

**GENERAL NOTES:**

- The Contractor shall comply with all applicable safety regulations. All construction shall be completed following current City of Wichita Standard Specifications and Special Provisions.
- Contractor will be required to provide notice to utility companies a minimum of seventy-two (72) hours prior to any excavation, as follows:  
Kansas One-Call 687-2470  
The Contractor must notify the following in case of an emergency:  
AT&T 1-800-246-8464  
Black Hills Energy 1-800-694-8989  
City of Wichita Water & Sewer 1-316-219-8921  
City of Wichita Stormwater 1-316-268-4090  
City of Wichita Traffic 1-316-268-4034  
Cox Communications 1-888-249-3530  
Kansas Gas Service 1-888-482-4950  
Energy 1-800-544-4857
- Utility service lines, poles, etc. are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
- Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and site location. Locations, in the opinion of the Engineer, that will leave an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain will require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits will require additional archaeological investigations unless buried in a previously approved borrow location.
- Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.
- The Contractor shall give all property owners and/or tenants of developed property adjoining the construction of this project a minimum of ten (10) days notice prior to start of construction.
- The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.
- The Engineering Division shall field locate water valves one time during construction when requested by the Contractor. It shall be the Contractor's responsibility to preserve such field locations during the construction process. Water valves, valve boxes or fire hydrants damaged during construction shall be repaired by Contractor at his own expense. Valve boxes and water meters within the project limits shall be adjusted to match final grades.
- The Contractor shall notify the inspecting engineer and Tom Mason with the City at 316-268-4574 with the anticipated construction start date and notify them of project completion. Staking and inspection for this project will be the responsibility of the Contractor.
- If traffic will be impacted by construction, a traffic control plan must be submitted and approved by the City Traffic Engineer, Brian Coon at traffic@wichita.gov before construction can begin. The Contractor shall be responsible for all traffic control measures to facilitate construction. All construction zone markings and signage shall conform to the latest version of the Manual on Uniform Traffic Control Devices (MUTCD) as published by the US Dept. of Transportation, Federal Highway Administration. All costs associated with construction markings and signage shall be the Contractors responsibility.
- All elevations shown are NAVD 88.
- All areas disturbed during construction that will not be under proposed pavement shall be restored to match existing conditions.
- All sidewalk, drive approach, curb, or street pavement removed to construct project must have a pavement cut permit and be replaced by the City contractor. Permits can be obtained by calling 316-268-4501 or 316-268-4480.
- All applicable fees (tap, equity, in lieu of, & main benefit) must be paid before any connections can be made on this project. Quotes can be obtained on fees by calling 316-268-4555.
- City maintenance of water mains ends at right-of-way or easement line or within two feet of vault.
- Opening and closing of water valves shall be done slowly to prevent damage to the water distribution system from water hammer. All valves closed by the contractor must be reopened as new construction permits. The project inspector must ascertain that any valve closed by the Contractor is reopened. The contractor will be permitted to operate water valves only when the project inspector assigned to the project is present.
- The Contractor shall lay a Tracer Wire and Set Test Stations along all water pipe installed in accordance with City Specifications and Tracer Wire Detail on detail sheet WL-101, cast is subsidiary to pipe installation.

**LEGEND:**

- 104.50 = Existing Spot Elevation
- TC = Top of Curb Elevation
- FL = Flowline Elevation
- TW = Top of Wall Elevation
- +DS = Exist. Building Down Spout
- ICV = Exist. Irrigation Control Valve Vault
- ⊥ = Exist. Sign
- LP = Exist. Lightpole
- 4" SSCO = Exist. Sanitary Sewer Cleanout
- SS MH = Exist. Sanitary Sewer Manhole
- WV = Exist. Water Valve
- WM = Exist. Water Meter
- ⊕ FH = Exist. Fire Hydrant
- AT&T Ped. = Exist. AT&T Pedestal
- Cox Ped. = Exist. Cox Pedestal
- = Exist. Underground Electric Line
- = Exist. Buried Gas Line
- = Exist. Communication Line
- = Exist. Telephone Line
- = Exist. Sanitary Sewer Line
- = Exist. Sanitary Water Line
- = Exist. Storm Sewer Line
- = Proposed Sanitary Sewer Line
- = Proposed Water Line

- The Contractor shall provide materials for temporary blowoff of water lines. Connections to the existing water line(s) shall be made with clean, swabbed pipe and flushed upon completion of tie-ins.
- Requests for short term water interruptions shall be made to the City Water Distribution Division and will be subject to their approval. The Contractor shall give written notice to any property owner, business, and/or tenants that will have water service interrupted at least 5 days in advance. Such notifications should indicate the time and date that the water will be turned off and when the service will be restored. No business, property owner, and/or tenants shall be without water service for more than 8 hours. Proposed tie in locations which will affect water service to property owners shall be performed during non-peak hours.
- The Contractor must schedule the connections to the existing main with the City such that there is a minimum disruption of service. Connections shall be made during periods of low water usage. The Contractor shall submit his proposed schedule for completing work for City approval at least 10 days prior to beginning construction.
- Deflections at pipe joint or couplings shall not exceed the pipe manufactures recommended maximum. Where deflections are greater than the maximum allowed, the Contractor shall utilize fittings.
- Any existing joint exposed during excavation shall be replaced if within four feet of proposed joint.

- Valves 12 inch and larger are to be operated by the City Water Distribution Division, 48 hours of advance notice is required, with the water Dispatch 316-291-8921.
- All wet taps shall be installed by the City of Wichita. The Contractor will reimburse the City for tapping fees. Unless noted on plans.
- The Contractor shall protect from damage and support existing utilities through construction as approved by the utility owner and the Engineer at the contractors expense.
- Contractor shall limit the extent of trench openings overnight and weekends to less than 50 feet.
- Wichita Fire Department inspections may be scheduled by calling 316-268-4441.

**HORIZONTAL CONTROL DATA:**

- HCP No.881, Aluminum Cap (found) in Asphalt at the Southeast Corner of the Southeast Quarter (SE ¼) of Section 15, Township 28 South, Range 1 East, of the 6th P.M. (not shown on this map).  
N.=1656541.650  
E.=1660316.340
- HCP No. 882, 1" Iron Pipe (found) in grass at the Southeast Corner of Reserve "A" Oaklawn Subdivision.  
N.=1656982.237  
E.=1659924.463
- HCP No. 10887, Hub and Tack (set) in grass approx. 76.8' South and 44.3' West of the Southwest corner of Cooper Elementary School Building.  
N.=1656941.362  
E.=1659517.017
- HCP No. 10888, Hub and Tack (set) in grass approx. 1.9' South and 21.6' East of the Southeast corner of Cooper Elementary School Building.  
N.=1657000.018  
E.=1659925.851
- HCP No. 11113, PK Nail (set) in asphalt approx. 10.9' South and 8.7' West of the Northeast corner of the asphalt playground area on the north side of the Cooper Elementary School Building.  
N.=1657328.819  
E.=1659695.679
- HCP No. 11405, Hub and Tack (set) in grass approx. 5.2 South and 41.4' East northeast corner the Cooper Elementary School Building.  
N.=1657234.923  
E.=1659922.705

**VERTICAL CONTROL DATA:**

- TBM #1 (set), Chisled "□" square cut in Top of Curb on West side of Chestnut Drive approx. 45.9' South of the Southeast Corner of the asphalt parking lot on the South side of the Cooper Elementary School Building.  
Elev.=1267.10 (NAV88)
- TBM #2 (set), Chisled "□" square cut in Top of Curb on West side of Juniper Avenue approx. 69.5' North of the Northernmost driveway serving Cooper Elementary School.  
Elev.=1269.45 (NAV88)

NORTHERN PIPE  
C-900  
PRO-TRACE  
WIRE  
MUELLER  
(STORZ) FIRE  
HYD.  
AMERICAN DICL  
PIPE  
MUELLER  
VALVES

meter number  
200426548  
reading  
028532.20  
ERT #  
68952824

# WATER DISTRIBUTION SYSTEM to serve COOPER ELEMENTARY SCHOOL

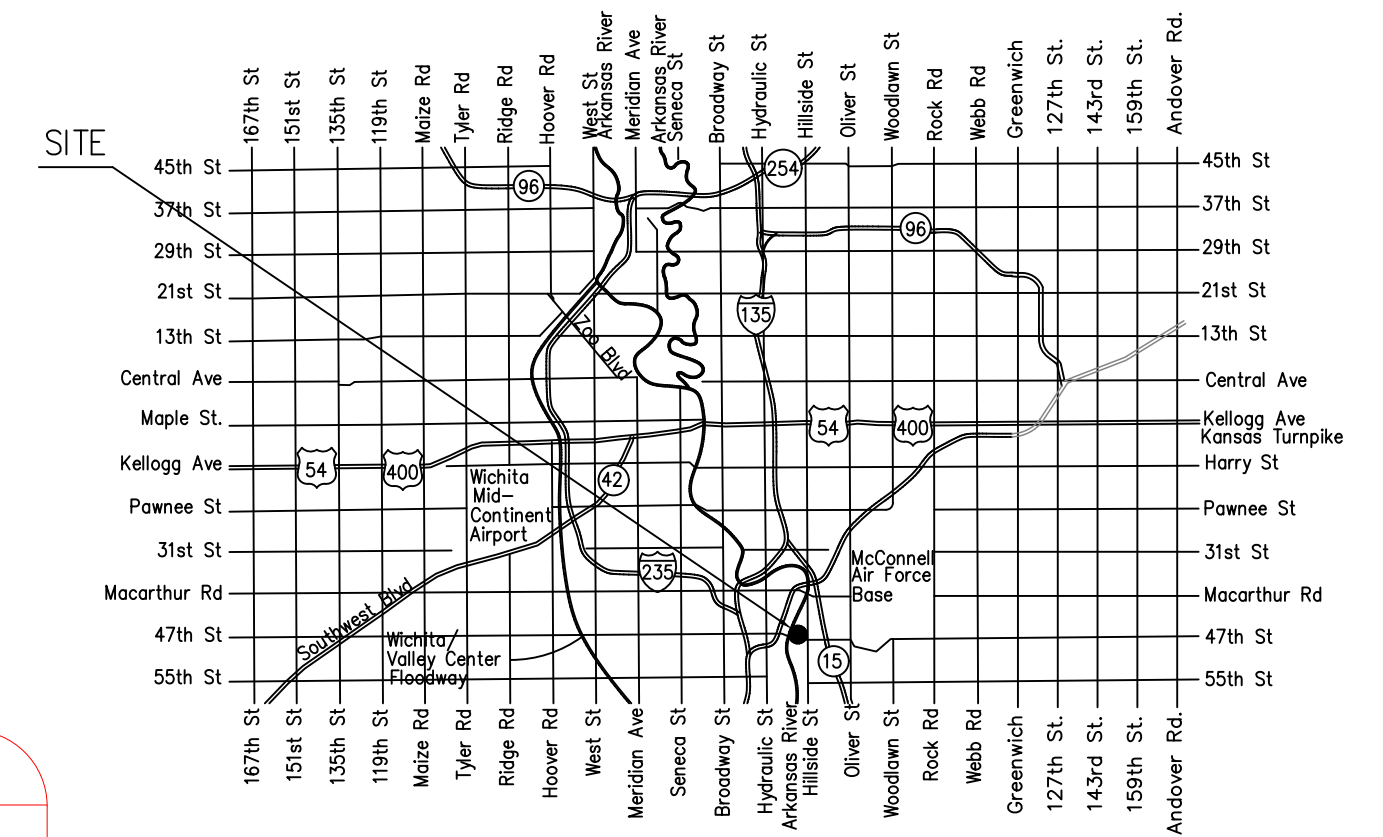
Reserve A, Development Plat for Oaklawn, a Subdivision near Wichita  
(4625 Juniper St., Wichita, Kansas 67216)

## CITY OF WICHITA, KANSAS

Gary Janzen, P.E. City Engineer  
Project Number  
2020-017624 PPW (183021)

**AS BUILTS**

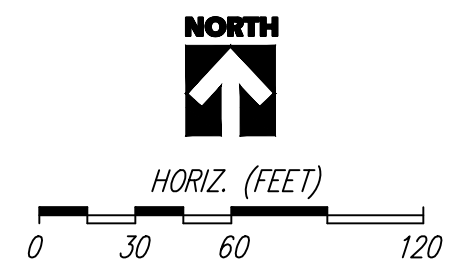
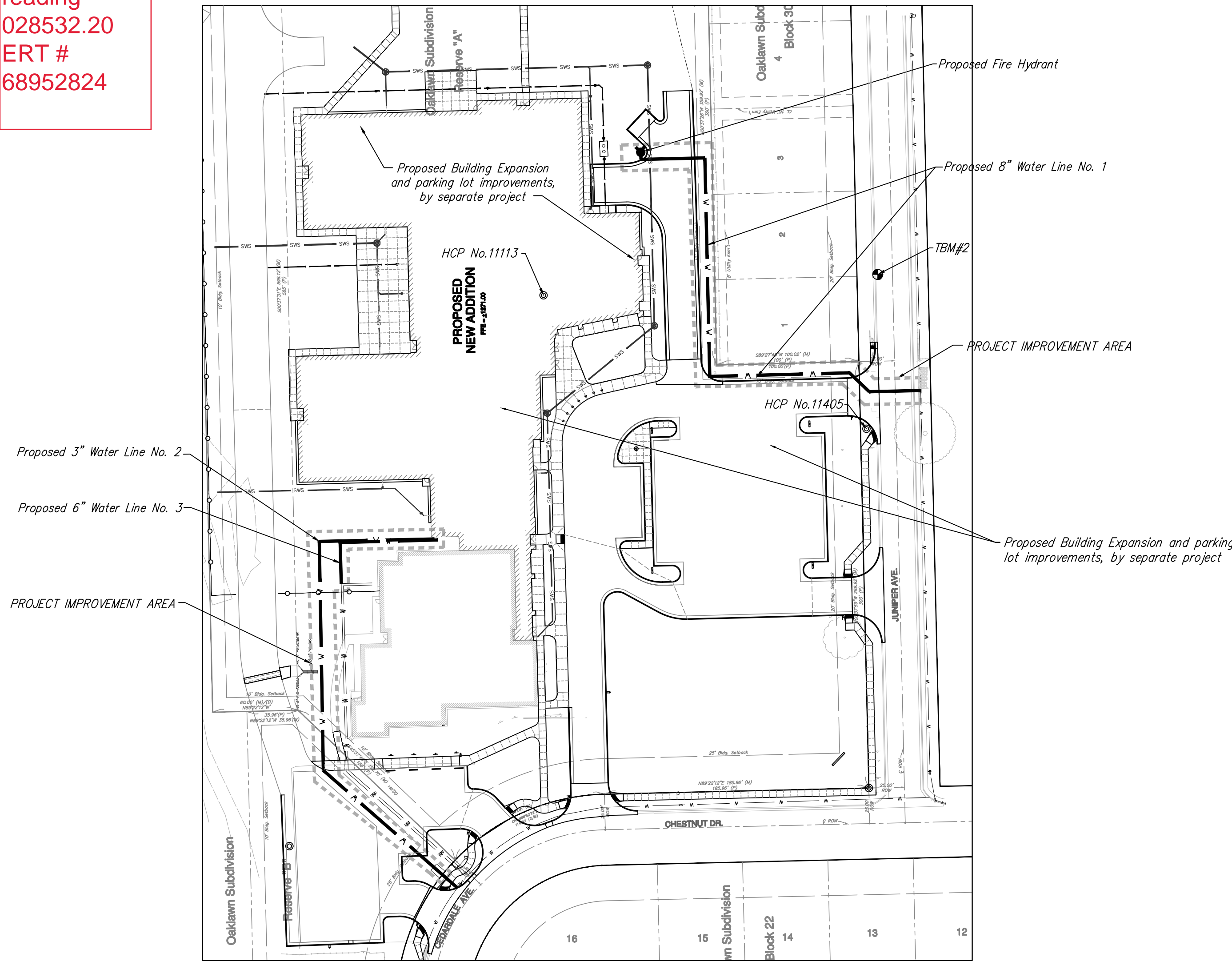
Contractor: <b>McCullough Exc.</b> 9-10-21	Project Inspector: <b>John Schuller</b>
<b>KEMILLER ENGINEERING P.A.</b> 117 E. Lewis, Wichita, KS 67202 (316)264-0242	



