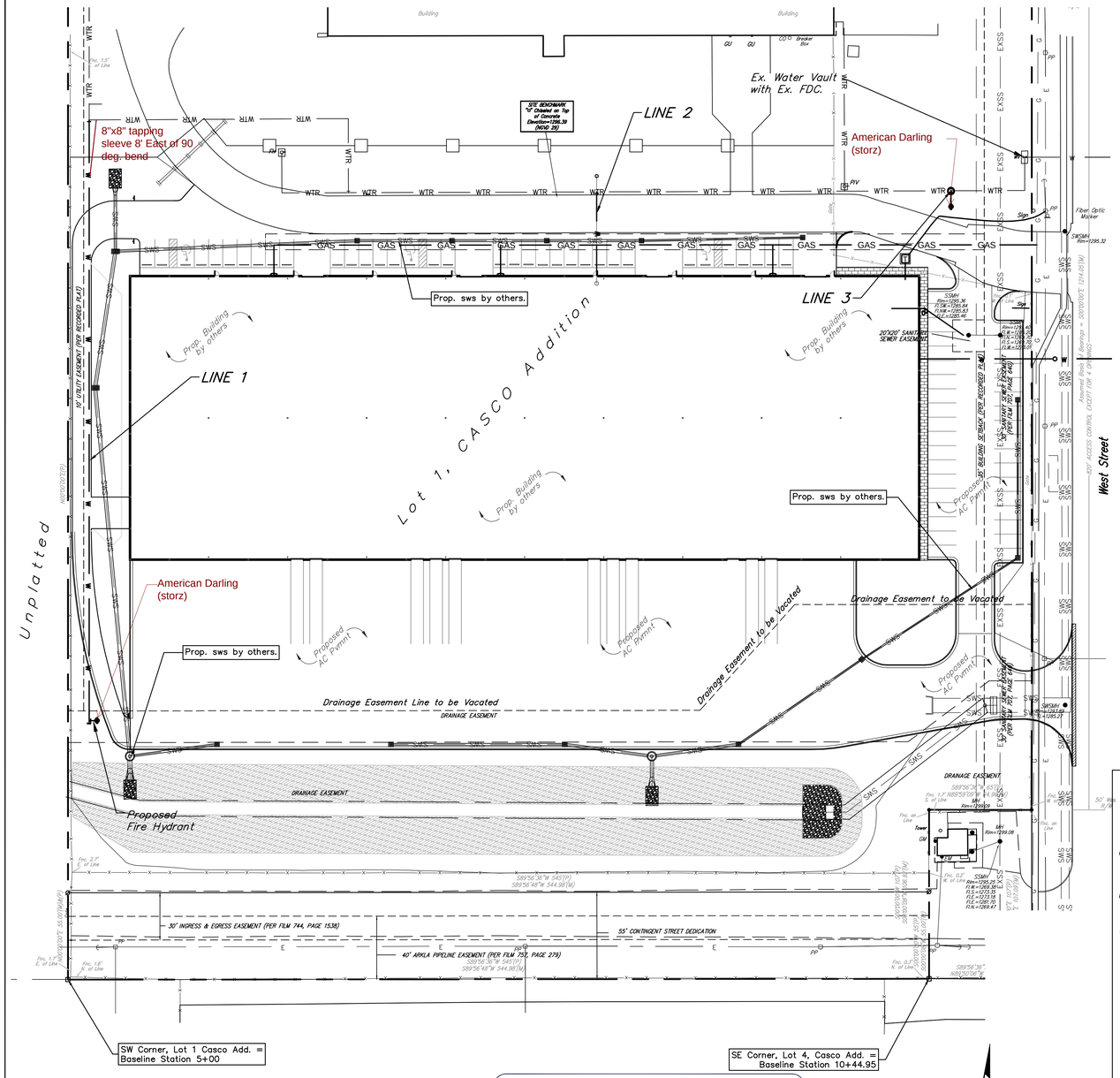


AS BUILTS

Contractor:	Project Inspector:
Midwest Fire Protection Services	Larry Gann
5/14/2013	kemiller engineering, 516 S. Market, Wichita, KS 67202, (316)264-0242

