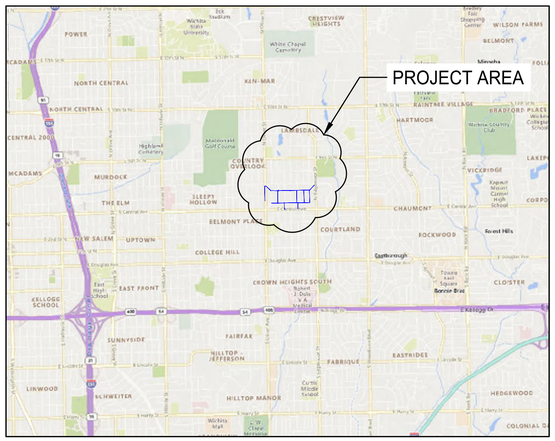
Water Main Replacement to serve East Highlands
Project # 448-2021-017905
Munis # W8034 ORG 45250018

Contractor - Mies
Superintendent - Mike Dandurand
Engineer - Jeff Terhune
Inspector - Roger Skilling

Pipe, WL 8" RJ8,- 8846 lf
Pipe, DICL, 6" - 80 lf
Pipe, DICL, 8" - 87 lf
Valve Assembly, 6"1 -1 ea
Valve Assembly, 8 - 27 ea
Valve Assembly, Anchored 8"4 -4 ea
Fire Hydrant Assembly - 12 ea

All fittings restrained with megalugs
Thrust blocks used at at Tee's
Test stations at fire hydrants, main line taps, and valve boxes



VICINITY MAP

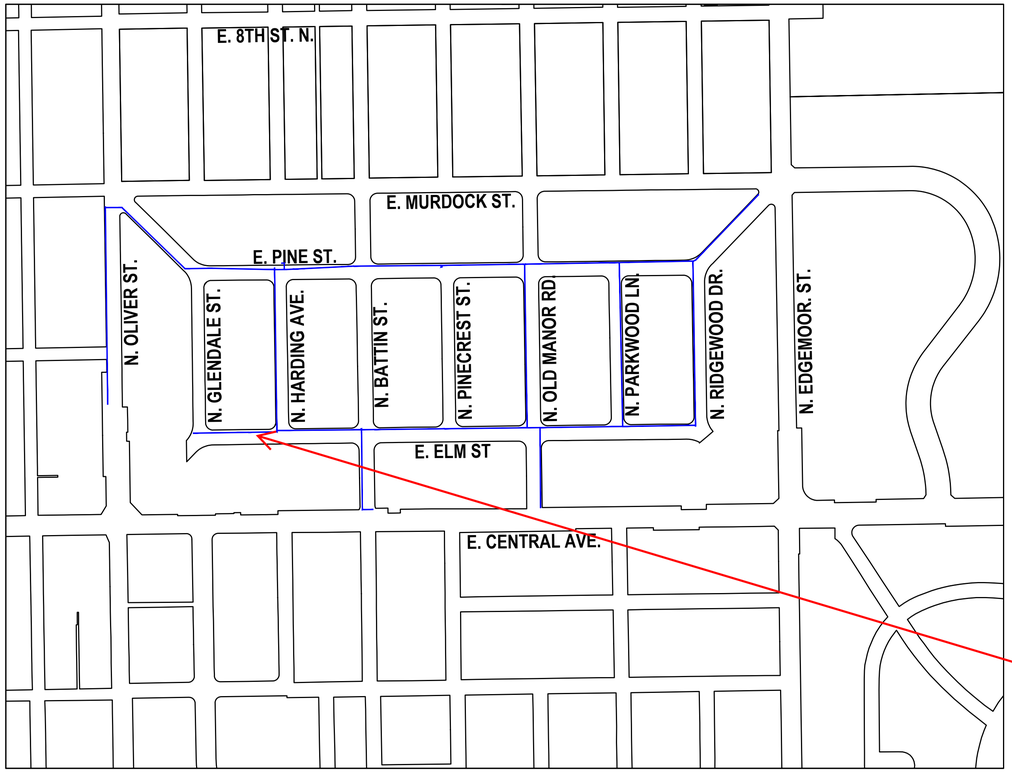
WATER MAIN REPLACEMENT PROJECT

to serve

EAST HIGHLANDS

CITY OF WICHITA, KANSAS

PAUL, GUNZELMAN, P.E. - CITY ENGINEER
PROJECT NO. 448-2021-017905
MUNIS NUMBER: W8034
O.R.G. NUMBER: 45250018



See Sheet 24 & 37. Down and under for Storm Water pipe

300 0 300 600
SCALE IN FEET

SHEET INDEX	
SHEET NO.	SHEET TITLE
01	COVER SHEET
02	GENERAL NOTES
03	KEY MAP - WATER MAINS AND SERVICE CONNECTIONS
04	SERVICE CONNECTIONS
05	STANDARD WATER ASSEMBLY DETAIL
06	STANDARD WATER SERVICE DETAIL
07	MISCELLANEOUS WATER DETAILS
08	N. OLIVER ST. 0+00.00 - 4+50.00
09	N OLIVER ST. 4+50.00 - 8+50.00
10	E. PINE ST. 0+00.00 - 4+50.00
11	E. PINE ST. 4+50.00 - 9+50.00
12	E. PINE ST. 9+50.00 - 14+50.00
13	E. PINE ST. 14+50.00 - 19+50.00
14	E. PINE ST. 24+50.00 - 28+50.00
15	E. PINE ST. 19+50.00 - 24+50.01
16	N. HARDING AVE. 0+00.00 - 4+50.00
17	N. HARDING AVE. 4+50.00 - 7+03.86
18	N. OLD MANOR RD. 0+00.00 - 5+00.00
19	N. OLD MANOR RD. 5+00.00 - 10+00.00
20	N. PARKWOOD LN. 0+00.00 - 4+50.00
21	N. PARKWOOD LN. 4+50.00 - 7+03.86
22	N. RIDGEWOOD DR. 0+00.00 - 4+50
23	N. RIDGEWOOD DR. 4+50.00 - 7+20
24	E. ELM ST. 0+00.00 - 4+50.00
25	E. ELM ST. 4+50.00 - 9+50.00
26	E. ELM ST. 9+50.00 - 14+50.00
27	E. ELM ST. 14+50.00 - 19+50.00
28	E. ELM ST. 19+50.00 - 22+20.00
29	N. BATTIN ST. 0+00.00 - 3+80.00
30	EROSION CONTROL
31	TRAFFIC CONTROL
32	SILT FENCE AND BARRIER DETAILS
33	BACK OF CURB PROTECTION DETAIL
34	STRAW BALE DITCH CHECK AND BARRIER DETAIL
35	STREET IMPROVEMENT PROJECTS
36	SUBDIVISION DEVLEOPMENT PROCESS

SEPTEMBER 2025

WSP USA
245 N WACO STREET, SUITE 100
WICHITA, KS 67202
PHONE: (316) 337-5550

ANGELA C. GUTIERREZ LICENSED 30826 9-2-25 KANSAS PROFESSIONAL ENGINEER

wsp

COVER SHEET

SHEET INDEX

DATE: SEPT. 2025
PROJ.: 8275000434
SHEET: 01

Last Saved by: USAG7715861 Plotted By: Gutierrez, Angela Plot Date/Time: 9/2/2025 9:12 AM
File: C:_Countryside\3.19.2025\05_CAD\Sheets\East Highlands WMR Phase 2 CVR-01.dwg

GENERAL NOTES

1. Prior to bidding the project, each bidder shall visit the site and satisfy himself of surface & subsurface conditions. Each bidder shall also fully inform himself as to the extent of the scope of work to be performed.

2. The Contractor shall comply with all applicable safety regulations.

3. 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.

4. Contractor shall give all property owners and/or tenants of developed property directly abutting construction of this project a minimum of ten (10) days notice prior to start of construction.

5. Rubble from the removal of miscellaneous structures including any trees removed and tree trimmings 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 that, in the opinion of the Engineer, 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.

6. Contractor shall limit the extent of trench openings overnight and weekends to less than 50 feet.

7. The intent of these contract documents is to provide general guidance for bidders to provide pricing to complete the project, regardless of installation means and methods. It is the bidder's responsibility to account for any anticipated plan and quantity revisions within the measured bid items provided herein. Once the project is awarded, but prior to construction the contractor is expected to coordinate with the engineer to revise the plans and measured bid items quantities to reflect the preferred alignment and installation means and methods to the City for approval, without adjustments to the total price bid. Only after a Notice to Proceed has been issued and construction begins, would there be any consideration in further revising the quantities of the approved pay items to reflect actual quantities installed.

UTILITIES

8. Contractor will be required to provide a minimum advance notice of seventy-two (72) hours to utility companies prior to starting any excavation as follows:

KANSAS ONE CALL	1-800-344-7233
OR LOCAL (WICHITA)	316-675-2470

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

Emergency Dispatch	911
AT&T	800-246-8464
Kansas Gas Service	888-482-4950
Evergy	800-544-4857
City of Wichita Water	316-219-8921
City of Wichita Storm Water	316-268-4090
City of Wichita Traffic	316-268-4034

9. Underground utility service lines and overhead utility pole lines are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor. Existing utilities and their location, as shown on the plans, represent the best information obtainable for 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 within the right-of-way which do not conflict with proposed construction.

10. Contractor shall be made aware that he will be working in close proximity of existing utilities. Any conflicts with such utilities shall be reported to the Engineer.The Contractor shall coordinate the construction of this project with relocation of any existing utilities by the utility companies.

11. Contractor shall be aware that some gas & telephone lines within the project corridor may have been abandoned in place as new lines are installed. The Contractor shall be responsible for contacting the appropriate owners to determine the status of said lines.

12. Contractors shall protect existing power poles, light poles and all existing utilities from damage and shall provide bracing, shoring, or other work necessary for such protection. Contractor shall contact Westar Energy at 316-261-6828 when bracing is necessary.

WATER

13. Contractor shall protect existing water mains and sewer mains.

14. All water mains and appurtenances shall be installed in accordance with City of Wichita, Kansas Standard Specifications and Special Provisions for Water Main Installations.

15. The Contractor shall use directional drilling methods as much as possible and shall open cut only where absolutely necessary. It is the Contractor's responsibility to limit disturbances to properties inside of and adjacent to construction areas. Fusible PVC as provided in the attached Specification may be used on this project.

16. The unit price bid for new service lines shall include the cost of the service line, the new meter box, new meter box ring and lid, existing meter setter, installation of the existing meter in the setter, new copper pigtail and new saddle & corporation in the new water main. Water services with 5/8" or 3/4" meter setters shall use 3/4" water service tubing. Costs to be subsidiary to long and short services bid items. Where directed by the Engineer, replace the existing meter, setter, and connected service tubing with new meter, setter, and components as shown in Typical 1" Meter Setting detail. The unit bid price for new meter and setter shall be used jointly with the 1" service line item for complete payment of work to replace service components.

17. Requests for short term water interruptions shall be made to the City Water Distribution Division and will be subject to their approval. The Contractor shall give written notice to any property owner, business, and/or tenants that will have water service interrupted at least 5 days in advance. Such notifications should indicate the time and date that the water will be turned off and when the service will be restored. Proposed tie in locations which affect water service to property owners shall be performed during non-peak hours.

18. The Contractor shall minimize water service interruptions to property owners within the project area. Any property owners who will have services interrupted shall be given written notice at least forty-eight (48) hours in advance. No business, property owner, and/or tenants shall be without water service for more than 8 hours.

19. Existing water mains and service connections are to remain in service until proposed new mains have been completed, tested and passed.

20. All costs associated with killing and cutting corp. stops and abandonment of existing water lines in place shall be considered subsidiary to the project.

21. All locations where 1" taps feed existing water mains the kills shall be at the 1" taps with the 1" corporation shut off and the 1" piping severed as close to the tap as possible.

22. Water service lines shall be connected to new mains in accordance with the City of Wichita Specifications and Special Provisions and per construction details. New services shall be provided to all locations along the proposed alignment as shown on the drawings. Services will be bid per each basis for long and short services. Long services cross the centerline of the roadways and short services do not.

23. New water services will not be installed for vacant properties unless shown on the plans or specified in the special provisions.

24. Existing automated meter reading devices shall be reinstalled. If needed, the Contractor shall coordinate with the City of Wichita meter shop to pick up new meters or AMR technologies and return damaged ones. Costs to be subsidiary to long and short services bid items.

25. Valves 12 inch and larger are to be operated by the City Water Distribution Division, 48 hours of advance notice is required with Dispatch at 316-291-8921.

26. Where notes call out to install tapping sleeves and valves, the City will provide and install. The valve box will be provided by the City and INSTALLED BY THE CONTRACTOR. The Contractor must install the blocking and the valve box, with the valve box installed at grade, per the City Detail. Fittings for these taps and ALL other fittings shall be considered subsidiary to the project.

27. The Contractor will use restraint systems at all fittings, regardless of installation methods, including sleeves, per City Detail.
    a. Thrust blocking at these fittings is not required.
    b. Fire hydrant leads do not need to be restrained joints, but either side of the tee must be restrained.
    c. Restrained gland packs at City installed taps to be provided by the Contractor.

28. Deflection at pipe joints or couplings shall not exceed the pipe manufacturers recommended maximum.

29. The Engineering Division shall field locate water valves one time during construction when requested by the Contractor. It shall be the Contractor's responsibility to preserve such field locations during the construction process. Water valves, valve boxes or fire hydrants damaged during construction shall be repaired by the Contractor at his own expense. Valve boxes and water meters within the project limits shall be adjusted to match field grades.

30. 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.

31. Temporary Blow-off Valves necessary to flush lines at existing water line tie-ins shall be installed and removed prior to final connections. Locations where temporary and permanent connections are called out, anchor valves and temporary blow off assemblies shall be used and be considered subsidiary to the project. Connections to the existing waterline(s) shall be made with clean, swabbed pipe and flushed upon completion of tie-ins.

32. The contractor shall return all salvageable valves, hydrants, hydrant fittings, meter setters, and etc. to the City of Wichita Water Distribution Department yard located at 1825 S. McLean Blvd. The contractor shall have all salvaged material checked in by the storekeeper. Existing service lines to be abandoned shall be cut and capped. Existing meters, meter boxes, meter setters, rings and lids shall be returned by the contractor to 1825 S. McLean Blvd.

33. Contractor shall lay a tracer wire & set test stations along all water line pipe installed in accordance with City of Wichita specifications & tracer wire detail on detail sheet. cost is subsidiary to pipe installation.

34. Abandonment of the existing system includes the removal or capping of existing lines, valve removal, and concrete filling of valve boxes no longer needed as called out on the drawings. All existing piping to be abandoned shall be plugged and capped at each end and shall be completely removed from service no more than 24" from the point of disconnection from water mains that remain in service.

35. Any existing waterline joint exposed during construction shall be replaced if within four feet of proposed joint.

36. Contractor to maintain 12" vertical and horizontal separation from all existing water mains.

37. Existing Fire Hydrants on existing waterlines shown to be abandoned, or where a nearby replacement is to be installed, shall be removed and salvaged to the City.This work shall be considered subsidiary to the Fire Hydrant Assembly bid item.

38. Maintain a minimum of 10-foot horizontal separation between all water lines (mains, services, and fire hydrants) and all sanitary sewer lines (mains, services, and manholes). All separation distances are to be measured from edge-to-edge, at the closest point.

39. Maintain a minimum of 2-foot vertical separation between all water lines (mains and services) and all gravity sanitary sewer lines (mains, services, and manholes) at crossings. All separation distances are to be measured from edge-to-edge, at the closest point.

40. Maintain a minimum of 2-foot vertical separation between all water lines (mains and services) and all pressurized sanitary sewer lines (force mains and services) at crossings. Waterlines must always be placed above pressurized sanitary sewer lines where they cross. All separation distances are to be measured from edge-to-edge, at the closest point.

SITE RESTORATION

41. The water main shall be constructed in the alignment shown on the plans between the curb and right of way as the City's preference. 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, and shall be subsidiary to the price bid for the installed water pipe. Trees and shrubs not in direct conflict with construction shall be saved and protected from damage.

42. Sprinkler Systems: The contractor is required to repair damage that includes, but is not entirely limited to, minor items such as pipe, irrigation head repair/replacement. These repairs shall be subsidiary to other items. The contractor is not expected to repair or reconfigure major components such valves, controllers, backflow preventers, etc. but all existing connections to the service line or meter shall be in place and working at the conclusion of the project. The contractor is required to protect major components from damage. Any damage caused due to negligence must be replaced at the contractor's expense.

TRAFFIC

43. All traffic signs that are located in direct conflict with the proposed construction shall be removed and protected from damage by the Contractor. All signs that are removed during construction shall be replaced or reset by the Contractor as soon as construction permits. Any sign damaged by the Contractor shall be replaced at no additional cost to the project. All Traffic Control Signs shall remain operational during all phases of the project by either resetting existing or erecting temporary signs. This shall include all school crossing, warning signs, and applicable regulatory signs. The cost for any removal, replacement and/or resetting of traffic signs shall be SUBSIDIARY to the lump sum bid item "Site Restoration"

44. If traffic will be impacted by construction, a traffic control plan must be submitted and approved by the City Traffic Engineer, Mike Armour at traffic@wichita.gov before construction can begin. The Contractor shall be responsible for all traffic control measures to facilitate construction. All construction zone markings and signage shall conform to the latest version of the Manual on Uniform Traffic Control Devices (MUTCD) as published by the UI Dept. of Transportation, Federal Highway Administration. All costs associated with construction markings and signage shall be the Contractors responsibility.

45. Interurban traffic generated outside the project area and local business orresidential traffic generated within the traffic area are to be carried through construction as further promulgated by the project special provisions. The contractor shall utilize barricades, signs, guards, and flagmen in flagmen in accordance with the manual on uniform traffic control devices. Contractor shall provide a traffic control plan to the city for approval prior to beginning work.

PAVEMENT

46. The proposed Water Lines that are installed by Open Cut methods under pavement shall be backfilled with sand, flushed and vibrated, from 6" below all pipes to within 2' below the bottom of the rock base or finished grade per Detail WL-104. Cost to be SUBSIDIARY to water line construction.

47. A saw cut of at least one-half the depth of existing surface courses or one-fourth the depth of the existing total pavement thickness shall be provided at locations where proposed construction abuts an existing surface course or pavement for which partial removal of that surface or pavement is required. Sawed joint to facilitate removal within three (3) feet of existing joints will not be permitted and for such instances the limits of removal shall extend to the existing Such saw cuts will not be paid for directly and this cost shall be considered SUBSIDIARY to the removal of the surface or pavement.

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

REVISIONS:

GENERAL NOTES

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ
CHECKED BY: EJB
DATE: Sep-25

CITY OF WICHITA

ANGELA C. GUTIERREZ LICENSED 30826 9-2-25 KANSAS PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
02
OF 36

C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\GN-01
9/2/2025

Cross w/ valves placed instead of tee. unnecessary valve used at Glendale.

Valve that was not used at Harding used for 6" south line.

WL moved to E side of Harding

line lowered and swooped to avoid future conflict w/ planned SWS project.

See sheet 24 & 37 at end

MURDOCK

PINE

ELM

CENTRAL

OLIVER

GLENDALE

HARDING

BATTIN

PINECREST

OLD MANOR

PARKWOOD

RIDGEWOOD

EDGEMOOR

1314 1639 1641 1642 1643 1644 1645 1646 1647 1648 1649

N

0 100 200 Feet

LEGEND

EXISTING WATER MAIN —W—W—
PROPOSED WATER MAIN
EXISTING SANITARY SEWER —SS—
EXISTING STORM SEWER — — — —
CONTROL POINT (##)

HORIZONTAL PROJECT CONTROL

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1314	1689935.26	1665168.07	1369.01	EMON/CENT THIMBLE
1639	1688992.70	166148.85	1366.31	EIP - 3/4"
1641	1688988.00	1665815.00	1362.00	EIP - 3/4"
1642	1688997.39	1666479.88	1375.28	EIP - 1/2"
1643	1689002.23	1666810.84	1384.10	EIP = 3/4"
1644	1689006.31	1667143.78	1384.00	EIP - 3/4"
1645	1689010.99	1667471.72	1380.07	EIP - 3/4"
1646	1689657.10	1667461.54	1385.77	EIP - 3/4"
1647	1689652.37	1667133.57	1389.98	EIP - 3/4"
1648	1689645.06	166680052.00	1387.94	EIP - 3/4"
1649	1689629.57	1665478.04	1363.50	EIP - 3/4"

REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

KEY MAP - WATER MAINS AND SERVICE CONNECTIONS

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

CITY OF WICHITA

ANGELA C. GUTIERREZ LICENSED 30826 9-2-25 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 8275000434

SHEET NO. 03 OF 36

C:_Countryside\3.19.2025\05_CAD\Sheets\East Highlands WMR Phase 2\KM-WM-01

9/2/2025

PARCEL NUMBER	LINE	SHEET NUMBER	ADDRESS	METER NUMBER	ACCOUNT NUMBER	TAP SIZE
1	2	15	5518 E PINE ST	47114272	51371-100	0.75
2	2	15	5511 E PINE ST	45585998	33754-100	0.75
3	2	15	5502 E PINE ST	44476363	40051-100	-
4	2	14	5430 E PINE ST	47115199	37302-100	0.75
5	2	14	5426 E PINE ST	47471217	37728-100	0.75
6	2	14	5412 E PINE ST	44557541	38919-100	0.75
7	2	14	5408 E PINE ST	47115235	38794-100	0.75
8	2	14	5406 E PINE ST	45586114	37615-100	0.75
9	2	14	5332 E PINE ST	47114279	39361-100	0.75
10	2	14	5326 E PINE ST	47114277	33348-100	0.75
11	2	14	5320 E PINE ST	47115200	32988-100	0.75
12	2	13	5316 E PINE ST	47471220	39008-100	0.75
13	2	13	5312 E PINE ST	47115194	36649-100	0.75
14	2	13	5302 E PINE ST	47114278	37740-100	0.75
15	2	13	5228 E PINE ST	47051620	37634-100	0.75
16	2	13	5222 E PINE ST	47051623	37633-100	0.75
17	2	13	5218 E PINE ST	47051600	34443-100	0.75
18	2	13	5212 E PINE ST	47051583	38093-100	0.75
19	2	13	5208 E PINE ST	45586115	35558-100	0.75
20	2	13	5202 E PINE ST	47051598	39535-100	0.75
21	2	12	5126 E PINE ST	47051599	40366-100	0.75
22	2	12	5122 E PINE ST	44542619	39819-100	0.75
23	2	12	5118 E PINE ST	49565981	37921-100	0.75
24	2	12	5112 E PINE ST	49566145	36599-100	0.75
25	2	12	5108 E PINE ST	-	36707-101	0.75
26	2	12	5107 E PINE ST	47565984	53676-100	0.75
27	2	12	5102 E PINE ST	44198635	32999-100	0.75
28	2	12	5022 E PINE ST	47051581	36585-100	0.75
29	2	12	5018 E PINE ST	47051619	32974-100	0.75
30	2	12	5012 E PINE ST	47051585	32972-100	0.75
31	2	11	5006 E PINE ST	45965735	39847-100	0.75
32	2	11	5002 E PINE ST	47051610	77320-100	0.75
33	2	11	4930 E PINE ST	47051621	32590-100	0.75
34	2	11	4926 E PINE ST	47566144	39219-100	0.75
35	2	11	4918 E PINE ST	46926220	42956-100	0.75
36	2	11	4912 E PINE ST	49306306	39666-100	0.75
37	2	11	4906 E PINE ST	47051609	39018-100	0.75
38	2	11	4902 E PINE ST	47051587	31168-100	0.75
39	2	10	4824 E PINE ST	44547409	91163-100	1.00
39	2	10	4826 E PINE ST	46833196	91164-100	1.00
40	2	10	4825 E PINE ST	47051611	31211-100	0.75
41	1	8	536 N OLIVER AVE	45048346	30783-100	1.00
42	1	8	542 N OLIVER AVE	47050025	30861-100	0.75
43	1	8	546 N OLIVER AVE	44398838	46336-100	0.75
43	1	8	548 N OLIVER AVE	44965375	46335-100	0.75
44	1	8	552 N OLIVER AVE	45699125	84408-100	0.75
44	1	8	554 N OLIVER AVE	47050023	30860-100	0.75
45	1	8	602 N OLIVER AVE	45048345	30784-100	1.00
46	1	8	610 N OLIVER AVE	47050036	31422-100	0.75
47	1	8	611 N OLIVER AVE	47820866	94655-100	0.75
48	1	8	614 N OLIVER AVE	47566111	30862-100	0.75
49	1	8	615 N OLIVER AVE	47820828	37657-100	0.75
50	1	9	617 N OLIVER AVE	47820796	37055-100	0.75
51	1	9	619 N OLIVER AVE	47915519	37056-100	0.75
52	1	8	620 N OLIVER AVE	47050038	31413-100	0.75
53	1	9	626 N OLIVER AVE	45377761	30785-100	1.00
54	1	9	631 N OLIVER AVE	47820865	39354-100	0.75
55	1	9	632 N OLIVER AVE	47050034	30823-100	0.75
56	1	9	637 N OLIVER AVE	43876304	39308-100	0.75
57	1	9	638 N OLIVER AVE	47566110	30863-100	0.75
58	1	10	644 N OLIVER AVE	47050052	30786-100	0.75
59	1	9	647 N OLIVER AVE	44595846	38824-100	0.75
60	1	9	653 N OLIVER AVE	47820798	39831-100	0.75
61	7	25	602 N HARDING AVE	47051688	32250-100	0.75
62	3	16	610 N HARDING AVE	44398672	37707-100	-
63	3	16	611 N HARDING AVE	47050680	48591-100	-
64	3	16	614 N HARDING AVE	47050013	38927-100	-
65	3	16	615 N HARDING AVE	45048180	31523-100	1.00
66	3	16	616 N HARDING AVE	45965706	42949-100	-
67	3	16	619 N HARDING AVE	47050707	31524-100	0.75
68	3	16	623 N HARDING AVE	47050703	31242-100	-
69	3	16	624 N HARDING AVE	47050695	34042-100	-
70	3	16	628 N HARDING AVE	47050697	42732-100	-
71	3	16	629 N HARDING AVE	44398861	31525-100	-
72	3	16	632 N HARDING AVE	44398873	41736-100	-
73	3	16	633 N HARDING AVE	47050704	31202-100	0.75
74	3	17	639 N HARDING AVE	47050014	31186-100	0.75
75	3	17	640 N HARDING AVE	47050705	31854-100	-
76	3	17	643 N HARDING AVE	44557672	31187-100	-
77	3	17	644 N HARDING AVE	47050696	31842-100	0.75
78	3	17	648 N HARDING AVE	47050698	31855-100	0.75
79	3	17	649 N HARDING AVE	48526642	31140-100	0.75
80	3	17	653 N HARDING AVE	47050699	31159-100	0.75
81	3	17	654 N HARDING AVE	44399317	32041-100	1.00
82	7	26	524 N OLD MANOR RD	44398623	45228-100	0.75
83	4	18	601 N OLD MANOR RD	47050709	42663-100	0.75
84	4	18	609 N OLD MANOR RD	47566183	39573-100	0.75
85	4	18	610 N OLD MANOR RD	47113596	37538-100	0.75
86	4	18	615 N OLD MANOR RD	44369610	43724-100	0.75
87	4	18	616 N OLD MANOR RD	47472296	36977-100	0.75
88	4	19	619 N OLD MANOR RD	47566182	40348-100	0.75
89	4	19	623 N OLD MANOR RD	47566179	51651-100	0.75
90	4	19	624 N OLD MANOR RD	47113623	37362-100	0.75
91	4	19	627 N OLD MANOR RD	47050700	45049-100	0.75
92	4	19	630 N OLD MANOR RD	47113616	37732-100	0.75
93	4	19	633 N OLD MANOR RD	47050694	47856-100	0.75
94	4	19	636 N OLD MANOR RD	47115128	69212-100	0.75
95	4	19	640 N OLD MANOR RD	-	37513-100	0.75
96	4	19	641 N OLD MANOR RD	47050677	43897-100	0.75
97	4	19	644 N OLD MANOR RD	47115121	37539-100	0.75
98	4	19	645 N OLD MANOR RD	47566181	36882-100	0.75
99	4	19	648 N OLD MANOR RD	47115126	48350-100	0.75
100	4	19	649 N OLD MANOR RD	47050678	36867-100	0.75
101	4	19	653 N OLD MANOR RD	45965655	36865-100	0.75
102	1	19	654 N OLD MANOR RD	47115123	36426-100	0.75
103	7	20	602 N PARKWOOD LN	47114323	36575-100	0.75
104	5	20	603 N PARKWOOD LN	44398650	36301-100	0.75
105	5	20	608 N PARKWOOD LN	47114290	39153-100	0.75
106	5	20	609 N PARKWOOD LN	47113619	36406-100	0.75
107	5	20	614 N PARKWOOD LN	47114288	38094-100	0.75
108	5	20	615 N PARKWOOD LN	47113611	42822-100	0.75
109	5	20	618 N PARKWOOD LN	47114326	39251-100	0.75
110	5	20	619 N PARKWOOD LN	48220286	39252-100	0.75
111	5	20	624 N PARKWOOD LN	47114327	37955-100	0.75
112	5	20	625 N PARKWOOD LN	47113614	39154-100	0.75
113	5	20	630 N PARKWOOD LN	47114324	33615-100	0.75
114	5	20	631 N PARKWOOD LN	47113613	45737-100	0.75
115	5	20	634 N PARKWOOD LN	47114302	33602-100	0.75
116	5	20	635 N PARKWOOD LN	47113610	38487-100	0.75
117	5	21	640 N PARKWOOD LN	47114878	33616-100	0.75
118	5	21	641 N PARKWOOD LN	47113620	42778-100	0.75
119	5	21	644 N PARKWOOD LN	44399412	33451-100	1.00
120	5	21	645 N PARKWOOD LN	47113609	38851-100	0.75
121	5	21	650 N PARKWOOD LN	47114328	37651-100	0.75
122	5	21	653 N PARKWOOD LN	47113612	36711-100	0.75
123	5	21	654 N PARKWOOD LN	47114304	33623-100	0.75
124	6	22	602 N RIDGEWOOD DR	47471221	33396-100	0.75
125	6	22	603 N RIDGEWOOD DR	47114291	34112-100	0.75
126	6	22	608 N RIDGEWOOD DR	47115130	33378-100	0.75
127	6	22	609 N RIDGEWOOD DR	44280603	34110-100	0.75
128	6	22	612 N RIDGEWOOD DR	47115132	33614-100	0.75
129	6	22	615 N RIDGEWOOD DR	47471218	37869-100	0.75
130	6	22	618 N RIDGEWOOD DR	47115131	37870-100	0.75
131	6	22	619 N RIDGEWOOD DR	47471226	39488-100	0.75
132	6	22	622 N RIDGEWOOD DR	44543149	33355-100	0.75
133	6	22	625 N RIDGEWOOD DR	44398645	33366-100	0.75
134	6	22	629 N RIDGEWOOD DR	44829868	33420-100	0.75
135	6	22	630 N RIDGEWOOD DR	47115135	43519-100	0.75
136	6	22	633 N RIDGEWOOD DR	35807425	37541-100	0.75
137	6	22	636 N RIDGEWOOD DR	44476365	52231-100	0.75
138	6	23	641 N RIDGEWOOD DR	47471224	37667-100	0.75
139	6	23	644 N RIDGEWOOD DR	47113591	33419-100	0.75
140	6	23	647 N RIDGEWOOD DR	47114292	33340-100	0.75
141	6	23	650 N RIDGEWOOD DR	47115127	33508-100	0.75
142	6	23	655 N RIDGEWOOD DR	47114325	37576-100	0.75
143	6	23	656 N RIDGEWOOD DR	47113615	33341-100	0.75
144	6	23	660 N RIDGEWOOD DR	47113617	33341-100	0.75
145	7	28	5425 E ELM ST	47115138	43234-100	0.75
146	7	27	5417 E ELM ST	45585970	33384-100	0.75
147	7	27	5411 E ELM ST	47115129	40294-100	0.75
148	7	27	5407 E ELM ST	47115122	36787-100	0.75
149	7	27	5401 E ELM ST	44398639	33478-100	0.75
150	7	27	5331 E ELM ST	47115125	38204-100	0.75
151	7	27	5327 E ELM ST	47115137	33391-100	0.75
152	7	27	5317 E ELM ST	47115124	43154-100	0.75
153	7	27	5311 E ELM ST	47115134	33515-100	0.75
154	7	27	5307 E ELM ST	47115136	36598-100	0.75
155	7	27	5306 E ELM ST	47113618	37121-100	0.75
156	7	26	5221 E ELM ST	47051589	46632-100	0.75
157	7	26	5213 E ELM ST	47051596	42129-100	0.75
158	7	26	5209 E ELM ST	47566082	38317-100	0.75
159	7	26	5204 E ELM ST	44632642	91239-100	1.00
159	7	26	5202 E ELM ST	47051594	91238-100	1.00
160	7	26	5201 E ELM ST	47051576	33514-100	0.75
161	7	26	5129 E ELM ST	47566079	38091-100	0.75
162	7	26	5125 E ELM ST	47051595	41449-100	0.75
163	7	25	5121 E ELM ST	47051577	33383-100	0.75
164	7	25	5115 E ELM ST	47051580	42216-100	0.50
165	7	25	5107 E ELM ST	47051579	36708-100	0.75
166	7	25	5101 E ELM ST	47051601	86797-100	-
167	7	25	5021 E ELM ST	47051578	31311-100	0.75
168	7	25	5017 E ELM ST	35807079	31312-100	0.75
169	7	25	5011 E ELM ST	44399627	32110-100	0.75
170	7	24	5007 E ELM ST	46833187	31320-100	0.75
171	7	24	5001 E ELM ST	47051604	31272-100	0.75
172	7	24	4927 E ELM ST	47051618	31532-100	0.75
173	7	24	4921 E ELM ST	47051605	31518-100	0.75
174	7	24	4920 E ELM ST	44632781	39721-100	0.75
175	7	24	4911 E ELM ST	-	31057-100	0.75
176	7	24	4907 E ELM ST	-	31059-100	0.75
177	7	24	4903 E ELM ST	44398638	31058-100	0.75
178	2	8	4723 E ELM ST	47816072	28263-100	1.00
179	2	8	4722 E ELM ST	47820829	32241-100	0.75
180	8	29	520 N BATTIN AVE	47050690	86797-100	0.75
181	8	25	521 N BATTIN AVE	47050689	38162-100	0.75
182	7	25	603 N BATTIN AVE	47113506	32549-100	0.75
184	8	29	5050 E CENTRAL AVE	47051622	46518-100	0.75
185	8	29	5102 E CENTRAL AVE	47050055	38437-100	0.75

REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

SERVICE CONNECTIONS

PROJECT: EAST HIGHLANDS WMR PHASE 2
LOCATION: N OLIVER AND E MURDOCK, WICHITA, KS

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

CITY OF WICHITA

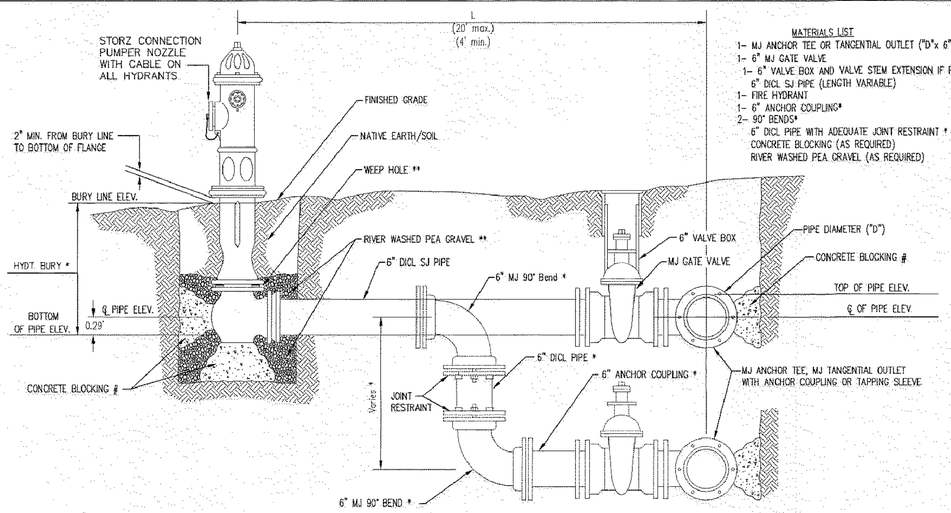
ANGELA C. GUTIERREZ LICENSED 30826 9-2-25 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 8275000434

SHEET NO. 04 OF 36

C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\SC-01

9/2/2025



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 PIPE WITH ADEQUATE JOINT RESTRAINT *
CONCRETE BLOCKING (AS REQUIRED)
RIVER WASHED PEA GRAVEL (AS REQUIRED)

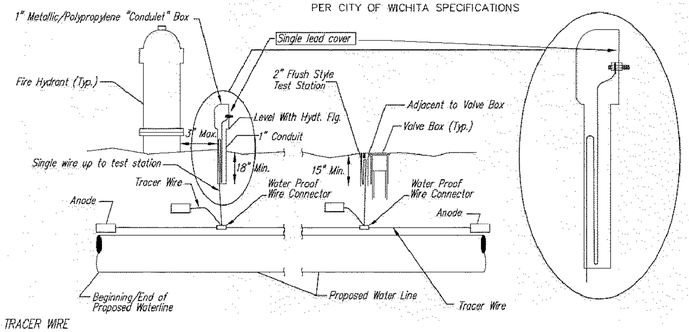
* IF THE REQUIRED HYDRANT BURY IS IN EXCESS OF 5', BUT LESS THAN 7', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY. IF THE REQUIRED HYDRANT BURY IS GREATER THAN 7', CONTRACTOR SHALL USE 5' HYDRANT BURY, 2-MJ 90° BENDS, 6" ANCHOR COUPLING AND 6" DICL PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEGALUGS, 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 install 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. A waterproof connector shall be used at splice locations. A complete list of approved tracer wire and waterproof connectors can be found on the City of Wichita's website at www.wichita.gov.

WIRE

The tracer wire shall be Blue No. 12 AWG CCS with 45 mil HDPE insulation. 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. Wire connectors shall be installed per manufacturer recommendations. 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 application shall be a 1" "condulet" style station as manufactured by AGRA Industries with a removable solid cover having a single lead extending from the face or approved equal. The "conduit" style test station shall be attached to a 1" 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. The test station for valve applications shall be a 2" flush style test station with wire connector on lid. Model # T2PH7B1LP Handley Industries or CD14*TP SnakePit as manufactured by Copperhead Industries or approved equal. 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 install to allow 12" of wire within the test station. The location of all test stations shall be recorded, and shown in the as-built drawings. Flush style test stations shall not be installed in pavement or sidewalk unless approved by the Engineer. Contractor shall extend tracer wire & move flush mount test station to nearest location out of pavement or sidewalk.*

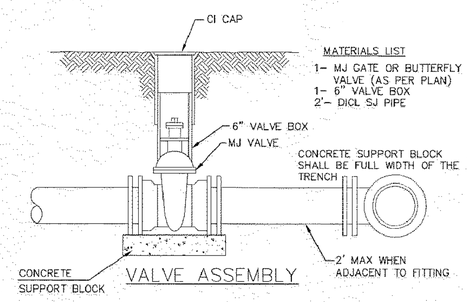
ANODES

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 12 AWG CCS which shall be extended to the test station.

TRACER WIRE DETAIL

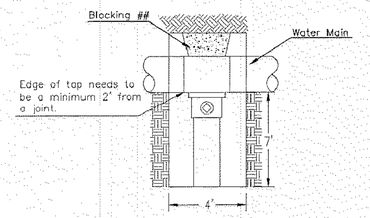
COST IS SUBSIDIARY TO PIPE INSTALLATION

FIRE HYDRANTS REQUIRED				
STATION	BURY LINE ELEVATION	TOP OF PIPE ELVATION	FIRE HYDRANT BURY REQUIRED#	VALVE STEM EXT. REQUIRED (ft)#
WL ND 1, STA 2+38.87, 21.89 RT	1369.0	1364.78	4.5	
WL ND 2, STA 0+46.82, 22.25 RT	1369.0	1365.33	4.0	
WL ND 2, STA 8+31.26, -15.76 LT	1363.0	1357.24	6.0	
WL ND 2, STA 11+26.55, -23.41 LT	1369.4	1365.29	4.5	
WL ND 2, STA 17+38.94, -22.71 LT	1387.7	1382.89	5.0	
WL ND 2, STA 24+49.85, -27.35 LT	1386.6	1382.29	4.5	
WL ND. 5, 6+45.41, 18.15 RT	1391.0	1385.69	5.5	
WL ND. 7, 3+36.04, -19.04 LT	1362.2	1357.57	5.0	
WL ND. 7, 7+28.60, -23.40 LT	1368.3	1363.72	5.0	
WL ND. 7, 13+27.57, -23.00 LT	1384.2	1380.42	4.0	
WL ND. 7, 17+18.01, -23.64 LT	1385.1	1381.40	4.0	
WL ND. 7, 19+98.74, 21.81 RT	1381.1	1376.35	5.0	



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

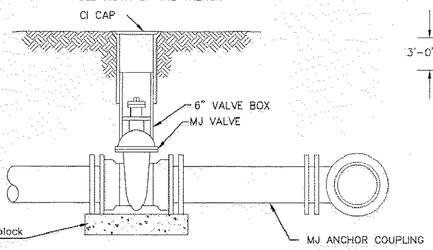
VALVE ASSEMBLY



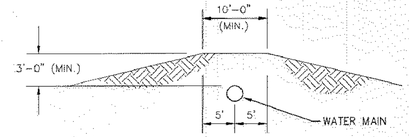
CITY TAP

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

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

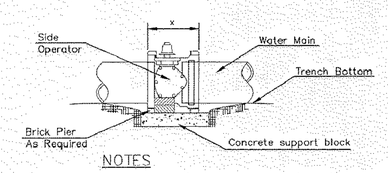


ANCHORED VALVE ASSEMBLY



PROTECTIVE FILL DETAIL

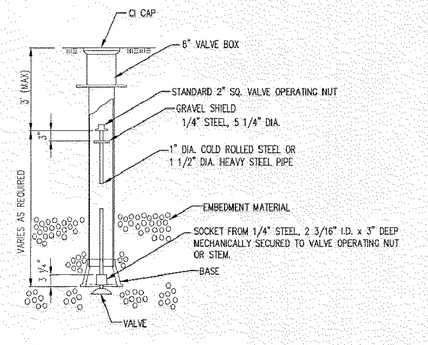
MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN 3'. (COST SUBSIDIARY TO PIPE INSTALLATION)



NOTES

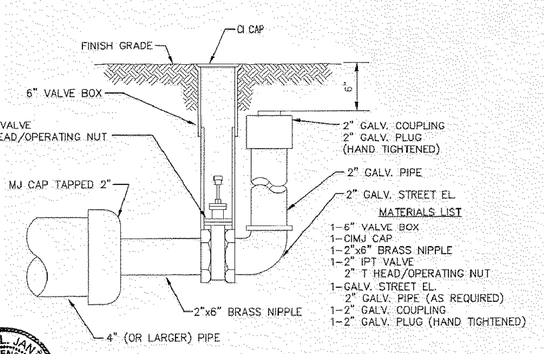
1. This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
2. 6" Valve Box and Cover required per City of Wichita Std. Specifications.
3. Conc. Support Block to be full width of trench.

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION

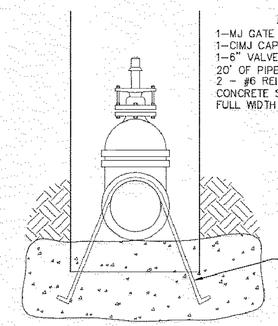


VALVE STEM EXTENSION DETAIL

NOTE: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.



2" BLOWOFF ASSEMBLY



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

ANCHORED VALVE ASSEMBLY, SPECIAL

GARY L. JANZEN LICENSED 16294 KANSAS PROFESSIONAL ENGINEER
10/27/16

REVISED: OCTOBER 2016

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STANDARD WATER ASSEMBLY DETAIL
CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

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

SHEET

WL-101

REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

STANDARD WATER ASSEMBLY DETAIL

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

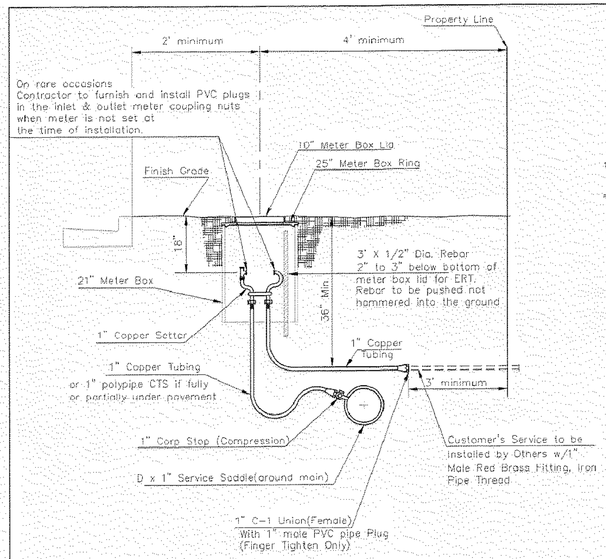
DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

CITY OF WICHITA

PROJECT NO. 8275000434

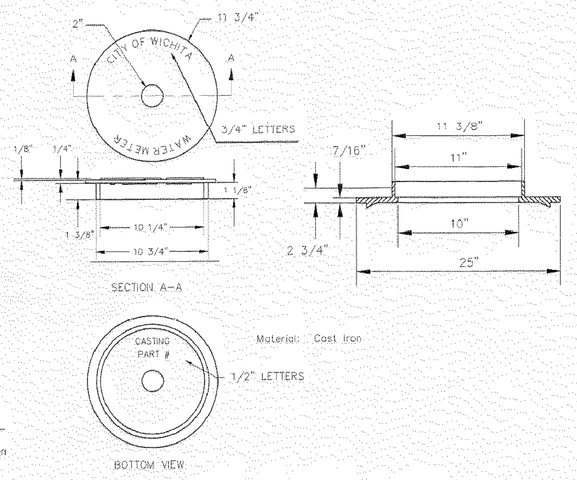
SHEET NO. 05 OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\DTL-StdWaterAssemblyEH



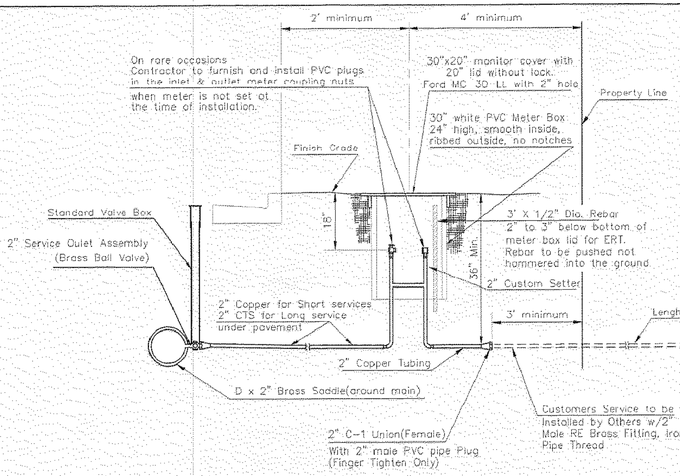
Minimum length of pigtail on consumer side is 36" of copper tubing from meter set.
Bore hole under paving shall be a maximum of 2" in diameter and a minimum of 36" below top of pavement.
Service Saddles are required on all mains.
Meter boxes will be located on each lot to be served, as indicated in the SPECIAL PROVISIONS.

TYPICAL 1" METER SETTING



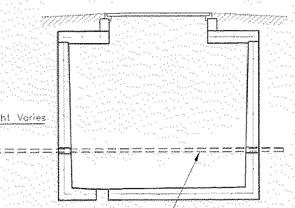
Material: Cast Iron

NOT TRAFFIC RATED
RING & LID FOR 1" METER BOX



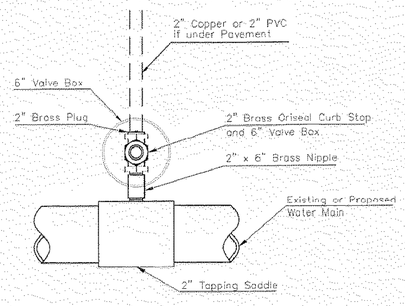
TYPICAL 2" METER SETTING

Note: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.



TYPICAL 2" METER SETTING INVOLVING EXISTING 2" METER VAULT

Note: ONE VALVE STEM EXTENSION FOR EACH VALVE BURIED GREATER THAN 5'.



Note: Where the 2" Service Outlet Assembly is to be used to connect a 2" main to another main, the 2" valve shall be a 2" IPT Gate Valve. 2" ball or globe valves shall not be approved for this use.

2" SERVICE OUTLET ASSEMBLY

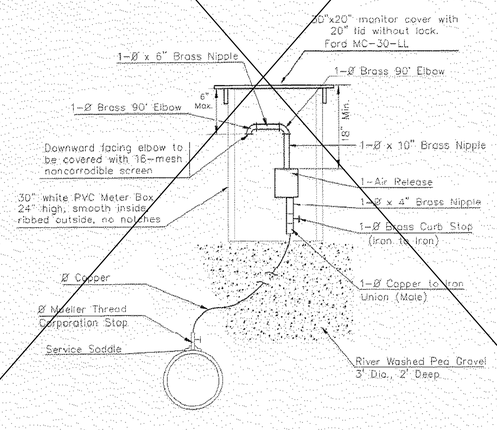
TOP VIEW

1 – Ø Mueller Thread Corporation Stop
– Ø Type "K" Copper Tubing
1 – Ø Copper to Iron Union (Male)
1 – Ø Brass Curb Stop (Iron to Iron)
2 – Øx4" Brass Nipple

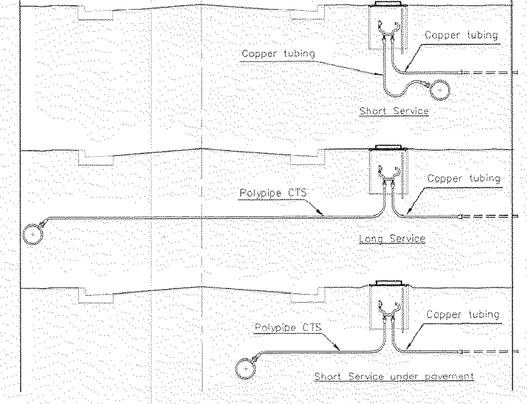
Air Release
2 – Ø Brass Elbows (90°)
1 – 1"x6" Brass Nipple
1 – 30" Monitor Cover
1 – 20" Meter Lid

NOTE:

THE 1"/2" AIR RELEASE ASSEMBLY WILL TYPICALLY BE USED ON WATER MAINS 24" AND SMALLER, AS SPECIFICALLY DESIGNATED IN THE PLANS. COMBINATION AIR RELEASE ASSEMBLIES WILL BE SPECIFICALLY DESIGNED FOR PROJECTS WITH LARGER MAINS, AND WILL BE INCLUDED IN THE PLANS.



MATERIALS FOR 1" or 2" AIR RELEASE ASSEMBLY
Ø = 1" or 2"



SERVICE TYPES

REVISED: NOVEMBER 2019 | TM | 3'x1/2" REBAR IN 1" & 2" METER SETTINGS FOR ERT.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STANDARD WATER SERVICE DETAIL
CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

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

SHEET
_ of _

WL-102

REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

STANDARD WATER SERVICE DETAIL

PROJECT: EAST HIGHLANDS WMR PHASE 2
LOCATION: N OLIVER AND E MURDOCK, WICHITA, KS

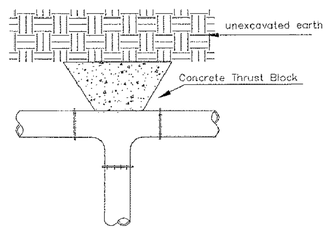
DESIGNED BY: EJB
DRAWN BY: HZ
CHECKED BY: EJB
DATE: Sep-25

CITY OF WICHITA

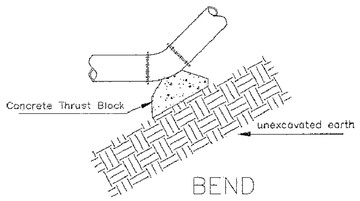
PROJECT NO.
8275000434

SHEET NO.
06
OF 36

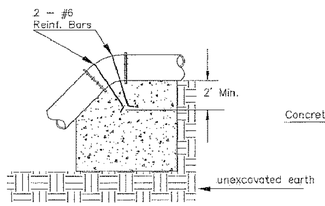
C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\DTL-StdWaterServiceEH
9/2/2025



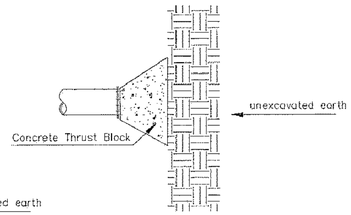
TEE



BEND



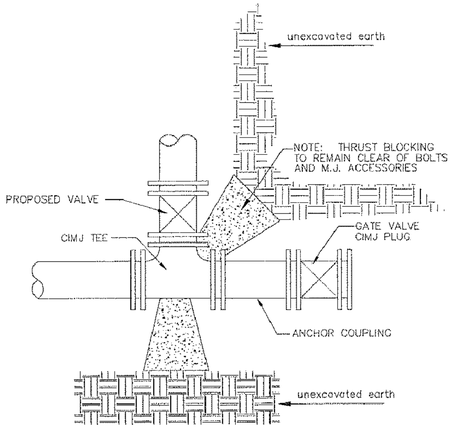
VERTICAL BEND



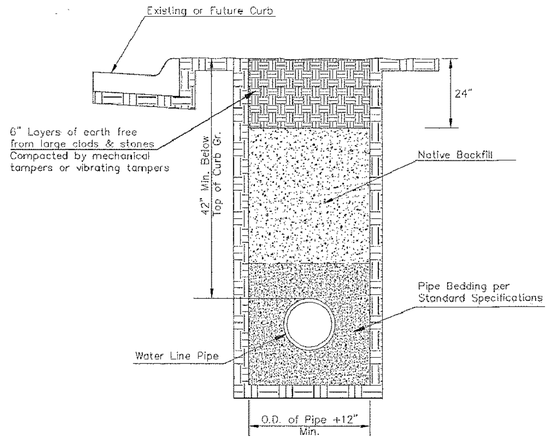
PLUG

PIPE SIZE	THRUST AT FITTINGS IN TONS–AT 150#/IN^{2}P					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75	44.55

TYPICAL THRUST BLOCKS

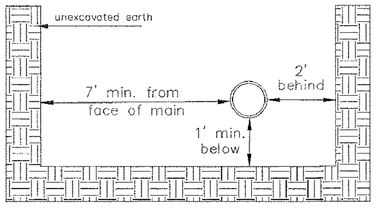


KEY BLOCK DETAIL



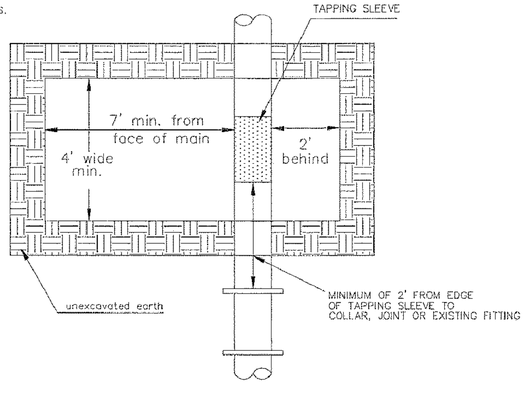
TRENCH COMPACTION IN ROAD RIGHT–OF–WAY

SIDE VIEW

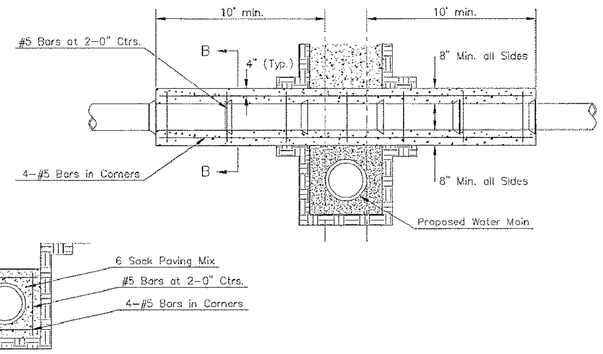


Note: When shoring is required it is to be per The City of Wichita Standard Specifications.

TOP VIEW



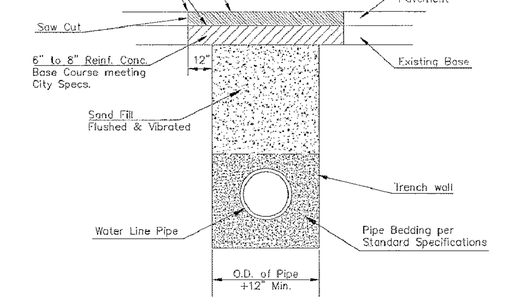
EXCAVATION FOR WET TAP



SECTION B–B

Note: Encasement to begin and end at a Bell on Sanitary Sewer Pipe.

REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER



PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS

* PLANS GOVERN
UNLESS OTHERWISE NOTED ON PLANS

REVISED: JULY 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

MISCELLANEOUS WATER DETAILS

CITY ENGINEER
GARY JANZEN, P.E..

