CONSTRUCTION NOTES AND STANDARDS FOR WATER MAIN INSTALLATIONS

1. ALL WATER MAIN PIPE AND APPURTENANCES SHALL BE AMERICAN MADE.

2. ALL PIPE, UNLESS OTHERWISE CALLED FOR, SHALL BE AWWA C-909 (DR-14, PRESSURE CLASS 235 PSI). C909 PIPE SHALL REQUIRE BRONZE OR STAINLESS STEEL TAP SADDLES FOR RESIDENTIAL SERVICES.

   MINIMUM CLASS 52 DUCTILE IRON CEMENT LINED WILL ALSO BE ALLOWED FOR WATER MAINS WITH THE APPROVAL OF THE AVON UTILITY DEPARTMENT. MUST HAVE SOCKET BY PLAIN END RUBBER GASKET PUSH-ON JOINTS WITH RADIALLY COMPRESSED LOCKED IN PLACE RUBBER RING GASKET.

   PIPE MATERIALS USED WILL BE IN ACCORDANCE WITH AWWA/NSF STANDARDS. PVC IS PREFERRED.

3. PIPE AND FITTINGS HAVING APPROVED BOLTESS RESTRAINED SLIP-ON JOINTS SHALL BE FURNISHED TO THE LIMITS INDICATED.

4. ALL FITTINGS SHALL BE DUCTILE IRON CLASS 350 CEMENT LINED PER C-110/A21.10 OR COMPACT PER C-153/A21.53. ALL FITTINGS SHALL HAVE BELL OR PLAIN END JOINTS OF THE MECHANICAL BOLTED STUFFING-BOX TYPE WITH PIPE OR FITTING PLAIN END SEALING GASKET AND BOLTED FOLLOWER GLAND.

5. ALL JOINTS ON BENDS, TEES, CROSSES, VALVES, SPECIAL FITTINGS, AND PIPE BETWEEN OFFSETS OR BENDS SHALL HAVE "RETAINED" MECHANICAL JOINTS. ALL VALVES AND TEES SHALL HAVE BELL JOINTS OF THE MECHANICAL BOLTED STUFFING-BOX TYPE. ALL JOINTS ON HYDRANT BRANCHES, INCLUDING TEE OUTLETS, HYDRANT ELBOWS, AND BRANCH VALVES SHALL HAVE "RETAINED" MECHANICAL JOINTS. RETAINED MECHANICAL JOINTS SHALL BE MEGA-LUG OR EQUAL SECURED WITH STAINLESS STEEL BOLTS.

6. THREE INCH (3") AND LARGER VALVES SHALL BE IRON BODY WITH BRONZE MOUNTED RSV VALVES W/ 2" NUTS OPENING LEFT WITH WITH A NON-RISING STEM. ALL VALVES SHALL BE MECHANICAL JOINT. PREFERRED MANUFACTURER AND MODEL NUMBER IS MUELLER # A2360-20. ALL VALVE BODY BOLTS ARE TO BE STAINLESS STEEL.

7. HYDRANTS SHALL BE MUELLER CENTURION MODEL A421, COUNTERCLOCKWISE OPENING; 6" "O" RING CONNECTION; 5' BURY; 4.5" SEAT OPENING WITH TWO (2) 2 1/2" HOSE CONNECTIONS AND ONE (1) 4 1/2" PUMPER CONNECTION TO A 5" HARRINGTON INTEGRAL HYDRANT STORZ. THE THREADS SHALL HAVE AN O.D. OF 3.07" AND 5.76" RESPECTFULLY, AND SHALL CONFORM TO NATIONAL STANDARD DIMENSIONS. THE TOP OR BONNET IS TO BE PRIMED W/ REFLECTIVE SILVER-WHITE PAINT, REMAINDER OF HYDRANT TO BE PAINTED "FIRE HYDRANT RED". HEAD AND HOSE CONNECTIONS SHALL BE CONSTRUCTED TO BE ROTATED. WRENCH CONNECTION SHALL BE A 1 1/8" PENTAGON. THE STUFFING BOX SHALL HAVE TWO "O" RING SEALS. PROVIDE ONE HYDRANT WRENCH FOR EVERY PROJECT OR SUBDIVISION/PHASE. HYDRANTS SHALL BE REPAINTED AT THE DIRECTION OF THE CITY, WHEN NEEDED.

8. ALL HYDRANT ASSEMBLIES INCLUDING VALVE, BRANCH TEE OUTLET, PIPE, ANY NECESSARY OFFSETS AND APPROVED HYDRANT SHALL BE NOMINAL SIX (6) INCH SIZE WITH MECHANICAL JOINTS. HYDRANTS ARE TO BE A MINIMUM OF 3 FT. FROM ALL CONCRETE WORK – PAVEMENT & DRIVEWAYS.

9. MECHANICALLY RESTRAIN ALL OFFSETS AND DEFLECTIONS THREE JOINTS PRIOR, THREE JOINTS AFTER, AND THROUGH THE OFFSET. MECHANICALLY RESTRAIN ALL END OF LINE MAINS, THREE JOINTS PRIOR. ALL RESTRAINT HARDWARE TO BE STAINLESS STEEL.

10. MINIMUM DEPTH OF WATER MAIN COVER SHALL BE FOUR (4) FEET BELOW FINISH GRADE. MAXIMUM COVER DEPTH SHALL BE NO GREATER THAN 7 (SEVEN) FEET. UTILITY DEPARTMENT MUST APPROVE IF MORE THAN 4 FEET OF COVER. OFFSETS SHALL BE MADE TO ENSURE MINIMUM COVER. WITH THE APPROVAL OF THE CITY ENGINEER THE WATER MAIN MAY BE PERMITTED AT A DEPTH OF LESS THAN (4) FEET BELOW GRADE. A (1) FOOT FROST PROOFING INSULATION ENVELOPE SHALL BE REQUIRED. INSULATION SHALL BE COMPACTED 'WITCOLITE' OR 'GILSULATE 500 XL' OR EQUAL. IN NO CASE SHALL THE MAIN BE LAID LESS THAN (3) FEET BELOW GRADE. THIS SAME REQUIREMENT SHALL APPLY IN INSTANCES WHERE A WATER MAIN CROSSES OVER AN OPEN END CULVERT OR BRIDGE.

11. ALL WATER MAIN TRENCHES AND EXCAVATIONS UNDER EXISTING OR FUTURE PAVEMENT OR SIDEWALKS OR DRIVES SHALL BE BACKFILLED WITH COMPACTED 304 LIMESTONE AGGREGATE. WATER LINE BEDDING & COVER SHALL BE WASHED #8 OR #9 LIMESTONE.

12. THE CONTRACTOR WILL BE RESPONSIBLE FOR HYDROSTATIC PRESSURE TESTING PER AWWA C600 STANDARD OF THE WATER MAIN(S), BEGINNING AT THE TIE-IN LOCATION TO AN EXISTING MAIN, IN ACCORDANCE TO THE CITY OF AVON'S STANDARDS. FAILURE OF TEST OR ANY DAMAGE TO EXISTING WATER MAIN FACILITIES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ALL VALVES ARE TO BE BACK CHECKED WITHIN THE TEST AREA.

13. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE PROVISIONS RELATED TO PUBLIC IMPROVEMENTS IN SECTION 163.64 OF THE OHIO REVISED CODE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING OHIO UTILITIES PROTECTION SERVICE (O.U.P.S.) AT 1-800-362-2764 AND THOSE OWNERS OF UNDERGROUND UTILITIES IN THE VICINITY OF ANY WORK TO BE PERFORMED.

14. THE CONTRACTOR SHALL PROVIDE TAPS FOR DISINFECTION BY CHLORINATION PER AWWA C651. THE CITY OF AVON'S UTILITY DIRECTOR SHALL DETERMINE THE LOCATION AND NUMBER OF TAPS.

15. SIZE ON SIZE TAPPING SLEEVES WILL NOT BE PERMITTED.

16. TAPPING VALVE SHALL BE FLANGED OR MJ X MJ.

17. PROPOSED FACILITIES MUST MAINTAIN A MINIMUM PRESSURE OF 35 PSI DELIVERED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
WATER MAIN CONSTRUCTION NOTES & STANDARD	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-1**	61-24	5/29/24
		SHEET 1 OF 2

CONSTRUCTION NOTES AND STANDARDS FOR WATER MAIN INSTALLATIONS (CON'T.)

18. ALL WATER SERVICE CONNECTIONS SHALL BE LAID NOT LESS THAN FOUR (4) FEET BELOW ESTABLISHED STREET GRADE, NOT LESS THAN FOUR (4) FEET BELOW GROUND SURFACE. THE MINIMUM HORIZONTAL SEPARATION SHALL BE:
    - TEN FEET (10') BETWEEN WATER SERVICE AND SANITARY.
    - FIVE FEET (5') BETWEEN WATER SERVICE AND ALL OTHER UTILITIES.

19. THE CONTRACTOR IS RESPONSIBLE TO FACE ALL HYDRANT STEAMER STORZ TOWARD THE PAVEMENT, PRIOR TO TESTING AND CHLORINATION OF WATER MAINS.

20. THE CITY OF AVON SHALL REQUIRE A QUALIFIED REPRESENTATIVE TO TAKE FIELD MEASUREMENTS OF THE MAIN DURING INSTALLATION AND SHALL FURNISH THE CITY WITH RECORD PRINTS OF SAME. THE CITY OF AVON WILL REQUIRE THE SUBMISSION OF THE "AS-BUILT" PRINTS TO THE CITY UTILITY DEPARTMENT BEFORE ACCEPTANCE OF THE PROJECT, IN ACCORDANCE WITH SHEET G-7.

21. AS PER THE CITY OF AVON, IT IS STIPULATED THAT OPERATION OF ANY VALVE OR ALTERATION OF ANY PART OF THE SYSTEM BY CONTRACTORS OR THEIR EMPLOYEES IS PROHIBITED. CALL THE CITY OF AVON UTILITIES DEPARTMENT (440) 937-5740 TO HAVE VALVES ACTUATED.

22. ALL WATER SERVICE CURB STOP BOXES, METER VAULTS, ETC. WILL BE INSTALLED IN GRASS AREAS. THE WATER SERVICE SHALL BE A MINIMUM 1" DIAM. FROM THE CORPORATION AND THE CURB BOX SHALL BE LOCATED BETWEEN THE CURB AND SIDEWALK (ONE FOOT INSIDE THE RIGHT-OF-WAY LINE). THIS SHALL BE DONE IN ALL CASES WHERE POSSIBLE. CITY APPROVAL WILL BE REQUIRED FOR ALL OTHER PROPOSED LOCATIONS.

23. IN THOSE AREAS WHERE IT IS REQUIRED TO LOWER THE WATER MAIN TO CLEAR AN OBSTACLE AND THE DEFLECTION WILL BE GREATER THAN 18", THE USE OF BENDS WILL BE REQUIRED TO CLEAR THE OBSTACLE AND BRING THE WATER MAIN UP TO THE STANDARD FOUR (4) FEET OF COVER. CLASS 52 DUCTILE IRON PIPE SHALL BE USED. FIELD LOCK GASKETS ARE REQUIRED.

24. WHEN A WATER SERVICE CONNECTION AND/OR GAS SERVICE CONNECTION IS DISTURBED OR DISCONNECTED DURING TRENCH OR SHEETING EXCAVATION, THE CONTRACTOR WILL REPLACE THE WATER CONNECTION WITH ALL NEW MATERIAL FROM THE CORPORATION SHUT-OFF TO THE CURB SHUTOFF VALVE AT THE UTILITY DEPARTMENTS DISCRETION. SUCH SERVICES SHALL BE PLANKED USING 2"X8" HARDWOOD MINIMUM, 18" INTO VIRGIN SOIL, EACH END.

25. BACKFILL MATERIAL SHALL BE PER THE TRENCH DETAIL ON W-2.

26. ALL WATER WORK REQUIRED WILL BE AT THE EXPENSE OF THE PROJECT AND SHALL CONFORM TO THE CITY OF AVON CONSTRUCTION DETAILS.

27. PREMIXED BAGMIX 4,000 PSI CONCRETE THRUST BLOCKS (CONCRETE PIERS) MAY BE USED BEHIND ALL TEES AND HORIZONTAL BENDS. HOWEVER, HARD WOOD BLOCKING IS PREFERRED. THE CONTRACTOR SHALL INSTALL A CONCRETE THRUST BLOCK BEHIND ALL BRANCH SLEEVES IN WHICH THE NOMINAL TAP SIZE IS ONE-HALF OR GREATER THAN THE NOMINAL DIAMETER OF THE PIPE TO BE TAPPED. THE CONCRETE PIER SHALL BE IN PLACE AND CURED PRIOR TO THE HYDROSTATIC TESTING OF THE CONNECTING MAINS. THRUST BLOCKING SHALL ADHERE TO SHEET W-8.

28. IN THE CASE OF VALVE BOXES IN EXISTING ROADWAYS, THE CITY MAY PERMIT THE USE OF CAST RISERS FOR ELEVATIONAL ADJUSTMENT OF CASTINGS. IN SUCH CASES, A (3) THREE POINT WELD SHALL BE REQUIRED FOR ROUND CASTINGS AND A (4) FOUR POINT WELD FOR SQUARE CASTINGS.

29. THE CONTRACTOR IS REQUIRED TO CONTACT THE CITY OF AVON UTILITIES DEPARTMENT PRIOR TO STARTING THE PROJECT.

30. WATERLINE BLOCKS SHALL BE PROVIDED FOR CITY ACCESS FOR THE PURPOSE OF MAINTENANCE. SUCH EASEMENTS SHALL HAVE A UTILITY ACCESS DRIVE PER G-8. ALTERNATIVE MATERIALS MAY BE ACCEPTABLE AT THE UTILITY DEPARTMENT'S DISCRETION.

31. THE MINIMUM HORIZONTAL SEPARATION FOR EXISTING AND PROPOSED WATER TO SANITARY OR STORM SEWERS SHALL BE:
    - TEN FEET (10') BETWEEN WATER AND SANITARY.
    - FIVE FEET (5') BETWEEN WATER AND ALL OTHER UTILITIES.

32. A MINIMUM 18" VERTICAL DISTANCE SHALL BE MAINTAINED FROM EXISTING AND PROPOSED WATER AND SANITARY OR STORM SEWER.

33. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

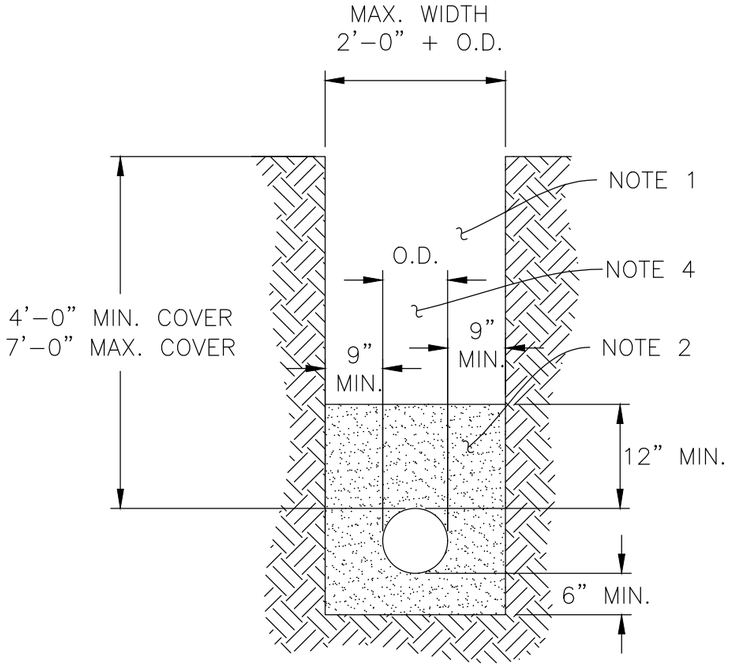
34. CLAY DAM IS TO BE PROVIDED 6 FT. FROM THE LATERAL TERMINUS PER G-10.

TESTING IS TO BE AS FOLLOWS:

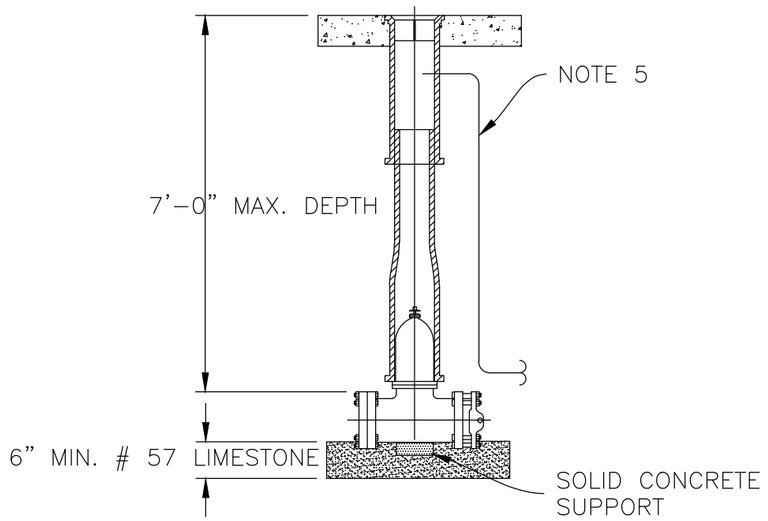
AWWA STANDARDS APPLY @ 150% OF NORMAL OPERATING PRESSUREMIN. TEST PRESSURE 150 PSIDURATION 2 HRS.

ANY TEST (150 & 200 PSI) THAT LOSES 5 PSI WILL BE AN AUTOMATIC FAIL REGARDLESS OF WATER LOST.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
WATER MAIN CONSTRUCTION NOTES & STANDARD	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-1**	61-24	5/29/24
		SHEET 2 OF 2



WATER MAIN TRENCH DETAIL



LINE VALVE DETAIL

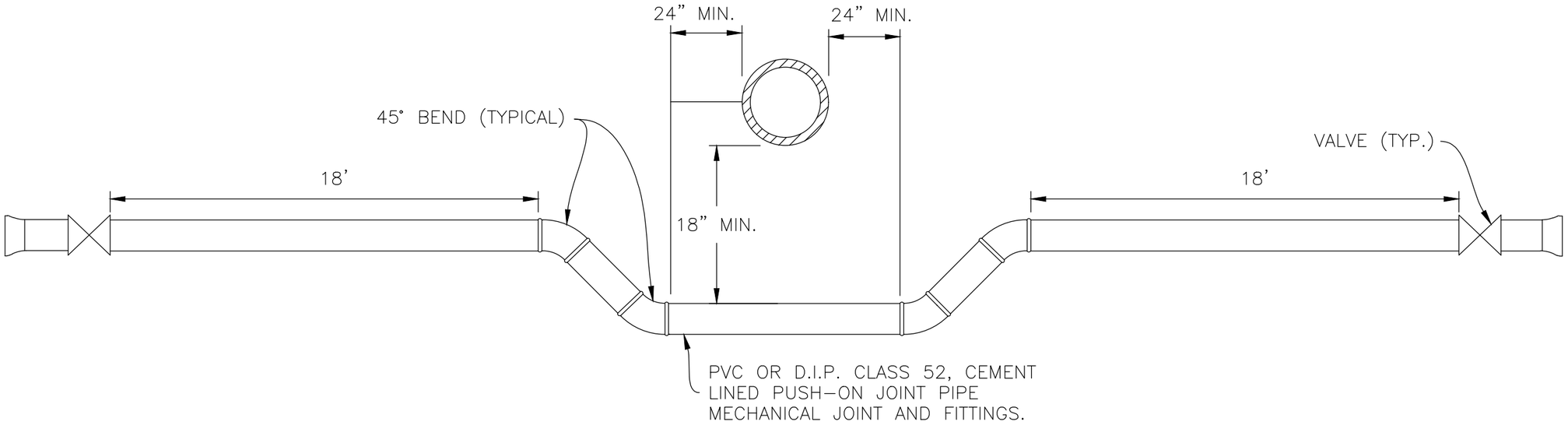
TRENCH NOTES:

1. BACKFILL SHALL BE PER G–6.
2. BEDDING AND PIPE COVER TO BE AGGREGATE NO. 8 OR 9 WASHED LIMESTONE.
3. ANY WATER MAIN RELATED BORES REQUIRED SHALL CONFORM TO SHEET W–9, "PIPE BORE DETAIL".
4. DETECTABLE TRACER TAPE AND 2 TRACER WIRES OF DIFFERING COLORS SHALL BE INSTALLED OVER AND ON CENTER OF PVC WATERMAINS FOR ITS ENTIRE LENGTH.
   1. DECTECTOR TAPE (MATERIAL TO BE APPROVED BY CITY OF AVON UTILITIES DEPARTMENT)
      * SHALL READ "BURIED WATERLINE BELOW"
      * SHALL BE BURIED 18" DEEP FROM SURFACE OF GROUND
   2. TRACER WIRE (MATERIAL TO BE APPROVED BY CITY OF AVON UTILITIES DEPARTMENT)
      A. OPEN TRENCH INSTALLATION METHOD
         * EACH COPPER WIRE 1–W/RED COLORED INSULATION 1–W/BLUE COLORED INSULATION
         * #12 AWG THHN/THWN
      B. DIRECTIONALLY DRILLED/BORED INSTALLATION METHOD
         * WIRE SIZE SHALL BE #6 AWG THHN/THWN (2–WIRES)
         * INSTALLED ALONG TOP OF AND CONTINUOUSLY ALONG PIPE.
         * SHALL BE TERMINATED IN A SEPARATE BOX ADJACENT TO ALL VALVE BOXES.