Water Lines and Fire Hydrant Improvements

Lot 1, Excluding the North 390'

CASCO ADDITION, WICHITA, KANSAS

Private Project Water: 1698 PPW (607853)

CITY OF WICHITA, KANSAS

Gary Janzen, P.E. City Engineer

OCTOBER 2012

LEGEND

Existing Utilities

UGE	UGE	Electric Underground
OHE	OHE	Electric Overhead
WTR	WTR	Water Line
GAS	GAS	Gas Line
PIPELINE		Petroleum Pipeline
SWS	SWS	Storm Water Sewer Pipe
EXSS	EXSS	Sanitary Sewer Line
TELE	TELE	Telecommunication (AT&T)
CaTV	CaTV	Telecommunication (Cox)

Benchmarks

Benchmark–1
"□" Chiseled on top of concrete approx. 300' west of east property line, 494' north of south property line.
Elev. = 1296.39 (NGVD 29)

Sheet Index

Legal Description

Lot 1, Casco Addition, Wichita, Kansas.

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

Public Works _____

Water & Sewer Greg Tolle 10-30-12

Fire _____ 10-30-2012

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.

1. *Contractor will be required to provide notice to utility companies a minimum of forty–eight (48) hours prior to any excavation, as follows:*

Kansas One–Call	*687–2470*

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

Cox Communications	*262–4270*
Kansas Gas Service	*1–888–482–4950*
Westar Energy	*383–8650*
Black Hills Energy (Gas)	*1–800–303–0357*
ATT	*268–2245*
City of Wichita Water Dept.	*268–4563*
City of Wichita Sewer Maint.	*268–4024*
City of Wichita Storm Sewer Maint.	*268–4090*
City of Wichita Traffic Maint.	*268–4034*

2. *Utility service lines, poles, valve boxes, meters, and etcetera 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.*

3. *All disturbed R/W areas not intended for pavement or sidewalk construction shall be seeded with Kansas Premium Fescue Blend at a rate of 8 lb./1000 Sq. Ft., fertilized with a 16–20–6 ratio at a rate of 4 lb./1000 Sq. Ft., and mulched with Prairie Hay at a rate of 92 lb./1000 Sq. Ft. Mulch shall be "patted" with forks or punched into soil to reduce loss due to wind.*

4. *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 would 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 would require additional archaeological investigations unless buried in a previously approved borrow location.*

5. *Contractor to remove concrete sidewalk to the nearest construction joint if within 3' of joint. Saw cut if over 3' from joint. Removal and replacement of pavement shall not be paid for directly, but shall be considered incidental to other items in the project.*

6. *Contractor shall furnish the inspector with a copy of the manufacturer's certification for any pipe used on this project after completion of pipe installation. The engineer will not certify the project to the city until pipe certification has been received.*

7. *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.*

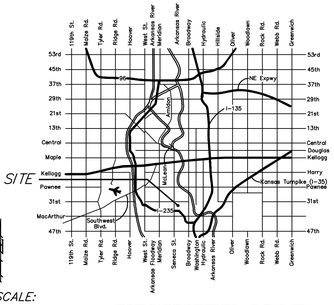
8. *All water lines and appurtenances shall be installed in accordance with the most recent edition of City of Wichita, Kansas Standard Specifications for the Construction of City Projects.*

9. *Contractor shall not start work on the project until the project inspector is assigned to the project and is present on the site. Contractor shall not start on the project until all necessary bonds and permits have been obtained. Bonds may include but are not limited to Statutory, Performance & Maintenance Any work done without inspection will be required to be uncovered for inspection.*

10. *The fire system will need to meet City of Wichita Municipal Code Section 21.12.150 after alteration.*

