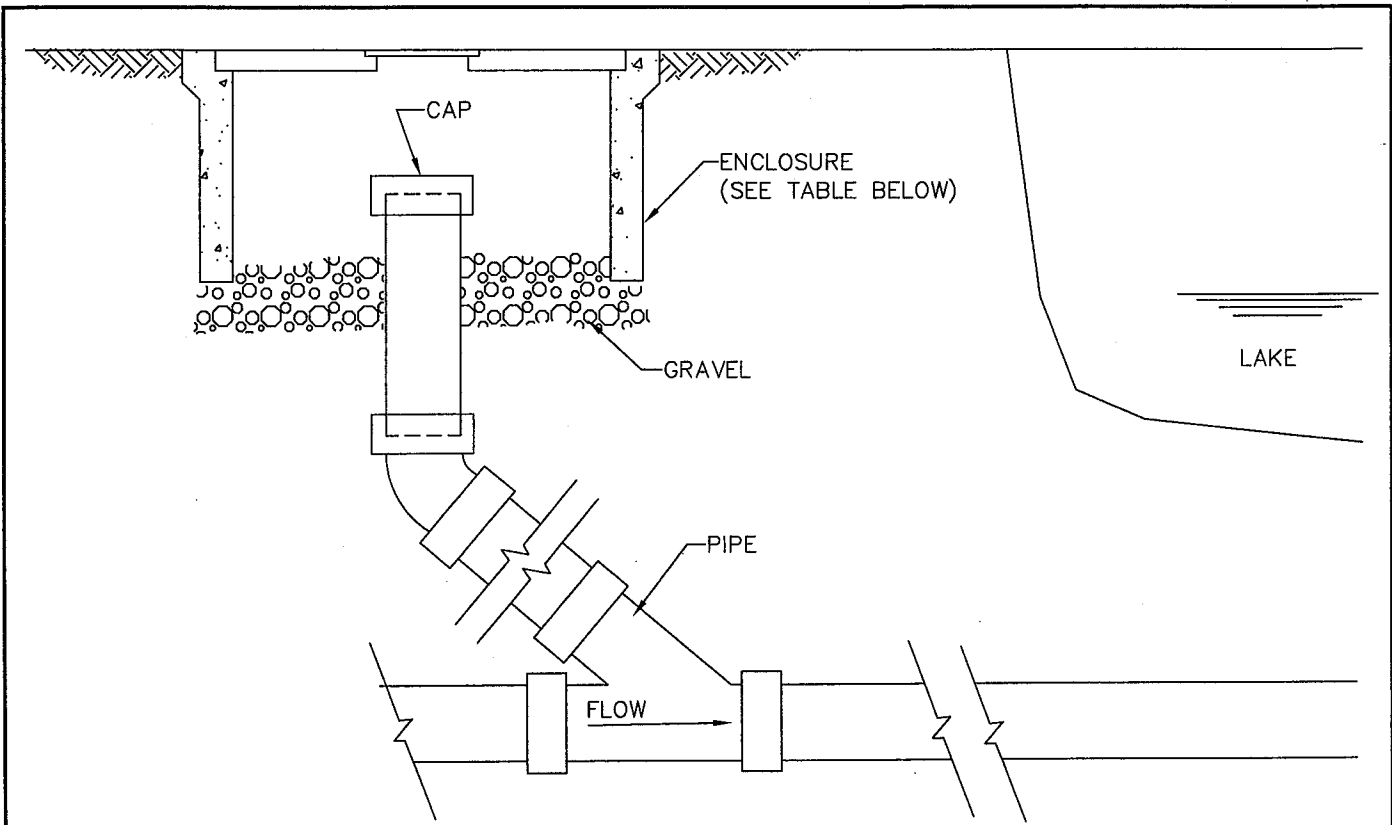


PLAN

NOTES

1. BACK WATER VALVE ASSEMBLY IS PRIVATE AND SHALL BE THE PROPERTY OWNERS RESPONSIBILITY FOR MAINTENANCE.
2. TO BE USED ONLY WITH PRIOR APPROVAL OF THE CITY ENGINEER.

	CITY OF MERCER ISLAND STANDARD DETAILS SEWER	
	LAKE LINE CLEANOUT & BACK WATER VALVE ASSEMBLY INSTALLATION BELOW HYDRAULIC GRADIENT	
6-5-2009	NO SCALE	S-24
REV DATE		APPROVED




LAKE LINE CLEANOUT

PIPE SIZE	MATERIAL	CAP	ENCLOSURE	COMMENTS
6"	PVC	SIDU MECHANICAL SEWER PLUG	CONC. METER BOX, FOGTITE 1-D	INSTALLATION BELOW HYDRAULIC GRADIENT
6"	PVC	PVC CAP W/O GASKET	CONC. METER BOX, FOGTITE 1-D	INSTALLATION ABOVE HYDRAULIC GRADIENT
6"	DIP	MECHANICAL JOINT CAP	CONC. METER BOX, FOGTITE 1-D	INSTALLATION ABOVE HYDRAULIC GRADIENT
8"	PVC	PVC CAP W/O GASKET	CONC. METER BOX, FOGTITE NO. 2 (CONC. LID W/ ALUM. INS. PLATE)	INSTALLATION ABOVE HYDRAULIC GRADIENT
8"	DIP	MECHANICAL JOINT CAP	CONC. METER BOX, FOGTITE NO. 2 (CONC. LID W/ ALUM. INS. PLATE)	INSTALLATION ABOVE HYDRAULIC GRADIENT

NOTES

1. IF POSSIBLE, CLEANOUT TO BE LOCATED JUST ABOVE HYDRAULIC GRADIENT OF LAKE LINE. CLEANOUT SHOULD ALSO BE LOCATED TO PROVIDE EASY ACCESS FOR INSPECTION AND MAINTENANCE BY THE HOME OWNER.
2. SEE S-23 & S-24 FOR BACK WATER VALVE LOCATION.

