

GENERAL NOTES:

1. Contractor will be required to provide notice to utility companies a minimum of twenty-four (24) hours prior to any excavation, as follows:

Kansas One-Call (316)687-2470

The Contractor must notify the following in case of an emergency:

Cox Communications (316)262-4270  
or (316)263-2061

Westar Energy/  
Kansas Gas & Electric Company (800)482-4950  
AT&T 1-555-1212  
City of Wichita Water Department (316)268-4908  
City of Wichita Sewer Department (316)268-4071  
Aquila Natural Gas (316)941-1608  
or (800)303-0357

2. Exist. utilities and their locations, as shown on the plans, represent the best information attainable for design. Location information has been obtained from the various utility companies and is either from company record drawings or company-provided field locations. The Contractor will be required to work around existing utilities which do not conflict with proposed constructions.

3. The Contractor to verify utility locations prior to construction of this project.

4. Utility service and installation shall be coordinated with the respective utility owner. Contacts are:

Kansas Gas Service Jim Coe (316)832-3126  
Westar Energy Miles Capps (316)261-6251  
Aquila Networks Calvin Briggs (316)942-8811  
Wichita Water & Sewer Kerry Gibson (316)268-4555  
AT&T Jim Toben (316)268-2759  
Cox Communications Mark Anaya (316)262-4270

5. All lawn/turf areas disturbed by construction of proposed improvements shall be restored with the same grass as existing. Restoration of disturbed areas shall include, but not limited to, soil preparation, fertilizing, seeding, mulching (all seeded areas, outside the limits of erosion mat placement), and/or reseeded, and installation of erosion control mat. All seeding work shall be in accordance with the City of Wichita Standard Specifications and the City of Wichita Administrative Regulations No. AR 6.5 which governs cleanup and respiration or replacement following construction. All cost for the soil preparation, seeding and mulching (all seeded areas, outside the limits of erosion mat placement) shall be paid for through the lump sum bid item for "Seeding." All seeded areas within eight feet of the back of new curb shall be covered with an approved erosion mat, which shall be paid for by the measured quantity bid item "Back of Curb Protection (8' wide)."

6. Traffic affected by the construction of this project shall be handled in accordance with the latest edition of the Manual on Uniform Traffic Control Devices.

7. It is the contractor's responsibility to visit this site to better understand the extent of site clearing and restoration to be performed. Site Clearing and Restoration shall include all costs for removal of items which a pay item is not provided.

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 the construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.

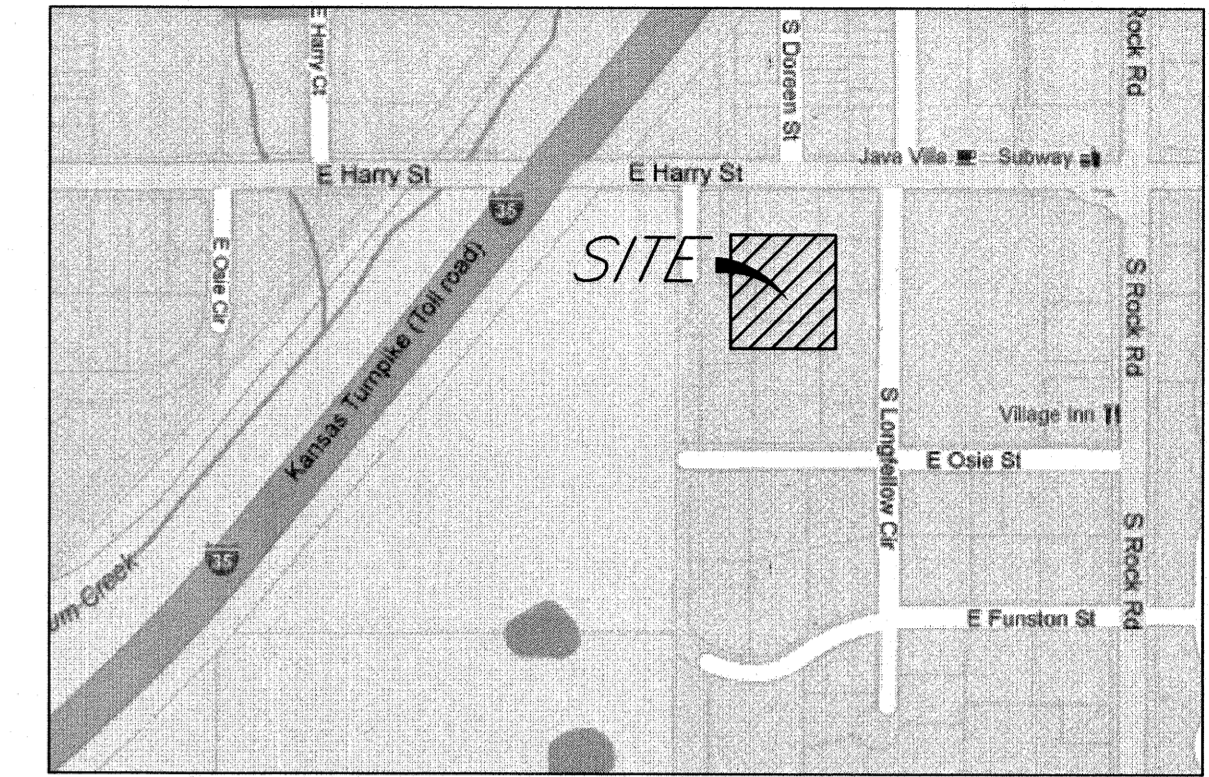
9. Properties within the project limits may have underground sprinkler systems in public right-of-way which conflict with new construction. Contractor will be required to remove such improvements should they not be removed by their owner at the time of construction of the project. The contractor will be required to salvage all sprinkler heads and/or valves and give such material to owner. Portions of underground sprinkler systems not in conflict with new construction shall be protected from damage and shall remain in place. All work in connection with underground sprinkler systems shall be considered as subsidiary to the contract pay items for work.

10. Cuts made in paved surfaces on public property will be repaired by the City's Contractor and charged against the contractor. Unit Repair prices are available from the city at 268-4418. A surcharge may be applicable. Call 268-4418 for details. Repair costs to be paid prior to release of utility service if utilities are effected.