PATRICK SHAWN BAKER
LICENSED
16976
KANSAS
PROFESSIONAL ENGINEER
6/1/13

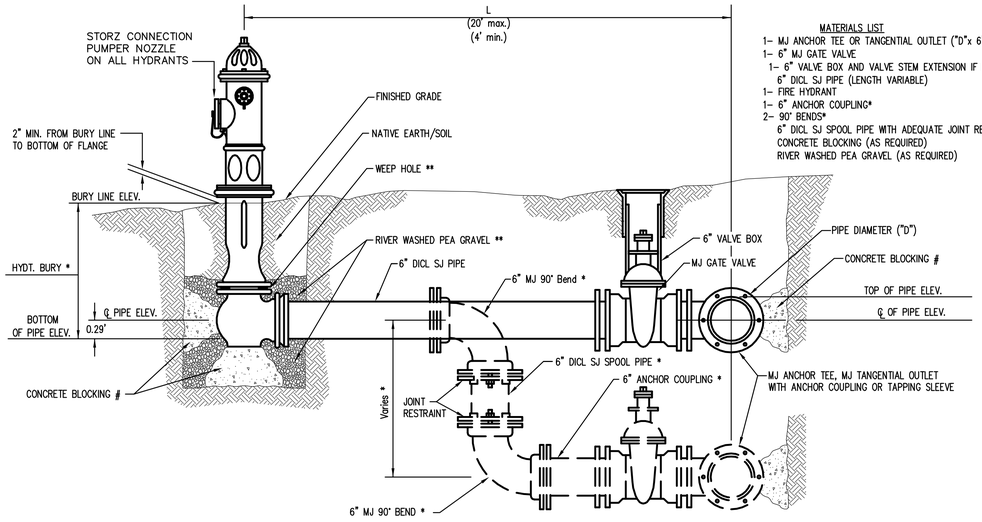
NO SCALE:



VICINITY MAP

Baughman

Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE



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" DICL SJ PIPE (LENGTH VARIABLE)
1– FIRE HYDRANT
1– 6" ANCHOR COUPLING*
2– 90° BENDS*
6" DICL SJ SPOOL PIPE WITH ADEQUATE JOINT RESTRAINT *
CONCRETE BLOCKING (AS REQUIRED)
RIVER WASHED PEA GRAVEL (AS REQUIRED)

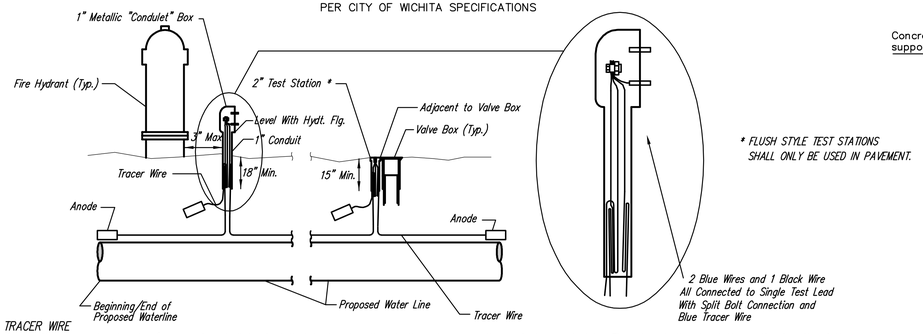
* IF THE REQUIRED HYDRANT BURY IS IN EXCESS OF 5', BUT LESS THAN 7', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY. IF THE REQUIRED HYDRANT BURY IS GREATER THAN 7', CONTRACTOR SHALL USE 5' HYDRANT BURY, 2–MJ 90° BENDS, 6" ANCHOR COUPLING AND 6" DICL SPOOL PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEGALUGS, 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



* FLUSH STYLE TEST STATIONS SHALL ONLY BE USED IN PAVEMENT.

