

CONSTRUCTION PLANS FOR WATER DISTRIBUTION SYSTEM IMPROVEMENTS

TO SERVE

TERRADYNE WEST ADDITION THE CITY OF WICHITA, KANSAS SEDGWICK COUNTY, KANSAS

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

Water Mains (Pub Wks) VRH 9/29/06

Water Mains (W & S) _____

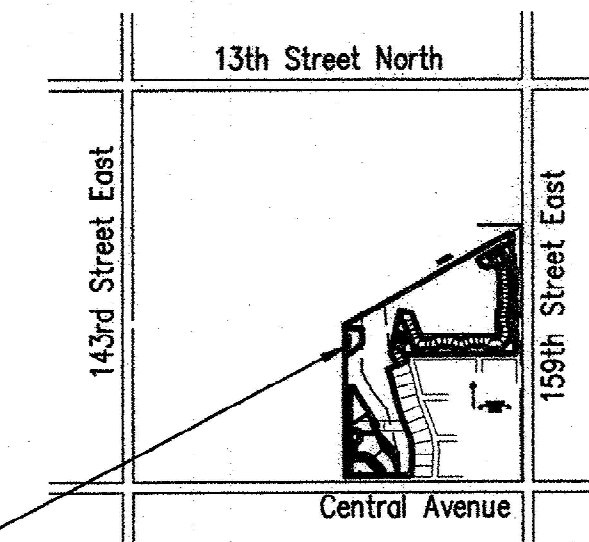
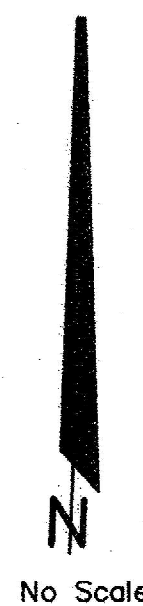
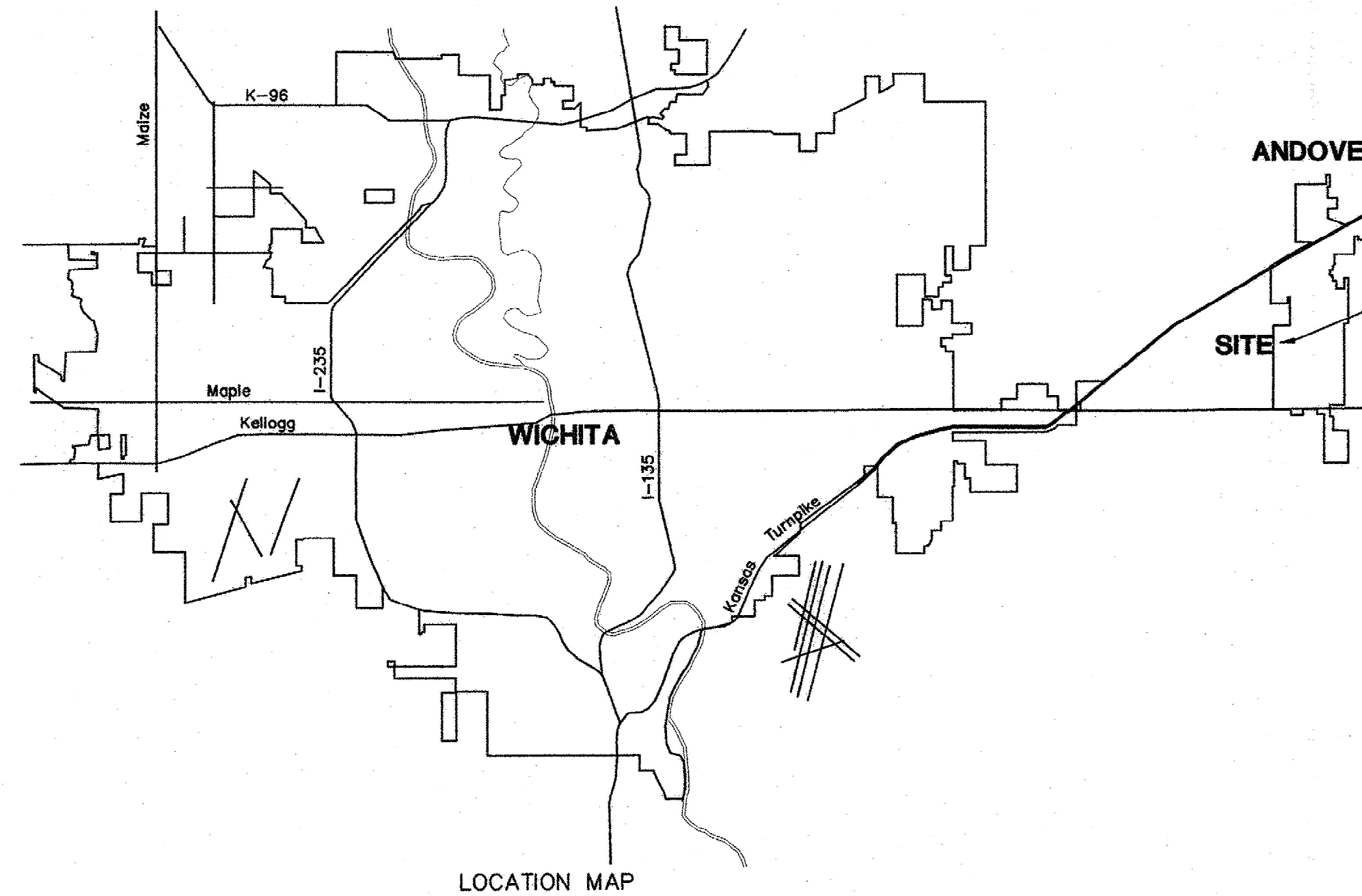
NOTE TO CONTRACTORS

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 of 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 materials 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.



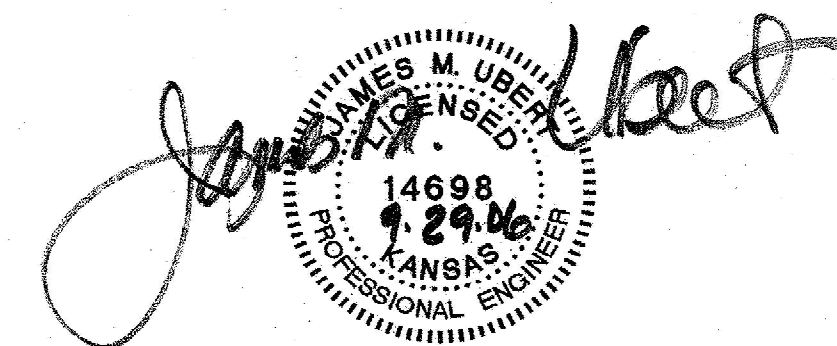
AS-BUILT RECORD DRAWING 3-31-2010
ENGINEER: POE AND ASSOCIATES, INC.
CONTRACTOR: MCCULLOUGH
INSPECTOR: POE AND ASSOCIATES, INC.

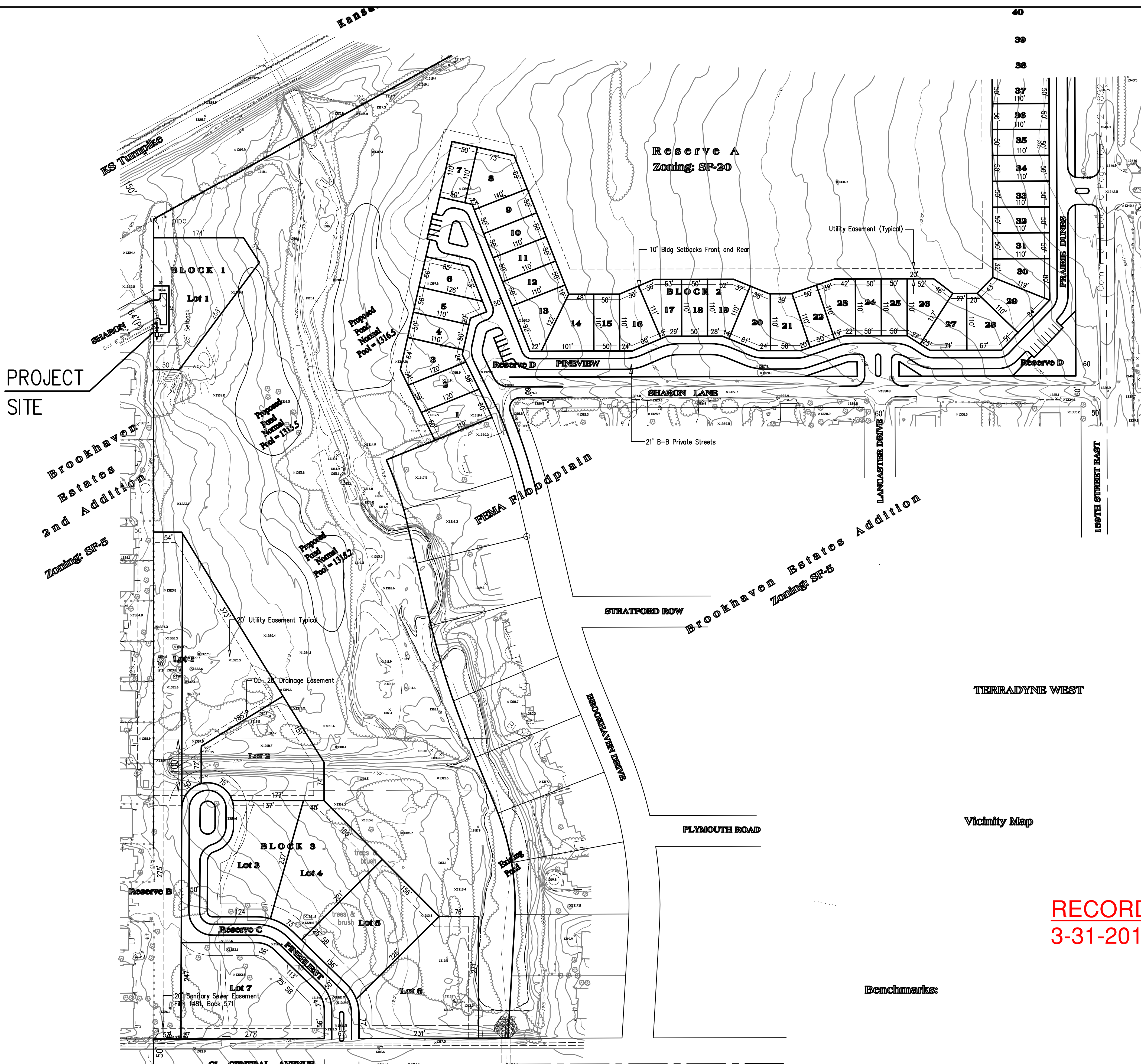
INDEX OF SHEETS

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	KEY MAP
SHEET NO. 3	STANDARD DETAILS
SHEET NO. 4	PLAN PROFILE
SHEET NO. 5	VAULT DETAILS
SHEET NO. 6	PLAT

