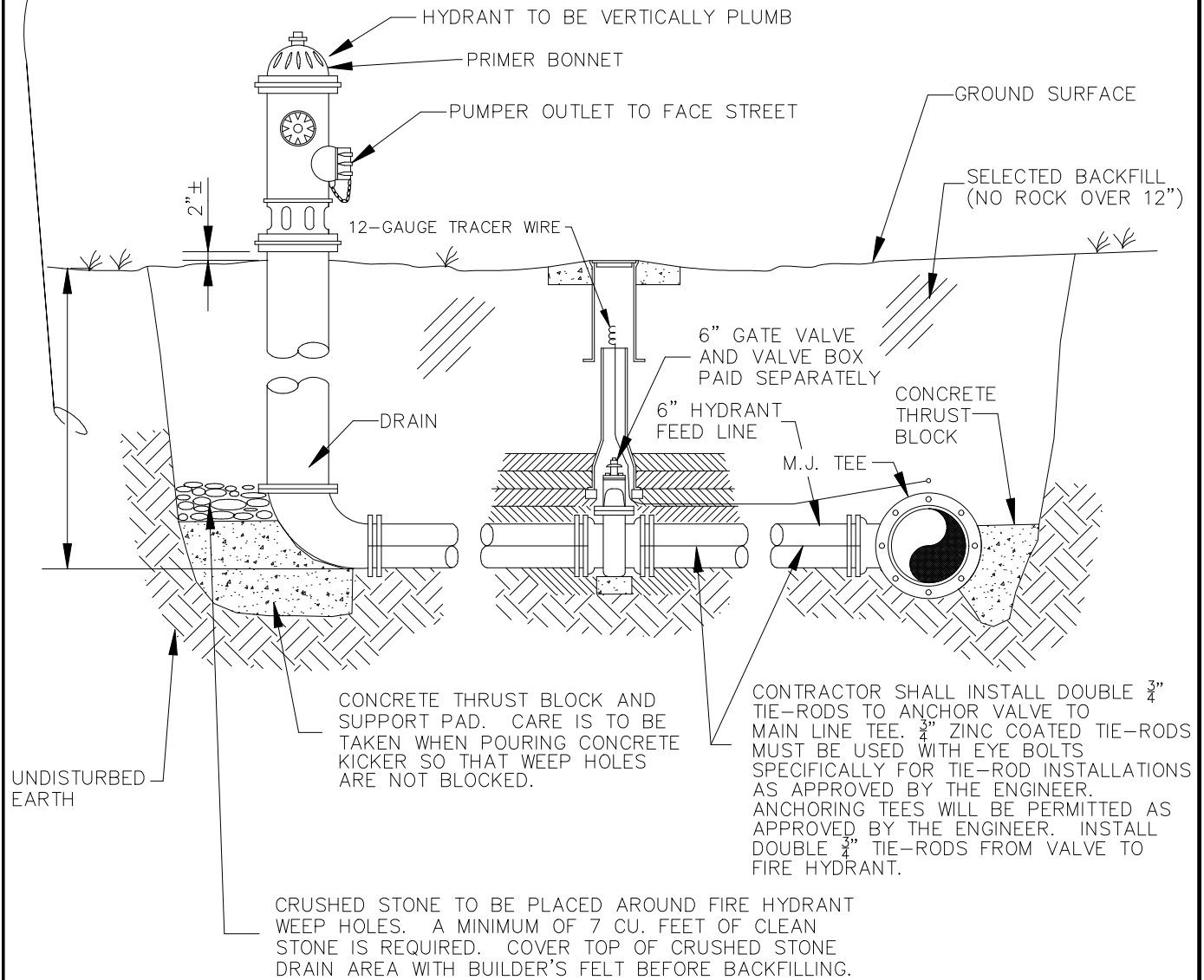


APPENDIX

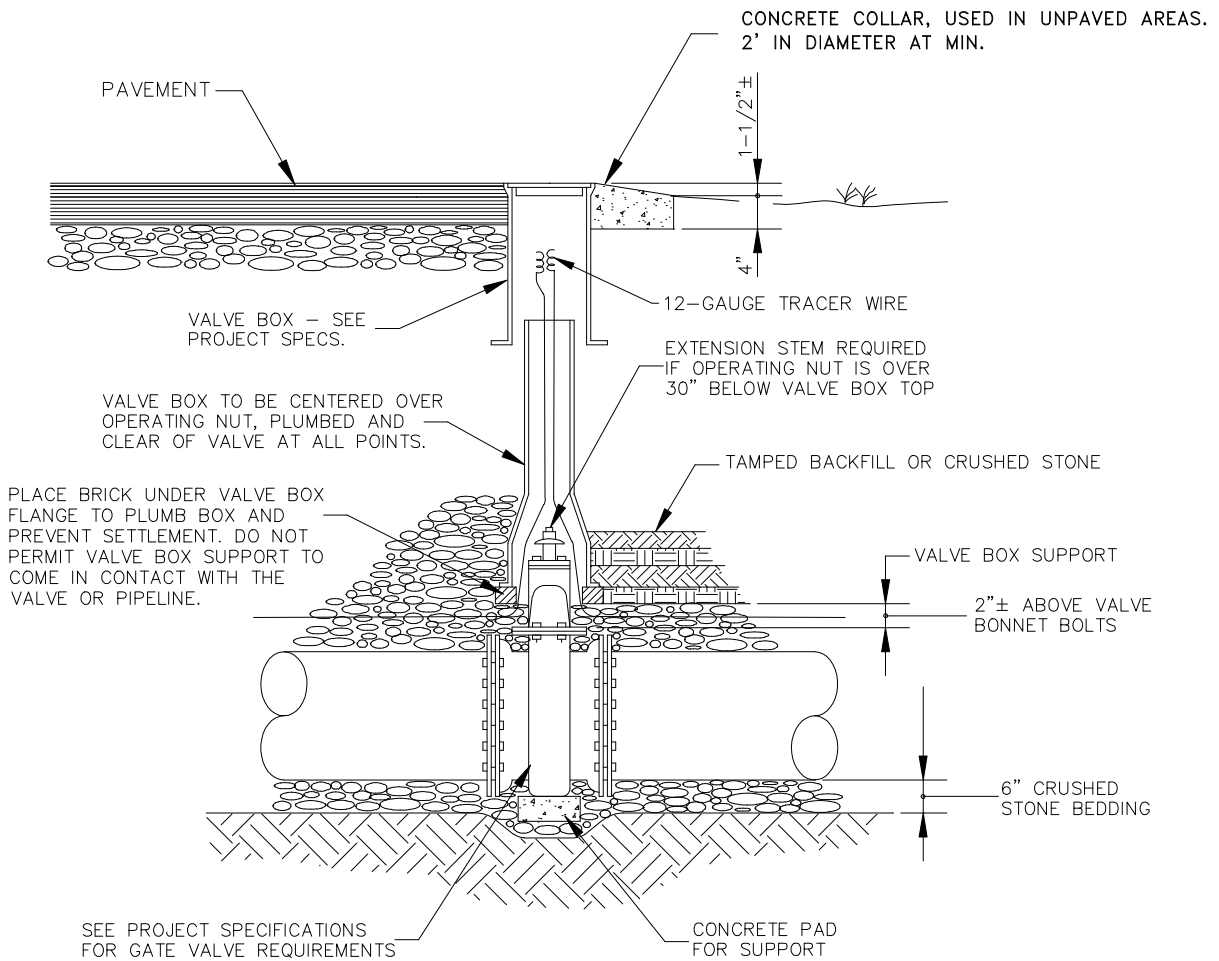
Standard #	Standard Detail Drawings
W1	Typical Fire Hydrant Installation
W2	Typical Gate Valve Installation
W3	Typical Butterfly Valve Installation
W4	3/4" & 1" Service Assembly
W5	Type A - Air Release Manhole Assembly
W6	Type B - Air Release Valve Installation
W7	Combination Air Control Valve * Air Release Valve - Air Vacuum Valve (ARV-AVV)
W8	Typical Tunnel Section
W9	Concrete Thrust Block Details
W10	Method of Crossing Proposed Sewer
W11	Typical Creek Crossing
W12	Typical Bore Casing Detail
W13	Waterline Installation Flat Bottom Trench - Tamped Backfill
W14	Small Valve Box and Cover - (Traffic Type)
W15	Guard Post Detail
W16	Typical Barrier Detail in Pavement Areas
W17	Concrete Encasement and Cap
W18	Typical Section Asphalt Pavement - Type A
W19	Narrow Trench Repair
W20	Earthen Check Dam
W21	Concrete Check Dam
W22	2" Meter Assembly
W23	2" Meter Assembly with 1" Irrigation
W24	Master Meter Assembly (4" & Larger)
W25	Combination Meter Assembly
W26	4 Gang Meter Vault (3/4" or 1")
W27	5 Gang Meter Vault (3/4" or 1")
W28	6 Gang Meter Vault (3/4" or 1")
W29	7 Gang Meter Vault (3/4" only)
W30	8 Gang Meter Vault (3/4" only)
W31	9 Gang Meter Vault (3/4" only)
W32	Triangle Utility Marker

THE MINIMUM BURY FOR ALL FIRE HYDRANTS SHALL BE 42". THE CONTRACTORS ATTENTION IS DIRECTED TO THE FACT THAT GREATER BURY DEPTH COULD BE REQUIRED ON VARIOUS FIRE HYDRANTS DUE TO DEPTH OF THE MAIN LINE.



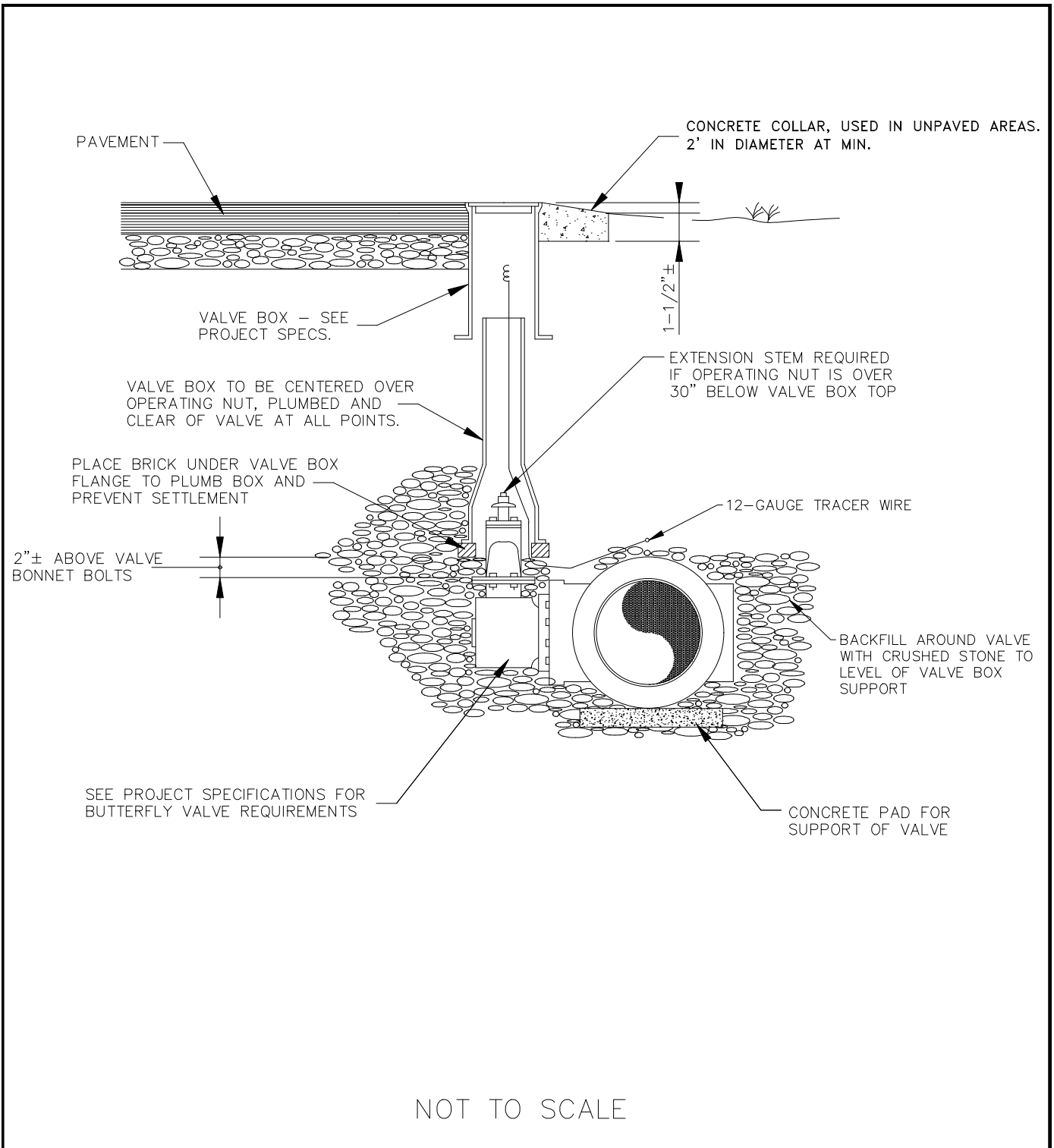
NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		TYPICAL FIRE HYDRANT INSTALLATION
	7/26/21		W-1
ENG. DIRECTOR	DATE		

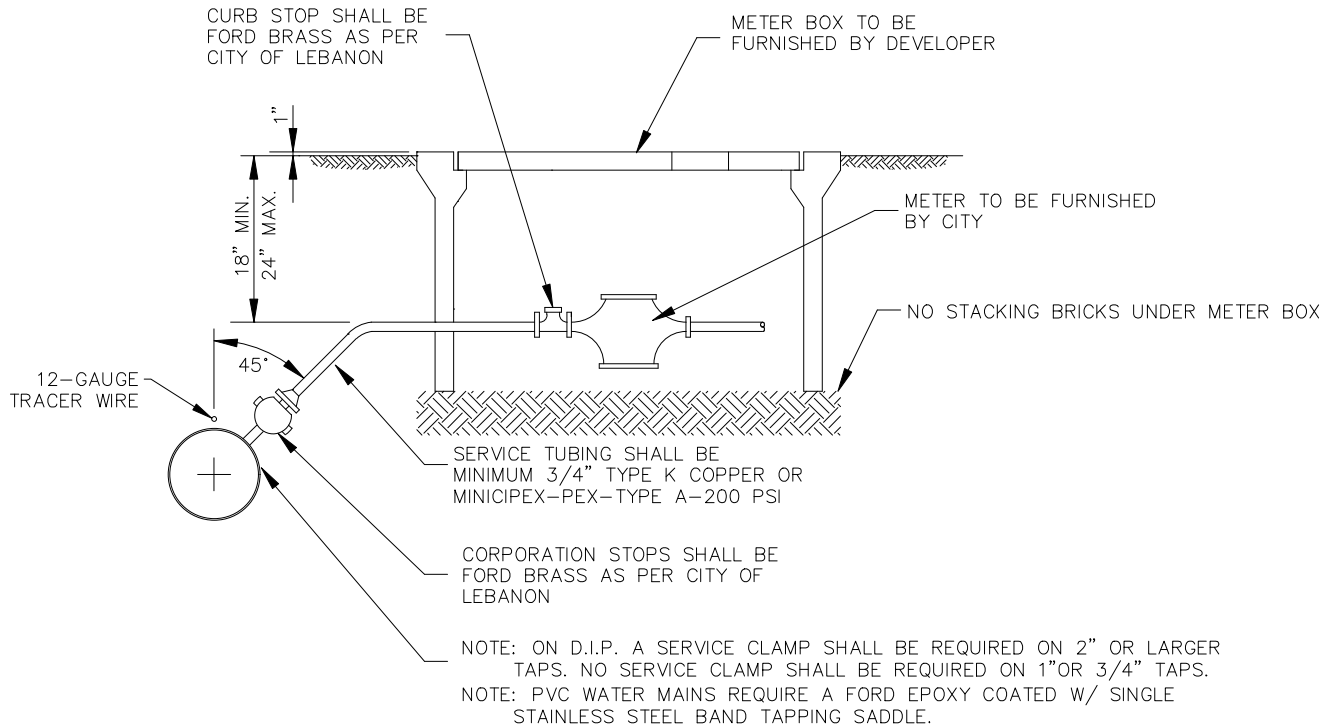


NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		TYPICAL GATE VALVE INSTALLATION
	7/26/21		W-2
ENG. DIRECTOR	DATE		



	7/26/21 DATE	<h1>CITY OF LEBANON</h1>	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		TYPICAL BUTTERFLY VALVE INSTALLATION (HORIZONTAL SHAFT VALVE SETTING)
 ENG. DIRECTOR	7/26/21 DATE		<h2>W-3</h2>

