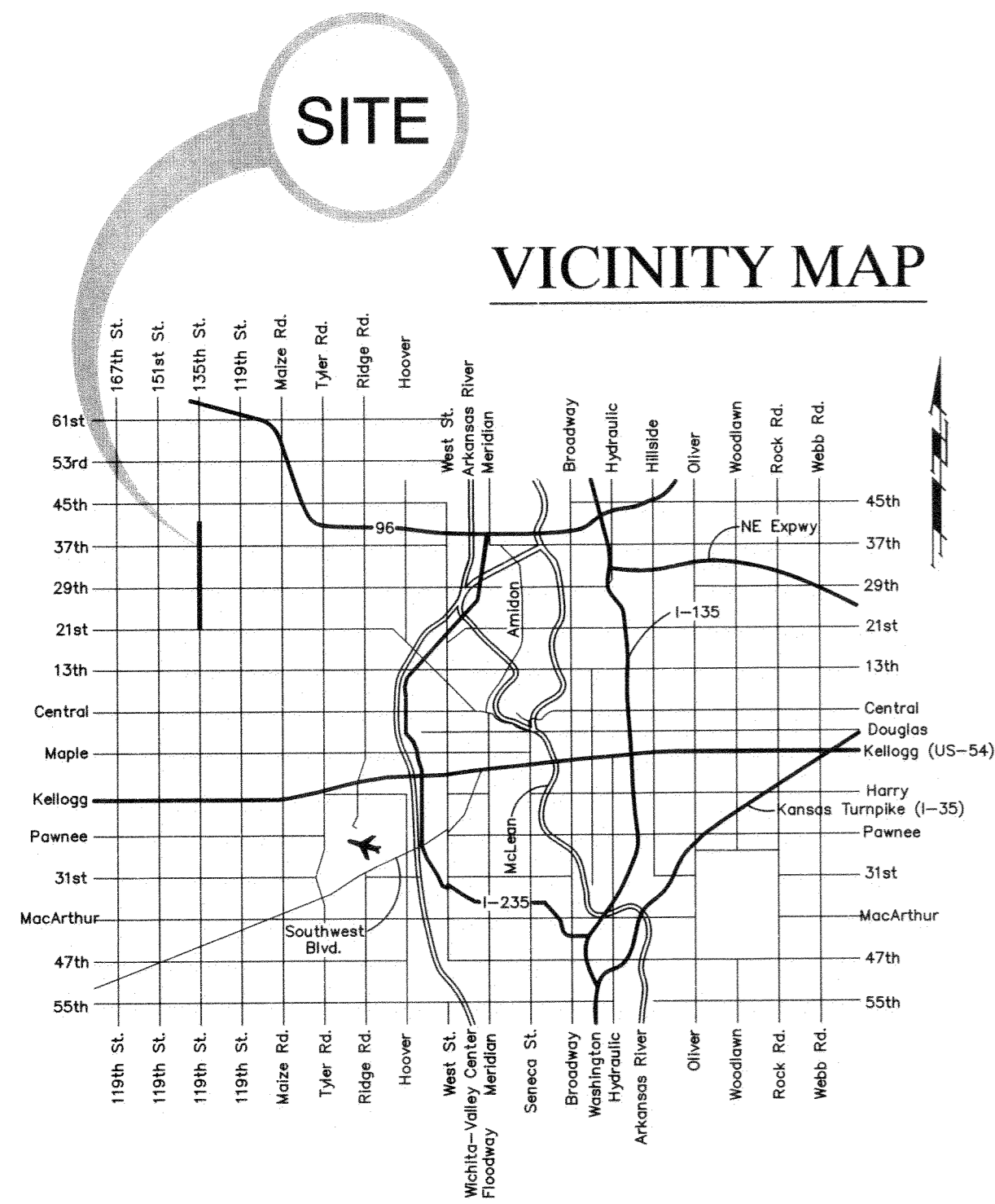


Nowak Construction - Contractor
 S. Degenhardt - City of Wichita, Field Project Engineer
 J. Koleczek - City of Wichita, Inspector
 As-built
 Release Date: 11/22/2013
 pdf: APROsas 03/26/2014

INDEX

- 1 Title Sheet
- 2 Key Sheet
- 3 General Notes
- 4 Forcemain Details
- 5 Air Release Details
- 6 MH & Inlet Frame & Cover Details
- 7-18 S.S. Line 1 Plan & Profile
- 19-23 Erosion Control BMP's
- 24 Detour Routes



135th St. W. 20" Force Main Phase - II

750' NORTH OF 21ST STREET to WATER RECLAMATION FACILITY

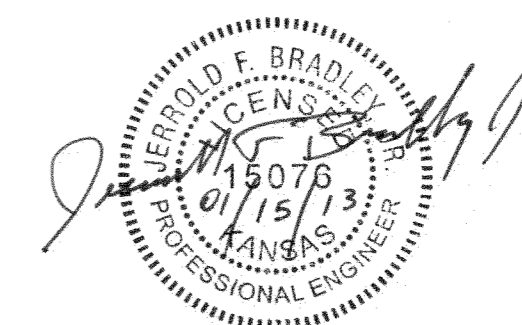
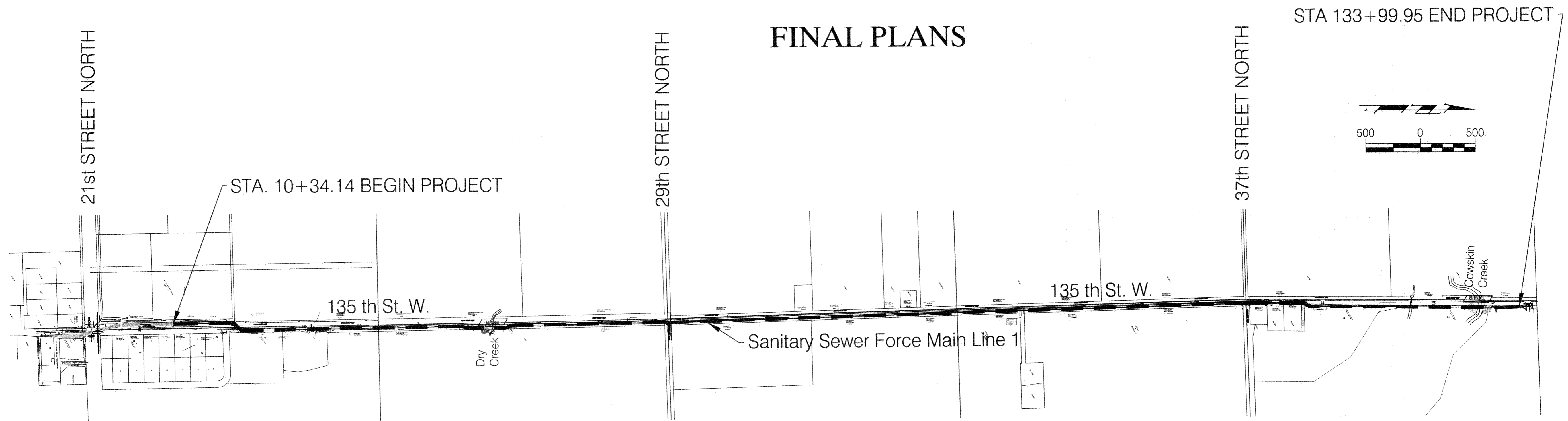
CITY OF WICHITA

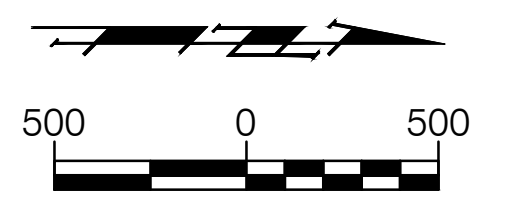
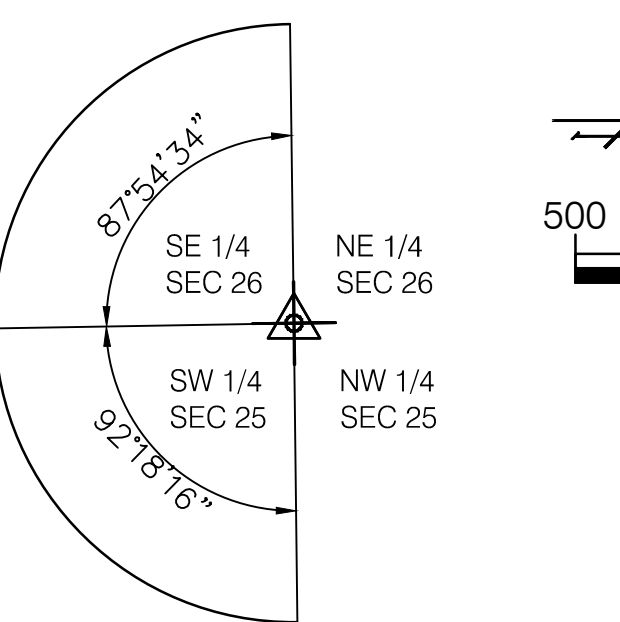
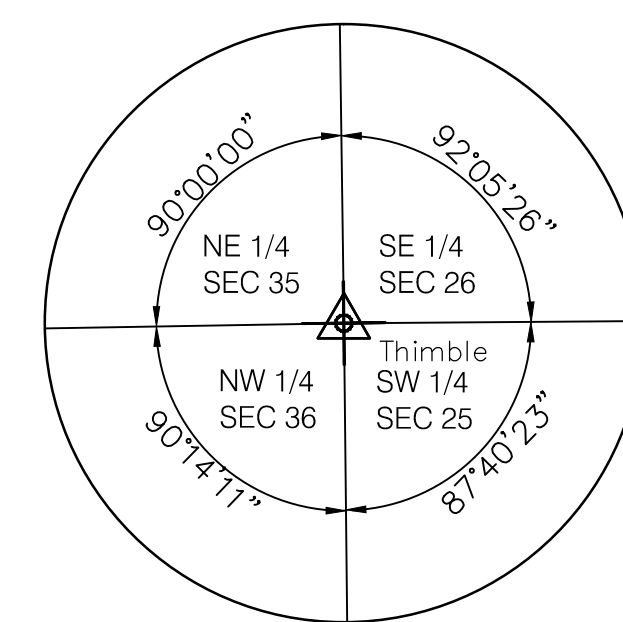
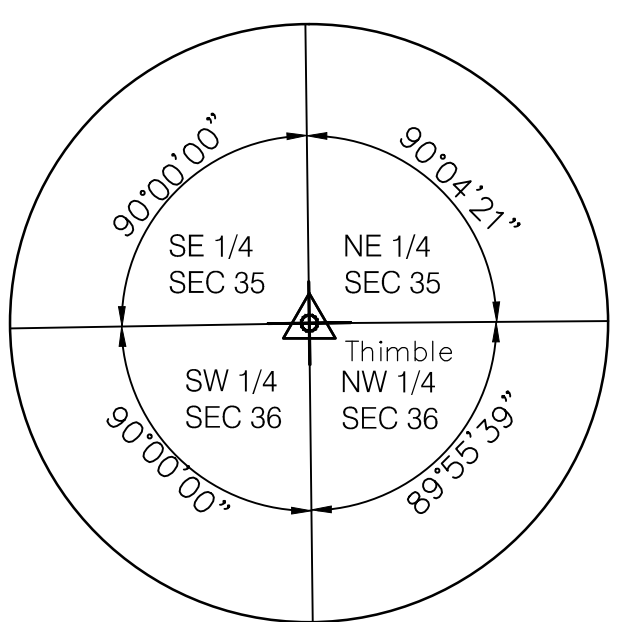
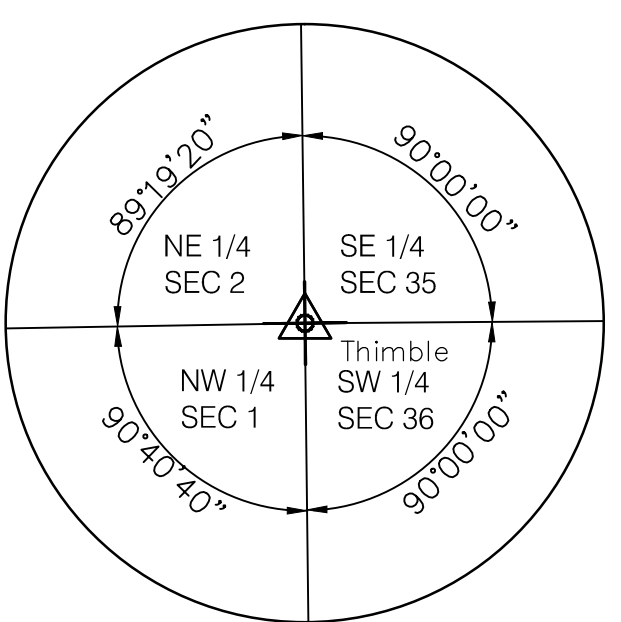
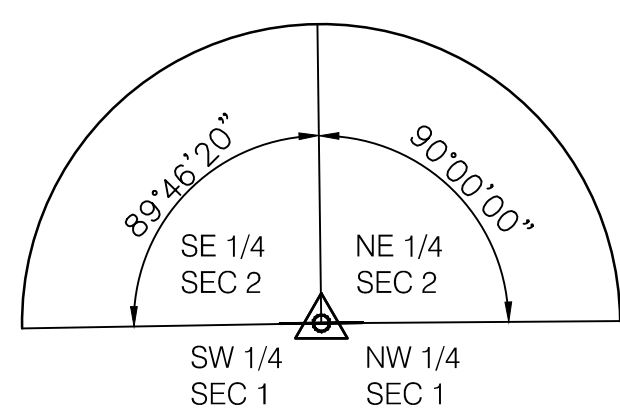
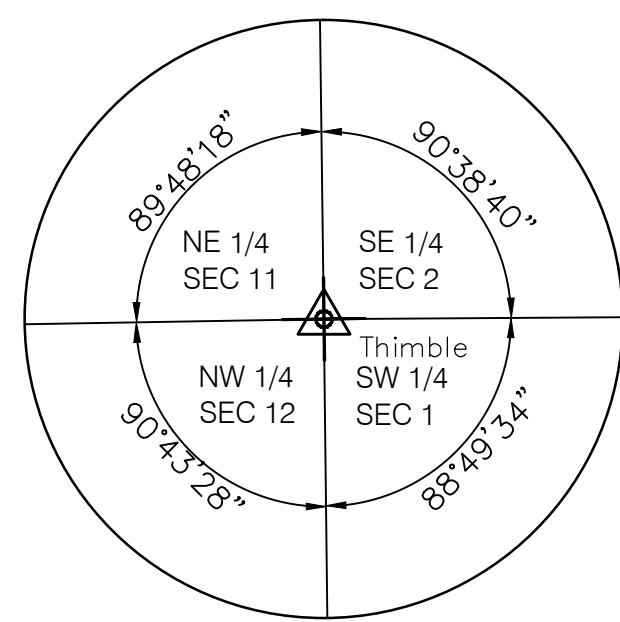
Project No. 468-84699-b OCA No. 624-094

Gary Janzen P.E., City Engineer

Jan, 2013

FINAL PLANS





Point 2100
Sta. 10+00
1" Iron Pipe in Thimble
SW COR., SEC 1,
TWP. 27-S, R-2-W

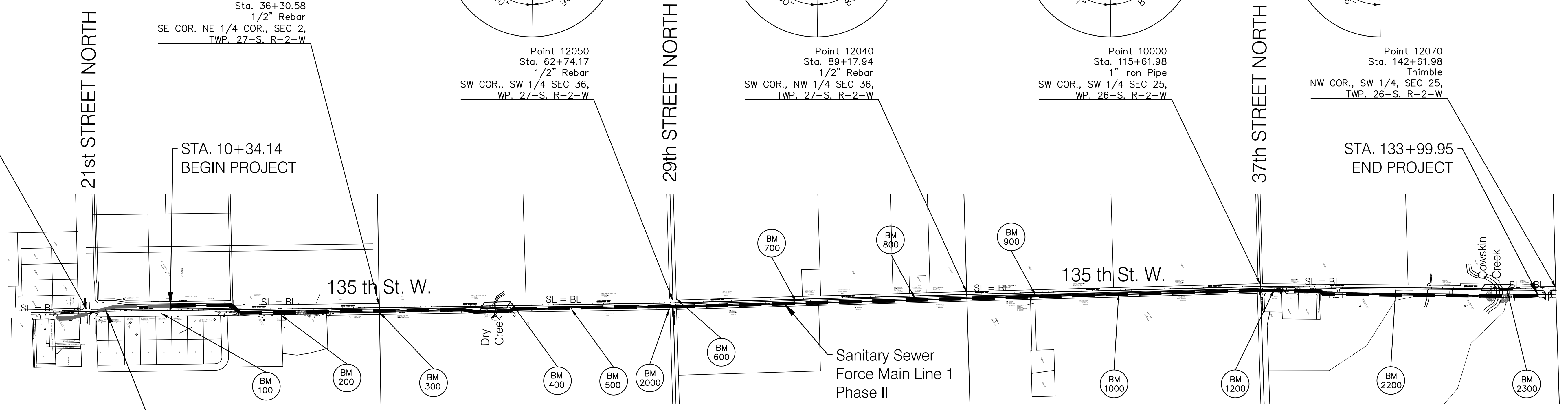
Point 12060
Sta. 36+30.58
1/2" Rebar
SE COR. NE 1/4 COR., SEC 2,
TWP. 27-S, R-2-W