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 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

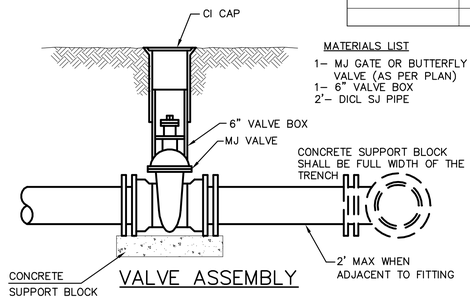
The test station for fire hydrant applications shall be a 1 inch galvanized "condulet" style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for valve applications shall be 2 inch flush style test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



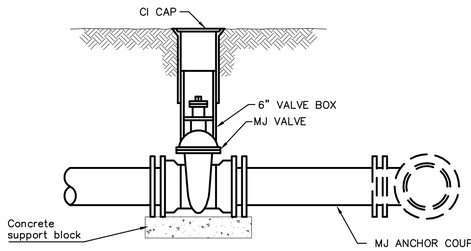
MATERIALS LIST

1– MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
1– 6" VALVE BOX
2'– DICL SJ PIPE

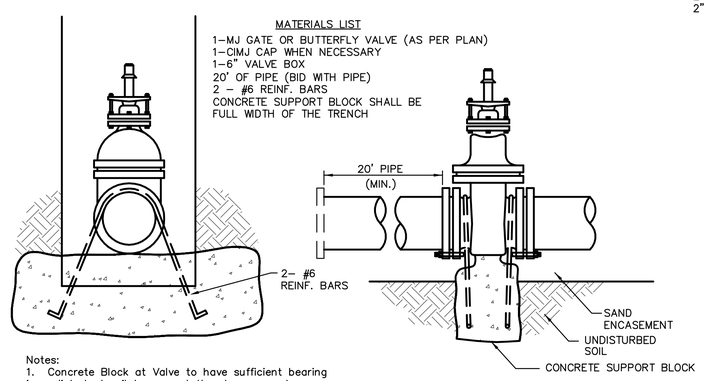
VALVE ASSEMBLY

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



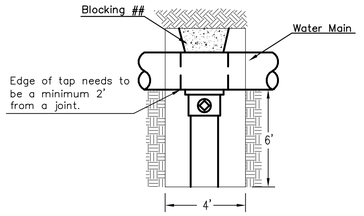
Notes:

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 #/in²
4"	1809 lbs.
6"	4245 lbs.
8"	7540 lbs.
12"	16965 lbs.

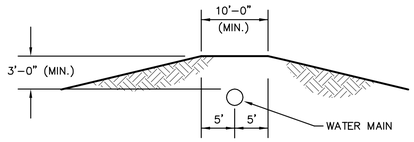
ANCHORED VALVE ASSEMBLY, SPECIAL

FIRE HYDRANTS REQUIRED				
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*
Line 1, 3+80.00	1293.59	1289.75	4.5'	
Line 3, 0+00	1296.35	1292.50	4.5'	



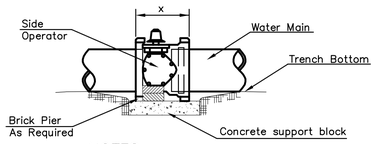
CITY TAP

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



PROTECTIVE FILL DETAIL

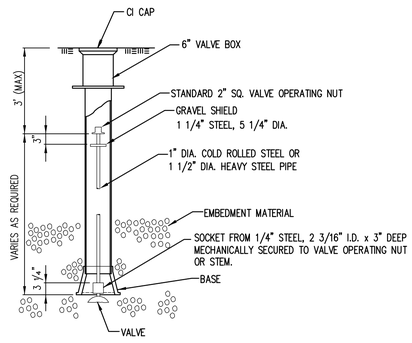
MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN 3'. (COST SUBSIDIARY TO PIPE INSTALLATION)



NOTES

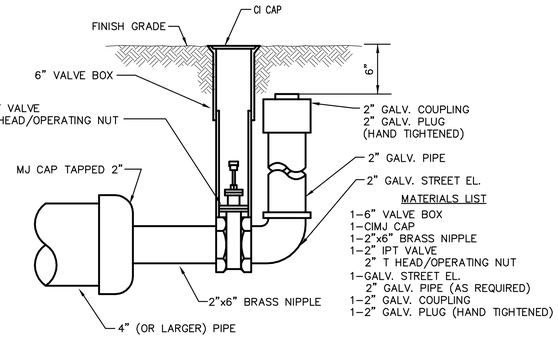
1. This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
2. 6" Valve Box and Cover required per City of Wichita Std. Specifications.
3. Conc. Support Block to be full width of trench.