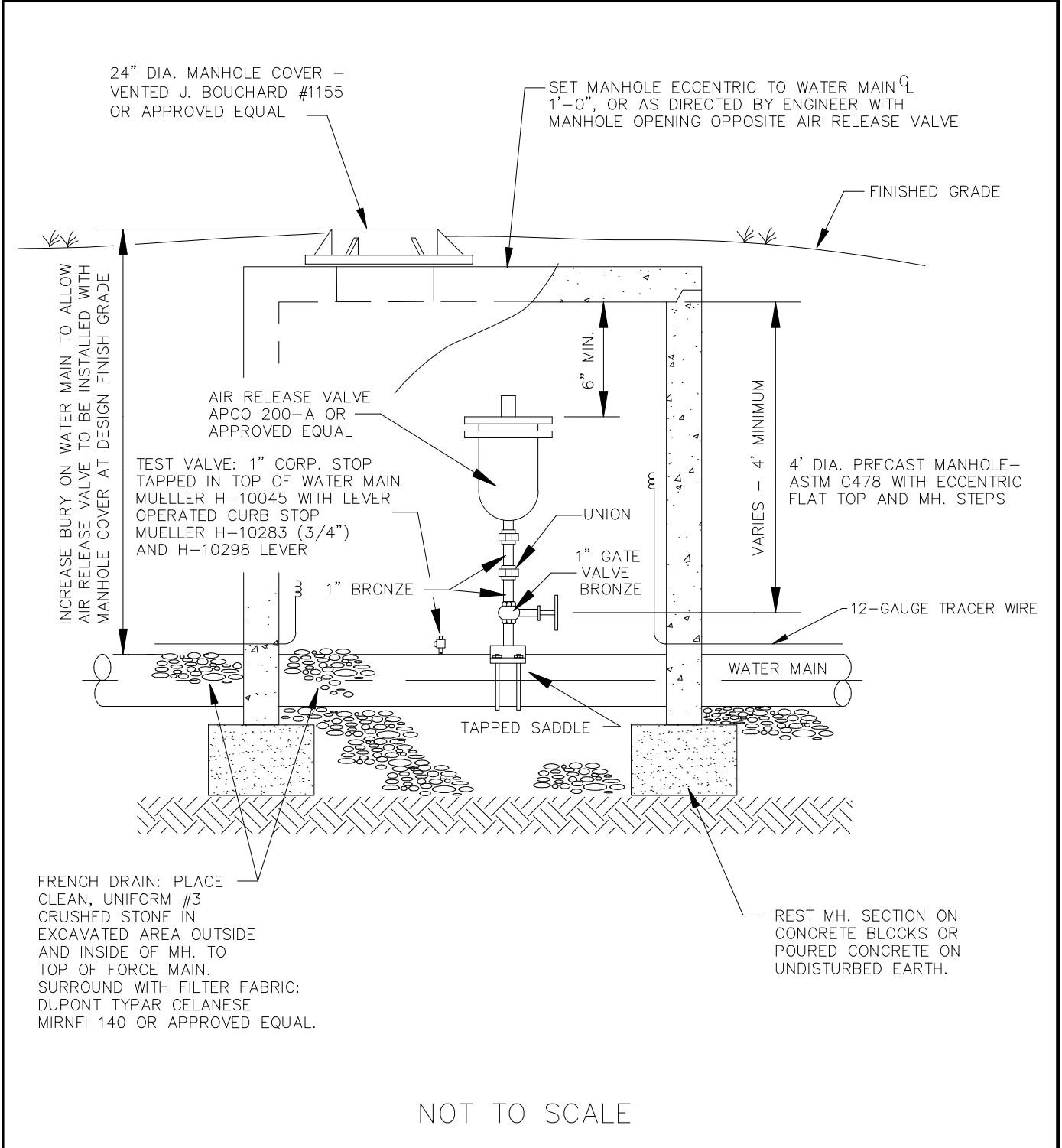


GENERAL NOTES:

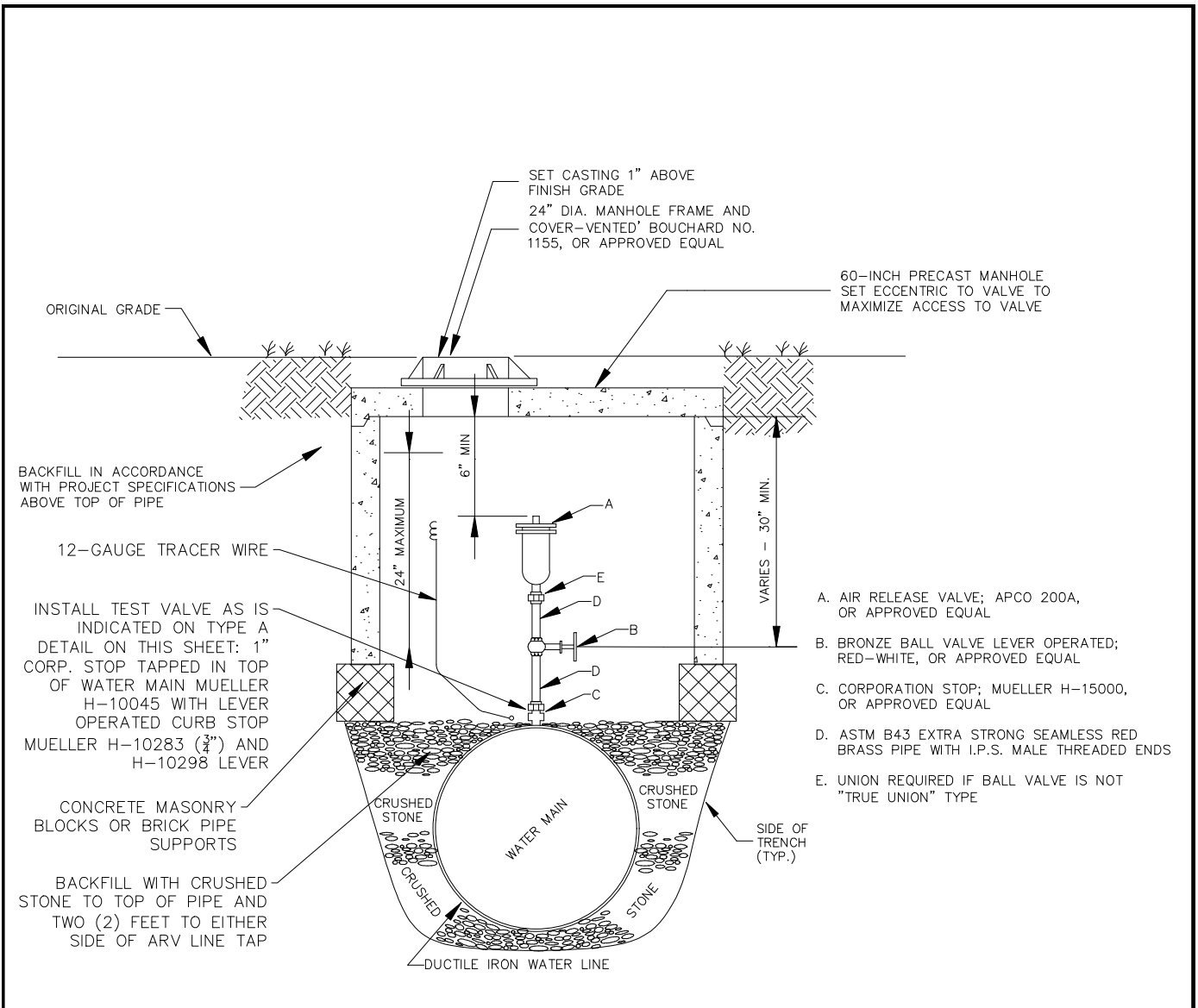
1. WHEN CASING PIPE IS USED AT SIDEWALKS, ROADWAYS, AND RAILROAD TRACKS, INSTALL DETECTION TAPE WITH CASING.
 - 1" AND DOWN PIPING REQUIRES A 2" SCHEDULE 40 PVC CASING PIPE
2. MUNICIPEX-PEX-TYPE A-200 PSI PIPING:
 - PEX-A-PLASTIC INSERTS ARE REQUIRED FOR 1" AND 3/4" PIPING
 - TRACER WIRE IS REQUIRED WITH MUNICIPEX PIPING AND MUST BE SECURED TO PIPING WITH TAPE OR OTHER APPROVED METHOD.
3. BACKFILL:
 - ALL SERVICE LINES REQUIRE A 6" ENVELOPE OF 3/4" CRUSHED STONE OR CRUSH AND RUN FROM THE WATER MAIN TO THE WATER METER BOX.
4. NO TAP OR METER WILL BE ALLOWED IN A DRIVEWAY.
5. ALL SERVICE LINES SHALL BE RUN IN A STRAIGHT LINE FROM THE WATER MAIN TO THE METER BOX AND SHALL BE ONE CONTINUOUS LINE WITH OUT COUPLINGS.
6. METER BOX:
 - METER LID: DFW 1200-1MT-LID MARKED "WATER" W/MAGNET DETECTOR FOR LOCATING. ANTENNA READY.
 - METER BOX: DFW 1800A-18-1MT 18" DEEP METER BOX.
 - TRAFFIC AREA WILL REQUIRE A TRAFFIC RATED METER BOX AND LID. LID MARKED "WATER".
 - METER BOX MUST BE PLACED ON UNDISTURBED GROUND OR PROPERLY COMPACTED MATERIAL.
 - METER HAS TO BE IN THE CENTER OF THE METER BOX.
 - THE BOTTOM OF THE METER BOX AND METER HAVE TO BE 18" AT THE FINAL GRADE.
7. WHERE 4 OR MORE 3/4" OR 1" SERVICES ARE PROPOSED, GANG METER VAULT(S) WILL BE REQUIRED. SEE DETAILS W-26 THROUGH W-31.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		3/4" & 1" SERVICE ASSEMBLY
	7/26/21		W-4
ENG. DIRECTOR	DATE		



	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		AIR RELEASE MANHOLE ASSEMBLY (TYPE A)
	7/26/21		W-5
ENG. DIRECTOR	DATE		



BACKFILL IN ACCORDANCE WITH PROJECT SPECIFICATIONS ABOVE TOP OF PIPE

12-GAUGE TRACER WIRE

INSTALL TEST VALVE AS IS INDICATED ON TYPE A DETAIL ON THIS SHEET: 1" CORP. STOP TAPPED IN TOP OF WATER MAIN MUELLER H-10045 WITH LEVER OPERATED CURB STOP MUELLER H-10283 (3/4") AND H-10298 LEVER

CONCRETE MASONRY BLOCKS OR BRICK PIPE SUPPORTS

BACKFILL WITH CRUSHED STONE TO TOP OF PIPE AND TWO (2) FEET TO EITHER SIDE OF ARV LINE TAP

SET CASTING 1" ABOVE FINISH GRADE
24" DIA. MANHOLE FRAME AND COVER-VENTED' BOUCHARD NO. 1155, OR APPROVED EQUAL

60-INCH PRECAST MANHOLE SET ECCENTRIC TO VALVE TO MAXIMIZE ACCESS TO VALVE

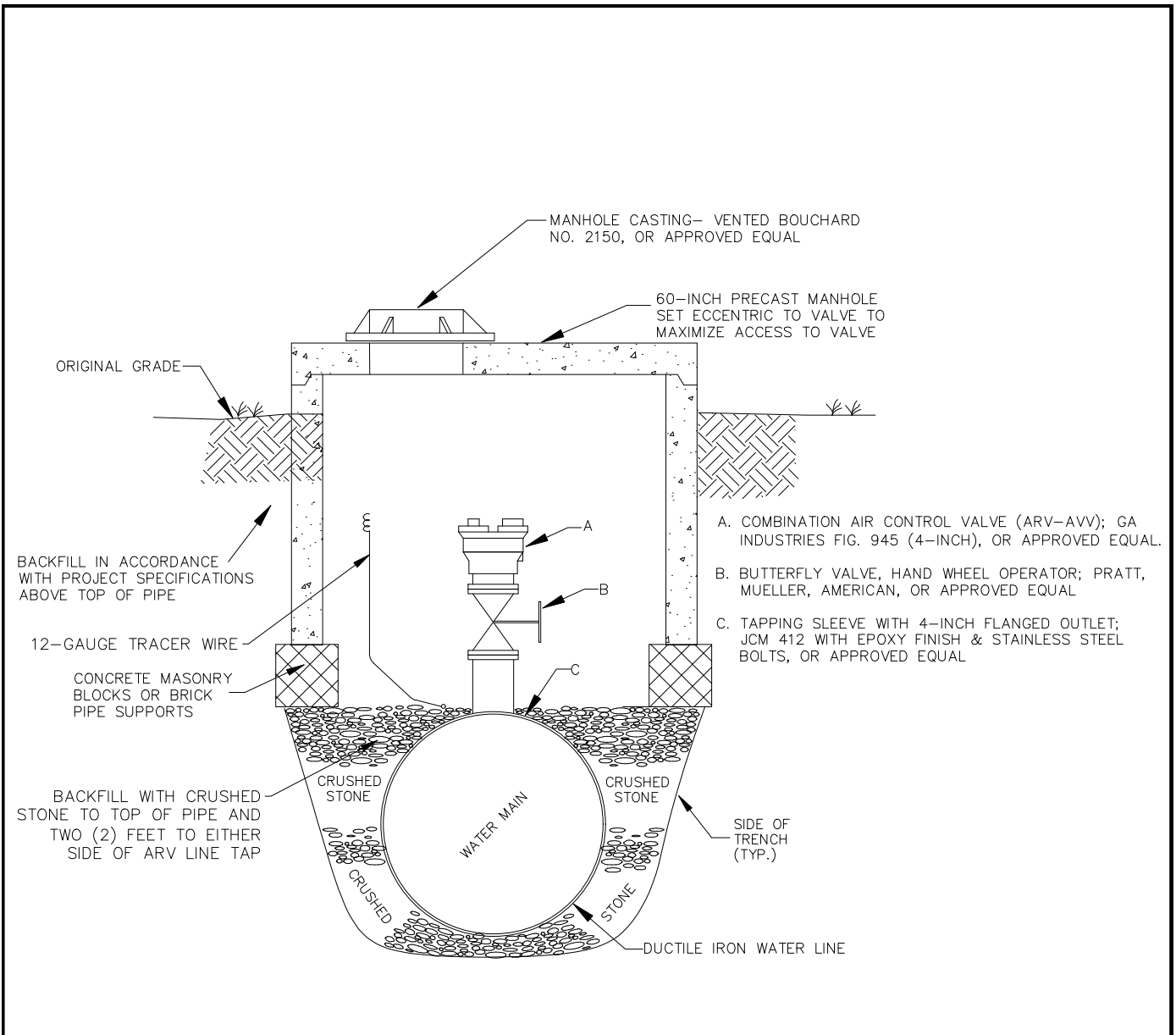
- A. AIR RELEASE VALVE; APCO 200A, OR APPROVED EQUAL
- B. BRONZE BALL VALVE LEVER OPERATED; RED-WHITE, OR APPROVED EQUAL
- C. CORPORATION STOP; MUELLER H-15000, OR APPROVED EQUAL
- D. ASTM B43 EXTRA STRONG SEAMLESS RED BRASS PIPE WITH I.P.S. MALE THREADED ENDS
- E. UNION REQUIRED IF BALL VALVE IS NOT "TRUE UNION" TYPE

GENERAL NOTES:

1. LOCATE AT EXACT HIGH POINT LONG WATER MAIN.
2. ARV SIZE SHOWN ON THE DRAWINGS IS DENOTED BY THE VALVE INLET SIZE ("A", IN INCHES) AND THE VALVE ORIFICE SIZE ("B", IN INCHES) AND IS STATED AS "A"X"B".
3. TO BE USED FOR LARGE DIAMETER WATER MAINS.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		AIR RELEASE VALVE INSTALLATION (TYPE B)
	7/26/21		W-6
ENG. DIRECTOR	DATE		

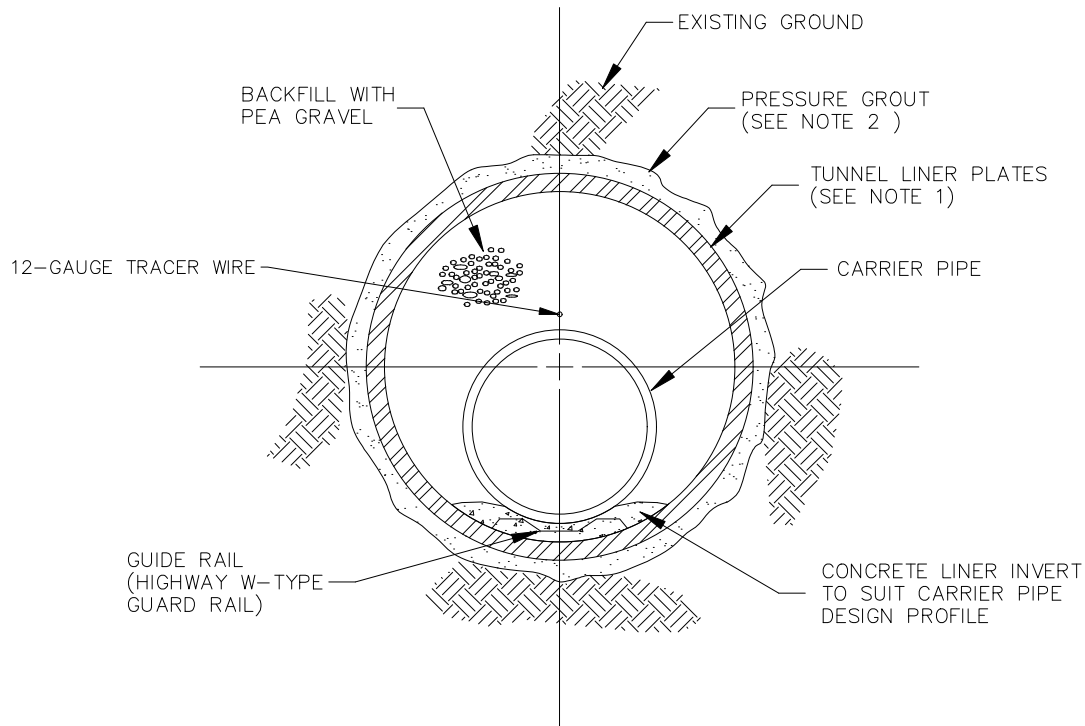


GENERAL NOTES:

1. LOCATE AT EXACT HIGH POINT LONG WATER MAIN.
2. TO BE USED FOR LARGE DIAMETER WATER MAINS.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		COMBINATION AIR CONTROL VALVE AIR RELEASE VALVE - AIR VACUUM VALVE (ARV-AVV)
	7/26/21		W-7
ENG. DIRECTOR	DATE		



GENERAL NOTES:

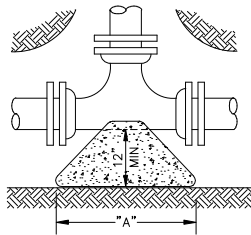
1. TUNNEL: MINE/EXCAVATE TUNNEL AS NEATLY AS POSSIBLE TO ELIMINATE VOIDS OR OVERBREAKS AND TO MAXIMIZE LINER TO SOIL CONTACT.
2. PRESSURE GROUT: OVERCUT AS SOON AS POSSIBLE AFTER INSTALLATION OF LINER PLATES (9' LENGTH MAX.) TO PREVENT SOIL SHIFTING AND TO MAINTAIN PROPER SHAPE OF TUNNEL.
3. BORE METHOD: AT THE CONTRACTOR'S OPTION AND WITH CONSENT OF THE PARTIES OR AGENCIES HAVING JURISDICTION, STEEL PIPE OR OTHER ACCEPTABLE MATERIAL MAY BE JACKED OR BORED INTO PLACE IN LIEU OF A LINER PLATE TUNNEL PROVIDED THE CONTRACTOR BE RESPONSIBLE FOR ALL APPROVALS FROM THE PARTIES AND / OR AGENCIES HAVING JURISDICTION INCLUDING, BUT NOT LIMITED TO, FURNISHING COMPLETE DETAILS OF THE METHODS TO BE EMPLOYED FOR APPROVAL.

NOT TO SCALE

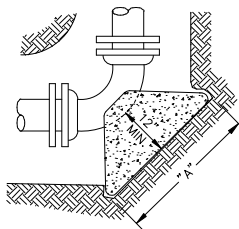
	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		TYPICAL TUNNEL SECTION
	7/26/21		W-8
ENG. DIRECTOR	DATE		

SCHEDULE OF MINIMUM BEARING AREA REQUIRED					
BASED ON 250 PSI INTERNAL PRESSURE AND 4000 PSF SOIL BEARING CAPACITY*					
PIPE SIZE	TEE OR DEAD END	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
4"	1.0	1.5	1.0	1.0	1.0
6"	3.5	5.0	2.7	1.4	1.0
8"	6.0	8.5	4.6	2.4	1.2
10"	9.1	12.8	6.9	3.5	1.8
12"	13.2	18.2	9.8	5.0	2.5
16"	22.3	31.5	17.1	8.7	4.4
18"	28.0	39.5	21.5	11.0	5.5
20"	34.5	48.5	26.5	13.5	7.0
24"	49.5	70.0	38.0	19.5	10.0
30"	77.3	109.5	59.5	30.0	15.0
36"	111.5	157.5	85.5	43.5	22.0
VALUES ARE TABULATED IN SQUARE FEET					

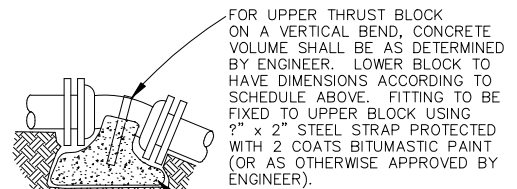
*Engineer to confirm actual required dimensions before construction of the Thrust Block.
 Bearing Area (square feet) = A(feet) x B(feet)



PLAN: TEE

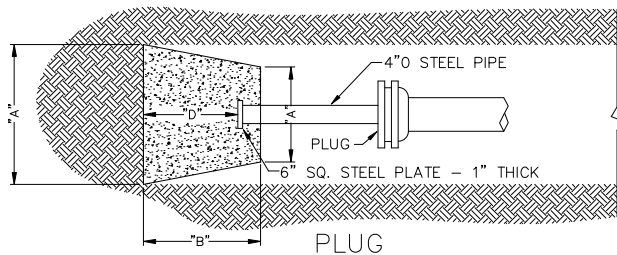


PLAN: 90° BEND

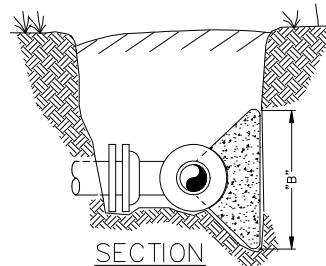


GRAVITY-TYPE THRUST BLOCK

WEIGHT IS CRITICAL - MUST BE DETERMINED OR APPROVED BY ENGINEER.



PLUG



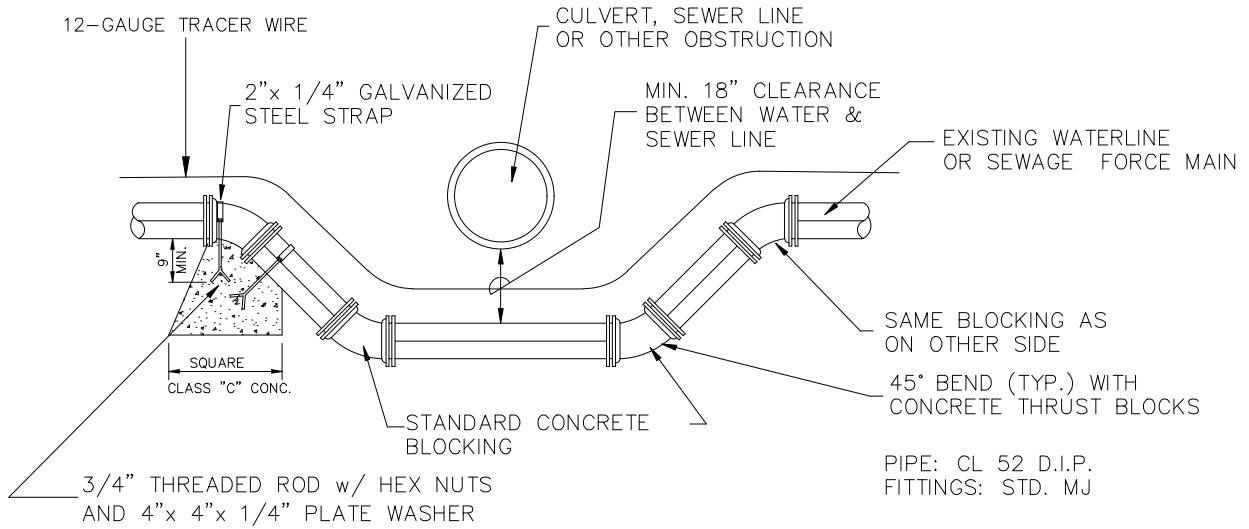
SECTION

GENERAL NOTES:

1. CONCRETE TO BE CLASS "B" (2000 P.S.I.) OR STRONGER.
2. DIMENSIONS AS SHOWN ARE APPROXIMATE - SUBJECT TO CHANGE AT DIRECTION OF OR APPROVAL OF ENGINEER.
3. KEEP CONCRETE CLEAR OF ANY PIPE JOINT, GLAND BOLT, ETC.
4. CONCRETE TO BEAR AGAINST UNDISTURBED EARTH WITH BEARING AREA EQUIVALENT TO AT LEAST AxB.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		CONCRETE THRUST BLOCK
	7/26/21		W-9
ENG. DIRECTOR	DATE		



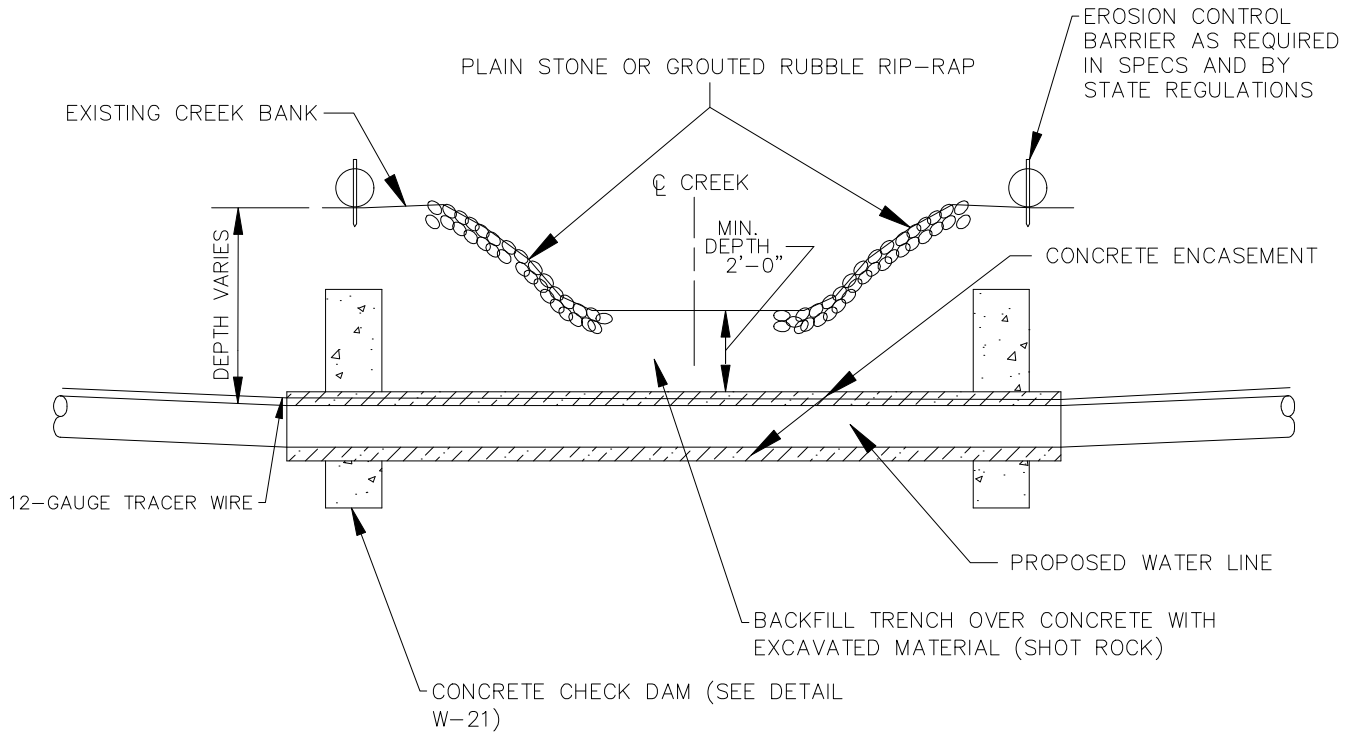
(Water Line or Main Relocation)

GENERAL NOTES:

1. FOR UPPER THRUST BLOCK ON A VERTICAL BEND, CONCRETE VOLUME SHALL BE AS APPROVED BY THE ENGINEER. COST OF STEEL STRAP & REBAR TO BE MERGED INTO UNIT PRICE BID FOR CONCRETE BLOCKING.
2. INSTALL STANDARD 3/4\"

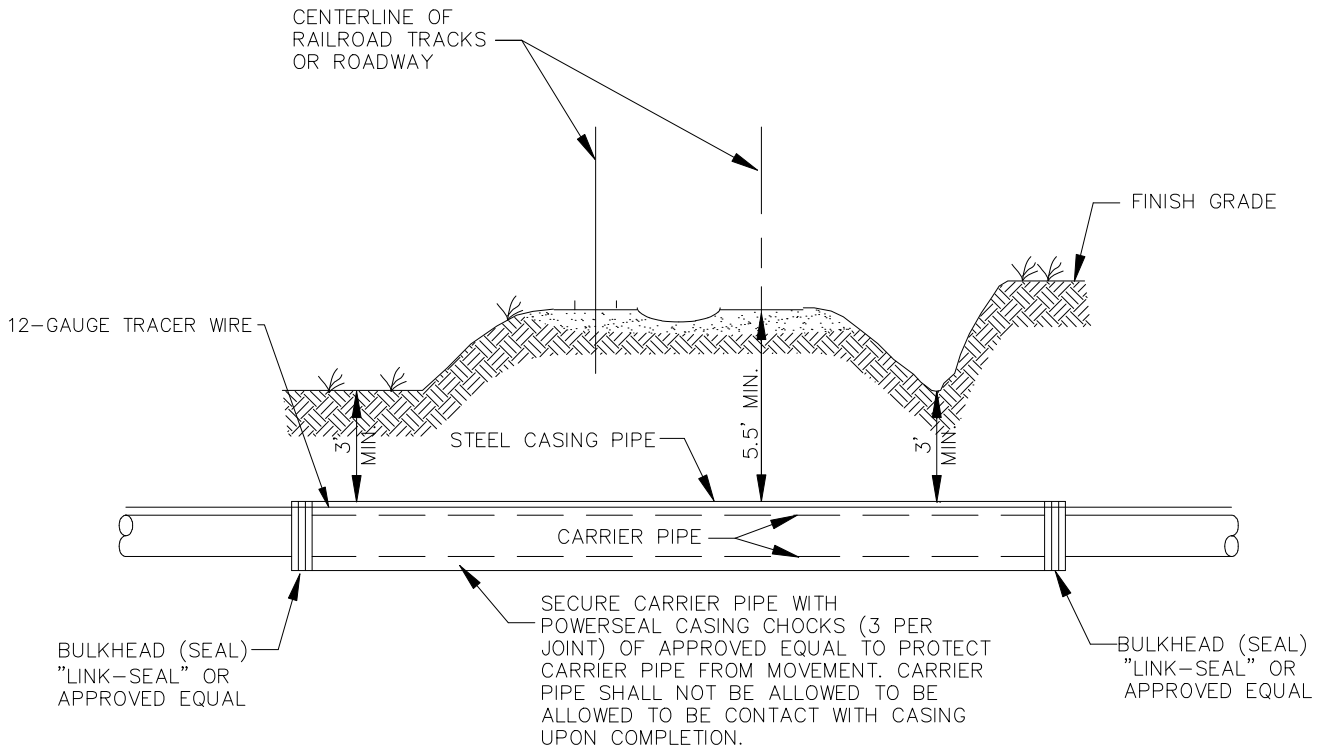
NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		METHOD OF CROSSING OBSTRUCTION
	7/26/21		W-10
ENG. DIRECTOR	DATE		