PROJECT NUMBER	OCA NUMBER	DATE

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

SHEET

WL-104

REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

MISCELLANEOUS WATER DETAILS

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

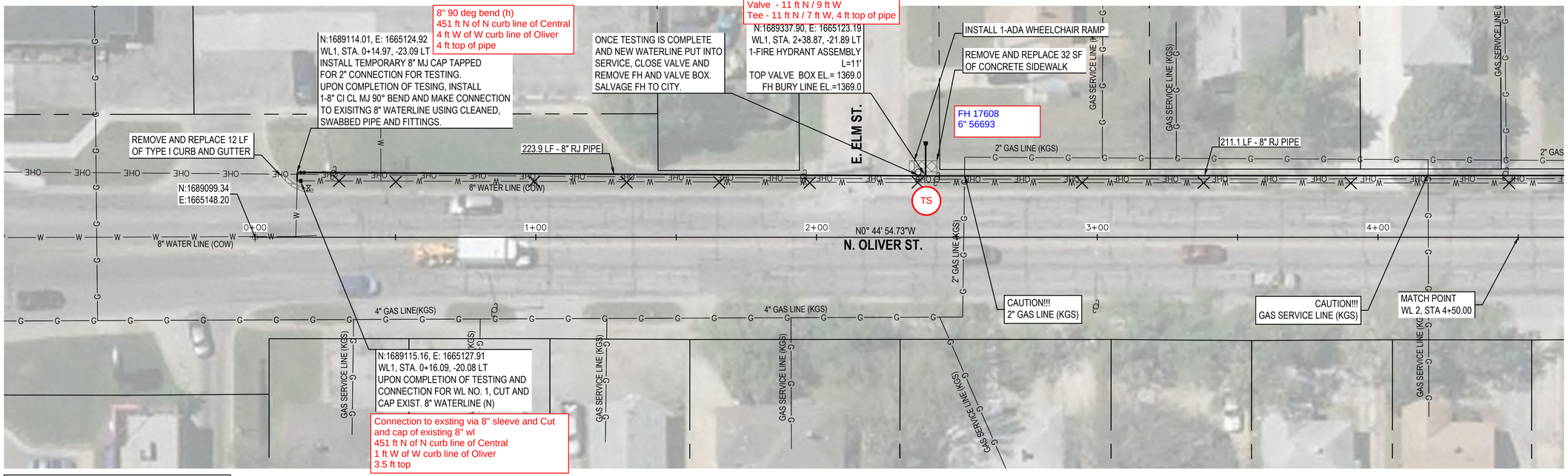
DESIGNED BY: EJB
DRAWN BY: HZ
CHECKED BY: EJB
DATE: Sep-25

CITY OF WICHITA

PROJECT NO.
8275000434

SHEET NO.
07
OF 36

C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\DTL-StdMiscWaterEH
9/2/2025

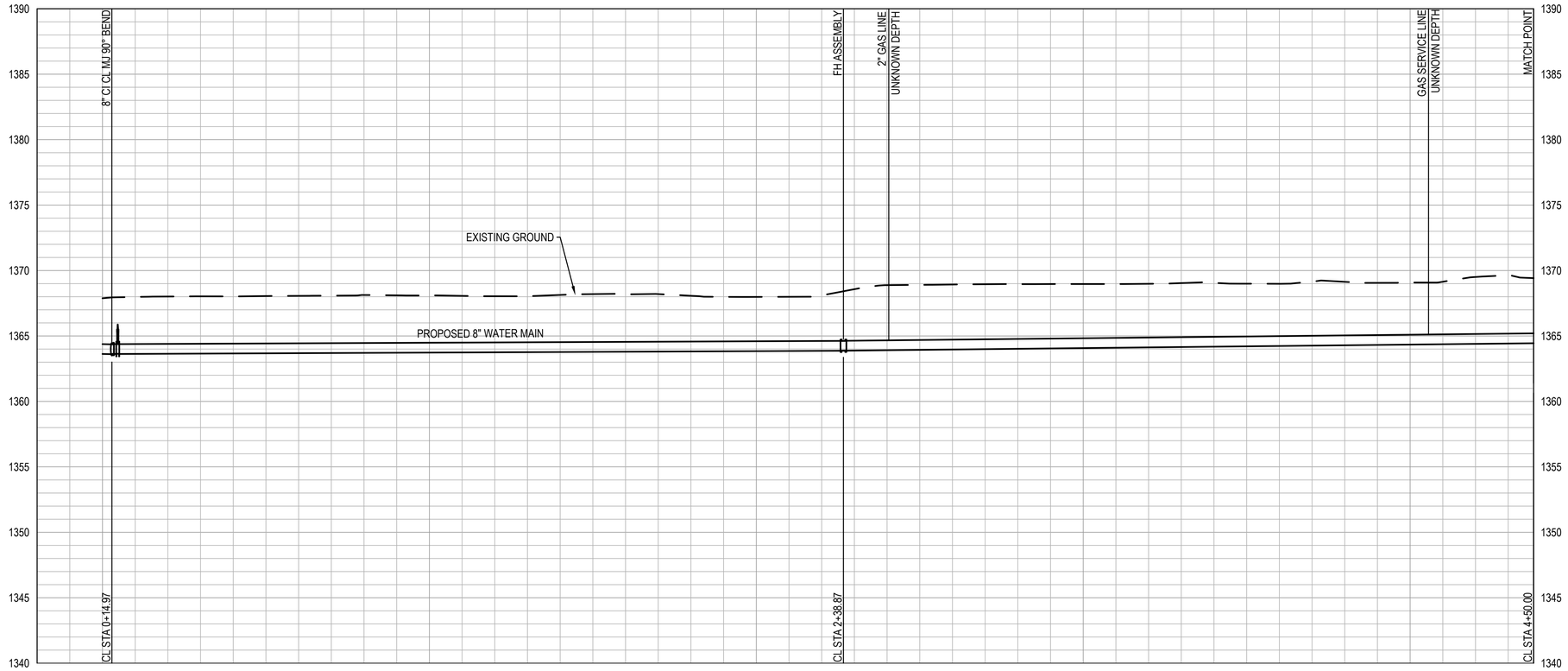


X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	10
SHORT SERVICES	4

20 0 20 40
SCALE IN FEET

5 0
VERT.



REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

N. OLIVER ST. 0+00.00 - 4+50.00

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

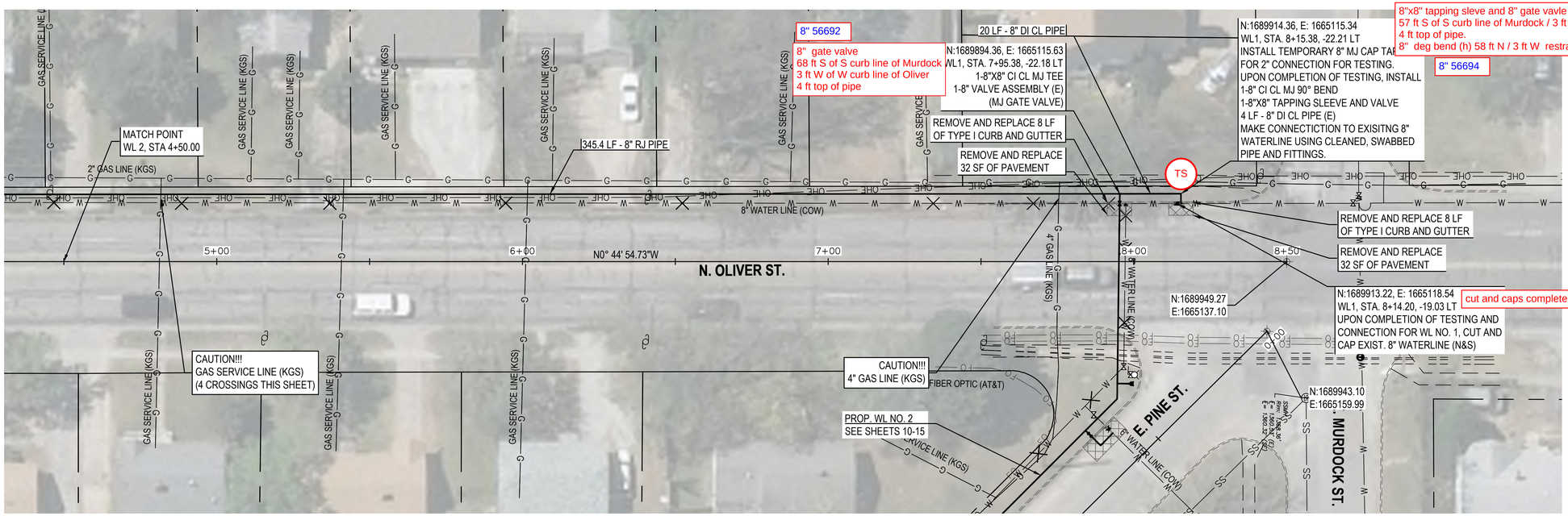
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
08
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN 2 N OLIVER ST

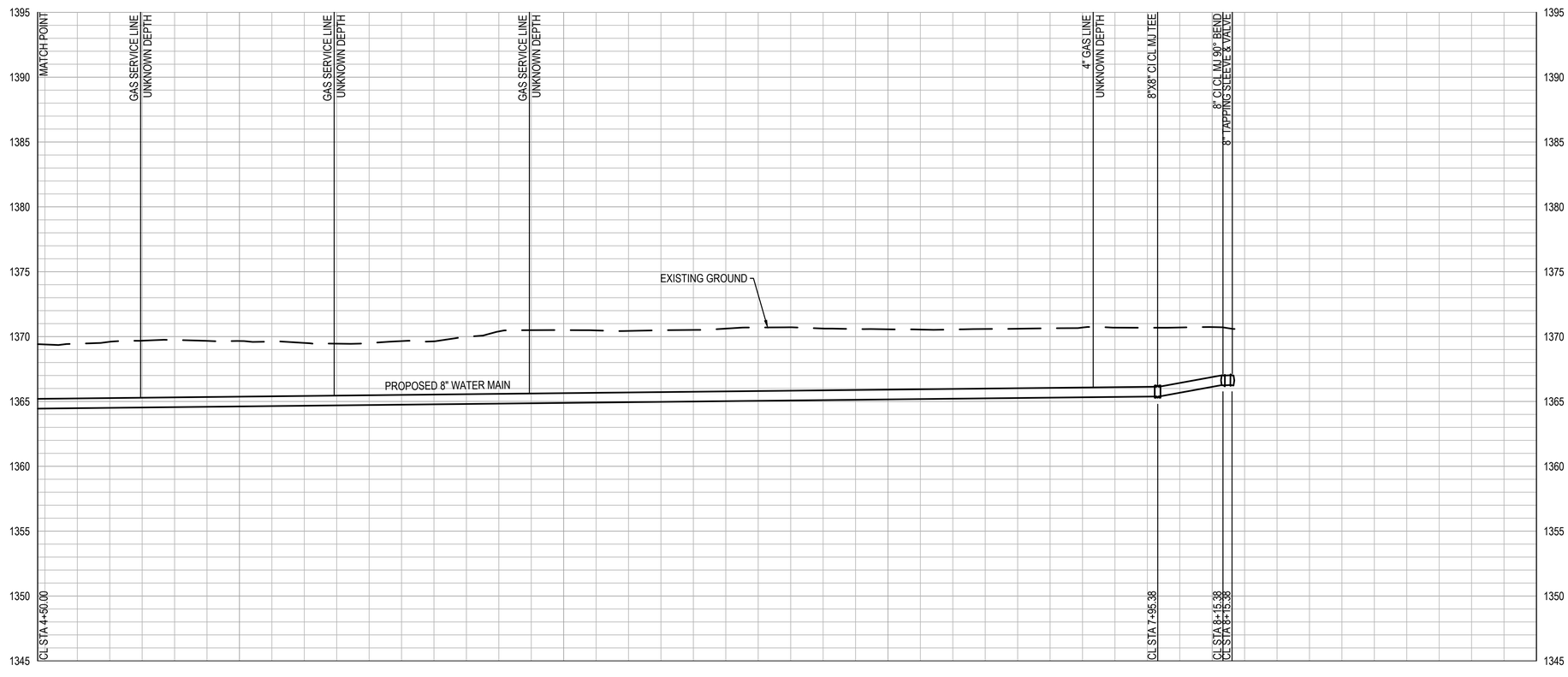


X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	3
SHORT SERVICES	6

SCALE IN FEET: 20 0 20 40

VERT.: 5 0



REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

N. OLIVER ST. 4+50.00 - 8+50.00

EAST HIGHLANDS WMR PHASE 2

LOCATION
N OLIVER AND E MURDOCK, WICHITA, KS

PROJECT:

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

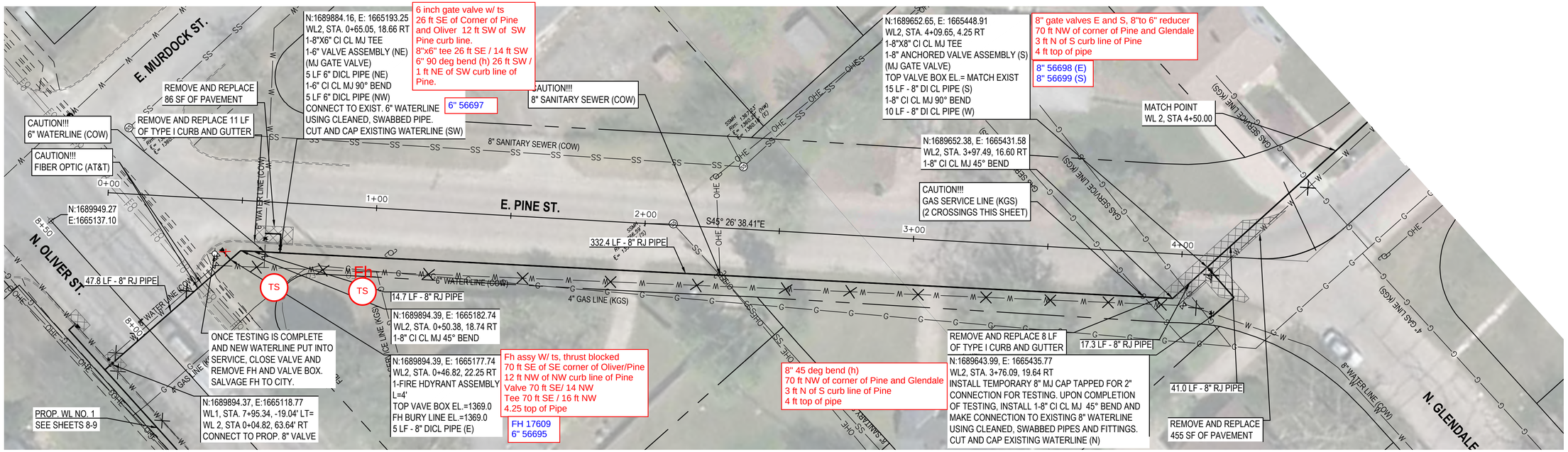
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
09
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN 2 N OLIVER ST

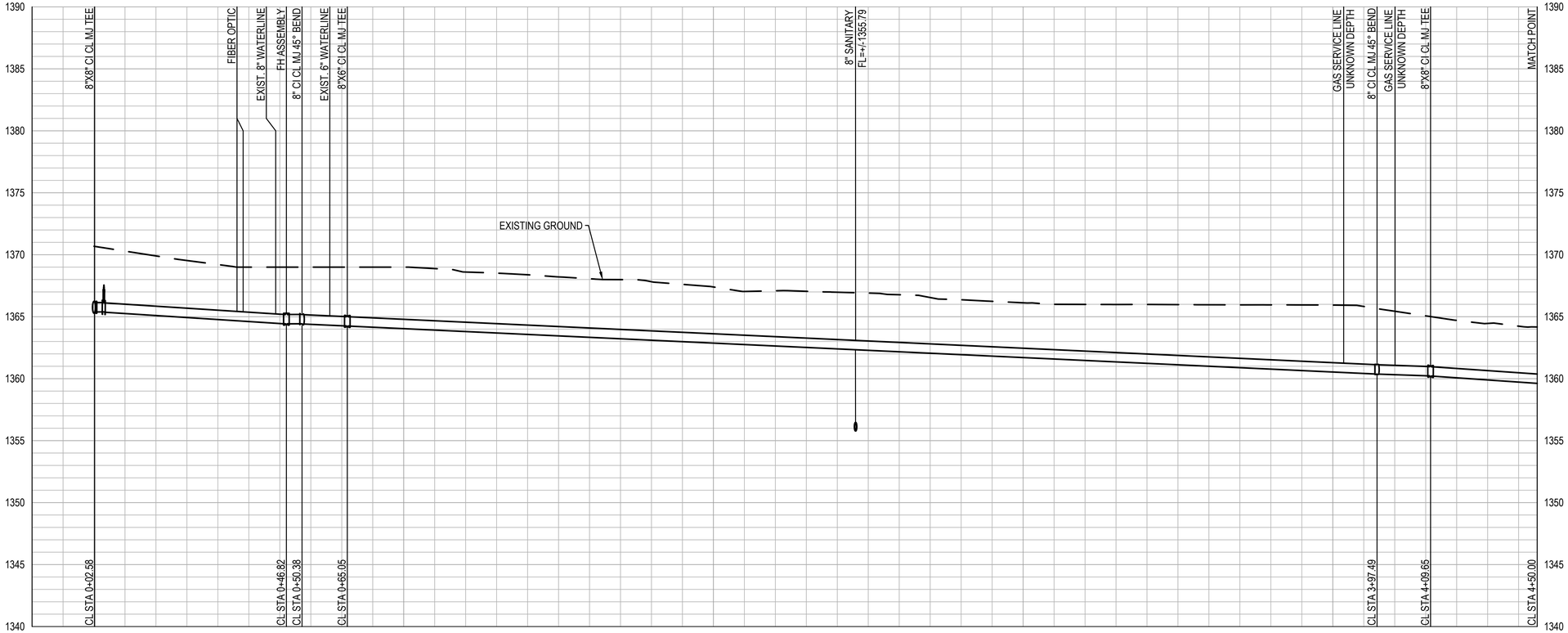


X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	2
SHORT SERVICES	2

SCALE IN FEET 20 0 20 40

VERT. 5 0



WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

REVISIONS:

E. PINE ST. 0+00.00 - 4+50.00

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

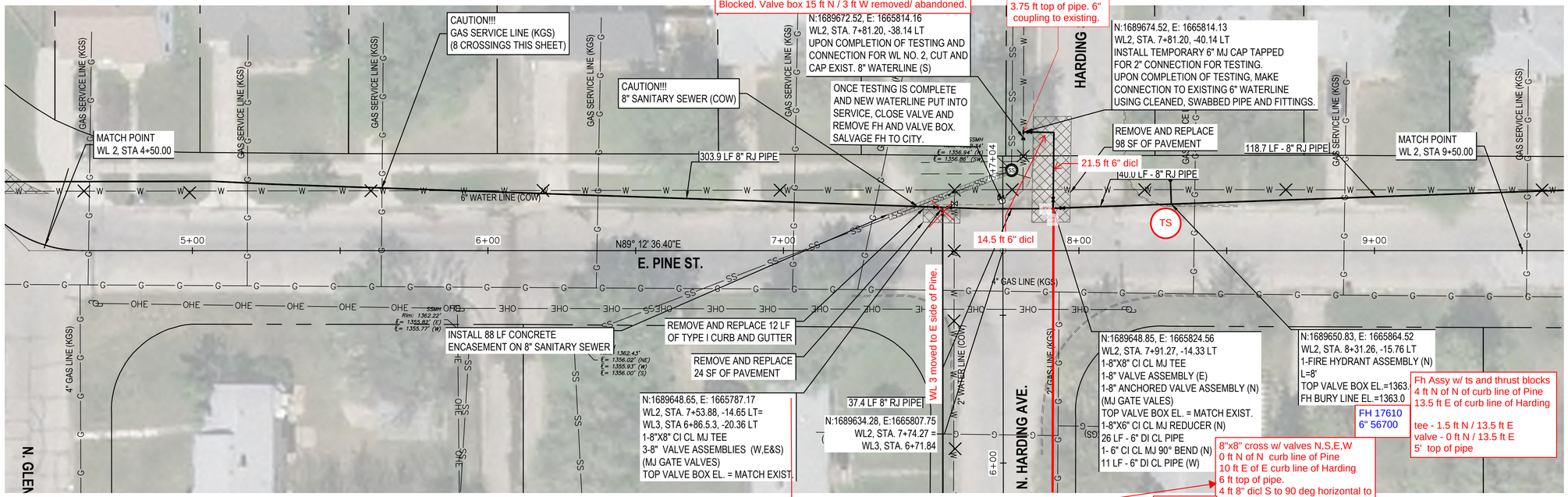
CITY OF WICHITA

ANGELA C. GUTIERREZ LICENSED 30826 9-2-25 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 8275000434

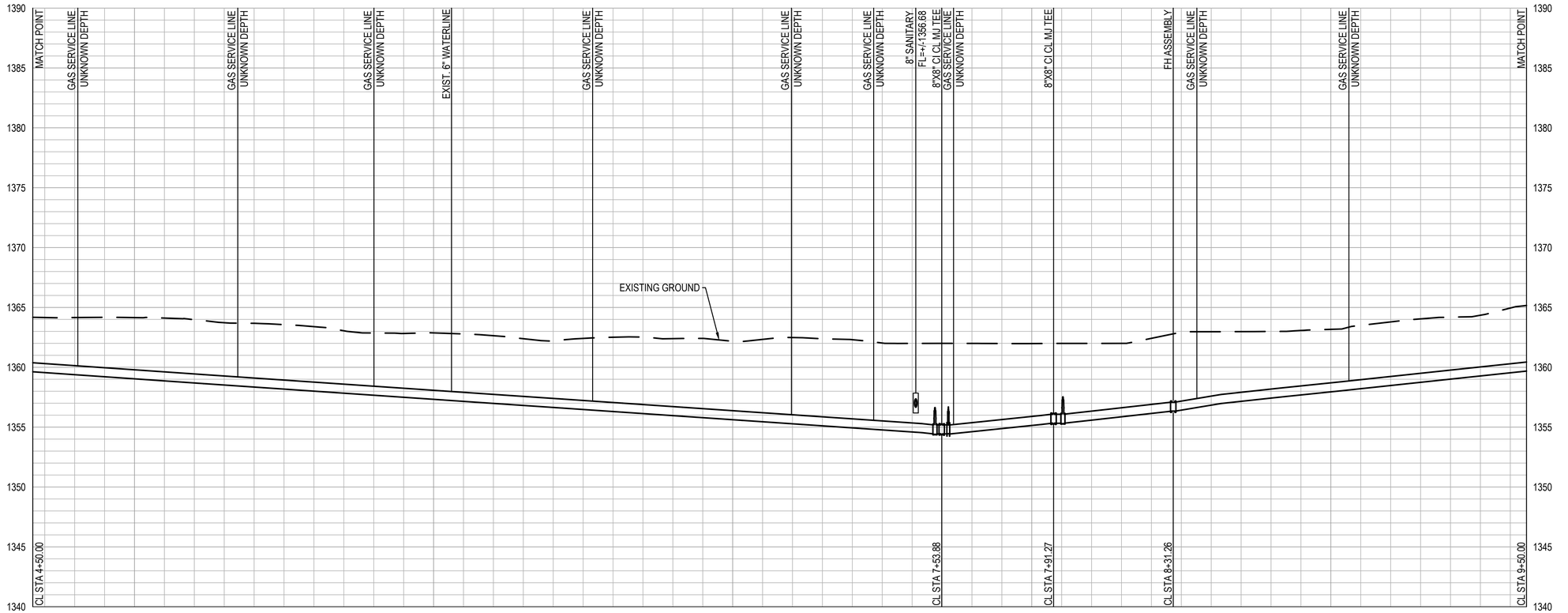
SHEET NO. 10 OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN 1 E PINE ST



X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	-
SHORT SERVICES	8



WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

REVISIONS:

E. PINE ST. 4+50.00 - 9+50.00

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

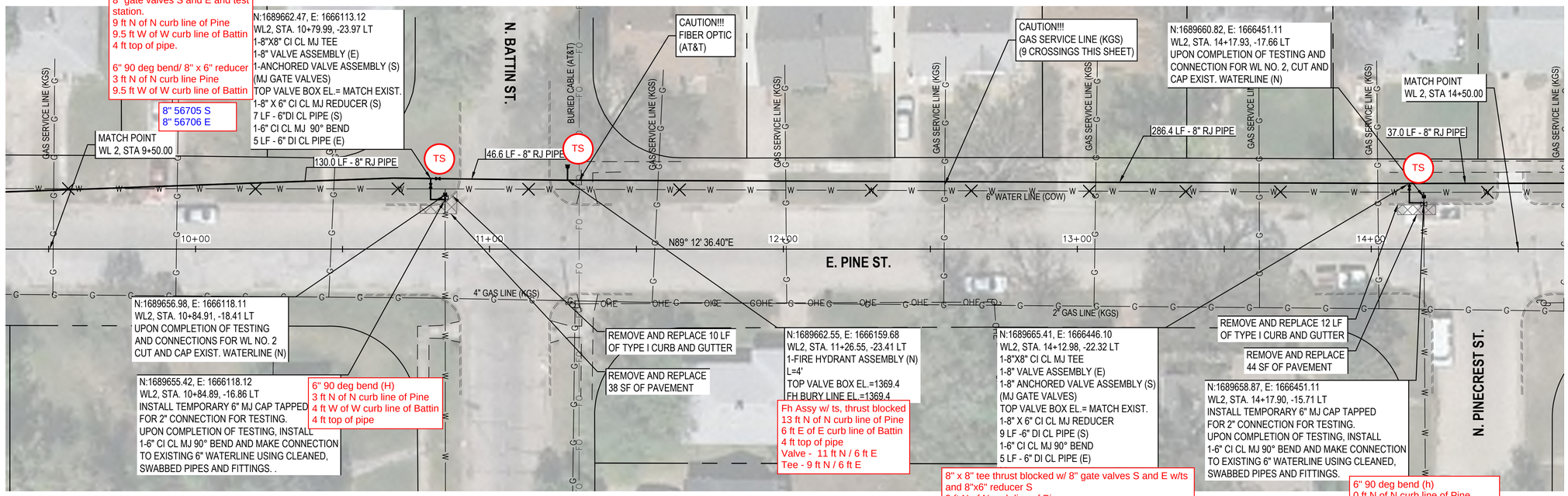
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

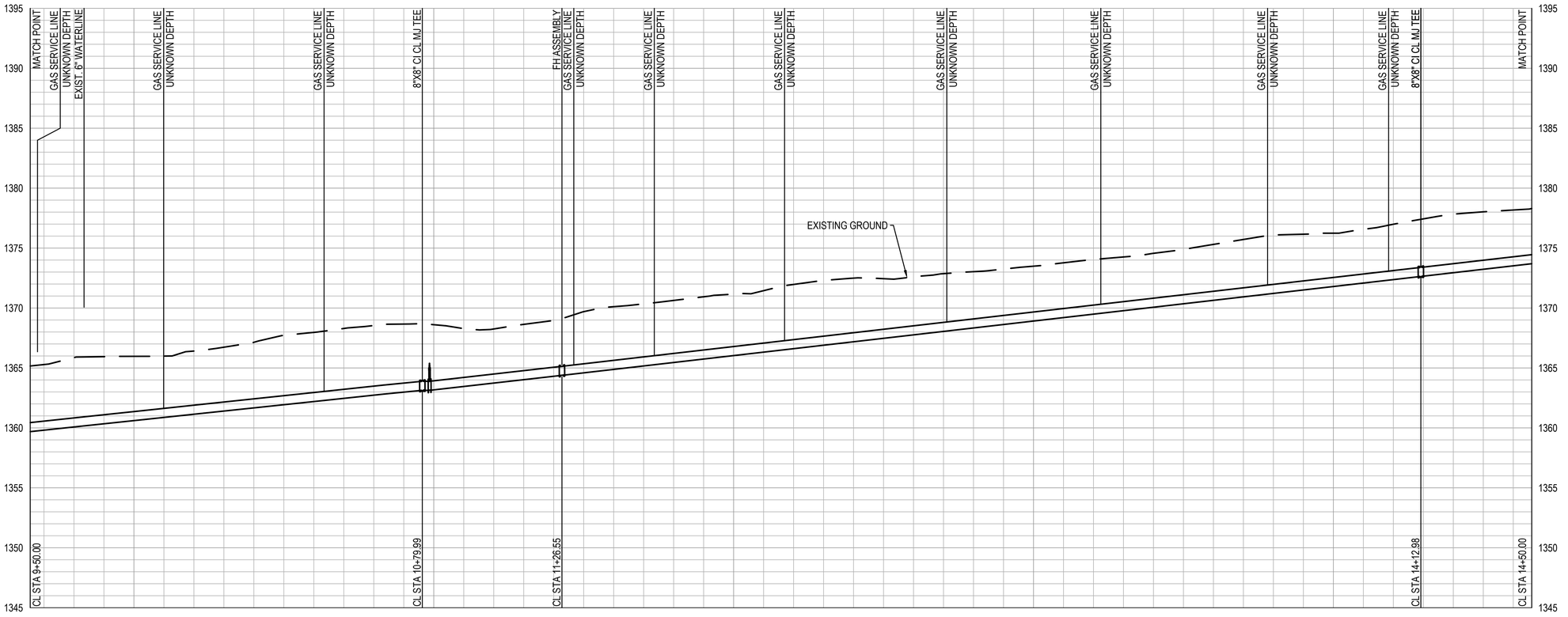
SHEET NO.
11
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN 1 E PINE ST



X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	1
SHORT SERVICES	9



WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

REVISIONS:

E. PINE ST. 9+50.00 - 14+50.00

PROJECT: EAST HIGHLANDS WMR PHASE 2

LOCATION: N OLIVER AND E MURDOCK, WICHITA, KS

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

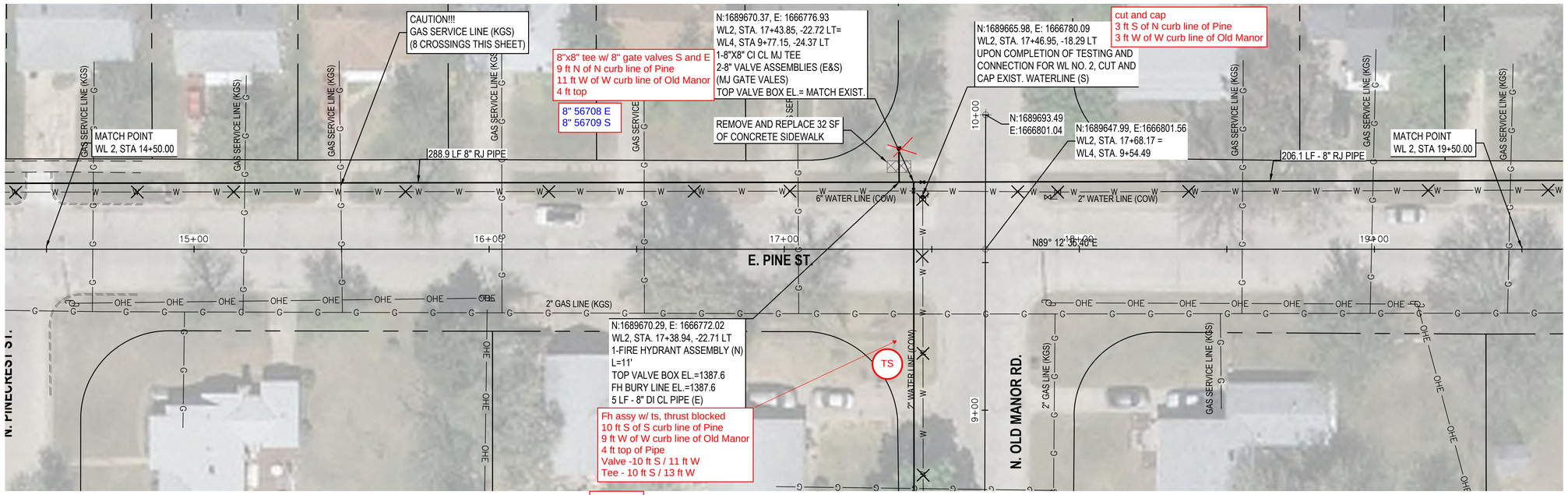
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
12
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN 1 E PINE ST