LINE VALVE NOTES:

1. LINE VALVES SHALL HAVE STANDARD M.J. X M.J. ENDS.
2. VALVE PREFERRED MANUFACTURE MUELLER RESILIENT WEDGE A–2362 M.J. X M.J.
3. ALL VALVE BODY BOLTS ARE TO BE STAINLESS STEEL.
4. VALVE BOXES SHALL BE TWO PIECE CAST IRON WITH 5–1/4" SHAFT, CENTURY FOUNDRY NO. 22 OR EQUAL. –THREADED TYPE.
5. TRACER WIRE SHALL BE INSTALLED THROUGH A SLOT IN THE VALVE BOX WHEN REQUIRED.
6. FIELD LOCK GASKETS SHALL BE PLACED 3 JOINTS PRIOR TO THE VALVE AND 3 JOINTS AFTER.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
WATER MAIN DETAILS	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-2**	61-24	5/29/24
		SHEET 1 OF 2



WATER MAIN LOWERING DETAIL

1. WATER MAINS MAY BE DEFLECTED TO A MAXIMUM OF 18" ELEVATIONAL DIFFERENCE FROM MINIMUM COVER DEPTH. ANY LOWERING IN EXCESS OF 18" WILL REQUIRE THE USE OF BENDS.
2. LINE VALVES WILL NOT BE PERMITTED ON THESE SECTIONS OF LOWERINGS UNLESS APPROVED BY AVON UTILITIES.
3. VALVE REQUIREMENT MAY BE ELIMINATED AT THE UTILITY DEPARTMENT DISCRETION.
4. FIELD LOK GASKETS DUCTILE OR PIPE RESTRAINTS PVC SHALL BE REQUIRED THROUGHOUT LOWERING AND THREE JOINTS BEFORE AND AFTER THE LOWERING.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS			
WATER MAIN DETAILS		ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING	W-2	61-24	5/29/24
			SHEET 2 OF 2

NOTES

1. CURB STOP: MUELLER #15200
   CURB BOX & COVER: DOMESTIC SCREW TYPE OR EQUAL
   CORPORATION STOP: MUELLER #H–1500 OR EQUAL

2. SHOULD A UNION BE USED TO JOIN TWO OR MORE PIECES OF COPPER OR PLASTIC TOGETHER TO MAKE A SERVICE LINE, SUCH UNIONS SHALL BE FLARE OR COMPRESSION TYPE MANUFACTURED BY MUELLER. AN ISOLATION VALVE SHALL BE INSTALLED.

3. WHERE POSSIBLE, DO NOT INSTALL CURB BOX IN PAVEMENT, SIDEWALKS, DRIVEWAYS, OR APRONS.

4. CURB STOP & BOX ARE TO BE LOCATED ONE FOOT INSIDE THE RIGHT–OF–WAY BETWEEN THE SIDEWALK AND THE RIGHT–OF WAY. THIS SHALL BE DONE IN ALL CASES WHERE POSSIBLE. CITY APPROVAL WILL BE REQUIRED FOR ALL OTHER PROPOSED LOCATIONS.

5. ANY WATER TAPS 1–1/2" TO 2" ARE TO BE SADDLE TAPS AS APPROVED BY THE CITY UTILITY DEPT. BRONZE OR STAINLESS STEEL SERVICE SADDLES SHALL BE REQUIRED WHEN TAPPING ANY DI WATER MAIN. MUELLER SADDLES H–13000 SERIES WILL BE REQUIRED WHEN TAPPING C909.

6. THE TAP SHALL BE THE SAME SIZE AS THE CONNECTION, WATER METER, & BACK FLOW DEVICE.

7. CURB BOXES FOR THE 2" CURB STOPS SHALL BE R–144 OR EQUAL, WITH A 3–1/2" I.D.

   A. METER PITS MAYBE REQUIRED AT THE CITY OF AVON UTILITIES SUPERINTENDENTS' DISCRETION.

   B. METER PITS SHALL BE PLACED JUST OUTSIDE THE UTILITY EASEMENT ON THE PROPERTY SIDE AS CLOSE TO THE RIGHT–OF–WAY AS POSSIBLE. PLACEMENT SHALL BE BY THE PROPERTY OWNER.

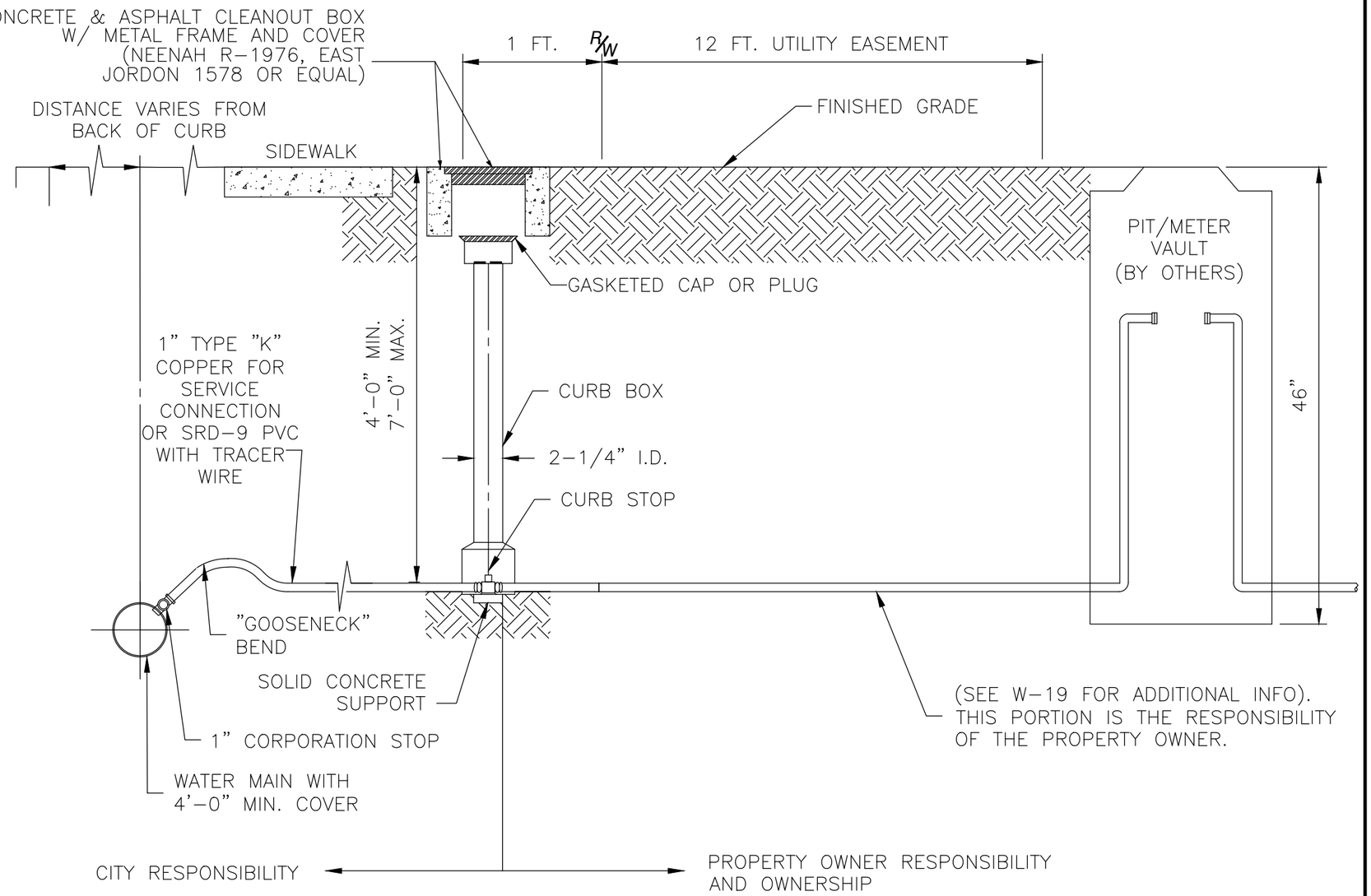
   C. METER PITS & LIDS SHALL BE INSTALLED SO AS TO BE FLUSH WITH FINISHED GRADE. (BY PROPERTY OWNERS)

   D. ALL METER PITS SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY UTILITY DEPARTMENT REQUIREMENTS. (BY PROPERTY OWNERS)

   E. IT IS THE BUILDER'S RESPONSIBILITY TO PROTECT THE METER PIT. HOWEVER, IN THE CASE OF DAMAGE, ANY COST INCURRED BY THE CITY SHALL BE PASSED ON TO THE BUILDER.

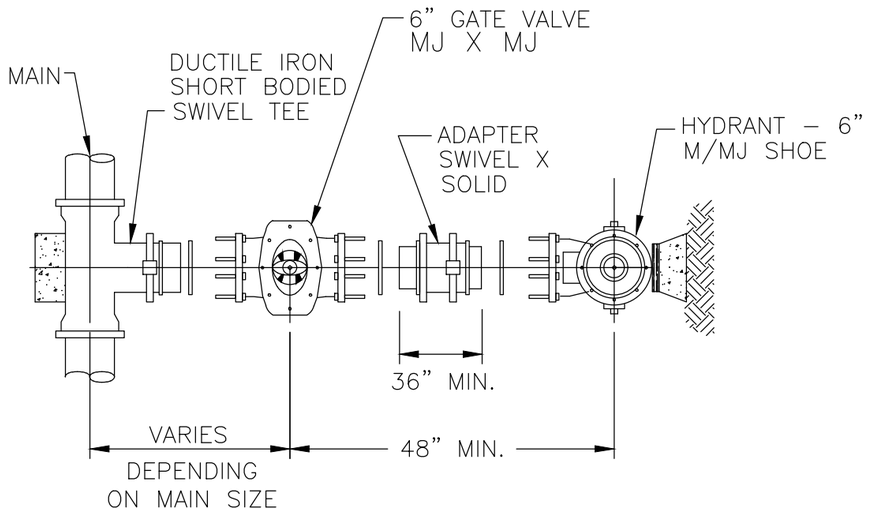
8. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.

9. SERVICE CONNECTION SHALL BE ONE CONTINUOUS PIECE OF 1" PIPE FROM THE CURB STOP TO THE MAIN SHUT–OFF VALVE AT THE HOUSE. CONTRACTOR SHALL SLEEVE THE UTILITY EASEMENT WITH MINIMUM 2" PVC PIPE.

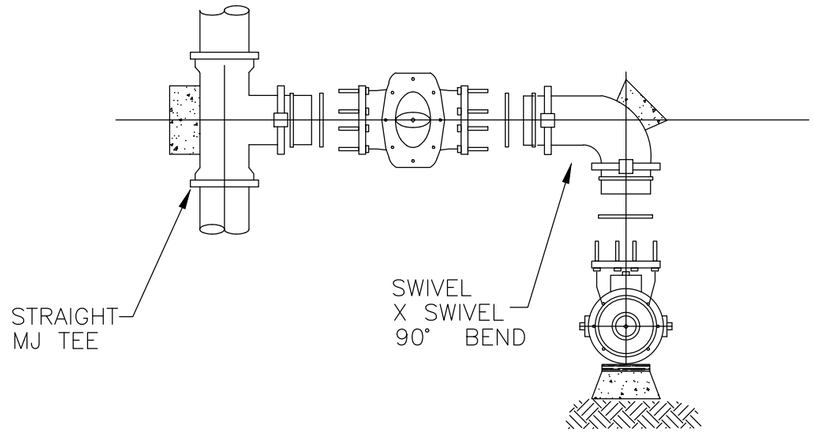


SERVICE CONNECTION DETAIL

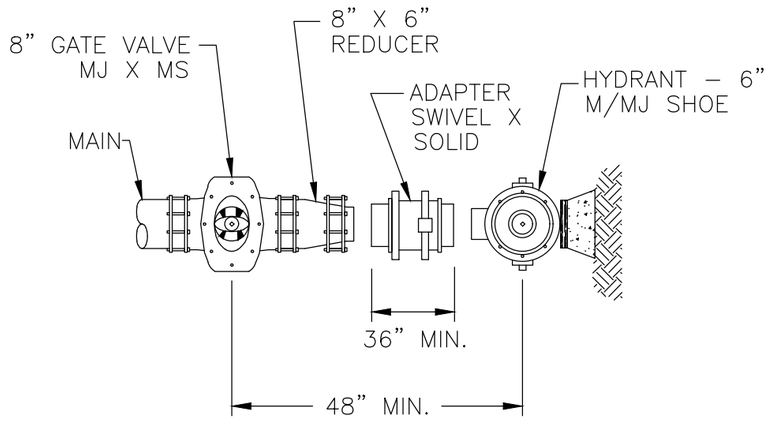
CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
CURB BOX & METER PIT DETAIL	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-3	61-24	5/29/24



TYPE A PREFERRED



TYPE B
(WITH UTILITY DEPARTMENT APPROVAL)



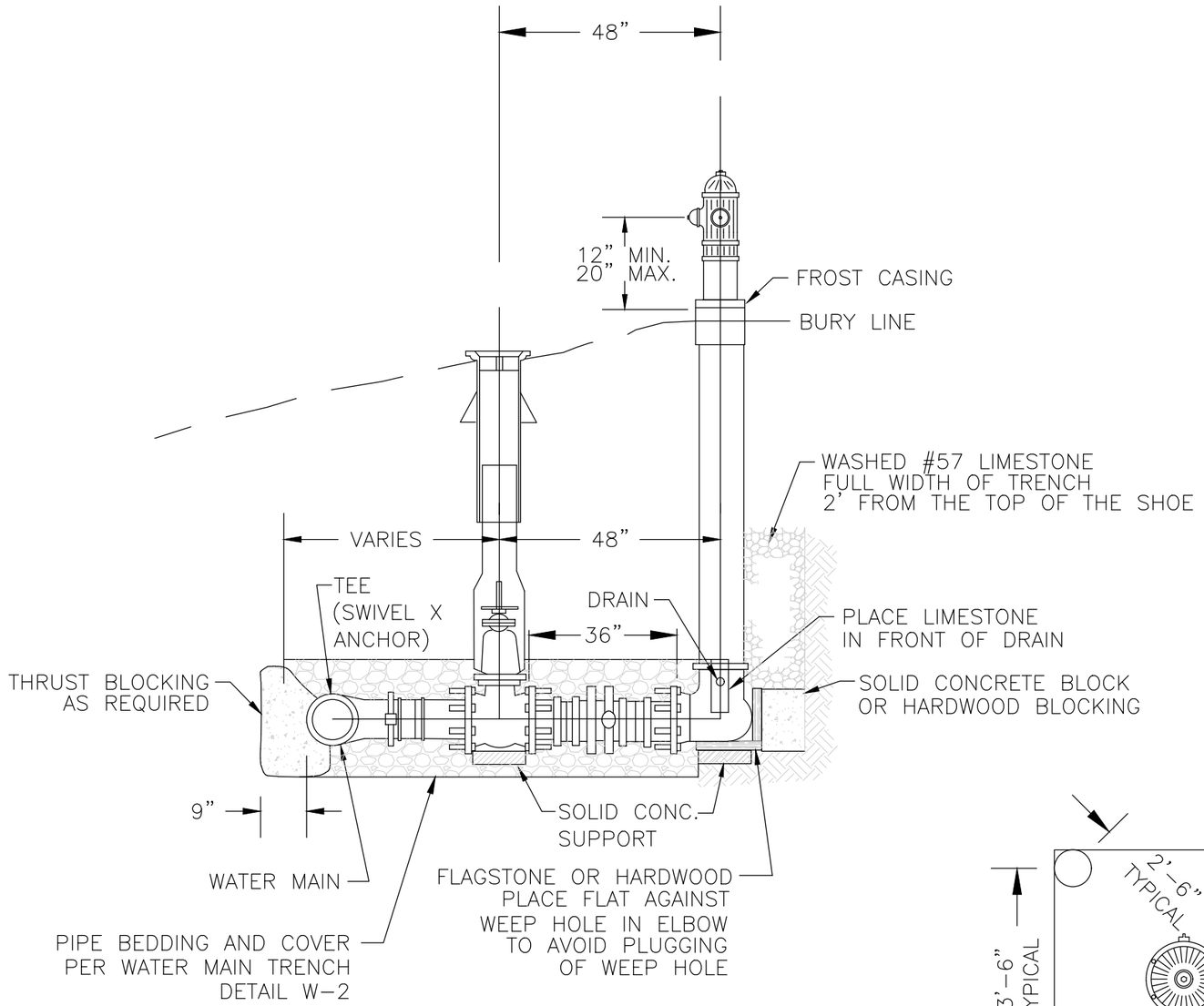
TYPE C
(WITH UTILITY DEPARTMENT APPROVAL)

NOTE:

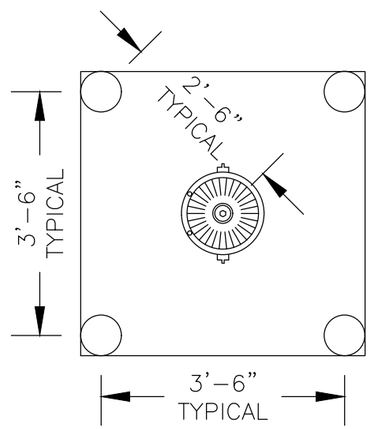
1.) TYPE B HYDRANT ASSEMBLY SHALL BE PLACED WITH THE DIRECTION OF TRAFFIC.

2.) THE PLACEMENT OF FIRE HYDRANTS SHALL BE AT 300 FEET INTERVALS, HOWEVER, IN NO CASE SHALL THEY BE SPACED GREATER THAN 350 FEET MEASURED IN A STRAIGHT LINE DISTANCE.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS			
FURNISHINGS & SETTINGS FOR 6" HYDRANT		ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING	W-4	61-24	5/29/24



TYPE "A" SHOWN FOR REFERENCE ONLY



HYDRANT BOLLARD PROTECTION

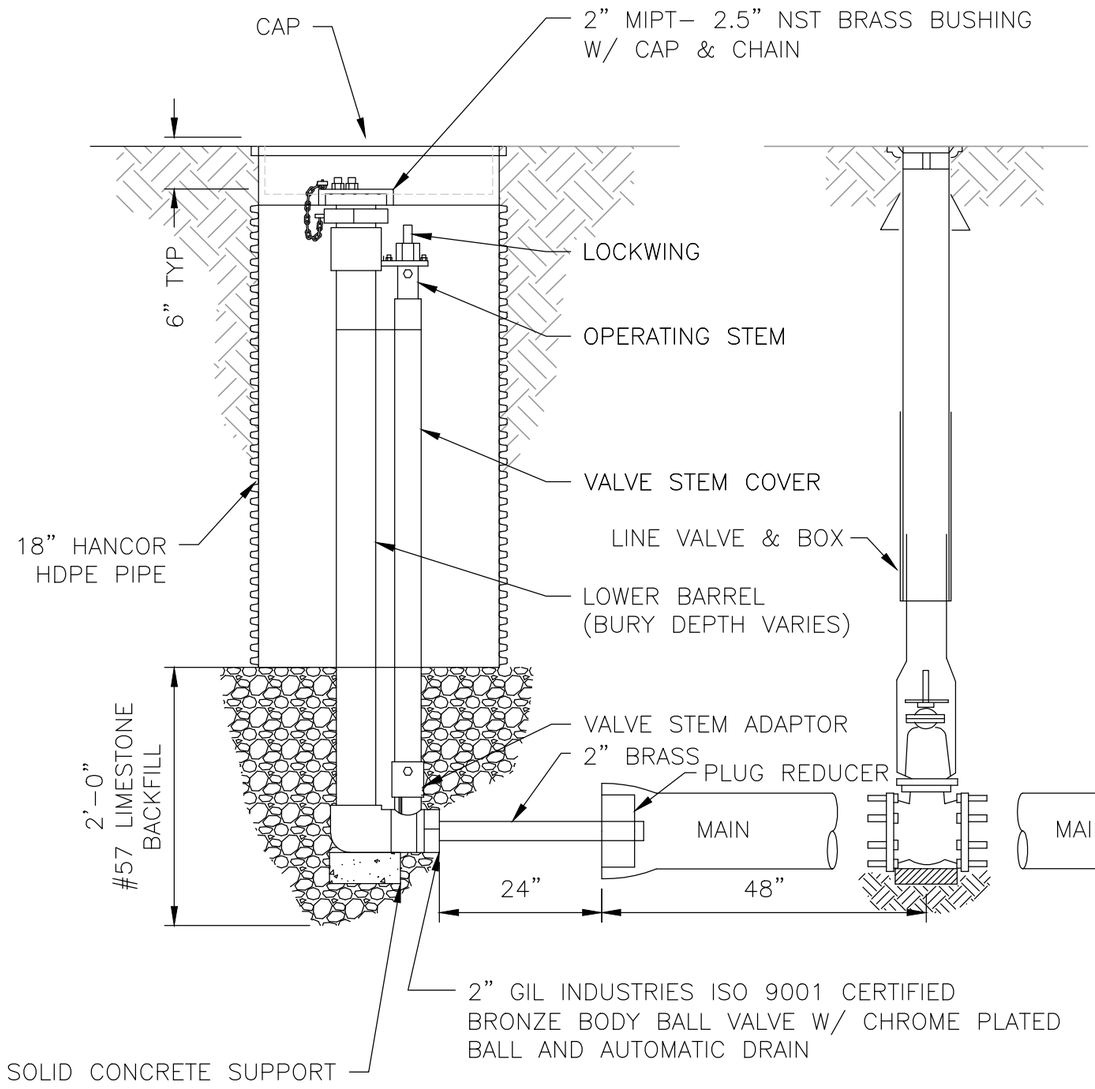
CONSTRUCTION NOTES AND STANDARDS FOR FIRE HYDRANT INSTALLATIONS

1. ALL MECHANICAL JOINT FITTINGS SHALL BE MEGA LUG TYPE.

2. ALL BOLTS AND NUTS FURNISHED WITH MECHANICAL JOINTS OR RETAINED MECHANICAL JOINTS INCLUDING RETAINER OR WEDGE ACTION TYPE GLANDS SHALL BE STAINLESS STEEL.