Point 12050
Sta. 62+74.17
1/2" Rebar
SW COR., SW 1/4 SEC 36,
TWP. 27-S, R-2-W

Point 12040
Sta. 89+17.94
1/2" Rebar
SW COR., NW 1/4 SEC 36,
TWP. 27-S, R-2-W

Point 10000
Sta. 115+61.98
1" Iron Pipe
SW COR., SW 1/4 SEC 25,
TWP. 26-S, R-2-W

Point 12070
Sta. 142+61.98
Thimble
NW COR., SW 1/4, SEC 25,
TWP. 26-S, R-2-W



KEY SHEET PHASE II

Point 2100
SW Corner, SW 1/4, Sec 1, TWP 27S, R2 W
1" Iron Pipe in Thimble, Center Travelway 21st Street N.
& 135th St. W.
N. 1,698,195.35
E. 1,601,838.93

Point 100
Southwest Corner of South Headwall at Driveway to
2300 N. 135th St. W. on East Side of Road.
N. 1,698,861.81
E. 1,601,854.93

Point 12060
SE Corner, NE 1/4, Sec. 2, TWP 27S, R2W
1/2" Rebar ± Center of Travelway 135th St. W.
N. 1,700,825.72
E. 1,601,805.43

Point 12050
SW Corner, SW 1/4, Sec. 36, TWP 27S, R2W
3/4" Iron Pipe. ± 4' North to Center Travelway
29th St. N. & ± Center Travelway 135th St. W.
N. 1,703,468.94
E. 1,601,761.26

Point 12040
SW Corner, NW 1/4, Sec. 36, TWP 26S, R2W
1/2" Rebar
± 2' E. to Center of Travelway 135th St. W.
N. 1,706,111.90
E. 1,601,685.81

Point 10000
SW Corner, SW 1/4, Sec. 25, TWP 26S, R2W
1" Iron Pipe ± Center Intersection of 135th St W. &
37th St. N.
N. 1,708,754.69
E. 1,601,613.72

Point 12070
NW Corner, SW 1/4, Sec. 25, TWP 26S, R2W
Thimble at Center of 135th St. W.
N. 1,711,411.50
E. 1,601,635.18

BM 100
Southwest Corner of Southwest Headwall at
Driveway to 2300 N. 135th St. W. on East
Side of Road.
Elev. 1354.91 NAVD 88

BM 200
RR Spike in North Face Power Pole at
2412 N. 135th St. on East Side of Road
Near AT&T Pedestal # 2412.
Elev. 1349.31 NAVD 88

BM 300
Top of #4 Bar at the West 1/4 of Sec. 1,
TWP 27S, R1W Center of 135th St. W. 1/2 Mile
North of Center 12st St. N.
Elev. 1348.85 NAVD 88

BM 400
City of Wichita BM Disc at the NW Corner of
Bridge on 135th St. W. Approximately 2000 ft.
South of 29th St. N.
Elev. 1352.27 NAVD 88

BM 500
RR Spike in West Face of Power Pole at the
East R/W of 135th St. W. Approximately
800 ft. South of 29th St. N.
Elev. 1352.86 NAVD 88

BM 600
RR Spike in East Face of Guy Pole at the
NW Corner of the Intersection of 135th St. W.
& 29th St. N.
Elev. 1354.97 NAVD 88

BM 700
RR Spike in West Face of 5th Power Pole
North of 29th St. N. at the East R/W of
135th St. W. Approximately 100 ft. South of
3155 N. 135th St. W.
Elev. 1360.86 NAVD 88

BM 800
RR Spike in West Face of Power Pole at East
Side 135th St. W. at 3201 N 135th St. W
Elev. 1364.47 NAVD 88

BM 900
RR Spike in West Face of Power Pole at East
Side 135th St. W. and North of Long Gravel
Driveway to East at 3500 N. 135th St. W.
Elev. 1363.98 NAVD 88

BM 1000
RR Spike in West Face of 5th Power Pole
South of 37th St. N. at the East R/W of
135th St. W.
Elev. 1364.35 NAVD 88

BM 1200
USGS Standard Tablet B-36-1936.
125 ft. North and 27 ft. East of the
Centerlines of Intersection of 135th St. W.
and 37th St. N.
Elev. 1370.75 NAVD 88

BM 2000
City of Wichita BM Disc at the Southeast
Corner of 135th St. W. and 29th St. N.
Elev. 1350.82 NAVD 88

BM 2200
RR Spike in West Face of Power Pole 1/4 Mile
North of 37th St. N. on the East Side of
135th St. W., 12 ft North of AT&T Pedestal
F-3902.
Elev. 1359.87 NAVD 88

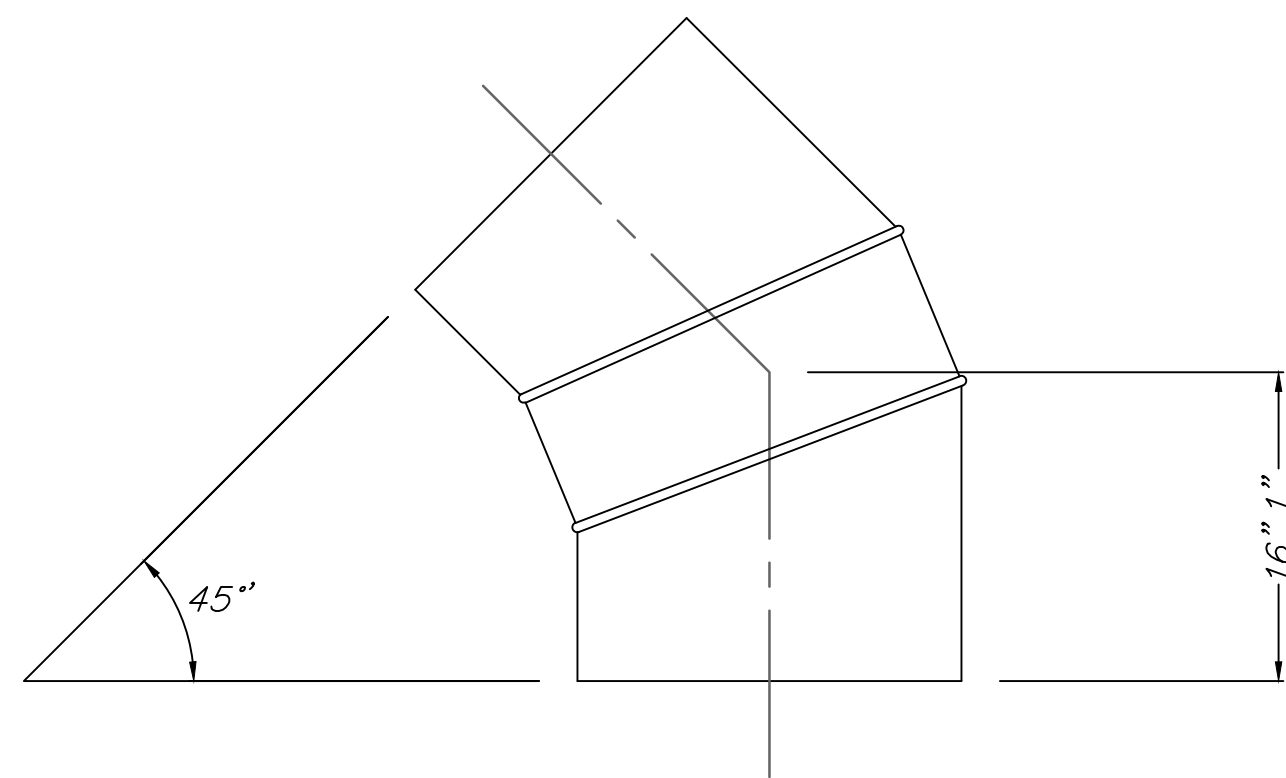
BM 2300
Chisled "a" on Top of Concrete Retaining
Wall at the Northeast Corner of Bridge over
Cowskin Creek on 135th St. W., 0.4 Miles
North of 37th St. N.
Elev. 1357.10 NAVD 88

Drawing File: E:\Projects\135th St. W. Force Main\Bases
Drawn: KEK
Checked: Staff
Approved: JFB
Scale: 1" = 500'

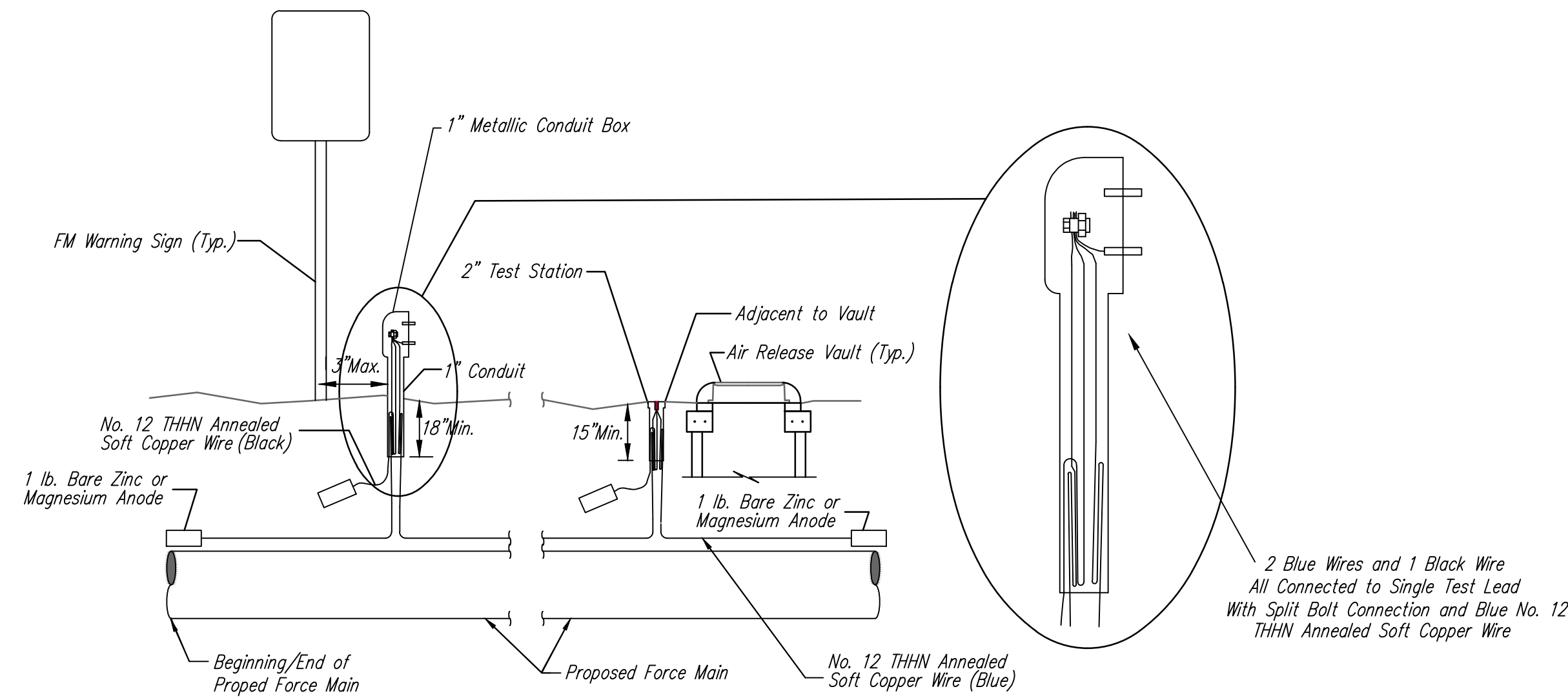
135th St. W. Sanitary Sewer Force Main Ph - I
KEY SHEET

B Baughman Company, P.A.
315 Ellis St. Wichita, KS 67211 P 316.262.7271 F 316.262.0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

Jan, 2012
SHEET
2
OF
24



20" HDPE 3-SEGMENT 45° EL (DR9) DETAIL
(Per Industrial Pipe Fittings, LLC)



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.

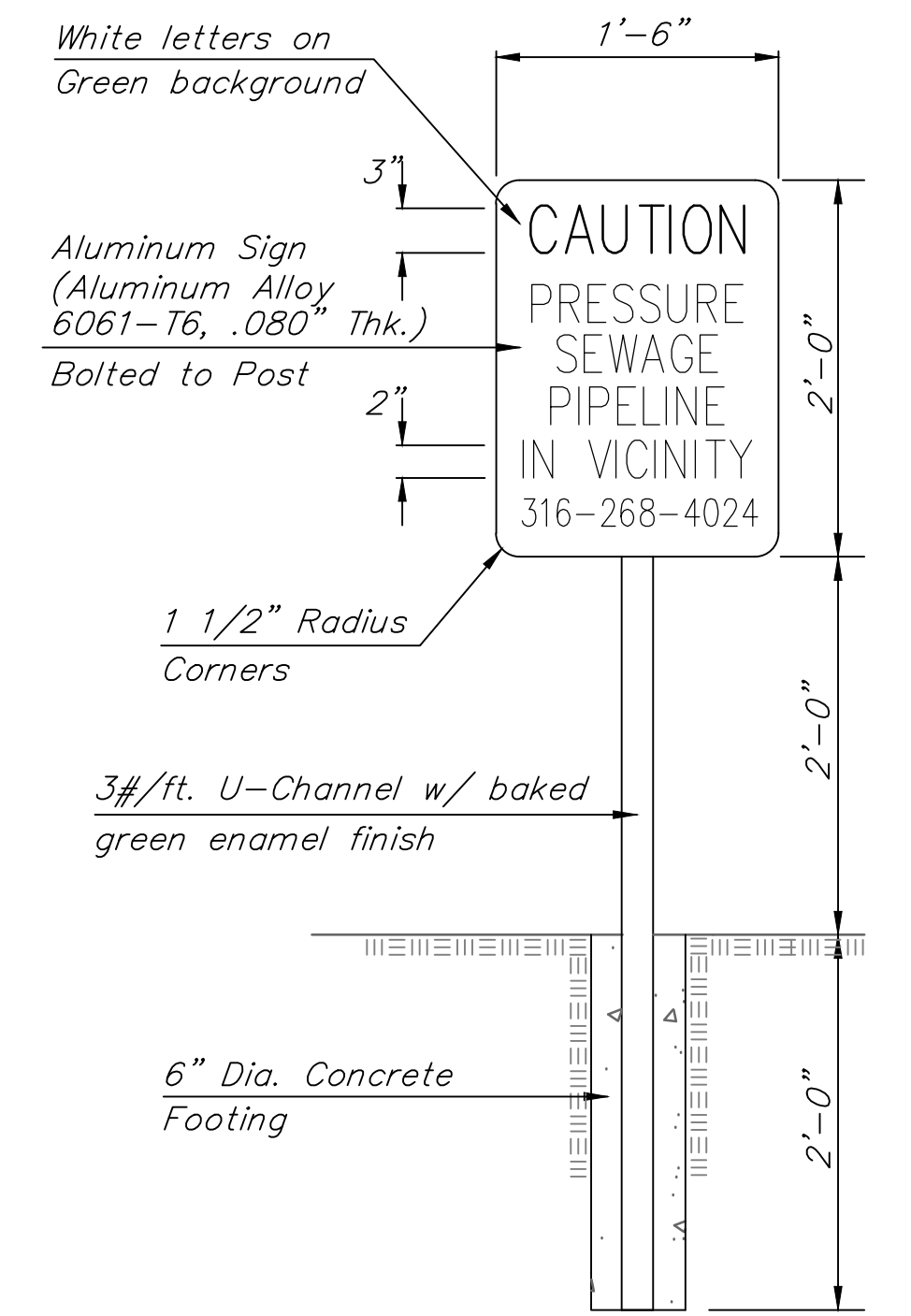
TEST STATIONS

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 "Force Main" 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