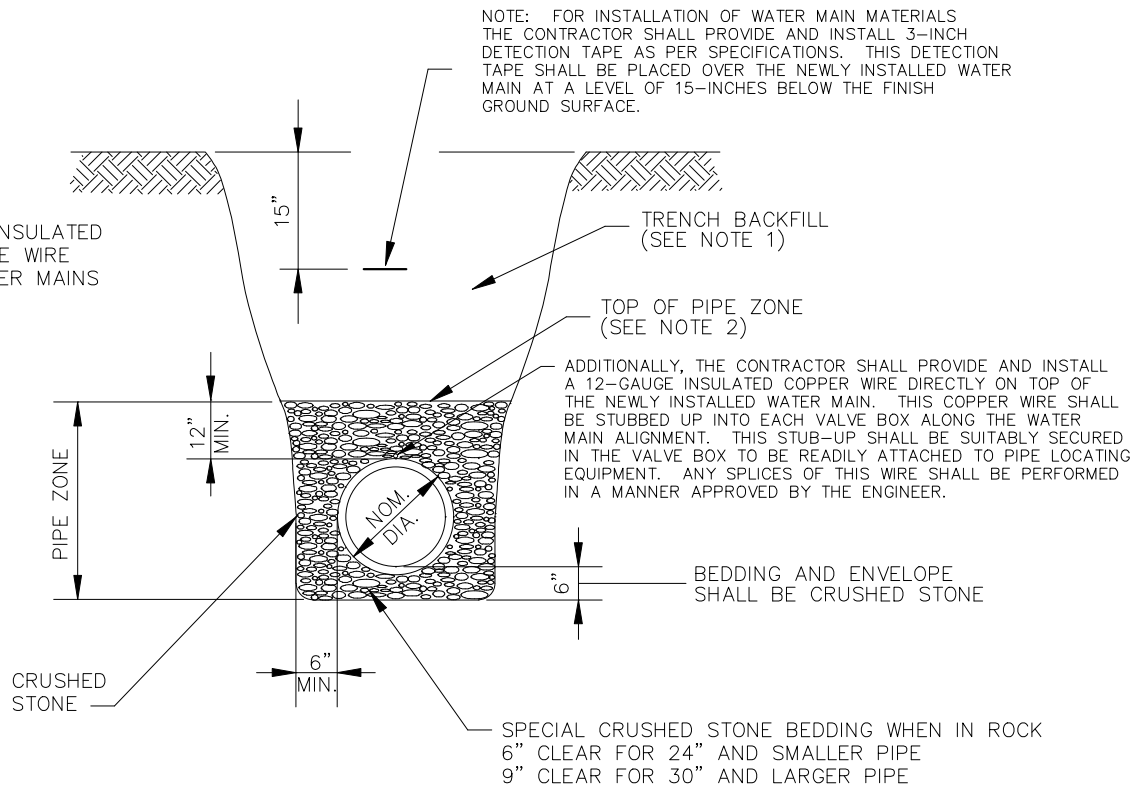
NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		TYPICAL CREEK CROSSING
	7/26/21		W-11
ENG. DIRECTOR	DATE		



NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		TYPICAL BORE CASING
	7/26/21		W-12
ENG. DIRECTOR	DATE		

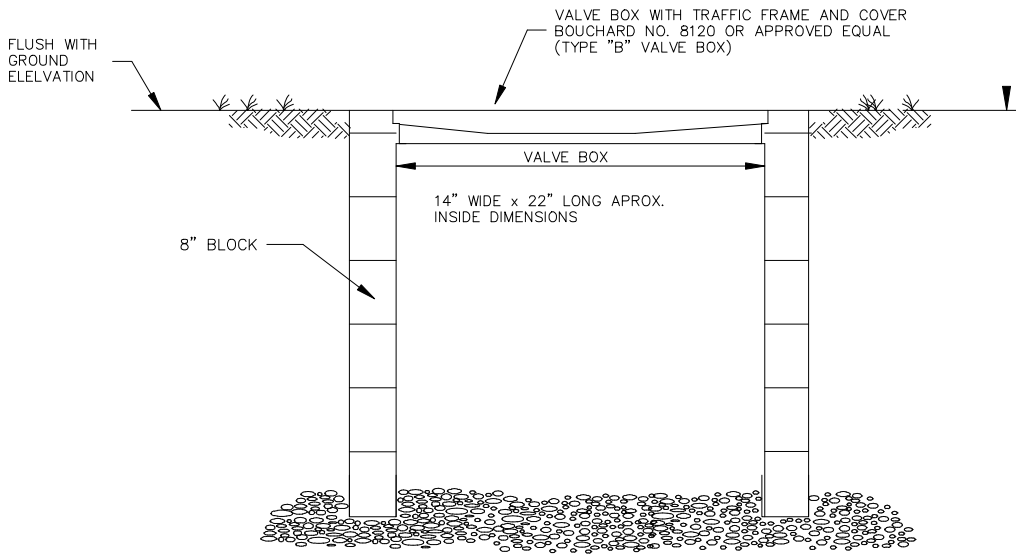


GENERAL NOTES:

1. SEE PROJECT SPECIFICATIONS FOR BACKFILL REQUIREMENTS.
2. "PIPE ZONE" EXTENDS 12" ABOVE TOP OF PIPE AND IS AREA IN WHICH SPECIAL CARE IS TO BE GIVEN TO PLACEMENT AND COMPACTION TO PROTECT PIPE DURING AND AFTER LAYING.
3. LIMIT TRENCH WIDTH AT TOP OF PIPE TO NOMINAL PIPE DIAMETER PLUS 24", UNLESS PERMITTED OTHERWISE BY ENGINEER.
4. TRENCH SHALL BE DUG TO GIVE PIPE FULL AND CONTINUOUS SUPPORT. ALL ROCK TO BE REMOVED TO WITHIN 6" OF PIPE-BED TO PIPE GRADE WITH CRUSHED STONE BEDDING. BEDDING FROM PIPE GRADE TO 12" ABOVE PIPE TO BE CRUSHED STONE.
5. PIPE TO BE CONTINUOUSLY SUPPORTED ALONG LENGTH OF PIPE BARREL EXCEPT AT BELLS. BELL HOLES REQUIRED SUCH THAT NO BEARING LOAD IS TAKEN BY THE BELL.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		WATER LINE INSTALLATION FLAT BOTTOM TRENCH (TAMPED BACKFILL)
	7/26/21		W-13
ENG. DIRECTOR	DATE		

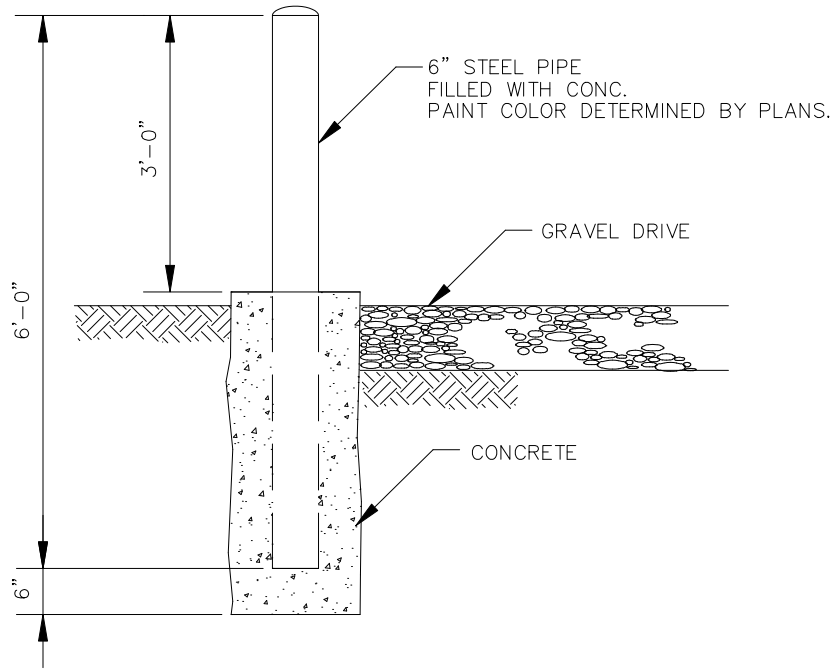


GENERAL NOTES:

1. THIS DETAIL IS FOR VALVE BOX CONSTRUCTION ONLY.

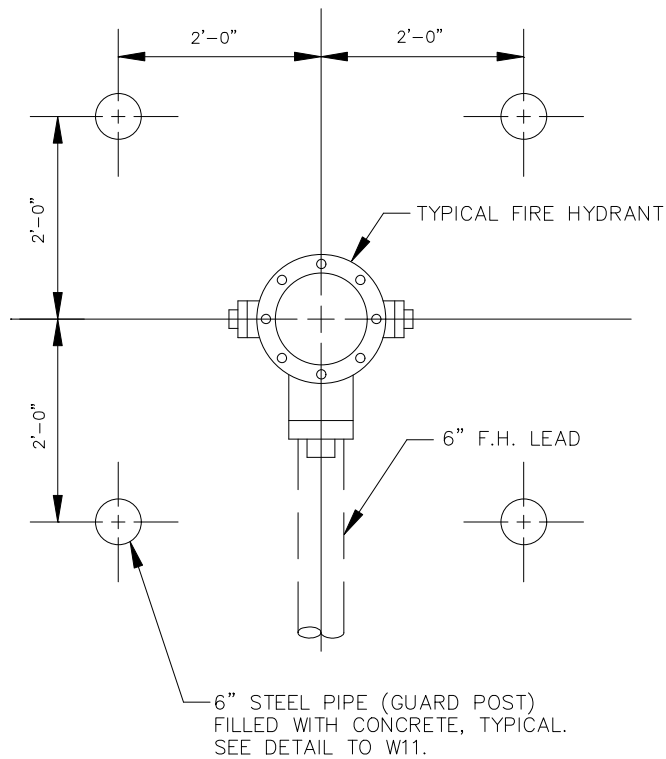
NOT TO SCALE

	<p>7/26/21</p>	<p>CITY OF LEBANON</p>	<p>DEP. OF PUBLIC SERVICES</p>
<p>E.I.T.</p>	<p>DATE</p>		<p>SMALL VALVE BOX & COVER (TRAFFIC TYPE)</p>
	<p>7/26/21</p>		<p>W-14</p>
<p>ENG. DIRECTOR</p>	<p>DATE</p>		



SCALE: 1/2"=1'

	7/26/21	<h1>CITY OF LEBANON</h1>	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		GUARD POST
	7/26/21		<h2>W-15</h2>
ENG. DIRECTOR	DATE		



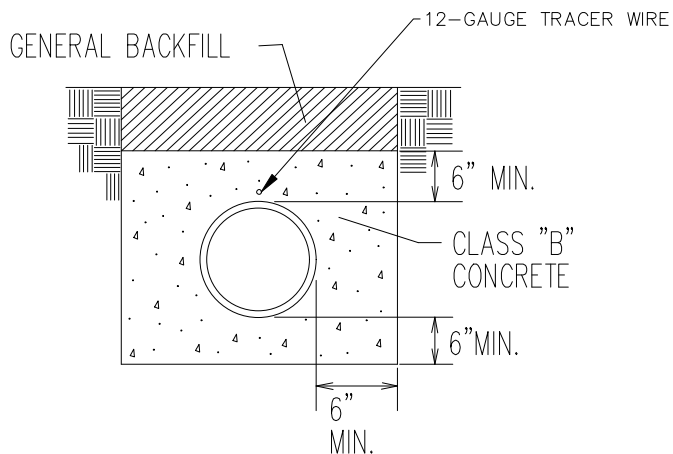
PLAN VIEW

GENERAL NOTES:

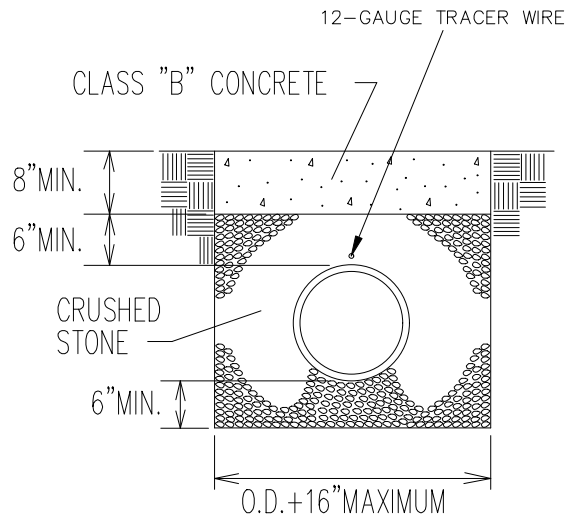
- WHERE INDICATED ON DRAWINGS IN SOME SITUATIONS LESS THAN FOUR (4) BARRIERS WILL BE REQUIRED AT HYDRANTS.