3. WHERE HYDRANTS ARE PROVIDED IN A COMMERCIAL OR INDUSTRIAL PARKING FACILITY, A BOLLARD SURROUND SHALL BE PROVIDED TO PROTECT THE HYDRANT ASSEMBLY.
   A. FOUR (4) BOLLARDS LOCATED 2'-6" C.C. FROM THE HYDRANT TO THE BOLLARD
   B. BOLLARDS SHALL BE A MINIMUM 6" STEEL PIPE, FIVE (5) FEET IN HEIGHT WITH A 2'-6" BURY, CONCRETE FILLED, TOP DOMED AND PAINTED YELLOW.
   C. THE HYDRANT VALVE SHALL BE LOCATED IN A MANNER SO AS NOT TO CONFLICT WITH THE OPERATION OF THE VALVE.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
TYPICAL HYDRANT & HYDRANT PROTECTION DETAILS	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-5**	61-24	5/29/24



NOTES

1. FLUSHING HYDRANT SHALL BE AUTOMATIC FREEZE–PROOF DESIGN WITH WEEP HOLE INSTALLED WITHIN A 2" BALL VALVE. VALVE WILL BE 600 LBS. WOG BRONZE BODY WITH CHROME PLATED BRASS BALL AND TEFLON SEALS. BALL VALVE TO BE ISO 9001 CERTIFIED.

2. HYDRANT BARREL MUST BE OF BLACK IRON PIPE. EXTERIOR SHALL RECEIVE 4 MIL THICKNESS OF ELECTROSTATICALLY APPLIED SHERWIN–WILLIAMS FAST DRY ACRYLIC ENAMEL, CATALYZED WITH POLANE FOR DURABILITY. ALL HYDRANTS TO BE PAINTED BLUE. OVERALL LENGTH OF HYDRANT WILL VARY, ACCORDING TO THE DEPTHS OF WATER SYSTEMS. A BRASS HOSE CONNECTION, 2–1/2" NSFT WITH ATTACHED CAP & CHAIN, SHALL BE PROVIDED FOR CONVENIENCE IN FLUSHING.

3. OPERATING DEVICE TO BE OF KEY TYPE DESIGN, WITH PERMANENT ATTACHMENT TO THE VALVE STEM. VALVE STEM MUST BE FULL LENGTH OF THE HYDRANT BARREL WITH PERMANENT ATTACHMENT TO THE VALVE. HYDRANT MUST HAVE A PROVISION FOR LOCK UP TO PREVENT TAMPERING.

4. FLUSHING HYDRANT TO BE SLIMLINE HYDRANT AS MANUFACTURED BY GIL INDUSTRIES, INC., PENSACOLA, FLORIDA, OR APPROVED EQUAL.

5. BACKFILL SHALL BE #57 LIMESTONE FOR A DEPTH OF 2 FEET FROM BASE THROUGH TO THE BARREL.

6. REGARDLESS OF LENGTH / DIAMETER, 3 JOINTS FROM END SHALL BE "FIELD–LOCK GASKETS" FOR DI PIPE. PVC SHALL HAVE RESTRAINED MECHANICAL JOINTS.

7. VERTICAL PORTION OF ASSEMBLY SHOWN SHALL BE PLACED INSIDE OF AN 18" HANCOR HDPE PIPE WITH A CAP.

SLIMLINE HYDRANT

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS			
BLOW-OFF ASSEMBLY DETAIL		ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING	W-6	61-24	5/29/24

NOTES:

1. CONNECTION SHALL BE MADE WITH RETAINED JOINT SOLID SLEEVES (SHORT OR LONG PATTERN) DUCTILE IRON CLASS 350 OR COMPRESSION COUPLINGS.

2. COMPRESSION COUPLINGS SHALL BE OF A GASKETED SLEEVE TYPE WITH DIAMETERS TO PROPERLY FIT PLAIN END IRON PIPE. EACH COUPLING SHALL CONSIST OF ONE (1) MIDDLE RING, WITHOUT STOPS, TWO (2) FOLLOWER GLANDS, TWO (2) RUBBER–COMPOUND BUNA–N BLEND, WEDGE SECTION GASKETS, AND SUFFICIENT TRACKHEAD STAINLESS STEEL BOLTS AND NUTS (ASTM A276/A193/A194, TYPE 304, EXTRA HEAVY HEX) TO PROPERLY COMPRESS THE GASKETS.

3. MIDDLE RING AND FOLLOWER GLANDS SHALL BE OF EITHER STEEL OR DUCTILE IRON (ASTM–A536).

4. THE COMPRESSION COUPLING SHALL BE WITHOUT STOPS AND BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND SHALL BE EQUAL TO THE DRESSER STYLE NO.S 38, 138, OR 162 (TRANSITION TYPE), OR SMITH–BLAIR 462 STRAIGHT AND TRANSITION COUPLINGS.

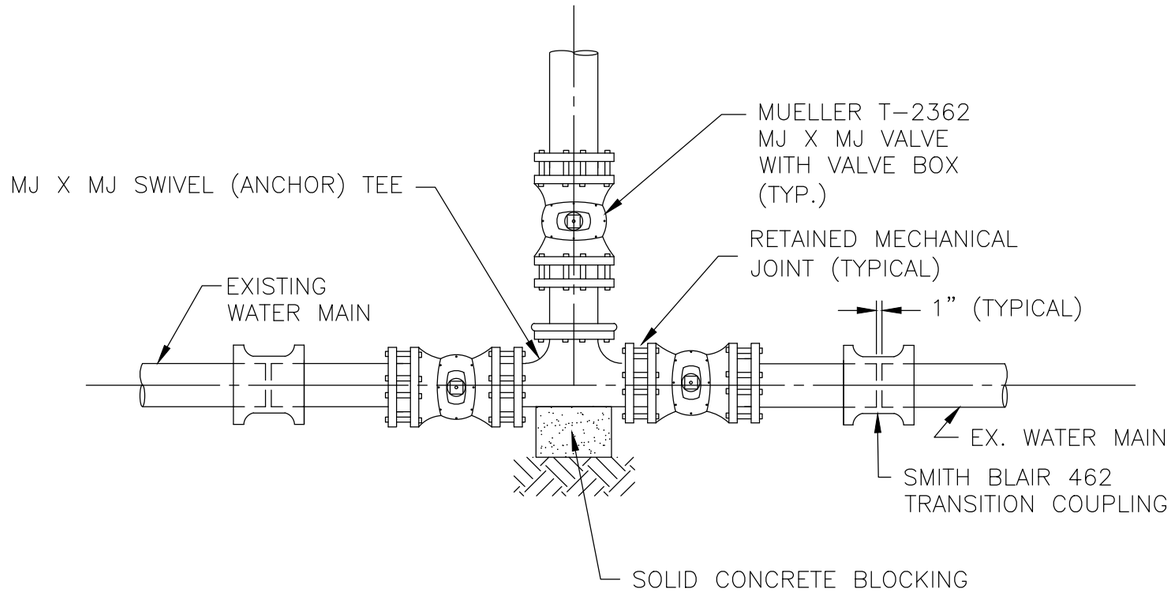
5. ALL BOLTS AND NUTS ON ALL MECHANICAL JOINTS, INCLUDING THOSE ON THE "RETAINED" TYPE, SHALL BE STAINLESS STEEL.

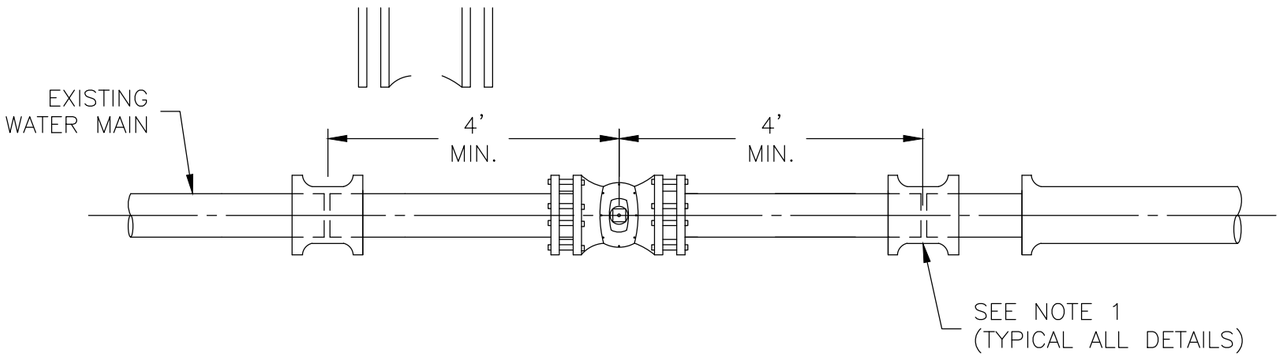
6. SOME MAIN LINE REPAIRS MAY BE DONE USING A REPAIR CLAMP, TYPE SMITH BLAIR 265 OR EQUAL, PROVIDED THIS METHOD IS APPROVED BY THE CITY OF AVON UTILITY DEPARTMENT.

7. ALL TAPPING SLEEVES SHALL BE SMITH BLAIR TYPE 663 (ALL STAINLESS).

8. SIZE ON SIZE TAPPING SLEEVES WILL NOT BE PERMITTED UNLESS SPECIFICALLY SPECIFIED BY THE UTILITY DEPARTMENT.

9. EACH LEG OF THE TEE SHALL HAVE A VALVE UNLESS APPROVED OTHERWISE NY THE UTILITY DEPARTMENT.



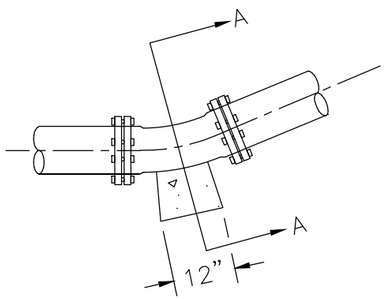


CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
CUT-IN TEE & SLEEVE-IN DETAIL	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-7	61-24	5/29/24

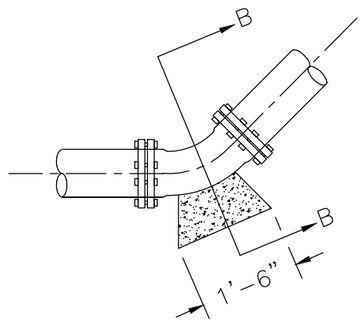
THRUST BLOCK NOTES:

1) D = PIPE DIAMETER.
2) ALL DIMENSIONS SHOWN ARE MINIMUM. THRUST BLOCKS SHALL BE POURED TO UNDISTURBED EARTH.
3) ALL CONCRETE FOR THRUST BLOCKS SHALL BE ODOT CLASS QC–1 HAVING A 4,000 PSI 28 DAY COMPRESSIVE STRENGTH. BAG MIX CONFORMING TO ODOT CLASS QC–1 MAY BE PERMITTED. HOWEVER, THE PLACEMENT OF DRY–MIX BAGS WITHOUT PRE–MIXING WILL NOT BE PERMITTED.
4) TAPPING SLEEVE ASSEMBLIES SHALL REQUIRE HARDWOOD BLOCKING ONLY.
5) DO NOT COVER BOLTS WITH CONCRETE.
6) USE FORMS WHEN POURING CONCRETE TO MAINTAIN SHAPE AND DIMENSIONS OF THRUST BLOCKS.
7) CONCRETE THRUST BLOCKS SHALL ONLY BE PERMITTED WITH THE APPROVAL OF THE UTILITIES DEPARTMENT.

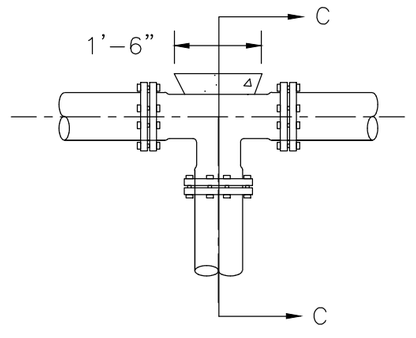
CONCRETE THRUST BLOCK DETAILS



22-1/2° BEND

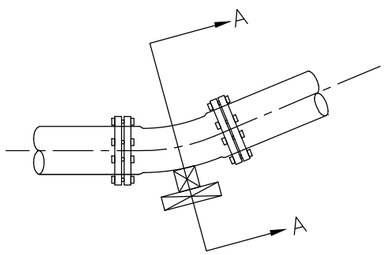


45° BEND

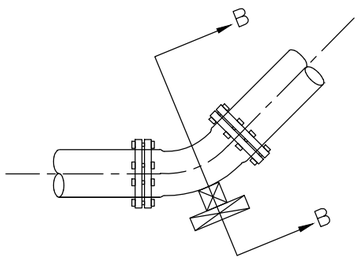


TEE

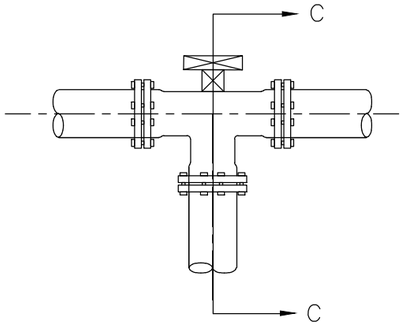
WOOD THRUST BLOCK DETAILS



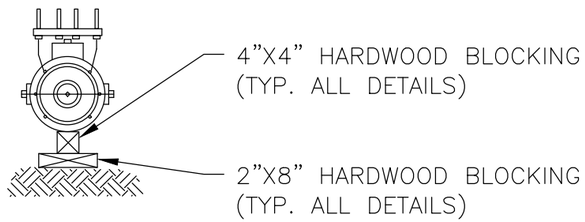
22-1/2° BEND



45° BEND

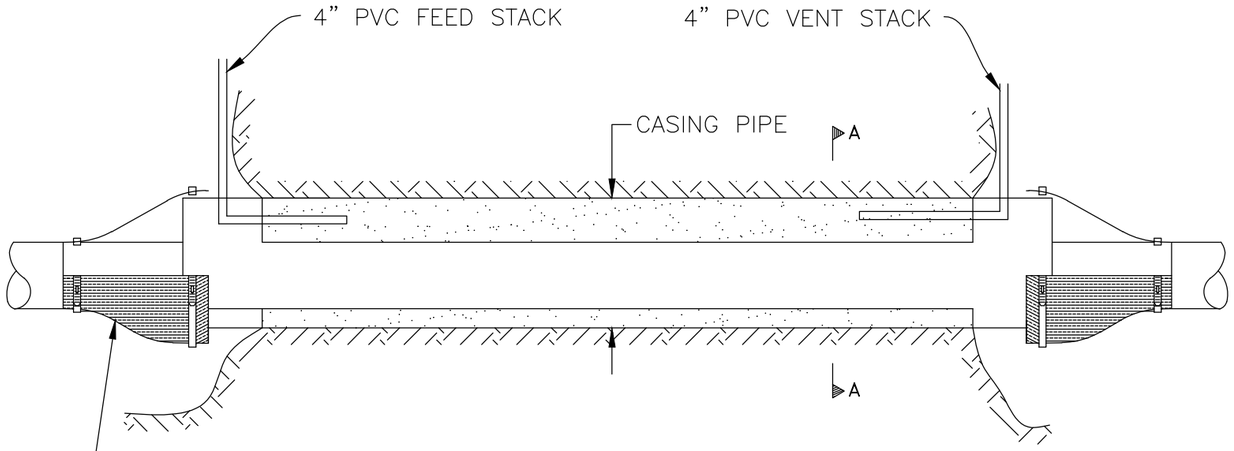


TEE

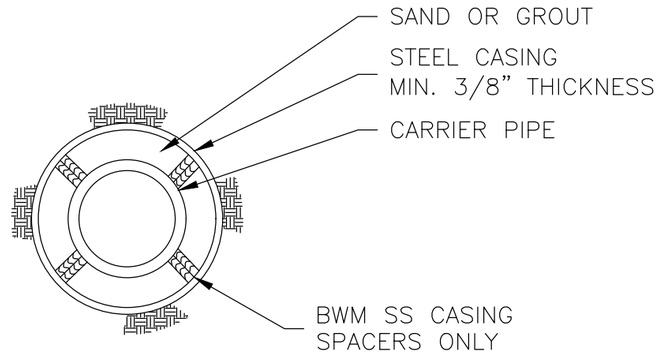


TYPICAL HYDRANT INSTALLATION

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS			
THRUST BLOCK DETAILS		ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING	W-8	61-24	5/29/24



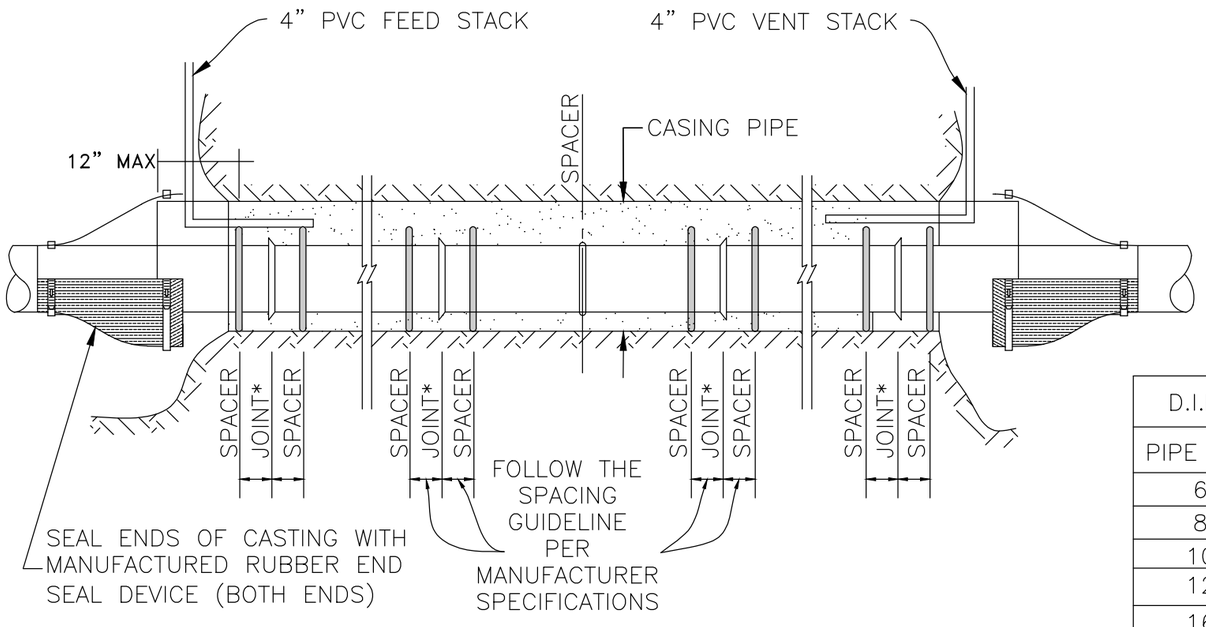
BORE DETAIL



SECTION A–A

BORE NOTES:

1. DUCTILE IRON PIPE SHALL BE THE CLASS 52 TYPE (ALL PIPE JOINTS ARE TO HAVE "FIELD LOK" GASKETS), C–909 PVC, OR CERTA–LOK RESTRAINED JOINT PVC PIPE.
2. PVC STACKS ARE TO BE FILLED TO WITHIN 2 FT. OF GRADE AND CUT AND CAPPED 2 FT. BELOW GRADE.
3. EACH END SHALL BE SEALED WITH A MANUFACTURED RUBBER END SEAL DEVICE.
4. GRANULAR BEDDING IN BORE PIT AND RECEIVING PIT SHALL BE PLACED TO A MINIMUM OF 1 FOOT ABOVE THE PIPE.
5. BONDED SKIDS MAY BE PERMITTED IN LIEU OF RETAINING GLANDS, AS APPROVED BY THE CITY UTILITY DEPARTMENT.
6. MINIMUM CASING WALL THICKNESS IS TO BE 3/8"
7. FREE BORE MAY BE PERMITTED ONLY AT THE DISCRETION BY THE CITY UTILITY DEPARTMENT. IN SUCH CASES THE BORE SHALL BE NO LARGER THAN THE BELL OF THE PIPE BEING USED. SHOULD THE BORE BE LARGER THAN THE PIPE BELL, ENGINEERED GROUT SHALL BE REQUIRED TO FILL THE VOID.
8. CASING SIZE FOR PIPE IN EXCESS OF 16" SHALL BE REVIEWED AND DETERMINED BY THE CITY UTILITY DEPARTMENT AT THE TIME OF PLAN REVIEW AND PRIOR TO ANY CONSTRUCTION.
9. A VALVE SHALL BE REQUIRED ON EACH SIDE OF THE BORE.
10. A CASING IS REQUIRED ON ALL ROAD CROSSINGS. COMPLETE WITH CASING END SEAL. BWM PO OR WR OR EQUIVALENT.
11. BLOWN IN SAND SHALL BE REQUIRED.



