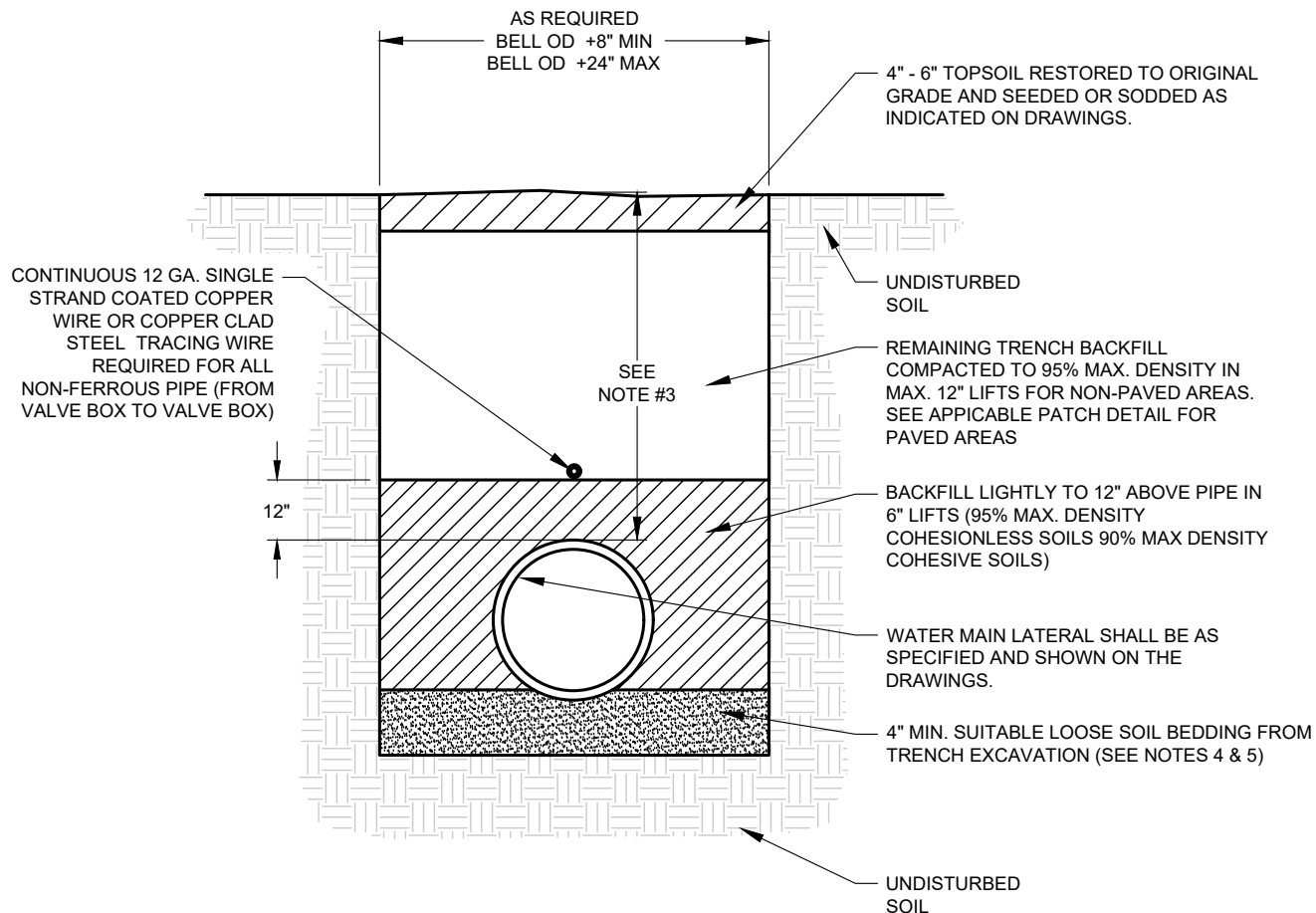
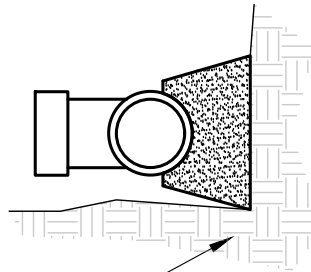
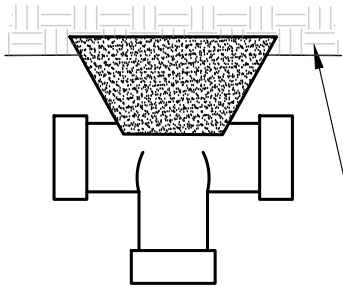
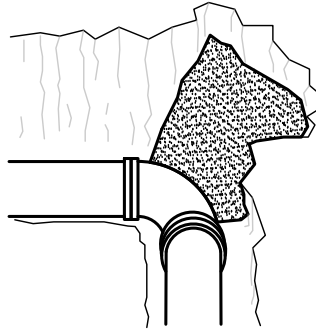
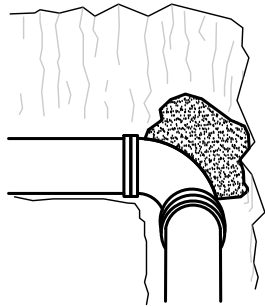




NOTES:

1. ALL EXCAVATION SHALL COMPLY WITH THE TERMS AND CONDITIONS OF THE CONSTRUCTION STANDARDS FOR EXCAVATIONS IN OSHA "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION", CHAPTER XVII OF TITLE 29, CFR, PART 1926. THE CONTRACTOR SHALL HAVE A COMPETENT PERSON ON ALL SITE AT ALL TIMES DURING EXCAVATION AND BACKFILLING.
2. CONTRACTOR SHALL USE TRENCH BOX SHORING IN ALL OPEN CUTS IN PAVED AREAS, TRENCH WIDTH SHALL BE MAINTAINED AT THE MINIMUM PRACTICAL WIDTH.
3. TYPE 3 TRENCH CONDITIONS AND A MINIMUM OF 4' OF COVER MUST BE MAINTAINED WHERE RESTRAINT JOINT PIPE IS SPECIFIED AND 3.5' OF COVER IN ALL OTHER LOCATIONS UNLESS SHOWN OTHERWISE ON THE PLAN AND PROFILE.
4. LOOSE SOIL OR SELECT MATERIAL IS DEFINED AS "NATIVE" SOIL EXCAVATED FROM THE TRENCH, FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH.
5. BEDDING MATERIAL SHALL EXTEND TO UNDISTURBED TRENCH WALLS AND TRENCH BOTTOM. BEDDING MATERIAL WILL NOT BE PAID FOR UNLESS SPECIFICALLY APPROVED BY THE PROJECT REPRESENTATIVE AND ONLY FOR THE AUTHORIZED QUANTITY.
6. BEDDING MATERIAL SHALL BE PROPERLY RODDED AND COMPACTED AROUND THE PIPE HAUNCHES.
7. TEST FOR DENSITY COMPACTION MAY BE MADE AT THE OPTION OF THE ENGINEER AND DEFICIENCIES SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE ENGINEER MAY HAVE COMPACTION TEST PERFORMED AFTER THE BACKFILL IS COMPLETE. CONTRACTOR SHALL BE REQUIRED TO EXCAVATE TO VARIOUS ELEVATIONS FOR DENSITY TESTING EXCAVATION, BACKFILL AND RECOMPACTION SHALL BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.





UNDISTURBED
SOIL

MINIMUM CONCRETE BLOCKING (C.Y.)*

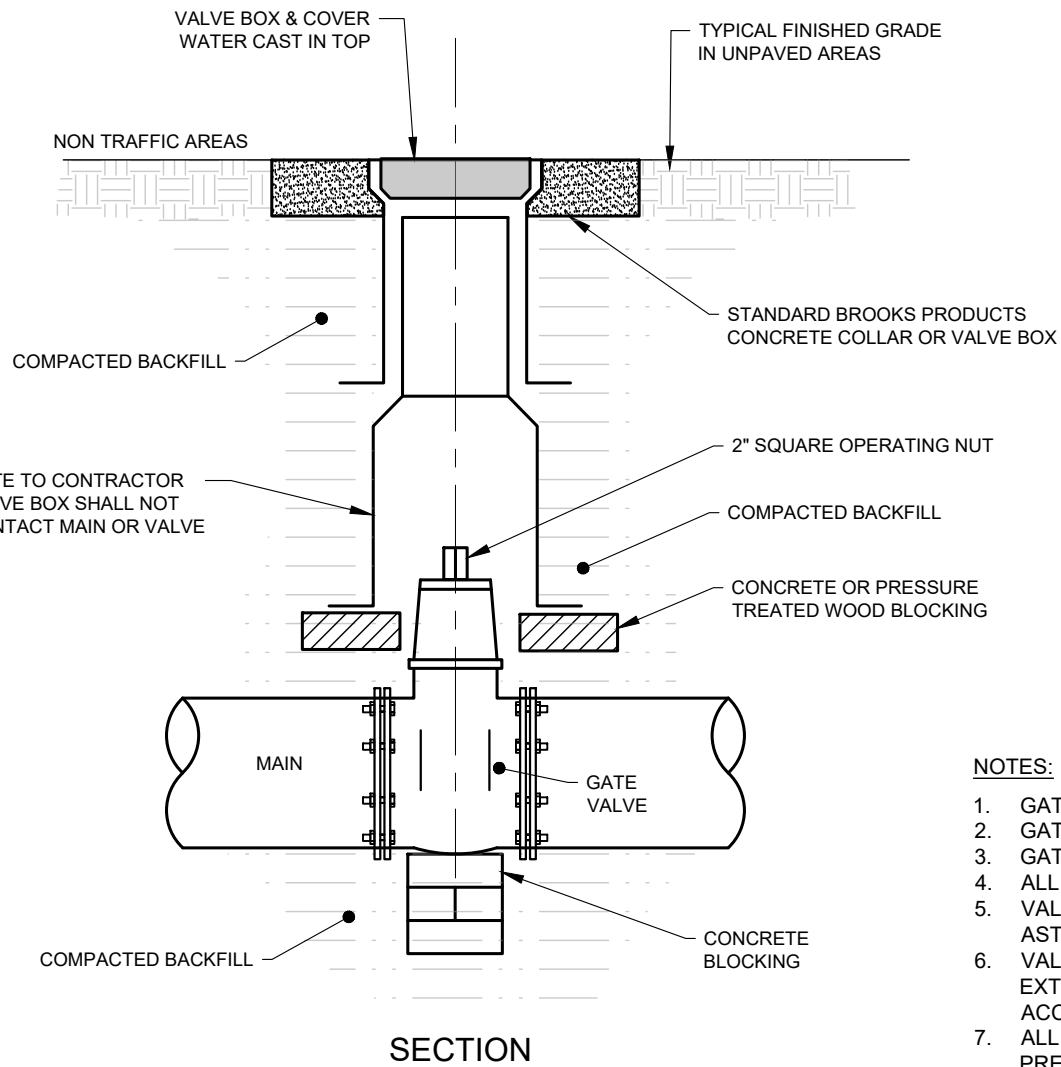
NOM. PIPE DIA. INCHES	TEES & DEAD ENDS	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
4	1/3	1/3	1/3	1/3	1/3
6	1/3	1/3	1/3	1/3	1/3
8	1/3	1/2	1/3	1/3	1/3
10	2/3	3/4	1/2	1/3	1/3
12	3/4	1.0	2/3	1/3	1/3
14	1.0	1 1/2	3/4	1/2	1/3
16	1 1/3	2.0	1.0	1/2	1/3
18	1 2/3	2 1/3	1 1/3	2/3	1/3
20	2.0	3.0	1 2/3	3/4	1/2
24	3.0	4 1/3	2 1/3	1 1/3	2/3

* CONCRETE SHALL BE 3000 PSI

NOTE:

1. WRAP FITTINGS IN 6 MIL PLASTIC BEFORE POURING CONCRETE.



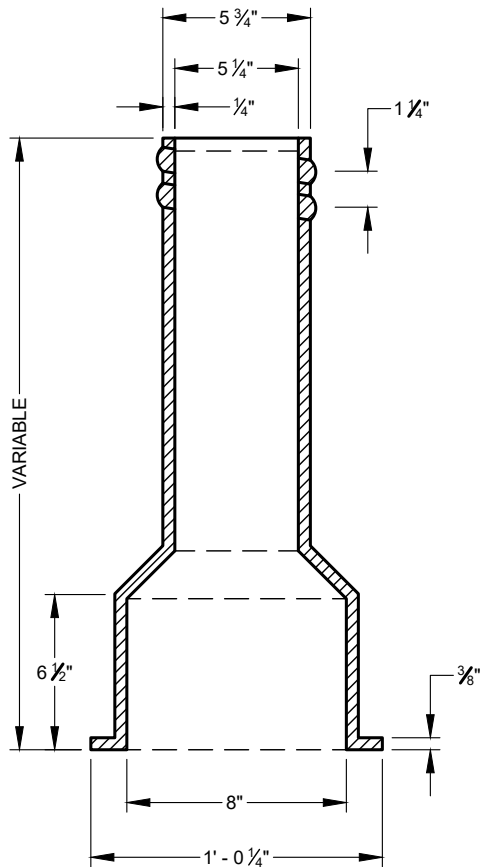


USE RESILIENT WEDGE GATE VALVE
BY MUELLER OR EQUIVALENT.