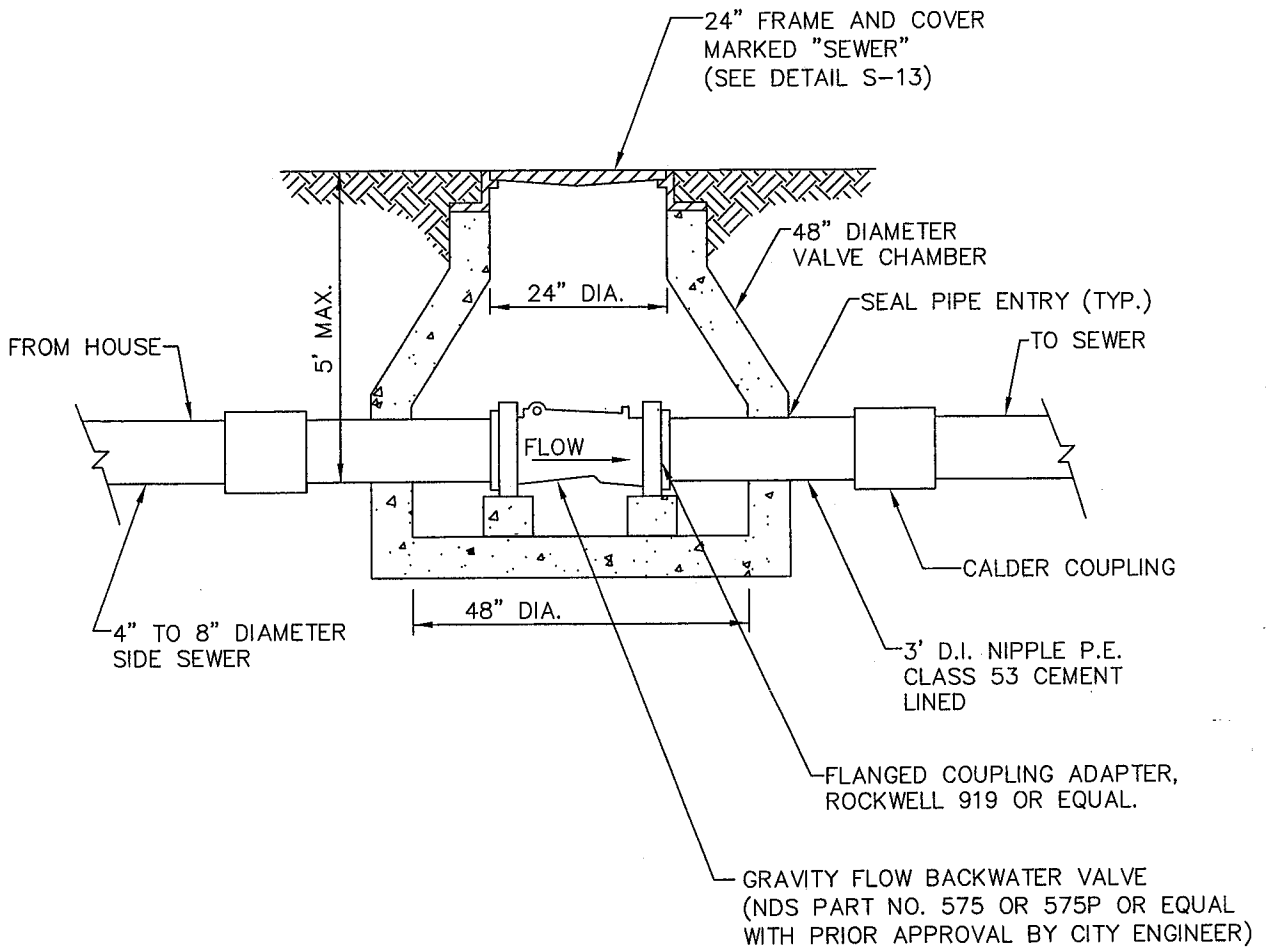


CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

SIDE SEWER CLEANOUT FOR LAKE LINE CONNECTIONS

6-5-2009	NO SCALE	S-25
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REV DATE							APPROVED
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**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

**BACK WATER VALVE ASSEMBLY
FOR JOINT USE SIDE SEWER
(4" OR 6" DIAMETER)**

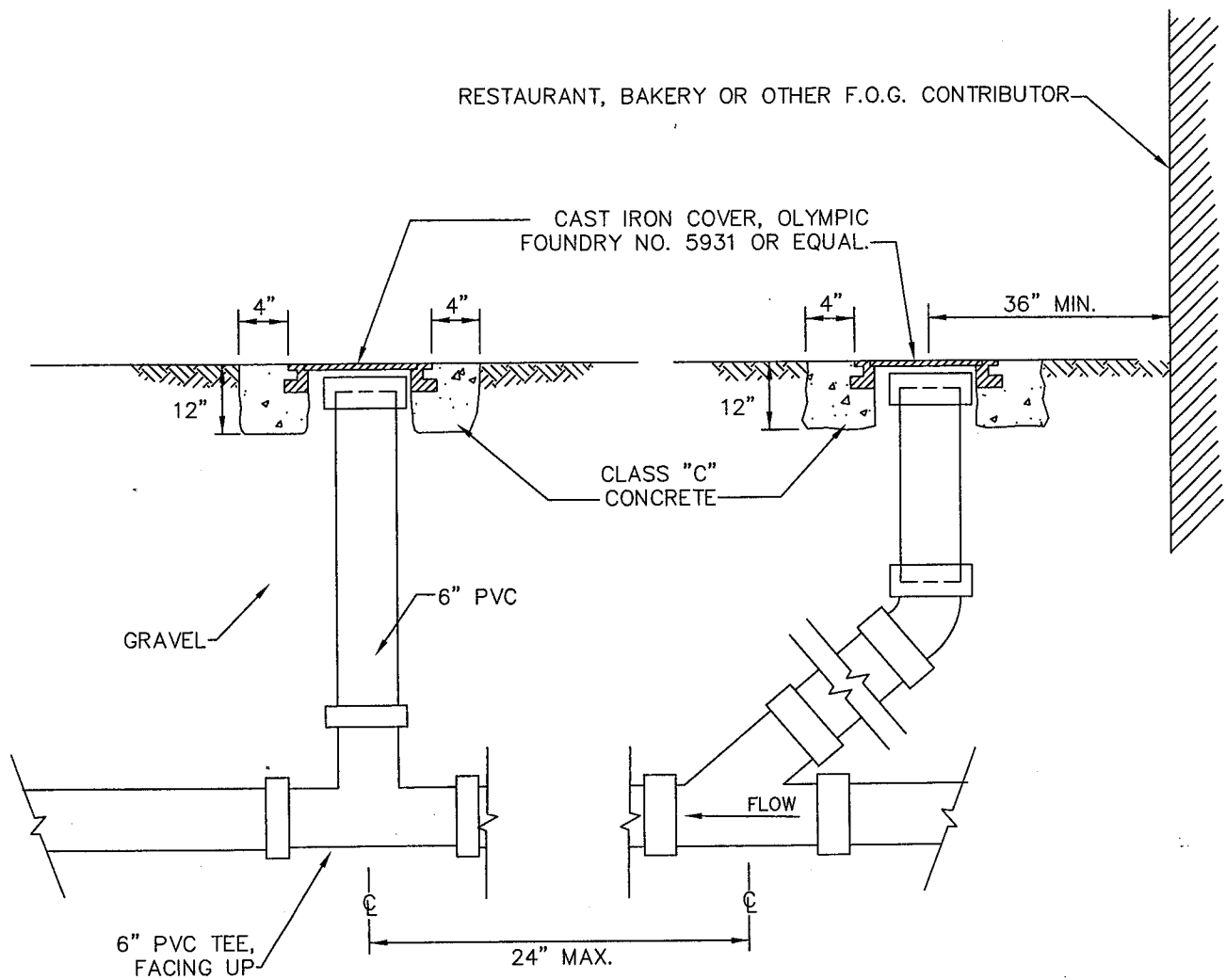
6-5-2009

NO SCALE

S-26

REV DATE

APPROVED



NOTES

1. INSTALL SAMPLING TEE ON EXISTING OR NEW SIDE SEWER.



**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

SAMPLING TEE

6-5-2009

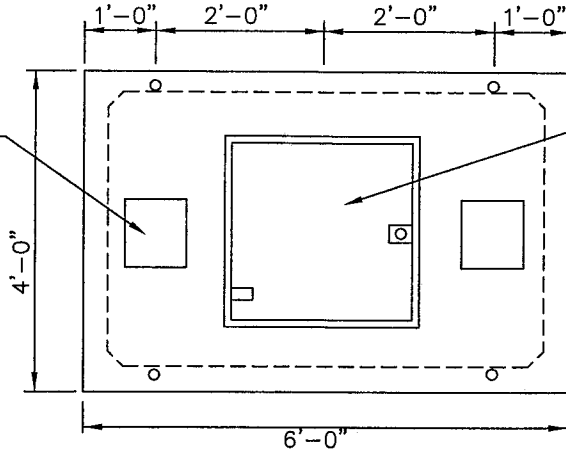
NO SCALE

S-27

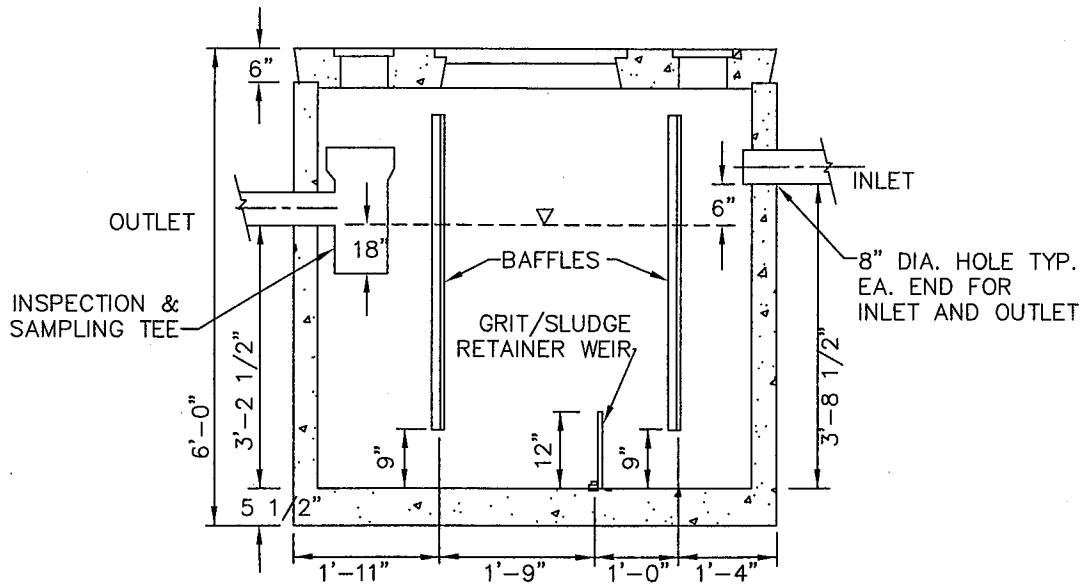
REV DATE

APPROVED

2 NO. 1012P
DIAMOND PLATE
INSPECTION COVERS
(12" x 12")



NO. 222P DIAMOND
PLATE ACCESS DOOR
(24" x 24")



NOTES

1. UTILITY VAULT COMPANY, INC., #660-SA, OR EQUAL.
2. LOCATE WITHIN 20 FEET OF DRIVE FOR ACCESS BY MAINTENANCE VEHICLE.
3. INSPECTION AND SAMPLING TEE TO BE INSTALLED BY CONTRACTOR. LINE SIZED PVC PIPE SHALL BE USED
4. FILL WITH CLEAN WATER PRIOR TO START-UP OF SYSTEM.
5. GRAY AND BLACK WATER SHALL BE CARRIED BY SEPARATE SIDE SEWER.