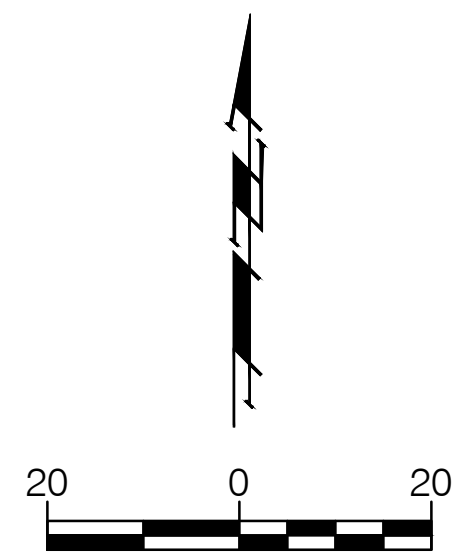
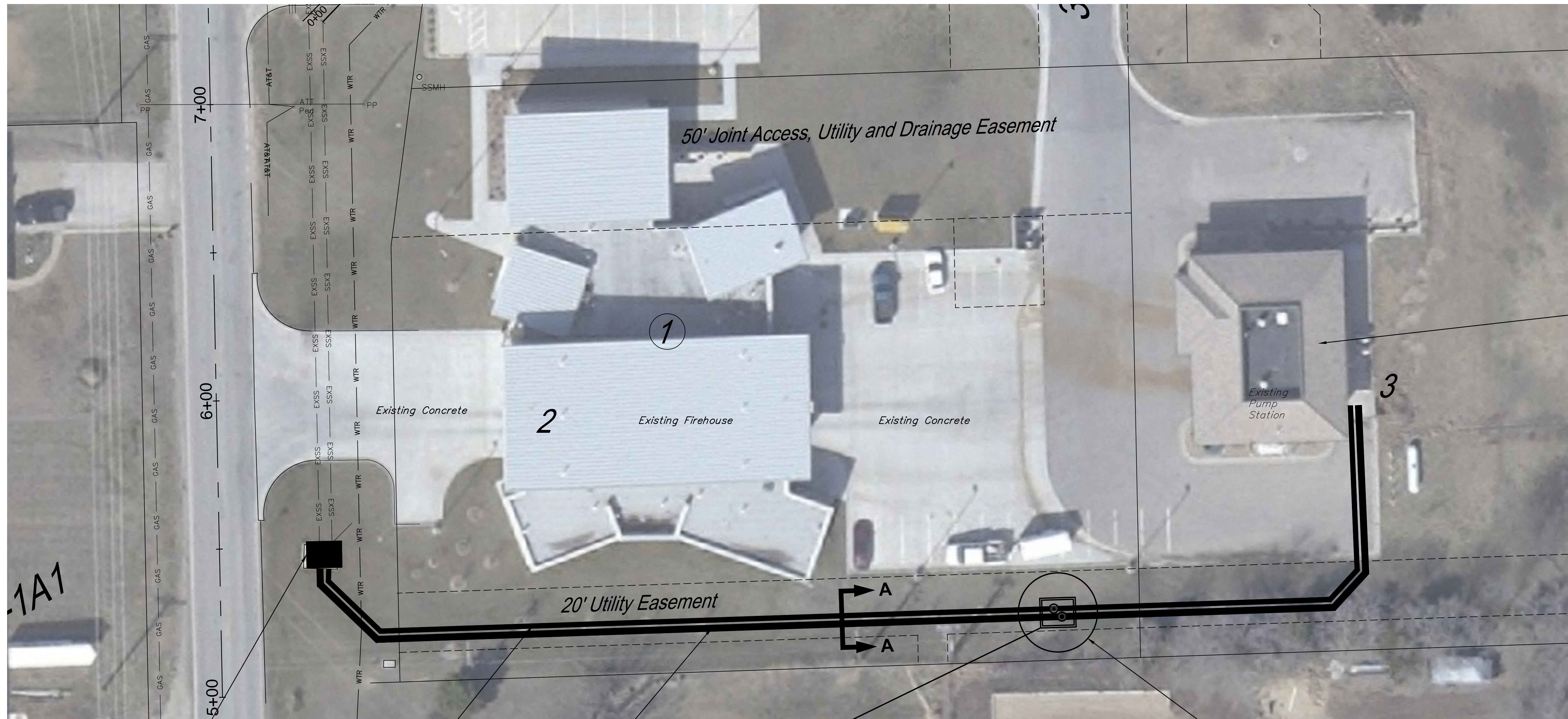
The anodes shall be 1 lb. bare zinc or magnesium. The anodes shall be buried at the same elevation as the waterline at each test station. The anodes shall be connected to Black No. 12 THHN annealed soft copper wire which shall be extended to the test station.

TRACER WIRE DETAIL
COST IS SUBSIDIARY TO PIPE INSTALLATION



FORCE MAIN WARNING SIGN DETAIL

Note: Install Metal Warning Signs at Locations as Shown on the Plans. Exact Locations of Warning Signs shall be Approved by the Engineer.



Contractor to Coordinate with City of Wichita for Air Release Replacement in Pump Station.

Existing Air Release Vault

Existing 14" D.I. Force Main (Active)

Existing 20" D.I. Force Main

DANGER

Underground Electric in This Area. Contractor to Verify Location

Install 1-Valve Assy., Gate 14"

14" D.I.

Construct 1-10x12 Vault With Dual Stack Manhole Openings

NOTE: Vault Location Shown is Tentative. Contractor May Adjust Location Based on Existing Utility Locations.

NOTE: Contractor May Reduce Size of Vault Following Location and Verification on Line Spacing Dimensions

20" D.I.

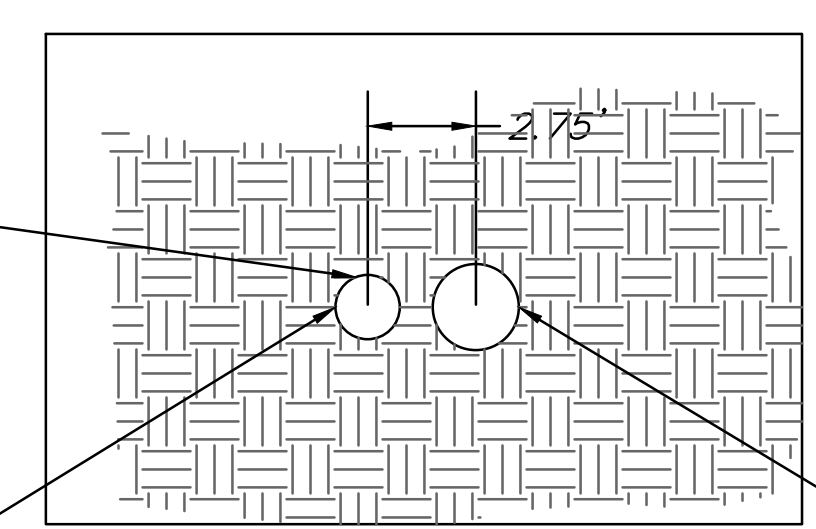
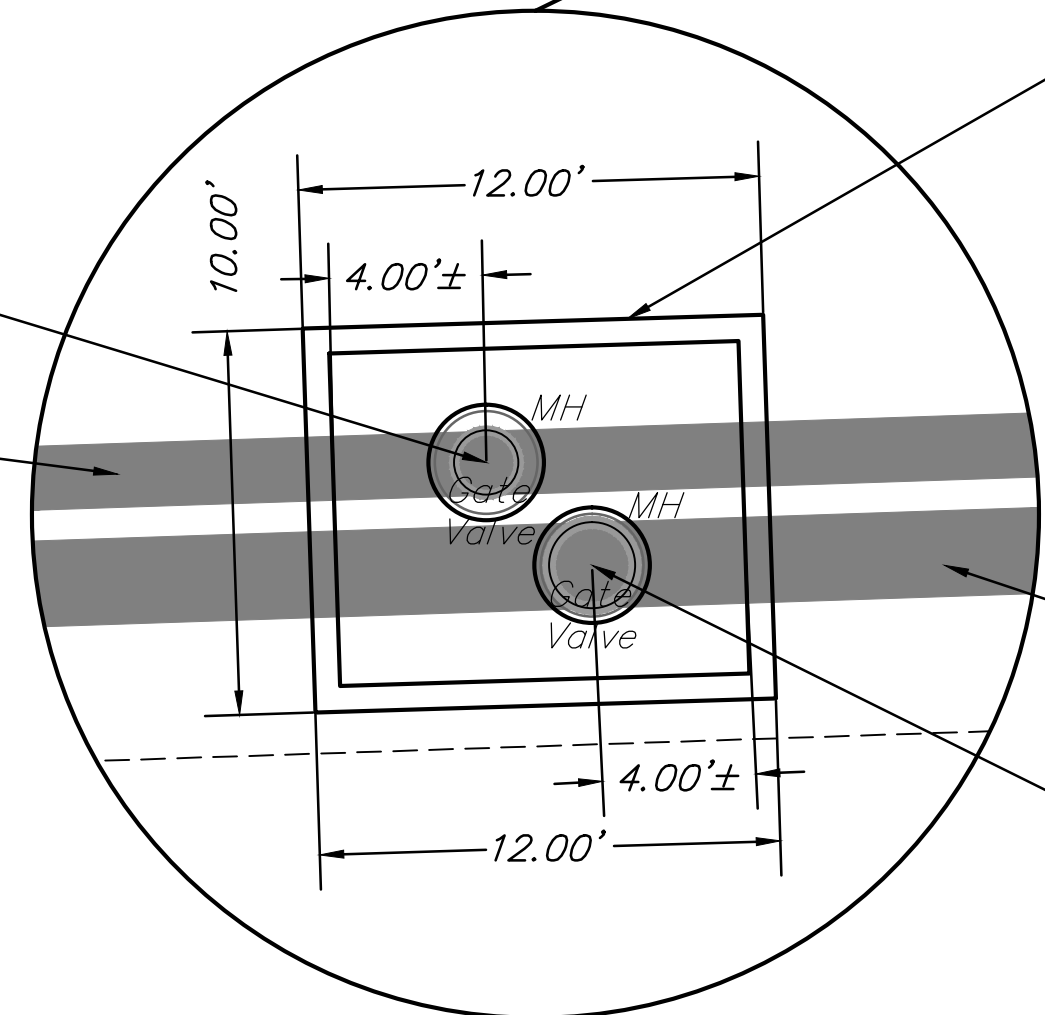
Install 1-Valve Assy., Gate 20"

From Record of Information Only Existing 14" FM T.O.P. ELEV= 1347.7 Contractor to Verify Pipe Depth before Vault Construction

Existing 14" D.I. Force Main (Active)

Existing 20" D.I. Force Main

View A-A



Drawing File: E:\Projects\135th St. W. Force Main\Engineering\Base
 Design: J. BRADLEY
 Drawn: JDM
 Approved: J. BRADLEY
 Scale: 1" = 40'

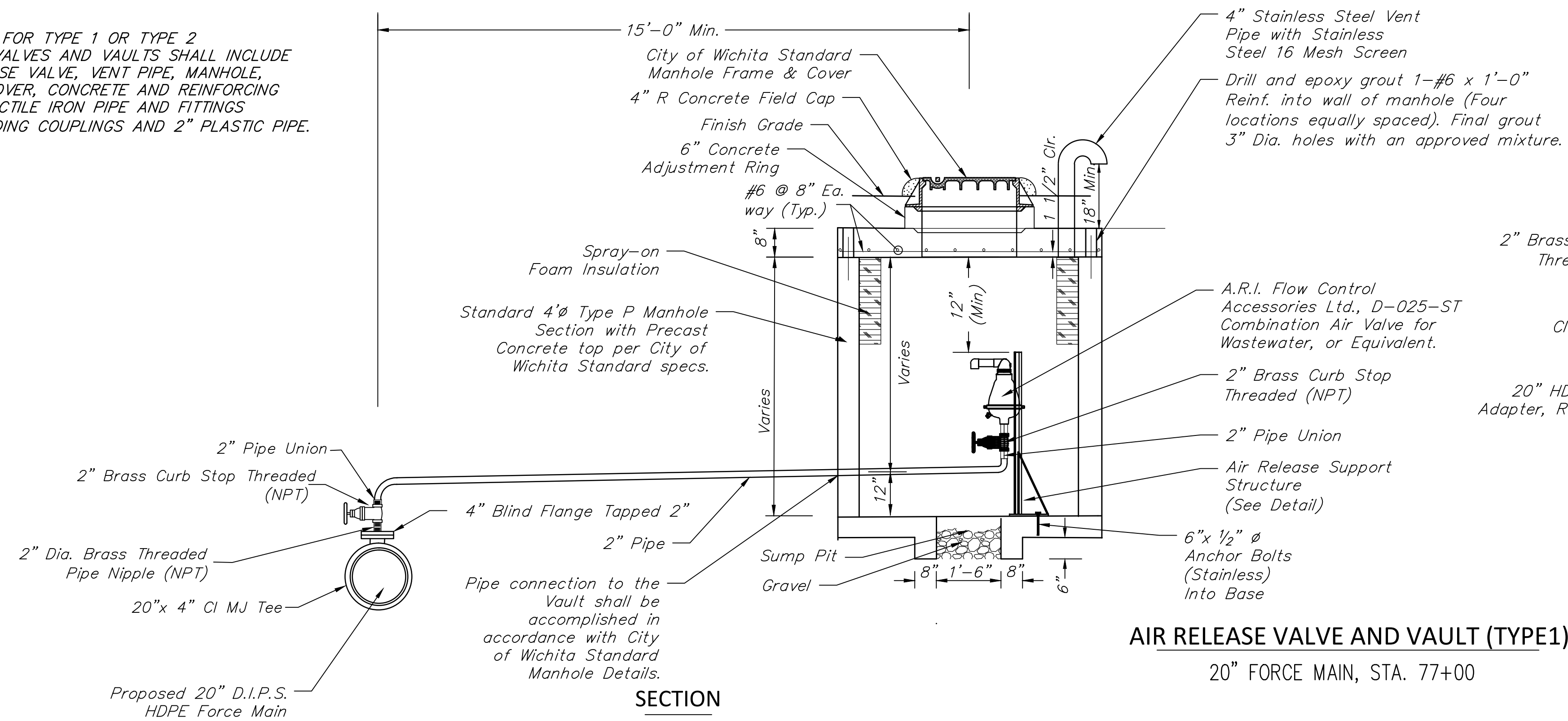
Project No. 10084530
 135th St. W. Sanitary Sewer Force Main Ph II
 14" & 20" FM Gate Valve Installation

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

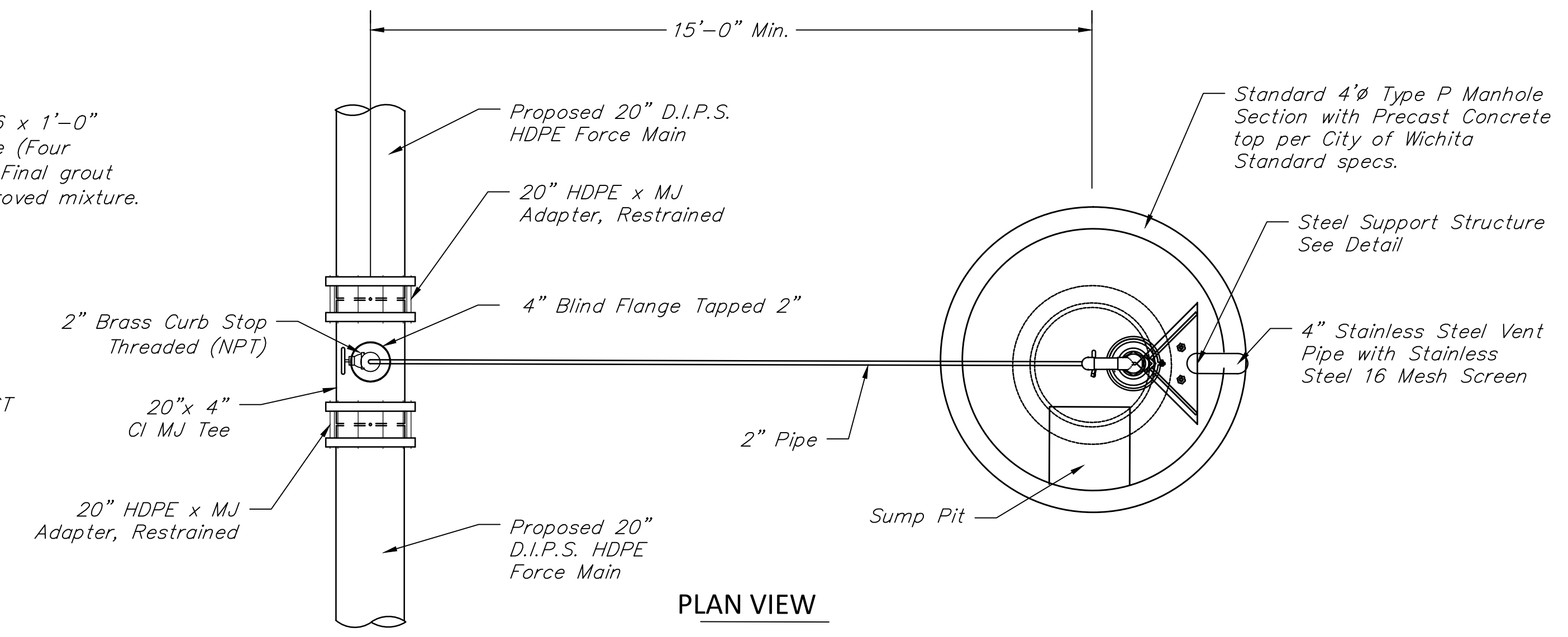
REVISED 2-20-2013 Jan, 2013

SHEET 5A OF 24

NOTE:
THE PRICE BID FOR TYPE 1 OR TYPE 2
AIR RELEASE VALVES AND VAULTS SHALL INCLUDE
THE AIR RELEASE VALVE, VENT PIPE, MANHOLE,
FRAME AND COVER, CONCRETE AND REINFORCING
STEEL. ALL DUCTILE IRON PIPE AND FITTINGS
SHOWN, INCLUDING COUPLINGS AND 2" PLASTIC PIPE.



