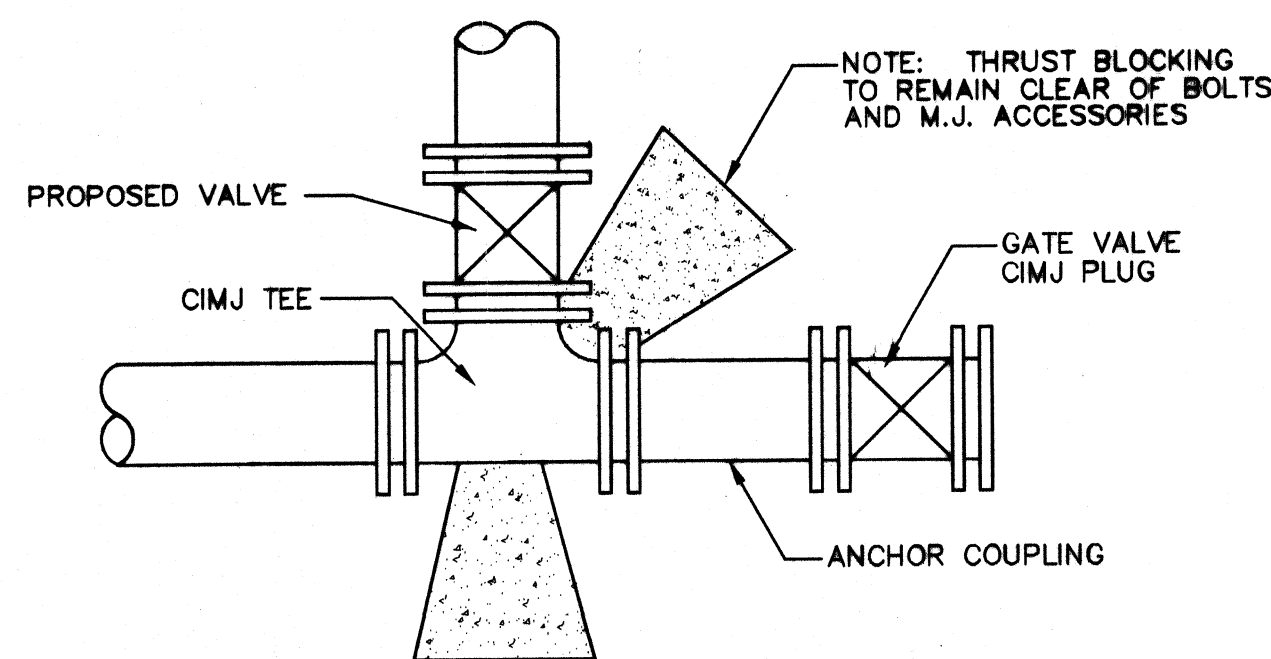
