

WATERLINE PLANS

TO SERVE



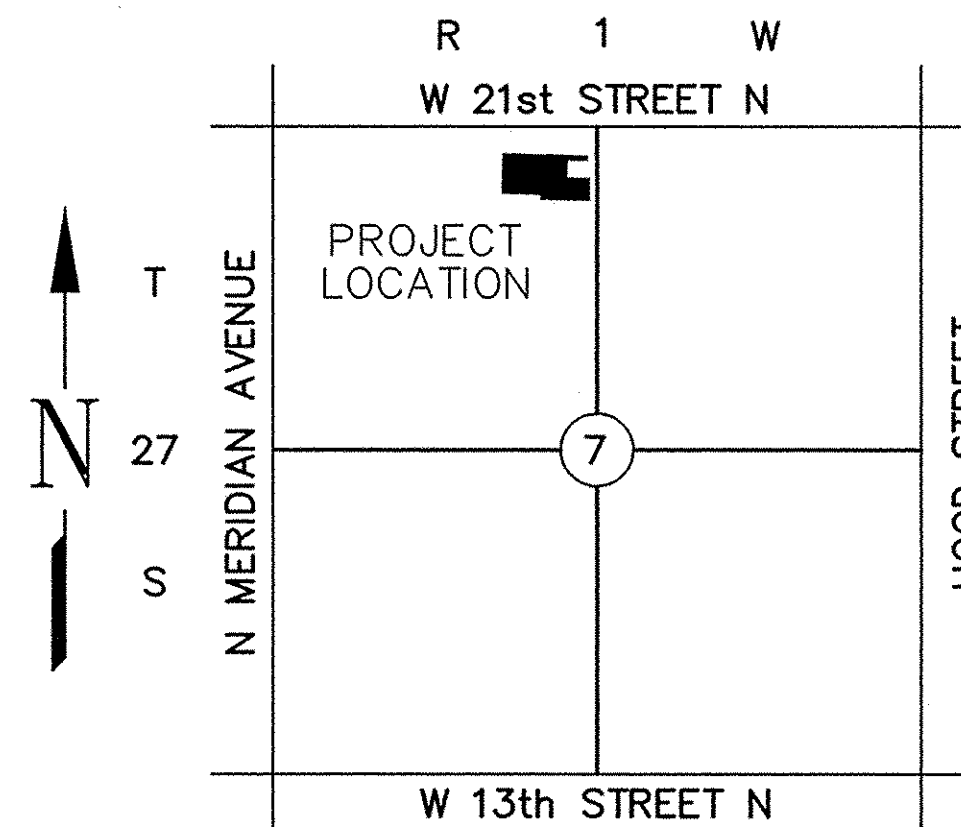
MARKET STORE #5990-00

21st ST. N. & AMIDON AVE.

WICHITA, SEDGWICK COUNTY, KANSAS
CITY OF WICHITA PRIVATE PROJECT NO

1605 PPW (607853)

2011



LOCATION MAP
NOT TO SCALE

ALERT TO CONTRACTOR:

1. THE SITEWORK FOR THE WALMART PORTION OF THIS PROJECT SHALL MEET OR EXCEED THE "SITE SPECIFIC SPECIFICATIONS."
2. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO CONTRACT COMPLETION AND THE FINAL CONNECTION OF SERVICES.

(1) An effort has been made to locate and show approximate location of underground utility lines. Buried utilities are not necessarily shown. It is the Contractor's responsibility to locate and preserve all utility services.

(2) Proposed utility services have been coordinated with the local utility companies. Contractor is responsible for contacting all utility companies prior to construction.

(3) All quantity estimates shown in this set of plans are the Engineer's estimate and are provided for general information only! The contractor is solely responsible for calculating his/her own quantities!

(4) Contractor shall acquire Licensing to work in City of Wichita, shall maintain Insurance Verification per Walmart and City's requirements and shall submit necessary bonds to satisfy City of Wichita's requirements.

**NOTE TO CONTRACTOR
CALL KANSAS ONE
1-800-522-6543**

This number is to be used for information on the location of all underground utilities. Contact this number prior to any excavation.

AS BUILT PLANS

Contractor: McCullough Excavating
Inspector: Don Eddingfield, Baughman Co.
pdf's by: KEK, 9/12/11

INDEX OF SHEET

- C-12.0.0 TITLE SHEET
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- C-12.0.2 WATERLINE PLAN & PROFILE
- C-12.1 WATERLINE DETAILS
- C-12.2 STANDARD WATER ASSEMBLY DETAILS
- C-12.3 STANDARD WATER SERVICE DETAILS
- C-12.4 VARIOUS WATER DETAILS
- C-12.5 STANDARD VAULT DETAILS AND METER ASSEMBLIES

Kennedy Valves & Clow FH

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA,
BY WICHITA WATER & SEWER DEPARTMENT,
& BY WICHITA FIRE DEPARTMENT

Public Works *[Signature]* 7/13/11
Water & Sewer *[Signature]* 7-13-2011
Fire *[Signature]* 7-13-2011

NOTE TO CONTRACTORS
Public Property:

Inspection and testing for the waterline is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Professional Engineer Licensed in the state of Kansas. No work shall be performed in dedicated easements or public right-of-way by the Contractor without such inspection nor shall any work be commenced without written authorization by the City Engineer. All Construction and Materials shall comply with the City or Wichita Specifications and Standards (on file and available in the City Engineer's Office).

Private Property:

Installation and testing for the fire protection line is to be performed by a City of Wichita licensed fire protection contractor in accordance with the fire codes as adopted by the City of Wichita. All material and construction practices for the fire protection line shall comply with the fire codes as adopted by the City of Wichita (available from the City of Wichita Fire Department). The Contractor shall not commence work without notification and approval of the Wichita Fire Department. Inspection of the fire protection line is to be provided by a licensed Engineering Firm under contract with the Owner/Developer and the Fire Department. The contractor shall not start work until the project inspector is assigned to the project and present on the site. Any work done without inspection will be required to be uncovered for inspection.

I, Terence L. Haynes, Kansas Professional Engineer, #14583, do hereby state that these Public Water Line plans & Private Water Line plans, prepared by me or under my direct, responsible supervision, are in strict conformance with the applicable Codes of the City of Wichita and the sound principles and practice of the Civil Engineering profession

[Signature]
TERENCE L. HAYNES, P.E. #14583

OWNERS' ADDRESS

WALMART STORES, INC.
702 S.W. 8th STREET
BENTONVILLE, AR 72716
PH. (479) 273-4000

CITY RESOURCE LIST

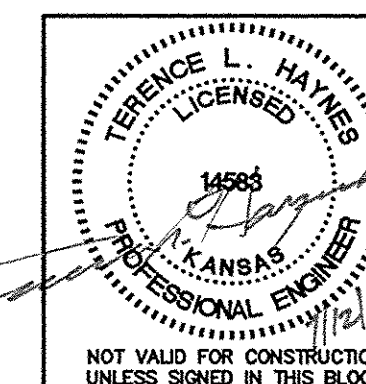
CITY MANAGER CITY MANAGER'S OFFICE CITY OF WICHITA 455 N. MAIN - CITY HALL WICHITA, KS 67202 CONTACT: ROBERT LAYTON PH: (316) 268-4351 FAX: (316) 858-7712	CITY ENGINEER PUBLIC WORKS CITY OF WICHITA 455 N. MAIN - CITY HALL WICHITA, KS 67202 CONTACT: JIM ARMOUR PH: (316) 268-4266 FAX: (316) 268-4114	PLANNING / ZONING METROPOLITAN AREA PLANNING DEPARTMENT CITY OF WICHITA 455 N. MAIN - CITY HALL WICHITA, KANSAS 67202 CONTACT: BILL LONGNECKER PH: (316) 268-4494 FAX: (316) 268-4390
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BENCH MARKS:

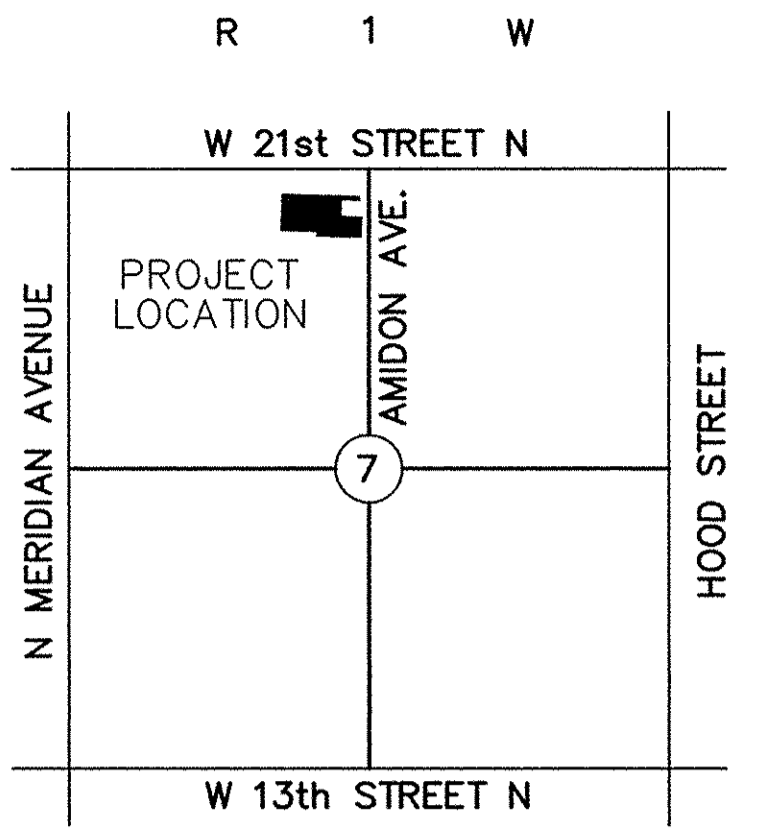
BM #1 "a" CHISELED ON TOP OF CURB ELEV=1284.05 DATUM = NAVD 1988	BM #2 "a" CHISELED ON TOP OF CURB ELEV=1283.13 DATUM = NAVD 1988
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SMC Consulting Engineers, P.C.
Oklahoma City, Oklahoma

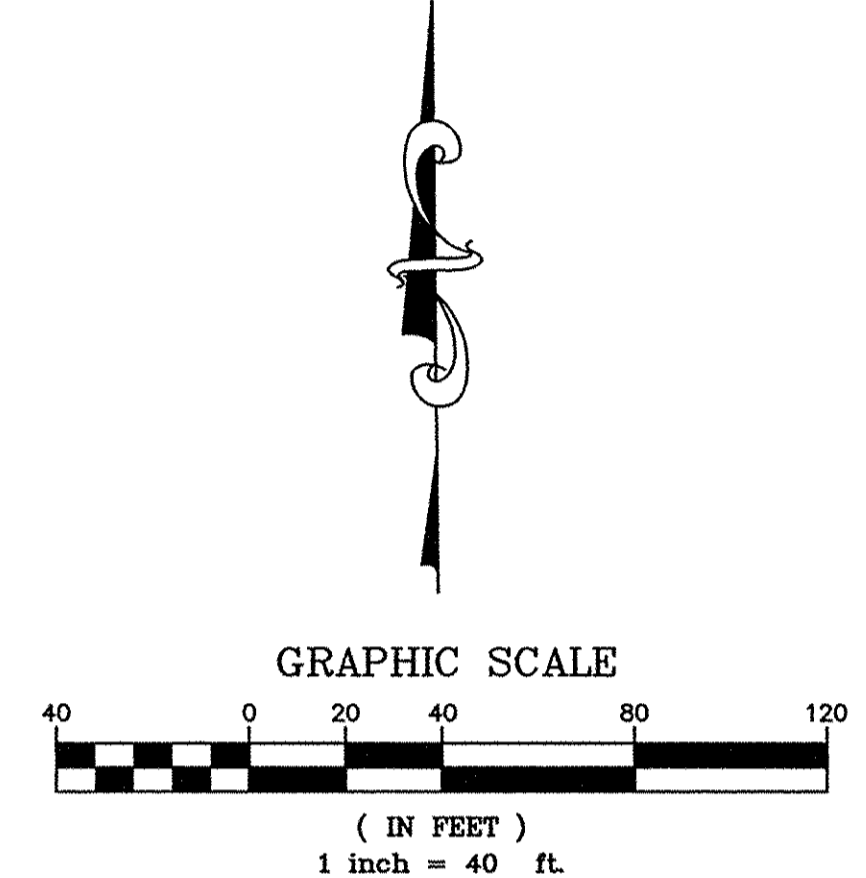
TITLE SHEET WATERLINE PLANS	
WALMART MARKET #5990-00	
21st ST. N. & AMIDON AVE. WICHITA, KANSAS	
SMC Consulting Engineers, P.C. 815 West Main - Oklahoma City, OK 73106 PH: 405-232-7715 Fax: 405-232-7859	
KANSAS CERTIFICATE OF AUTHORIZATION NO. E-335 EXP. Dec. 31, 2011	
No. / Revision	By / Date
1 / City Comments	TAB / 07/12/11
DATE: 06/23/11	SCALE: NTS
DRAWN BY: TAB	SHEET NO. C-12.0.0
PROJECT NO.: 4349.10	ENGINEER: TERENCE L. HAYNES, P.E. #14583



UTILITY STATEMENT & CAUTION:
 THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON A COMBINATION OF FIELD SURVEY INFORMATION, EXISTING DRAWINGS AND RECORDS OF THE VARIOUS UTILITY COMPANIES. THE ENGINEER MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE ENGINEER FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE ENGINEER HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

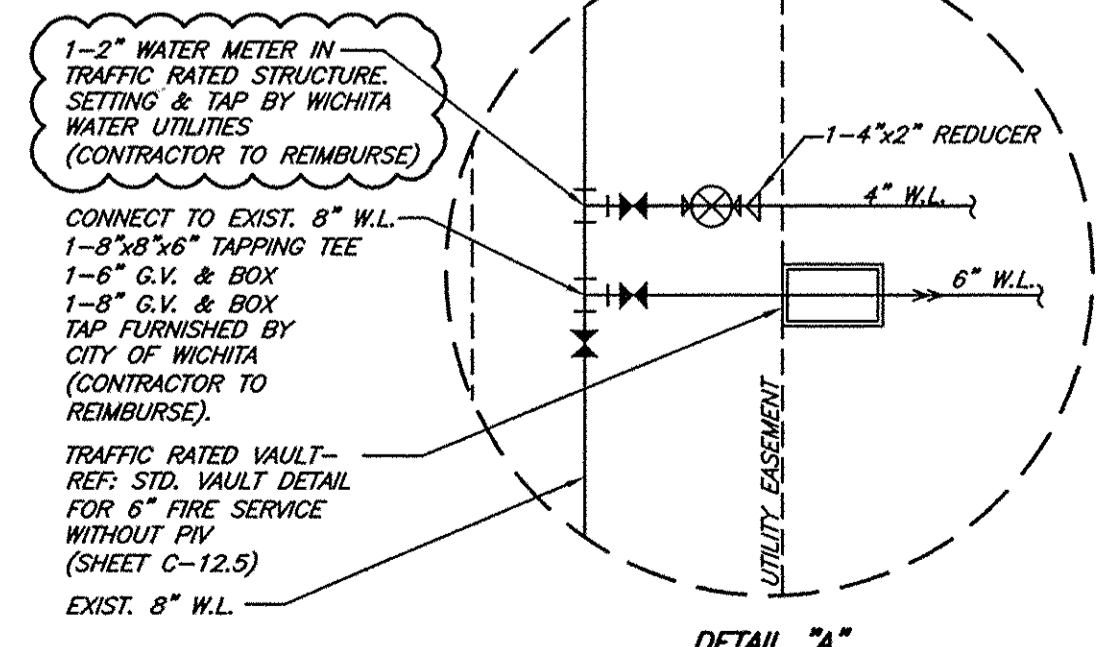
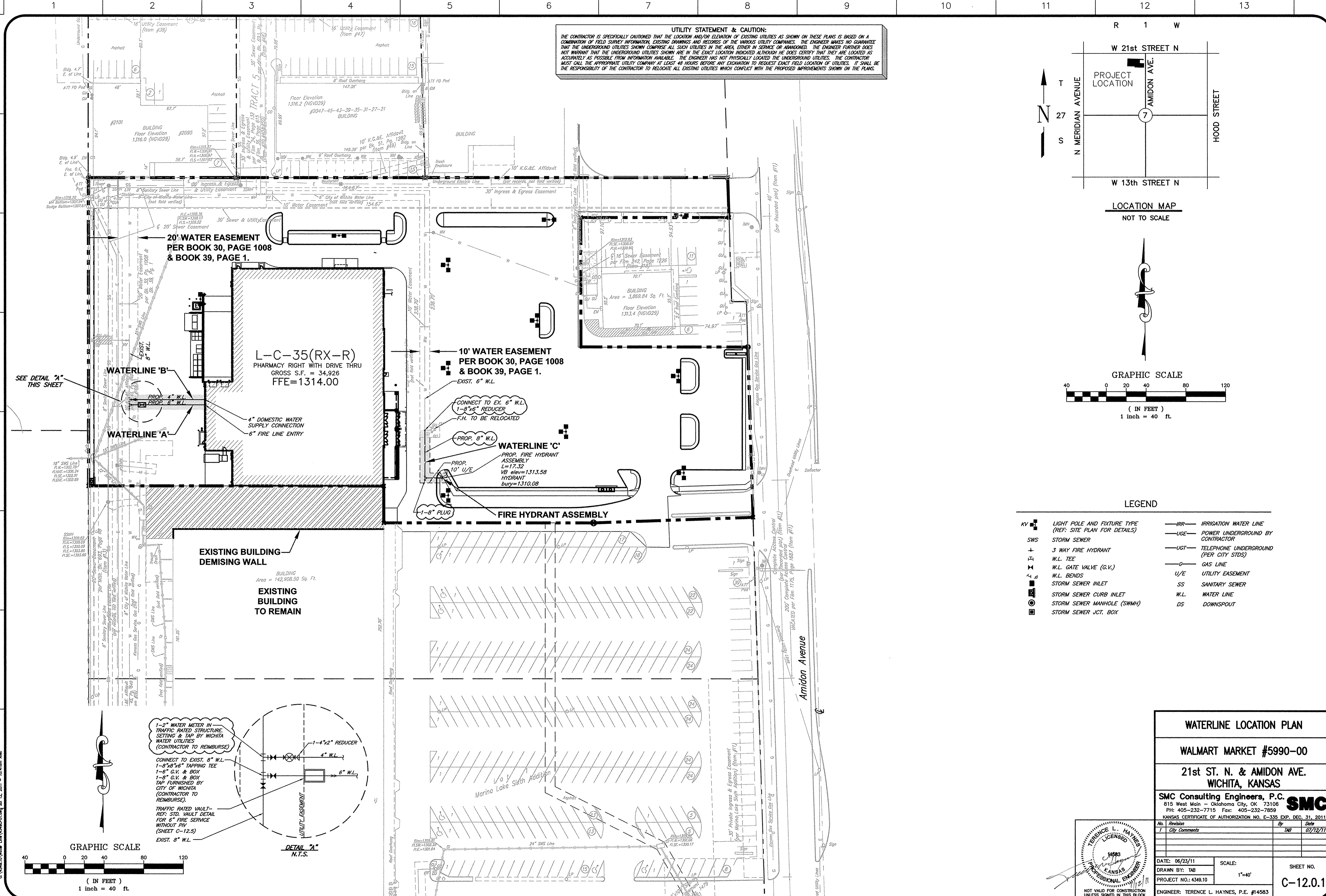


