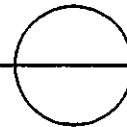


TYPICAL PIPE TRENCH

NO SCALE

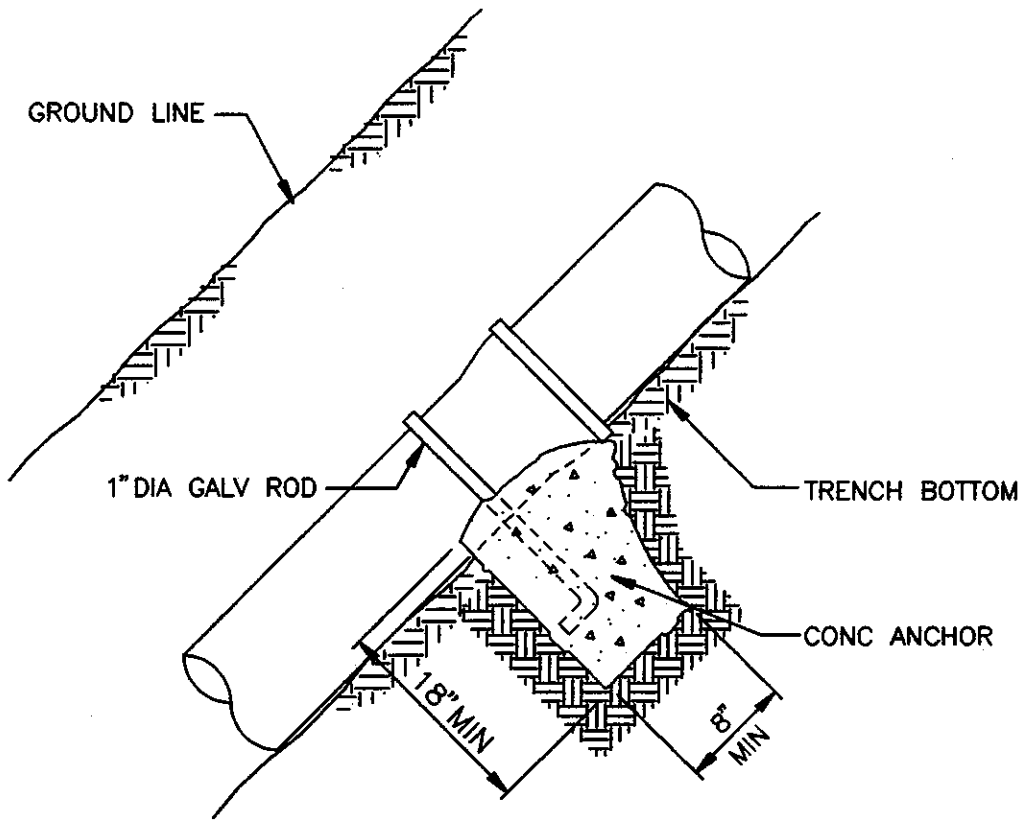


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Dept. of Public Works

PIPE TRENCH

DETAIL
PD-1

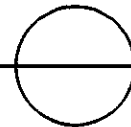


GENERAL NOTES:

1. MINIMUM ANCHOR BLOCK SIZE 8"x12"x18" UNLESS OTHERWISE NOTED.
2. BLOCKING SHALL BE POURED AGAINST UNDISTURBED SOIL.
3. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.