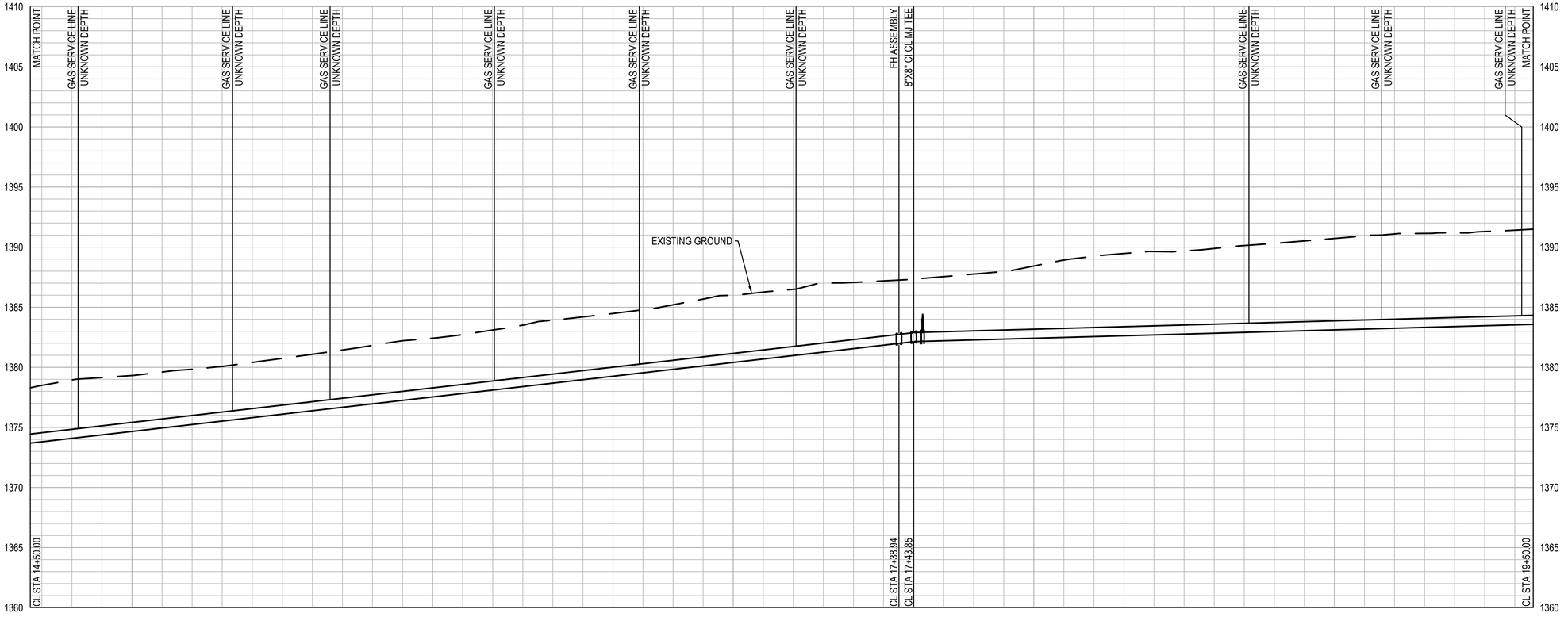
X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	-
SHORT SERVICES	9

SCALE IN FEET: 20 0 20 40

VERT.: 5 0

N



REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

E. PINE ST. 14+50.00 - 19+50.00

EAST HIGHLANDS WMR PHASE 2

PROJECT:

N OLIVER AND E MURDOCK, WICHITA, KS

LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

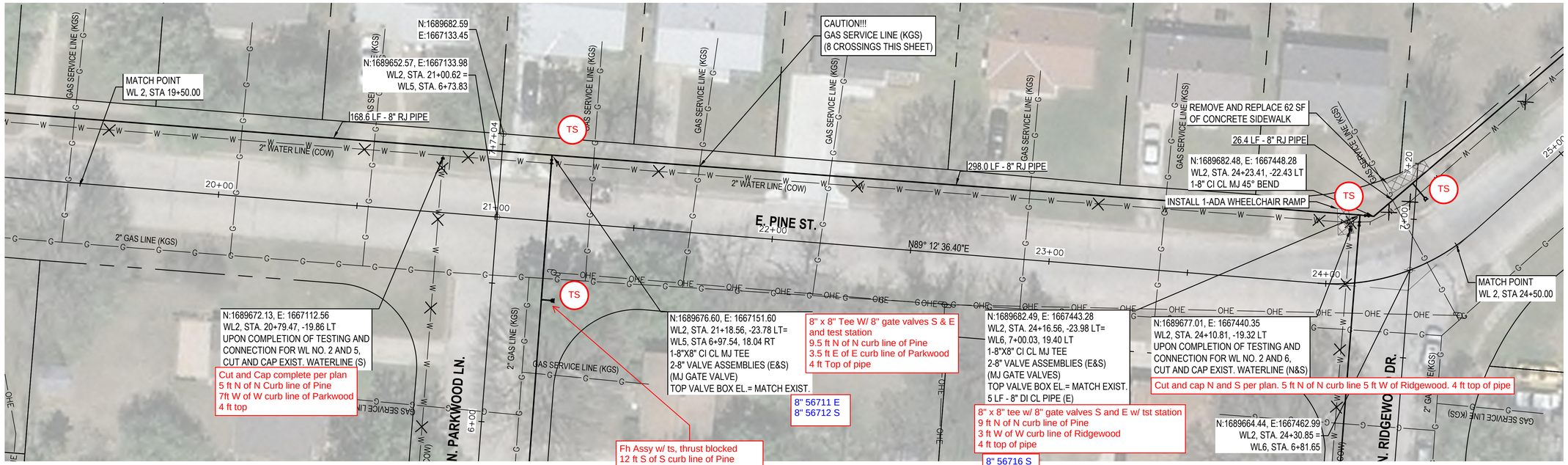
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

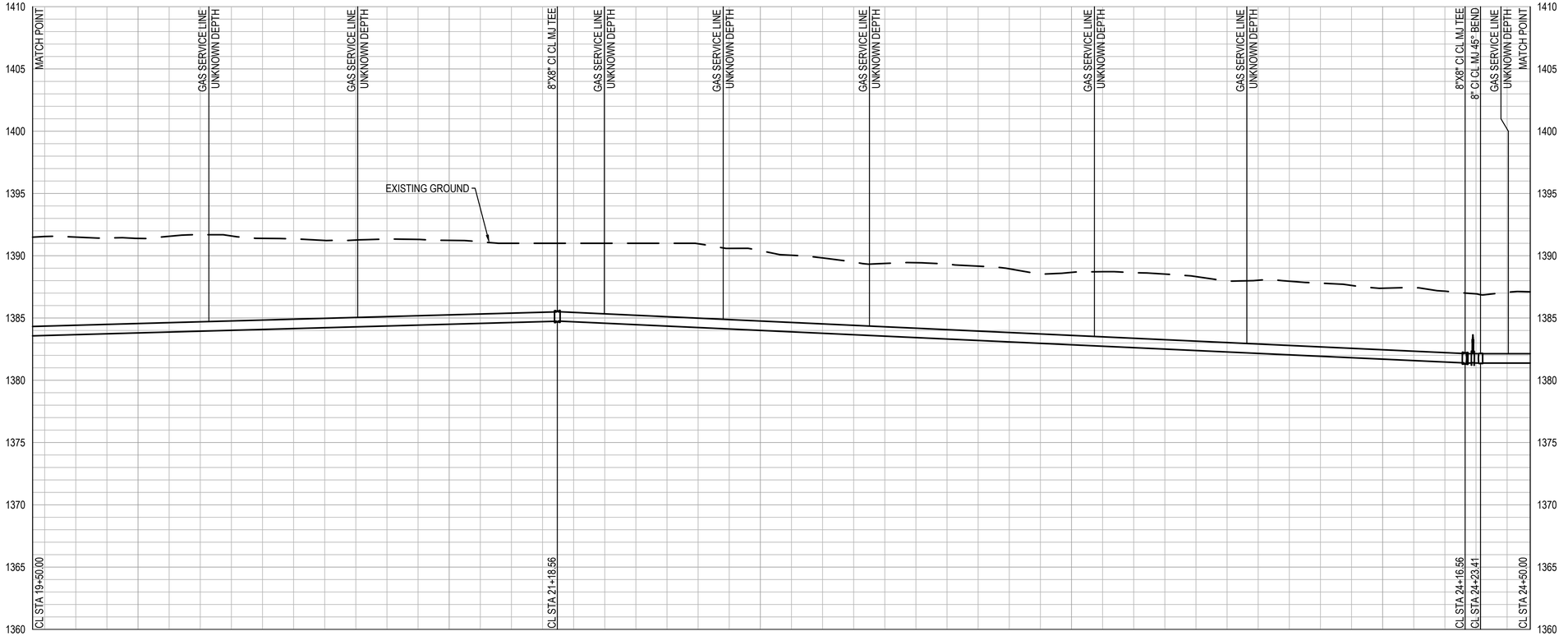
SHEET NO.
13
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN 1 E PINE ST



X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	-
SHORT SERVICES	8



WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

REVISIONS:

E. PINE ST. 19+50.00 - 24+50.00

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

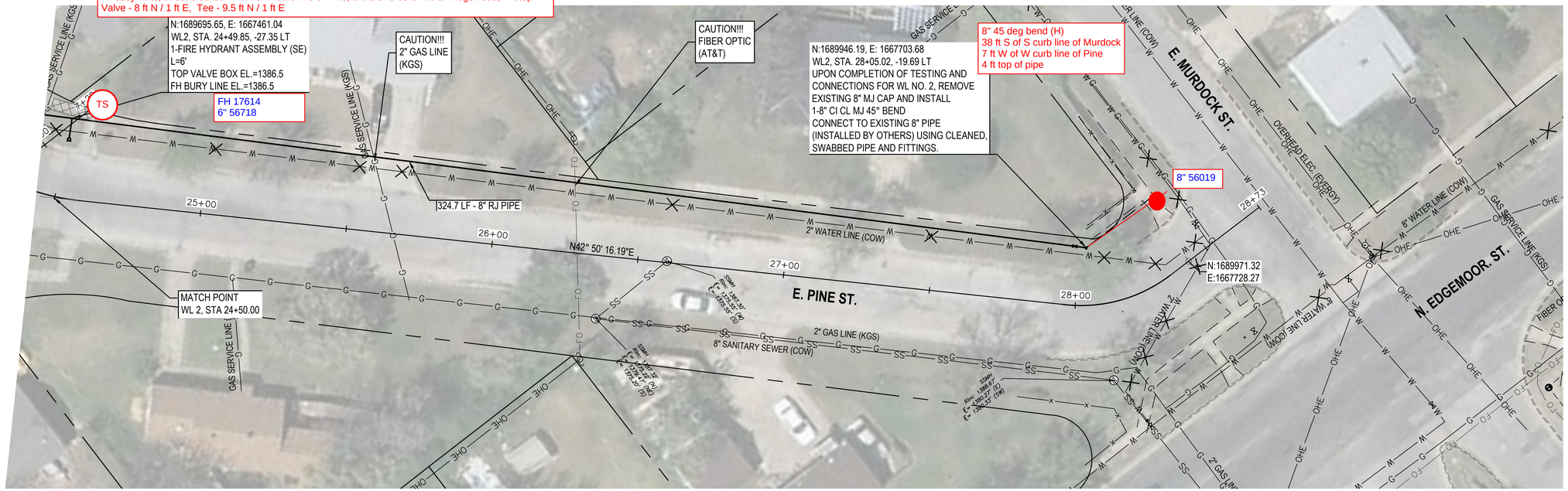
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
14
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN 1 E PINE ST

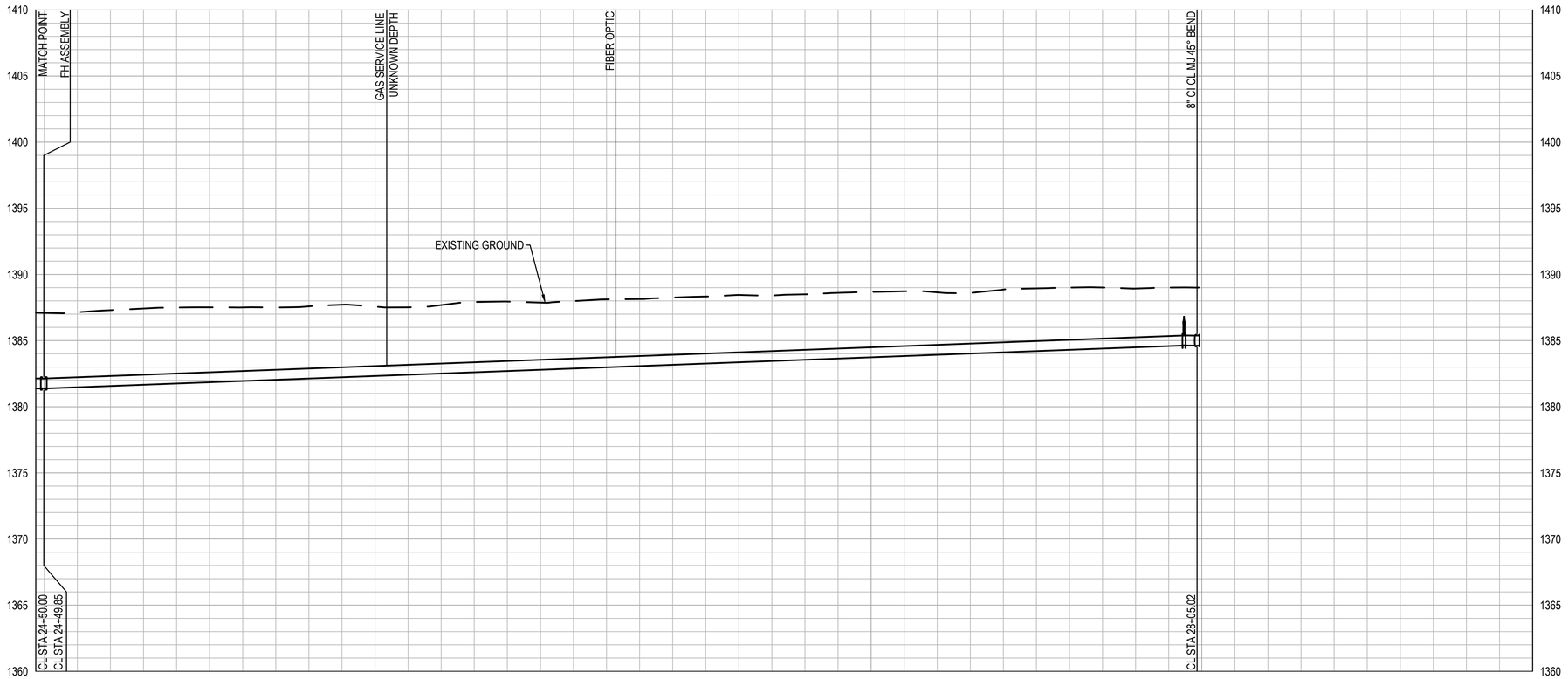


X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	1
SHORT SERVICES	2

SCALE IN FEET: 20 0 20 40

VERT.: 5 0



WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

REVISIONS:

E. PINE ST. 24+50.00 - 28+05.02

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

CITY OF WICHITA

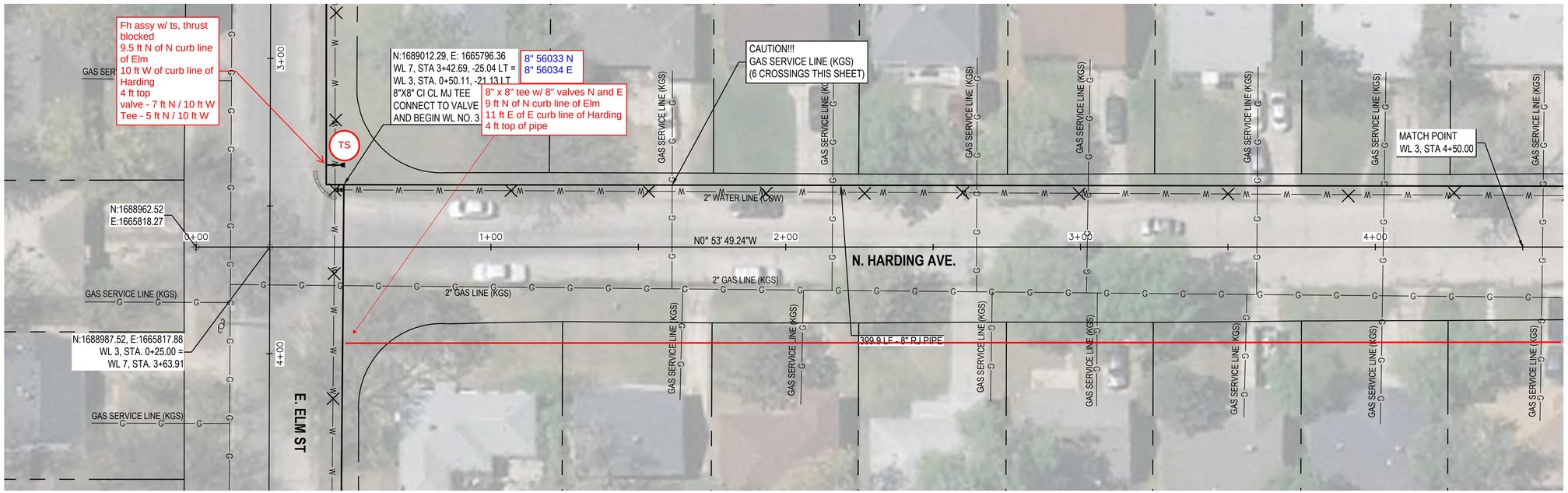
ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
15
OF 36

C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN 1 E PINE ST

9/2/2025

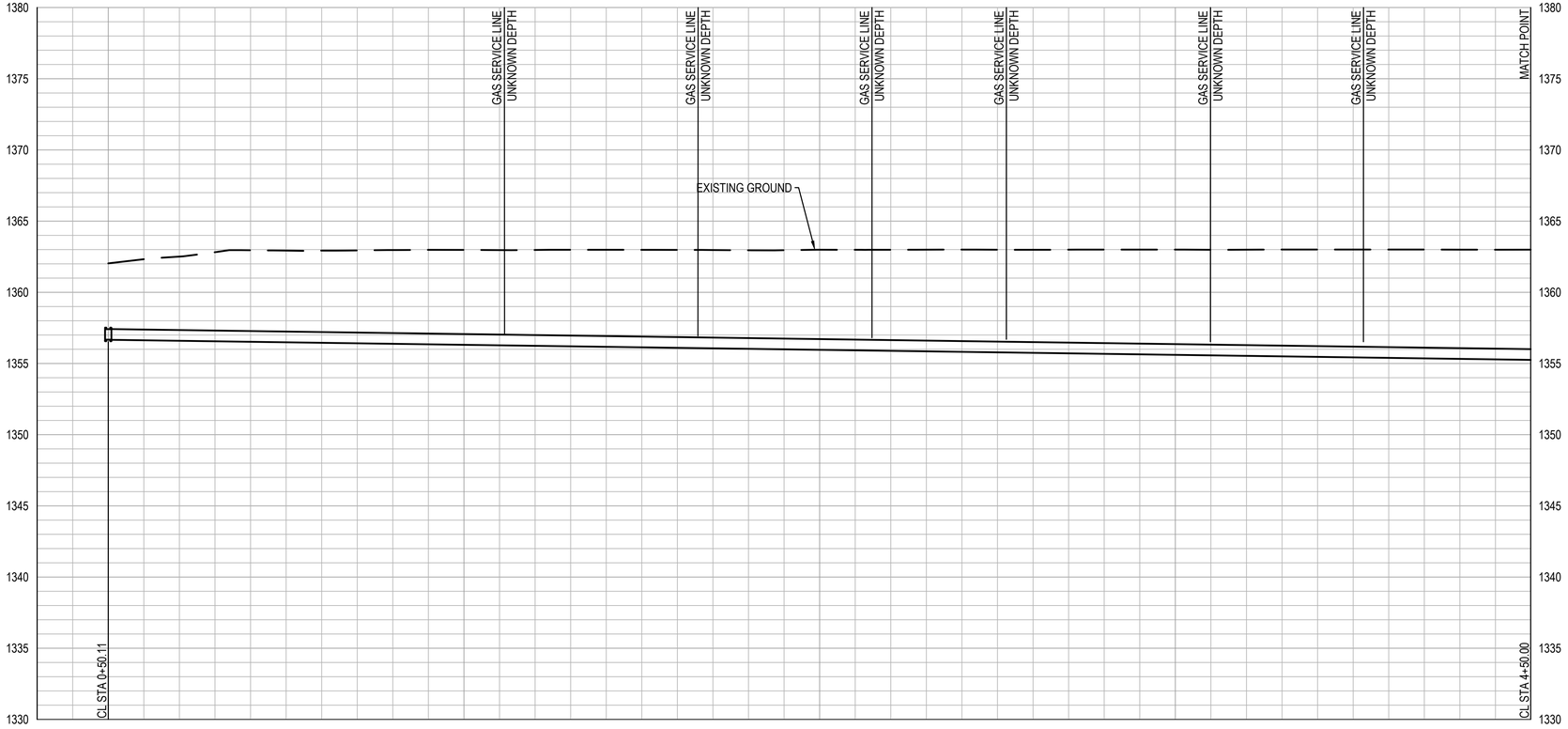


X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	6
SHORT SERVICES	6

SCALE IN FEET: 20 0 20 40

VERT.: 5 0 N



REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

N. HARDING AVE. 0+00.00 - 4+50.00

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

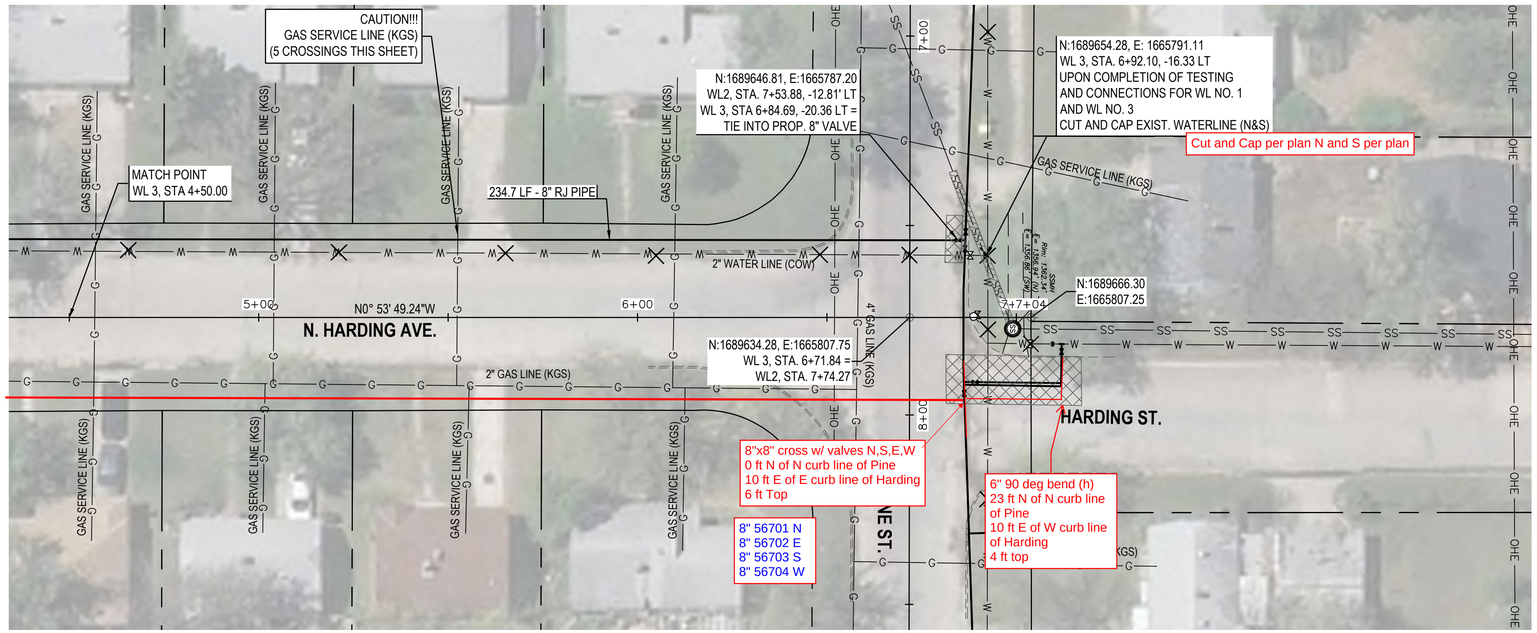
CITY OF WICHITA

ANGELA C. GUTIERREZ LICENSED 30826 9-2-25 KANSAS PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
16
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN3 N HARDING AVE

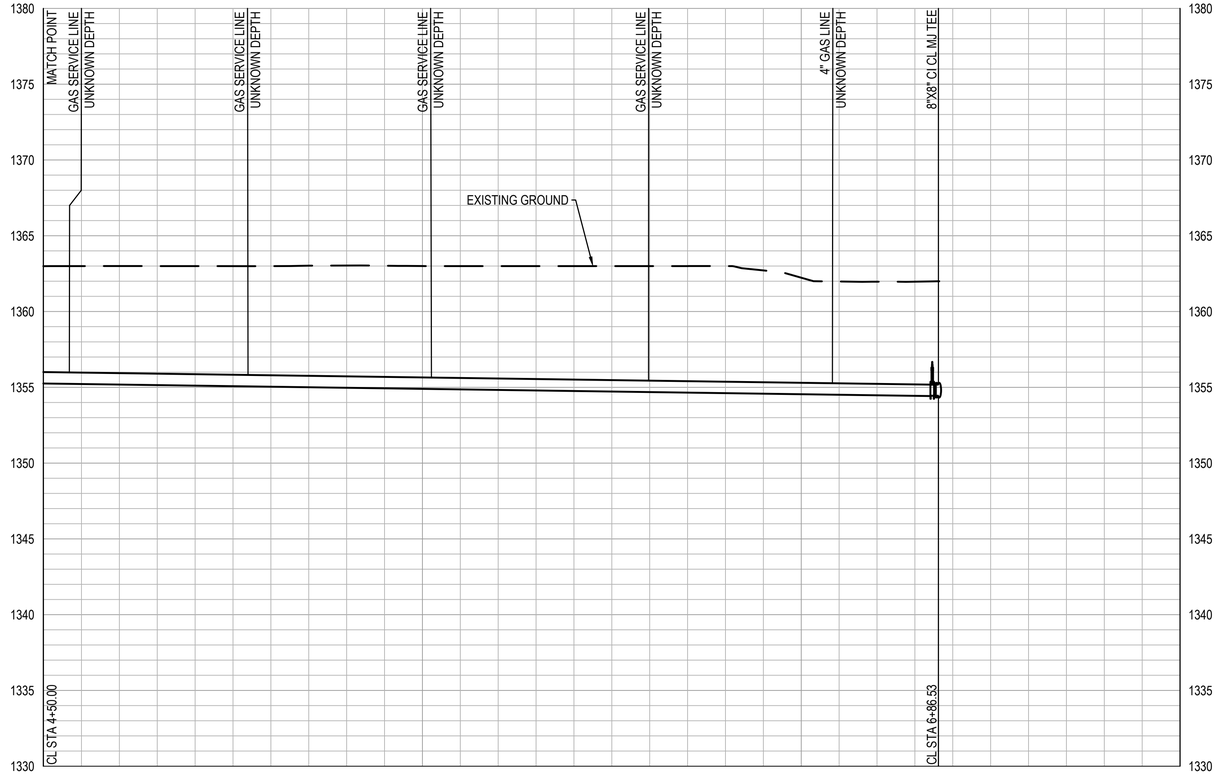


X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	4
SHORT SERVICES	4

SCALE IN FEET: 20 0 20 40

VERT.: 5 0 N



REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

N. HARDING AVE. 4+50.00 - 7+00.00

EAST HIGHLANDS WMR PHASE 2

PROJECT: N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

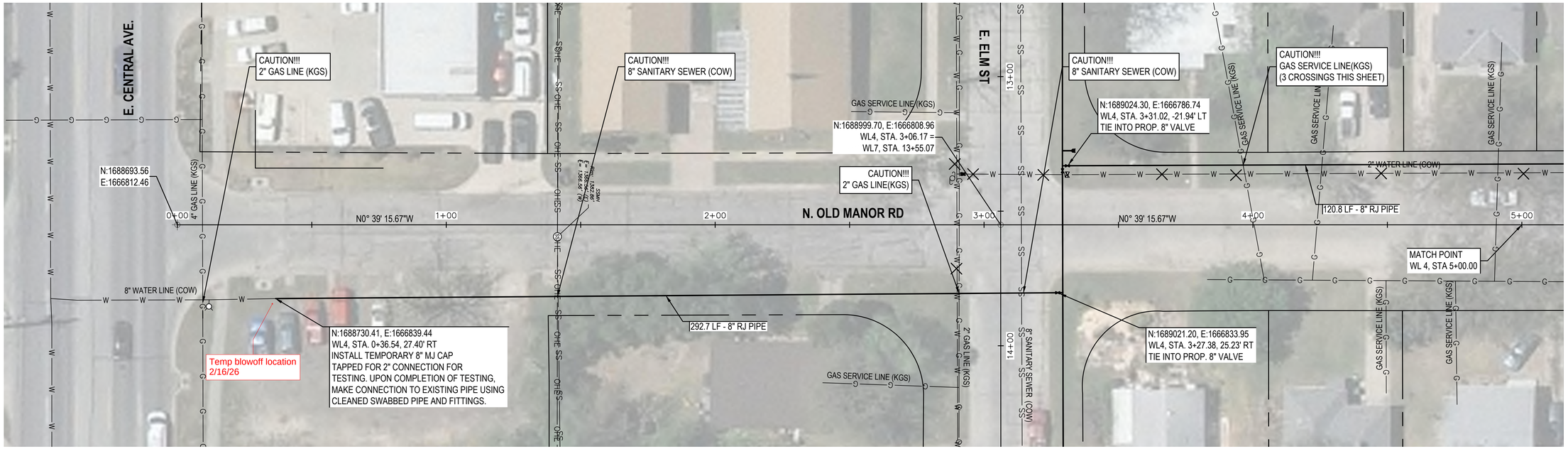
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
17
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN3 N HARDING AVE