**VICINITY MAP**

**SHEET INDEX**

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APPROVED AS NOTED  
BY WICHITA PUBLIC WORKS  
ENGINEERING DIVISION

Engineering	approved by Seth Gotchey on 09/01/20
Utilities	approved by Greg Lolley on 09/01/20

**NOTE TO CONTRACTORS**

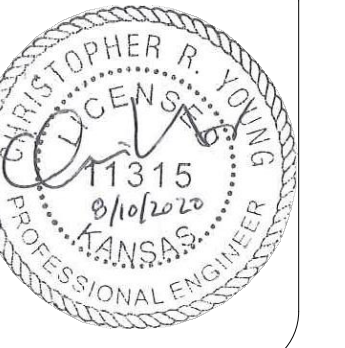
**Public Property:**  
Inspection and testing for the waterline is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection is to be in accordance with the City of Wichita standard construction engineering practices and certified by a Professional 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 City Engineering. All Construction and Materials shall comply with the City or Wichita Specifications and Standards and Special Provision (on file and available in the City Engineer's Office) or on the City's Website.

**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.

An approved copy of these plans signed by City staff are required on-site.

**AUGUST 2020**

**YOUNG & ASSOCIATES, P.A.**  
Professional Civil Engineering Consultants  
100 S. Georgia, Derby, KS 67037  
tele: (316)788-2552 fax: (316)788-4408 email: engineering@yanga.com



**YOUNG & ASSOCIATES, P.A.**  
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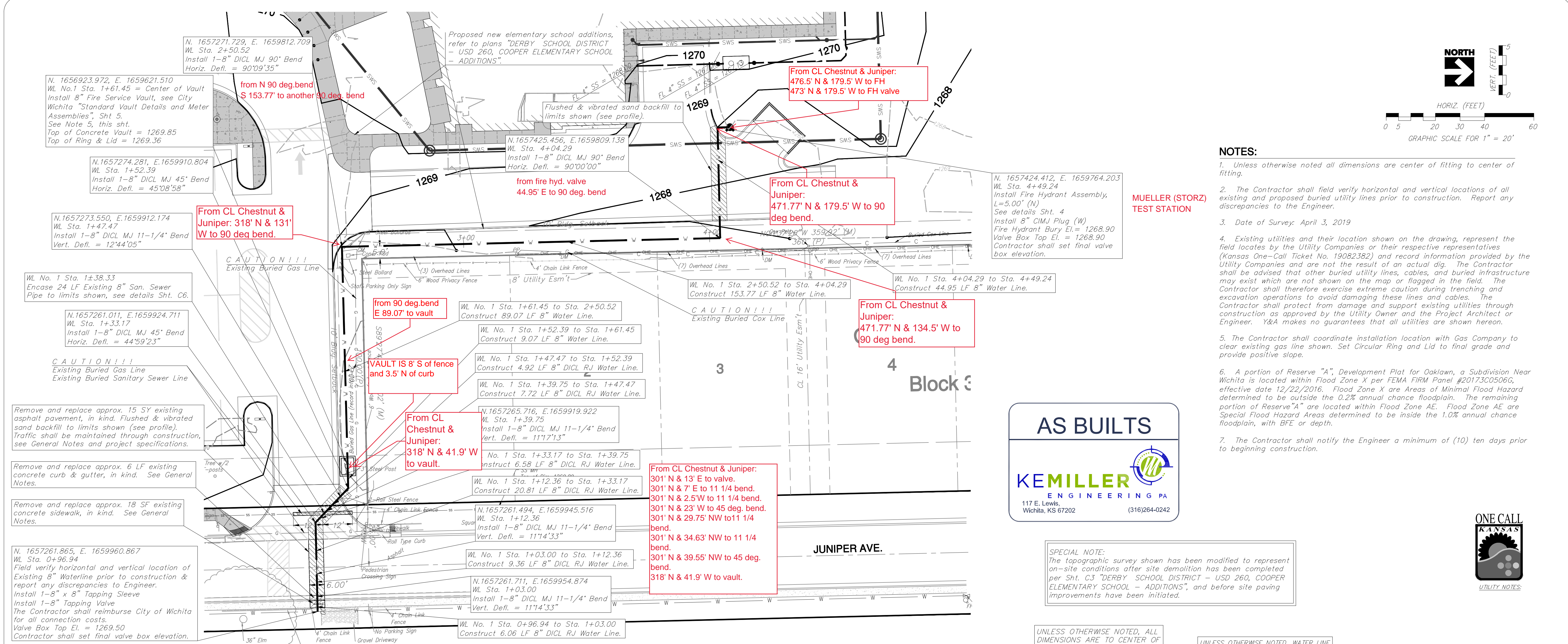
**WL NO. 1 - 8" PUBLIC WATER LINE PLAN & PROFILE**  
COOPER ELEMENTARY SCHOOL

Unified School District No. 260  
4823 Juniper Ave.  
Wichita, Sedgwick County, Kansas

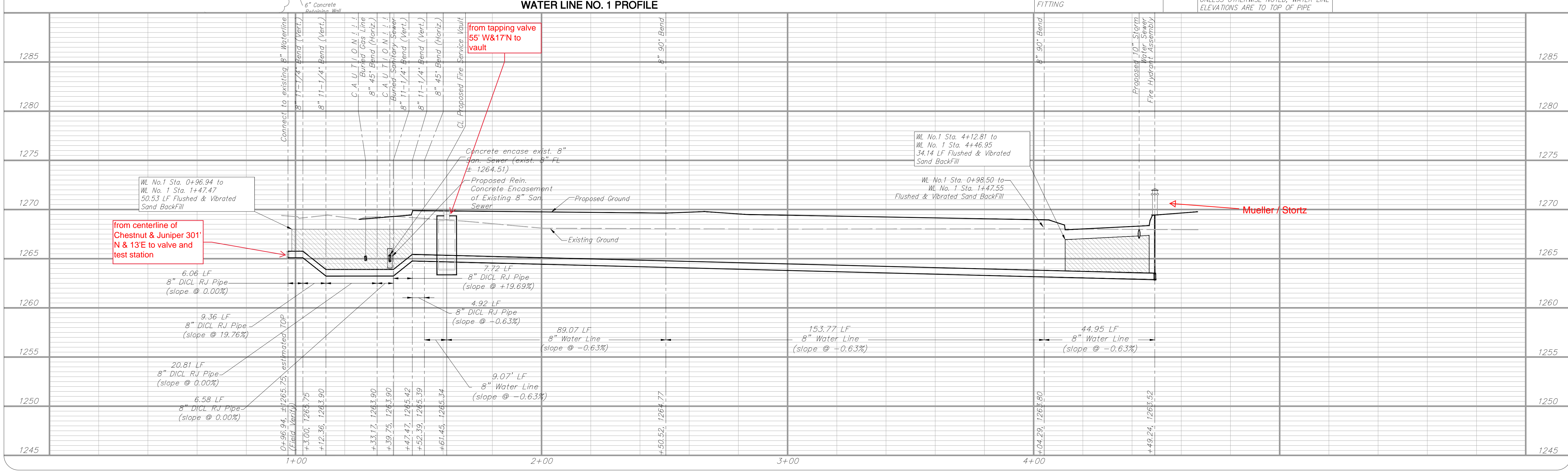
scale: as noted  
Design By: CRY  
Drawn By: KMH  
Checked By: MLD  
P/N: 19-455  
Prints Issued:  
Prelim. Plans, 06-25-2020  
Final Plans, 08-10-2020

Revisions:  
△  
△  
△

Sheet No.  
**2** of 12



- NOTES:**
- Unless otherwise noted all dimensions are center of fitting to center of fitting.
  - The Contractor shall field verify horizontal and vertical locations of all existing and proposed buried utility lines prior to construction. Report any discrepancies to the Engineer.
  - Date of Survey: April 3, 2019
  - Existing utilities and their location shown on the drawing, represent the field locates by the Utility Companies or their respective representatives (Kansas One-Call Ticket No. 19082382) and record information provided by the Utility Companies and are not the result of an actual dig. The Contractor shall be advised that other buried utility lines, cables, and buried infrastructure may exist which are not shown on the map or flagged in the field. The Contractor shall therefore exercise extreme caution during trenching and excavation operations to avoid damaging these lines and cables. The Contractor shall protect from damage and support existing utilities through construction as approved by the Utility Owner and the Project Architect or Engineer. Y&A makes no guarantees that all utilities are shown hereon.
  - The Contractor shall coordinate installation location with Gas Company to clear existing gas line shown. Set Circular Ring and Lid to final grade and provide positive slope.
  - A portion of Reserve "A", Development Plat for Oaklawn, a Subdivision Near Wichita is located within Flood Zone X per FEMA FIRM Panel #20173C0506G, effective date 12/22/2016. Flood Zone X are Areas of Minimal Flood Hazard determined to be outside the 0.2% annual chance floodplain. The remaining portion of Reserve "A" are located within Flood Zone AE. Flood Zone AE are Special Flood Hazard Areas determined to be inside the 1.0% annual chance floodplain, with BFE or depth.
  - The Contractor shall notify the Engineer a minimum of (10) ten days prior to beginning construction.





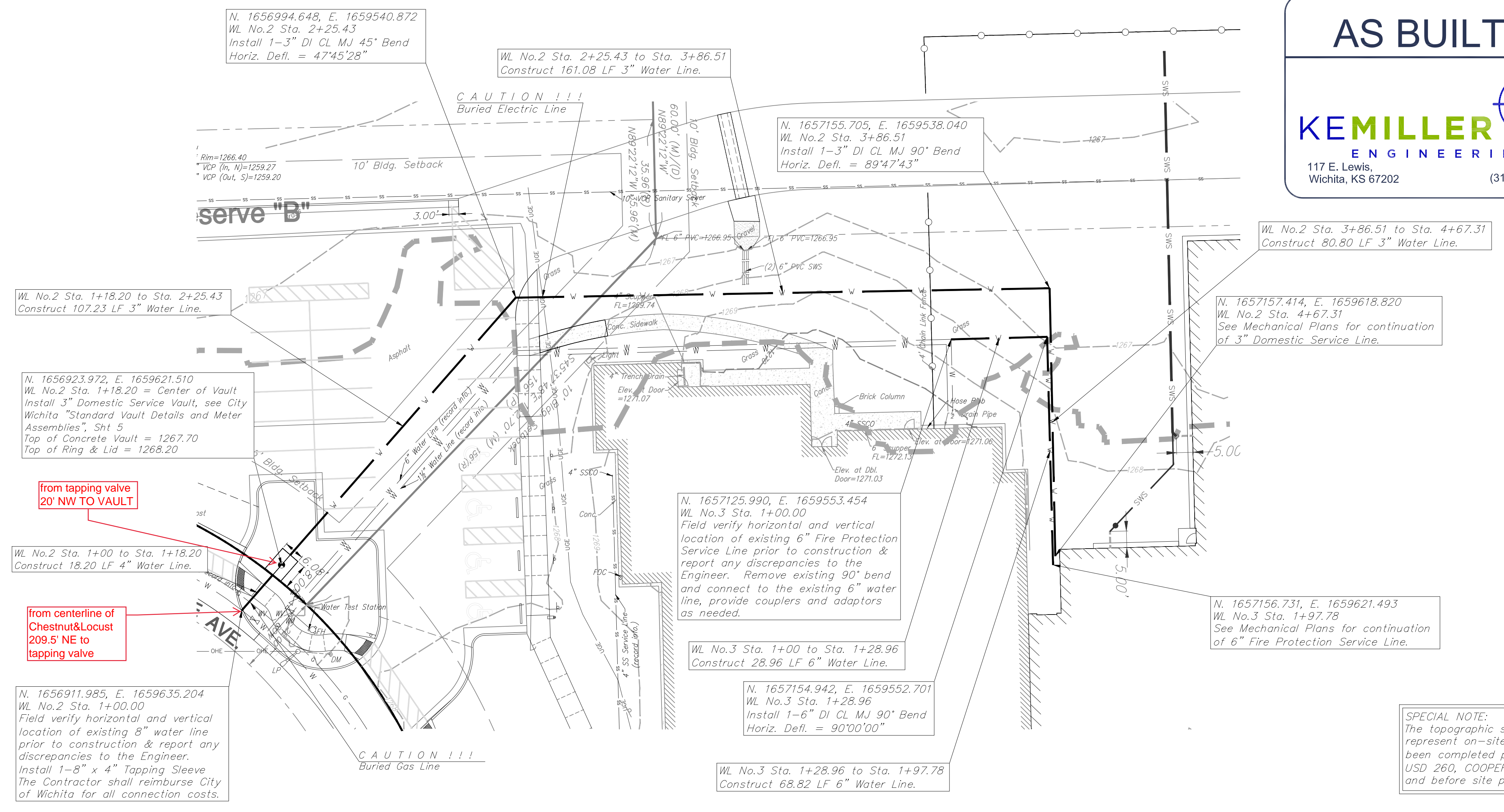
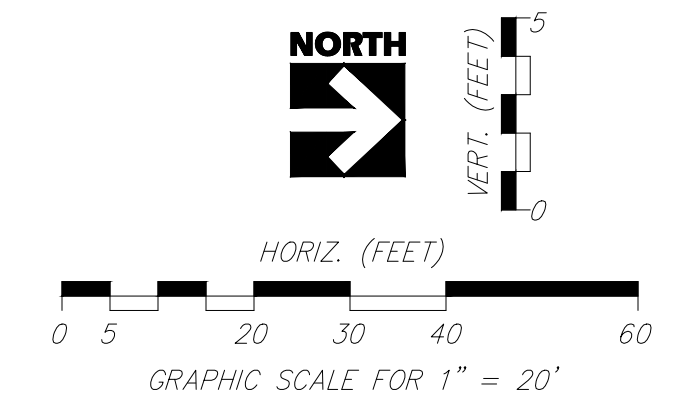
**YOUNG & ASSOCIATES, P.A.**  
Professional Civil Engineering Consultants  
100 S. Georgia, Derby, KS 67037  
tel: (316)788-2552 fax: (316)788-4408 email: engineering@yanga.com