4" PVC AND CICL PIPES
4" SPECIAL ANCHORED MJ GATE VALVE

OCA NO. 607853
CITY OF WICHITA PROJECT NO. 1257-PPW
SEPTEMBER, 2006
PLANS PREPARED BY





LEGEND

- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- EXISTING WATER VALVE
- PROPOSED WATER VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT

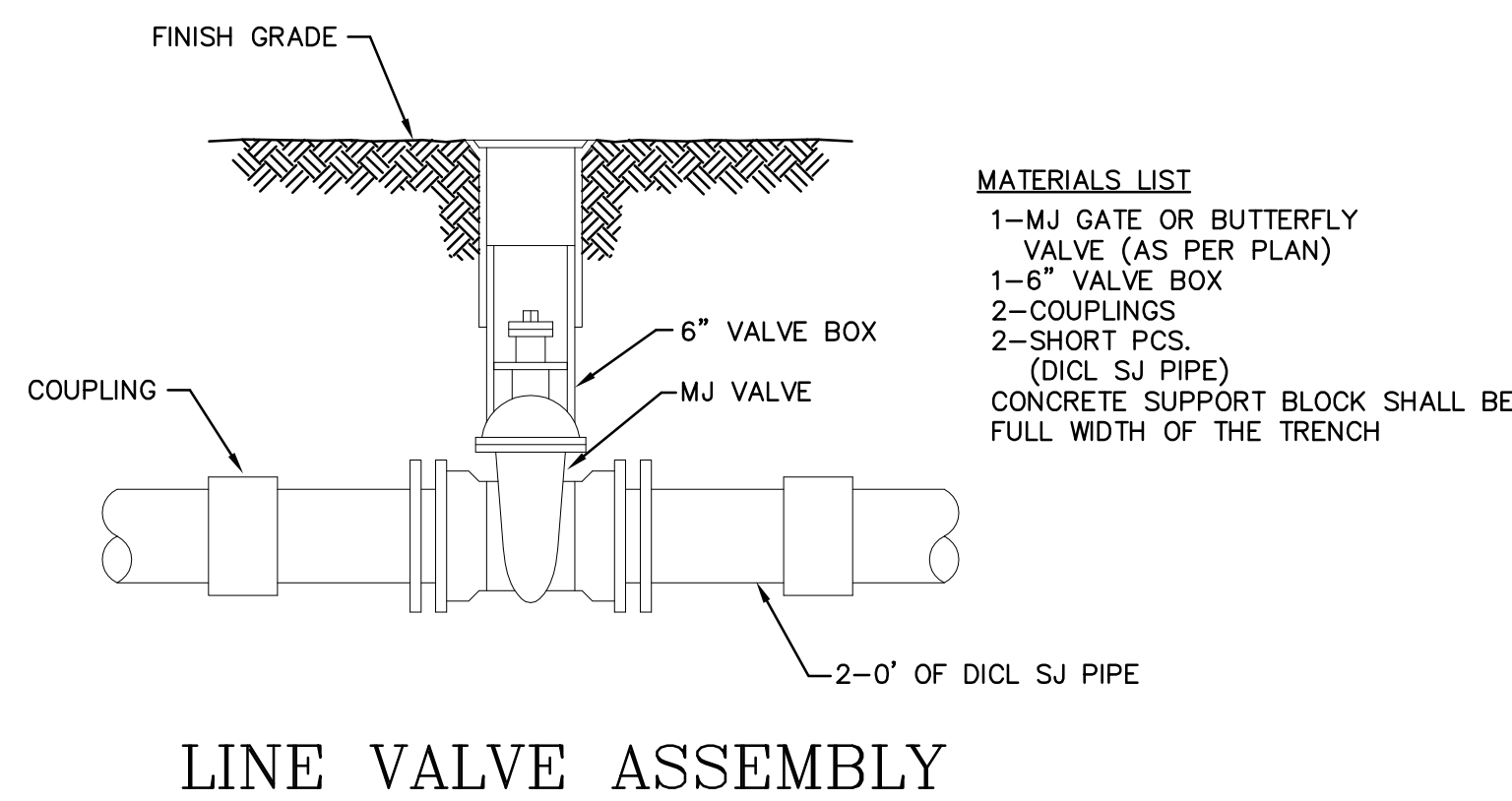
GENERAL NOTES:

1. All elevations are U.S.G.S. Datum.
2. Contractor will be required to provide a minimum advance notice of twenty-four (24) hours to utility companies prior to starting any excavation as follows:
 Kansas One-Call 1-800-344-7233
 The Contractor must notify the following in case of an emergency:
 Cox Communications 262-4270 or 263-2061
 Kansas Gas & Electric - Gas 263-7511
 Kansas Gas & Electric - Electric 264-1141
 Arka Gas Company 942-8350 or 263-8161
 Southwestern Bell Tel. Co. 1-571-2611
 City of Wichita Water Department 268-4908
3. All water mains and appurtenances shall be installed in accordance with City of Wichita, Kansas Standard Specifications for Water Main Installations No. 14533.
4. The Water main shall be constructed on the alignment shown by the plans. 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 cost for any necessary tree trimming, clearing and/or grubbing shall be included in the price bid for the installed water main pipe.
5. Opening and closing 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. Project Inspector must ascertain that any valve closed by the Contractor is reopened. Contractor will be permitted to operate water valves only when THE PROJECT INSPECTOR assigned to the project IS PRESENT.
6. Contractor shall not start work on the project until the Project Inspector is assigned to the project and is present on the site. Any work done without inspection will be required to be uncovered for inspection.
7. The Contractor shall give all property owners and/or tenants of developed property directly abutting the construction of this project a minimum of ten (10) days advance notice prior to start of construction.
8. 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. All costs for this work shall be subsidiary to site restoration.
9. The contractor shall restore all ditches, swales, road shoulders, entrances, and bank lines to their original slopes and grades except as shown otherwise.
10. No services will be installed as part of this project.
11. Interurban traffic generated outside the project area and local business or residential traffic generated within the project area are to be carried through construction as further promulgated by project special provisions.
12. Rubble from the removal of miscellaneous structures including any trees removed and tree trimmings shall be disposed of on sites provided by the contractor. These sites shall also be approved of by the Engineer as to suitability, appearance, and site location. Locations that, in the opinion of the Engineer, 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 may require archaeological investigations unless buried in a previously approved disposal location.

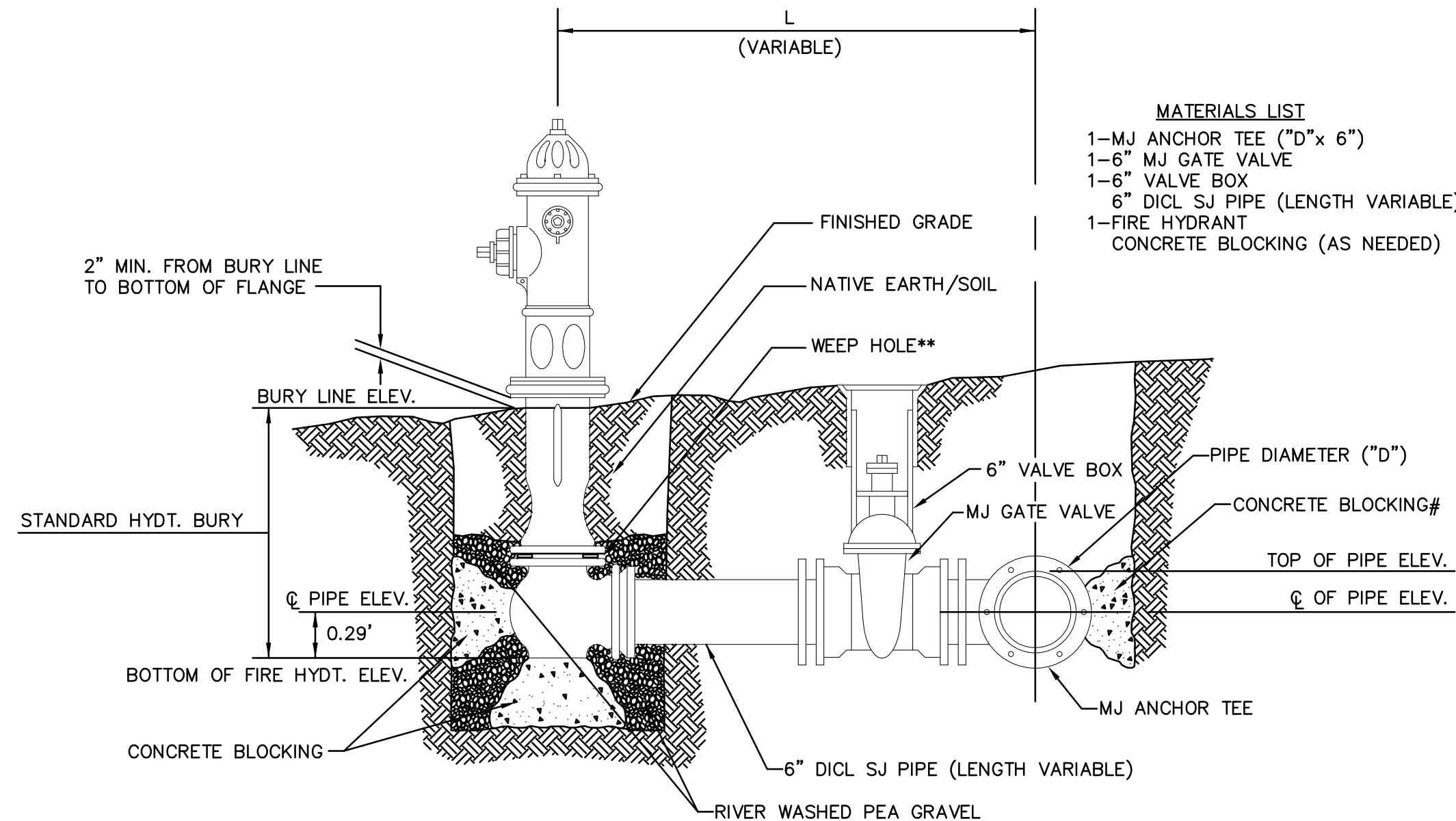
RECORD DRAWING
3-31-2010

NOTE:
Waterline Valves to be operated by Contractor ONLY if THE PROJECT INSPECTOR is ON SITE.