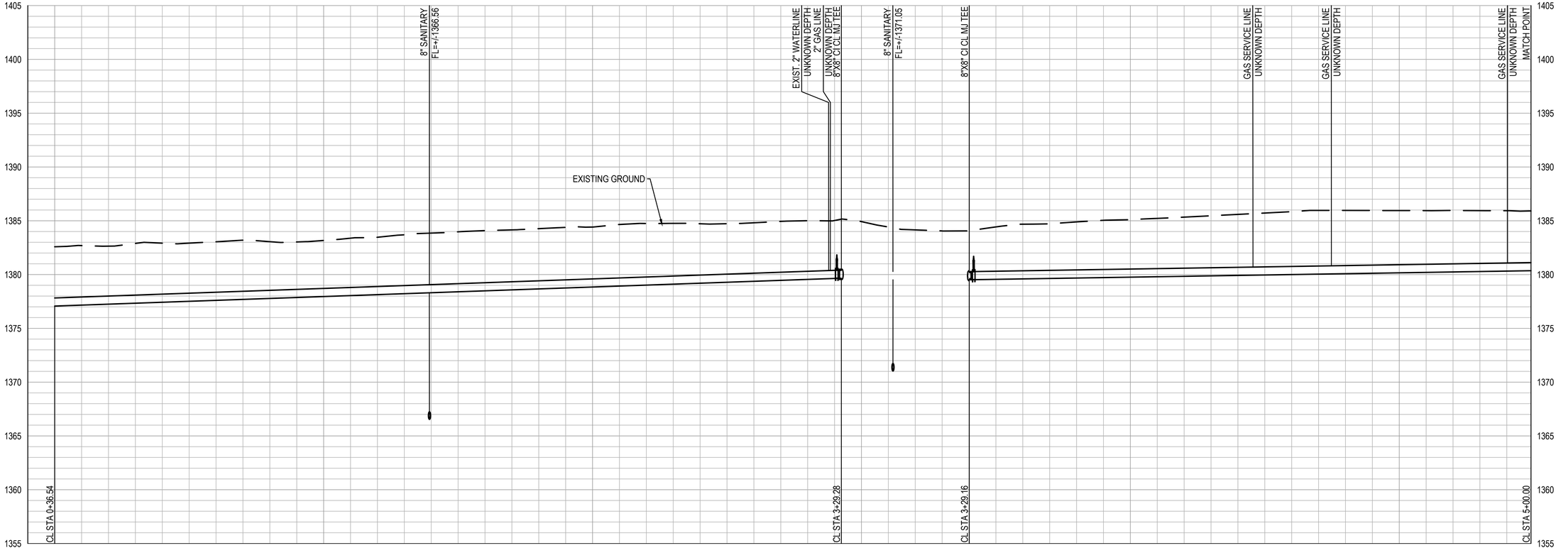
X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	2
SHORT SERVICES	3

SCALE IN FEET: 20 0 20 40

VERT.: 5 0

N



WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

REVISIONS:

N. OLD MANOR RD. 0+00.00 - 5+00.00

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

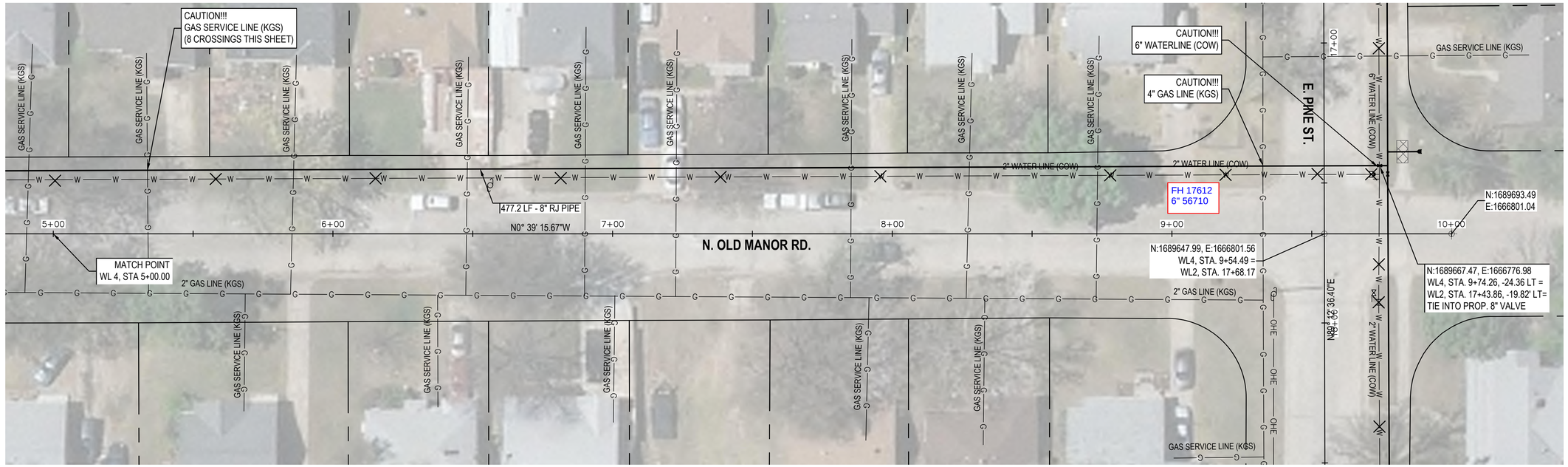
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
18
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN4 N OLD MANOR RD



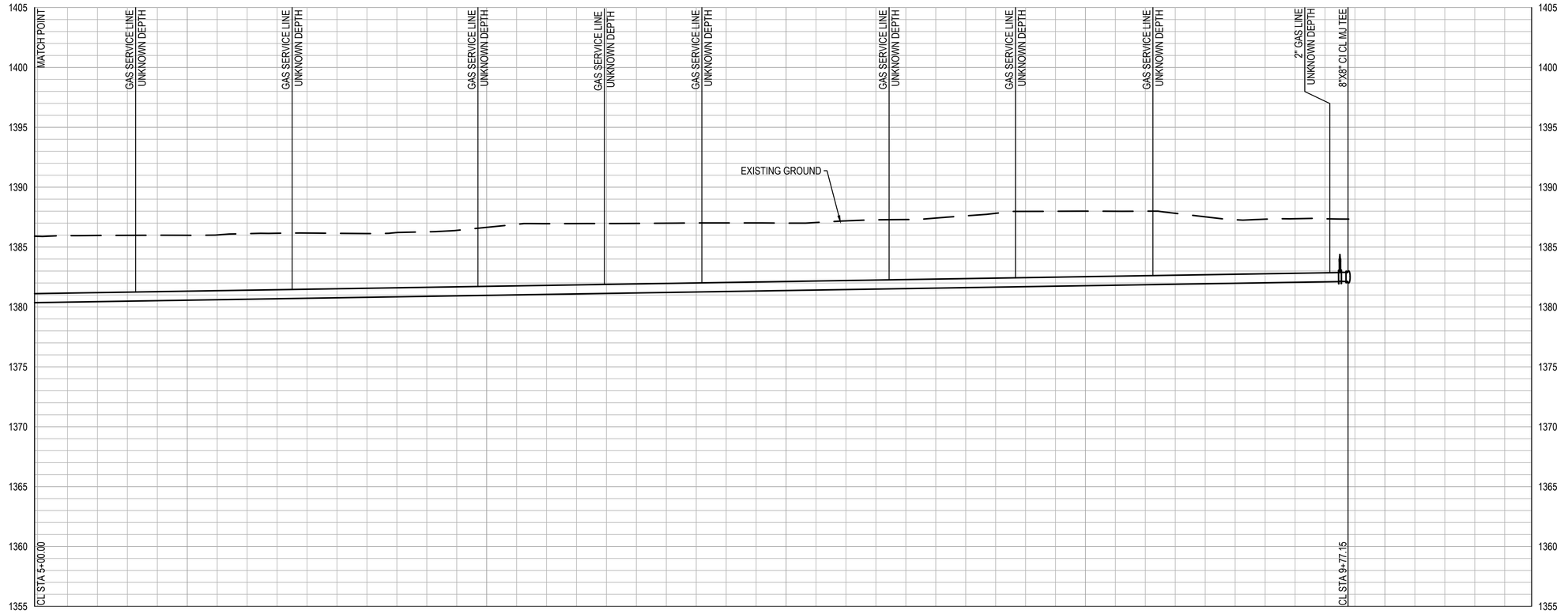
X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	6
SHORT SERVICES	9

20 0 20 40
SCALE IN FEET

5 0
VERT.

N



REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

N. OLD MANOR RD. 5+00.00 - 10+00.00

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

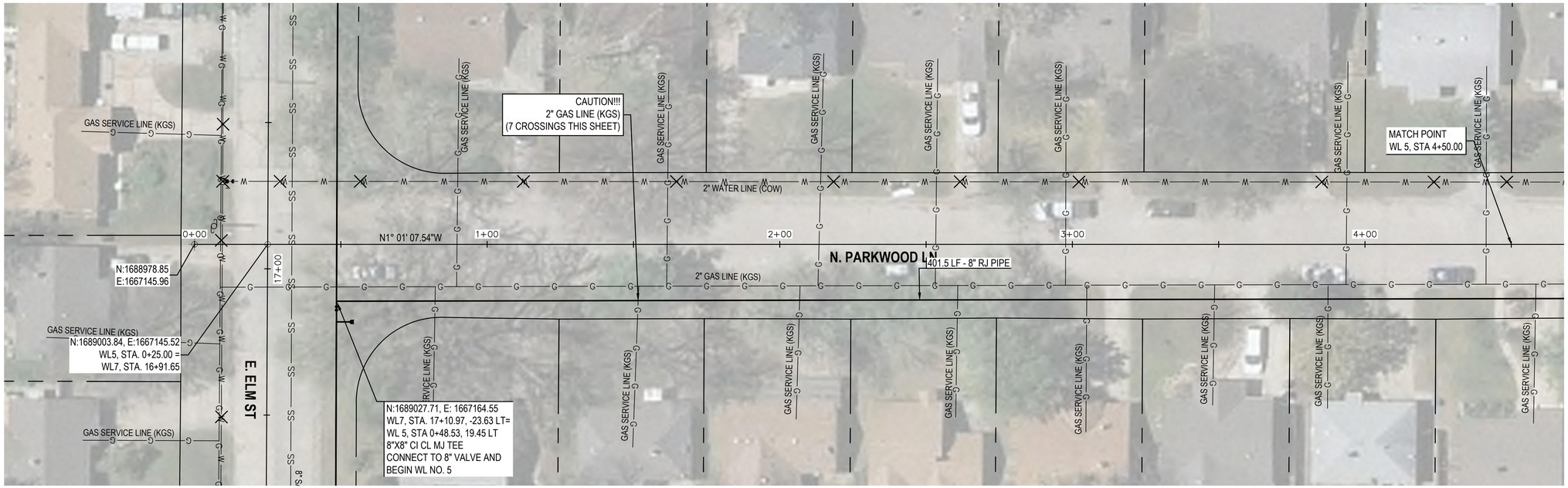
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
19
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN4 N OLD MANOR RD

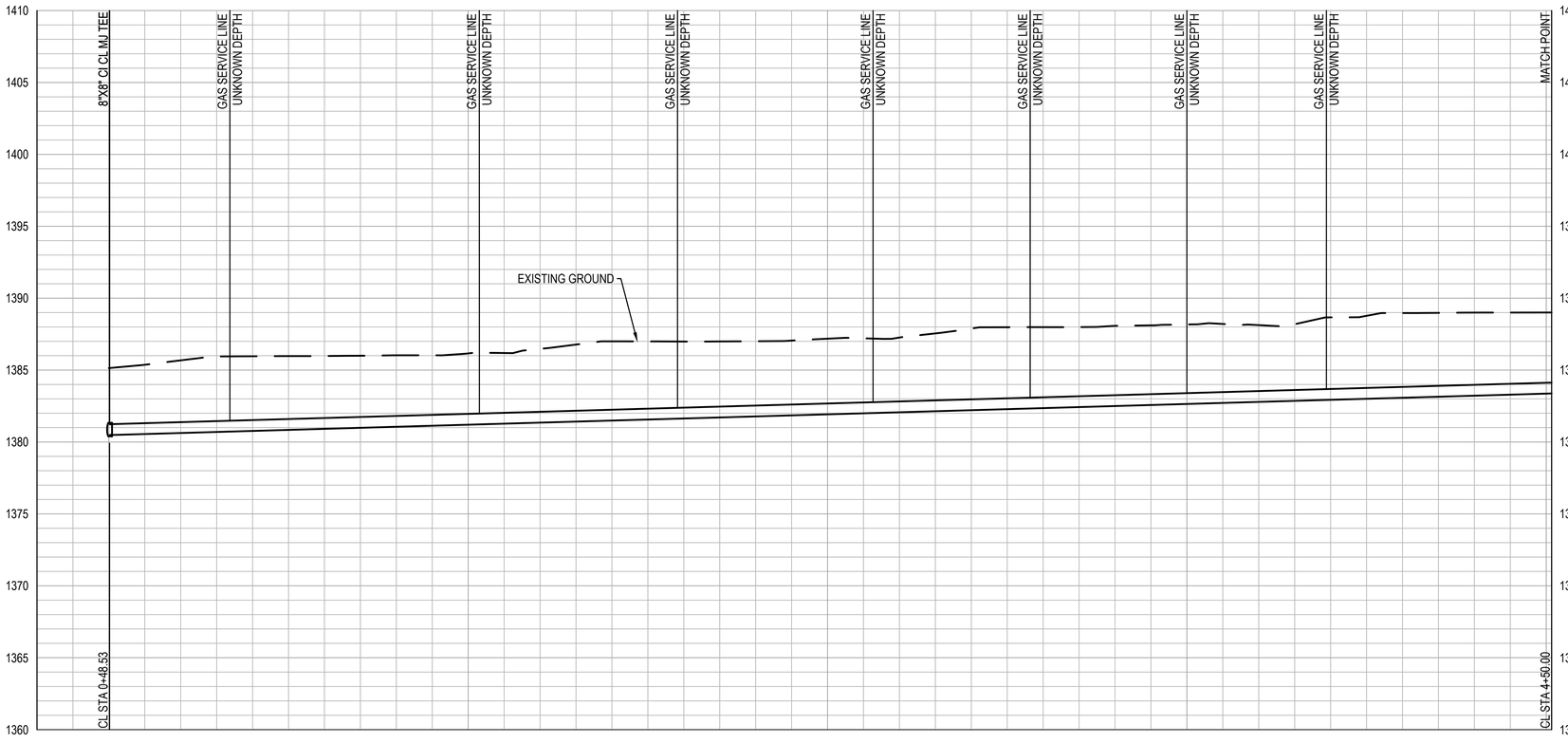


X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	7
SHORT SERVICES	7

20 0 20 40
SCALE IN FEET

5 0
VERT.



WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

REVISIONS:

N. PARKWOOD LN. 0+00.00 - 4+50

EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

PROJECT:

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

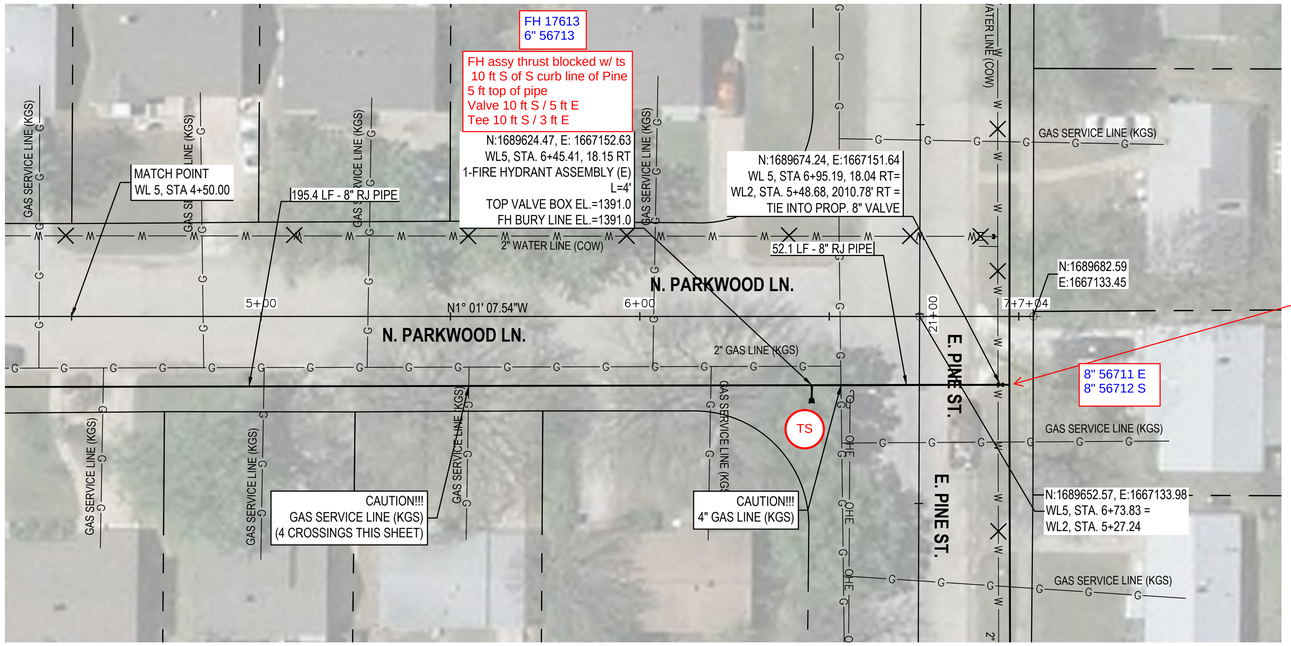
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
20
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN5 N PARKWOOD LN

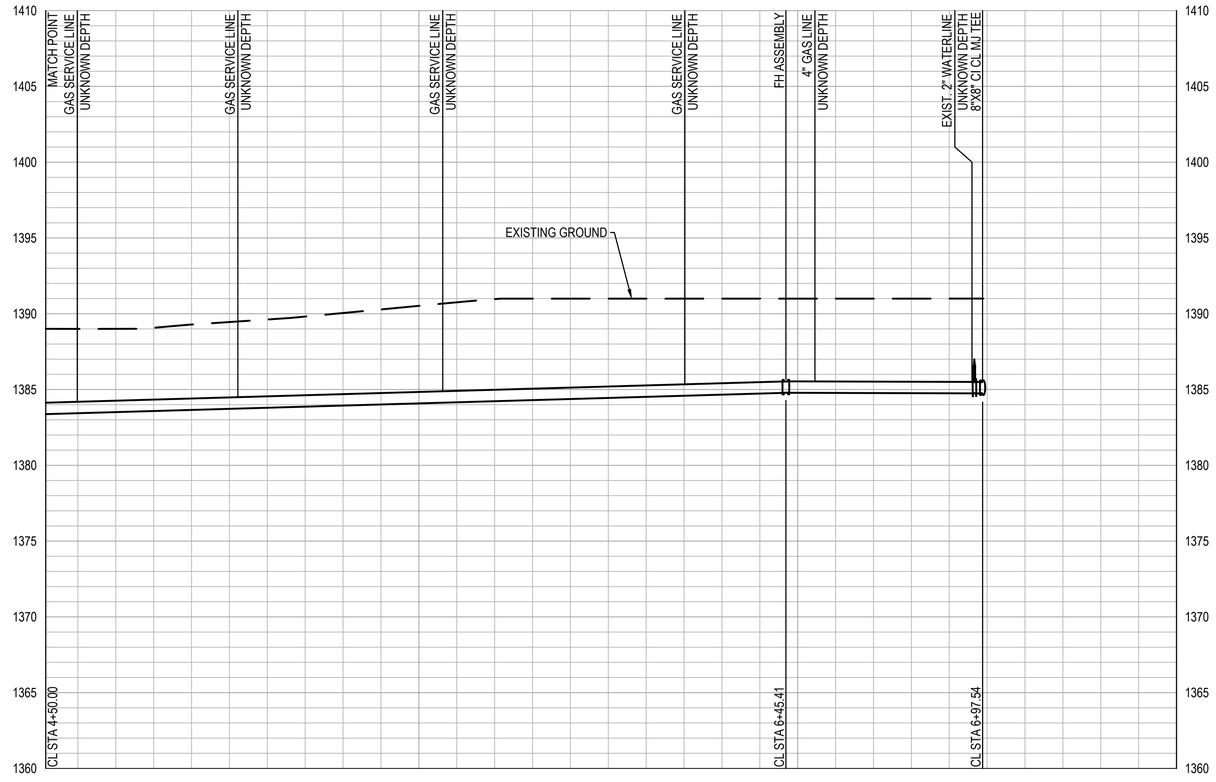


X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	3
SHORT SERVICES	4

SCALE IN FEET: 20 0 20 40

VERT.: 5 0



REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

N. PARKWOOD LN. 4+50.00 - 7+00.00

PROJECT: EAST HIGHLANDS WMR PHASE 2

LOCATION: N OLIVER AND E MURDOCK, WICHITA, KS

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

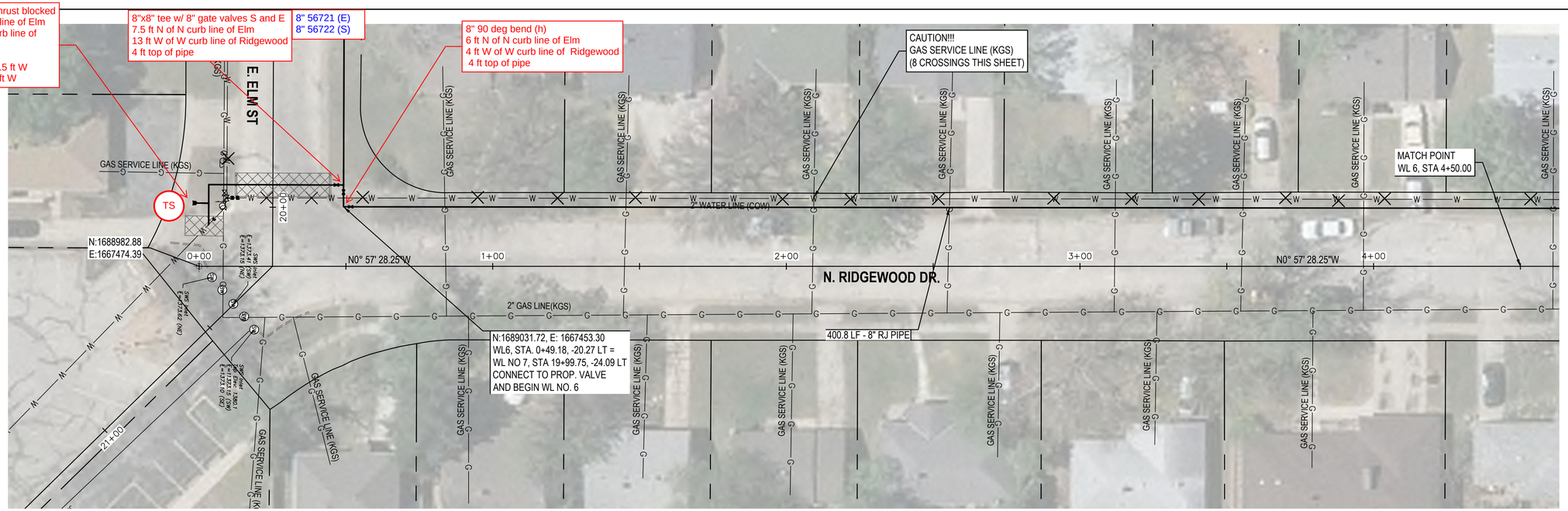
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
21
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN5 N PARKWOOD LN

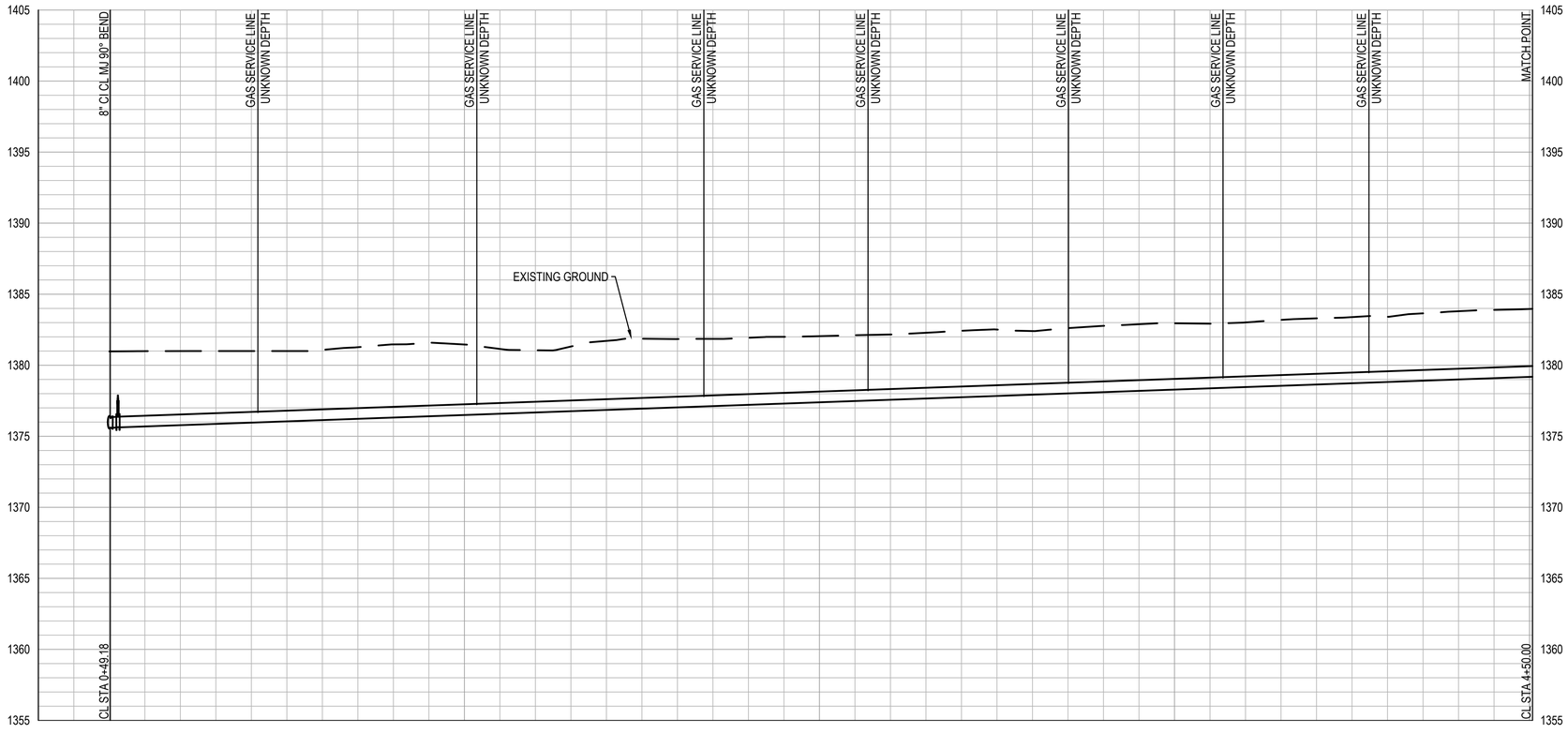


X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	7
SHORT SERVICES	7

SCALE IN FEET: 20 0 20 40

VERT.: 5 0 N



REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

N. RIDGEWOOD DR. 0+00.00 - 4+50.00

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

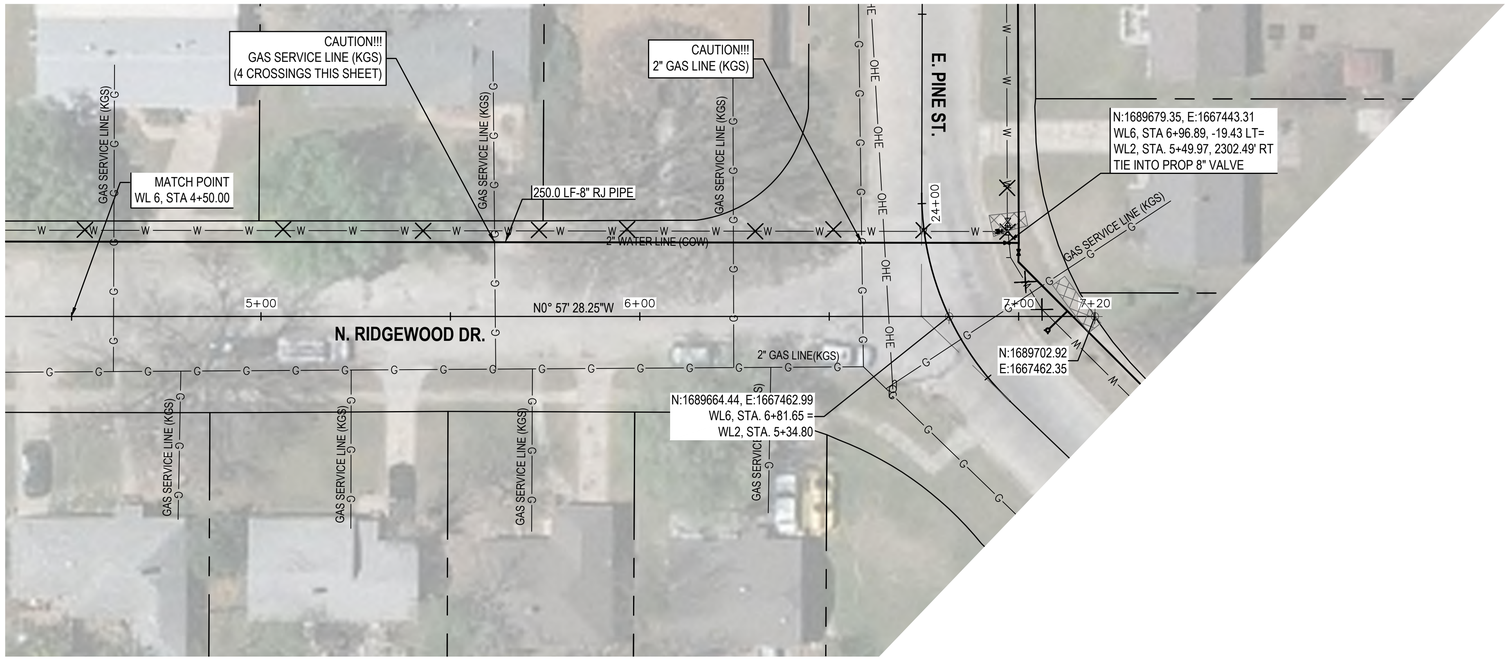
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
22
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN6 N RIDGEWOOD DR