PIPE ANCHOR

NO SCALE

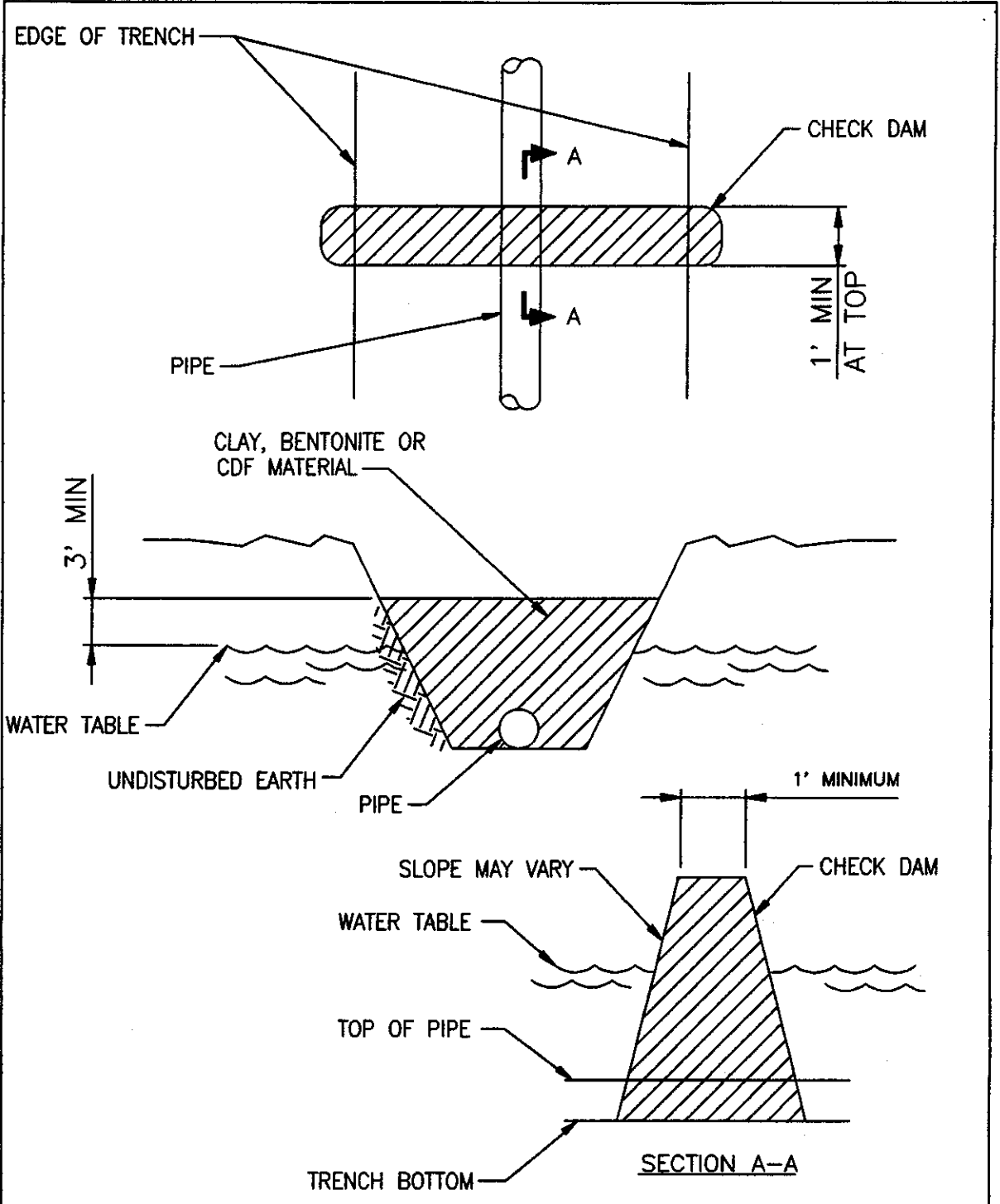


2585003/KCPW1 12.95

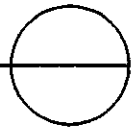
KITSAP COUNTY
 Dept. of Public Works

PIPE ANCHOR

DETAIL
PD-2



CHECK DAM
NO SCALE

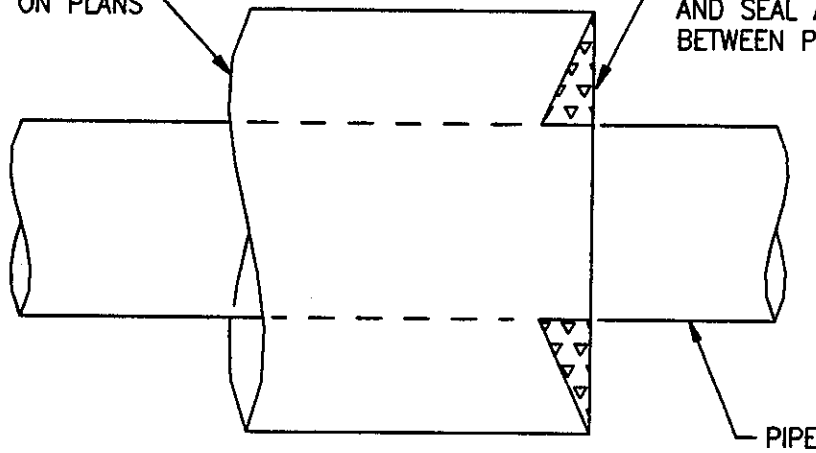


2585003/KCPW1 12.95

<p>KITSAP COUNTY Dept. of Public Works</p>	<p>CHECK DAM</p>	<p>DETAIL PD-3</p>
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CASING LENGTH
AS SHOWN ON PLANS

INSTALL GROUT OR CDF
AND SEAL ANNULAR SPACE
BETWEEN PIPE AND CASING

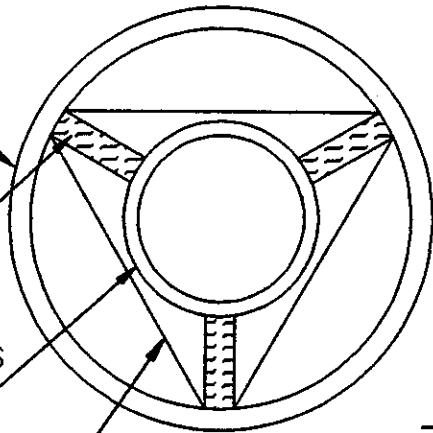


CASING

CEDAR BLOCKS OR
PRESSURE TREATED FIR
TO PROVIDE FOR CONTINUOUS
PIPE SUPPORT.
INSTALL AS DIRECTED

PIPE

STAINLESS STEEL BANDS
10 FOOT SPACING
MINIMUM 3 REQUIRED



CASING TABLE
SCHEDULE 20 STEEL PIPE
UNLESS OTHERWISE INDICATED

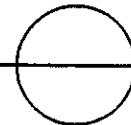
PIPE DIAMETER	MIN. CASING DIAMETER
6	12
8	14
10	16
12	18
14	20
16	22

NOTES:

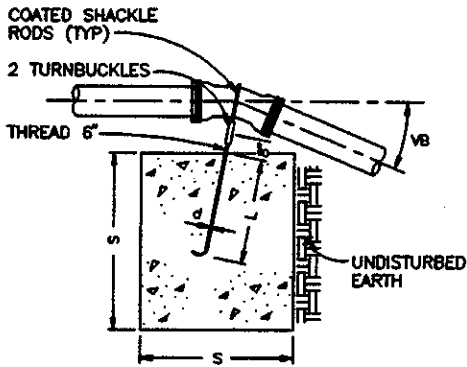
1. COMPLY WITH ALL REGULATORY REQUIREMENTS OF JURISDICTIONAL AUTHORITY.
2. CASING SPACERS CAN BE SUBSTITUTED FOR BLOCKING.
3. PRESENT PROPOSED METHOD FOR BLOCKING AND SUPPORTING PIPE WITHIN CASING TO ENGINEER FOR APPROVAL.

PIPE CASING

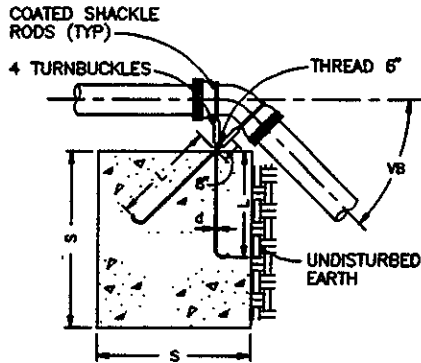
NO SCALE



2585003/KCFW1 12.95

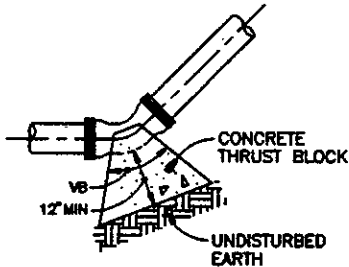


TYPE A

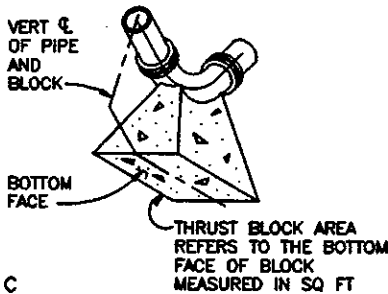


TYPE B

TYPE "A" BLOCKING FOR 11 1/2 AND 22 1/2 VERTICAL BENDS							TYPE "B" BLOCKING FOR 45° VERTICAL BENDS						
PIPE SIZE FROM DIAMETER-INCHES	TEST PRESSURE PSI	VERTICAL BEND IN DEGREES	NO OF PI. FT. OF BLOCKING	SIZE OF CURB FEET	DIAMETER OF SHACKLE RODS (Ø) INCHES	DEPTH OF RODS IN CONCRETE INCHES	PIPE SIZE FROM DIAMETER-INCHES	TEST PRESSURE PSI	VERTICAL BEND IN DEGREES	NO OF PI. FT. OF BLOCKING	SIZE OF CURB FEET	DIAMETER OF SHACKLE RODS (Ø) INCHES	DEPTH OF RODS IN CONCRETE INCHES
4"	300	11 1/4	8	2	5/8"	18	4"	300	45	27	3	5/8"	20
		22 1/2	12	2'-3"					64	4			
6"	300	11 1/4	12	2'-3"	5/8"	24	6"	300	45	64	4	5/8"	20
		22 1/2	27	3					125	5			
8"	300	11 1/4	16	2'-6"	5/8"	24	8"	300	45	125	5	5/8"	20
		22 1/2	43	3'-6"					216	6			
12"	300	11 1/4	64	4	3/4"	24	12"	300	45	216	6	7/8"	30
		22 1/2	125	5	7/8"	38							



TYPE C



THRUST BLOCK AREA
REFERS TO THE BOTTOM
FACE OF BLOCK
MEASURED IN SQ FT

TYPE "C" BLOCKING FOR 11 1/4, 22 1/2, 45°, AND 90° VERTICAL BENDS									
THRUST BLOCK AREA IN SQUARE FEET									
FITTING →	Firm silt or firm silty sand			Compact sand			Compact sand and gravel		
	90° Bend	45° Bend and Dead End	11 1/4° and 22 1/2° Bend	90° Bend	45° Bend and Dead End	11 1/4° and 22 1/2° Bend	90° Bend	45° Bend and Dead End	11 1/4° and 22 1/2° Bend
4"	5.8	4.2	1.7	2.9	2.1	1.0	2.2	1.6	1.0
6"	13.3	9.4	3.8	6.7	4.7	1.9	5.0	3.5	1.4
8"	23.3	16.7	6.7	11.7	8.4	3.4	8.8	6.3	2.5
12"	53.0	37.5	15.0	26.5	18.8	7.5	20.0	14.0	5.6

AREAS CALCULATED ON 300psi TEST PRESSURE AND 36" MIN COVER.