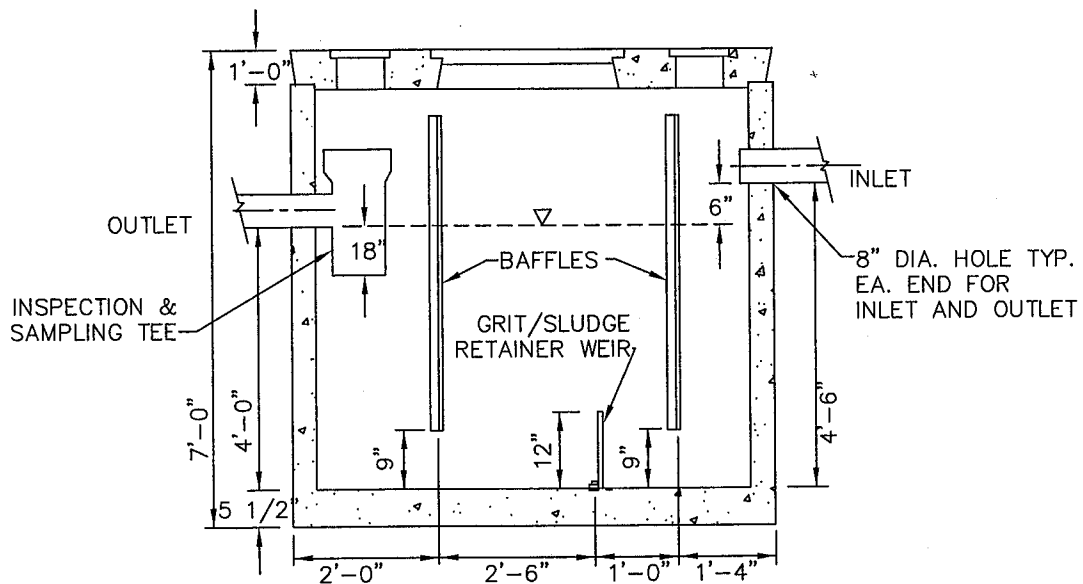
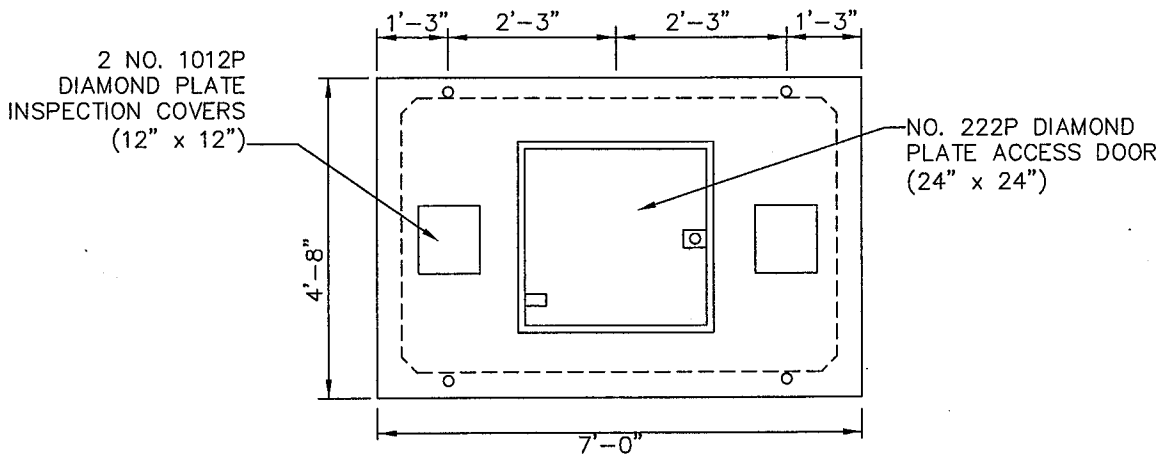
**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

**450 GALLON BAFFLE TYPE
OIL/WATER SEPARATOR**

6-5-2009

NO SCALE

S-28



NOTES

1. UTILITY VAULT COMPANY, INC., #577-SA, OR EQUAL.
2. LOCATE WITHIN 20 FEET OF DRIVE FOR ACCESS BY MAINTENANCE VEHICLE.
3. INSPECTION AND SAMPLING TEE TO BE INSTALLED BY CONTRACTOR. LINE SIZED PVC PIPE SHALL BE USED
4. FILL WITH CLEAN WATER PRIOR TO START-UP OF SYSTEM.
5. GRAY AND BLACK WATER SHALL BE CARRIED BY SEPARATE SIDE SEWER.



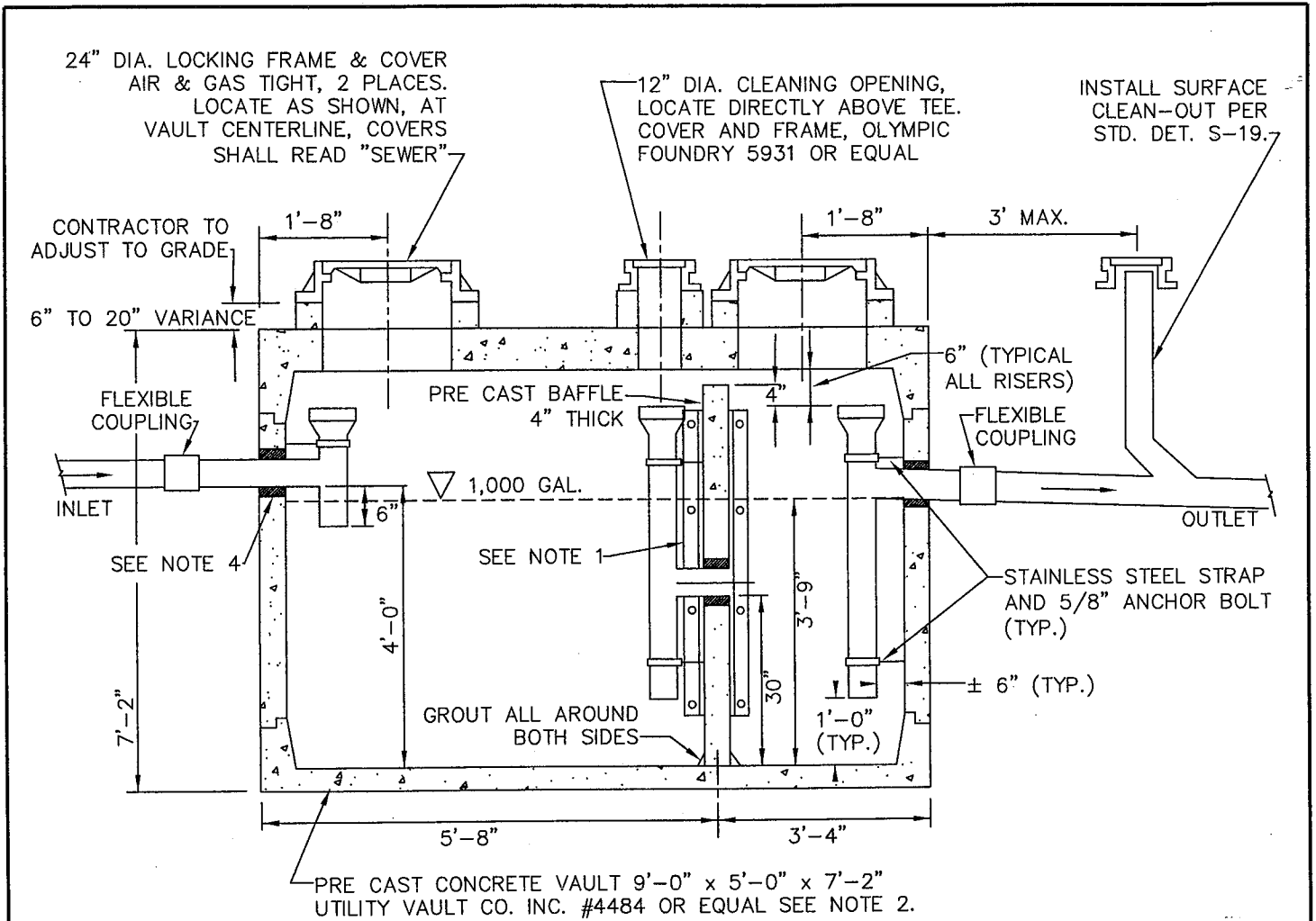
**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

