

**PROJECT BENCHMARK**

Chiseled square cut, center front face of inlet East side of Greenwich Road, 342 feet +/- South of the intersection of East 27<sup>th</sup> Street and Greenwich Road  
 Project Elevation = 1377.42  
 KDOT Elevation = 1378.05  
 (Project Elevation is -0.63 feet from KDOT)

**BENCHMARKS:**

**TBM 1:**  
 Chiseled Square cut on E. Curb of island in center of Greenwich Road. Approximately 60' S. of intersection of westbound ramp to K-96.  
 RIC Project Datum Elev. = 1373.08

**TBM 2:**  
 Chiseled Square cut on south curb of 27th Street approximately 690 feet east of intersection of Greenwich Road.  
 RIC Project Datum Elev. = 1378.40

**TBM 3:**  
 Chiseled Square cut on south side of 27th Street approximately 330 feet east of intersection of Greenwich Road.  
 RIC Project Datum Elev. = 1378.36

# Water Distribution System to Serve WICHITA DESTINATION DEVELOPMENT - PHASE 11 LOT 1, K96 GREENWICH ADDITION 2762 NORTH GREENWICH COURT

an Addition to Wichita, Sedgwick County, Kansas  
 Gary Janzen, P.E., City Engineer  
 2161 PPW (607853)

**OWNER / DEVELOPER**

Wichita Destination Developers, Inc.  
 Attn: Michael J. Boyd, President  
 1707 North Waterfront Parkway  
 Wichita, Kansas 67206

**CONSULTANT / APPLICANT**

Renaissance Infrastructure Consulting  
 1138 Cambridge Circle Drive  
 Kansas City, Kansas 66103

**INDEX OF SHEETS**

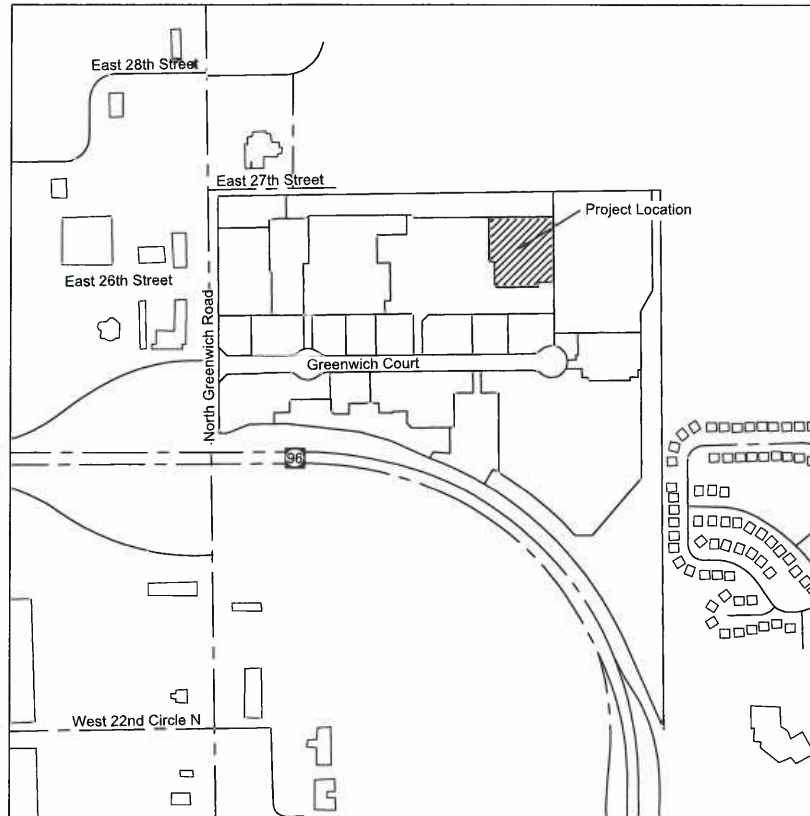
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04	General Layout
05	Plan and Profile
06	Erosion Control Plan
07	Standard Details
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13	Standard Details
14	Standard Details

## AS BUILTS

Contractor: McCullough Excavation  
 Inspector: Matt Perez  
 Date: 1-21-19

117 E. Lewis,  
 Wichita, KS 67202      (316)264-0242

\*6" American DICI Pipe  
 \*6" JM Eagle PVC Pipe  
 \*Pro-Trace Tracer Wire  
 \*Sigma Gland Packs



