

WATER MAIN EXTENSION

WEST STREET & 29TH STREET NORTH

CITY OF WICHITA, KANSAS

Paul Gunzelman, P.E. City Engineer

Project Number
448-2022-033968
Munis #W0028
OCA 54250220

July 2024

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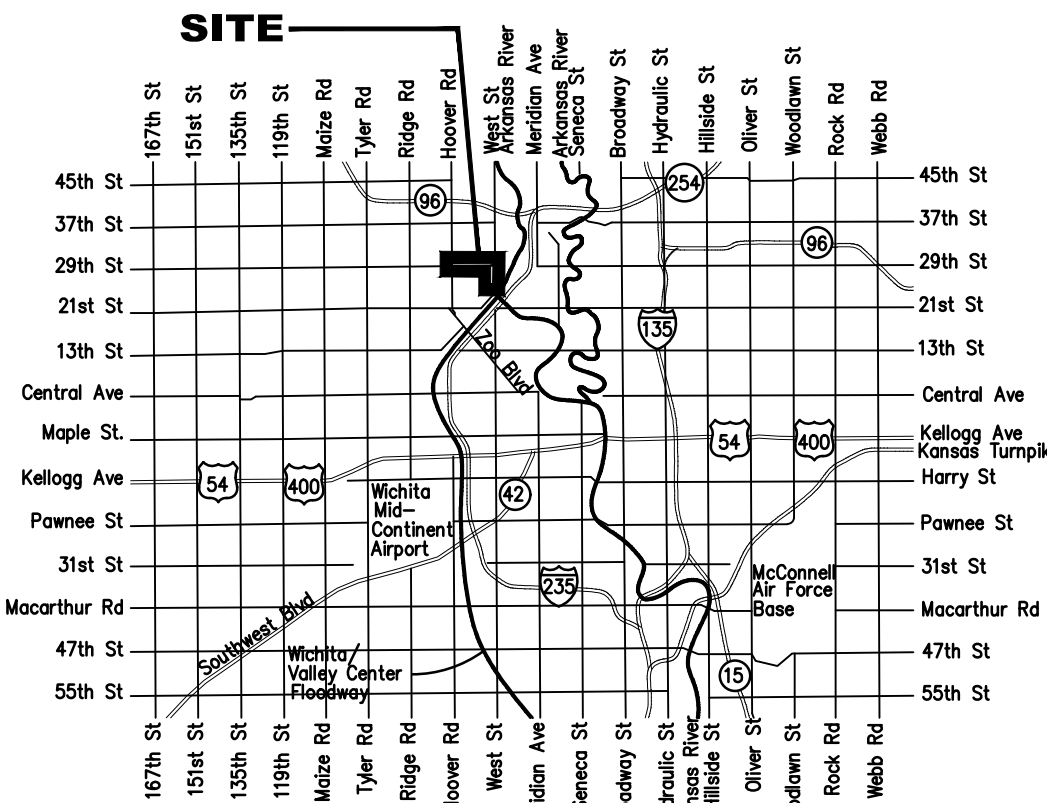
BENCHMARKS

Benchmark -1
City of Wichita Benchmark on the east head wall of SWS pipe, approx. 133.9' north and 191.1' east of the northwest corner of Lot 21, Block B, Sandcrest Addition, Wichita, Sedgwick County, Kansas
Elevation = 1325.19 (NAVD 88)

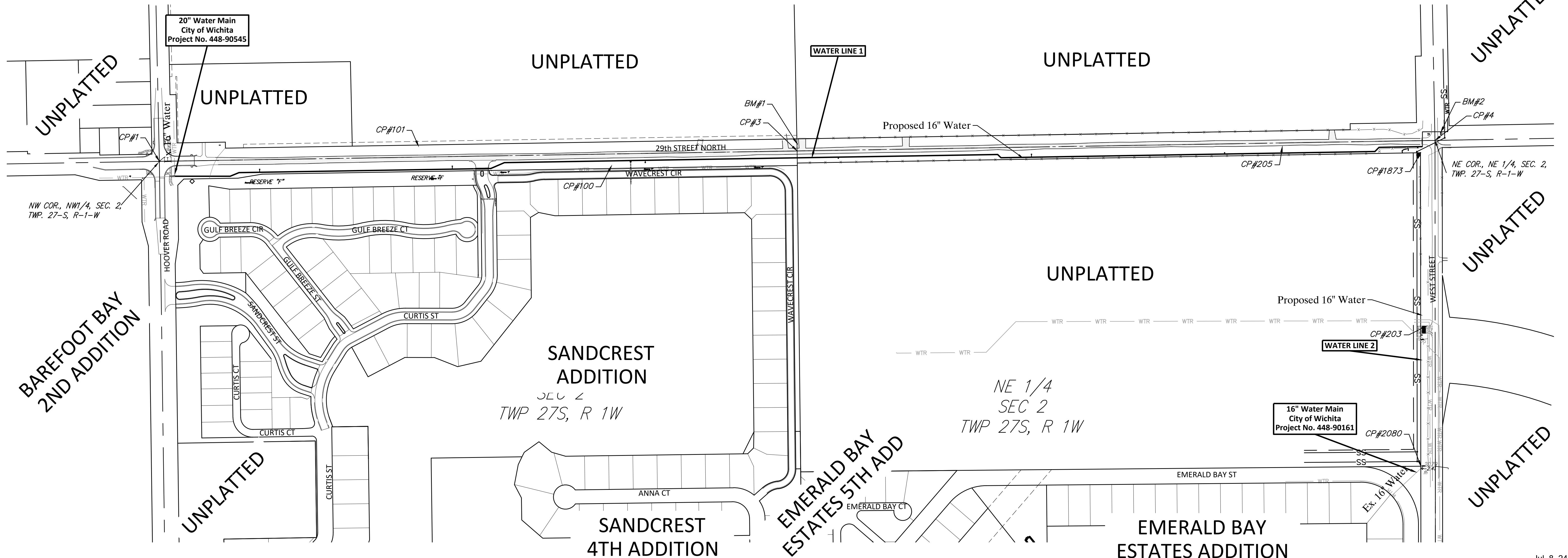
Benchmark -2
City of Wichita Benchmark on the east head wall of SWS pipe, approx. 29.3' north and 23.6' east of the NE COR., NE 1/4, SEC. 2, TWP. 27-S, R-1-W, Wichita, Sedgwick County, Kansas
Elevation = 1321.98 (NAVD 88)



SCALE: 1" = 200'
0 200



VICINITY MAP



E:\Projects\20th & Hoover Water Main 21-06-E05-1\Engineering\20thWaterBase.dwg

GENERAL NOTES

1. The Contractor shall comply with all applicable safety regulations. All construction shall be completed following current City Standard Specifications and Special Provisions.

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

Kansas One—Call 687-2470

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

AT&T 1-800-246-8464
Black Hills Energy 1-800-694-8989
City of Wichita Water & Sewer 1-316-219-8921
City of Wichita Stormwater 1-316-268-4090
City of Wichita Traffic 1-316-268-4034
Cox Communications 1-888-249-3530
Kansas Gas Service 1-888-482-4950
Energy 1-800-544-4857
KPC Pipeline (Robert Clover) 1-913-522-7501
Phillips 66 Transmission 1-877-267-2290
Emergency (Robert McKenzie) 405-213-4027
Construction (Nolan Dealy) 316-652-5287

3. Utility service lines, poles, etc. are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.

4. The Contractor shall protect utility lines that cross or abut the Project corridor. For larger lines, the Contractor's method of supporting the utility structure shall be provided to the Engineer, as well as the affected Utility Company's representative for review and approval. Any shutdown of a utility line that may be required by construction of this Project shall be coordinated with the said affected utility.

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

8. The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.

9. All elevations shown are NAVD88.

10. The Engineering Division shall field locate water valve 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 Contractor at his own expense. Valve boxes and water meters within the project limits shall be adjusted to match field grades by the contractor.

11. The Contractor Shall not begin work on the project until the Project Inspector is assigned and on-site. Any work completed without inspection will be require to be uncovered for inspection at no additional cost to the Owner.

12. Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and site location. Locations, in the opinion of the Engineer, that will leave an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain will require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps. of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits will require additional archaeological investigations unless buried in a previously approved borrow location.

13. All excess excavation shall be removed from site, incidental to lump sum bid item "Site Restoration".

14. 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 City Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage. If trimming is necessary, a chainsaw shall be used. Breaking limbs with equipment will not be allowed. An on-site pre-construction meeting will occur prior to any construction to discuss tree removal, tree protection, and tree trimming. All trimming operations shall be considered SUBSIDIARY to the Bid Item "Site Clearing".

15. 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. Each bidder shall also be aware that no additional compensation will be awarded for extra work that should have been evaluated prior to bidding.

16. Adjacent Buildings, Structures, Parking Lots, Driveways, etc. other than those shown for replacement shall be protected from damage during construction of this Project.

17. 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 US Department of Transportation, Federal Highway Administration. All costs associated with construction markings and signage shall be included in the Lump Sum Bid Item "Traffic Control".

18. All traffic control devices in the work zone (including markings and signs) and their installation and maintenance shall comply with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All traffic control devices in the traveled way or clear zone shall be crashworthy (NCHRP Report 350 or MASH compliant). http://safety.fhwa.dot.gov/roadway_dept/policy_guide/road_hardware/wzd

19. Contractor shall erect Sidewalk Closed and Sidewalk Closed Ahead signs on Type II barricades, when pedestrian sidewalks are located inside the Contractor's Work Zone. These Signs and barricades shall be considered SUBSIDIARY to the Bid Item "Traffic Control".

20. All construction equipment, including vehicles, materials, and debris, shall be stored outside the clear zone, where this cannot be achieved the contractor shall place appropriate signs, object identifiers, and/or barricades in compliance with the latest addition of the MUTCD.

21. Existing street signs in conflict with construction activities shall be removed prior to construction, protected, stored, and re-installed by the Contractor. All work and materials associated with this effort shall be considered SUBSIDIARY to the Bid Items "Site Clearing" and "Site Restoration" unless specifically identified in the plans otherwise.

22. Access to residential properties shall be maintained at all time during construction.

23. Limits of earthwork shall match existing ground elevations at the right-of-way line unless otherwise noted on the plans with a new finished grade elevation.

24. All areas disturbed during construction that are not under pavement shall be seeded as follows to match existing conditions:

29th Street Sta. 100+00 to 101+75
Seed --- Kansas Premium Fescue Blend; 8 lbs. PLS/1000 Sq. Ft.
Annual Rye Grass; 3 lbs./1000 Sq. Ft.
Fertilizer --- 12-24-12 Ration; 45 lbs./Ac.
Mulch --- 2 Tons Prairie Hay/Ac.

All other Areas
Seed --- Rye grass; 5 lbs./1000 Sq. Ft.

All costs associated with sodding including mobilization, preparation of ground, fertilizing, etc. shall be included in the Lump Sum Bid Item "Seeding".

An additional Bid Item for "Seeding, Temporary" has been included and may be used at the discretion of the Owner. Temporary seed shall be Annual Rye at 5 lbs./1000 Sq. Ft. unless otherwise noted and shall be planted when permanent seed or sod cannot be used due to seasonal limitation. If the "Seeding, Temporary" Bid Item is not used, 100% of the pay item will be deducted from the contract. All costs associated with the temporary seeding including mobilization, preparation of ground, etc., shall be included in the Lump Sum Bid Item "Seeding, Temporary".

25. Lawn irrigation lines, sprinkler heads and valve boxes may be encountered within the project limits that may be in conflict with proposed construction. The Contractor is required to repair damage that includes, but is not limited to, minor items such as pipe and irrigation head repair and/or replacement. The Contractor shall protect all other major components from damage. Any damage caused shall be replaced at no additional cost to the Owner. Cost for repairs shall be included in the Bid Item "Irrigation System Repair".

26. Private fences in right-of-way may be removed for ease of construction. All fences shall be reset/replaced in a condition at least equivalent to the existing fence prior to removal. Contractor shall notify and coordinate with private fence owner in advance before fence removal. Removal and replacement shall be considered SUBSIDIARY to the Bid Items "Site Clearing" and "Site Restoration" unless specifically identified in the plans otherwise.

27. Total area disturbed estimated to be 3.0 Acres., to be used for bidding purposes only. Actual area disturbed will be based on Contractors Means and Methods and should be limited to least amount practical.

28. All earthwork quantities are based on raw surface volume comparisons. No shrink or swell factors have been applied to quantities shown on plans.

WATER NOTES

1. The Contractor shall comply with all applicable safety regulations. All water mains and appurtenances shall be installed in accordance with City of Wichita, Kansas Standard Specifications and Special Provisions for Water Main Installations.

1.1. 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.

1.2. 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.

1.3. 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.

2. 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 services 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. No business, property owner, and/or tenants shall be without water service for more than 8 hours. Proposed tie-in locations which will affect water service to property owners shall be performed during non-peak hours.

3. Water valves 12" or larger are to be operated by the City Water Distribution Division. Contractor to provide notice at least 48 hours in advance through Dispatch at 316-291-8921. Opening and closing of 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. The project inspector must ascertain that any valve closed by the Contractor is reopened. The contractor will be permitted to operate water valves only when the project inspector assigned to the project is present.

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

5. The Contractor shall lay a Tracer Wire and Set Test Stations along all water pipe installed in accordance with City Specifications and Tracer Wire Detail on detail sheet WL-101, cost is SUBSIDIARY to pipe installation.

6. The cost for all equipment, materials, and labor necessary to install waterline fittings shall be SUBSIDIARY to pipe installation.

7. D1CL pipe is required for any length of pipe 11" and should be accounted for by the Contractor during bidding and Construction. Cost shall be included in the the Linear Foot Bid Item "Pipe, WL XX" regardless of material.

8. The Contractor shall protect from damage and support existing utilities through construction as approved by the utility owner and the Engineer at the contractor's expense.

9. Pipe Deflection at pipe joints or couplings shall not exceed the pipe manufactures recommended maximum.

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

11. Temporary Blow-off Valves necessary to flush lines at existing water line tie-ins shall be installed and removed prior to final connections. Cost to be SUBSIDIARY to other items in the project.

12. Where plans indicate a tapping sleeve and valve, the City of Wichita will provide and install for lines less than 16" in diameter. 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 City details. Fittings for these Taps and ALL other fittings shall be considered SUBSIDIARY to the project.

13. Any existing waterline joint exposed during construction shall be replaced within four (4) feet of proposed joint.

14. Abandonment of the existing water system includes the removal or capping of existing lines, valve removal, and/or valve box and lid removal, as detailed in the plans. 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. This work will be SUBSIDIARY to the Bid Item "Pipe Abandoned in Place".

15. Water service lines to be replaced shall be in accordance with the City of Wichita Specifications and Special Provisions. The unit price bid for new service lines shall include all necessary material and labor necessary for installation as detailed. Costs to be SUBSIDIARY to the Bid Items "Service Line, Long" or "Service Line, Short". Long Services cross the centerline of a nearby street and Short Services do not.

16. The contractor shall return all salvageable valves, hydrants, fittings, meter setters, rings & lids, etc. to the City of Wichita Water Distribution Department Yard located at 1825 S. McLean Blvd. The Contractor shall have all salvaged material checked by the Storekeeper.

17. When required and as detailed in the plans, the Contractor shall remove and replace street pavement for water line construction. Full-depth PC Concrete Pavement or full-depth Asphalt Pavement shall be used to replace existing asphalt surfaced pavement over PC Concrete Pavement. Costs to be included in the Bid Item "Pavement Removed and Replaced" paid for by the Square Yard.

18. Waterlines installed by open cut methods under street pavement shall be backfilled with sand, flushed and vibrated, from 6" below pipes to within 2' below the bottom of the rock base or finished grade per Detail WL-104. Sidewalk or Sidewalk Ramps to be sand filled, flushed and vibrated, from 6" below pipe to the bottom of the sidewalk pavement. Costs to be SUBSIDIARY to the Bid Item Fill, Sand (Flushed & Vibrated)" paid for by the Linear Foot.

EROSION CONTROL NOTES

1. All existing and proposed erosion control measures including silt fencing, erosion control mat, straw bales, inlet barriers, and construction entrance shall be maintained throughout construction by the contractor and until project is accepted by the City of Wichita. The on-site engineer shall complete weekly reports on the status of erosion control measures. The contractor shall be required to comply with maintenance and/or replacement of erosion control measures as determined by the on-site engineer until project is accepted by City of Wichita. Maintenance and/or replacement of erosion control measures to be paid by Lump Sum bid item "Maintain Existing BMPs".

Summary of Quantities – 29th Street			
Bid Item Code	Bid Item	Quantity	Unit
Lump Sum Bid Items			
1114000	Mobilization	1	LS
1211000	Site Clearing	1	LS
1212000	Site Restoration	1	LS
1620000	Maintain Existing BMP's	1	LS
4505000	Pipe, Connect to Existing	1	LS
8810000	Traffic Control	1	LS
9030000	Seeding	1	LS
9034000	Seeding, Temporary	1	LS
9012000	Irrigation System Repair	1	LS
Mearsured Bid Items – Waterline			
1228000	Fill, Sand (Flushed & Vibrated)	52.5	LF
2237100	AC Pavement Removed and Replaced	25.1	SY
4501030	Pipe, Casing (24" ID Min.)	400	LF
4580016	Pipe, WL 16"	4020	LF
4580016	Pipe WL 16" (R/U)	769	LF
4580016	Pipe WL 16" (R/U)(Carrier Pipe)	400	LF
7510000	Fire Hydrant Assembly	7	EA
7530000	Valve Assembly, Air Release	1	EA
6543000	MH, Air Release	1	EA
7534016	Valve Assembly, Anchored 16"	2	EA
9051000	Tree Removal (Small)(<15"D)	1	EA

Summary of Quantities – West Street			
Bid Item Code	Bid Item	Quantity	Unit
Lump Sum Bid Items			
1114000	Mobilization	1	LS
1211000	Site Clearing	1	LS
1212000	Site Restoration	1	LS
1620000	Maintain Existing BMP's	1	LS
4505000	Pipe, Connect to Existing	1	LS
8810000	Traffic Control	1	LS
9030000	Seeding	1	LS
9034000	Seeding, Temporary	1	LS
Mearsured Bid Items – Waterline			
1228000	Fill, Sand (Flushed & Vibrated)	110.0	LF
1264000	Fence Removed and Reset	20	LF
2251100	Concrete Pavement Removed and Replaced	42.3	SY
4504300	Pipe Removed and Replaced	80	LF
4580016	Pipe, WL 16"	1153	LF
4580016	Pipe WL 16" (R/U)	170	LF
7510000	Fire Hydrant Assembly	1	EA
7534016	Valve Assembly, Anchored 16"	2	EA
9051000	Tree Removal (Small)(<15"D)	7	EA

BENCHMARKS

BM - #1 City of Wichita Benchmark on the east head wall of SWS pipe, approx. 133.9' North and 191.1' East of the northwest corner of Lot 21, Block B, Sandcrest Addition, Wichita, Sedgwick County, Kansas
Elevation = 1325.19 (NAVD 88)

BM - #2 City of Wichita Benchmark on the east head wall of SWS pipe, approx. 29.3' North and 23.6' East of the NE COR., NE ¼, SEC. 2, TWP. 27-S, R-1-W, Wichita, Sedgwick County, Kansas
Elevation = 1321.98 (NAVD 88)

CONTROL POINTS

CP #1 - Section Corner at Hoover Road & 29th Street North, Found COW Thimble #4 Rebar 29th Street BL Sta. 100+00.00
N-1704211.7816
E-1628095.8803

CP #3 - Quarter Corner Between Hoover Road and West Street, Found #5 Rebar 29th Street BL Sta. 126+42.30
N-1704254.7518
E-1630737.8316

CP #4 - Section Corner at West Street & 29th Street North, Found 1" Rebar 29th Street BL Sta.152+84.48
West St BL Sta. 152+23.84, 49.94' Rt.
N-1704298.4325
E-1633379.6522

CP #100 -Set #4 Rebar 29th Street BL Sta. 118+73.40, 46.85' Rt.
N-1704195.4035
E-1629969.7920

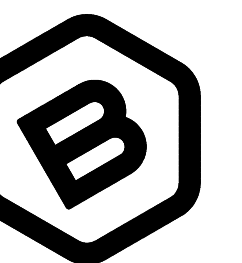
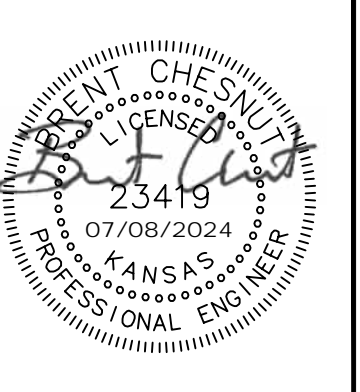
CP #101 -Set #4 Rebar 29th Street CL Sta. 110+74.97, 43.76' Lt.
N-1704273.0193
E-1629169.9652

CP #203 - Found PEC #4 Rebar with Cap West Street BL Sta. 218+70.62, 32.98' Lt.
N-1703531.2114
E-1633347.5165

CP #205 -Set #4 Rebar 29th Street BL Sta. 146+52.21, 13.07' Rt.
N-1704274.9098
E-1632747.6832

CP #1873 -Found MKEC Property Iron, #5 Rebar with Cap 29th Street BL Sta. 152+23.84, 49.94' Rt.
West St BL Sta. 225+86.93, 59.87' Lt.
N-1704247.4913
E-1633319.8387

CP #2080 -Found PEC Property Iron, #5 Rebar with Cap West Street BL Sta. 212+88.37, 59.84' Lt.
N-1702948.9368
E-1633321.3037



BAUGHMAN COMPANY

315 Ellis St.
Wichita, KS 67211
316-262-7271
BaughmanCo.com

Capital Improvement Project

GENERAL NOTES

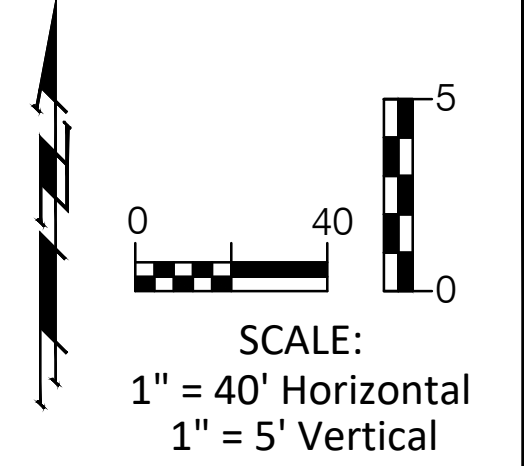
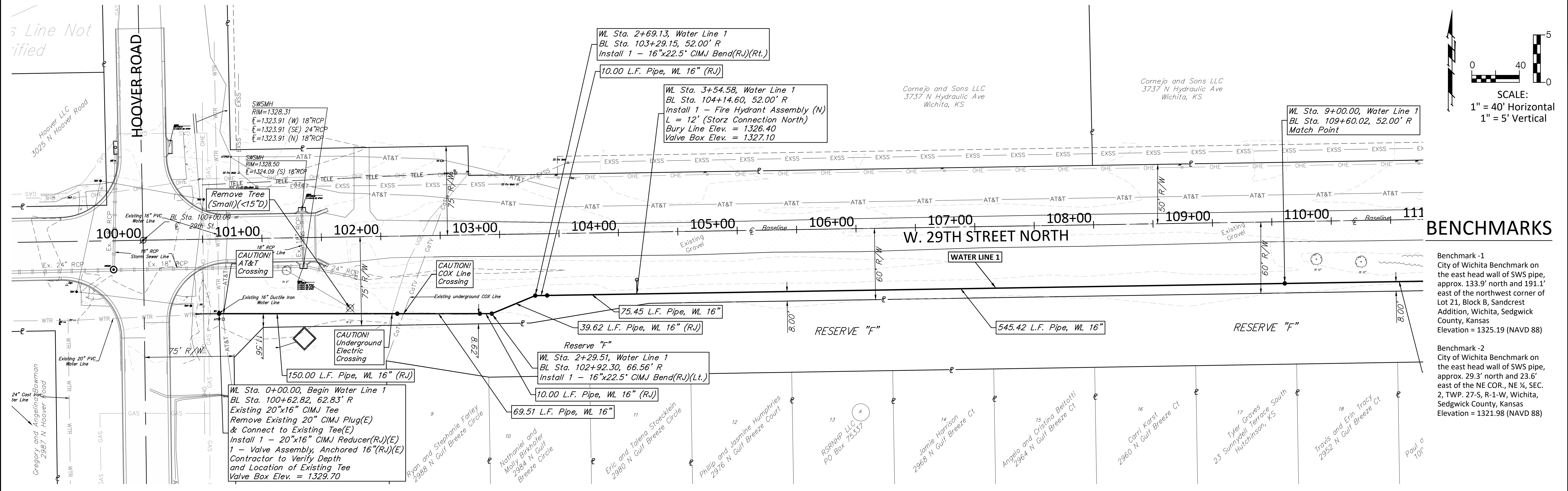
29th Street North and Hoover Road Water Main Extension

PROJECT NUMBER:
21-06-E951

DESIGN: PSB DRAWN: BDC

DATE: June 19, 2024

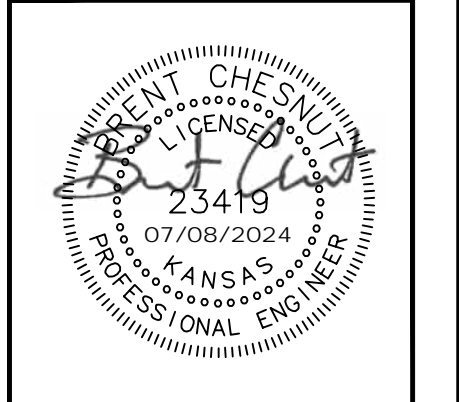
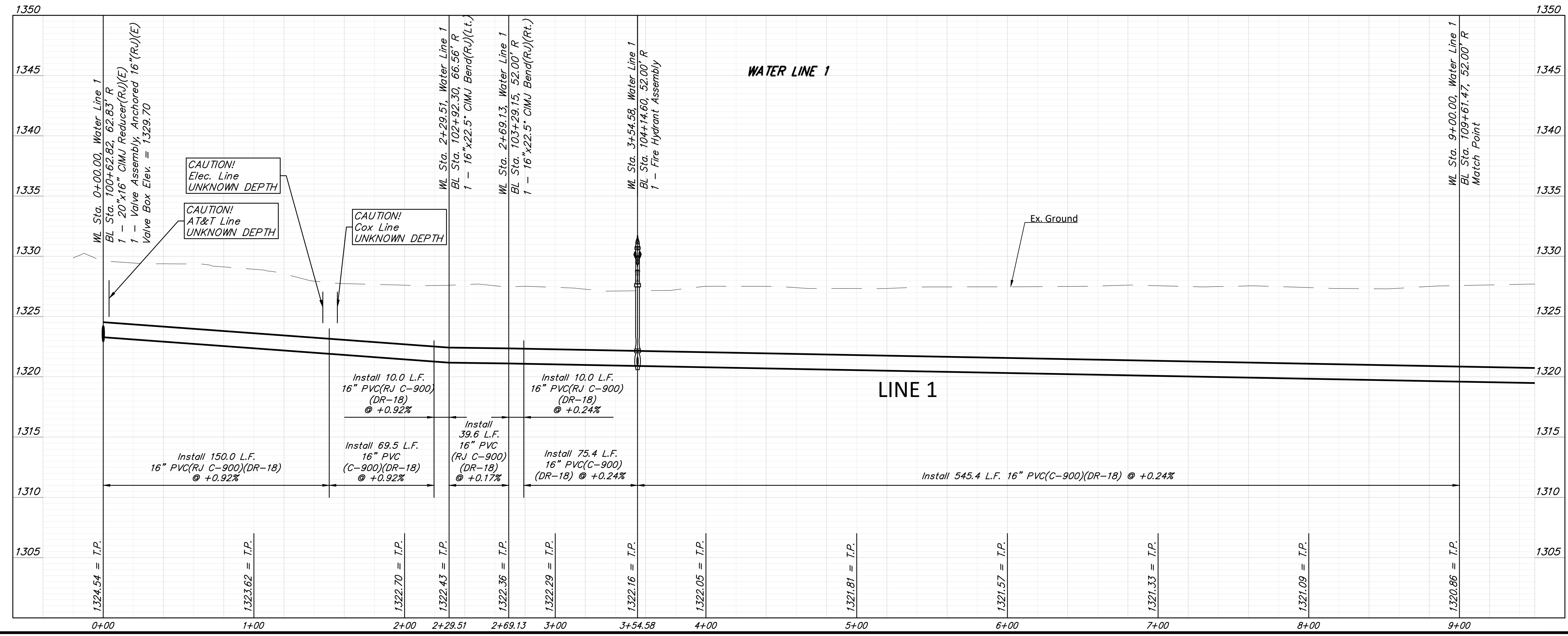
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Capital Improvement Projects

W. 29th Street North Water Line

Sta. 0+00.0 - Sta. 9+00.0

29th Street North and Hoover Road Water Main Extension

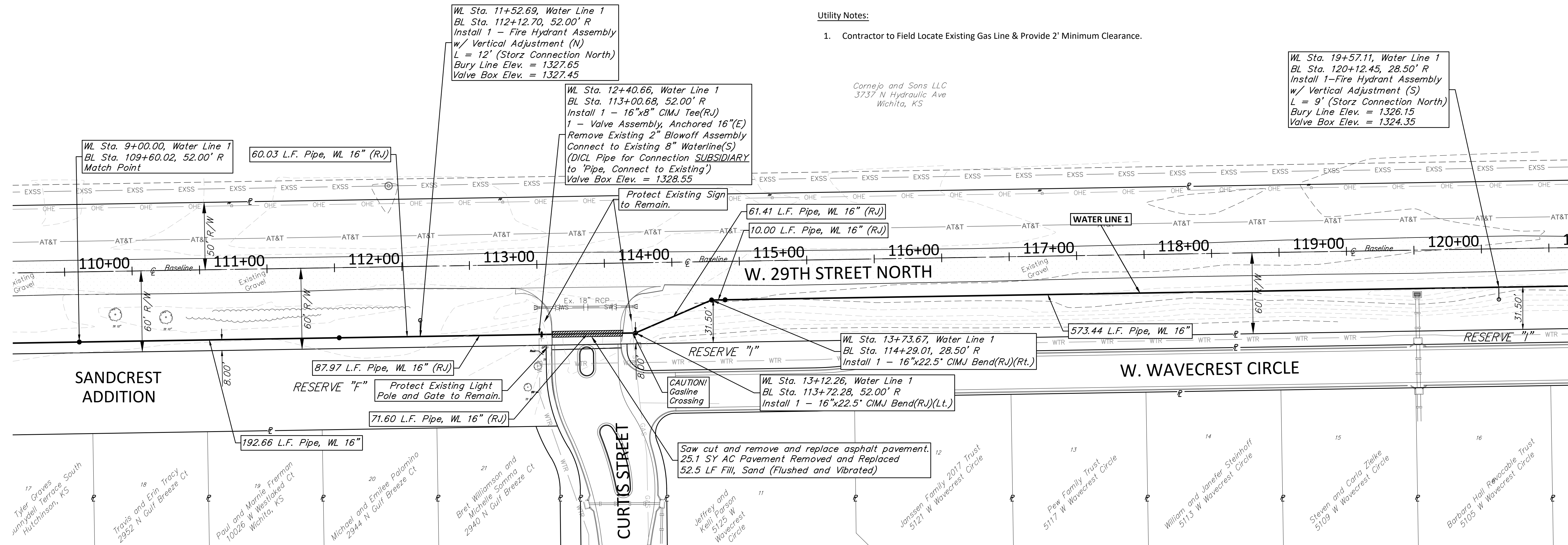
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SHEET 3 OF 19

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Utility Notes:

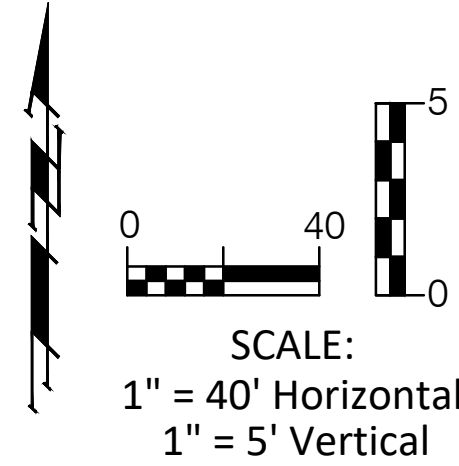
- Contractor to Field Locate Existing Gas Line & Provide 2' Minimum Clearance.