# WATER LINE TO SERVE TRAN AEROSPACE WATERLINE

Part of Lot 2 Block 2 Levitt Industrial Park  
7709 E. Harry Street  
1727 PPW (607853)

CITY OF WICHITA, KANSAS  
Gary Janzen, P.E., City Engineer



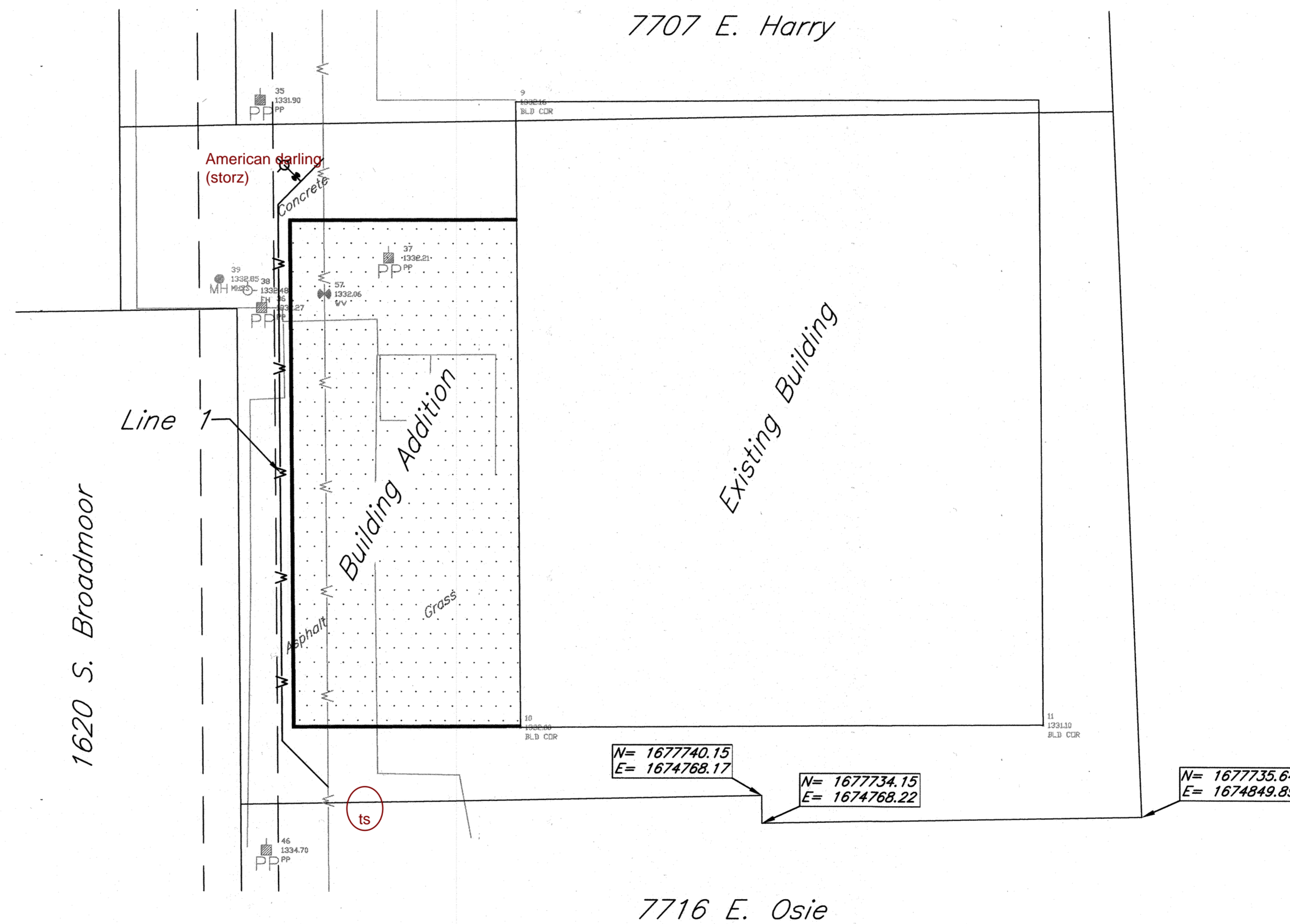
LOCATION MAP  
(For Visual Use Only)

Index of Sheets:

- 1.0 Cover Sheet
- 2.0 Plan & Profiles
- 3.0 Details

Benchmark:

North rim of sanitary sewer manhole located approximately 63' West and 38' South of the northwest corner of Tran Aerospace at 7707 E. Harry.  
Elevation=1332.85 NAVD 88



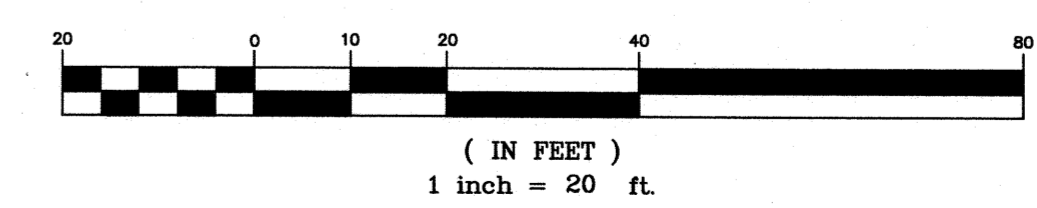
AS-BUILTS  
CONTRACTOR: C-K CONTRACTING  
INSPECTOR: LARRY GANN  
K.E. MILLER ENGINEERING  
DATE: 5/10/2013

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

Public Works *[Signature]* 3-7-13  
Water & Sewer *[Signature]* 3-7-13  
Fire *[Signature]* 3-11-2013

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).