- NOTES:
1. LOCATION AND SIZE OF BLOCKING FOR PIPE LARGER THAN 12" AND FOR SOIL TYPES DIFFERENT THAN SHOWN SHALL BE DETERMINED BY THE ENGINEER.
 2. ALL BLOCKING FOR VERTICAL FITTINGS (POURED IN PLACE) SHALL BEAR AGAINST UNDISTURBED NATIVE GROUND.
 3. ALL POURED THRUST BLOCKS SHALL BE IN PLACE AND SUFFICIENT TIME SHALL BE ALLOWED FOR THE CONCRETE TO CURE AND TRENCH SHALL BE BACKFILLED AND COMPACTED PRIOR TO PRESSURE TESTING.
 4. ALL BLOCKING TO BE 3000 PSI CONCRETE.
 5. AFTER INSTALLATION, SHACKLE RODS AND TURNBUCKLES SHALL BE CLEANED AND COATED WITH 2 COATS OF ASPHALTIC VARNISH, ROYSTON ROYKOTE #612XM OR APPROVED EQUAL.
 6. SHACKLE RODS SHALL BE ROUND MILD STEEL, ASTM A-36 WITH THREADS ON ENDS ONLY.
 7. BLOCKING AGAINST FITTINGS SHALL BEAR AGAINST THE GREATEST FITTING SURFACE AREA POSSIBLE, BUT SHALL NOT COVER OR ENCLOSE BELL ENDS, JOINT BOLTS OR GLANDS.

VERTICAL THRUST BLOCKS
NO SCALE

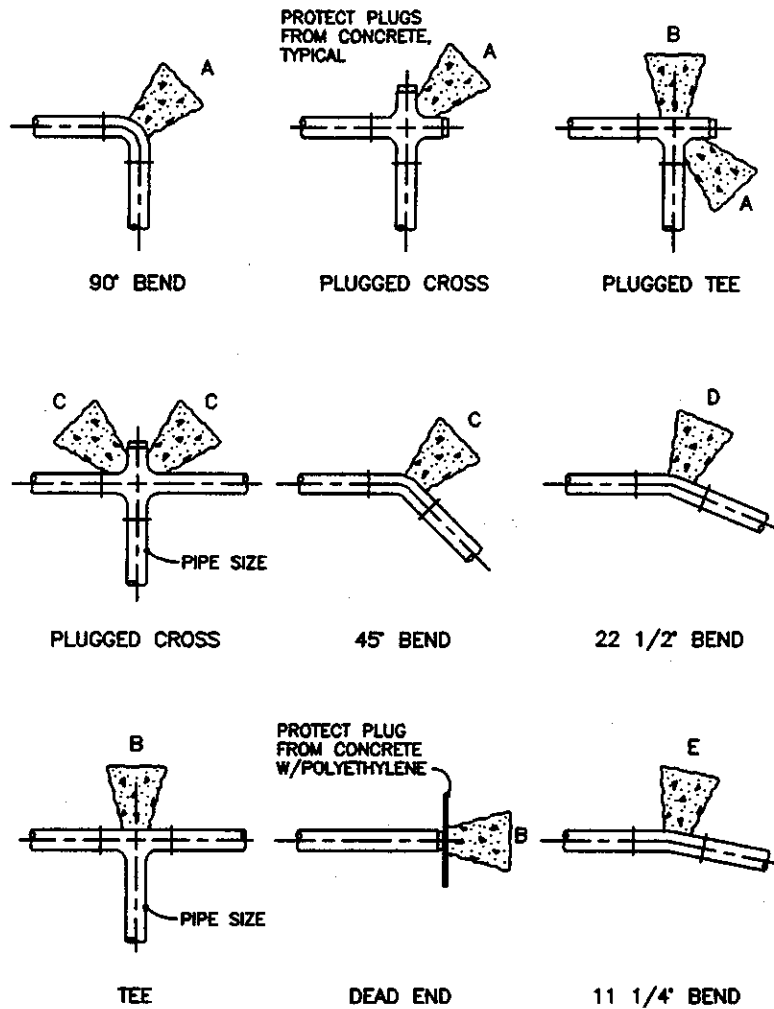


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KITSAP COUNTY
Dept. of Public Works

VERTICAL THRUST
BLOCKS

DETAIL
PD-5

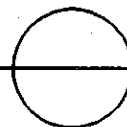


BLOCK LETTER	CONCRETE AREA IN SQ FT AGAINST SOIL FOR EACH PIPE SIZE				
	4"	6"	8"	10"	12"
A	2.0	3.5	6.5	10.5	15.0
B	1.5	2.5	4.5	7.5	10.5
C	1.0	2.0	3.5	5.0	8.0
D	1.0	2.0	3.5	5.0	4.0
E					

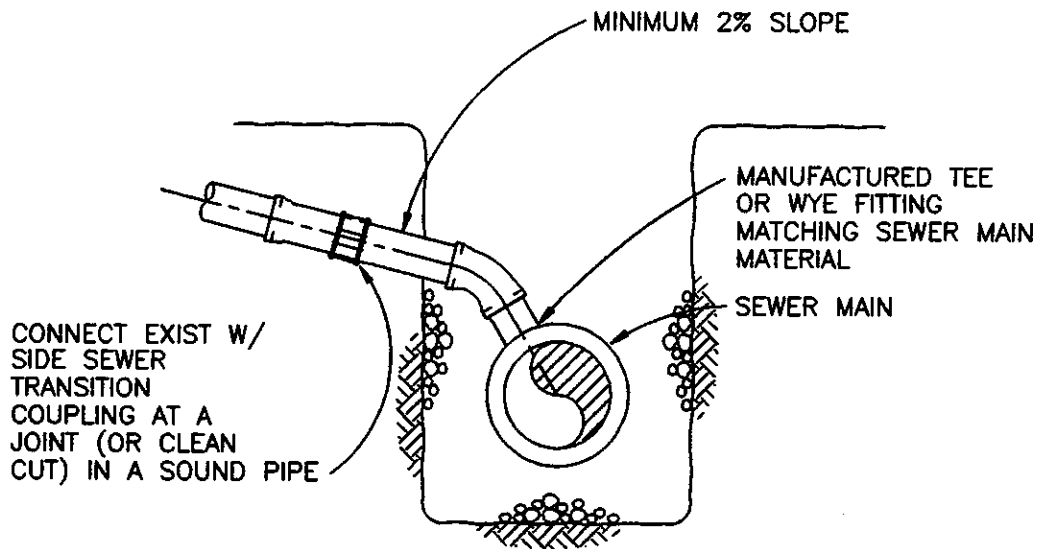
NOTE:
 CONCRETE THRUST BLOCK SHALL EXTEND FROM PIPE FITTING TO UNDISTURBED SOIL. THE AREA IN SQUARE FEET OF THE CONCRETE AT THE END LAYING AGAINST THE UNDISTURBED SOIL SHALL NOT BE LESS THAN THE TABULAR VALUES SHOWN.