WL Sta. 19+57.11, Water Line 1
 BL Sta. 120+12.45, 28.50' R
 Install 1 - Fire Hydrant Assembly
 w/ Vertical Adjustment (S)
 L = 9' (Storz Connection North)
 Bury Line Elev. = 1326.15
 Valve Box Elev. = 1324.35

WL Sta. 11+52.69, Water Line 1
 BL Sta. 112+12.70, 52.00' R
 Install 1 - Fire Hydrant Assembly
 w/ Vertical Adjustment (N)
 L = 12' (Storz Connection North)
 Bury Line Elev. = 1327.65
 Valve Box Elev. = 1327.45

WL Sta. 12+40.66, Water Line 1
 BL Sta. 113+00.68, 52.00' R
 Install 1 - 16"x8" CIMJ Tee(RJ)
 1 - Valve Assembly, Anchored 16"(E)
 Remove Existing 2" Blowoff Assembly
 Connect to Existing 8" Waterline(S)
 (DICI Pipe for Connection SUBSIDIARY
 to "Pipe, Connect to Existing")
 Valve Box Elev. = 1328.55

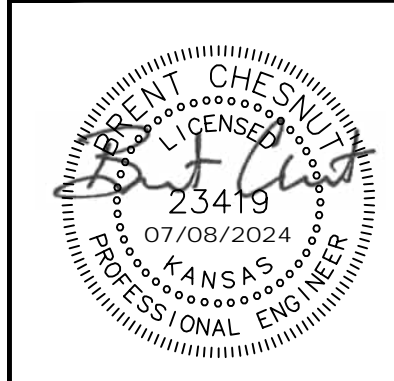
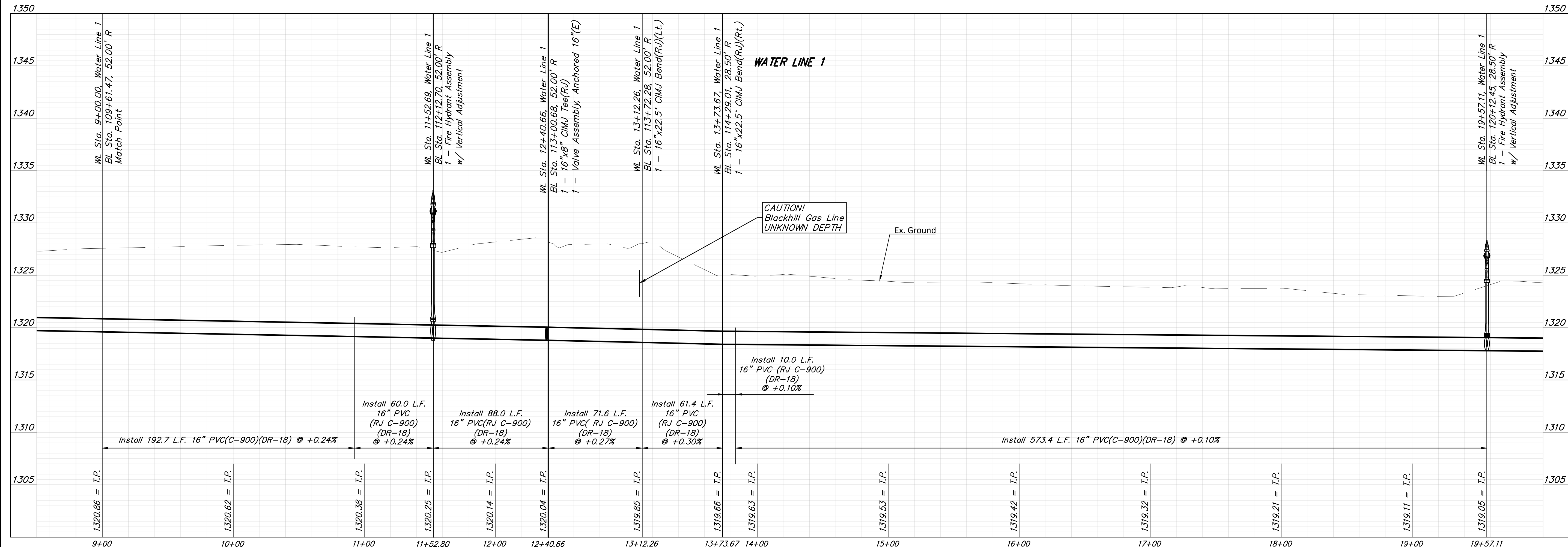
Cornejo and Sons LLC
 3737 N Hydraulic Ave
 Wichita, KS



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Capital Improvement
 Projects

W. 29th Street North Water Line
Sta. 9+00.0 - Sta. 19+57.1

29th Street North and Hoover Road Water Main Extension

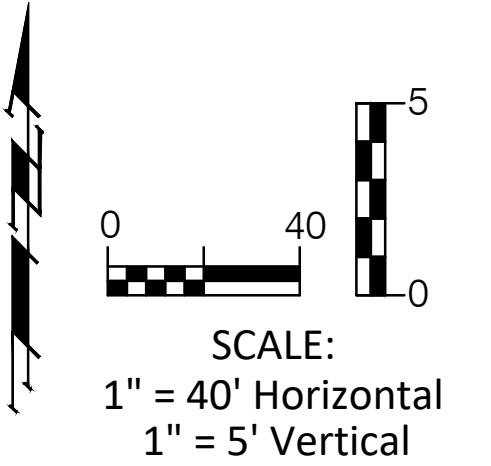
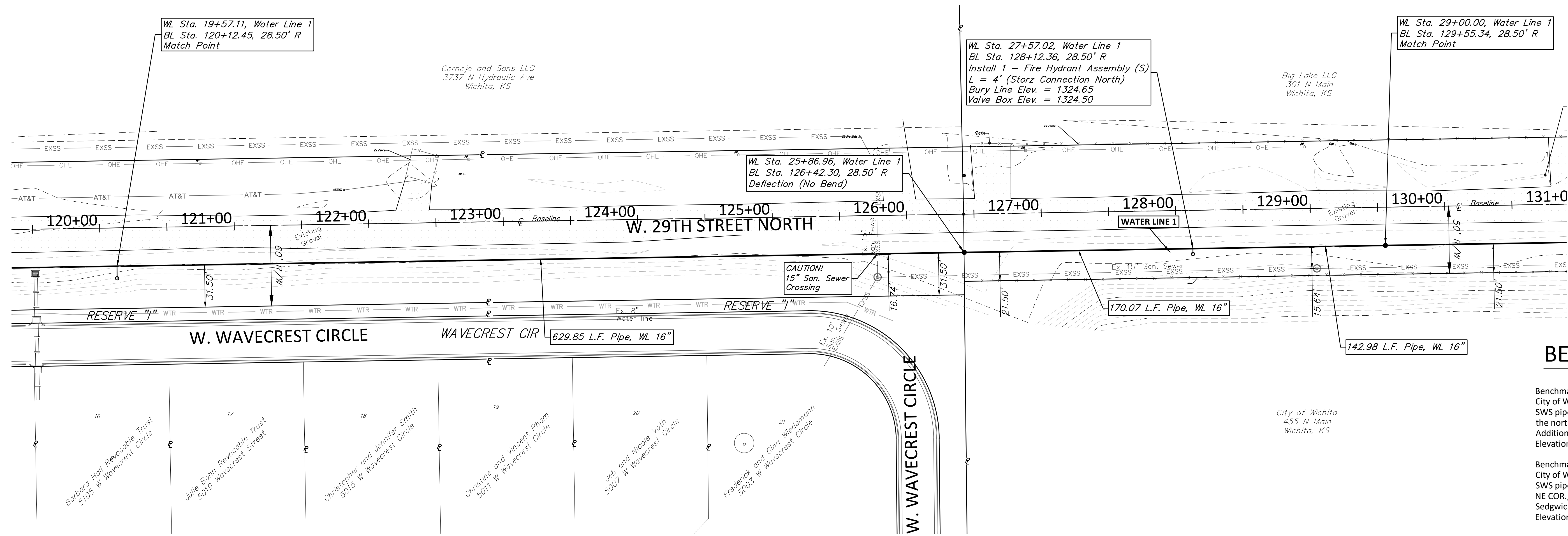
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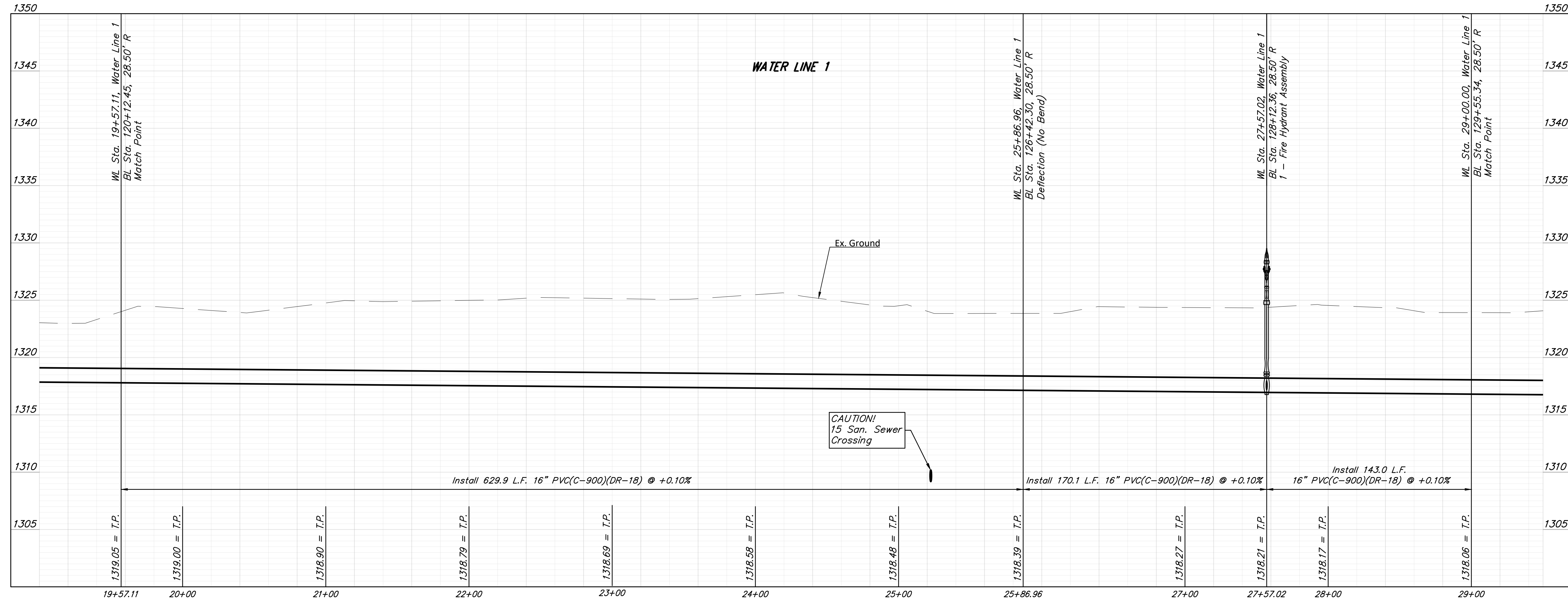
SHEET **4** OF **19**

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W. 29th Street North Water Line

Sta. 19+57.1 - Sta. 29+00.0

29th Street North and Hoover Road Water Main Extension

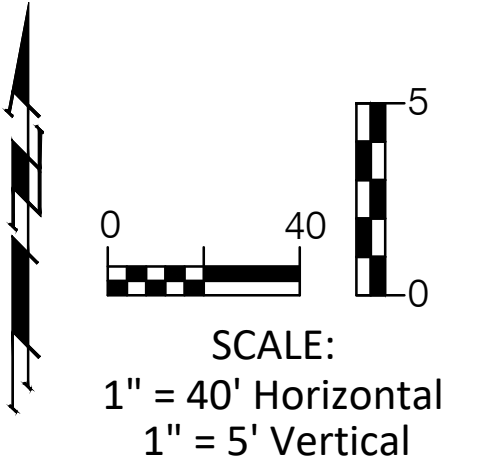
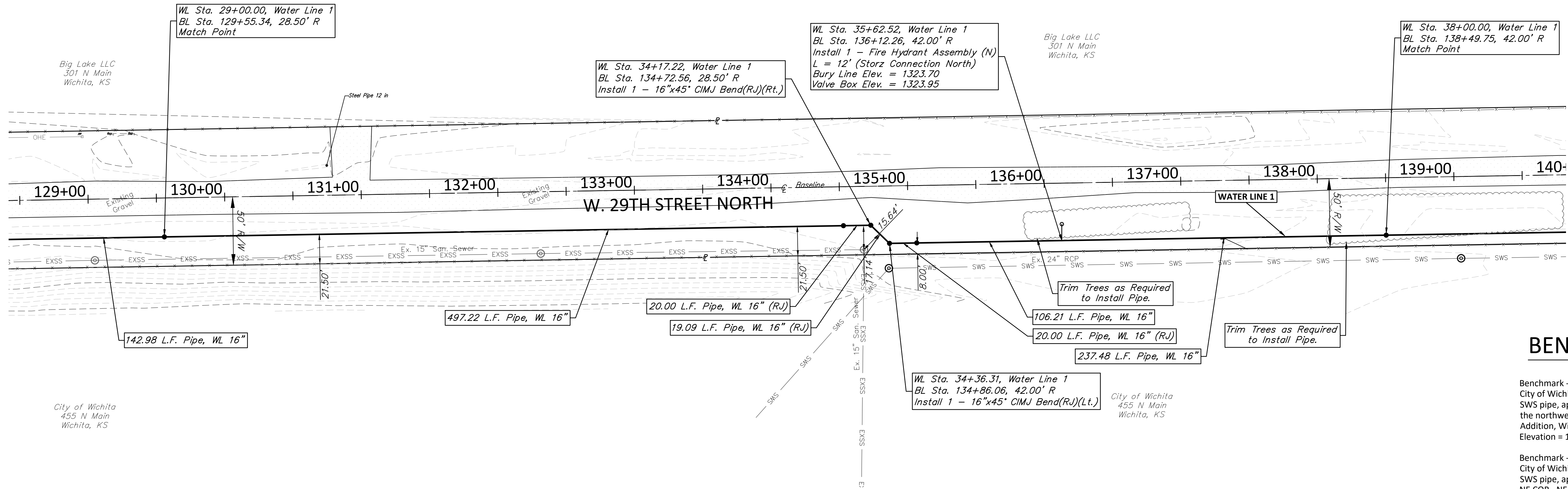
PROJECT NUMBER: 21-06-E951

DESIGN: PSB DRAWN: BDC

DATE: June 19, 2024

SHEET **5** OF **19**

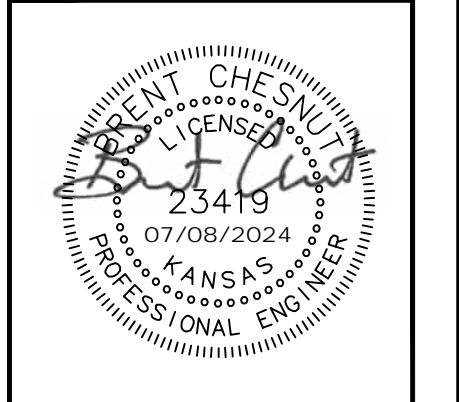
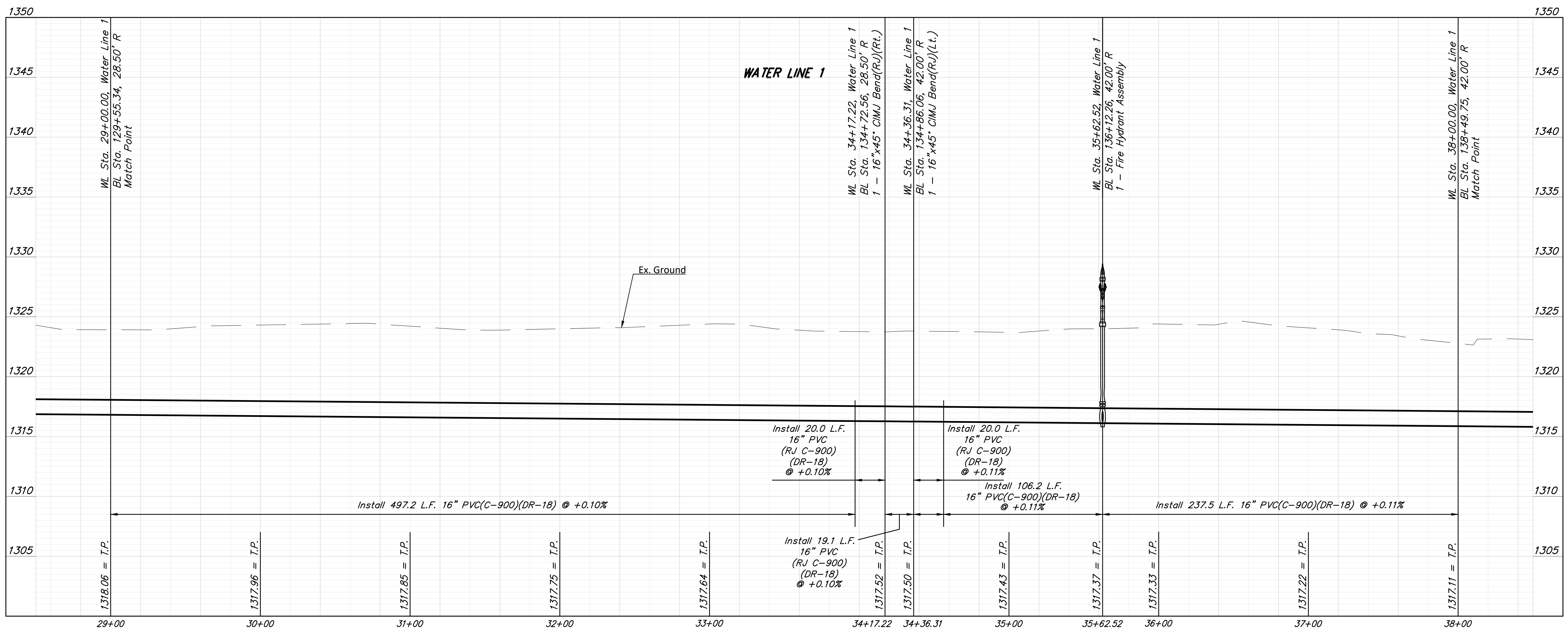
File: E:\Projects\29th & Hoover Water Main 21-06-E951\Engineering\29thWaterBase.dwg



BENCHMARKS

Benchmark -1
 City of Wichita Benchmark on the east head wall of SWS pipe, approx. 133.9' north and 191.1' east of the northwest corner of Lot 21, Block B, Sandcrest Addition, Wichita, Sedgwick County, Kansas
 Elevation = 1325.19 (NAVD 88)

Benchmark -2
 City of Wichita Benchmark on the east head wall of SWS pipe, approx. 29.3' north and 23.6' east of the NE COR., NE ¼, SEC. 2, TWP. 27-S, R-1-W, Wichita, Sedgwick County, Kansas
 Elevation = 1321.98 (NAVD 88)



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 316-262-7271
 BaughmanCo.com

Capital Improvement Projects

W. 29th Street North Water Line
Sta. 29+00.0 - Sta. 38+00.0

29th Street North and Hoover Road Water Main Extension

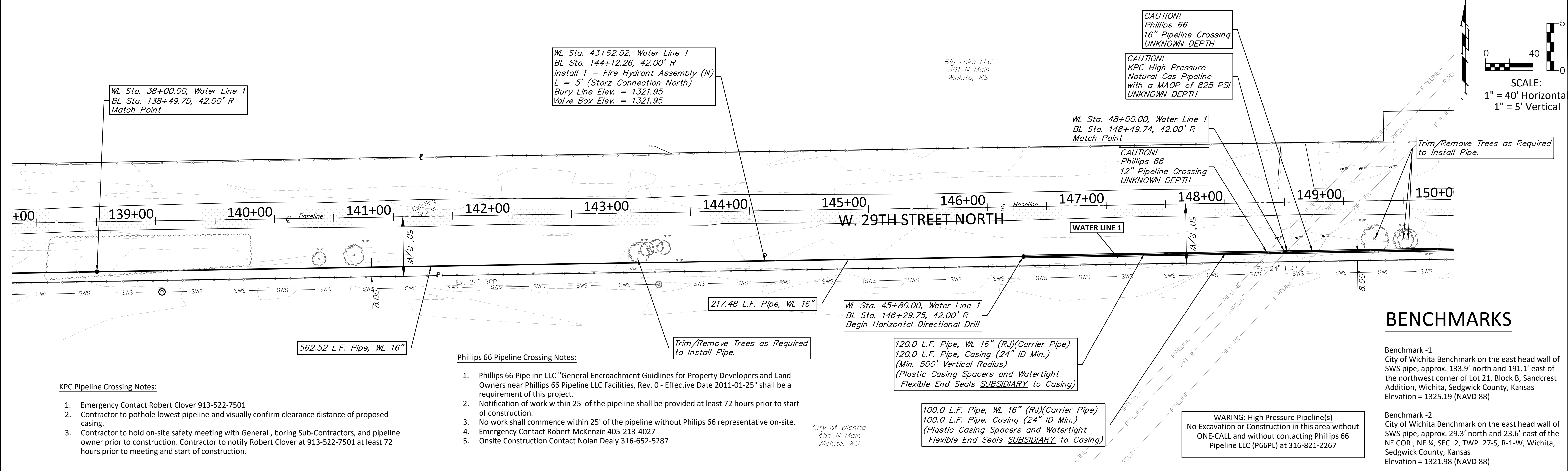
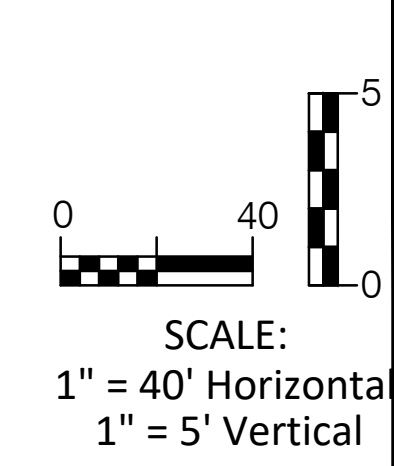
PROJECT NUMBER:
 21-06-E951

DESIGN: PSB DRAWN: BDC

DATE: June 19, 2024

SHEET **6** OF **19**

File: E:\Projects\29th & Hoover Water Main 21-06-E951\Engineering\29thWaterBase.dwg



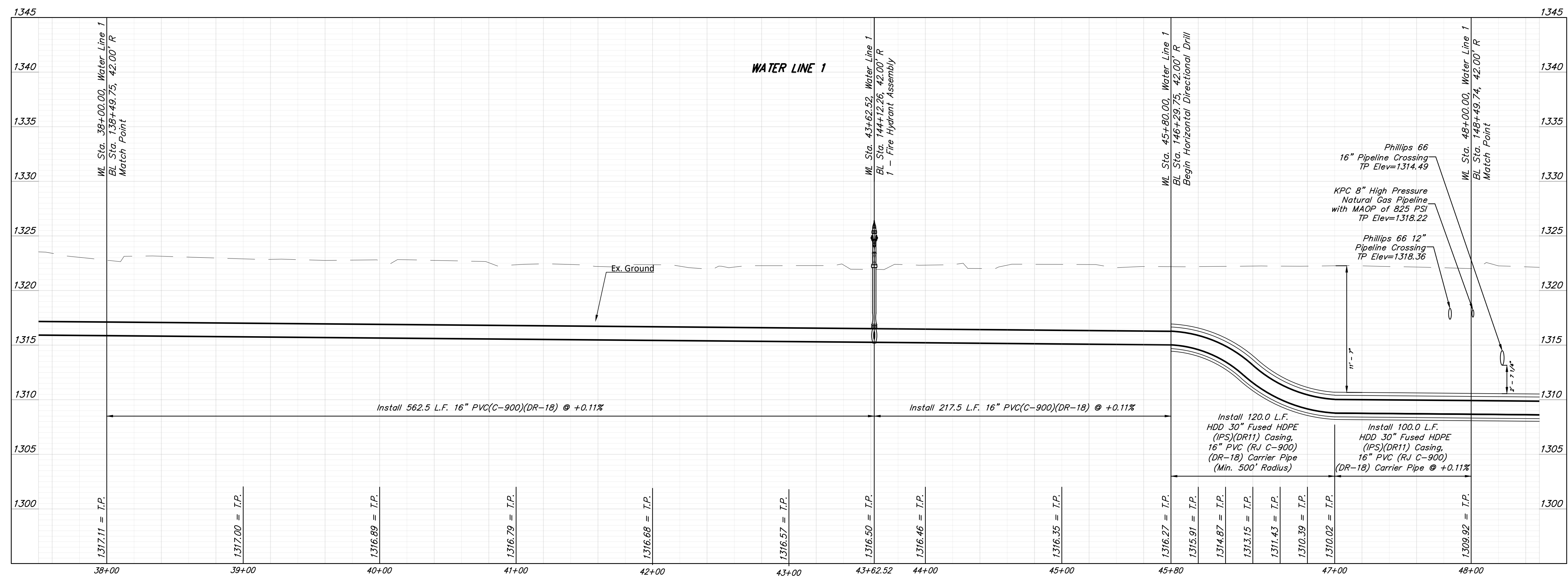
- KPC Pipeline Crossing Notes:**
- Emergency Contact Robert Clover 913-522-7501
 - Contractor to pothole lowest pipeline and visually confirm clearance distance of proposed casing.
 - Contractor to hold on-site safety meeting with General, boring Sub-Contractors, and pipeline owner prior to construction. Contractor to notify Robert Clover at 913-522-7501 at least 72 hours prior to meeting and start of construction.