D.I.P. CASING SIZE REQUIREMENTS		
PIPE SIZE	BELL SIZE	CASING SIZE
6"	8.75"	12"
8"	10.98"	16"
10"	12.94"	18"
12"	15.24"	24"
16"	19.98"	24"

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
WATERLINE PIPE BORE DETAIL	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-9	61-24	5/29/24

A) ALL "PRIVATE" WATER MAINS IN EXCESS OF TWO (2) INCHES MAY BE REQUIRED TO INSTALL A FIRE LINE METER AT THE RIGHT OF WAY LIMITS OF SAID PROPERTY AT THE DISCRETION OF THE UTILITY DEPARTMENT SUPERINTENDENT.

B) BADGER TYPE FSAA METER SHALL BE USED FOR 2", 4", 6", 8"10" & 12" METERED. BADGER TYPE METERS ARE TO BE PROVIDED WITH AN ENDPOINT FOR AMR W/POSITIVE DISPLACEMENT MODEL 170 OR FIRE RATED E-SERIES METER.

C) EACH DOMESTIC LINE INSTALLATION AND APPLICATION SHALL BE REVIEWED ON AN INDIVIDUAL BASIS AS PART OF THE APPROVAL PROCESS.

D) ALL FIRE LINE OR "PRIVATE" MAINS SHALL REQUIRE AN APPROVED BACKFLOW DEVICE BY THE UTILITY DEPARTMENT.

E) ALL COMMERCIAL AND INDUSTRIAL SITES WILL BE REQUIRED TO HAVE AN ADDITIONAL REDUCED PRESSURE BACKFLOW DEVICE INSTALLED WITHIN THE BUILDING AT ALL SERVICE POINTS.

F) A METER BYPASS ASSEMBLY SHALL BE REQUIRED IN ALL CASES. THE BYPASS LINE SHALL BE THE SAME SIZE AS THE FIRELINE.

G) BOTH METER AND BACKFLOW DEVICE SHALL BE REQUIRED TO BE INSTALLED IN A WATERPROOF VAULT OF SUFFICIENT SIZE TO ACCOMMODATE TWO SERVICE TECHNICIANS TO ENTER VAULT. METER VAULTS MAY BE PRECAST IN TWO SECTIONS, THE BOTTOM SECTION OF WHICH SHALL BE 50% OR GREATER OF THE OVERALL HEIGHT REQUIRED. THE JOINT SEAL BETWEEN PRECAST SECTIONS SHALL BE AN ASPHALTIC STRIP, WITH WATER PLUG JOINT SEAL ON THE INTERIOR AND AN ASPHALTIC EXTERIOR JOINT SEAL WITH A MINIMUM OF 1 FT. IN WIDTH. THE VAULT SHALL BE SET TO 1 INCH AND NO MORE THAN 2 INCHES ABOVE FINISHED GRADE WITH NO SURROUNDING OBSTRUCTIONS. (I.E.: PLANTER BOXES, WALLS, ETC...)

H) IN THE EVENT THAT VAULTS ARE NOT WATER TIGHT, A SUMP HOLE SHALL BE INSTALLED.

I) BACKFLOW DEVICE VAULTS SHALL BE PRECAST CONCRETE, AS DESCRIBED ABOVE & SHALL MEET THE STANDARDS.

J) THERE SHALL BE PROPER INGRESS AND EGRESS. STEPS AND LID TO MATCH METER VAULTS. THE METER SHALL EASILY BE READABLE FROM THE HATCH.

K) ACCESS FRAMES AND COVERS

THE ALUMINUM ACCESS FRAMES AND COVERS SHALL HAVE A 3 FT. BY 3 FT. OPENING AND BE MANUFACTURED WITH 1/4" THICK, ONE PIECE ALUMINUM EXTRUDED FRAME, WITH A CONTINUOUS CONCRETE ANCHOR AS PART OF THE ONE PIECE EXTRUSION. THE DOOR PANELS SHALL BE 1/4" THICK ALUMINUM DIAMOND PLATE, TO WITHSTAND A LIVE LOAD OF 300 LBS. PER SQUARE FOOT, WITH SAFETY FACTOR OF TIMES 3. THE DOORS SHALL BE PROVIDED WITH STAINLESS STEEL HINGES WITH TAMPERPROOF FASTENERS. ALL HARDWARE SHALL BE STAINLESS STEEL. THE DOORS SHALL OPEN TO 90° AND LOCK AUTOMATICALLY IN THAT POSITION WITH A STAINLESS STEEL RELEASE HANDLE. DOORS SHALL BE PROVIDED WITH A STAINLESS STEEL LIFTING HANDLE, STAINLESS STEEL LOCKING BAR, OR STAINLESS STEEL SNAP-LOCK WITH REMOVABLE KEY HANDLE. THE DOORS SHALL CLOSE FLUSH WITH THE TOP OF THE FRAME, RESTING ON 1/2" WIDE LIP AROUND THE ENTIRE INSIDE OF THE FRAME FOR ADDED SUPPORT. THE INTERIOR DOOR PANELS SHALL BE FITTED WITH HORIZONTAL ALUMINUM EXTRUSIONS TO ACT AS HAND HOLDS TO FACILITATE INGRESS AND EGRESS.

* EXAMPLE. THE CITY WILL PERMIT THE NON-TRAFFIC BEARING TYPE OF BILCO J4AL, U.S. FABRICATION TYPE OR EQUAL.

L) BACK FLOW DEVICES MUST BE TESTED UPON INSTALLATION AND EVERY 12 MONTHS THEREAFTER AND TEST RESULTS SUBMITTED TO THE CITY OF AVON UTILITIES DEPARTMENT. THE TESTER MUST BE STATE CERTIFIED AND BE REGISTERED WITH THE CITY OF AVON. FAILURE TO HAVE BACK FLOW DEVICES TESTED EVERY 12 MONTHS WILL RESULT IN TERMINATION OF WATER SERVICE AS REQUIRED BY THE OHIO REVISED CODE.

M) METERS SHALL NOT BE LOCATED IN THE BUILDING. METERS SHALL BE LOCATED IN A VAULT (SEE SHEET W-11) VAULTS SHALL BE LOCATED AT (1) ONE FOOT OUTSIDE THE RIGHT-OF-WAY LINE.

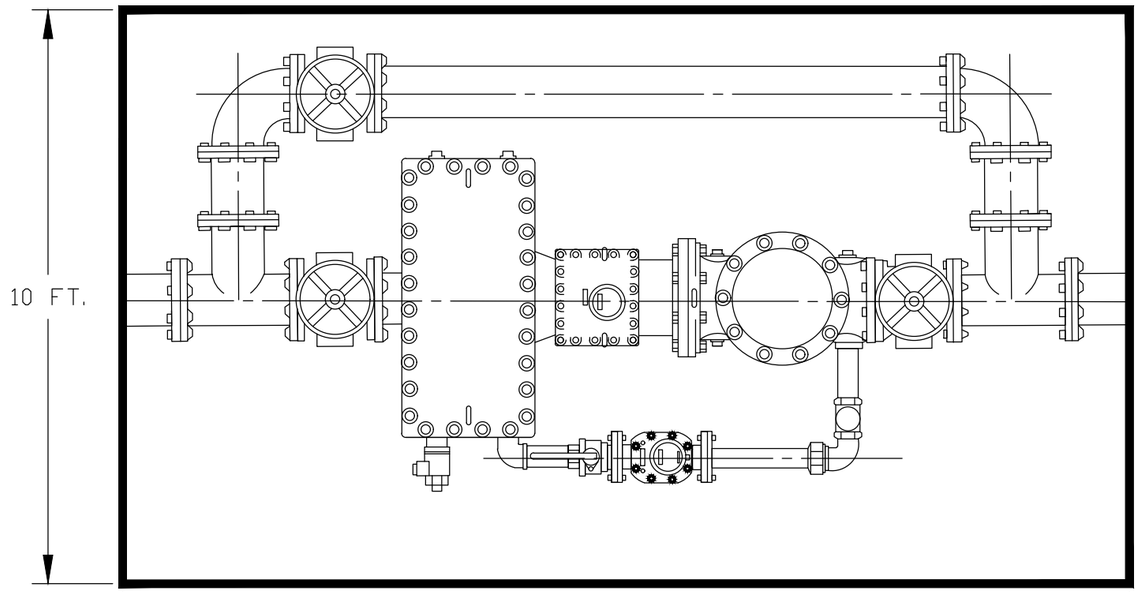
N) THE DOUBLE CHECK ASSEMBLY ASSE 1015 SHALL BE A CAST IRON BODY TYPE. (SEE CONFIGURATION ON SHEET W-11)

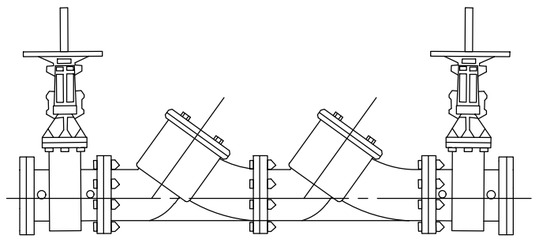
O) THE CITY MAY PERMIT A SINGLE VAULT SO LONG AS DIMENSIONAL REQUIREMENTS ARE MET.

P) ANY VAULT LOCATED WITHIN A PAVED AREA SHALL BE THE TRAFFIC BEARING TYPE WITH THE ACCESS FRAME AND COVER LOCATED OUTSIDE OF THE PAVEMENT.

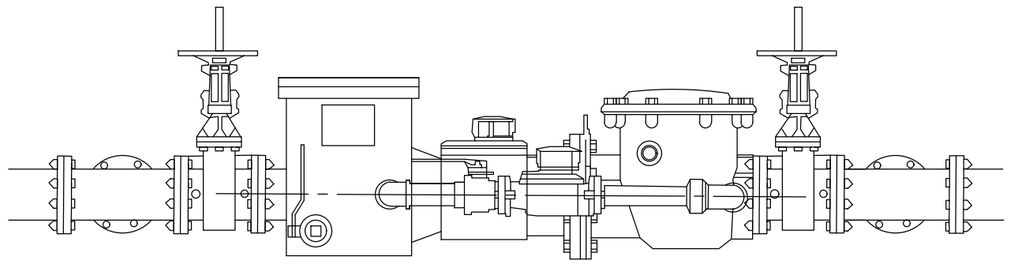
CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
WATERLINE, FIRELINE & VAULT SPECIFICATIONS	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-10**	61-24	5/29/24

PREFERRED BADGER METER
MODEL FSA-01 WITH VALVES
6"-12"
WITH OS&Y VALVES





REQUIRED DOUBLE CHECK
DETECTOR CHECK
ASSEMBLY 1048



NOTE:

1) VAULT SIZES SHOWN ARE FOR GENERAL GUIDANCE ONLY. SHOP DRAWINGS SHALL BE SUBMITTED TO THE CITY UTILITY DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION. THE VAULT SIZE SHALL BE IN DIRECT PROPORTION TO THE MECHANICALS BEING INSTALLED, MAINTAINING RECOMMENDED HEIGHT & SIDE DIMENSIONS.

2) SAME VAULT FOR BOTH METERS AS STANDARD.

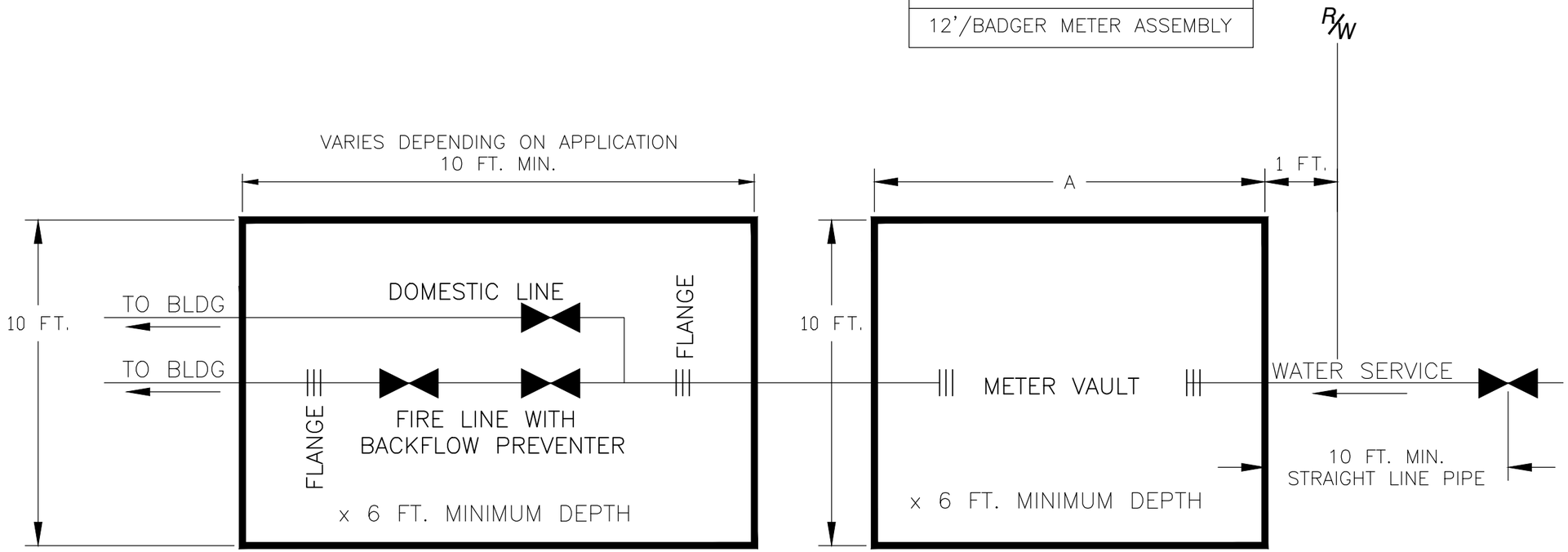
3) THE LOW FLOW METER SHALL BE SIZED TO THE DOMESTIC WATERLINE, HOWEVER, RATED FOR FIRE USE.

4) IN THE EVENT THE VAULTS ARE NOT WATER TIGHT, A SUMP HOLE SHALL BE INSTALLED.

5) METERS IN VAULTS MUST BE ABLE TO BE READ FROM ABOVE WITHOUT ENTRY. IF NO CLEAR LINE OF SITE TO THE METER CAN BE ACHIEVED BY PLACEMENT OF ACCESS MANHOLE A 12" DIAMETER VIEWING PORT MUST BE PROVIDED THAT IS CENTERED OVER THE METER FOR READING PURPOSES IN ADDITION TO THE ACCESS MANHOLE. THE VAULT SHALL MAINTAIN ITS STRUCTURAL INTEGRITY.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS			
METER PIT DETAIL		ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING	W-11	61-24	5/29/24

A=
12'/BADGER METER ASSEMBLY



SCHEMATIC
GENERAL VAULT LAYOUT

NOTES:

1. VAULT SIZES SHOWN ARE FOR GENERAL GUIDANCE ONLY. SHOP DRAWINGS SHALL BE SUBMITTED TO THE CITY UTILITY DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION. THE VAULT SIZE SHALL BE IN DIRECT PROPORTION TO THE MECHANICALS BEING INSTALLED, MAINTAINING RECOMMENDED HEIGHT & SIDE DIMENSIONS.

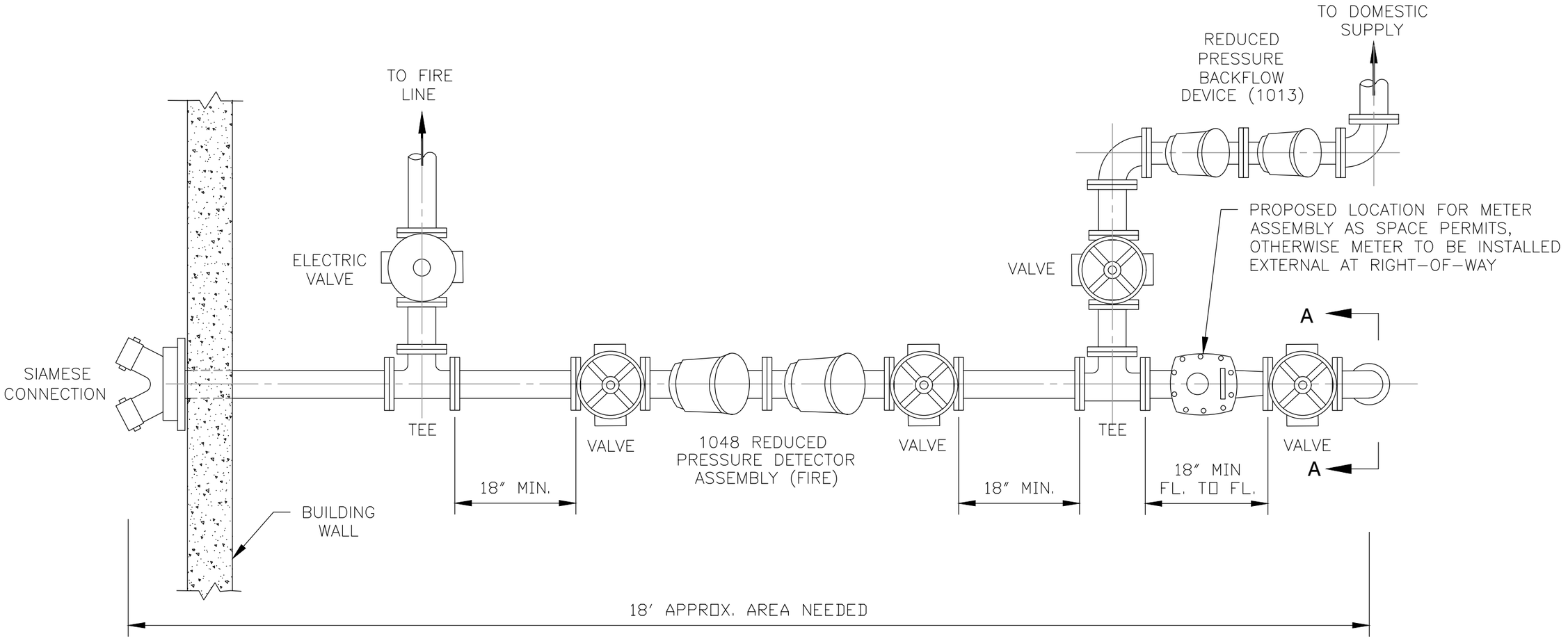
2. THE CITY MAY PERMIT A SINGLE VAULT SO LONG AS DIMENSIONAL REQUIREMENTS ARE MET.

3. ANY VAULT LOCATED WITHIN A PAVED AREA SHALL BE THE TRAFFIC BEARING TYPE WITH THE ACCESS FRAME AND COVER LOCATED OUTSIDE OF THE PAVEMENT.