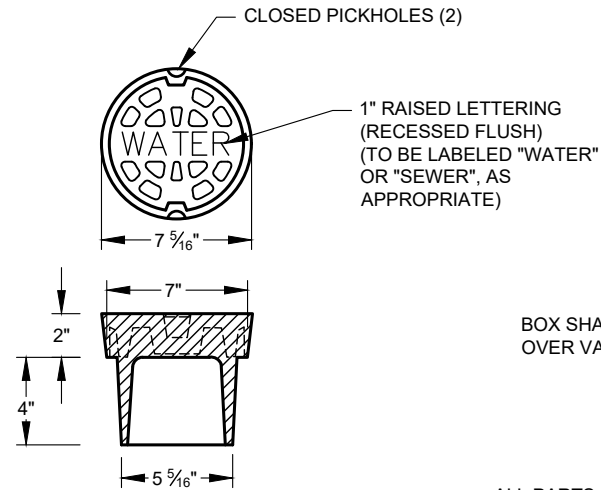
NOTES:

1. GATE VALVE SHALL BE AWWA APPROVED.
2. GATE VALVE SHALL BE LEFT HAND OPEN.
3. GATE VALVE SHALL HAVE 2" SQUARE OPERATING NUT.
4. ALL VALVES SHALL OPEN COUNTER CLOCKWISE.
5. VALVE BODY AND STEM SHALL BE DUCTILE IRON CONFORMING TO ASTM A-536.
6. VALVE BODY AND BONNET SHALL BE COATED ON ALL INTERIOR AND EXTERIOR SURFACES WITH A FUSION BONDED EPOXY IN ACCORDANCE WITH AWWA C-550-90.
7. ALL VALVES 24" AND SMALLER SHALL HAVE A SAFE WORKING PRESSURE OF 250 PSI.

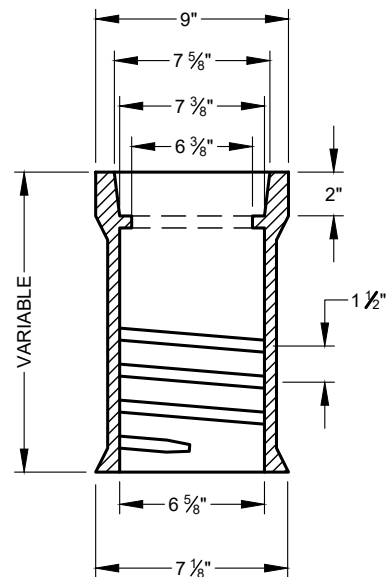




BOTTOM SECTION

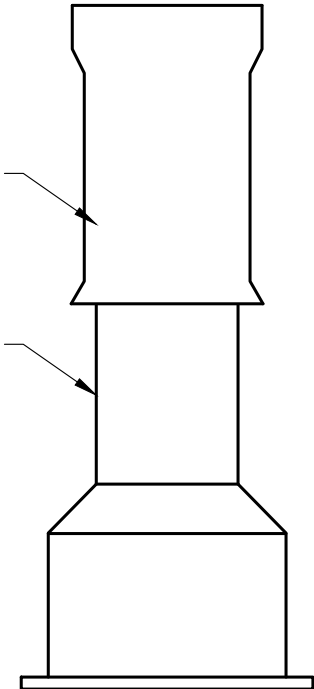


LID



BOX SHALL CENTERED
OVER VALVE

ALL PARTS SHALL BE OF
THE SAME MATERIAL AND
SUPPLIED BY THE SAME
MANUFACTURER

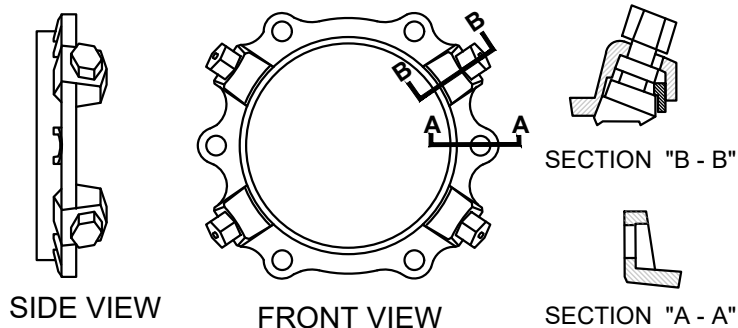


COMPLETE BOX

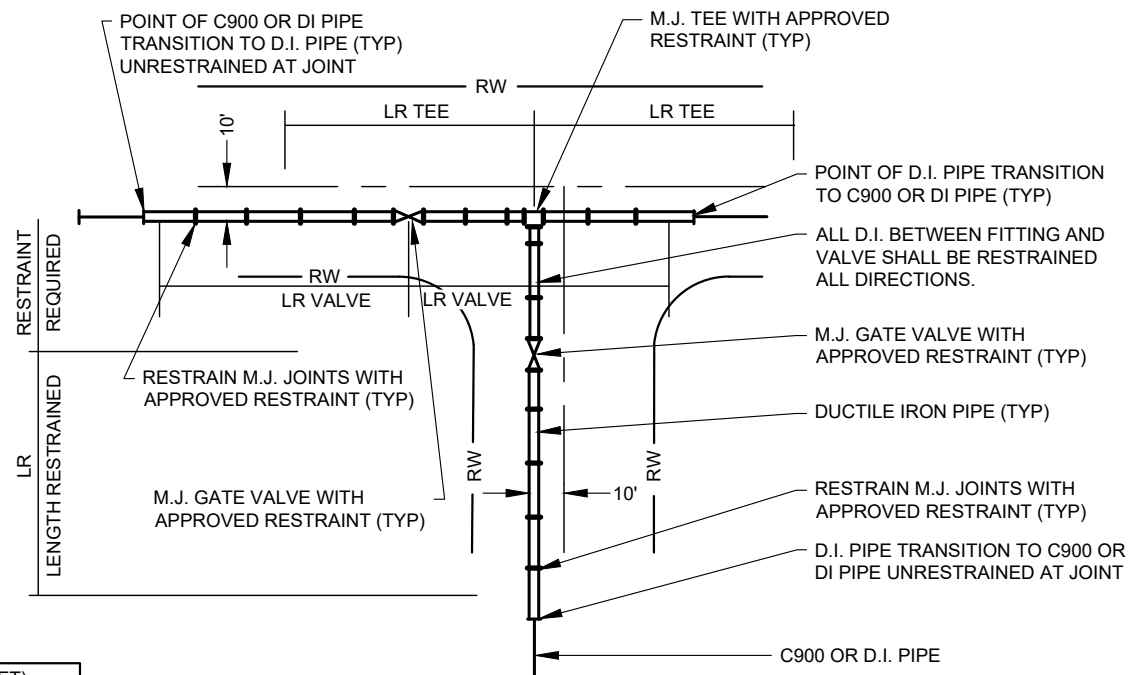
NOTES:

1. VALVE BOX COVER SHALL WEIGH A MINIMUM 26 LBS.
2. ENTIRE VALVE BOX ASSEMBLY & COVER SHALL BE CAST FROM CLASS 35 GRAY IRON.
3. ASSEMBLY SHALL BE DOMESTICALLY MADE AND MANUFACTURED IN THE U.S.A.





IRON RETAINING GLAND M.J. RESTRAINT			
NOMINAL PIPE SIZE	WEDGES QUANTITY	BOLTS QUANTITY	PRESS RATING
6"	3	6	350
8"	4	6	350
12"	8	8	350

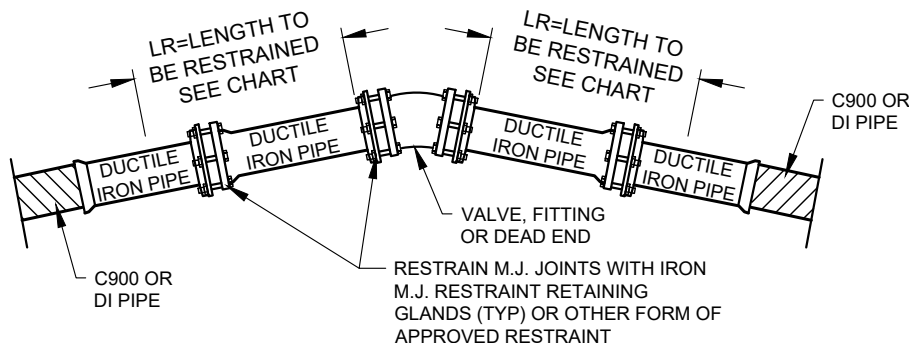


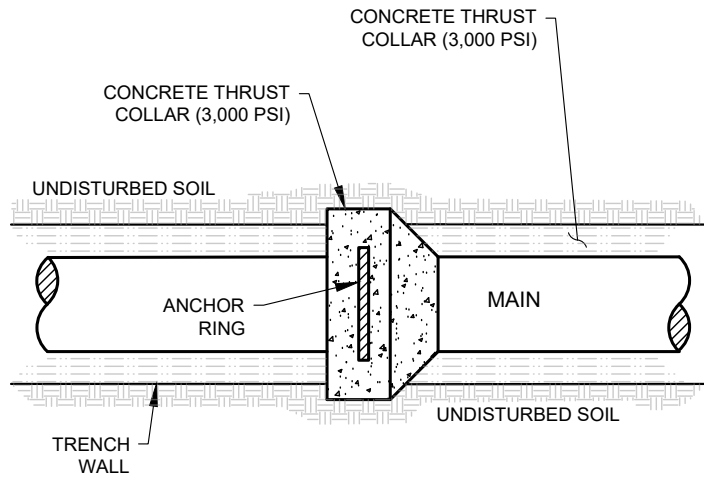
RESTRAINED JOINT DETAIL FOR TYPICAL TEE INTERSECTION
4 WAY INTERSECTION SIMILARLY RESTRAINED.

LR (MIN. LENGTH OF RESTRAINT EACH DIRECTION OF THRUST IN LINEAR FEET) Based on 200 psig pressure, Safety Factor of 2.0:1 BARE DI PIPE AND ML Soil, 3.5' cover. Chart does not apply to pipes wrapped in polyethylene wrap					
PIPE SIZE	VALVE DEAD ENDS TEES	90° ELBOWS	45° ELBOWS & CROSSES	22-1/2° ELBOWS	REDUCER
6"	55'	31'	13'	7'	8" x 2" 67'
8"	72'	40'	17'	8'	8" x 6" 30'
12"	102'	57'	24'	12'	12" x 8" 54'

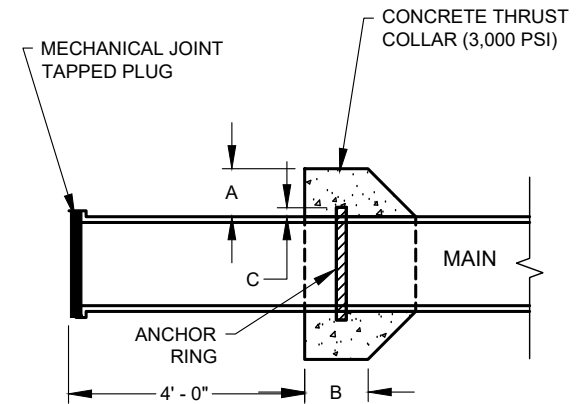
NOTES:

- THRUST RESTRAINT SHALL BE INSTALLED ON DUCTILE IRON WATER DISTRIBUTION LINES 6" THRU 12' DIAMETER IN THE MANNER SHOWN. SEE STANDARD REACTION BLOCKING DETAIL WD-2 FOR PVC RESTRAINT.
- IRON RETAINING GLAND M.J. RESTRAINT OR OTHER FORMS OF IRON RESTRAINT SHALL NOT BE USED ON PVC PIPE.
- PIPE GREATER THAN 12 INCH DIAMETER SHALL REQUIRE RESTRAINED JOINT PIPE FOR THE PROPER LENGTH.
- COMPACT FITTINGS ARE ACCEPTABLE FOR USE WITH IRON RETAINING GLAND M.J. RESTRAINT AND OTHER FORMS OF DI RESTRAINT.
- THE MINIMUM LENGTH OF RESTRAINT INDICATED SHALL REQUIRE ALL JOINTS WITHIN THE LR DISTANCE TO BE RESTRAINED.
- RESTRAINT SYSTEM SHALL BE INSPECTED AND APPROVED PRIOR TO BACKFILLING.
- RESTRAINT SYSTEMS MAY VARY BASED UPON THE ENGINEERS' DESIGN AS SHOWN ON THE PLAN AND PROFILE SHEETS.
- GRIPPER RING AND FIELD LOK GASKETS ARE AN ACCEPTABLE METHOD OF RESTRAINT ON DUCTILE IRON PIPE ONLY.