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**AS BUILTS**

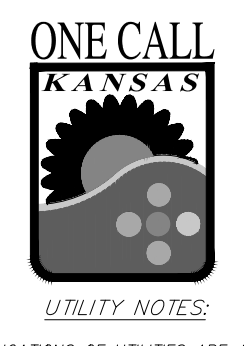
**KEMILLER ENGINEERING PA**

117 E. Lewis,  
Wichita, KS 67202 (316)264-0242



- NOTES:**
1. Unless otherwise noted all dimensions are center of fitting to center of fitting.
  2. The Contractor shall field verify horizontal and vertical locations of all existing and proposed buried utility lines prior to construction. Report any discrepancies to the Engineer.
  3. Date of Survey: April 3, 2019
  4. Existing utilities and their location shown on the drawing, represent the field locates by the Utility Companies or their respective representatives (Kansas One-Call Ticket No. 19082382) and record information provided by the Utility Companies and are not the result of an actual dig. The Contractor shall be advised that other buried utility lines, cables, and buried infrastructure may exist which are not shown on the map or flagged in the field. The Contractor shall therefore exercise extreme caution during trenching and excavation operations to avoid damaging these lines and cables. The Contractor shall protect from damage and support existing utilities through construction as approved by the Utility Owner and the Project Architect or Engineer. Y&A makes no guarantees that all utilities are shown hereon.
  5. Boundary Information was prepared from available quarter section maps and is shown hereon for information only. A boundary survey was not performed by Y&A.
  6. A portion of Reserve "A", Development Plot for Oaklawn, a Subdivision Near Wichita is located within Flood Zone X per FEMA FIRM Panel #20173C0506G, effective date 12/22/2016. Flood Zone X are Areas of Minimal Flood Hazard determined to be outside the 0.2% annual chance floodplain. The remaining portion of Reserve "A" are located within Flood Zone AE. Flood Zone AE are Special Flood Hazard Areas determined to be inside the 1.0% annual chance floodplain, with BFE or depth.
  7. The Contractor shall notify the Engineer a minimum of (10) ten days prior to beginning construction.

**SPECIAL NOTE:**  
The topographic survey shown has been modified to represent on-site conditions after site demolition has been completed per Sht. C3 "DERBY SCHOOL DISTRICT - USD 260, COOPER ELEMENTARY SCHOOL - ADDITIONS", and before site paving improvements have been initiated.

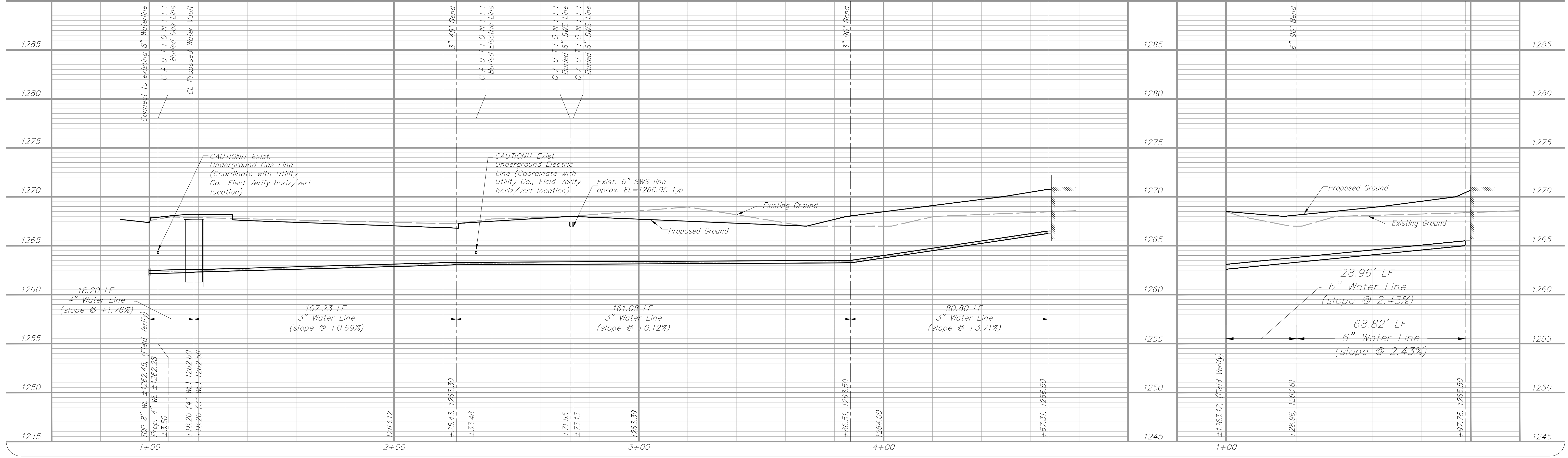


**UTILITY NOTES:**  
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES, CALL 1-800-344-7233, KANSAS OR 1-800-344-7483, MISSOURI.

**WATER LINE NO. 2 PROFILE**

UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TO CENTER OF FITTING  
UNLESS OTHERWISE NOTED, WATER LINE ELEVATIONS ARE TO TOP OF PIPE

**WATER LINE NO. 3 PROFILE**

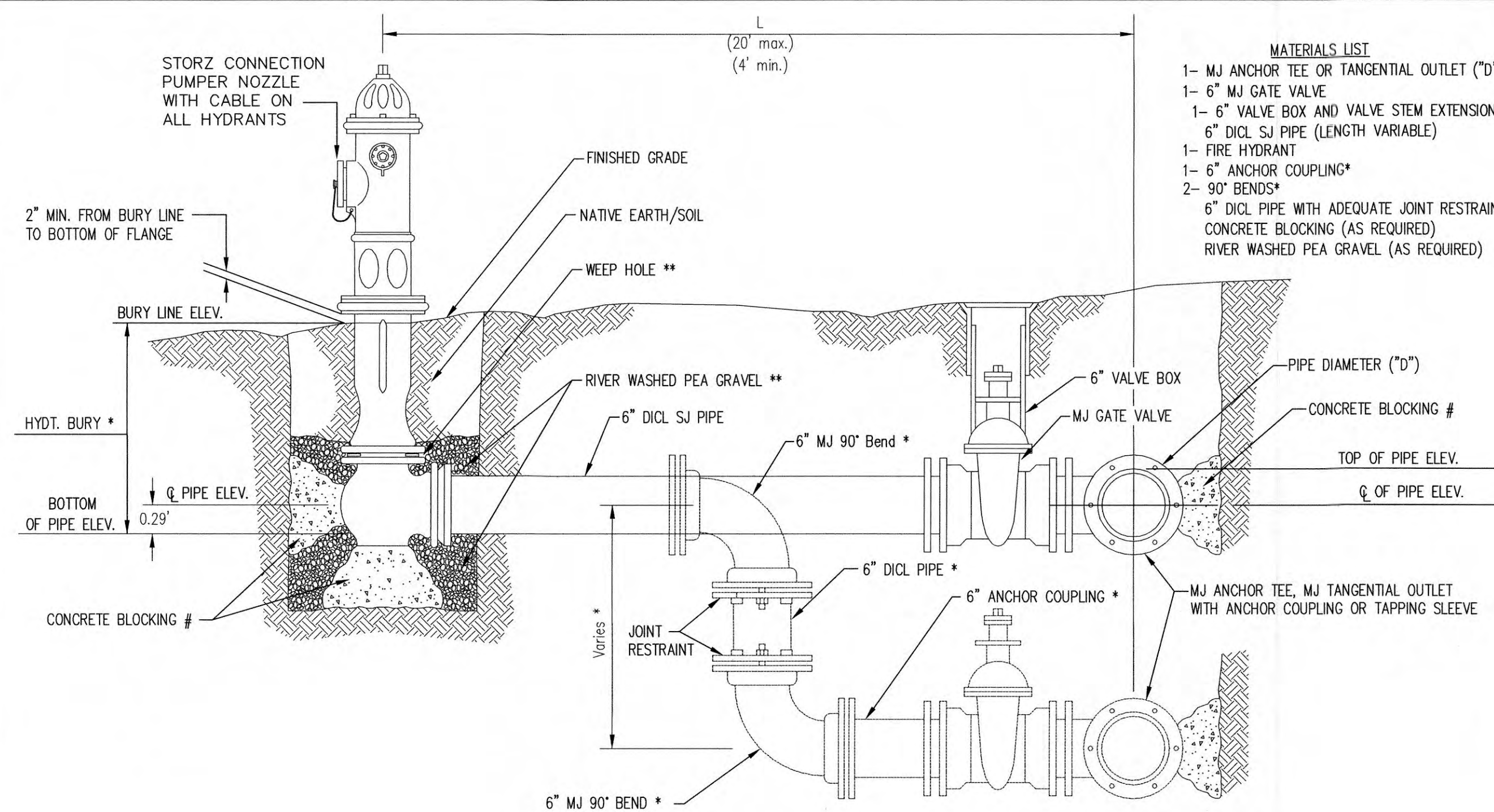


**WL NO. 2 - 3" DOMESTIC WATER SERVICE LINE PLAN & PROFILE**  
**WL NO. 3 - 6" FIRE PROTECTION SERVICE LINE PLAN & PROFILE**  
COOPER ELEMENTARY SCHOOL  
Unified School District No. 260  
4625 Juniper Ave.  
Wichita, Sedgewick County, Kansas

scale: as noted  
Design By: CRY  
Drawn By: KMH  
Checked By: MLD  
P/N: 19-455  
Prints Issued:  
Prelim. Plans, 06-25-2020  
Final Plans, 08-10-2020

Revisions:  
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Sheet No.  
**3** of 12



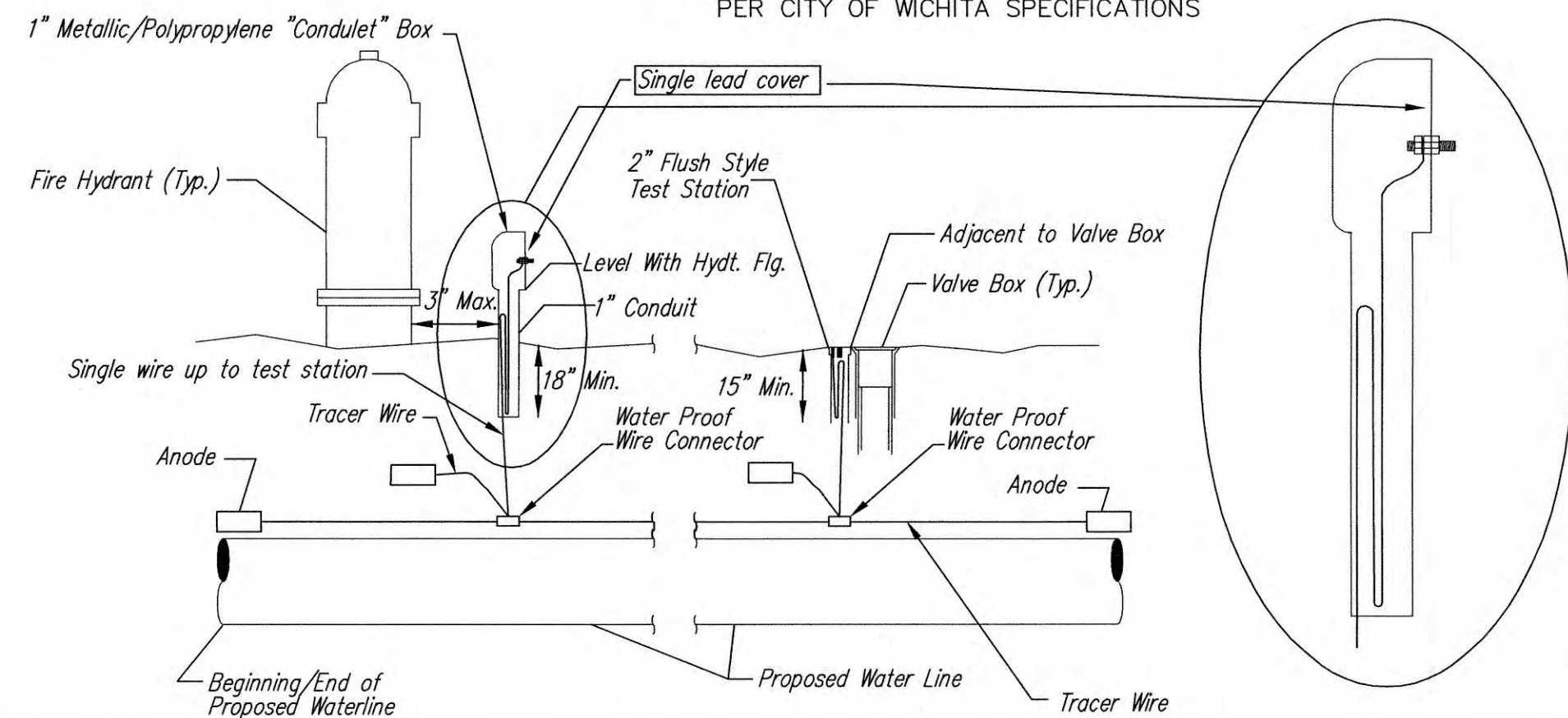
- MATERIALS LIST**
- 1- MJ ANCHOR TEE OR TANGENTIAL OUTLET ("D"x 6")
  - 1- 6" MJ GATE VALVE
  - 1- 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED \*
  - 6" DI CL SJ PIPE (LENGTH VARIABLE)
  - 1- FIRE HYDRANT
  - 1- 6" ANCHOR COUPLING\*
  - 2- 90° BENDS\*
  - 6" DI CL PIPE WITH ADEQUATE JOINT RESTRAINT \*
  - CONCRETE BLOCKING (AS REQUIRED)
  - RIVER WASHED PEA GRAVEL (AS REQUIRED)

\* IF THE REQUIRED HYDRANT BURY IS IN EXCESS OF 5', BUT LESS THAN 7', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY. IF THE REQUIRED HYDRANT BURY IS GREATER THAN 7', CONTRACTOR SHALL USE 5' HYDRANT BURY, 2-MJ 90° BENDS, 6" ANCHOR COUPLING AND 6" DI CL PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEGALUGS, OR SIMILAR RESTRAINT BETWEEN 90° BENDS TO SECURE ALL FITTINGS DURING TESTING AND OPERATION. THE CONTRACTOR SHALL PROVIDE A VALVE STEM EXTENSION PER DETAIL THIS SHEET.