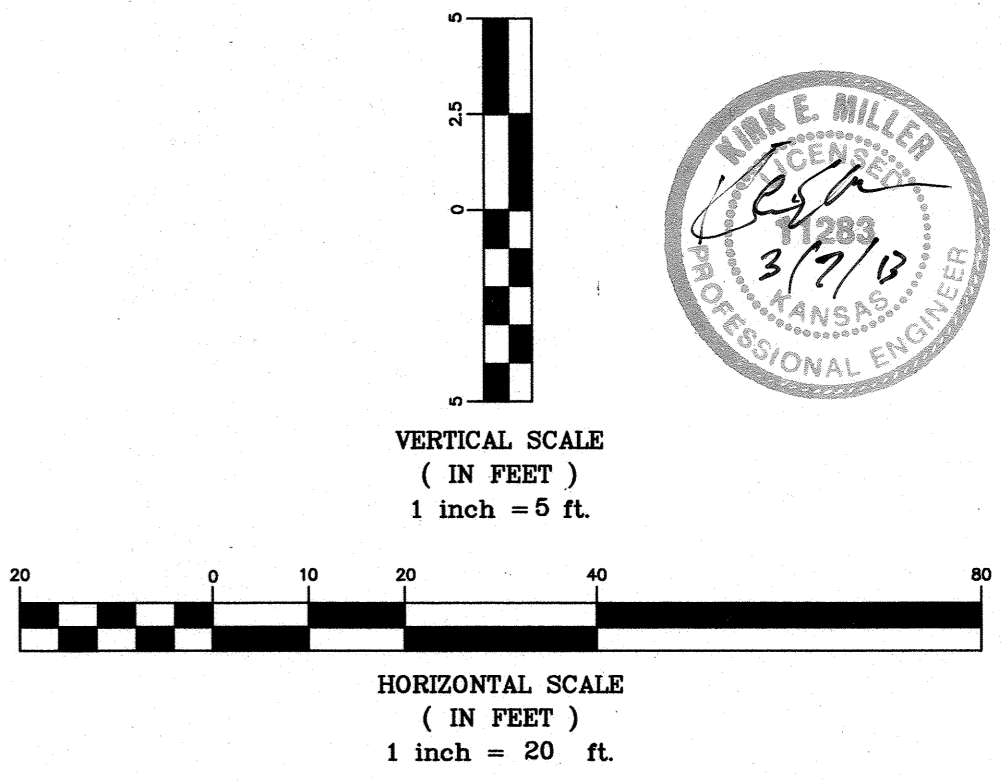
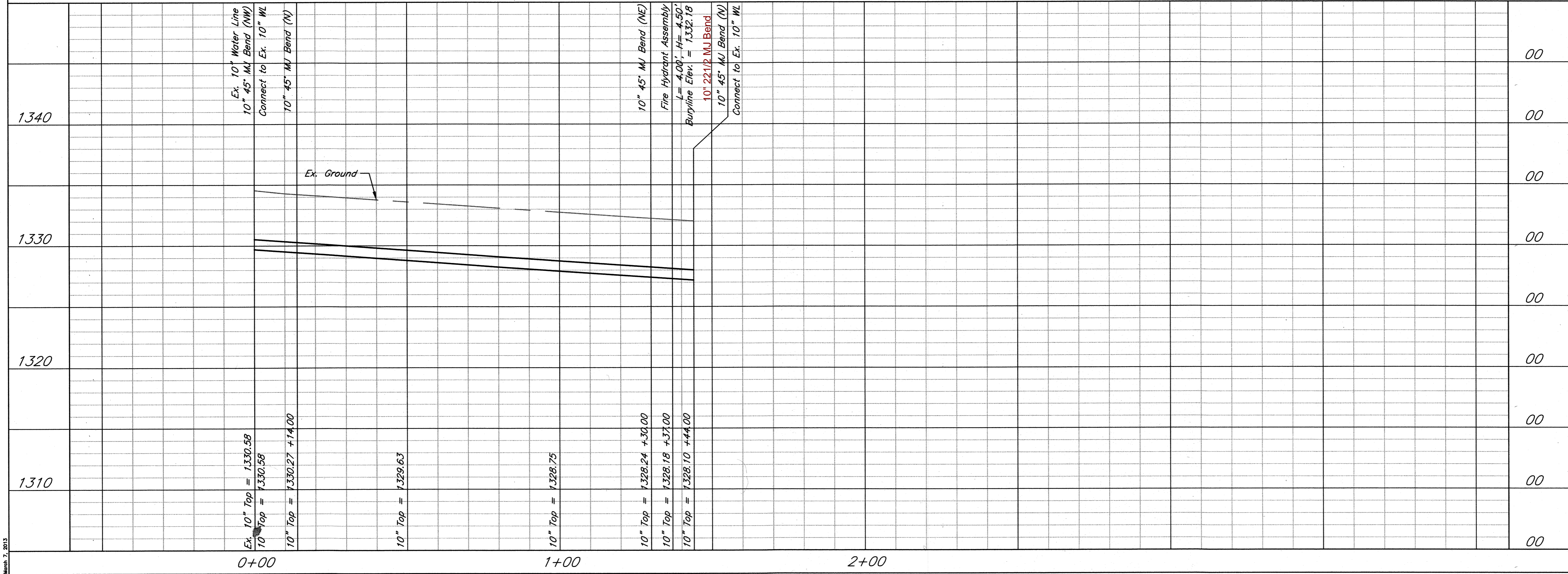
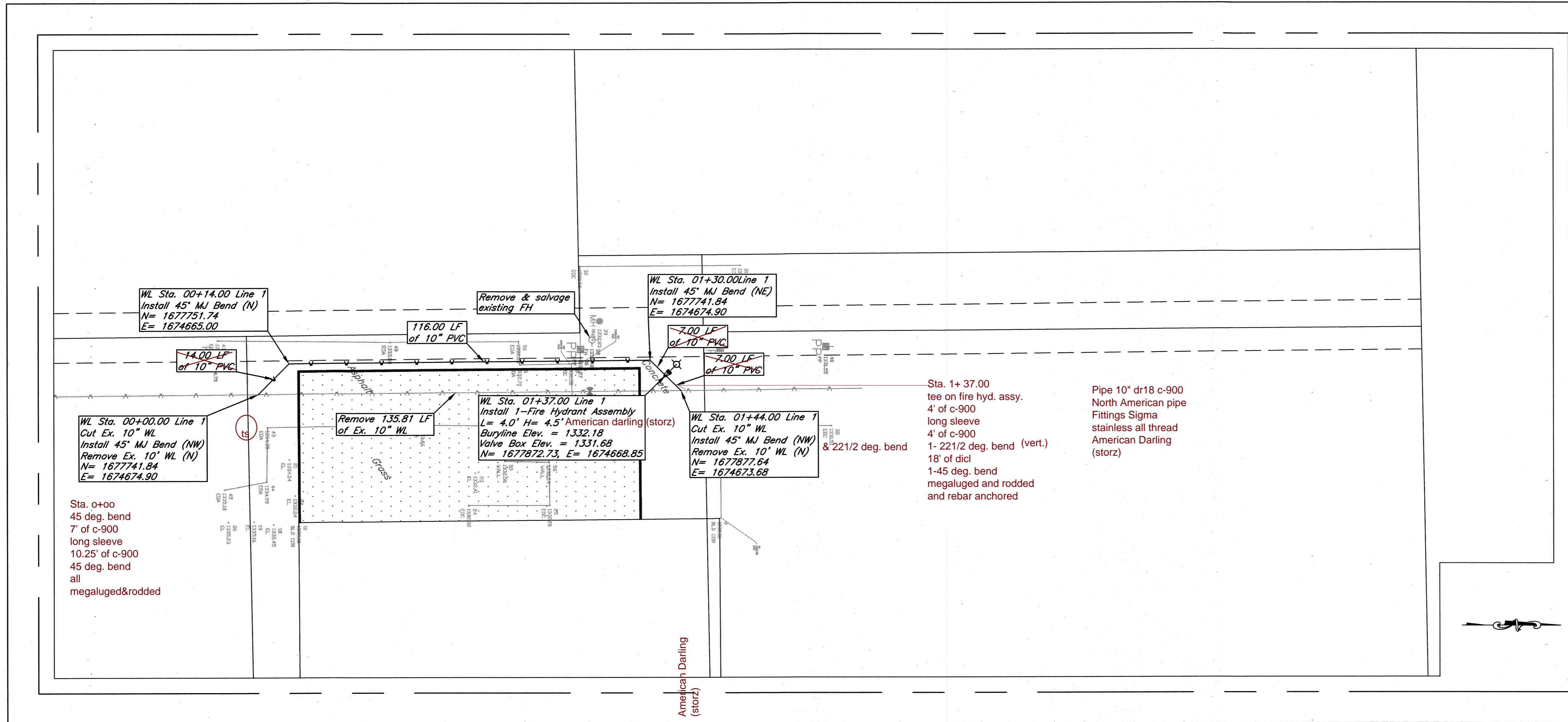
Private Property:  
Installation and testing for the fire protection line is to be performed by a City of Wichita licensed fire protection contractor in accordance with the fire codes as adopted by the City of Wichita. All material and construction practices for the fire protection line shall comply 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.