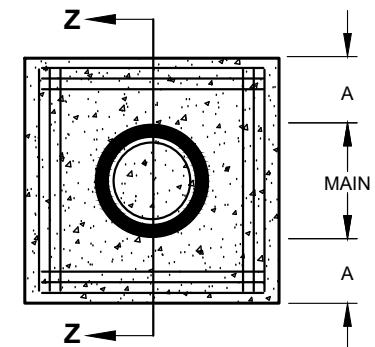
PLAN



SECTION Z - Z

SCHEDULE

PIPE DIAMETER	CONCRETE THRUST COLLAR		ANCHOR RING	RINGS REQUIRED
	A	B	C	
6" 8" 12"	1' - 0"	1' - 0"	2"	ONE
16"	1' - 4"	1' - 0"	2"	ONE
20"	1' - 4"	1' - 0"	3"	ONE
24"	1' - 4"	1' - 0"	3"	TWO
30"	1' - 4"	1' - 2"	4"	TWO
36"	1' - 4"	1' - 4"	4"	TWO

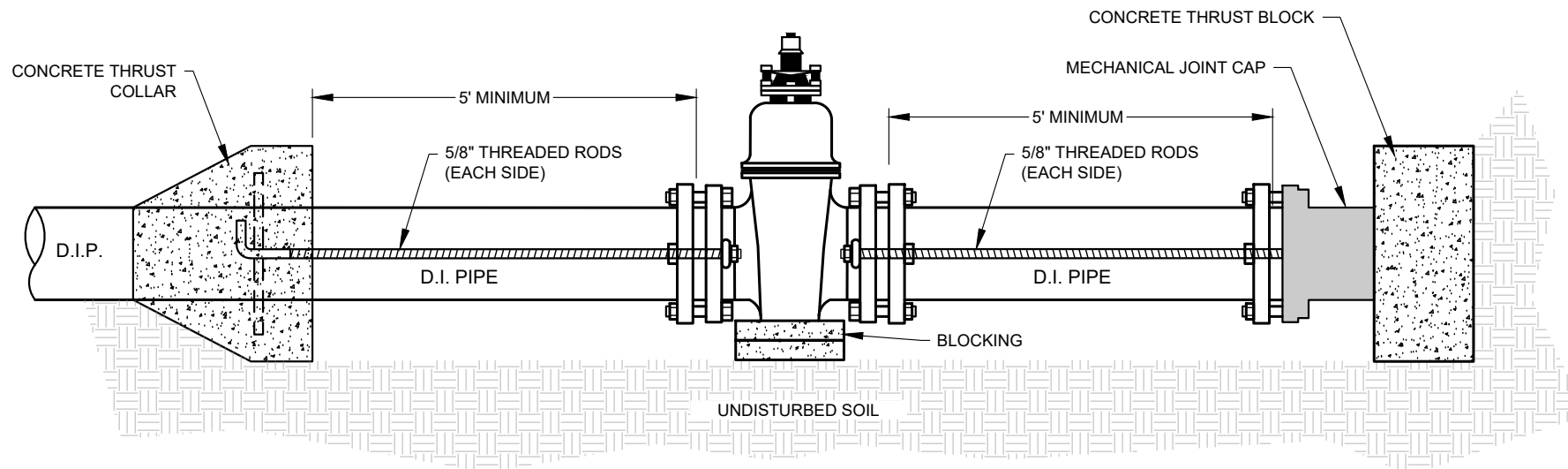


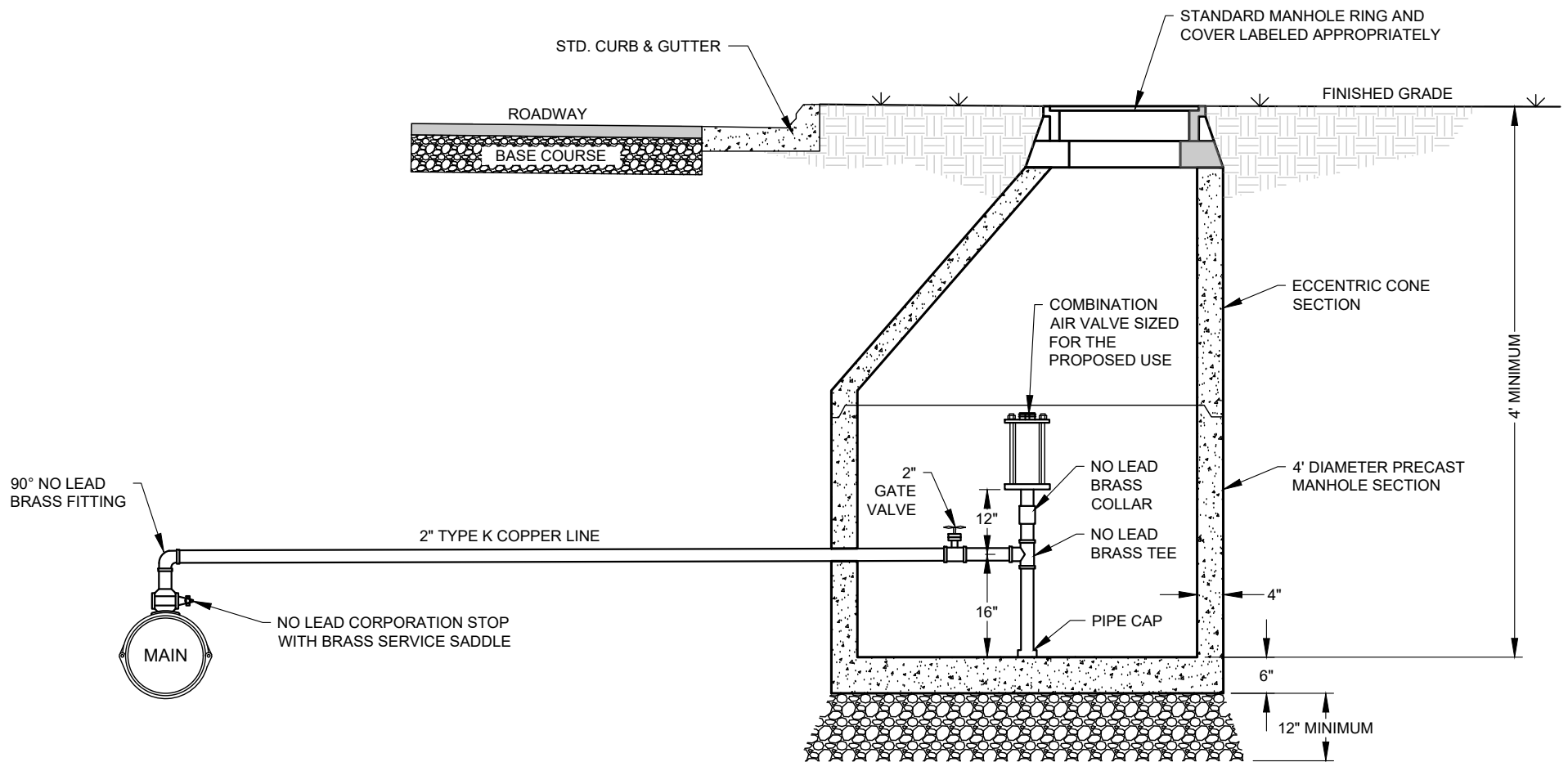
REINFORCING

NOTE:

1. 6" TO 16" MAINS--12-NO. 7 BARS
20" TO 36" MAINS--12-NO. 8 BARS
* BARS PLACED AS SHOWN







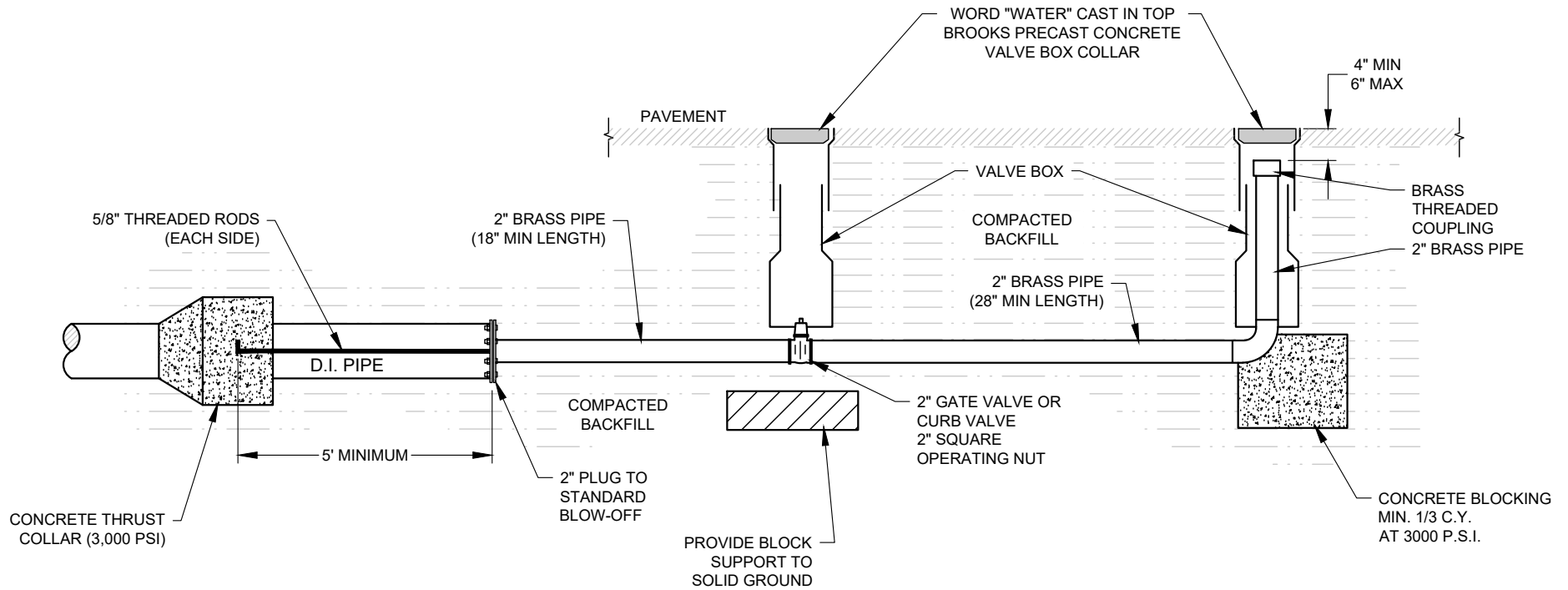
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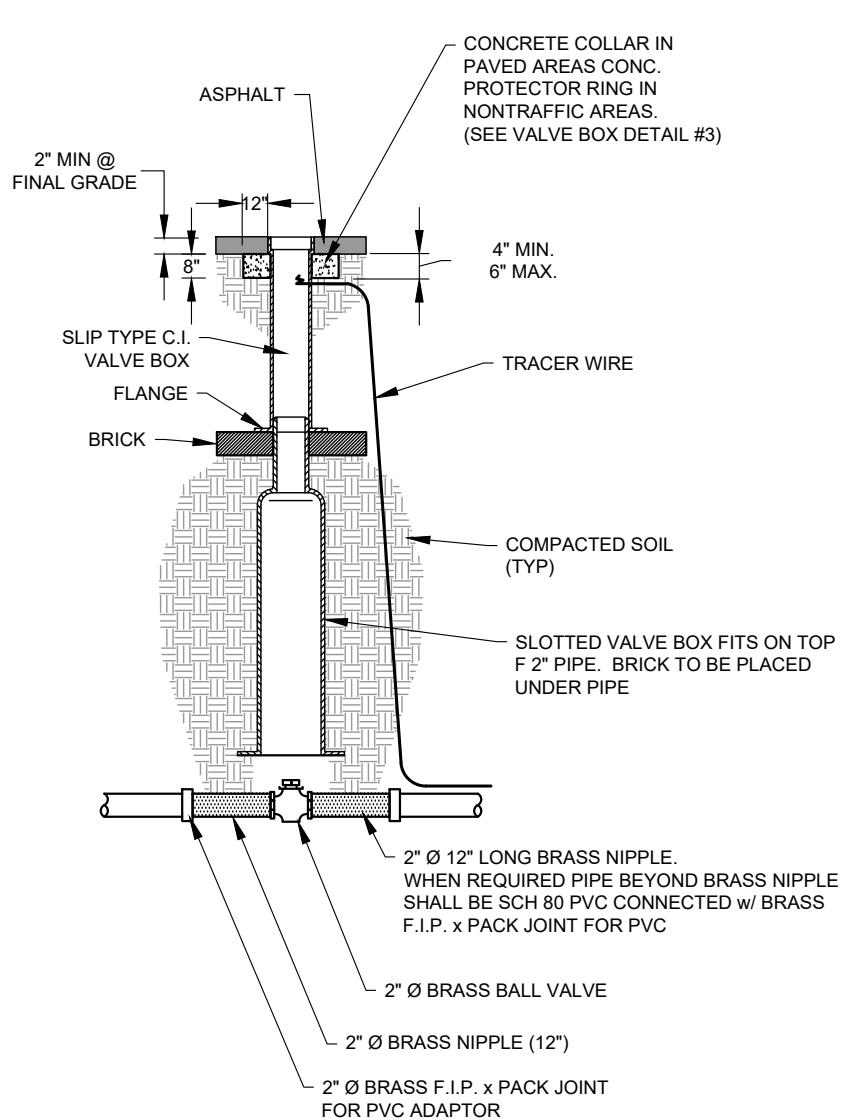
1. ALL PIPING AND FITTINGS, IN THE MANHOLE, SHALL BE "NO LEAD" BRASS.
2. "NO LEAD" CORPORATION STOP SHALL BE LOCATED IN THE TOP OF MAIN.
3. MANHOLE STEPS SHALL BE PLACED 16" O.C. WHEN DEPTH OF MANHOLE EXCEEDS 5 FEET.