\*\* CAUTION: WEEP HOLES TO BE KEPT CLEAR DURING CONSTRUCTION AND BACKFILL. CONCRETE FOR THRUST BLOCKING SHALL NOT OBSTRUCT WEEP HOLES. PLACE 1 CUBIC FOOT OF RIVER WASHED PEA GRAVEL AROUND EACH WEEP HOLE.

# CONCRETE THRUST BLOCKING SHALL BE KEPT CLEAR OF BOLTS, NUTS, AND MJ ACCESSORIES.

**FIRE HYDRANT ASSEMBLY**  
PER CITY OF WICHITA SPECIFICATIONS



**TRACER WIRE**

Conductive type pipe locator/tracer wire shall be install 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. A waterproof connector shall be used at splice locations. A complete list of approved tracer wire and waterproof connectors can be found on the City of Wichita's website at [www.wichita.gov](http://www.wichita.gov).

**WIRE**

The tracer wire shall be Blue No. 12 AWG CCS with 45 mil HDPE insulation. 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. Wire connectors shall be installed per manufacturer recommendations. 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 application shall be a 1" "condulet" style station as manufactured by AGRA Industries with a removable solid cover having a single lead extending from the face or approved equal. The "conduit" style test station shall be attached to a 1" 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. The test station for valve applications shall be a 2" flush style test station with wire connector on lid. Model # T2PH7BILP Handley Industries or CD14\*IP SnakePit as manufactured by Copperhead Industries or approved equal. 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 install to allow 12" of wire within the test station. The location of all test stations shall be recorded, and shown in the as-built drawings. Flush style test stations shall not be installed in pavement or sidewalk unless approved by the Engineer. Contractor shall extend tracer wire & move flush mount test station to nearest location out of pavement or sidewalk.

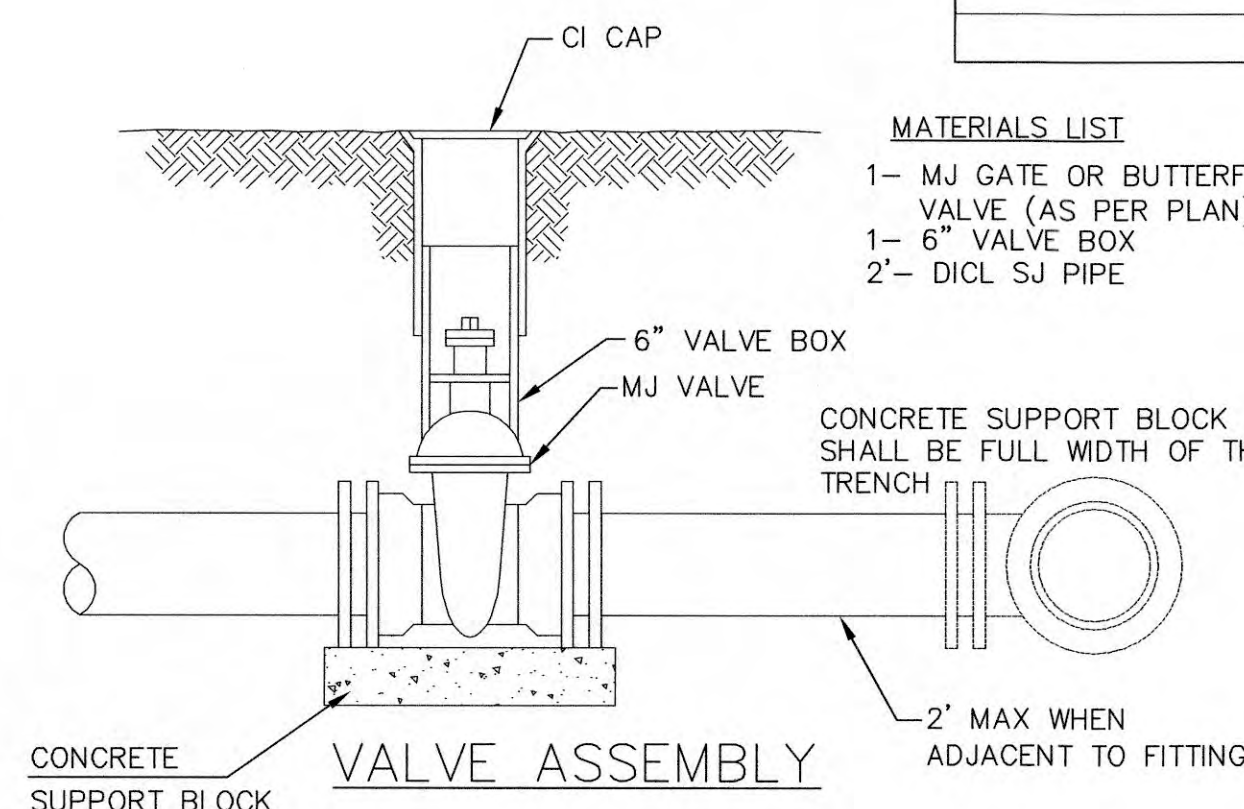
**ANODES**

The anodes shall be 3 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 12 AWG CCS which shall be extended to the test station.

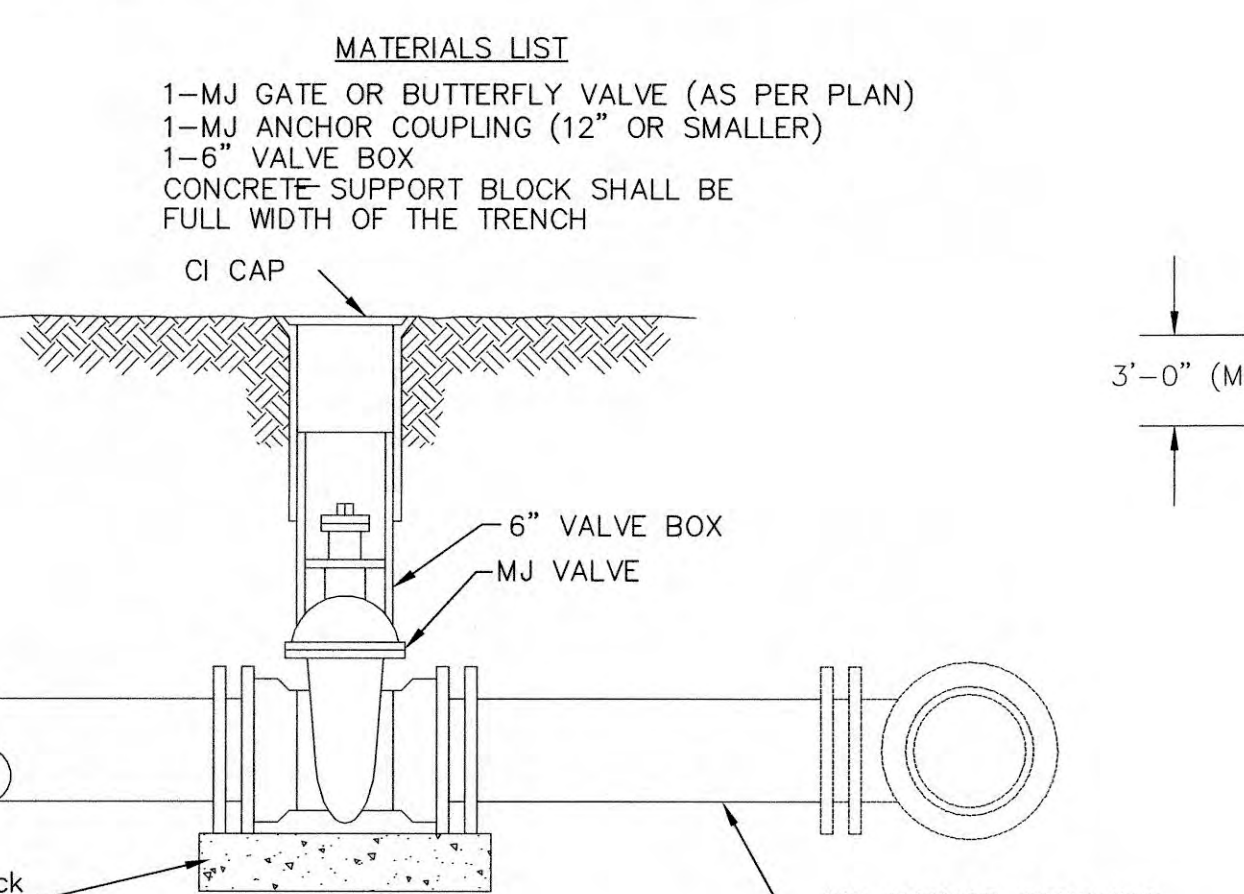
**TRACER WIRE DETAIL**

COST IS SUBSIDIARY TO PIPE INSTALLATION

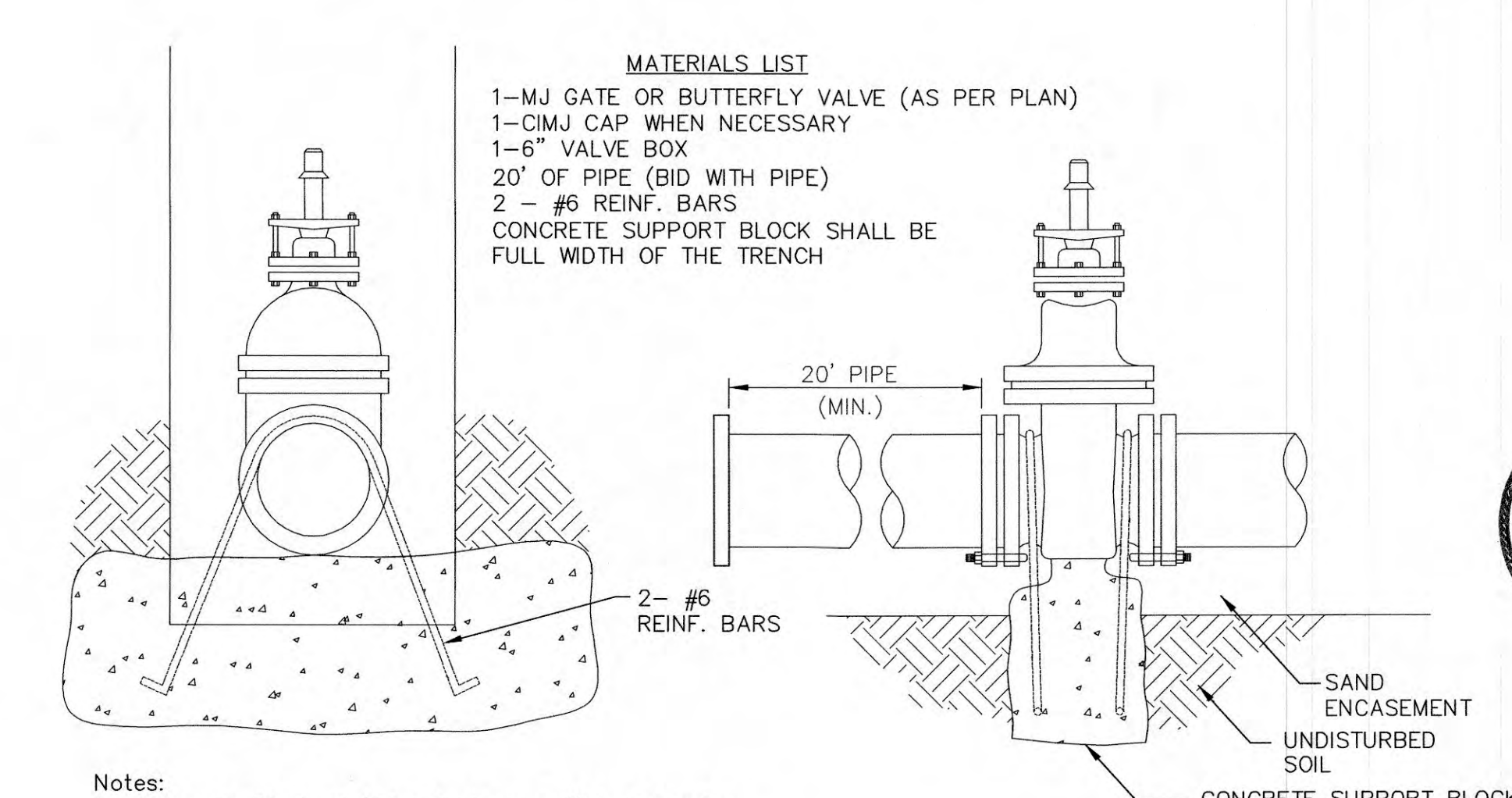
FIRE HYDRANTS REQUIRED				
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*
8" WL, 4+49.29	1268.90	1263.52	6.60	N/A



- MATERIALS LIST**
- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
  - 1- 6" VALVE BOX
  - 2- DI CL SJ PIPE