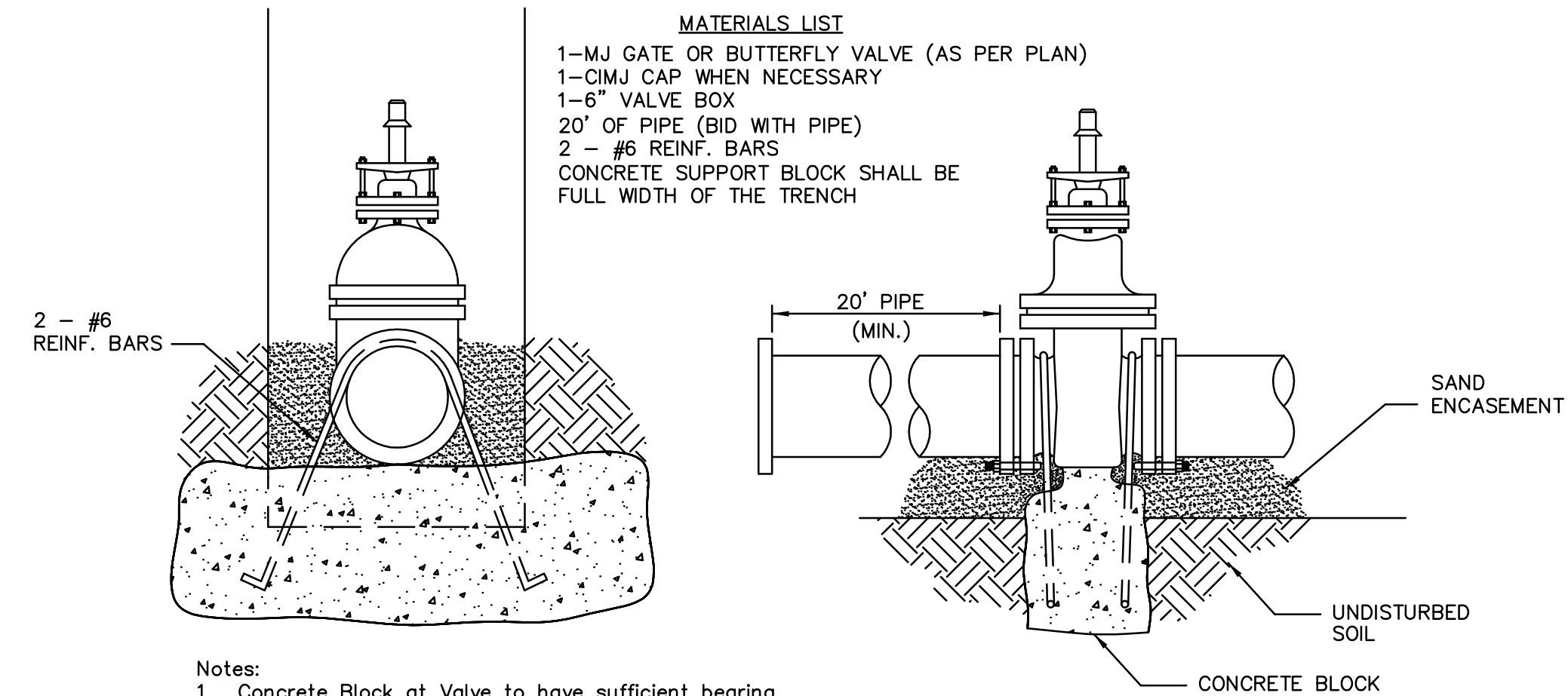
POE & ASSOCIATES OF KANSAS, INC.
 CONSULTING ENGINEERS
 5940 E. Central, Suite 200 Wichita, KS 67208 316/855-4114 Fax: 316/855-4444
 INDEX MAP
 WATER MAIN IMPROVEMENTS TO TERRADYNE WEST
 CITY OF WICHITA, KANSAS
 JAMES L. ARMOUR, P.E. - CITY ENGINEER
 C.O.W. Proj. No. 1257-PW Index Code 607853
 Date: Sept. 2006
 Sheet 2 of 6



- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 - 1-6" VALVE BOX
 - 2-COUPPLINGS
 - 2-SHORT PCS. (D.I.C.L. SJ PIPE)
 - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH



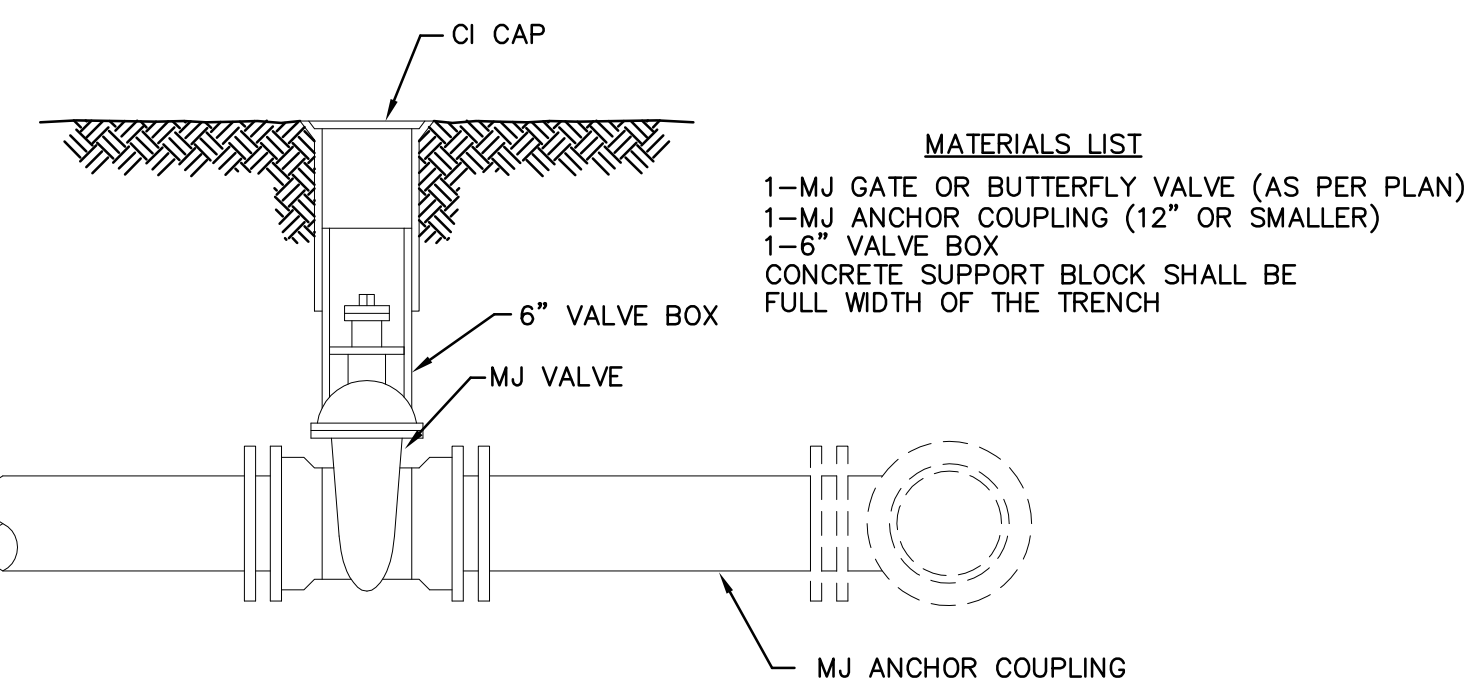
- MATERIALS LIST**
- 1-MJ ANCHOR TEE ("D"x 6")
 - 1-6" MJ GATE VALVE
 - 1-6" VALVE BOX
 - 6" D.I.C.L. SJ PIPE (LENGTH VARIABLE)
 - 1-FIRE HYDRANT
 - CONCRETE BLOCKING (AS NEEDED)



- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 - 1-CIMJ CAP WHEN NECESSARY
 - 1-6" VALVE BOX
 - 20' OF PIPE (BID WITH PIPE)
 - 2 - #6 REINF. BARS
 - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

Notes:
 1. 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.
 2. The thrust block shall be constructed such that bolts, nuts, and other MJ accessories are kept clear of concrete.
 3. All valves at dead ends and at other locations as called out on the plans shall be blocked as shown here.

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



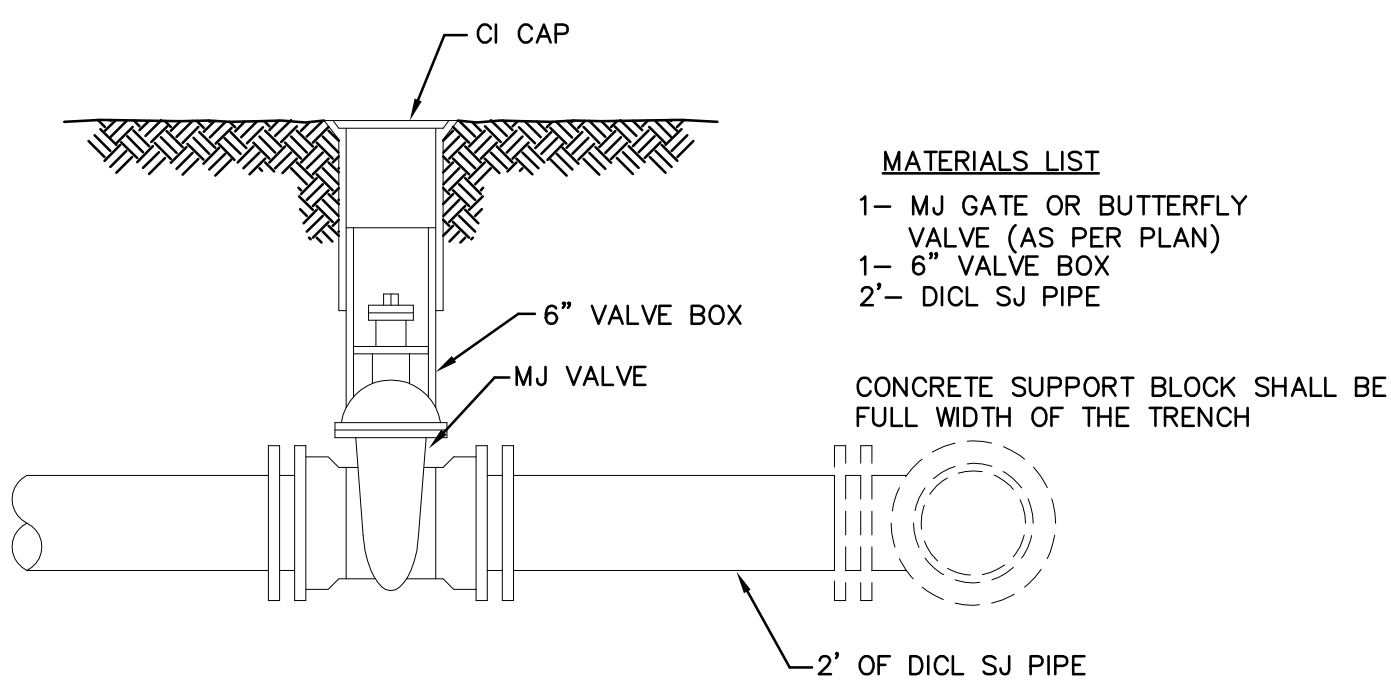
- MATERIALS LIST**
- 1-MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 - 1-MJ ANCHOR COUPLING (12" OR SMALLER)
 - 1-6" VALVE BOX
 - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