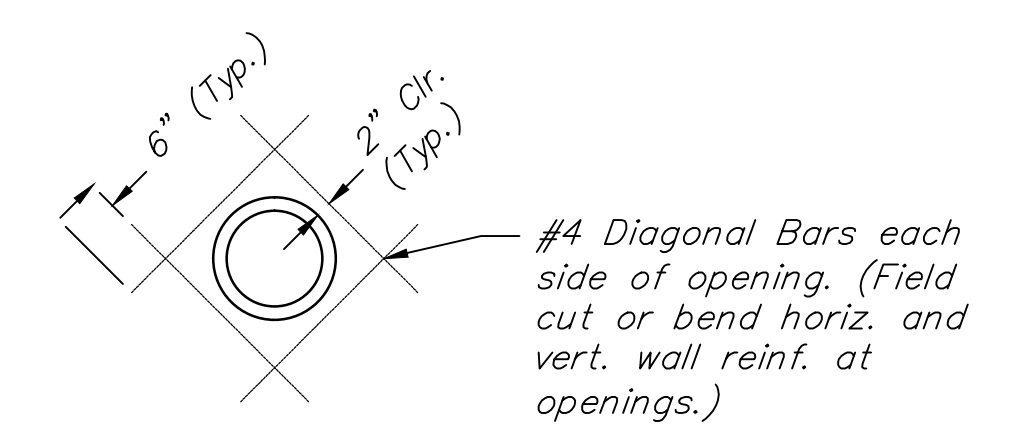
AIR RELEASE VALVE AND VAULT (TYPE 1)
20" FORCE MAIN, STA. 77+00



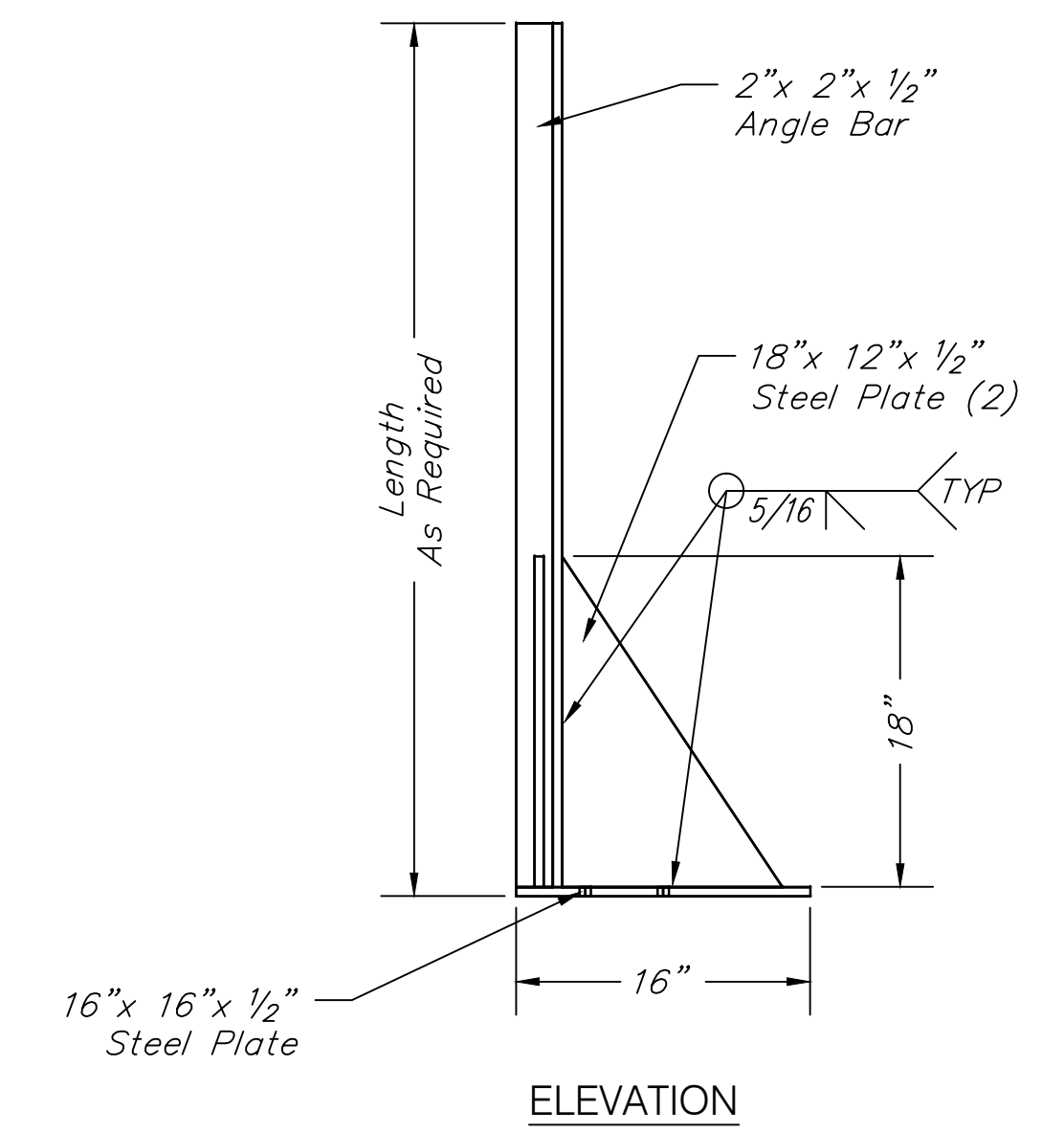
PLAN VIEW

NOTE:
Fabricated Steel Support
System to be Sandblasted,
Cleaned & Painted with 2
Coats W/Zinc Rich Acrylic Paint
System.

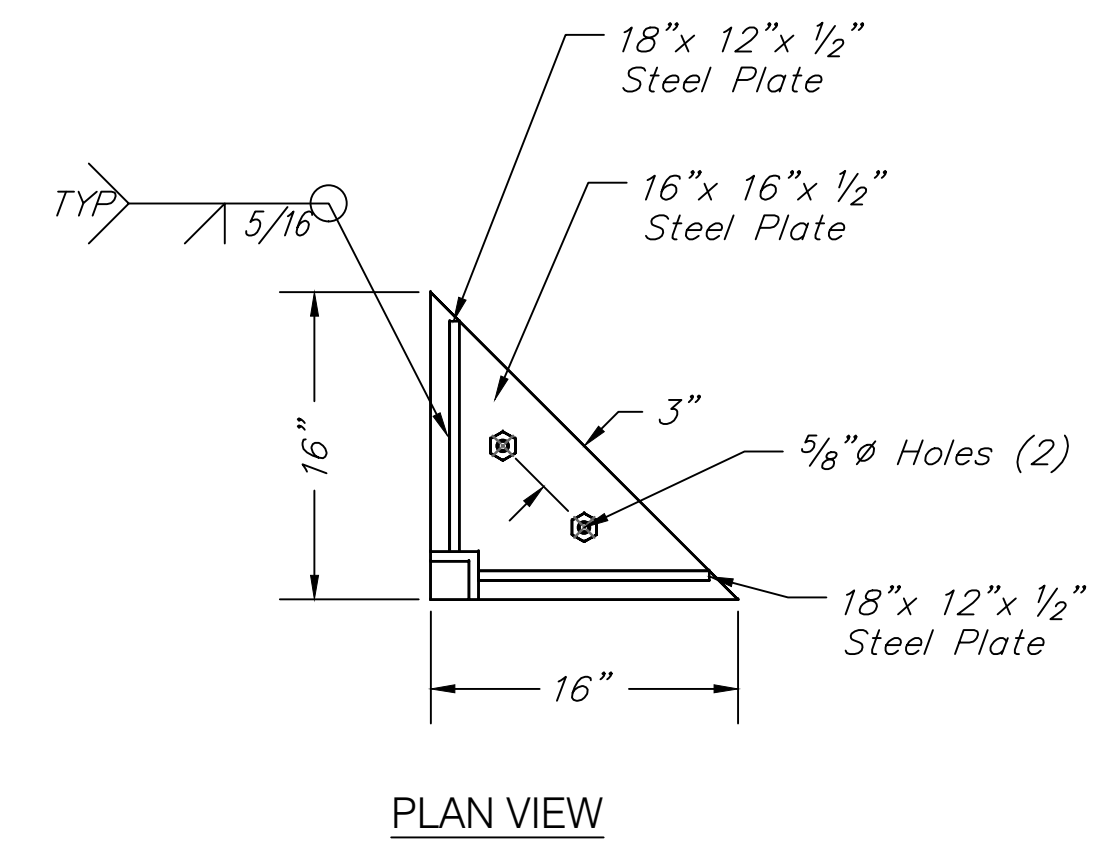
Alternate Method of Support
Construction may be used with
Engineer Approval.