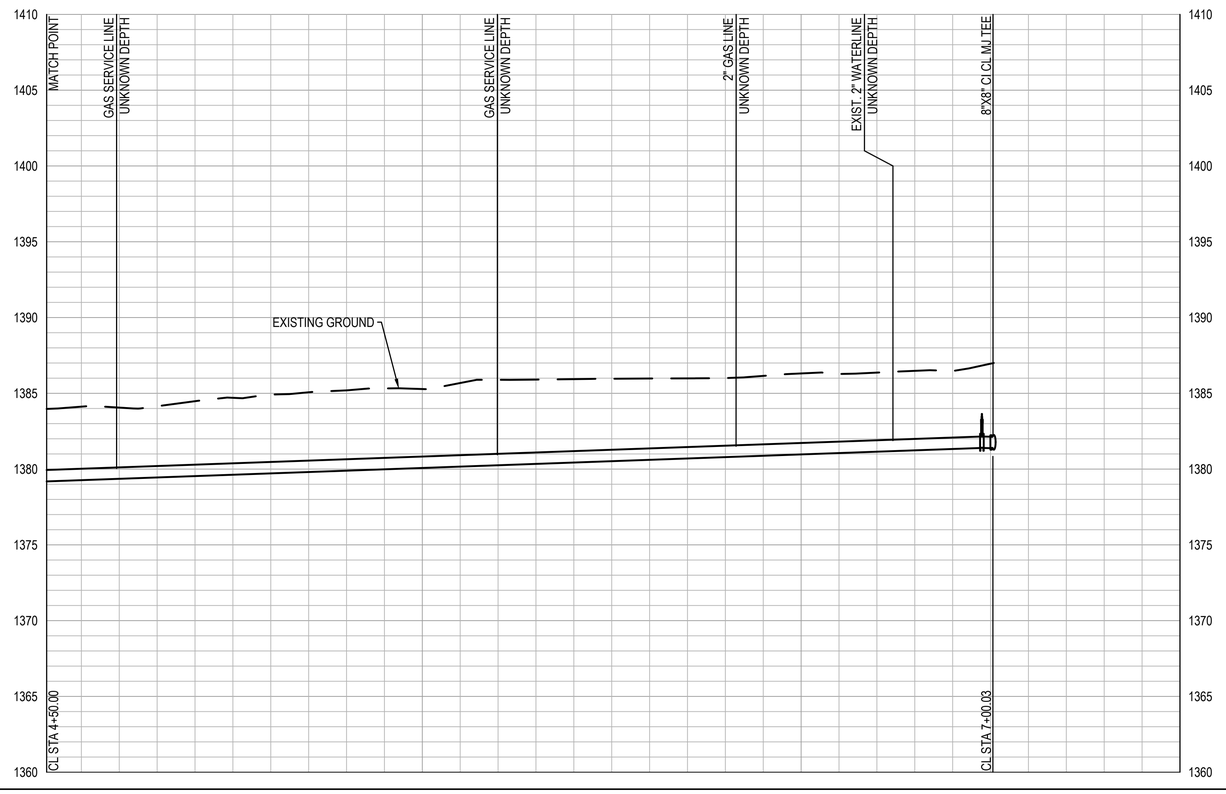


X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	4
SHORT SERVICES	3

SCALE IN FEET: 20 0 20 40

VERT.: 5 0



WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

REVISIONS:

N. RIDGEWOOD DR. 4+50.00 - 7+20.00

PROJECT: EAST HIGHLANDS WMR PHASE 2
WICHITA, KS
LOCATION
N OLIVER AND E MURDOCK, WICHITA, KS

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

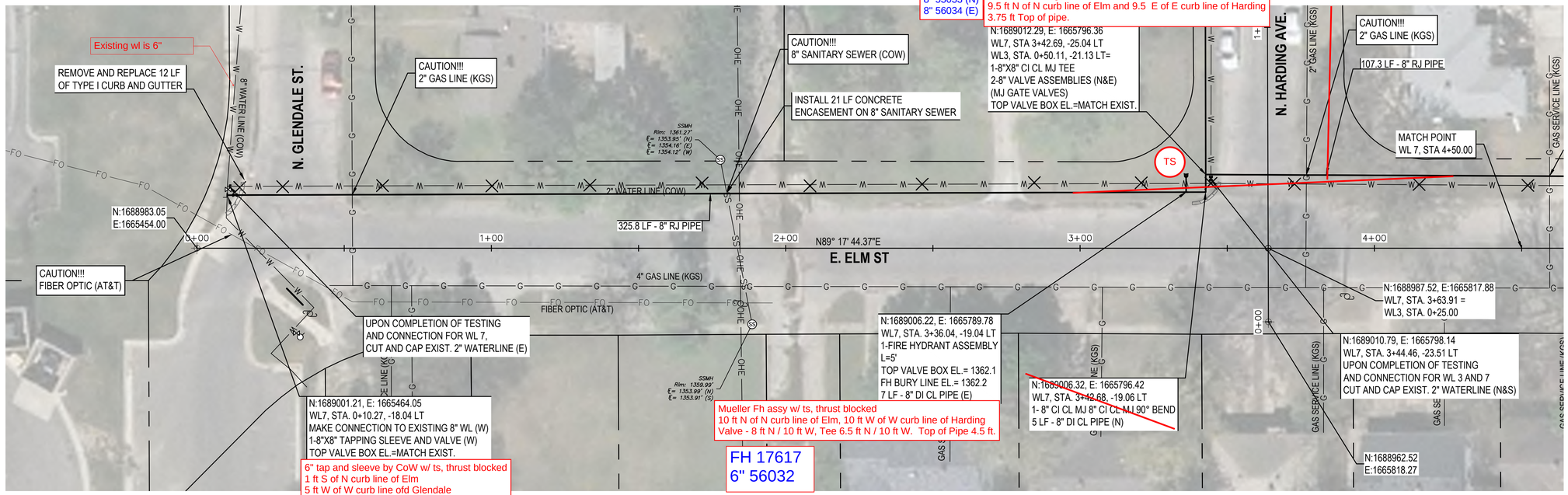
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

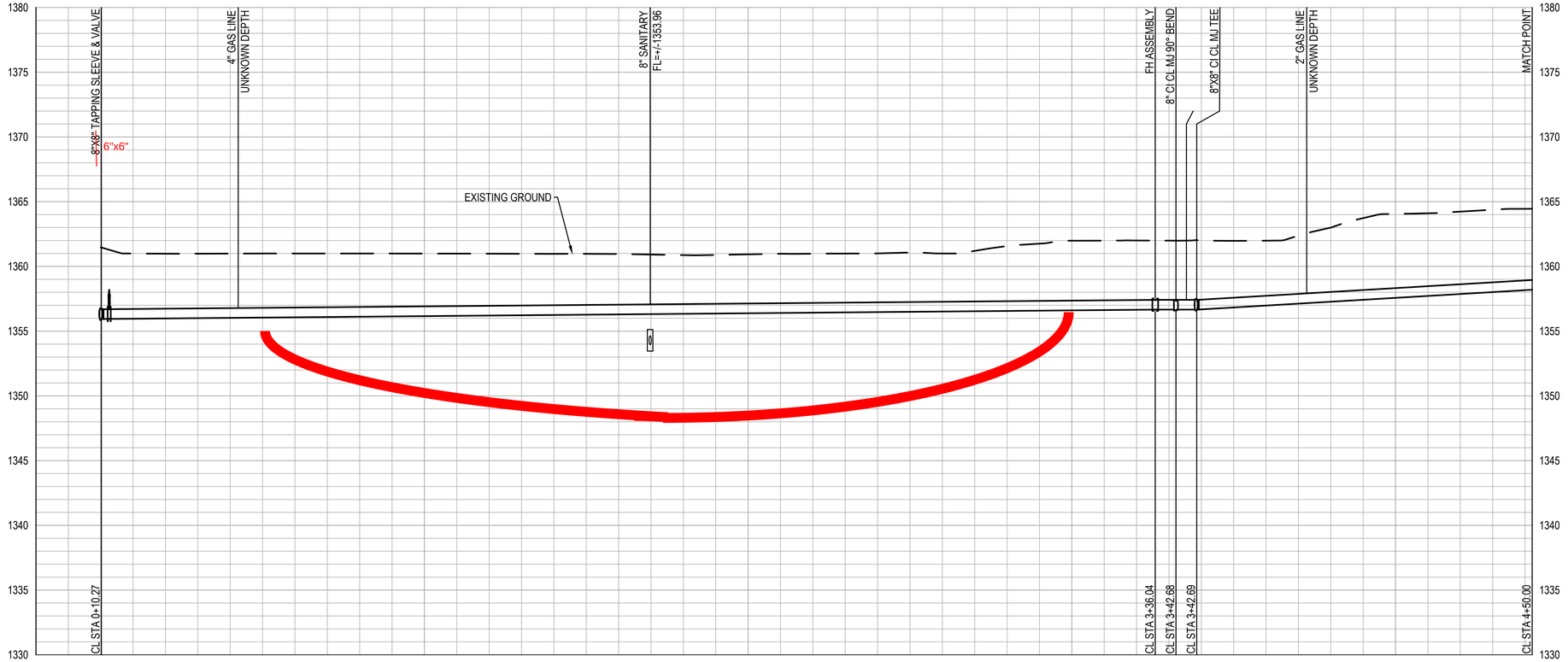
SHEET NO.
23
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN6 N RIDGEWOOD DR



X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	7
SHORT SERVICES	1



WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

REVISIONS:

E. ELM ST. 0+00.00 - 4+50.00
LOCATION

PROJECT:
EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

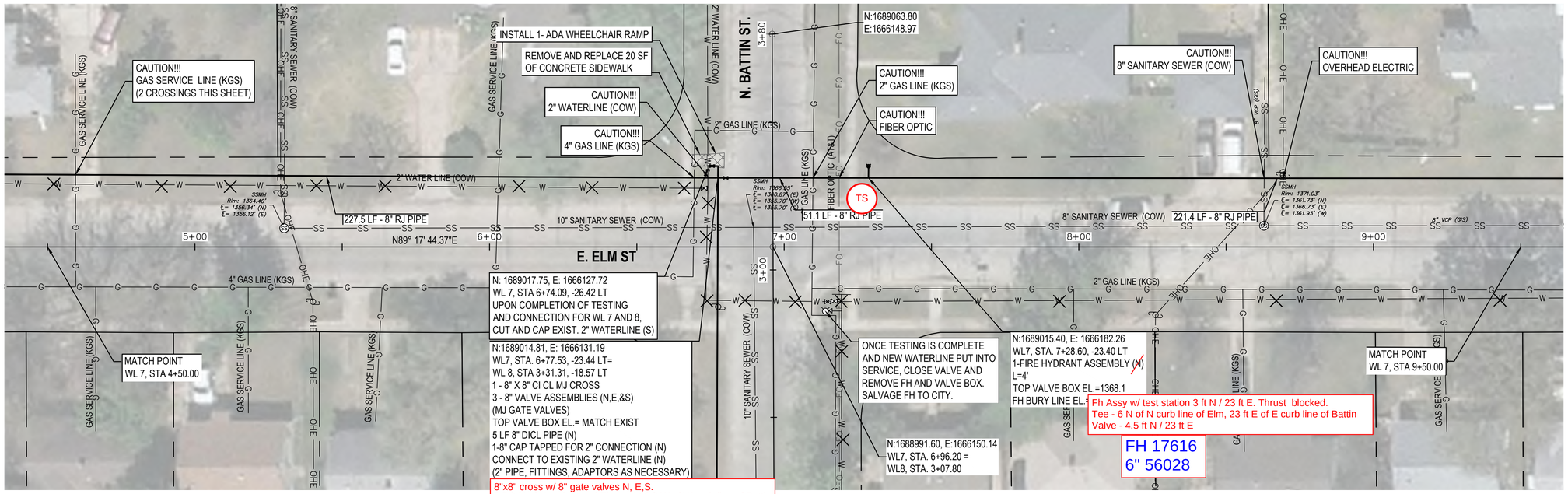
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
24
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN7 E ELM ST



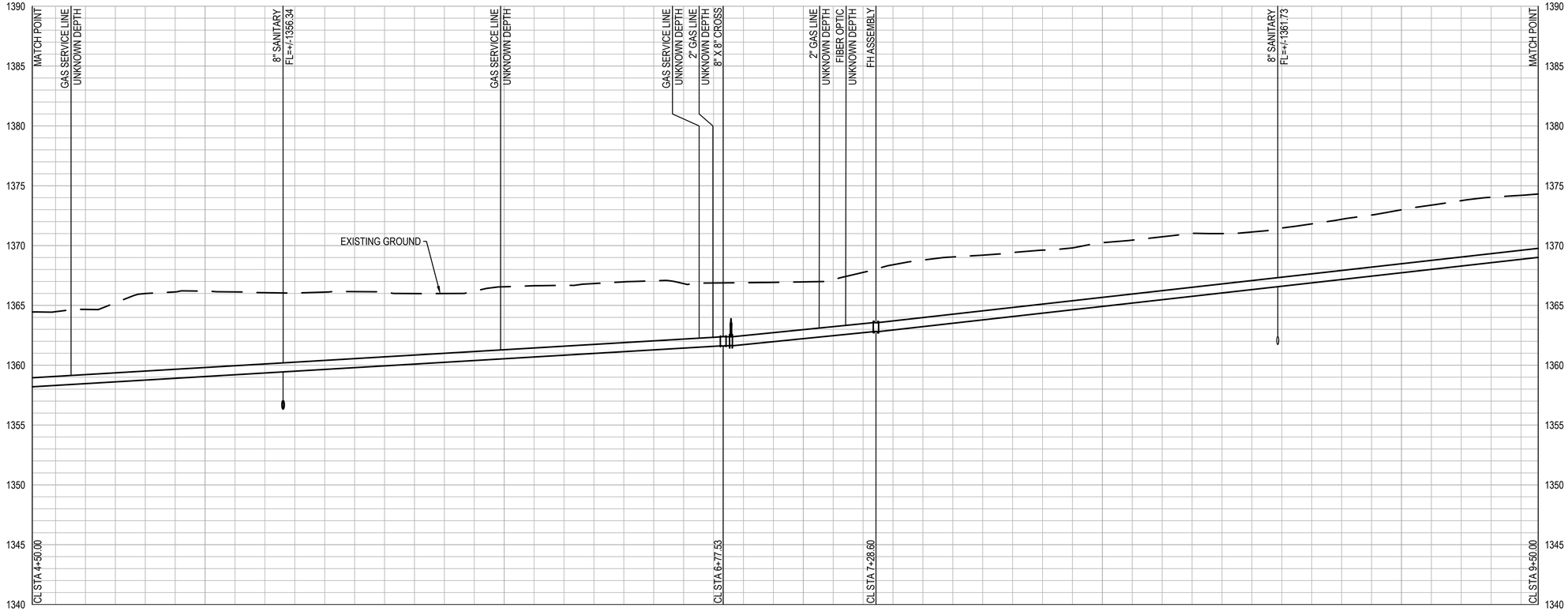
X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	8
SHORT SERVICES	2

20 0 20 40
SCALE IN FEET

5 0
VERT.

N



REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

E. ELM ST. 4+50.00 - 9+50.00
LOCATION

PROJECT:
EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

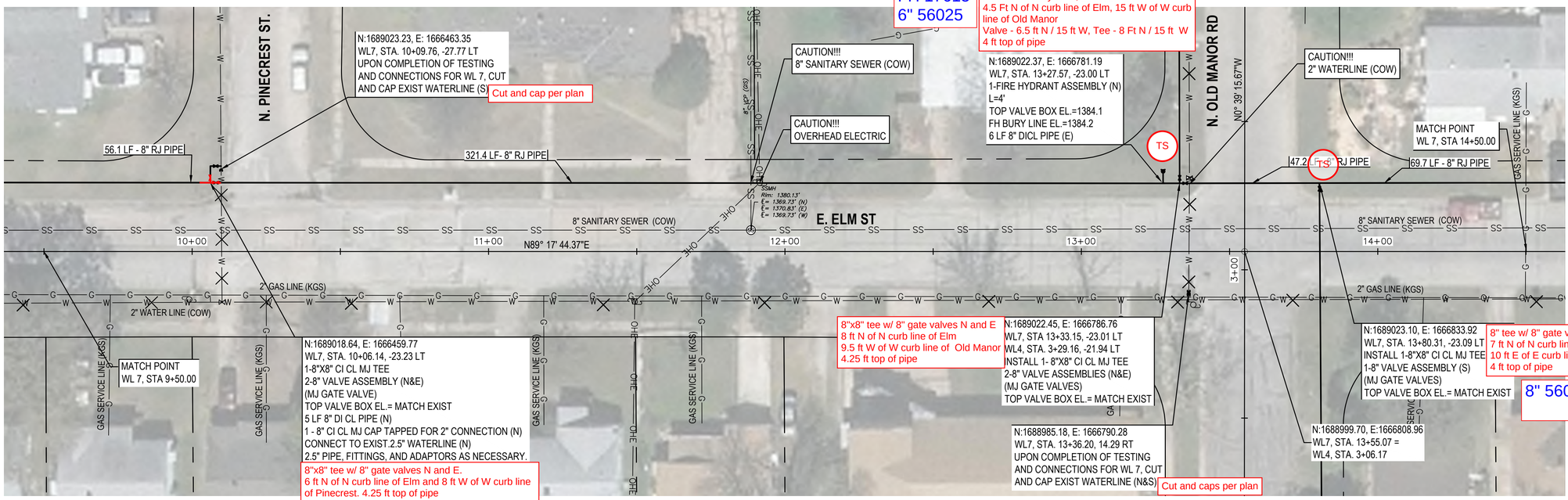
CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
25
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN7 E ELM ST



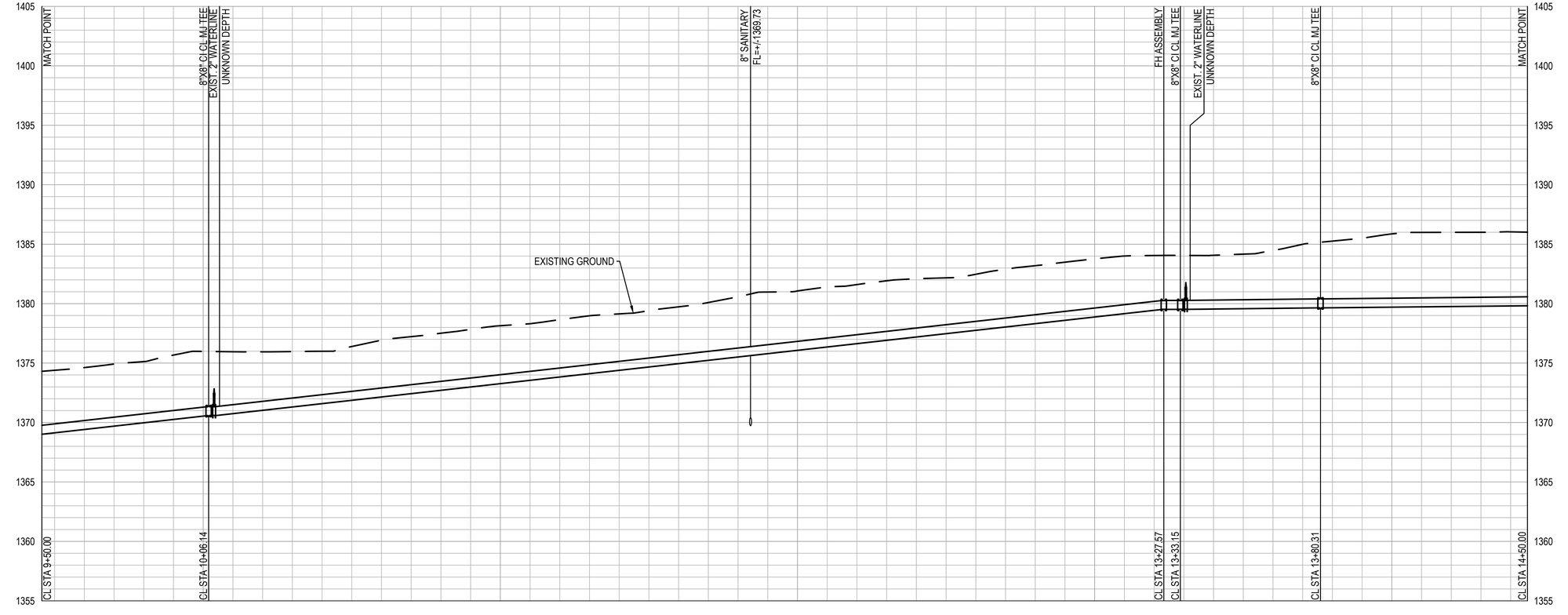
X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	7
SHORT SERVICES	2

SCALE IN FEET: 20 0 20 40

VERT.: 5 0

N



REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

E. ELM ST. 9+50.00 - 14+50.00

PROJECT: EAST HIGHLANDS WMR PHASE 2

LOCATION: N OLIVER AND E MURDOCK, WICHITA, KS

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

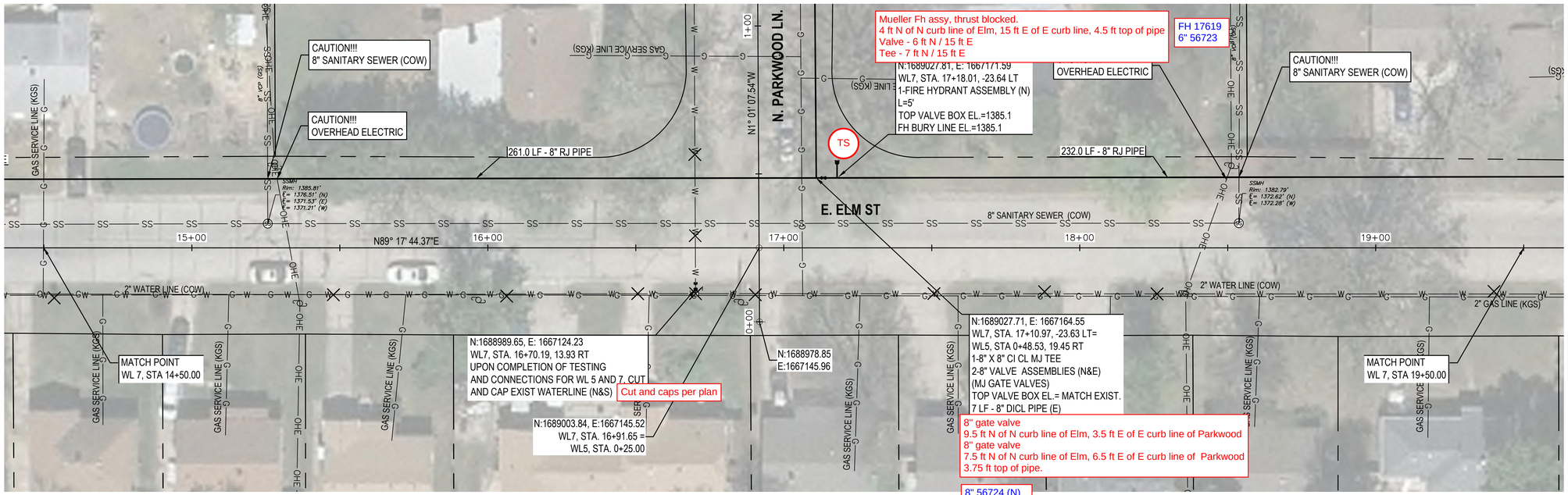
CITY OF WICHITA

ANGELA C. GUTIERREZ LICENSED 30826 9-2-25 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 8275000434

SHEET NO. 26 OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN7 E ELM ST



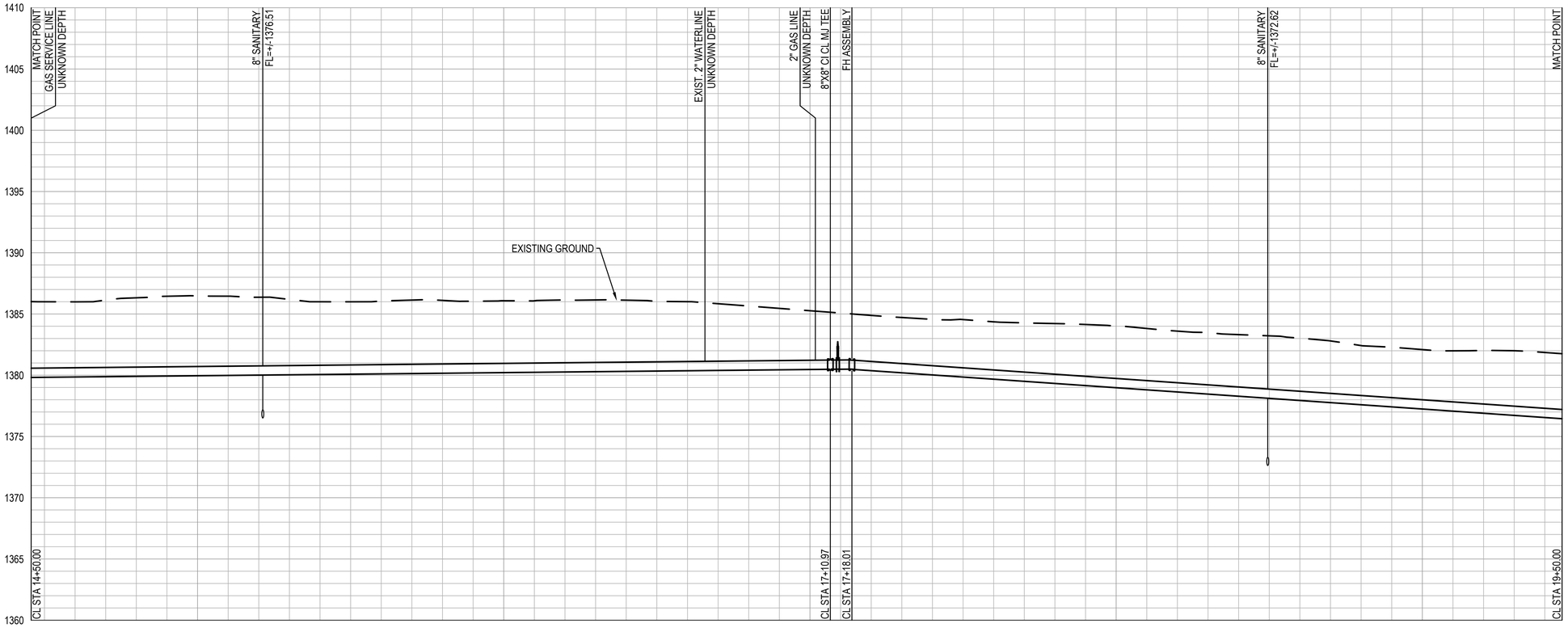
X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	9
SHORT SERVICES	1

