

**NOTES:**

1. ENCASEMENT SHALL BE A.D.S. PIPE (OR APPROVED EQUAL) AND SHALL BE PLACED AROUND THE WATER AND GAS LINE AS SHOWN ABOVE. THE ENCASEMENT I.D. MUST BE GREATER THAN THE WATER PIPE O.D.
2. REMOVE 1/4 SECTION OF ENCASEMENT AND PLACE OVER THE WATER PIPE WITH OPENING AT THE BOTTOM OR AWAY FROM THE GAS LINE.
3. ENCASEMENT IS NOT REQUIRED FOR NON-METALLIC GAS LINE CROSSINGS.

**CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING**



APPROVED

*[Signature]*

CITY ENGINEER

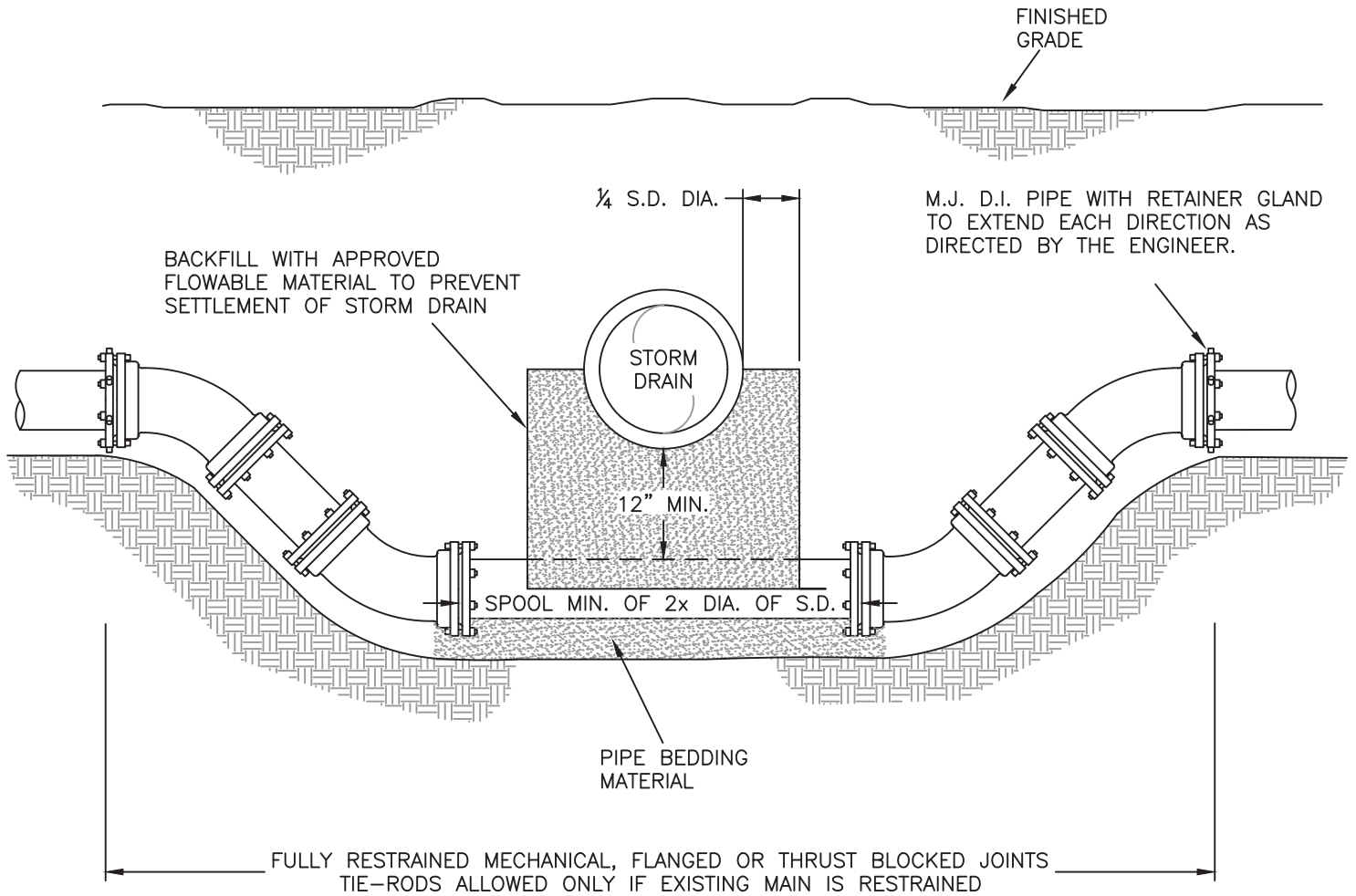
December, 2021

DATE

**GAS LINE CROSSING  
CATHODIC  
PROTECTION**

DRAWING NO:

**01100-01**



NOTES:

1. SEE SUPPLEMENTAL STANDARD DRAWING 01100-03 FOR INFORMATION ON THRUST BLOCKS.
2. IN LIEU OF THRUST BLOCKS, WATER MAIN DEFLECTIONS MAY BE RESTRAINED BY MEG-A-LUG RETAINER GLANDS OR FLANGED JOINTS. SEE CITY SUPP. STD. SPEC. 01140.44 FOR INFORMATION ON REQUIRED RESTRAINT LENGTHS.

**CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING**



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CITY ENGINEER

December, 2021

DATE

**WATER/STORM LINE  
CROSSING**

DRAWING NO: 01100-02

HORIZONTAL THRUST BLOCK BEARING AREA (S.F.)								(VERTICAL DOWN) THRUST BLOCK VOLUME (C.Y.)				
FITTING SIZE	TEE, WYE, DEAD END AND HYDRANT	STRADDLE BLOCK	90° BEND PLUGGED CROSS	TEE PLUGGED ON RUN		45° BEND	22½° BEND	11¼° BEND	90° BEND	45° BEND	22½° BEND	11¼° BEND
				A-1	A-2							
6"	2.1	3.2	3.0	4.2	3.0	1.6	RG*	RG*	1.5	RG*	RG*	RG*
8"	3.8	5.7	5.3	7.6	5.3	2.9	1.5	RG*	2.6	1.4	RG*	RG*
12"	8.5	12.8	12.0	17.0	12.0	6.5	3.3	1.7	5.9	3.2	1.6	RG*
16"	15.1	22.7	21.3	30.2	21.3	11.6	5.9	3.0	10.5	5.7	2.9	1.5

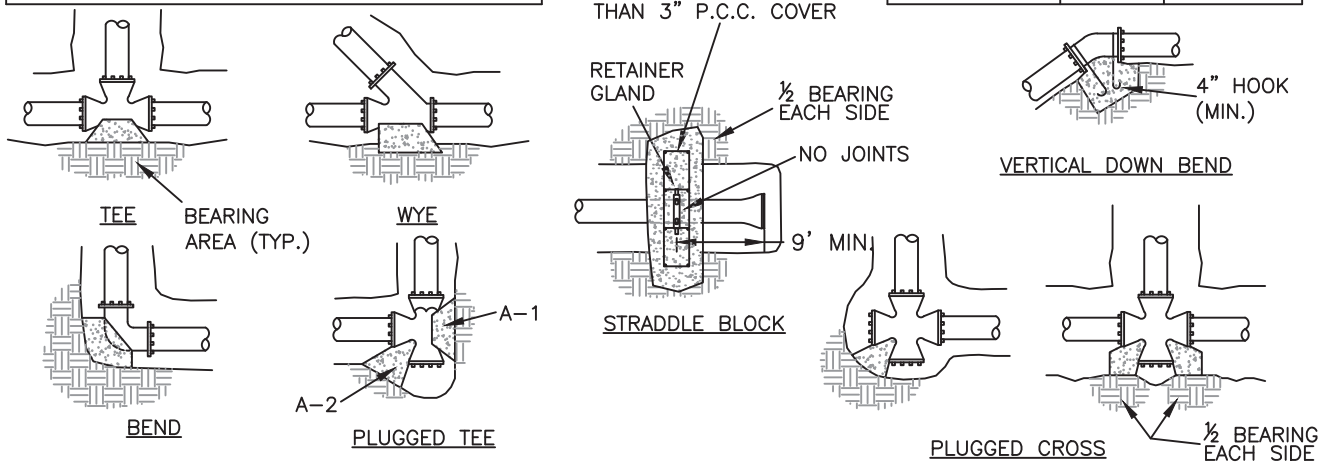
BEARING AREAS BASED ON STANDARD TEST PRESSURE OF 150 P.S.I. AND ASSUMED ALLOWABLE SOIL BEARING STRESS OF 2000 P.S.F. COMPUTE BEARING AREAS FOR DIFFERENT SOIL BEARING STRESSES BY USING THE EQUATION: AREA=(2000/SOIL BEARING STRESS)x(TABLE VALUE).

VOLUMES BASED ON STD. TEST PRESSURE (150 P.S.I.) AND WEIGHT OF CONCRETE.

\*RG = MEG-A-LUG RETAINER OR APPROVED EQUAL.

