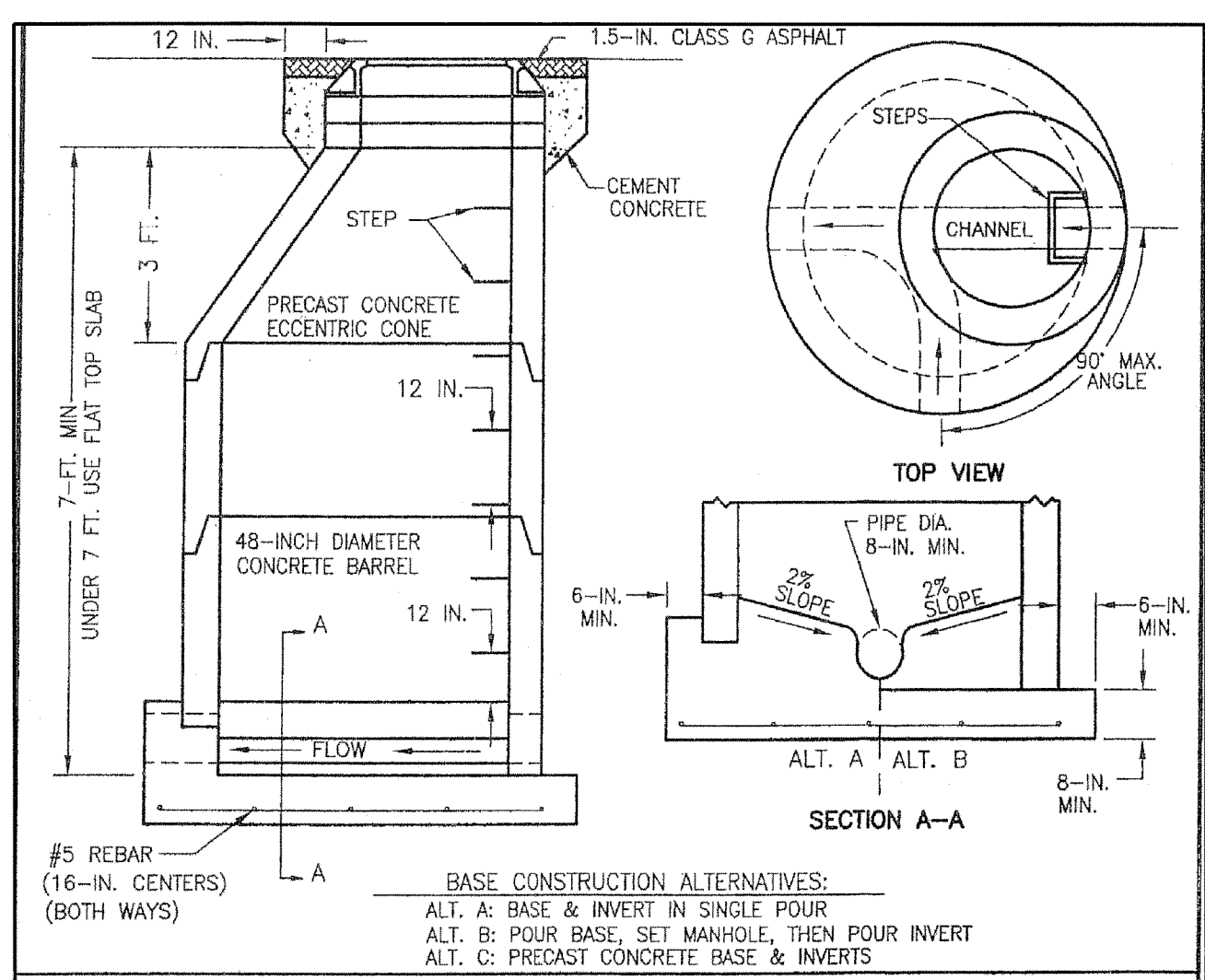


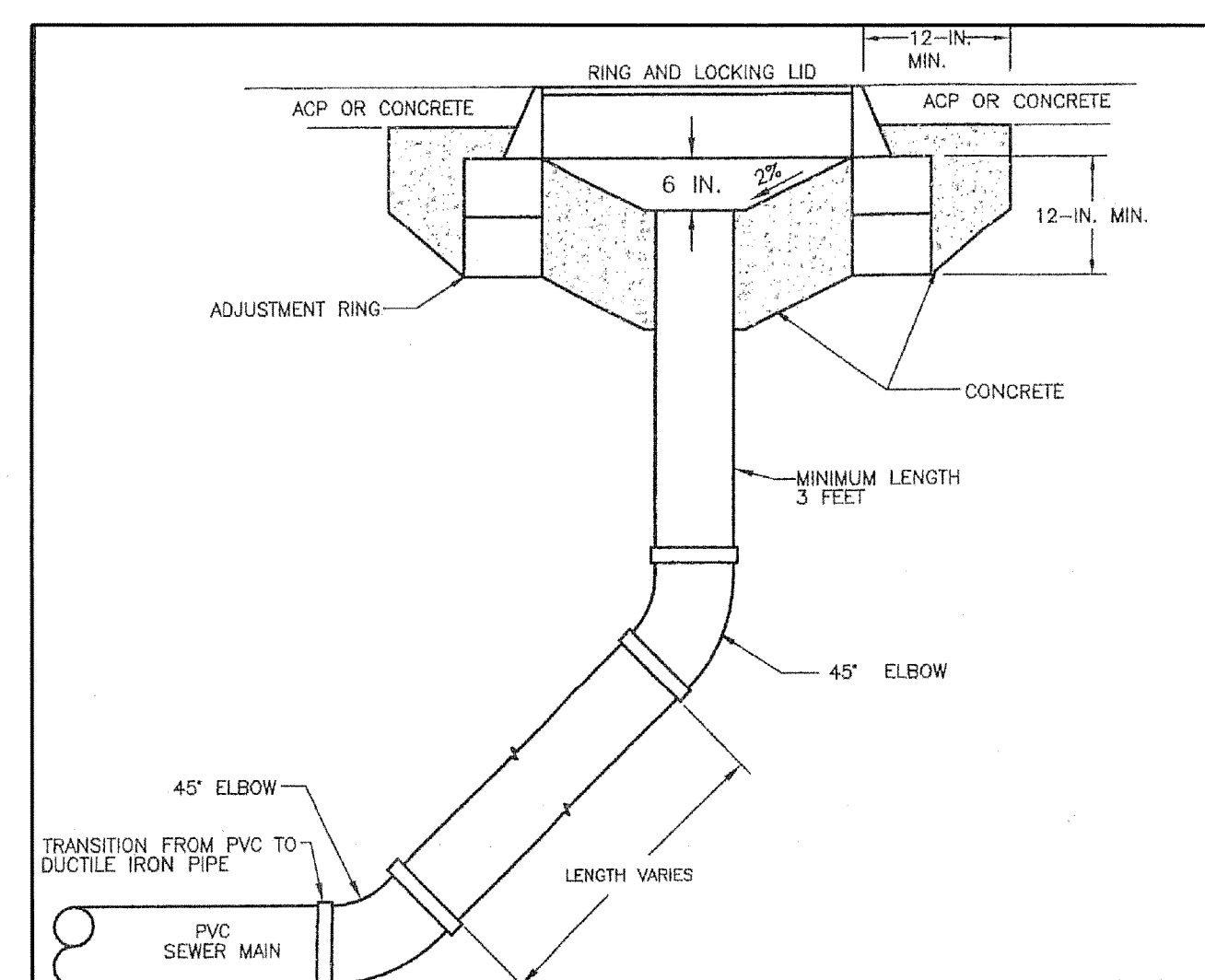
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NOTES:

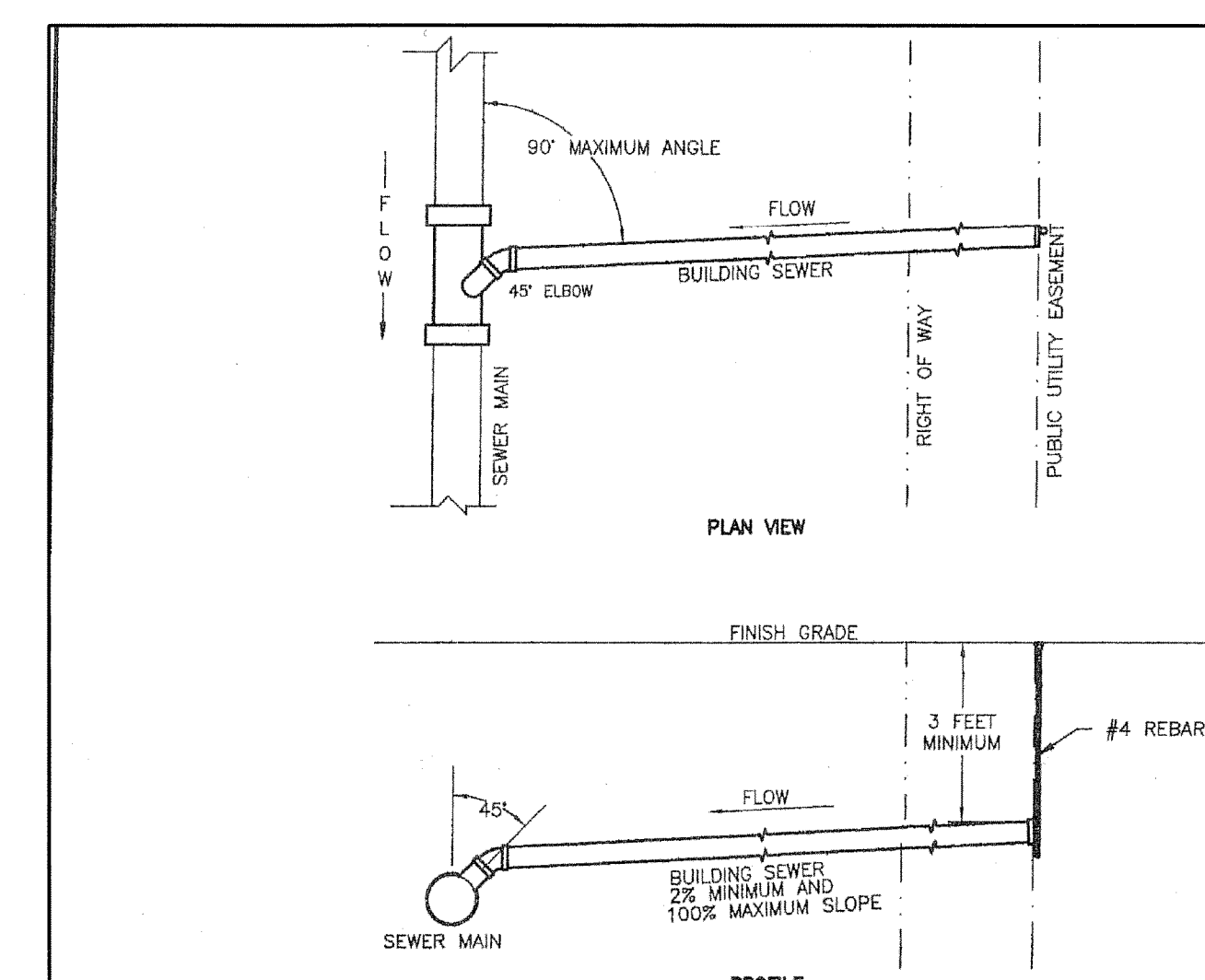
- STEPS TO BE CENTERED OVER THE MAIN INFLOW LINE.
- MINIMUM OF ONE 4-INCH ADJUSTMENT RING WITH A MAXIMUM OF 16 INCHES OF ADJUSTMENT.
- "SEWER" SHALL BE CAST IN ALL LIDS.
- MANHOLES NOT IN ASPHALT SHALL BE CENTERED IN A 6-FT. BY 6-FT. BY 6-IN. CONCRETE PAD AT FINISH GRADE. SLOPE CORNERS DOWN IN GRAVEL STREETS.
- ADJUST MANHOLE LIDS IN ASPHALT TO 1/4 INCH BELOW FINISH GRADE.
- PLACE FLEXIBLE GASKET BETWEEN BARREL SECTIONS, CONE, AND ADJUSTMENT RINGS.
- ALL OPEN JOINTS AND PICK HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND FINISHED TO A SMOOTH SURFACE.
- ENTRY COUPLINGS OR SAND COLLARS REQUIRED WHERE SEWER MAINS ENTER AND EXIT THE MANHOLE.
- MANHOLE BASE SHALL BE ON UNDISTURBED OR COMPACTED EARTH.
- ALL MANHOLES, STEPS, RING AND COVER, AND GASKETS SHALL BE PER SECTIONS 9.04.4(1), 9.05.15(1), AND 9.12.4.
- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND BE APPROVED BY THE CITY OF MOSES LAKE.