LOCATION MAP
NOT TO SCALE



LEGEND

- | | | | |
|-----|--|------|---------------------------------------|
| KV | LIGHT POLE AND FIXTURE TYPE (REF: SITE PLAN FOR DETAILS) | IRR | IRRIGATION WATER LINE |
| SWS | STORM SEWER | UGE | POWER UNDERGROUND BY CONTRACTOR |
| + | 3 WAY FIRE HYDRANT | UGT | TELEPHONE UNDERGROUND (PER CITY STDS) |
| T | W.L. TEE | G | GAS LINE |
| V | W.L. GATE VALVE (G.V.) | U/E | UTILITY EASEMENT |
| W | W.L. BENDS | SS | SANITARY SEWER |
| X | STORM SEWER INLET | W.L. | WATER LINE |
| Y | STORM SEWER CURB INLET | DS | DOWNSPOUT |
| Z | STORM SEWER MANHOLE (SWMH) | | |
| AA | STORM SEWER JCT. BOX | | |



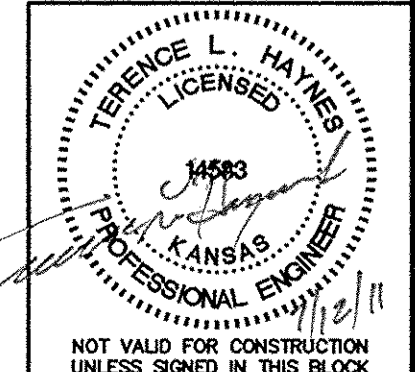
DETAIL 'A'
N.T.S.

GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.

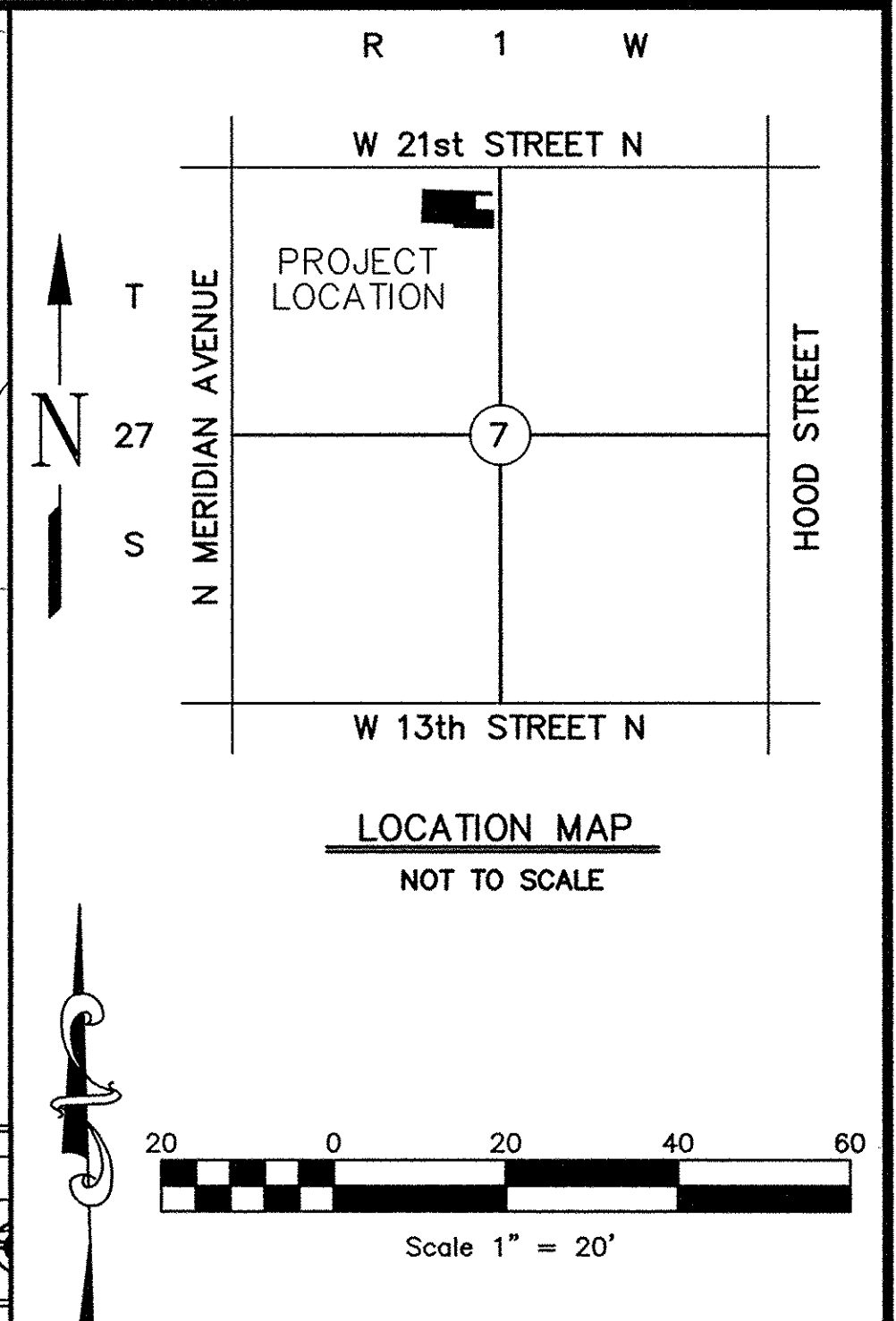
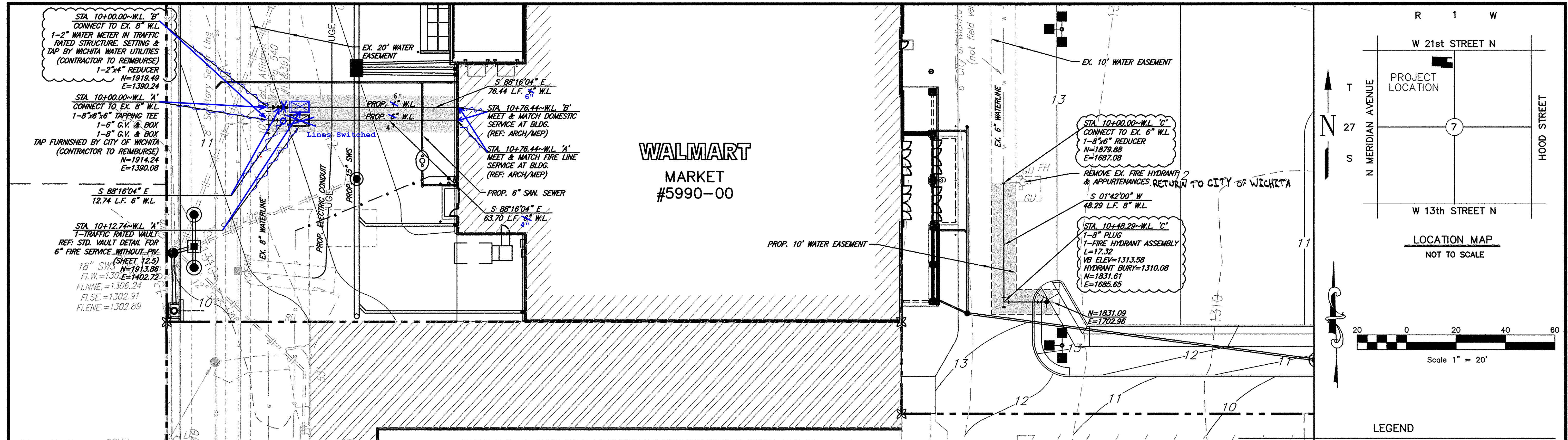
WATERLINE LOCATION PLAN
WALMART MARKET #5990-00
21st ST. N. & AMIDON AVE.
WICHITA, KANSAS
SMC Consulting Engineers, P.C.
 815 West Main - Oklahoma City, OK 73108
 PH: 405-232-7715 Fax: 405-232-7859
 KANSAS CERTIFICATE OF AUTHORIZATION NO. E-335 EXP. DEC. 31, 2011

No.	Revision	By	Date
1	City Comments	TAB	07/12/11

DATE: 06/23/11 SCALE: 1"=40'
 DRAWN BY: TAB SHEET NO. C-12.0.1
 PROJECT NO.: 4349.10
 ENGINEER: TERENCE L. HAYNES, P.E. #14583



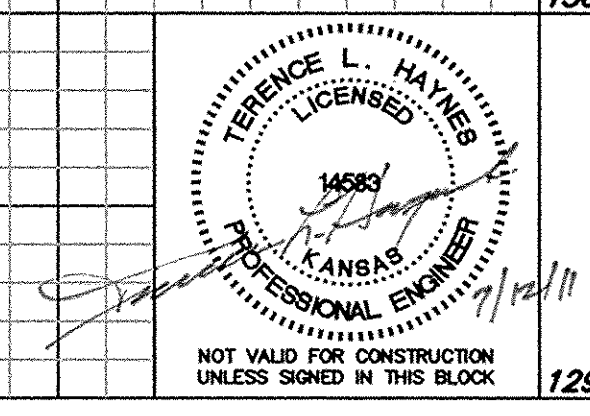
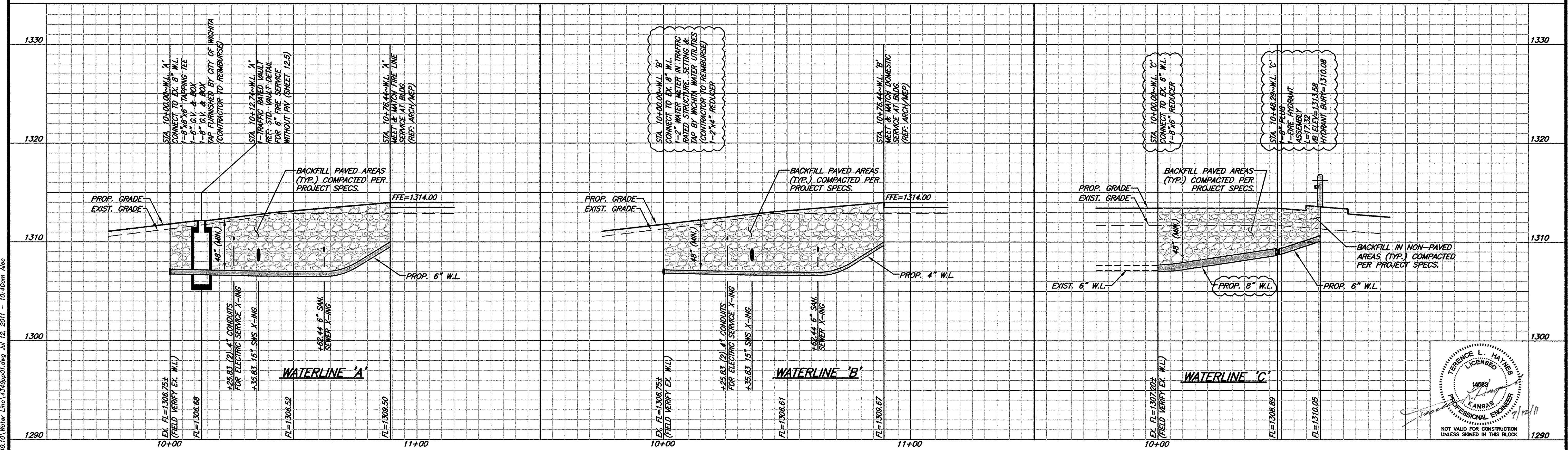
C:\Users\TWH\OneDrive\Work\4349\4349.dwg, Jul 12, 2011 - 10:41am

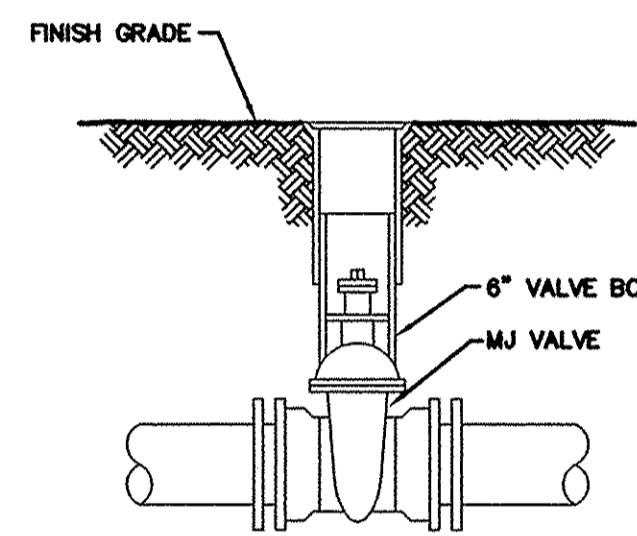


NOTE: THE GENERAL CONTRACTOR IS RESPONSIBLE FOR MAKING ALL ADJUSTMENTS OF EXISTING UTILITIES TO ALLOW THE DESIGN TO BE BUILT.

CAUTION - NOTICE TO CONTRACTOR
 THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.