**800 GALLON BAFFLE TYPE
OIL/WATER SEPARATOR**

6-5-2009


NO SCALE

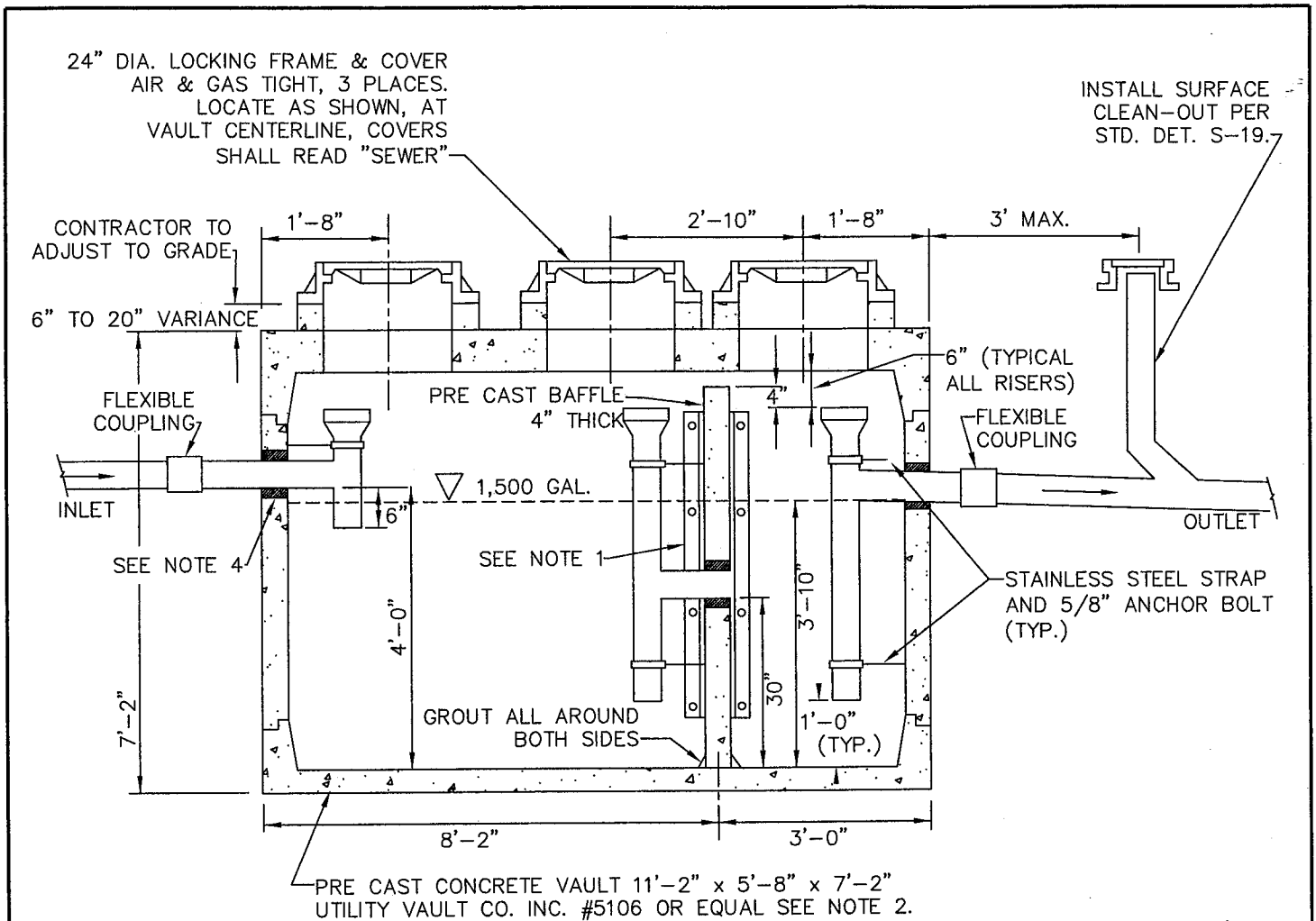
S-29



NOTES

1. IF VAULT IS NOT SLOTTED TO ACCEPT PRE CAST CONCRETE BAFFLE THEN PRE CAST CONCRETE BAFFLE SHALL BE HELD IN PLACE BY (2) 3"x3"x3/8" ANGLE (4' LONG) ATTACHED TO VAULT WALL WITH (4 EA.) 1/2" BOLTS AND NUTS (WITH WASHERS) SPACED 14" O.C. ANGLE AND FASTENERS SHALL BE STAINLESS STEEL OR GALVANIZED AND ASPHALT COATED.
2. PRE CAST FAULT AND BAFFLE SHALL HAVE KNOCKOUTS AT ALL PIPE OPENINGS. IF KNOCKOUTS ARE NOT PRESENT THEN PIPE OPENINGS SHALL BE CORE-DRILLED. PIPE OPENINGS SHALL BE 2" LARGER THAN PIPE DIAMETER.
3. LOCATE INTERCEPTOR WITHIN 20' OF DRIVE FOR ACCESS BY MAINTENANCE VEHICLE.
4. CONNECTION TO CONCRETE WALLS WITH PVC PIPE REQUIRE KOR-N-SEAL CONNECTOR OR A.C. x PVC BRANT ADAPTER. SEAL ALL PIPE CONNECTIONS WITH NON-SHRINK GROUT.
5. LINE-SIZED PVC PIPE SHALL BE USED THROUGHOUT.
6. GRAY-WATER ONLY. BLACK-WATER SHALL BE CARRIED BY SEPARATE SIDE SEWER.
7. CLEAN-OUT REQUIRED 3' MAXIMUM DOWNSTREAM OF INTERCEPTOR.
8. FILL WITH CLEAN WATER PRIOR TO START UP OF SYSTEM.

	<p>CITY OF MERCER ISLAND</p> <p>STANDARD DETAILS</p> <p>SEWER</p>	
	<p>1,000 GALLON</p> <p>GREASE INTERCEPTOR</p>	
6-5-2009	NO SCALE	S-30



NOTES

1. IF VAULT IS NOT SLOTTED TO ACCEPT PRE CAST CONCRETE BAFFLE THEN PRE CAST CONCRETE BAFFLE SHALL BE HELD IN PLACE BY (2) 3"x3"x3/8" ANGLE (4' LONG) ATTACHED TO VAULT WALL WITH (4 EA.) 1/2" BOLTS AND NUTS (WITH WASHERS) SPACED 14" O.C. ANGLE AND FASTENERS SHALL BE STAINLESS STEEL OR GALVANIZED AND ASPHALT COATED.
2. PRE CAST FAULT AND BAFFLE SHALL HAVE KNOCKOUTS AT ALL PIPE OPENINGS. IF KNOCKOUTS ARE NOT PRESENT THEN PIPE OPENINGS SHALL BE CORE-DRILLED. PIPE OPENINGS SHALL BE 2" LARGER THAN PIPE DIAMETER.
3. POSITION RISERS BELOW ACCESS OPENINGS TO ALLOW CLEAR ACCESS TO RISER AND VAULT CHAMBER.
4. LOCATE INTERCEPTOR WITHIN 20' OF DRIVE FOR ACCESS BY MAINTENANCE VEHICLE.
5. CONNECTION TO CONCRETE WALLS WITH PVC PIPE REQUIRE KOR-N-SEAL CONNECTOR OR A.C. x PVC BRANT ADAPTER. SEAL ALL PIPE CONNECTIONS WITH NON-SHRINK GROUT.
6. LINE-SIZED PVC PIPE SHALL BE USED THROUGHOUT.
7. GRAY-WATER ONLY. BLACK-WATR SHALL BE CARRIED BY SEPARATE SIDE SEWER.
8. CLEAN-OUT REQUIRED 3' MAXIMUM DOWNSTREAM OF INTERCEPTOR.
9. FILL WITH CLEAN WATER PRIOR TO START UP OF SYSTEM.