- Phillips 66 Pipeline Crossing Notes:**
- Phillips 66 Pipeline LLC "General Encroachment Guidelines for Property Developers and Land Owners near Phillips 66 Pipeline LLC Facilities, Rev. 0 - Effective Date 2011-01-25" shall be a requirement of this project.
 - Notification of work within 25' of the pipeline shall be provided at least 72 hours prior to start of construction.
 - No work shall commence within 25' of the pipeline without Phillips 66 representative on-site.
 - Emergency Contact Robert McKenzie 405-213-4027
 - Onsite Construction Contact Nolan Dealy 316-652-5287

WARNING: High Pressure Pipeline(s)
 No Excavation or Construction in this area without ONE-CALL and without contacting Phillips 66 Pipeline LLC (P66PL) at 316-821-2267

BENCHMARKS

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Capital Improvement
 Projects

**W. 29th Street
 North Water
 Line
 Sta. 38+00.0 -
 Sta. 48+00.0**

29th Street North and Hoover
 Road Water Main Extension

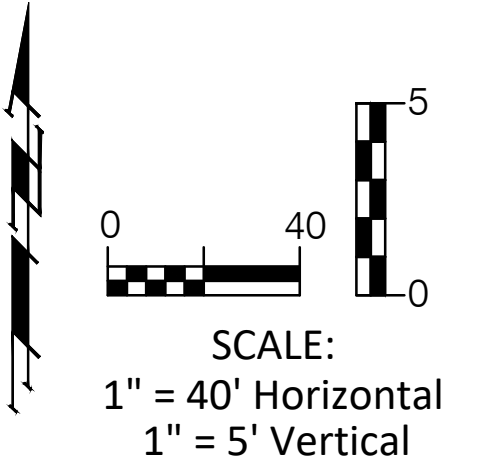
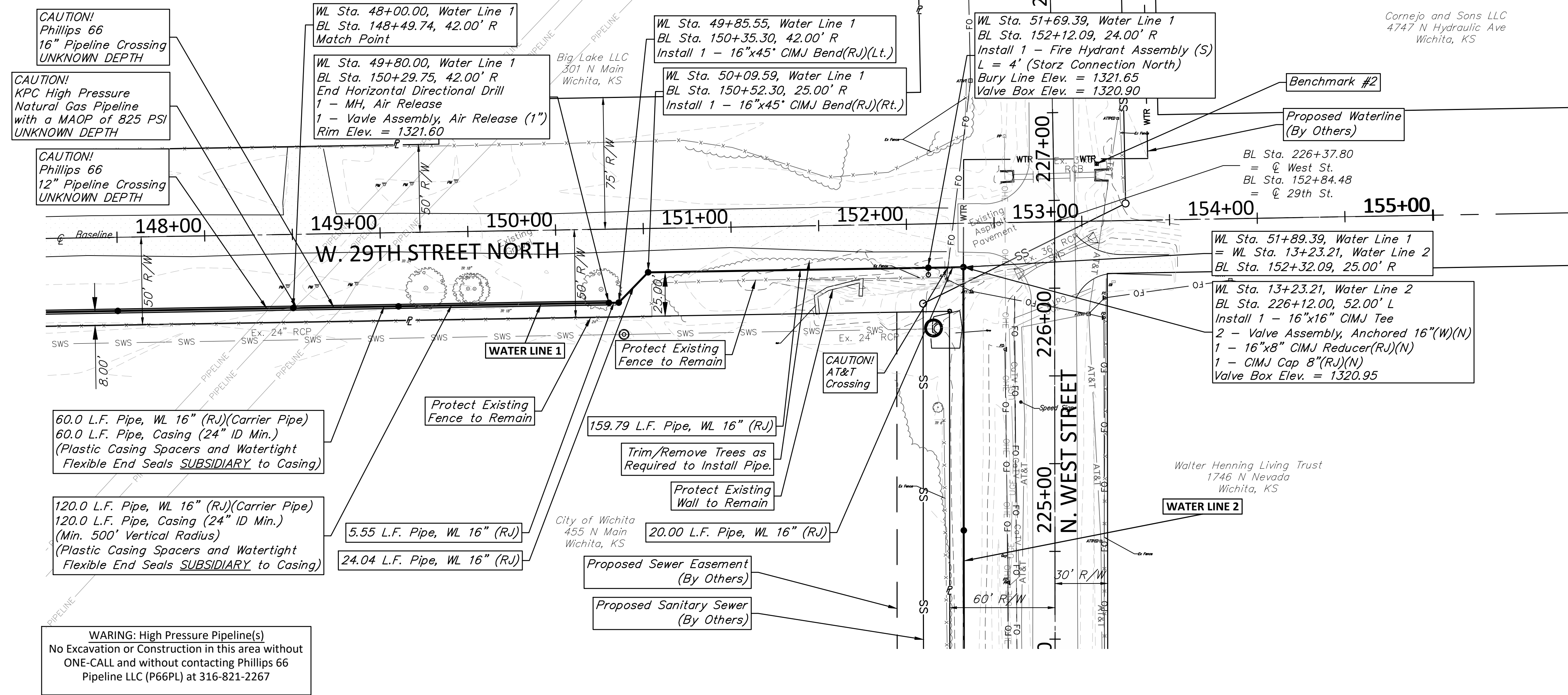
PROJECT NUMBER:
 21-06-E951

DESIGN: PSB DRAWN: BDC

DATE: June 19, 2024

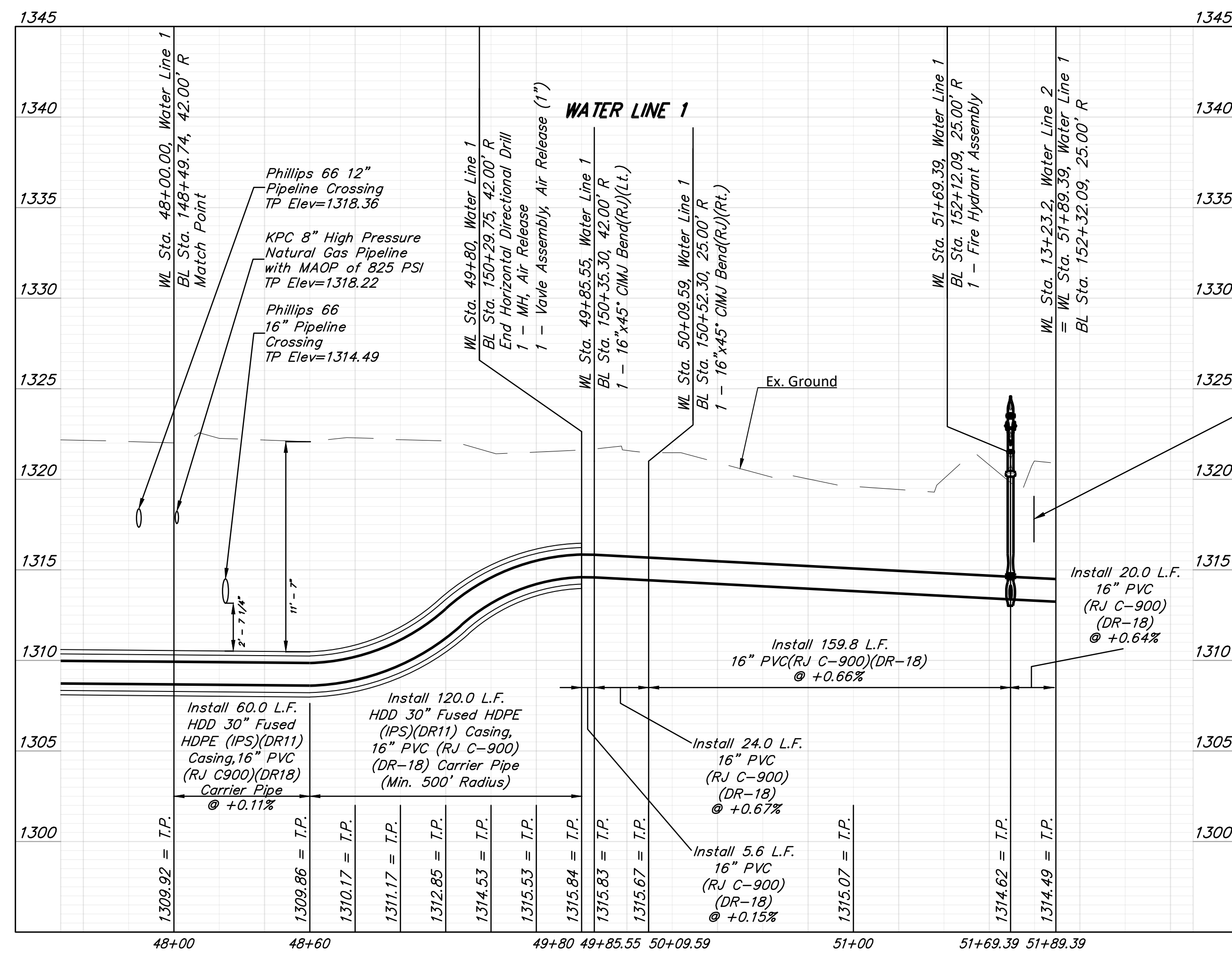
SHEET **7** OF **19**

File: E:\Projects\29th & Hoover Water Main 21-06-E951\Engineering\29thHWatBase.dwg



BENCHMARKS

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Elevation = 1321.98 (NAVD 88)

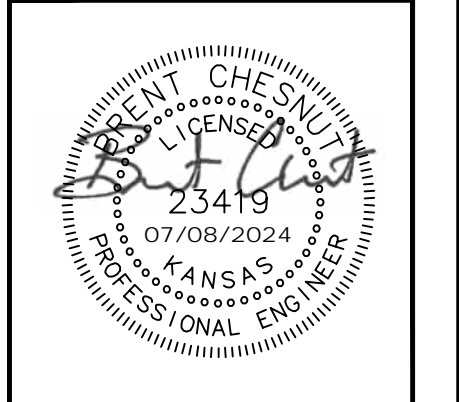


Phillips 66 Pipeline Crossing Notes:

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Capital Improvement Projects

W. 29th Street North Water Line

Sta. 48+00.0 - Sta. 52+00.0

29th Street North and Hoover Road Water Main Extension

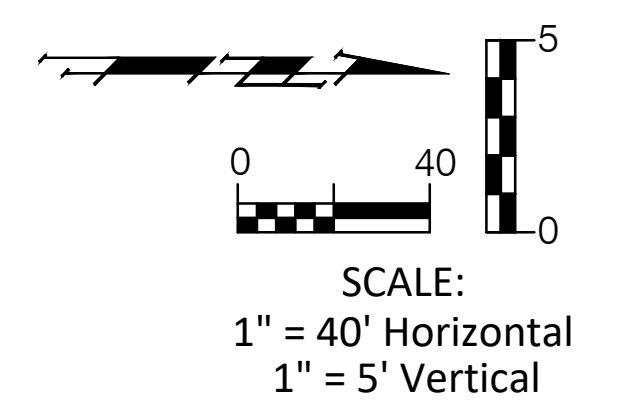
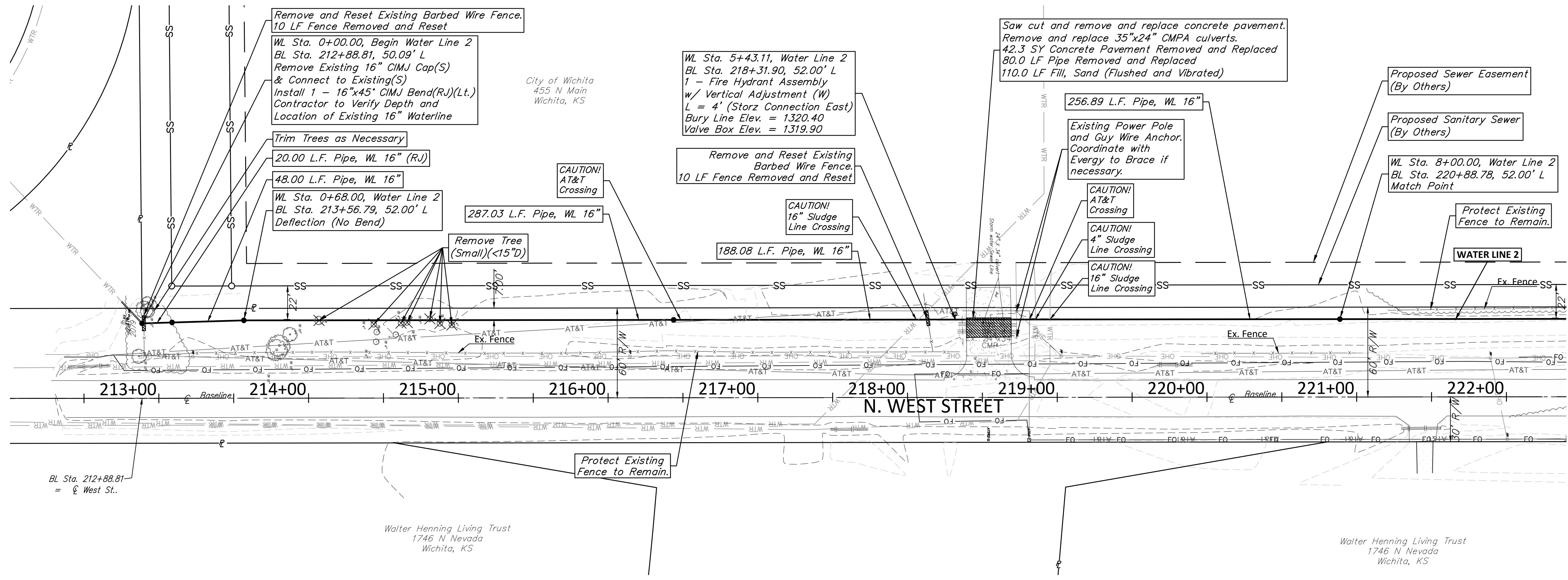
PROJECT NUMBER:
21-06-E951

DESIGN: PSB DRAWN: BDC

DATE: June 19, 2024

SHEET 8 OF 19

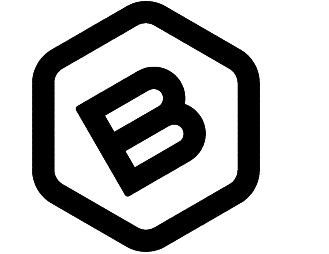
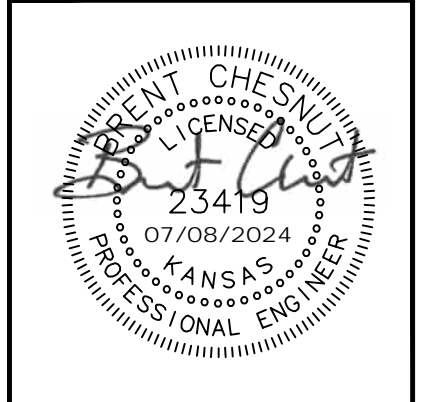
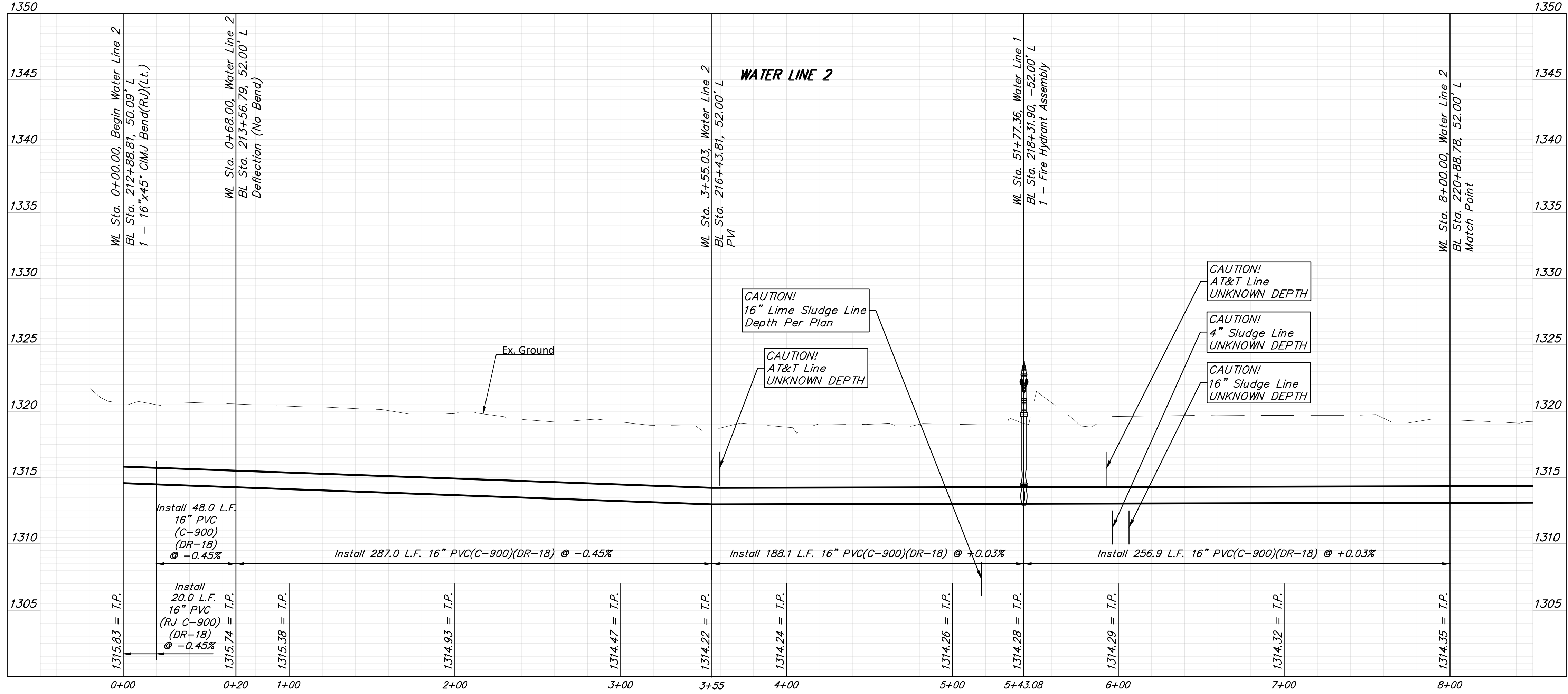
File: E:\Projects\29th & Hoover Water Main 21-06-E951\Engineering\29thHWatBase.dwg



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 Elevation = 1321.98 (NAVD 88)

Contractor to coordinate with utility pole owner to relocate or brace pole during construction.
 Evergy Brian Ward 785-508-2697

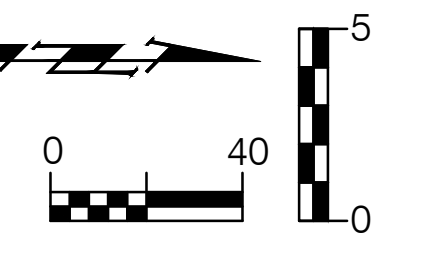


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Capital Improvement Projects
North West Street Water Line
Sta. 0+00.0 - Sta. 8+00.0
 29th Street North and Hoover Road Water Main Extension

PROJECT NUMBER:
 21-06-E951
 DESIGN: PSB DRAWN: BDC
 DATE: June 19, 2024
 SHEET 9 OF 19

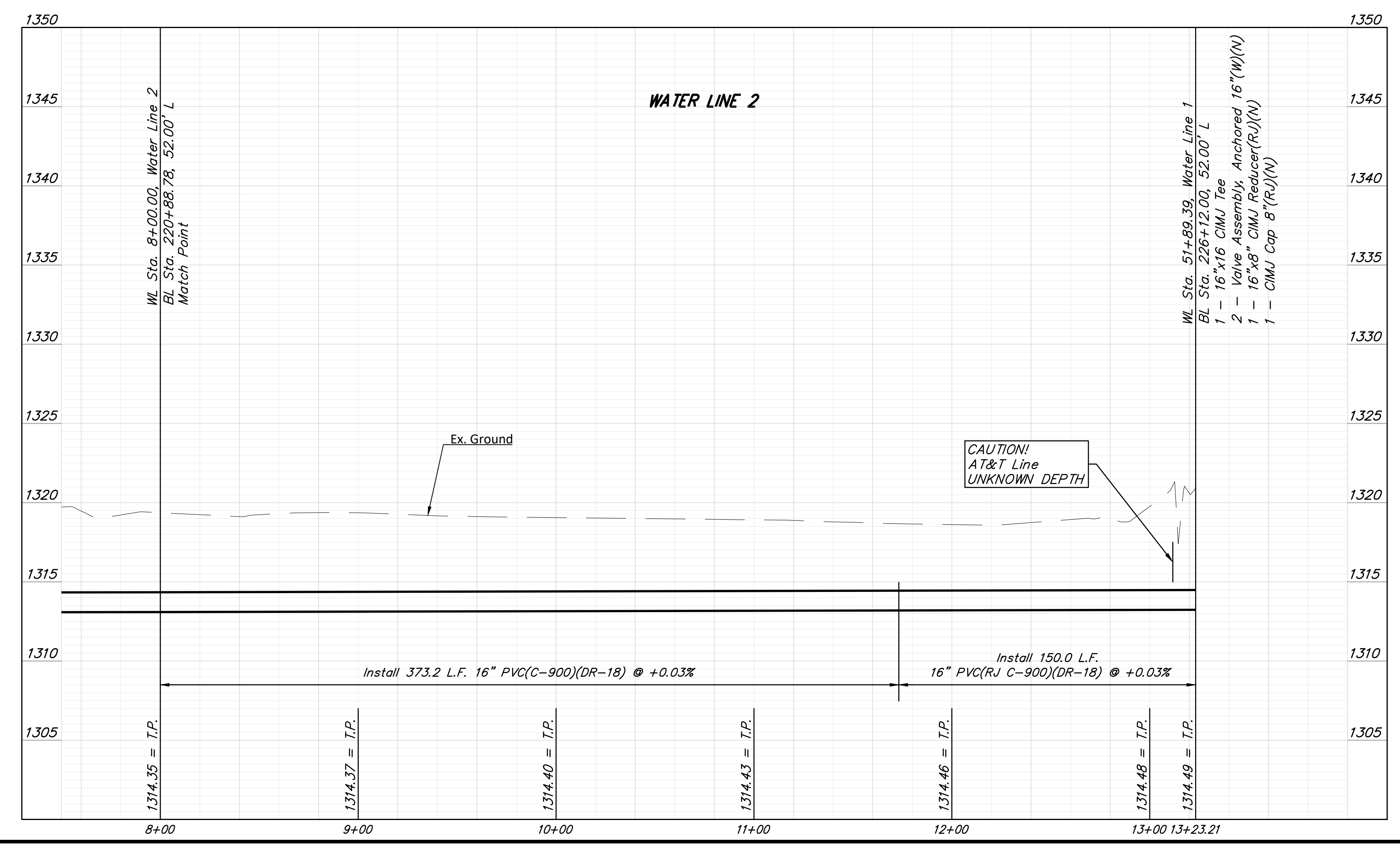
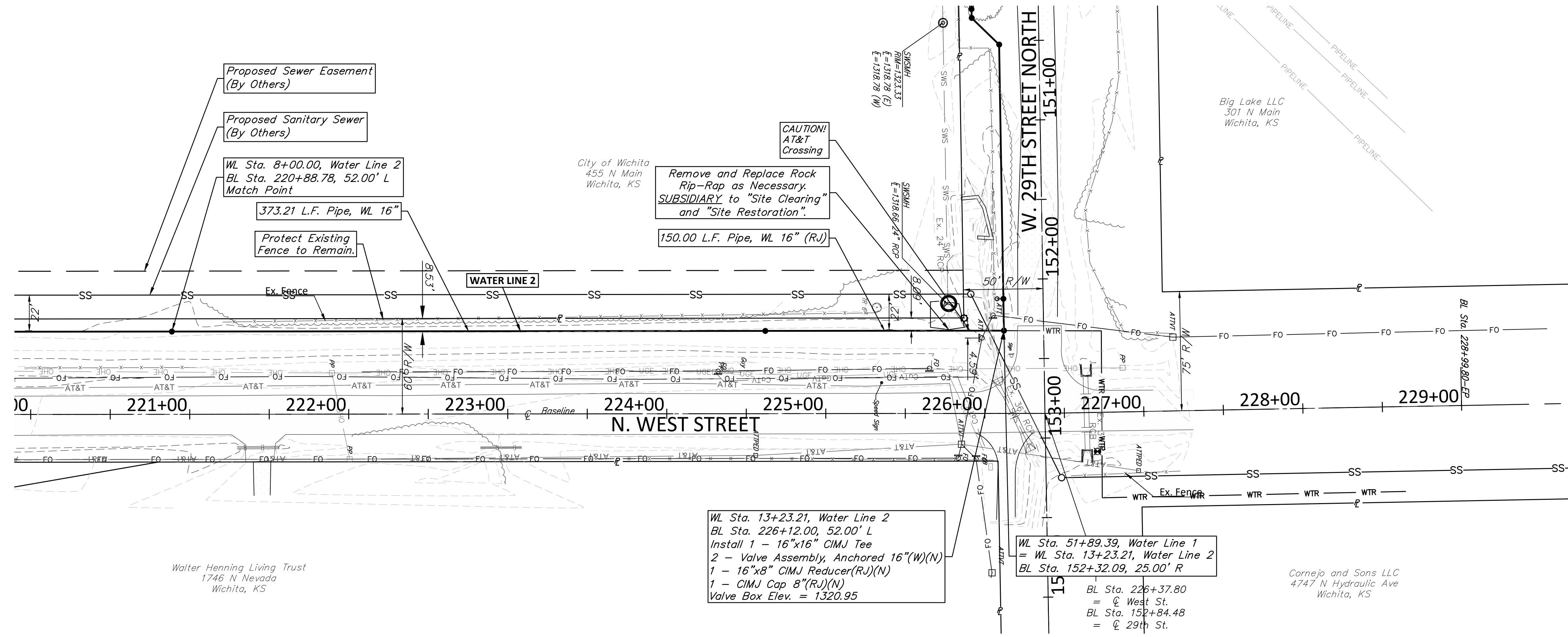
File: E:\Projects\29th & Hoover Water Main 21-06-E951\Engineering\29thHWatBase.dwg



SCALE:
1" = 40' Horizontal
1" = 5' Vertical

BENCHMARKS

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Elevation = 1321.98 (NAVD 88)



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Capital Improvement
Projects