PIPES THRU WALLS

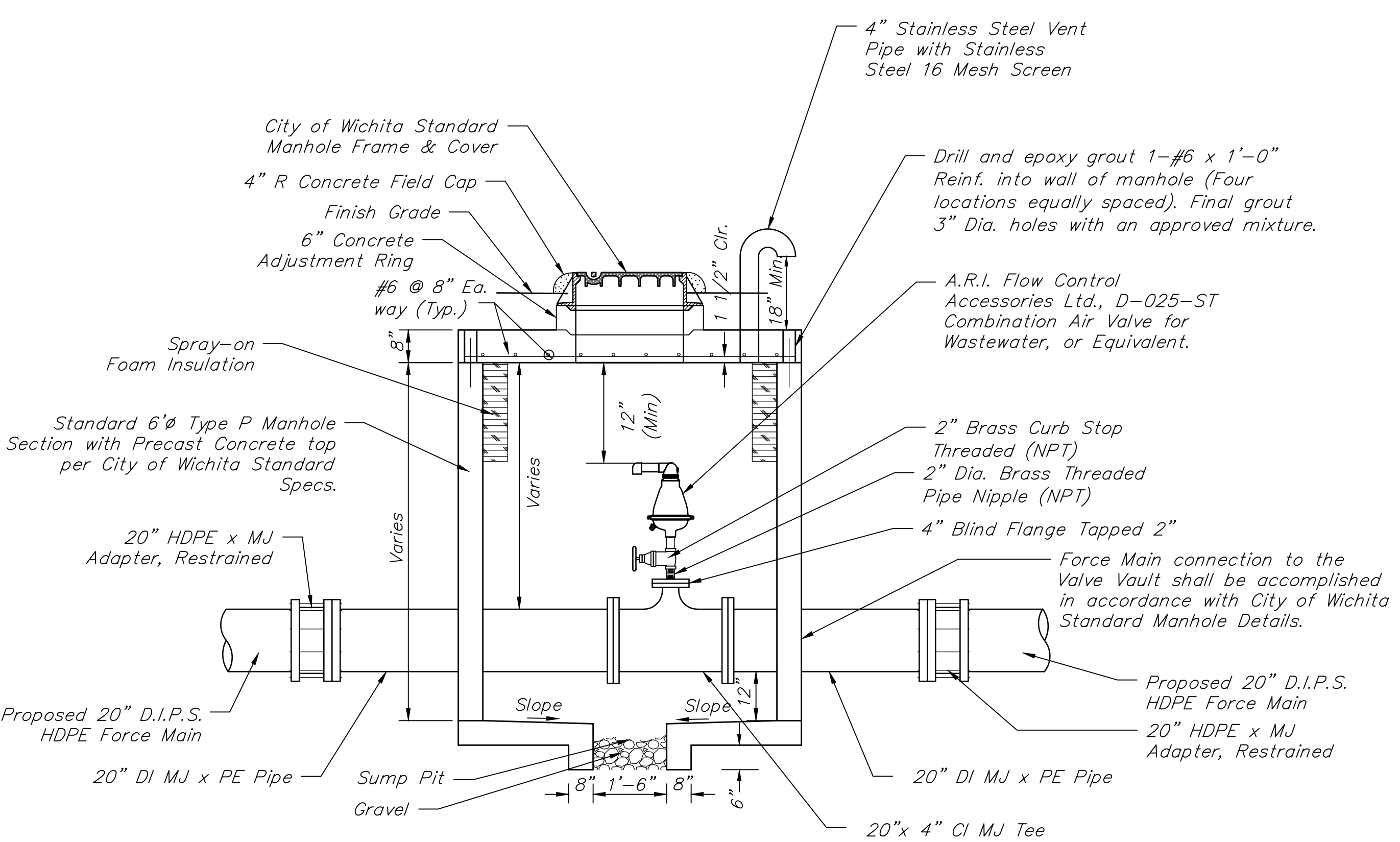


ELEVATION

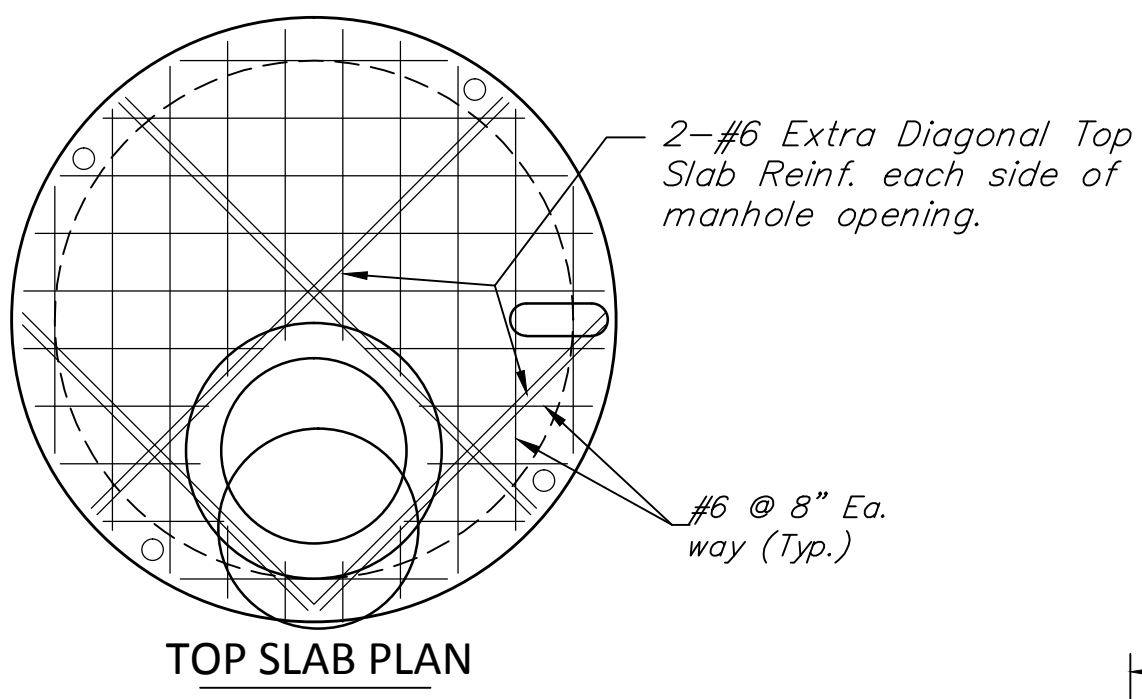


PLAN VIEW

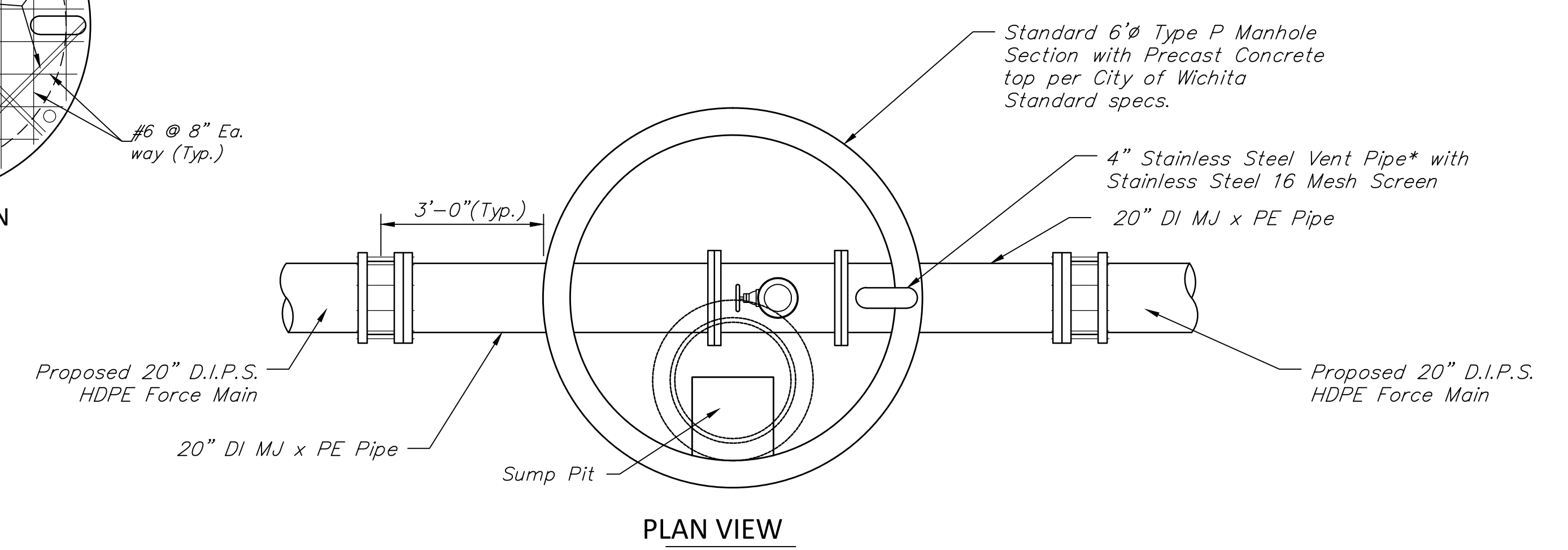
AIR RELEASE SUPPORT



SECTION



TOP SLAB PLAN



PLAN VIEW

AIR RELEASE VALVE AND VAULT (TYPE 2)
20" FORCE MAIN, STA. 15+94.30, 38+60.00, & 114+26.60

Drawing File: E:\Projects\135th St W. Force Main\Details\Air Release Details.dwg
Project No. 10084530
Design: City of Wichita
Drawn: STAFF
Approved: JFB
Scale: NOTED

135th St. W. Sanitary Sewer Force Main Ph - II
AIR RELEASE DETAILS

REVISD 2-20-2013 Jan, 2013
Baughman Company, P.A.
315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149
ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

SHEET
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24

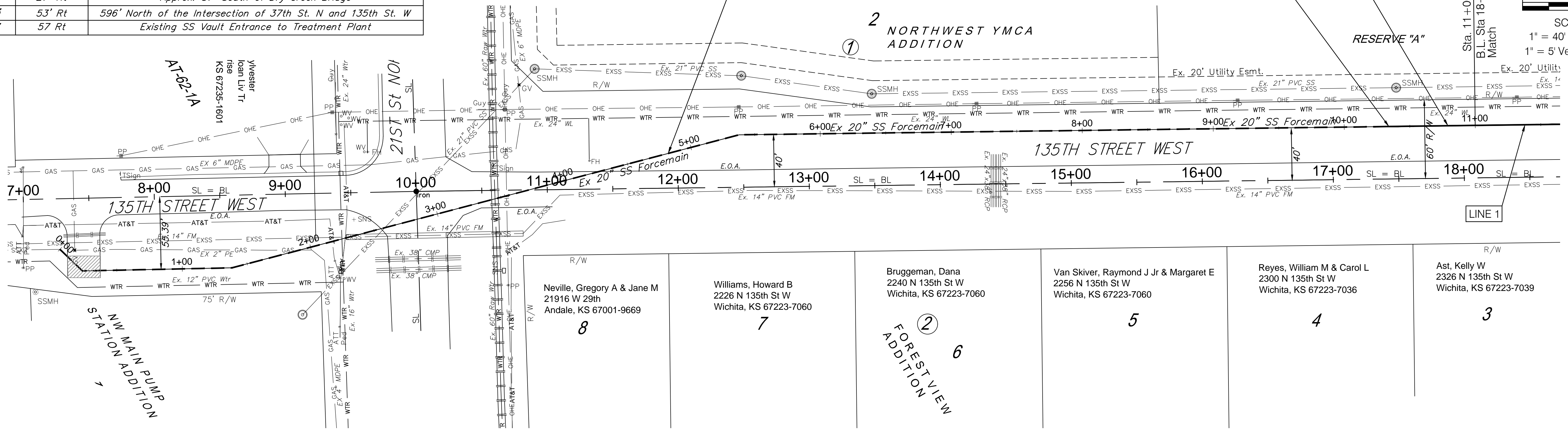
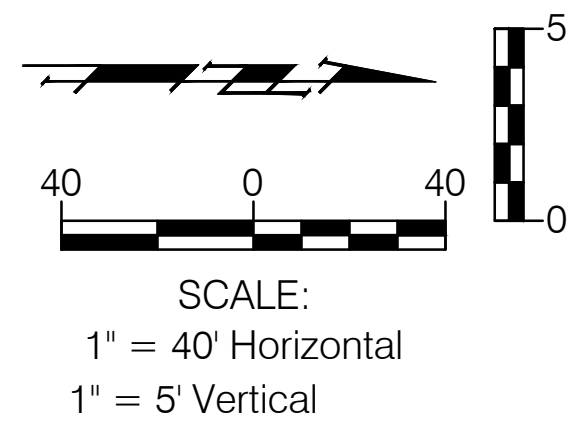
Air Valve Replacement Locations on Ex. 14" FM		
B.L. Sta.	Offset	Description
5+47.21	34' Rt	In Vault, SE of 21st St. and 135th St. W., South of Firehouse Drive Entrance
22+51.51	5' Rt	135th Street West
44+70.22	27' Rt	Approx. 87' South of Dry Creek Bridge
121+58.03	53' Rt	596' North of the Intersection of 37th St. N and 135th St. W
141+13.47	57' Rt	Existing SS Vault Entrance to Treatment Plant

Remove Existing Air Release Valves on Existing 14" FM and Replace with A.R.I. Flow Control Accessories Ltd., D-025-ST Combination Air Valve for Wastewater, or Equivalent. (5 Locations, See Table) Salvage Existing Air Release Valves and Deliver to City of Wichita.

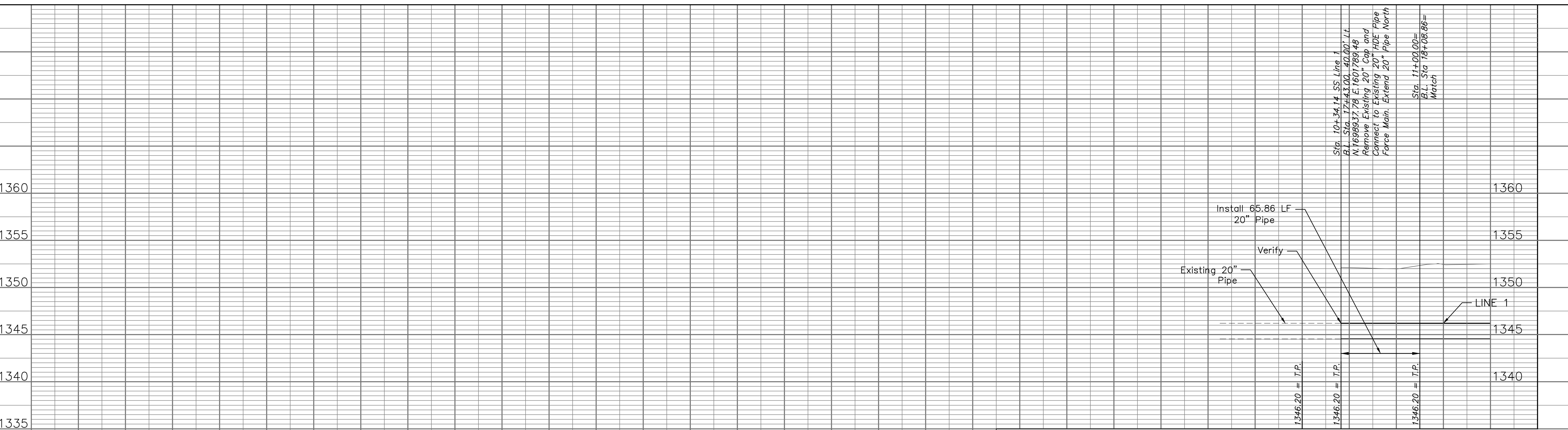
NOTE: PHASE 1 Installed With 135th/21st Intersection Project

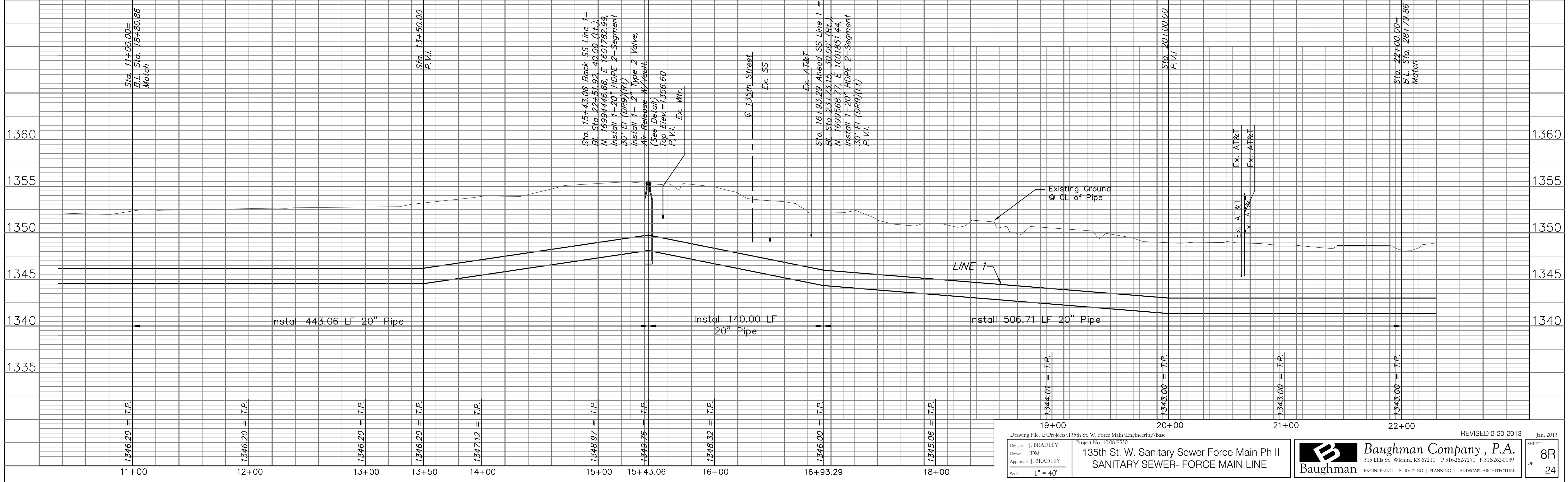
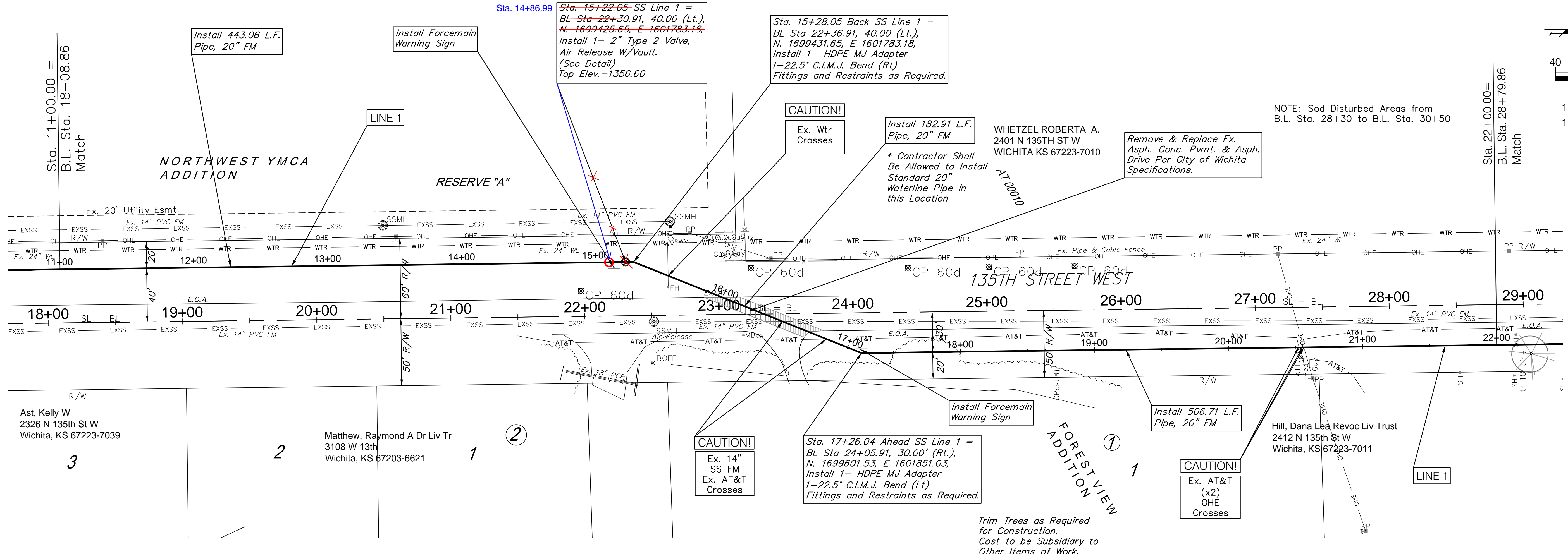
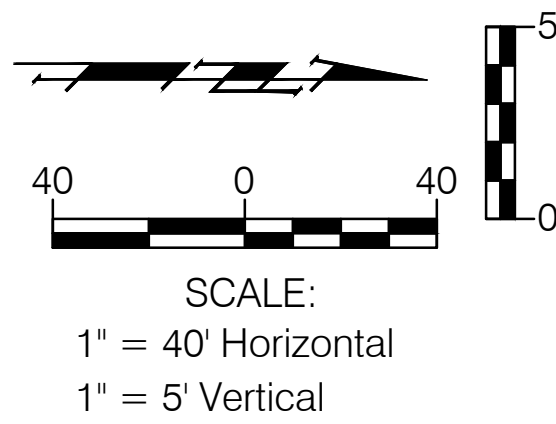
Sta. 10+34.14 SS Line 1
B.L. Sta. 17+43.00, 40.00' Lt.
N.1698937.78 E.1601789.48
Remove Existing 20" Cap and Connect to Existing 20" HDE Pipe Force Main. Extend 20" Pipe North