BASE CONSTRUCTION ALTERNATIVES:
 ALT. A: BASE & INVERT IN SINGLE POUR
 ALT. B: POUR BASE, SET MANHOLE, THEN POUR INVERT
 ALT. C: PRECAST CONCRETE BASE & INVERTS



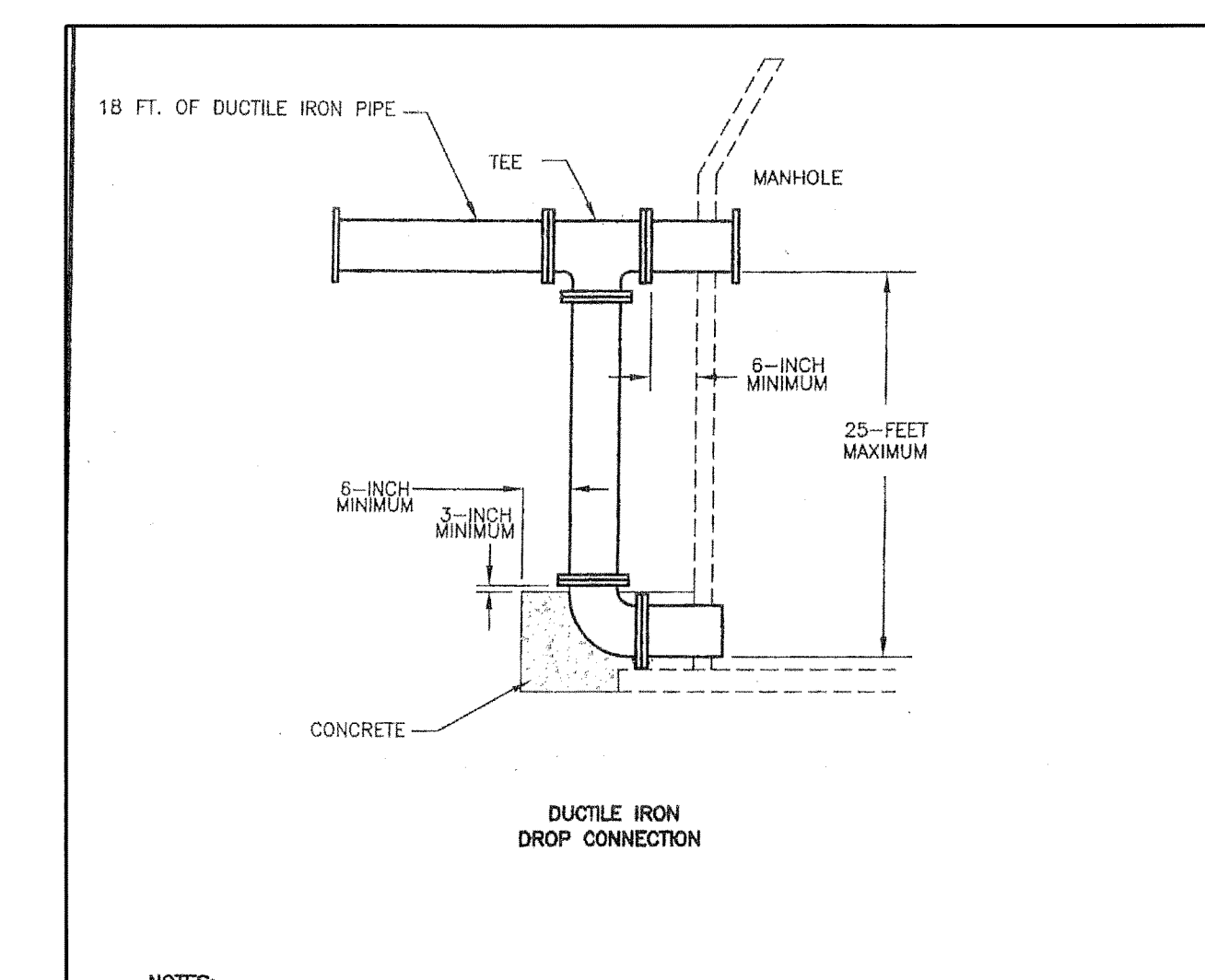
NOTES:

- CLEANOUTS NOT IN ASPHALT SHALL BE CENTERED IN A 6-FOOT BY 6-FOOT BY 6-INCH CONCRETE PAD AT FINISH GRADE. SLOPE CORNERS DOWN IN GRAVEL STREETS.
- ADJUST CLEANOUT LIDS IN ASPHALT TO 1/4 INCH BELOW FINISH GRADE.
- "SEWER" SHALL BE CAST IN ALL CLEANOUT LIDS.
- RING/LID ASSEMBLY SHALL SET ON TWO 6-INCH CONCRETE ADJUSTMENT RINGS.
- ALL CLEANOUT PIPING AND ELBOWS SHALL BE A MINIMUM OF CLASS 50 DUCTILE IRON.
- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND BE APPROVED BY THE CITY OF MOSES LAKE.