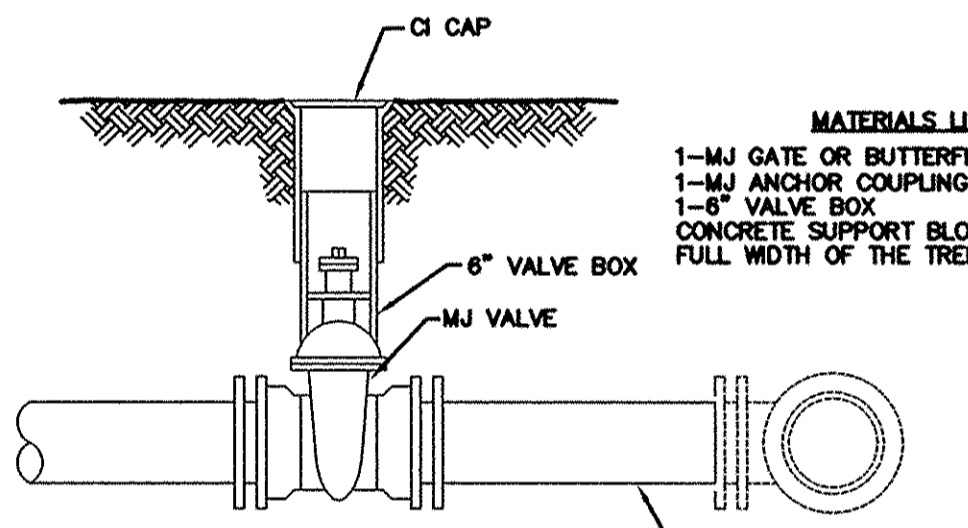
- LEGEND**
- ⊕ LIGHT POLE AND FIXTURE TYPE (REF. SITE PLAN FOR DETAILS)
 - DS DOWNSPOUT
 - SWS STORM SEWER
 - S.C.O. SINGLE CLEAN-OUT
 - STORM SEWER JCT. BOX
 - STORM SEWER INLET
 - STORM SEWER CURB INLET
 - STORM SEWER MANHOLE (SWMH)
 - IRR— IRRIGATION WATER LINE
 - UG— POWER UNDERGROUND BY CONTRACTOR
 - UGT— TELEPHONE UNDERGROUND (PER CITY STDS)
 - G— GAS LINE
 - U/E UTILITY EASEMENT
 - SS SANITARY SEWER
 - W.L. WATER LINE
 - + 3 WAY FIRE HYDRANT
 - ⊕ W.L. TEE
 - ⊕ W.L. GATE VALVE (G.V.)
 - ⊕ W.L. BENDS





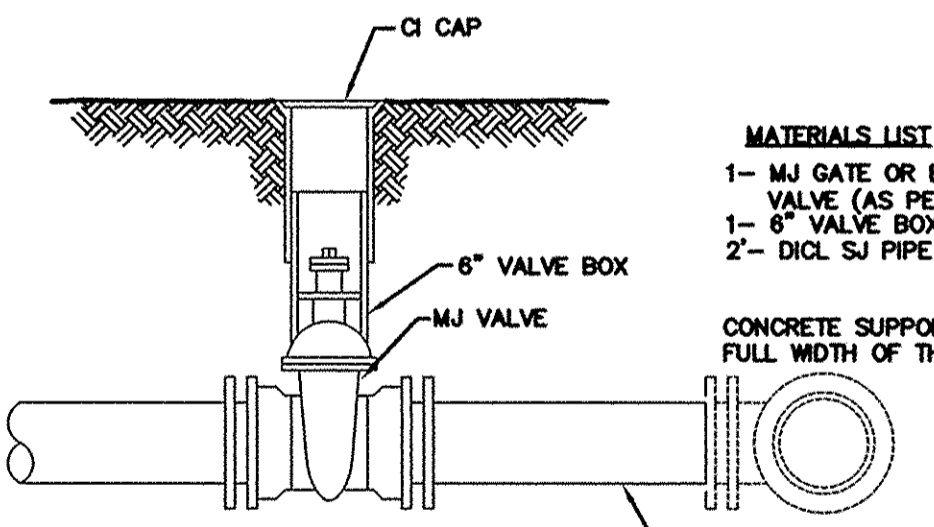
MATERIALS LIST
 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 1-6" VALVE BOX
 CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

LINE VALVE ASSEMBLY



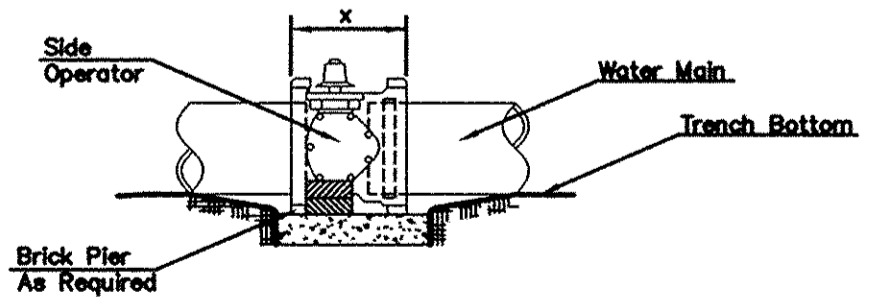
MATERIALS LIST
 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 1-MJ ANCHOR COUPLING (12" OR SMALLER)
 1-6" VALVE BOX
 CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

ANCHORED VALVE ASSEMBLY



MATERIALS LIST
 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 1- 6" VALVE BOX
 2"- DCL SJ PIPE
 CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

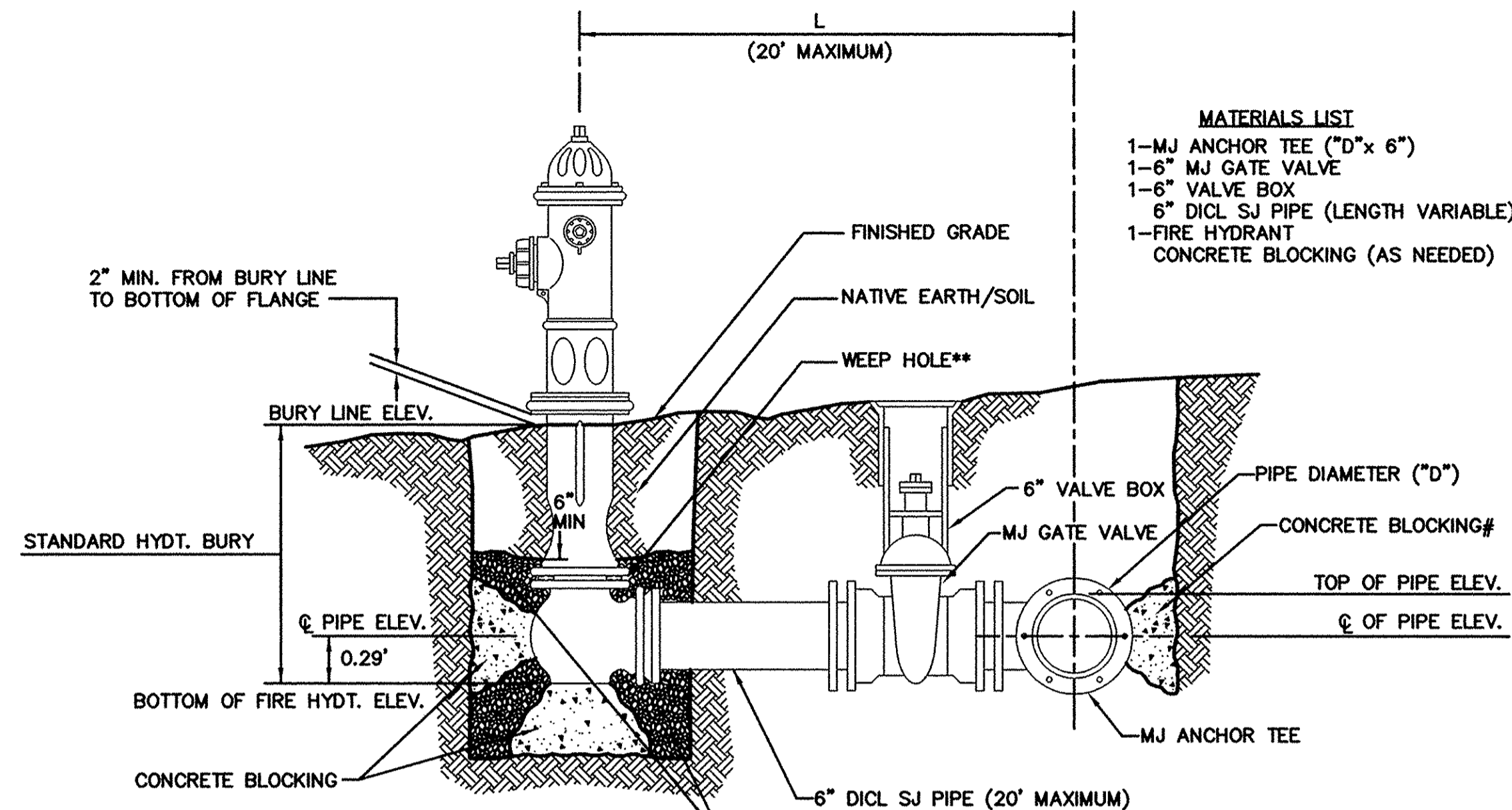
VALVE ASSEMBLY



NOTES

- This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. Larger lines to be detailed on plans.
- 6" Valve Box and Cover required per City of Wichita Std. Specifications.
- Conc. Support Block to be full width of trench.

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION



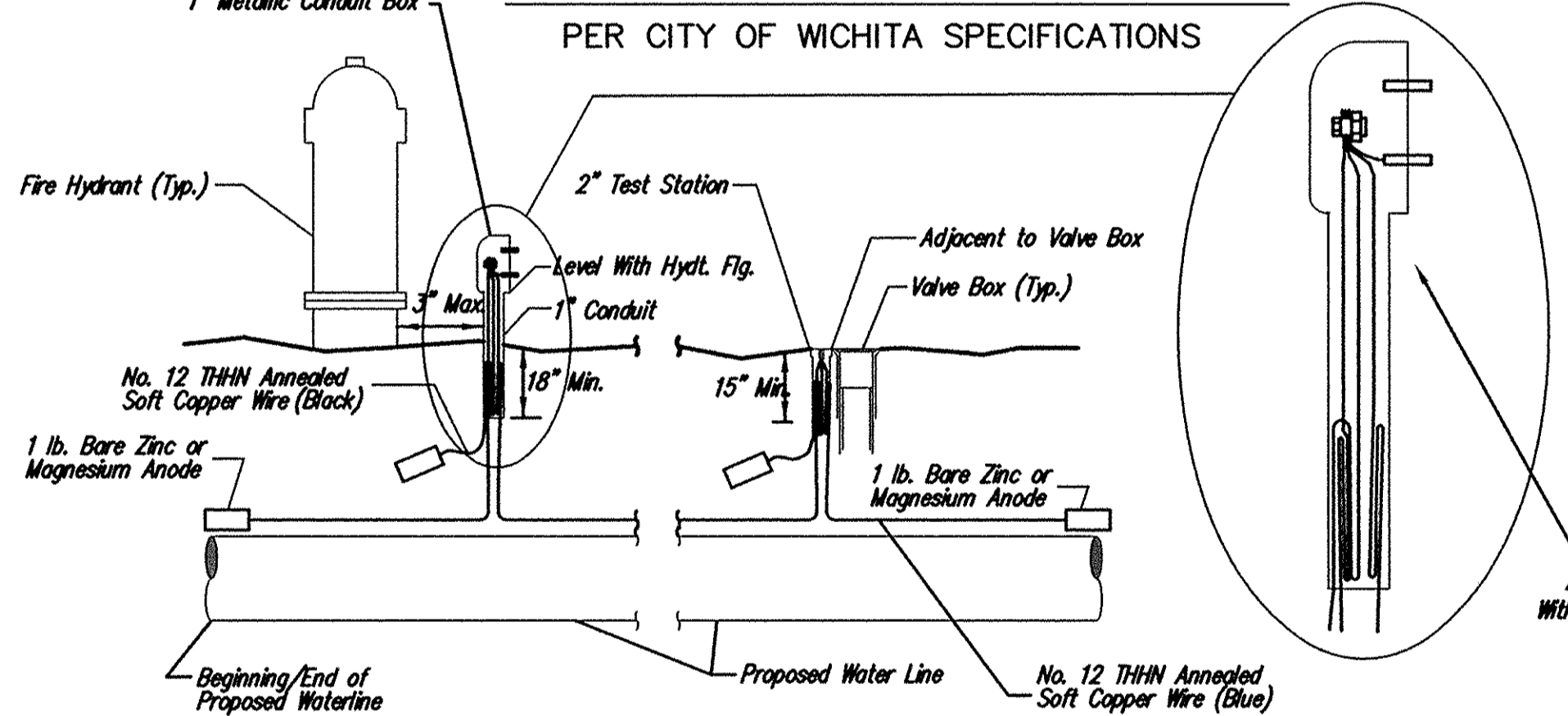
MATERIALS LIST
 1-MJ ANCHOR TEE ("D"x 6")
 1-6" MJ GATE VALVE
 1-6" VALVE BOX
 6" DCL SJ PIPE (LENGTH VARIABLE)
 1-FIRE HYDRANT
 CONCRETE BLOCKING (AS NEEDED)

** CAUTION! WEEP HOLES TO BE KEPT CLEAR DURING CONSTRUCTION AND BACKFILL. CONCRETE FOR THRUST BLOCKING SHALL NOT OBSTRUCT WEEP HOLES.
 # CONCRETE THRUST BLOCKING SHALL BE KEPT CLEAR OF BOLTS, NUTS, AND MJ ACCESSORIES.
 * IF HYDRANT BURY IS IN EXCESS OF 5', CONTRACTOR SHALL USE STANDARD 5" HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY.
 ## MINIMUM 1 CU. FT. PER WEEP HOLE

PEA GRAVEL ## GRADATION REQUIREMENT	
SIEVE SIZE	SPECIFICATION % RETAINED
3/4"	0 - 5
1/2"	5 - 35
3/8"	40 - 85
# 4	95 - 100
# 8	97 - 100

FIRE HYDRANT ASSEMBLY

PER CITY OF WICHITA SPECIFICATIONS



TRACER WIRE

Conductive type pipe locator/tracer wire shall be installed to locate all waterline pipe regardless of pipe material. The wire shall extend the entire length of the proposed pipe. The wire shall be taped to the waterline and pulled with the pipe. Split-bolt connectors shall be used at splice locations. Electrical tape shall cover all splices so no bare wire is exposed. Test stations shall be installed adjacent to all fire hydrants along the waterline and at blowoffs or valves near the ends of the waterlines. Any exceptions to the location of test stations shall be approved by the engineer. At each test station, the tracer wire shall be connected to a 1 lb. Zinc or magnesium anode. Anodes shall also be attached to the tracer wire at both the beginning and the end of the proposed waterline. A typical layout of the tracer wire and test station is provided in the above figure.

WIRE

The tracer wire shall be Blue No. 12 THHN annealed soft copper wire with thermal plastic insulation. The insulation shall be heat, oil, and gasoline resistant as manufactured by Temple Electric or approved equal. To allow for grade adjustment, a minimum of 12" of excess wire shall be coiled at the bottom of the test station for all wires. The insulation sheathing shall be removed such that 1" bare copper wire is exposed at all points of connection. Contractor shall attach wire being installed with proposed water main to any tracer wire installed with adjacent waterline projects.

TEST STATIONS

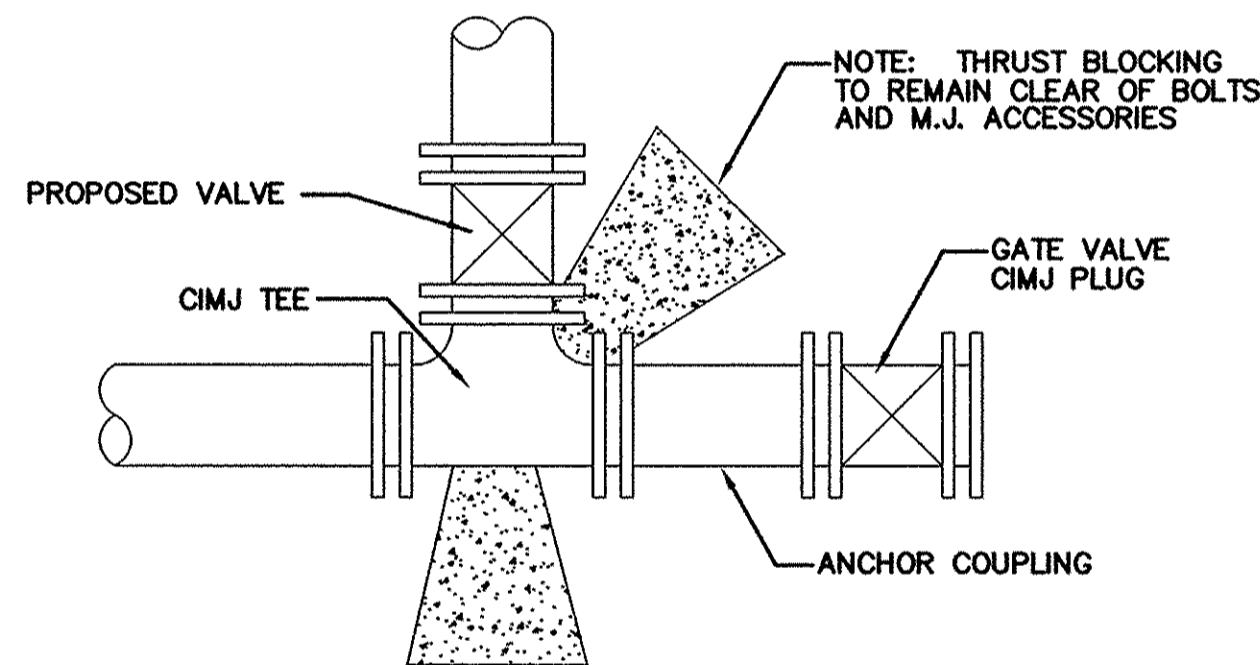
The test station for fire hydrant applications shall be a 1 inch galvanized conduit style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for valve applications shall be 2 inch flush style test station T2PS3B as manufactured by HANDLEY Industries or approved equal. The conduit style shall be attached to a 1 inch rigid galvanized conduit with a minimum length of 36" and plastic end bushing. The flush style shall have the word "WATER" stamped or molded into the lid. All test stations shall be manufactured using molded blue tops or sufficiently coated with blue enamel paint. The tracer wire and the anode wire shall be installed to allow 10 inches of wire within the test station. In concrete environments such as sidewalks or in the downtown area the contractor shall use the flush style test station. The location of all test stations shall be approved by the engineer, recorded, and shown in the as-built drawings.