SCALE IN FEET: 20 0 20 40

VERT.: 5 0

N



REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

E. ELM ST. 14+50.00 - 19+50.00

PROJECT: EAST HIGHLANDS WMR PHASE 2

LOCATION: N OLIVER AND E MURDOCK, WICHITA, KS

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Jun. 3, 22

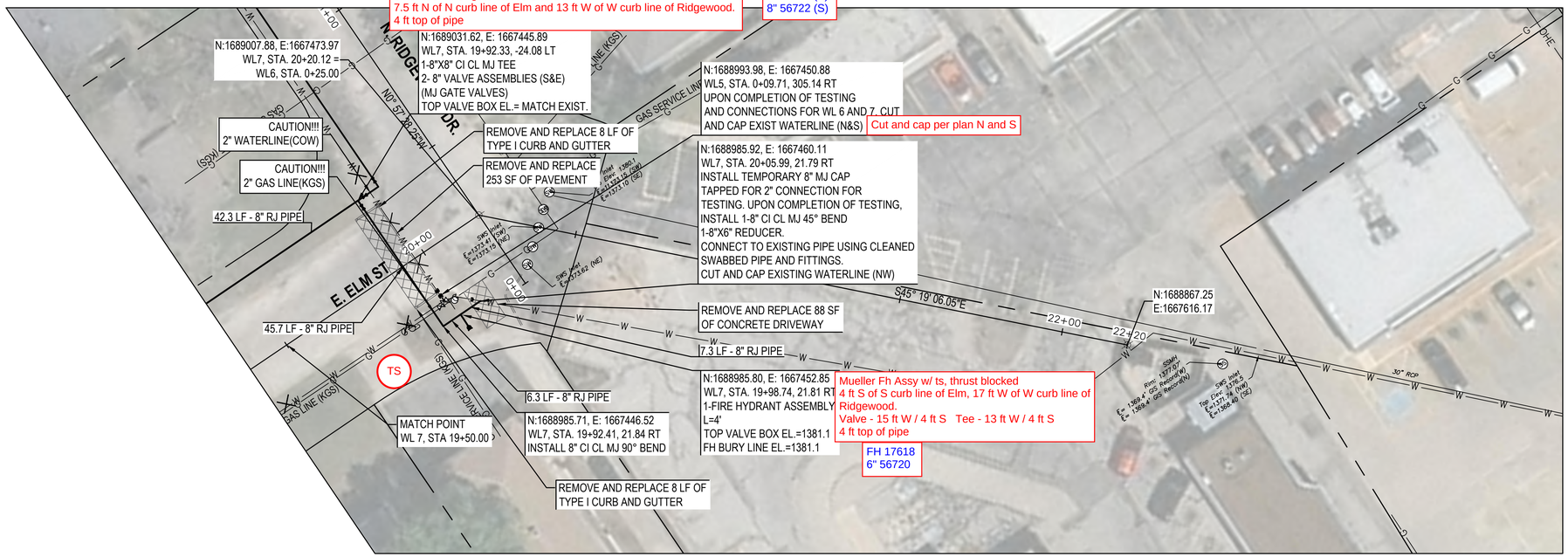
CITY OF WICHITA

ANGELA C. GUTIERREZ LICENSED 30826 9-2-25 KANSAS PROFESSIONAL ENGINEER

PROJECT NO. 8275000434

SHEET NO. 27 OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN7 E ELM ST

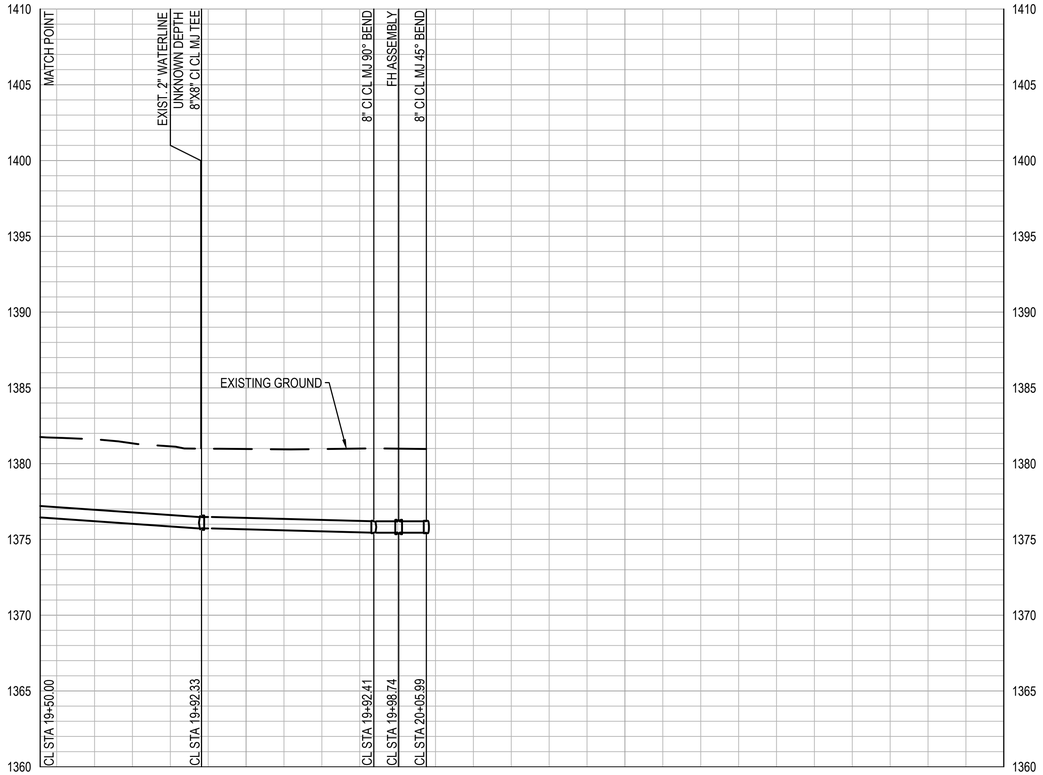


X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	1
SHORT SERVICES	-

SCALE IN FEET: 20 0 20 40

VERT.: 5 0



REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

E. ELM ST. 19+50.00 - 22+05.99

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

CITY OF WICHITA

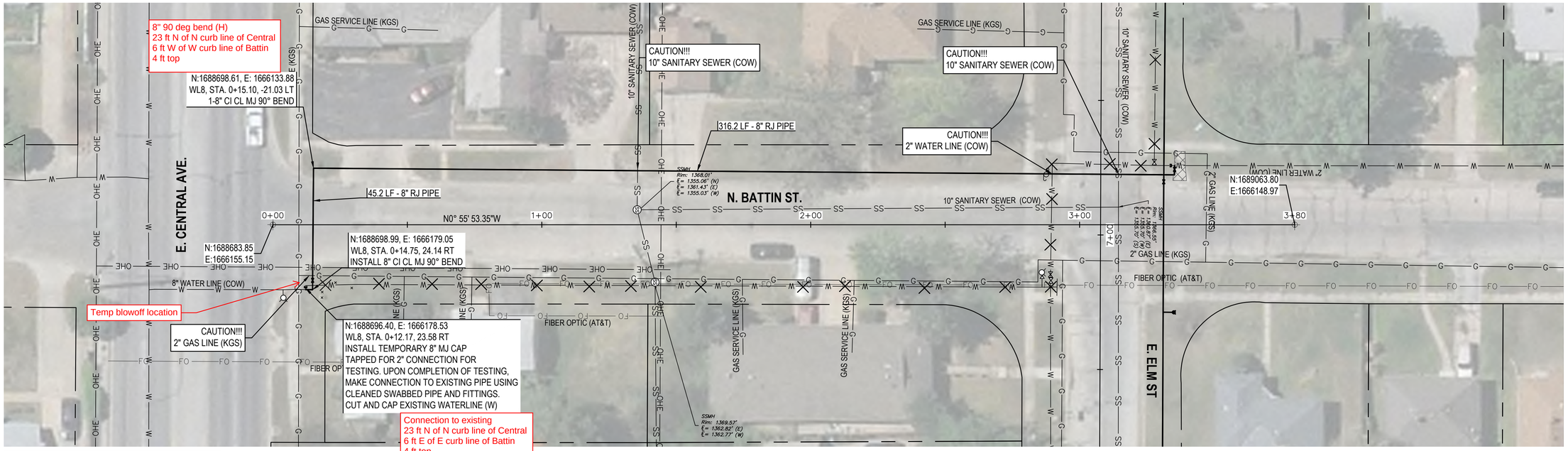
ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
28
OF 36

C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN7 E ELM ST

9/2/2025

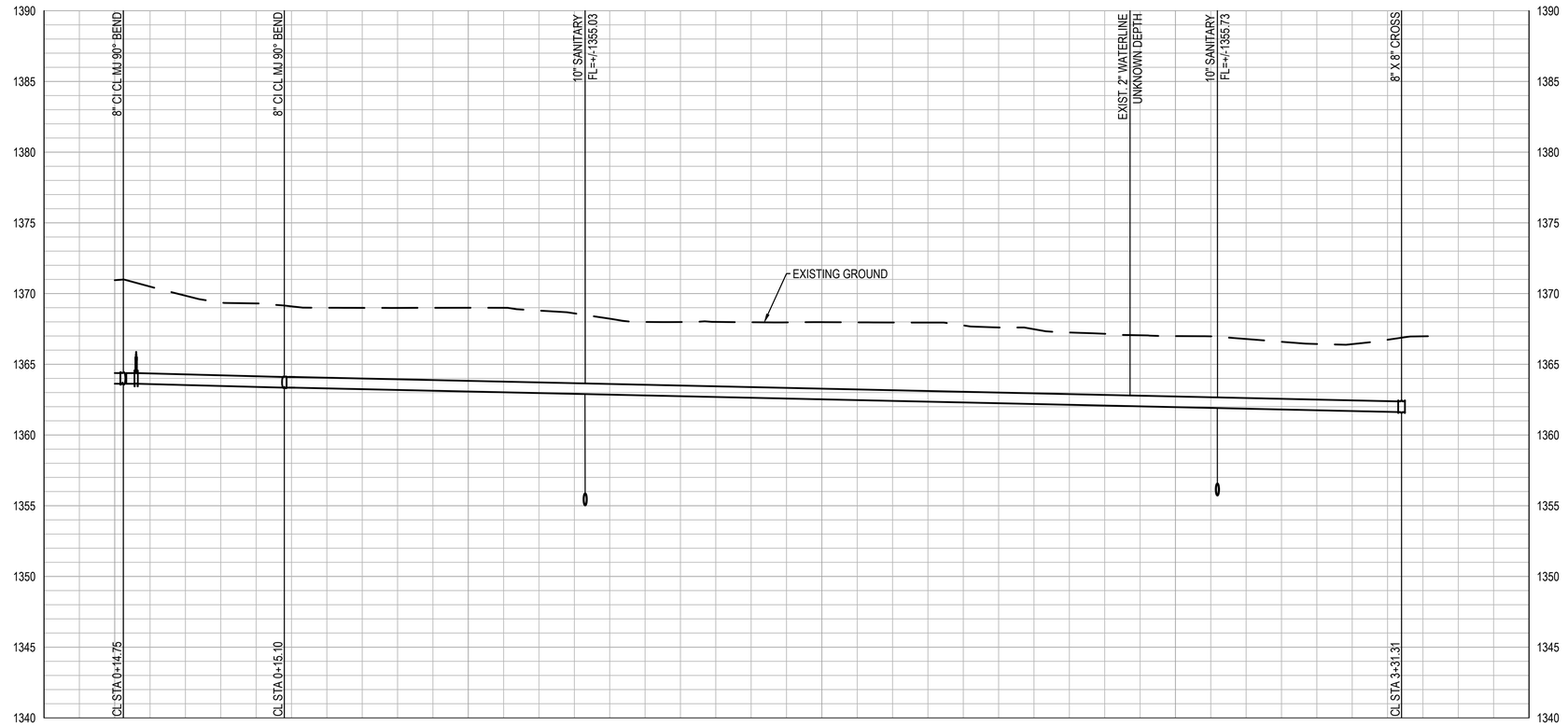


X - DENOTES EXISTING WATERLINE TO BE ABANDONED

SERVICES REQUIRED THIS SHEET	
LONG SERVICES	2
SHORT SERVICES	1

SCALE IN FEET: 20 0 20 40

VERT.: 5 0 N



WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

REVISIONS:

N. BATTIN ST. 0+00.00 - 3+80.00
LOCATION

EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
PROJECT:

DESIGNED BY: EJB
DRAWN BY: HZ/ACG
CHECKED BY: EJB
DATE: Sep-25

CITY OF WICHITA

ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
29
OF 36

C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\PH2 LN8 N BATTIN ST

9/2/2025

CURB INLET PROTECTION

20 0 20 40
SCALE IN FEET

N

REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

EROSION CONTROL

PROJECT:
EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ
CHECKED BY: EJB
DATE: Sep-25

CITY OF WICHITA

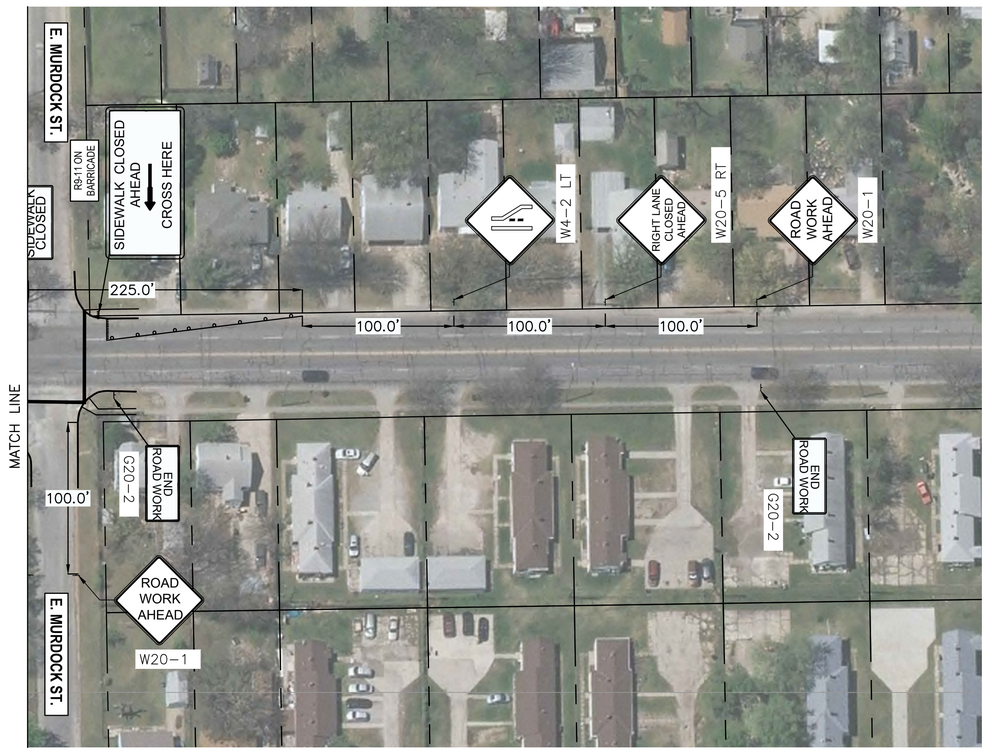
ANGELA C. GUTIERREZ
LICENSED
30826
9-2-25
KANSAS
PROFESSIONAL ENGINEER

PROJECT NO.
8275000434

SHEET NO.
30
OF 36

9/2/2025
X:\US\USICT200-WCH\Projects\8275000434_Wichita Countryside WMR\05_CAD\Sheets\East Highlands WMR Phase 2\PH2 EROSION CONTROL





50 0 50 100
SCALE IN FEET

LEGEND

- ⊣ = SIGN
- ○ = REFLECTORIZED DRUMS OR FLUORESCENT ORANGE CONES OR SLIMLINE CHANNELIZERS
- = WORK SPACE
- = PEDESTRIAN DETOUR
- = TYPE 3 BARRICADE

NOTES

1. THE DRIVEWAYS IN THE AREA SHALL REMAIN UNOBSTRUCTED FOR ACCESS. ALL TRAFFIC CONTROL ITEMS SHALL REMAIN IN PLACE UNTIL ALL WORK HAS BEEN COMPLETED.
2. THE CONTRACTOR SHALL INSTALL WATERLINE THROUGH THE INTERSECTION AT E. ELM ST. & N. OLIVER ST. SUCH THAT THE INTERSECTION REMAINS OPEN AT ALL TIMES.

REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

TRAFFIC CONTROL PLAN - 2

PROJECT: EAST HIGHLANDS WMR PHASE 2
N OLIVER AND E MURDOCK, WICHITA, KS

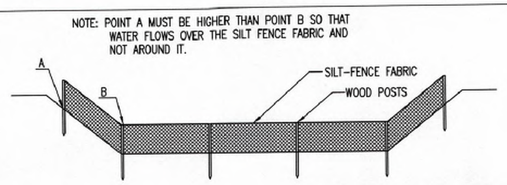
DESIGNED BY:
DRAWN BY:
CHECKED BY:
DATE:

CITY OF WICHITA

ANGELA C. GUTIERREZ LICENSED 30826 9-2-25 KANSAS PROFESSIONAL ENGINEER

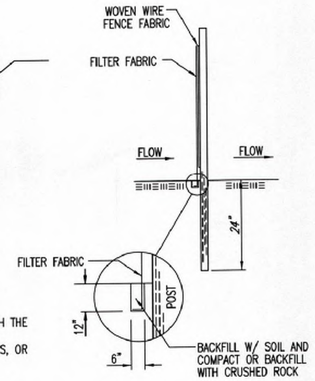
PROJECT NO.

SHEET NO. 31 OF 36



ELEVATION

SILT FENCE DITCH CHECKS
(STREAM PROTECTION)



ANCHOR TRENCH DETAIL

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION.
THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED.
WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK, NOT OVER IT. SILT FENCE DITCH CHECKS OFTEN FAIL WHEN OVERTOPPED.
SILT FENCE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH.
THE SILT FENCE SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE TOP OF THE LOW POINT OF THE FENCE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK.
SILT FENCE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD.
SILT FENCE SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.

THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH CHECK DITCH GRADE (%)	SPACING CHECK SPACING (FEET)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS AT LEAST 12" DEEP BY 6" WIDE.
EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK.
PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH FOR LATER USE.
ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSTREAM SIDE OF THE TRENCH.
PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSTREAM EDGE OF THE TRENCH.
LINE TWO SIDES OF THE TRENCH WITH THE FABRIC AS SHOWN ON DETAIL. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED.
LAY THE EXPOSED SILT FENCE ON THE UPSTREAM SIDE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSTREAM OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 24". PLACE POSTS NO MORE THAN 4' APART.
ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

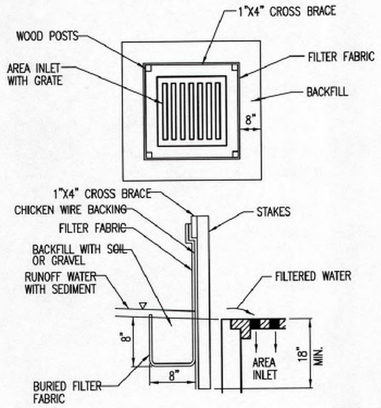
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK–NOT OVER IT. PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. SILT FENCE INSTALLATIONS QUICKLY DETERIORATE WHEN WATER OVERTOPS THEM.
DO NOT PLACE SILT FENCE POSTS ON THE UPSTREAM SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL.
DO NOT PLACE A SILT FENCE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW.
DO NOT PLACE SILT FENCE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW.
FOLLOW PRESCRIBED DITCH CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS.
DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE LOW POINT ON THE TOP OF THE FENCE.
DO NOT PLACE SILT FENCE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.

INSPECTION AND MAINTENANCE:

SILT FENCE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW AROUND THE DITCH CHECK?
DOES WATER FLOW UNDER THE DITCH CHECK?
DOES THE SILT FENCE SAG EXCESSIVELY?
HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



SILT FENCE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION.
THE WIRE OR POLYMERIC MESH BACKING USED TO HELP SUPPORT THE SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION.
THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
THE MATERIAL USED TO FRAME THE TOPS OF THE POSTS SHOULD BE 1" BY 4" BOARDS.
SILT FENCE FABRIC AND SUPPORT BACKING SHOULD BE ATTACHED TO THE WOODEN POSTS AND FRAME WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

PLACE A SILT FENCE DROP INLET BARRIER IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED.
WATER SHOULD FLOW THROUGH SILT FENCE, NOT OVER IT. SILT FENCE BARRIERS FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED.
WHEN USED AS A BARRIER FOR AREA INLETS, SILT FENCE FABRIC AND POSTS MUST BE SUPPORTED AT THE TOP BY A WOODEN FRAME.
WHEN A SILT FENCE BARRIER FOR AREA INLETS IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 8" DEEP BY 8" WIDE.
DRIVE POSTS TO A DEPTH OF AT LEAST 18" AROUND THE PERIMETER OF THE AREA INLET.
THE DISTANCE BETWEEN POSTS SHOULD BE 4' OR LESS. IF THE DISTANCE BETWEEN TWO ADJACENT CORNER POSTS IS MORE THAN 4', ADD ANOTHER POST(S) BETWEEN THEM.
CONNECT THE TOPS OF ALL THE POSTS WITH A WOODEN FRAME MADE OF 1" BY 4" BOARDS. USE NAILS OR SCREWS FOR FASTENING.
ATTACH THE WIRE OR POLYMERIC–MESH BACKING TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS.
ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC LONG ENOUGH TO WRAP AROUND THE PERIMETER OF THE AREA INLET. ADD MORE LENGTH FOR OVERLAPPING THE FABRIC JOINT. PLACE THE EDGE OF THE FABRIC IN THE TRENCH, STARTING AT THE OUTSIDE EDGE OF THE TRENCH. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED.
ATTACH THE SILT FENCE TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. THE JOINT SHOULD BE OVERLAPPED TO THE NEXT POST.

NOTE: WHEN A SILT FENCE BARRIER FOR AREA INLET IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

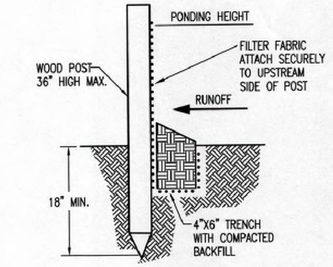
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE BARRIER FOR AREA INLET–NOT OVER IT. PLACE A SILT FENCE BARRIER FOR AREA INLET IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. SILT FENCE BARRIER FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED.
DO NOT PLACE POSTS ON THE OUTSIDE OF THE SILT FENCE BARRIER FOR AREA INLET. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESISTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL.
DO NOT INSTALL SILT FENCE BARRIER FOR AREA INLETS WITHOUT FRAMING THE TOP OF THE POSTS. THE CORNER POSTS AROUND AREA INLETS ARE STRESSED IN TWO DIRECTIONS WHEREAS A NORMAL SILT FENCE IS ONLY STRESSED IN ONE DIRECTION. THIS ADDED STRESS REQUIRES MORE SUPPORT.

INSPECTION AND MAINTENANCE:

SILT FENCE BARRIER FOR AREA INLETS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW UNDER THE SILT FENCE?
DOES THE SILT FENCE SAG EXCESSIVELY?
HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



SILT FENCE BARRIERS

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION.
THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT.
WHEN PRACTICABLE, SILT FENCE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW.
SILT FENCE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT–OF–WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 6" DEEP BY 4" WIDE.
MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE.
ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH.
PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT–FENCE FABRIC SHOULD REMAIN EXPOSED.
LAY THE EXPOSED SILT FENCE UPSLOPE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 18".
PLACE POSTS NO MORE THAN 4' APART.
ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES.
DO NOT PLACE SILT–FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL.
DO NOT PLACE SILT FENCE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT SUFFICIENTLY ANCHORED, IT WILL WASH OUT.
SILT FENCE SLOPE BARRIERS MUST BE DUG INTO THE GROUND–SILT FENCE AT GROUND LEVEL DOES NOT WORK BECAUSE WATER WILL FLOW UNDERNEATH.

INSPECTION AND MAINTENANCE:

SILT FENCE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
DOES WATER FLOW UNDER THE SLOPE BARRIER?
DO THE SILT FENCES SAG EXCESSIVELY?
HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

GARY L. JANZEN LICENSED 16294 PROFESSIONAL ENGINEER KANSAS
05/21/13

REVISION DATE: MAY 2013

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SILT FENCE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

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

SHEET

SW-502

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

REVISIONS:

SILT FENCE AND BARRIER DETAILS

PROJECT: EAST HIGHLANDS WMR PHASE 2
OLIVER AND CENTRAL, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ
CHECKED BY: EJB
DATE: Sep-25

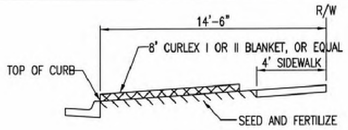
CITY OF WICHITA

PROJECT NO. 8275000434

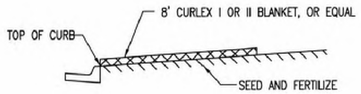
SHEET NO. 32 OF 36

C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\EC_DTL-SiltFenceandBarrierEH

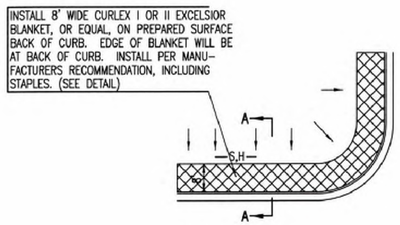
9/2/2025



SECTION B-B



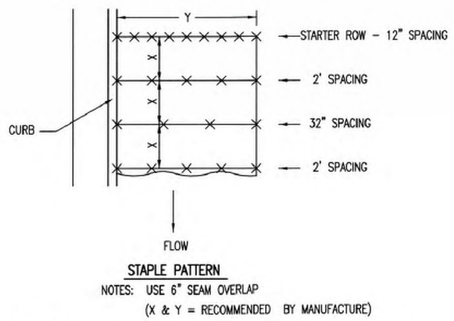
SECTION A-A



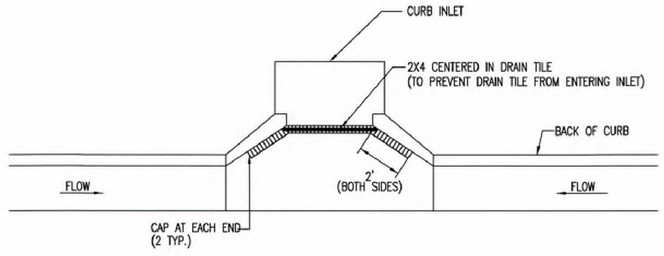
GENERAL NOTES

1. EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
2. EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
3. AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER, SUPPLEMENTAL EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS NEEDED, TO FIX THE PROBLEM.

BACK OF CURB PROTECTION DETAIL

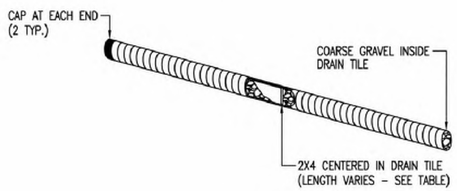


DETAILS FOR APPROVED EROSION CONTROL MAT

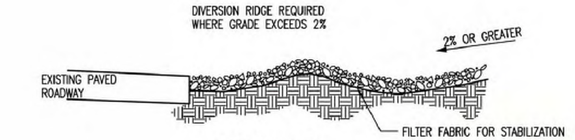


NOTE:
PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

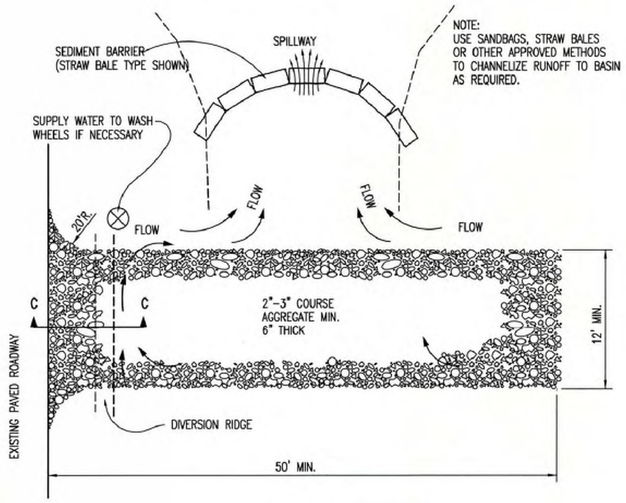
2X4 LENGTH	INLET TYPE	INLET OPENING
5'-6"	1-A	5'-0"
10'-6"	1-A	10'-0"
15'-6"	1-A	15'-0"



CURB INLET PROTECTION
4" PERFORATED PIPE W/ GRAVEL



SECTION C-C



STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
4. DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.

REVISION DATE: MAY 2013



CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

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

SHEET

SW-501

REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

BACK OF CURB PROTECTION DETAIL

PROJECT: EAST HIGHLANDS WMR PHASE 2
OLIVER AND CENTRAL, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ
CHECKED BY: EJB
DATE: Sep-25

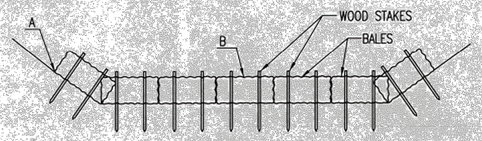
CITY OF WICHITA

PROJECT NO.
8275000434

SHEET NO.
33
OF 36

C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\EC_DTL-BOCProtectionCurbEH
9/2/2025

NOTE: POINT A MUST BE HIGHER THAN POINT B
SO THAT WATER FLOWS OVER THE BALES AND
NOT AROUND THEM.



STRAW BALE DITCH CHECKS

MATERIAL SPECIFICATION:

BALE DITCH CHECKS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE.
THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
OPTIONAL: THE DOWNSTREAM SCOUR APRON SHOULD BE CONSTRUCTED OF A DOUBLE-NETTED STRAW EROSION-CONTROL BLANKET AT LEAST 6' WIDE.
OPTIONAL: THE METAL LANDSCAPE STAPLES USED TO ANCHOR THE EROSION-CONTROL BLANKET SHOULD BE AT LEAST 8" LONG.