THRUST BLOCK WIDTH TO HEIGHT RATIO
$\frac{\text{THRUST BLOCK WIDTH}}{\text{THRUST BLOCK HEIGHT}}$
(H) PIPE DIAMETER < H < 1/2 TRENCH DEPTH
THRUST BLOCK WIDTH (B): H < B < 2H

RODS FOR VERTICAL DOWN BENDS		
FITTING SIZE	ROD SIZE	EMBEDMENT
6"	#4	24"
8" AND 12"	#6	30"
16"	#8	36"



NOTES:

1. ALL THRUST BLOCKING MUST BE COMMERCIAL GRADE CONCRETE POURED AGAINST UNDISTURBED EARTH AND HAVE A 28 DAY COMPRESSIVE STRENGTH OF 3000 P.S.I.
2. CONCRETE SHALL BE KEPT CLEAR OF ALL JOINTS AND ACCESSORIES. INSTALL ISOLATION MATERIAL BETWEEN PIPES AND/OR FITTINGS BEFORE POURING THRUST BLOCKS. WRAP PIPE AND/OR FITTINGS WITH 2 LAYERS OF POLYETHYLENE FILM WHERE IN CONTACT WITH CONCRETE.
3. TIE RODS SHALL BE DEFORMED GALVANIZED COLD-ROLLED STEEL (MIN. 40,000 P.S.I. TENSILE STRENGTH). EPOXY COATED BARS MAY BE USED IN LIEU OF GALVANIZED PROVIDED EPOXY COATING IS APPLIED AFTER FABRICATION.
4. MEG-A-LUG SYSTEM (OR APPROVED EQUAL) MAY BE USED ON ALL M.J. FITTINGS IN PLACE OF THRUST BLOCKING.
5. ALL THRUST BLOCKING (EXCEPT VERTICAL DOWN) MUST MEET THE WIDTH-TO-HEIGHT RATIO SHOWN ABOVE.
6. SEE TABLE IN SECTION 01140.44 OF THE CITY SUPPLEMENTAL STANDARD SPECIFICATIONS FOR JOINT RESTRAINT LENGTH REQUIREMENTS.
7. STRADDLE BLOCKS MUST ENCASE AN APPROVED PIPE RETAINER GLAND UNLESS THE EXISTING LINE MATERIAL IS ASBESTOS CONCRETE OR STEEL PIPE.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING



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*[Signature]*

CITY ENGINEER

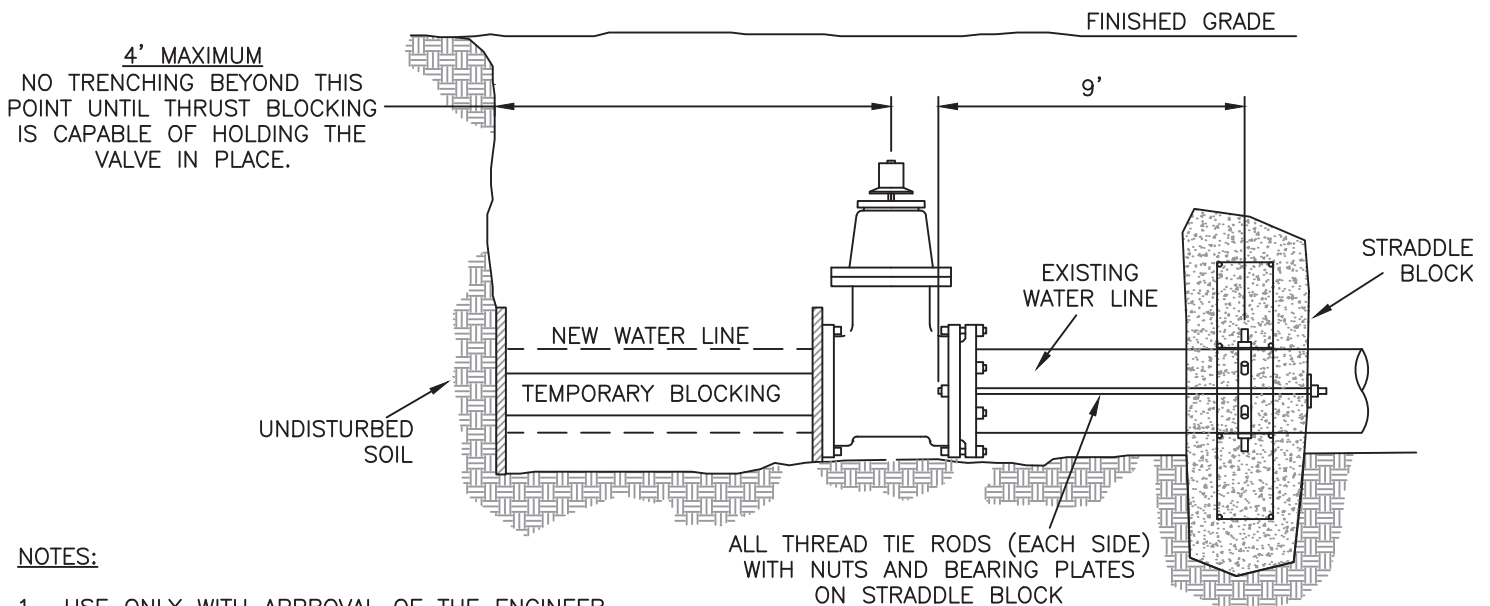
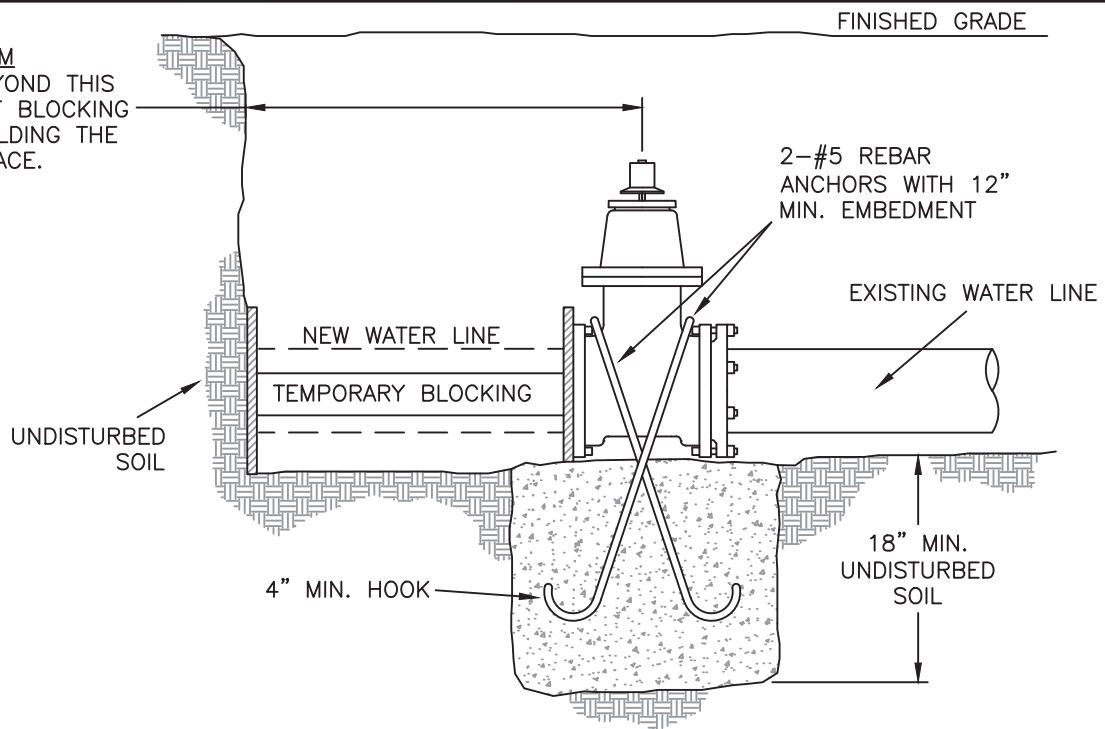
December, 2021

DATE

THRUST BLOCKING

DRAWING NO:

01100-03



**NOTES:**

1. USE ONLY WITH APPROVAL OF THE ENGINEER.
2. USE THRUST BLOCKING STANDARDS FOR BEARING AREAS (SEE SUPP. STD. DWG. 01100-03).
3. THE FOLLOWING MAIN LINE TERMINATION METHODS ARE RECOMMENDED:
  - A. INSTALL A M.J. VALVE WITH AN APPROVED RETAINER GLAND ON DUCTILE IRON OR C-900 P.V.C. PIPE. ENCASE WITH A STRADDLE BLOCK ON THE EXISTING PIPE A MINIMUM OF 9' FROM THE VALVE. NON-RESTRAINED PIPE JOINTS WILL NOT BE ALLOWED BETWEEN THE STRADDLE BLOCK AND THE VALVE.
  - B. INSTALL A M.J. VALVE ON AN A.C. OR STEEL PIPE WITH ALL-THREAD TIE RODS ANCHORED TO A STRADDLE BLOCK (MINUS THE RETAINER GLAND).
  - C. INSTALL A FLG.xM.J. VALVE ON A FLG.xP.E. DUCTILE IRON SPOOL WITH A STRADDLE BLOCK.

**CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING**



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*[Signature]*

CITY ENGINEER

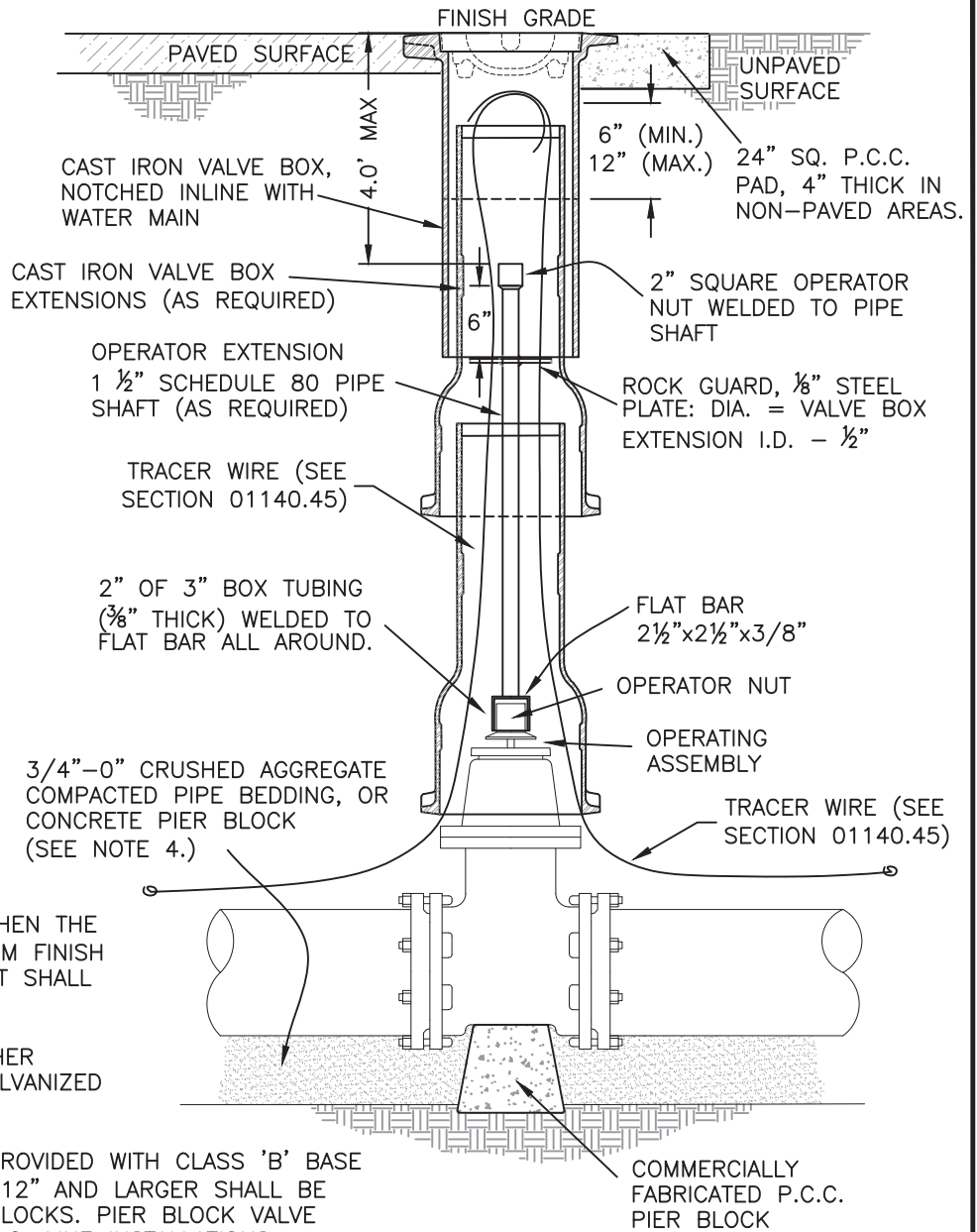
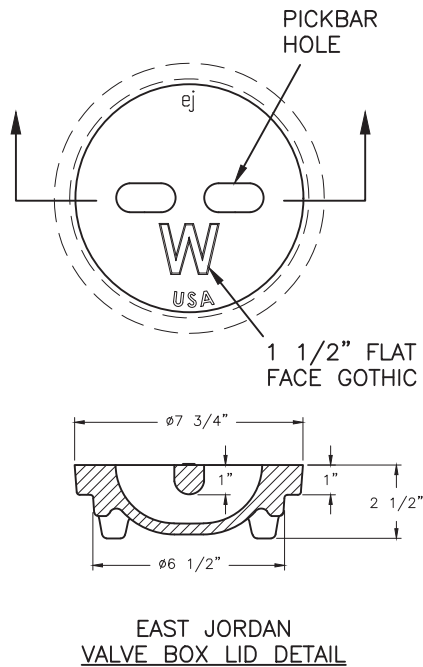
December, 2021

DATE

**EXISTING WATER LINE EXTENSION (WITH VALVE)**

DRAWING NO:

**01100-04**



**NOTES:**

1. VALVE BOX MUST BE CENTERED ON OPERATING NUT AXIS AND SHALL NOT REST ON THE OPERATING ASSEMBLY.
2. OPERATOR EXTENSION IS REQUIRED WHEN THE VALVE NUT IS DEEPER THAN 4.0' FROM FINISH GRADE. TYPICALLY, THE OPERATOR NUT SHALL BE 28"-30" FROM GRADE.
3. OPERATOR EXTENSIONS SHALL BE EITHER STAINLESS STEEL OR HOT-DIPPED GALVANIZED FOLLOWING FABRICATION.
4. VALVES 8" AND SMALLER SHALL BE PROVIDED WITH CLASS 'B' BASE ON UNDISTURBED SUBGRADE. VALVES 12" AND LARGER SHALL BE INSTALLED ON PRECAST P.C.C. PIER BLOCKS. PIER BLOCK VALVE SUPPORTS ARE REQUIRED ON ALL P.V.C. LINE INSTALLATIONS.
5. VALVE BOXES SHALL BE CLEAR OF ROCKS OR OTHER DEBRIS.
6. VALVE BOX COMPONENTS SHALL BE EAST JORDAN, CHRISTY, OR APPROVED EQUAL. LID SHALL BE STAMPED WITH "W" OR "WATER".
7. WELDS SHALL BE MINIMUM 1/4" ALL AROUND.
8. CASTINGS SHALL MEET H20 LOAD REQUIREMENTS.
9. PROVIDE P.C.C. PAD (24" SQUARE, 4" THICK), WHERE REQUIRED.
10. VALVE BOXES SHALL INDICATE THE DIRECTION OF THE CONTROLLED MAIN. IF THE BOX HAS NO FACTORY ALIGNMENT INDICATORS, NOTCH THE BOX CASTING ON BOTH SIDES FOLLOWING INSTALLATION TO INDICATE DIRECTION OF CONTROLLED MAIN.

**CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING**



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CITY ENGINEER

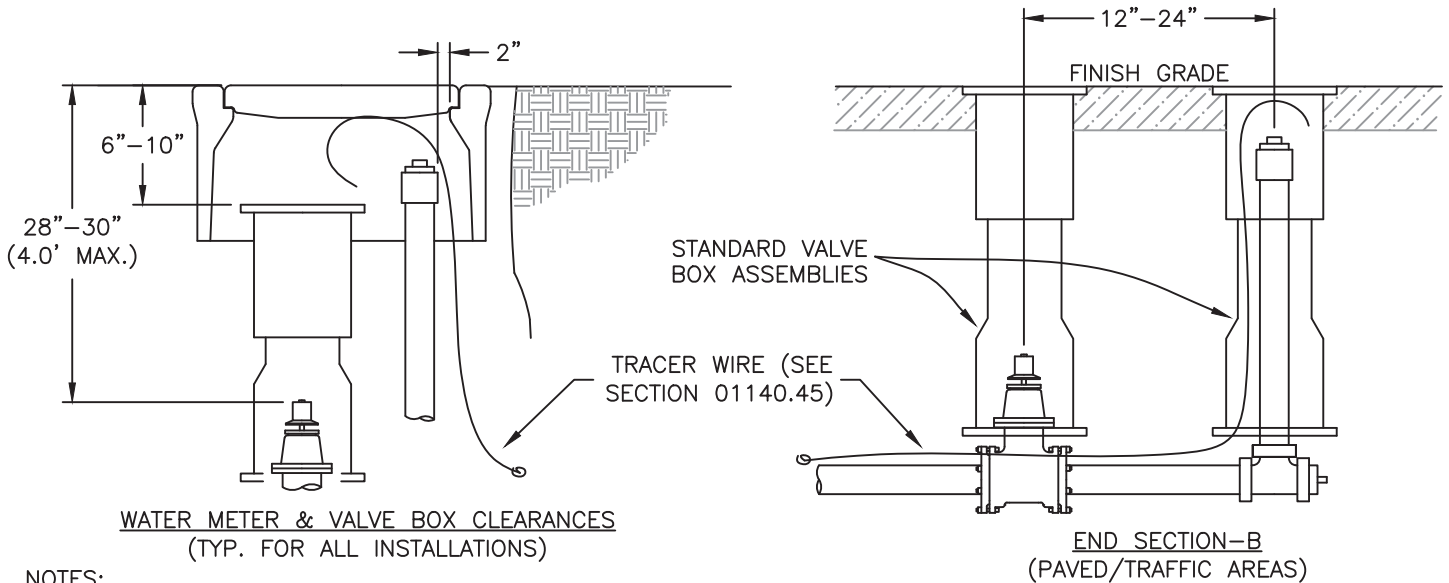
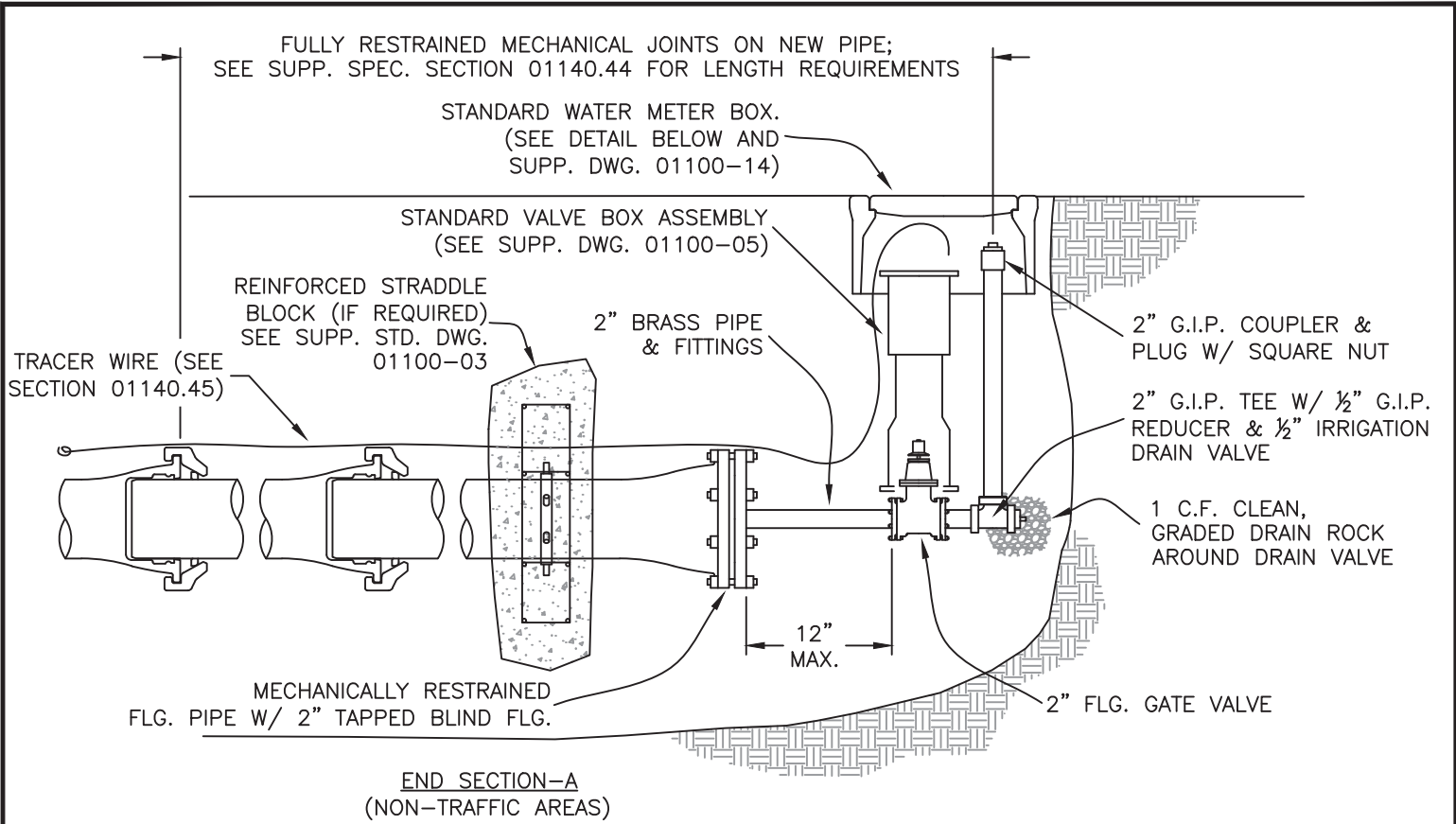
December, 2021