ANODES

The anodes shall be 1 lb. bare zinc or magnesium. The anodes shall be buried at the same elevation as the waterline at each test station. The anodes shall be connected to Black No. 12 THHN annealed soft copper wire which shall be extended to the test station.

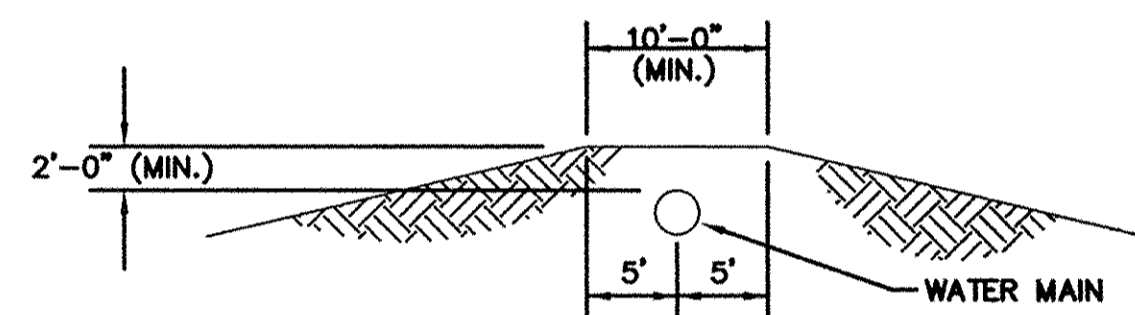
TRACER WIRE DETAIL

COST IS SUBSIDIARY TO PIPE INSTALLATION



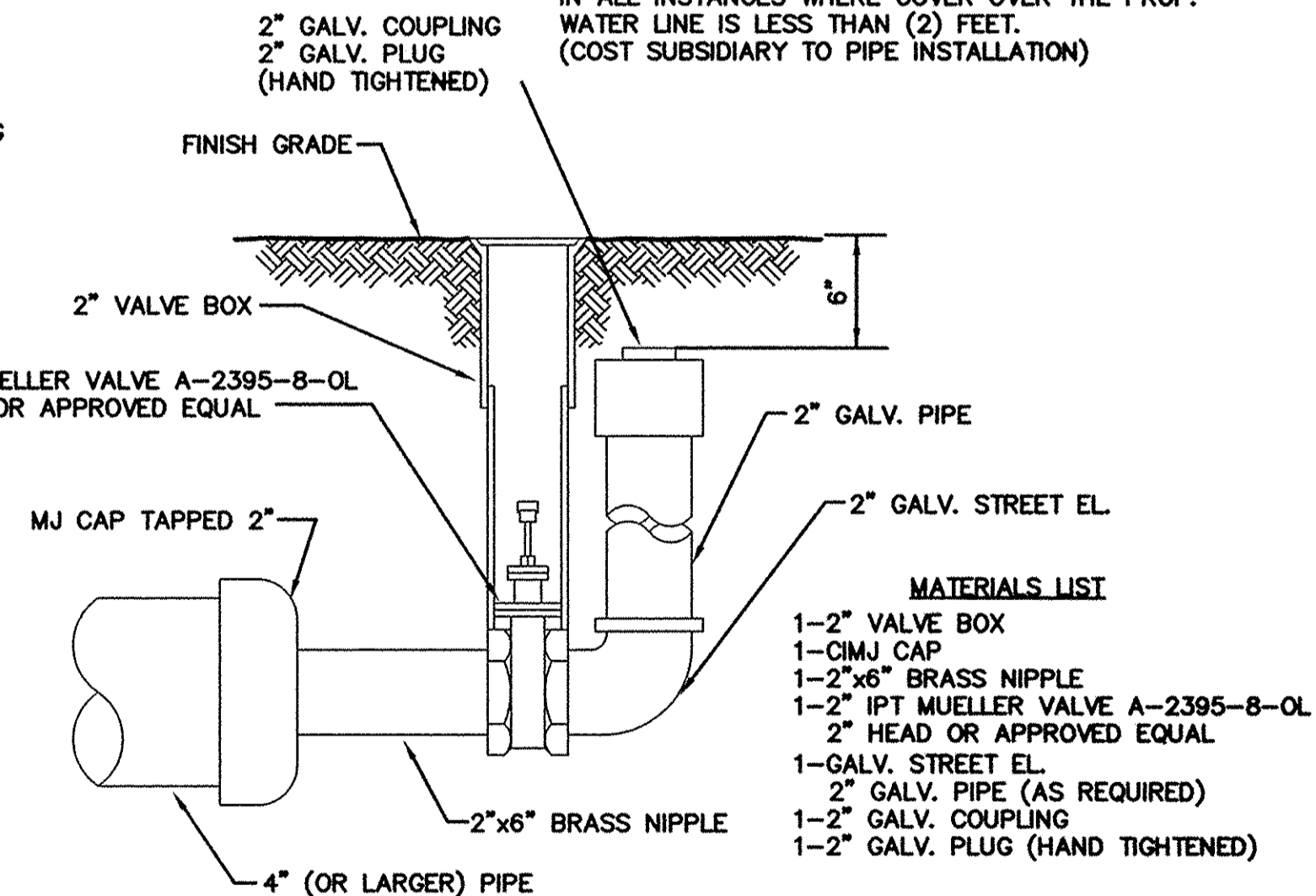
KEY BLOCK DETAIL

2 Blue Wires and 1 Black Wire
 All Connected to Single Test Lead
 With Split Bolt Connection and Blue No. 12 THHN Annealed Soft Copper Wire



PROTECTIVE FILL DETAIL

MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN (2) FEET. (COST SUBSIDIARY TO PIPE INSTALLATION)



MATERIALS LIST
 1-2" VALVE BOX
 1-CIMJ CAP
 1-2"x6" BRASS NIPPLE
 1-2" IPT MUELLER VALVE A-2395-8-OL
 1-2" HEAD OR APPROVED EQUAL
 1-GALV. STREET EL.
 1-2" GALV. PIPE (AS REQUIRED)
 1-2" GALV. COUPLING
 1-2" GALV. PLUG (HAND TIGHTENED)

2" BLOWOFF ASSEMBLY

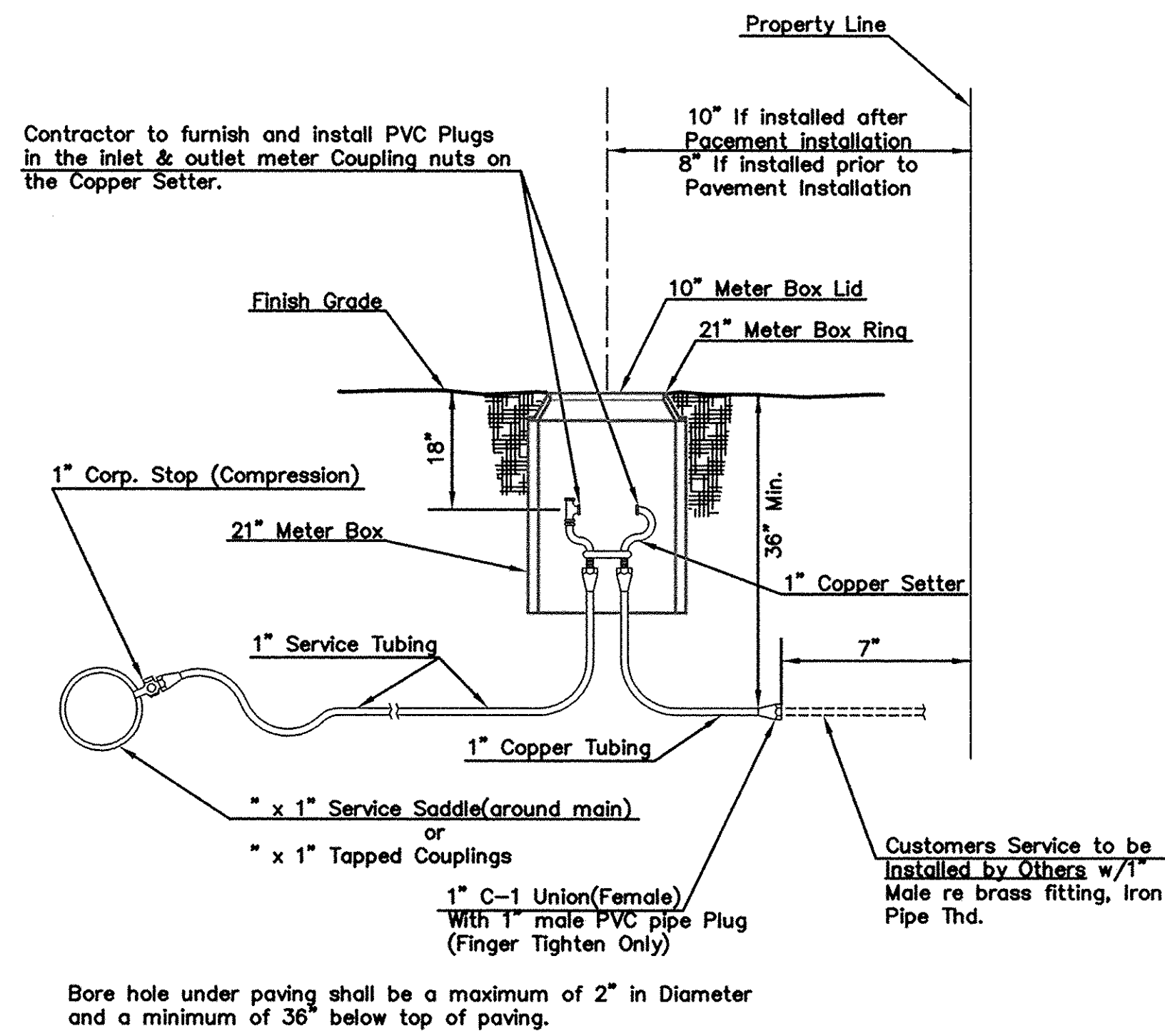
STA. 10+65.61~W.L. 'C'
 1-FIRE HYDRANT ASSEMBLY
 L=17.32
 WB ELEV=1313.58
 HYDRANT BURY=1310.08
 N=1831.09
 E=1702.96

FIRE HYDRANTS REQUIRED			
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*
10+65.61~W.L. 'C'	1313.58	1310.58	3.50

STANDARD WATER ASSEMBLY DETAILS			
CITY ENGINEER			
JAMES L. ARMOUR, P.E., L.S.			
PROJECT NUMBER XXX-XXXX	OCX NUMBER XXXXXX	DATE MM/YY	
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 (316) 268-4114 FAX		DESIGN ABC	DRAWN DEF
SHEET C-12.2			



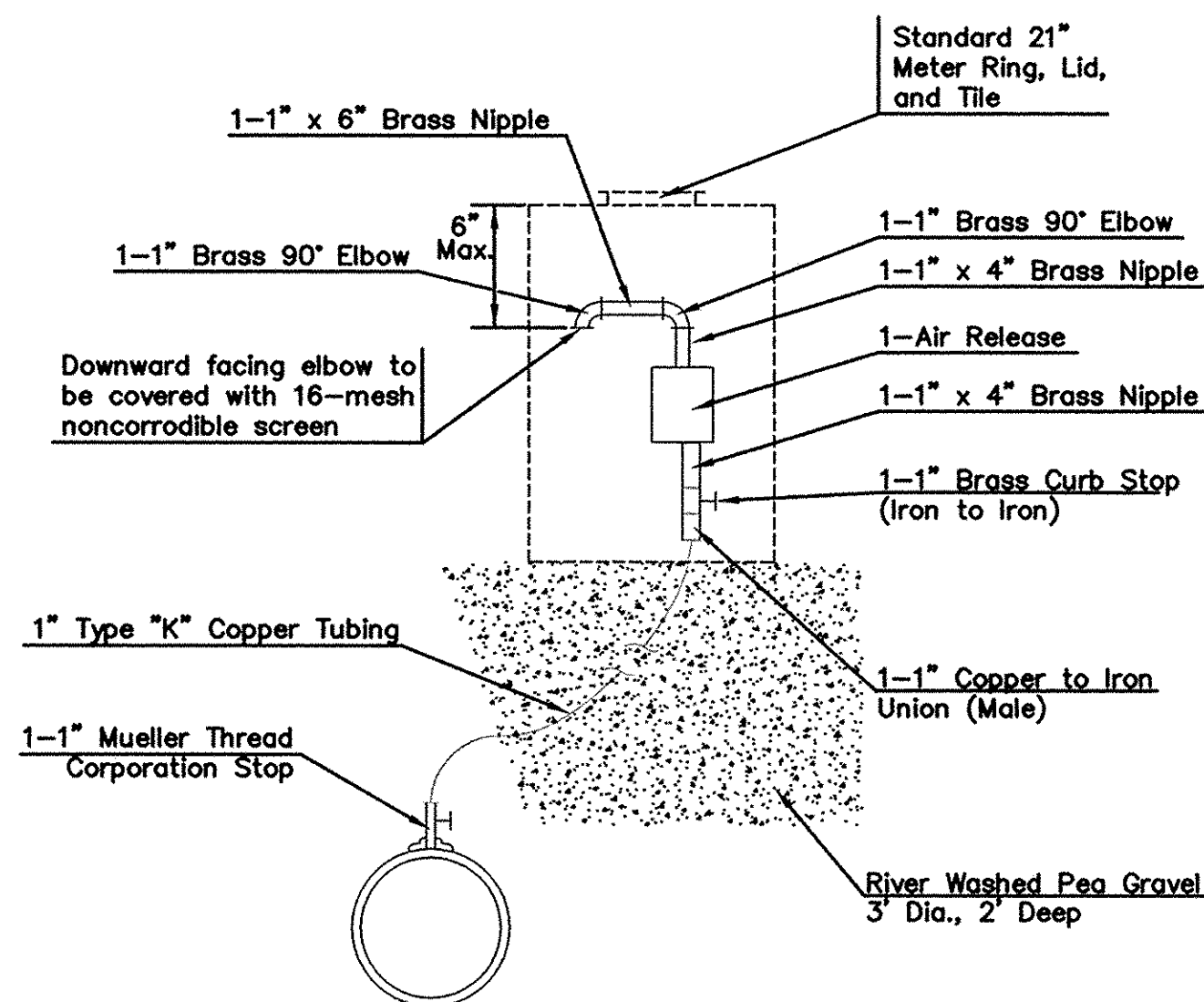
REV: 8-14-01, MCG



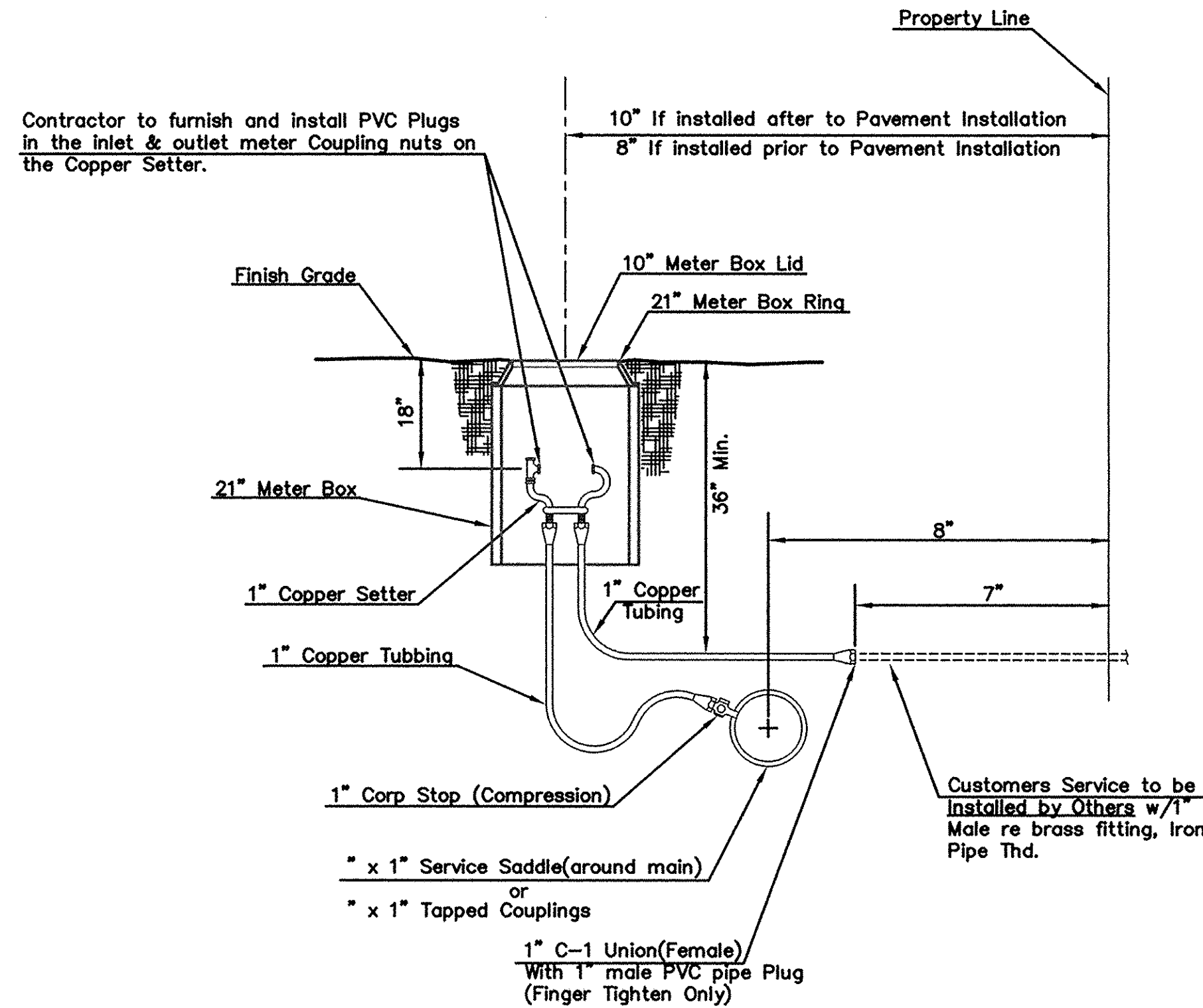
Note: Service Saddles are not required on top of 8" mains or larger
 Meter boxes will be located on each lot to be served, as indicated in the SPECIAL PROVISIONS