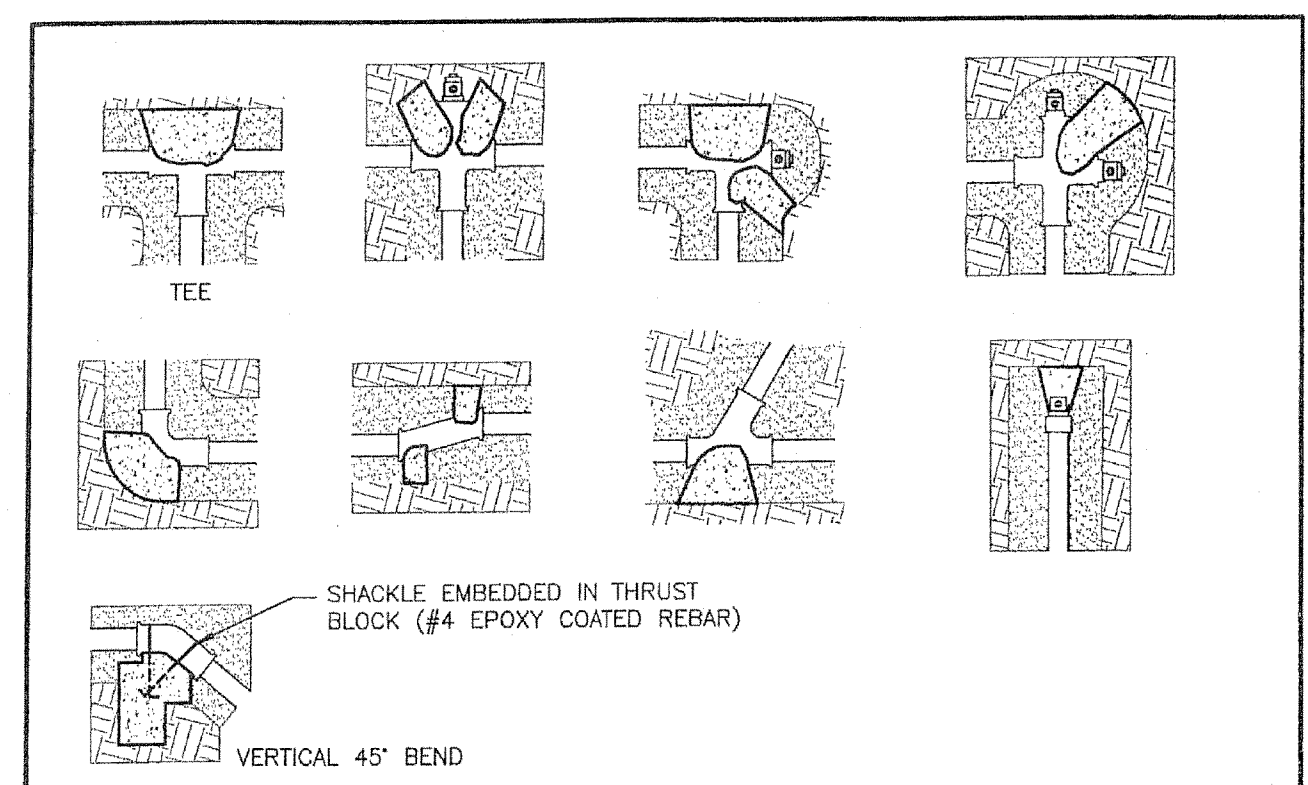
NOTES:

- IN-LINE GASKETED WYE SEWER FITTING SHALL BE USED ON NEWLY INSTALLED MAINS. GASKETED WYE SEWER SADDLE WITH STAINLESS STEEL CLAMPS SHALL BE USED ON EXISTING SEWER MAINS.
- THE END OF THE SERVICE LINE SHALL BE CAPPED.
- A RED CAP SHALL BE PLACED ON THE #4 REBAR MARKING THE END OF THE SERVICE LINE. THE RED CAP WILL BE SUPPLIED BY THE CITY.
- BUILDING SEWER CLEANOUTS ARE NOT ALLOWED WITHIN MUNICIPAL EASEMENTS OR RIGHT OF WAY.
- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND BE APPROVED BY THE CITY OF MOSES LAKE.