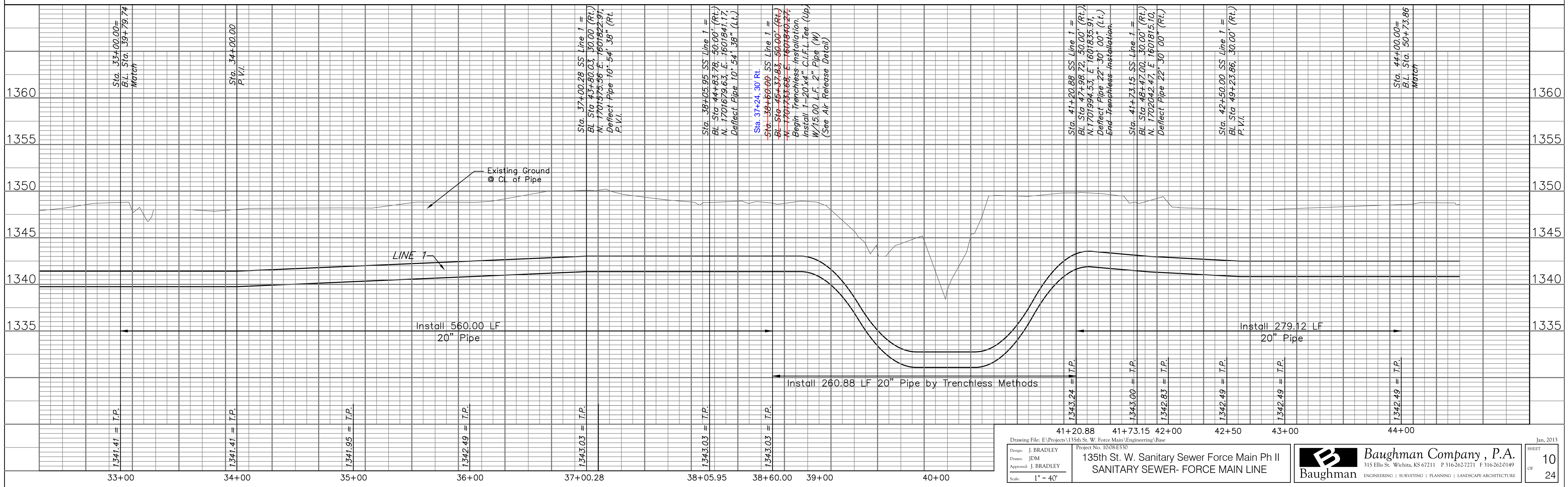
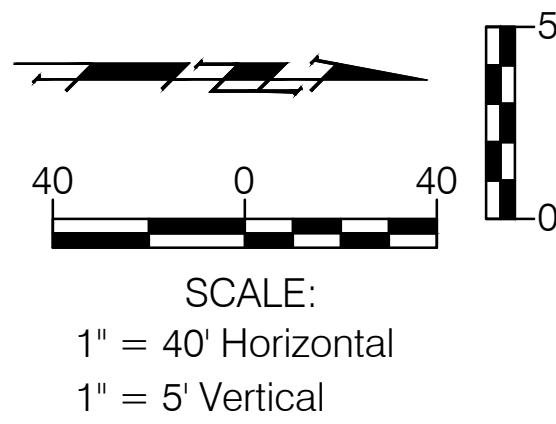
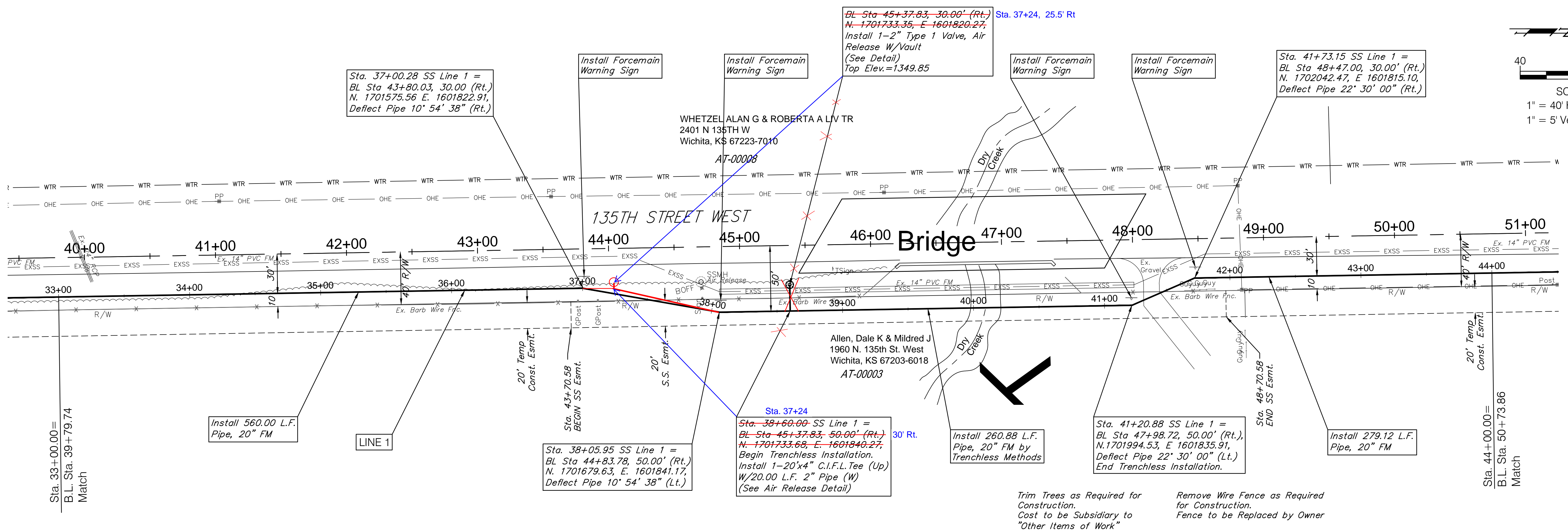
Install 65.86 L.F. Pipe, 20" FM



- 8 Neville, Gregory A & Jane M
21916 W 29th
Andale, KS 67001-9669
- 7 Williams, Howard B
2226 N 135th St W
Wichita, KS 67223-7060
- 6 Bruggeman, Dana
2240 N 135th St W
Wichita, KS 67223-7060
- 5 Van Skiver, Raymond J Jr & Margaret E
2256 N 135th St W
Wichita, KS 67223-7060
- 4 Reyes, William M & Carol L
2300 N 135th St W
Wichita, KS 67223-7036
- 3 Ast, Kelly W
2326 N 135th St W
Wichita, KS 67223-7039





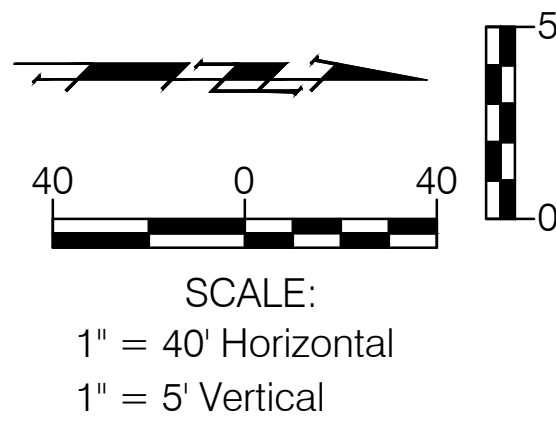


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 Project No. 1008LE53
 Design: J. BRADLEY
 Drawn: JDM
 Approved: J. BRADLEY
 Scale: 1" = 40'

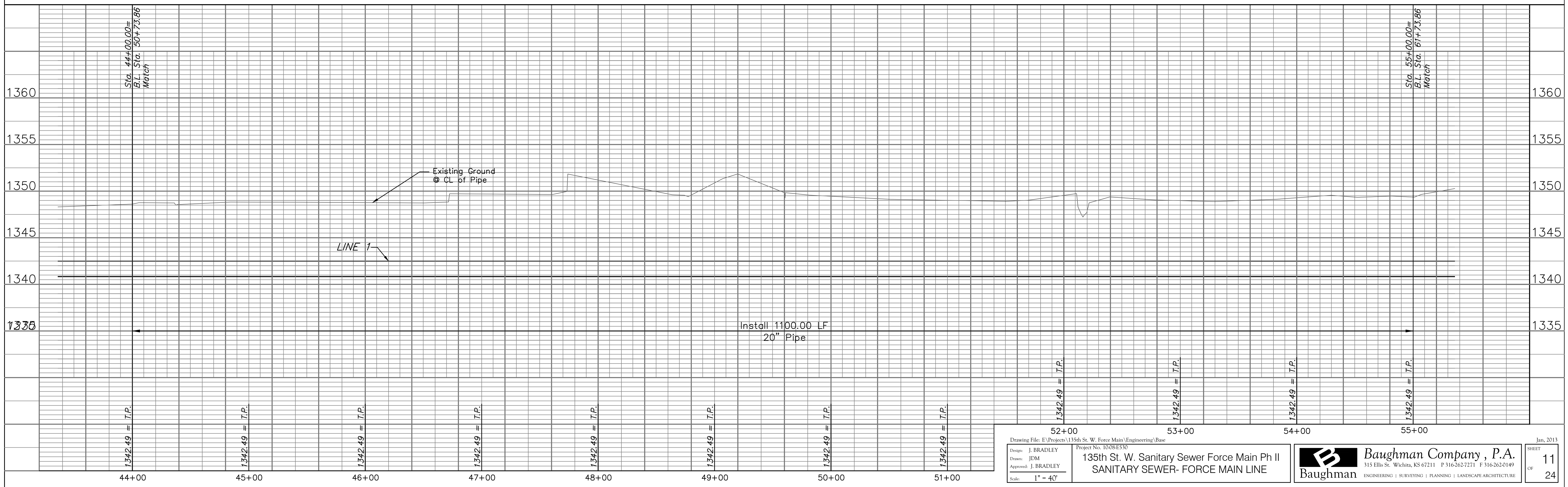
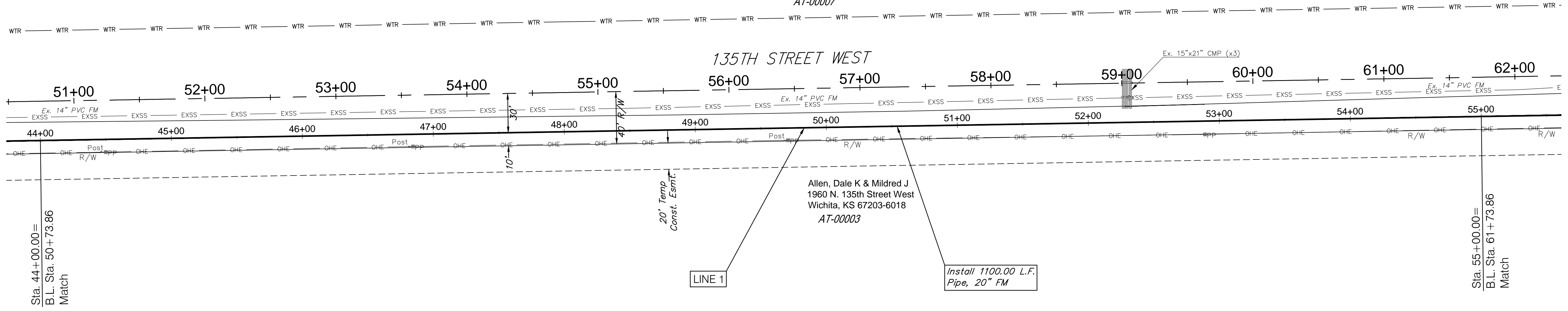
135th St. W. Sanitary Sewer Force Main Ph II
 SANITARY SEWER- FORCE MAIN LINE

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

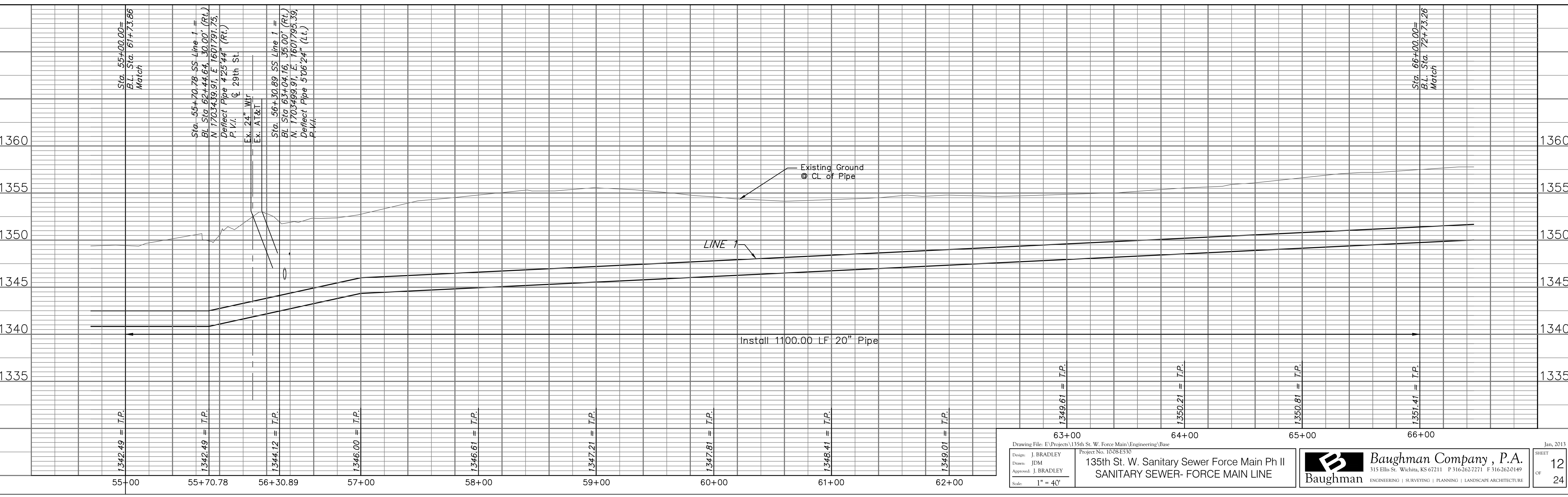
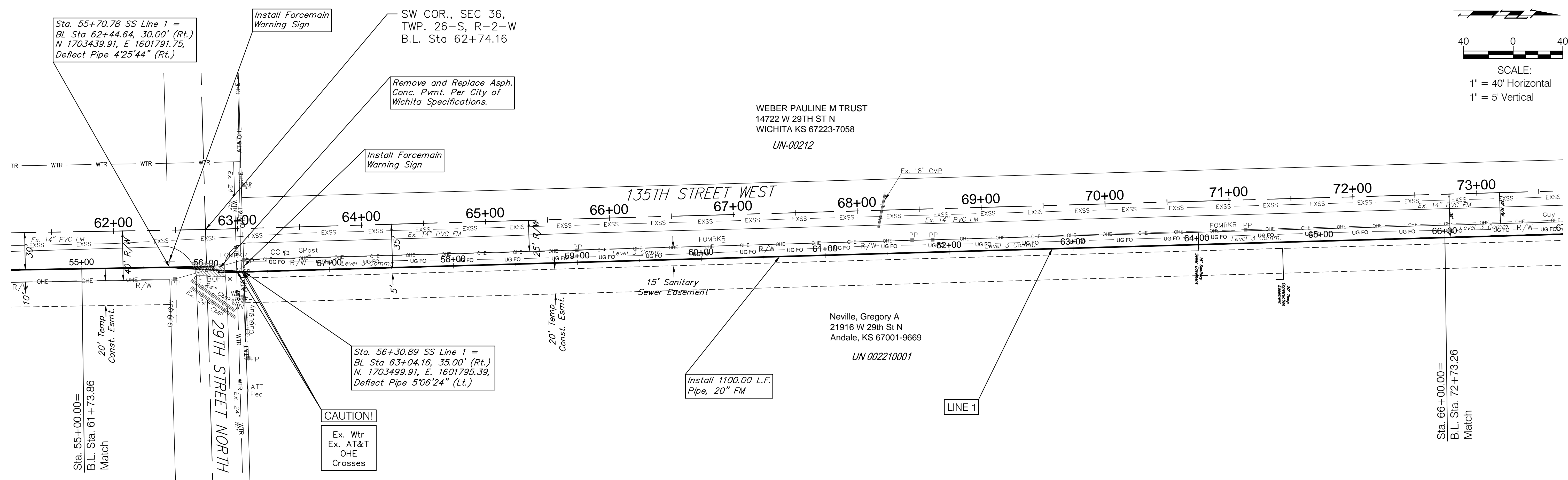
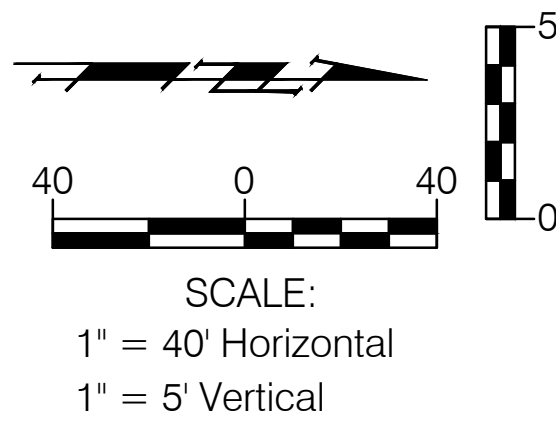
Jan, 2013
 SHEET 10 OF 24



WHETZEL ALAN G & ROBERTA A LIV TR
 2401 N 135TH W
 Wichita, KS 67223-7010
 AT-00007



Design: J. BRADLEY Drawn: JDM Approved: J. BRADLEY Scale: 1" = 40'	Drawing File: E:\Projects\135th St. W. Force Main\Engineering\Base Project No. 10084530 135th St. W. Sanitary Sewer Force Main Ph II SANITARY SEWER- FORCE MAIN LINE	Baughman Company, P.A. <small>315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149</small> ENGINEERING SURVEYING PLANNING LANDSCAPE ARCHITECTURE	Jan, 2013 SHEET 11 OF 24
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Drawing File: E:\Projects\135th St. W. Force Main\Engineering\Base
 Project No. 10084530
 135th St. W. Sanitary Sewer Force Main Ph II
 SANITARY SEWER- FORCE MAIN LINE

Design: J. BRADLEY
 Drawn: JDM
 Approved: J. BRADLEY
 Scale: 1" = 40'

63+00
 64+00
 65+00
 66+00

1349.61 = T.P.
 1350.21 = T.P.
 1350.81 = T.P.
 1351.41 = T.P.