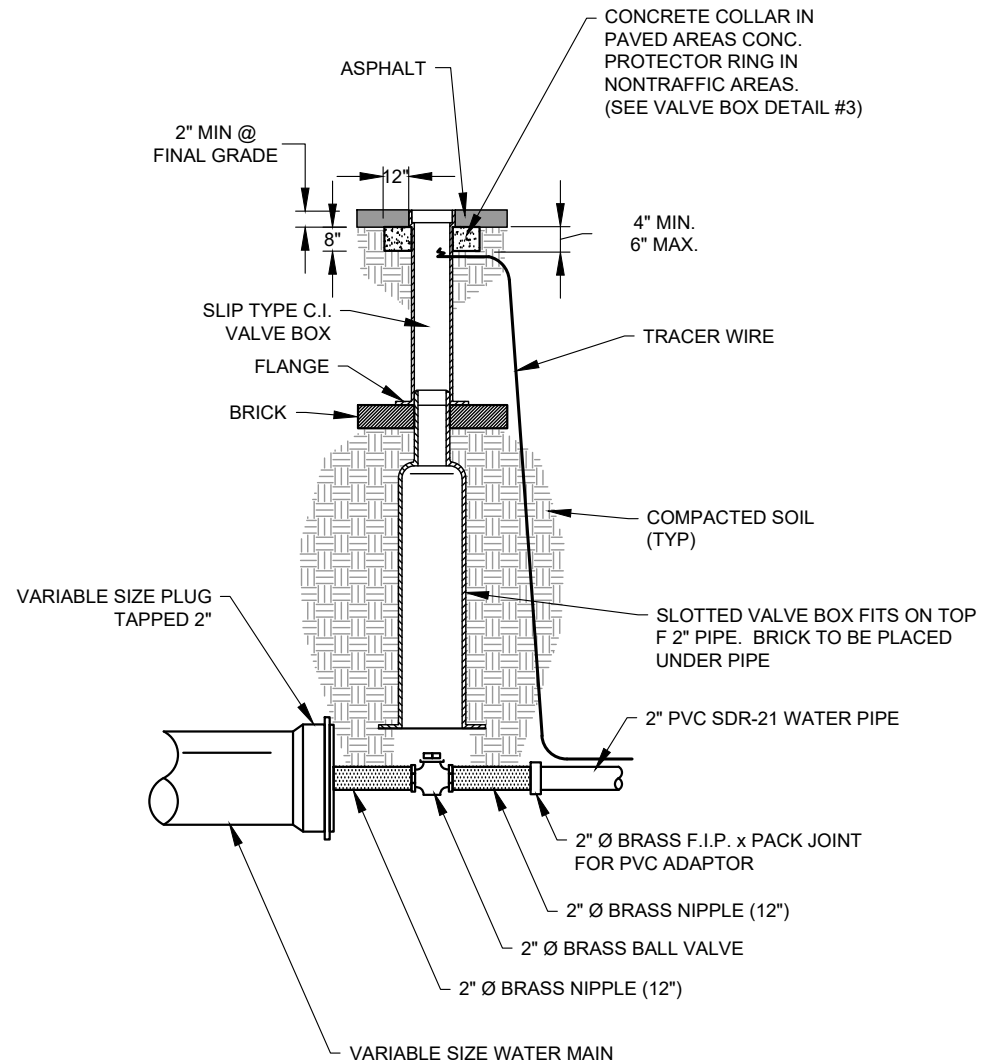
NOTE:

1. FOR MAINS THAT ARE TO BE EXTENDED
USE VALVE EQUAL TO MAIN SIZE.



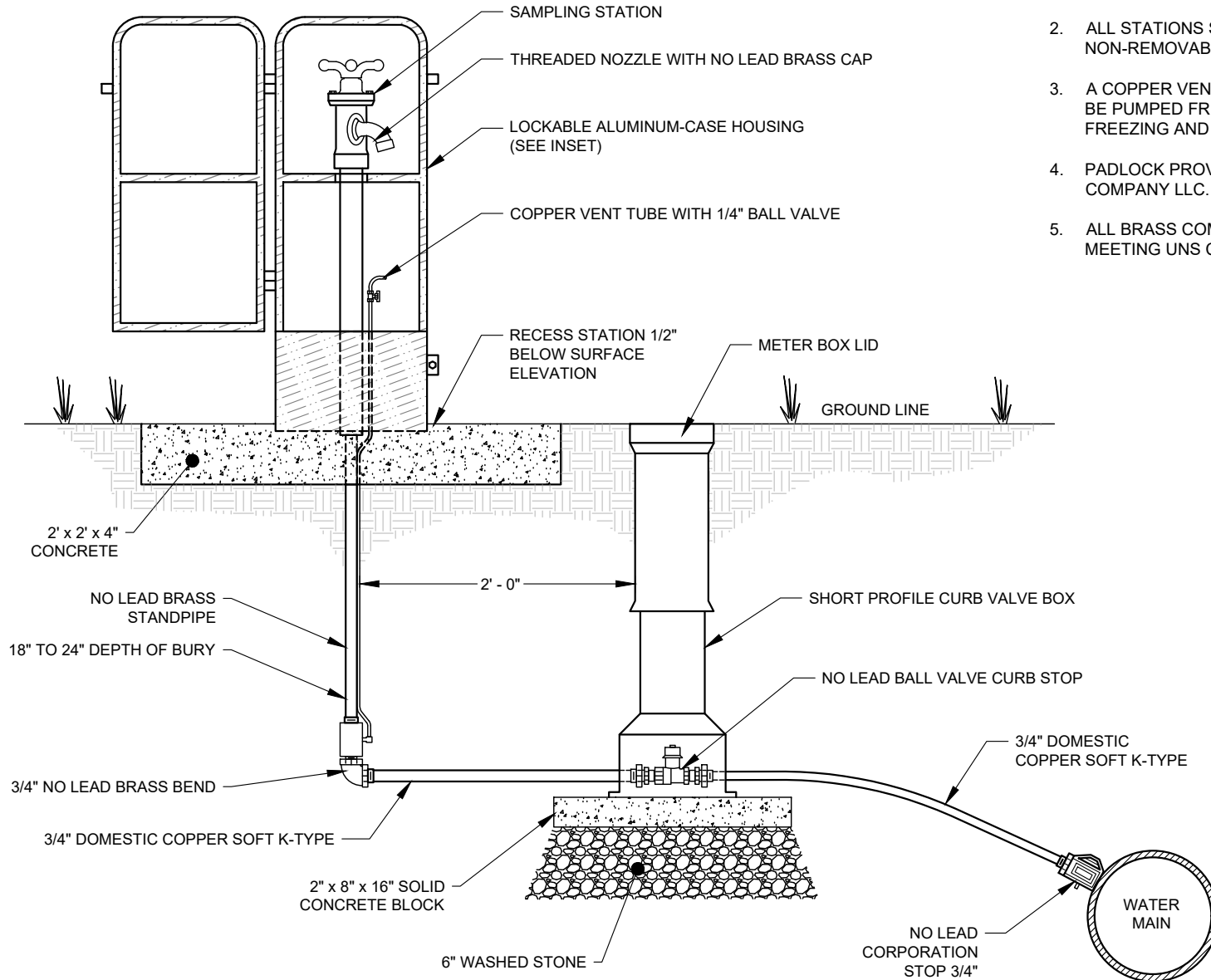


2" MAIN LINE VALVE



VARIABLE SIZE MAIN LINE TAPPED 2"

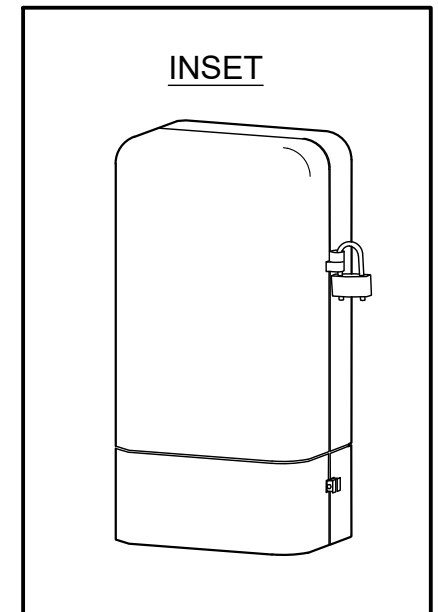


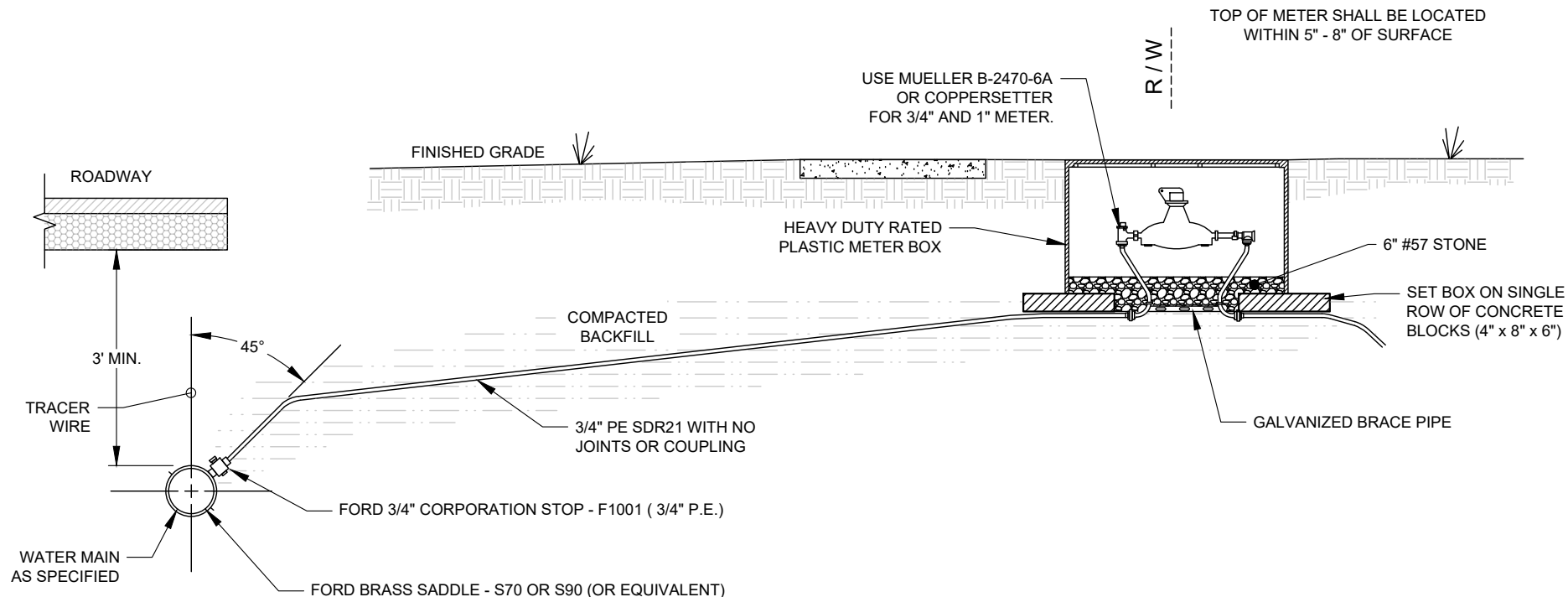


NOTES:

1. SAMPLING STATIONS SHALL BE 18" - 24" BURY, WITH A 3/4" THREADED NOZZLE WITH 'NO LEAD' BRASS CAP.
2. ALL STATIONS SHALL BE ENCLOSED IN A LOCKABLE, NON-REMOVABLE, ALUMINUM-CAST HOUSING.
3. A COPPER VENT TUBE WILL ENABLE EACH STATION TO BE PUMPED FREE OF STANDING WATER TO PREVENT FREEZING AND TO MINIMIZE BACTERIA GROWTH.
4. PADLOCK PROVIDED BY OLD NORTH STATE WATER COMPANY LLC.
5. ALL BRASS COMPONENTS SHALL BE 'NO LEAD' BRASS MEETING UNS C89833 AS PER ASTM B584.