NOT TO SCALE

	<p>7/26/21</p>	<p>CITY OF LEBANON</p>	<p>DEP. OF PUBLIC SERVICES</p>
<p>E.I.T.</p>	<p>DATE</p>		<p>TYPICAL BARRIER (PAVEMENT AREAS)</p>
	<p>7/26/21</p>		<p>W-16</p>
<p>ENG. DIRECTOR</p>	<p>DATE</p>		



CONCRETE ENCASEMENT



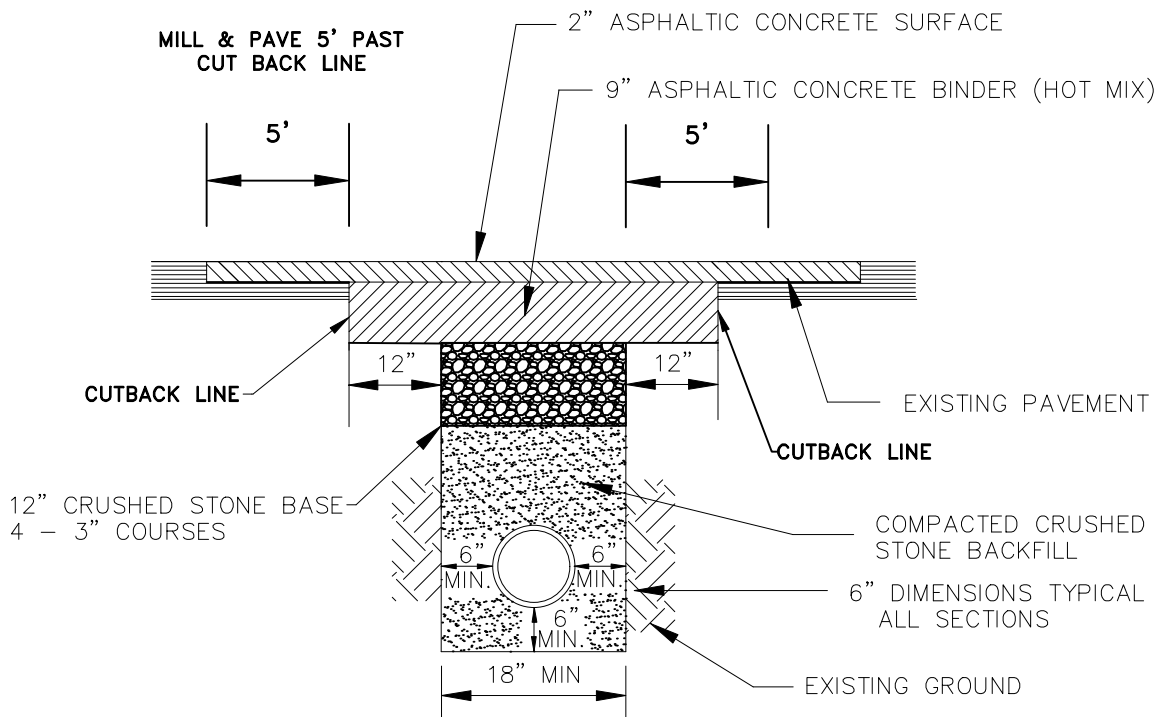
CONCRETE CAP

GENERAL NOTES:

1. TO BE USED WHERE NOTE ON DRAWINGS REQUIRES PIPE TO BE ENCASED OR CAPPED WITH CONCRETE OR WHERE ENGINEER DIRECTS CONCRETE TO BE POURED

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		CONCRETE CAP/ENCASEMENT
	7/26/21		W-17
ENG. DIRECTOR	DATE		



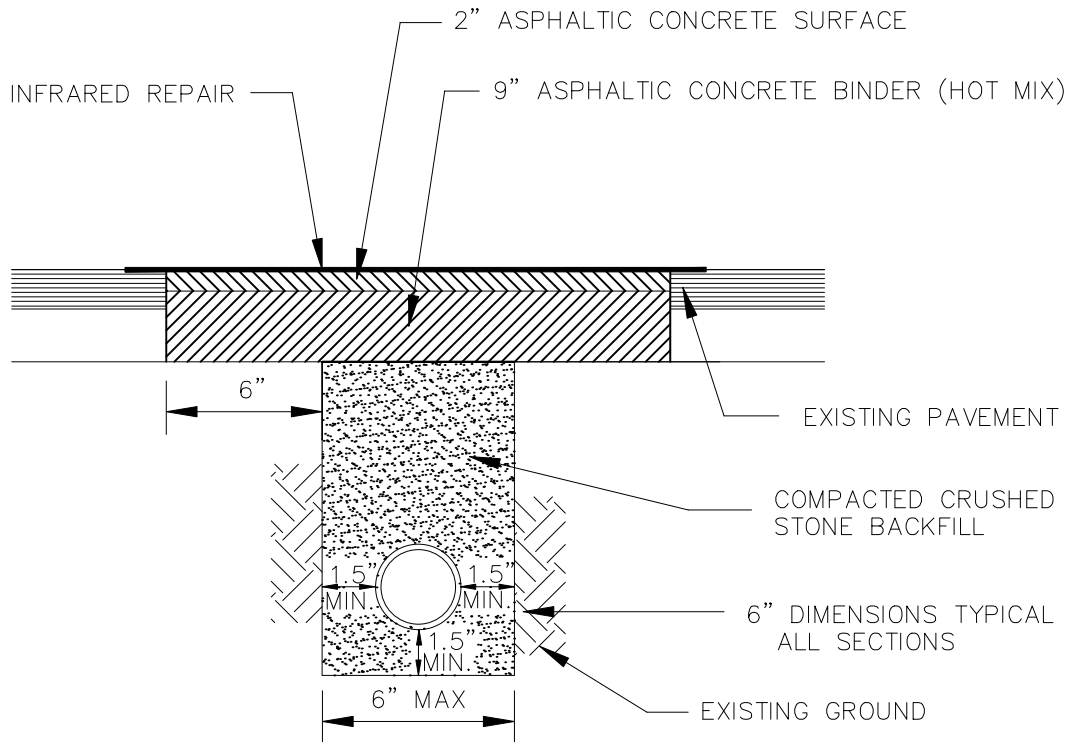
TYPICAL SECTION ASPHALT PAVEMENT – TYPE A

GENERAL NOTES:

1. A CITY INSPECTOR IS TO BE PRESENT FOR TRENCH REPAIR INSTALLATION.
2. ALL TRENCH REPAIR WORK SHALL HAVE A WARRANTY PERIOD OF 1 YEAR AFTER THE ACCEPTANCE DATE.
3. EDGE OF PAVEMENT SHALL BE SAW CUT 12" PAST TRENCH ON ALL SIDES AS NECESSARY TO OBTAIN NEAT LINES.
4. MINIMUM TRENCH WIDTH SHALL BE 18" TO ALLOW FOR PLATE COMPACTOR.
5. ALL PAVEMENT MARKINGS AFFECTED BY CONSTRUCTIONS MUST BE REPLACED.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		PAVEMENT REPAIR (TYPE A)
	7/26/21		W-18
ENG. DIRECTOR	DATE		



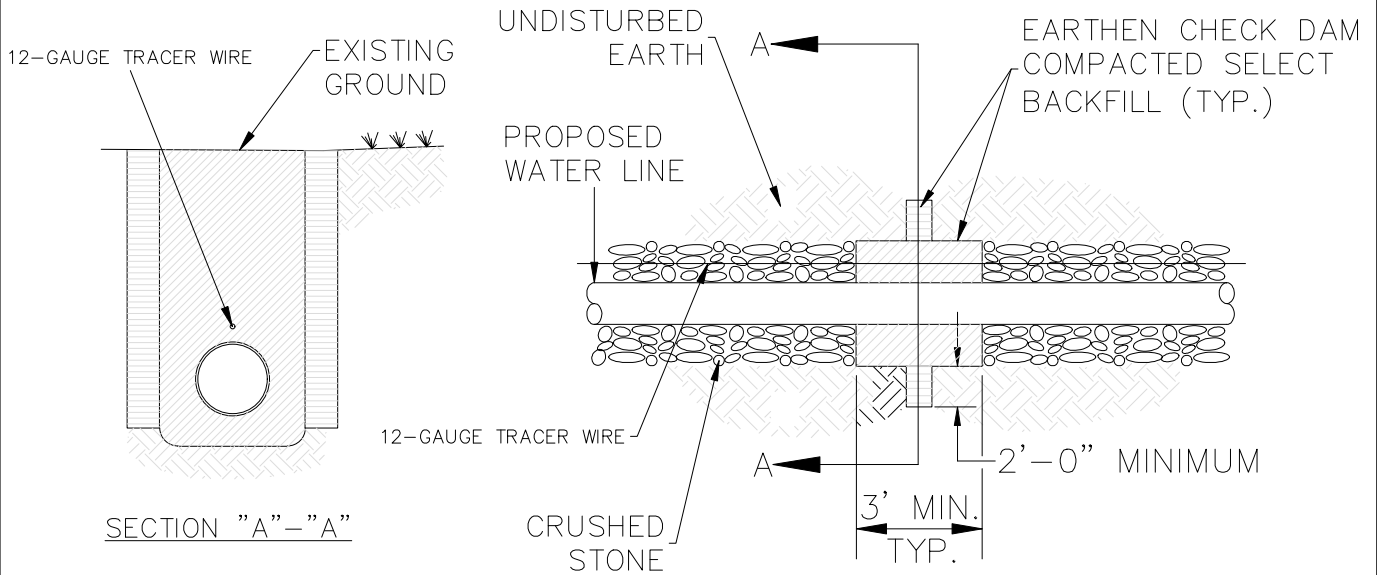
TYPICAL SECTION ASPHALT PAVEMENT – TYPE A

GENERAL NOTES:

1. THIS DETAIL SHALL BE USED FOR SERVICE LINES ONLY. TRENCHES FOR MAIN LINES SHALL USE DETAIL W-18.
2. A CITY INSPECTOR IS TO BE PRESENT FOR TRENCH REPAIR INSTALLATION.
3. ALL TRENCH REPAIR WORK SHALL HAVE A WARRANTY PERIOD OF 1 YEAR AFTER THE ACCEPTANCE DATE.
4. EDGE OF PAVEMENT SHALL BE SAW CUT 12" PAST TRENCH ON ALL SIDES AS NECESSARY TO OBTAIN NEAT LINES.
5. INFRARED REPAIR SHALL BE REQUIRED ON NARROW TRENCHES.
6. ALL PAVEMENT MARKINGS AFFECTED BY CONSTRUCTIONS MUST BE REPLACED.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		NARROW TRENCH REPAIR
	7/26/21		W-19
ENG. DIRECTOR	DATE		

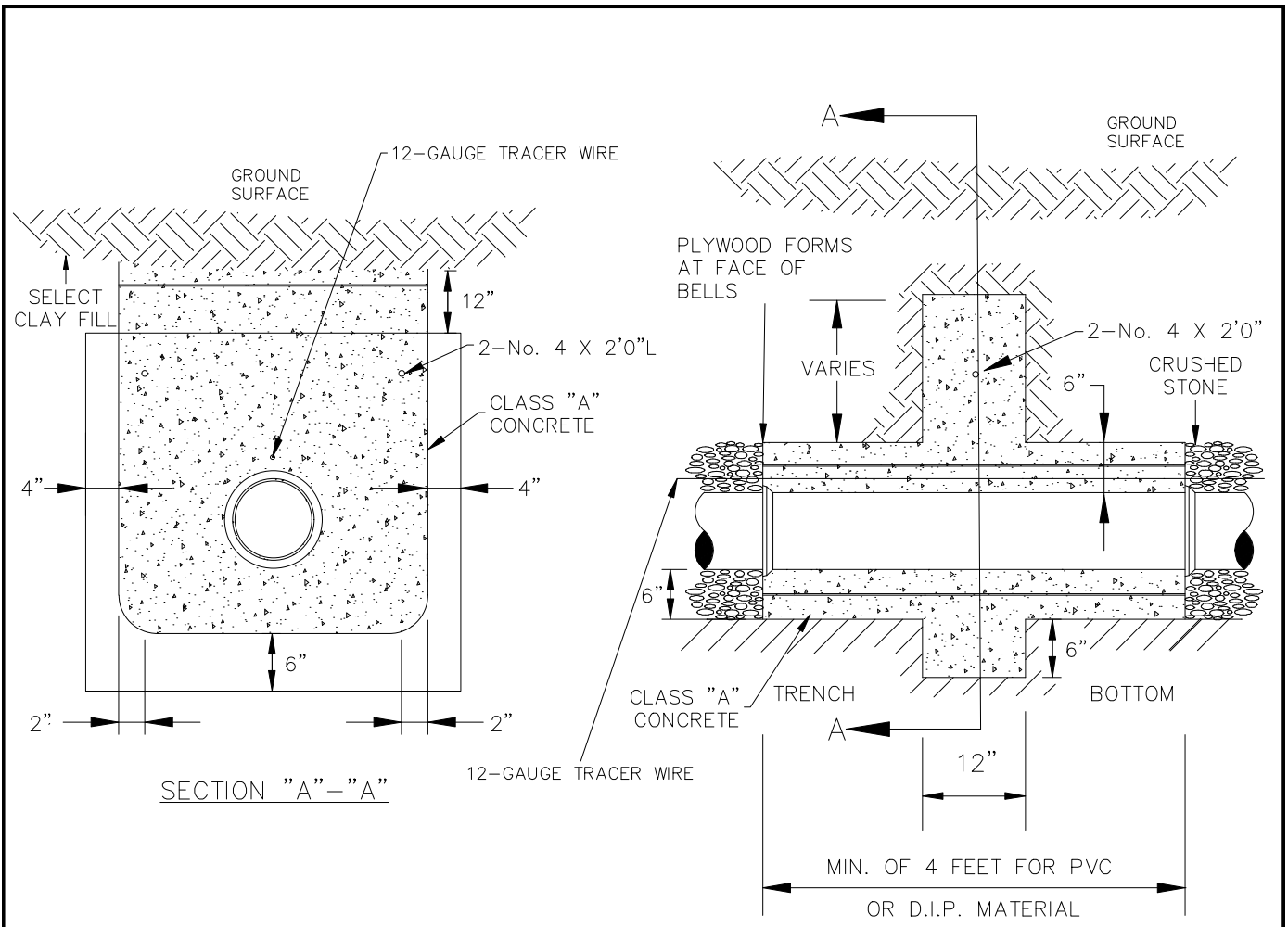


GENERAL NOTES:

1. SPECIAL CARE MUST BE USED TO PLACE AND COMPACT CLAY SOIL UNDER THE HAUNCHES OF THE PIPE TO PROVIDE UNIFORM SUPPORT UNDER THE PIPE.
2. IN AREAS DESIGNATED FOR "EARTHEN CHECK DAM", BEDDING & BACKFILL WITHIN THE PIPE ZONE AND FOR A DISTANCE OF 3 FEET ALONG THE PIPE CENTERLINE SHALL BE SELECTED CLAY SOIL PLACED IN LIFTS OF 6 INCHES± AND COMPACTED TO AT LEAST 80% MINIMUM DENSITY (STANDARD PROCTOR)

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		EARTHEN CHECK DAM
	7/26/21		W-20
ENG. DIRECTOR	DATE		

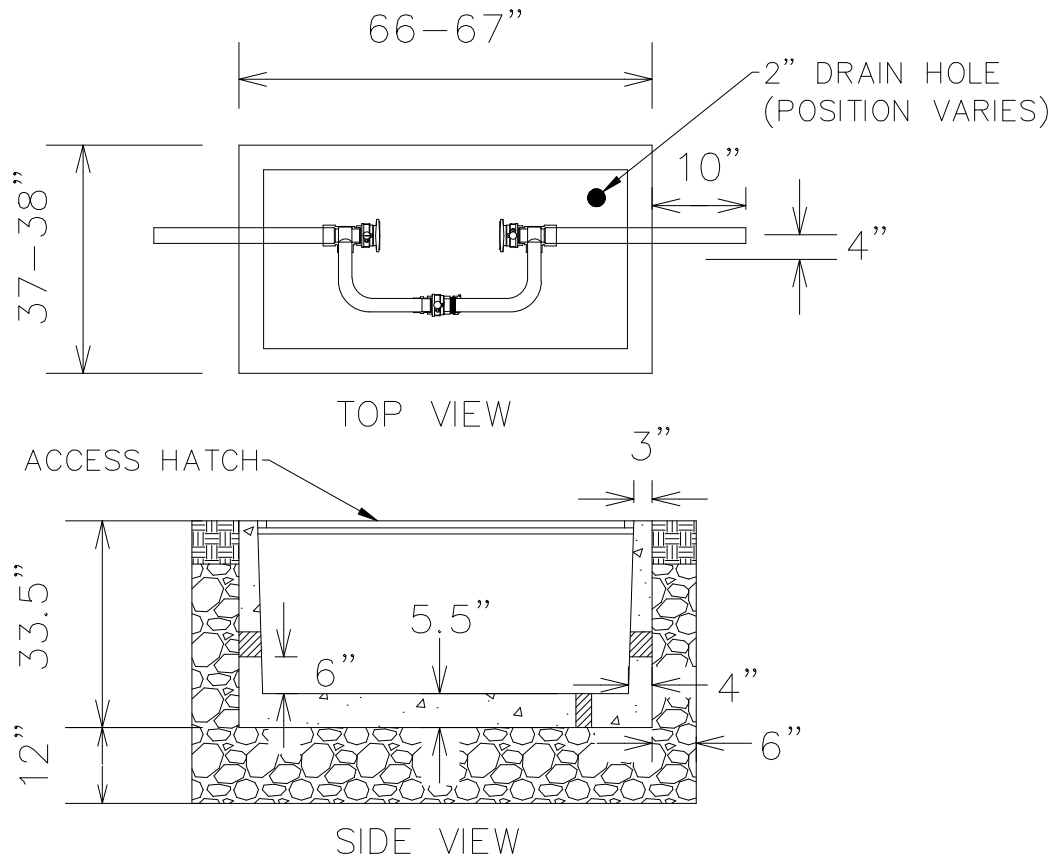


GENERAL NOTES:

1. A 4-INCH KEYWAY SHALL BE CUT IN DIRT EXCAVATION. FRACTURED AND SHOT ROCK SHALL BE REMOVED TO CLEAN SOLID ROCK IN ROCK TRENCHES. THIS IS REQUIRED ON SIDES IN ADDITION TO BOTTOM. IF BOTTOM IS OVERSHOT, MUST BE CLEANED TO SOLID UNFRACTURED ROCK.