FIRE HYDRANTS REQUIRED			
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*

** 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.

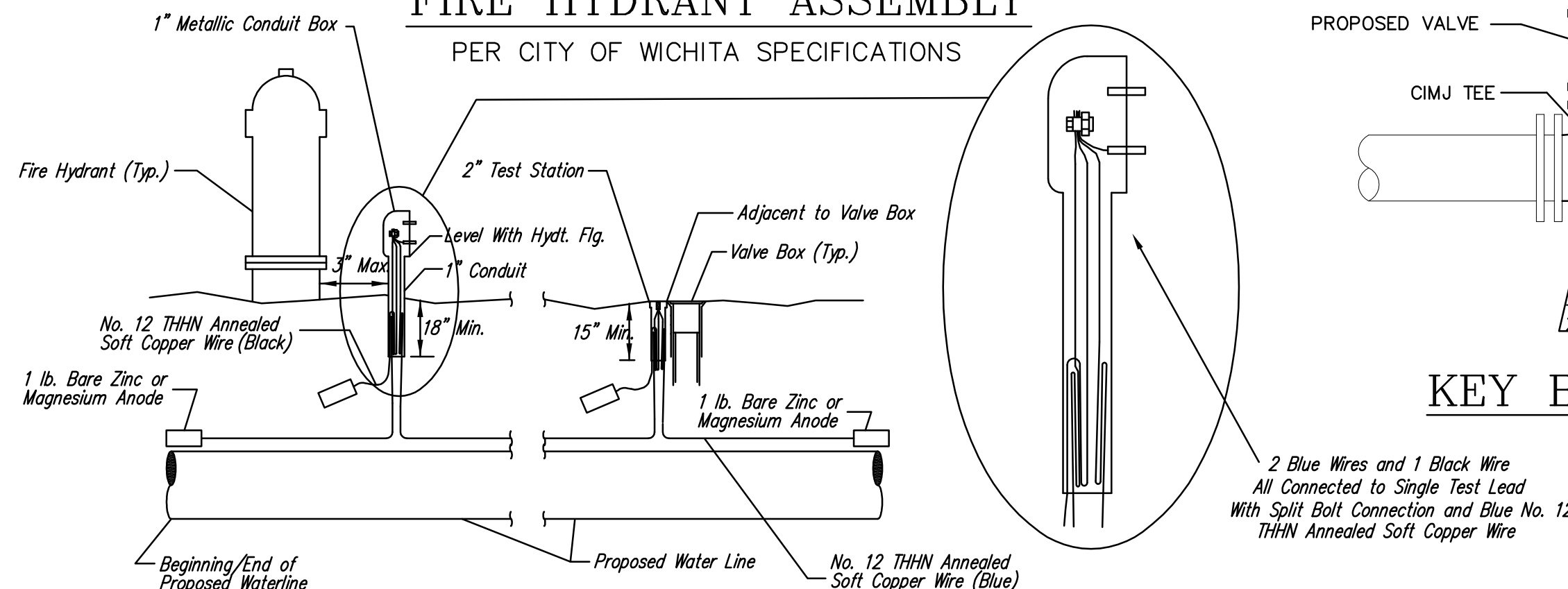
ANCHORED VALVE ASSEMBLY, SPECIAL

ANCHORED VALVE ASSEMBLY



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

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

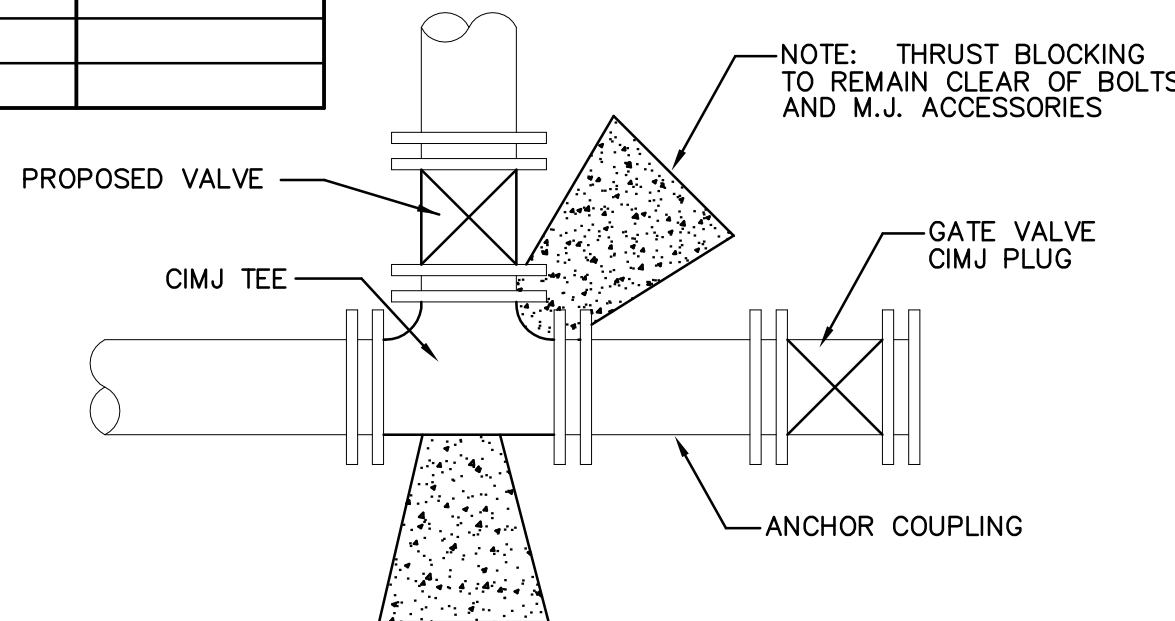
The tracer wire shall be Blue No. 12 THHN annealed soft copper wire with thermal plastic insulation. The insulation shall be heat, oil, and gasoline resistant as manufactured by Temple Electric or approved equal. To allow for grade adjustment, a minimum of 12" of excess wire shall be coiled at the bottom 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

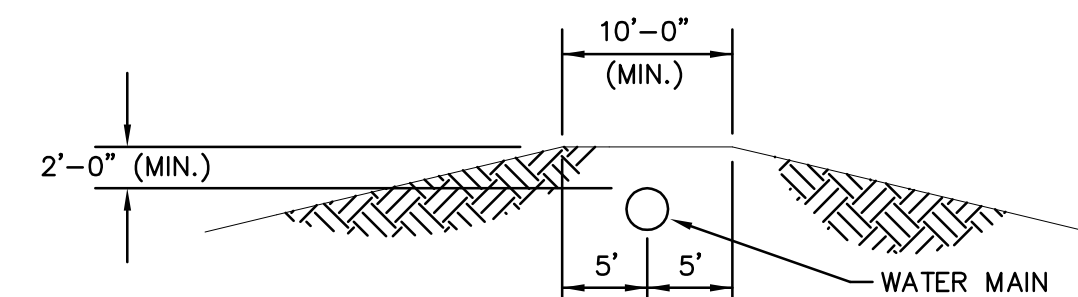
The test station for fire hydrant applications shall be a 1 inch galvanized conduit style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for valve applications shall be 2 inch flush style test station 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.

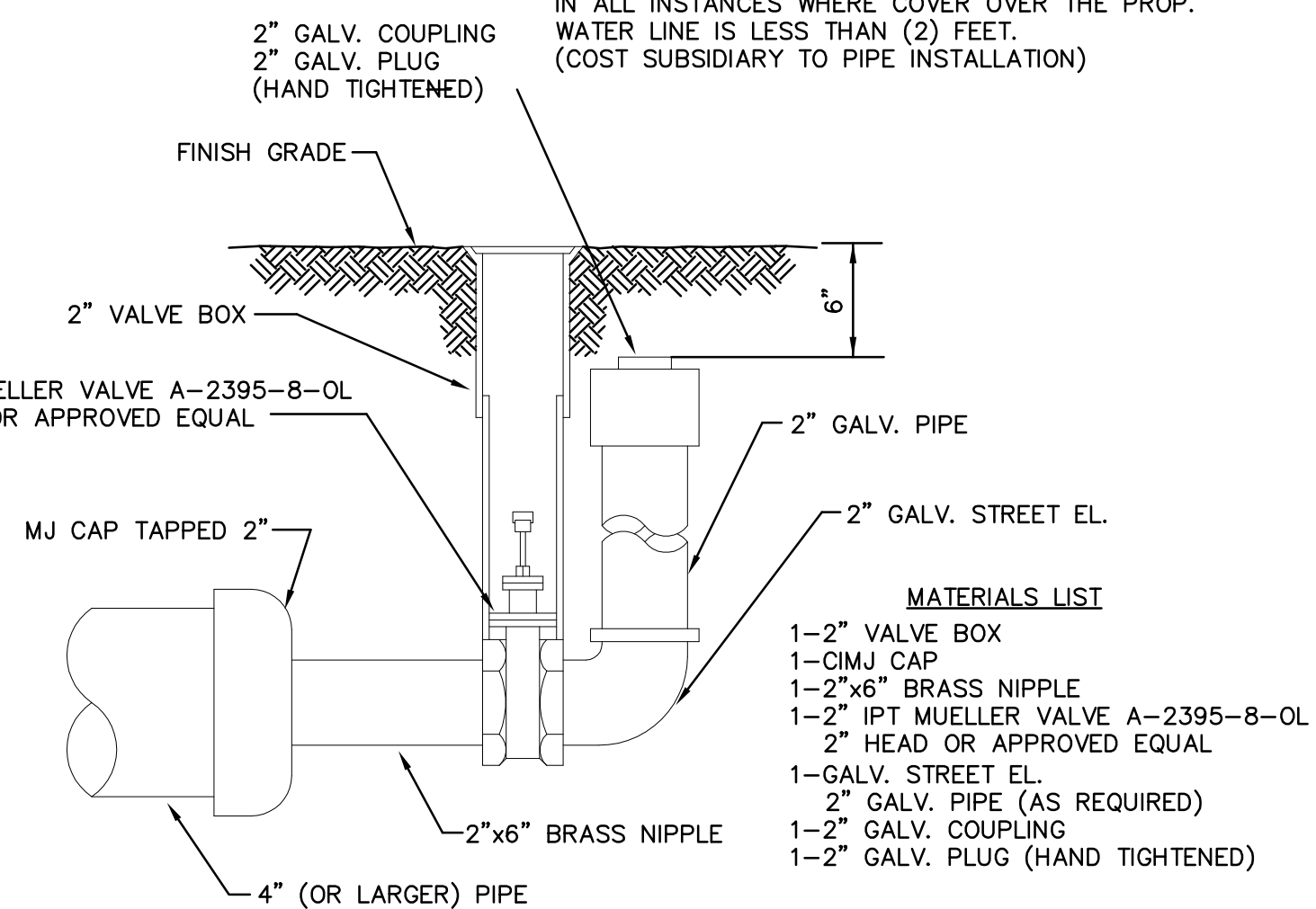


KEY BLOCK DETAIL



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
 - 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