HORIZONTAL THRUST BLOCKS

NO SCALE

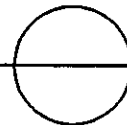


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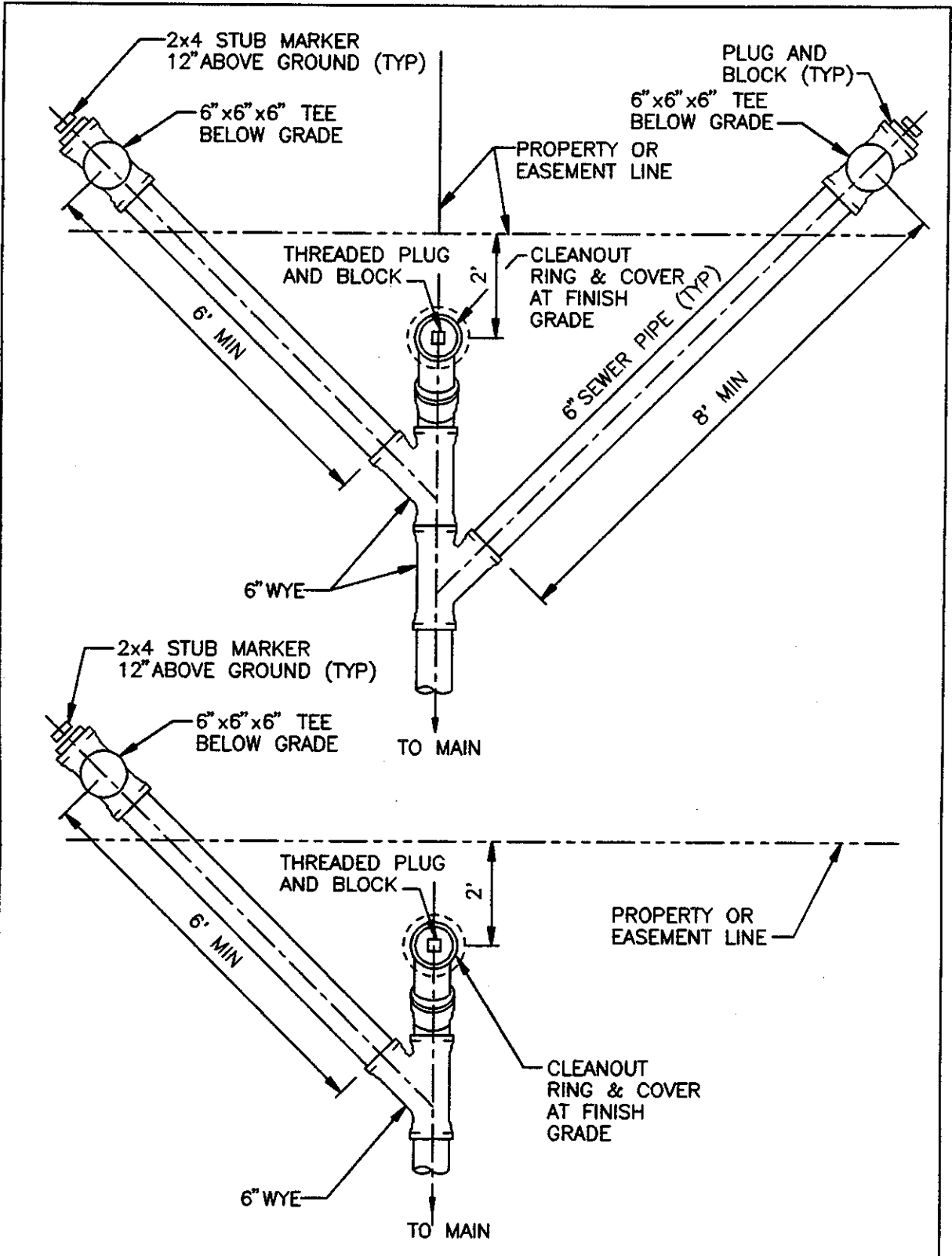
SIDE SEWER CONNECTION

NO SCALE



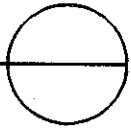
2585003/KCPW1 12.95

<p>KITSAP COUNTY Dept. of Public Works</p>	<p>SIDE SEWER CONNECTION</p>	<p>DETAIL PD-7</p>
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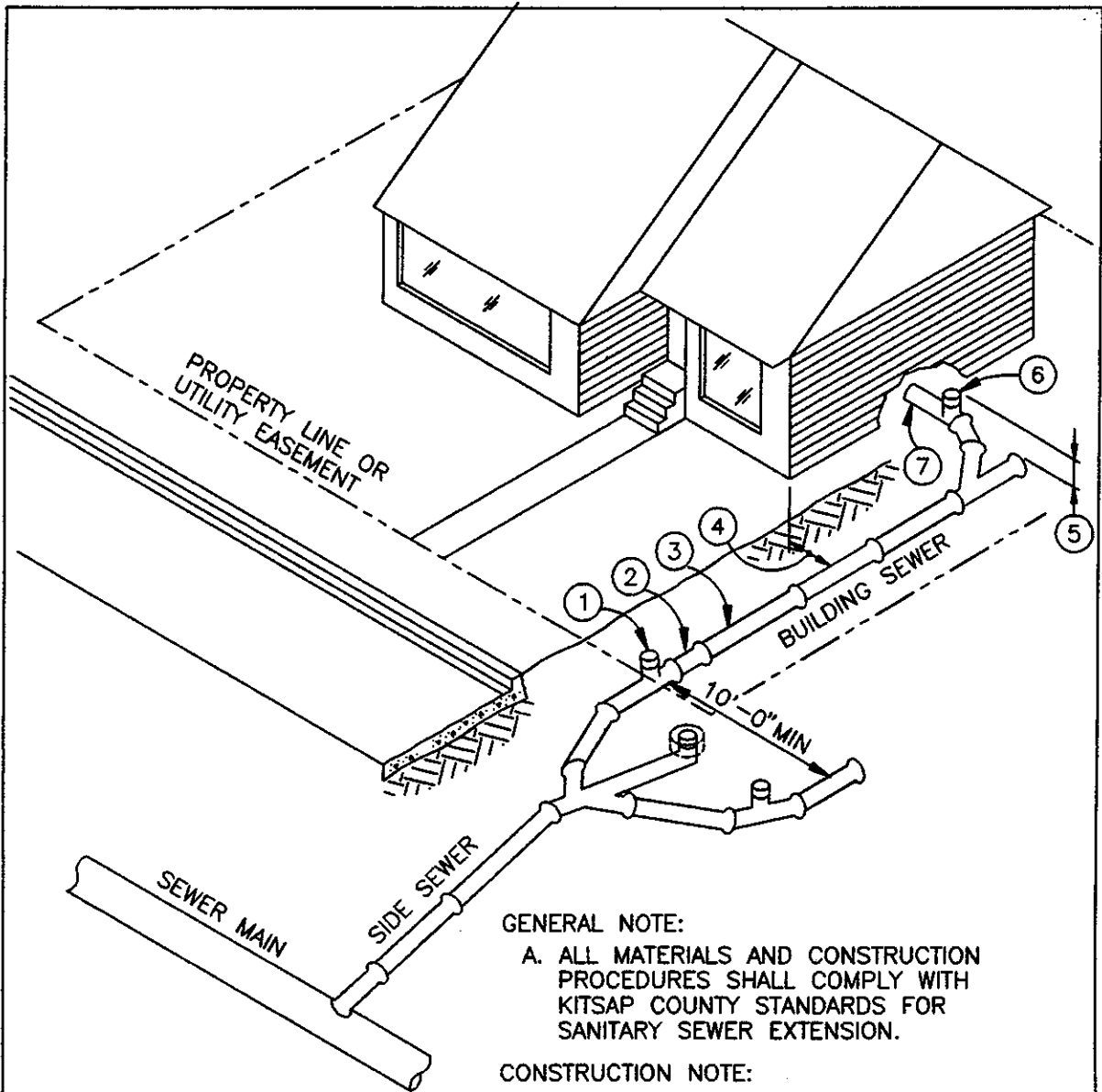
SIDE SEWER PLAN