INSET

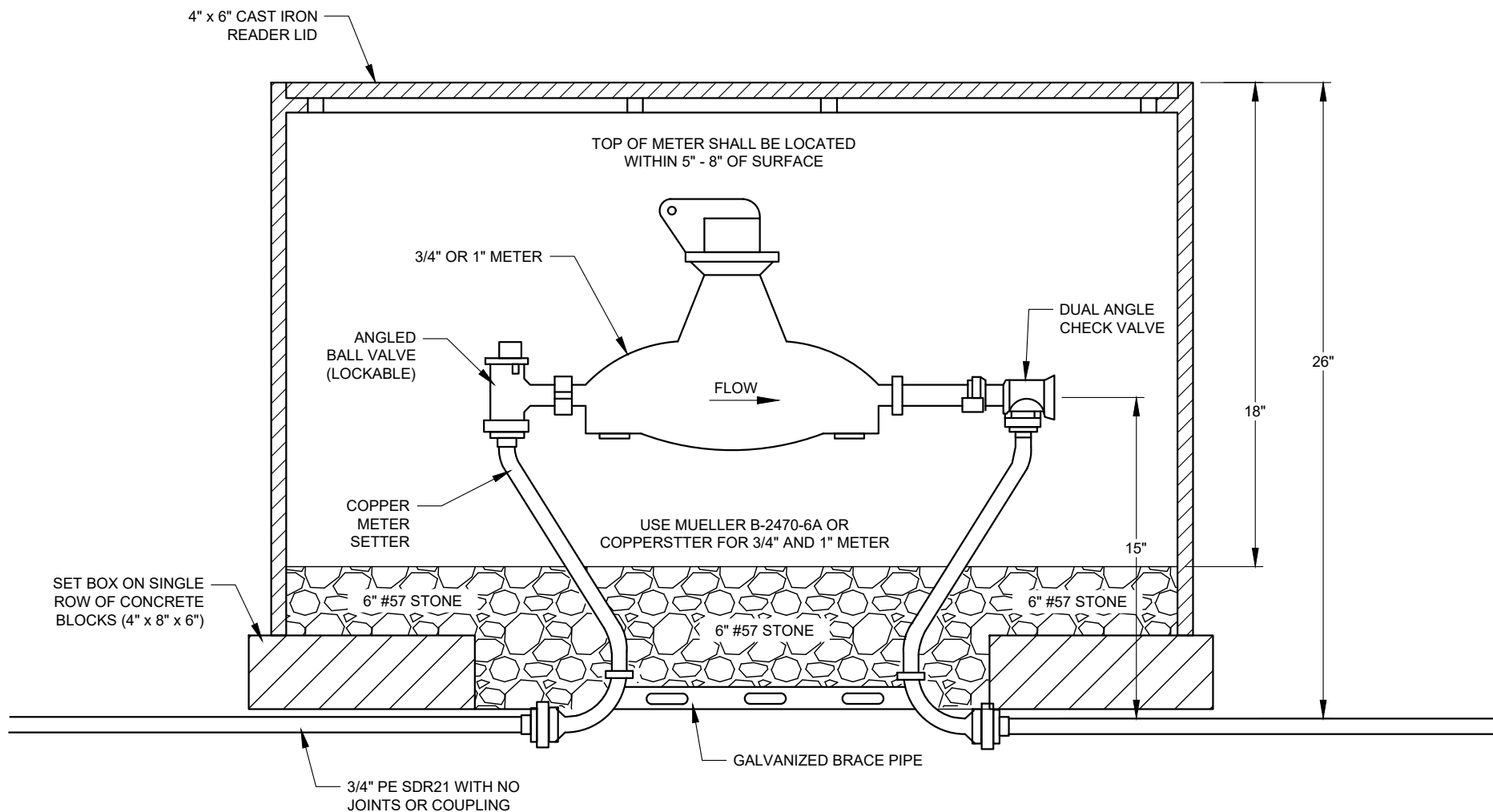




NOTES:

1. SERVICE METER SHALL BE EQUAL TO 5/8" x 3/4" NEPTUNE METER. CALIBRATED IN U.S. GALLONS PER AWWA C708.
2. CORPORATION STOP SHALL BE EQUAL TO MUELLER #110 OR FORD #1001 FOR IPS PE PLASTIC PIPE (POLYETHYLENE PIPE) WITH IRON PIPE SIZE FITTINGS.
3. SADDLES FOR TAPS TO MAIN SHALL BE EQUAL TO ROCKWELL DOUBLE STRAP CAST IRON AND BE DESIGNED FOR TYPE OF MAIN THAT IS INSTALLED.
4. SEE BOX DETAIL 14.
5. ALL SERVICE LINES, VALVES, AND FITTINGS SHALL COMPLY WITH AWWA C800.



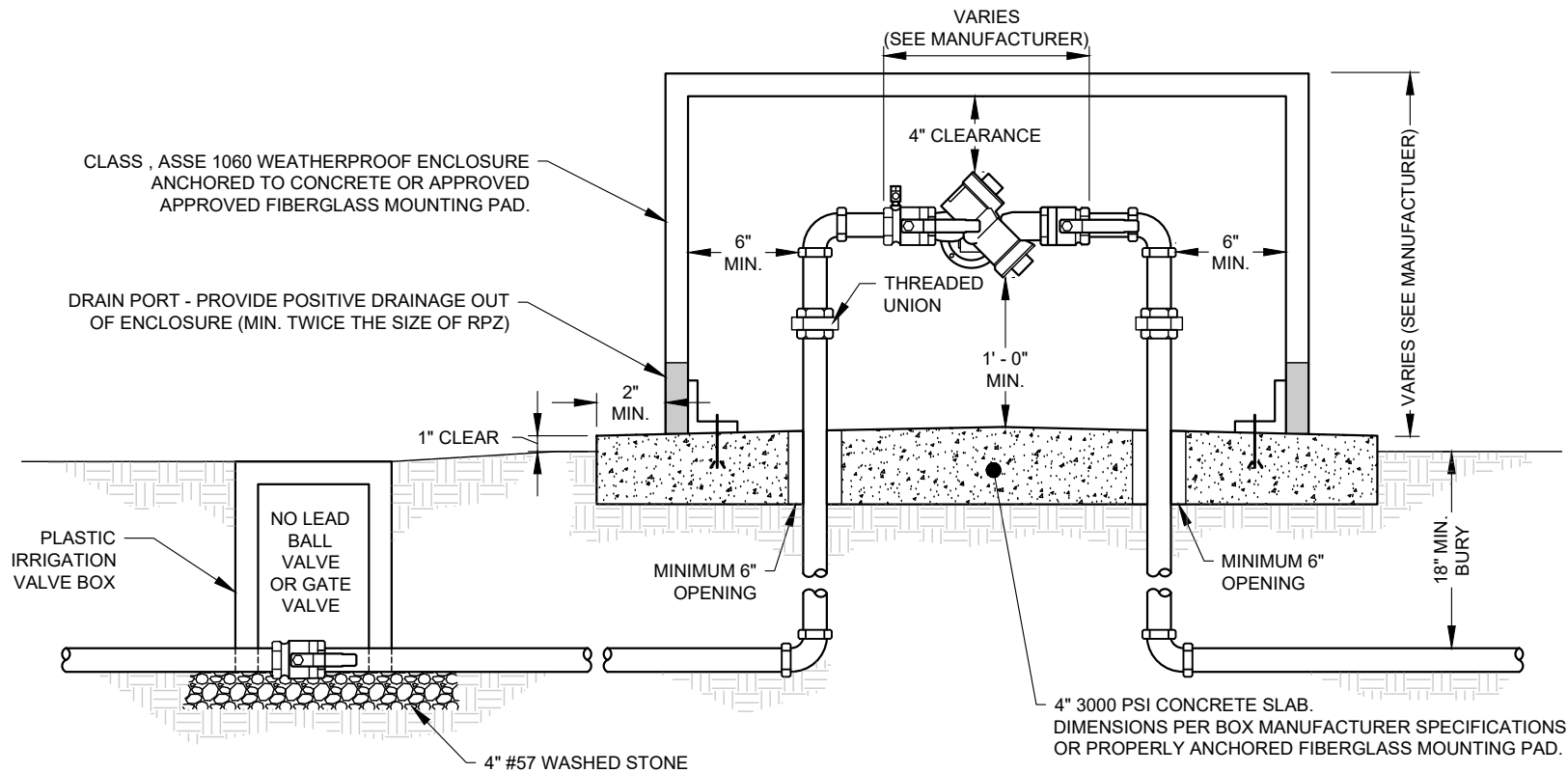


NOTES:

1. WATER METER VALVE SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC.
2. ALL PLASTIC METER BOXES SHALL BE HEAVY DUTY RATED POLYMER CEMENT WITH NON-LOCKING CAST IRON COVER WITH READER HOLE, AS APPROVED BY ONSWC.
3. ALL FIBERGLASS METER BOXES WITH POLYMER CEMENT COVERS SHALL BE HEAVY DUTY RATED COVER WITH CAST IRON READER DOOR AS APPROVED BY ONSWC.
4. ALL SERVICE LINES, VALVES, AND FITTINGS SHALL COMPLY WITH AWWA C800.
5. FOR NON-RESIDENTIAL APPLICATIONS THAT REQUIRE AN ABOVE-GROUND BACKFLOW PREVENTER, AN APPROVED METER SETTER WITHOUT THE DUAL CHECK ASSEMBLY MAY BE UTILIZED.



NO LEAD REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY



NOTES:

1. REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY SHALL COMPLY WITH ASSE 1013 & AWWA C511.
2. BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED WITHIN 5 FEET OF THE IRRIGATION METER.
3. BACKFLOW ASSEMBLY SHALL BE CENTERED ON CONCRETE OR OTHER APPROVED MOUNTING PAD AND CENTERED WITHIN CLOSURE.
4. MINIMUM NON-HEATED, INSULATED CLASS II, ASSE 1060 WEATHERPROOF ENCLOSURE REQUIRED.
5. PIPE MATERIAL SHALL BE PVC (SCH. 80 OR BETTER), COPPER (TYPE K), OR 'NO LEAD' BRASS (UNS C89833 PER ASTM B584).
6. IRRIGATION ASSEMBLIES TO BE DRAINED DURING WINTER MONTHS BY PROPERTY OWNERS.
7. INSTALLATION SHALL BE IN COMPLIANCE WITH ALL APPLICABLE TOWN ORDINANCES AND SPECIFICATIONS IN ADDITION TO THE N.C. PLUMBING CODE.
8. PROPERTY OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE AND OPERATION OF BACKFLOW PREVENTION ASSEMBLY AND COMPLIANCE WITH REPORTING AND TESTING REQUIREMENTS.
9. ALL BRASS COMPONENTS SHALL BE 'NO LEAD' BRASS MEETING UNS C89833 AS PER ASTM B584.



ALL FILL MATERIAL TO BE
COMPACTED TO 95% STD PROCTOR.

GRADE LOT AS TO SHED
SURFACE WATER AWAY
FROM WELL HEAD.

MAX. 3:1 SLOPE

GRADE AT WELL HOUSE TO
BE LEVEL WITHIN 3" PRIOR TO
CONSTRUCTION.

WATER MAIN BLOWOFF & TEMPORARY TANK (CONNECTION) SCHEMATIC

LIMITS OF GRAVEL

ALL WEATHER ROAD AND TURNABOUT

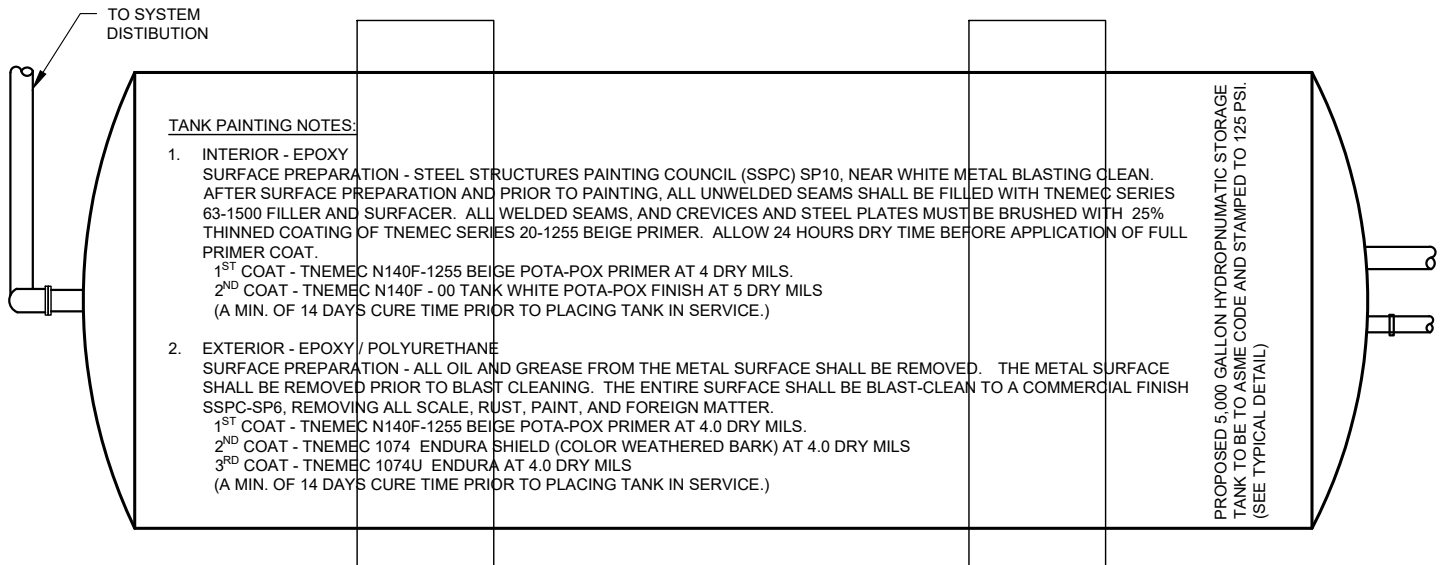


OLD NORTH STATE
WATER COMPANY, LLC

WELL LOT GRADING

STD NO.