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

E:\Projects\Cosco Addition Site Plan 12-01-E712\Engineering\CI_PPW.dwg

CITY OF WICHITA

PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STANDARD
WATER ASSEMBLY
DETAIL

CITY ENGINEER
Gary Janzen, P.E. City Engineer

PROJECT NUMBER	OCA NUMBER	DATE
1698PPW(607853)	na	01/2012

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

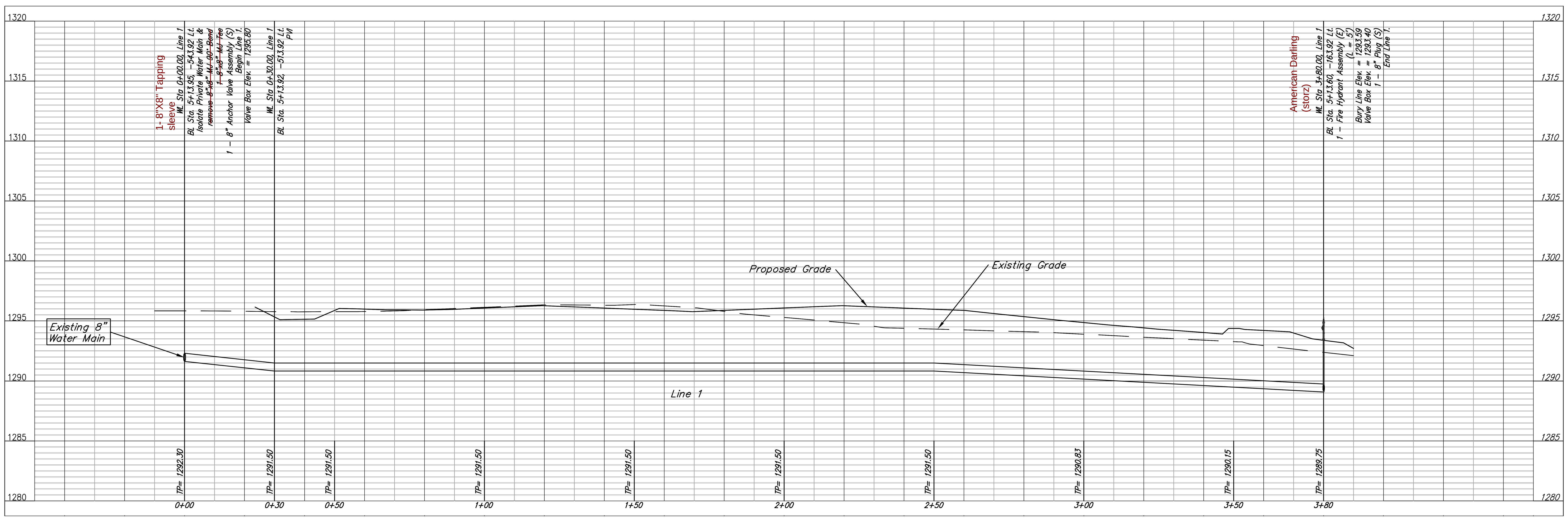
SHEET
2 of 4

Benchmark-1
"□" Chiseled on top of concrete approx. 300' west of east property line, 494' north of south property line.
Elev. = 1296.39 (NGVD 29)

AS BUILTS

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

General Note: The fire system will need to meet City of Wichita Municipal Code, Section 21.12.150 after alteration.