**North West
Street Water
Line
Sta. 8+00.0 -
Sta. 13+00.0**

29th Street North and Hoover
Road Water Main Extension

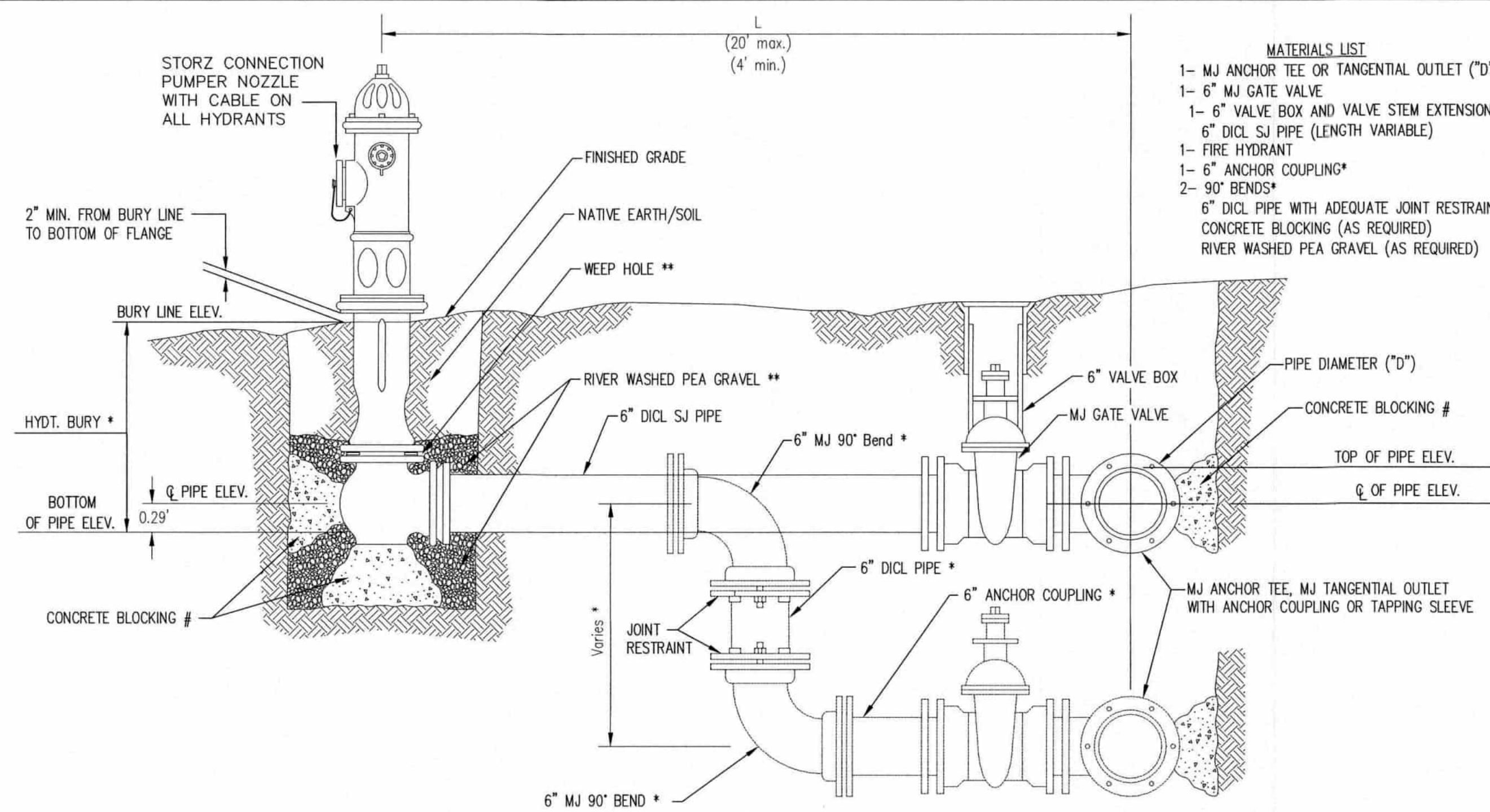
PROJECT NUMBER:
21-06-E951

DESIGN: PSB DRAWN: BDC

DATE: June 19, 2024

SHEET OF
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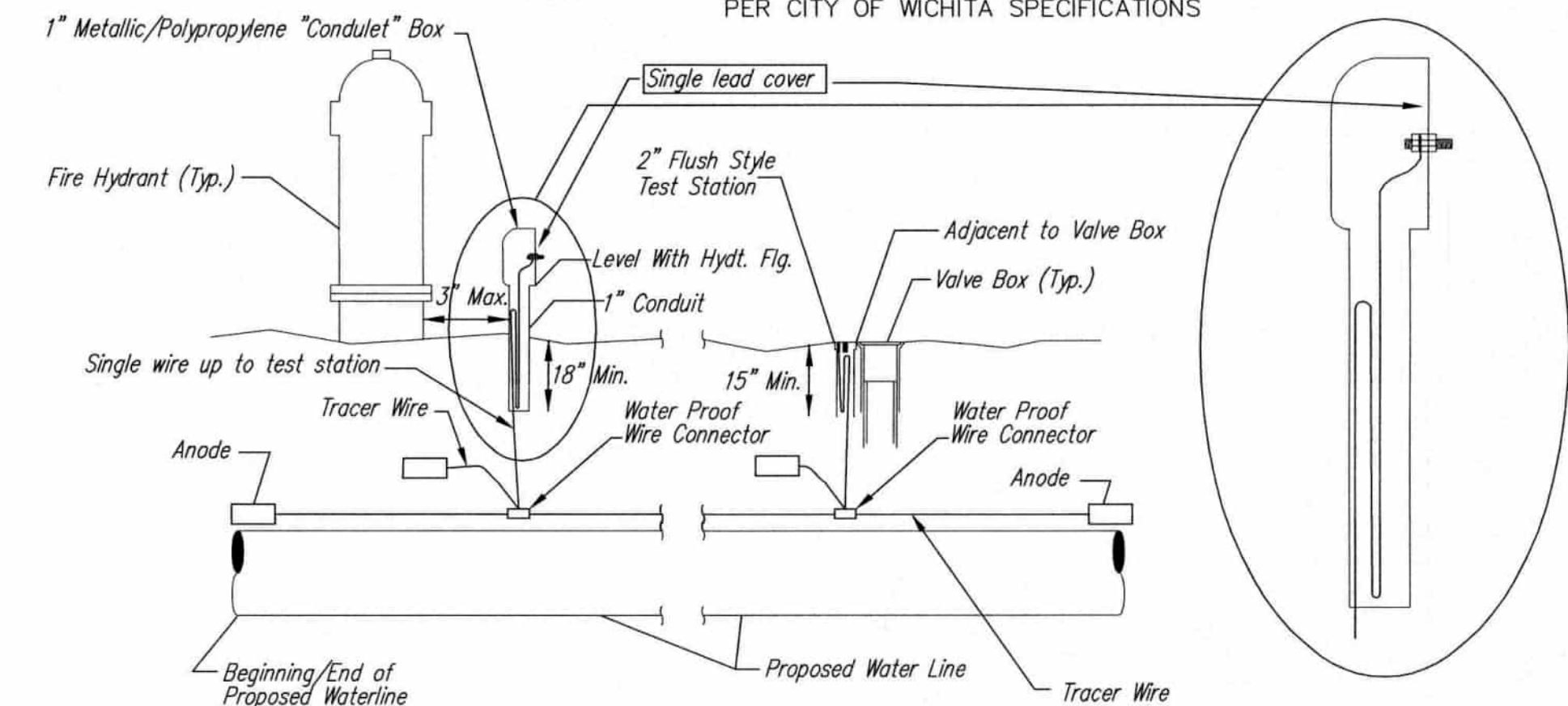
- MATERIALS LIST**
- 1- MJ ANCHOR TEE OR TANGENTIAL OUTLET ("D"x 6")
 - 1- 6" MJ GATE VALVE
 - 1- 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED *
 - 6" DI CL SJ PIPE (LENGTH VARIABLE)
 - 1- FIRE HYDRANT
 - 1- 6" ANCHOR COUPLING*
 - 2- 90° BENDS*
 - 6" DI CL PIPE WITH ADEQUATE JOINT RESTRAINT *
 - CONCRETE BLOCKING (AS REQUIRED)
 - RIVER WASHED PEA GRAVEL (AS REQUIRED)

* IF THE REQUIRED HYDRANT BURY IS IN EXCESS OF 5', BUT LESS THAN 7', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY. IF THE REQUIRED HYDRANT BURY IS GREATER THAN 7', CONTRACTOR SHALL USE 5' HYDRANT BURY, 2-MJ 90° BENDS, 6" ANCHOR COUPLING AND 6" DI CL 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 installed to locate all waterline pipe regardless of pipe material. The wire shall extend the entire length of the proposed pipe. The wire shall be taped to the waterline and pulled with the pipe. 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.

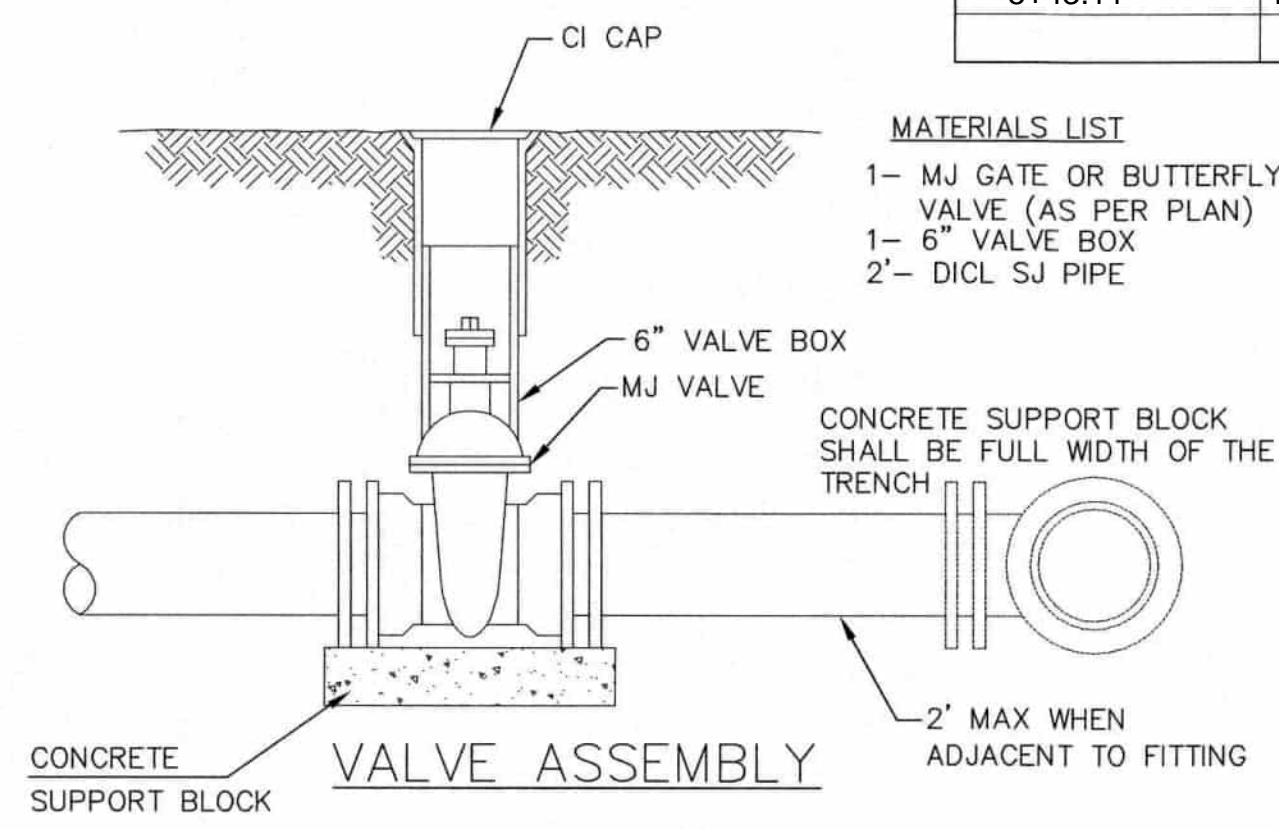
WIRE
The tracer wire shall be Blue No. 12 AWG CCS with 45 mil HDPE insulation. To allow for grade adjustment, a minimum of 12" of excess wire shall be coiled at the bottom of the test station for all wires. Wire connectors shall be installed per manufacturer recommendations. Contractor shall attach wire 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" "conduit" 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 # T2PH7BILP Handley Industries or CD14*IP 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 installed 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.

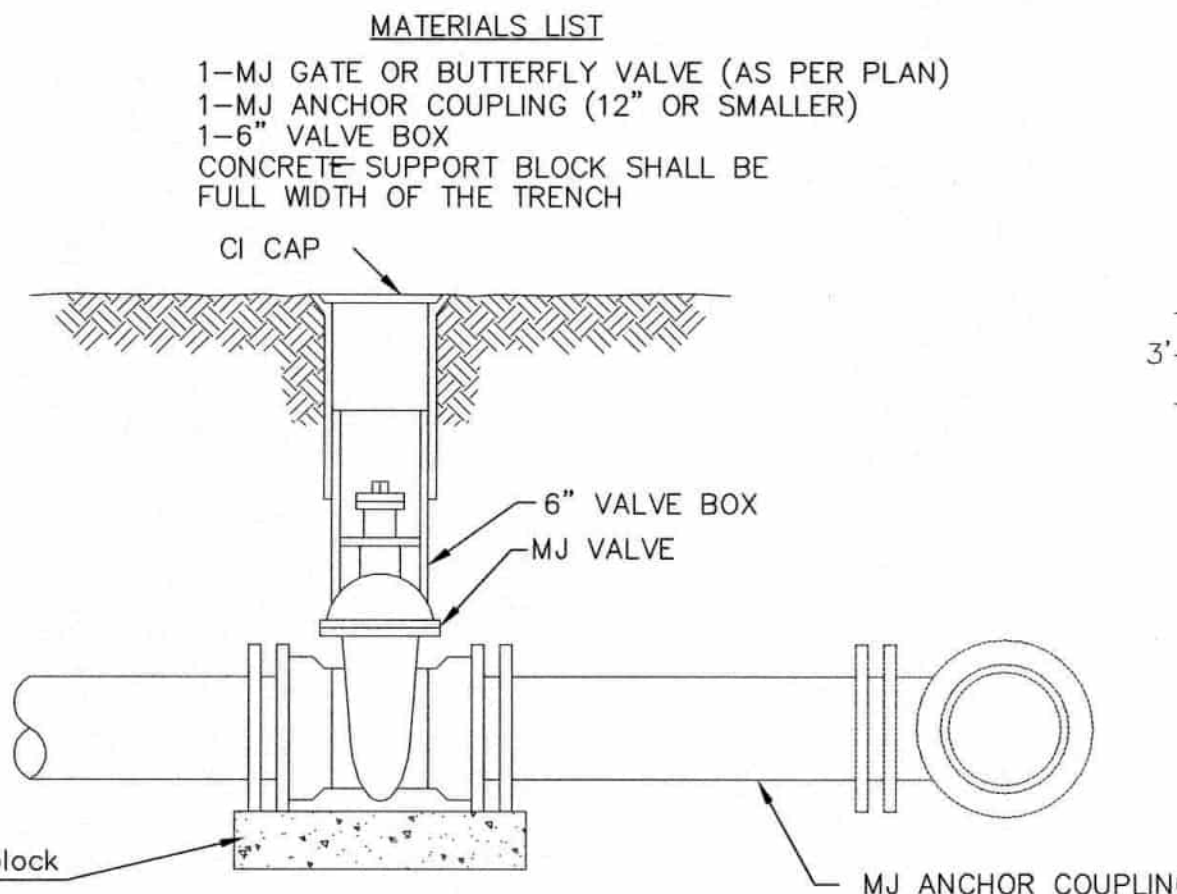
ANODES
The anodes shall be 3 lb. bare zinc or magnesium. The anodes shall be buried at the same elevation as the waterline at each test station. The anodes shall be connected to 12 AWG CCS which shall be extended to the test station.

TRACER WIRE DETAIL
COST IS SUBSIDIARY TO PIPE INSTALLATION

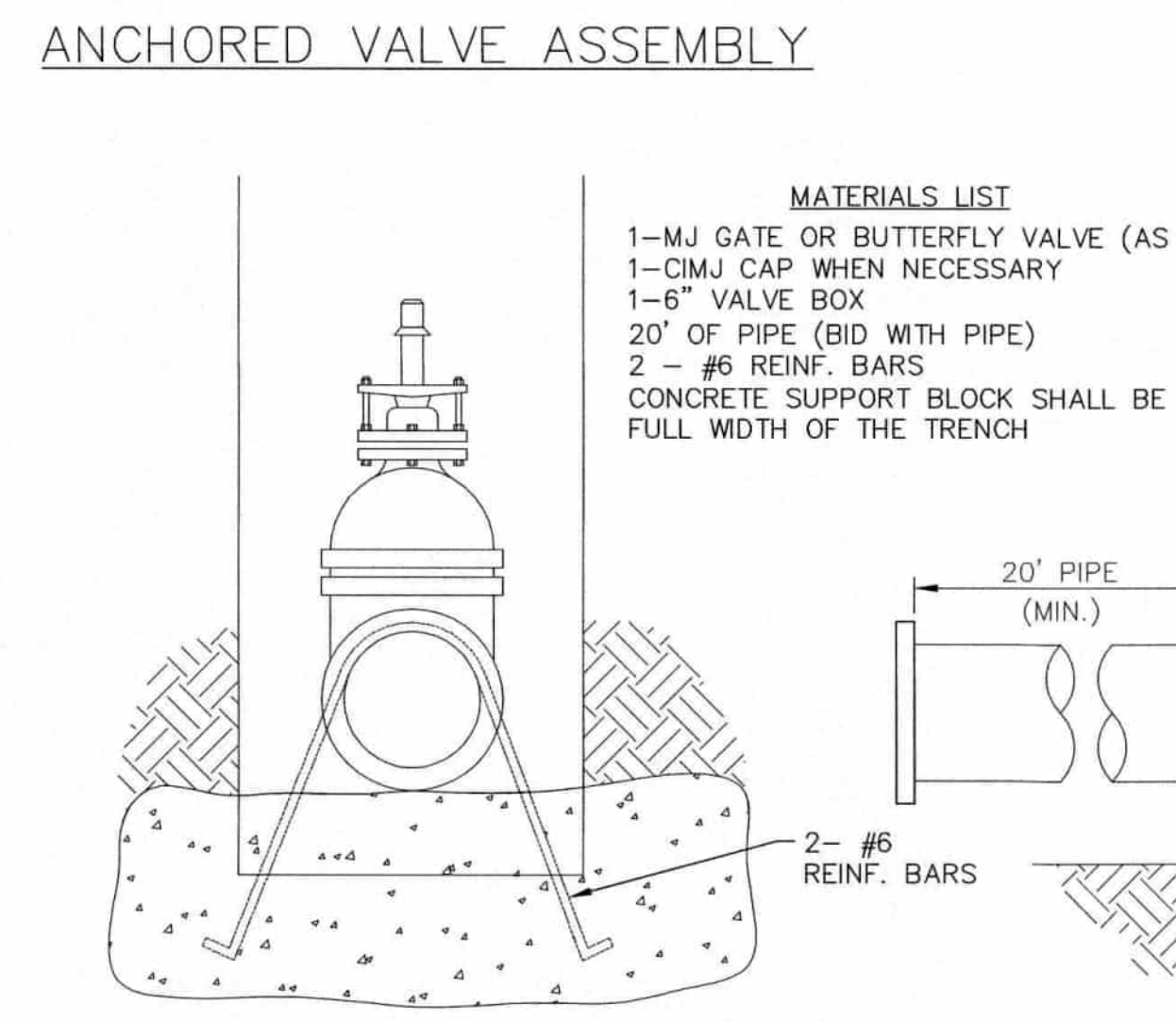
FIRE HYDRANTS REQUIRED				
STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*
3+54.58	1326.20	1322.16	5.00	
11+52.69	1327.65	1320.25	8.36	
19+57.11	1326.15	1319.05	8.06	
27+57.02	1324.65	1318.21	7.40	
35+62.52	1323.70	1317.36	7.30	
43+62.52	1322.04	1316.50	6.50	1.5
51+69.39	1321.87	1315.83	7.00	2.0
5+43.11	1320.40	1314.28	7.14	



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



- 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

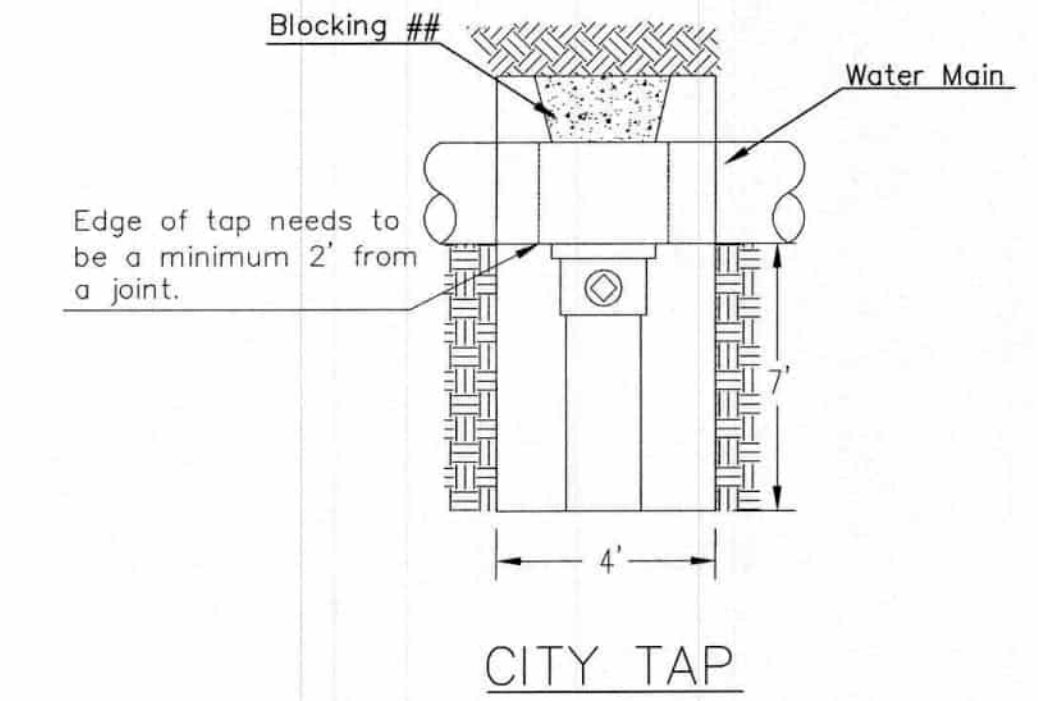


- MATERIALS LIST**
- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 - 1- CI MJ CAP WHEN NECESSARY
 - 1- 6" VALVE BOX
 - 20' OF PIPE (BID WITH PIPE)
 - 2 - #6 REINF. BARS
 - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

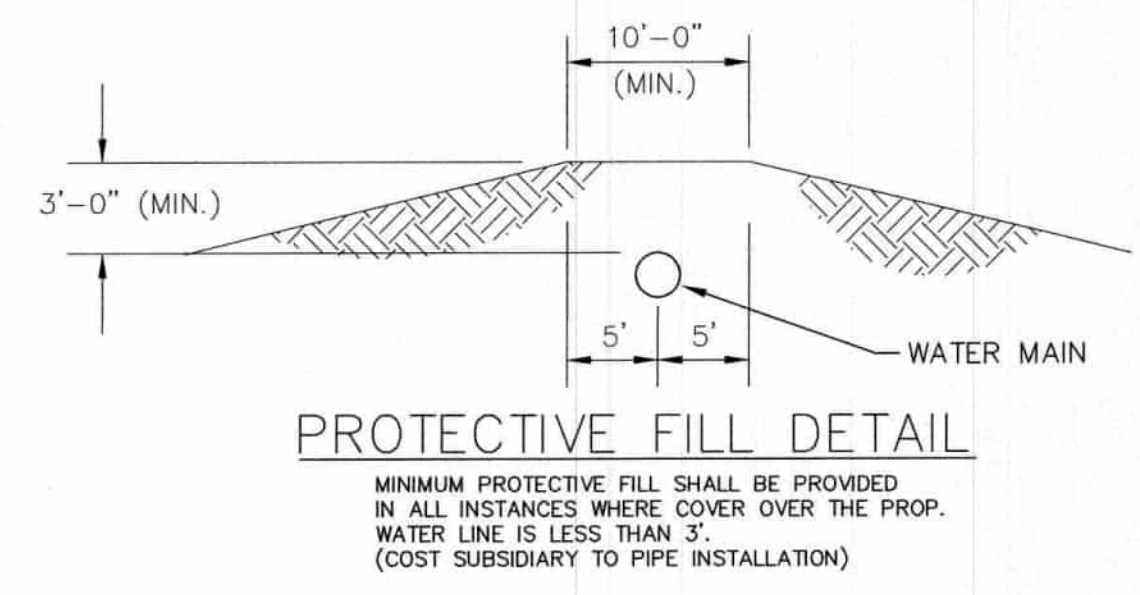
Notes:
1. Concrete Block at Valve to have sufficient bearing in undisturbed soil to prevent thrust movement as shown in table at right. Field Engineer to determine thrust loading of undisturbed soil and final size of thrust block.
2. The thrust block shall be constructed such that bolts, nuts, and other 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.

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

ANCHORED VALVE ASSEMBLY, SPECIAL

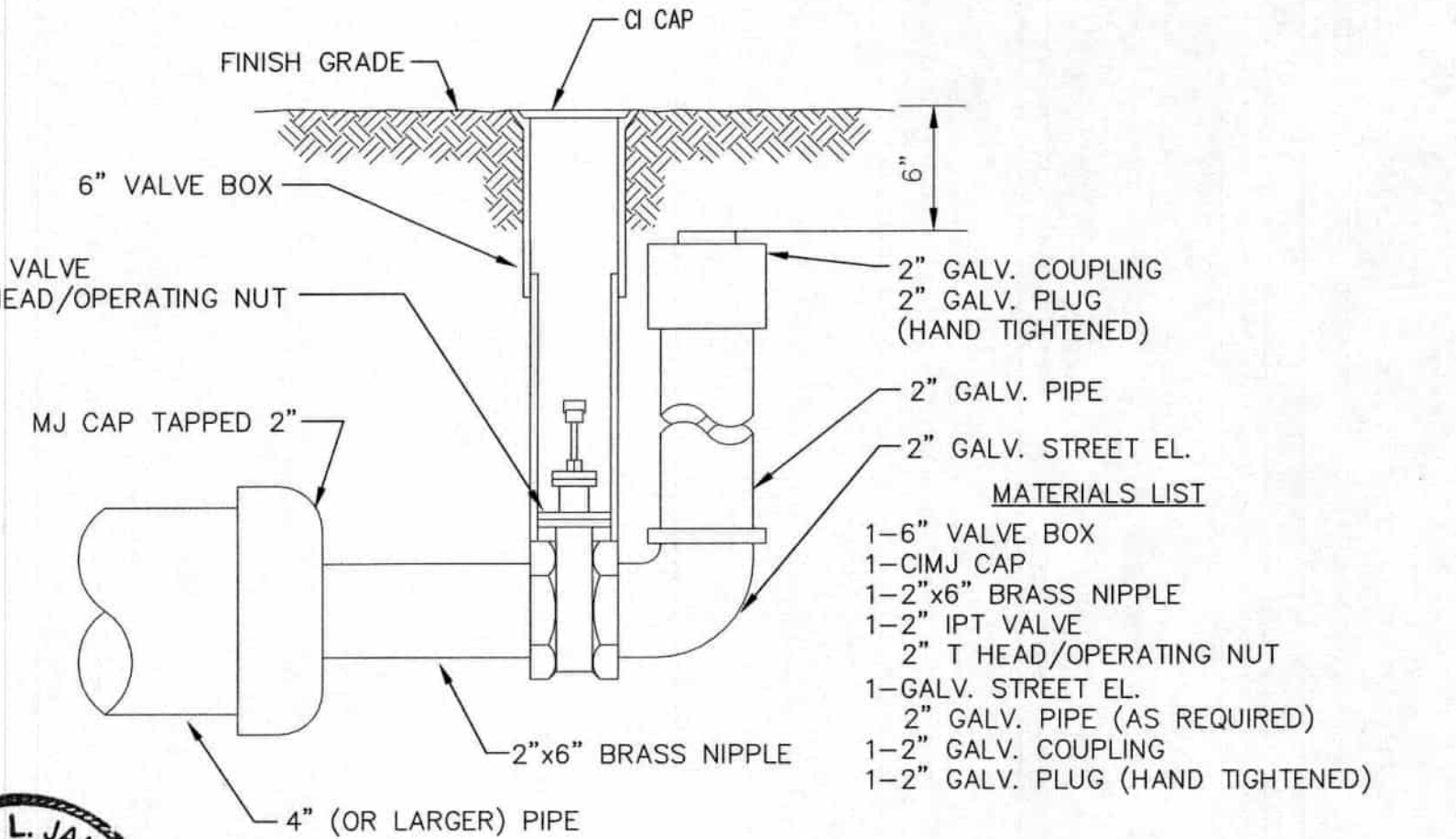


When the City of Wichita makes tap, blocking is to be done by Contractor



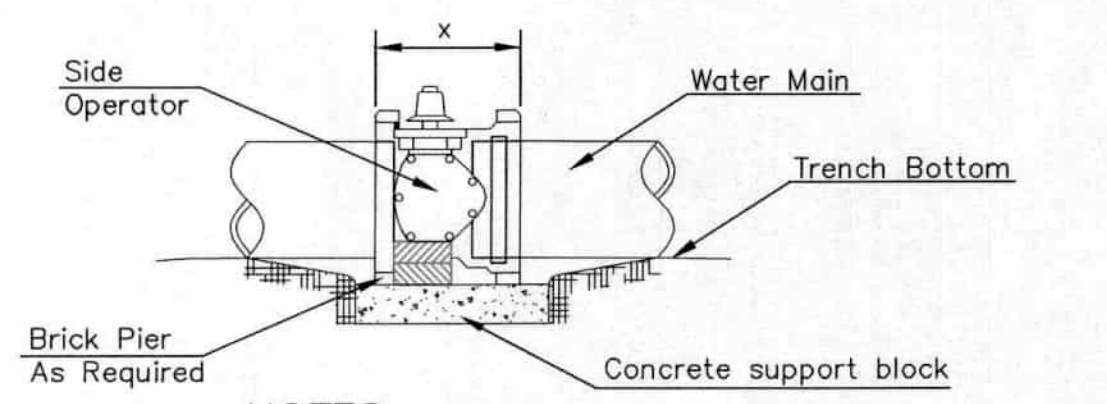
PROTECTIVE FILL DETAIL

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



- MATERIALS LIST**
- 1- 6" VALVE BOX
 - 1- CI MJ CAP
 - 1- 2"x6" BRASS NIPPLE
 - 1- 2" IPT VALVE
 - 2" T HEAD/OPERATING NUT
 - 1- GALV. STREET EL.
 - 2" GALV. PIPE (AS REQUIRED)
 - 1- 2" GALV. COUPLING
 - 1- 2" GALV. PLUG (HAND TIGHTENED)