NO SCALE



2585003/KCPW1 12.95

<p>KITSAP COUNTY Dept. of Public Works</p>	<p>SIDE SEWER PLAN</p>	<p>DETAIL PD-8</p>
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GENERAL NOTE:

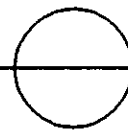
A. ALL MATERIALS AND CONSTRUCTION PROCEDURES SHALL COMPLY WITH KITSAP COUNTY STANDARDS FOR SANITARY SEWER EXTENSION.

CONSTRUCTION NOTE:

- ① 6" x 6" x 6" TEE BELOW GRADE
- ② 6" x 4" REDUCER
- ③ 4" BUILDING SEWER
- ④ 30" MINIMUM FROM BUILDING
- ⑤ 18" MINIMUM DEPTH
- ⑥ CLEANOUT WITH THREADED PLUG
- ⑦ RUBBER COUPLING AT BUILDING

BUILDING
SEWER CONNECTION

NO SCALE

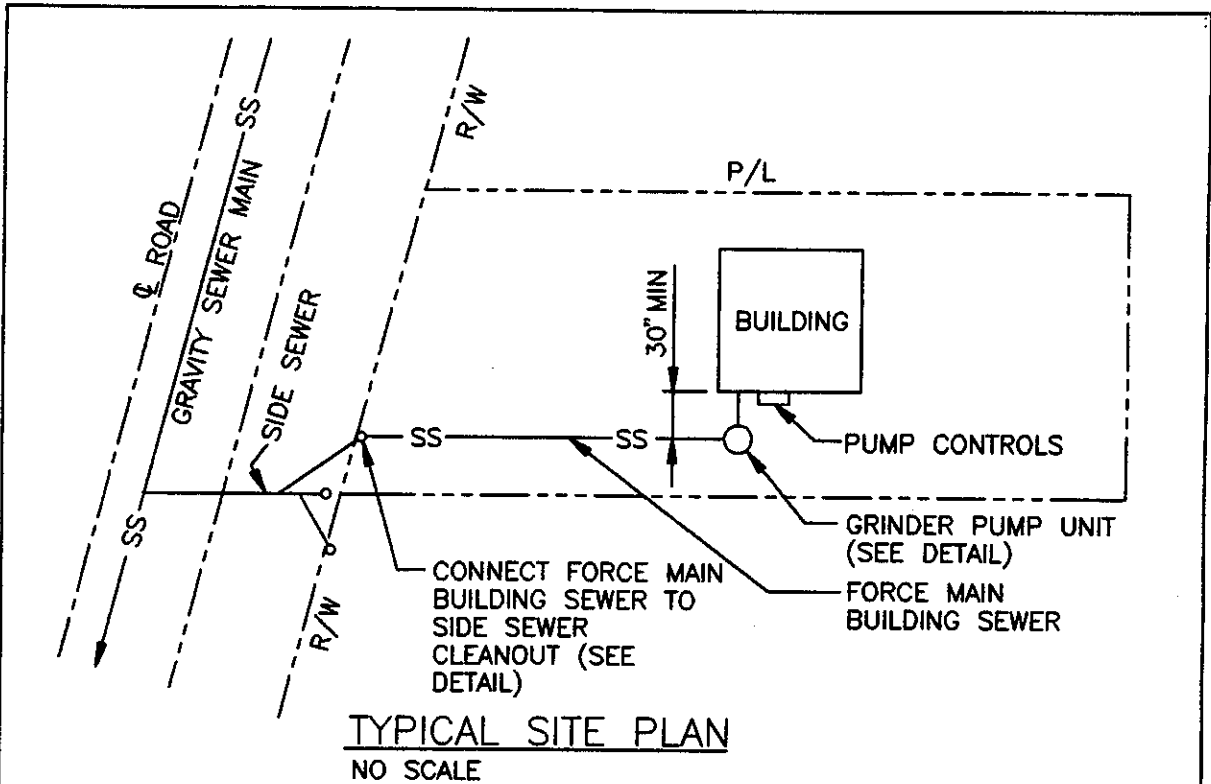


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KITSAP COUNTY
Dept. of Public Works