**TYPICAL METER SETTING
 LONG SERVICE 1"**

- 1 - 1" Mueller Thread Corporation Stop
- 1 - 1" Type "K" Copper Tubing
- 1 - 1" Copper to Iron Union (Male)
- 1 - 1" Brass Curb Stop (Iron to Iron)
- 2 - 1"x4" Brass Nipple
- Air Release
- 2 - 1" Brass Elbows (90°)
- 1 - 1"x6" Brass Nipple
- 1 - 21" Meter Tile
- 1 - 21" Meter Ring
- 1 - 10" Meter Lid

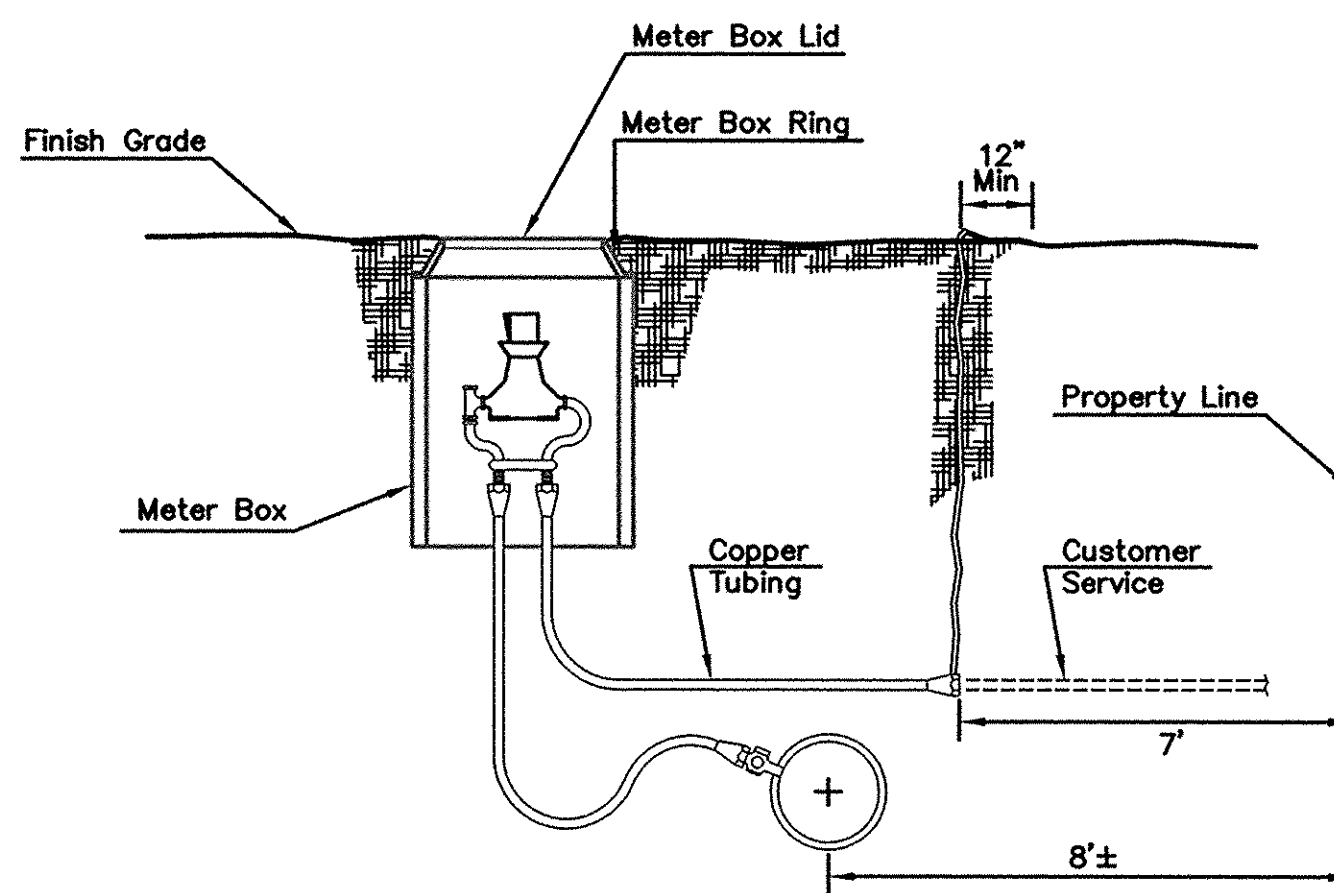


MATERIALS FOR AIR RELEASE ASSEMBLY



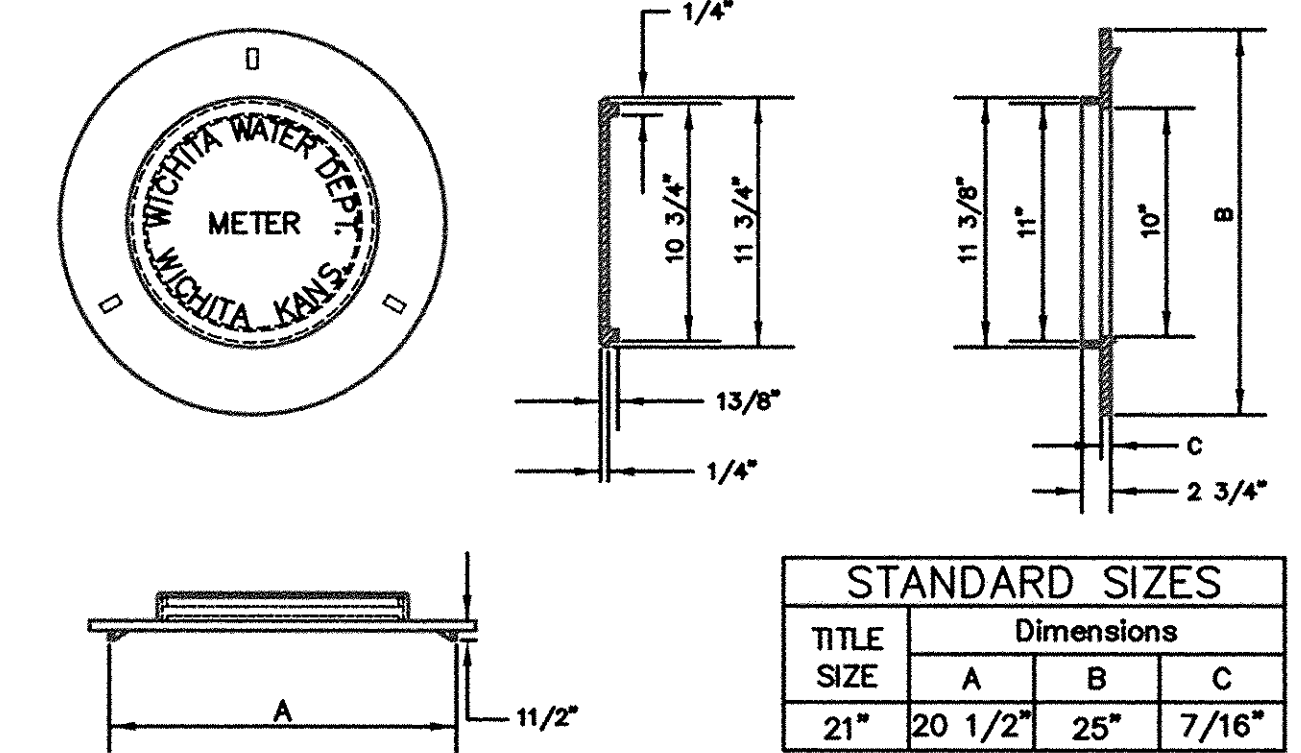
Note: Service Saddles are not required on top of 8" mains or larger
 Meter boxes will be located on each lot to be served, as indicated in the SPECIAL PROVISIONS

**TYPICAL METER SETTING
 SHORT SERVICE 1"**



If customers service line is not installed at the time Meter Box and Setter are installed, Plastic Flagging is to be tied to the end of copper tubing & brought straight up to top of ground and be exposed a minimum of 12" on top of ground.
 (Plastic Flagging to be Furnished by Contractor)

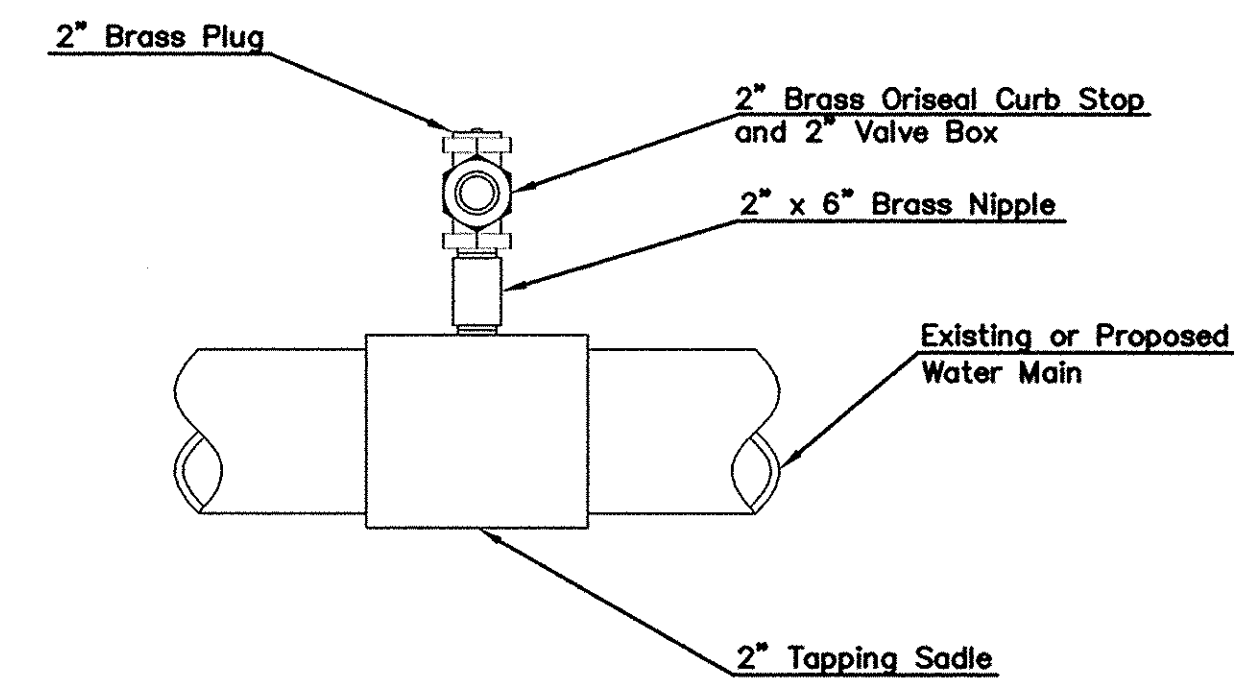
**TYPICAL METER SETTING
 PLASTIC FLAGGING**



TITLE SIZE	Dimensions		
	A	B	C
21"	20 1/2"	25"	7/16"

Other Approved Ring And Lids: Ford Meter Box Co. Inc.
 21" Ring & Lid Catalog No. C-4

RING & LID FOR METER VAULTS

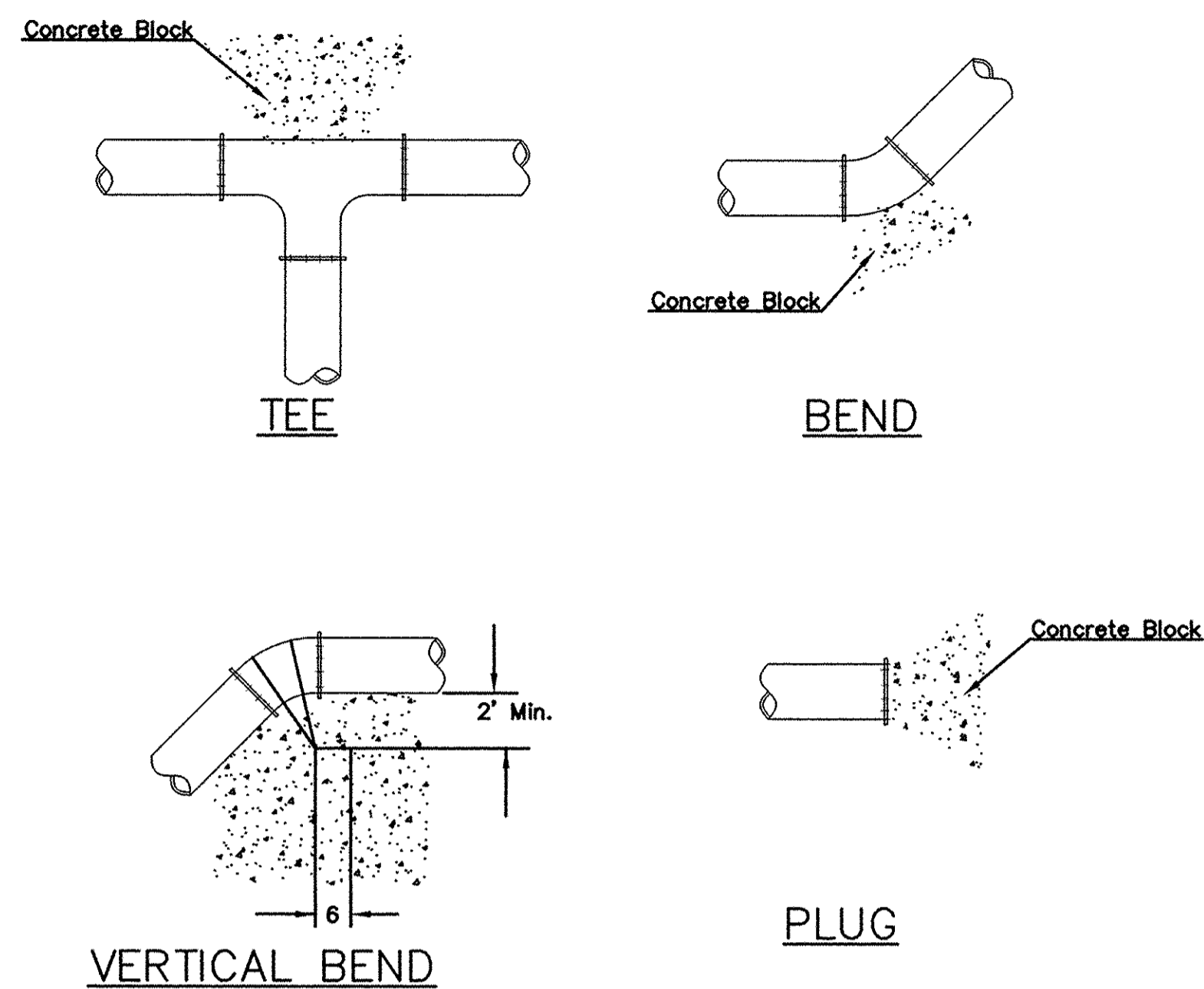


Note: Where the 2" service outlet assembly is to be used to connect a 2" main to another main, the 2" valve shall be a 2" IPT Gate Valve. 2" Ball or Globe valve shall not be approved for this use.