February 2013

**kemiller**  
engineering

516 S. Market, Wichita, KS 67202 (316)264-0242

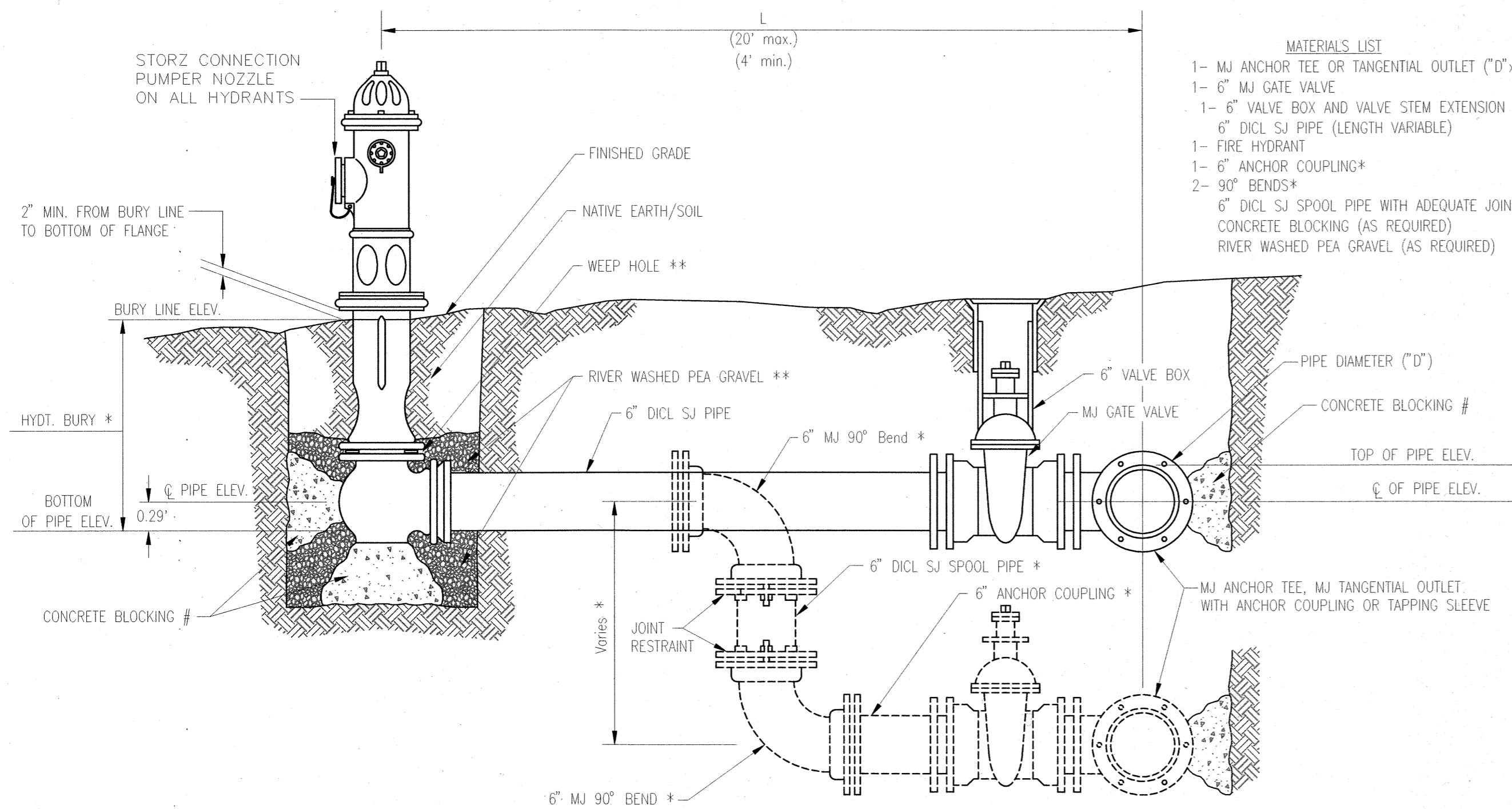


Tran Aerospace Waterline  
Water Line  
Wichita, Kansas



PROJECT NUMBER			
KEM NO. 12148	FILE	DATE 02/28/2013	SHEET 2.0
DESIGN GP	DRAWN ME	REVISED	

March 7, 2013



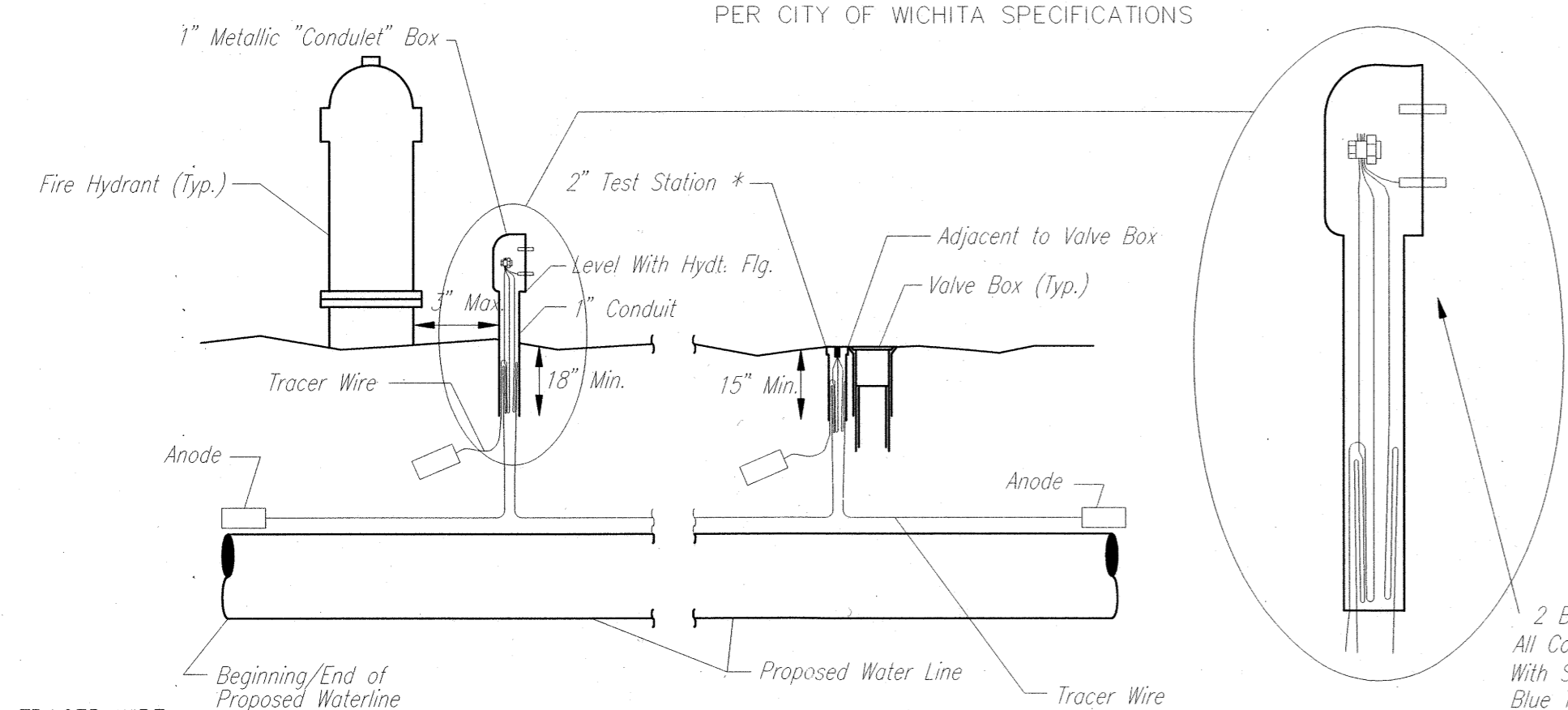
- MATERIALS LIST**
- 1- MJ ANCHOR TEE OR TANGENTIAL OUTLET ("0" x 6")
  - 1- 6" MJ GATE VALVE
  - 1- 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED \*
  - 6" DI CL SJ PIPE (LENGTH VARIABLE)
  - 1- FIRE HYDRANT
  - 1- 6" ANCHOR COUPLING\*
  - 2- 90° BENDS\*
  - 6" DI CL SJ SPOOL PIPE WITH ADEQUATE 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 SPOOL PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEALUGS, ROD