<p>CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4501 (316) 268-4114 FAX</p>	<p>STANDARD WATER ASSEMBLY DETAILS</p>	
	<p>M. E. LINDEBAK P.E. -- CITY ENGINEER</p>	
<p>PROJECT NUMBER XXX-XXXX</p>	<p>INDEX CODE XXXXXX</p>	
<p>DATE DEC 98</p>	<p>SHEET X OF X</p>	

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION

TRACER WIRE DETAIL

Revised: 6-7-00, MCG

WATER MAIN IMPROVEMENTS TO TERRADYNE WEST
 STANDARD WATER ASSEMBLY DETAILS
 CITY OF WICHITA, KANSAS
 JAMES L. ARNOUR, P.E. -- CITY ENGINEER
 C.O.W. Proj. No. 1257-PPW Index Code 607653

POE & ASSOCIATES OF KANSAS, INC.
 CONSULTING ENGINEERS
 5940 E. Central, Suite 200 Wichita, KS 67208 316/686-4114 Fax 316/686-4444

Designed By: J. Ubert
 Drawn By: J. Ubert
 P.O. Job No.: 1809
 Date: Sept. 2006

3 of 6

Sta. 0+10.69 Line No. 1
 Horiz. Defl. = 115°00'00"
 1-4" CICLMJ 90° Bend
 1-4" CICLMJ 22 1/2° Bend
 N 9116.2060, E 18749.0613

10.69 LF 4" Pipe

Sta. 0+00 Line No. 1
 Remove Exist. Blowoff
 1-CICL Reducer (8" PEx 4" MJ)

Exist. Pavmt.

SHARON
 Exist. 8" M

BLOCK I

Lot I

25' Setback

15.55 LF 4" Pipe

Sta. 0+26.24 Line No. 1
 1-4" MJ Gate Valve (Anchor Valve Spd)
 Top Valve Box Elev.=1323.5
 N 9092.6554, E 18749.0598

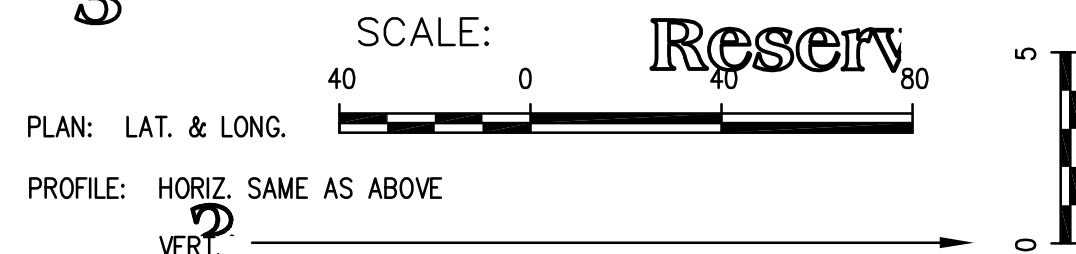
4.00 LF 4" Pipe

Pipe inside the 4" Vault is subsidiary to the 4" Vault.

Sta. 0+34.24 Line No. 1
 1-4" Meter Vault
 See Sheet 5
 Top = 1323.5
 N 9100.6554, E 18749.0603

Sta. 0+42.24 Line No. 1
 4" LF 4" Pipe
 1-2" Blowoff Assy
 Top Valve Box Elev.=1323.5
 N 9083.6554, E 18749.0592

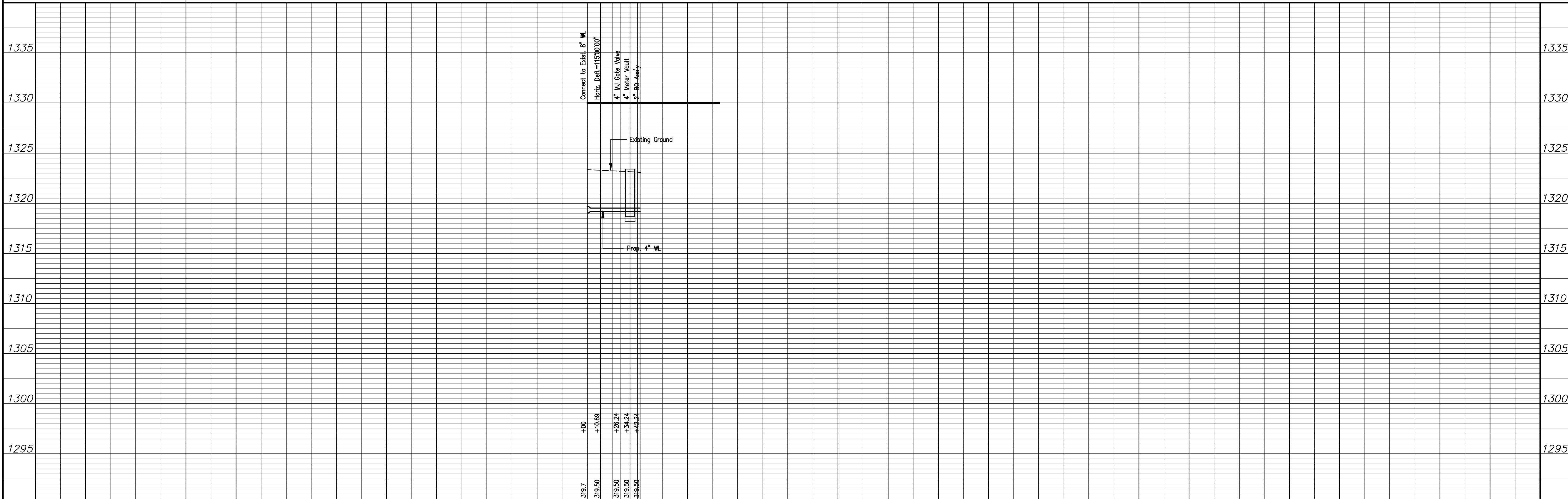
Proposed Pond
 Normal Pool = 1316.5



4" Valve Reference
18' N. of Center of Vault Lid in Concrete Pavement
4'9" N. of Back of Curb
26'4" WNW. of Center of MH lid

RECORD DRAWING
3-31-2010

Unless otherwise noted elevations shown are to top of pipe.



No.	Date	By	Approved	Revision

WATER MAIN IMPROVEMENTS TO TERRADYNE WEST
 LINE NO. 1
 CITY OF WICHITA, KANSAS
 JAMES L. ARMOUR, P.E. - CITY ENGINEER
 C.O.W. Proj. No. 1257-PPW Index Code 607853

POE & ASSOCIATES OF KANSAS, INC.
 CONSULTING ENGINEERS
 590 E. Central, Suite 200 Wichita, KS 67208 ■ 316/685-4111 ■ Fax: 316/685-4444