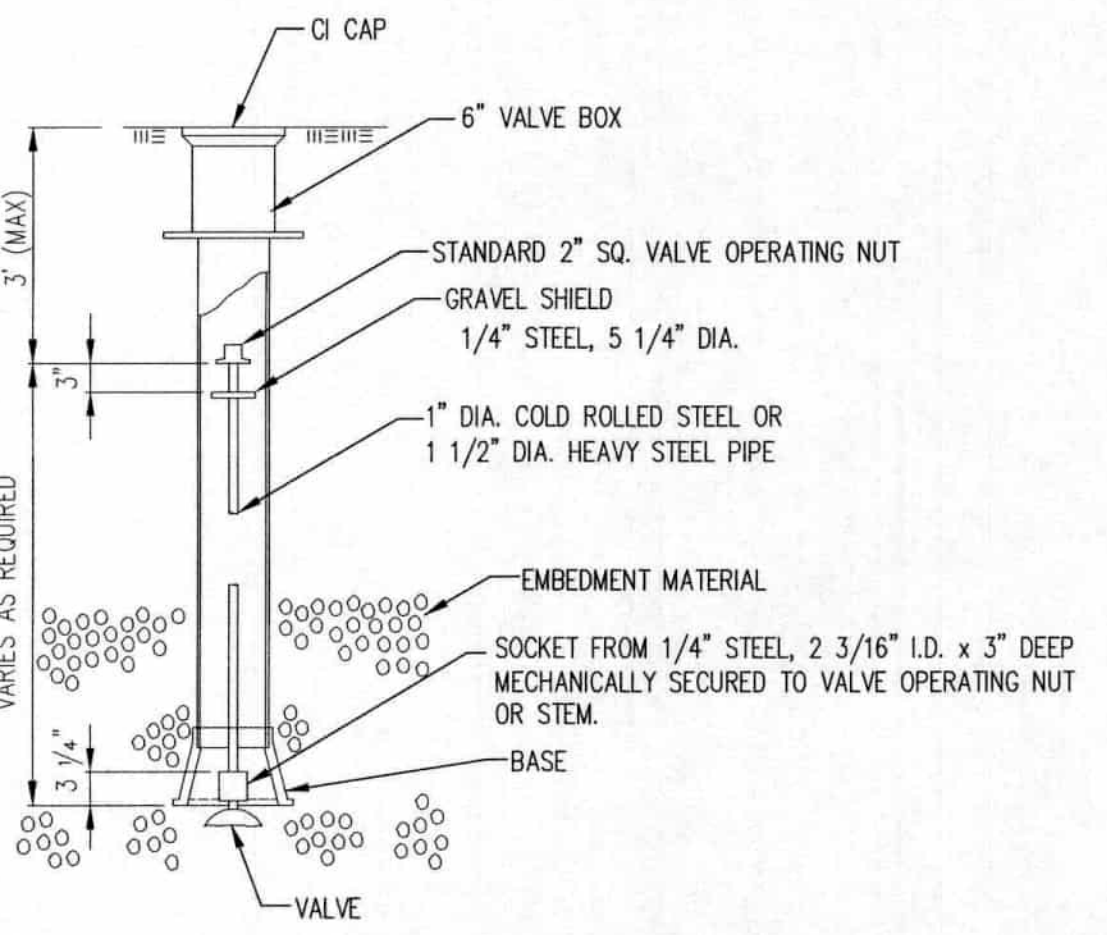
2" BLOWOFF ASSEMBLY



NOTES

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

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION



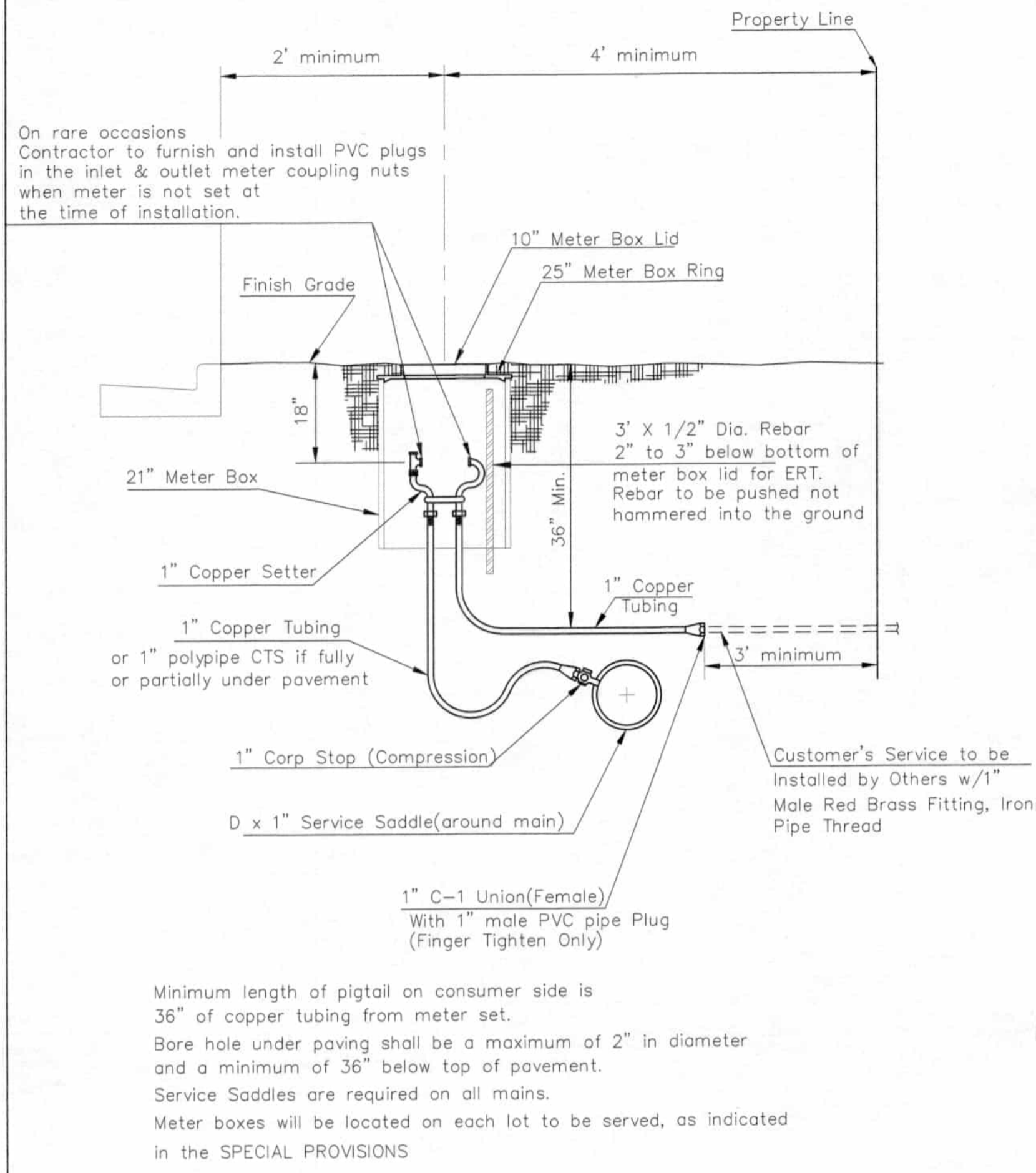
VALVE STEM EXTENSION DETAIL

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

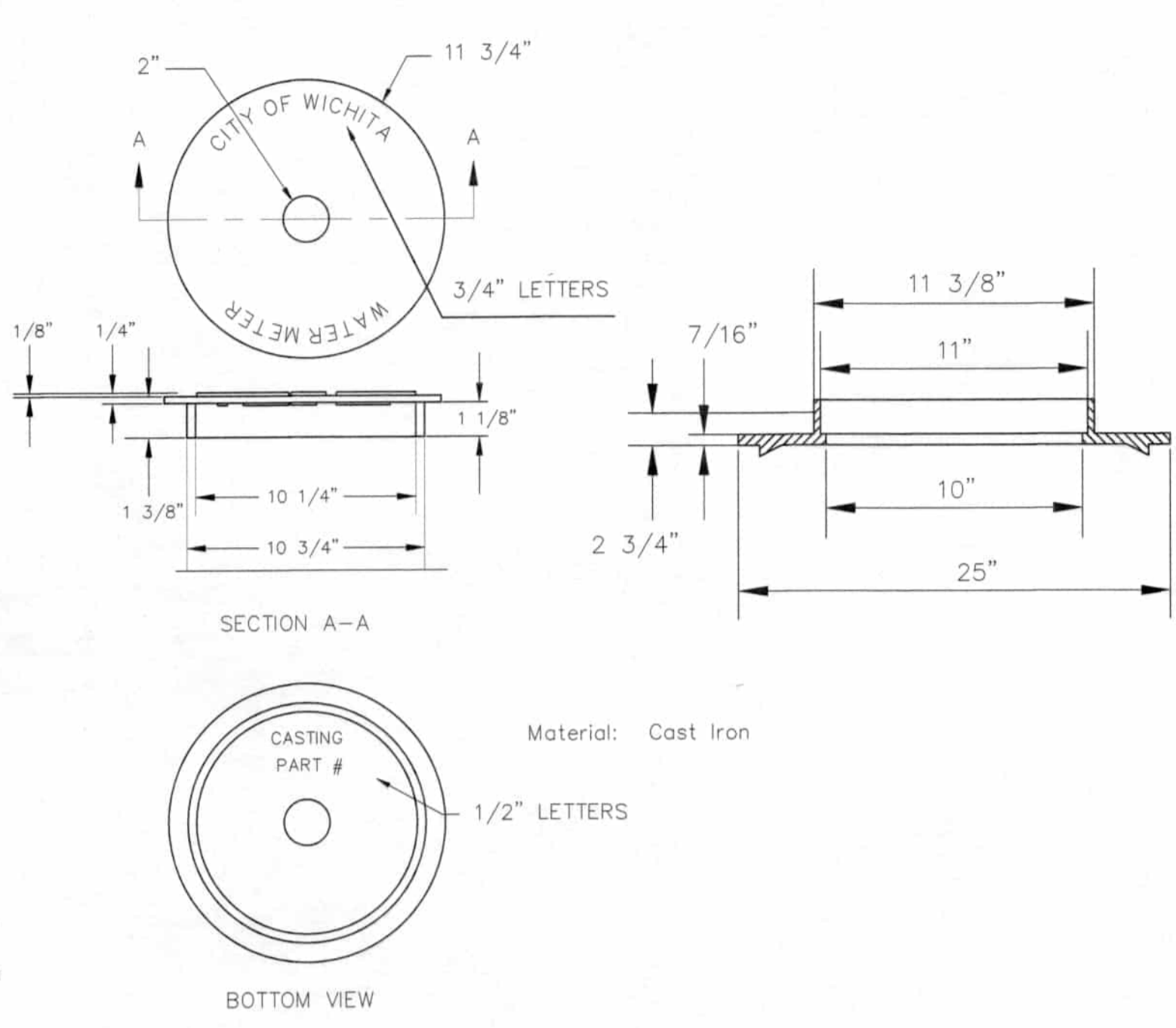


STANDARD WATER ASSEMBLY DETAIL		
CITY ENGINEER		
GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE
		6/19/2024
CITY ENGINEER'S OFFICE		SHEET
CITY HALL - SEVENTH FLOOR		11 of 19
455 NORTH MAIN STREET		
WICHITA, KANSAS 67202-1620		
(316) 268-4501		

REVISED: OCTOBER 2016



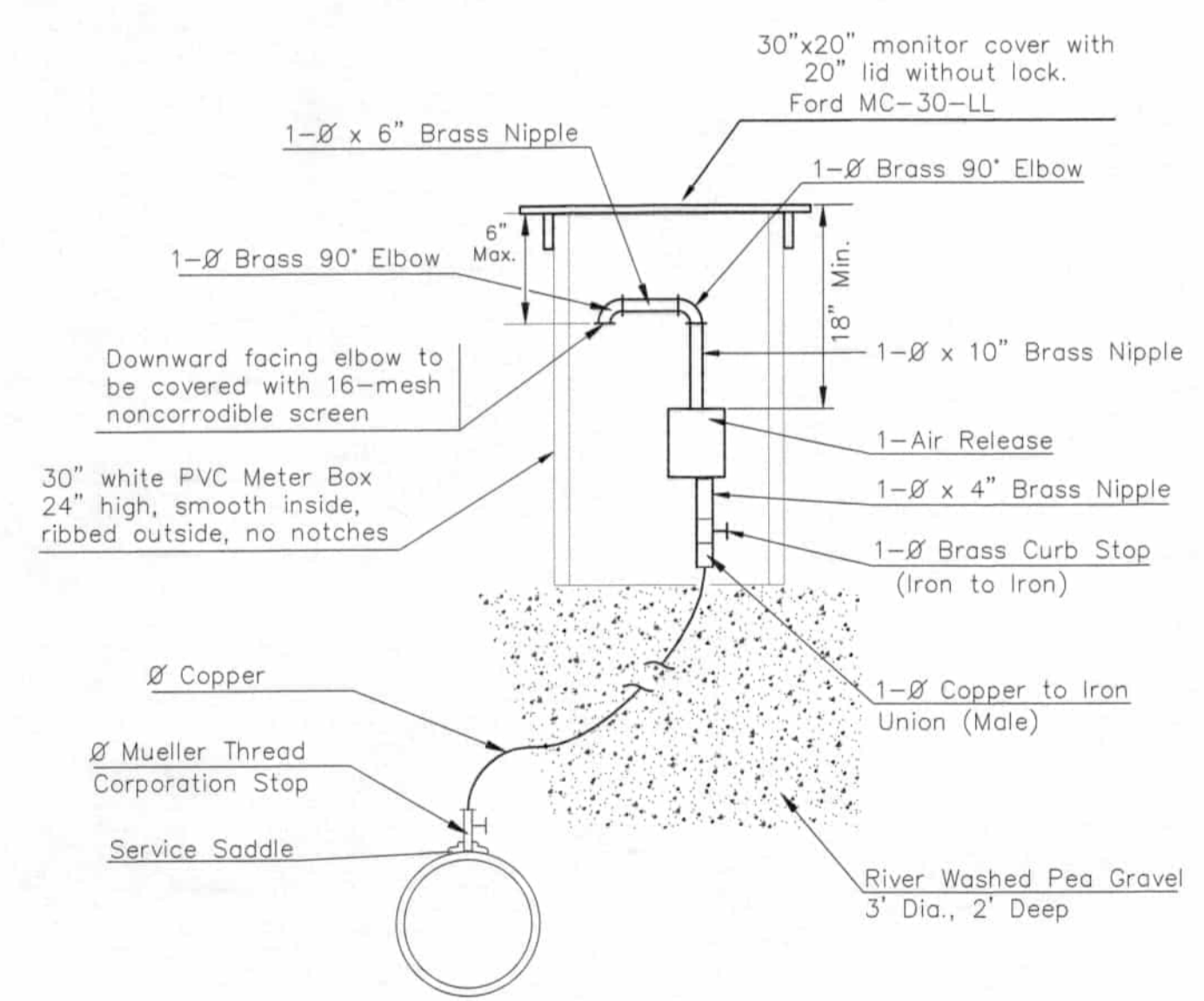
TYPICAL 1" METER SETTING



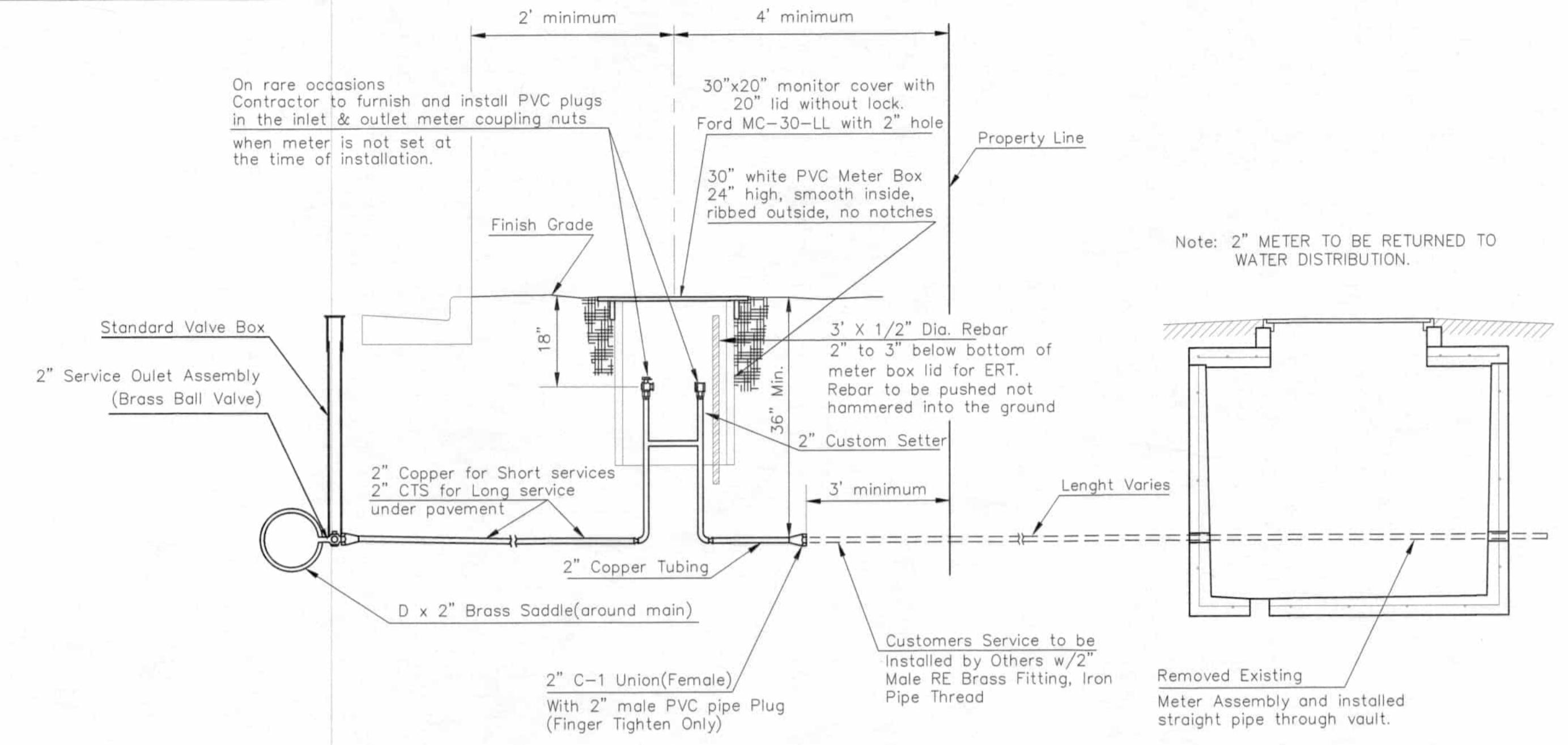
NOT TRAFFIC RATED RING & LID FOR 1" METER BOX

- NOTE:
- 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

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.

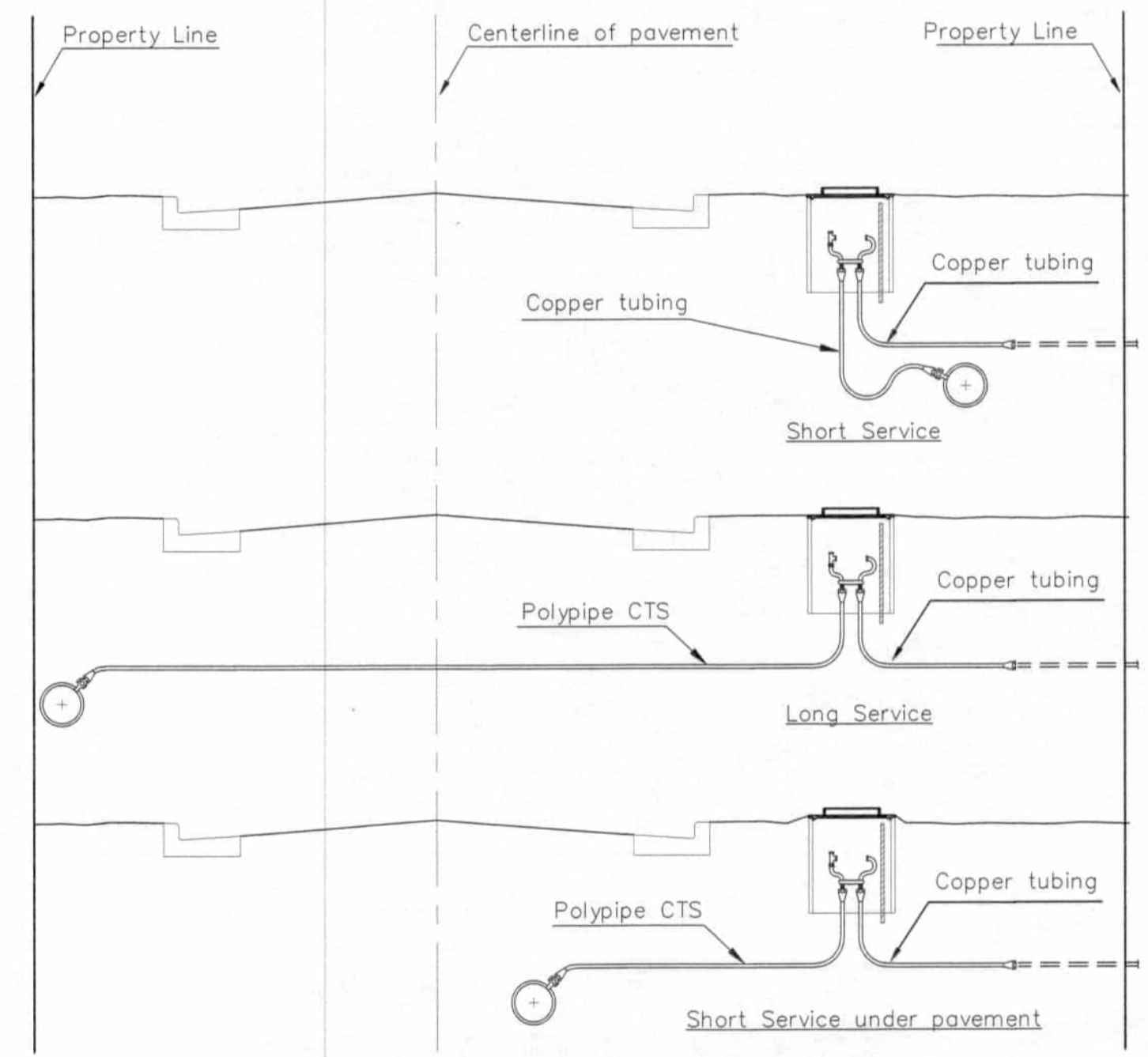


MATERIALS FOR 1" or 2" AIR RELEASE ASSEMBLY Ø = 1" or 2"



TYPICAL 2" METER SETTING

TYPICAL 2" METER SETTING INVOLVING EXISTING 2" METER VAULT




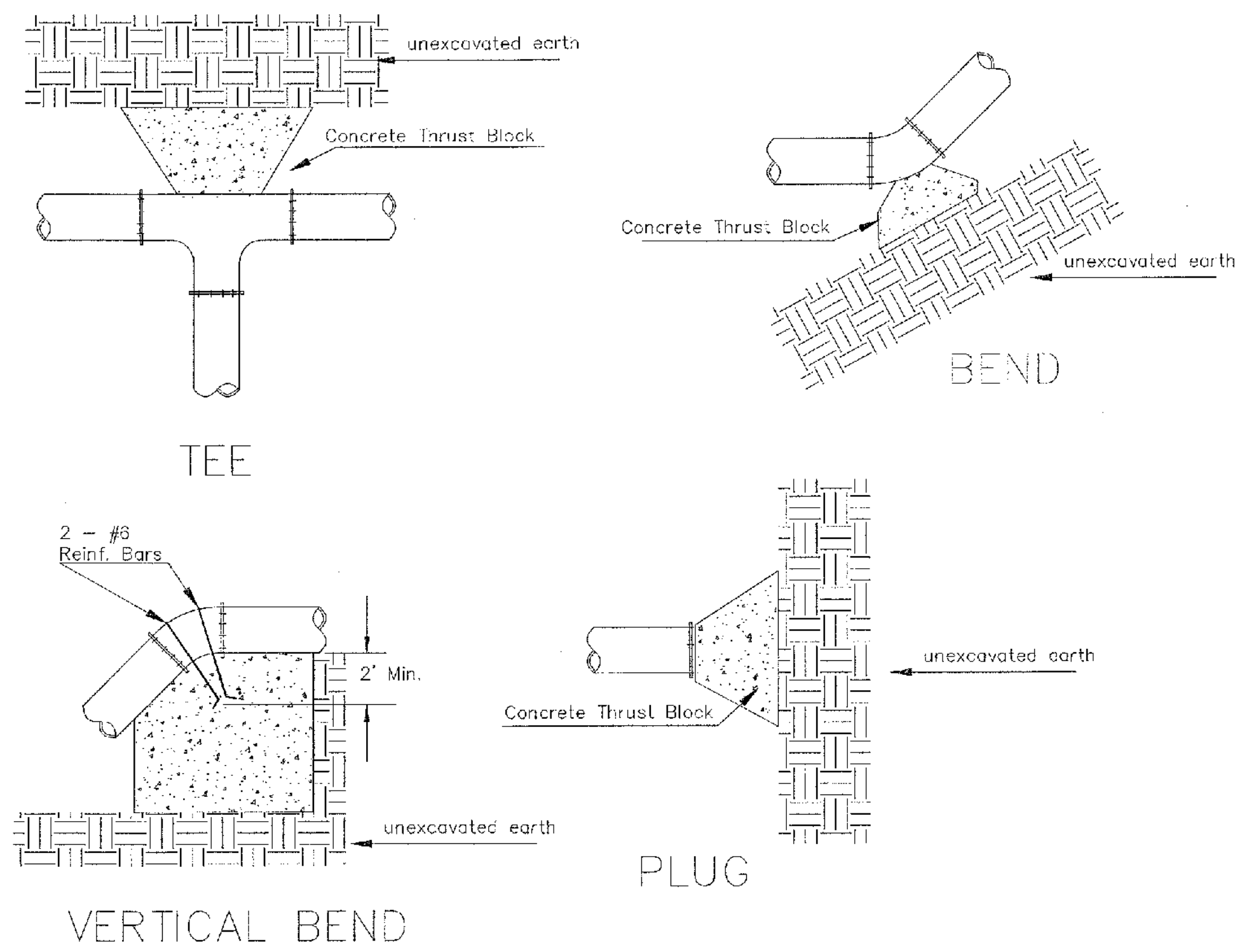
SERVICE TYPES

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.