2" SERVICE OUTLET ASSEMBLY

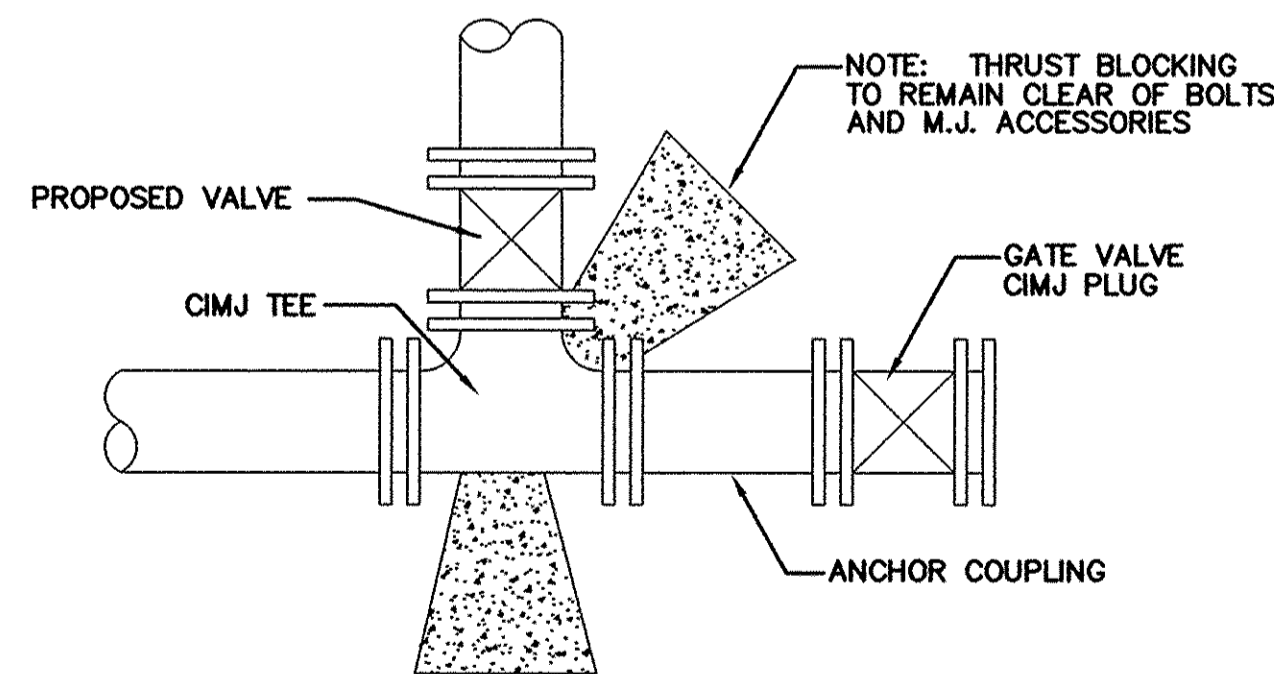
REVISED APR 97

	STANDARD WATER SERVICE DETAILS		
	CITY ENGINEER JAMES L. ARMOUR, P.E., L.S.		
	PROJECT NUMBER XXX-XXXX	OCA NUMBER XXXXXX	DATE MM/YY
	CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 (316) 268-4114 FAX		DESIGN ABC
			SHEET C-12.3

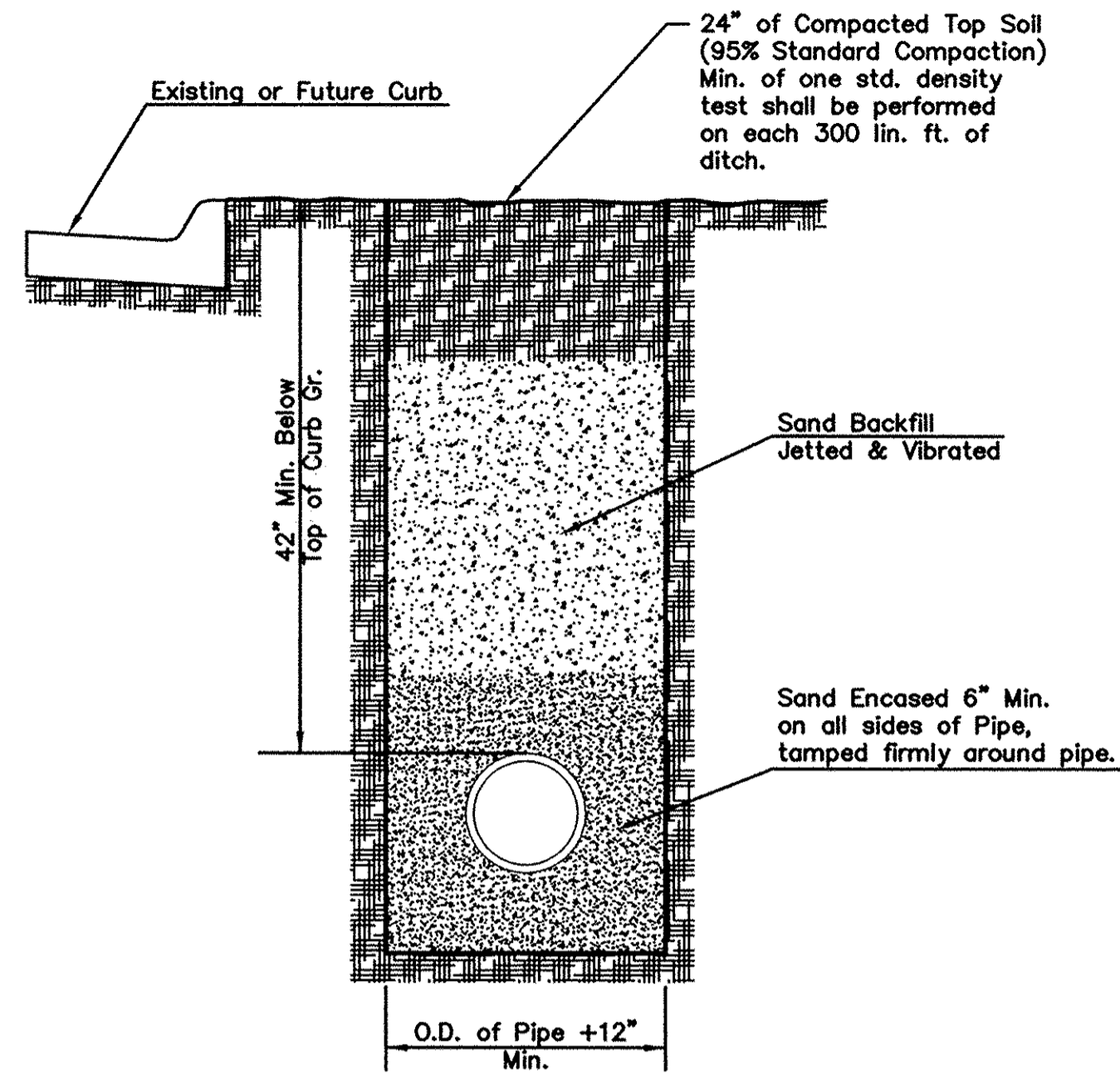


PIPE SIZE	THRUST AT FITTINGS IN TONS—AT 150#/IN ² P					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75	44.55

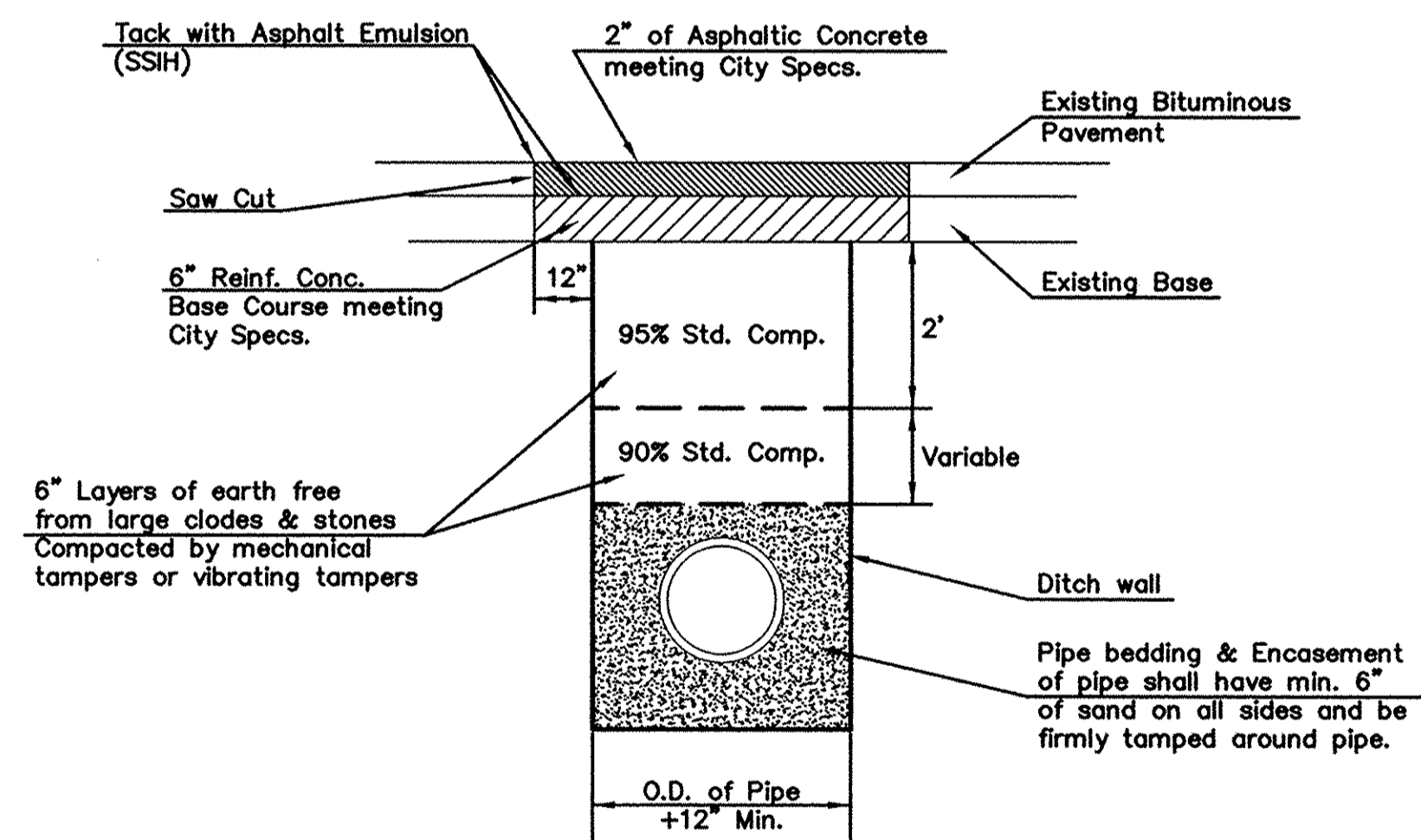
TYPICAL THRUST BLOCKS



KEY BLOCK DETAIL



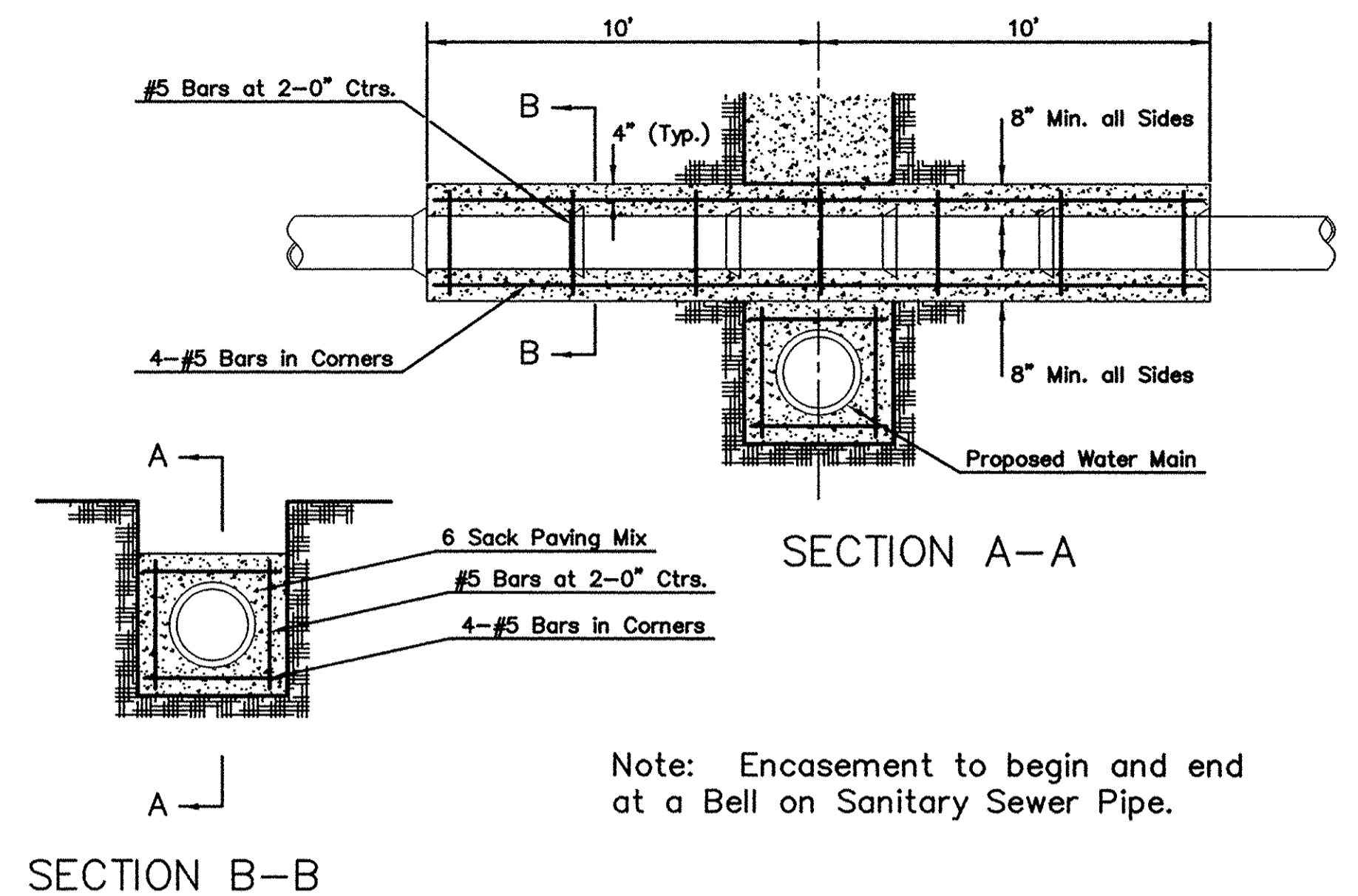
SETTLEMENT & COMPACTION ON CITY AND COUNTY ROAD RIGHT-OF-WAY EXCEPT UNDER PAVEMENT



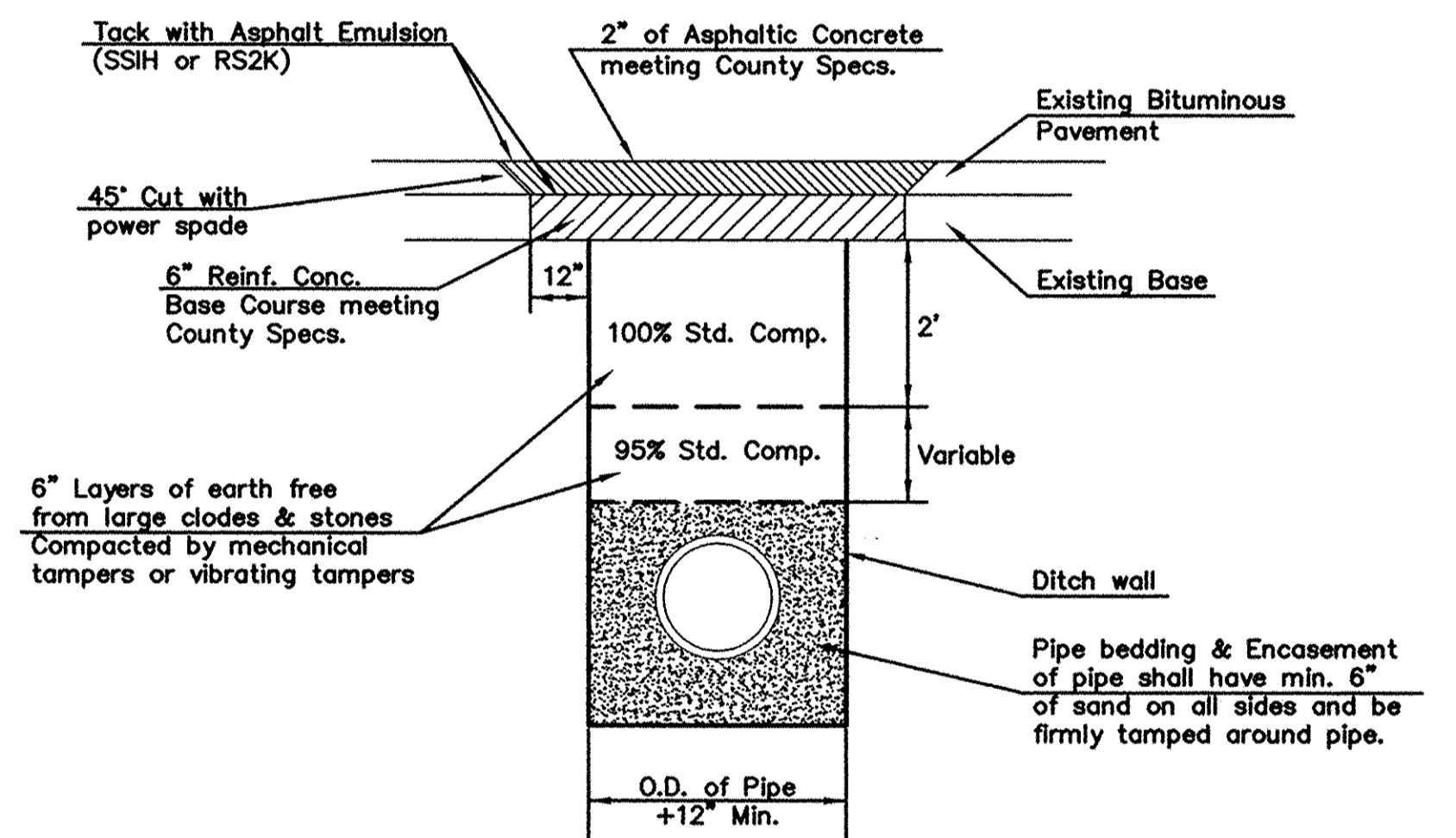
Standard Density Test, as described in the latest addition of ASTM D698, shall be performed to verify the above requirements to the Satisfaction of the Sedgwick County Director of Public Works. All testing cost shall be included in the unit price bid for the pipe in place.