NOT TO SCALE

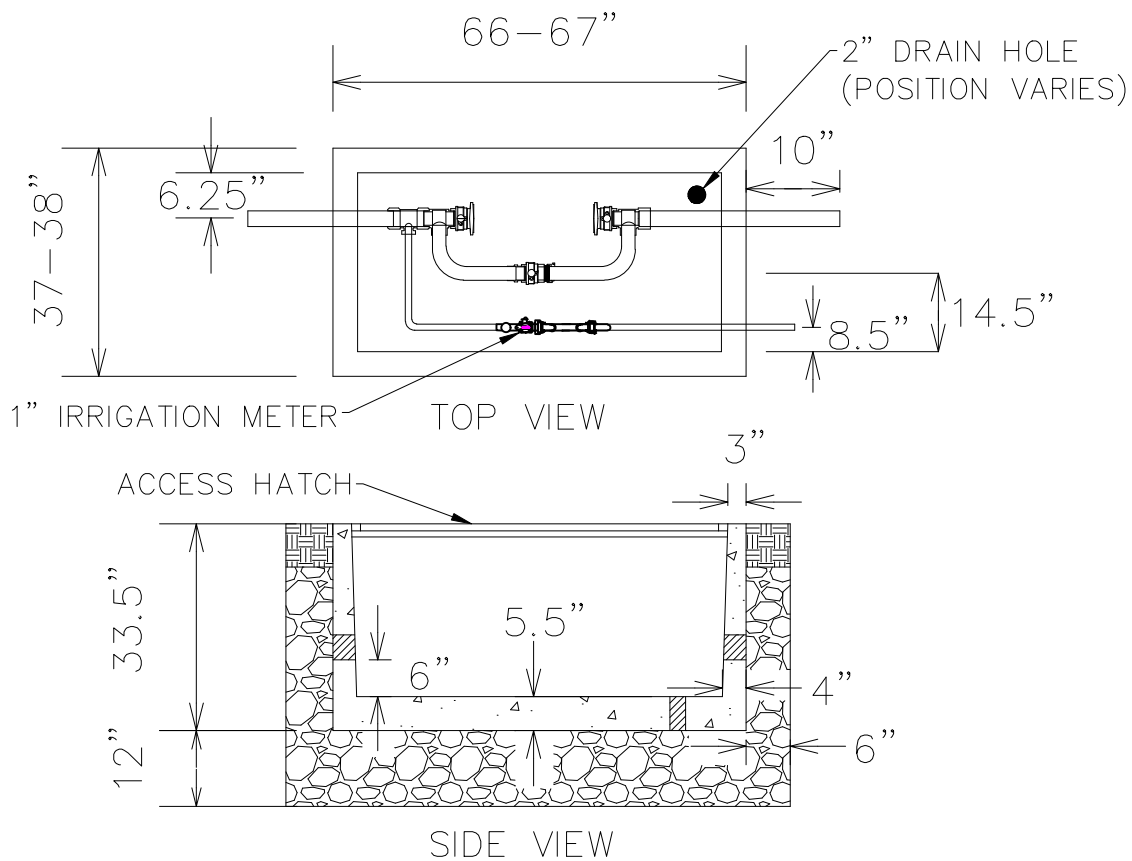
	<p>7/26/21</p>	<p>CITY OF LEBANON</p>	<p>DEP. OF PUBLIC SERVICES</p>
<p>E.I.T.</p>	<p>DATE</p>		<p>CONCRETE CHECK DAM</p>
	<p>7/26/21</p>		<p>W-21</p>
<p>ENG. DIRECTOR</p>	<p>DATE</p>		



GENERAL NOTES

1. ASSEMBLY SHALL INCLUDE (2) BRASS NIPPLES.
 2. ASSEMBLY SHALL INCLUDE (1) MCDONALD AYM720R700KWWF777x22.88x436, FORD VBB77-00B-C16410-001-NL, OR APPROVED EQUAL NO RISE SETTER WITH BYPASS.
 3. ASSEMBLY SHALL INCLUDE (3) 2" OVAL METER GASKETS (2 BOLT).
 4. ASSEMBLY SHALL INCLUDE (3) 5/8" ZINC HEX BOLT & NUT (2 EACH PER PACK).
 5. THE CITY OF LEBANON SHALL SUPPLY 2" COMPOUND METER & STRAINER.
 6. THE CONTRACTOR SHALL PROVIDE THE 2" METER VAULT.
 7. 2" PIPING REQUIRES A 4" SCHEDULE 40 PVC CASING PIPE.
 8. 2" STAINLESS STEEL INSERTS / STIFFENERS (FORD #55 OR MUELLER #528707) ARE REQUIRED FOR 2" PIPING.
 9. ASSEMBLY SHALL INCLUDE A HALLIDAY S1R029059CBD HATCH, A&L 6234ALM HATCH, OR AN APPROVED EQUAL.
 10. WHERE GROUTING WILL OCCUR, PIPES MUST BE WRAPPED WITH PLASTIC PRIOR TO GROUTING. GROUTING MUST BE FLUSH WITH WALL.
 11. PIPES SHALL EXTEND A MINIMUM OF 10" BEYOND THE OUTER VAULT WALLS.
 12. HOLES FOR METER ASSEMBLY SHALL BE OFFSET FROM THE CENTER OF THE VAULT.
- NOT TO SCALE

	7/26/21	<p style="font-size: 24pt; font-weight: bold;">CITY OF LEBANON</p>	<p>DEP. OF PUBLIC SERVICES</p>
E.I.T.	DATE		<p>2" METER ASSEMBLY DETAIL</p>
	7/26/21		<p style="font-size: 24pt; font-weight: bold;">W-22</p>
ENG. DIRECTOR	DATE		



GENERAL NOTES

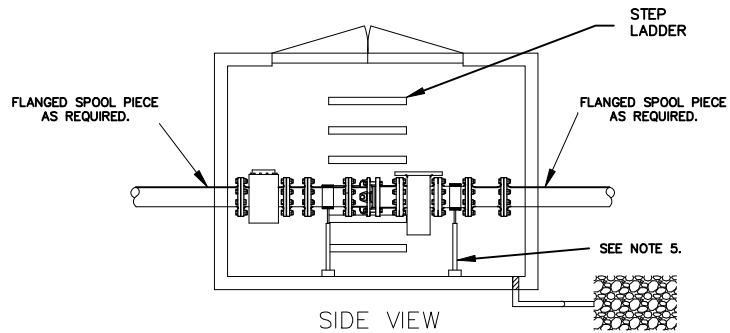
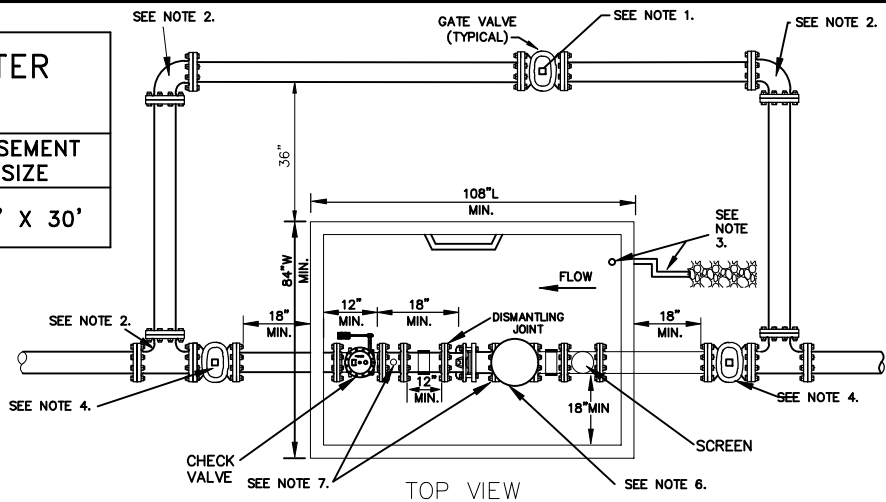
1. ASSEMBLY SHALL INCLUDE (2) 2" BRASS NIPPLES AND (1) 1" BRASS NIPPLE.
2. ASSEMBLY SHALL INCLUDE (1) MCDONALD AYM720R700KWWF777x22.88x451, FORD VBB77-00B-C16410-001-NL, OR APPROVED EQUAL NO RISE SETTER WITH BYPASS.
3. ASSEMBLY SHALL INCLUDE (1) 1" A.Y. MCDONALD LINE SETTER 770-4-WDM44.
4. ASSEMBLY SHALL INCLUDE (3) 2" OVAL METER GASKETS (2 BOLT).
5. ASSEMBLY SHALL INCLUDE (3) 5/8" ZINC HEX BOLT & NUT (2 EACH PER PACK).
6. ASSEMBLY SHALL INCLUDE (1) A.Y. MCDONALD MIPXPJC ADAPTER 74753-22 NO LEAD.
7. ASSEMBLY SHALL INCLUDE (1) A.Y. MCDONALD 1" COPPER TUBE L 12" X 16".
8. ASSEMBLY SHALL INCLUDE (1) A.Y. MCDONALD BALL VALVE PJCXFIPT 76102W-22 NO LEAD.
9. THE CITY OF LEBANON SHALL SUPPLY 2" COMPOUND METER, 1" METER, & STRAINER.
10. THE CONTRACTOR SHALL PROVIDE THE 2" METER VAULT.
11. 2" PIPING REQUIRES A 4" SCHEDULE 40 PVC CASING PIPE.
12. 2" STAINLESS STEEL INSERTS / STIFFENERS (FORD #55 OR MUELLER #528707) ARE REQUIRED FOR 2" PIPING.
13. ASSEMBLY SHALL INCLUDE A HALLIDAY S1R029059CBD HATCH, A&L 6234ALM HATCH, OR AN APPROVED EQUAL.
14. WHERE GROUTING WILL OCCUR, PIPES MUST BE WRAPPED WITH PLASTIC PRIOR TO GROUTING. GROUTING MUST BE FLUSH WITH WALL.
15. PIPES SHALL EXTEND A MINIMUM OF 10" BEYOND THE OUTER VAULT WALLS.
16. HOLES FOR METER ASSEMBLY SHALL BE OFFSET FROM THE CENTER OF THE VAULT.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		2" METER WITH 1" IRRIGATION ASSEMBLY DETAIL
	7/26/21		W-23
ENG. DIRECTOR	DATE		

4" & LARGER MASTER METER VAULT		
METER SIZE	VAULT DIMENSION	EASEMENT SIZE
4", 6", 8"	108"L X 84"W X 72"H	40' X 30'

CONTRACTOR TO CONTACT WATER DEP. FOR ON-SITE PRECONSTRUCTION MEETING 615-444-0825 EXT. 5105



GENERAL NOTES

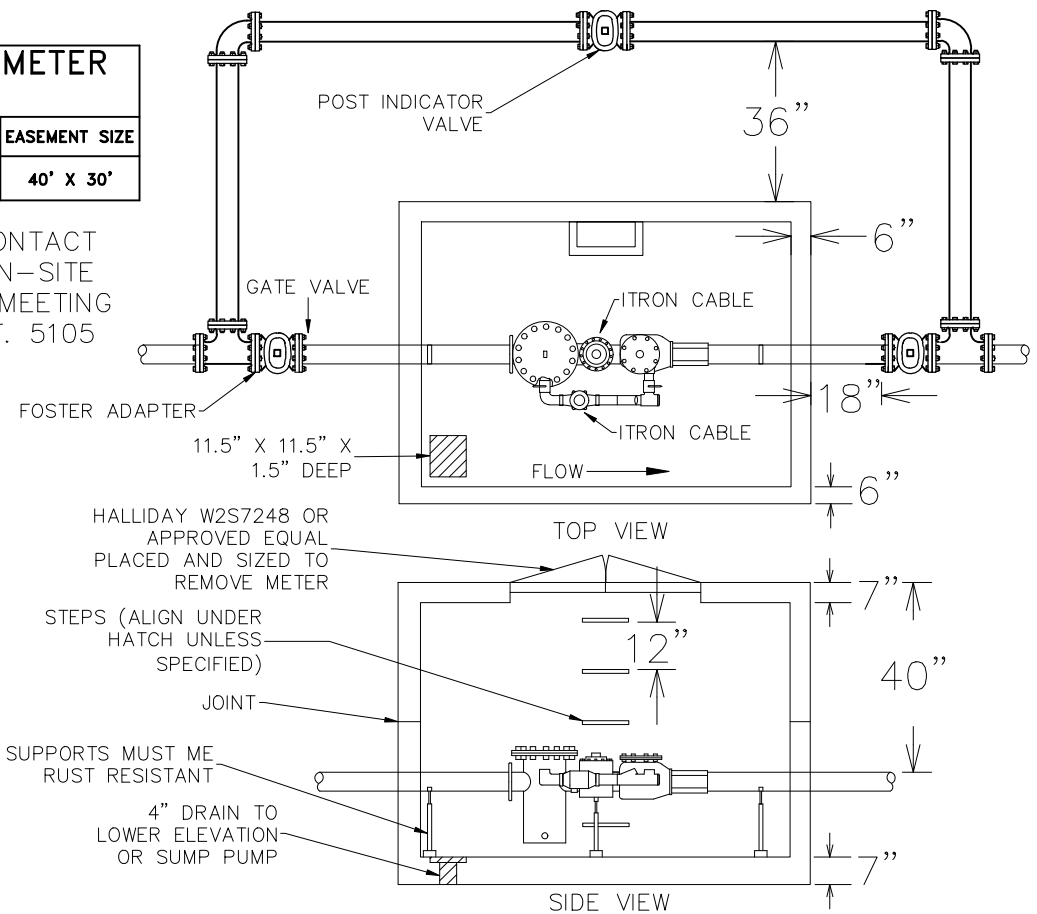
1. GATE VALVE WITH LOCKABLE POST INDICATOR SHALL BE FACTORY PAINTED SAFETY BLUE.
2. STANDARD MECHANICAL JOINT FITTINGS WITH MEGALUGS. CONCRETE THRUST BLOCKS REQUIRED FOR ALL FITTINGS.
3. 2 1/2" HOLE FOR POSITIVE DRAIN LOCATED A MINIMUM OF 6" FROM THE BOTTOM OF THE METER WITH A 2" PVC PIPE EXTENDING 1' OUT TO 90 DEGREE TO GRAVEL BED.
4. MJ GATE VALVE AND VALVE BOX. VALVES MUST BE ANCHORED TO THE TEES WITH 3/4" RODDING.
5. MINIMUM OF 2 ADJUSTABLE METAL PIPE SUPPORTS IN VAULT.
6. 4", 6", OR 8" MASTER METER. (BADGER COMPOUND METER WITH ITRON CABLE)
7. 2" TEST ASSEMBLY CONSISTING OF 2" THREADED BRASS PLUG, 2" GATE VALVE OR AT THE MASTER METER
8. 4' X 6' ALUMINUM HATCH TO BE CENTERED OVER THE METER AND OFFSET TO THE STEPS.
9. GFI PLUG LOCATED AT HATCH ENTRANCE, AT NO TIME CAN ELECTRICAL CONDUIT BE LAID IN SAME DITCH AS THE WATER MAIN.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		MASTER METER ASSEMBLY (4" & LARGER)
	7/26/21		W-24
ENG. DIRECTOR	DATE		

COMBINATION METER VAULT		
METER SIZE	VAULT DIMENSION	EASEMENT SIZE
4", 6", 8"	108"L X 84"W X 72"H	40' X 30'

