

No water service will be installed until all requirements of the Akron Water Works are met, including but not limited to the following:

- Review and approval of all building plans.
- Receipt of the applicable fees.
- Approval of the house line installation and appurtenances.
- Approval of the fire system
  - Review and approval of sprinkler plans
  - Receipt of a signed contractor's pressure test report.
- Proof of State certified contractor to install underground fire line and registration with City of Akron Building Inspection Division or applicable political subdivision.
- Obtain sprinkler/suppression permit for underground fire line installation with City of Akron Building Inspection Division or applicable political subdivision.

All on-site water line piping and appurtenances shall be installed according to Water Department specifications and must be inspected and approved by the Water Distribution Division (375-2420) prior to backfilling.

All underground pipe 2 inches and smaller shall be Type "K" soft copper with flared fittings. Compression fittings may be used on 1/2 inch and 3/4 inch pipe. Pipe shall be installed with 4 feet 6 inches of cover.

All underground straight lengths of pipe larger than 2 inches shall be Class 53 cement lined ductile iron with push-on joints including two brass wedges per joint. Pipe shall be installed with 4 feet 6 inches of cover. See detailed specifications for approved pipe, fittings, bolts, etc., for water line installation (Acc. #14908).

Maintain a 12 inch minimum vertical clearance from edge of water line to edge of storm sewers and/or inlet lead where they cross.

Maintain a 4 foot minimum horizontal clearance from edge of water line to edge of storm sewer.

Maintain a 10 foot horizontal clearance from edge of water line to edge of sanitary sewer.

Maintain an 18 inch minimum vertical clearance from edge of water line to edge of sanitary sewer where they cross.

Maintain a 12 inch vertical clearance from edge of water line to edge of gas, electric, etc.

Maintain a 5 foot minimum horizontal clearance from edge of water line to edge of gas line(s), electric line(s), communication line(s), etc.

**Requirements for an Inside Meter Setting:**

- Easily accessible
- Adequate headroom
- Properly heated
- Floor drain within five feet of meter
- House line not longer than 200 feet
- Meter must be set within one foot of where line enters building.
- In buildings with interior meter setting without basements, house line must be installed in an AWW approved conduit from one foot outside footer to above floor slab (house lines 2 inch and smaller).
- Buildings with interior meter settings not on outside wall, the house line must be installed in a continuous AWW approved conduit from outside building footer up through floor slab (house line 2 inch and smaller).
- House line installed under paved areas for inside meter setting must be in an AWW approved conduit from street right-of-way to inside building.

If the interior meter setting does not meet all the above requirements, then the meter must be installed at the street in a curb meter pit or an approved meter vault.

Revised 4/89

Page #2

Acc. F-14907

<b>Pipe:</b>	Class 53 ductile iron per AWWA C151 specifications, with cement-lining per AWWA C104. Labeled polyethylene encasement per AWWA C105 is required.
<b>Pipe Joints:</b>	Push-on joints (Tyton, Bell-Tite, etc.), per AWWA C151 specifications with plain or restraining rubber gaskets per AWWA C111 specifications.
<b>Fittings:</b>	Class 350 ductile iron compact fittings per AWWA C153 or full thickness castings per AWWA C110 are acceptable, with mechanical joint ends and ductile iron follower glands. Anchor pipe is required on all hydrant runs between the tee and hydrant run valve.
<b>Restrained pipe systems:</b>	Push-on joint with Field Lock (4 through 12 inch only) or Fast Grip gaskets (4 through 12 inch only), or mechanical joint with restrained follower glands, and 6 ounce zinc anode caps on every other bolt thread. Super Lock, TR Flex or Flex-Ring required on all 16 inch or larger pipe diameters.
<b>Restrained fitting devices:</b>	All valves, bends, offsets, hydrant inlets, caps, plugs, and branches of tees and wyes must be restrained using mechanical joint with restrained follower glands or restraining gaskets. Hardwood blocking is required for all diameters 12 inch and larger. Concrete blocking is required on all fire lines and on all diameters in areas over 100 psi. Restrained joints for diameters 12 inch and under shall be installed for a length of 30 feet on each side of a valve, bend or offset using Field-Lock or Fast-Grip restraining gaskets or mechanical joint with restrained follower glands. Restrained joints for diameters 16 inch and larger, shall be installed for a length of 30 feet on each side of a valve, bend or offset using mechanical joint with restrained follower glands.
<b>Mechanical Joint T-head Bolts:</b>	All mechanical joints shall be made with Cor-Ten or construction-grade alloyed ductile iron bolts. T-head bolts shall be 1/2 inch longer than standard length and must include a 6 oz. zinc anode cap on every other bolt thread.
<b>Hydrants:</b>	Akron-style Mueller "Centurian" Model A423, Kennedy "Guardian" Model K-81A, American Flow Control Model B62B with 6 inch inlet, American Flow Control Model B84B with 8 inch inlet. Threads shall be Akron style as shown on Akron Water Works Standard Construction Drawings F-3258 and F-3440.
<b>Gate Valves:</b>	Resilient-seat wedge (RSW) valves with restrained mechanical joints. Valves shall have non-rising stems and shall open to the right (clockwise).
<b>Butterfly Valves, 16 inch and up:</b>	Restrained mechanical joint or shouldered (not grooved) Victaulic ends with Style 44N couplings and stainless steel 316 bolts. Rubber seals in the valve must be replaceable. Flanged end or wafer-style valves are not acceptable.
<b>Valve Boxes:</b>	Only Bibby, Tyler, East Jordan, or Blingham and Taylor brands acceptable for compatibility.
<b>Curb Boxes:</b>	Riser pipe must be of yloy corrosion resistant material. Plug must be cast iron and thread into a brass ring.