4. POUR IN PLACE VAULT NOT PERMITTED UNDER PAVEMENT.

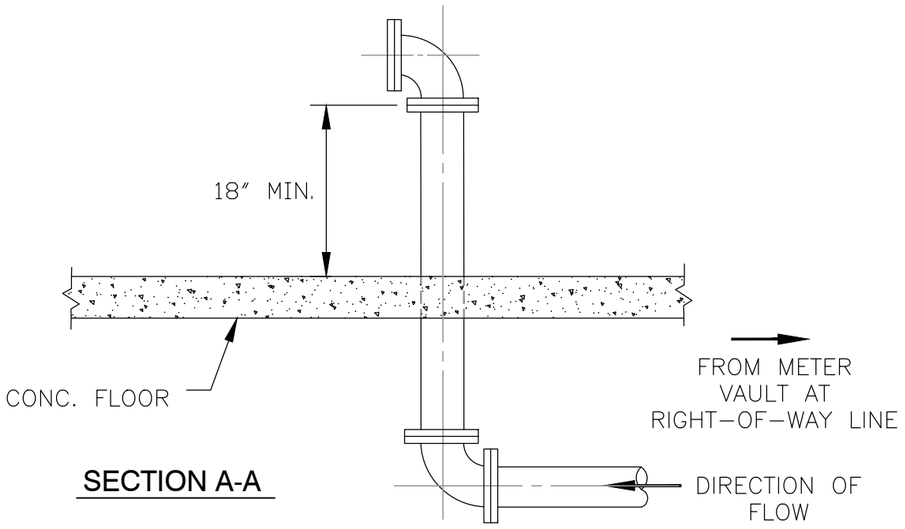
5. THIS CONFIGURATION SHALL ONLY BE USED WITH THE APPROVAL OF THE UTILITY DEPARTMENT.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
GENERAL VAULT LAYOUT COMMERCIAL & INDUSTRIAL	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-12	61-24	5/29/24



PLAN

INTERNAL FIRELINE INSTALLATION



SECTION A-A

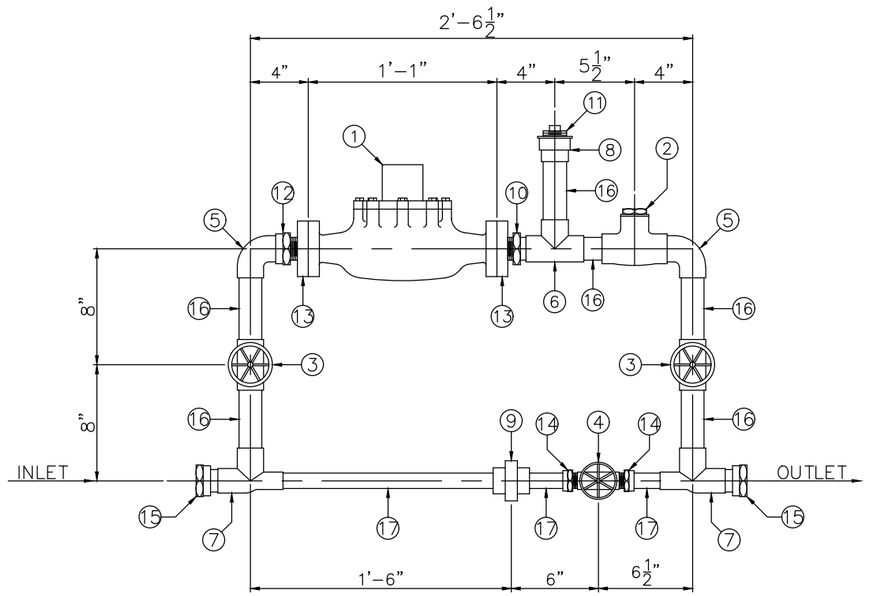
NOTE:

1.) THIS IS NOT THE PREFERRED METHOD. INSTALLATION TO BE APPROVED BY THE CITY FIRE DEPARTMENT AND CITY UTILITY DEPARTMENT.

2.) INSTALL UNDERGROUND PIPE AND RISER IN BUILDING.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
INTERNAL FIRELINE INSTALLATION COMMERCIAL & INDUSTRIAL	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-13	61-24	5/29/24

METERS BY
AVON UTILITIES



ELEVATION

NOTES:

1.) CONTACT AVON UTILITY DEPARTMENT FOR CORRECT METER (SUPPLIED BY CONTRACTOR)

2.) VERIFY METER LENGTH WITH AVON UTILITIES DEPARTMENT

3.) ITEM (4) TO BE SET AT AN ANGLE WITH LOCK AND CABLE.

4.) MINOR VARIATIONS IN THE OVERALL LENGTH ARE TO BE EXPECTED DEPENDING ON THE TEE'S, VALVES, AND CHECK VALVES SUPPLIED.

5.) ADJUSTMENTS TO THE BYPASS (ITEM 17) WILL BE MADE BY AVON UTILITIES AS NEEDED.

6.) ALL BOLTS AND GASKETS BY SUPPLIER.

MATERIALS REQUIRED FOR INSTALLATION

STANDARD 1 1/2" METER SETTING WITH 1 1/2" METER

METER SETTING PROVIDED BY AVON UTILITIES, CUSTOMER CHARGED WITH TAP FEES

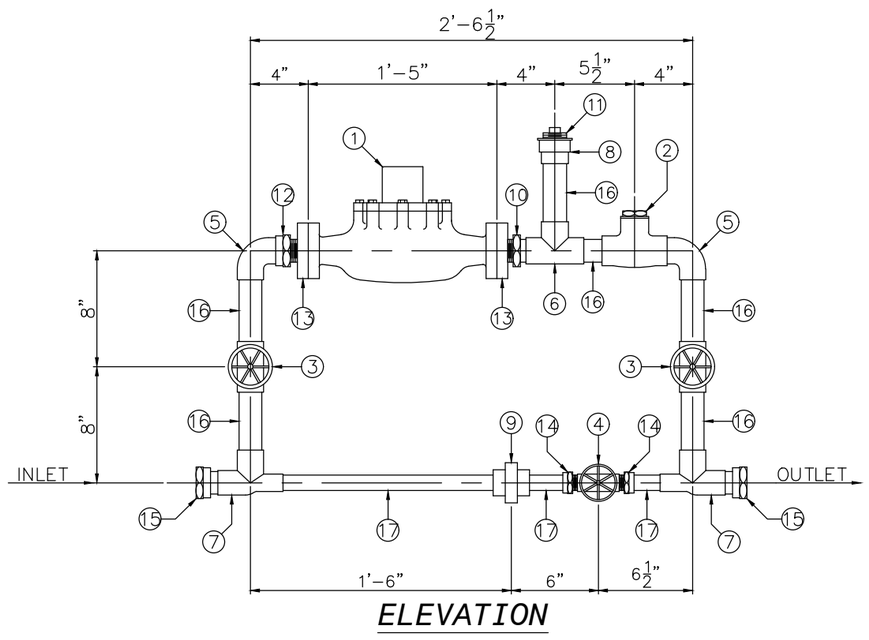
ITEM	REQ'D	SIZE	DESCRIPTION
1	1	1–1/2"	METER BY AVON UTILITIES
2	1	1–1/2"	STREAMLINE SWING CHECK VALVE, COPPER TO COPPER
3	2	1–1/2"	STREAMLINE HAND WHEEL GATE VALVE
4	1	1"	STREAMLINE HAND WHEEL GATE VALVE
5	2	1–1/2"	STREAMLINE STREET ELBOW, COPPER TO COPPER
6	1	1–1/2"	STREAMLINE TEE, COPPER TO COPPER
7	2	1–1/2" X 1 X 1–1/2"	STREAMLINE TEE, COPPER TO IRON, FEMALE
8	1	1–1/2"	STREAMLINE COUPLING, COPPER TO IRON, FEMALE
9	1	1"	STREAMLINE UNION, COPPER TO COPPER
10	1	1–1/2"	STREAMLINE COUPLING, COPPER TO IRON, MALE
11	1	1–1/2"	BRASS SCREW PLUG
12	1	1–1/2"	STREAMLINE COUPLING, COPPER TO IRON, FEMALE
13	2	1–1/2"	OVAL FLANGES, FEMALE
14	2	1"	STREAMLINE COUPLING, COPPER TO IRON, FEMALE
15	2	1–1/2"	STREAMLINE COUPLING, COPPER TO IRON, FEMALE
16	37"	1–1/2"	COPPER TUBING–HARD
17	30"	1"	COPPER TUBING–HARD
18	1lb.		SPECIAL SOLDER

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
STANDARD 1-1/2" METER SETTING	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-14**	61-24	5/29/24

STANDARD 2" METER SETTING WITH 2" METER

MATERIALS REQUIRED FOR INSTALLATION

METERS BY
AVON UTILITIES



ELEVATION

METER SETTING PROVIDED BY AVON UTILITIES AND BILLED WITH TAP FEES.

ITEM	REQ'D	SIZE	DESCRIPTION
1	1	2"	METER BY AVON UTILITIES
2	1	2"	STREAMLINE SWING CHECK VALVE, COPPER TO COPPER
3	2	2"	STREAMLINE HAND WHEEL GATE VALVE
4	1	1–1/2"	STREAMLINE HAND WHEEL GATE VALVE
5	2	2"	STREAMLINE STREET ELBOW, COPPER TO COPPER
6	1	2"	STREAMLINE TEE, COPPER TO COPPER
7	2	2 X1–1/2" X 2"	STREAMLINE TEE, COPPER TO IRON, FEMALE
8	1	2"	STREAMLINE COUPLING, COPPER TO IRON, FEMALE
9	1	1–1/2"	STREAMLINE UNION, COPPER TO COPPER
10	1	2"	STREAMLINE COUPLING, COPPER TO IRON, MALE
11	1	2"	BRASS SCREW PLUG
12	1	2"	STREAMLINE COUPLING, COPPER TO IRON, FEMALE
13	2	2"	OVAL FLANGES, FEMALE
14	2	1–1/2"	STREAMLINE COUPLING, COPPER TO IRON, FEMALE
15	2	2"	STREAMLINE COUPLING, COPPER TO IRON, FEMALE
16	37"	2"	COPPER TUBING–HARD
17	30"	1–1/2"	COPPER TUBING–HARD
18	1lb.		SPECIAL SOLDER

NOTES:

1.) VERIFY METER LENGTH WITH AVON UTILITIES DEPARTMENT

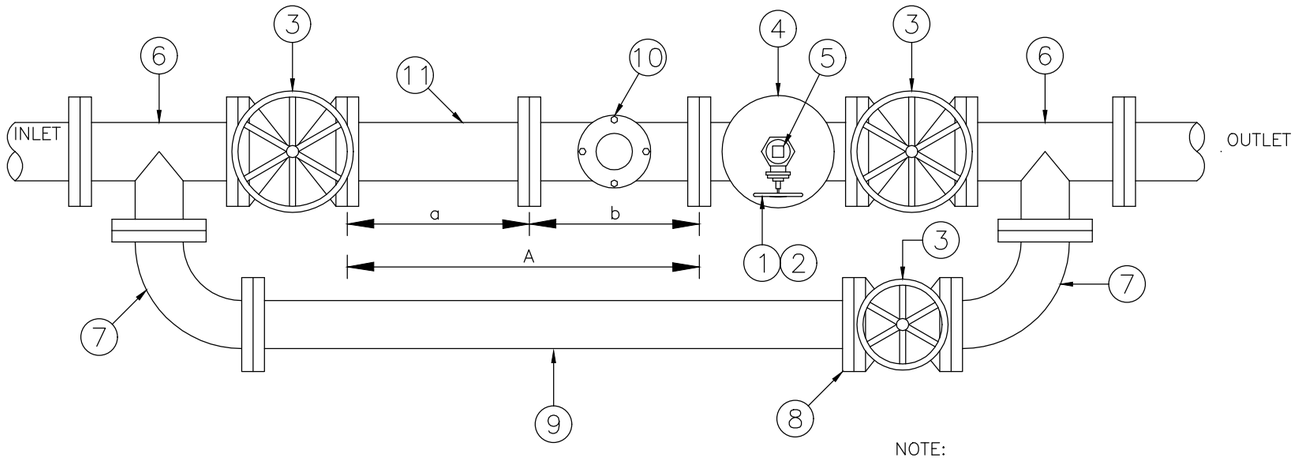
2.) ITEM (4) TO BE SET AT AN ANGLE WITH LOCK AND CABLE.

3.) MINOR VARIATIONS IN THE OVERALL LENGTH ARE TO BE EXPECTED DEPENDING ON THE TEE'S, VALVES, AND CHECK VALVES SUPPLIED.

4.) ALL BOLTS AND GASKETS BY SUPPLIERS.

5.) THE CONTRACTOR SHALL PURCHASE 1–1/2" AND 2" METERS SUPPLIED BY AVON UTILITIES.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
STANDARD 2" METER SETTING	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-15	61-24	5/29/24



NOTE:
ALL BOLTS AND GASKETS BY SUPPLIER.

PLAN

STANDARD 4" METER SETTING WITH 4" METER

MATERIALS REQUIRED FOR INSTALLATION

CHART A

ITEM	REQ'D	SIZE	DESCRIPTION
1	1	2"	HAND WHEEL GATE VALVE, SCREWED
2	1	2" X 10"	BRASS NIPPLE
3	3	4"	O.S.Y. VALVE, FLANGED
4	1	4"	SWING CHECK VALVE, FLANGED W/2" TAP
			ON CHECK VALVE PLATE
5	1	2"	BRASS PLUG
6	2	4" X 4" X 4"	CAST IRON TEES, FLANGED
7	2	4"	CAST IRON ELBOWS, FLANGED LONG RADIUS
8	1	4"	MEGA FLANGE
9		SIZE TO FIT	CLASS 53 DIP FLANGED BY PLAIN END
10	1	*	TURBINE METER OR COMPOUND METER
11	1	*	SPACER SPOOL PIECE FLANGE BY FLANGE

*REFER TO CHART B FOR DIMENSIONS

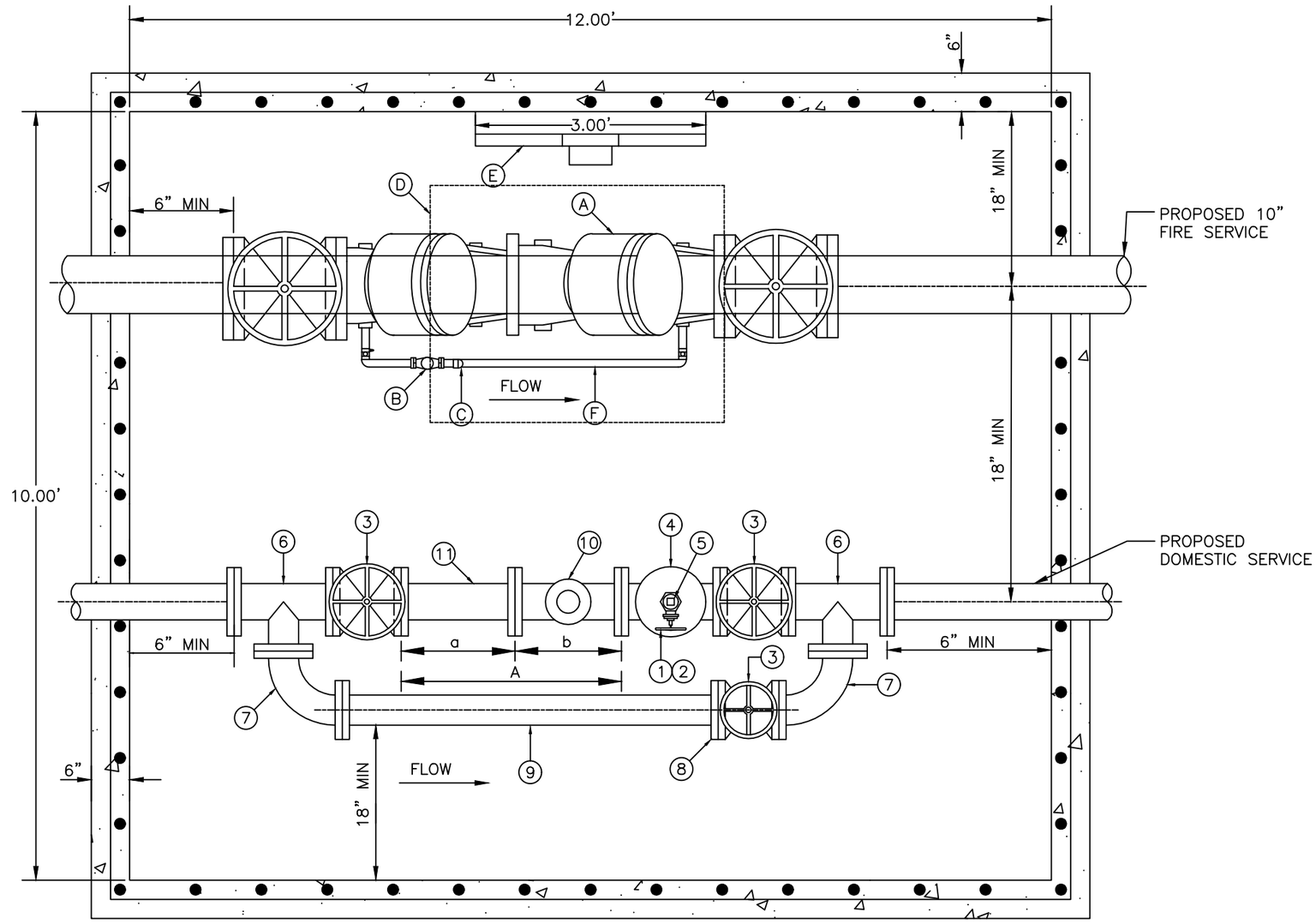
NOTES:

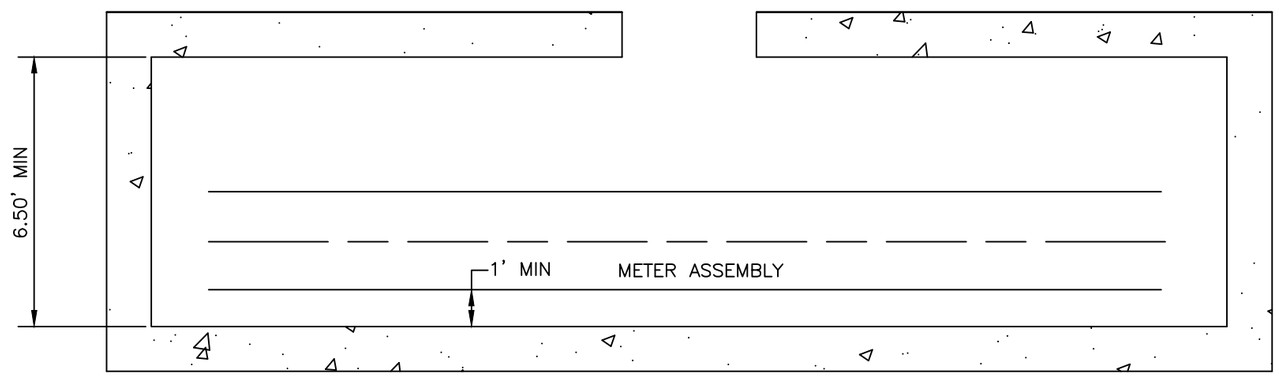
1.) MINOR VARIATIONS IN THE OVERALL LENGTH ARE TO BE EXPECTED DEPENDING ON THE TEE'S VALVES, AND CHECK VALVES SUPPLIED.

2.) CONTACT AVON UTILITY DEPT. FOR CORRECT METER & SPACER. (SUPPLIED BY CONTRACTOR)

3.) 3", 4", AND 6" METER SETTINGS SHALL CONFORM TO THE ABOVE SCHEMATIC. FOR MATERIALS REQUIRED FOR INSTALLATION REFER TO DUAL SERVICE SETTING WITH BACKFLOW DEVICE STANDARD CONSTRUCTION DRAWING SHEETS 2, 3, AND 4.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
STANDARD 4" METER SETTING	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-16	61-24	5/29/24





(A) FIRE SERVICE BACKFLOW PREVENTION DEVICE: WATTS #709–DCDA, AMES #3000 DCDA, OR EQUAL.

(B) BY–PASS METER (3/4" OR 1")
NOTE: BY–PASS LIEN REQUIRES A BACKFLOW DEVICE SIMILAR TO THE WATTS #709.

(C) 3" AND LARGER DOMESTIC METERS SHALL BE INSTALLED WITH FLANGED CLASS 53 DUCTILE IRON PIPE. 2" AND LESS SHALL BE "K" COPPER.

(D) LID: BILCO MODEL #J–4AL, OR HALLIDAY MODEL #W1S3636, OR APPROVED EQUAL.

(E) ALUMINUM LADDER: OSHA APPROVED HALLIDAY SERIES L–1B WITH SERIES L–1E SAFETY POST, OR APPROVED EQUAL.

(F) CONTRACTOR/PLUMBER TO VERIFY LAYING LENGTH OF BACKFLOW DEVICE, VALVES, METERS, ETC.