PLACEMENT:

BALE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH.
THE DITCH CHECK SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK.
STRAW BALE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD.
BALES SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.
THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH GRADE (%)	CHECK SPACING (FEET)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH-IT WILL BE USED LATER.
OPTIONAL: ON THE DOWNSTREAM SIDE OF THE TRENCH, ROLL OUT A LENGTH OF EROSION-CONTROL BLANKET (SCOUR APRON) EQUAL TO THE LENGTH OF THE TRENCH. PLACE THE UPSTREAM EDGE OF THE EROSION-CONTROL BLANKET ALONG THE BOTTOM UPSTREAM EDGE OF THE TRENCH. THE EROSION CONTROL BLANKET SHOULD BE ANCHORED IN THE TRENCH WITH ONE ROW OF 8" LANDSCAPE STAPLES PLACED ON 18" CENTERS. THE REMAINDER OF THE EROSION-CONTROL BLANKET (THE PORTION THAT IS NOT LYING IN THE TRENCH) WILL SERVE AS THE DOWNSTREAM SCOUR APRON. THIS SECTION OF THE BLANKET SHOULD BE ANCHORED TO THE GROUND WITH 8" LANDSCAPE STAPLES PLACED AROUND THE PERIMETER OF THE BLANKET ON 18" CENTERS. THE REMAINDER OF THE BLANKET SHOULD BE ANCHORED USING TWO EVENLY SPACED ROWS OF 8" LANDSCAPE STAPLES ON 18" CENTERS PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH.
PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND.
ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSTREAM SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP AND EXTEND UPSTREAM NO MORE THAN 24".

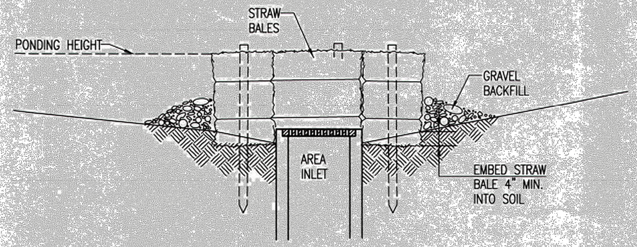
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

DO NOT PLACE A BALE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW.
DO NOT PLACE BALE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW.
FOLLOW PRESCRIBED DITCH-CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS.
DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE.
DO NOT PLACE BALE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.
BALE DITCH CHECKS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE CHECK.

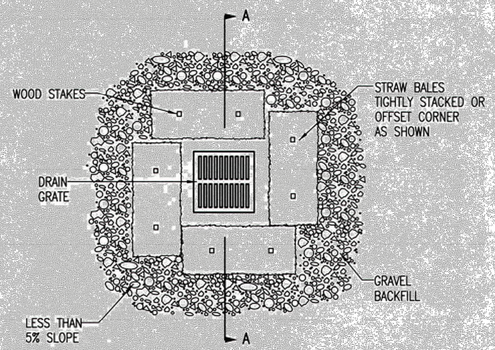
INSPECTION AND MAINTENANCE:

BALE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW AROUND THE DITCH CHECK?
DOES WATER FLOW UNDER THE DITCH CHECK?
DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
ARE ANY BALES AND/OR SCOUR APRONS (OPTIONAL) DISLODGED?
ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



SECTION A-A



STRAW BALE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

MATERIAL SPECIFICATION:

BALE AREA INLET BARRIERS SHOULD BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE.
THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

PLACEMENT:

BALE AREA INLET BARRIERS SHOULD BE PLACED DIRECTLY AROUND THE PERIMETER OF A DROP INLET. WHEN A BALE AREA INLET BARRIER IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 4" DEEP BY A BALE'S WIDTH WIDE.
PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. SOME BALES MAY NEED TO BE SHORTENED TO FIT INTO THE TRENCH AROUND THE AREA INLET. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS.
STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND.
ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE RECEIVING SIDE OF THE BARRIER AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.
NOTE: WHEN A BALE AREA INLET BARRIER IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

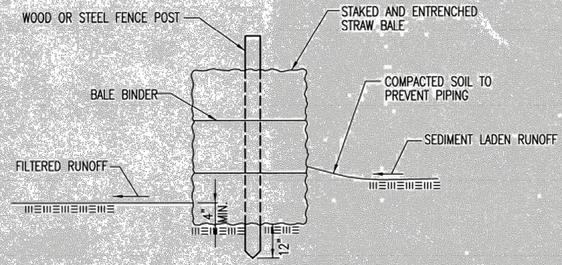
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

BALES SHOULD BE PLACED DIRECTLY AGAINST THE PERIMETER OF THE AREA INLET. THIS ALLOWS OVERTOPPING WATER TO FLOW DIRECTLY INTO THE INLET INSTEAD OF ONTO NEARBY SOIL CAUSING SCOUR.
BALE AREA INLET BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

INSPECTION AND MAINTENANCE:

BALE AREA INLET BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

DOES WATER FLOW UNDER THE AREA INLET BARRIER?
DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
ARE ANY BALES DISLODGED?
ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



STRAW BALE BARRIERS

MATERIAL SPECIFICATION:

BALE SLOPE BARRIERS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE.
THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT.
WHEN PRACTICABLE, BALE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW.
BALE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE.
PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND.
ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSLOPE SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WHEN PRACTICAL, DO NOT PLACE BALE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. CONCENTRATED FLOW OVER A SLOPE BARRIER CREATES A SCOUR HOLE ON THE DOWNSLOPE SIDE OF THE BARRIER. THE SCOUR HOLE EVENTUALLY UNDERMINES THE BALES AND THE BARRIER FAILS.
DO NOT PLACE BALE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.
BALE SLOPE BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

INSPECTION AND MAINTENANCE:

BALE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
DOES WATER FLOW UNDER THE SLOPE BARRIER?
DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
ARE ANY BALES DISLODGED?
ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

REVISION DATE: MAY 2013

GARY L. JANZEN LICENSED 16294 PROFESSIONAL ENGINEER KANSAS
05/13/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STRAW BALE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

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

SHEET

SW-503

REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

STRAW BALE DITCH CHECK AND BARRIER DETAIL

PROJECT: EAST HIGHLANDS WMR PHASE 2
OLIVER AND CENTRAL, WICHITA, KS
LOCATION

DESIGNED BY: EJB
DRAWN BY: HZ
CHECKED BY: EJB
DATE: Sep-25

CITY OF WICHITA

PROJECT NO. 8275000434

SHEET NO. 34
OF 36

9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\EC_DTL-StrawBaleandBarrier

GENERAL NOTES

1. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPES OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.

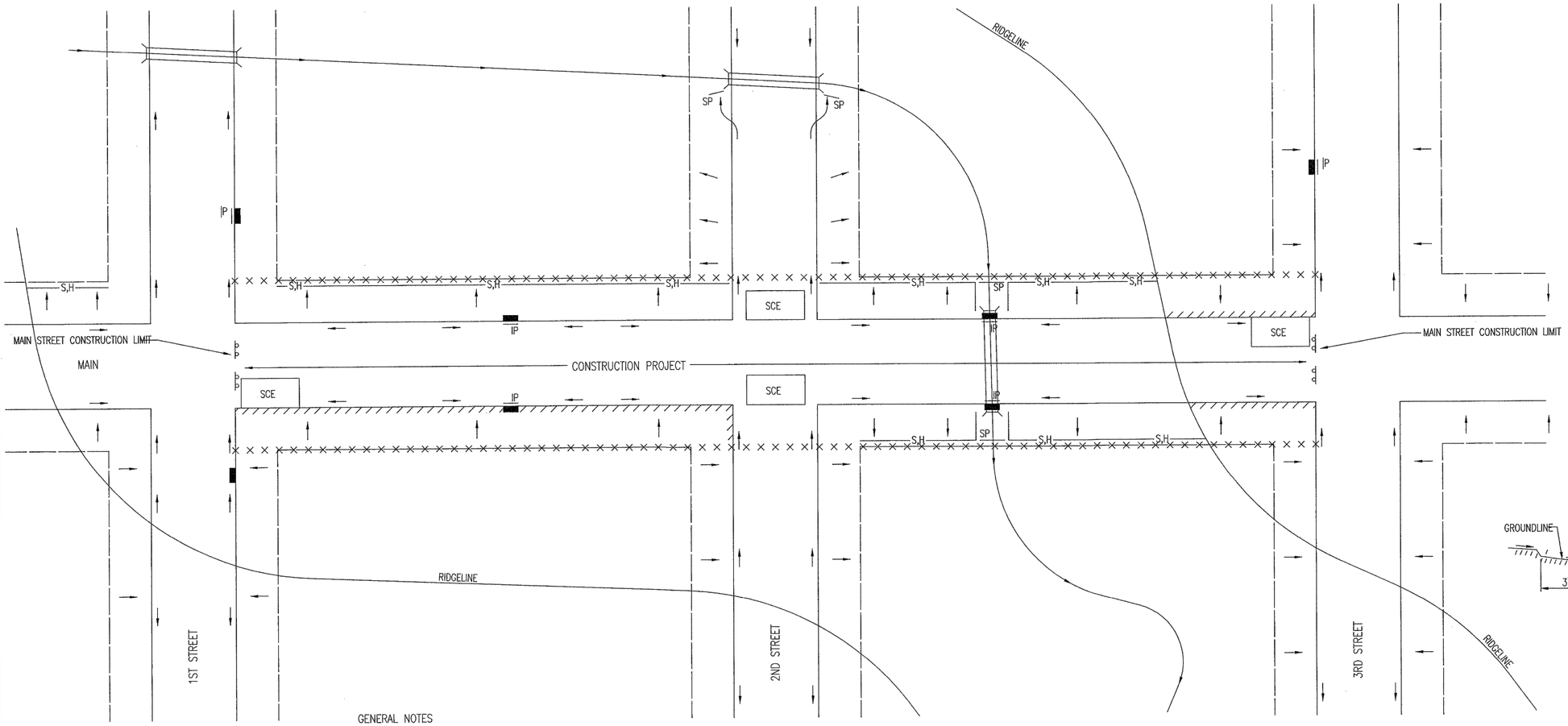
2. EROSION CONTROL DEVICES MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS AND UNTIL THE DISTURBED EARTH IS RESTABILIZED.

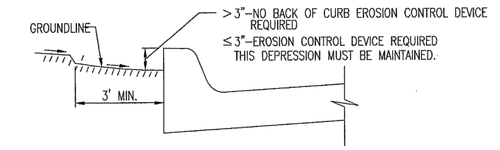
3. IF THE PROJECT WILL DISTURB 1 ACRE OR MORE, A FEDERAL/STATE NPDES STORMWATER PERMIT IS REQUIRED. A DETAILED STORMWATER POLLUTION PREVENTION PLAN, IS REQUIRED. THE EROSION CONTROL DEVICES SHOWN ON THIS SHEET ARE CONSIDERED TO BE THE MINIMUM TO BE SHOWN IN THE POLLUTION PREVENTION PLAN.

4. FOR PROJECTS DISTURBING LESS THAN 1 ACRE, CONTRACTORS ARE ENCOURAGED TO PREPARE STORMWATER POLLUTION PREVENTION PLANS PRIOR TO CONSTRUCTION. EROSION CONTROL DEVICES MUST BE USED ON ALL PROJECTS.

5. FAILURE TO USE AND MAINTAIN EROSION CONTROL DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE CONTRACTOR TO THE PENALTIES PROVIDED FOR THEREIN.

6. THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT DEVICE OTHER THAN THOSE SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED AS LONG AS THEY ARE EFFECTIVE AND MAINTAINED.





CURB BACKFILL DETAIL

THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

LEGEND

- R-O-W LIMITS
- DRAINAGE FLOW PATH
- R/W LIMIT WITHIN CONSTRUCTION LIMIT
- STORM WATER INLETS
- IP — INLET PROTECTION
- S,H — SILT FENCE OR HAY BALE BARRIER
- SP — STREAM PROTECTION
- SCE — STABILIZED CONSTRUCTION ENTRANCE
- BACK OF CURB PROTECTION

GENERAL NOTES

1. THE INTENT OF ALL EROSION CONTROL DEVICES IS TO KEEP ALL SEDIMENT CONFINED TO THE CONSTRUCTION SITE, AND OUT OF ALL UNDERGROUND PIPES, DITCHES, LAKES, AND OTHER DRAINAGE FACILITIES, AND OFF OF STREETS.
2. THE POINT OF COMPLIANCE IS GENERALLY THE RIGHT-OF-WAY LINES WITHIN THE LIMITS OF CONSTRUCTION.
3. EROSION CONTROL DEVICES WILL BE REQUIRED AT ALL POINTS ALONG THE PROJECT WHERE DISTURBED EARTH CAN DRAIN ONTO PRIVATE PROPERTY.
4. INLET PROTECTION DEVICES WILL BE REQUIRED WHEREVER WATER CAN DRAIN OFF THE PROJECT SITE INTO AN INLET, INCLUDING ANY SIDE STREET INLETS.
5. EROSION CONTROL DEVICES SHALL BE INSTALLED AT CREEK CROSSINGS SO AS TO PREVENT SEDIMENT FROM ENTERING THEREIN.
6. STABILIZED CONSTRUCTION ENTRANCES SHALL BE PROVIDED, AS NEEDED, TO PREVENT MUD FROM TRACKING ONTO STREETS NOT UNDER CONSTRUCTION AND ON STREETS WITHIN THE PROJECT LIMITS IF TRAFFIC IS BEING MAINTAINED THROUGH THE PROJECT.
7. ANY MUD TRACKED ONTO STREETS MUST BE REMOVED AT THE END OF EACH WORK DAY.
8. THE CONTACTOR WILL BE REQUIRED TO PLACE EROSION CONTROL DEVICES BACK OF CURB, WHENEVER WATER CAN DRAIN OVER CURB, TO KEEP ERODED SOIL OUT OF THE GUTTERLINES, IN ACCORDANCE WITH THE FOLLOWING:
   A. THE DEVICE REQUIRED WILL BE APPROVED EROSION CONTROL MAT LISTED ON THE CITY'S APPROVED MATERIAL LIST. SAID BLANKET SHALL BE PLACED OVER THE APPROPRIATE SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS. (SEE SOIL EROSION BMPs – BACK OF CURB SEDIMENT BARRIER DETAILS)
   B. THIS DEVICE SHALL BE INSTALLED IMMEDIATELY WHENEVER THE CURB IS BACKFILLED TO WITHIN 3" OF THE TOP OF CURB. (SEE CURB BACKFILL DETAIL) OTHER BMP'S MAY BE REQUIRED AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB.
   C. ADDITIONALLY, OTHER EROSION CONTROL DEVICES (HAY BALES, SILT FENCE, ETC.) WILL BE INSTALLED AT LOCATIONS OF CONCENTRATED FLOW RESULTING IN SEDIMENT OVERRUNNING THE MAT.
   D. SHOULD THE PROJECT PLANS SPECIFY THAT THE RIGHT-OF-WAY IS TO BE SODDED, THE EXCELSIOR MAT WILL NOT BE REQUIRED SO LONG AS THE SOD IS PLACED WITHIN 48 HOURS AFTER CURB BACKFILL REACHES A HEIGHT OF 3" OR LESS FROM TOP OF CURB. (SEE CURB BACKFILL DETAIL)

GARY L. JANZEN LICENSED PROFESSIONAL ENGINEER 16294 KANSAS 06/05/15

REVISION: JUNE 2015

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STREET IMPROVEMENT PROJECTS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

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

SHEET

SW-504

REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

STREET IMPROVEMENT PROJECTS

PROJECT: EAST HIGHLANDS WMR PHASE 2
LOCATION: OLIVER AND CENTRAL, WICHITA, KS

DESIGNED BY: EJB
DRAWN BY: HZ
CHECKED BY: EJB
DATE: Sep-25

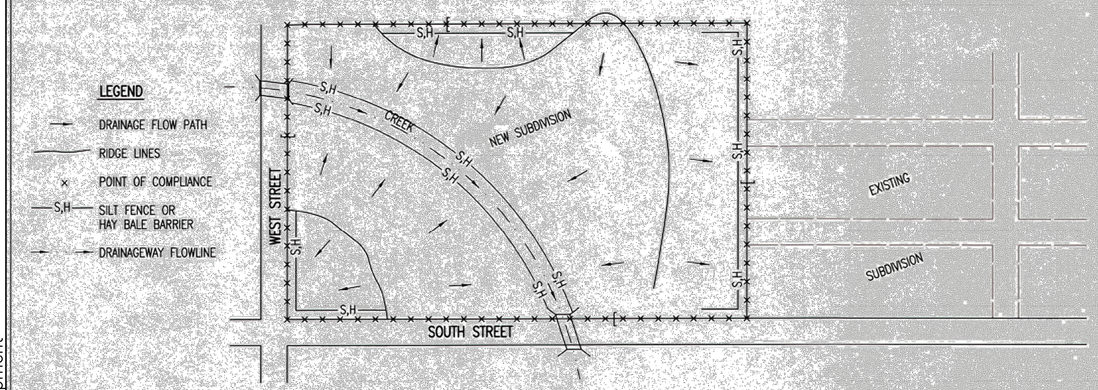
CITY OF WICHITA

PROJECT NO. 8275000434

SHEET NO. 35 OF 36

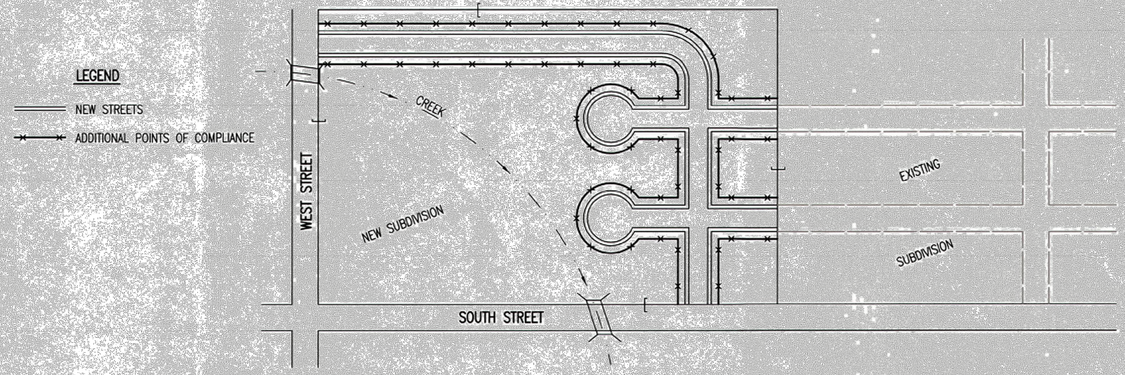
9/2/2025 C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\EC_DTL-StreetImprovement

PHASE 1 – INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



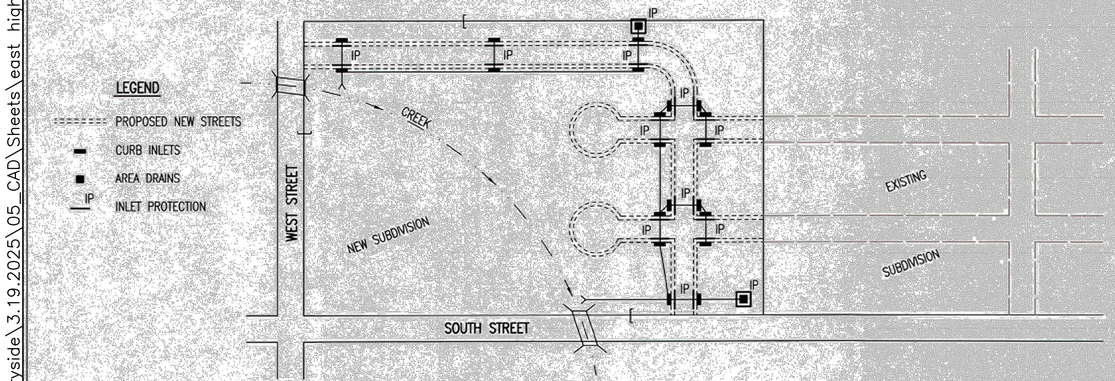
1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
2. HAY BALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE EROSION CONTROL DEVICES WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
3. SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR STREETS ON THE ADJACENT BOUNDARY STREETS, APPROPRIATE EROSION CONTROL DEVICES WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
4. ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
5. CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL EROSION CONTROL DEVICES AS LONG AS THOSE SPECIFIED ABOVE ARE IN PLACE AND EFFECTIVE. CONTRACTORS WORKING ON THE BOUNDARY LINE STREETS OR ON ADJACENT PROPERTIES TO EXTEND UTILITIES ARE EXPECTED TO USE EROSION CONTROL DEVICES AT THEIR WORK LOCATIONS, AS NEEDED.
6. UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
7. IF THE INITIAL EARTH WORK AND UTILITIES ARE DONE AS PART OF A PUBLIC IMPROVEMENT PROJECT, THESE EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS SPECIFIED IN THE INDIVIDUAL PROJECT CONTRACTS. THE CONTRACTOR WILL MAINTAIN THE DEVICES UNTIL COMPLETION OF THE CONTRACT, AT WHICH TIME THE DEVELOPER WILL ASSUME MAINTENANCE RESPONSIBILITIES. IF THESE CONTRACTS ARE NOT PUBLIC IMPROVEMENT PROJECTS, THE DEVELOPER WILL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THESE DEVICES.
8. WITHIN 14 DAYS OF COMPLETION OF EARTHWORK ACTIVITIES IN ANY GIVEN AREA, THAT AREA SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED.

PHASE 3 – STREET CONSTRUCTION



1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL EROSION CONTROL DEVICES INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
2. CURB OPENING INLET PROTECTION:
   A. SUMP AREAS – INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
   B. NON-SUMP LOCATIONS – PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
3. EROSION CONTROL DEVICES WILL BE REQUIRED BACK OF CURB WHEREVER WATER CAN FLOW OVER THE CURB AND THE CURB HAS BEEN BACKFILLED TO WITHIN 3" OR LESS OF THE TOP OF CURB (SEE CURB BACKFILL DETAIL). FOR CURBS NOT YET ENTIRELY BACKFILLED (3" OR MORE BELOW TOP OF CURB), ADDITIONAL DEVICES WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
4. SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
5. THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAY BALE OR SILT FENCE EROSION CONTROL DEVICES AT LOCATIONS WHERE CONCENTRATED FLOW RESULTS IN SEDIMENT BEING CARRIED OVER THE EXCELSIOR MATS.
6. THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
7. THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB EROSION CONTROL DEVICES IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.

PHASE 2 – INSTALLATION OF STORM SEWER

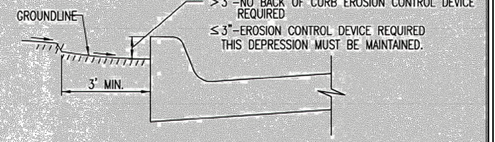


1. DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
2. AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
3. AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
4. CURB OPENING INLETS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION DEVICES MUST BE INSTALLED. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION. SEE PHASE 3 – STREET CONSTRUCTION.
5. THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
6. THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
7. ALL DISTURBED GROUND WILL BE FINAL GRADED AND TEMPORARILY OR PERMANENTLY SEEDED WITHIN 14 DAYS IF COMPLETION OF WORK IN ANY GIVEN PART OF THE SUBDIVISION.
8. ONCE ALL DISTURBED GROUND DRAINING TO AN INLET HAS BEEN RESTABILIZED WITH GRASS OR SOD, THE SUBDIVISION DEVELOPER WILL BE RESPONSIBLE FOR PERMANENTLY REMOVING THE INLET PROTECTION.

GENERAL NOTES

1. THE INTENT OF ALL EROSION CONTROL DEVICES IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, LAKES, STREETS OR ANY OTHER OTHER DRAINAGE FEATURE.
2. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
3. EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON SOIL EROSION BMP'S DETAIL SHEETS.
4. PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
5. THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 1 ACRE OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL DEVICES ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLANS.
6. FOR SUBDIVISIONS SMALLER THAN 1 ACRE, SOIL EROSION DEVICES ARE REQUIRED. ALSO, DEVELOPERS AND CONTRACTORS ARE ENCOURAGED TO DEVELOP POLLUTION PREVENTION PLANS FOR EACH PROJECT PRIOR TO CONSTRUCTION.
7. FAILURE TO USE AND MAINTAIN SOIL EROSION DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE SUBDIVISION DEVELOPER AND CONTRACTORS TO THE PENALTIES PROVIDED THEREIN.
8. THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE DEVICES OTHER THAN THAT SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED SO LONG AS THEY ARE EFFECTIVE AND MAINTAINED.
9. A STABILIZED EARTH SURFACE IS DEFINED AS ONE THAT IS HARD SURFACED WITH CONCRETE, ASPHALT, OR THE LIKE, OR ONE ON WHICH 70% OF THE GRASS HAS GERMINATED ON THE ENTIRE SURFACE.

SEE DETAIL SHEET FOR BACK OF CURB PROTECTION DETAIL



CURB BACKFILL DETAIL (STREET CONSTRUCTION ONLY)

THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

REVISION DATE: MAY 2013

GARY L. JANZEN LICENSED 16294 PROFESSIONAL ENGINEER KANSAS 05.12.13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SUBDIVISION DEVELOPMENT PROCESS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE

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

SHEET

SW-505

REVISIONS:

WSP USA
245 N. WACO AVENUE, SUITE 110
WICHITA, KANSAS 67202
PHONE: 316-448-2711
FAX: 316-448-2711

SUBDIVISION DEVELOPMENT PROCESS

PROJECT: EAST HIGHLANDS WMR PHASE 2
OLIVER AND CENTRAL, WICHITA, KS
LOCATION

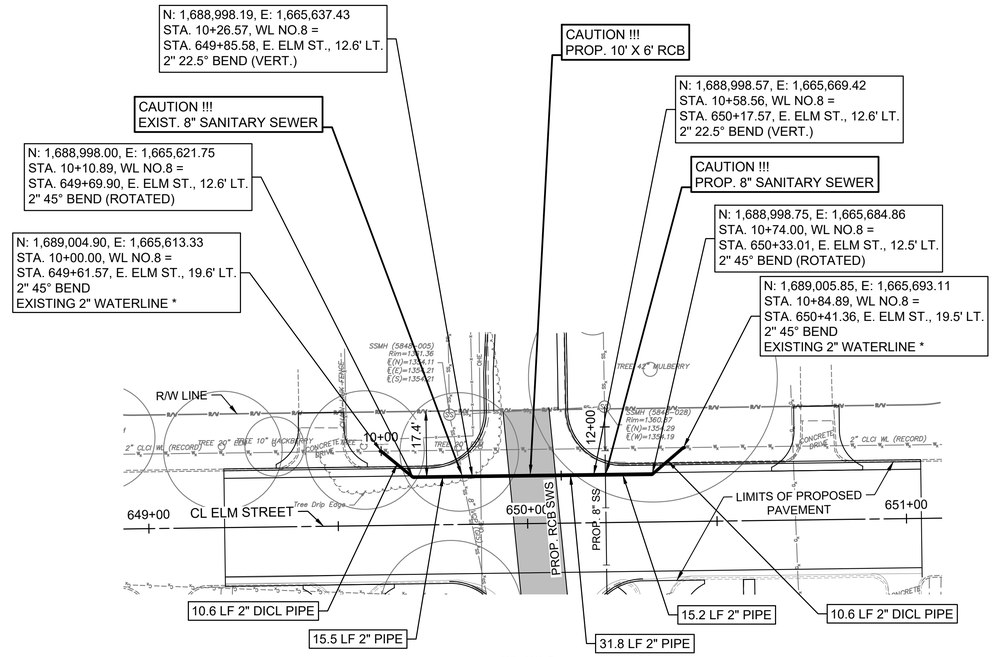
DESIGNED BY: EJB
DRAWN BY: HZ
CHECKED BY: EJB
DATE: Sep-25

CITY OF WICHITA

PROJECT NO. 8275000434

SHEET NO. 36 OF 36

C:_countryside\3.19.2025\05_CAD\Sheets\east highlands wmr phase 2\EC_DTL-SubdivisionDevelopment
9/2/2025



UNLESS NOTED OTHERWISE,
ELEVATIONS SHOWN ARE TOP OF PIPE.

PLAN: LAT. & LONG. 0 10' 20' 40'

PROFILE: HORIZ. SAME AS ABOVE

VERT: 5' 0

LEGEND

- X = DENOTES WATERLINE TO BE ABANDONED.
- ⊥ = DENOTES CAP/PLUG BY THE CONTRACTOR.
- ⊛ = CLOSE VALVE, REMOVE VALVE BOX (SALVAGE TO CITY)

* PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 8" WATERLINE AT WL NO. 3, STA. 10+00.00 AND WL NO. 3, STA. 12+34.40 TO VERIFY PIPE SIZE, TYPE, FITTINGS, AND HORIZONTAL AND VERTICAL LOCATION. THE CONTRACTOR SHALL REPORT HIS FINDINGS TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS CAN BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

PEC
PROFESSIONAL ENGINEERING CONSULTANTS
303 SOUTH TOPEKA
WICHITA, KS 67202
316-262-2691 www.pec1.com

CITY OF WICHITA

PROGRESS PRINT
OFFICE CHECK
NOT FOR CONSTRUCTION

BLECKLEY DRAINAGE & PAVING IMPROVEMENTS
WATERMAN TO ELM

PAUL GUNZELMAN CITY ENGINEER
CITY OF WICHITA PROJECT NO.
458-2022-085521

Issue:		

JOB NO.	220018-004
DATE	OCTOBER 2025
PM	BMM
DESIGNED BY	GAS, REW
DRAWN BY	CSL
CHECKED BY	TBK

WATERLINE NO. 8
SHEET 1

CU610
211 OF 363

SAVED 10/24/2025 3:03:01 PM BY CATHY.LINK
PLOTTED 10/24/2025 3:12:28 PM BY CATHY.LINK
C:\DC\ACCDOCS\PEC HUB\220018-004 - BLECKLEY WATERMAN\PROJECT FILES\02_DESIGN\220018-004-WL NO. 8.DWG