Revised 3/07

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Acc. F-14908

**DOUBLE CHECK DETECTOR ASSEMBLY**

**Installation Requirements**

- All piping to conform to Akron Water Works Standard Construction Drawings and Specifications.
- Bypassing of this assembly is specifically prohibited.
- The bypass meter and the small double check valve assembly on the bypass line shall be approved by the City of Akron Water Department, furnished and installed by the owner.
- Unions prior to backflow prevention assemblies are prohibited.
- Installed so as to be readily accessible for inspection, testing, and maintenance.
- Provided with adequate space for inspection, testing, maintenance, and disassembly.
- Protected from freezing by installation within a heated building or an approved precast meter vault.
- Mounted in a horizontal position with abutting shut-off valves, as supplied with the assembly, three feet above finished floor.
- Installed so that there is a visible free discharge from the relief port with no extension piping.
- Installed as per manufacturer's specifications. Where manufacturer's specifications conflict with these guidelines, these guidelines shall govern.
- Because of their design, backflow prevention assemblies create a closed system and a detectable pressure loss. Because of these facts, the installation may alter the hydraulics of the internal plumbing system. The owner should contact a mechanical designer prior to installation.
- Upon installation, assemblies must be tested by a backflow prevention assembly tester, certified by the Ohio Department of Commerce. The assembly must be dismantled, inspected internally, cleaned, and repaired, if necessary.