CITY OF MERCER ISLAND

STANDARD DETAILS

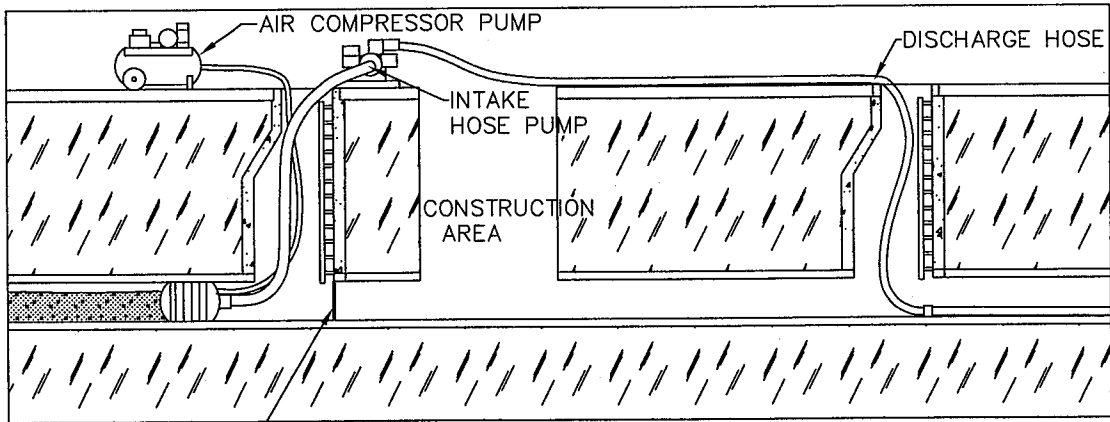
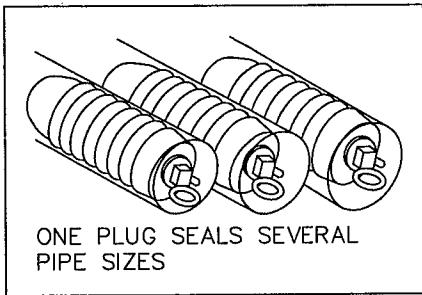
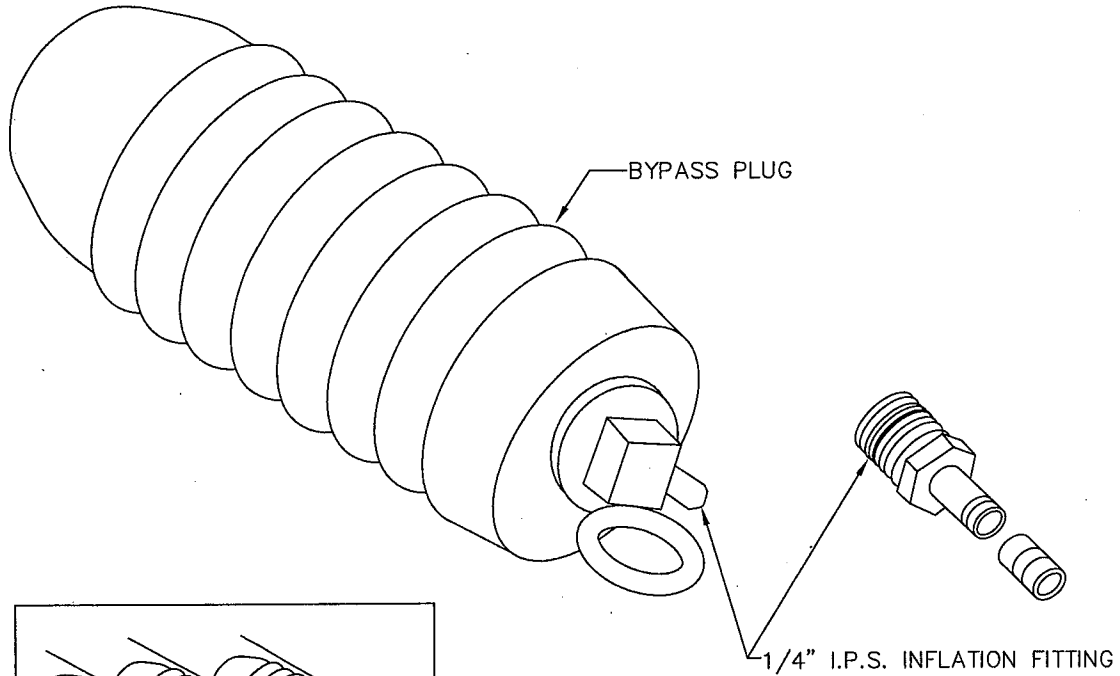
SEWER

**1,500 GALLON
GREASE INTERCEPTOR**

6-5-2009

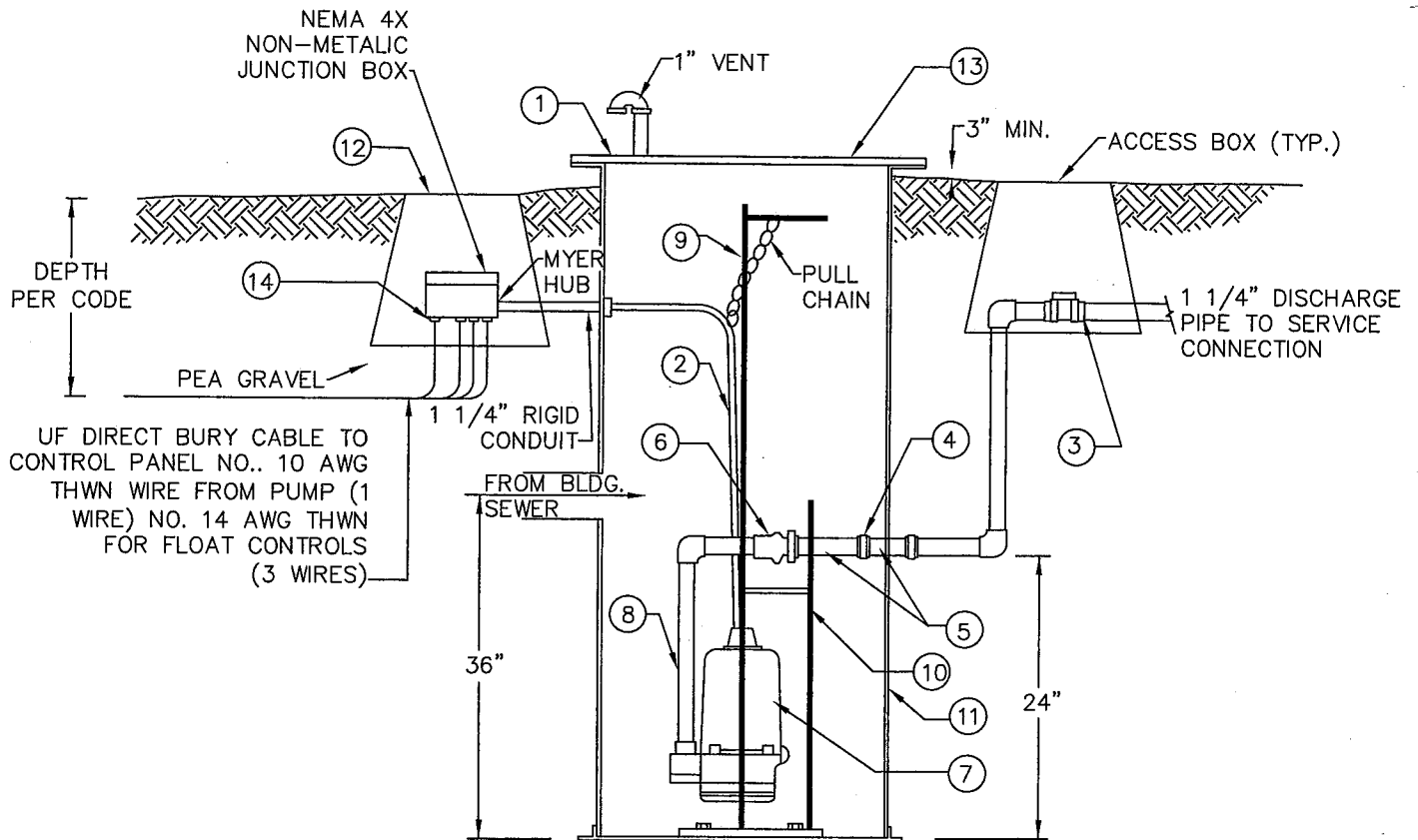
NO SCALE

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SCREEN MUST BE INSTALLED TO PREVENT DEBRIS FROM ENTERING MAIN, BEFORE MANHOLE CAN BE SERVICED.