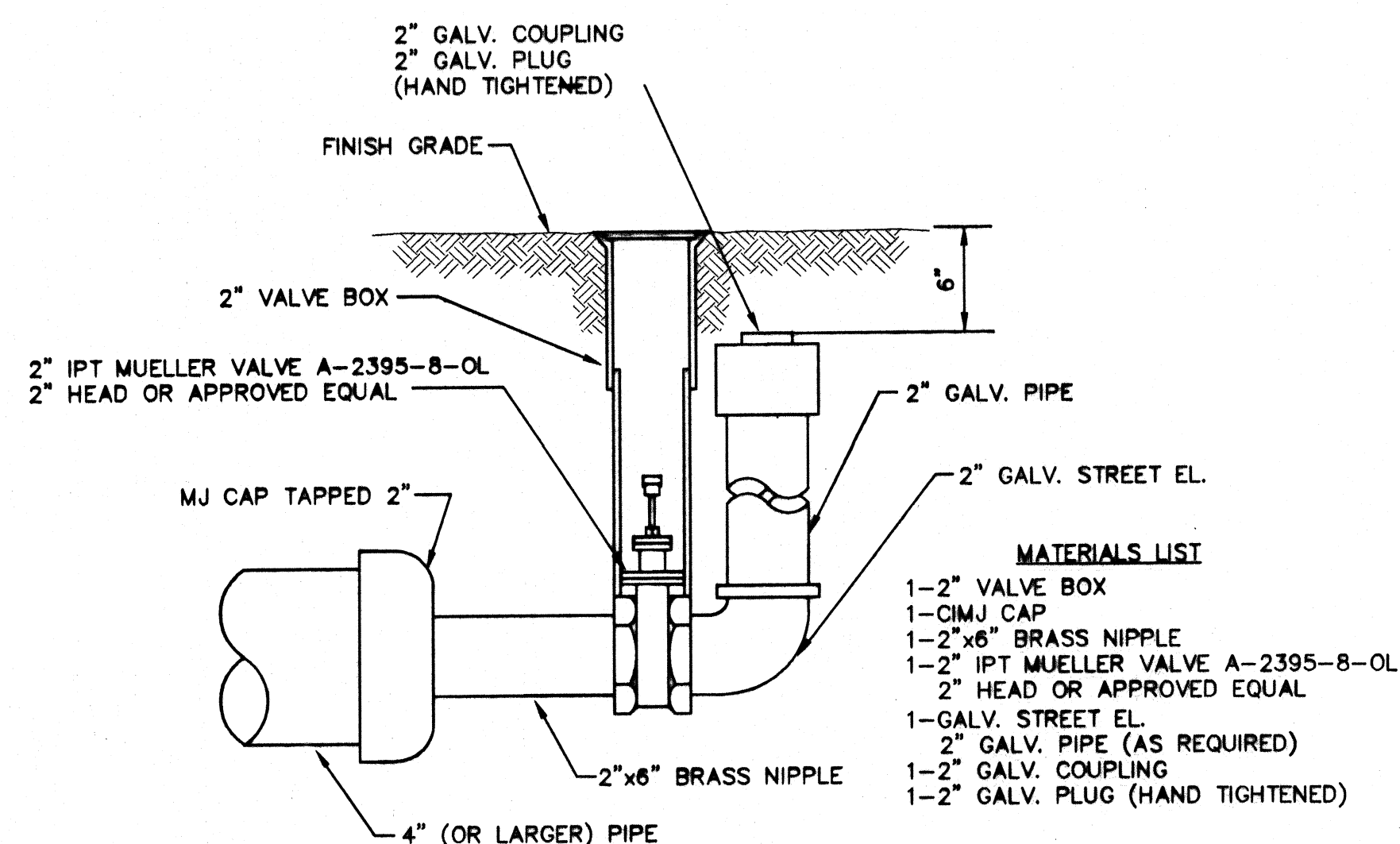


- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 - 1-MJ ANCHOR COUPLING (12" OR SMALLER)
 - 1-6" VALVE BOX
 - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

ANCHORED VALVE ASSEMBLY

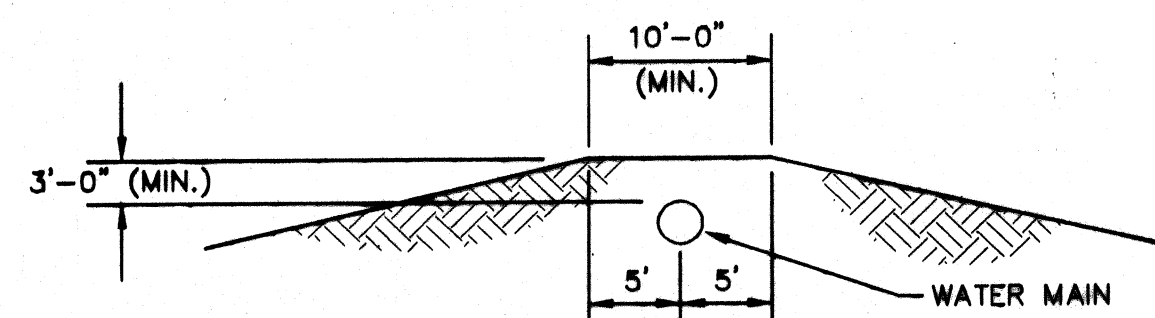


KEY BLOCK DETAIL



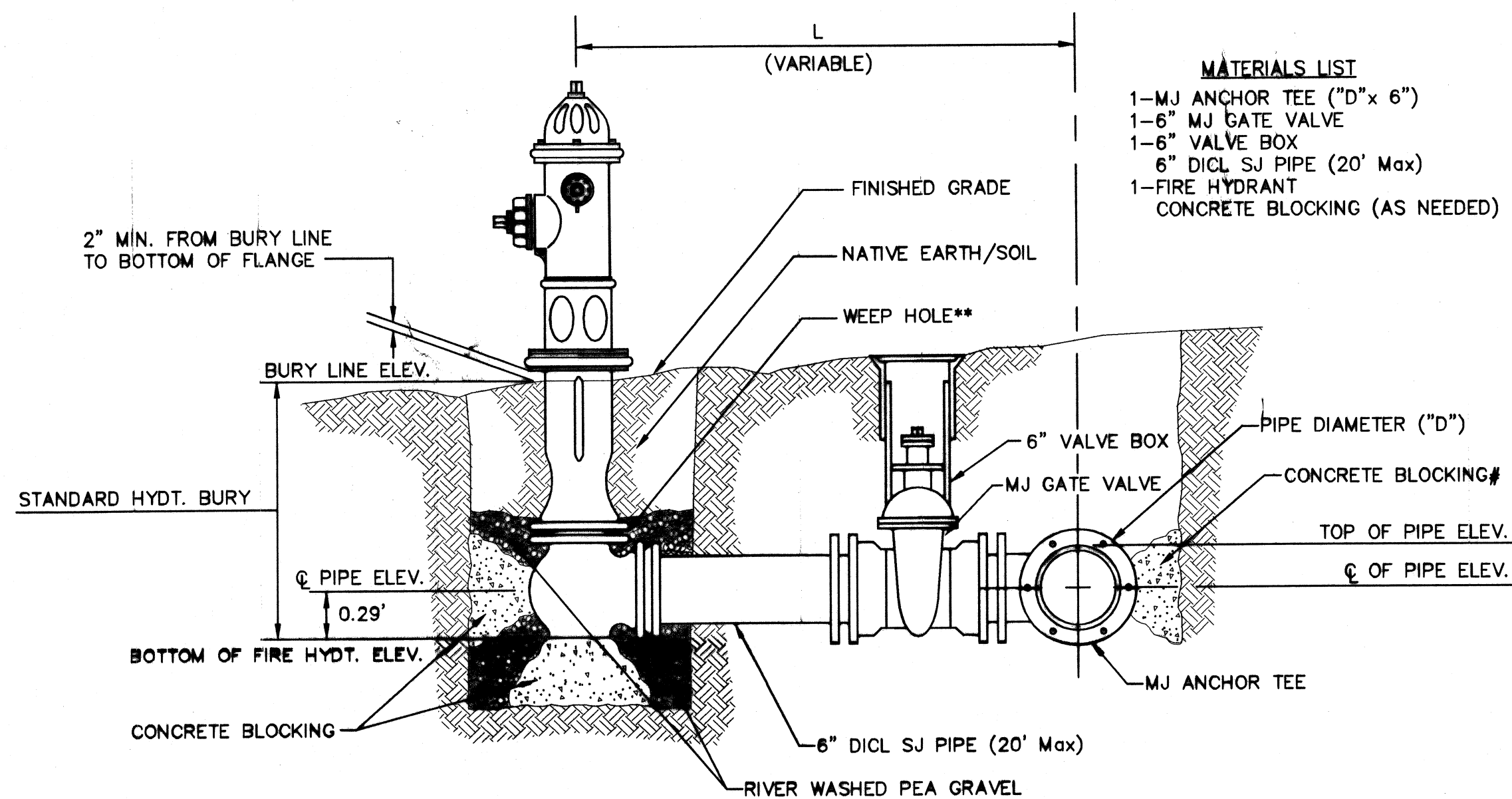
- MATERIALS LIST**
- 1-2" VALVE BOX
 - 1-CIMJ CAP
 - 1-2"x6" BRASS NIPPLE
 - 1-2" IPT MUELLER VALVE A-2395-B-OL
 - 2" HEAD OR APPROVED EQUAL
 - 1-GALV. STREET EL.
 - 2" GALV. PIPE (AS REQUIRED)
 - 1-2" GALV. COUPLING
 - 1-2" GALV. PLUG (HAND TIGHTENED)

2" BLOWOFF ASSEMBLY



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-MJ ANCHOR TEE ("D"x 6")
 - 1-6" MJ GATE VALVE
 - 1-6" VALVE BOX
 - 6" DICL SJ PIPE (20' Max)
 - 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.**