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Acc. F-14909

**REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY**

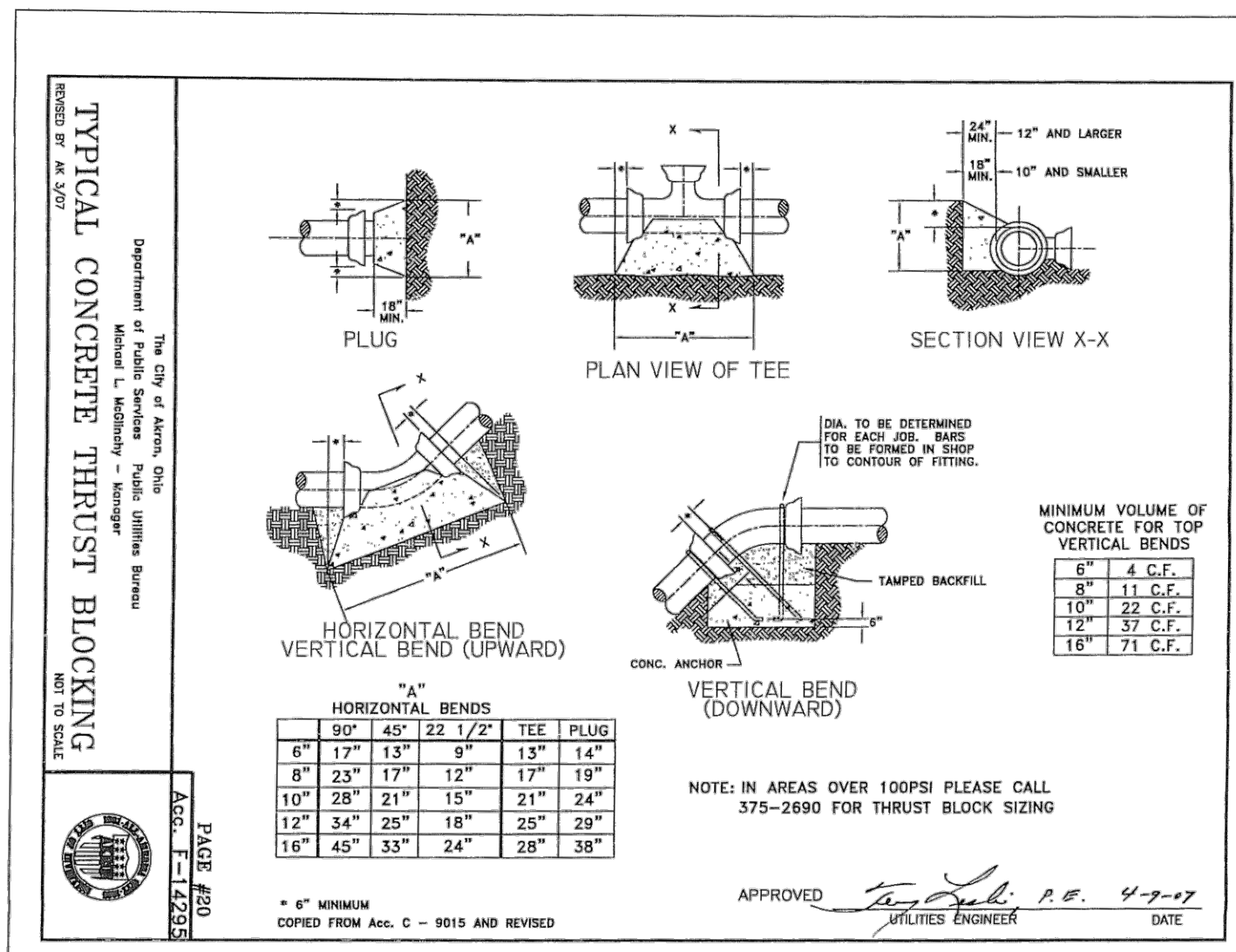
**Installation Requirements**

- All piping to conform to Akron Water Works Standard Construction Drawings and Specifications.
- Bypassing of this assembly is specifically prohibited.
- Installation of this assembly in vaults is specifically prohibited.
- Unions prior to backflow prevention assemblies are prohibited.
- Installed directly after the meter setting ahead of any outlets.
- Installed so as to be readily accessible for inspection, testing, and maintenance.
- Provided with adequate space for inspection, testing, maintenance, and disassembly.
- Protected from freezing by installation within a heated building.
- Mounted in a horizontal position with abutting shut-off valves, as supplied with the assembly, three feet above finished floor.
- Provided with adequate drainage.
- Installed so that there is a visible free discharge from the relief port with no extension piping.
- Installed as per manufacturer's specifications. Where manufacturer's specifications conflict with these guidelines, these guidelines shall govern.
- Because of their design, backflow prevention assemblies create a closed system and a detectable pressure loss. Because of these facts, the installation may alter the hydraulics of the internal plumbing system. The owner should contact a mechanical designer prior to installation.
- Upon installation, assemblies must be tested by a backflow prevention assembly tester, certified by the Ohio Department of Commerce. The assembly must be dismantled, inspected internally, cleaned, and repaired, if necessary.