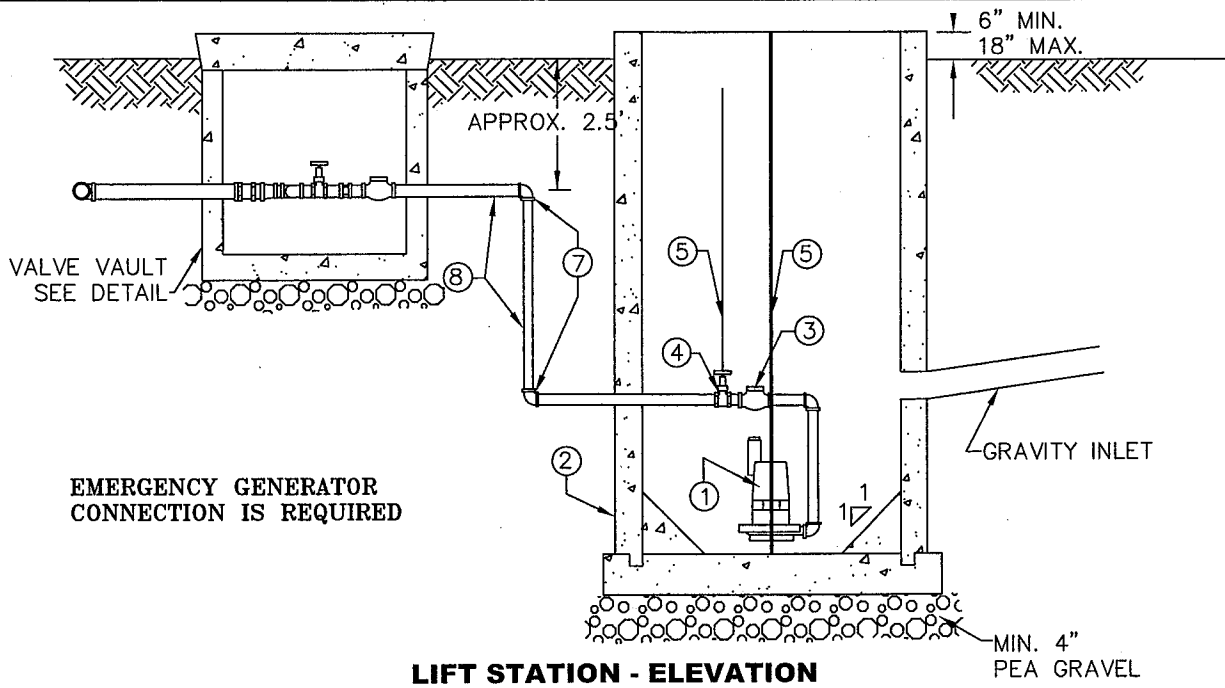
	CITY OF MERCER ISLAND STANDARD DETAILS SEWER	
	SEWER MAIN BY-PASS PLUG	
6-5-2009	NO SCALE	S-32
REV DATE		APPROVED



NOTES

1. 24" DIAMETER GALVANIZED COVER.
2. POWER CONDUIT.
3. 1 1/4" PVC TRUE UNION BALL VALVE (SS) HAYWARD OR EQUAL.
4. 1 1/4" GALVANIZED UNION
5. 1 1/4" GALVANIZED NIPPLES
6. CHECK VALVE AND PUMP DISCONNECT HYDROMATIC OR EQUAL.
7. 2 HP GRINDER PUMP.
8. 1 1/4" GALVANIZED PIPING, APPROX. 1.2'.
9. HOT DIPPED GALVANIZED STEEL RAIL GUIDE SYSTEM.
10. HOT DIPPED GALVANIZED PUMP TECH SHORT RAIL.
11. 24" x 60" FIBERGLASS TANK.
12. ACCESS BOX
NON-TRAFFIC AREAS-EQUAL TO CARSON MODEL 1419-14B, WITH 1419-2B COVER.
TRAFFIC AREAS-H-20 RATED CONCRETE BOX EQUAL TO FOGTITE B91/2 METER BOX.
LIDS SHALL BE MARKED ELECTRICAL OR SEWER RESPECTIVELY.
13. TOP CAN BE SET FLUSH WITH GROUND, IF A CONCRETE PAD IS POURED AROUND THE LIFT STATION AND SLOPE AWAY FROM STATION. KEEP ROCKS AND DEBRIS OUT OF STATION.
14. BOTTOM ENTRY WATER TIGHT STRAIN RELIEF CONNECTORS (FOR USE WITH UNDERGROUND CABLES) ATTACH USING LOCK-NUT WITH SEALING FITTING.

	<p>CITY OF MERCER ISLAND STANDARD DETAILS SEWER</p>	
<p>GRINDER LIFT STATION</p>		
6-5-2009	NO SCALE	S-33

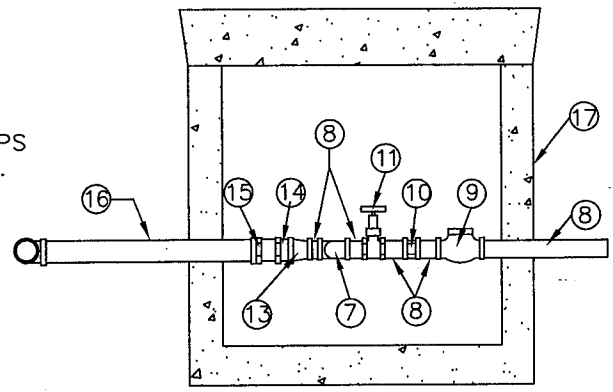


LIFT STATION - ELEVATION

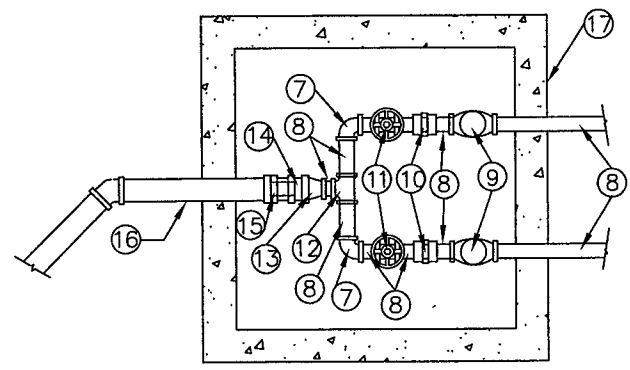
NOTES

ITEMS 1-6 BASED ON HYDR-O-RAIL, HYDR-O-GRIND DUPLEX PACKAGE LIFT STATION AS MANUFACTURED BY HYDROMATIC PUMP COMPANY.


1. 2 EXPLOSION-PROOF SUBMERSIBLE SEWAGE GRINDER PUMPS EQUAL TO HYDROMATIC G2FX500. 5 HP, 1750 RPM MOTOR. DESIGN PUMP: 55 GPM AT 54' TDH.
2. 60" LD CONCRETE MANHOLE WITH GROUTED HOPPER BOTTOM.
3. 2" BALL CHECK AGAINST HYDRAULICALLY SEALED DISCHARGE FLANGE EQUAL TO HYDROMATIC.
4. 2" GATE VALVE.
5. 1 1/2" GALVANIZED GUIDE RAILS (2 EACH PER PUMP)
6. GATE VALVE EXTENSION (1 EACH PER VALVE)
7. 2" G.I. 90° BENDS (SxS)
8. 2" G.I. PIPE (SxS)
9. 2" BALL CHECK (SxS)
10. 2" UNION
11. 2" GATE VALVE (SxS)
12. 2" G.I. TEE (SxS)
13. 2" X 2 1/2" G.I. REDUCER (SxS)
14. 2 1/2" G.I. PIPE (SxS)
15. 2 1/2" COUPLING - G.I. TO PVC
16. 2 1/2" PVC PIPE AND FITTINGS-ASTM D 2241
- 17 CONCRETE VAULT - 3.5' H x 3.5' L x 3.5' W EQUAL TO UTILITY VAULT MODEL 444-LA WITH 44-332P COVER. DRAIN TO NEAREST STORM DRAIN SYSTEM.