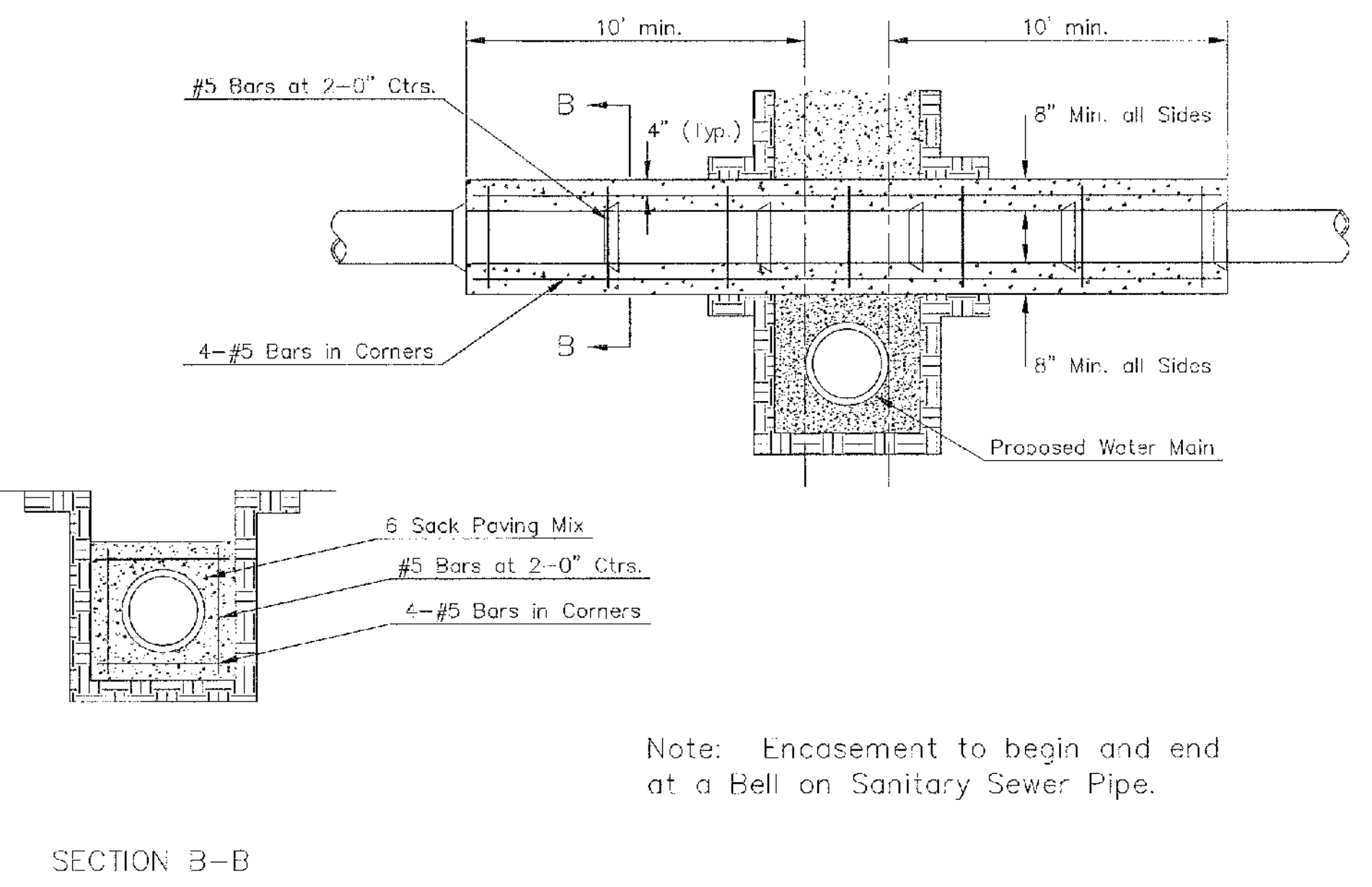
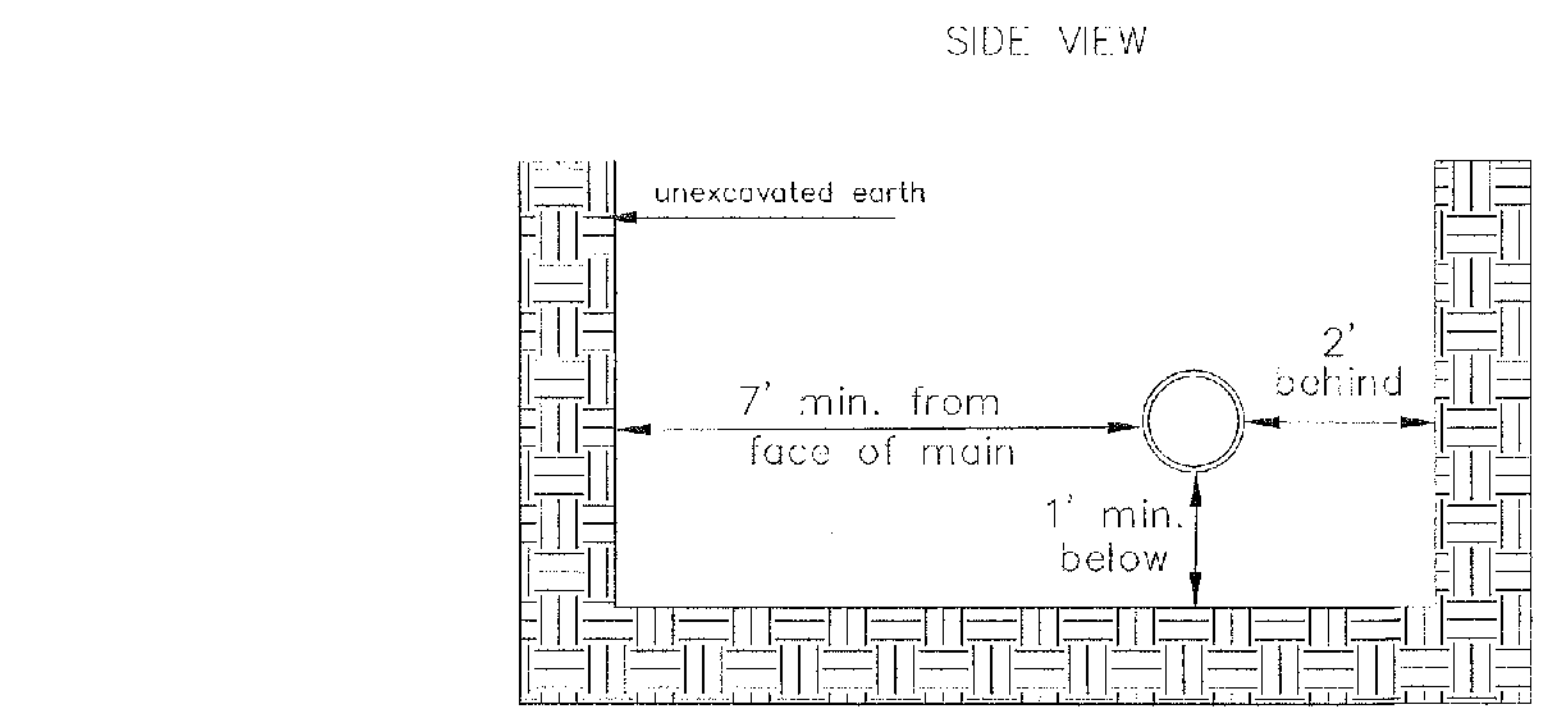
2" SERVICE OUTLET ASSEMBLY TOP VIEW



REVISED: NOVEMBER 2019 TM		3"x1/2" REBAR IN 1" & 2" METER SETTINGS FOR ERT.	
			
STANDARD WATER SERVICE DETAIL CITY ENGINEER GARY JANZEN, P.E.			
PROJECT NUMBER	OCA NUMBER	DATE	6/19/2024
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501			SHEET 12 of 19



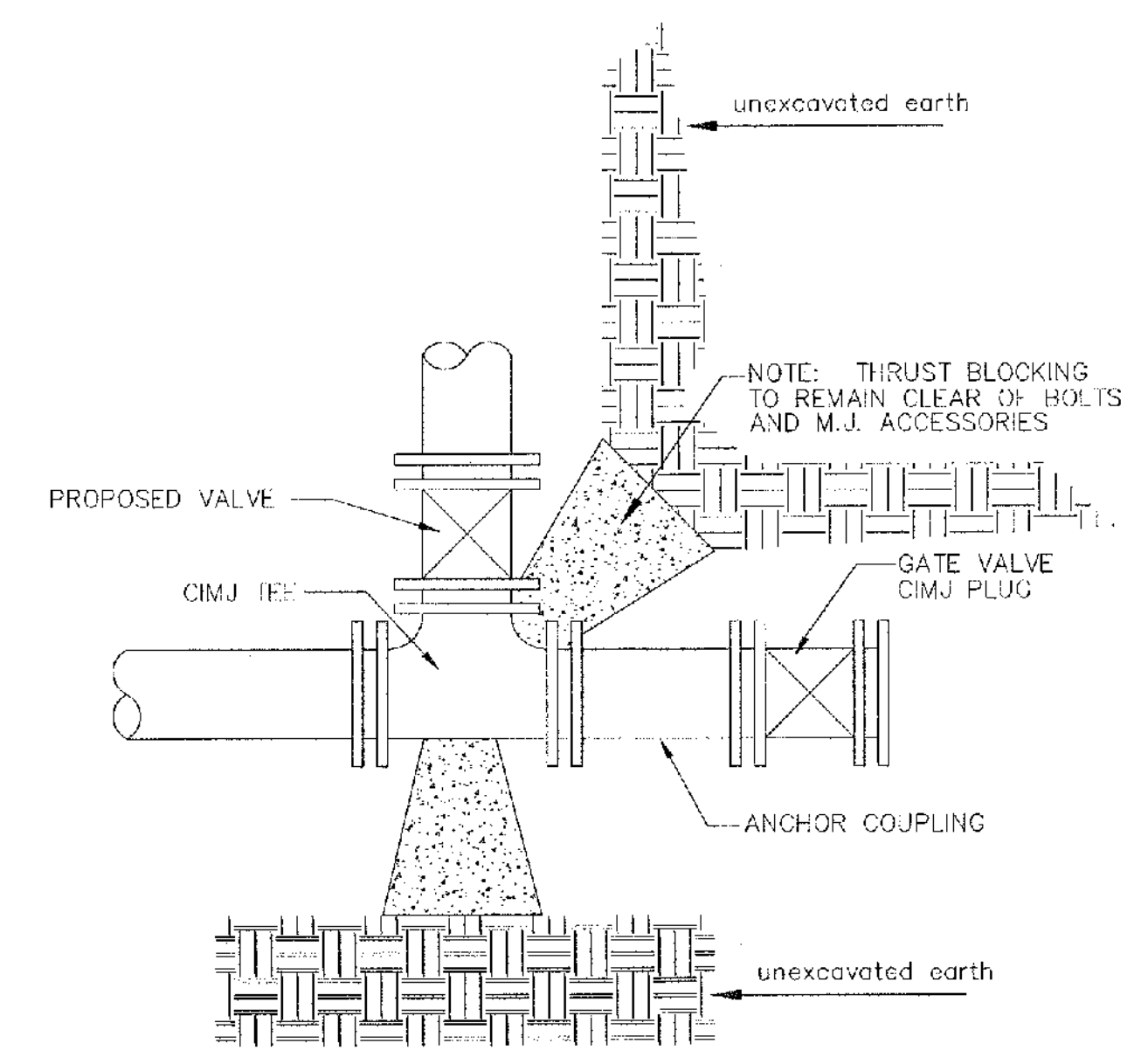
TRENCH COMPACTION IN ROAD RIGHT-OF-WAY



REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER

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

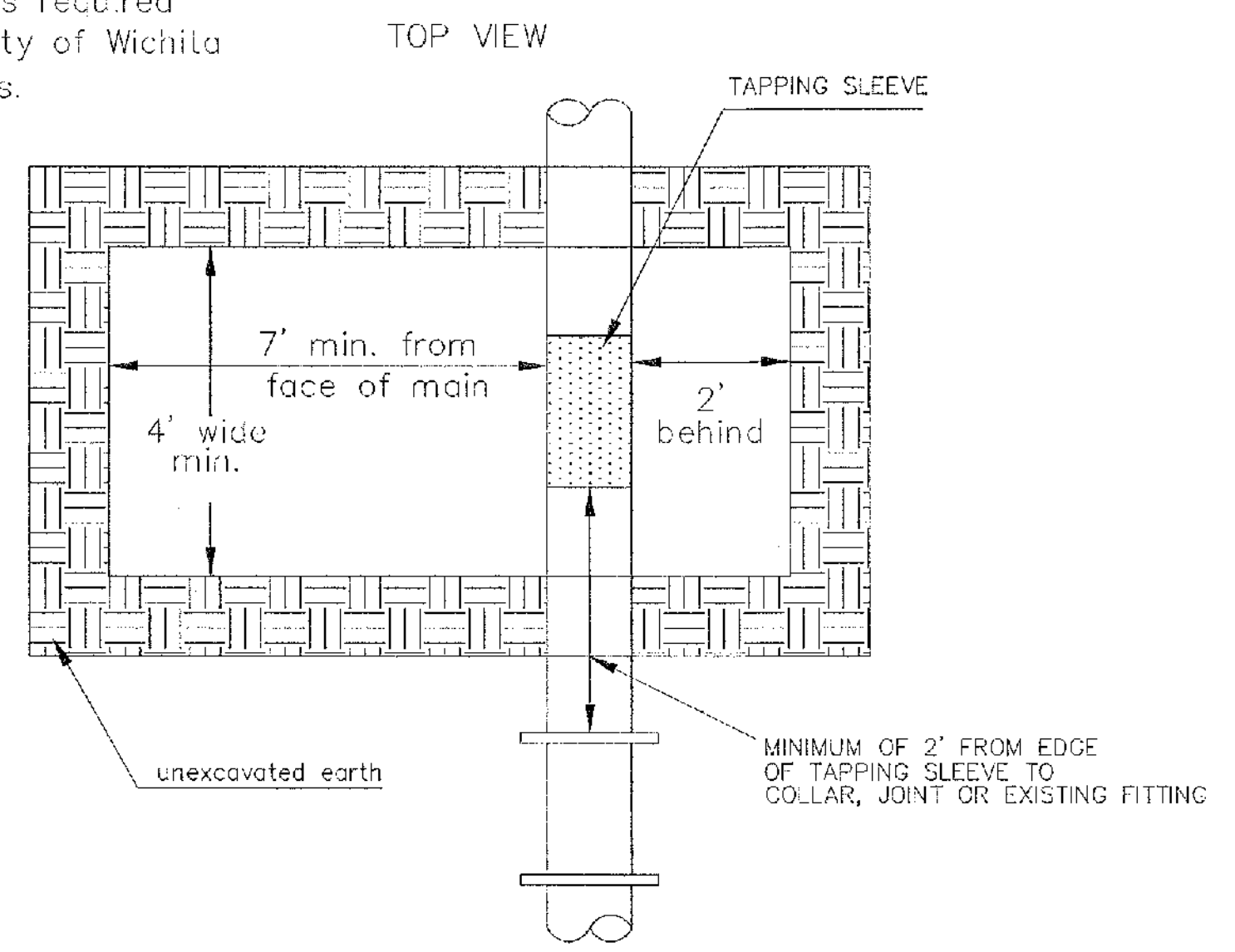
TYPICAL THRUST BLOCKS



KEY BLOCK DETAIL

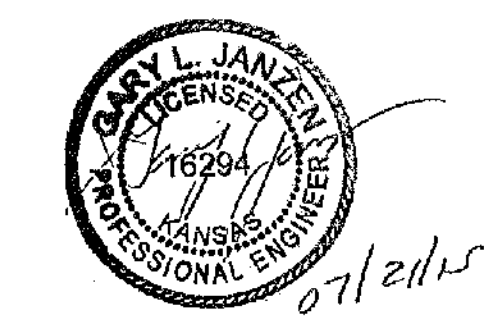
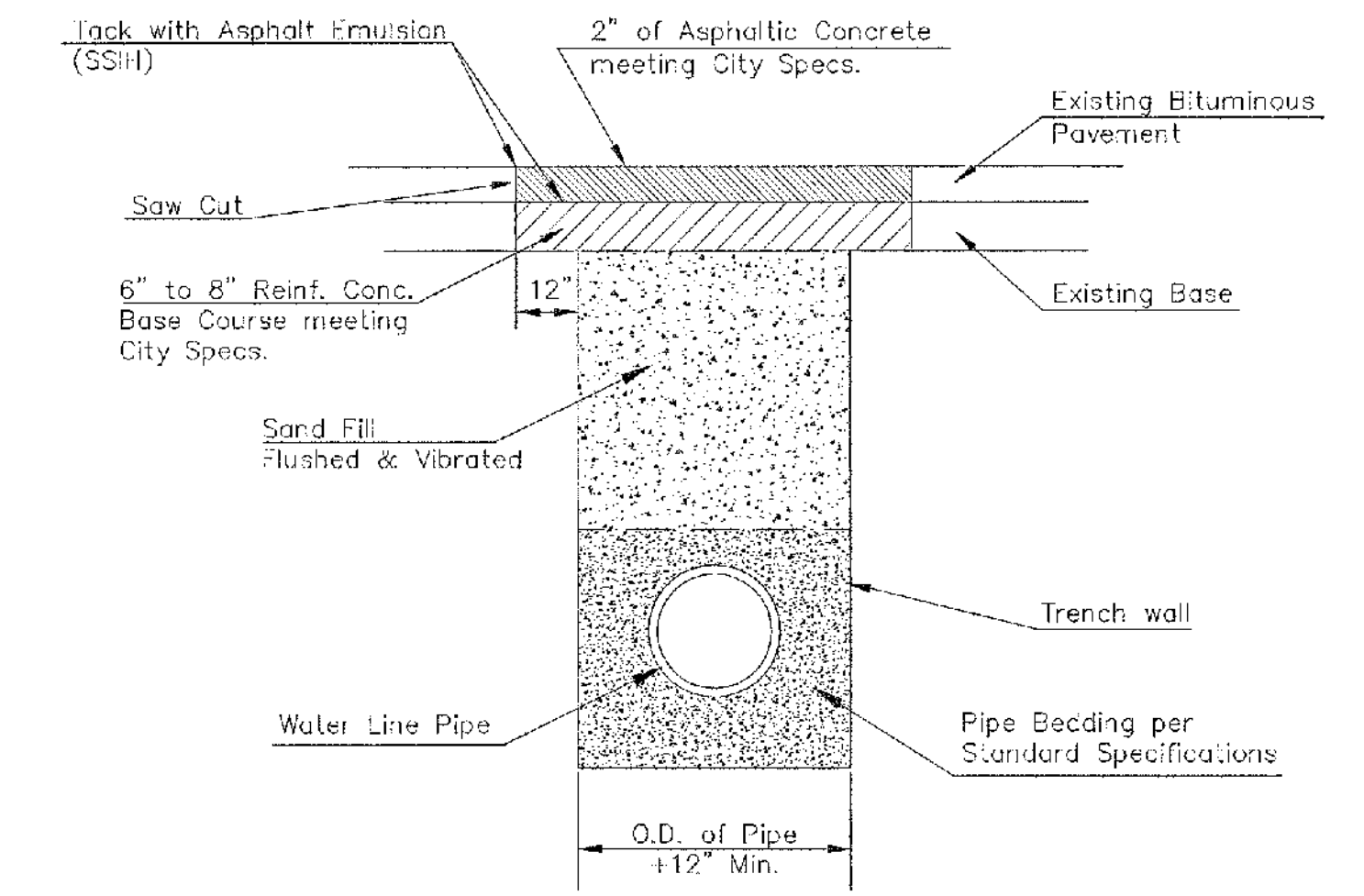
* PLANS GOVERN UNLESS OTHERWISE NOTED ON PLANS

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

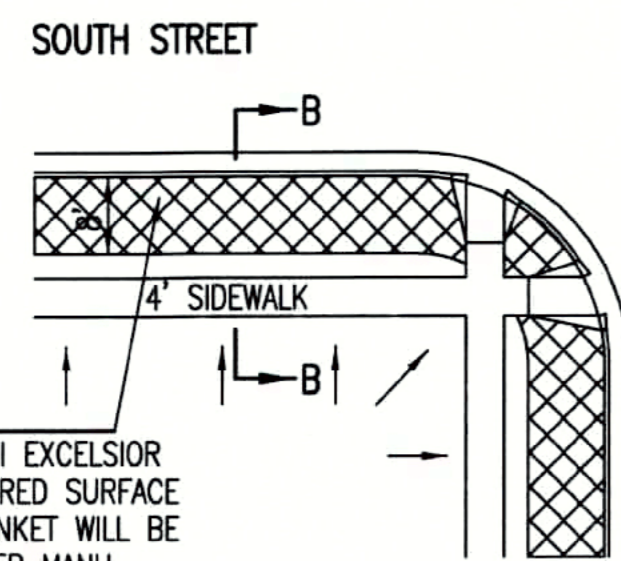
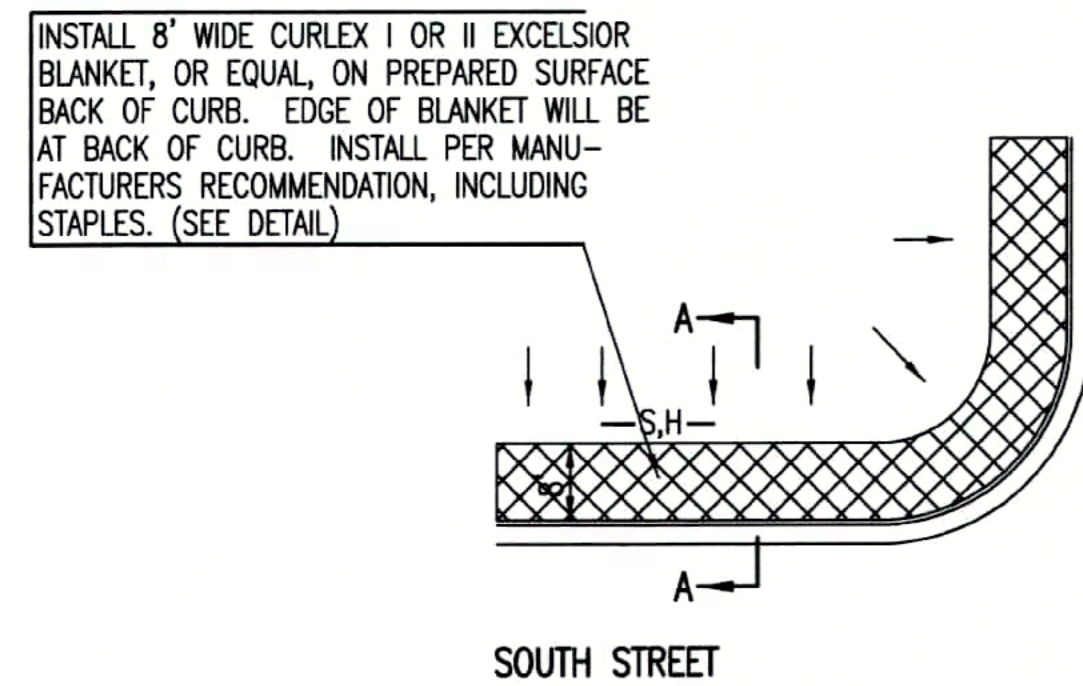
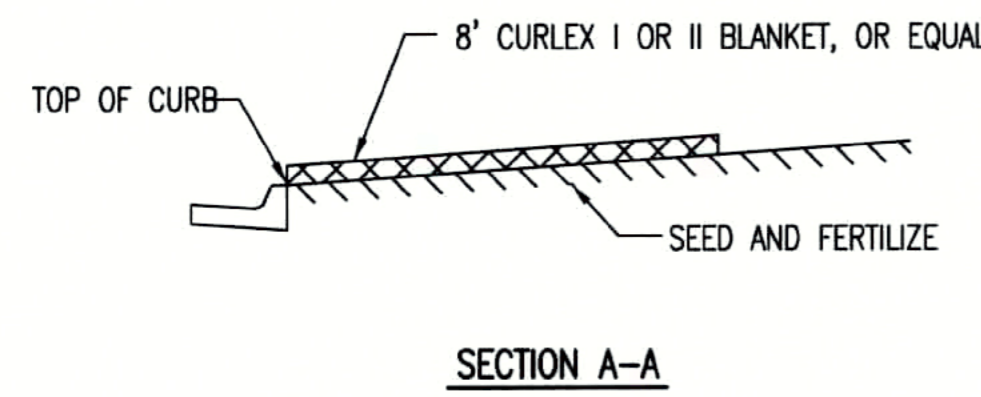
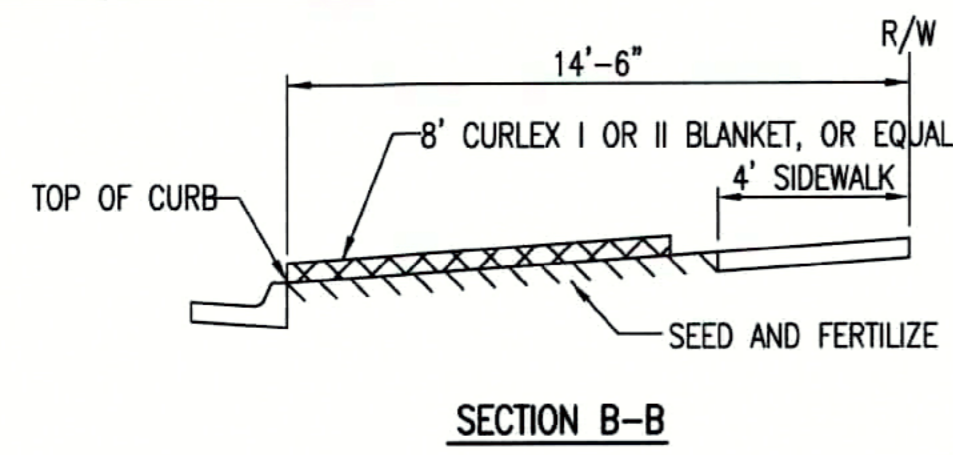


EXCAVATION FOR WET TAP

PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS



<p>MISCELLANEOUS WATER DETAILS</p> <p>CITY ENGINEER</p> <p>GARY JANZEN, P.E.</p>		
PROJECT NUMBER	OCA NUMBER	DATE
		6/19/2024
CITY ENGINEER'S OFFICE		SHEET
CITY HALL - SEVENTH FLOOR		13 of 19
455 NORTH MAIN STREET		
WICHITA, KANSAS 67202-1620		
(316) 268-4501		

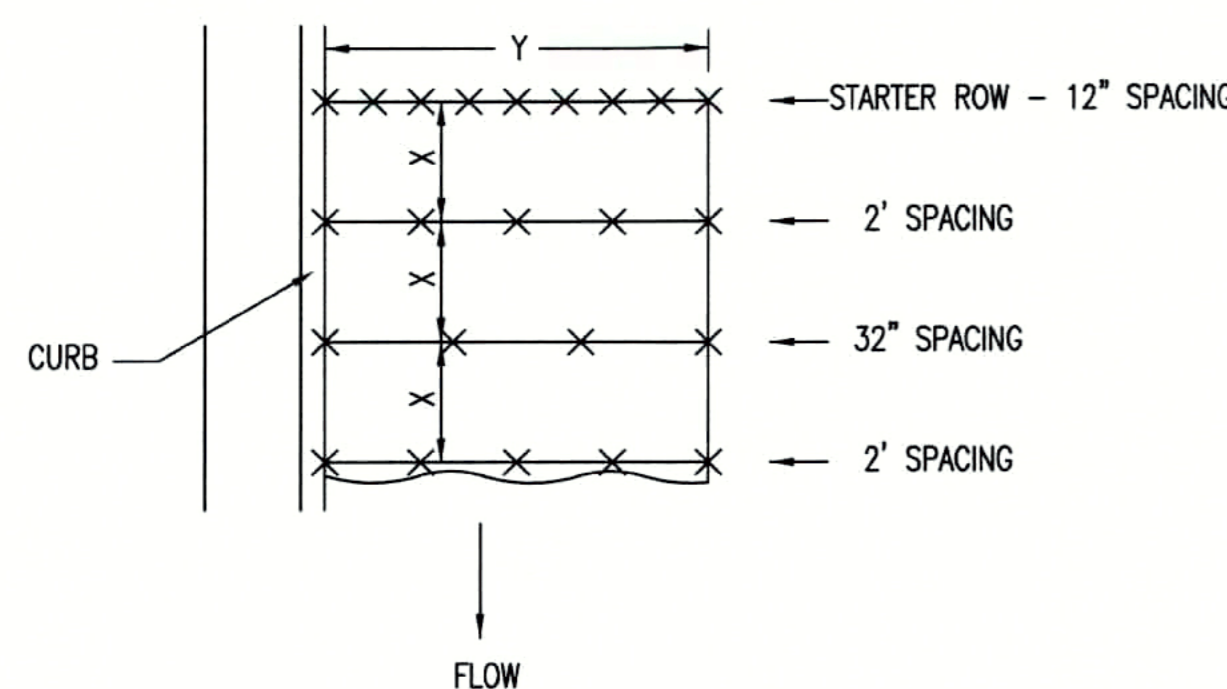


INSTALL 8' WIDE CURLEX I OR II EXCELSIOR BLANKET, OR EQUAL, ON PREPARED SURFACE BACK OF CURB. EDGE OF BLANKET WILL BE AT BACK OF CURB. INSTALL PER MANUFACTURER'S RECOMMENDATION, INCLUDING STAPLES. (SEE DETAIL)

GENERAL NOTES

- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
- EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- 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.