When laying under paving, parallel with the centerline of the street, a minimum of one (1) Standard Density Test shall be performed on each 300 lineal feet of ditch.

PAVEMENT REPLACEMENT & DITCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS



REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER



Standard Density Test, as described in the latest addition of ASTM D698, shall be performed to verify the above requirements to the Satisfaction of the Sedgwick County Director of Public Works. All testing cost shall be included in the unit price bid for the pipe in place.

When laying under paving, parallel with the centerline of the street, a minimum of one (1) Standard Density Test shall be performed on each 300 lineal feet of ditch.

PAVEMENT REPLACEMENT & DITCH COMPACTION UNDER EXISTING AND PROPOSED COUNTY ROADS

REVISED APR 97

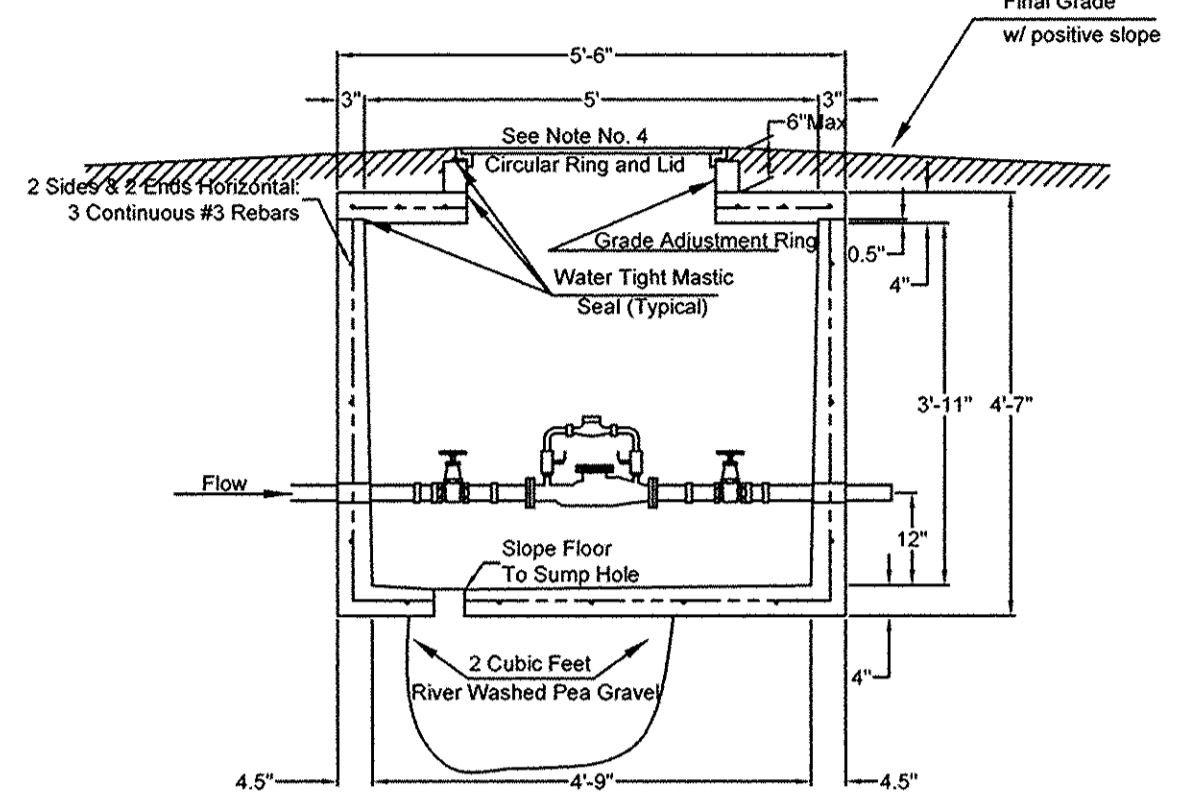
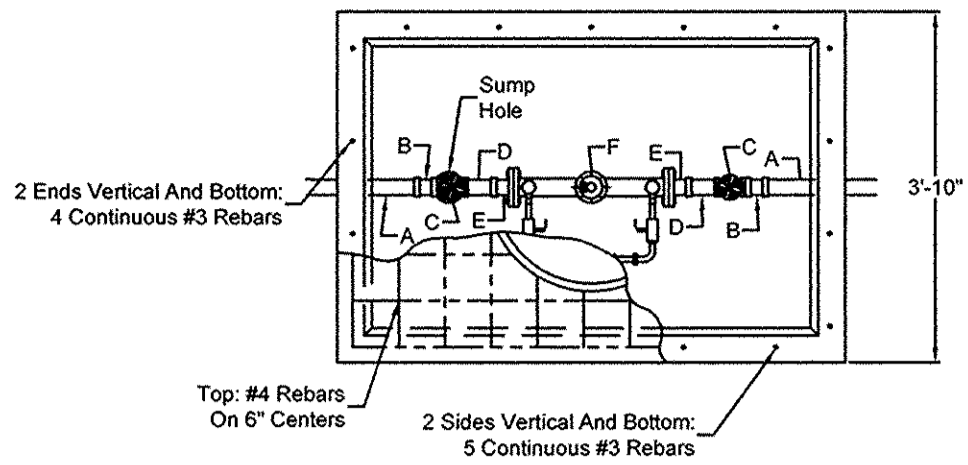
	<p>VARIOUS WATER DETAILS</p> <p>CITY ENGINEER</p> <p>JAMES L. ARMOUR, P.E., L.S.</p>		
	PROJECT NUMBER	OCA NUMBER	DATE
	XXX-XXXXX	XXXXXX	MM/YY
	<p>CITY ENGINEER'S OFFICE</p> <p>CITY HALL - SEVENTH FLOOR</p> <p>455 NORTH MAIN STREET</p> <p>WICHITA, KANSAS 67202-1620</p> <p>(316) 268-4501</p> <p>(316) 268-4114 FAX</p>		<p>DESIGN</p> <p>ABC</p>
			<p>SHEET</p> <p>C-12.4</p>

Notes For All Services - 2" thru 12":

- When the standard vault dimensions are not applicable, such as when additional space is required for special pipe, fittings, additional meters, etc. the design engineer shall design a vault with the required dimensions for Water & Sewer Dept. approval and Public Works approval.
- The vault shall be poured concrete, cement blocks (voids to be completely filled with 2500 P.S.I. concrete), or approved precast structure (such as Clutter Inc. vaults approved 8/1/2000). The intent of these details shall not be limited by drawings or standards of precast structures.
- Vault location to be determined by Wichita Water & Sewer prior to construction and approved by Department's field supervisor prior to installation. A final inspection will be required for acceptance. Vault location standards include but not limited to: not to be located where subjected to vehicular loads, not to be located in any right-of-way or utility easement, and must be located on the property being served.
- The manhole ring and lid shall be Neenah R-6034 Frame with Type "C" Solid Lid and Drop Down Handle or US Foundry APS-30x30 (Aluminum). Where applicable the standard 10" Wichita Water & Sewer pattern meter reading lid and ring shall be located directly above water meter register. All meter registers shall have an approved lid directly vertical above. All joints of concrete to concrete or metal to concrete in the construction of the vault shall have an approved water tight mastic joint seal.
- Any fittings or appurtenances required to achieve proper elevation of pipe through the vault shall be provided by the contractor and appropriately noted on as-builts submitted by the inspecting engineer. Such fittings shall be a minimum of 2' from the exterior wall of vault.
- For all services larger than 2" the contractor shall provide an outlet flange connection as shown 12-inches from the inside wall. Inlet and outlet wall sleeves shall be provided and installed by the contractor and shall be in alignment with one another. The inlet and outlet pipe shall be ductile iron pipe, cement lined, Class 150 per Standard Specifications and shall be continuous through vault wall and joint no less than two (2) feet from the exterior wall of vault. Flanges of inlet and outlet pipes shall be in proper alignment and bolt pattern shall be rotated in such a way that valves and other fittings shall be in their proper vertical alignment when installed.
- For all services 4" and larger the contractor shall install a mega lug, restrained joint, or approved equal on the exterior walls of the vault, which shall be manufactured of ductile iron conforming to ASTM A 536-80, heat treated to a minimum hardness of 370 BHN and have a working pressure of at least 250 P.S.I. For all services smaller than 4" the contractor shall install an approved vault clamp on the exterior walls of the vault.
- All valves, meters, assemblies, and fittings shall be provided with sufficient concrete or other approved supports to the vault floor.
- The "Confined Space Warning" sign shall be fastened to the top of all vaults. If necessary for landscaping or site considerations, the sign may be fastened to the vault lid if it does not impede access to the handle. Acceptable materials: Aluminum 73415HH, Plastic 73439HH, or S.A. Vinyl 73463HH.
- All meters shall have an electronic read register compatible with the current City of Wichita meter reading system. All detector meters shall be an 5/8 cubic foot Badger meter with ERT register or approved equal. Gallon meters shall not be accepted.

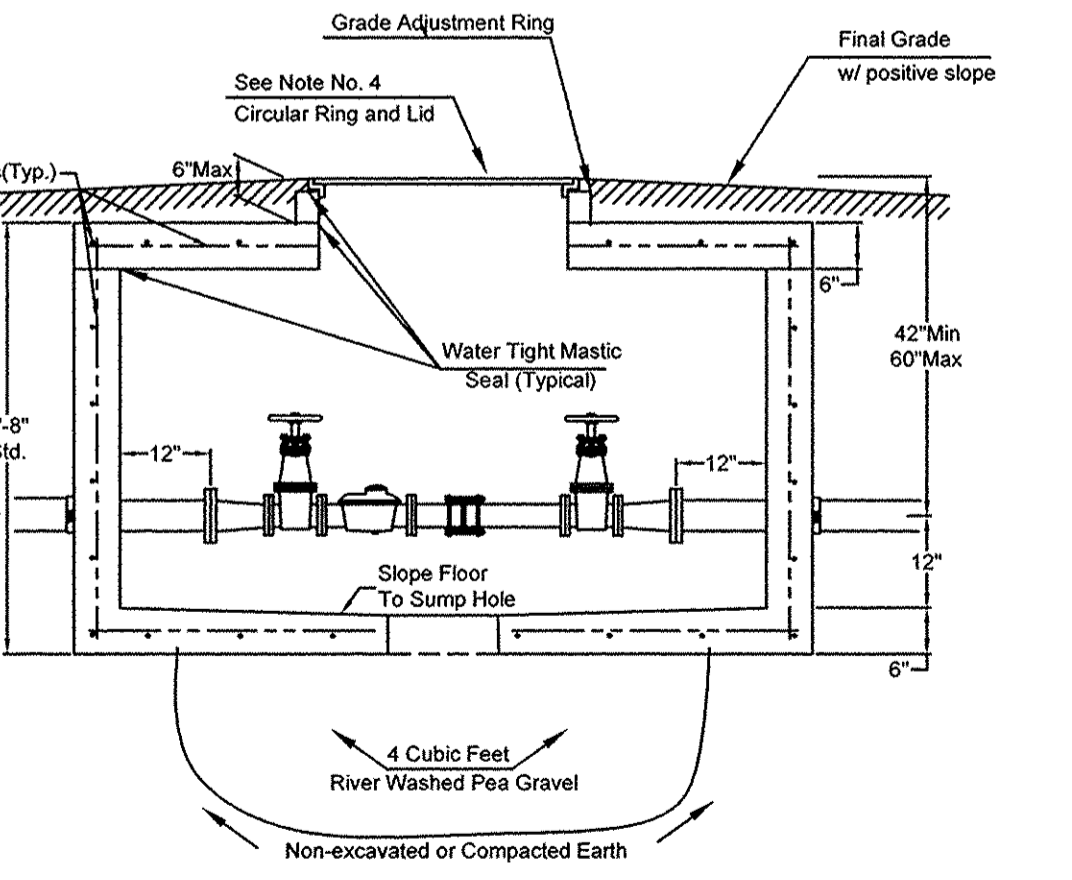
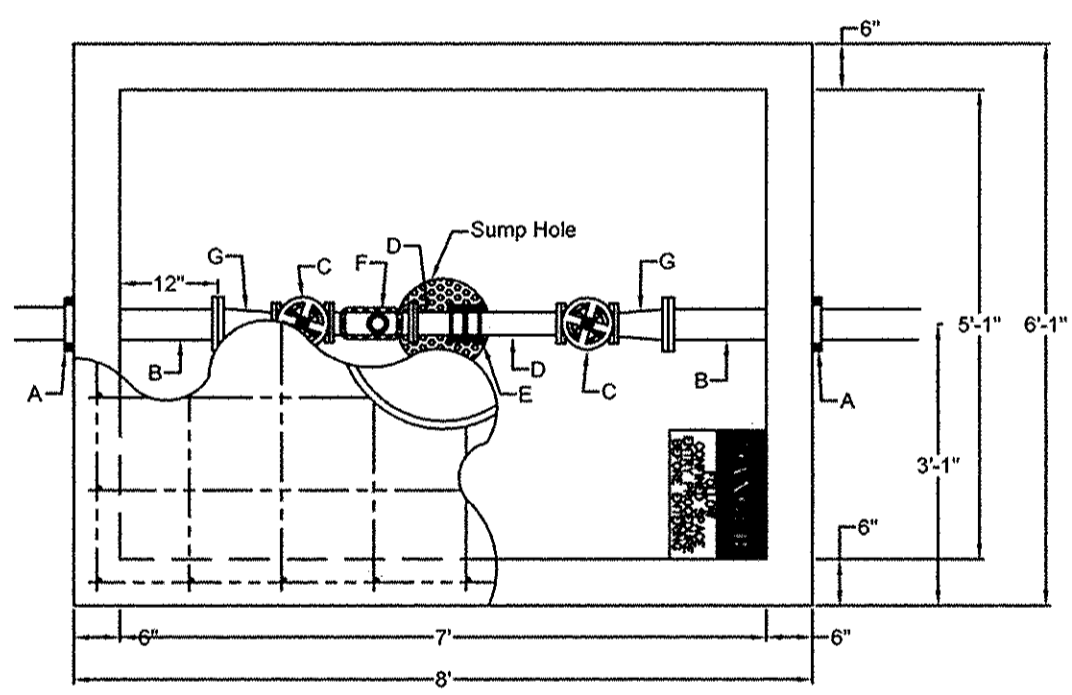
11. Additional Notes For Fire Services:

- A post indicator valve (PIV) is an option for the outlet valve and may be requested by the architect or owner. The PIV is not required by City of Wichita ordinance.
- When Siamese connections are required by the Wichita Fire Department, refer to the current City Code Section 15.
- If due to any reason the completed vault retains ground or drainage water in excess of 4" in depth from the floor of the vault, the property owner shall be responsible for providing and installing an appropriate automatic sump pump or approved equal, as well as any other appurtenances required to make such system function as intended.
- The property owner is responsible for completing an "Application for Private Fire Protection" prior to final acceptance of the project.