VALVE VAULT - ELEVATION

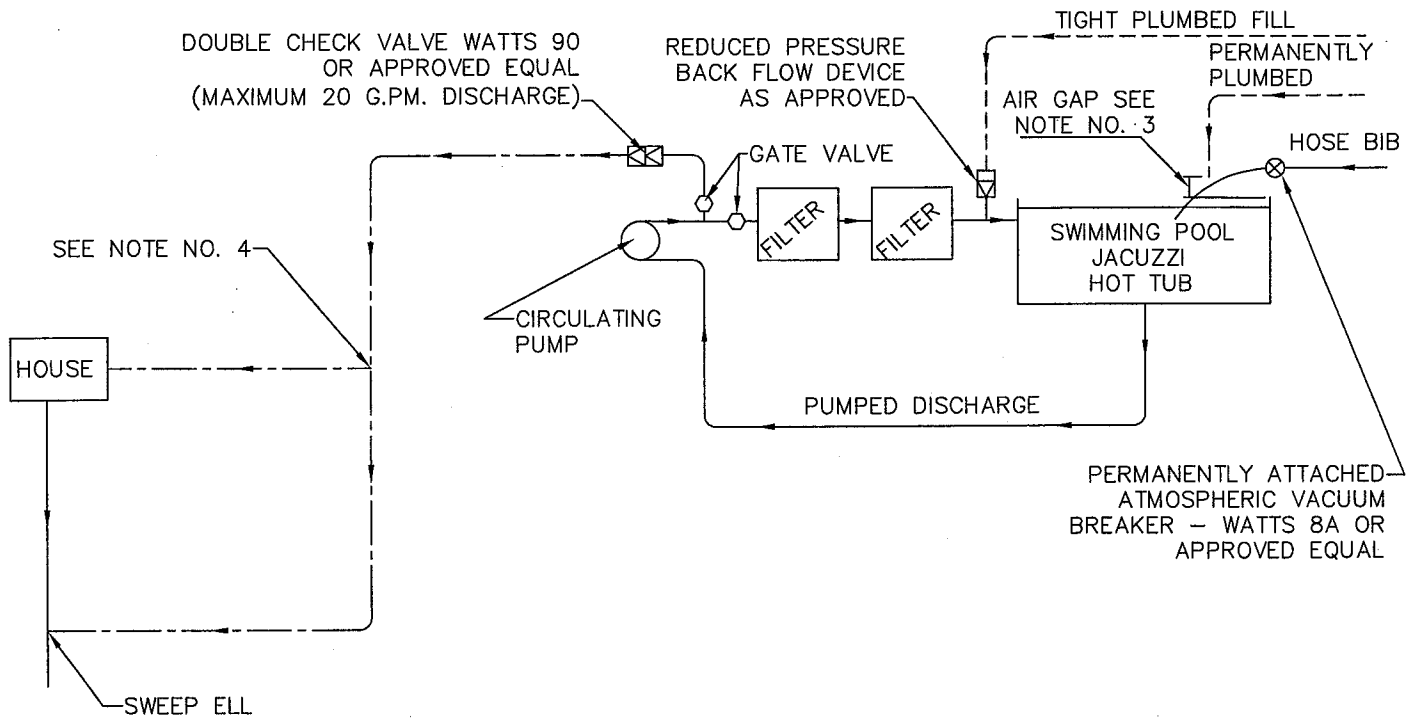


VALVE VAULT - PLAN

	CITY OF MERCER ISLAND STANDARD DETAILS SEWER	
	COMMERCIAL AND MULTI-FAMILY SEWER LIFT STATION DUPLEX SYSTEM	
6-5-2009	NO SCALE	S-34

DRAIN SYSTEM ALTERNATIVES

POTABLE WATER SUPPLY ALTERNATIVES




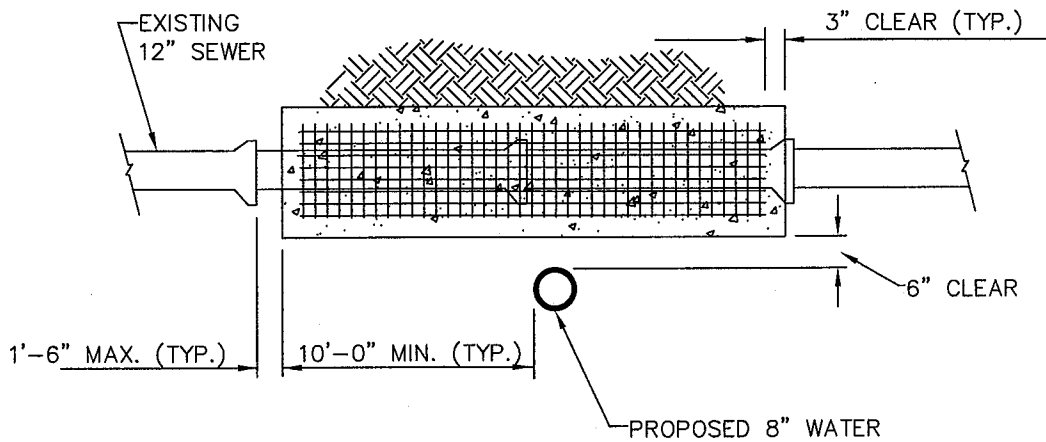
NOTES

1. ADDITIONAL PERMITS THROUGH THE BUILDING DEPARTMENT MAY BE REQUIRED.
2. THE COMPLETE DISCHARGE SYSTEM TO BE PERMANENTLY PLUMBED.
3. AIR GAP = 2 x DISCHARGE PIPE INSIDE DIAMETER (2" PIPE I.D. x2 = 4" AIR GAP) ABOVE THE FLOOD RIM ELEVATION. (MIN. 1")
4. TIGHT PLUMB TO SANITARY SEWER SYSTEM; WITHIN OR OUTSIDE THE HOUSE.
 - A. IF INSIDE THE HOUSE: A PLUMBING PERMIT THROUGH THE BUILDING DEPARTMENT IS REQUIRED.
 - B. IF OUTSIDE THE HOUSE: A SIDE SEWER REVISION PERMIT IS REQUIRED THROUGH THE DEVELOPMENT SERVICE DEPARTMENT.

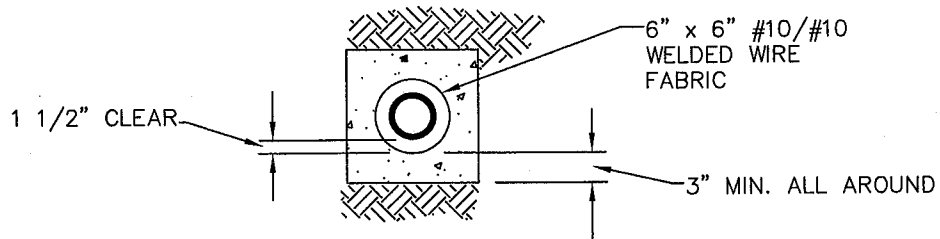
APPLICABLE CODES

1. MERCER ISLAND MUNICIPAL CODE SECT. 17.30.070
2. MERCER ISLAND SEWER DISTRICT ADMINISTRATION CODE SECT 9.04
3. I.A.P.M.O. - UNIFORM SWIMMING POOL, SPA AND HOT TUB CODE 1982

	<p>CITY OF MERCER ISLAND STANDARD DETAILS SEWER</p>
<p>GUIDELINES FOR INSTALLATION HOT TUBS, JACUZZIS & SWIMMING POOLS</p>	
6-5-2009	NO SCALE
<p>S-35</p>	