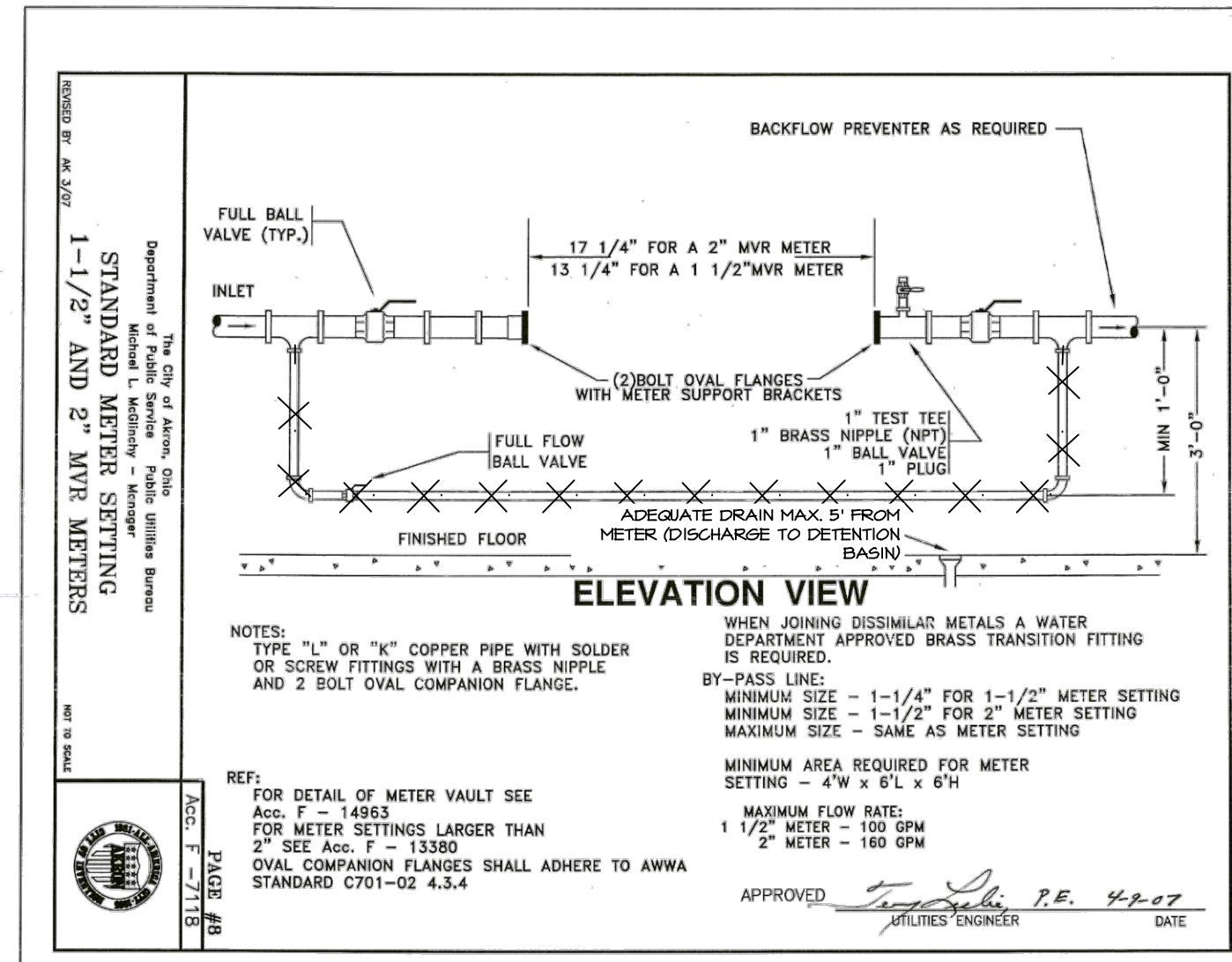
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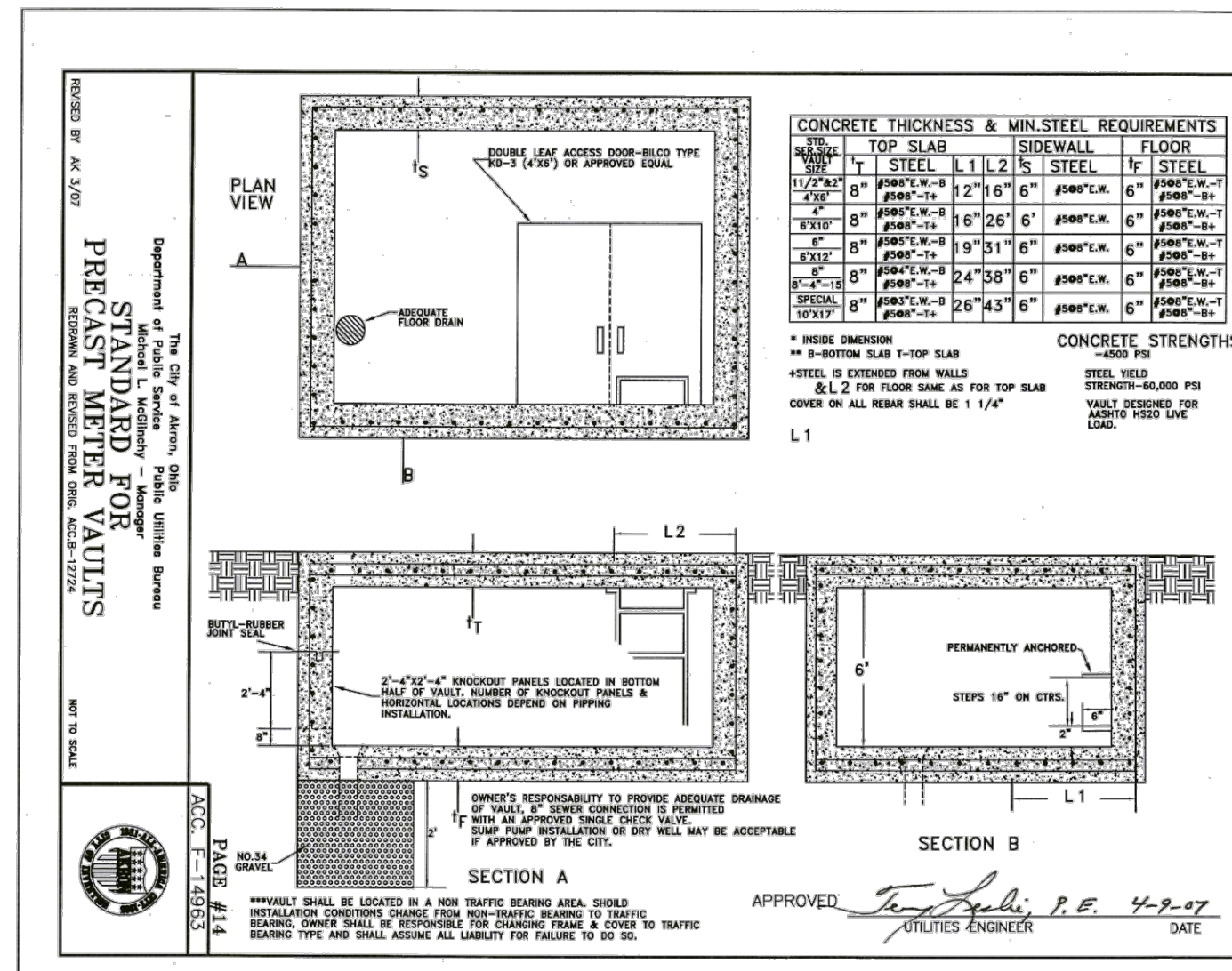
Acc. F-13659