AND LUG 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 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 3 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.

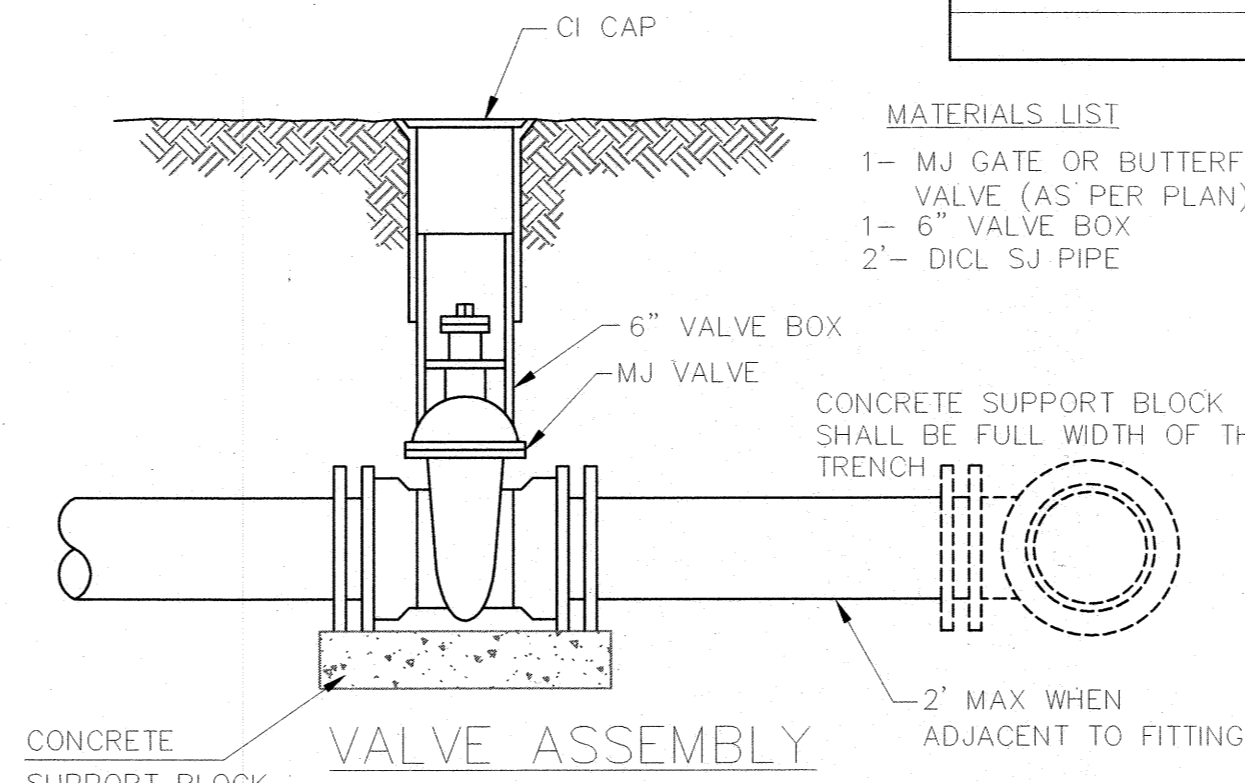
**WIRE**  
The tracer wire shall be Blue No. 12 THHN annealed soft copper wire with thermal plastic insulation or Blue No. 12 AWG CCS with 30 mil HDPE insulation. The insulation shall be heat, oil, and gasoline resistant as manufactured by Temple Electric or approved equal. To allow for grade adjustment, 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 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 "condulet" 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 "condulet" style test station 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.