Sta. 55+00.00 = B.L. Sta. 61+73.86 Match
 Sta. 55+70.78 SS Line 1 = B.L. Sta. 62+44.64, 30.00' (Rt.) N. 1703439.91, E. 1601791.75, Deflect Pipe 4'25'44" (Rt.)
 Sta. 56+30.89 SS Line 1 = B.L. Sta. 63+04.16, 35.00' (Rt.) N. 1703499.91, E. 1601795.39, Deflect Pipe 5'06'24" (Lt.)
 Sta. 66+00.00 = B.L. Sta. 72+73.26 Match

WEBER PAULINE M TRUST
 14722 W 29TH ST N
 WICHITA KS 67223-7058
 UN-00212

Neville, Gregory A
 21916 W 29th St N
 Andale, KS 67001-9669
 UN 002210001

SW COR., SEC 36,
 TWP. 26-S, R-2-W
 B.L. Sta 62+74.16

Remove and Replace Asp.
 Conc. Pvm. Per City of
 Wichita Specifications.

Install Forcemain
 Warning Sign

Install Forcemain
 Warning Sign

CAUTION!
 Ex. Wtr
 Ex. AT&T
 OHE
 Crosses

Install 1100.00 L.F.
 Pipe, 20" FM

135th STREET WEST

29TH STREET NORTH

15' Sanitary
 Sewer Easement

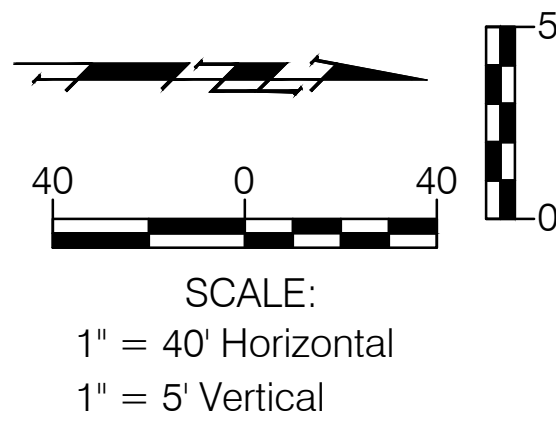
20' Temp.
 Const. Esmt.

20' Temp.
 Const. Esmt.

135th St. W. Sanitary Sewer Force Main Ph II
 SANITARY SEWER- FORCE MAIN LINE

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

Jan, 2013
 SHEET
 OF
 12
 24



ALBERT CLEMENT &
ADALINE REV LIV TRS
3201 N 135TH. ST. W
WICHITA KS 67223-7012

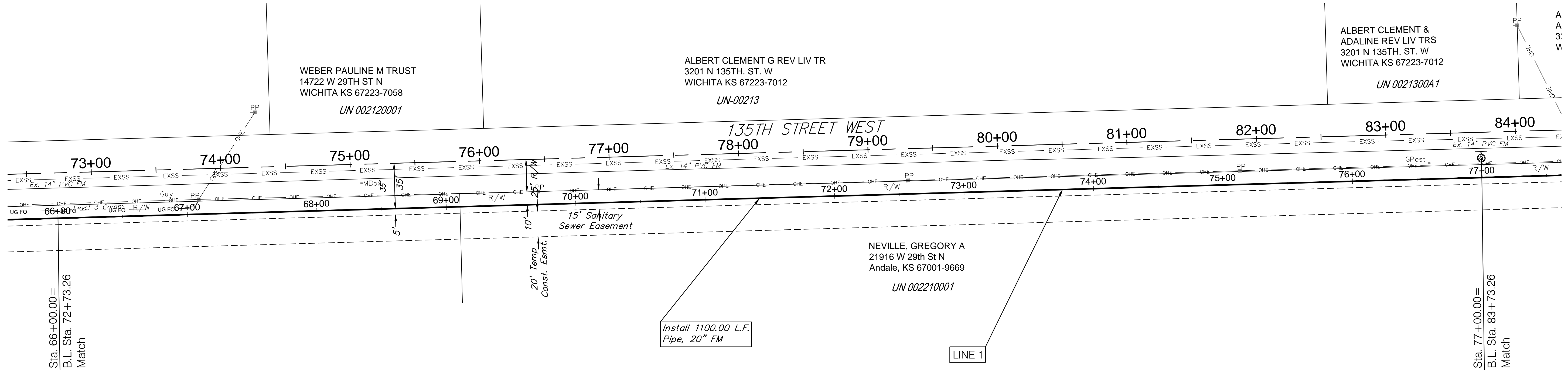
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14722 W 29TH ST N
WICHITA KS 67223-7058

UN 002120001

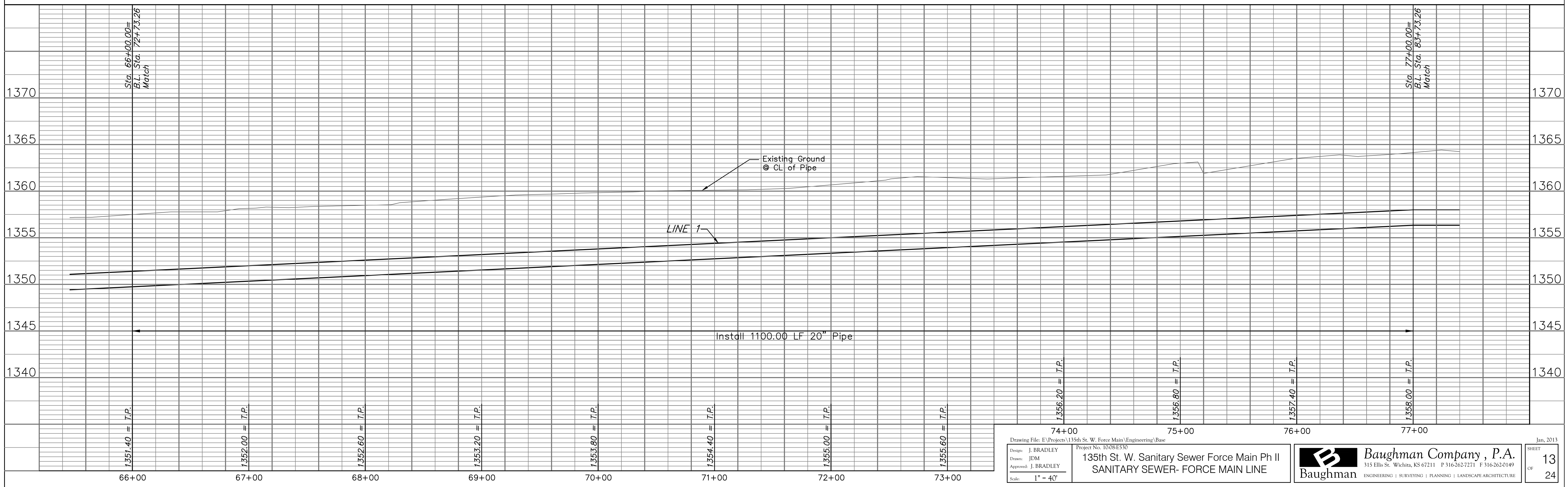
ALBERT CLEMENT G REV LIV TR
3201 N 135TH. ST. W
WICHITA KS 67223-7012

UN-00213

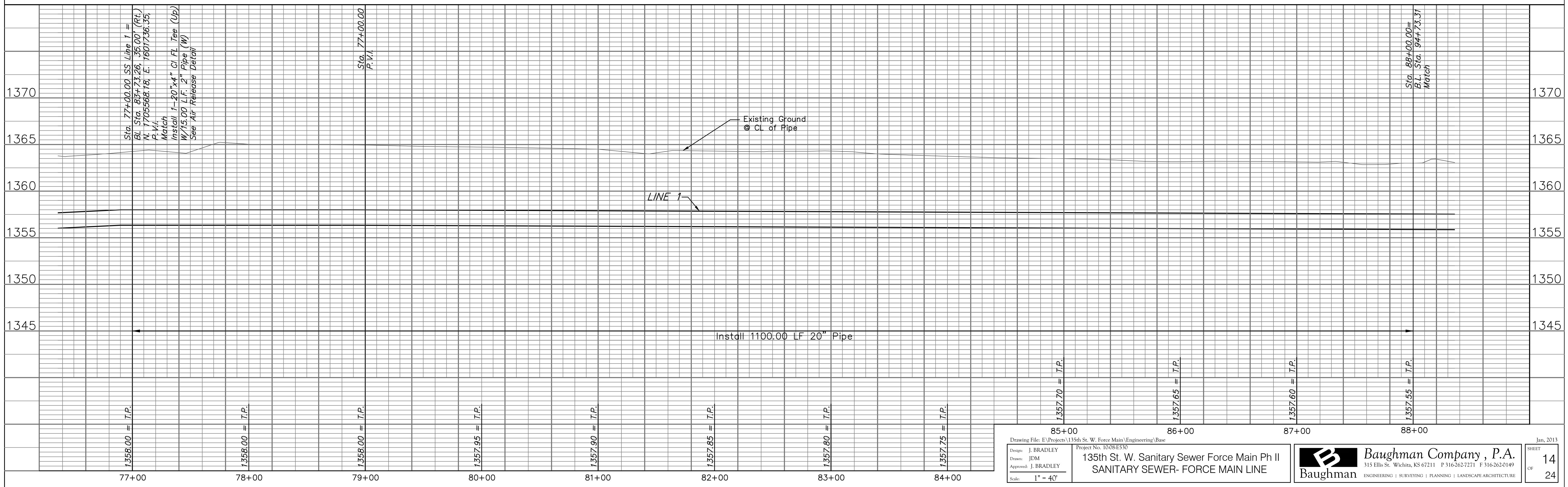
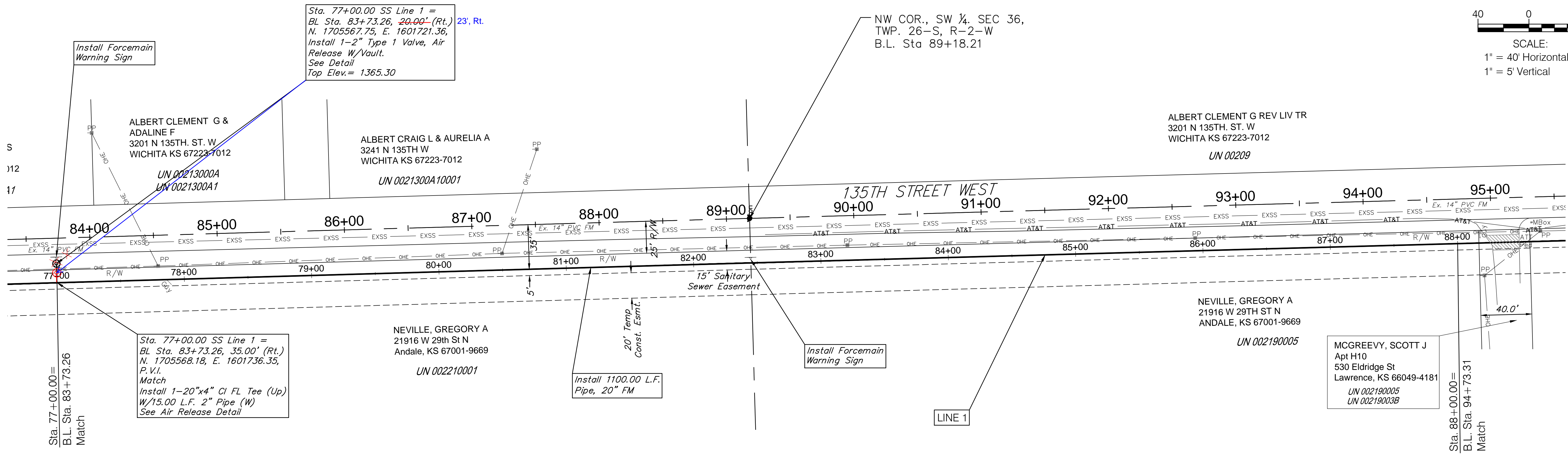
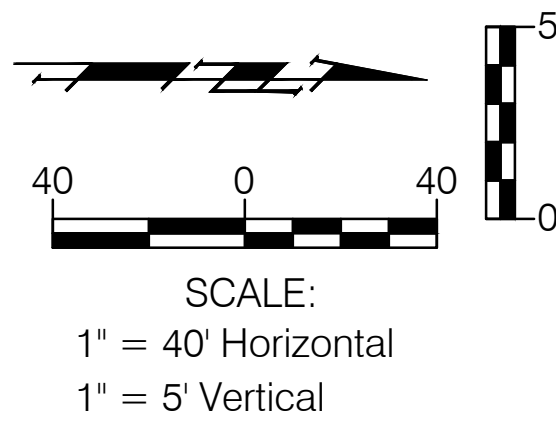


Install 1100.00 L.F.
Pipe, 20" FM

LINE 1



Drawing File: E:\Projects\135th St. W. Force Main\Engineering\Base Project No. 10084530		Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149 ENGINEERING SURVEYING PLANNING LANDSCAPE ARCHITECTURE	Jan, 2013 SHEET 13 OF 24
Design: J. BRADLEY Drawn: JDM Approved: J. BRADLEY Scale: 1" = 40'			135th St. W. Sanitary Sewer Force Main Ph II SANITARY SEWER- FORCE MAIN LINE

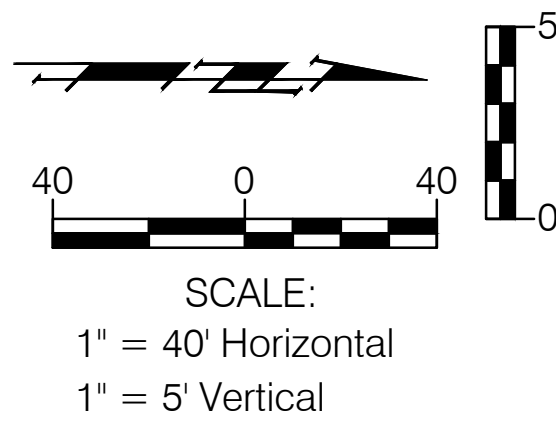


Drawing File: E:\Projects\135th St. W. Force Main\Engineering\Base
 Project No. 10084530
 Design: J. BRADLEY
 Drawn: JDM
 Approved: J. BRADLEY
 Scale: 1" = 40'