NOTES:

1.) VAULT SIZE SHOWN IS FOR GENERAL GUIDANCE ONLY. SHOP DRAWINGS SHALL BE SUBMITTED TO THE CITY UTILITY DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION. THE VAULT SIZE SHALL BE IN DIRECT PROPORTION TO THE MECHANICALS BEING INSTALLED, MAINTAINING RECOMMENDED HEIGHT & SIDE DIMENSIONS.

2.) SAME VAULT FOR BOTH METERS AS STANDARD.

3.) 8" AND LARGER SHALL CONFORM TO THE SAME SETTING SPECIFICATIONS. CONTACT AVON UTILITY DEPARTMENT FOR METER AND SPOOL PIECE DIMENSIONS.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
DUAL SERVICE SETTING WITH BACKFLOW DEVICE	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-17**	61-24	5/29/24
		SHEET 1 OF 4

STANDARD 3" METER SETTING WITH 3" METER

MATERIALS REQUIRED FOR INSTALLATION

CHART A

ITEM	REQ'D	SIZE	DESCRIPTION
1	1	2"	HAND WHEEL GATE VALVE, SCREWED
2	1	2" X 10"	BRASS NIPPLE
3	3	3"	O.S.Y. VALVE, FLANGED
4	1	3"	SWING CHECK VALVE, FLANGED W/ 2"
			TAP ON CHECK VALVE PLATE
5	1	2"	BRASS PLUG
6	2	3" X 3" X 3"	CAST IRON TEES, FLANGED
7	2	3"	CAST IRON ELBOWS, FLANGED LONG RADIUS
8	1	3"	MEGA FLANGE
9		SIZE TO FIT	CLASS 53 DIP FLANGED BY PLAIN END
10	1	*	COMPOUND METER OR E-METER
11	1	*	SPACER SPOOL PIECE FLANGE BY FLANGE

*REFER TO CHART B FOR DIMENSIONS

CHART B

METER TYPE	A	a	b
E-METER	24"	7"	17"
COMPOUND	24"	7"	17"

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
DUAL SERVICE SETTING WITH BACKFLOW DEVICE	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-17	61-24	5/29/24
		SHEET 2 OF 4

STANDARD 4" METER SETTING WITH 4" METER

MATERIALS REQUIRED FOR INSTALLATION

CHART A

ITEM	REQ'D	SIZE	DESCRIPTION
1	1	2"	HAND WHEEL GATE VALVE, SCREWED
2	1	2" X 10"	BRASS NIPPLE
3	3	4"	O.S.Y. VALVE, FLANGED
4	1	4"	SWING CHECK VALVE, FLANGED W/ 2"
			TAP ON CHECK VALVE PLATE
5	1	2"	BRASS PLUG
6	2	4" X 4" X 4"	CAST IRON TEES, FLANGED
7	2	4"	CAST IRON ELBOWS, FLANGED LONG RADIUS
8	1	4"	MEGA FLANGE
9		SIZE TO FIT	CLASS 53 DIP FLANGED BY PLAIN END
10	1	*	COMPOUND METER OR E-METER
11	1	*	SPACER SPOOL PIECE FLANGE BY FLANGE

*REFER TO CHART B FOR DIMENSIONS

CHART B

METER TYPE	A	a	b
E-METER	29"	9"	20"
COMPOUND	29"	9"	20"

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
DUAL SERVICE SETTING WITH BACKFLOW DEVICE	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-17	61-24	5/29/24
		SHEET 3 OF 4

STANDARD 6" METER SETTING WITH 6" METER

MATERIALS REQUIRED FOR INSTALLATION

CHART A

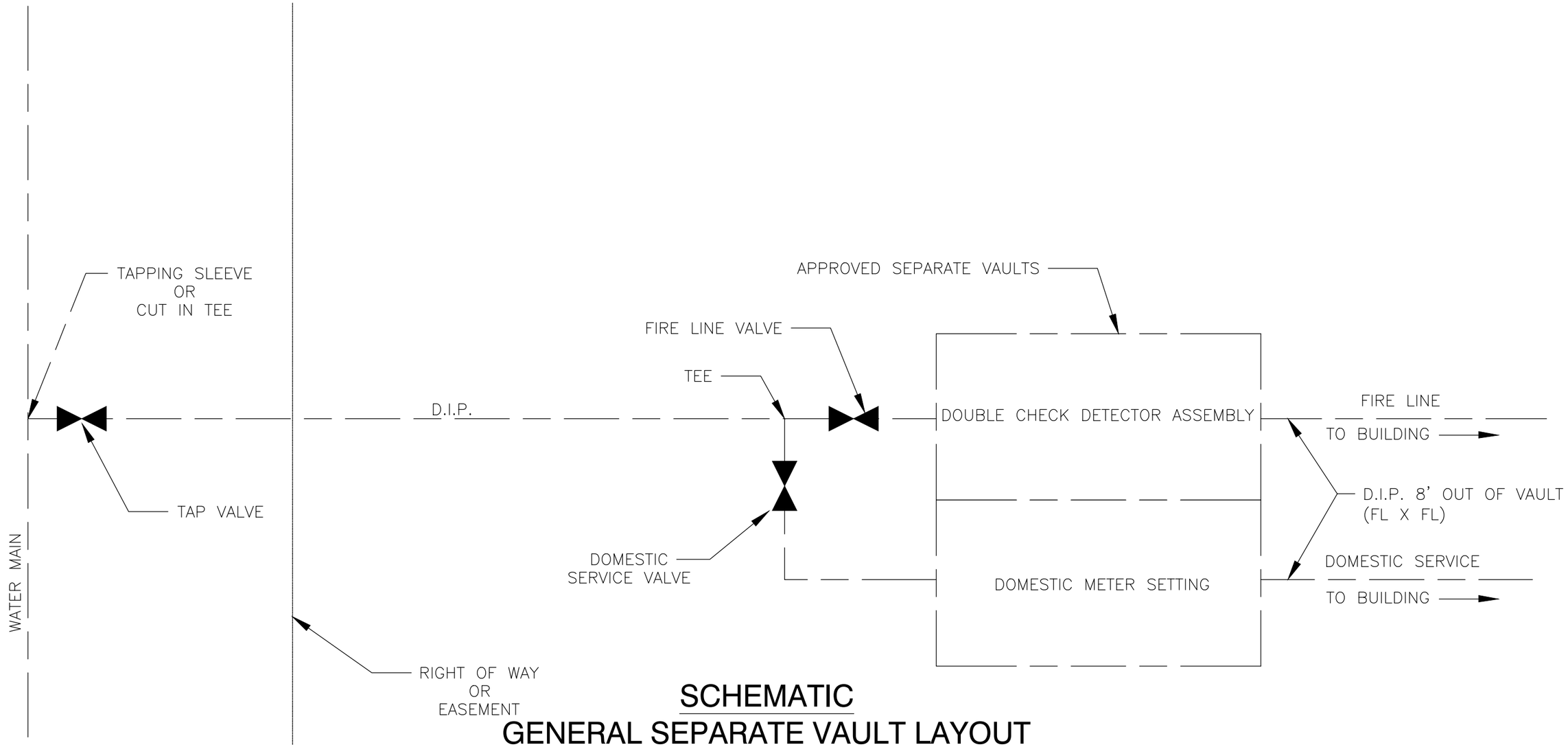
ITEM	REQ'D	SIZE	DESCRIPTION
1	1	2"	HAND WHEEL GATE VALVE, SCREWED
2	1	2" X 10"	BRASS NIPPLE
3	3	6"	O.S.Y. VALVE, FLANGED
4	1	6"	SWING CHECK VALVE, FLANGED W/ 2"
			TAP ON CHECK VALVE PLATE
5	1	2"	BRASS PLUG
6	2	6" X 6" X 6"	CAST IRON TEES, FLANGED
7	2	6"	CAST IRON ELBOWS, FLANGED LONG RADIUS
8	1	6"	MEGA FLANGE
9		SIZE TO FIT	CLASS 53 DIP FLANGED BY PLAIN END
10	1	*	TURBINE METER OR COMPOUND METER
11	1	*	SPACER SPOOL PIECE FLANGE BY FLANGE

*REFER TO CHART B FOR DIMENSIONS

CHART B

METER TYPE	A	a	b
E-METER	37"	13"	24"
TURBINE	37"	10"	27"
COMPOUND	37"	13"	24"

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
DUAL SERVICE SETTING WITH BACKFLOW DEVICE	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-17	61-24	5/29/24
		SHEET 4 OF 4

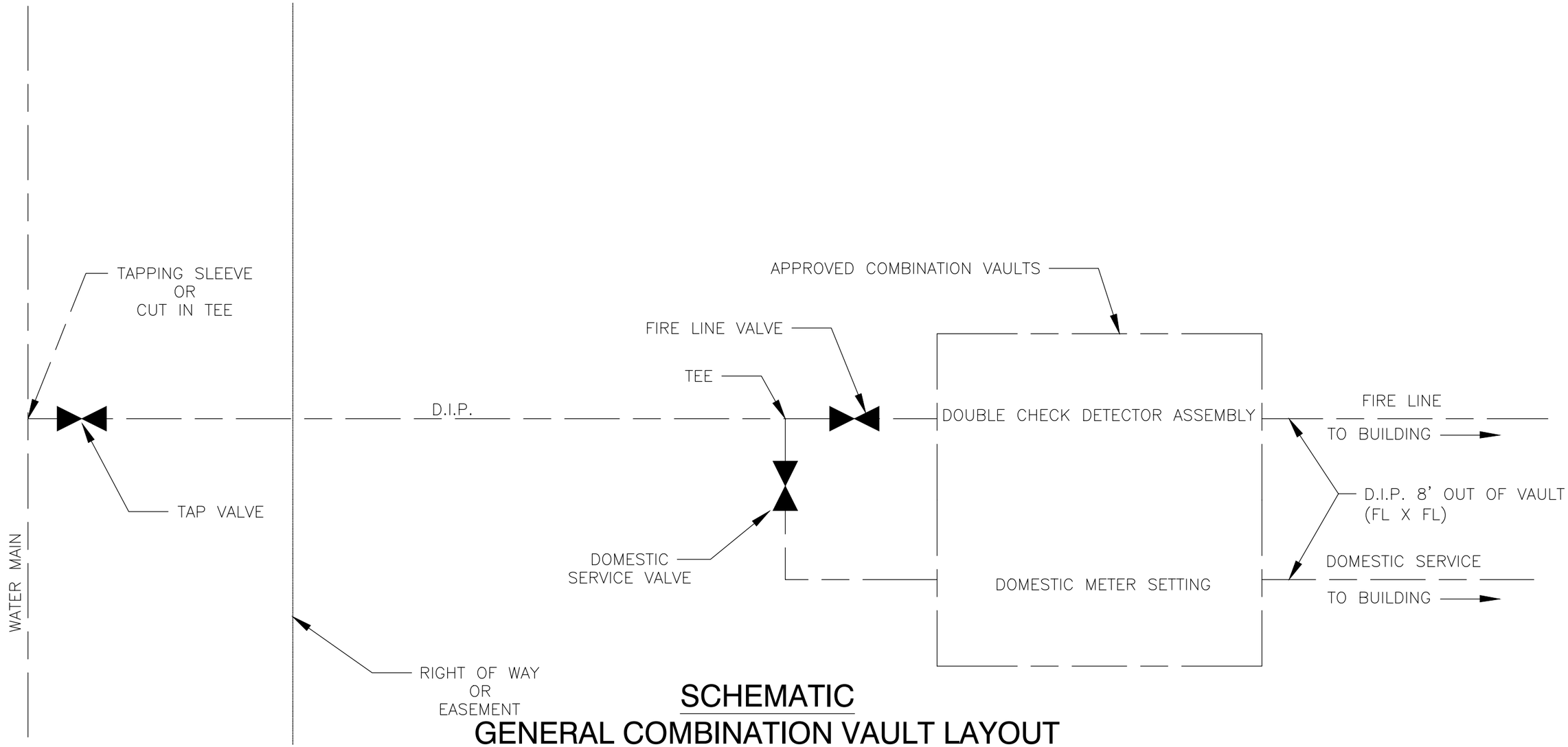


SCHEMATIC
GENERAL SEPARATE VAULT LAYOUT

NOTES:

1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE CITY UTILITY DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION. THE VAULT SIZE SHALL BE IN DIRECT PROPORTION THE MECHANICALS BEING INSTALLED.
2. THE CITY MAY PERMIT A SINGLE VAULT SO LONG AS DIMENSIONAL REQUIREMENTS ARE MET
3. ANY VAULT LOCATED WITHIN A PAVED AREA SHALL BE THE TRAFFIC BEARING TYPE WITH THE ACCESS FRAME AND COVER LOCATED OUTSIDE OF THE PAVEMENT.
4. POUR IN PLACE VAULT NOT PERMITTED UNDER PAVEMENT.
5. 6 FT. MINIMUM DEPTH.
6. LID SHALL BE BILCO MODEL #J–4AL OR APPROVED EQUAL.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
GENERAL SEPARATE VAULT LAYOUT COMMERCIAL & INDUSTRIAL	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-18**	61-24	5/29/24



SCHEMATIC
GENERAL COMBINATION VAULT LAYOUT

NOTES:

1. SHOP DRAWINGS SHALL BE SUBMITTED TO THE CITY UTILITY DEPARTMENT FOR APPROVAL PRIOR TO INSTALLATION. THE VAULT SIZE SHALL BE IN DIRECT PROPORTION THE MECHANICALS BEING INSTALLED.
2. THE CITY MAY PERMIT A SINGLE VAULT SO LONG AS DIMENSIONAL REQUIREMENTS ARE MET
3. ANY VAULT LOCATED WITHIN A PAVED AREA SHALL BE THE TRAFFIC BEARING TYPE WITH THE ACCESS FRAME AND COVER LOCATED OUTSIDE OF THE PAVEMENT.
4. POUR IN PLACE VAULT NOT PERMITTED UNDER PAVEMENT.
5. 6 FT. MINIMUM DEPTH.
6. LID SHALL BE BILCO MODEL #J–4AL OR APPROVED EQUAL.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
GENERAL COMBINATION VAULT LAYOUT COMMERCIAL & INDUSTRIAL	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-19**	61-24	5/29/24

1) SERVICES FROM THE CURB STOP TO THE WATER METER SHALL BE ONE OF THE FOLLOWING MATERIALS:
   A) SOFT COPPER, TYPE "K"
   B) CROSSLINKED POLYETHYLENE(PEXa) MEETING THE FOLLOWING STANDARDS: ASTM F 876, ASTM F 2657, ASTM F 2080, ASTM F 2023 AND AWWA C904 AND AWWA C800 (FITTINGS) AS MANUFACTURED BY REHAU "MUNICIPEX" OR APPROVED EQUAL. SDR-9, PC200@73°F. SHALL BE USED AT THE APPROVAL OF THE AVON UTILITY DEPARTMENT.
   C) HDPE PE3408, C-3, SDR-9 PC200@73°F, ASTM D2737-05 AWWA C-901. SHALL BE USED AT THE APPROVAL OF THE AVON UTILITY DEPARTMENT.

   ALL PIPE OVER 2" SHALL BE (DUCTILE IRON CLASS 52) OR C909. (METER PITS MAY BE REQUIRED AT THE CITY OF AVON UTILITIES SUPERINTENDENT'S DISCRETION. SDR-9 PIPING SHALL BE BACK FILLED PER W-3. PLASTIC WATER SERVICES SHALL INCLUDE STAINLESS STEEL INSERT STIFFENERS THAT ARE CAPABLE OF A WORKING PRESSURE OF 150 PSI AND A BURST PRESSURE OF 450 PSI.
2) ALL SERVICES SHALL BE A MINIMUM OF ONE (1") INCH FOR ALL NEW CONSTRUCTION.
3) WHERE CURRENT 3/4" SERVICES ARE INSTALLED AT RIGHT OF WAY IN PREVIOUSLY APPROVED SUBDIVISIONS ADDITIONAL 3/4" SERVICE WILL BE ALLOWED, ONE INCH FROM STREET TO HOUSE PREFERRED.
4) METER SIZE SHALL MATCH THE SERVICE LINE SIZE.
5) WHEN METERS SHALL BE MOUNTED IN PITS/VAULTS AS CLOSE TO THE CURB BOX AS POSSIBLE. METER PIT LIDS SHALL BE SET TO FINISH GRADE.
6) SERVICE LINES SHALL BE A MINIMUM DEPTH OF 48". THE SERVICE LATERALS SHALL NOT BE INSTALLED IN COMMON TRENCH. THE MINIMUM HORIZONTAL SEPARATION SHALL BE:
   - TEN FEET (10') BETWEEN THE WATER SERVICE AND SANITARY
   - FIVE FEET (5') BETWEEN WATER SERVICE AND ALL OTHER UTILITIES
7) SERVICE LINE INSTALLATION MAY NOT BE ACCOMPLISHED BY "SHELVING" TRENCH WITH STORM OR SANITARY.
8) ALL SERVICE LINE BEDDING AND COVER SHALL BE WASHED #8 LIMESTONE.
9) SERVICE LINE MAY ENTER BUILDING UNDER FOOTER PROVIDED PROPER CLEARANCE AND SEPARATION IS MET. OTHERWISE, SERVICES TO BE STUBBED THROUGH WALL. WALL SLEEVES SHALL BE PROVIDED AS PER BUILDING DEPARTMENT REQUIREMENTS. SERVICES THAT ENTER THROUGH BASEMENT FLOOR OR SLAB SHALL BE PROTECTED WITH A NON-KINK MATERIAL SUCH AS ARMAFLEX OR APPROVED EQUAL.
10) IT IS PREFERRED THAT WATER SHUT OFF BOX ARE NOT INSTALLED WITHIN THE DRIVEWAY AREA.
   * WATER SHUT OFF BOXED THAT ARE PLACED WITHIN DRIVEWAYS SHALL BE ADJUSTED TO GRADE AND APPROVED BY THE AVON CITY UTILITY DEPARTMENT PRIOR TO PLACEMENT OF CONCRETE. SEE DETAIL W-3.
   * ALL CLEANOUTS & WATER BOXES LOCATED INSIDE OF CONCRETE AREAS THAT CANNOT BE RELOCATED, SHALL FOLLOW DETAIL SAN-5 OR W-3.
11) PLASTIC SERVICE LINES SHALL HAVE A TRACER WIRE SYSTEM AS PER REHAU SPECIFICATION OR APPROVED EQUAL INCLUDING 10 GAUGE(AWG) SINGLE STRANDED INSULATED COPPER WIRE. 1 TRACER WIRE OF DIFFERENT COLORS WITH NO SPLICES ARE REQUIRED.
   * 2 TRACER WIRES ON WATER MAINS
   * 1 TRACER WIRE ON WATER SERVICES.
12) WATER SERVICE LINES BETWEEN THE CURB STOP AND THE WATER METER SHALL CONFORM TO THE FOLLOWING:
   A) SERVICE LINES WILL BE THE SAME SIZE AS THE METER SUCH AS 3/4", 1", 2".
   B) UNDER NO CIRCUMSTANCES WILL A SWEAT CONNECTION BE PERMITTED IN A SERVICE LINE. (ANY LINE PRIOR TO MASTER METER)
13) INSIDE METER SET REQUIREMENTS SHALL CONFORM TO THE FOLLOWING:
   A) ALL SERVICE LINES WILL RUN FROM THE CURB STOP TO NO MORE THAN ONE (1) FT. INSIDE THE BUILDING WHERE THE METER IS TO BE SET. ALL SERVICE LINES MUST BE LAID AT A DEPTH OF (48) INCHES. THIS LINE MUST BE INSPECTED BY THE WATER DEPARTMENT BEFORE IT IS COVERED.
   B) NO SUPPLEMENTAL FITTINGS WILL BE ALLOWED BETWEEN THE CURB STOP AND THE METER SETTING.
   C) UPON ISSUANCE OF A WATER TAP, THE PROPERTY OWNER GIVES THE WATER DEPARTMENT THE RIGHT TO INSTALL A METERING DEVICE IN THE BUILDING TO BE SERVICED, AND TO INSTALL A REGISTERING DEVICE AND CONNECTING WIRES. THE METERING DEVICE SHALL BE MOUNTED ON AN ENDPOINT FLOOR JOIST AND REMAIN ACCESSIBLE. IF COVERED THERE MUST BE A MINIMUM OF AN 18" X 18" ACCESS PANEL FOR MAINTENANCE PURPOSES.
14) WATER SERVICE LINE INSTALLATION SHALL CONFORM TO THE FOLLOWING OHIO EPA CONSTRUCTION NOTES:
   A) MINIMUM OF 35 PSI SHALL BE MAINTAINED TO THE CURB STOP DURING NORMAL OPERATING CONDITIONS.
   B) BOOSTER PUMPS ARE NOT PERMITTED ON RESIDENTIAL SERVICE CONNECTIONS.
   C) A MINIMUM HORIZONTAL SEPARATION (MEASURED OUT-TO-OUT CLEAR) SHALL BE:
      - TEN FEET (10') BETWEEN WATER LINES AND SANITARY SEWERS
      - FIVE FEET (5') BETWEEN WATER LINES AND STORM SEWERS
   D) A MINIMUM 18-INCH VERTICAL CLEARANCE (MEASURED OUT-TO-OUT CLEAR) BETWEEN WATER LINES AND STORM SEWERS WILL BE MAINTAINED AND BETWEEN WATERLINES AND SANITARY SEWERS.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
WATER SERVICE LINE SPECIFCATIONS	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-20**	61-24	5/29/24
		SHEET 1 OF 2

14) NO PERSON SHALL TAKE WATER FROM ANY FIRE HYDRANT EXCEPT FOR FIRE PURPOSES, UNLESS A PERMIT IS FIRST OBTAINED AND ARRANGEMENTS MADE FOR METERING OF THE WATER.