DATE

**VALVE BOX &  
OPERATOR  
EXTENSION ASSY.**

DRAWING NO:

**01100-05**



**NOTES:**

1. IF EXISTING WATER MAIN IS UNRESTRAINED, USE THRUST BLOCKING AS REQUIRED (SEE SUPP. DWG. 01100-03).
2. ALL PIPE AND FITTINGS SHALL BE GALVANIZED IRON PIPE (G.I.P.) UNLESS OTHERWISE NOTED.
3. WRAP MAIN AND FITTING IN THRUST BLOCK ZONE WITH TWO LAYERS OF POLYETHYLENE FILM TO FACILITATE FUTURE REMOVAL.
4. IN LIEU OF CONCRETE THRUST BLOCKING, RESTRAIN PIPE MECHANICALLY BY APPROVED METHOD.

**CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING**



APPROVED

*[Signature]*

CITY ENGINEER

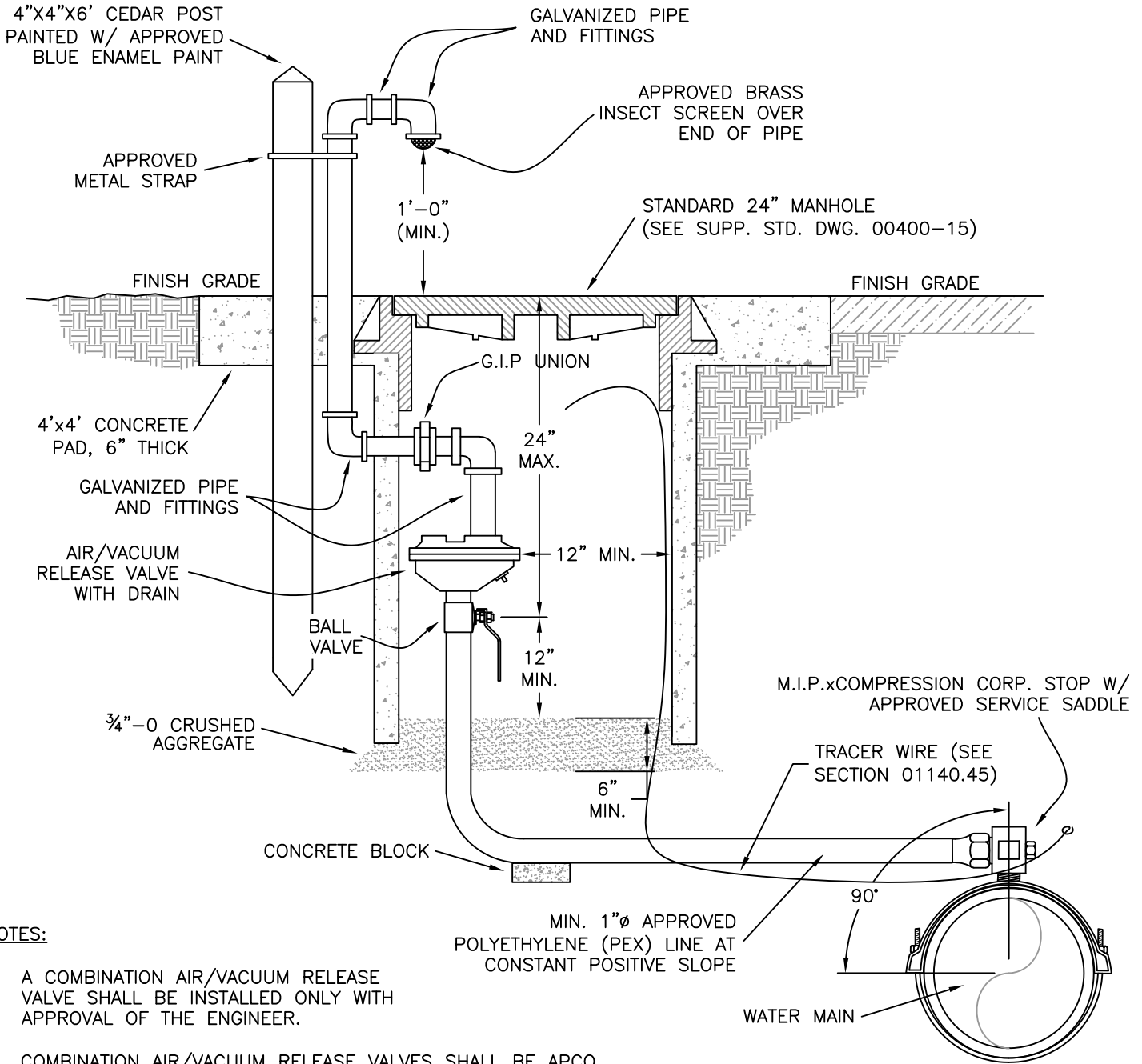
December, 2021

DATE

**TYPICAL MAIN  
DEAD-END BLOW-OFF  
ASSEMBLY**

DRAWING NO:

**01100-06**



**NOTES:**

1. A COMBINATION AIR/VACUUM RELEASE VALVE SHALL BE INSTALLED ONLY WITH APPROVAL OF THE ENGINEER.
2. COMBINATION AIR/VACUUM RELEASE VALVES SHALL BE APCO SERIES 140 C OR APPROVED EQUAL, FITTED WITH AN APPROVED DRAIN VALVE.
3. ASSEMBLIES SHALL BE INSTALLED AT HIGH POINTS IN WATER LINE. BREATHER TUBE MUST EXTEND ABOVE FINISH GRADE LEVEL (AS SHOWN ABOVE), FACE DOWNWARDS AND BE FITTED WITH AN APPROVED BRASS INSECT SCREEN.
4. SHUT OFF BALL VALVE SHALL BE LOCATED A MAXIMUM OF 24" BELOW FINISHED GRADE, A MINIMUM OF 12" ABOVE AGGREGATE BASE OF MANHOLE, AND WITH A 12" MINIMUM ACCESS WIDTH BETWEEN AIR/VACUUM RELEASE VALVE AND SIDE OF MANHOLE. ALL BRASS VALVES AND FITTINGS SHALL BE OF DOMESTIC ORIGIN AND STAMPED 'NL'.
5. PIPE AND VALVE SIZES SHALL BE SPECIFIED BY THE ENGINEER.
6. PROVIDE INSULATION AND ADDITIONAL DEPTH WHERE SPECIFIED FOR FREEZE PROTECTION.

**CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING**



APPROVED

*San Whittaker*

CITY ENGINEER

Dec., 2021

DATE

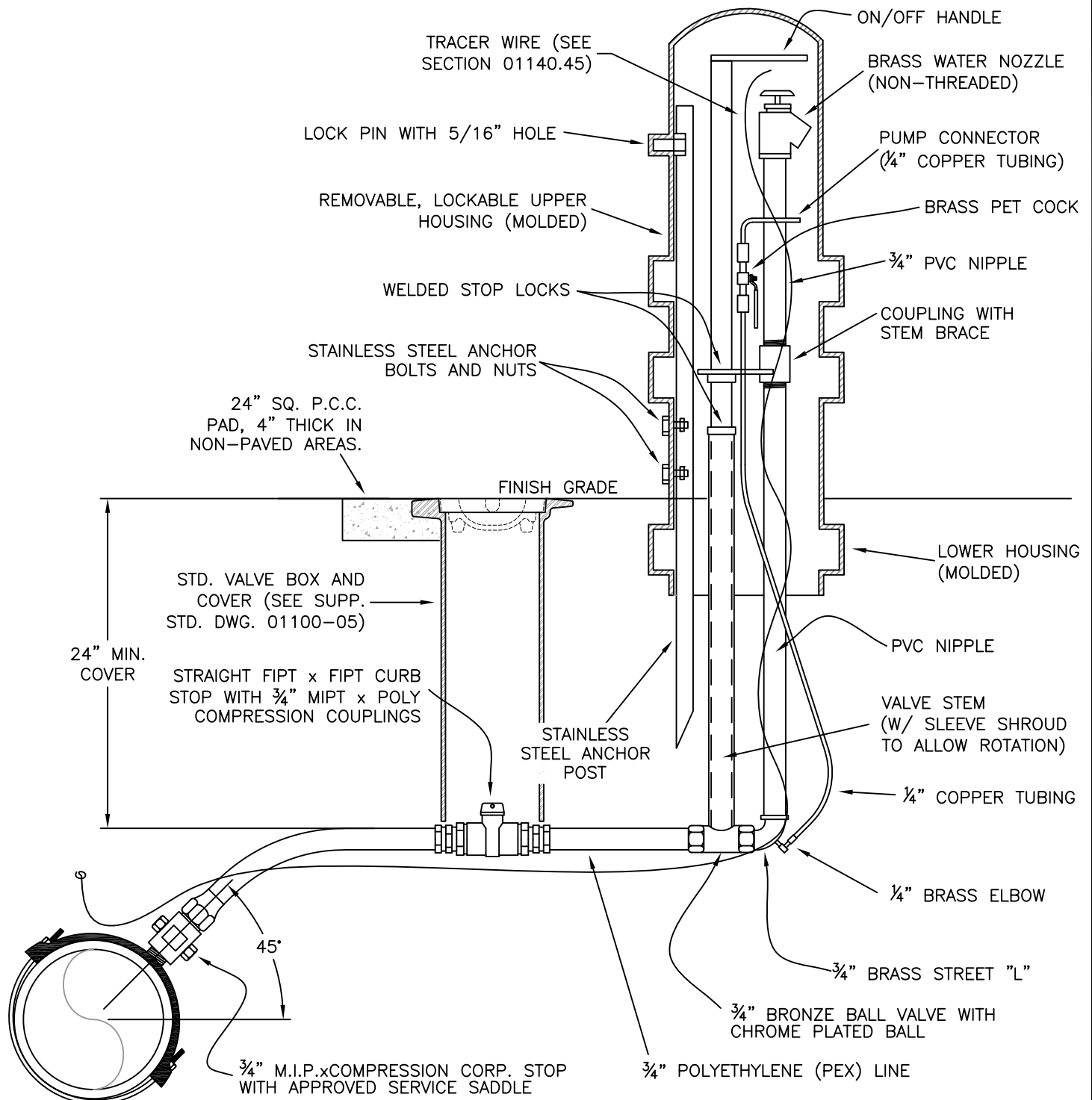
Aug., 2023

REVISIONS

**COMBINATION  
AIR-RELEASE VALVE  
ASSY. (2" & SMALLER)**

DRAWING NO:

01100-07



**NOTES:**

1. USE THRUST BLOCKING STANDARDS FOR THRUST BEARING AREAS (SEE SUPP. STD. DWG. 01100-03).
2. ALL PIPE AND FITTINGS SHALL BE GALVANIZED IRON UNLESS OTHERWISE NOTED. ALL BRASS VALVES AND FITTINGS SHALL BE OF DOMESTIC ORIGIN AND STAMPED 'NL'.
3. PROVIDE INSULATION AND ADDITIONAL DEPTH WHERE SPECIFIED FOR FREEZE PROTECTION.

**CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING**

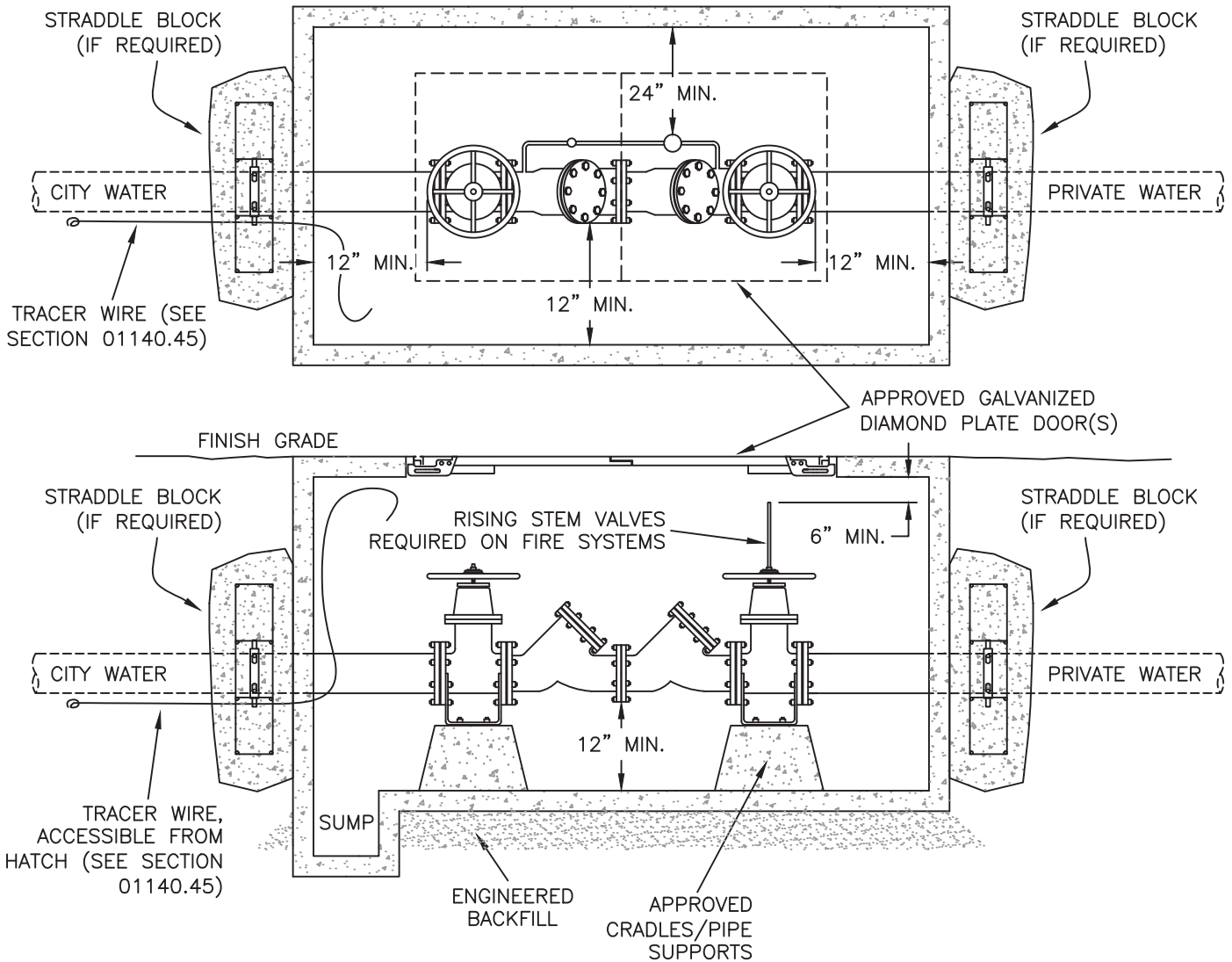


APPROVED  
  
 CITY ENGINEER  
 DATE: Dec., 2021

REVISIONS  
 Aug., 2023

**WATER SAMPLING STATION**  
 DRAWING NO: 01100-08





**NOTES:**

1. VAULTS SHALL BE SIZED TO MEET SPECIFICATION AND MINIMUM CLEARANCES SHOWN HERE. VAULT DEPTH SHALL PROVIDE A MINIMUM OF 6" CLEARANCE TO VAULT LID WHEN VALVES ARE FULLY OPEN.
2. ALL VAULTS AND ASSEMBLIES SHALL BE ADEQUATELY SUPPORTED AND CONSTRUCTED IN ACCORDANCE WITH APPLICABLE STATE PUBLIC HEALTH DIVISION REQUIREMENTS.
3. WHEN REQUIRED, VAULTS SHALL BE DESIGNED FOR SITE-SPECIFIC CONDITIONS BY A LICENSED STRUCTURAL ENGINEER. APPROVED PRECAST VAULTS MAY BE USED IF SPECIFIED SIZES ARE AVAILABLE.
4. TO ACCOMMODATE VALVE MAINTENANCE AND REMOVAL, VAULT DOORS SHALL BE PLACED DIRECTLY ABOVE DEVICES AND VALVES/FITTINGS SHALL BE SUPPORTED AND RESTRAINED WITH APPROVED CRADLES AND/OR PIPE SUPPORTS.
5. A SUMP PUMP MAY BE REQUIRED TO CONTROL WATER INFILTRATION.
6. ALL DOUBLE CHECK DETECTOR ASSEMBLIES SHALL BE SUPPLIED WITH AN APPROVED REMOTE READ BYPASS METER. REMOTE READ SHALL BE LOCATED IN AN APPROVED METER BOX INSIDE OF RIGHT-OF-WAY.
7. ALL PIPES, VALVES AND FITTINGS SHALL BE DUCTILE IRON UNLESS OTHERWISE SPECIFIED.

**CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING**



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*[Handwritten Signature]*

CITY ENGINEER

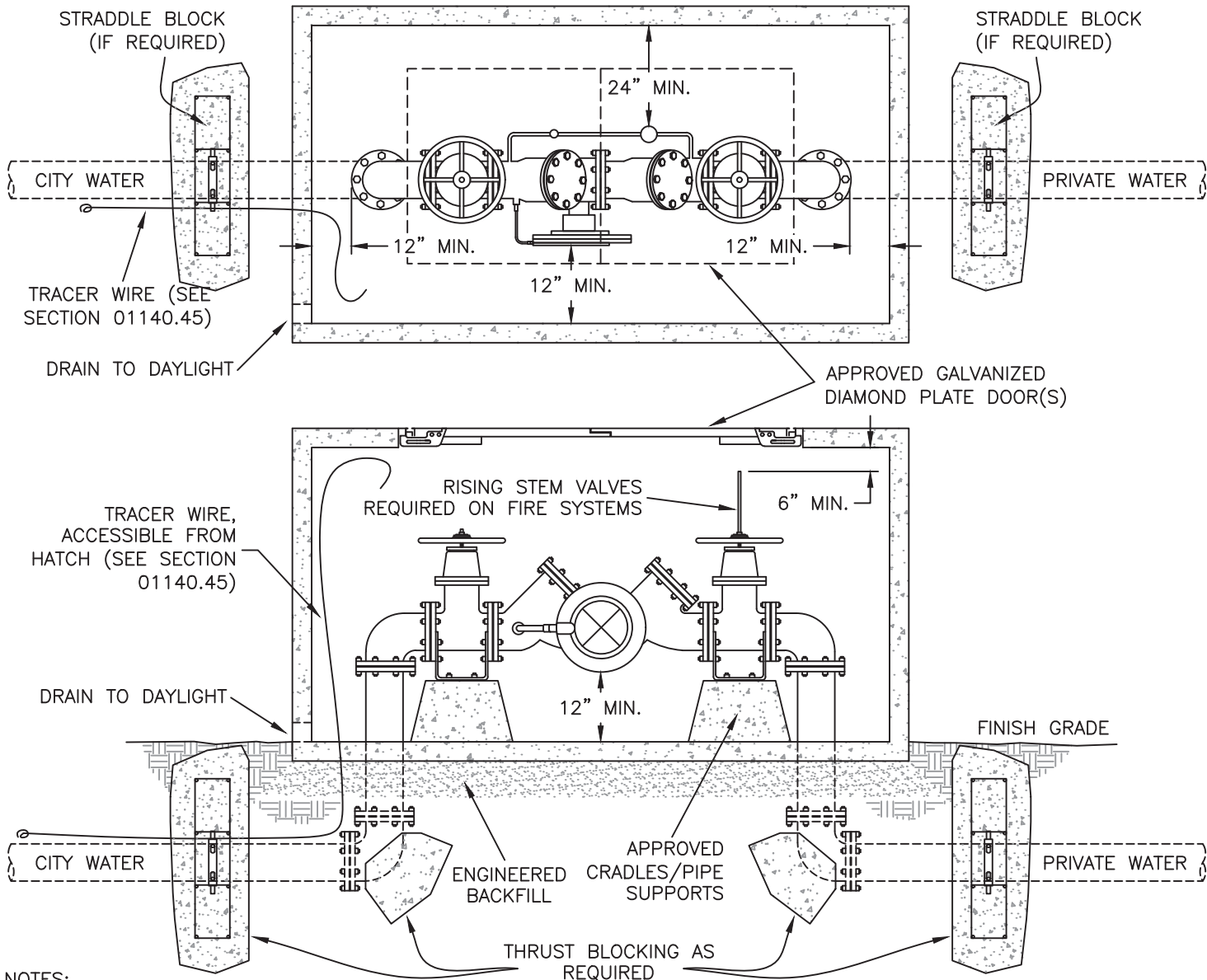
December, 2021

DATE

**STANDARD DOUBLE  
CHECK DETECTOR  
ASSEMBLY**

DRAWING NO:

**01100-09**



**NOTES:**

1. VAULTS SHALL BE SIZED TO MEET SPECIFICATION AND MINIMUM CLEARANCES SHOWN HERE. VAULT DEPTH SHALL PROVIDE A MINIMUM OF 6" CLEARANCE TO VAULT LID WHEN VALVES ARE FULLY OPEN.
2. ALL VAULTS AND ASSEMBLIES SHALL BE ADEQUATELY SUPPORTED AND CONSTRUCTED IN ACCORDANCE WITH APPLICABLE STATE PUBLIC HEALTH DIVISION REQUIREMENTS.
3. WHEN REQUIRED, VAULTS SHALL BE DESIGNED FOR SITE-SPECIFIC CONDITIONS BY A LICENSED STRUCTURAL ENGINEER. APPROVED PRECAST VAULTS MAY BE USED IF SPECIFIED SIZES ARE AVAILABLE.
4. TO ACCOMMODATE VALVE MAINTENANCE AND REMOVAL, VAULT DOORS SHALL BE PLACED DIRECTLY ABOVE DEVICES AND VALVES/FITTINGS SHALL BE SUPPORTED AND RESTRAINED WITH APPROVED CRADLES AND/OR PIPE SUPPORTS.
5. ALL DOUBLE CHECK DETECTOR ASSEMBLIES SHALL BE SUPPLIED WITH AN APPROVED REMOTE READ BYPASS METER. REMOTE READ SHALL BE LOCATED IN AN APPROVED METER BOX INSIDE OF RIGHT-OF-WAY.
6. ALL PIPES, VALVES AND FITTINGS SHALL BE DUCTILE IRON UNLESS OTHERWISE SPECIFIED.

**CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING**



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*[Handwritten Signature]*

CITY ENGINEER

December, 2021

DATE

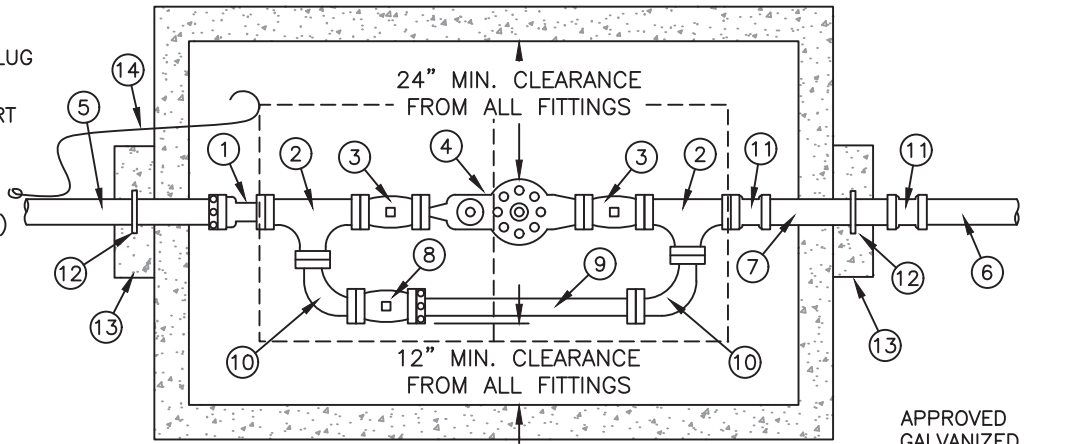
**REDUCED PRESSURE  
DOUBLE CHECK  
DETECTOR ASSY.**

DRAWING NO:

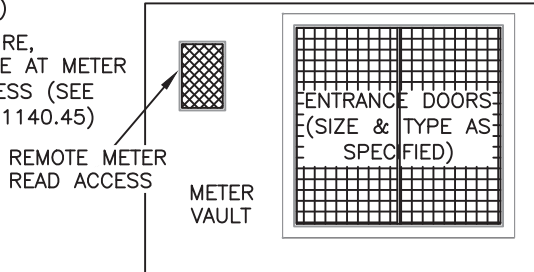
**01100-10**

LEGEND:

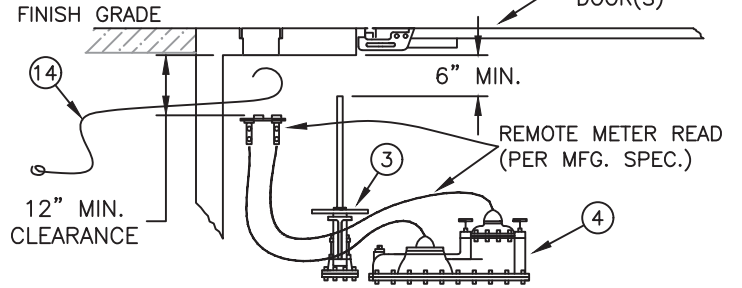
- ① M.J.xFLG. ADAPTER WITH MEG-A-LUG RETAINER GLAND
- ② FLG. TEE WITH APPROVED SUPPORT
- ③ FLG. GATE VALVE
- ④ COMPOUND METER (DOMESTIC)
- ⑤ DUCTILE IRON SERVICE (CITY SIDE)
- ⑥ EXISTING SERVICE (PRIVATE SIDE)
- ⑦ AS SPECIFIED
- ⑧ FLG.xM.J. GATE VALVE
- ⑨ FLG.xP.E. SPOOL
- ⑩ FLG. 90° ELBOW
- ⑪ ADAPTER
- ⑫ RETAINER GLAND (TYP.)
- ⑬ STRADDLE BLOCK (SEE SUPP. STD. DWG. 01100-03)



- ⑭ TRACER WIRE, ACCESSIBLE AT METER READ ACCESS (SEE SECTION 01140.45)



PLAN VIEW



ELEVATION VIEW

NOTES:

1. VAULTS SHALL BE SIZED TO MEET SPECIFICATION AND MINIMUM CLEARANCES SHOWN HERE. VAULT DEPTH SHALL PROVIDE A MINIMUM OF 6" CLEARANCE TO VAULT LID WHEN VALVES ARE FULLY OPEN.
2. ALL VAULTS SHALL BE ADEQUATELY SUPPORTED, WATER-TIGHT AND DESIGNED TO PREVENT BUOYANCY DUE TO GROUNDWATER CONDITIONS.
3. WHEN REQUIRED, VAULTS SHALL BE DESIGNED FOR SITE-SPECIFIC CONDITIONS BY A LICENSED STRUCTURAL ENGINEER. APPROVED PRECAST VAULTS MAY BE USED IF SPECIFIED SIZES ARE AVAILABLE.
5. TO ACCOMMODATE VALVE MAINTENANCE AND REMOVAL, VAULT DOORS MUST BE PLACED DIRECTLY ABOVE DEVICES AND VALVES/FITTINGS SHALL BE SUPPORTED AND RESTRAINED WITH APPROVED CRADLES AND/OR PIPE SUPPORTS.
6. A SUMP PUMP MAY BE REQUIRED TO CONTROL WATER INFILTRATION.
7. ALL PIPES, VALVES AND FITTINGS SHALL BE DUCTILE IRON UNLESS OTHERWISE SPECIFIED.
8. STANDARD BYPASS SIZE IS 2" DIA.; SERVICE LINE SIZE MAY VARY ACCORDING TO NEED.
9. METER ASSEMBLIES MAY BE ELIMINATED ON STATIC PRESSURE FIRE SUPPRESSION SYSTEMS, PROVIDED A DETECTION LOOP IS INSTALLED WITH THE BACKFLOW PREVENTION DEVICE.
10. BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED ON ALL IRRIGATION LINES, SERVICES 2" AND LARGER OR AS OTHERWISE REQUIRED (SEE SUPP. STD. DWG. 01100-09 & 01100-10).
11. TEES AND VALVES SHALL BE SUPPORTED WITH CONCRETE BLOCKS, JACKS OR ADJUSTABLE PIPE SUPPORTS.
12. PROVIDE FLEXIBLE CONNECTIONS ON EXTERIOR PIPING WITHIN 18" OF VAULT WALL.
13. PROVIDE OPENING AND LADDER LOCATIONS, VAULT DRAINAGE AND PIPE PENETRATIONS IN ACCORDANCE WITH SPECIAL PROVISIONS AND CONTRACT DRAWINGS.
14. PROVIDE 12" CLEARANCE FROM ALL FITTINGS & VALVES TO FLOOR AND WALLS.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING



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CITY ENGINEER

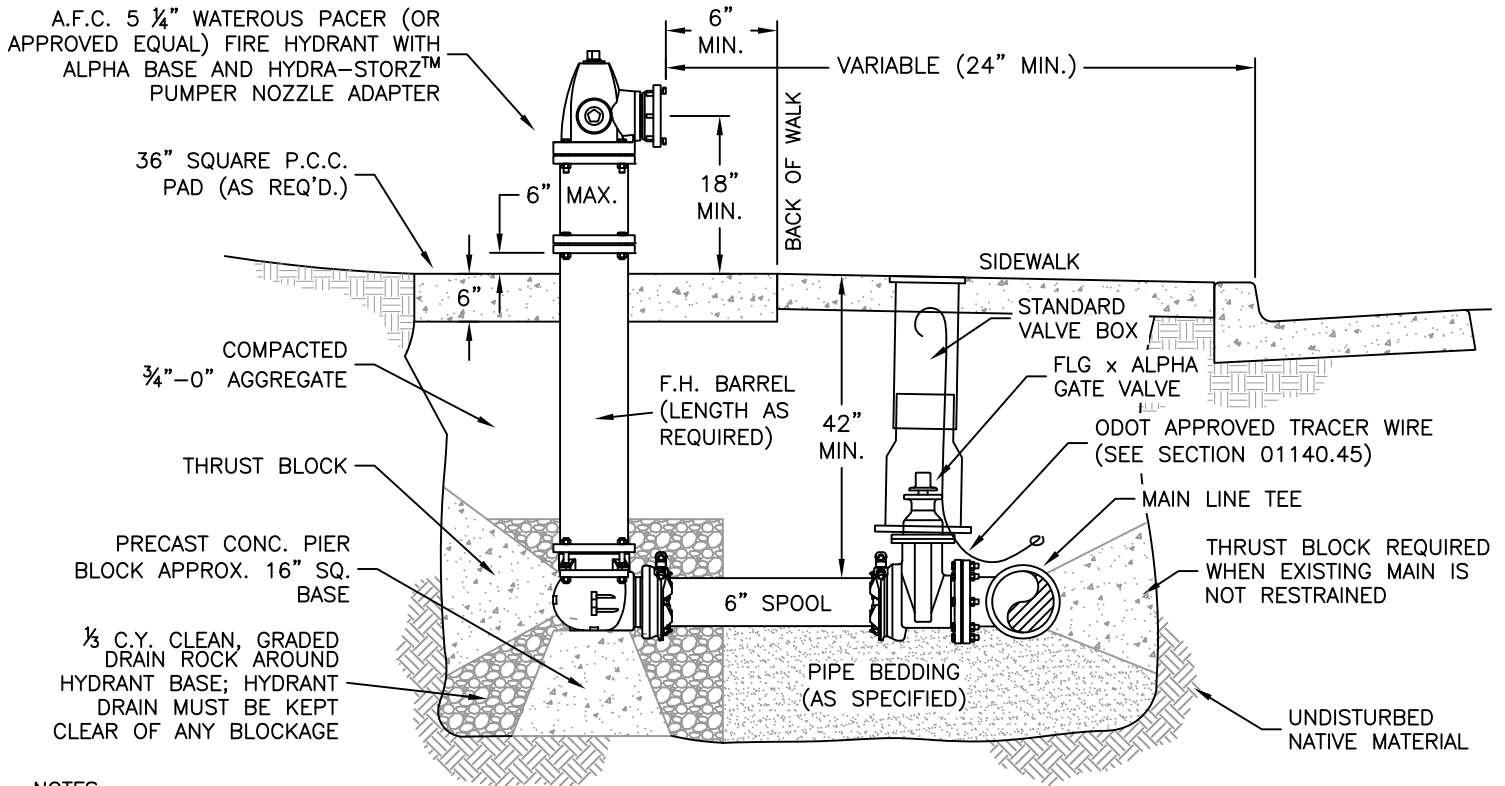
December, 2021

DATE

METER VAULT WITH  
REMOTE READ  
(LARGER THAN 2")

DRAWING NO:

01100-11



**NOTES:**

1. HYDRANTS SHALL BE 5 1/4" AMERICAN FLOW CONTROL WATEROUS PACER CONTEMPORARY FITTED WITH ALPHA JOINT RETAINER GLANDS, KENNEDY GUARDIAN, OR APPROVED EQUAL. SEE SUPP. STD. DWG. 01100-13 FOR NOZZLE AND OPERATING NUT DETAILS.
2. ANY REQUIRED BARREL EXTENSIONS SHALL MEET MANUFACTURER SPECIFICATIONS FOR TYPE AND INSTALLATION.
3. HYDRANT SHUTOFF VALVE SHALL BE A 6 INCH FLG-ALPHA RETAINER GLAND GATE VALVE, LOCATED AT THE MAIN LINE TEE UNLESS OTHERWISE APPROVED BY THE ENGINEER.
4. HYDRANTS SHALL BE PLACED TO PROVIDE A MINIMUM OF 5' CLEARANCE FROM DRIVEWAYS, POLES, TREES AND OTHER OBSTRUCTIONS.
5. WHEN PLACED ADJACENT TO THE CURB, THE PUMPER NOZZLE SHALL BE LOCATED A MINIMUM OF 24" FROM FACE OF CURB.
6. ALL HYDRANT VALVES, FITTINGS AND ASSOCIATED PIPE JOINTS MUST BE MECHANICALLY RESTRAINED BY APPROVED METHOD. WHEN SPOOL LENGTH IS LESS THAN 18 FEET, NO INTERMEDIATE SPOOL JOINTS WILL BE ALLOWED.
7. HYDRANT BASES MUST BE SUPPORTED ON COMPETENT SUBGRADE WITH AN APPROVED PRECAST P.C.C. PIER BLOCK.
8. HYDRANT, VALVE AND PIPING SHALL BE PLUMB, LEVEL AND SQUARE PRIOR TO BACKFILL. HYDRANT SHALL BE HORIZONTALLY ADJUSTED TO ALIGN THE PUMPER NOZZLE PERPENDICULAR TO THE ADJACENT ROADWAY.
9. A MINIMUM OF 1/3 CUBIC YARD OF CLEAN, GRADED DRAIN ROCK SHALL BE PLACED AROUND THE FOOT OF THE HYDRANT TO ALLOW PROPER DRAINAGE. HYDRANT DRAIN MUST BE KEPT CLEAR OF ANY BLOCKAGES.
10. THRUST BLOCKING MUST BE USED AS SHOWN ABOVE (SEE SUPP. STD. DWG. 01100-03). ALL TEES, VALVES AND HYDRANT COMPONENTS SHALL BE ISOLATED FROM BLOCKING WITH PLASTIC SHEETING TO FACILITATE FUTURE MAINTENANCE.
11. FOLLOWING HYDRANT INSTALLATION, A 36 INCH SQUARE X 6 INCH DEEP P.C.C. HOUSEKEEPING PAD SHALL BE POURED AROUND THE BASE OF THE HYDRANT AS SHOWN. HYDRANT SHALL BE CENTERED IN THE PAD AND PROTECTED FROM THE CONCRETE POUR WITH PLASTIC SHEETING.
12. IF PROTECTIVE BOLLARDS ARE REQUIRED, THEY SHALL BE INSTALLED CLEAR OF THE PAD AND PLACED 45' OFF PORT POSITIONS OR AS AS DIRECTED BY THE ENGINEER (SEE SUPP. STD. DWG. 00800-01).
13. FOLLOWING INSTALLATION, ADJUSTMENT AND TESTING, HYDRANTS (MINUS THE STORZ ADAPTER) SHALL BE REPAINTED WITH FEDERAL SAFETY YELLOW #31-E-551 OR APPROVED EQUAL.

**CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING**



APPROVED

CITY ENGINEER

Dec., 2021

DATE

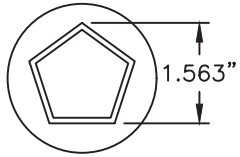
Aug., 2023

REVISIONS

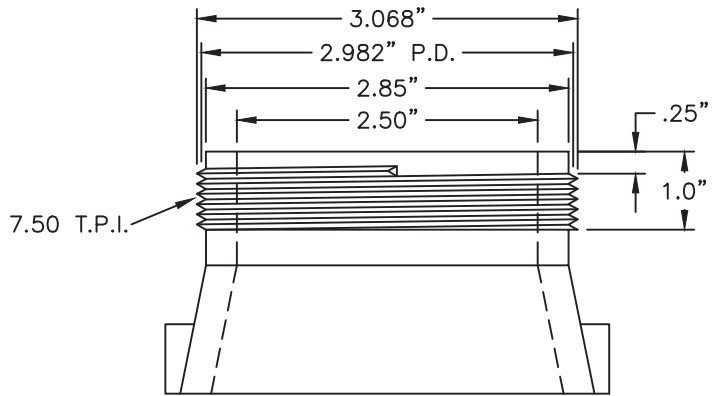
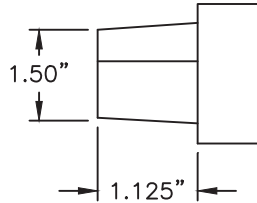
**FIRE HYDRANT  
ASSEMBLY**

DRAWING NO:

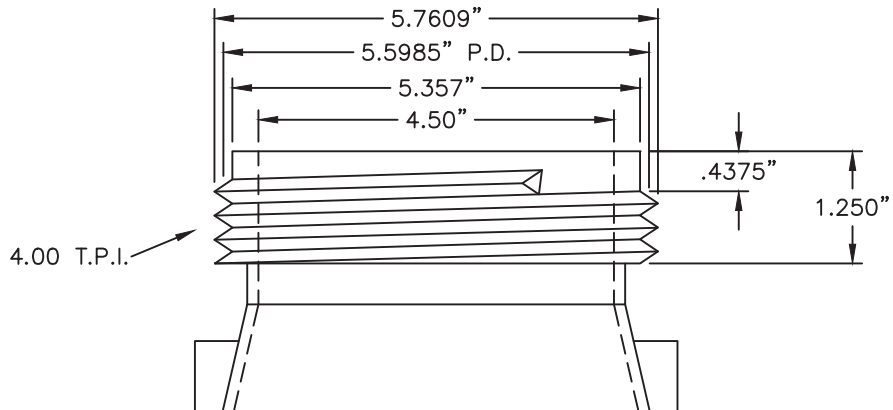
**01100-12**



1 1/2" OPERATING NUT



2 1/2" HOSE NOZZLE  
(NATIONAL STANDARD)



4 1/2" PUMPER OUTLET (STEAMER) NOZZLE  
(NATIONAL STANDARD)