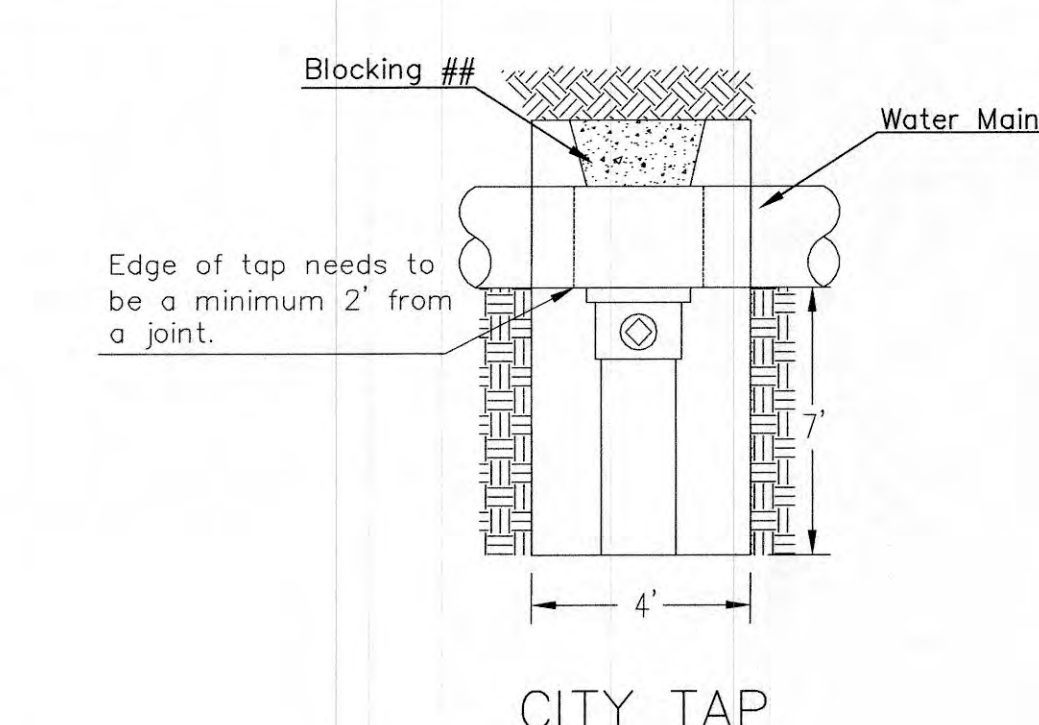


**ANCHORED VALVE ASSEMBLY, SPECIAL**

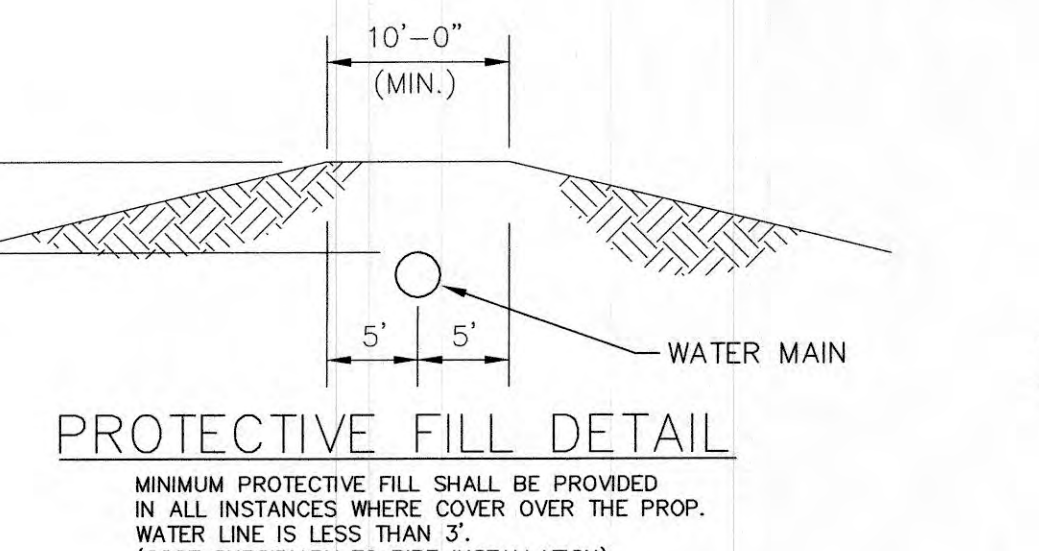


- Notes:
- Concrete Block at Valve to have sufficient bearing in undisturbed soil to prevent thrust movement as shown in table at right. Field Engineer to determine thrust loading of undisturbed soil and final size of thrust block.
  - The thrust block shall be constructed such that bolts, nuts, and other MJ accessories are kept clear of concrete.
  - All valves at dead ends and at other locations as called out on the plans shall be blocked as shown here.

VALVE	THRUST AT 150 #/sq. in.
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.

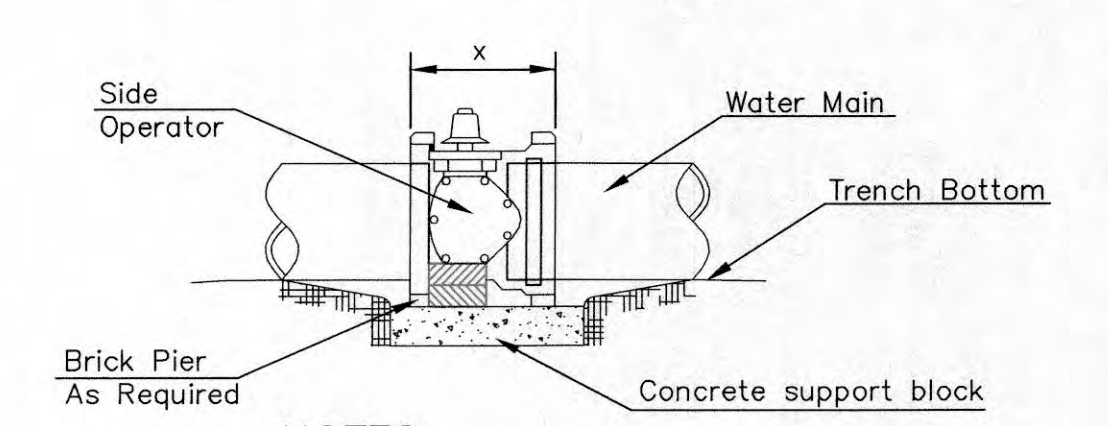


## When the City of Wichita makes tap, blocking is to be done by Contractor



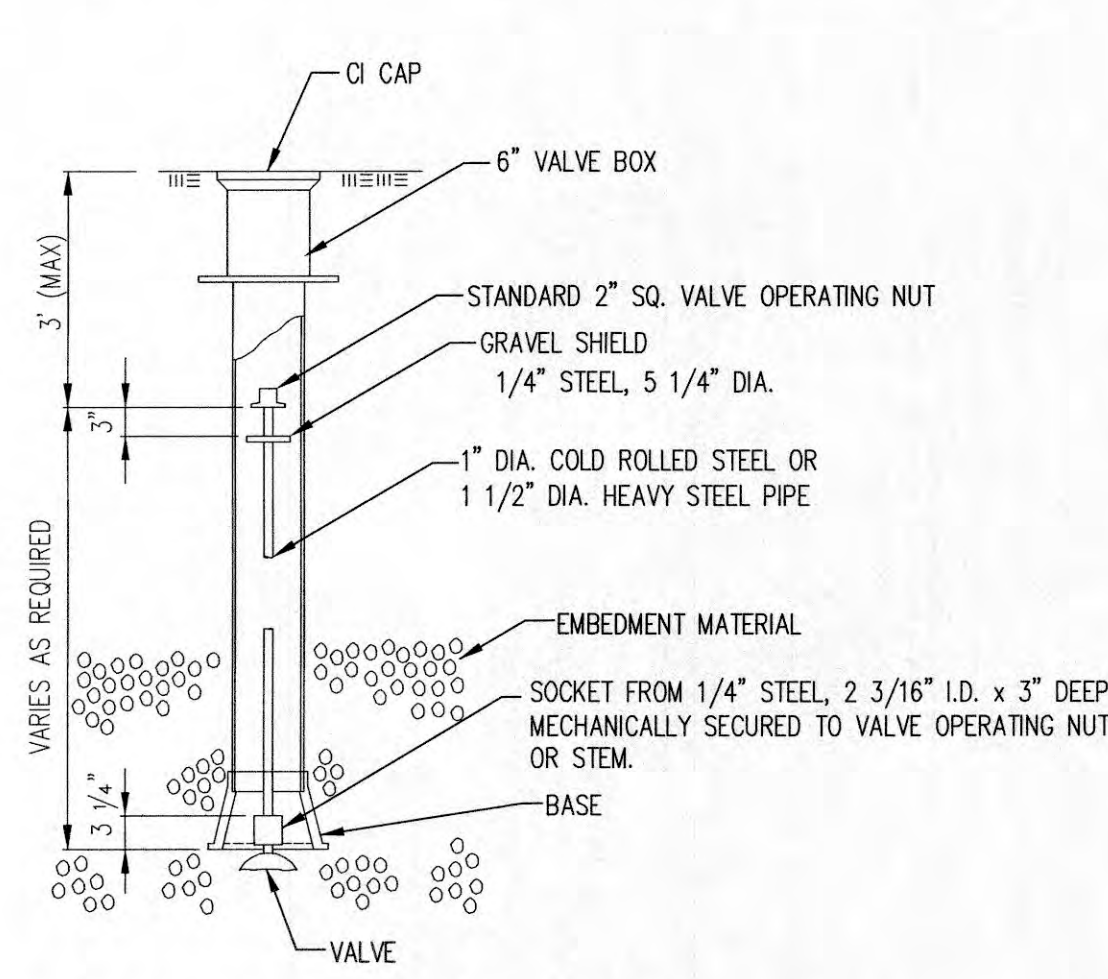
**PROTECTIVE FILL DETAIL**

MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN 3". (COST SUBSIDIARY TO PIPE INSTALLATION)



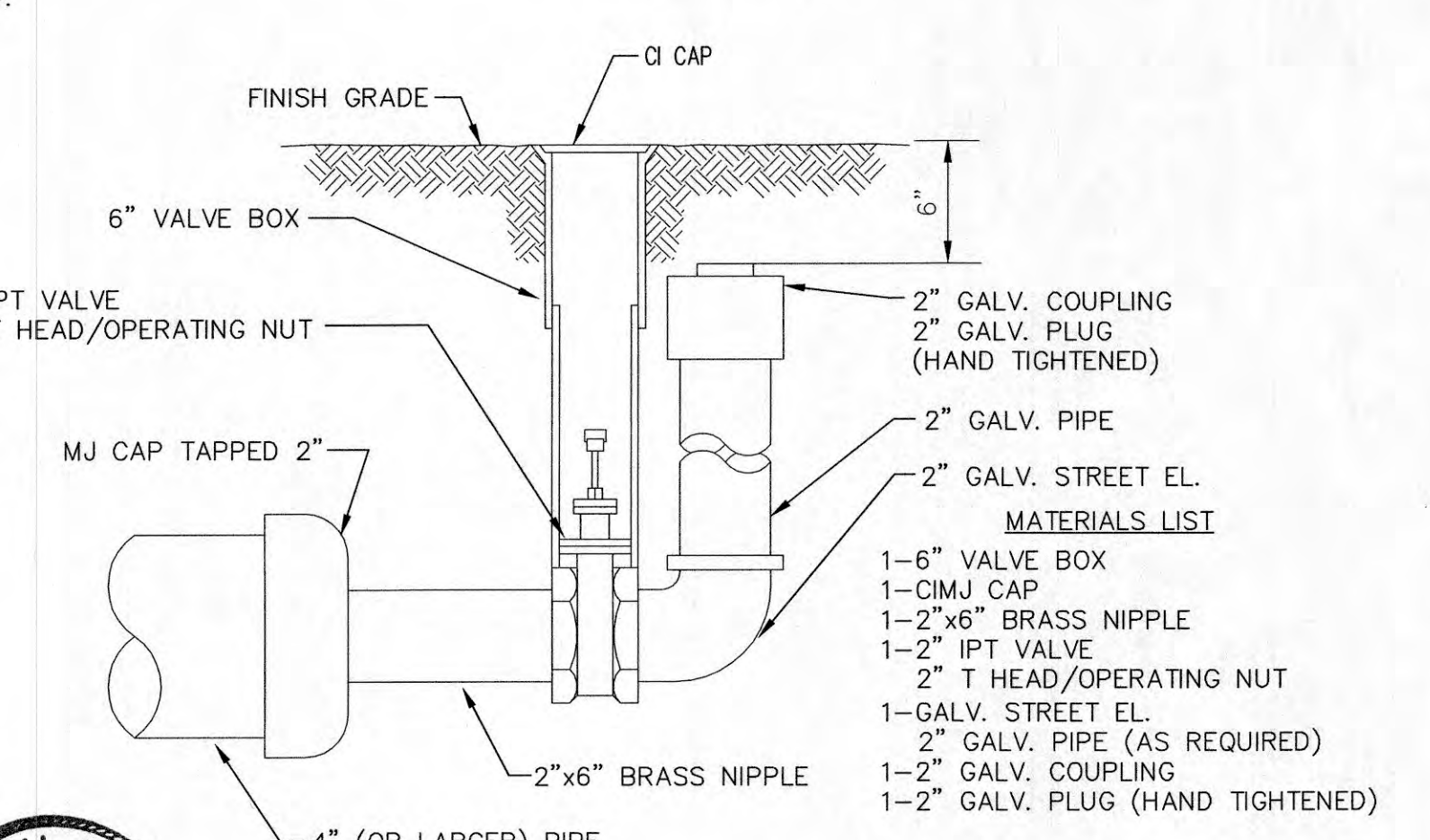
- NOTES**
- This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
  - 6" Valve Box and Cover required per City of Wichita Std. Specifications.
  - Conc. Support Block to be full width of trench.

**CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION**



**VALVE STEM EXTENSION DETAIL**

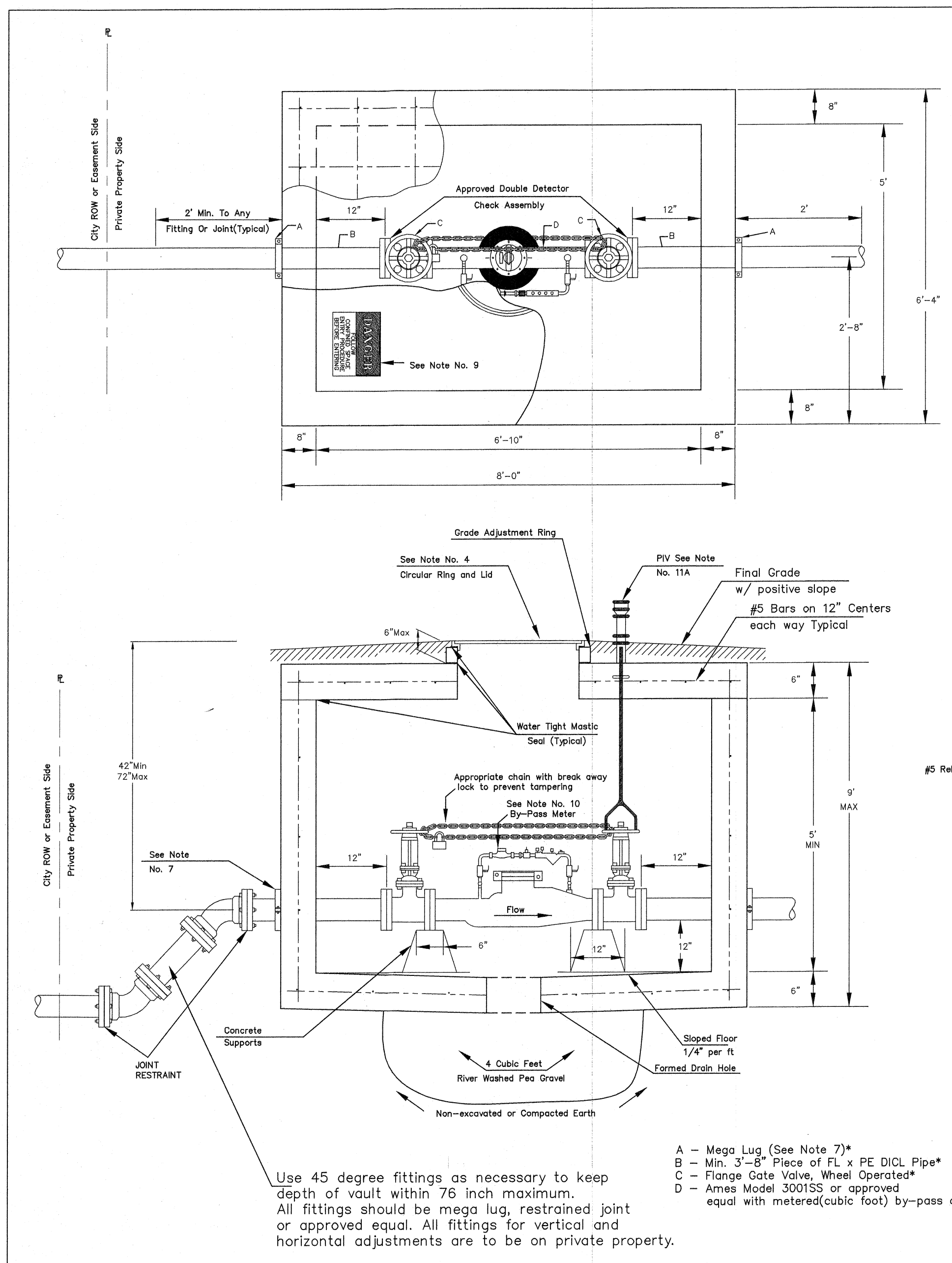
NOTE: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.



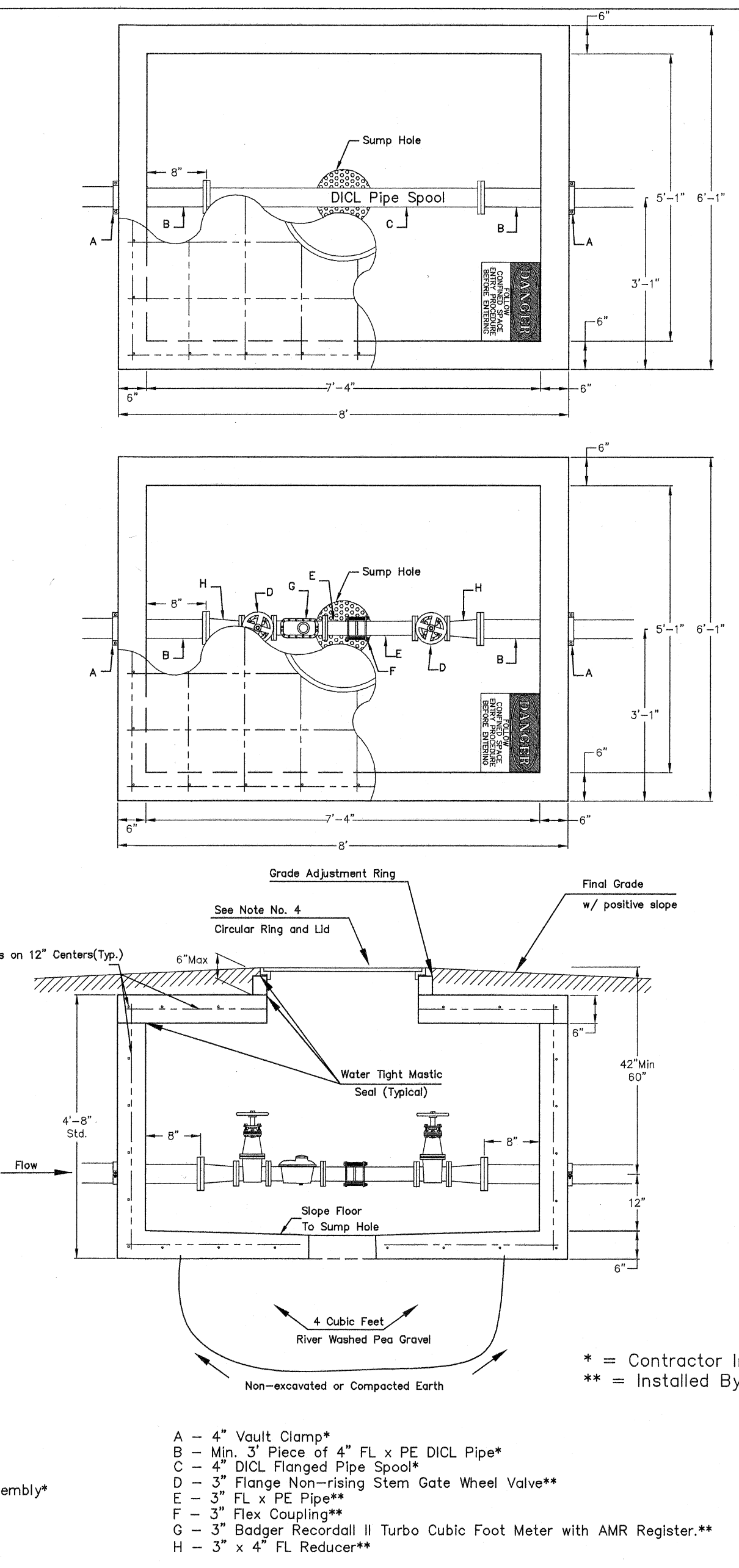
**2" BLOWOFF ASSEMBLY**



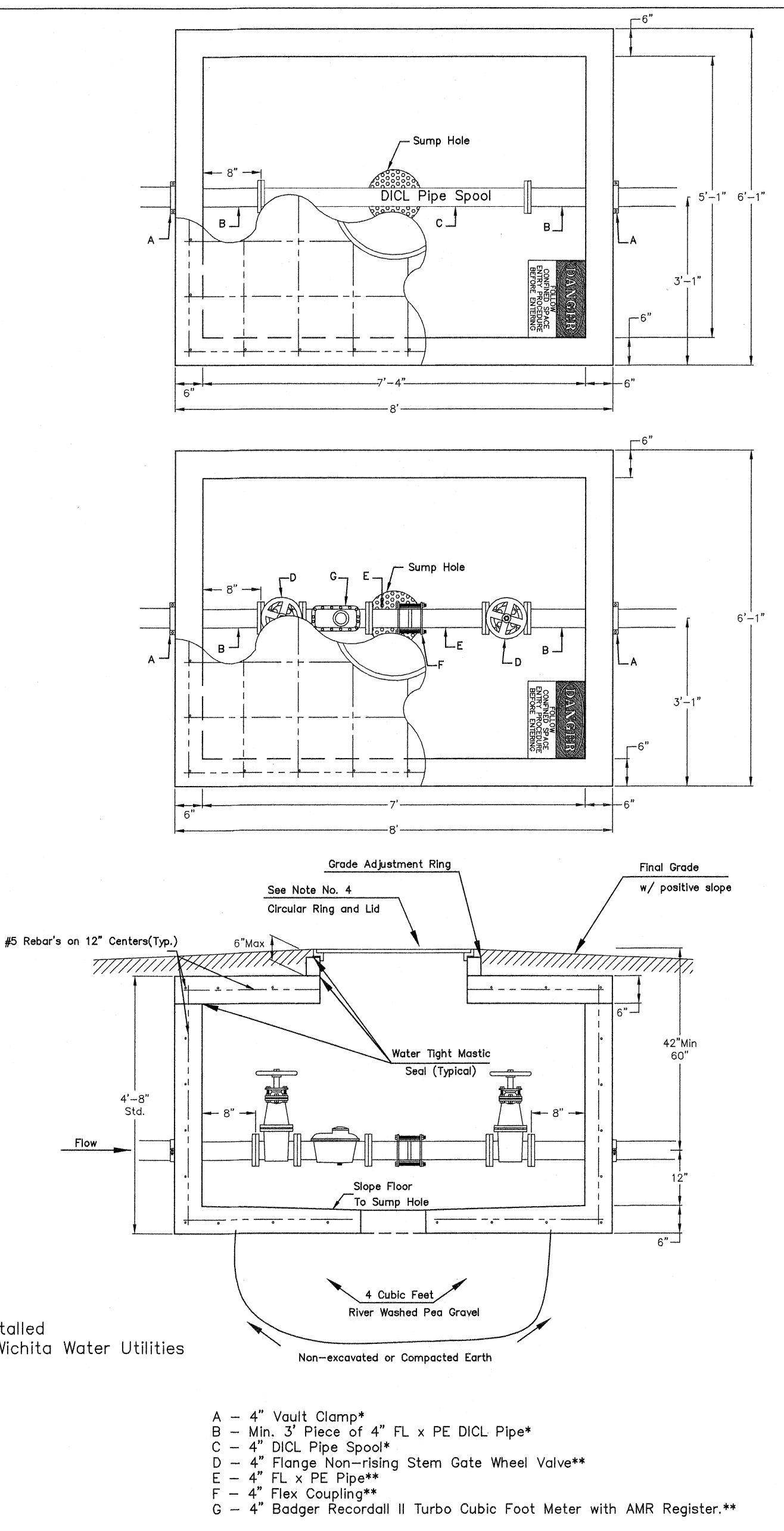
STANDARD WATER ASSEMBLY DETAIL		
CITY ENGINEER		
<b>GARY JANZEN, P.E.</b>		
PROJECT NUMBER	OCA NUMBER	DATE
CITY ENGINEER'S OFFICE		SHEET
CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		4 of 12