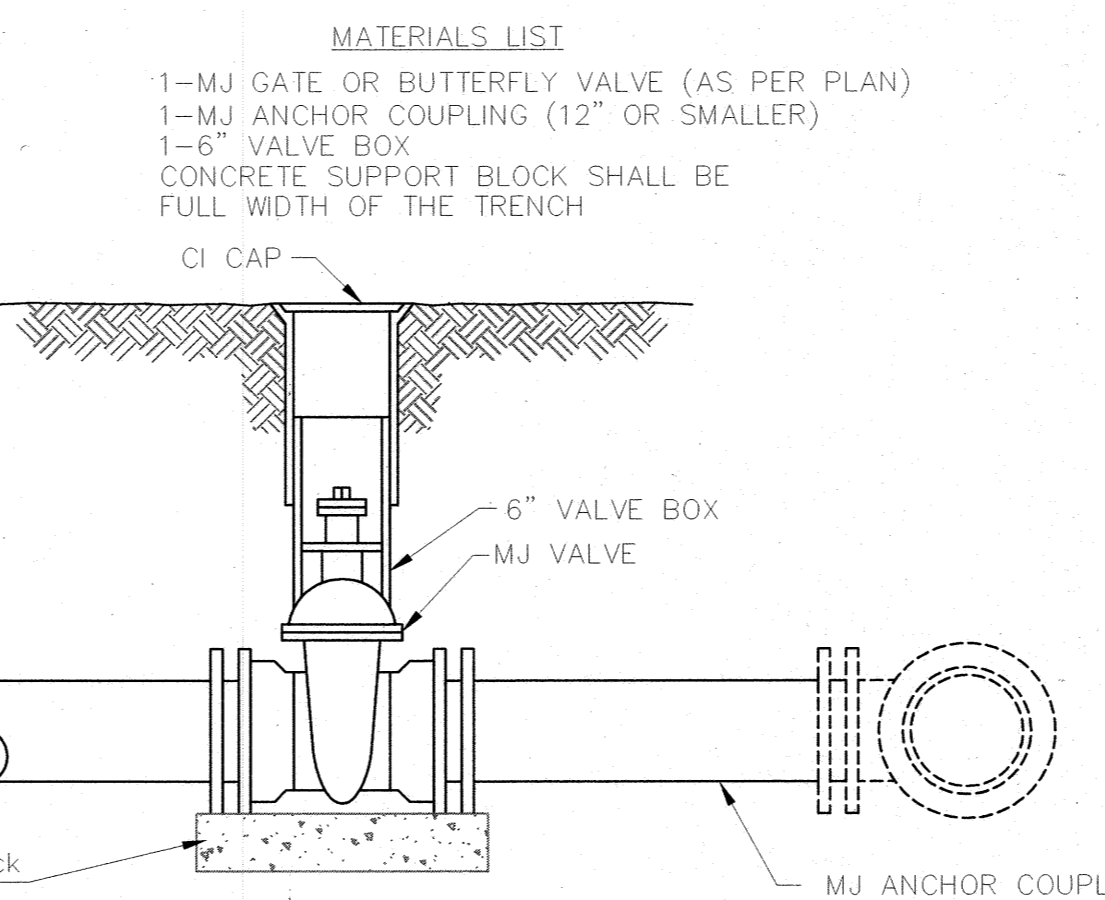
**ANODES**  
The anodes shall be 3 lb. bare zinc or magnesium. The anodes shall be buried at the same elevation as the waterline at each test station. The anodes shall be connected to Black No. 12 THHN annealed soft copper wire which shall be extended to the test station.

**TRACER WIRE DETAIL**  
COST IS SUBSIDIARY TO PIPE INSTALLATION

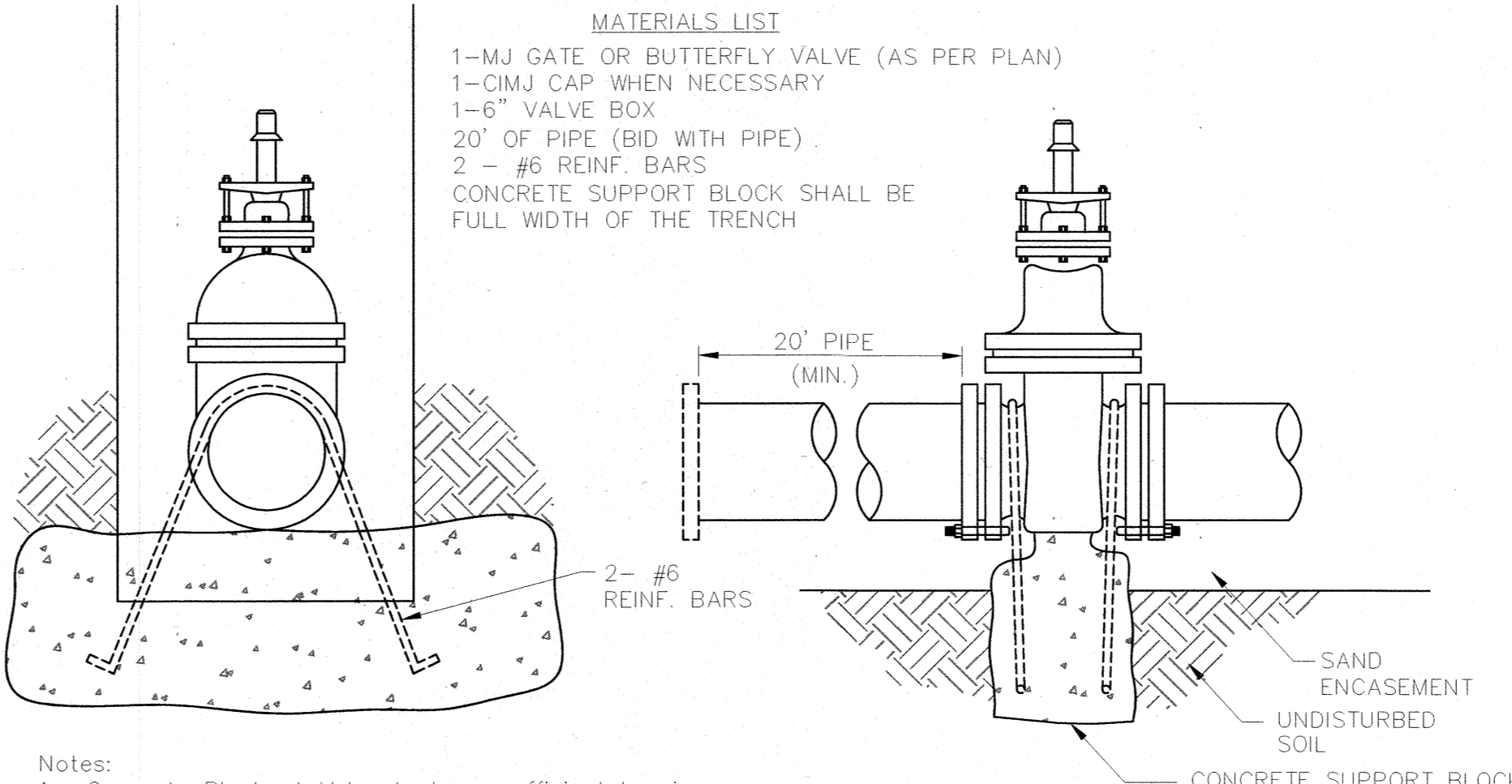
FIRE HYDRANTS REQUIRED				
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*
01+30.85	1332.18	1328.18		