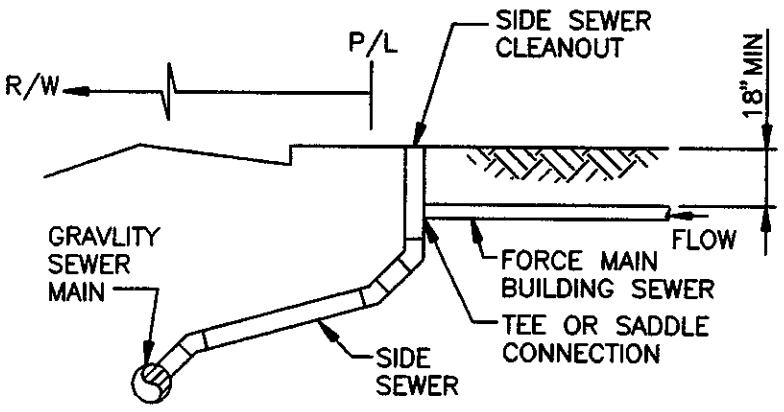
BUILDING SEWER
CONNECTION

DETAIL
PD-9



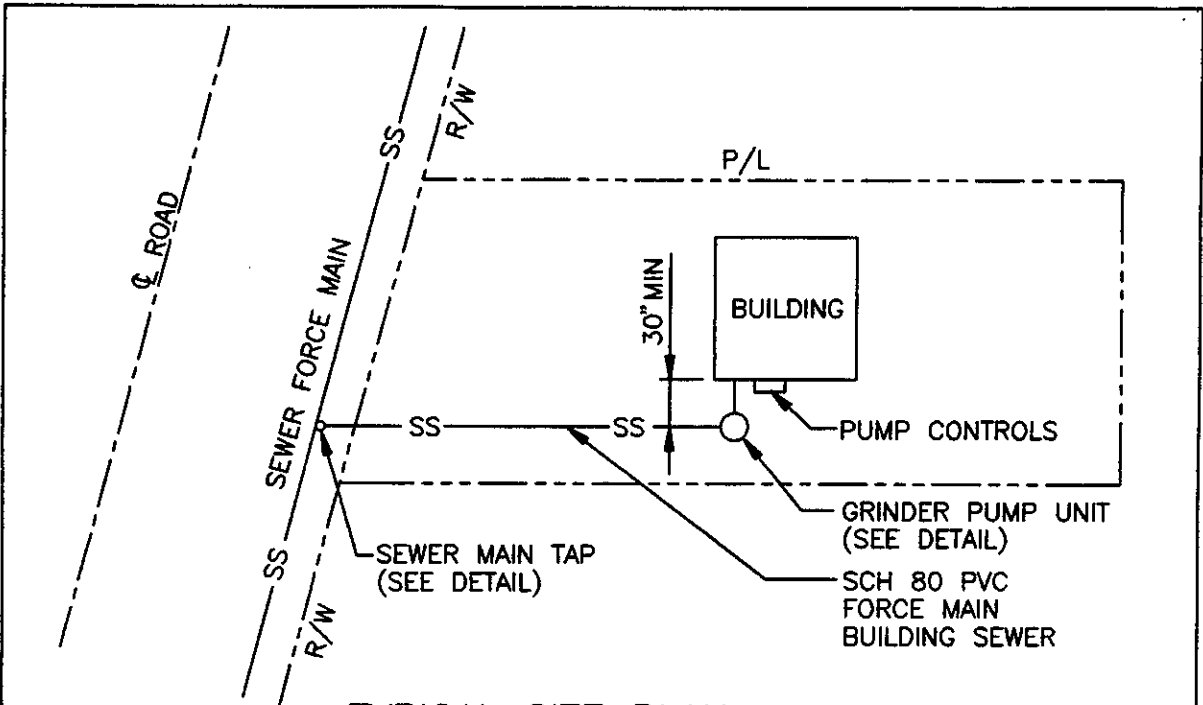
PUMP REQUIREMENTS

STATIC HEAD _____ FT.	RECOMMENDED PUMP: TYPE - <u>GRINDER PUMP</u>
DYNAMIC HEAD _____ FT. @ _____ GPM	HP - <u>2 HORSE POWER</u>
TOTAL HEAD _____ FT	MODEL - _____
DISCHARGE VELOCITY _____ FPS	MFGR. - _____
POWER REQUIREMENTS _____ V, _____ ϕ	SUPPLIER - _____
	FLOW @ HEAD - _____ GPM @ _____ FT



SEWER CONNECTION
NO SCALE

2585003/KCPW2 12.95



TYPICAL SITE PLAN
NO SCALE

PUMP REQUIREMENTS

STATIC HEAD _____ FT.

DYNAMIC HEAD _____ FT. @ _____ GPM

TOTAL HEAD _____ FT

DISCHARGE VELOCITY _____ FPS

POWER REQUIREMENTS _____ V, _____ ϕ

RECOMMENDED PUMP:

TYPE - GRINDER PUMP

HP - 2 HORSE POWER

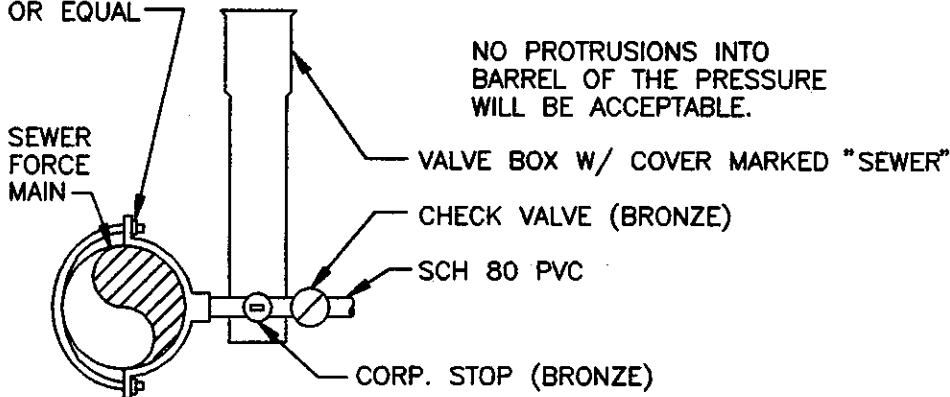
MODEL - _____

MFGR. - _____

SUPPLIER - _____

FLOW @ HEAD - _____ GPM @ _____ FT

SADDLE, ROMAC
STYLE 304
OR EQUAL



NO PROTRUSIONS INTO
BARREL OF THE PRESSURE
WILL BE ACCEPTABLE.

FORCE MAIN CONNECTION

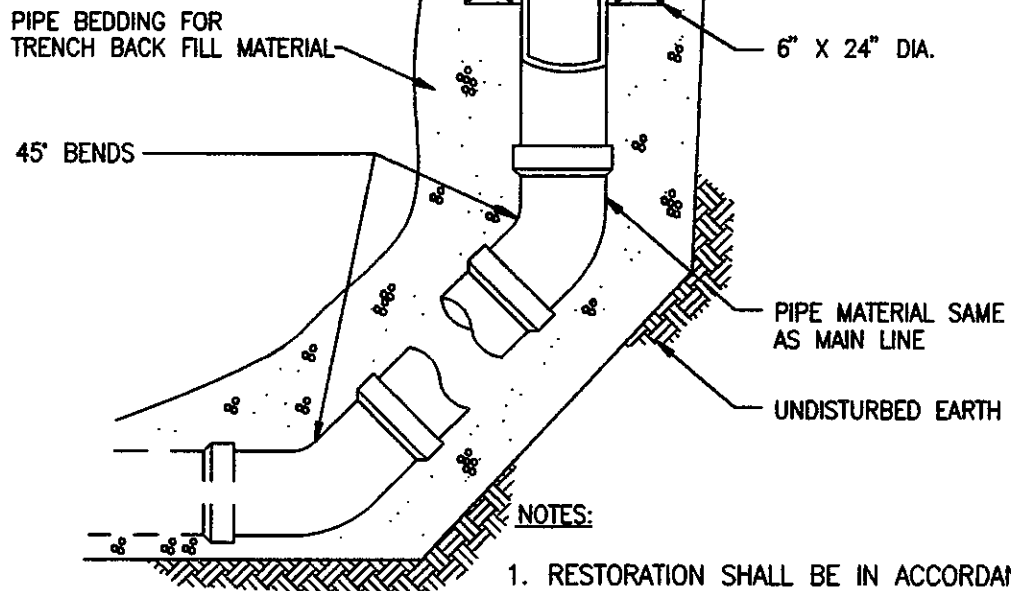
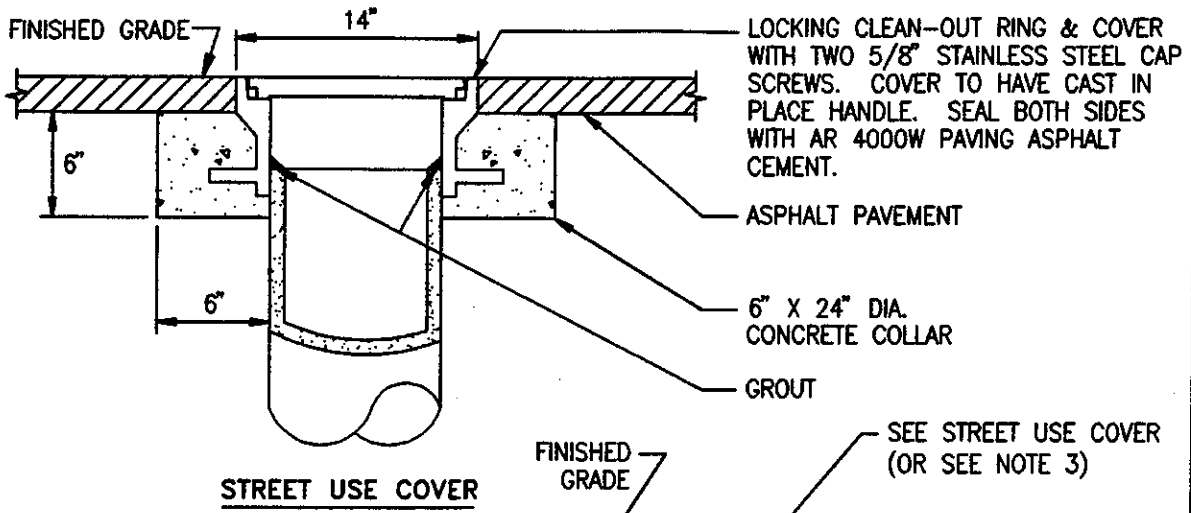
NO SCALE