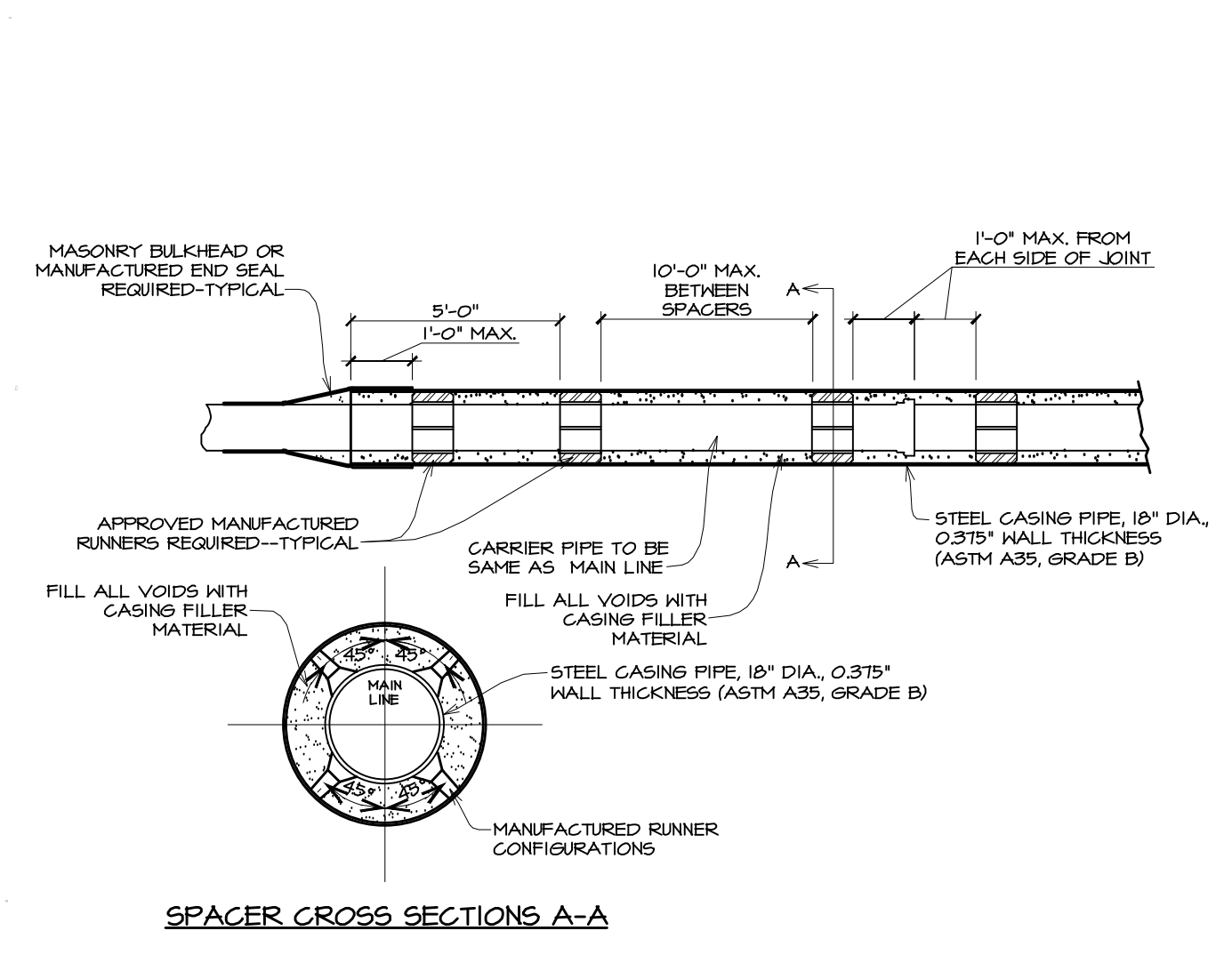
**1 CONCRETE THRUST BLOCKING**  
SCALE: NTS