ELEVATION



SECTION



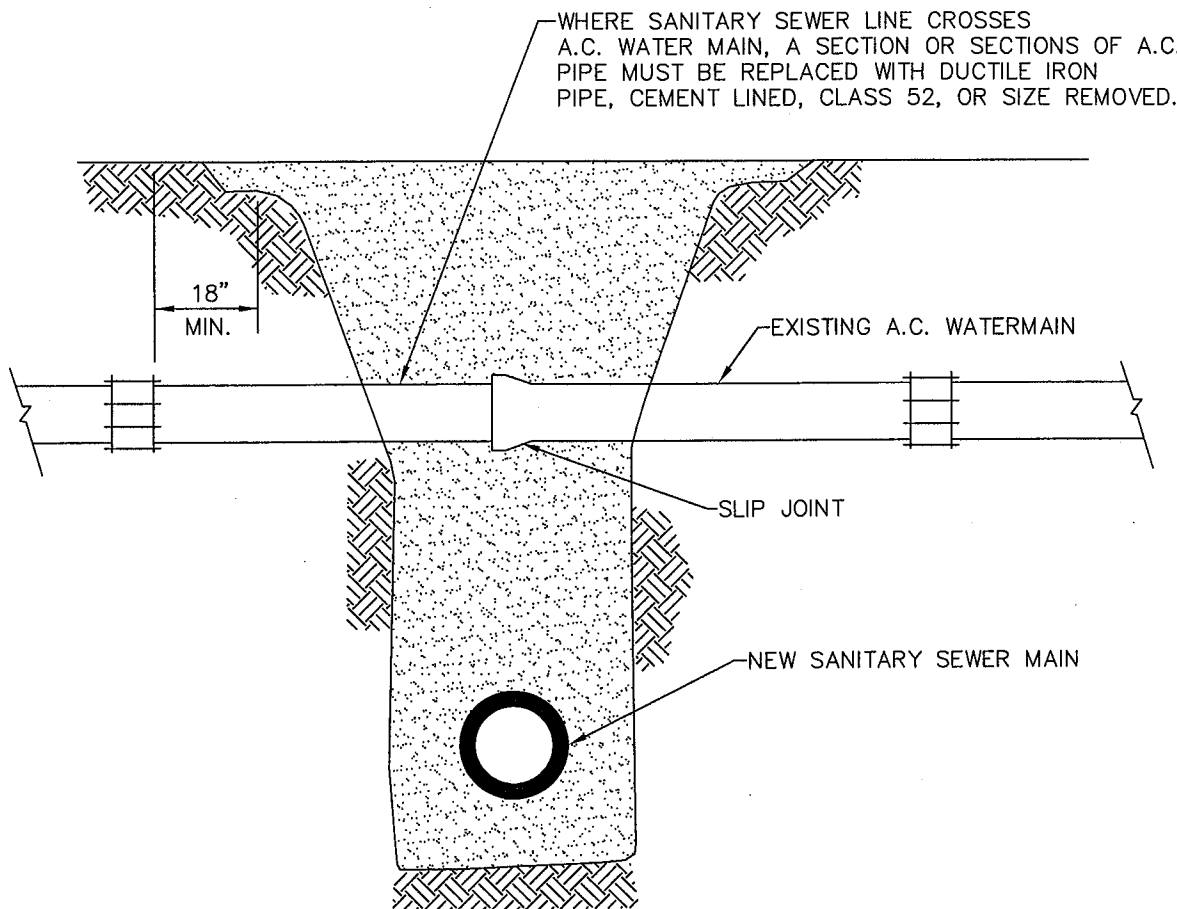
**CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER**

CONCRETE ENCASEMENT DETAIL

6-5-2009

NO SCALE


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SECTION

NOTES

1. IF A.C. PIPE IS TO BE REMOVED, ALL ENVIRONMENTAL PROTECTION AGENCY RULES, PUGET SOUND AIR POLLUTION CONTROL AGENCY REGULATIONS, AND LABOR AND INDUSTRY REQUIREMENTS MUST BE MET.

	CITY OF MERCER ISLAND STANDARD DETAILS SEWER	
	CROSSING A.C. PIPE	
6-5-2009	NO SCALE	S-37
REV DATE		APPROVED

CITY OF MERCER ISLAND

SIDE SEWER AS BUILT

PERMIT NO. 0601-730

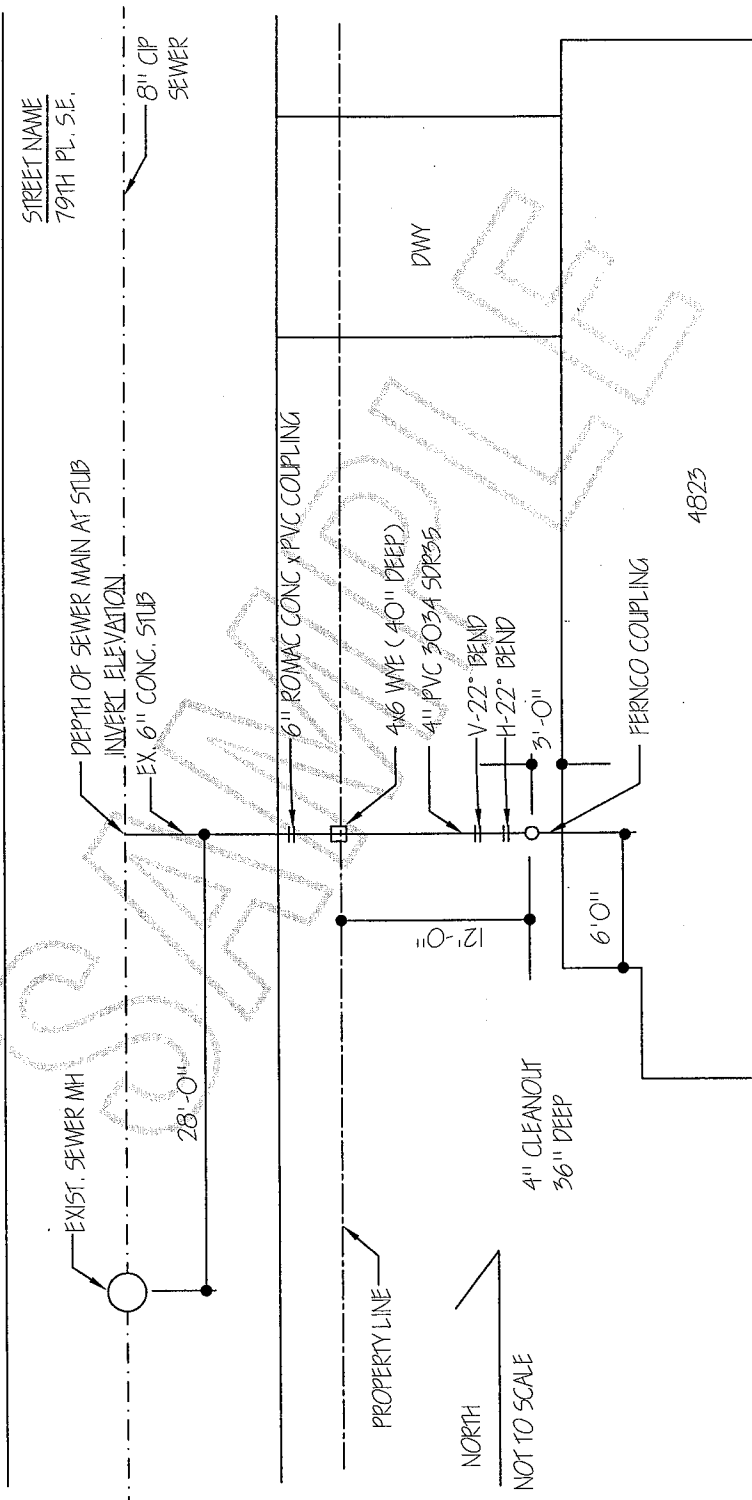
New Repair Reconnect

MAIN PERMIT NO. 0501-991

SKETCH NTS

OWNER MAY Address 4825 79 PL. SE. Contractor SEWER-R-115

Date Permit Issued 06-12-2001 Date job completed and accepted 07-01-2001 By MIKE F. Copy Maintenance



1. Type of Pipe PVC 3034 Size 4"
2. New manhole NO. nearest downstream manhole _____
3. Old manhole No. nearest downstream manhole _____
4. Map no. _____



CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

"AS-BUILT" DRAWING

6-5-2009

NO SCALE

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REV DATE							APPROVED
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