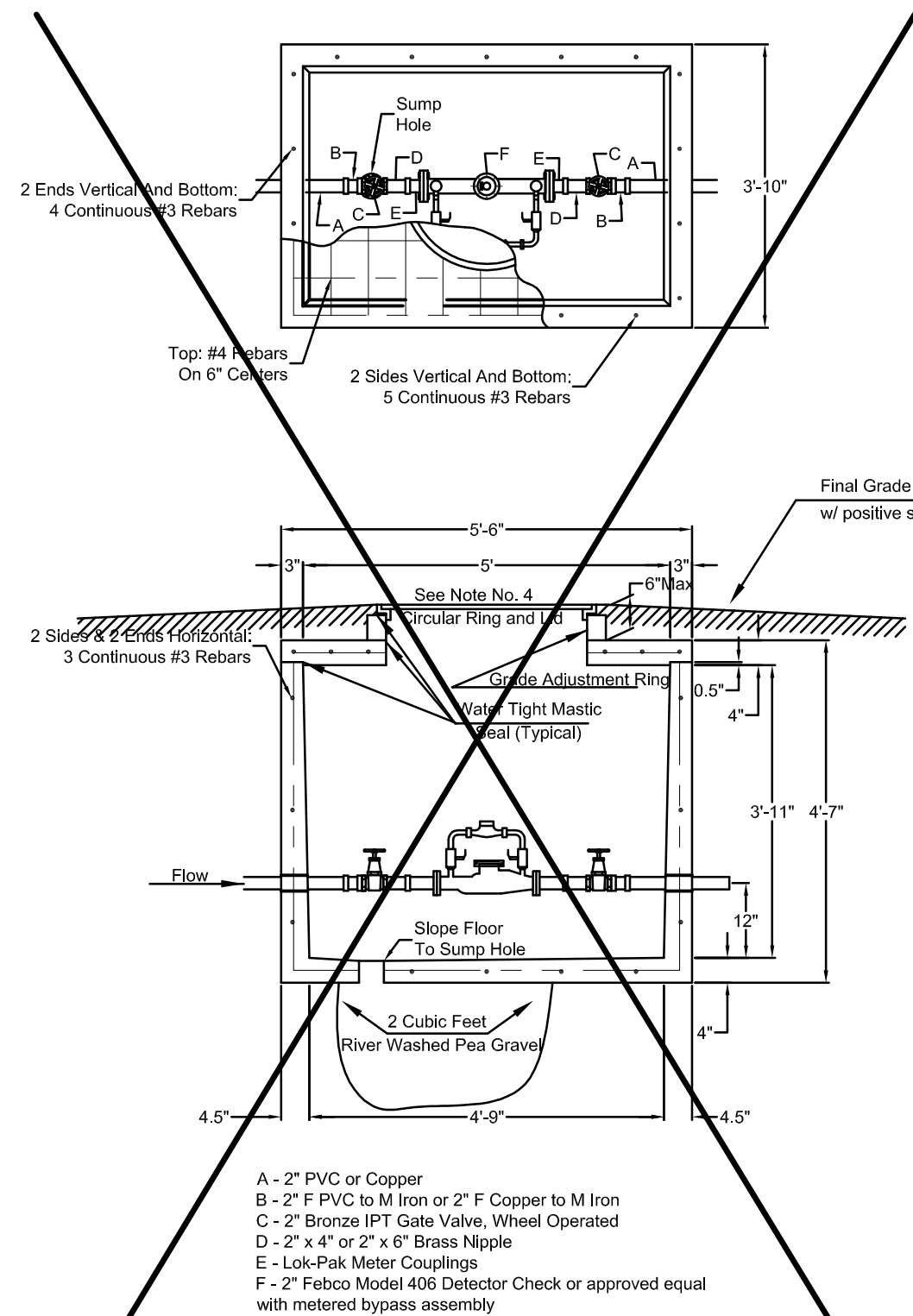
PE

Designed By: J. Ubert
 Drawn By: J. Ubert
 P.O. Job No.: 1809
 Date: Sept. 2006

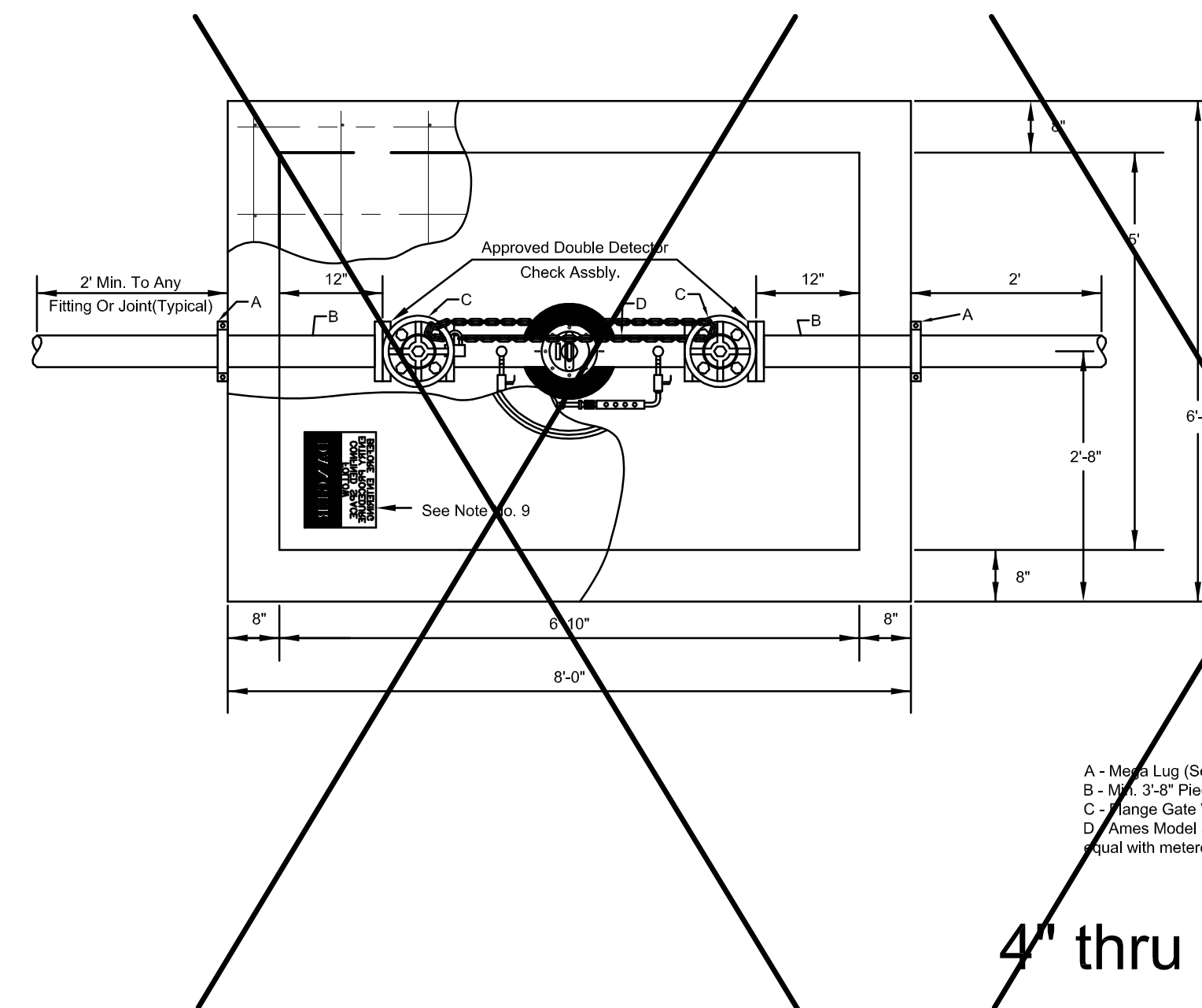
FINAL

Notes For All Services - 2" thru 12":

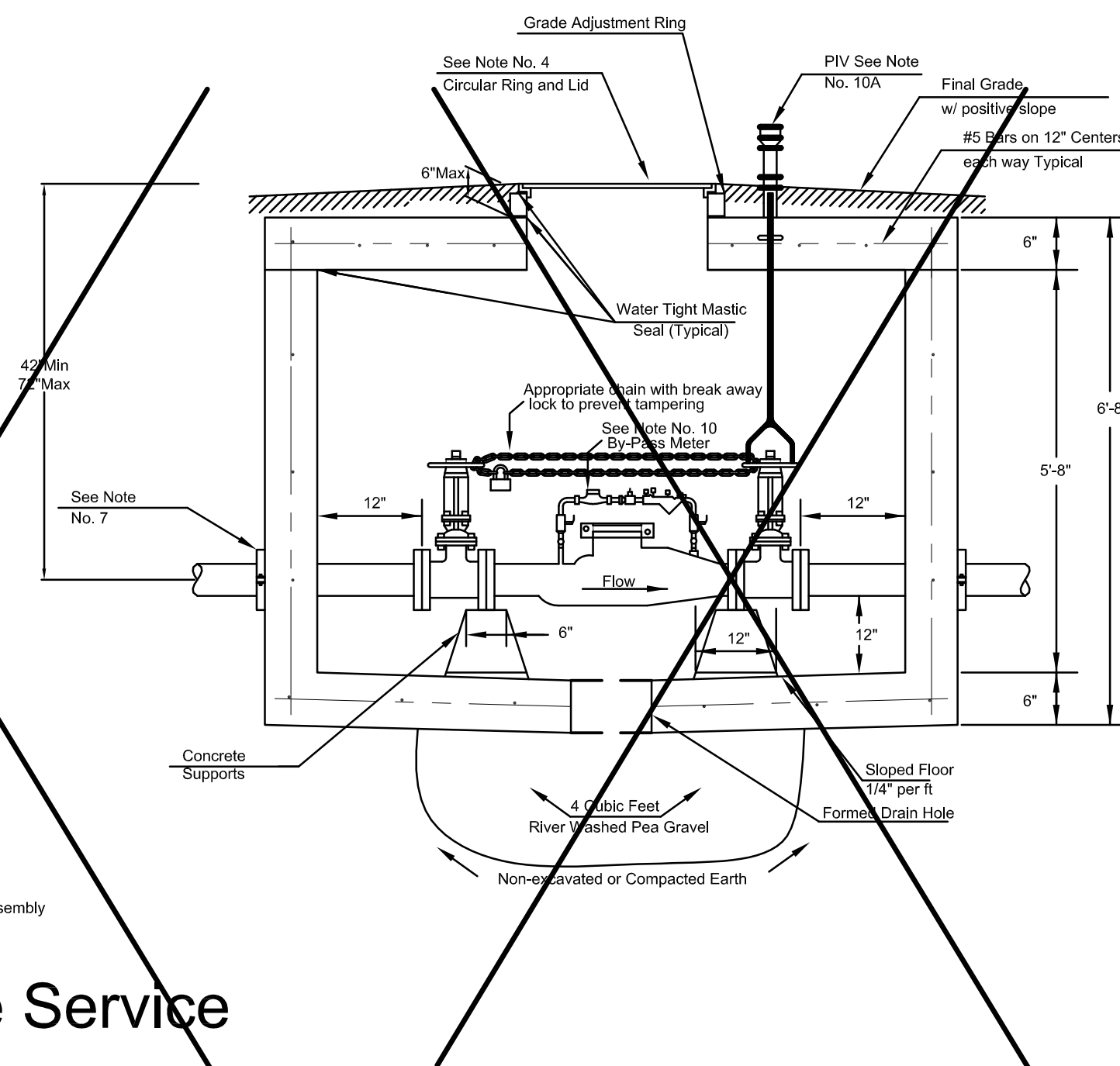
- When the standard vault dimensions are not applicable, such as when additional space is required for special pipe, fittings, additional meters, etc. the design engineer shall design a vault with the required dimensions for Water & Sewer Dept. approval and Public Works approval.
- The vault shall be 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.
- 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.
 - Gallon meters shall not be accepted.