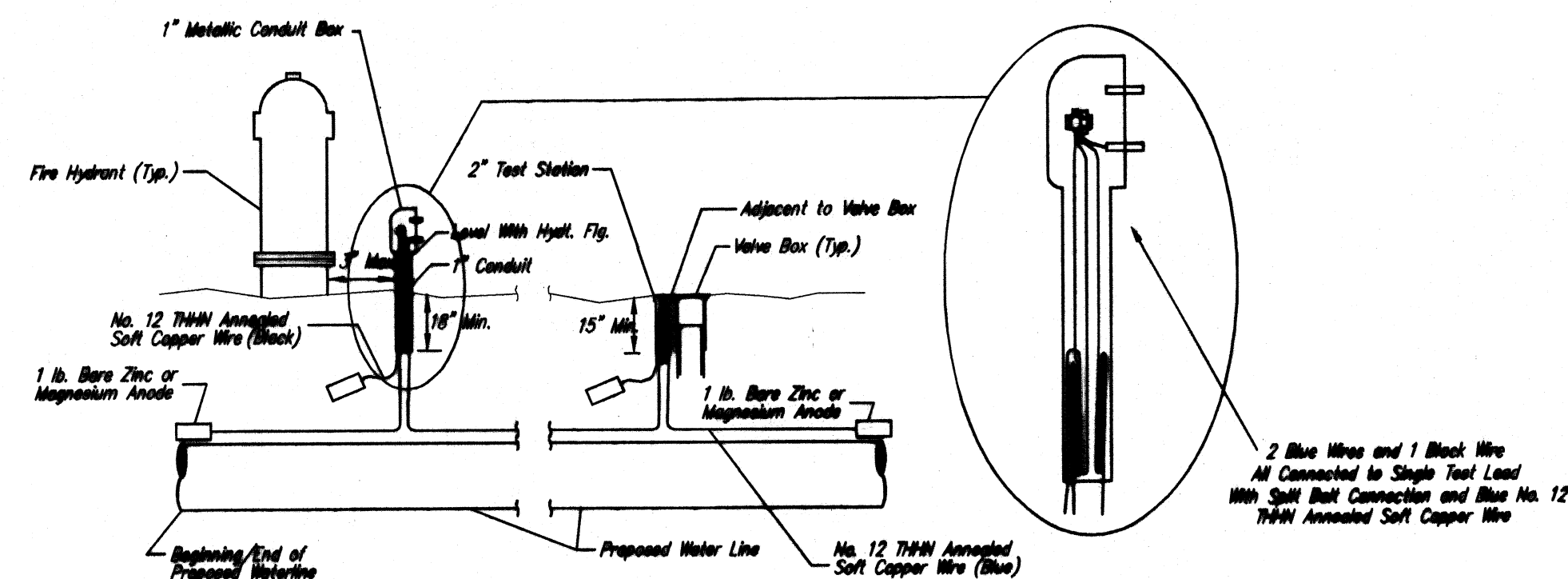
CONCRETE THRUST BLOCKING SHALL BE KEPT CLEAR OF BOLTS, NUTS, AND MJ ACCESSORIES.

*** IF HYDRANT BURY IS IN EXCESS OF 5', CONTRACTOR SHALL USE STANDARD 5" HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY.**

FIRE HYDRANTS REQUIRED

LINE	STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*
2	0+80.00	1321.90	1318.50	4.5'
5	1+42.87	1323.70	1319.75	5.0'

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.