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING



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*[Signature]*

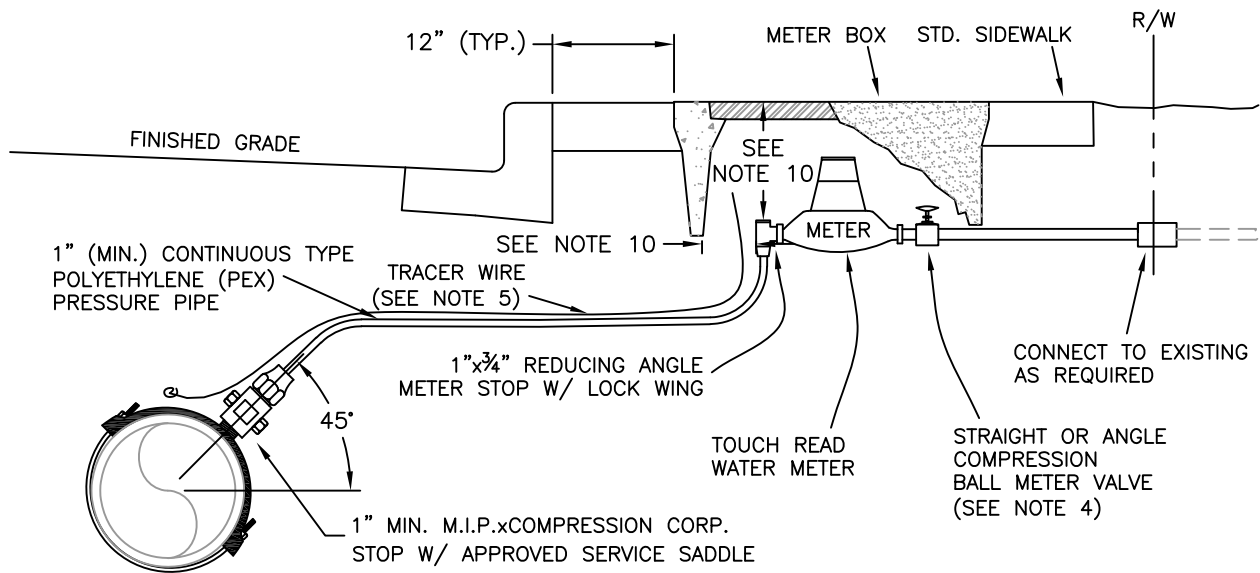
CITY ENGINEER

December, 2021

DATE

FIRE HYDRANT  
OPERATING  
NUT & NOZZLES

DRAWING NO: 01100-13



**NOTES:**

1. THE DETAIL SHOWN ABOVE REPRESENTS A STANDARD WATER SERVICE WITH A 5/8" x 3/4" METER ASSEMBLY. LARGER METERS AS NOTED ON PLANS REQUIRE PIPING AND FITTINGS EQUAL TO THE SIZE OF THE METER INSTALLED.
  2. ALL POLYETHYLENE PIPING PLACED WITHIN RIGHT-OF-WAY SHALL BE CONTINUOUS 1" MINIMUM POLYETHYLENE PIPE, FREE OF KINKS OR ABRUPT ANGLES. IN-LINE JOINTS ARE PROHIBITED. PIPE SHALL BE CERTIFIED AWWA C 904 CROSS-LINKED POLYETHYLENE (PEX) PRESSURE PIPE.
  3. PIPING PLACED WITHIN THE RIGHT-OF-WAY MUST HAVE A MINIMUM OF 24" COVER FROM FINISH GRADE OR BE PLACED A MINIMUM OF 12" BELOW SUBGRADE, WHICHEVER IS GREATER.
  4. METER VALVES SHALL BE DOMESTICALLY MADE FORD, MUELLER, McDONALD BRASS OR APPROVED EQUAL STRAIGHT OR ANGLE COMPRESSION BALL VALVES. ALL BRASS VALVES AND FITTINGS SHALL BE STAMPED 'NL'.
  5. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE. SEE SECTION 01140.45 FOR MORE INFORMATION.
  6. STANDARD WATER METERS SHALL BE SENSUS SR II "TOUCH READ" OR APPROVED EQUAL.
  7. METER BOX ASSEMBLIES SHALL BE ARMORCAST OR APPROVED EQUAL (SEE SUPP. STD. SPEC. 02490.70) WITH TOUCH READ LID.
  8. CONNECTIONS TO PRIVATE LINES SHALL BE MADE AT THE RIGHT-OF-WAY AS SHOWN ABOVE OR ON THE CUSTOMER SIDE OF THE EXISTING METER AS NOTED ON THE PLANS.
  9. METER SHALL BE CENTERED AND SET PLUMB INSIDE METER BOX. SET METER BOX 4" MINIMUM BEHIND CURB OR SIDEWALK. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC-RATED LIDS.
  10. ALL BRASS VALVES AND FITTINGS SHALL BE OF DOMESTIC ORIGIN AND STAMPED 'NL'.
  11. FOR 5/8" x 3/4" METERS:
    - A. METER STOPS MUST BE 6" TO 10" BELOW THE TOP OF THE METER BOX.
    - B. METER STOPS MUST BE 2 1/2" TO 4 1/2" FROM THE INSIDE WALL.
- FOR 1" METERS:
- A. METER STOPS MUST BE 6" TO 10" BELOW THE TOP OF THE METER BOX.
  - B. METER STOPS MUST BE 2 1/2" TO 3 1/2" FROM THE INSIDE WALL.
- FOR 1 1/2" & 2" METERS:
- A. METER STOPS MUST BE 9" TO 11" BELOW THE TOP OF THE METER BOX.
  - B. METER STOPS MUST BE 4" TO 6" FROM THE INSIDE WALL.

**CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING**



APPROVED

CITY ENGINEER

Dec., 2021

DATE

Aug., 2023

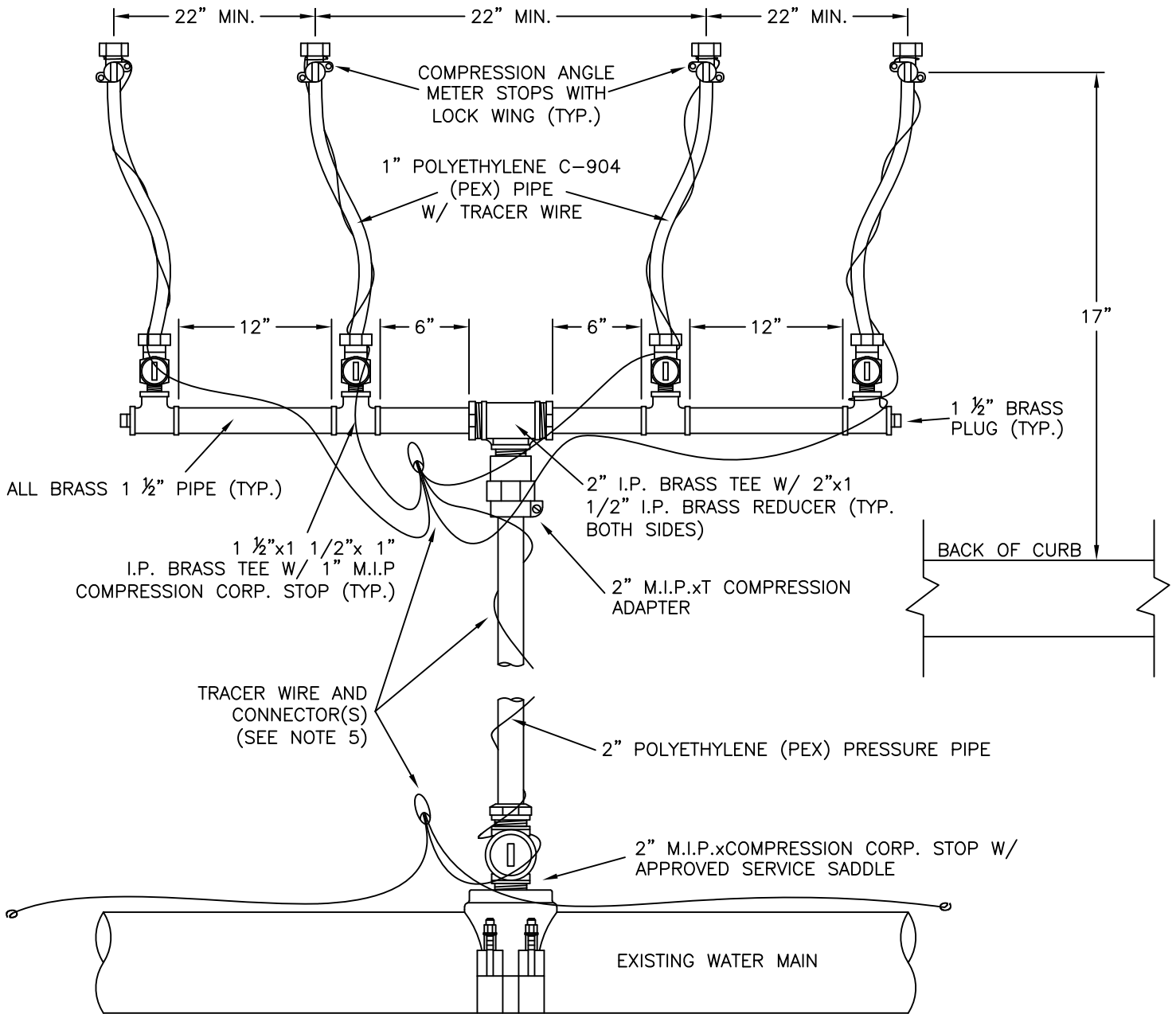
REVISIONS

**STANDARD WATER METER ASSEMBLY**

(5/8" x 3/4" TO 2")

DRAWING NO:

01100-14



MANIFOLD PLAN VIEW

NOTES:

1. MANIFOLD ASSEMBLIES ARE ALLOWED ONLY WITH APPROVAL OF THE ENGINEER.
2. ALL BRASS COMPRESSION FITTINGS MUST BE FORD, MUELLER, McDONALD BRASS OR APPROVED EQUAL. ALL BRASS FITTINGS SHALL BE STAMPED 'NL'.
3. WATER MAIN SERVICE SADDLE MUST BE ROMAC 202-N OR APPROVED EQUAL.
4. ALL PARTS SHALL BE DOMESTICALLY MANUFACTURED UNLESS OTHERWISE APPROVED.
5. ALL PIPES SHALL HAVE AN ODOT APPROVED TRACER WIRE. SEE SECTION 01140.45 FOR MORE INFORMATION.

CITY of LEBANON 2021 SUPPLEMENTAL STANDARD DRAWING



APPROVED

*Sam Whittaker*

CITY ENGINEER

Dec., 2021

DATE

Aug., 2023

REVISIONS

WATER SERVICE  
MANIFOLD

DRAWING NO:

01100-15