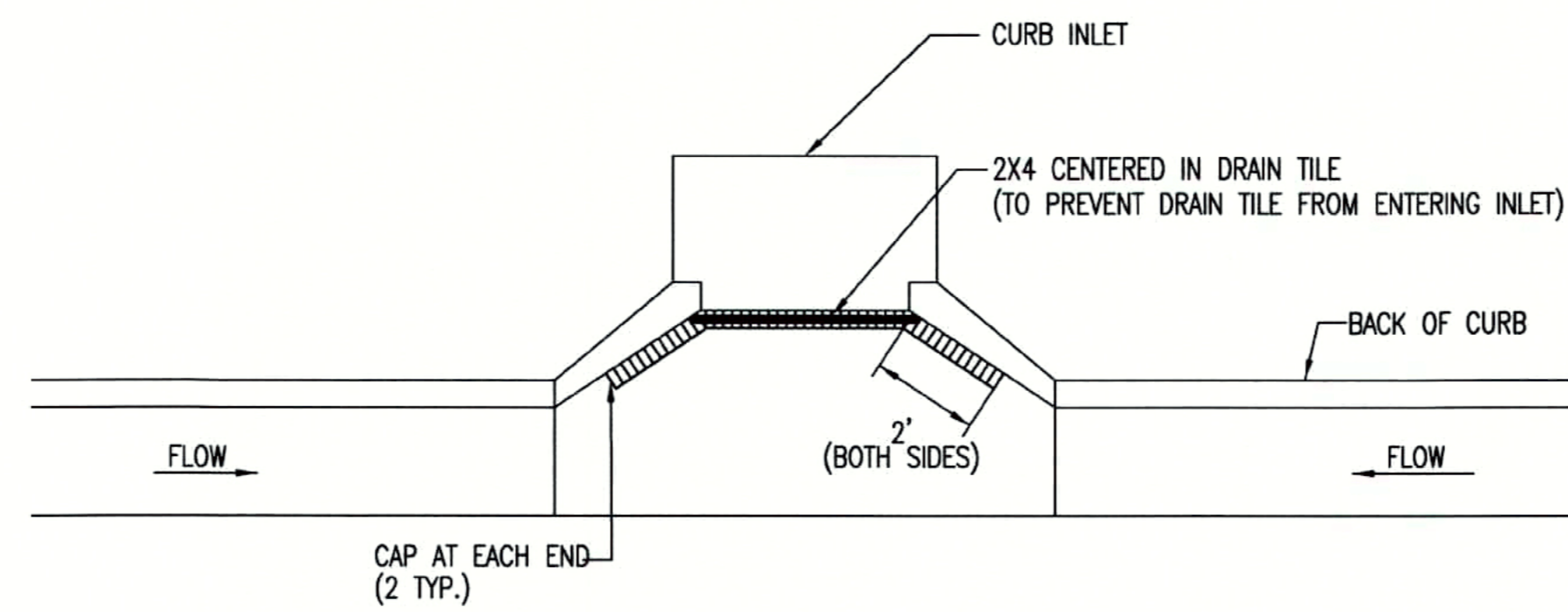
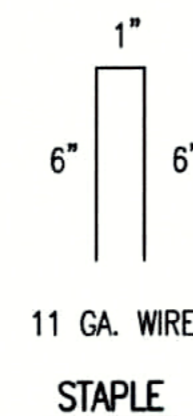
BACK OF CURB PROTECTION DETAIL



STAPLE PATTERN

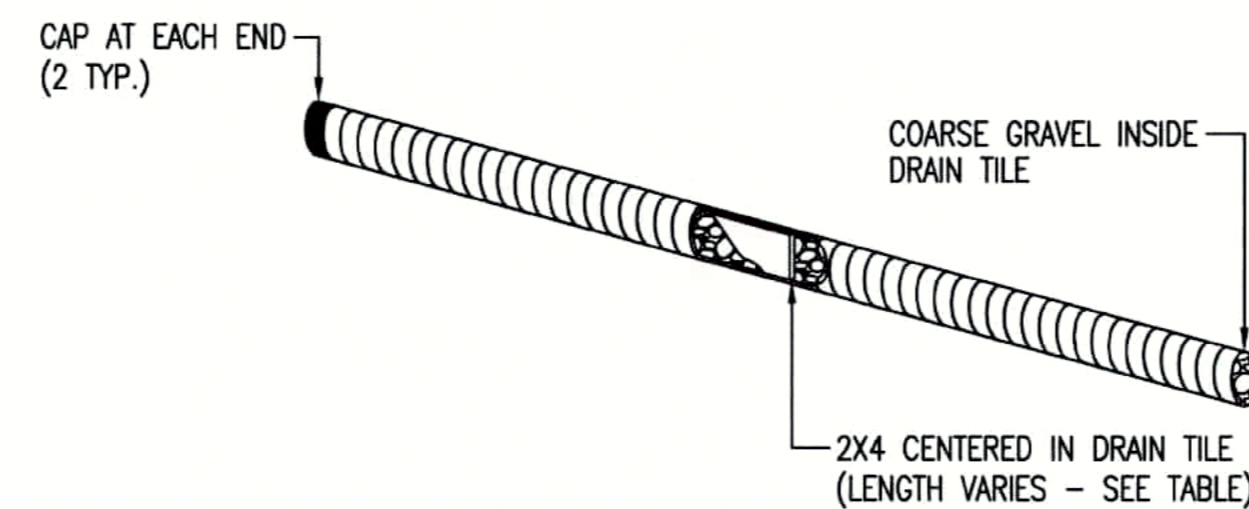
NOTES: USE 6\"/>

DETAILS FOR APPROVED EROSION CONTROL MAT

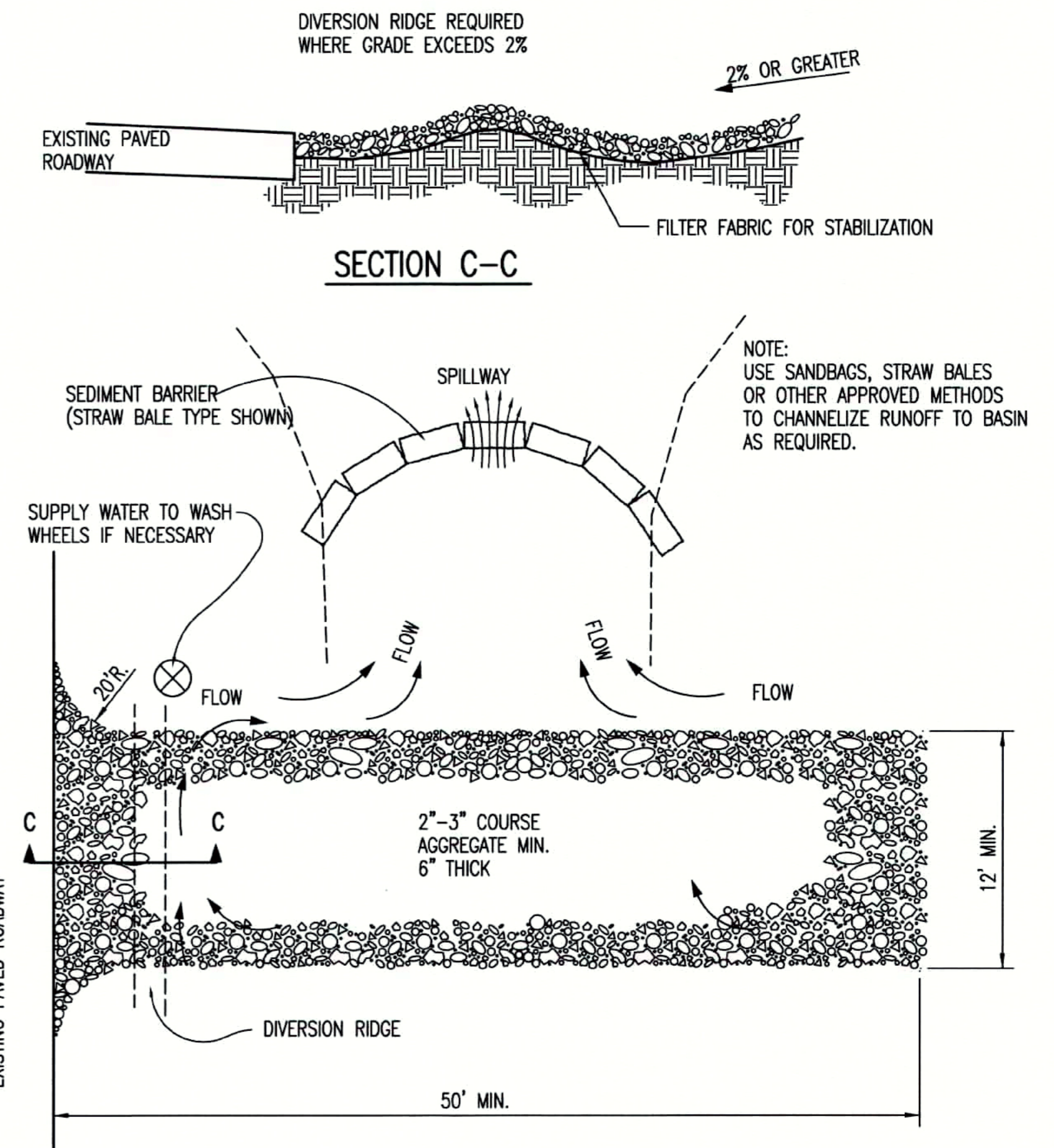


NOTE: PLACE 4\"/>

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\"/>



STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES

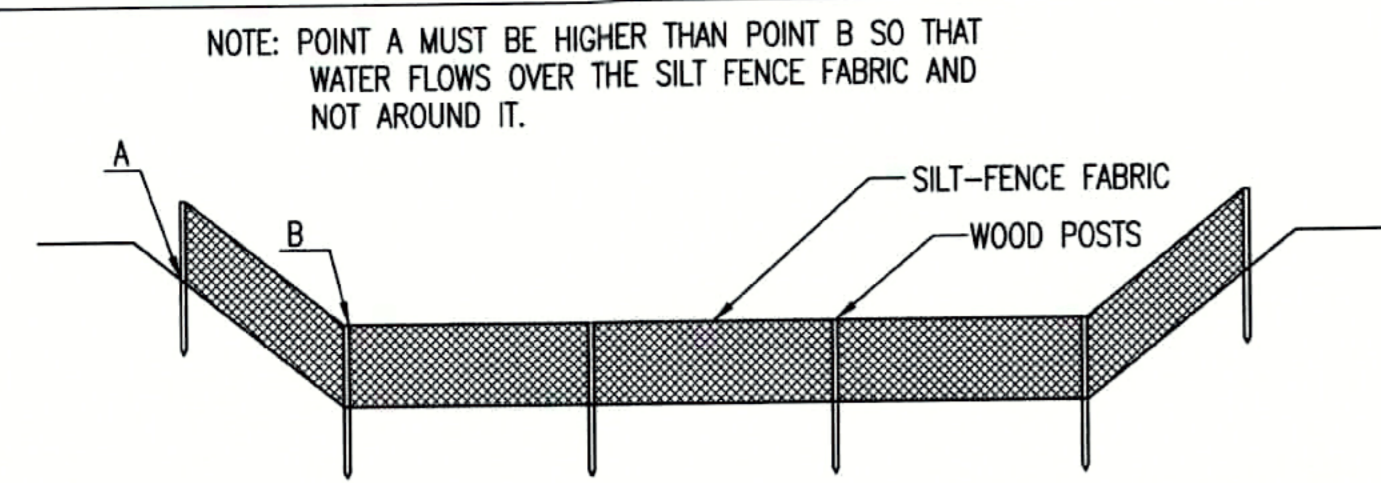
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- 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.
- 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



BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE

CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE 6/19/2024
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 14 of 19



ELEVATION
SILT FENCE DITCH CHECKS
(STREAM PROTECTION)

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 DOWNSLOPE 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 IN 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 DOWNSLOPE 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.

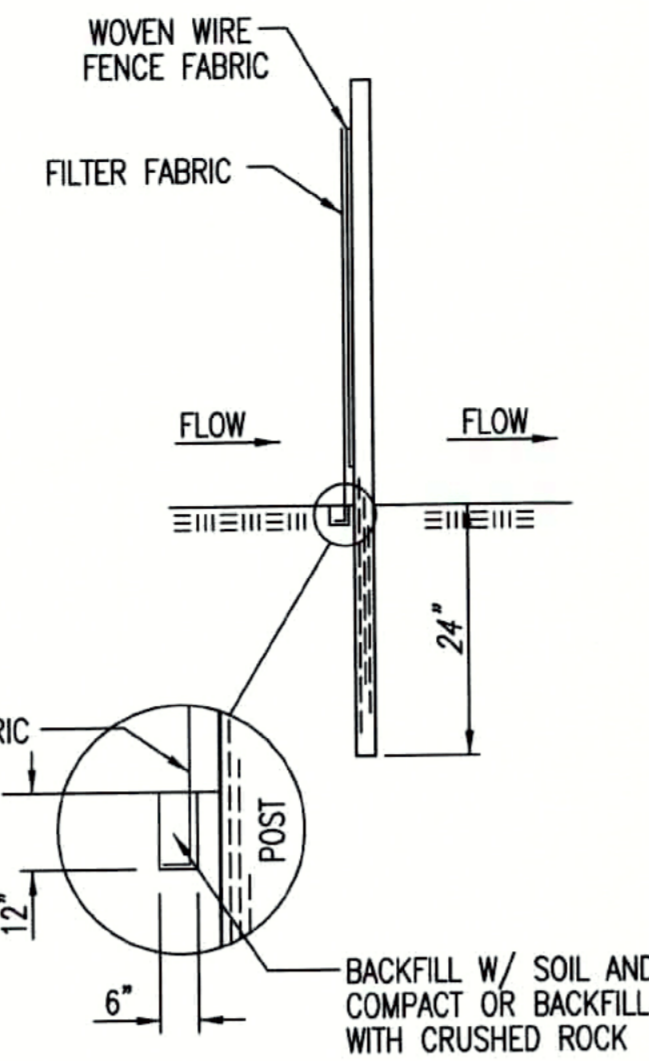
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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.

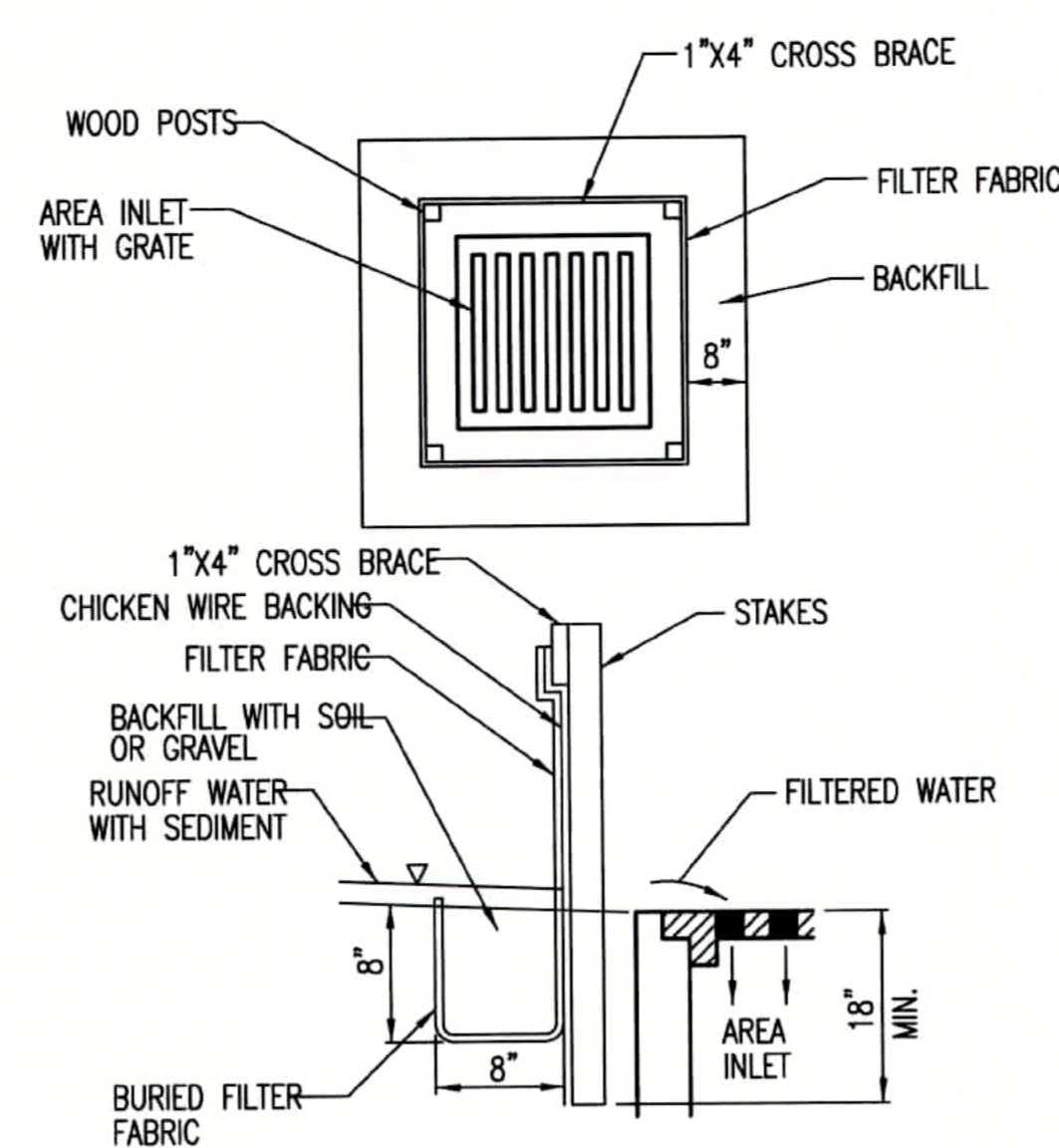
INSPECTION AND MAINTENANCE:

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?



ANCHOR TRENCH DETAIL



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.

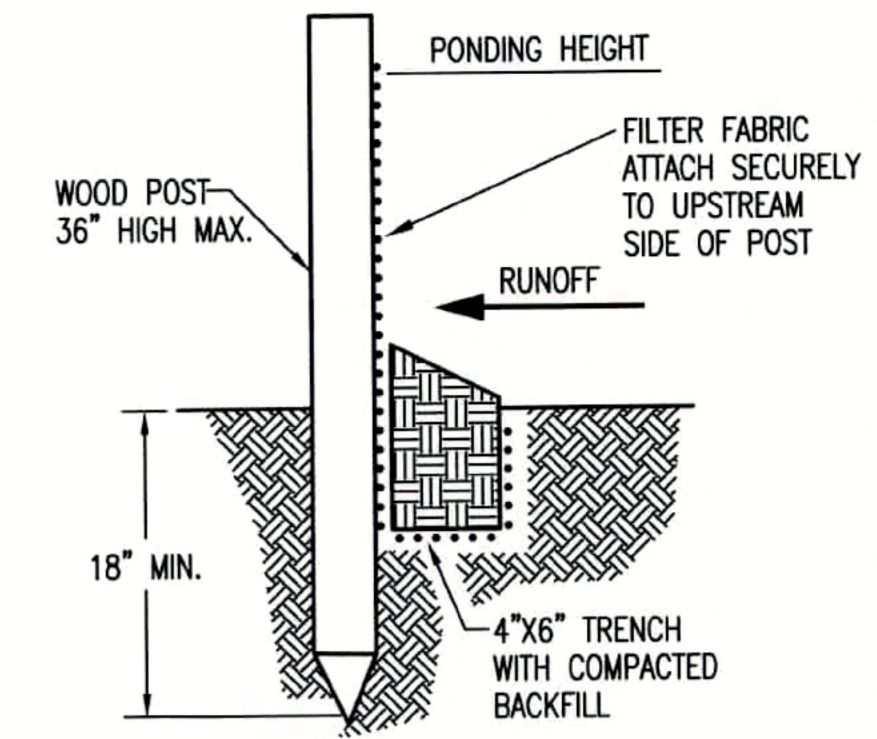
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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 RESTRICTED 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:

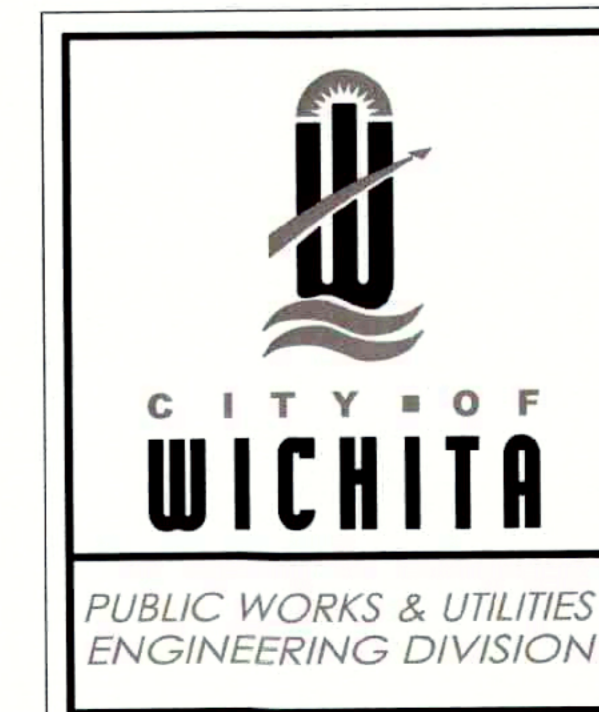
WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES. DO NOT PLACE SILT-FENCE POSTS ON THE UPSLOPE 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?

REVISION DATE: MAY 2013

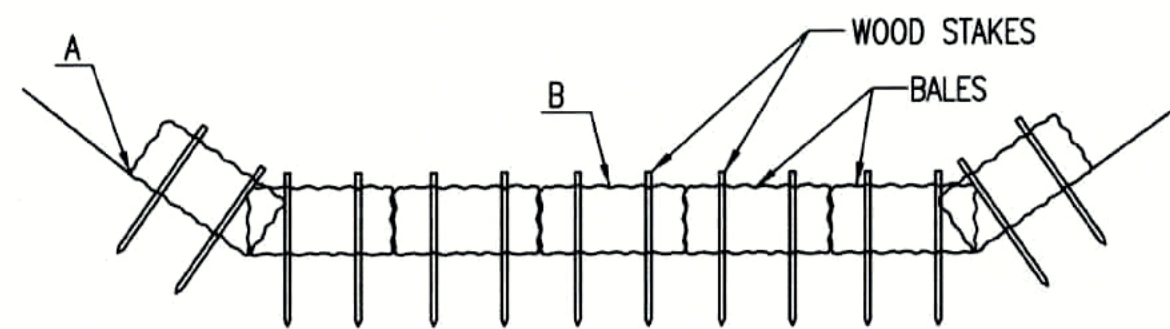


SILT FENCE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
		6/19/2024
CITY ENGINEER'S OFFICE		SHEET
CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		15 of 19

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 CHECK SPACING (%)	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".

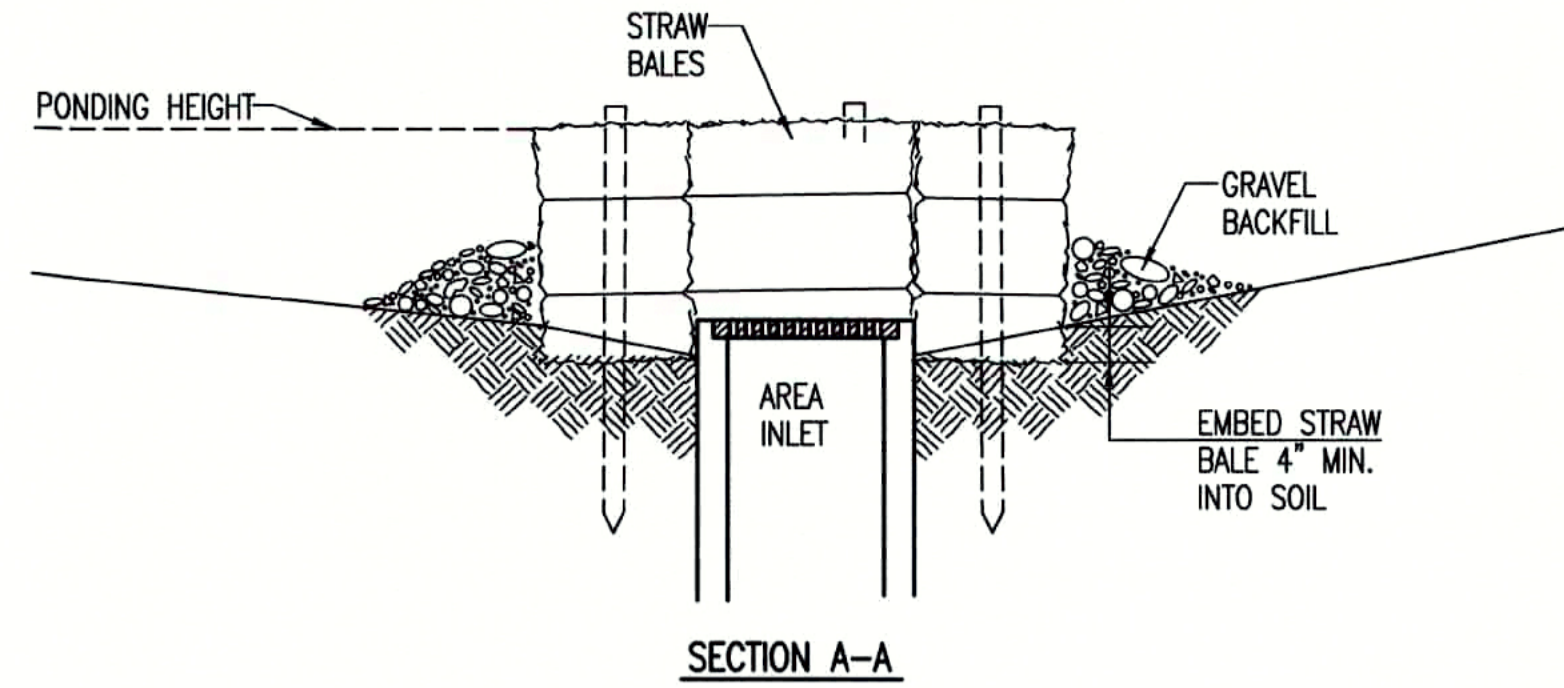
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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.

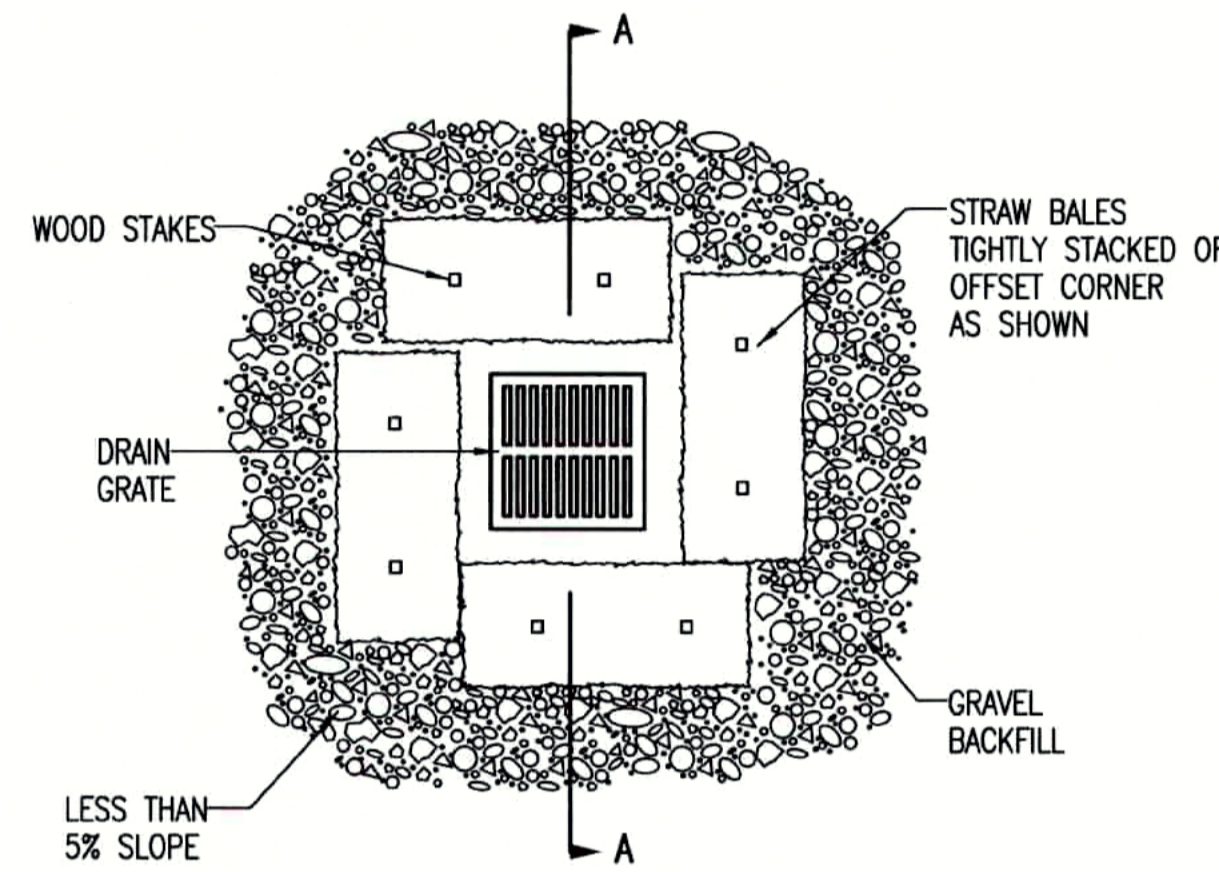
INSPECTION AND MAINTENANCE:

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.