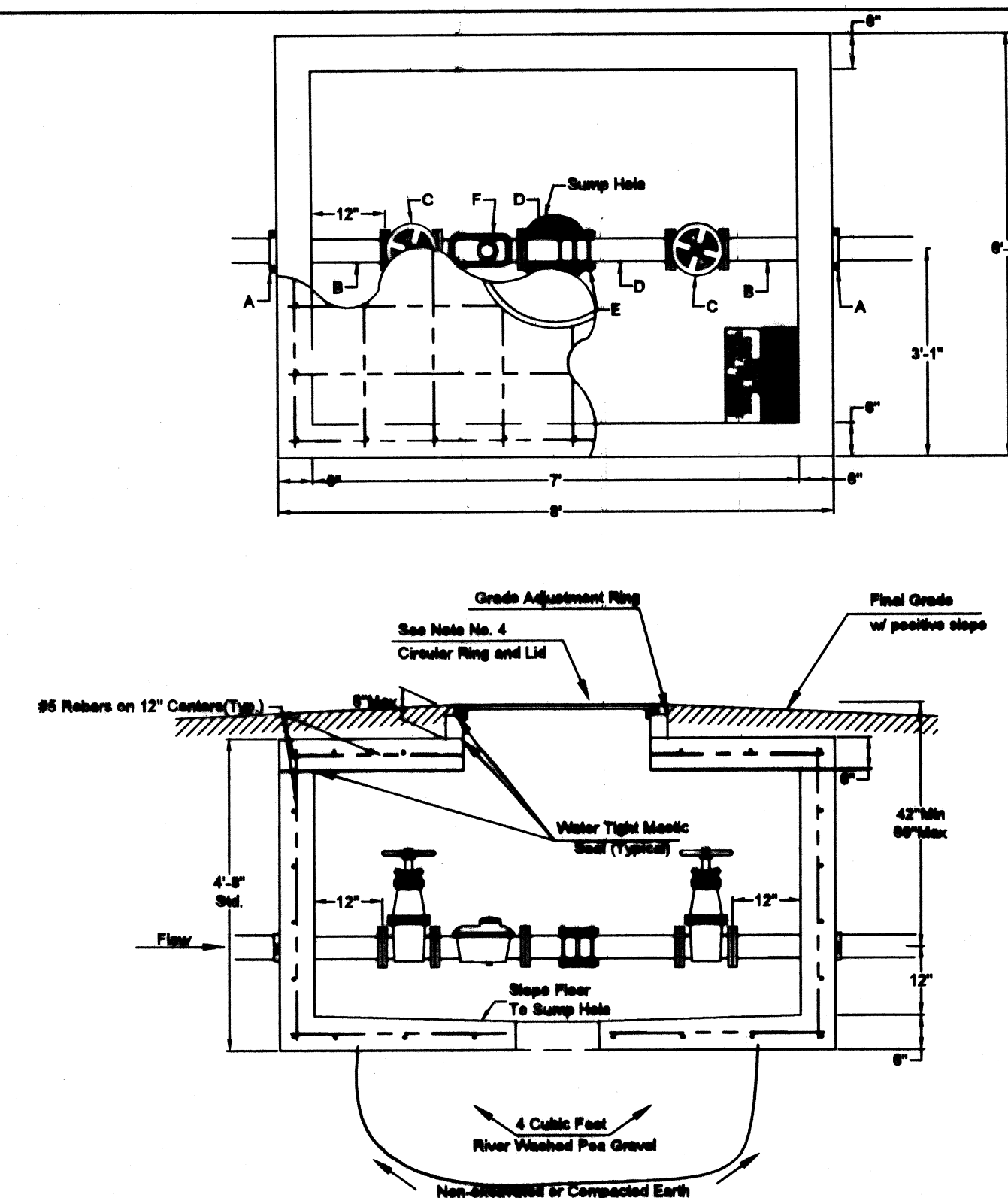
WIRE
The tracer wire shall be Blue No. 12 THWN annealed soft copper wire with thermal plastic insulation. The insulation shall be heat, oil, and gasoline resistant as manufactured by Temple Electric or approved equal. To allow for grade adjustment, a minimum of 12" of excess wire shall be coiled at the 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 AGR 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 12PS33 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 and bushing. The flush style shall have the word "WATER" stamped or molded into the lid. All test stations shall be manufactured using molded blue tape 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 THWN annealed soft copper wire which shall be extended to the test station.

TRACER WIRE DETAIL

COST IS SUBSIDIARY TO PIPE INSTALLATION



- A - 4" Vault Clamp
- B - 1/2" x 2" Flange of 4" PL x PE DICL Pipe
- C - 4" Flange Non-Weld Stem Gate Wheel Valve
- D - 4" PL x PE Pipe
- E - 4" Flange Coupling
- F - 4" Cubic Feet Meter

* = Contractor Installed
** = Installed By Wichita Water & Sewer

4" DS

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, cast-in-place 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-8034 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 well 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 well 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 manhole, restrained joint, or approved equal on the exterior walls of the vault, which shall be manufactured of ductile iron conforming to ASTM A 538-80, heat treated to a minimum hardness of 370 BH-N 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 7341H-H, Plastic 7343H-H, or S.A. Vinyl 73463H-H.
- 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 Samese connections are required by the Wichita Fire Department, refer to the current City Code Section 18.
 - 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.
 - Gallon meters shall not be accepted.

WATER VAULT DETAIL

<p>THE CITY OF WICHITA</p> <p>CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 1555 PPW (607853) WICHITA, KANSAS 67202 (316) 268-4114 FAX</p>	STANDARD WATER ASSEMBLY DETAILS	
	JAMES L. ARMOUR, P.E. - CITY ENGINEER	
	PROJECT NUMBER 1555 PPW (607853)	INDEX CODE NA
	DATE 08/10	SHEET 2 OF 7