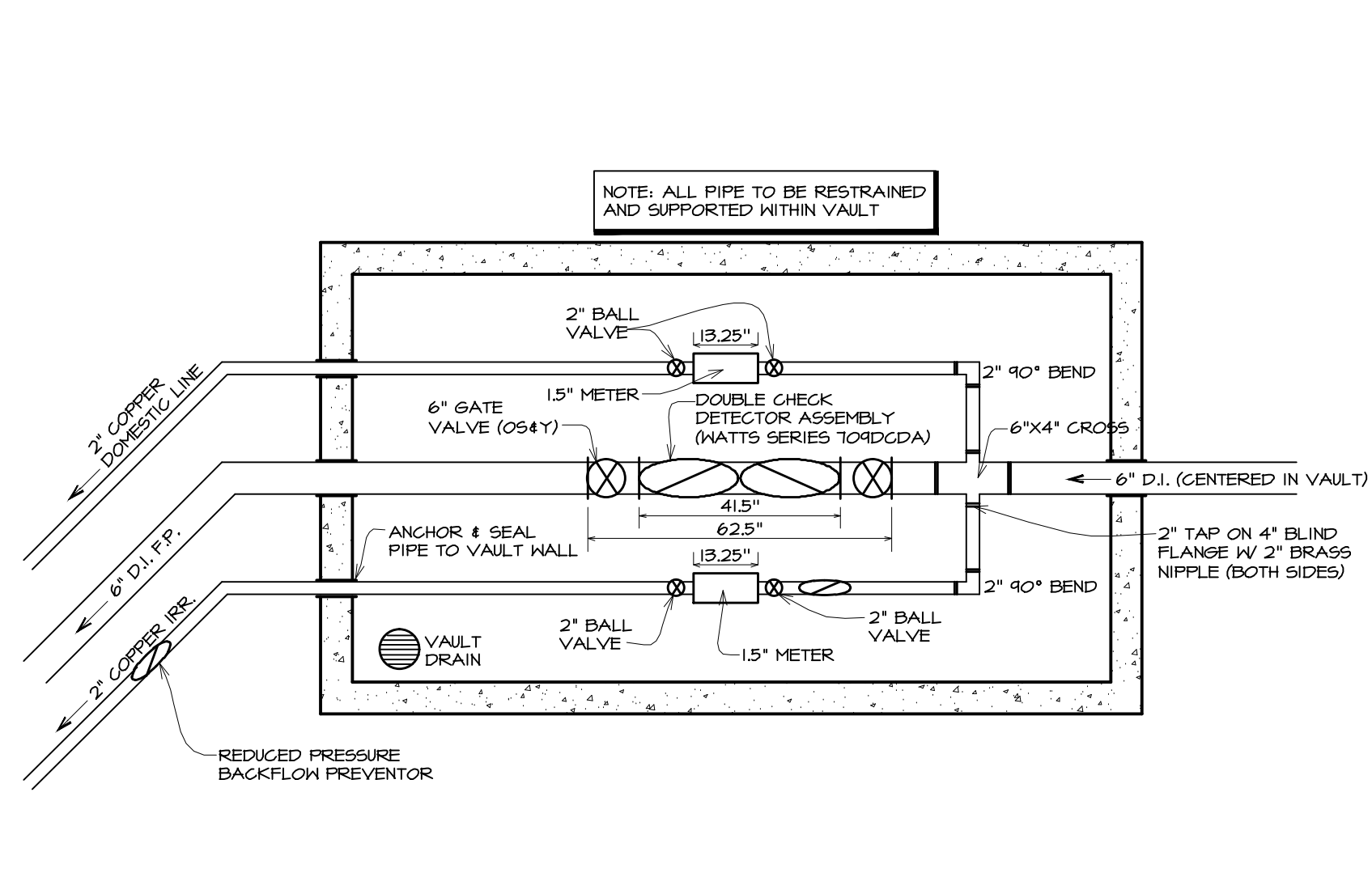
**2 WATER METER SETTING**  
SCALE: NTS



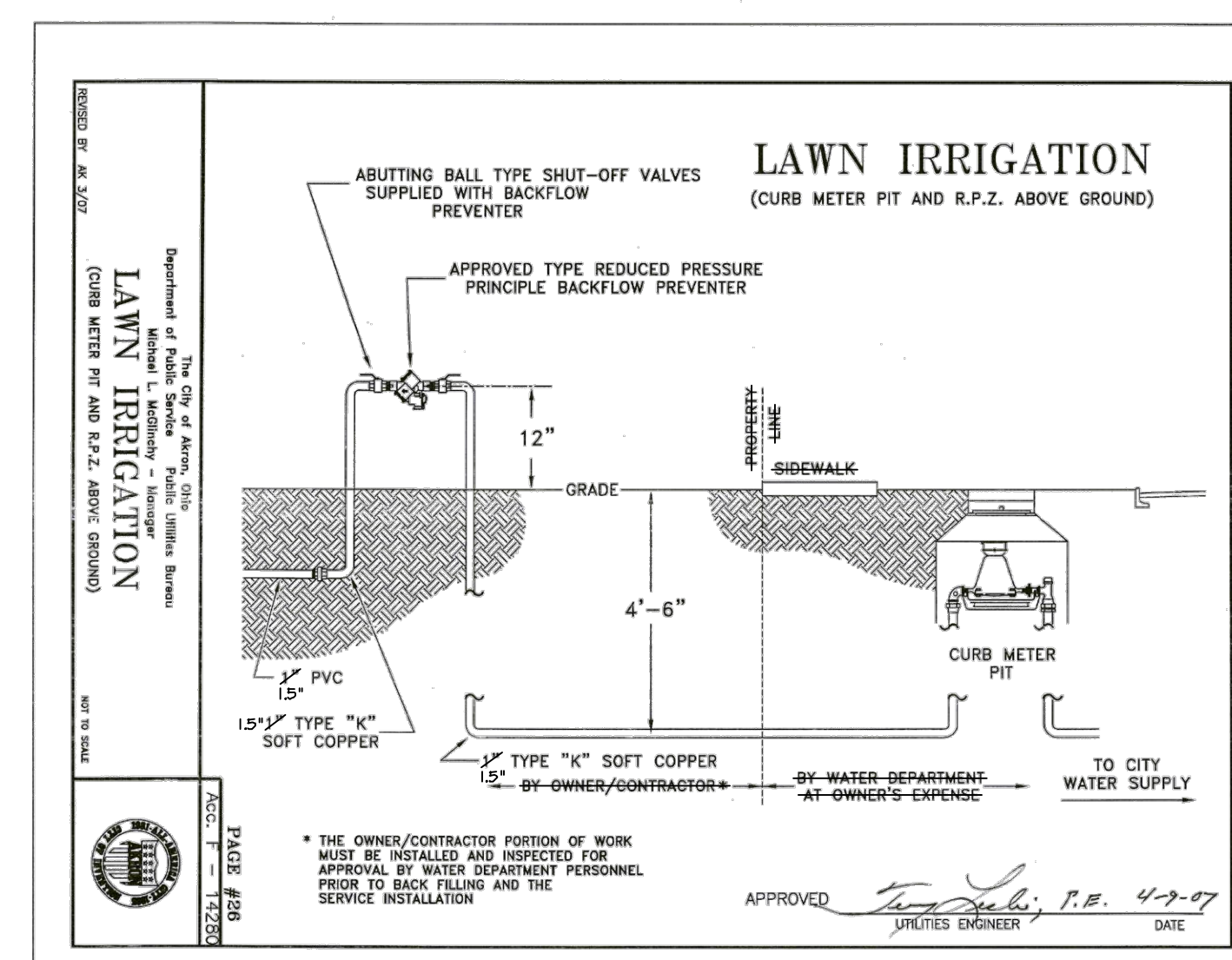
**3 WATER METER VAULT**  
SCALE: NTS



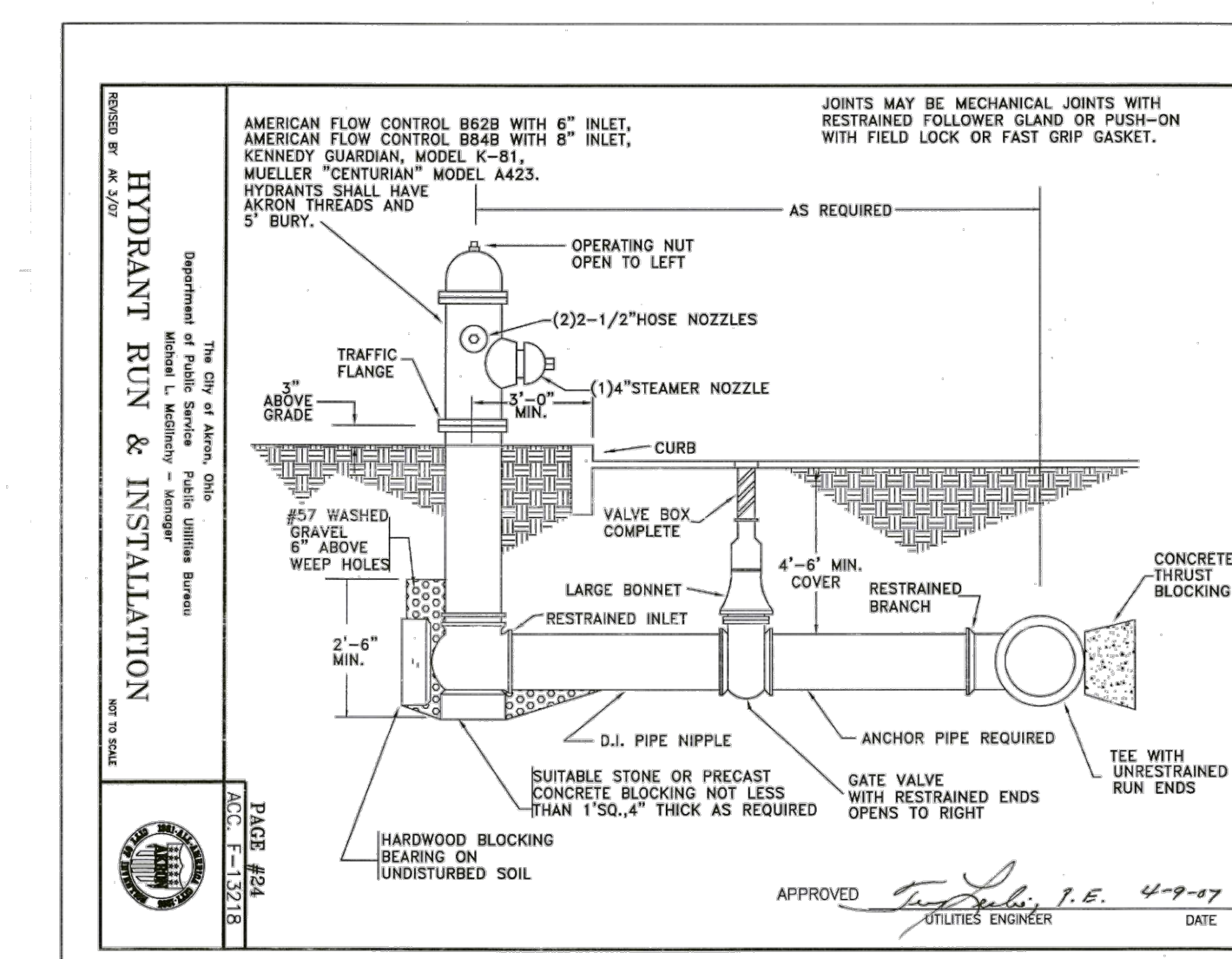
**4 CASING DETAIL**  
SCALE: NTS



**5 WATER METER VAULT (PLAN)**  
SCALE: NO SCALE



**6 REDUCED PRESSURE BACKFLOW PREVENTOR**  
SCALE: NTS



**7 HYDRANT DETAIL**  
SCALE: NTS

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EXP. DATE 12/31/2012

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AKRON, OH

**BLDG OWNER:**

**GFS MARKETPLACE REALTY FIVE, LLC**

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**RELEASE DATE**

2-6-12 IMPROVEMENT PLAN REVIEW  
3-1-12 REV PER AKRON WATER REVIEW  
4-3-12 REV PER IMPROVEMENT PLAN COMMENT  
4-23-12 OWNER REVIEW  
4-27-12 FOR PERMITS & CONSTRUCTION  
5-21-12 FOR PERMITS, BIDS & CONSTRUCTION

**PROJECT**

**1105054**

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**C302**

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