17



LEAKAGE TESTING

UPON COMPLETION OF WATERLINE INSTALLATION, THE LINE SHALL BE HYDROSTATICALLY TESTED AT 150 PSI FOR A THREE HOUR PERIOD. ALLOWABLE LEAKAGE SHALL BE 10 GAL / INCH / MILE PER DAY.

STERILIZATION

AFTER TESTING, THE WATER LINE SHALL BE FILLED WITH STERILIZING SOLUTION OF SUFFICIENT CHLORINE TO PROVIDE A DOSAGE OF 50 PPM CHLORINE. A 24 HOUR RESIDUAL OF 10 PPM SHALL BE PRODUCED IN ALL PARTS OF THE LINE. AFTER CHLORINATION, THE REPLACEMENT WATER SHALL BACTERIOLOGICALLY CONFORM TO THE REQUIREMENTS OF THE NCDENR.

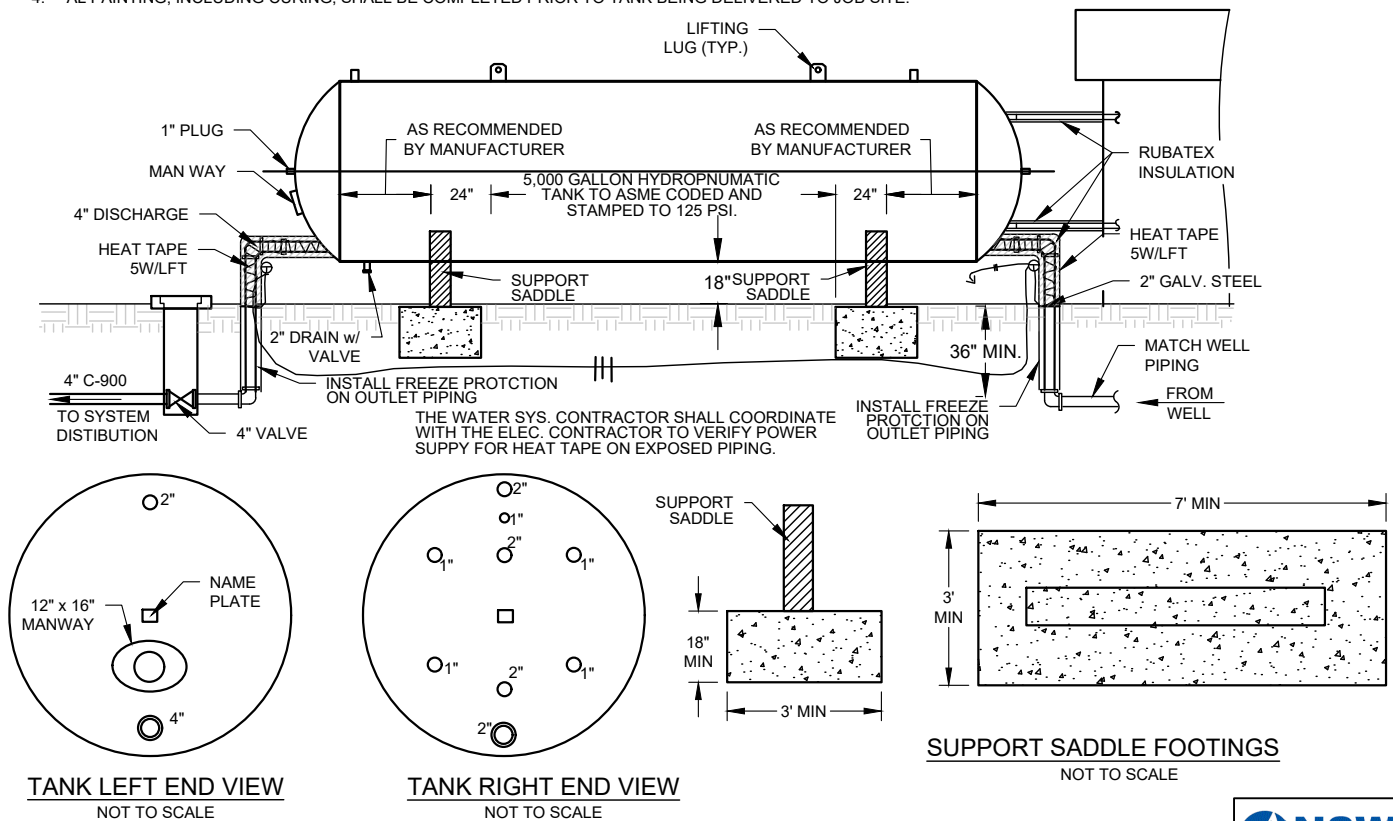
INITIAL DISINFECTION OF WATER SUPPLY WELL

ALL NEW WELLS, AND WELLS THAT HAVE BEEN REPAIRED OR RECONDITIONED SHALL BE CLEANED OF FOREIGN SUBSTANCES SUCH AS SOIL, GREASE, AND OIL, AND THEN DISINFECTED. A SOLUTION OF HYPOCHLORITE (70%) SHALL BE INTRODUCED IN TO THE WELL TO PRODUCE A DESIRED CONCENTRATION OF 100 PPM. THE SOLUTION SHALL REMAIN IN THE WELL FOR NO LESS THAN 24 HOURS IF SO DIRECTED BY THE ENGINEER.

A REPRESENTATIVE SAMPLE OR SAMPLES OF THE WELL WATER SYSTEM (FREE OF CHLORINE) SHALL BE COLLECTED AND SUBMITTED TO A CERTIFIED LABORATORY FOR BACTERIOLOGICAL ANALYSIS. THE WATER SUPPLY SHALL NOT BE PLACED INTO SERVICE UNTIL BACTERIOLOGICAL TEST RESULTS ARE FOUND TO BE FREE OF BACTERIOLOGICAL CONTAMINATION.

TANK NOTES

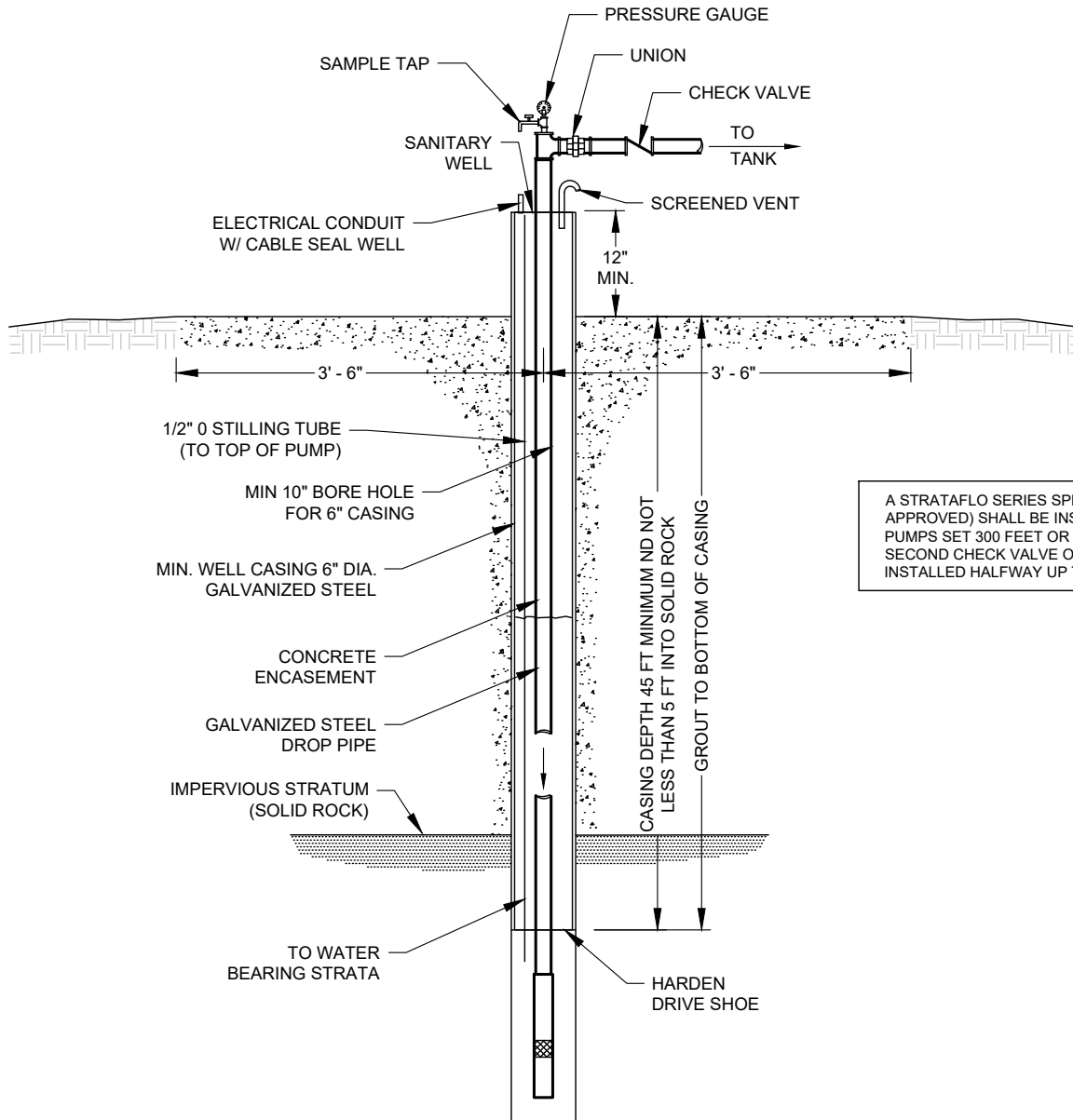
- TANK SHALL BE ASME APPROVED AND HAVE MIN. WORKING PRESSURE OF 125 PSI.
- PEDESTALS SHALL BE EXCAVATED TO SOLID COMPACT GROUND (18" MIN.) AND POURED WITH 4,500 PSI CONCRETE.
- TANK BOTTOM TO BE PAINTED PRIOR TO SITTING ON 3/8" THICK RUBBER PEDESTAL GASKET.
- AL PAINTING, INCLUDING CURING, SHALL BE COMPLETED PRIOR TO TANK BEING DELIVERED TO JOB SITE.



WELL HEAD NOTE:
THE CONTRACTOR SHALL ADJUST THE HEIGHT OF THE WELL HEAD TO BE A MINIMUM 12" ABOVE FINISH FLOOR OF THE WELL HOUSE.