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KITSAP COUNTY
Dept. of Public Works

INDIVIDUAL PUMP
INSTALLATION B

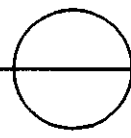
DETAIL
PD-11



1. RESTORATION SHALL BE IN ACCORDANCE WITH LOCAL REGULATORY REQUIREMENTS.
2. TRENCH BACKFILL SHALL BE COMPACTED AND TESTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS AND LOCAL REGULATORY REQUIREMENTS.
3. SEE EASEMENT CLEANOUT FRAME & COVER DETAIL FOR CLEANOUTS LOCATED IN EASEMENTS

CLEANOUT

NO SCALE

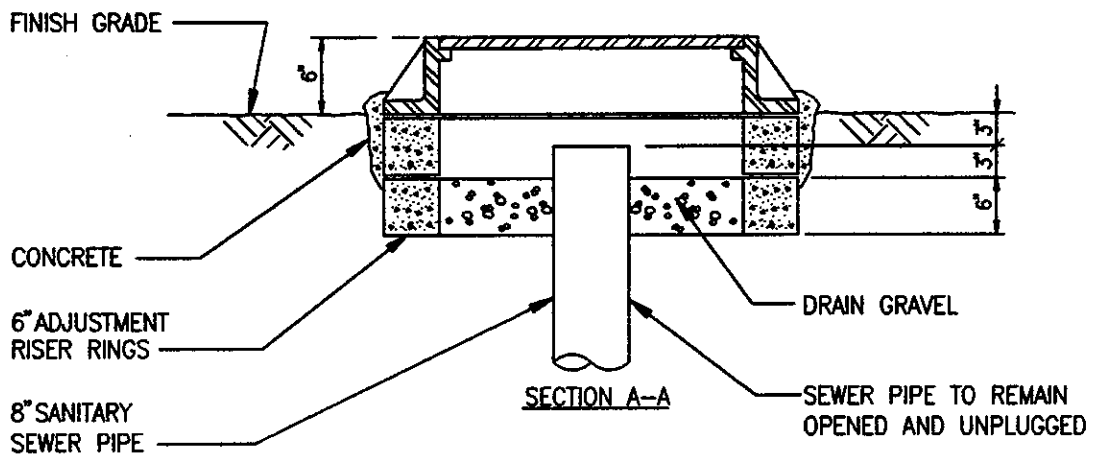
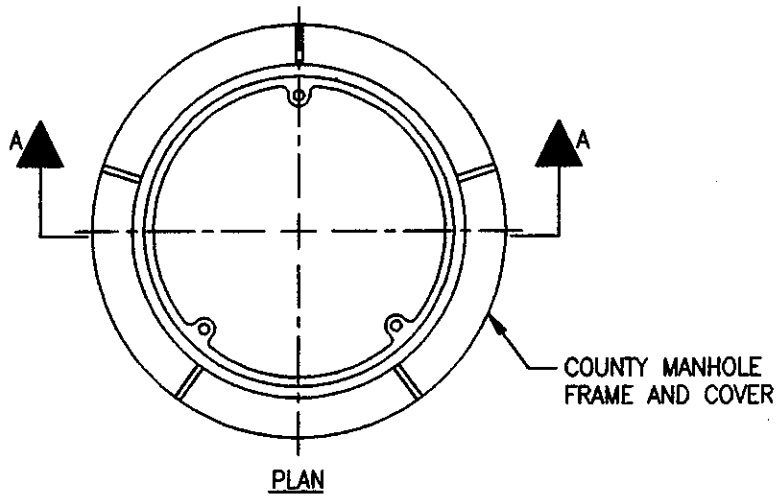


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KITSAP COUNTY
Dept. of Public Works