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



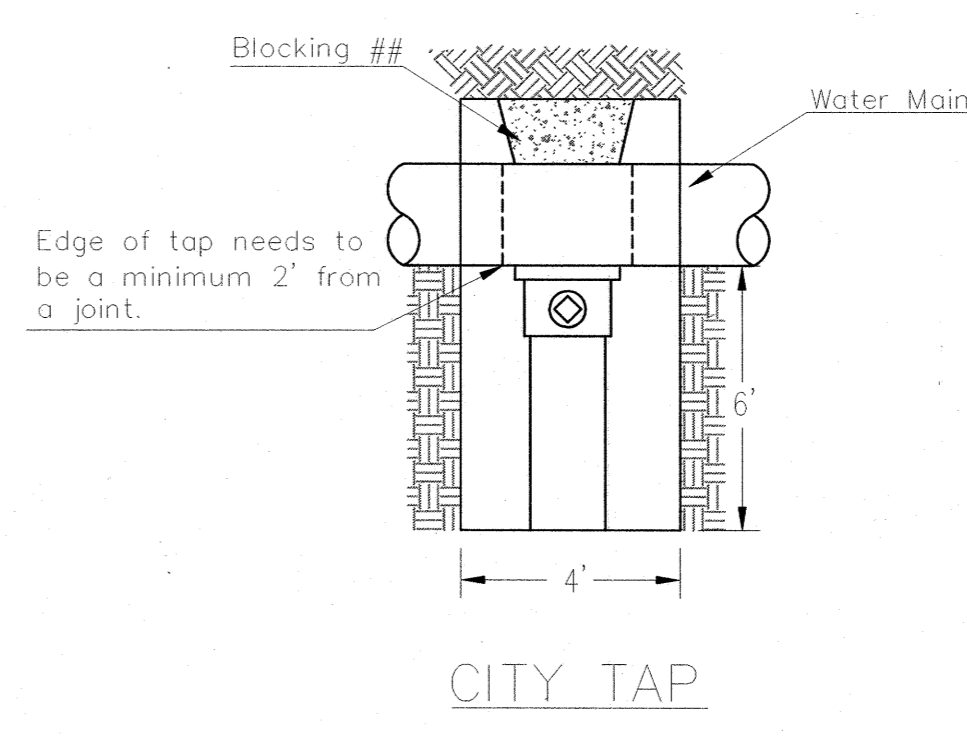
**ANCHORED VALVE ASSEMBLY**



**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.

THRUST AT VALVES	
VALVE	THRUST AT 150 #/in <sup>2</sup>
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.