PATRICK SHAWN BAER LICENSED 15976 KANSAS PROFESSIONAL ENGINEER

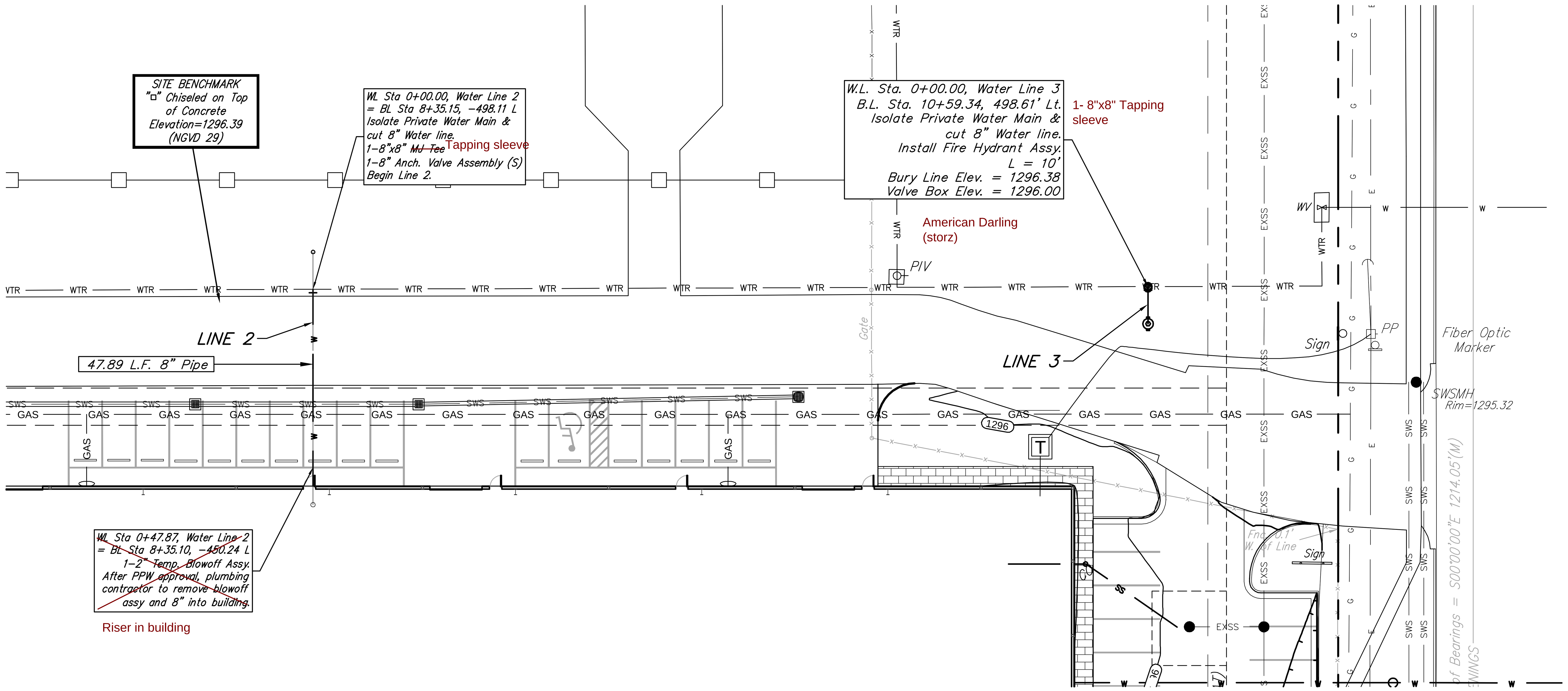
Baughman Company, P.A.
315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE
Design: psb Drawn: psb Approved: psb Date: 10/12
File: E:\Projects\Casco Addition Site Plan 12-01-E712\Engineering\CI_PPW.dwg