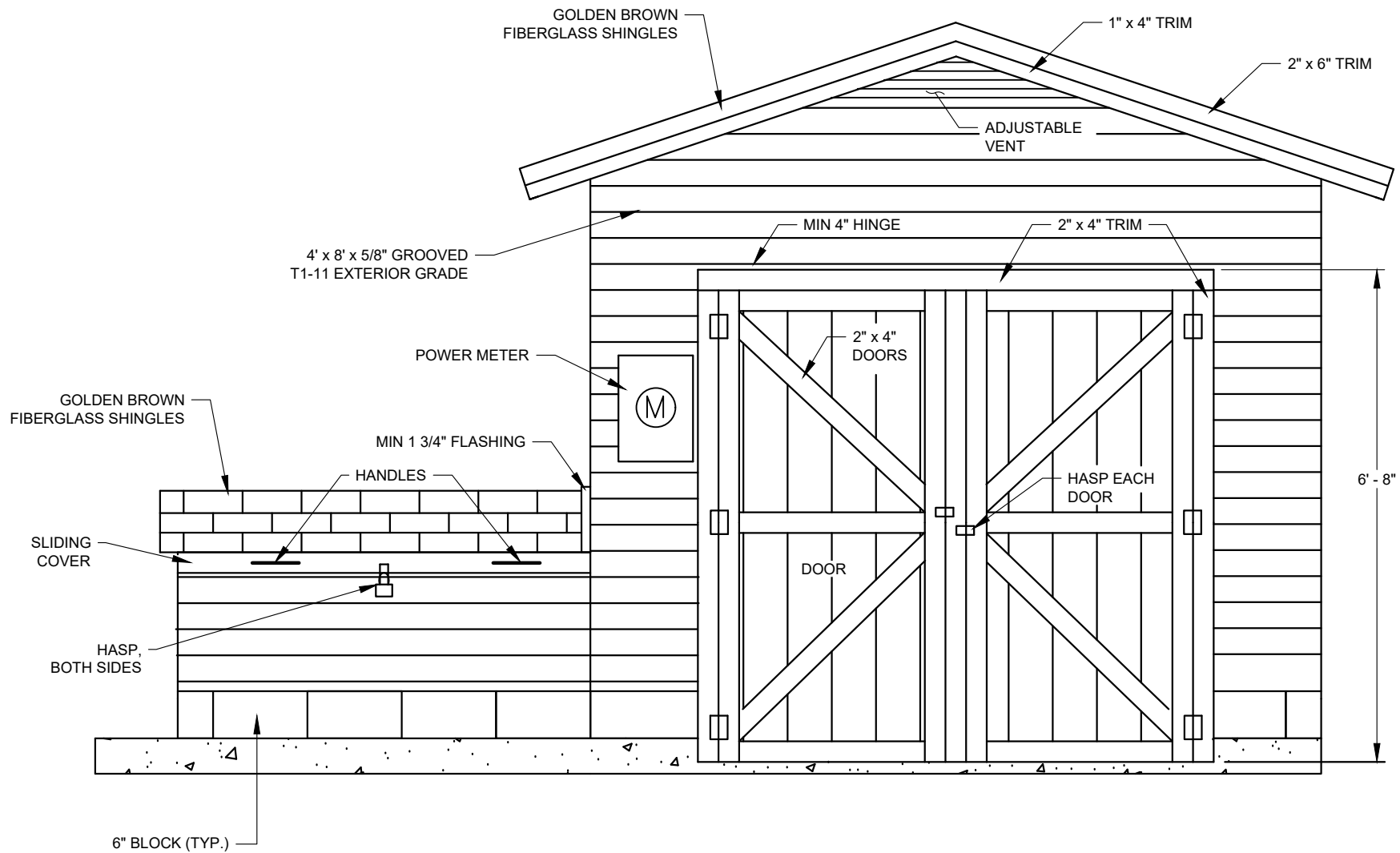
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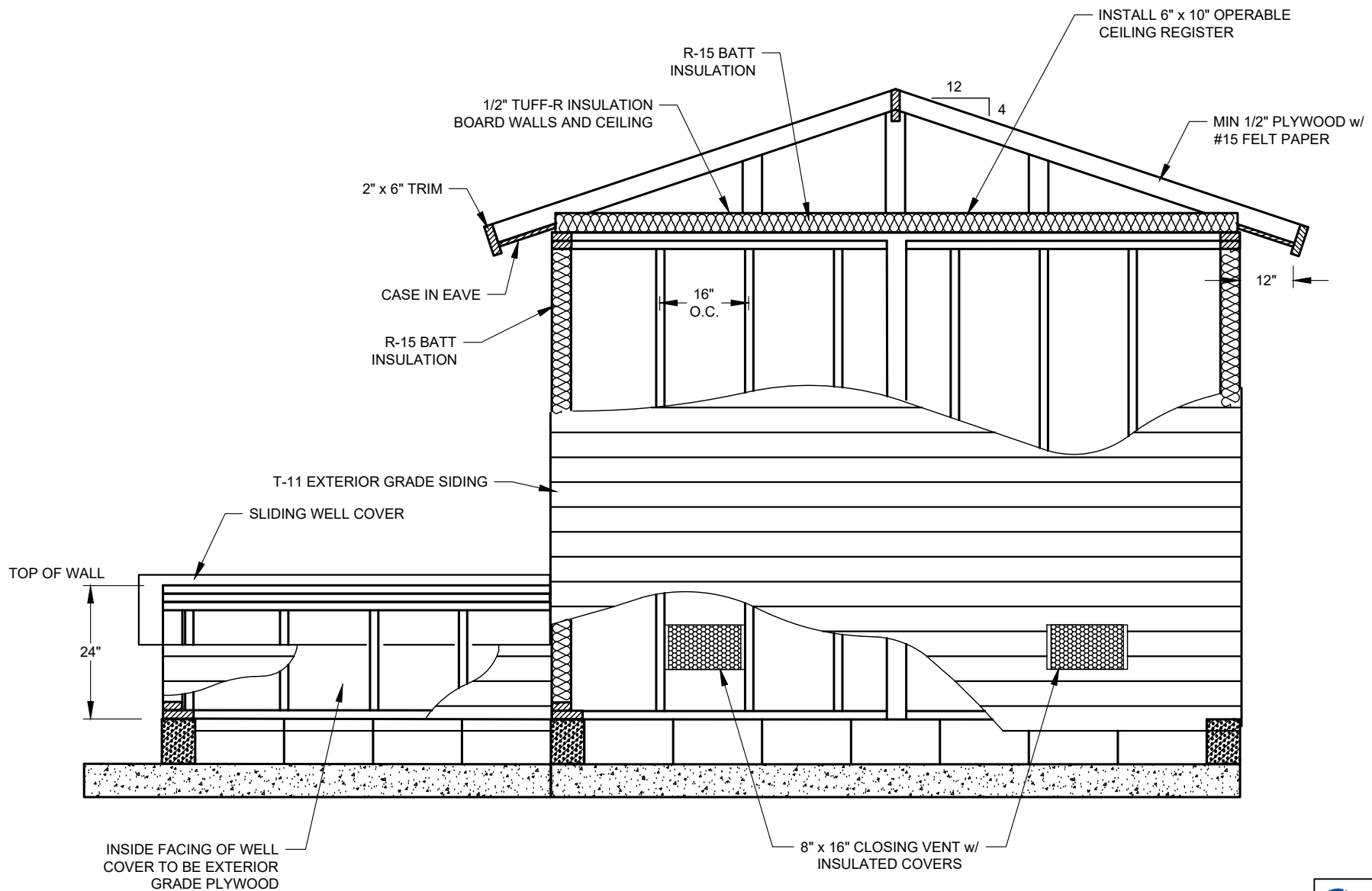
1. CONCRETE TO BE MIN 3000 PSI
2. SLOPE GRADE AWAY FROM SLAB.
3. ALL PIPING TO BE EXTRA STRENGTH GALVANIZED STEEL.
4. GATE VALVE SHALL BE LEFT HAND OPEN.
5. PRESSURE GAUGE TO BE LIQUID FILLED 0-200 PSI STANDARD.

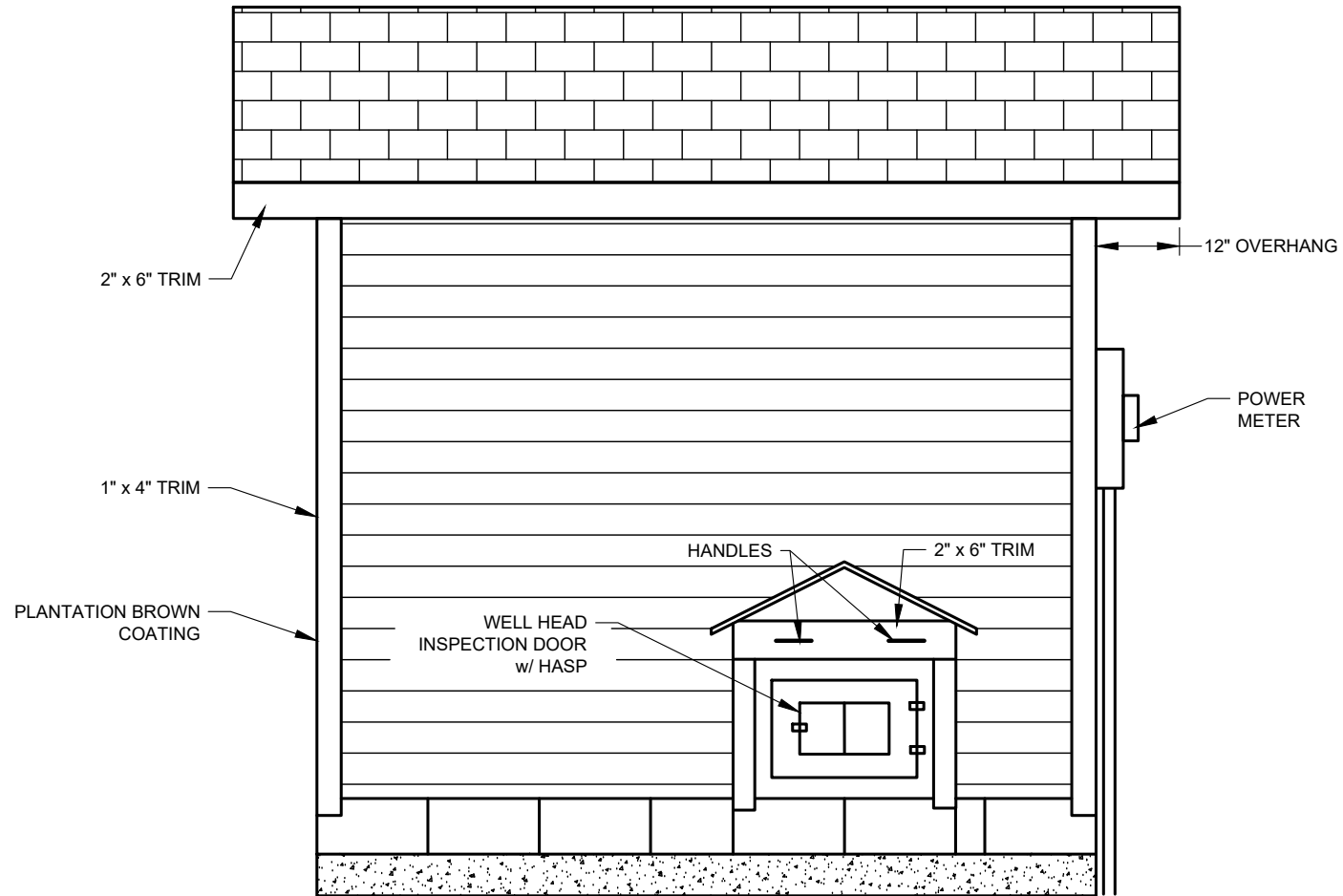


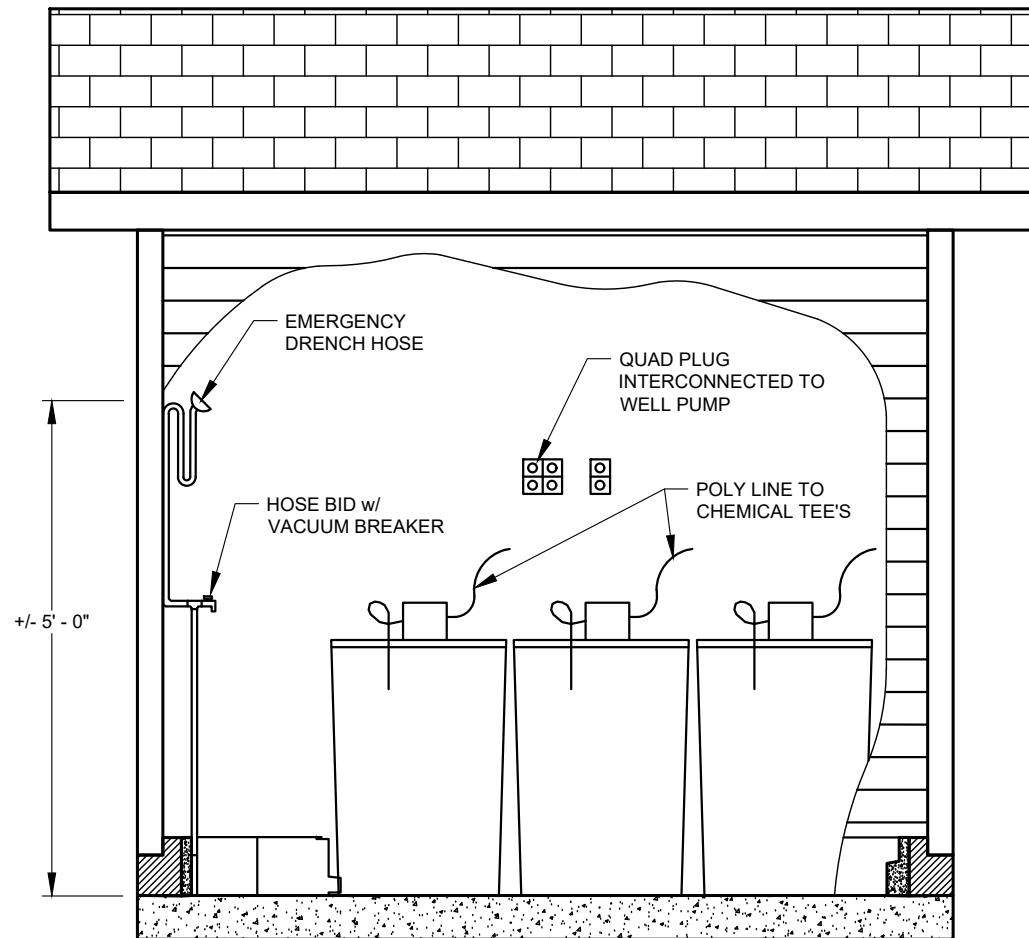
A STRATAFLO SERIES SPRING CHECK VALVE (OR APPROVED) SHALL BE INSTALLED AT THE PUMP. PUMPS SET 300 FEET OR MORE SHALL HAVE A SECOND CHECK VALVE OF THE SAME TYPE INSTALLED HALFWAY UP THE DROP PIPE.