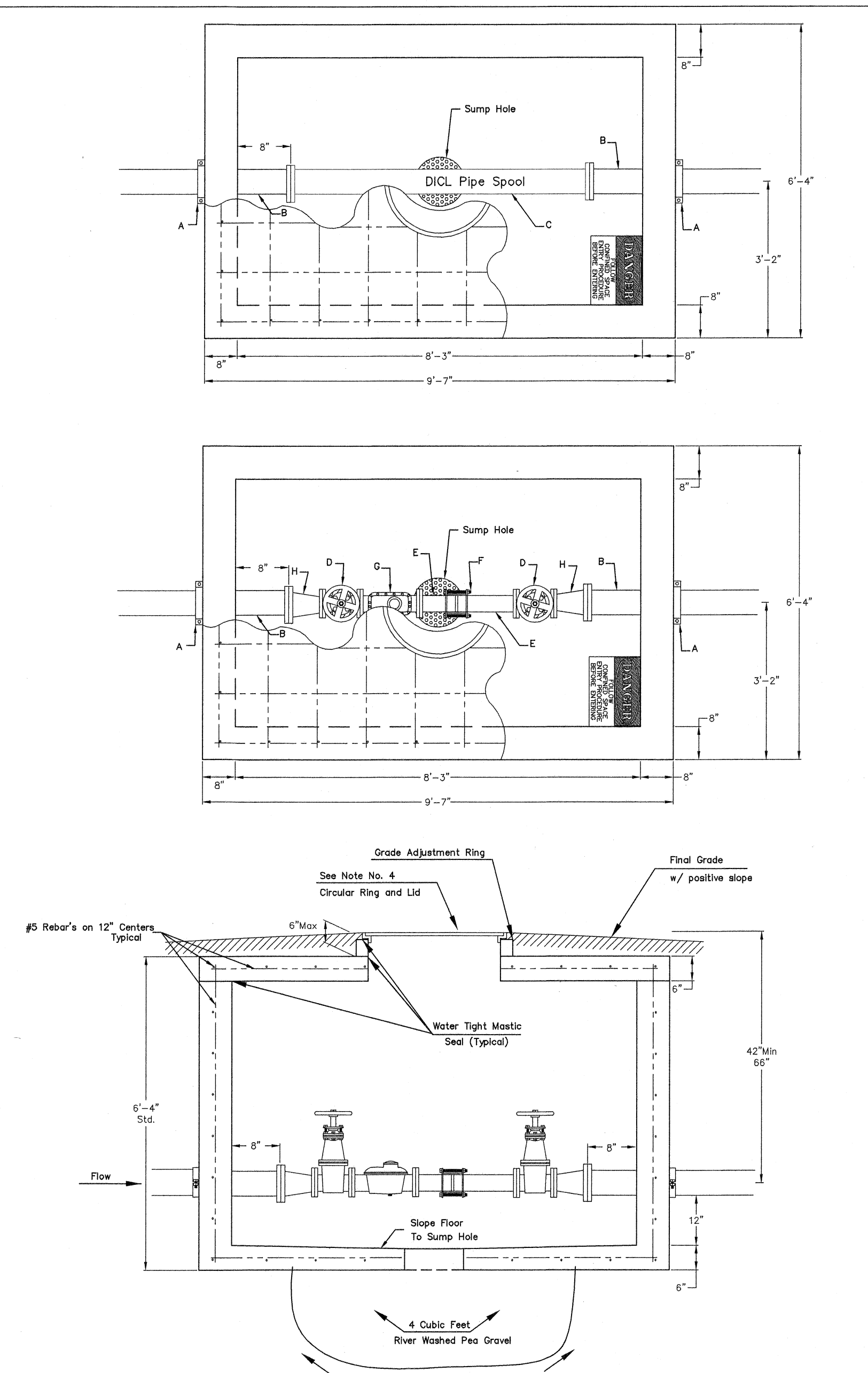
**4" thru 8" Fire Service**



**3" Domestic Service**



**4" Domestic Service**

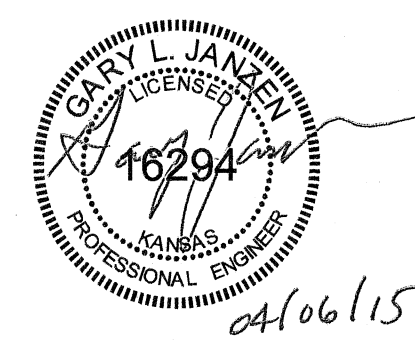


**6" Domestic Service with 4" meter**

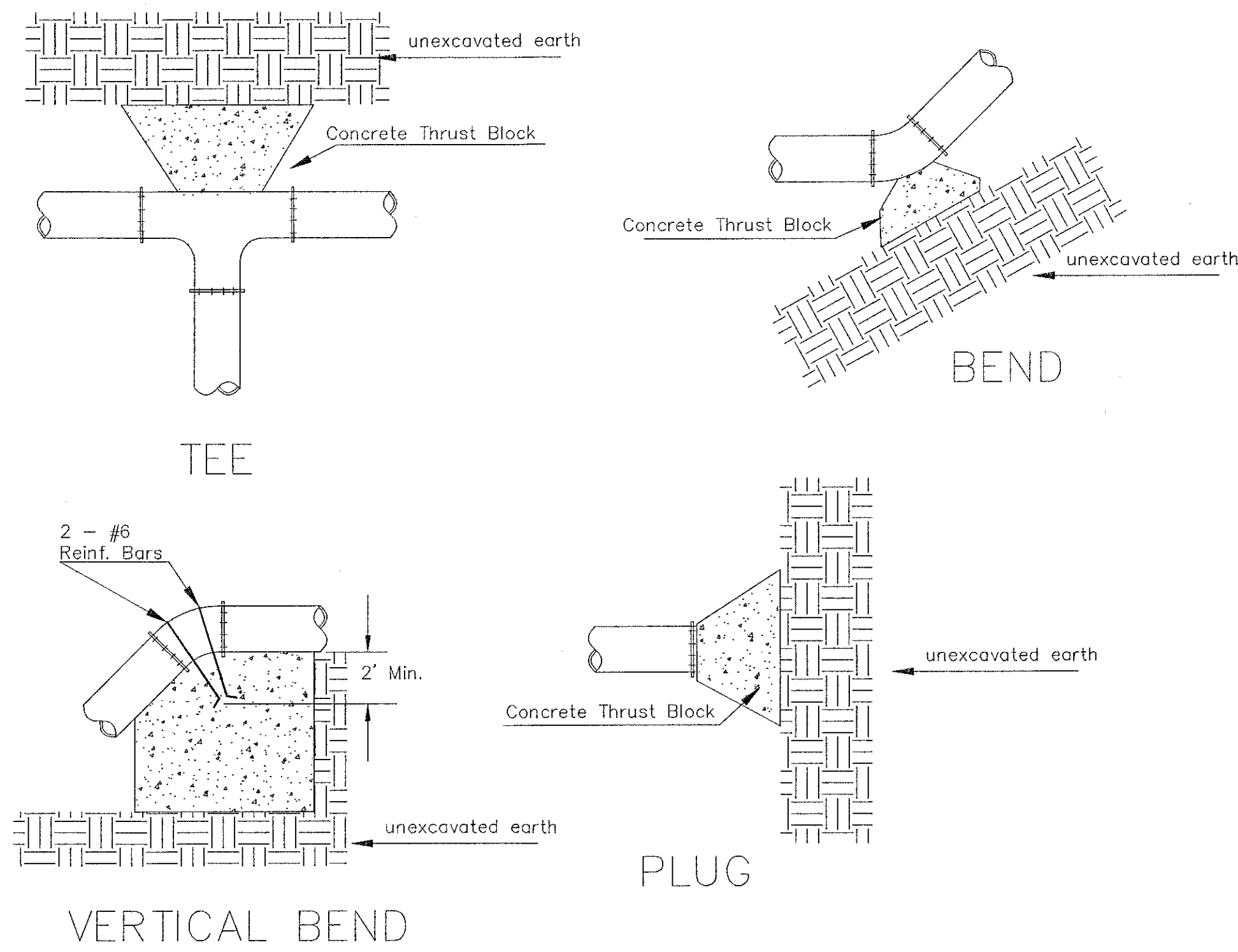
- Notes For All Services - 3" thru 12":
- When the standard vault dimensions are not applicable, such as when additional space is required for special pipe, fittings, additional meters, etc. the consultant design engineering shall design a vault with the required dimensions for Public Works and Utilities approval.
  - The vault shall be poured concrete, cement blocks (voids to be completely filled with 2500 P.S.I. concrete), or approved precast structure. The intent of these details shall not be limited by drawings or standards of precast structures.
  - Vault location to be determined by Public Works and Utilities prior to construction and approved by Departments'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 unless vault is H2O traffic rated, 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" Public Works and Utilities pattern meter reading lid and ring shall be located directly above water meter register. All joints of concrete to concrete or metal to concrete in the construction of the vault shall have a 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 the as-builts submitted by the inspecting engineer. Such fittings shall be a minimum of 2' from the exterior wall of vault.

- For all domestic services larger than 3" the contractor shall provide an outlet flange connection as shown 8" 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 and joint no less than 2' from the exterior wall of vault. Flanges of inlet and outlet pipe 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 ASTM A 536-80, heat treated to a minimum hardness of 370 BHN and have a working pressure of a least 250 P.S.I. For a services smaller than 4" the contractor shall install an approved vault clamp on the exterior walls of the vault.
- All valves, meters, assemblies and fitting 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 consideration, 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 a electronic read register compatible with the current City of Wichita meter reading system. All detector meters shall be on 5/8 cubic foot Badger meter with ADE register and 25' long Itron cord and plug or approved equal. Gallon meters shall not be accepted.

- NOTE:  
Domestic Services larger than 6" shall be custom designed by Consultant Engineer.
- Additional Notes For Fire Services
    - A post indicator valve (PIV) is an option for the outlet valve and may be requested by the owner. The PIV is not require 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 a 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.

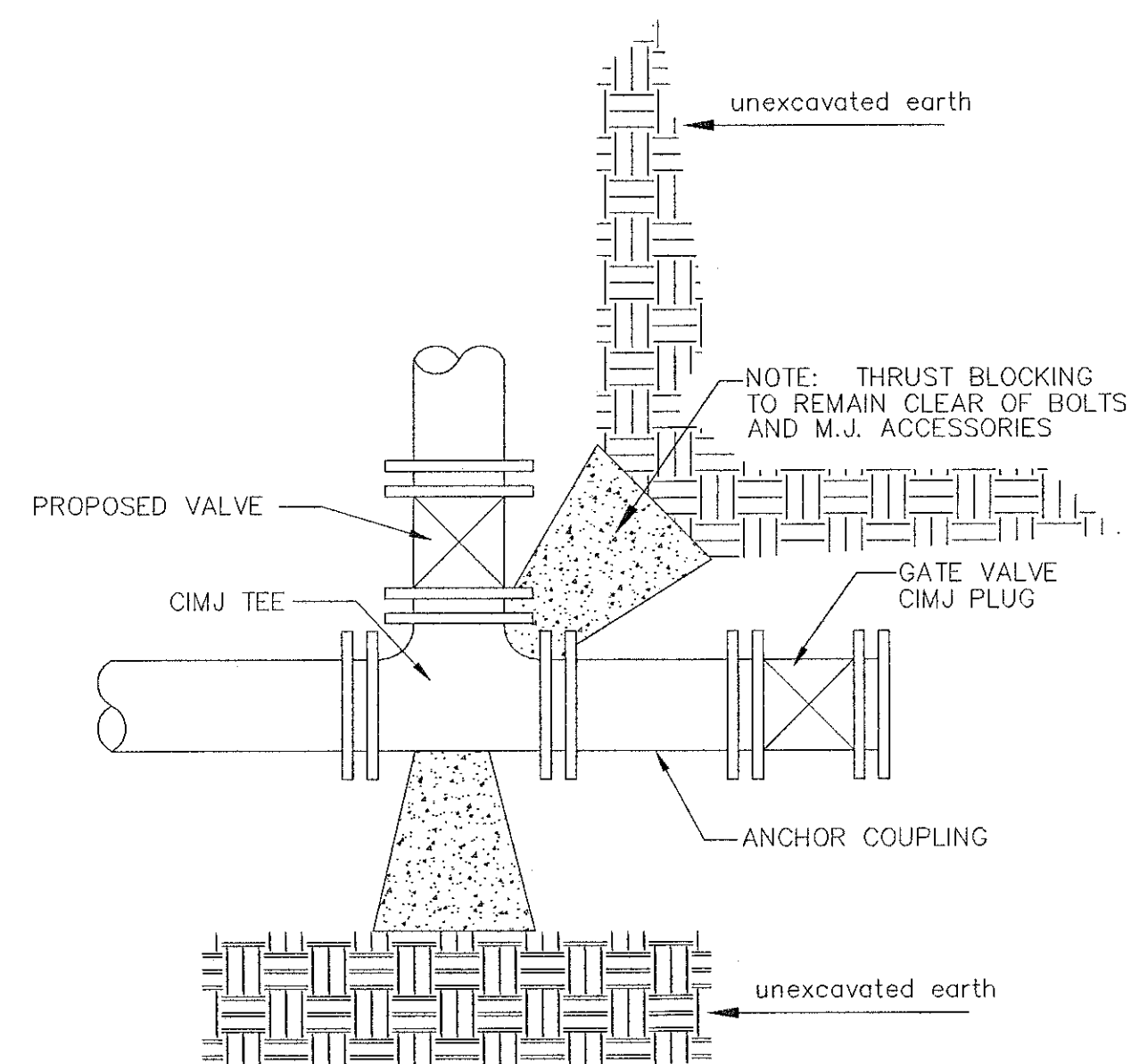


<b>STANDARD VAULT DETAILS AND METER ASSEMBLIES</b>		
CITY ENGINEER <b>GARY JANZEN, P.E.</b>		
PROJECT NUMBER	OCA NUMBER	DATE
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET <b>5 of 12</b>



PIPE SIZE	THRUST AT FITTINGS IN TONS - AT 150#/IN <sup>2</sup> 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