NOTES:

- ALL PIPING AND FITTINGS TO BE DUCTILE IRON AND BE WRAPPED IN 8-MIL POLYETHYLENE ENCASUREMENT.
- MANHOLE SHALL BE CONSTRUCTED PER PLAN C-1.
- ALL DUCTILE IRON PIPE SHALL BE A MINIMUM OF CLASS 50.
- DROP MANHOLE CONNECTIONS SHALL NOT BE CONSTRUCTED UNLESS APPROVED BY THE ENGINEER.
- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND BE APPROVED BY THE CITY OF MOSES LAKE.



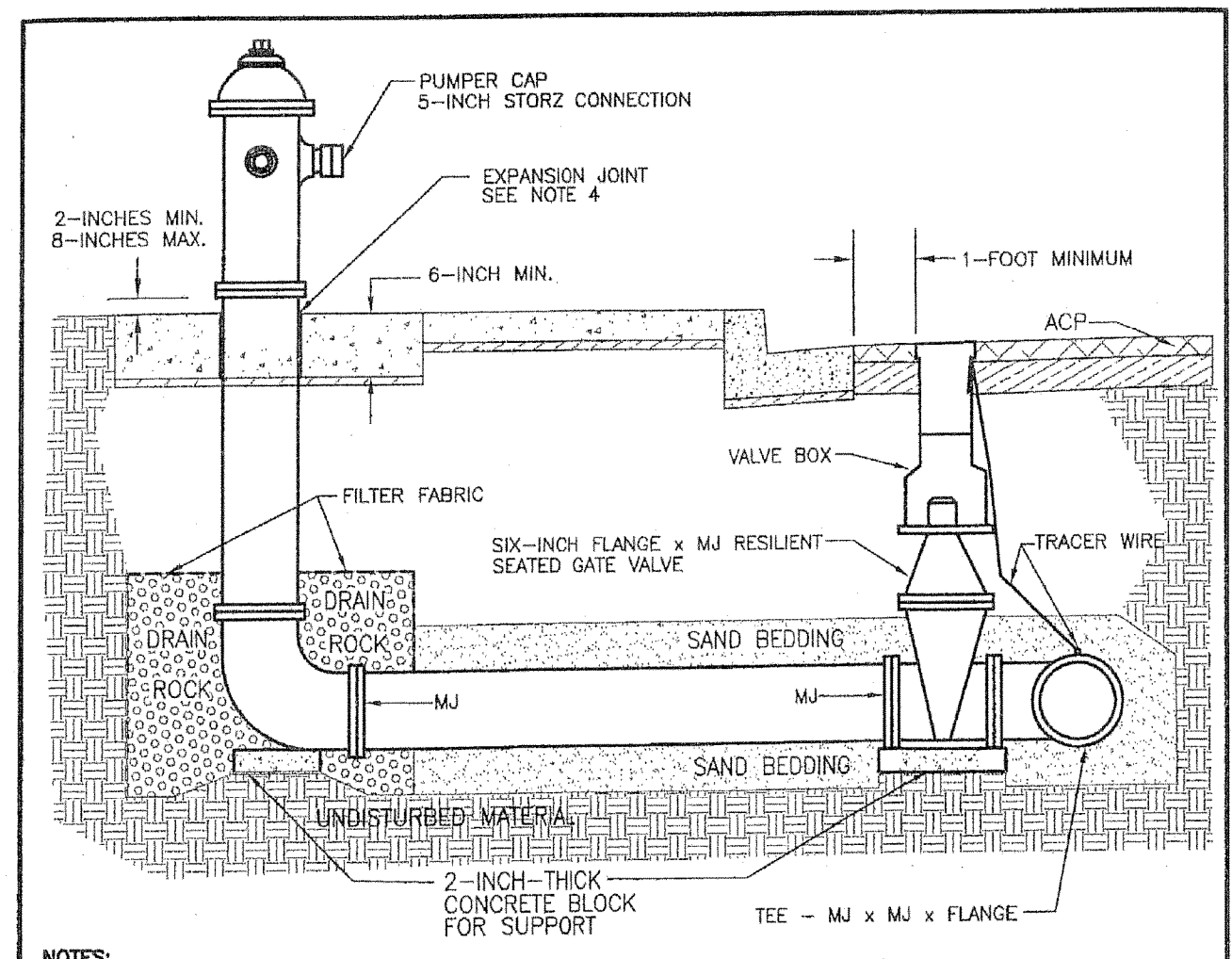
MINIMUM THRUST BLOCK BEARING AREA REQUIRED *