CONTRACTOR TO CONTACT
WATER DEP. FOR ON-SITE
PRECONSTRUCTION MEETING
615-444-0825 EXT. 5105



GENERAL NOTES

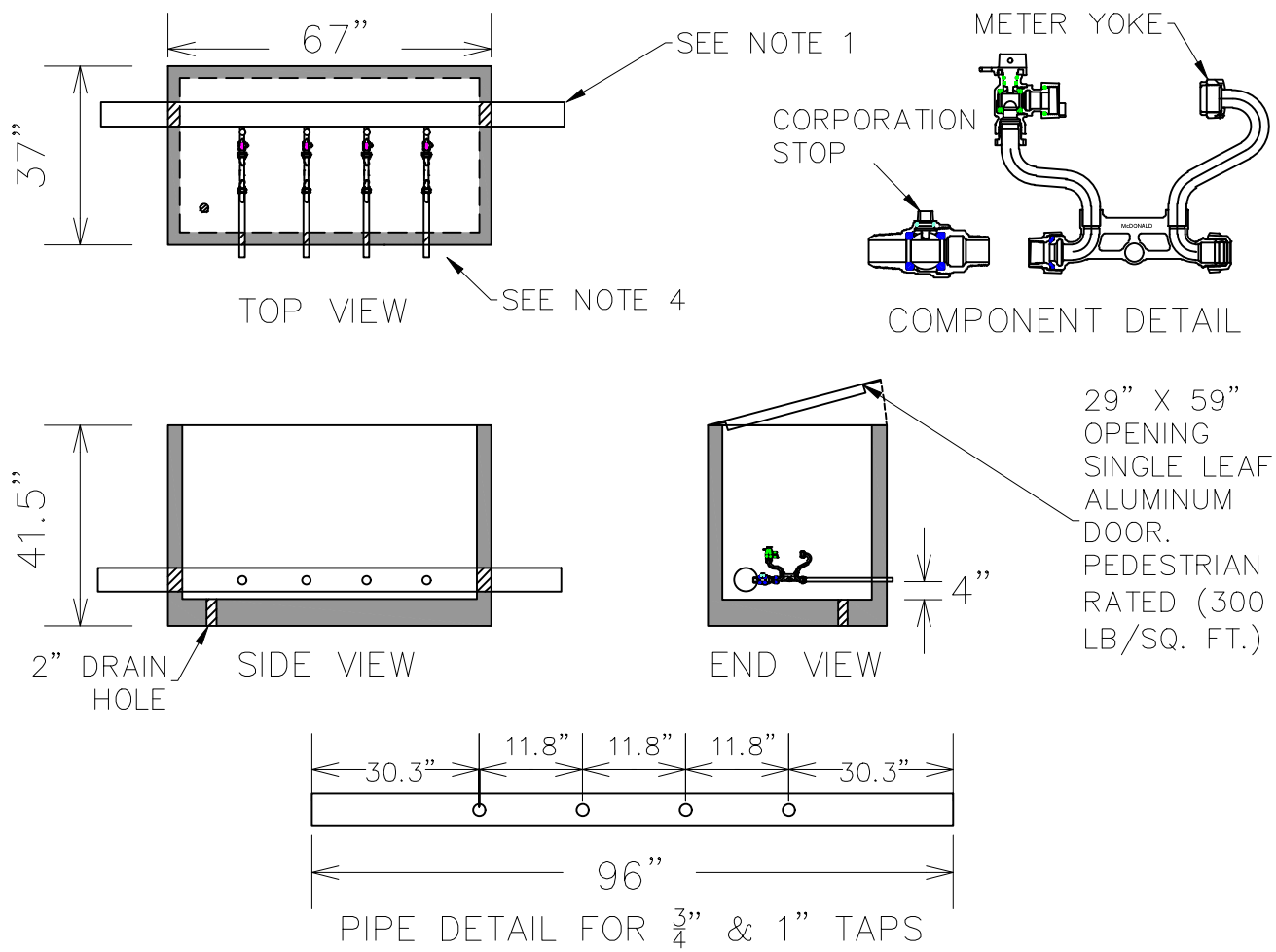
- EXTERNAL BY-PASS SHALL INCLUDE THE FOLLOWING FOR 4", 6", OR 8" METERS:
 - (2) MJ TEES
 - 20 FT OF 6TS2 DUCTILE IRON PIPE
 - (2) MJ GATE VALVES
 - (2) 5625 VALVE BOXES
- ASSEMBLY SHALL INCLUDE THE FOLLOWING FOR 6" OR 8" METERS:
 - (1) BADGER METER RECORDALL (FIRE SERIES ASSEMBLIES – FSAA) W/DISC. BYPASS
 - (1) DISMANTLING JOINT
 - (1) MJ POST INDICATOR VALVE PAINTED SAFETY BLUE
 - (1) MUELLER TYPE B. POST
 - (1) POST INDICATOR TAMPER SWITCH
 - (16) MEGA LUGS F/DIP W/ACC
 - (2) MJ 90 DEGREE BENDS
- CONCRETE SHALL BE 5000 PSI MIN. STRENGTH (28 DAY) WITH #3 REBAR (GRADE 60) REINFORCEMENT.
- INLET & OUTLET SHALL BE FITTED WITH SOLID SEALS THAT MEET OR EXCEED ASTM C923 (4" D.I.P. – 10" D.I.P.).
- SEALANT USED SHALL MEET OR EXCEED ASTM C990
- GATE VALVE WITH LOCKABLE POST INDICATOR TO BE FACTORY PAINTED SAFETY BLUE.
- STANDARD MECHANICAL JOINT FITTINGS WITH MEGALUGS. CONCRETE THRUST BLOCKS REQUIRED FOR ALL FITTINGS.
- GFI PLUG LOCATED AT HATCH ENTRANCE, AT NO TIME CAN ELECTRICAL CONDUIT BE LAID IN SAME DITCH AS THE WATER MAIN.
 - FLANGE X PE PIPING 6'
 - (1) 2" TEST ASSEMBLY ON FIRE METER
 - (3) FLANGE ACCESSORIES

NOT TO SCALE

	7/26/21
E.I.T.	DATE
	7/26/21
ENG. DIRECTOR	DATE

CITY OF LEBANON

DEP. OF PUBLIC SERVICES
COMBINATION METER ASSEMBLY
W-25



GENERAL NOTES FOR 3/4" TAPS:

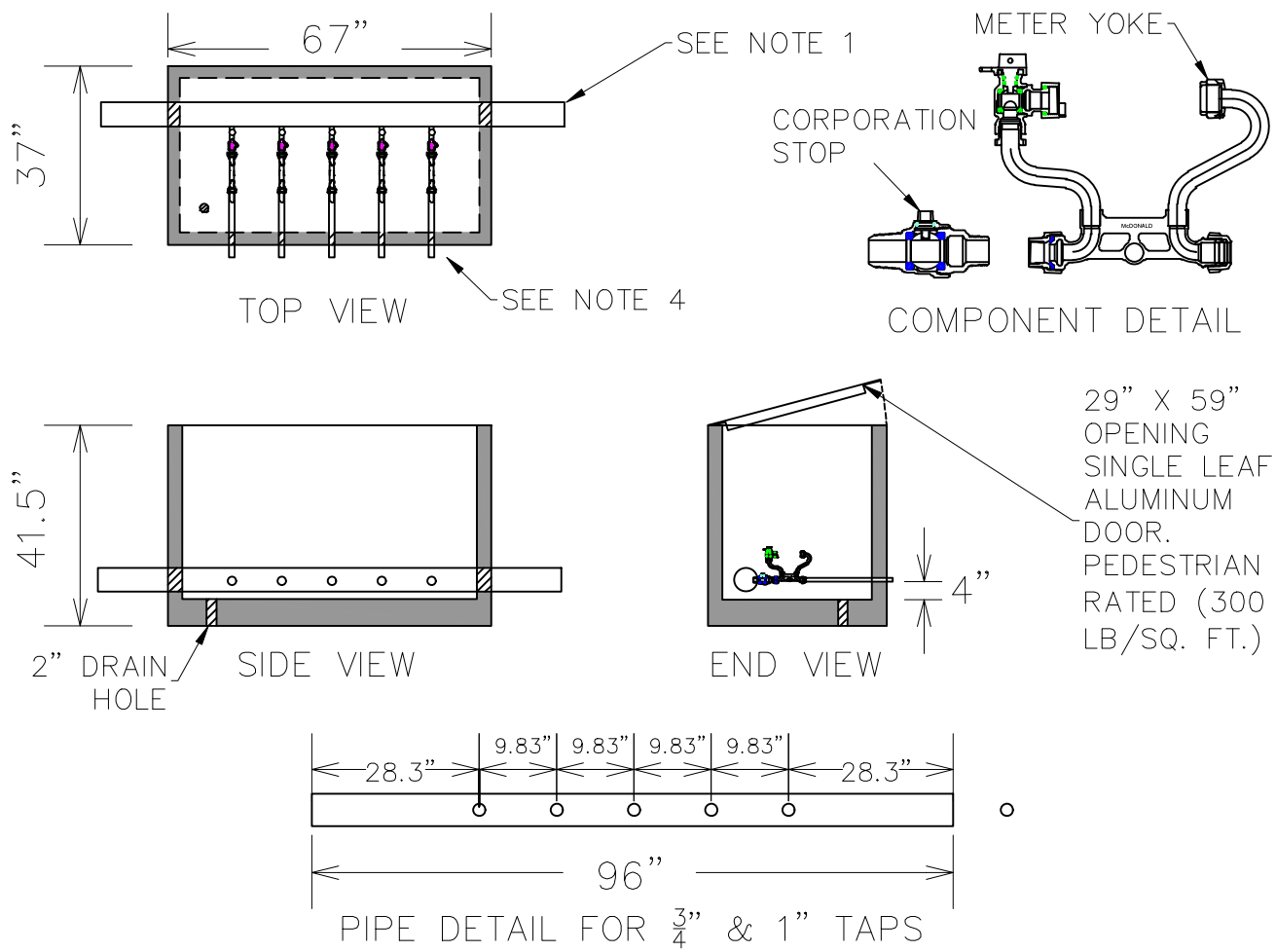
1. FOR 3/4" TAPS, PIPE SHALL BE 4" D.I.P CLASS 53.
2. METER YOKE SHALL BE A.Y. MCDONALD 720-207 WDM33 MNPT UNION X DOUBLE PURPOSE.
3. CORPORATION STOP SHALL BE A.Y. MCDONALD 3/4" 74101BCAPF AWWA/CC X FNPT
4. 3/4" X 24" BRASS NIPPLES

GENERAL NOTES FOR 1" TAPS:

1. FOR 1" TAPS, PIPE SHALL BE 4" D.I.P CLASS 56.
2. METER YOKE SHALL BE A.Y. MCDONALD 720-412 WDM44.
3. CORPORATION STOP SHALL BE A.Y. MCDONALD 7410BCAPF
4. 1" X 18" BRASS NIPPLES

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		4 GANG METER VAULT DETAIL
	7/26/21		W-26
ENG. DIRECTOR	DATE		



GENERAL NOTES FOR 3/4" TAPS:

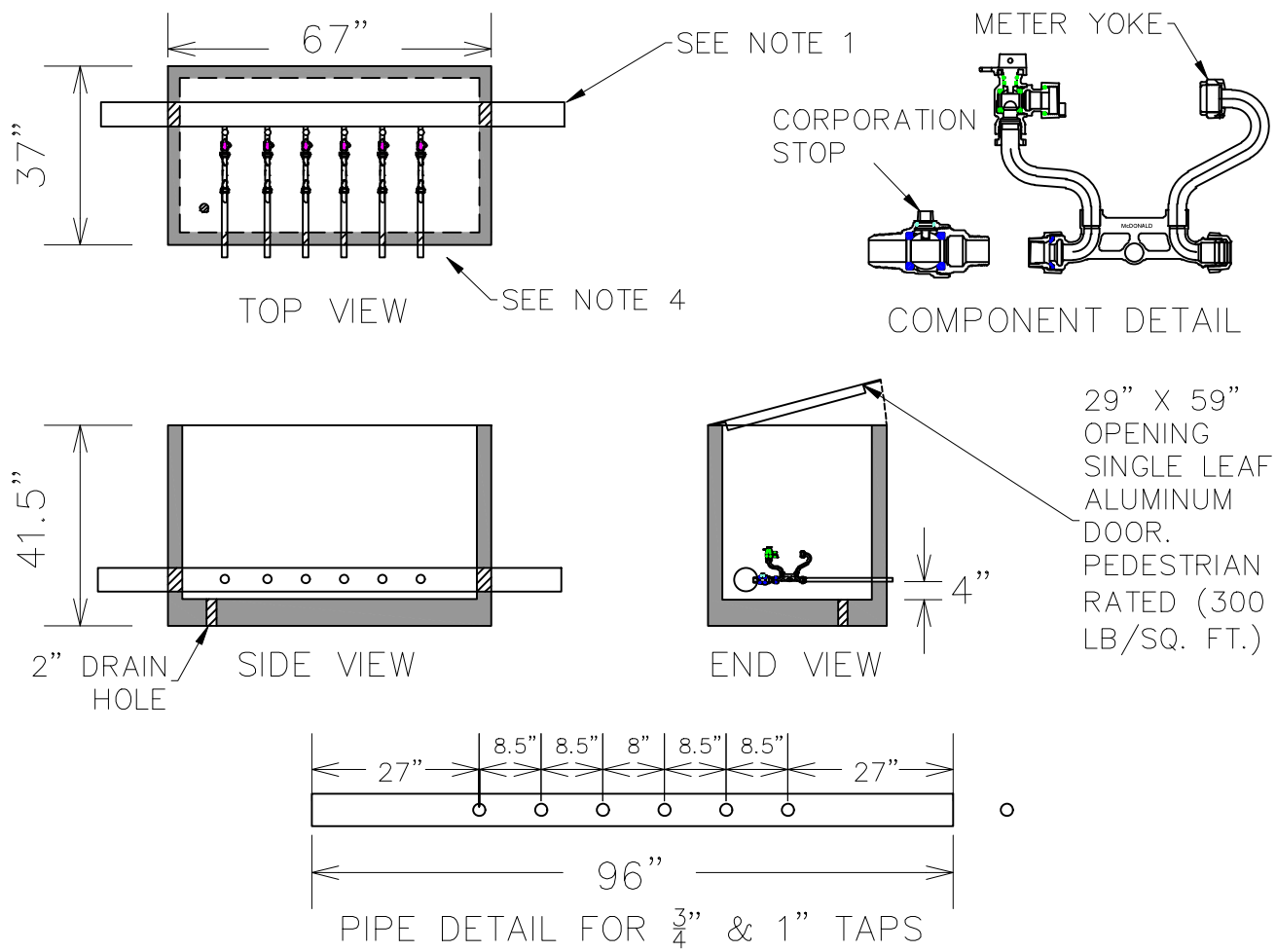
1. FOR 3/4" TAPS, PIPE SHALL BE 4" D.I.P CLASS 53.
2. METER YOKE SHALL BE A.Y. MCDONALD 720-207 WDM33 MNPT UNION X DOUBLE PURPOSE.
3. CORPORATION STOP SHALL BE A.Y. MCDONALD 3/4" 74101BCAPF AWWA/CC X FNPT
4. 3/4" X 24" BRASS NIPPLES

GENERAL NOTES FOR 1" TAPS:

1. FOR 1" TAPS, PIPE SHALL BE 4" D.I.P CLASS 56.
2. METER YOKE SHALL BE A.Y. MCDONALD 720-412 WDM44.
3. CORPORATION STOP SHALL BE A.Y. MCDONALD 7410BCAPF
4. 1" X 18" BRASS NIPPLES

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		5 GANG METER VAULT DETAIL
	7/26/21		W-27
ENG. DIRECTOR	DATE		



GENERAL NOTES FOR 3/4" TAPS:

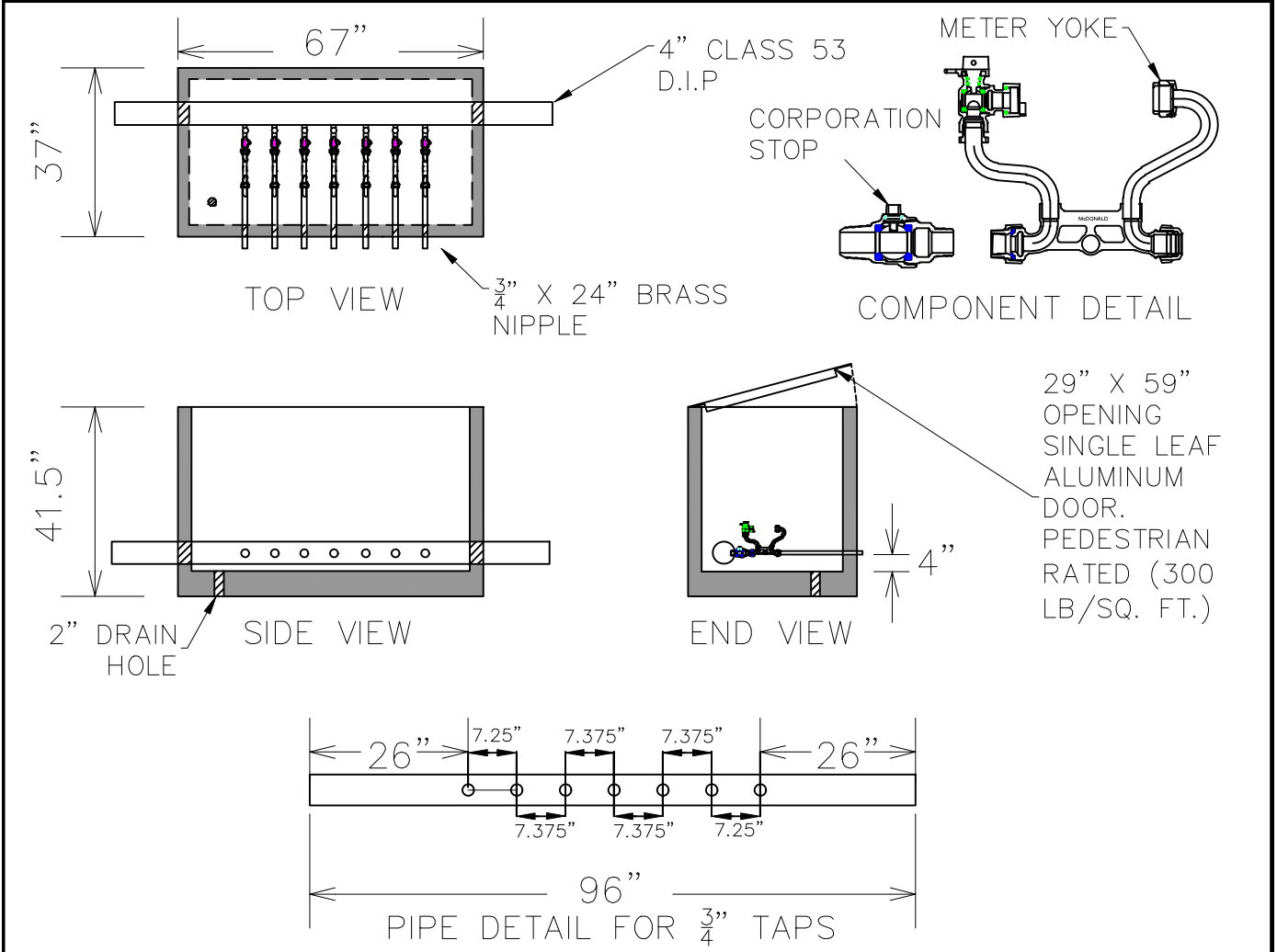
1. FOR 3/4" TAPS, PIPE SHALL BE 4" D.I.P CLASS 53.
2. METER YOKE SHALL BE A.Y. MCDONALD 720-207 WDM33 MNPT UNION X DOUBLE PURPOSE.
3. CORPORATION STOP SHALL BE A.Y. MCDONALD 3/4" 74101BCAPF AWWA/CC X FNPT
4. 3/4" X 24" BRASS NIPPLES

GENERAL NOTES FOR 1" TAPS:

1. FOR 1" TAPS, PIPE SHALL BE 4" D.I.P CLASS 56.
2. METER YOKE SHALL BE A.Y. MCDONALD 720-412 WDM44.
3. CORPORATION STOP SHALL BE A.Y. MCDONALD 7410BCAPF
4. 1" X 18" BRASS NIPPLES

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		6 GANG METER VAULT DETAIL
	7/26/21		W-28
ENG. DIRECTOR	DATE		

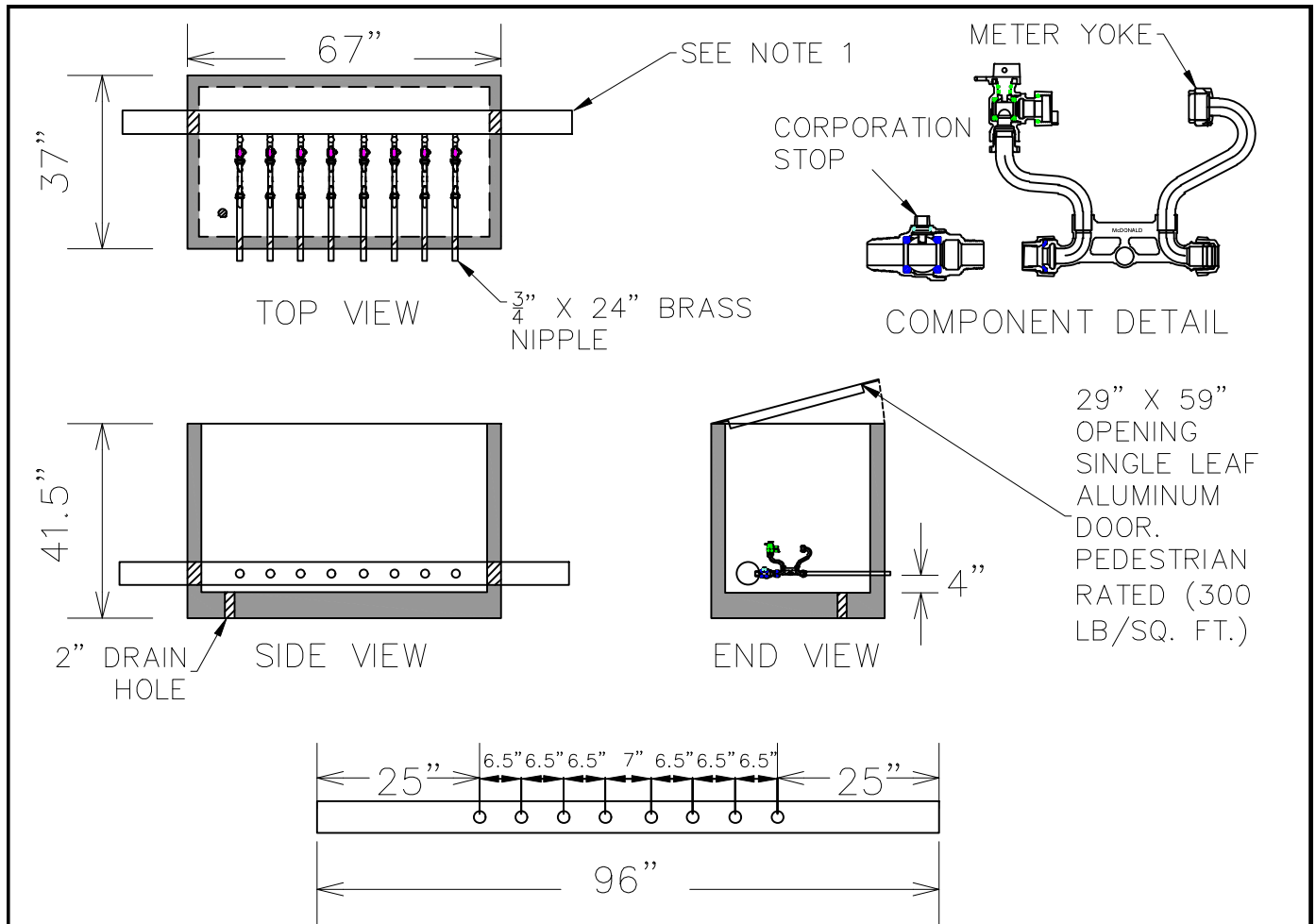


GENERAL NOTES:

1. PIPING SHALL BE 4" CLASS 53 D.I.P FOR 3/4" TAPS.
2. METER YOKE SHALL BE A.Y. MCDONALD 720-207WDMD33 (MNPT UNION X DOUBLE PURPOSE) OR APPROVED EQUAL.
3. CORPORATION STOP SHALL BE A.Y. MCDONALD 3/4" 74101BCAPF AWWA/CC X FNPT OR APPROVED EQUAL.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		7 GANG METER VAULT DETAIL
	7/26/21		W-29
ENG. DIRECTOR	DATE		



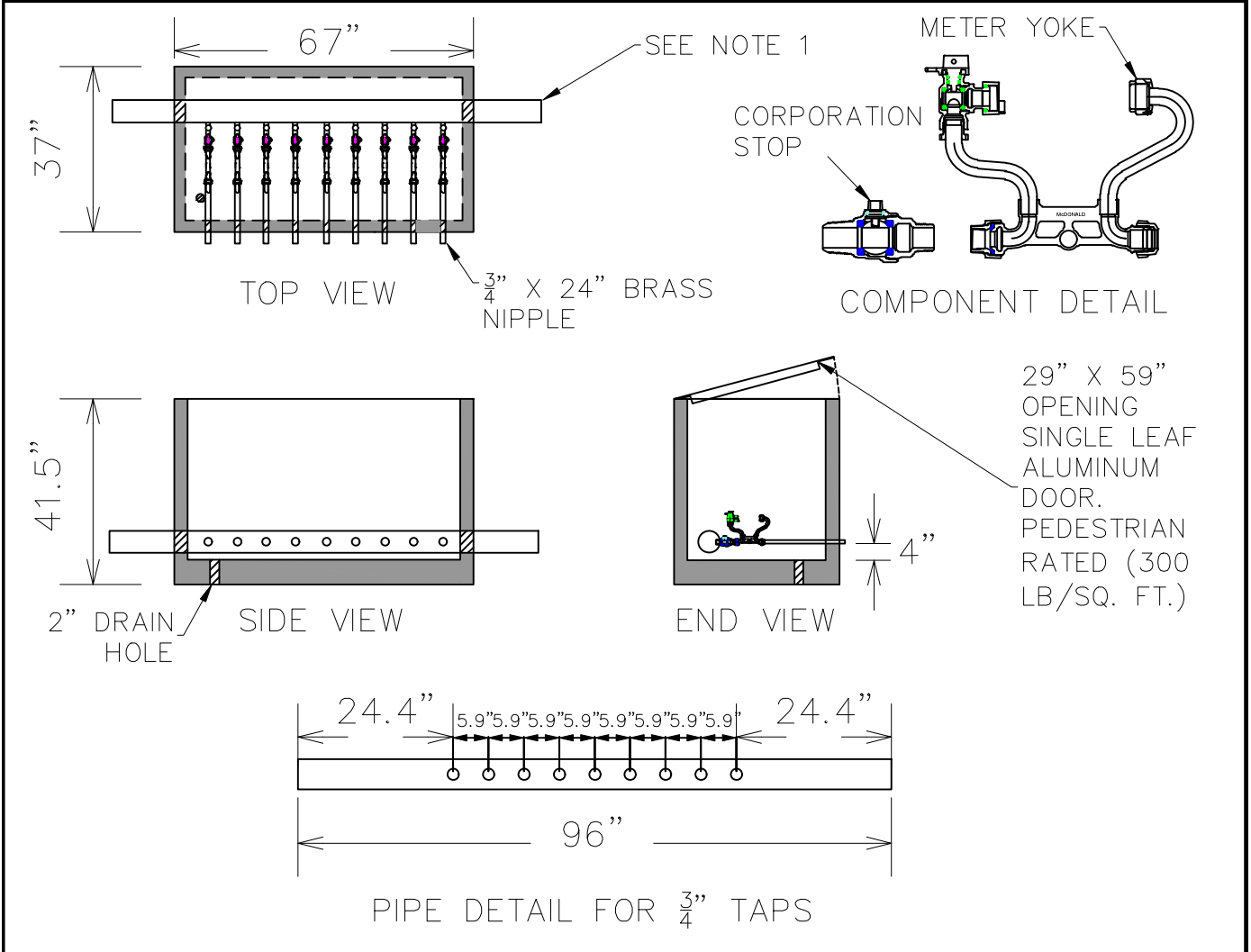
PIPE DETAIL FOR 3/4" TAPS

GENERAL NOTES:

1. PIPING SHALL BE 4" CLASS 53 D.I.P FOR 3/4" TAPS.
2. METER YOKE SHALL BE A.Y. MCDONALD 720-207WDMD33 (MNPT UNION X DOUBLE PURPOSE) OR APPROVED EQUAL.
3. CORPORATION STOP SHALL BE A.Y. MCDONALD 3/4" 74101BCAPF AWWA/CC X FNPT OR APPROVED EQUAL.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		8 GANG METER VAULT DETAIL
	7/26/21		W-30
ENG. DIRECTOR	DATE		

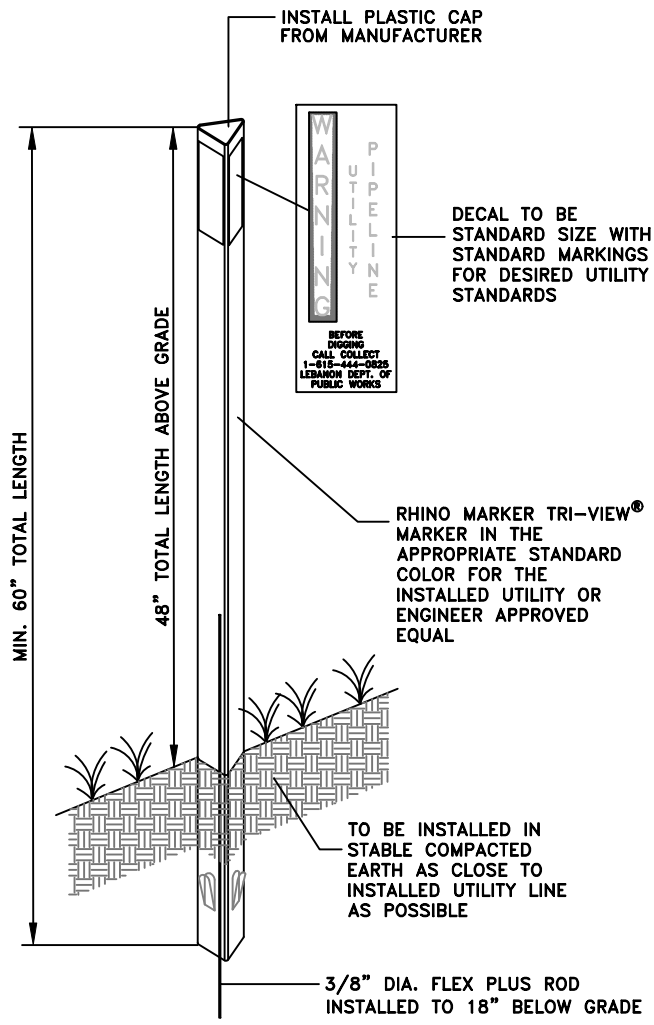


GENERAL NOTES:

1. PIPING SHALL BE 4" CLASS 53 D.I.P FOR 3/4" TAPS.
2. METER YOKE SHALL BE A.Y. MCDONALD 720-207WDMD33 (MNPT UNION X DOUBLE PURPOSE) OR APPROVED EQUAL.
3. CORPORATION STOP SHALL BE A.Y. MCDONALD 3/4" 74101BCAPF AWWA/CC X FNPT OR APPROVED EQUAL.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		9 GANG METER VAULT DETAIL
	7/26/21		W-31
ENG. DIRECTOR	DATE		



GENERAL NOTES:

1. MARKER TO BE RHINO MARKER TRI-VIEW MARKER OR A T-POST.
2. POST COLOR SHALL BE SAFETY BLUE.
3. DECAL COLOR SHALL BE WHITE WITH BLACK LETTERING.

NOT TO SCALE

	7/26/21	CITY OF LEBANON	DEP. OF PUBLIC SERVICES
E.I.T.	DATE		TRIANGLE UTILITY MARKER
	7/26/21		W-32
ENG. DIRECTOR	DATE		