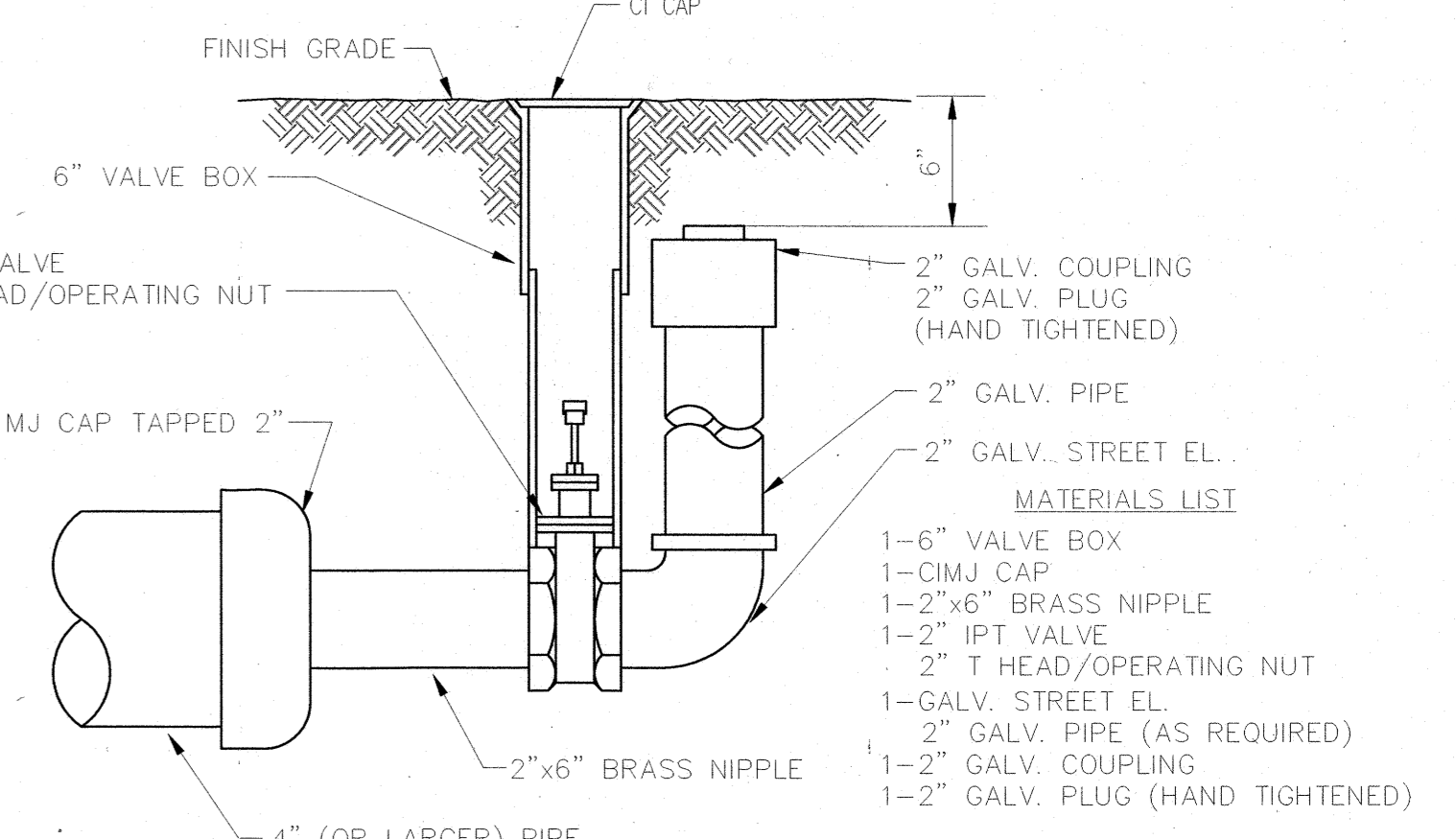


Edge of top needs to be a minimum 2' from a joint.

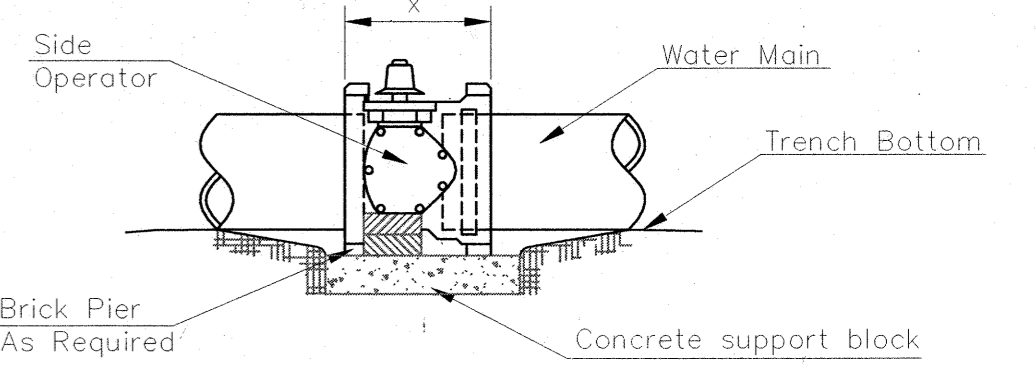
## When the City of Wichita makes top, blocking is to be done by Contractor

**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)



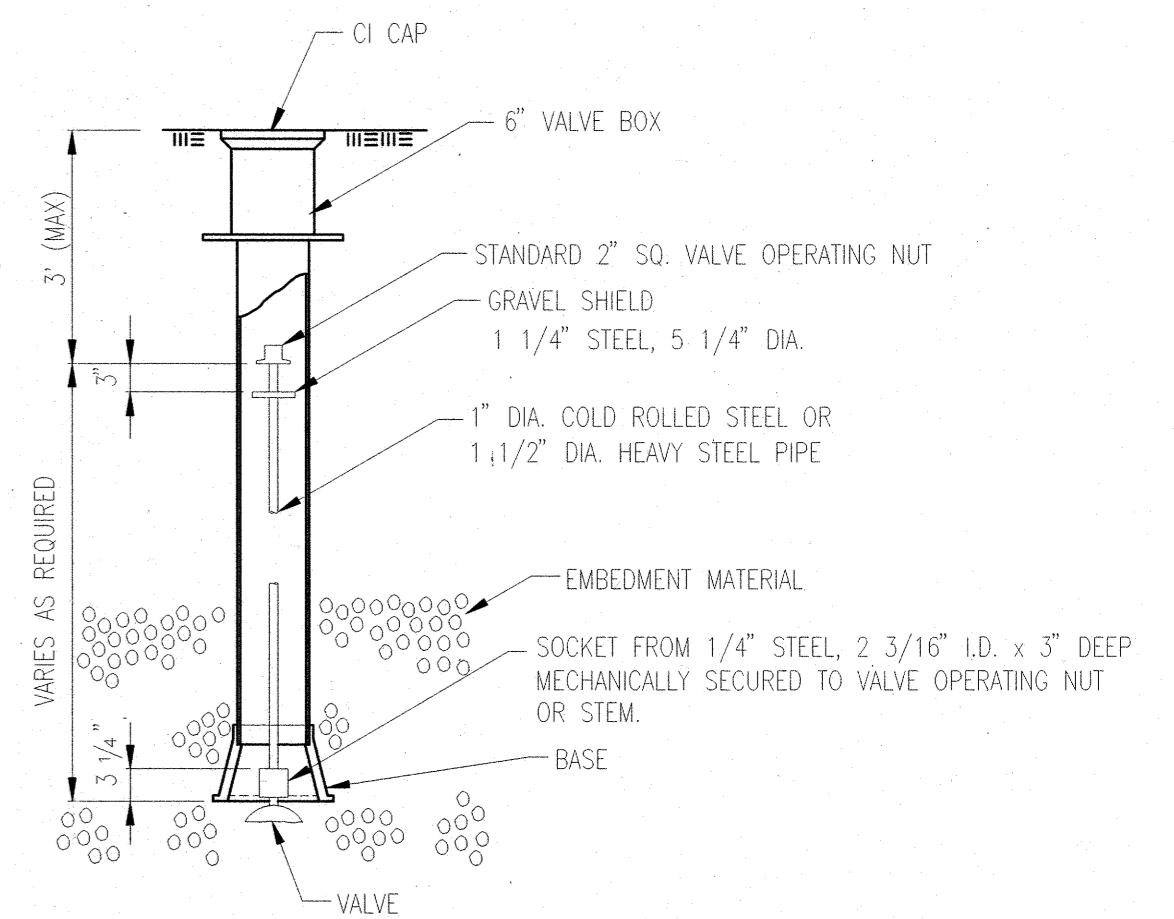
**2" BLOWOFF ASSEMBLY**



**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'.

**CITY OF WICHITA**  
PUBLIC WORKS & UTILITIES  
ENGINEERING DIVISION

**STANDARD WATER ASSEMBLY DETAIL**

CITY ENGINEER  
**JAMES L. ARMOUR, P.E., L.S.**

PROJECT NUMBER	OCA NUMBER	DATE
-	-	12/2011

CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4501

SHEET  
**3.0**