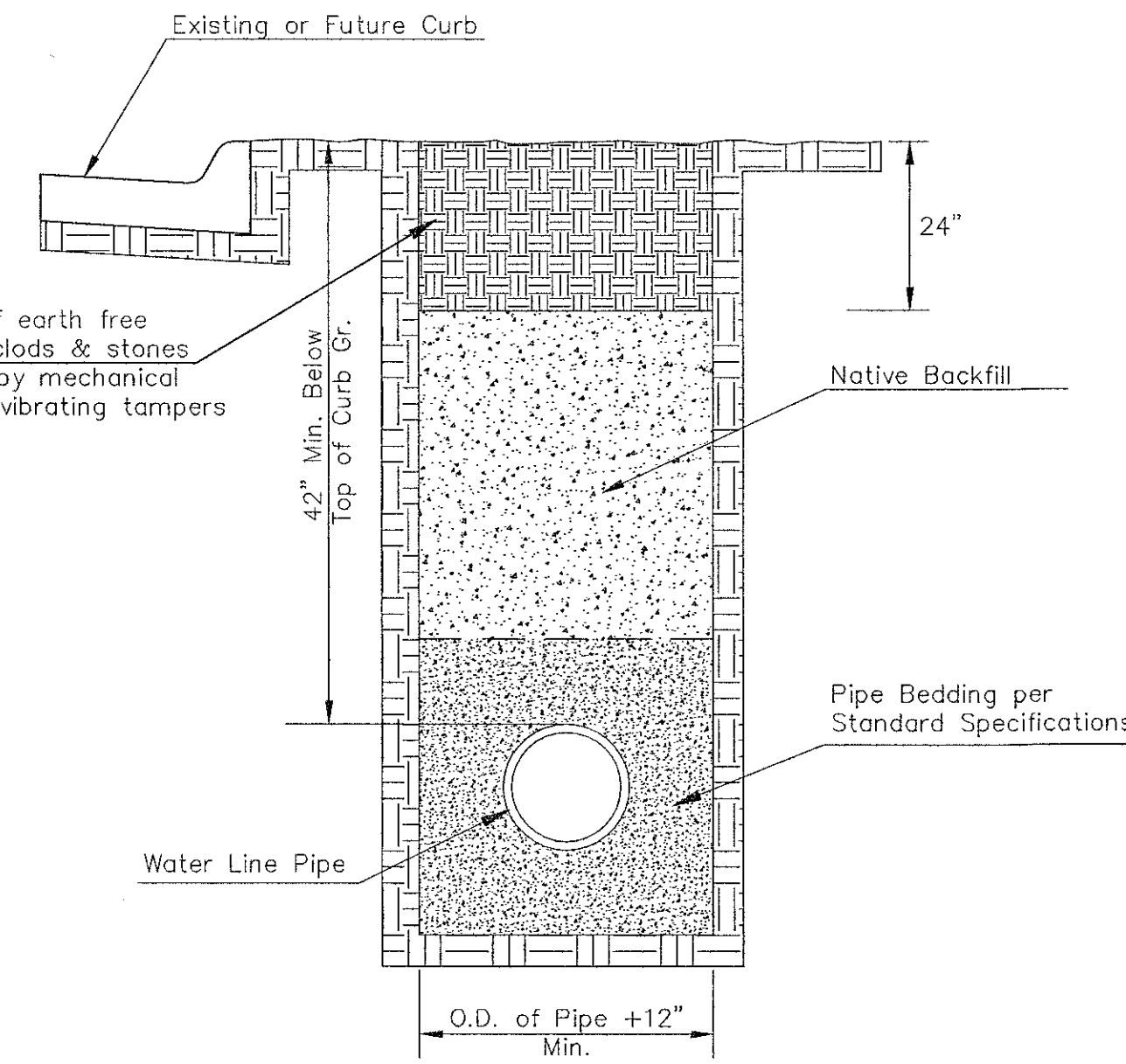
TYPICAL THRUST BLOCKS



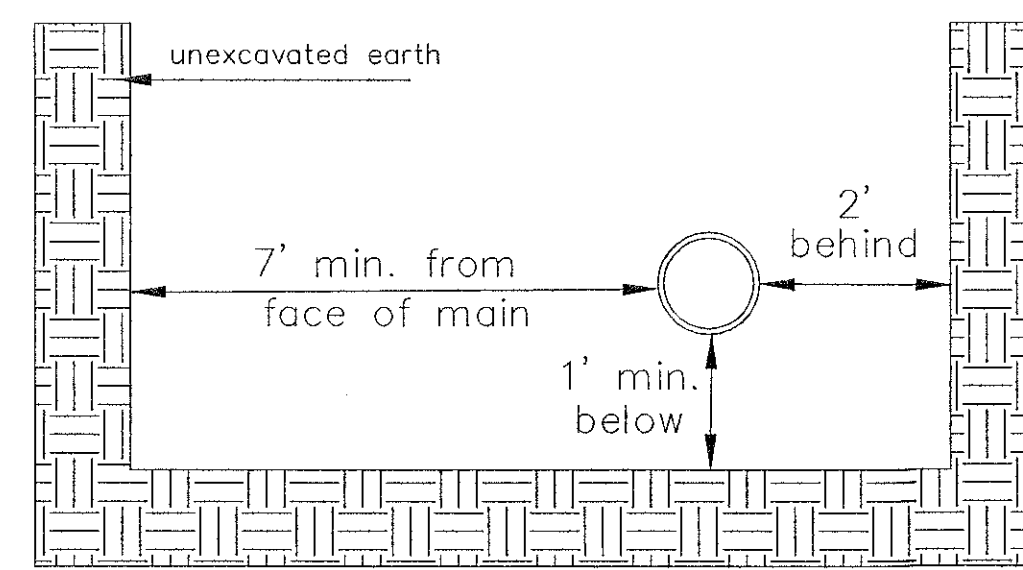
KEY BLOCK DETAIL

\* PLANS GOVERN  
UNLESS OTHERWISE NOTED ON PLANS

TRENCH COMPACTION IN ROAD RIGHT-OF-WAY

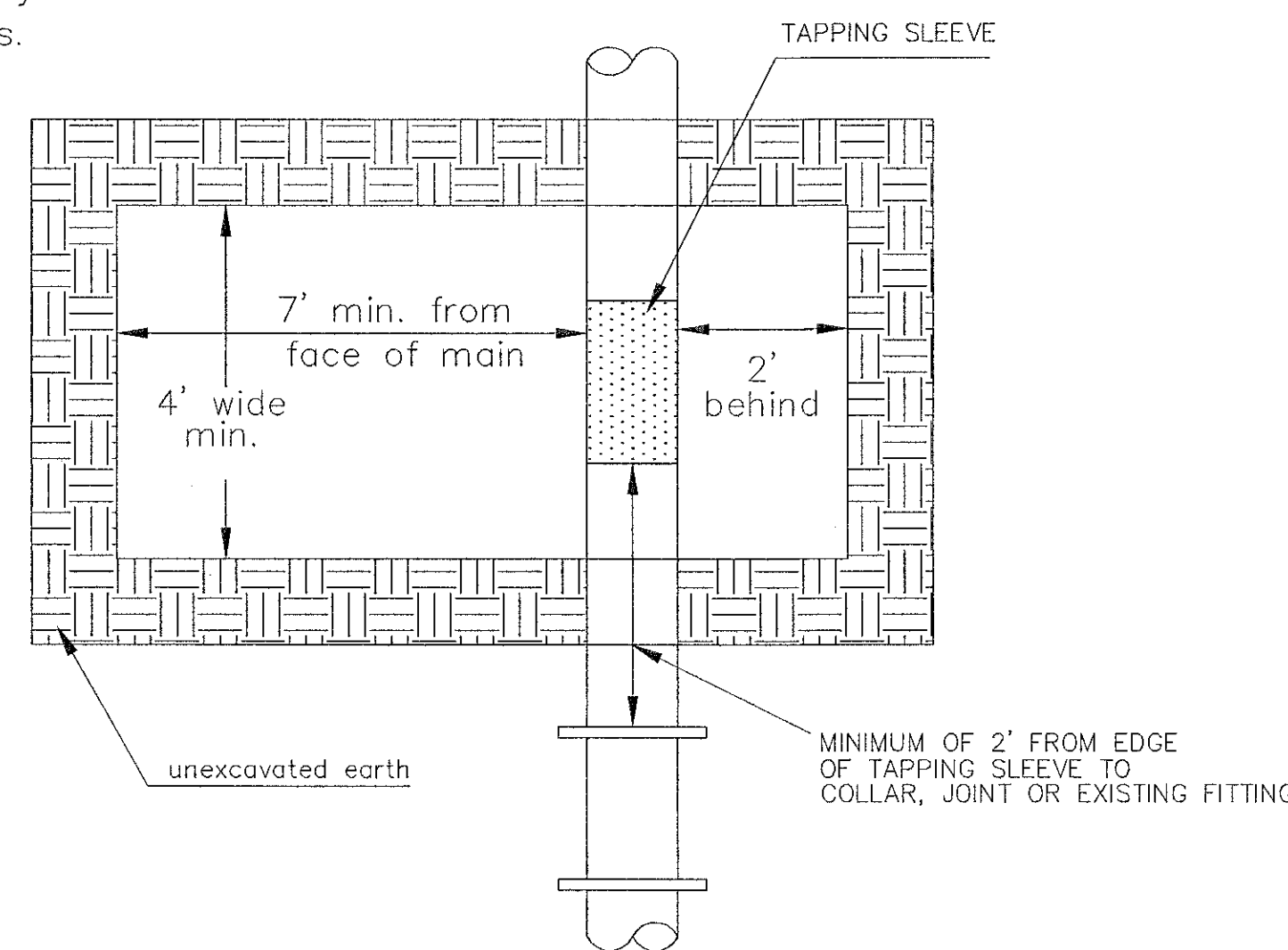


SIDE VIEW

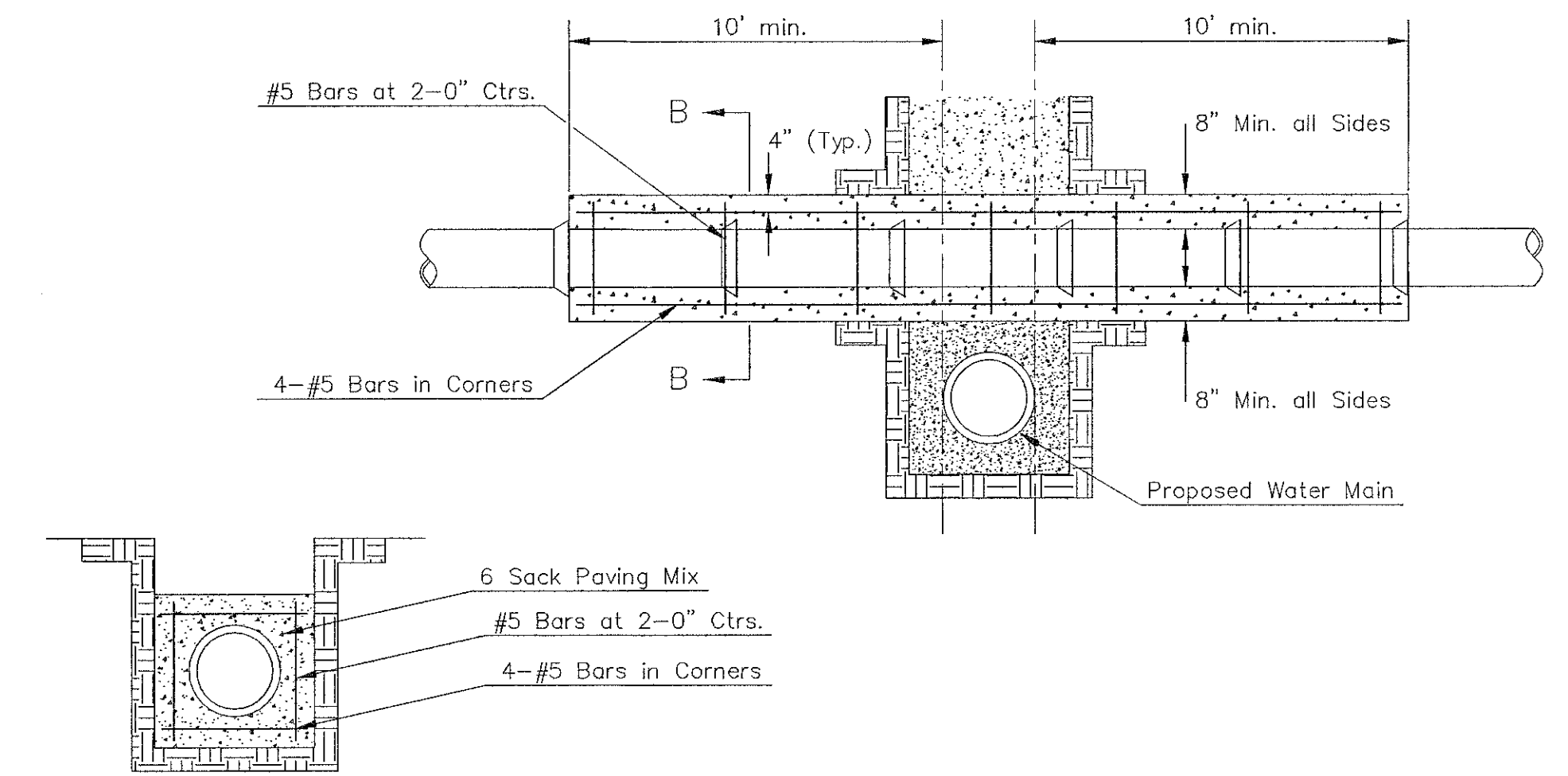


TOP VIEW

Note: When shoring is required it is to be per The City of Wichita Standard Specifications.



EXCAVATION FOR WET TAP

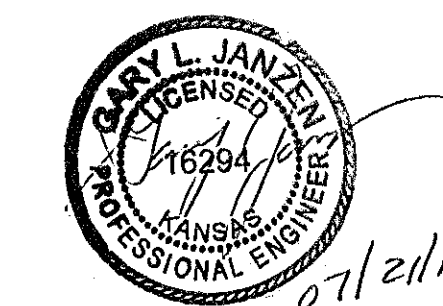
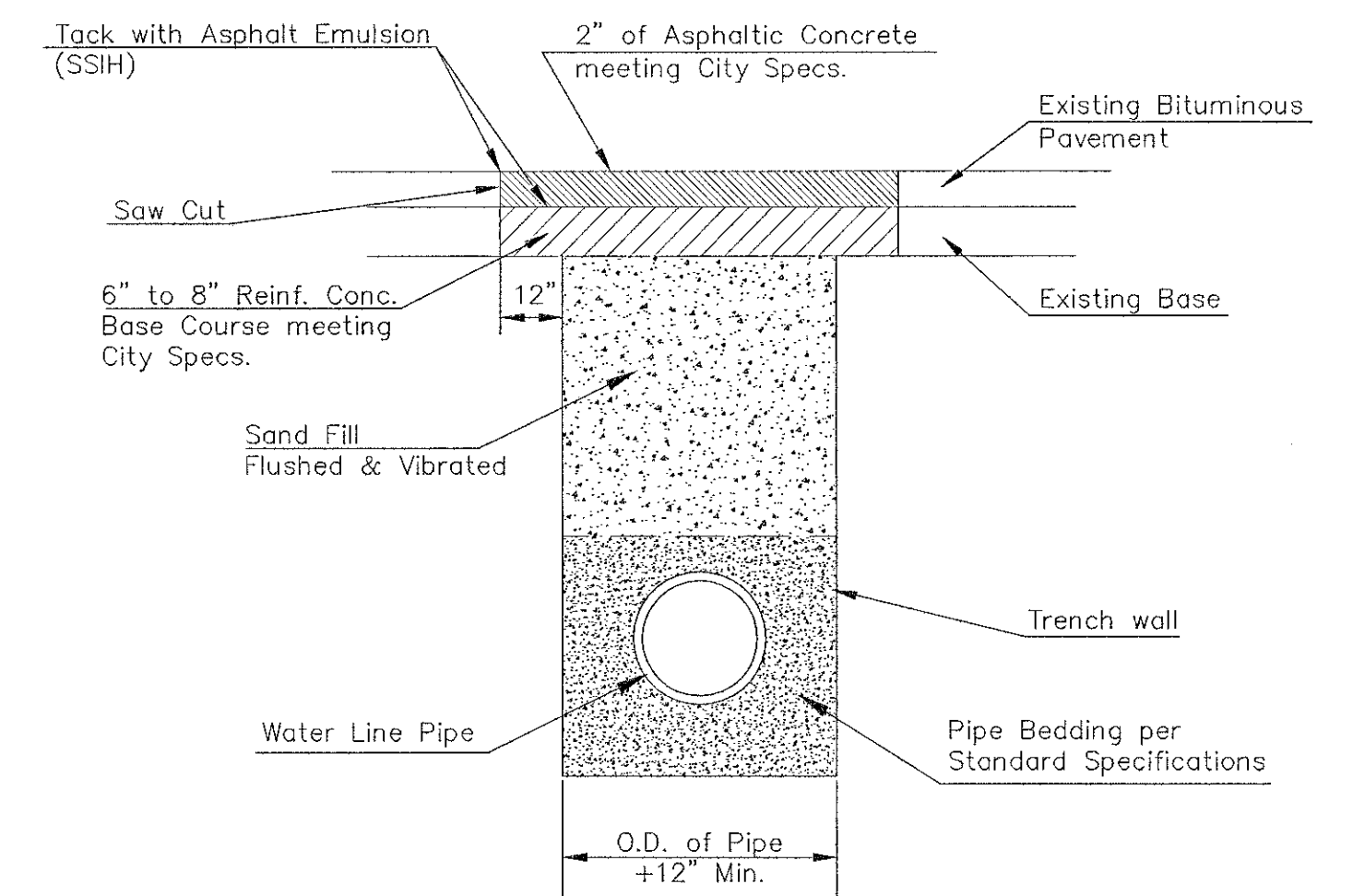


SECTION B-B

Note: Encasement to begin and end at a Bell on Sanitary Sewer Pipe.

REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER

PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS



MISCELLANEOUS WATER DETAILS		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 6 of 12