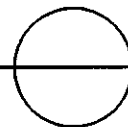
CLEANOUT AND
STREET USE COVER

DETAIL
PD-12



EASEMENT CLEANOUT COVER

NO SCALE

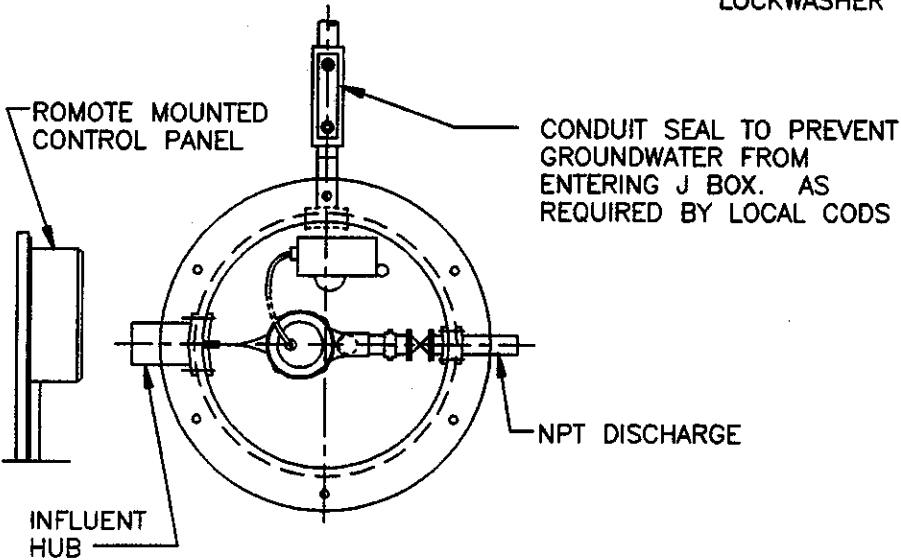
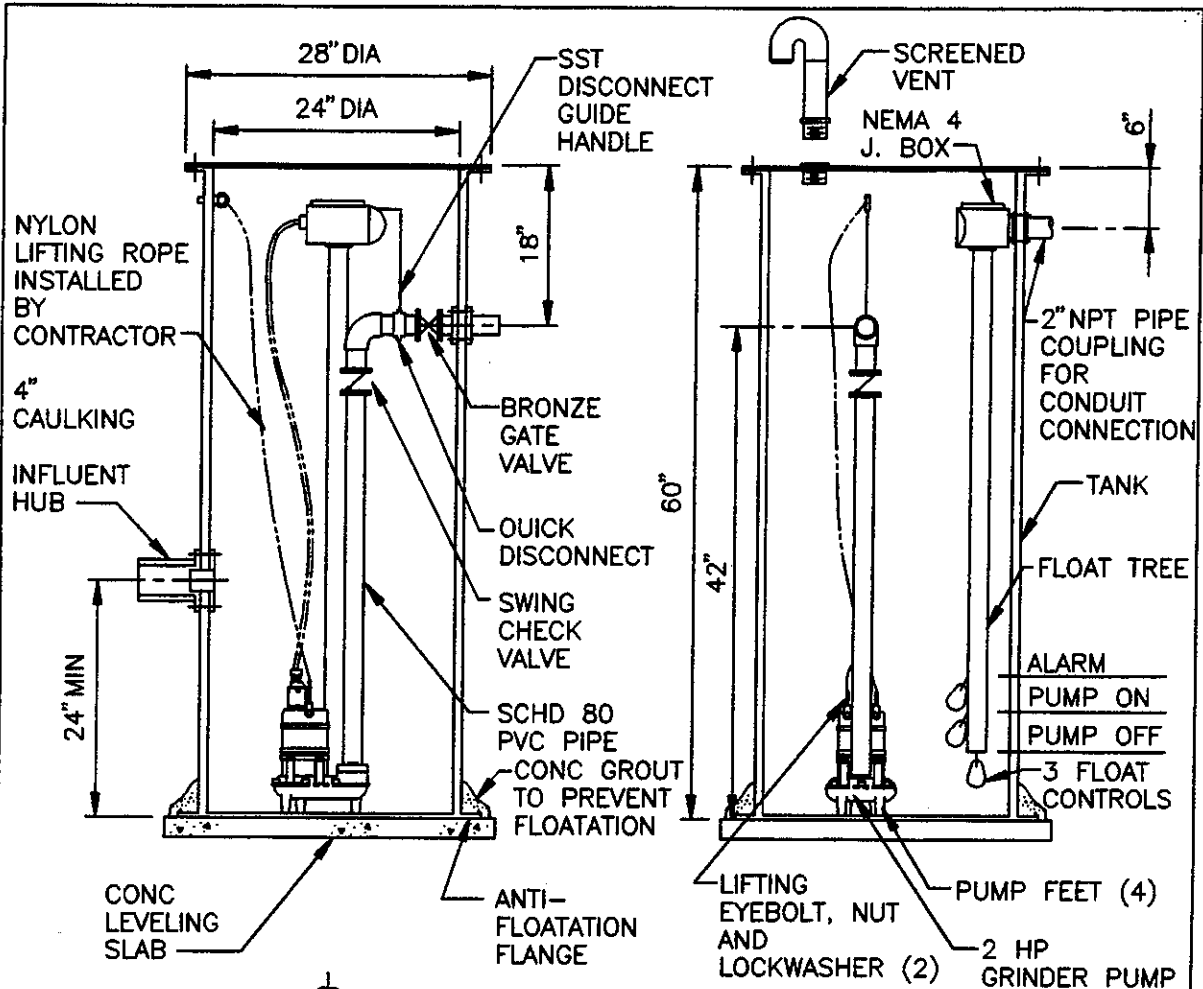


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KITSAP COUNTY
Dept. of Public Works

**EASEMENT
CLEANOUT COVER**

**DETAIL
PD-13**



INDIVIDUAL SEWAGE PUMP
NO SCALE

2585003/KCPW4 12.95

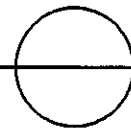
KITSAP COUNTY Dept. of Public Works	INDIVIDUAL SEWAGE PUMP	DETAIL PS-1
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GENERAL CONSTRUCTION NOTES

1. Construction materials and workmanship shall conform to the requirements of the most recent edition of "Kitsap County Department of Public Works Standards for Sanitary Sewer Extensions" in conjunction with the most recent edition of "The Standard Specifications For Road, Bridge, and Municipal Construction" prepared by the Washington State Chapter of the American Public Works Association.
2. The contractor shall arrange for a preconstruction conference prior to commencing construction. The engineer and/or inspector for the Wastewater Division of the Kitsap County Public works Department shall be in attendance.
3. All sewer installation inspections and test observations shall be made by Kitsap County Department of Public Works Wastewater Division. The County inspector shall be notified two days in advance of commencing work on a sanitary sewer extension. Prior to final acceptance of all installations, the County shall conduct an inspection of all main lines by the use of television equipment. Final acceptance of sewer installations will not be made until tests and inspections are complete and prove satisfactory.
4. (Pipe requirements)
5. (Bedding requirements)
6. (Backfill material and compaction requirements)
7. The physical connection to an existing manhole or sewer shall not be made until authorized by the County. Such authorization will not be given until all upstream lines have been completely cleaned and all debris removed.
8. Gravity mains shall be tested by the low pressure air method. Pressure mains shall be tested by the hydrostatic test method. All tests shall be made in the presence of the County inspector.
9. Drop manholes shall, in all respects, be constructed as a standard manhole with the exception of the outside drop connection as shown on the standard plan "Drop Manhole Connection".
10. Manholes shall be precast reinforced concrete units with eccentric cones conforming to the standard plan "Type 1 Manhole". Joints between precast wall sections shall be confined O-ring type.
11. Manhole frame and covers shall be cast iron, three bolt locking type, Olympic Foundry type MH30D/T, or equal. Bolts shall be 5/8" stainless steel socket head, countersunk. The cover shall have the word "SEWER" in 2" raised letters cast in it.
12. Cleanout frame and covers shall be cast iron two bolt locking type, Olympic Foundry type M1025, or equal. Bolts shall be 5/8" stainless steel socket head, countersunk.
13. All side sewers shall be 6" diameter minimum and laid on a minimum slope of 2 percent. All side sewers shall be provided with a cleanout and test tees for each lot to be served.
14. Check dams shall be placed at 100 foot intervals on gravity mains laid on 6 percent or greater slopes.
15. Concrete pipe anchors shall be placed on sewer mains where slopes exceed 20 percent. Anchors shall be placed on 36 foot centers for slopes 20 to 35 percent, on 24 foot centers for slopes 35 to 50 percent, and on 16 foot centers for slopes 50 percent and greater.

GENERAL
CONSTRUCTION NOTES

NO SCALE



2585003/KCPWA

KITSAP COUNTY
Dept. of Public Works

GENERAL
CONDITIONS/NOTES

DETAIL
MD-1