135th St. W. Sanitary Sewer Force Main Ph II
 SANITARY SEWER- FORCE MAIN LINE

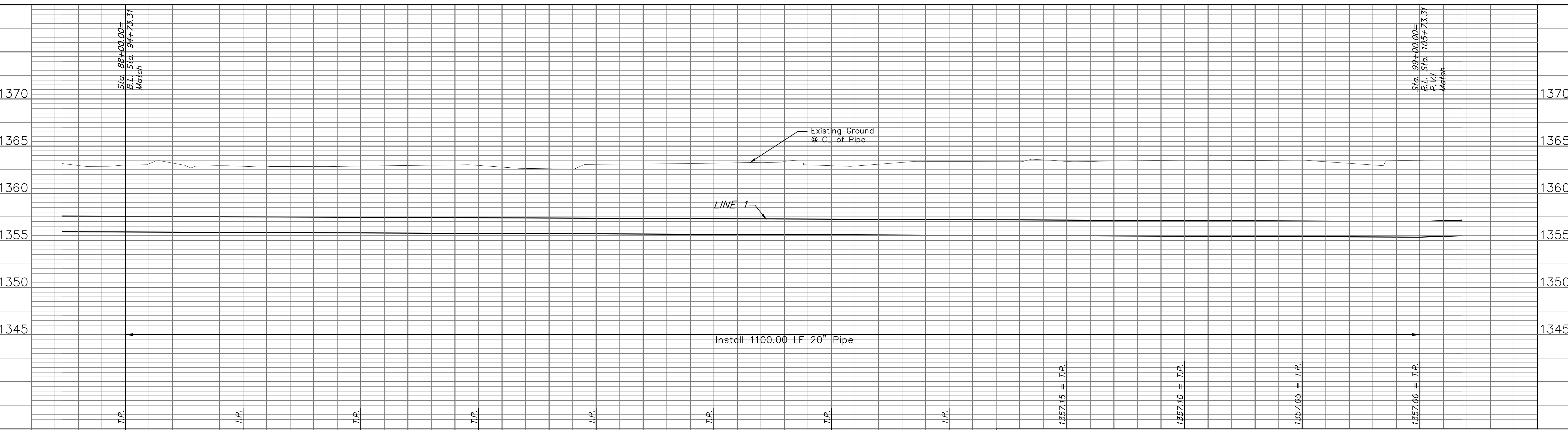
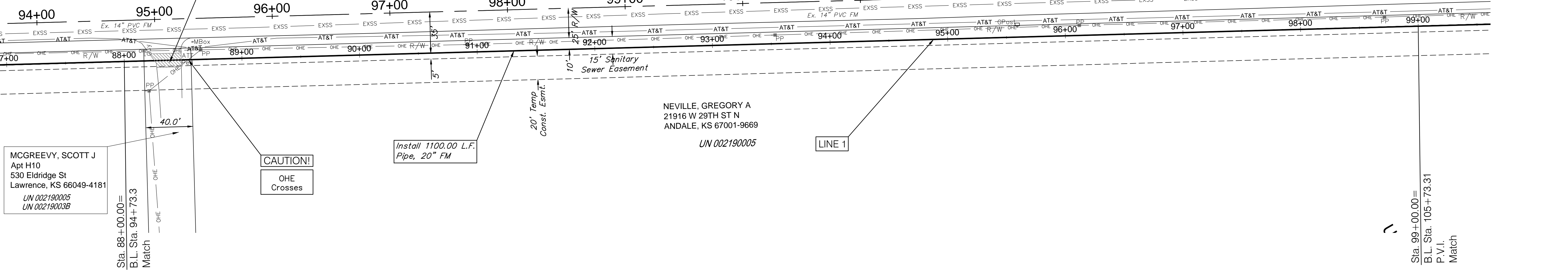
Baughman Company, P.A.
 315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149
 ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

Jan, 2013
 SHEET 14 OF 24



Remove and Replace Asph. Conc. Drive. Per City of Wichita Specifications.

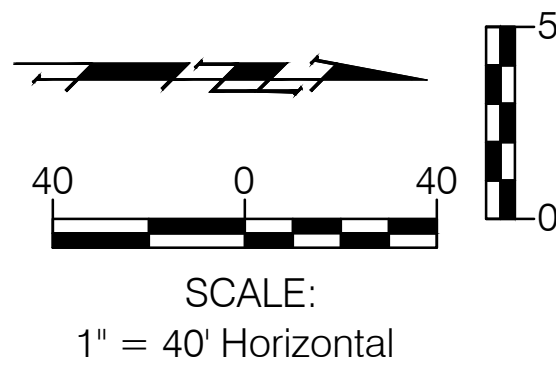
ALBERT CLEMENT G REV LIV TR
3201 N 135TH. ST. W
WICHITA KS 67223-7012
UN 00209



MCGREEVY, SCOTT J
Apt H10
530 Eldridge St
Lawrence, KS 66049-4181
UN 002190005
UN 00219003B

NEVILLE, GREGORY A
21916 W 29TH ST N
ANDALE, KS 67001-9669
UN 002190005

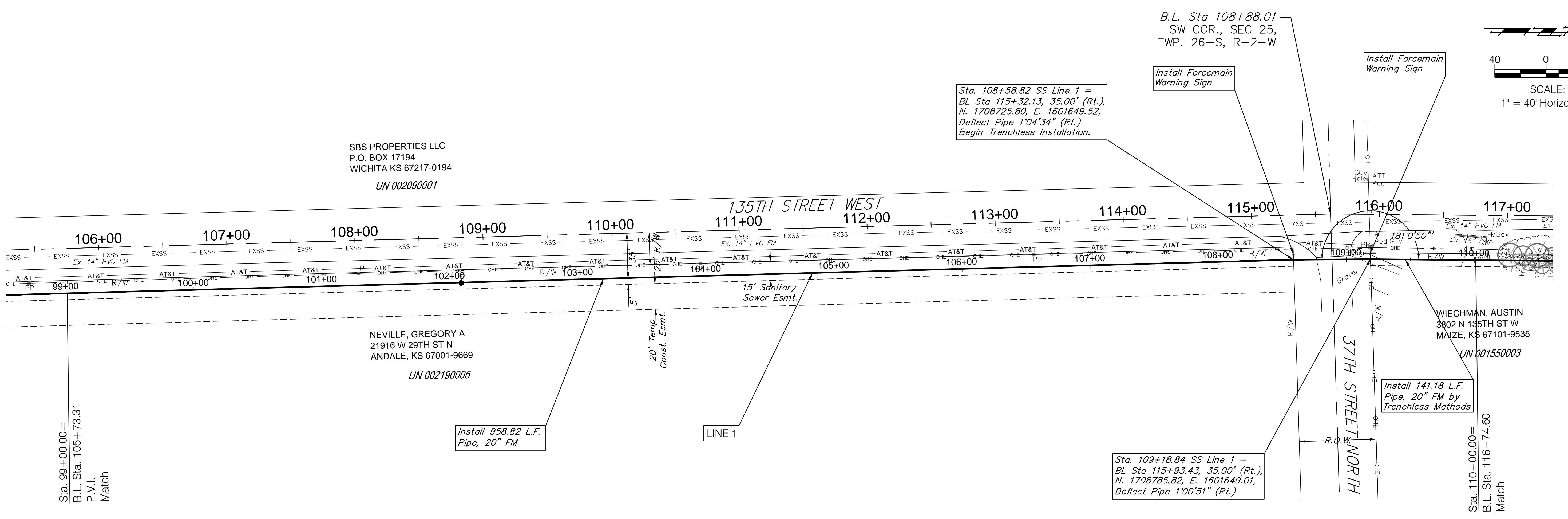
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Design: J. BRADLEY Drawn: JDM Approved: J. BRADLEY Scale: 1" = 40'	135th St. W. Sanitary Sewer Force Main Ph II SANITARY SEWER- FORCE MAIN LINE		



SBS PROPERTIES LLC
P.O. BOX 17194
WICHITA KS 67217-0194
UN 002090001

NEVILLE, GREGORY A
21916 W 29TH ST N
ANDALE, KS 67001-9669
UN 002190005

WIECHMAN, AUSTIN
3802 N 135TH ST W
MAIZE, KS 67101-9535
UN 001550003



Sta. 108+58.82 SS Line 1 =
BL Sta 115+32.13, 35.00' (Rt.),
N. 1708725.80, E. 1601649.52,
Deflect Pipe 1'04'34" (Rt.)
Begin Trenchless Installation.

B.L. Sta 108+88.01
SW COR., SEC 25,
TWP. 26-S, R-2-W

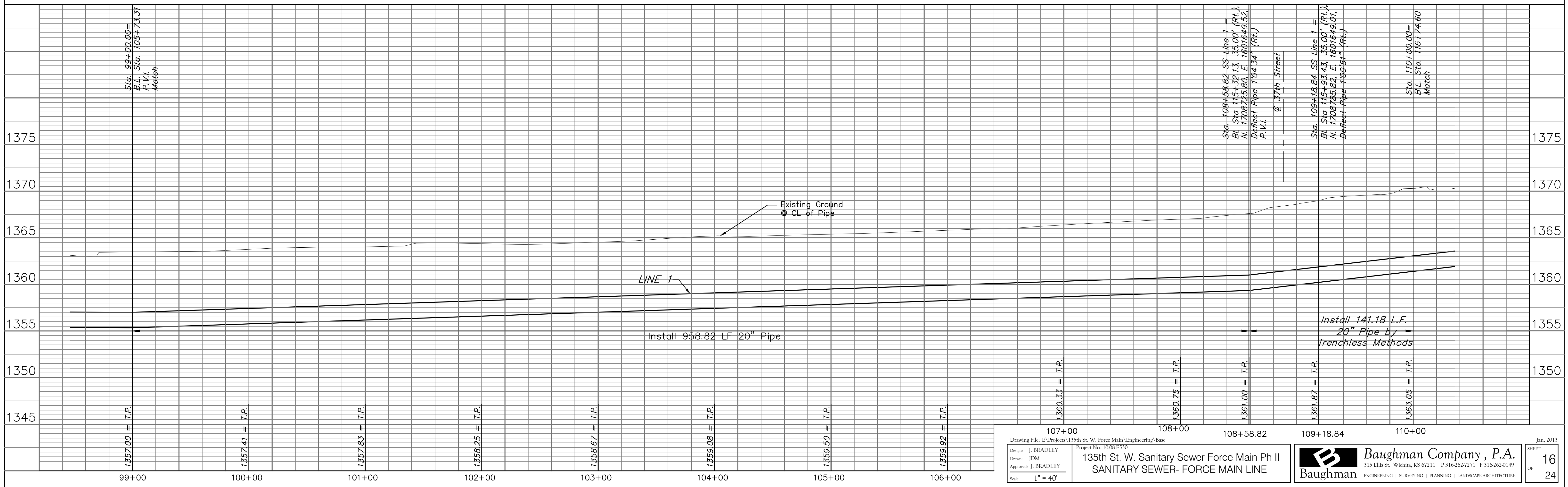
Install Forcemain
Warning Sign

Install Forcemain
Warning Sign

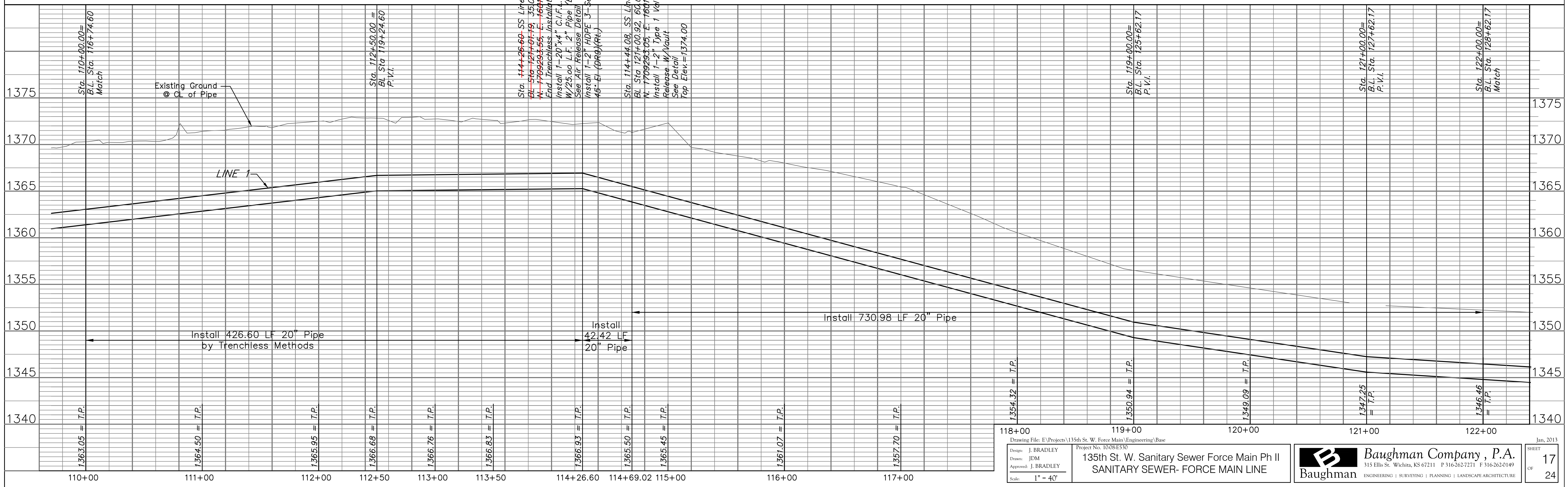
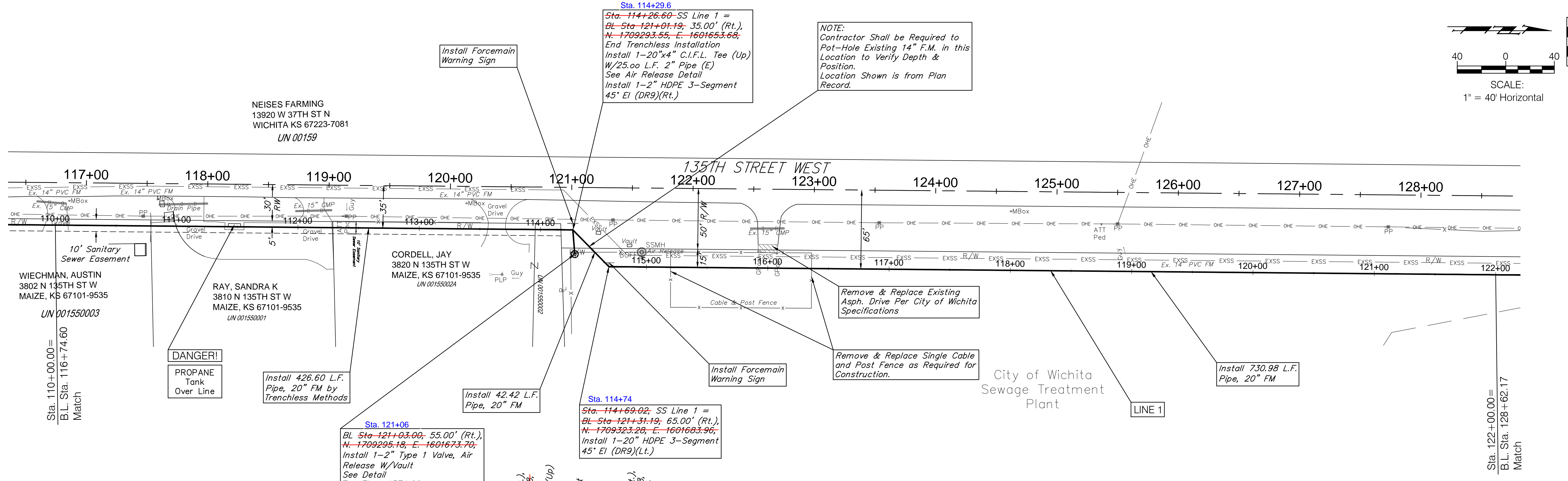
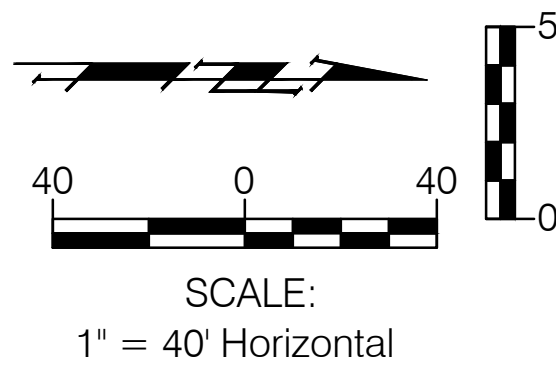
Install 958.82 L.F.
Pipe, 20" FM

Sta. 109+18.84 SS Line 1 =
BL Sta 115+93.43, 35.00' (Rt.),
N. 1708785.82, E. 1601649.01,
Deflect Pipe 1'00'51" (Rt.)

Install 141.18 L.F.
Pipe, 20" FM by
Trenchless Methods



Design: J. BRADLEY Drawn: JDM Approved: J. BRADLEY Scale: 1" = 40'	Drawing File: E:\Projects\135th St. W. Force Main\Engineering\Bas Project No. 10084530 135th St. W. Sanitary Sewer Force Main Ph II SANITARY SEWER- FORCE MAIN LINE	Baughman Company, P.A. <small>315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149</small> ENGINEERING SURVEYING PLANNING LANDSCAPE ARCHITECTURE	Jan, 2013 SHEET 16 OF 24
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Design: J. BRADLEY
 Drawn: JDM
 Approved: J. BRADLEY
 Scale: 1" = 40'
 Project No. 1008453
 135th St. W. Sanitary Sewer Force Main Ph II
 SANITARY SEWER- FORCE MAIN LINE
 Jan. 2013
 SHEET 17 OF 24
Baughman Company, P.A.
 315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149
 ENGINEERING | SURVEYING | PLANNING | LANDSCAPE ARCHITECTURE