2" Fire Service

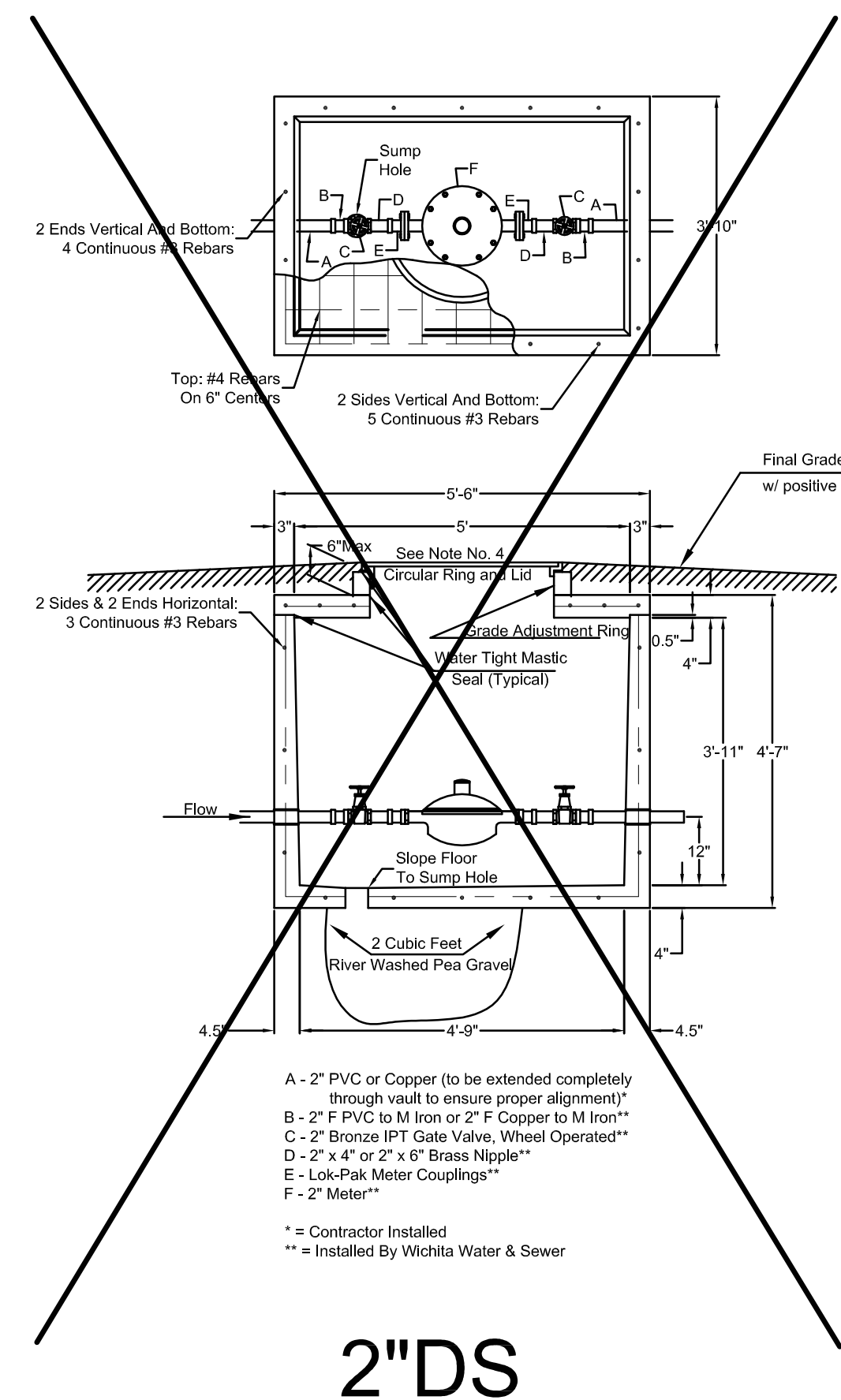


4" thru 8" Fire Service

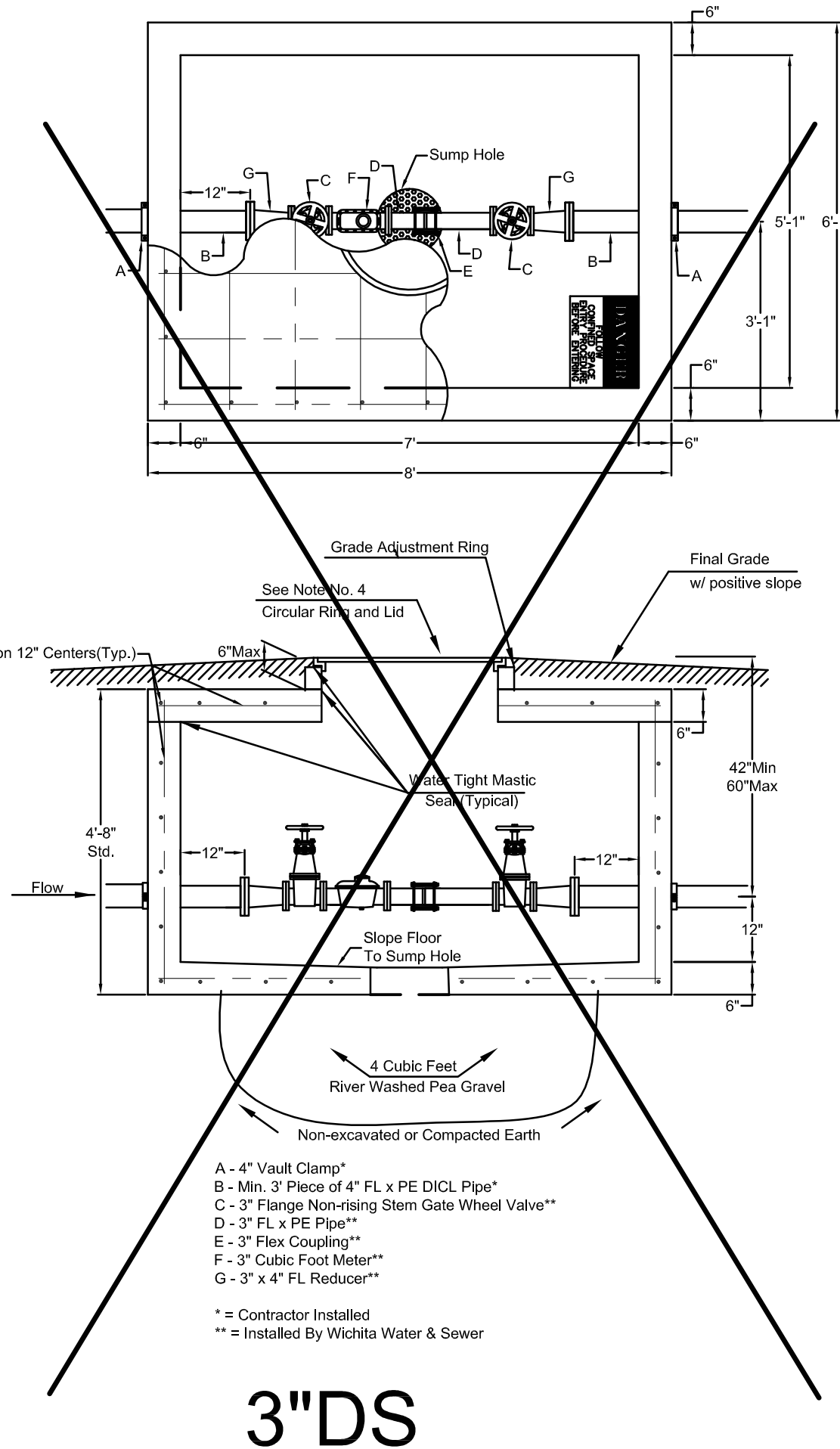


6" DS w/ 4" meter

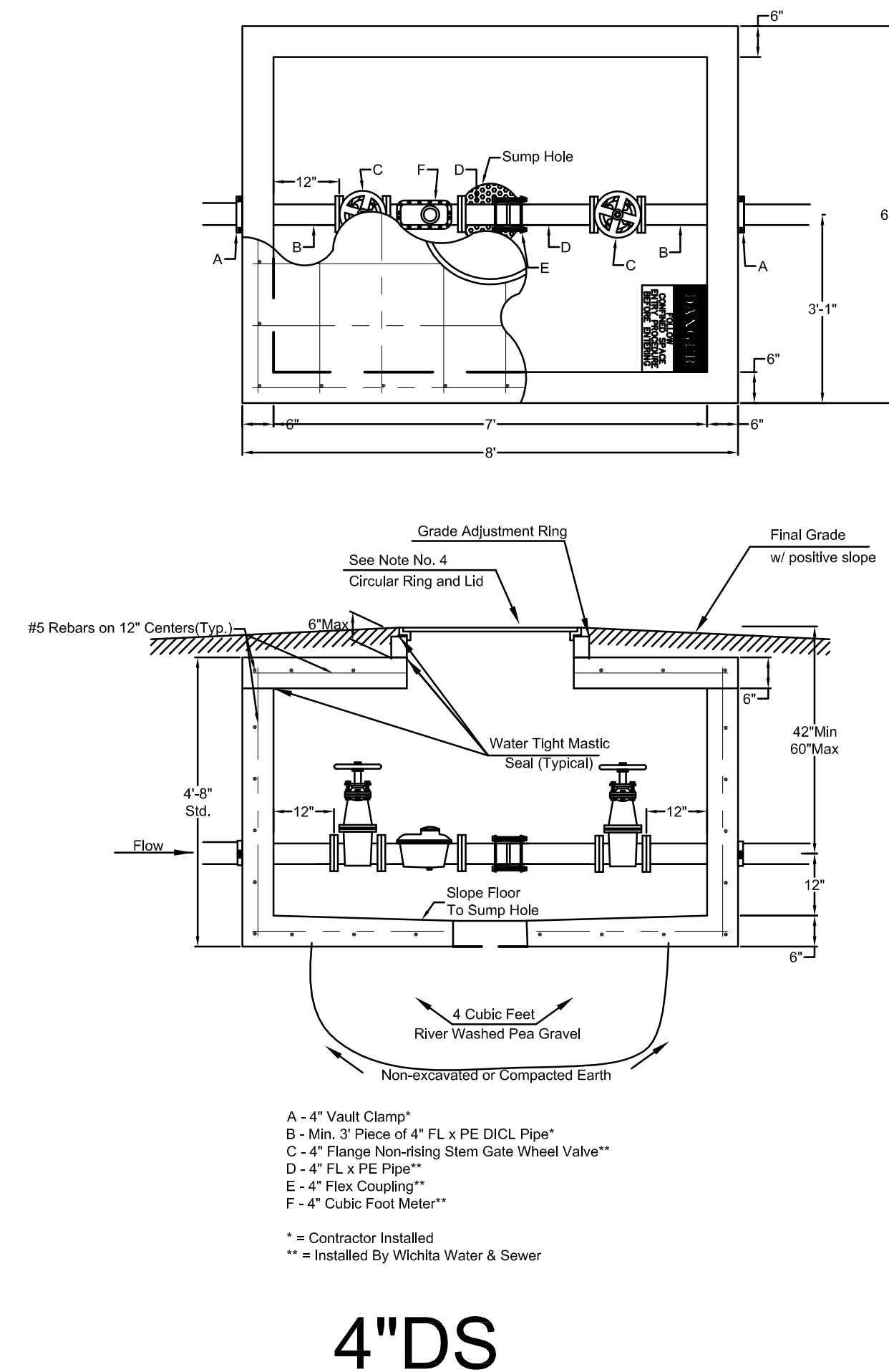
RECORD DRAWING
3-31-2010



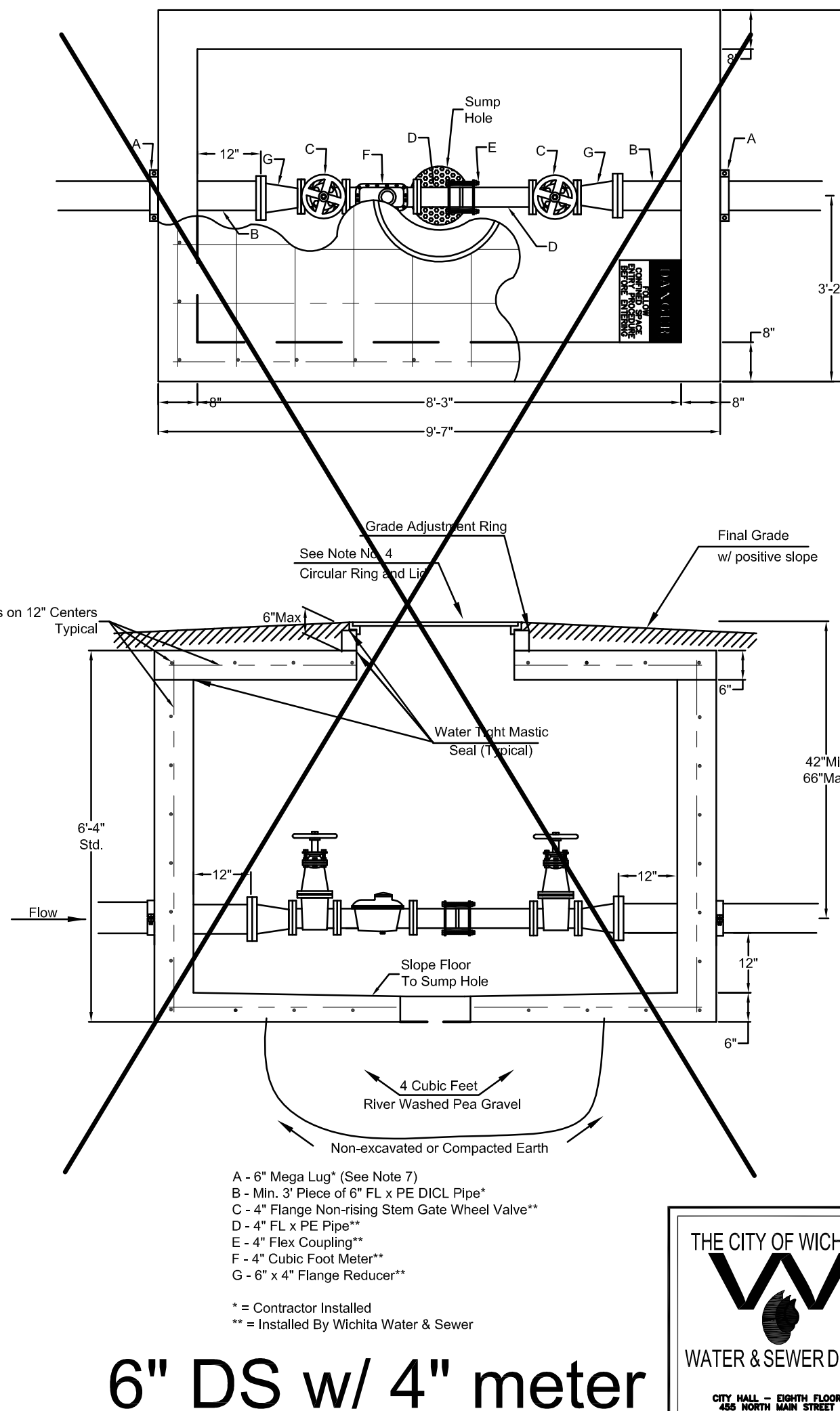
2"DS



3"DS



4"DS



THE CITY OF WICHITA
WATER & SEWER DEPT.

STANDARD VAULT DETAILS
AND METER ASSEMBLIES

D. R. WARREN - DIRECTOR

PROJECT NUMBER XXX-XXXX	INDEX CODE XXXXXX
DATE JULY 2000	REVISED DATE 3/25/01

POE & ASSOCIATES OF KANSAS, INC.
CONSULTING ENGINEERS
5900 E. Central, Suite 200 • Wichita, KS 67208 • 316/685-4114 • Fax: 316/685-4444

DESIGNED BY: J. Ubert
DRAWN BY: J. Ubert
JOB NO.: 1809
DATE: Sept. 2006

WATER MAIN IMPROVEMENTS TO TERRADYNE WEST
VAULT DETAILS
CITY OF WICHITA, KANSAS
JAMES L. ARMOUR, P.E. - CITY ENGINEER
C.O.W. Proj. No. 1257-PW Index Code 607853

TERRADYNE WEST

an Addition to Wichita, Sedgwick County, Kansas

E. 1/4 Corner
Sec. 13-127S-R2E
Found Bar w/Anderson

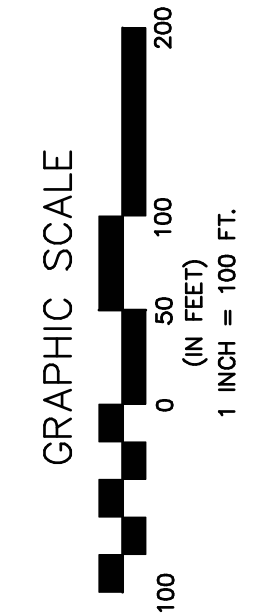
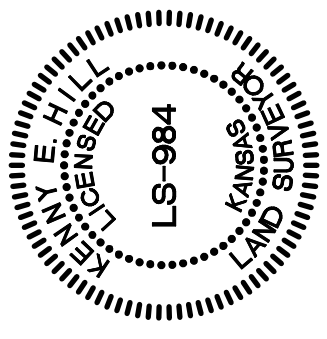
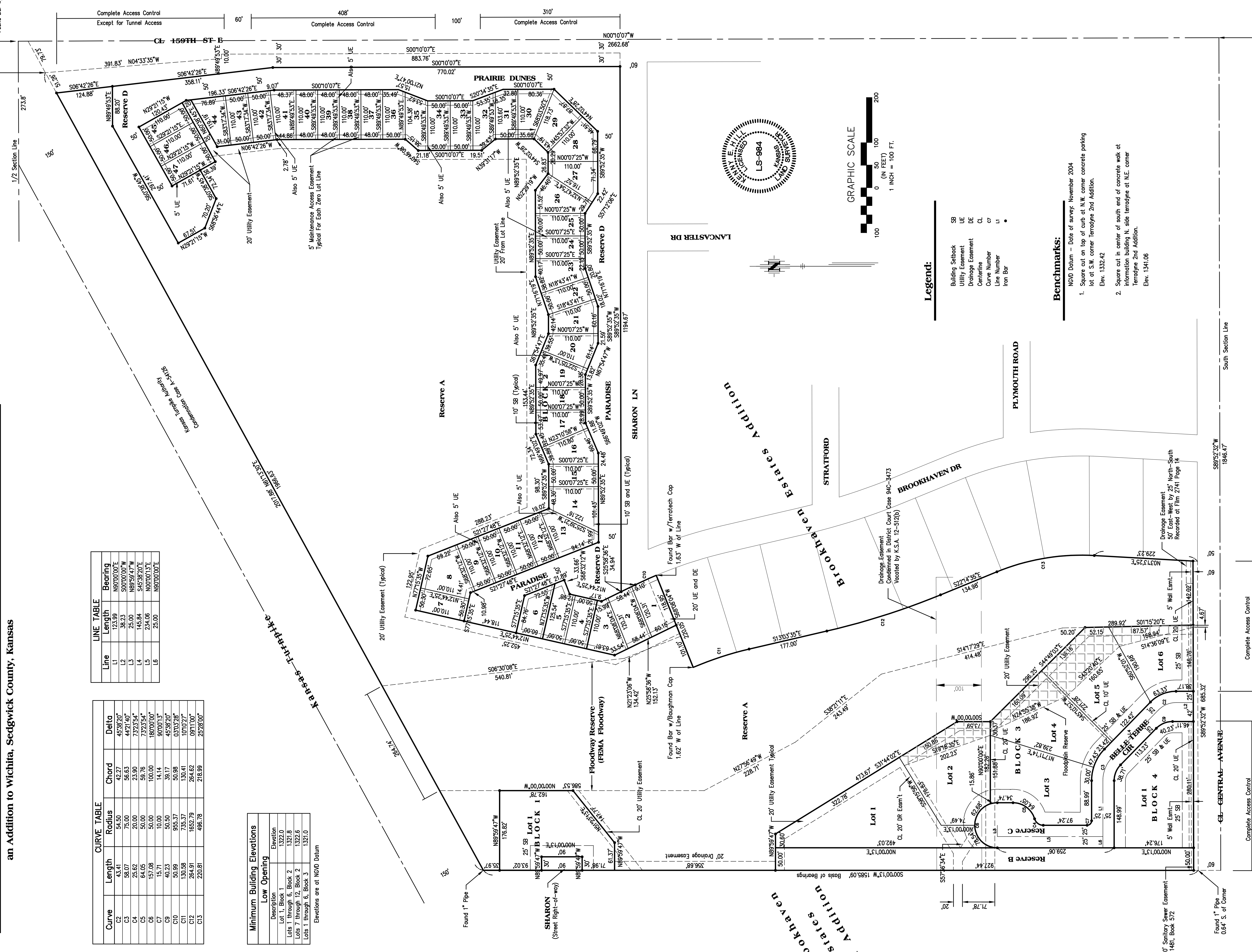
Line	Length	Bearing
L1	123.99	N90°00'00"E
L2	38.23	S00°00'00"W
L3	25.00	N89°59'47"W