SIZE	TEES AND DEAD ENDS	90° BEND	45° BEND	22-1/2° BEND
4 INCH OR LESS	2 SF	3 SF	2 SF	1 SF
6 INCH	4 SF	5 SF	3 SF	2 SF
8 INCH	6 SF	8 SF	5 SF	3 SF
10 INCH	10 SF	13 SF	7 SF	4 SF
12 INCH	13 SF	19 SF	10 SF	6 SF
14 INCH	18 SF	25 SF	14 SF	7 SF
16 INCH	23 SF	32 SF	18 SF	9 SF

* BASED ON A PIPE TEST PRESSURE OF 250 PSI AND BEARING STRENGTH OF SOIL AT 3000 LBS./SQ. FT. FOR OTHER CONDITIONS REVISE AND INCREASE ACCORDINGLY AS APPROVED BY THE ENGINEER.

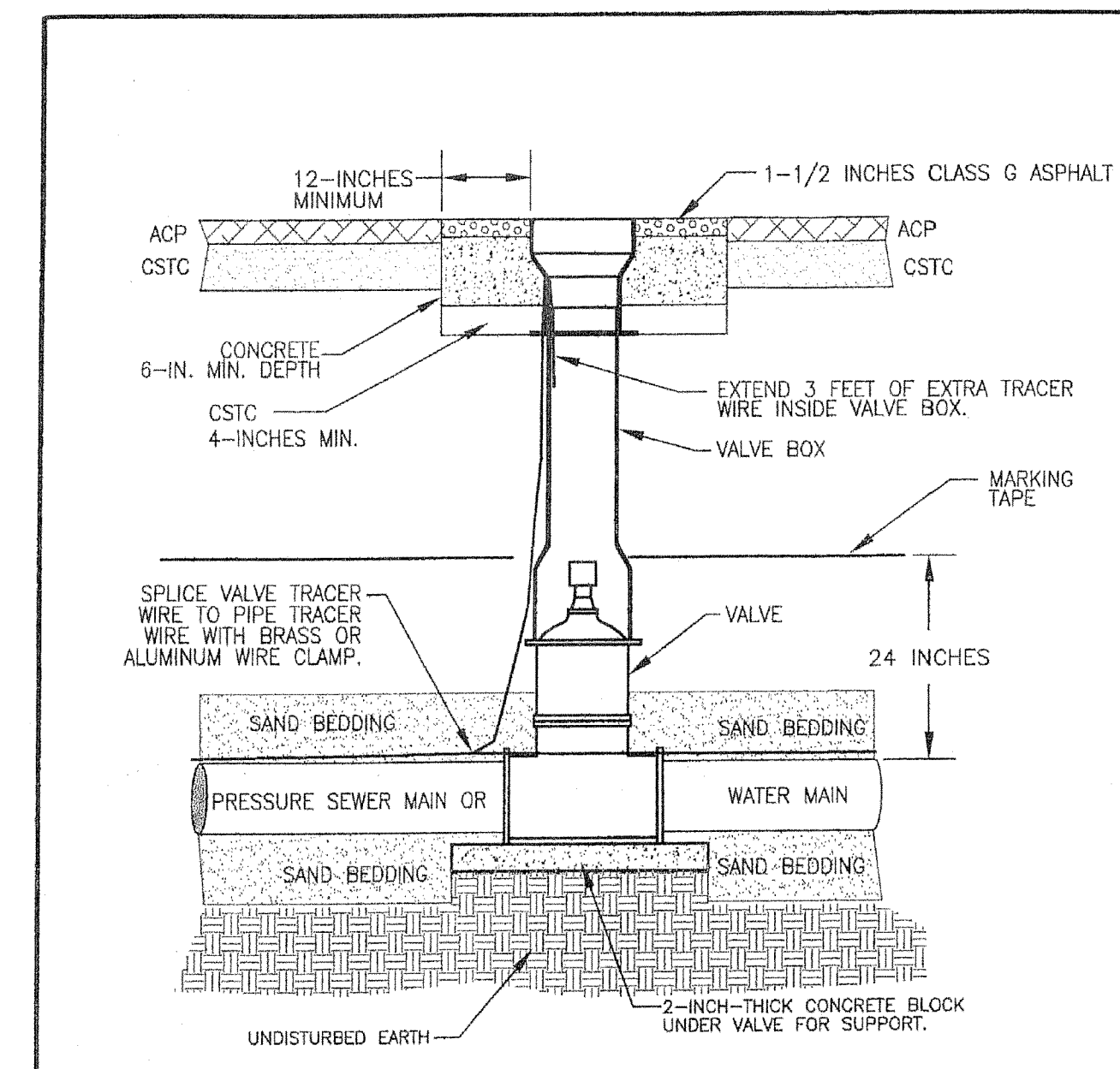
NOTES:

- THRUST BLOCKS ARE TO EXTEND TO UNDISTURBED GROUND.
- INCREASE THRUST BLOCK AREA BY 50% IN SAND.
- WRAP ALL FITTINGS WITH 8-MIL POLYETHYLENE ENCASUREMENT.
- CONCRETE SHALL NOT COME INTO CONTACT WITH PIPE, VALVES, OR FITTINGS.
- DEAD-END LINES SHALL HAVE A FIRE HYDRANT ASSEMBLY OR A BLOW-OFF ASSEMBLY INSTALLED AT THE END OF THE LINE TO FACILITATE FLUSHING.
- ALL THRUST BLOCKS ARE REQUIRED TO BE FORMED ON THE SIDES WITH SUITABLE MATERIAL AND THE BACK AGAINST UNDISTURBED EARTH.
- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND BE APPROVED BY THE CITY OF MOSES LAKE.



NOTES:

- HYDRANTS SHALL BE INSTALLED BEHIND THE SIDEWALK, OR TRAVELED WAY WHERE THERE IS NO SIDEWALK.
- NO PORTION OF THE HYDRANT SHALL PROJECT OVER THE SIDEWALK OR TRAVELED WAY.
- THE HYDRANT SHALL BE CENTERED IN A 6-FT. X 6-FT. X 6-IN. CONCRETE PAD; HOWEVER, THE SIDEWALK MAY BE CONSIDERED PART OF THE PAD.
- EXPANSION JOINT REQUIRED BETWEEN CONCRETE PAD AND FIRE HYDRANT. USE 1/4-INCH-THICK ADHESIVE BACKED NEOPRENE, OR APPROVED EQUAL.
- HYDRANTS THAT ARE TO BE DEDICATED TO, OWNED BY AND MAINTAINED BY THE CITY OF MOSES LAKE WATER DIVISION SHALL BE PAINTED YELLOW. PRIVATE HYDRANTS SHALL BE PAINTED RED.
- PLACE HYDRANT BOLLARDS WHEN REQUIRED BY THE CITY.
- MECHANICAL JOINTS AND BELL/SPIGOT CONNECTIONS SHALL BE RESTRAINED JOINTS. CONCRETE THRUST BLOCKS AND SHACKLES ARE NOT ALLOWED.
- ALL FITTINGS SHALL BE DUCTILE IRON WRAPPED IN 8-MIL POLYETHYLENE ENCASUREMENT, EXCEPT FOR THE BARREL SECTION THAT HAS THE DRAIN HOLE.
- VALVE SHALL BE INSTALLED PER THE VALVE AND TRACER WIRE DETAIL.
- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND BE APPROVED BY THE CITY OF MOSES LAKE.



NOTES:

- TRACER WIRE SHALL BE TAPED AT 10-FOOT INTERVALS TO THE TOP OF ALL NON-METALLIC MAINS AND ON WATER SERVICE LINES UP TO WATER METER TILE.
- VALVE BOX AND LID SHALL BE SET 1/4 INCH BELOW FINISH GRADE IN ASPHALT AREAS. SET VALVE BOX TO GRADE IN UNPAVED AREAS AND CENTER IN A CONCRETE PAD SLOPED IN DIRECTION OF TRAVEL WITH A MINIMUM DEPTH OF 6 INCHES AND A MINIMUM WIDTH OF 1 FOOT AROUND OUTSIDE OF VALVE BOX.
- VALVE OPERATING NUT MORE THAN 4 FEET BELOW GRADE SHALL HAVE AN APPROVED EXTENSION INSTALLED TO BRING TOP OF OPERATING NUT TO 24 INCHES TO 36 INCHES BELOW FINISH GRADE.
- ALL CONSTRUCTION AND MATERIALS SHALL MEET THE SPECIFICATIONS AND BE APPROVED BY THE CITY OF MOSES LAKE.



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PROJECT NO.: **05063**
DRAWN BY: **TLR**
ISSUE DATE: **10-26-05**
SHEET REV.:

WATER AND SEWER DETAILS

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