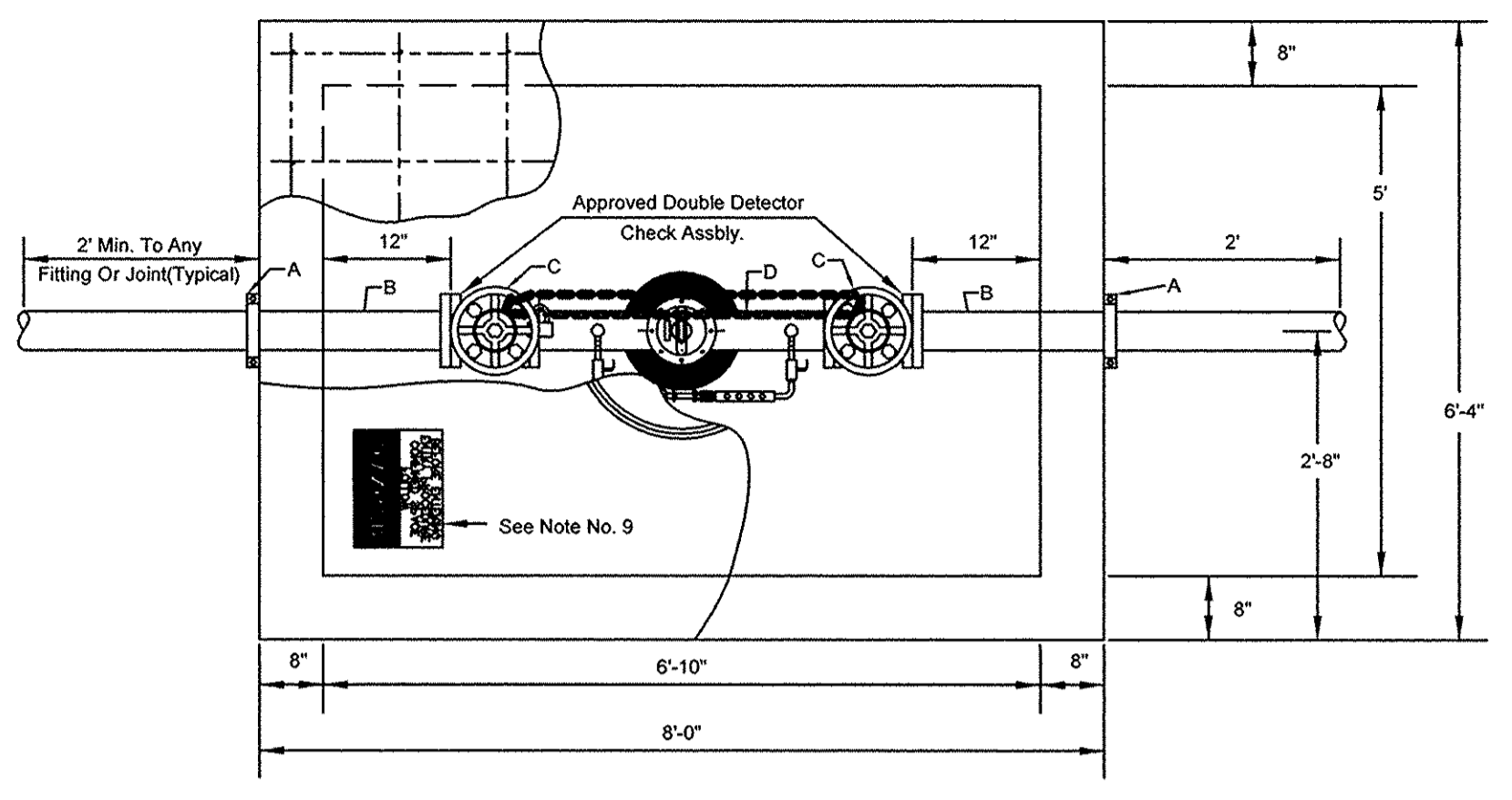
- A - 2" PVC or Copper
- B - 2" F PVC to M Iron or 2" F Copper to M Iron
- C - 2" Bronze IPT Gate Valve, Wheel Operated
- D - 2" x 4" or 2" x 6" Brass Nipple
- E - Lok-Pak Meter Couplings
- F - 2" Febco Model 406 Detector Check or approved equal with metered bypass assembly

2" Fire Service



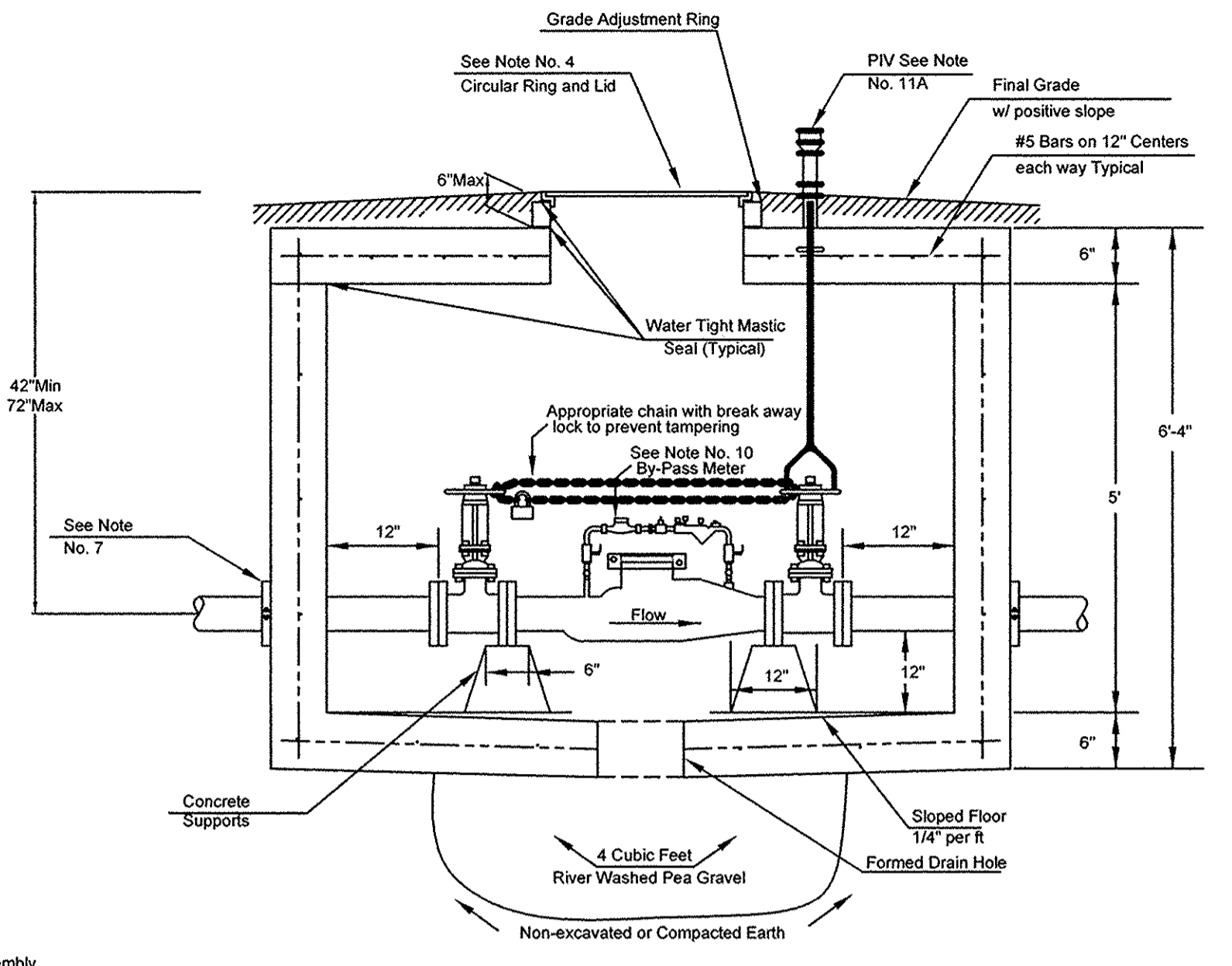
- A - 4" Vault Clamp
- B - Min. 3" Piece of 4" FL x PE DICL Pipe
- C - 3" Flange Non-rising Stem Gate Wheel Valve
- D - 3" FL x PE Pipe
- E - 3" Flex Coupling
- F - 3" Badger Recordall II Turbo Cubic Foot Meter with ERT Register or Sensus W-350DR Cubic Foot Meter with AMR Register.
- G - 3" x 4" FL Reducer

3"DS

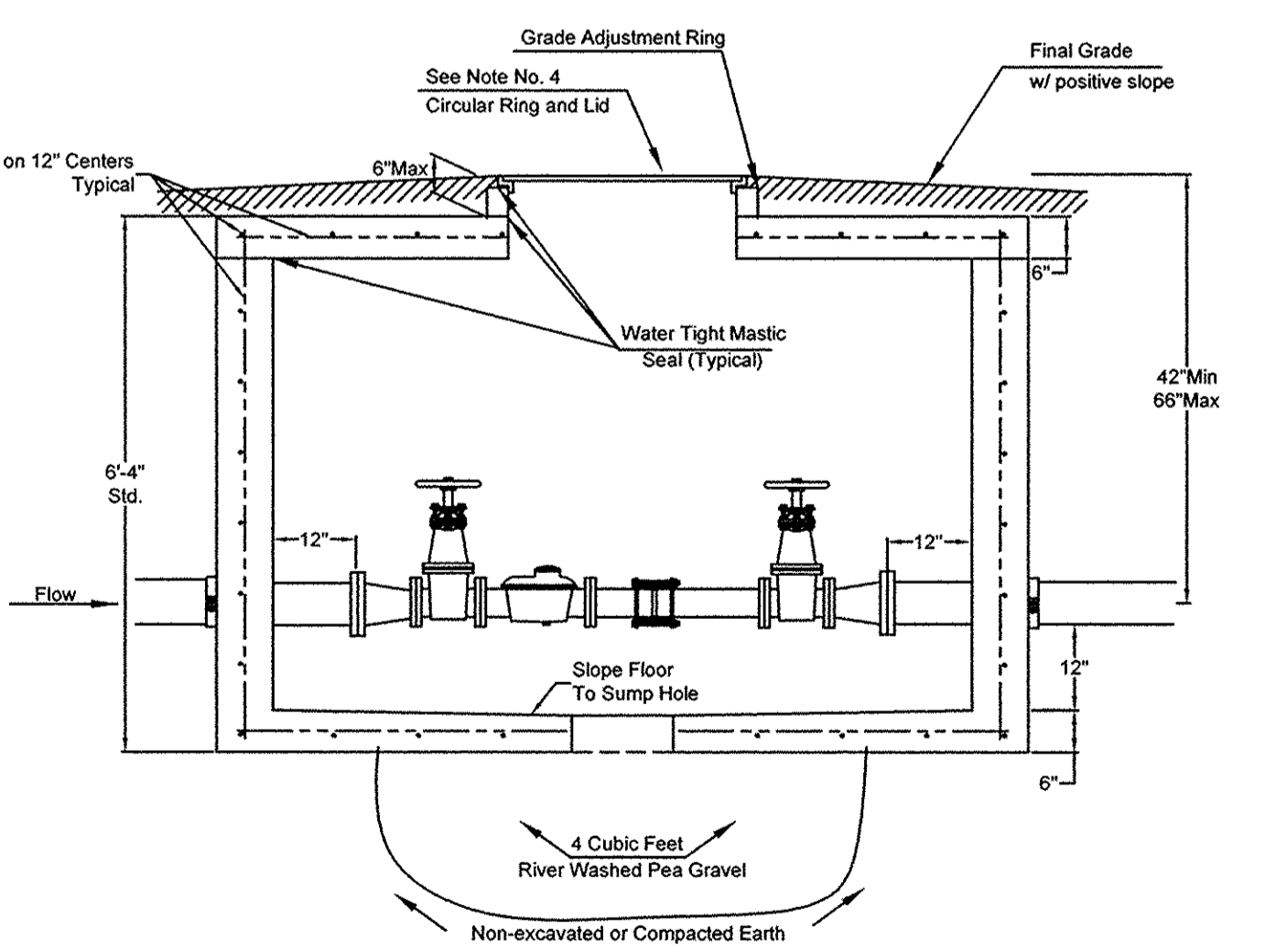
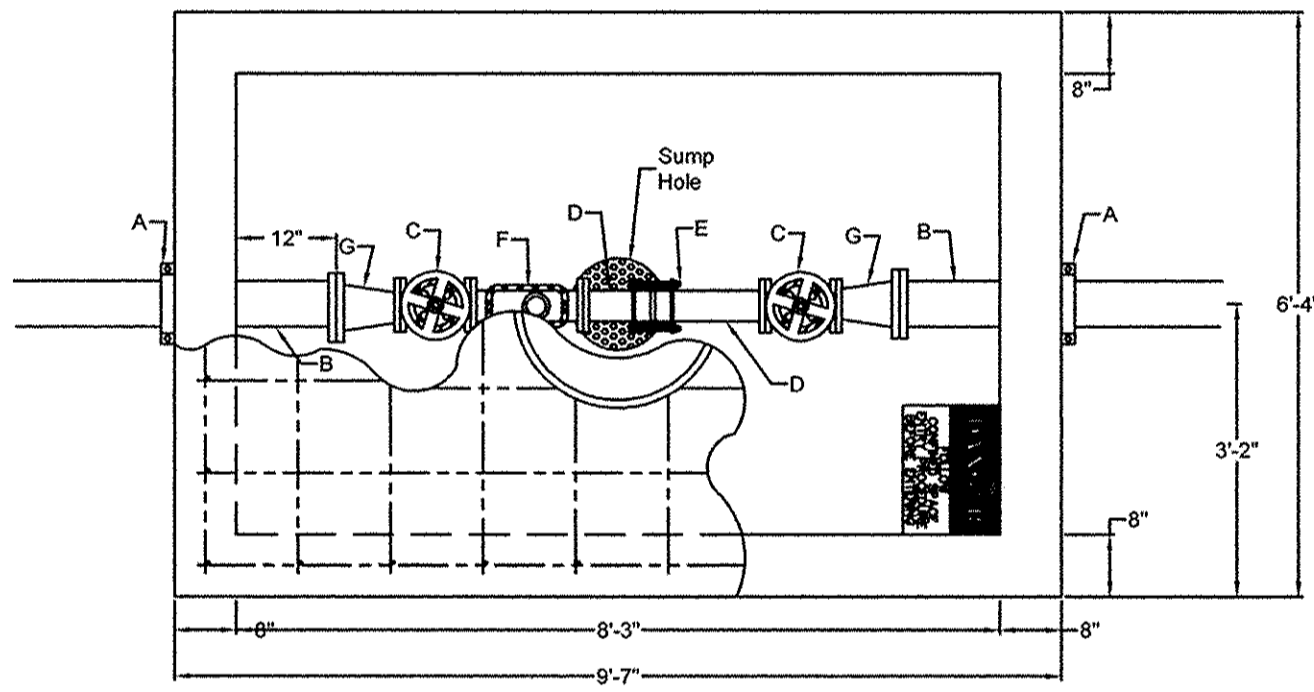


- A - Mega Lug (See Note 7)
- B - Min. 3'-6" Piece of FL x PE DICL Pipe
- C - Flange Gate Valve, Wheel Operated
- D - Ames Model 3001SS or approved equal with metered(cubic foot) by-pass assembly

4" thru 8" Fire Service



- A - Mega Lug (See Note 7)
- B - Min. 3'-6" Piece of FL x PE DICL Pipe
- C - Flange Gate Valve, Wheel Operated
- D - Ames Model 3001SS or approved equal with metered(cubic foot) by-pass assembly



- A - 6" Mega Lug (See Note 7)
- B - Min. 3" Piece of 6" FL x PE DICL Pipe
- C - 4" Flange Non-rising Stem Gate Wheel Valve
- D - 4" FL x PE Pipe
- E - 4" Flex Coupling
- F - 4" Badger Recordall II Turbo Cubic Foot Meter with ERT Register or Sensus W-1000DR Cubic Foot Meter with AMR Register.
- G - 6" x 4" Flange Reducer

6" DS w/ 4" meter

2"DS

- A - 2" PVC or Copper (to be extended completely through vault to ensure proper alignment)**
 - B - 2" F PVC to M Iron or 2" F Copper to M Iron**
 - C - 2" Bronze IPT Gate Valve, Wheel Operated**
 - D - 2" x 4" or 2" x 6" Brass Nipple**
 - E - Lok-Pak Meter Couplings**
 - F - 2" Meter**
- ** = Contractor Installed
 ** = Installed By Wichita Water & Sewer

STANDARD VAULT DETAILS AND METER ASSEMBLIES	
D. R. WARREN - DIRECTOR	
PROJECT NUMBER XXX-XXXXX	INDEX CODE XXXXXX
DATE JULY 2000	SHEET C-12.5
CITY HALL - 1000 S. ALDEN 2ND FLOOR 1000 S. ALDEN STREET WICHITA, KANSAS 67202 (316) 263-7272 Fax	