15) IN ALL CASES WHERE SERVICE IS CONNECTED DIRECT TO BOILERS OR OTHER HOT WATER FIXTURES THAT ARE LIKELY TO CAUSE A BACK WATER PRESSURE, A CHECK VALVE MUST BE INSTALLED AT THE EXPENSE OF THE CUSTOMER, ON THE SERVICE PIPE TO PREVENT DAMAGE TO METERS. ALL DAMAGES CAUSED TO METERS BY BACKWATER PRESSURE SHALL BE PAID FOR BY THE CONSUMER WHERE SUCH DAMAGES OCCUR.

16) ALL PERSONS ARE FORBIDDEN TO COVER UP OR INTERFERE WITH ANY METER–BOX, VALVE–BOX, HYDRANT OR OTHER WATER INFRASTRUCTURE APPURTENANCE.

17) IN NO CASE WILL SERVICE PIPES BE ALLOWED TO RUN ACROSS LOTS, FROM ONE LOT TO ANOTHER, UNLESS APPROVED BY THE AVON UTILITY DEPARTMENT WITH APPROPRIATE EASEMENTS IN PLACE.

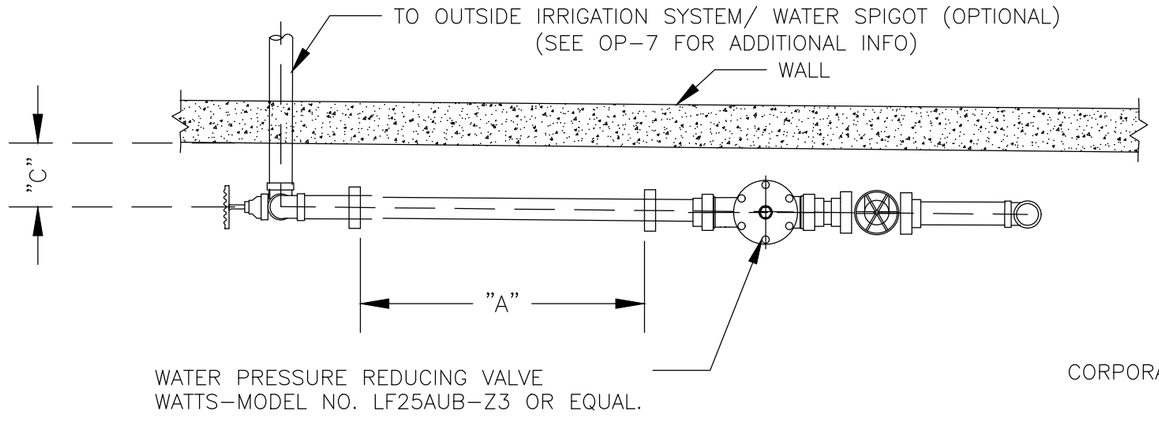
18) NO TWO (2) SEPARATE PREMISES SHALL BE SUPPLIED FROM ONE (1) SERVICE, EXCEPTING IN THE UTILITY EASEMENT AREA. A SEPARATE SERVICE SHALL BE INSTALLED FOR EACH SUCH SEPARATE PREMISE; WITH THE EXCEPTION OF APARTMENT HOUSES, DUPLEX FLATS AND DOUBLE HOUSES.

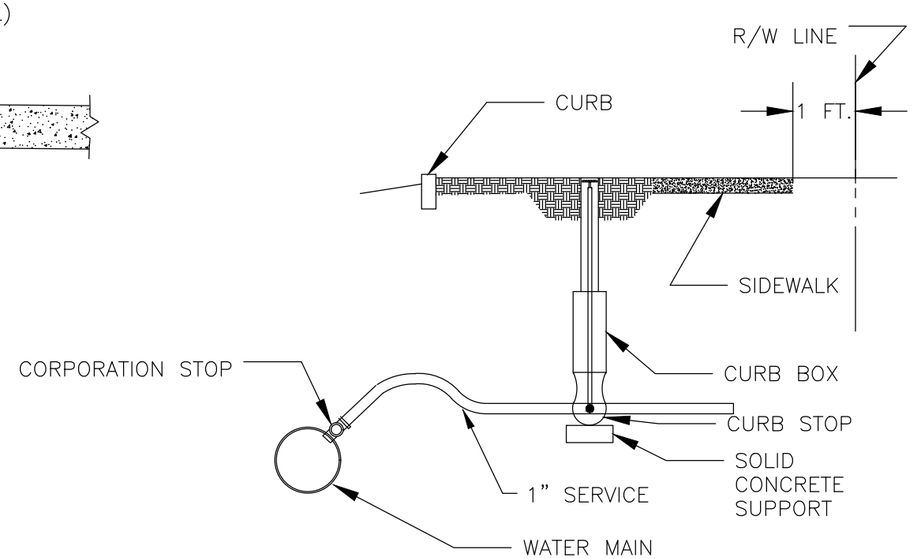
19) ALL DOMESTIC SERVICES SHALL BE METERED.

20) ALL CHANGES IN SERVICE PIPES AND FIXTURES THAT MAY BE NECESSARY TO SET THE METER PROPERLY TO AVOID FREEZING AND TO MAKE ALL WATER USED ON ANY PREMISES PASS THROUGH THE METER SHALL BE MADE AT THE EXPENSE OF THE PROPERTY OWNER AND CONSUMER, AND THE COST THEREOF SHALL BE PAID BEFORE THE WATER IS TURNED ON. ANY DAMAGE TO SERVICE PIPE ON THE PERSONAL PROPERTY OF THE CUSTOMER, FROM FREEZING OR OTHER CAUSES, SHALL BE REPAIRED AT THE EXPENSE OF THE CUSTOMER.

21) PROPERTY OWNER IS ULTIMATELY RESPONSIBLE FOR PAYING WATER BILLS.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
WATER SERVICE LINE SPECIFICATIONS	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-20	61-24	5/29/24
		SHEET 2 OF 2



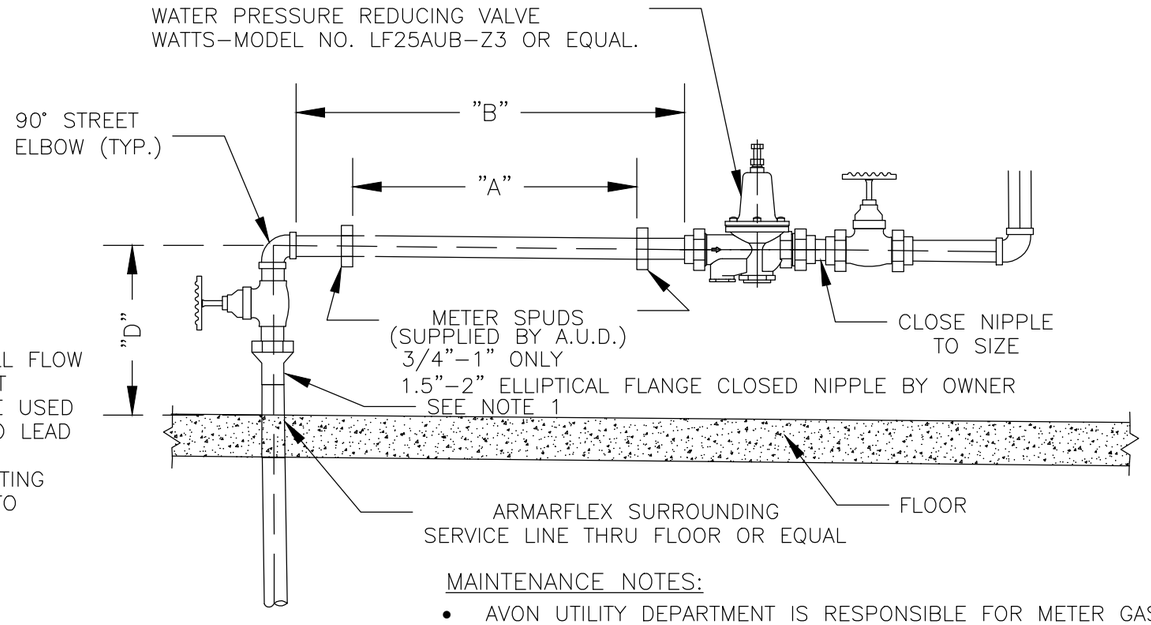


WATER LATERAL TO HOUSE

CURB STOP; MUELLER #15200 OR EQUAL
CURB BOX AND COVER; HAYES #5800 OR #5803 OR EQUAL
CORP. STOP; MUELLER #H-1500 OR EQUAL

NOTES:

CITY APPROVAL SHALL BE REQUIRED FOR ALL PROPOSED CURB STOP LOCATIONS, OTHER THAN AS SHOWN ABOVE.



- ALL VALVES ARE FULL FLOW IRON TO IRON F-NPT
- BALL VALVES MAY BE USED
- ALL FITTINGS ARE NO LEAD BRASS.
- OUTLET SIDE OF SETTING MUST BE SECURED TO WALL OR FLOOR.

MAINTENANCE NOTES:

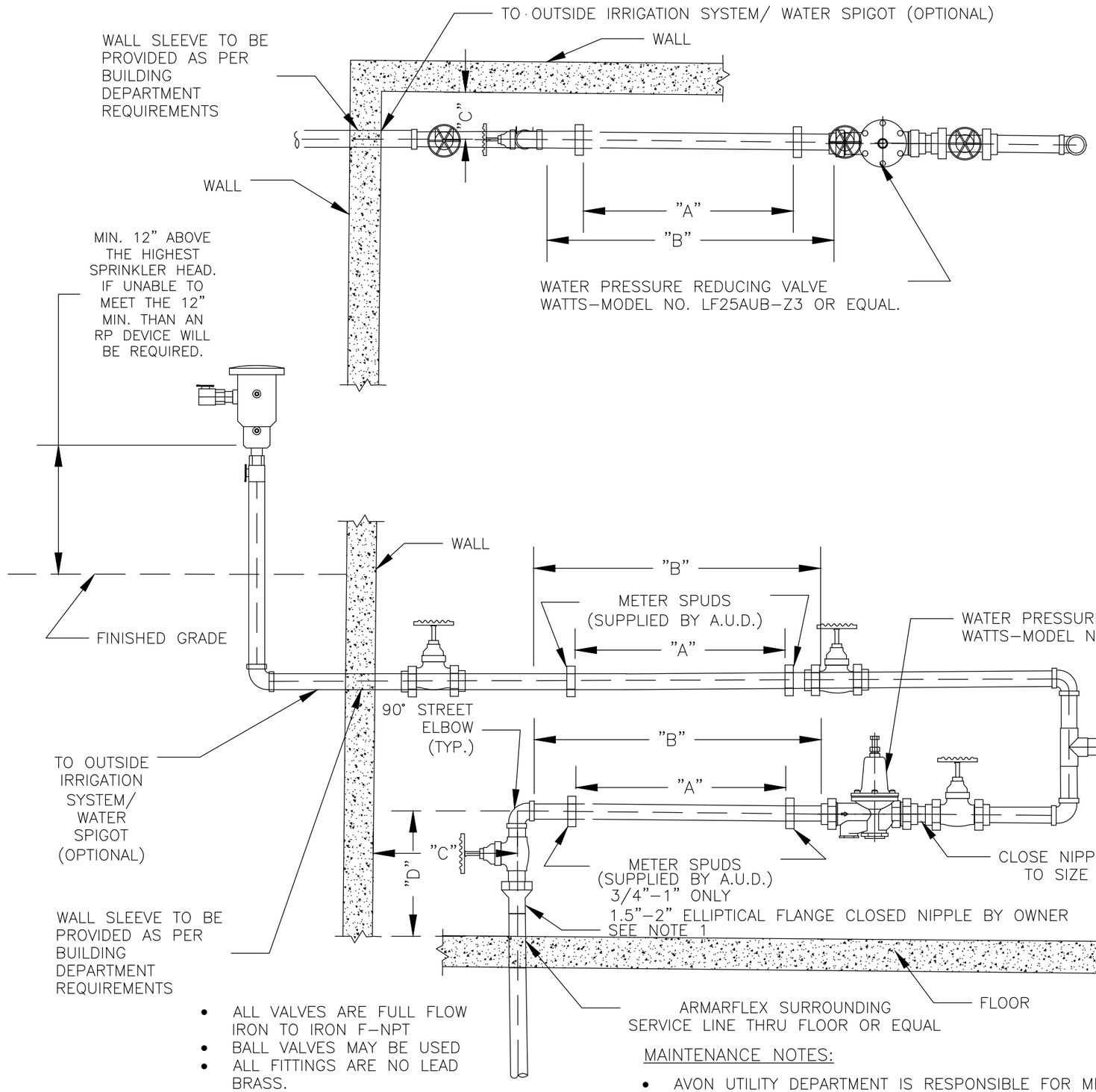
- AVON UTILITY DEPARTMENT IS RESPONSIBLE FOR METER GASKETS AND METER MAINTENANCE; HOME OWNER IS RESPONSIBLE FOR ALL OTHER APPURTENANCES.

METER SIZE	A	B	C	D
3/4"	7-3/4"	12-1/2"	6" MIN 12" MAX	6" MIN 18" MAX
1"	10-3/4"	16"	6" MIN 12" MAX	6" MIN 18" MAX
1.5"	13"	18"±	6" MIN 12" MAX	6" MIN 18" MAX
2"	17"	23"±	6" MIN 12" MAX	6" MIN 18" MAX

NOTES:

1. FOR COPPER SERVICE:
   USE COPPER TO IRON FLARE TO M-NPT OR BRASS COMPRESSION TO M-NPT.
   FOR PLASTIC SERVICE:
   FOLLOW MANUFACTURES GUIDE TO TRANSITION FROM PLASTIC WITH A BRASS COMPRESSION FITTING (F2080) WITH STAINLESS STEEL INSERT.
2. ALL INSTALLATIONS MUST COMPLY WITH PUBLISHED RULES AND REGULATIONS
3. INSIDE METER ASSEMBLY TO BE ACCESSIBLE AT ALL TIMES
4. NO SEWER CHARGE FOR SECOND METER; WATER CHARGE ONLY.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
RESIDENTIAL INSIDE METER INSTALLATION	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-21**	61-24	5/29/24



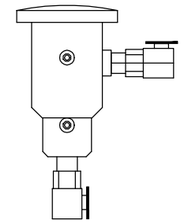
- ALL VALVES ARE FULL FLOW IRON TO IRON F–NPT
- BALL VALVES MAY BE USED
- ALL FITTINGS ARE NO LEAD BRASS.
- OUTLET SIDE OF SETTING MUST BE SECURED TO WALL OR FLOOR.

MAINTENANCE NOTES:

- AVON UTILITY DEPARTMENT IS RESPONSIBLE FOR METER GASKETS AND METER MAINTENANCE; HOME OWNER IS RESPONSIBLE FOR ALL OTHER APPURTENANCES.

NOTES:

1. FOR COPPER SERVICE:
   USE COPPER TO IRON FLARE TO M–NPT OR BRASS COMPRESSION TO M–NPT.
   FOR PLASTIC SERVICE:
   FOLLOW MANUFACTURES GUIDE TO TRANSITION FROM PLASTIC WITH A BRASS COMPRESSION FITTING (F2080) WITH STAINLESS STEEL INSERT.
2. ALL INSTALLATIONS MUST COMPLY WITH PUBLISHED RULES AND REGULATIONS
3. INSIDE METER ASSEMBLY TO BE ACCESSIBLE AT ALL TIMES
4. NO SEWER CHARGE FOR SECOND METER; WATER CHARGE ONLY.



THE PRESSURE VACUUM BREAKER IS DESIGNED TO PREVENT BACK SIPHONAGE INTO THE POTABLE WATER SUPPLY. CONTAINS A SPRING LOADED CHECK VALVE TO PREVENT A BACKFLOW OF NON–POTABLE WATER AND FLOAT VALVE WHICH OPENS TO ADMIT AIR WHEN BACK SIPHONAGE CONDITIONS EXIST. IT IS INTENDED FOR CONTINUOUS LINE PRESSURE APPLICATIONS WHICH MAY INCORPORATE DOWNSTREAM SHUT–OFF VALVES, BUT SHOULD NOT BE INSTALLED WHERE IT WOULD BE SUBJECT TO BACKPRESSURE. THE CORROSION RESISTANT CAST BRONZE BODY PLUS STAINLESS STEEL SPRINGS, SCREWS, AND PATENTED SILICONE RUBBER UPPER DISC, ASSURES CONTINUED PERFORMANCE UNDER PRESSURE.

WILKINS MODEL 720A OR EQUAL TO BE USED. ASSE #1020 (OUTSIDE)

METER SIZE	A	B	C	D
3/4"	7–3/4"	12–1/2"	6" MIN 12" MAX	6" MIN 18" MAX
1"	10–3/4"	16"	6" MIN 12" MAX	6" MIN 18" MAX
1.5"	13"	18"±	6" MIN 12" MAX	6" MIN 18" MAX
2"	17"	23"±	6" MIN 12" MAX	6" MIN 18" MAX

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
SEWER DEDUCT METER DETAILS	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-22	61-24	5/29/24

1) SEWER DEDUCT METERS CAN BE INSTALLED IN CONJUNCTION WITH THE INSTALLATION OF IRRIGATION SYSTEMS AND/OR OUTSIDE SPIGOTS. THIS METER INSTALLATION SHALL BE INSTALLED AT THE TIME OF BUILDING PLUMBING (NEW) OR RETRO FIT AS APPROVED PER THE FOLLOWING REQUIREMENTS:

A) A PRESSURE VACUUM BREAKER DEVICE WILKINS MODEL 720A OR APPROVED EQUAL AS PER SPECIFICATION ASSE #1020 IS REQUIRED ON OUTSIDE SPRINKLER SYSTEMS.

THE DEVICE MUST BE TESTED UPON INSTALLATION AND EVERY 12 MONTHS THEREAFTER. THE TEST FOR RESIDENTIAL IRRIGATION SYSTEMS MUST BE COMPLETED EVERY YEAR BEFORE MAY 31ST DEADLINE REGARDLESS OF WHEN THE DEVICE WAS INSTALLED. DEVICE TESTING IS A REQUIREMENT OF THE OHIO REVISED CODE AND MUST BE COMPLETED REGARDLESS OF WHETHER THE SYSTEM IS USED. ALL TEST RESULTS MUST BE SUBMITTED TO THE CITY OF AVON UTILITIES DEPARTMENT.

B) THERE SHALL BE PAID A PERMIT FEE TO BOTH THE UTILITIES AND BUILDING DEPARTMENTS FOR SUCH APPLICATION.

C) ALL SECONDARY METERS SHALL BE PROVIDED AT 2ND ROUGH PLUMBING INSPECTION. THE METER (FURNISHED BY THE WATER DEPARTMENT) WILL THEN BE INSTALLED BY THE WATER DEPT.

D) METERS WILL NOT BE INSTALLED UNDER SINKS, IN CLOSETS, IN CEILING SET FOR INDIVIDUAL LINES TO FAUCETS. SECONDARY METERS MUST BE INSTALLED AT THE MASTER METER LOCATION OR AS PREVIOUSLY NOTED. ALL METERS, VALVES AND APPURTENANCES SHALL BE ACCESSIBLE. IF A CHASEWAY OR ENCLOSED PANEL IS CONSTRUCTED, THE PANELS SHALL HAVE REMOVABLE PANELS. REMOTE METER DEVICES SHALL BE LOCATED ON A FLOOR JOIST AND REMAIN ACCESSIBLE VIA 18" WIDE X 18" DEEP REMOVABLE PANEL.

2) SANITARY SEWER DEDUCT METERS SHALL BE INSTALLED FOR USE WITH IRRIGATION SYSTEMS AND OUTSIDE SPIGOTS.

3) SUCH COMMON AREAS SHALL HAVE INDIVIDUAL IRRIGATION TAPS/SYSTEMS SEPARATE FROM HOMES.

4) ALL RESIDENTIAL DEDUCT METERS SHALL BE SIZED ACCORDING TO THE SERVICE AND INSTALLED AS PER CITY OF AVON STANDARDS.