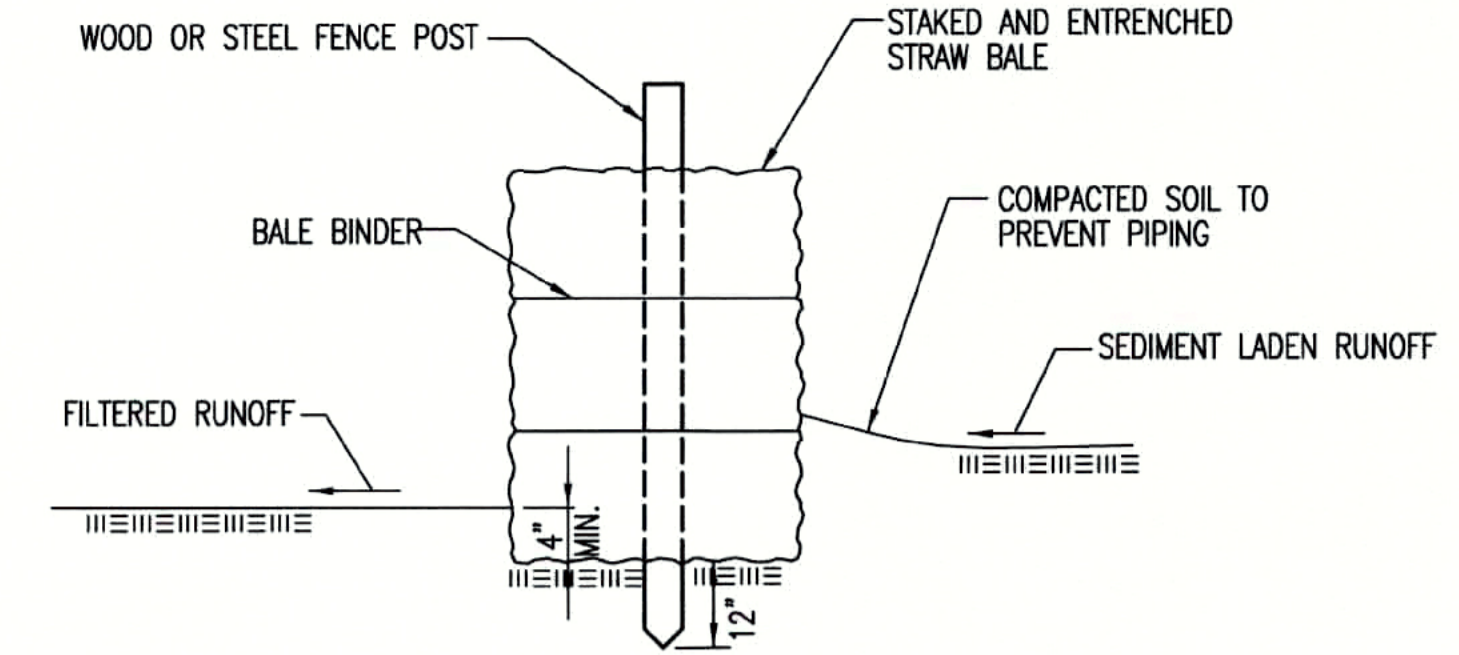
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

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 OF 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



STRAW BALE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER

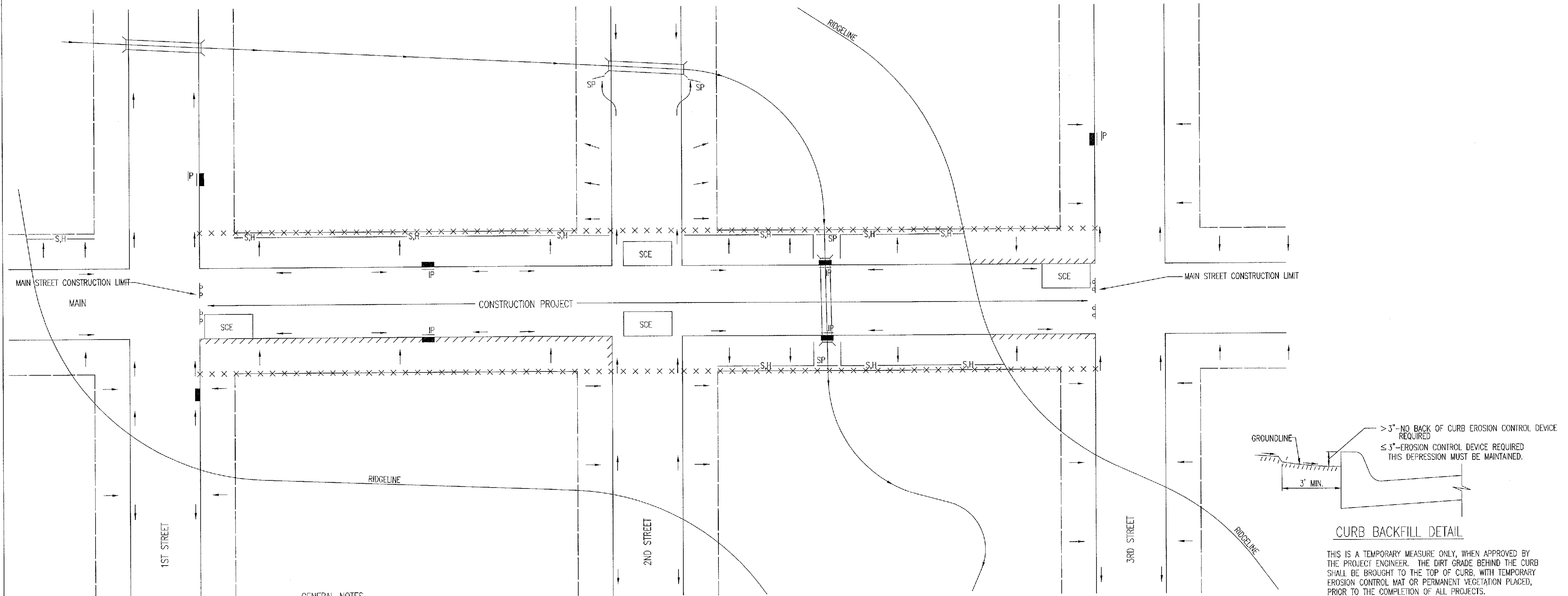
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
		6/19/2024

CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501	SHEET 16 of 19
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GENERAL NOTES

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

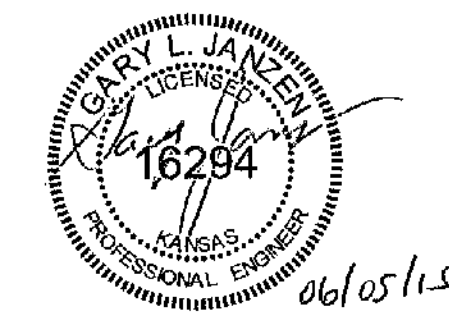


GENERAL NOTES

- 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.
- THE POINT OF COMPLIANCE IS GENERALLY THE RIGHT-OF-WAY LINES WITHIN THE LIMITS OF CONSTRUCTION.
- EROSION CONTROL DEVICES WILL BE REQUIRED AT ALL POINTS ALONG THE PROJECT WHERE DISTURBED EARTH CAN DRAIN ONTO PRIVATE PROPERTY.
- INLET PROTECTION DEVICES WILL BE REQUIRED WHEREVER WATER CAN DRAIN OFF THE PROJECT SITE INTO AN INLET, INCLUDING ANY SIDE STREET INLETS.
- EROSION CONTROL DEVICES SHALL BE INSTALLED AT CREEK CROSSINGS SO AS TO PREVENT SEDIMENT FROM ENTERING THEREIN.
- 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.
- ANY MUD TRACKED ONTO STREETS MUST BE REMOVED AT THE END OF EACH WORK DAY.
- THE CONTRACTOR 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:
 - 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)
 - 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.
 - ADDITIONALLY, OTHER EROSION CONTROL DEVICES (HAY BALES, SILT FENCE, ETC.) WILL BE INSTALLED AT LOCATIONS OF CONCENTRATED FLOW RESULTING IN SEDIMENT OVERRUNNING THE MAT.
 - 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)

LEGEND

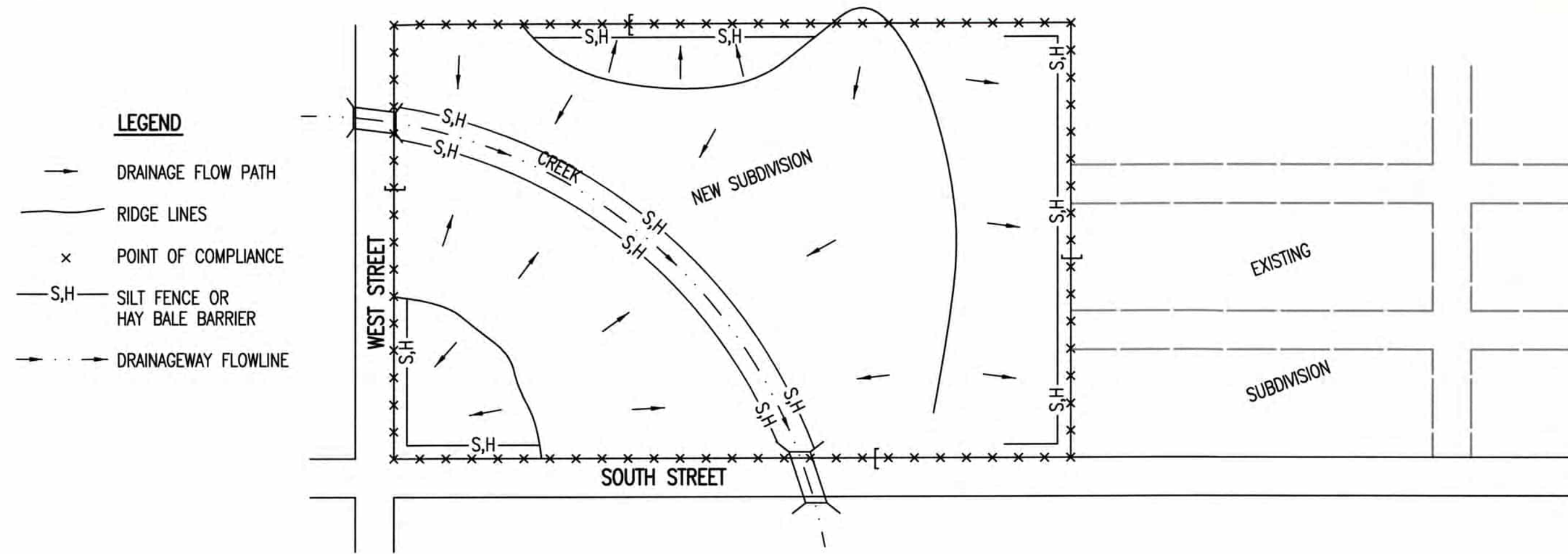
--- R-O-W LIMITS
→ DRAINAGE FLOW PATH
x x x x x R/W LIMIT WITHIN CONSTRUCTION LIMIT
■ STORM WATER INLETS
IP INLET PROTECTION
S,H SILT FENCE OR HAY BALE BARRIER
SP STREAM PROTECTION
SCE STABILIZED CONSTRUCTION ENTRANCE
////// BACK OF CURB PROTECTION



<p>CITY OF WICHITA PUBLIC WORKS & UTILITIES ENGINEERING DIVISION</p>			<p>STREET IMPROVEMENT PROJECTS</p>		
			<p>CITY ENGINEER GARY JANZEN, P.E.</p>		
PROJECT NUMBER	OCA NUMBER	DATE	6/19/2024		
CITY ENGINEER'S OFFICE			SHEET		
CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501			17 of 19		

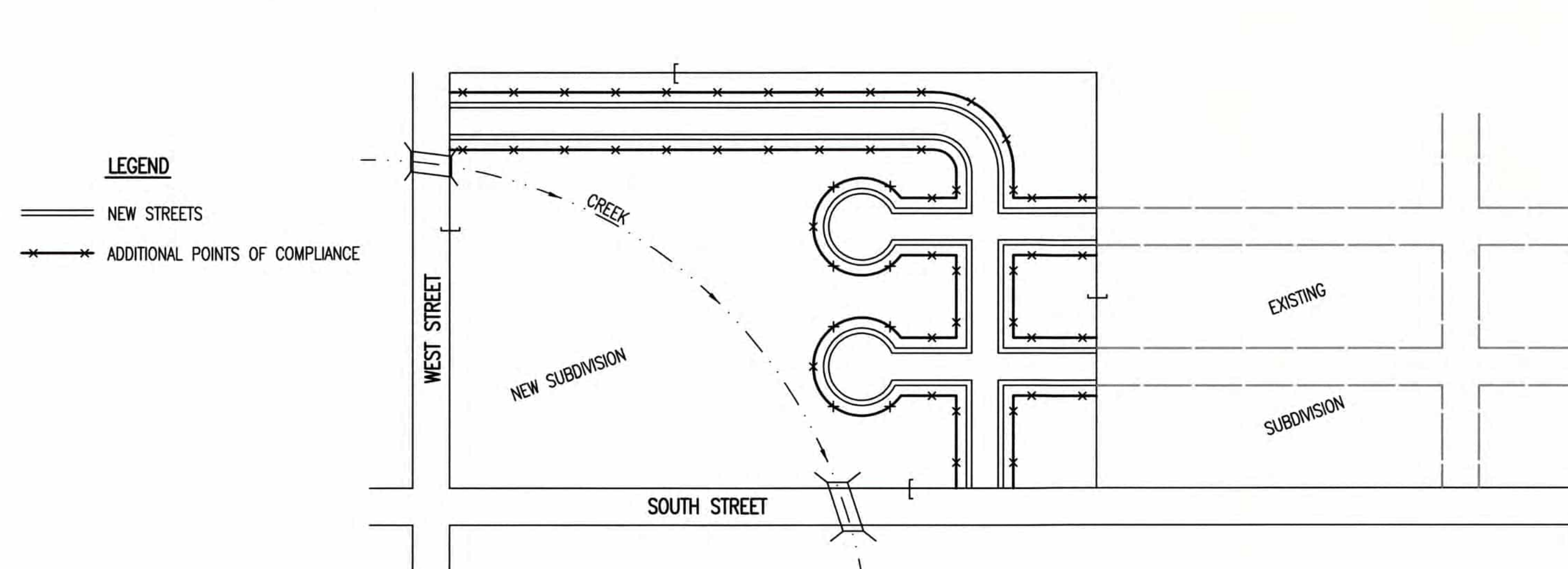
REVISION: JUNE 2015

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



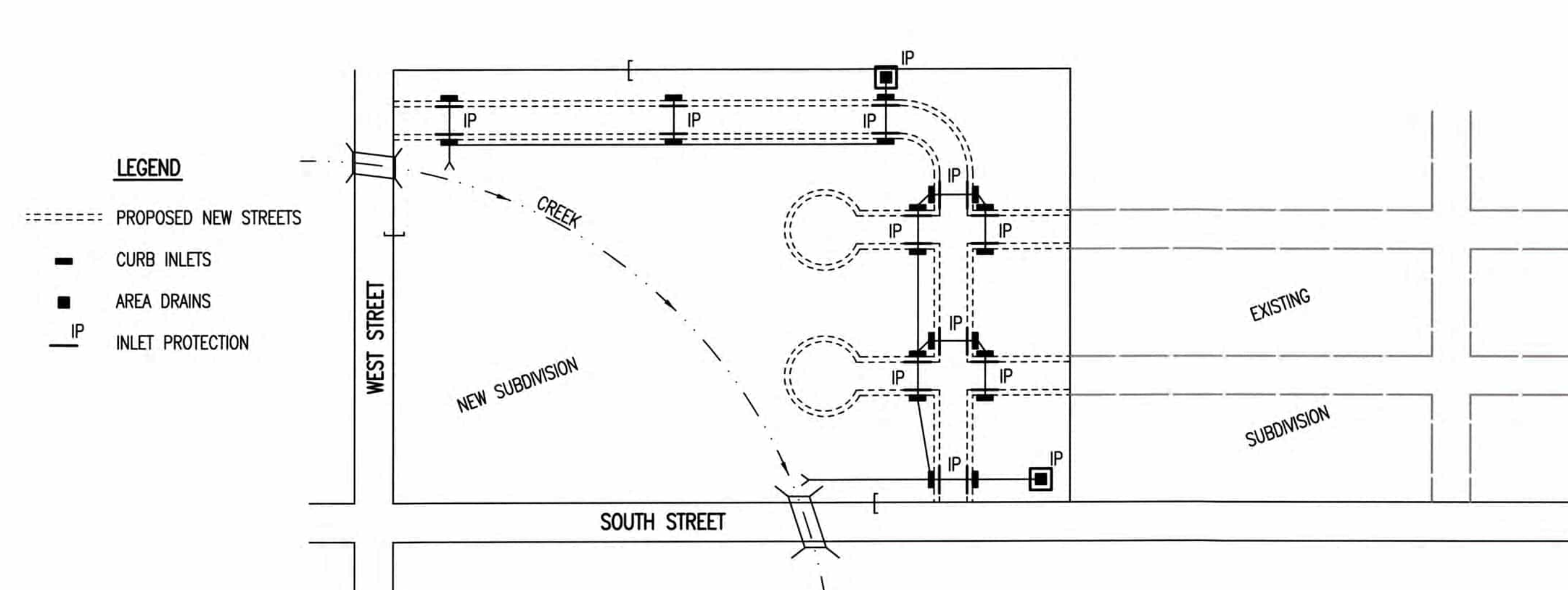
- LEGEND**
- DRAINAGE FLOW PATH
 - RIDGE LINES
 - × POINT OF COMPLIANCE
 - S,H— SILT FENCE OR HAY BALE BARRIER
 - DRAINAGEWAY FLOWLINE
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
 - 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.
 - 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.
 - ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
 - 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.
 - UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
 - 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.
 - 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



- LEGEND**
- NEW STREETS
 - × ADDITIONAL POINTS OF COMPLIANCE
- 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.
 - 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.
 - 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.
 - SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
 - 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.
 - THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
 - 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

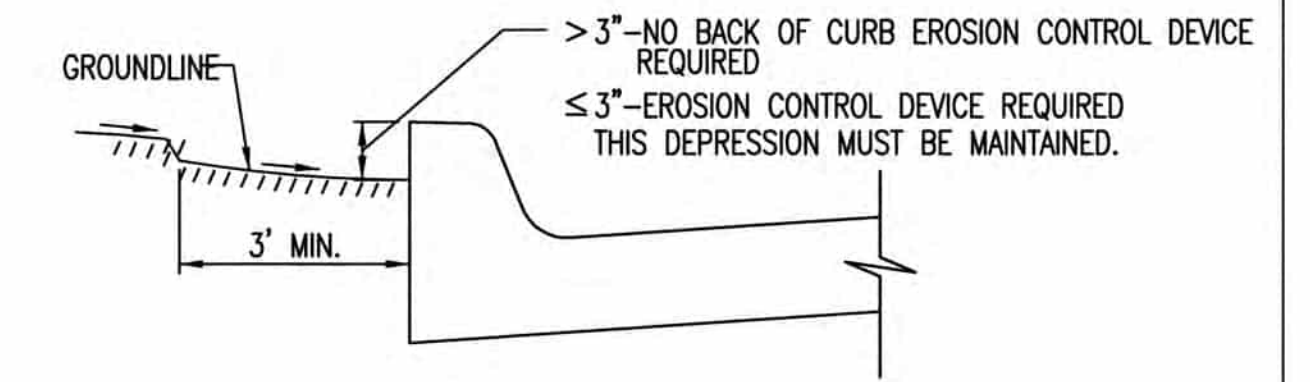


- LEGEND**
- PROPOSED NEW STREETS
 - CURB INLETS
 - AREA DRAINS
 - IP— INLET PROTECTION
- DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
 - AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
 - AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
 - 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.
 - THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
 - THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
 - 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.
 - 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

- 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.
- 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.
- 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.
- PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
- 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.
- 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.
- 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.
- 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.
- 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



CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SUBDIVISION DEVELOPMENT PROCESS		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE
		6/19/2024
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 18 of 19

BENCHMARKS

BM - #1 City of Wichita Benchmark on the east head wall of SWS pipe, approx. 133.9' North and 191.1' East of the northwest corner of Lot 21, Block B, Sandcrest Addition, Wichita, Sedgwick County, Kansas
Elevation = 1,325.19 (NAVD 88)

BM - #2 City of Wichita Benchmark on the east head wall of SWS pipe, approx. 29.3' North and 23.6' East of the NE COR., NE 1/4, SEC. 2, TWP. 27-S, R-1-W, Wichita, Sedgwick County, Kansas
Elevation = 1,321.98 (NAVD 88)

SE 1/4
SEC 35
TWP 26S, R 1W

SW 1/4
SEC 35
TWP 26S, R 1W

CONTROL POINTS

CP #1 - Section Corner at Hoover Road & 29th Street North, Found COW Thimble #4 Rebar
29th Street BL Sta. 100+00.00
N-1704211.7816
E-1628095.8803

CP #3 - Quarter Corner Between Hoover Road and West Street, Found #5 Rebar
29th Street BL Sta. 126+42.30
N-1704254.7518
E-1630737.8316

CP #4 - Section Corner at West Street & 29th Street North, Found 1" Rebar
29th Street BL Sta. 152+84.48
West St BL Sta. 226+37.80
N-1704298.4325
E-1633379.6522

CP #100 -Set #4 Rebar
29th Street BL Sta. 118+73.40, 46.85' Rt.
N-1704195.4035
E-1629969.7920

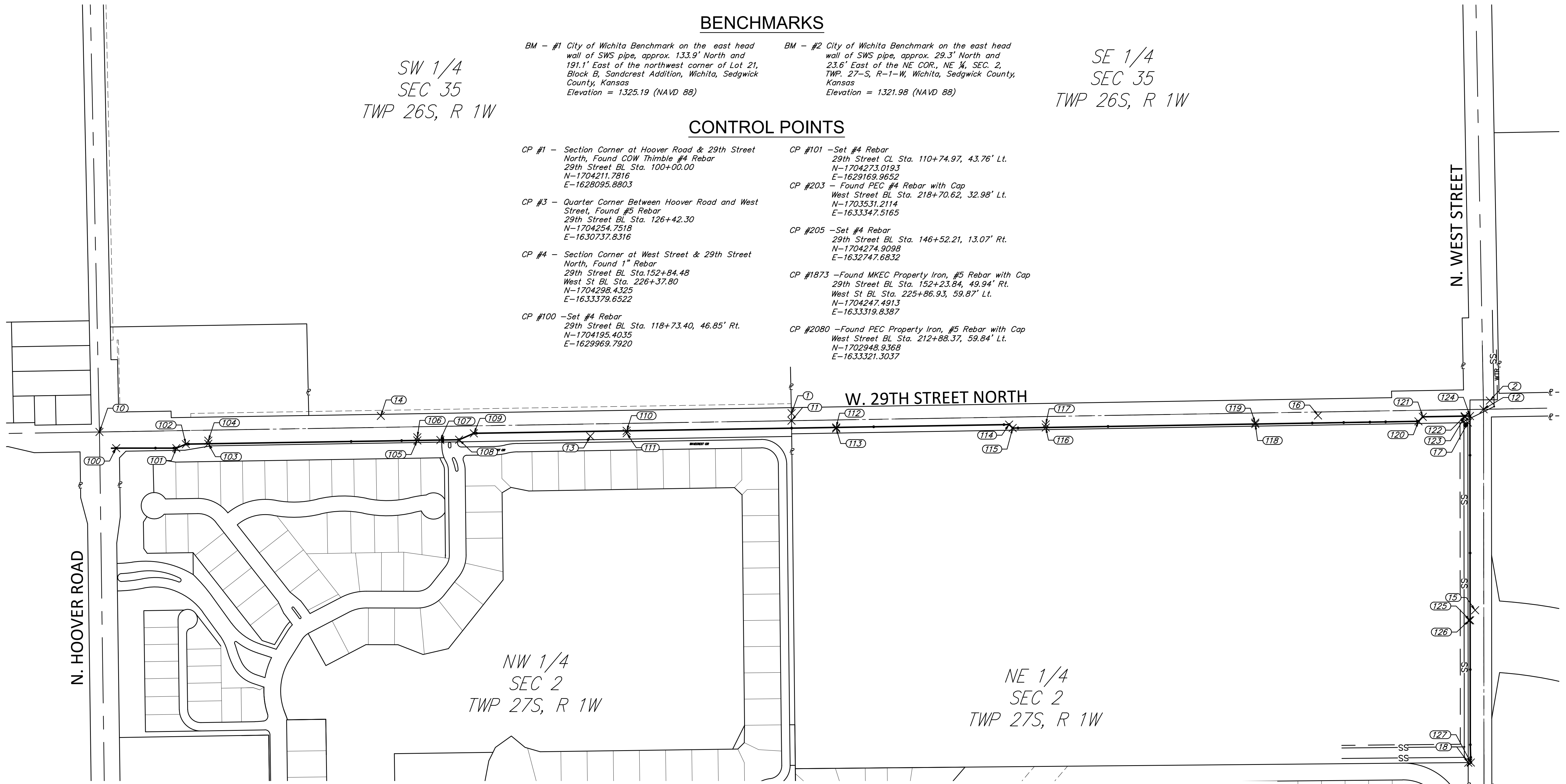
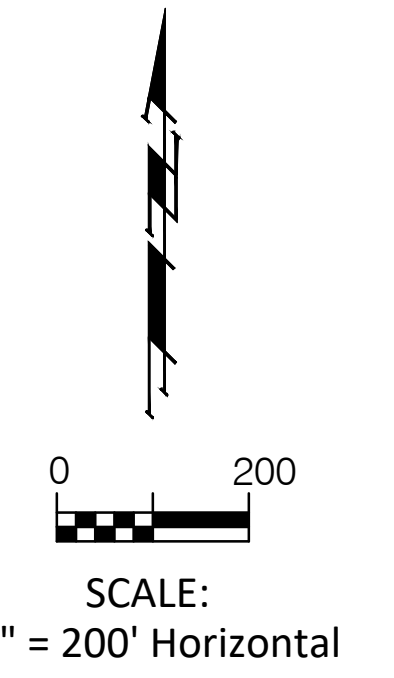
CP #101 -Set #4 Rebar
29th Street CL Sta. 110+74.97, 43.76' Lt.
N-1704273.0193
E-1629169.9652

CP #203 - Found PEC #4 Rebar with Cap
West Street BL Sta. 218+70.62, 32.98' Lt.
N-1703531.2114
E-1633347.5165

CP #205 -Set #4 Rebar
29th Street BL Sta. 146+52.21, 13.07' Rt.
N-1704274.9098
E-1632747.6832

CP #1873 -Found MKEC Property Iron, #5 Rebar with Cap
29th Street BL Sta. 152+23.84, 49.94' Rt.
West St BL Sta. 225+86.93, 59.87' Lt.
N-1704247.4913
E-1633319.8387

CP #2080 -Found PEC Property Iron, #5 Rebar with Cap
West Street BL Sta. 212+88.37, 59.84' Lt.
N-1702948.9368
E-1633321.3037

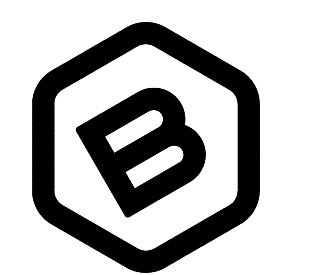
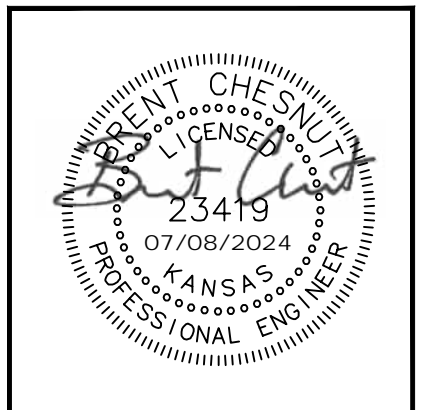


CONTROL POINTS			
Point #	Northing	Easting	Description
1	1704283.5514	1630738.0390	BM#1
2	1704331.4661	1633403.5952	BM#2
10	1704211.7803	1628095.8793	CP#1
11	1704254.7516	1630737.8316	CP#3
12	1704298.4325	1633379.6506	CP#4
13	1704195.4035	1629969.7920	CP#100
14	1704273.0193	1629169.9652	CP#101
15	1703531.2114	1633347.5165	CP#203
16	1704274.9098	1632747.6832	CP#205
17	1704247.4913	1633319.8387	CP#1873
18	1702948.9368	1633321.3037	CP#2080

COORDINATE POINT TABLE			
Point #	Northing	Easting	Raw Description
100	1704149.9784	1628159.7161	Tee
101	1704149.9784	1628389.2259	Bend
102	1704165.1412	1628425.8322	Bend
103	1704166.5308	1628511.2667	FH Tee
104	1704178.5308	1628511.2667	FH
105	1704179.5099	1629309.2682	FH Tee
106	1704191.5099	1629309.2682	FH
107	1704180.9406	1629397.2307	Tee
108	1704182.1050	1629468.8231	Bend
109	1704206.5241	1629525.1665	Bend
110	1704216.0124	1630108.5266	FH Tee
111	1704207.0127	1630108.5919	FH

COORDINATE POINT TABLE			
Point #	Northing	Easting	Raw Description
112	1704229.0671	1630908.3387	FH Tee
113	1704225.0636	1630908.3478	FH
114	1704239.9815	1631568.4428	Bend
115	1704226.7065	1631582.1641	Bend
116	1704228.7930	1631708.3556	FH Tee
117	1704240.7930	1631708.3556	FH
118	1704242.0187	1632508.2463	FH Tee
119	1704247.0173	1632508.1648	FH
120	1704252.3187	1633131.1949	Bend/Air Release
121	1704269.5974	1633147.9115	Bend
122	1704272.2270	1633307.6804	FH Tee
123	1704268.2270	1633307.6804	FH

COORDINATE POINT TABLE			
Point #	Northing	Easting	Raw Description
124	1704272.5530	1633327.6808	Tee
125	1703492.4743	1633328.5441	FH Tee
126	1703492.4743	1633324.5429	FH
127	1702949.3911	1633331.0521	Bend



BAUGHMAN COMPANY
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Wichita, KS 67211
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BaughmanCo.com

Capital Improvement
Projects
**Waterline
Coordinate
Sheet**

29th Street North and Hoover
Road Water Main Extension
PROJECT NUMBER:
21-06-E951
DESIGN: PSB DRAWN: BDC
DATE: June 19, 2024
SHEET OF
19 19

File: E:\Projects\29th & Hoover Water Main 21-06-E951\Engineering\29thHWMain.dwg