CASCO ADDITION
WATER LINE 1
Water Distribution System

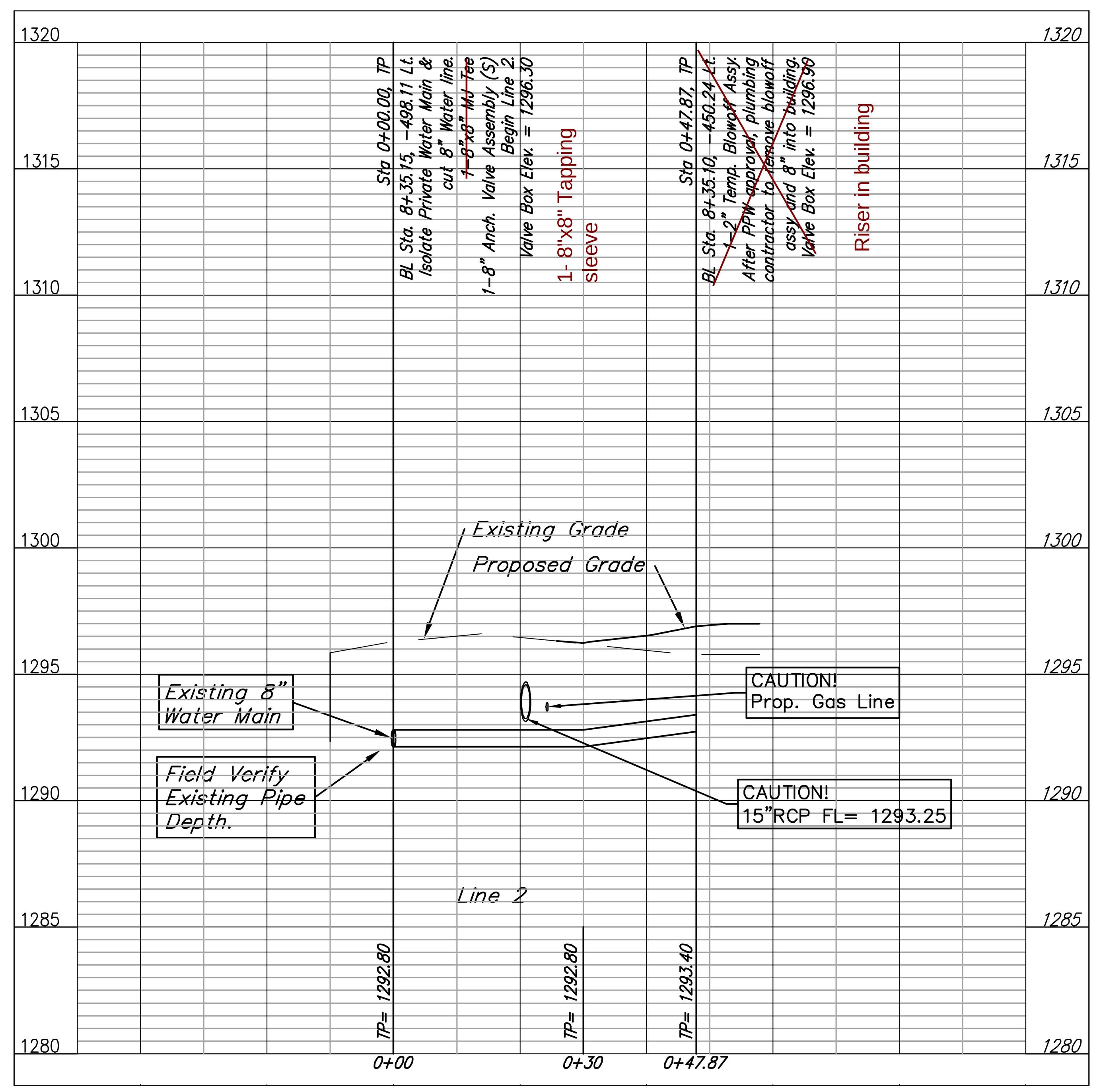
REVISIONS:

SHEET 3 OF 4

Benchmark–1
"□" Chiseled on top of concrete approx. 300' west of east property line, 494' north of south property line.
Elev. = 1296.39 (NGVD 29)



Scale: 1" = 20' Horizontal
1" = 5' Vertical
• = Iron



General Note: The fire system will need to meet City of Wichita Municipal Code, Section 21.12.150 after alteration.

AS BUILTS
kemiller engineering
516 S. Market, Wichita, KS 67202
(316)264-0242

CASCO ADDITION
WATER LINE 2 & 3
Water Distribution System

Baughman Company, P.A.
315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE
Design: psb Drawn: psb Approved: psb Date: 10/12
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PATRICK SHAWN BAER LICENSED 15976 KANSAS PROFESSIONAL ENGINEER

REVISIONS
SHEET 4 OF 4