5) THE PREFERRED METHOD FOR NEW HOME CONSTRUCTION IS WITH INSIDE METERING. EXTERIOR METER PITS SHALL BE ALLOWED ON A CASE BY CASE BASIS IF THE SERVICE LINE IS GREATER THAN 100 FT.

6) IRRIGATION SYSTEMS THAT ARE TO BE INSTALLED ON HOMES/PROPERTIES THAT ARE OF A SLAB TYPE CONSTRUCTION SHALL BE REQUIRED TO INSTALL AN INDIVIDUAL/SEPARATE LINE FROM THE "MASTER METER" TO A POINT AT WHICH THE IRRIGATION SYSTEM EXITS THE HOME COORDINATED WITH AVON UTILITIES DEPARTMENT WHEN THE STANDARD CAN NOT BE MET. THE SANITARY SEWER DEDUCT METER AND BACKFLOW DEVICE SHALL BE INSTALLED AT THE POINT TO WHICH THE NEW SERVICE EXITS THE BUILDING. CROSS CONNECTIONS BETWEEN DOMESTIC USE AND SECONDARY METER USE ARE PROHIBITED.

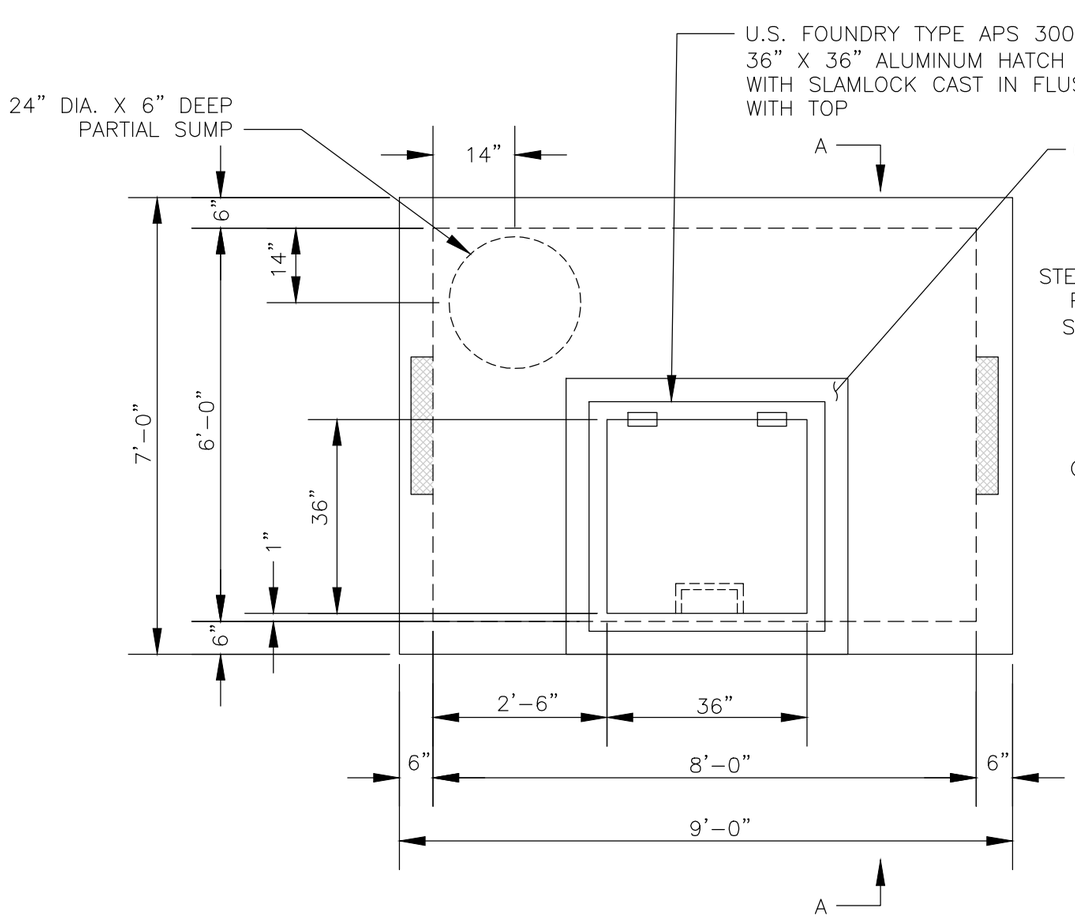
7) THE CITY OF AVON UTILITIES DEPARTMENT SHALL RESERVE THE RIGHT TO DENY ANY AND ALL DEDUCT METER INSTALLATIONS DUE TO IMPROPER INSTALLATION.

8) ANY AND ALL COST SHALL BE AT THE EXPENSE OF THE HOMEOWNER AND/OR THEIR AGENTS.

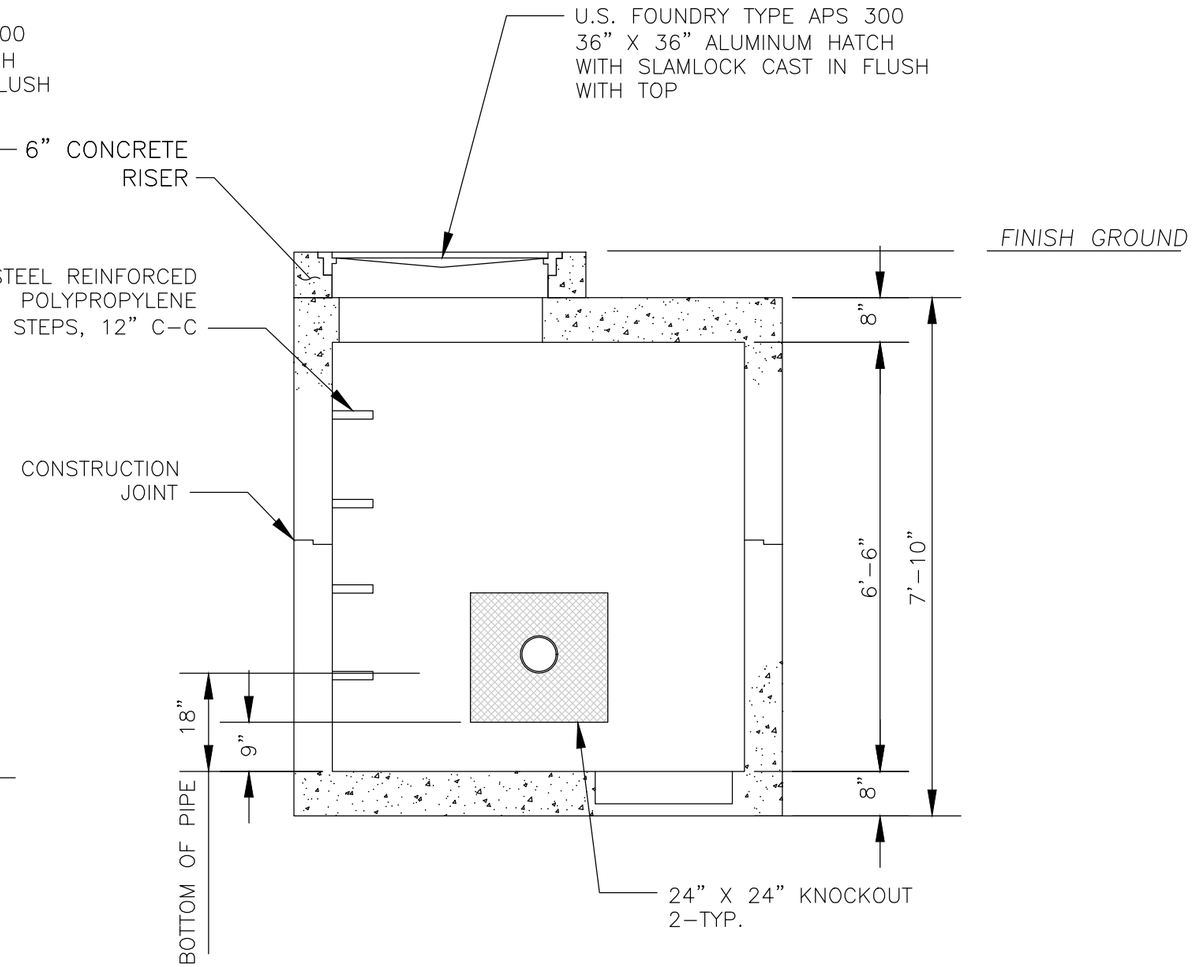
9) IT SHALL BE THE RESPONSIBILITY OF THE HOMEOWNER TO CONTACT THE CITY FOR INSPECTIONS AND METER INSTALLS FOURTY-EIGHT (48) HOURS IN ADVANCE.

10) COMMERCIAL/INDUSTRIAL/SLAB HOMES IRRIGATION SYSTEMS SHALL BE REVIEWED AND APPROVED ON AN INDIVIDUAL BASIS.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
SEWER DEDUCT METER SPECIFICATIONS	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-23**	61-24	5/29/24



TOP VIEW

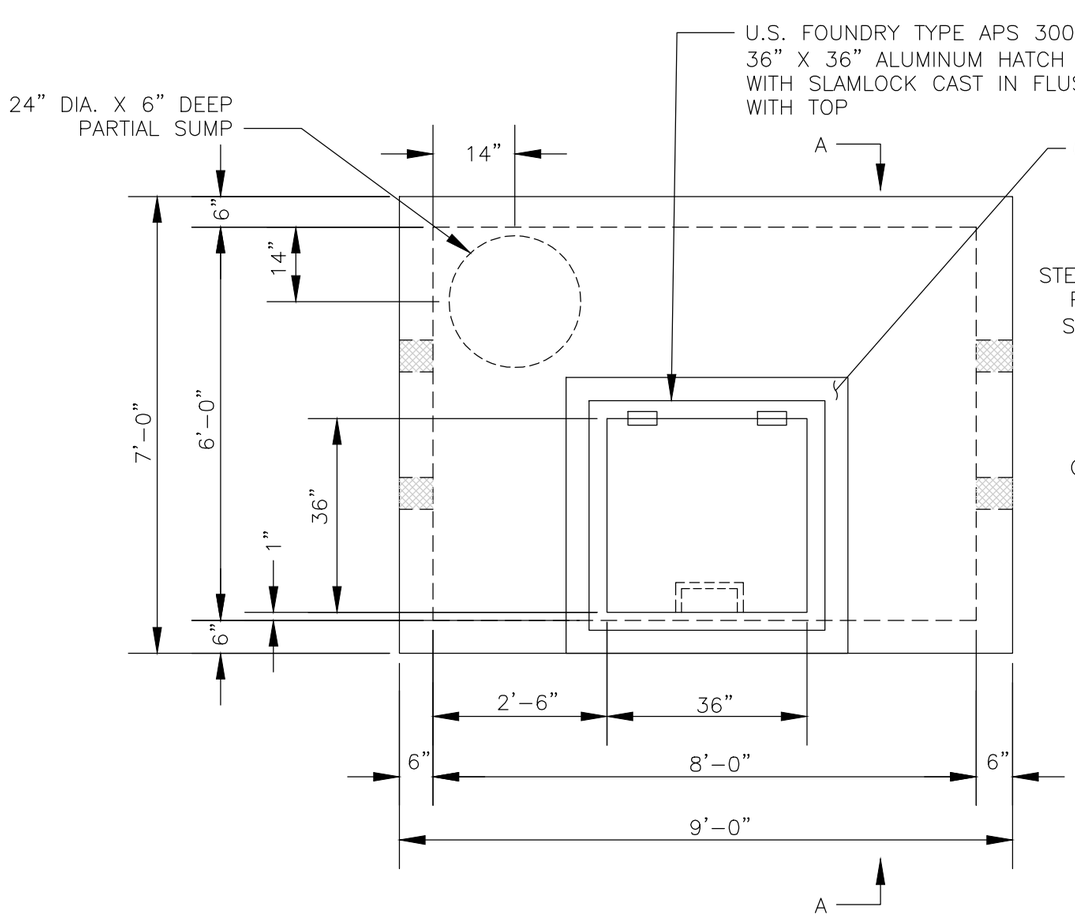


SECTION A–A

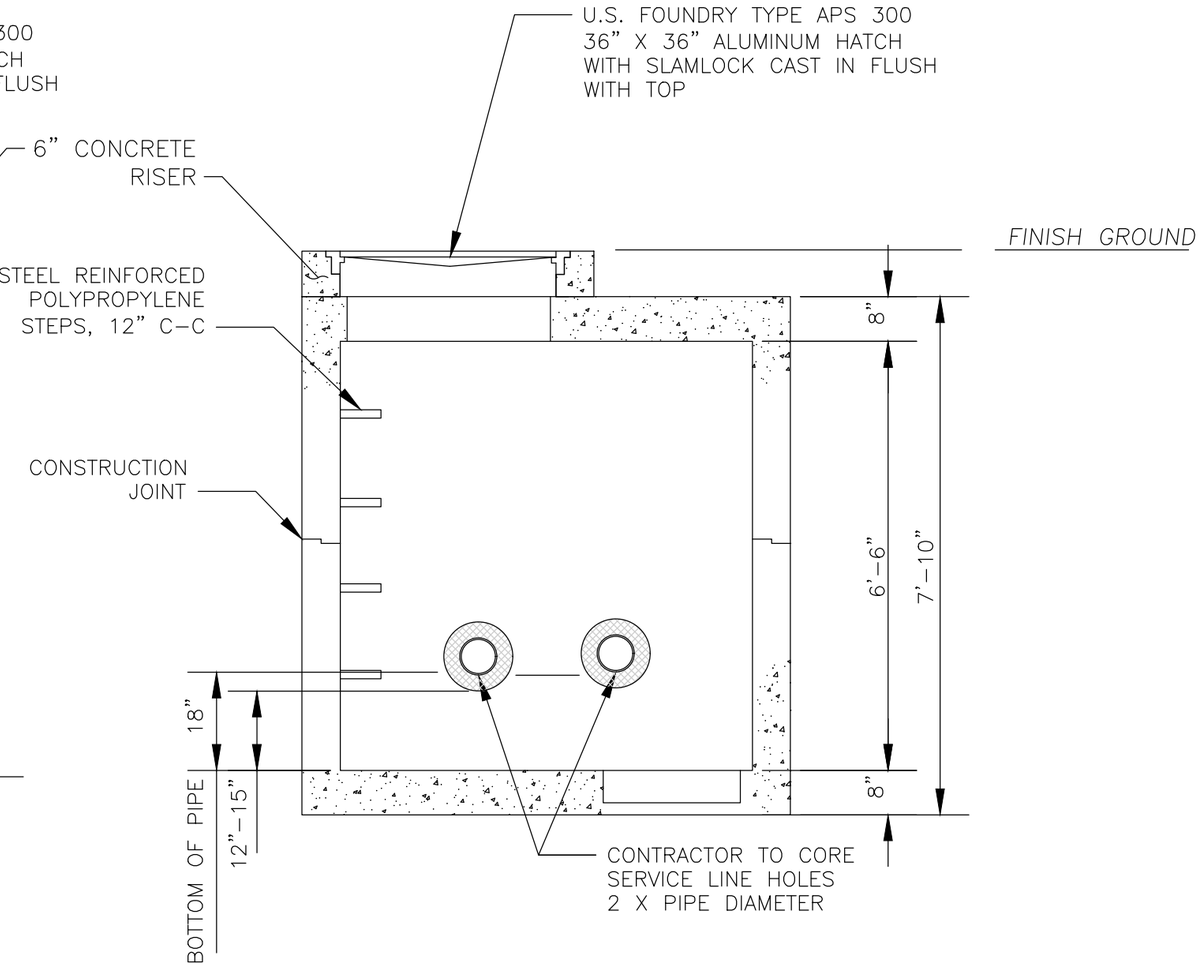
NOTES:

1. REINFORCED PRECAST CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.
2. VAULT TO BE NON–TRAFFIC BEARING OR TRAFFIC BEARING PER LOCATION.
3. CONSTRUCTION JOINT TO BE SEALED WITH CONSEAL CS–102 MASTIC SEALANT.
4. ALL PIPING BY OTHERS.
5. HEAVIEST LIFT = 13,500 LBS.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
6' X 8' CITY OF AVON SINGLE SERVICE METER VAULT	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-24**	61-24	5/29/24
		SHEET 1 OF 2



TOP VIEW



SECTION A-A

NOTES:

1. REINFORCED PRECAST CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.
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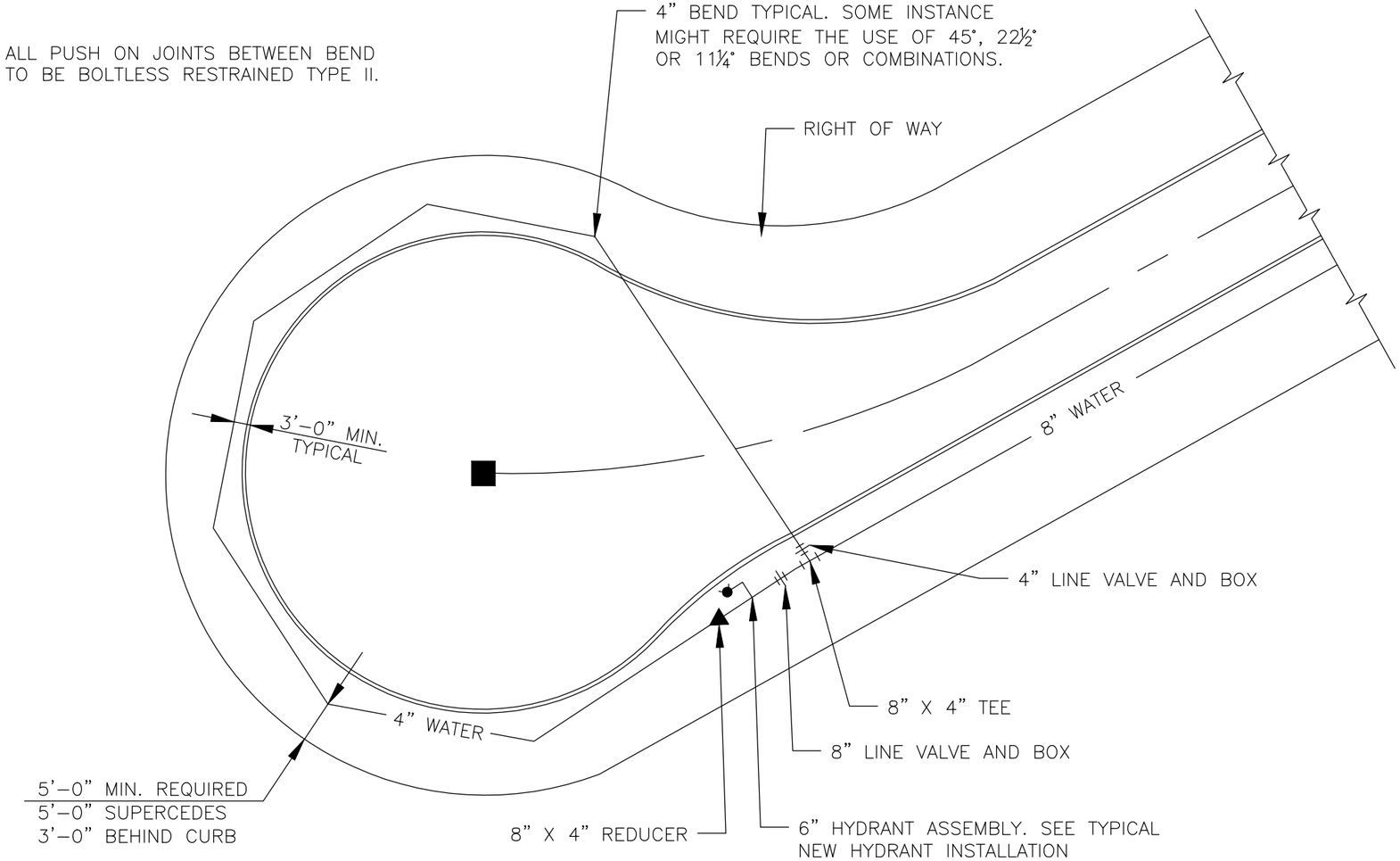
CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
6' X 8' CITY OF AVON DUAL SERVICE METER VAULT	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING **W-24**	61-24	5/29/24
		SHEET 2 OF 2

ALL PUSH ON JOINTS BETWEEN BEND TO BE BOLTLESS RESTRAINED TYPE II.



NOTE: LINE VALVE AND HYDRANT TO BE AS CLOSE TO TEE AS POSSIBLE. HYDRANT TEE TO BE WITHIN 18'-0" OF 8" X 4" TEE.

CITY OF AVON CONSTRUCTION STANDARDS AND SPECIFICATIONS		
STANDARD CUL-DE-SAC HYDRANT/LOOP SCHEMATIC	ADOPTION ORDINANCE	DATE
STANDARD CONSTRUCTION DRAWING W-25	61-24	5/29/24