L4	145.84	S45°38'20"E
L5	234.06	N00°00'13"E
L6	25.00	N90°00'00"E

Curve	Length	Radius	Chord	Delta
C2	43.41	54.50	42.27	45°38'20"
C3	58.07	75.00	56.63	44°21'40"
C4	23.82	20.00	23.90	73°25'54"
C5	64.65	50.00	59.78	73°25'54"
C6	157.06	50.00	100.00	180°00'00"
C7	15.71	10.00	14.14	90°00'13"
C9	40.23	50.50	39.17	45°38'20"
C10	50.89	55.37	50.96	63°03'28"
C11	130.36	75.57	130.41	101°02'7"
C12	264.91	162.79	264.82	89°11'00"
C13	220.81	486.78	216.99	25°29'00"

Minimum Building Elevations

Description	Elevation
Lot 1, Block 1	1322.0
Lots 1 through 6, Block 2	1322.8
Lots 7 through 12, Block 2	1322.6
Lots 1 through 6, Block 3	1321.0

Elevations are at NVD Datum



- Legend:**
- SB Building Setback
 - UE Utility Easement
 - DE Drainage Easement
 - CL Centerline
 - cr Curve Number
 - Li Line Number
 - Iron Bar

Benchmarks:

- NVD Datum - Date of survey, November, 2004
- Square cut on top of curb at N.W. corner concrete parking lot at S.W. corner Terradyne 2nd Addition.
Elev. 1332.42
 - Square cut in center of south end of concrete walk at information building N. side terradyne at N.E. center Terradyne 2nd Addition.
Elev. 1341.06

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