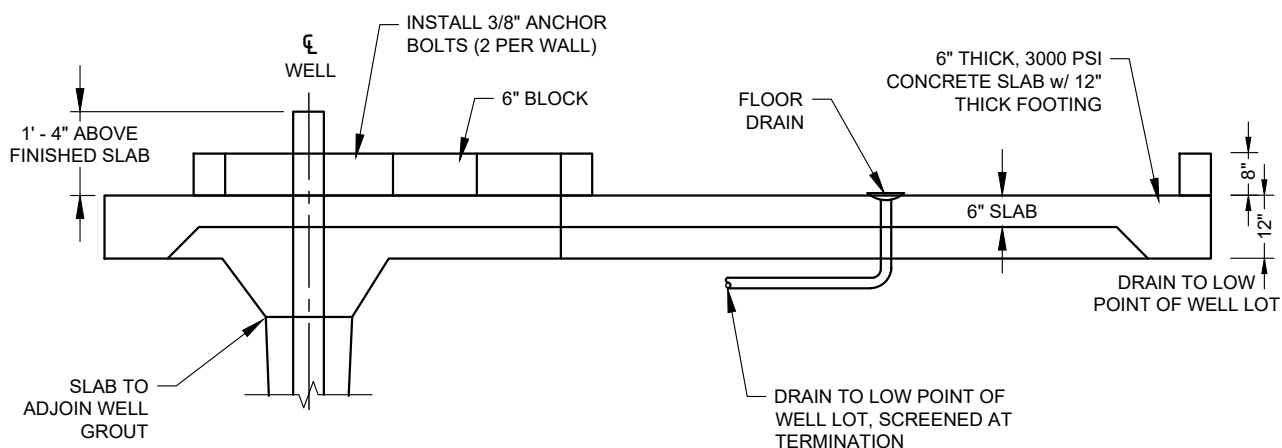
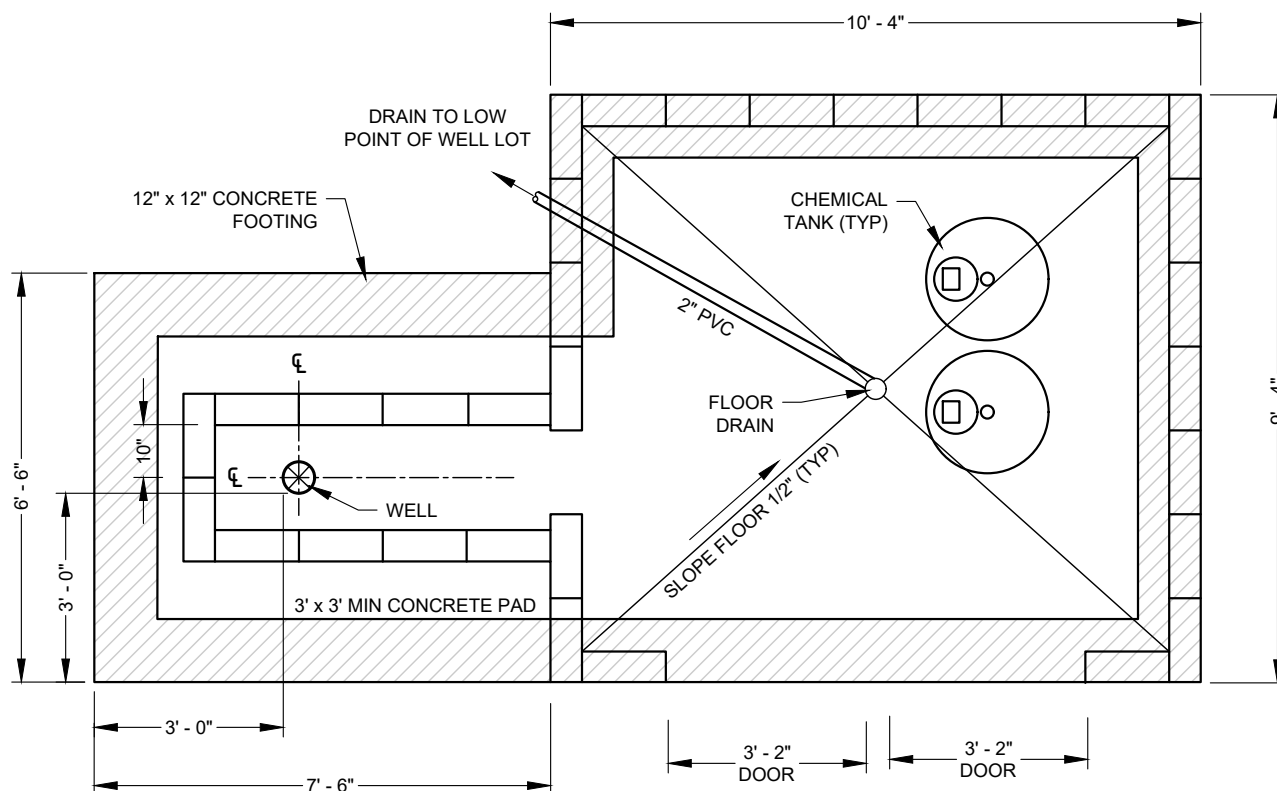




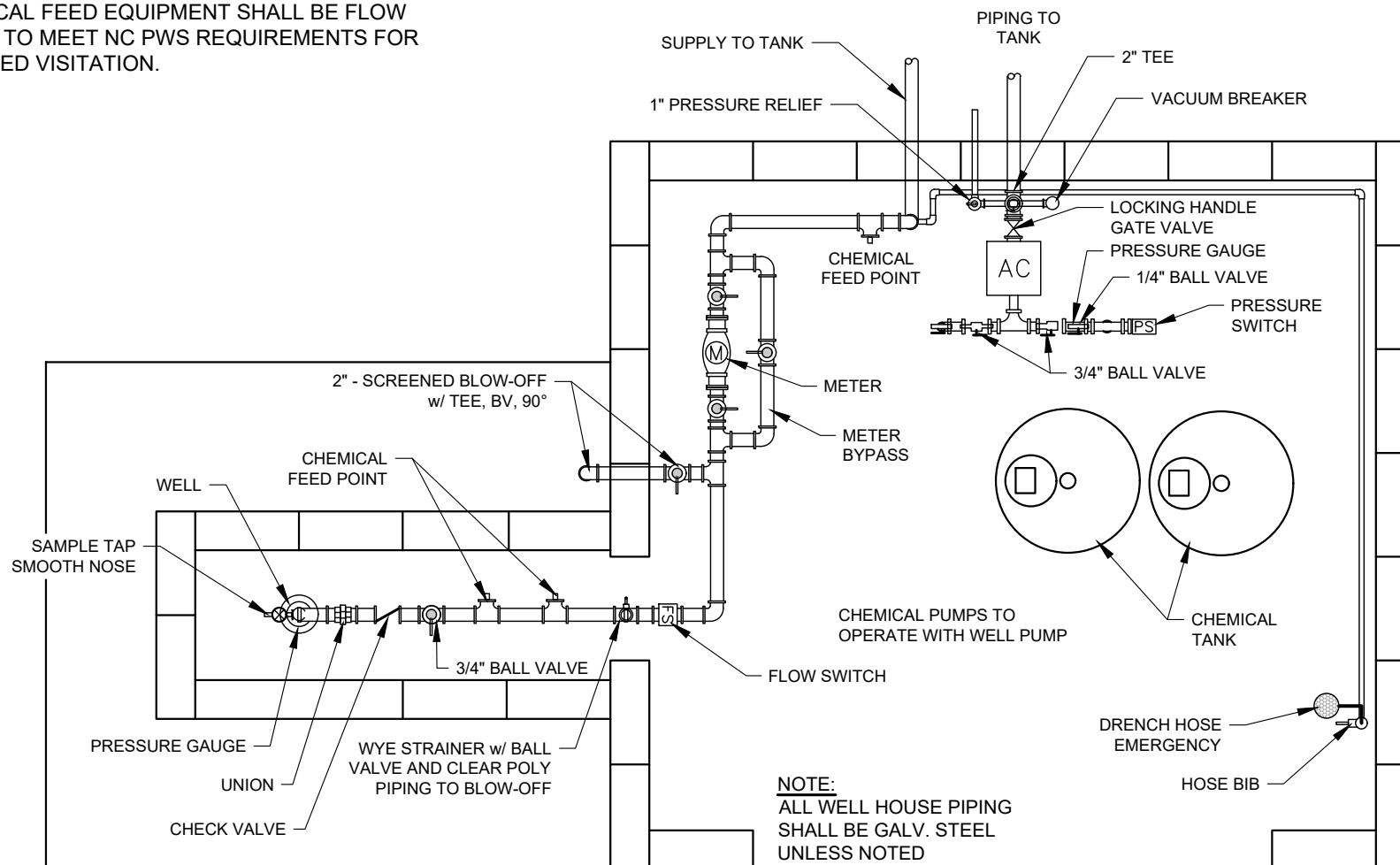


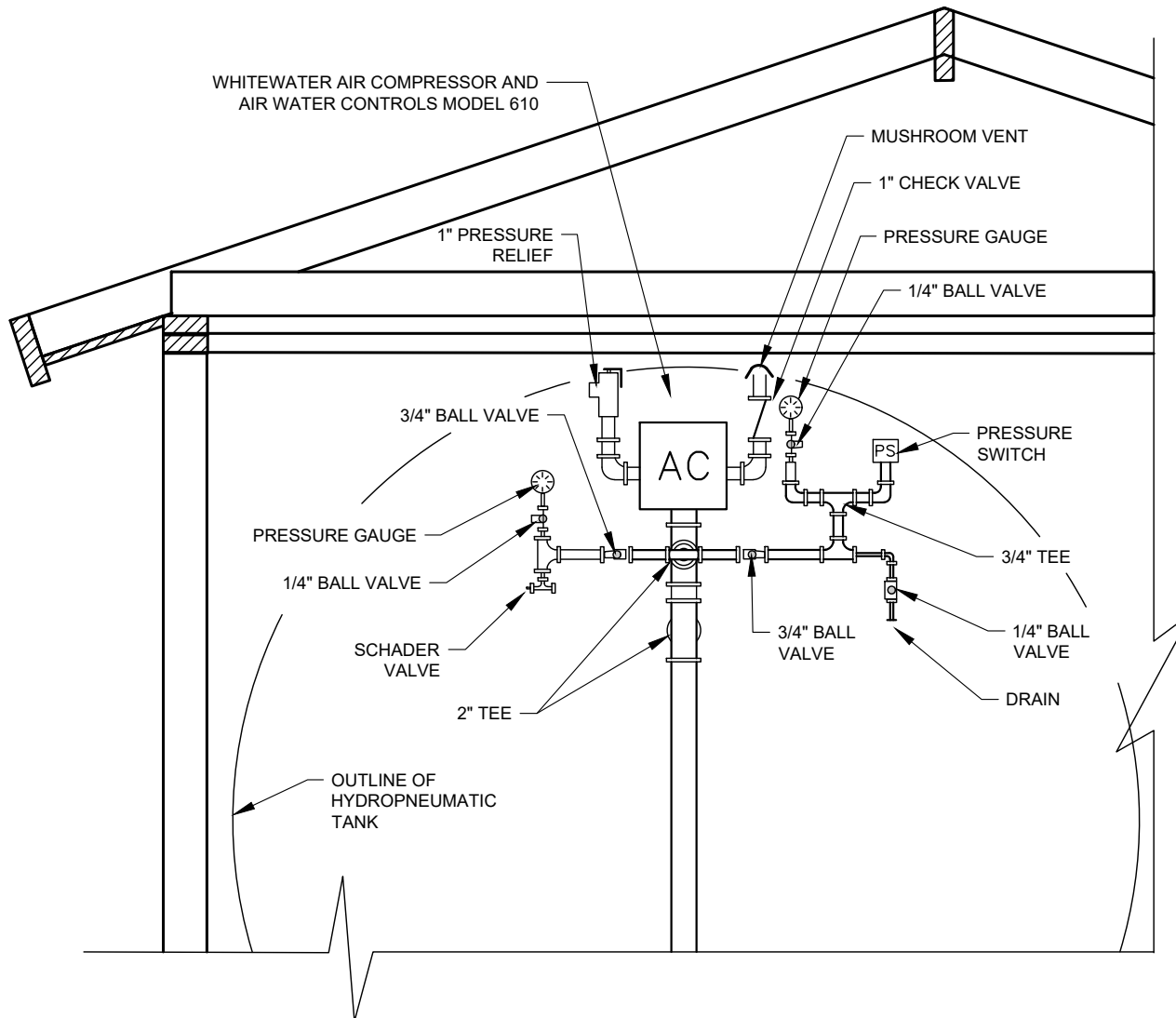






NOTE:
CHEMICAL FEED EQUIPMENT SHALL BE FLOW
PACED TO MEET NC PWS REQUIREMENTS FOR
REDUCED VISITATION.





THE CONTRACTOR SHALL VERIFY THE POWER SUPPLY AVAILABLE FOR THE PROJECT AND PROVIDE ALL NECESSARY ELECTRICAL COMPONENTS FOR THE PROPER OPERATION OF THE EQUIPMENT SPECIFIED IN THE WELL HOUSE LAYOUT.



STD NO.