**LOCATION MAP**  
 Scale: 1" = 500'

**LEGEND**

	Existing Section Line		Proposed Right-of-Way
	Existing Right-of-Way Line		Proposed Property Line
	Existing Lot Line		Proposed Lot Line
	Existing Easement Line		Proposed Easement
	Existing Curb & Gutter		Proposed Curb & Gutter
	Existing Sidewalk		Proposed Sidewalk
	Existing Storm Sewer		Proposed Storm Sewer
	Existing Storm Structure		Proposed Storm Structure
	Existing Waterline		Proposed Fire Hydrant
	Existing Gas Main		Proposed Waterline
	Existing Sanitary Sewer		Proposed Sanitary Sewer
	Existing Sanitary Manhole		Proposed Sanitary Manhole
	Existing Contour Major		Proposed Contour Major
	Existing Contour Minor		Proposed Contour Minor
			Future Curb and Gutter

**UTILITY SERVICE & INSTALLATION CONTACTS**

<b>KANSAS GAS SERVICE</b> Attn: Tim Hamlin (316) 832-3121	<b>WICHITA WATER</b> Attn: Greg Lolley (316) 268-4334
<b>WESTAR ENERGY</b> Attn: Becky Thompson (316) 261-6320	<b>AT&amp;T</b> Attn: Jason Edwards (316) 268-2008
<b>BLACK HILLS ENERGY</b> Attn: Daryl Keller (316) 941-1654	<b>COX COMMUNICATIONS</b> Attn: Mark Henderson (316) 260-7745
<b>NUSTAR ENERGY L.P.</b> Attn: Renee Davis (316) 721-7059	<b>WICHITA SEWER</b> Attn: LaDonna (316)268-4329

**UTILITY EMERGENCY CONTACTS**

<b>KANSAS ONE-CALL</b> (316) 687-2470	<b>AT&amp;T</b> 1-555-1212
<b>COX COMMUNICATIONS</b> (316) 687-2470	<b>CITY OF WICHITA WATER DEPT</b> (316) 268-4908
<b>WESTAR ENERGY/ KANSAS GAS &amp; ELECTRIC COMPANY</b> (800) 482-4950	<b>CITY OF WICHITA SEWER DEPT</b> (316) 268-4071
<b>AQUILA NATURAL GAS</b> (316) 941-1608 (800) 303-0357	<b>KANSAS ONE-CALL: 1-800-DIG-SAFE</b> (1-800-344-7233)



Protect yourselves and your property against underground utility damage and liability.

Find out where the underground utility lines might be buried before you dig.

Anyone digging in Kansas must call before digging. The person who is doing the work is responsible for calling KOC. If the owner contracts with a professional excavator to do the excavation then the professional excavator is responsible for calling KOC.

You (the digger) will need to provide information about the work site when you call. This is a FREE service.

CALL BEFORE YOU DIG  
 IT'S THE LAW.

APPROVED AS NOTED  
 BY WICHITA PUBLIC WORKS ENGINEER  
 AND WICHITA WATER & SEWER DEPARTMENT  
 AND WICHITA FIRE DEPARTMENT

Engineering: *Julianne Kallman 8-7-18*  
 Utilities: *Joe Jolly 8-9-18*  
 Fire Dept: *Franklin 8/10/18*

**NOTE TO CONTRACTORS**

**Public Property:**  
 Inspection and Testing for the Waterline is to be Provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection is to be in accordance with the City of Wichita Standard Construction Engineering Practices and Certified by a Professional Engineer Licensed in the State of Kansas. No Work shall be performed in Dedicated Easements or Public Right-of-Way by the Contractor without Written Authorization by City Engineering. All Construction and Materials shall comply with the City of Wichita Specifications and Standards and Special Provisions (on file and Available in the City Engineer's Office).

**Private Property:**  
 Installation and Testing for the Fire Protection line is to be Performed by a City of Wichita Licensed Fire Protection Contractor in Accordance with the Fire Codes as Adapted by the City of Wichita. All Materials and Construction Practices for the Fire Protection line shall comply with the Fire Codes as Adapted by the City of Wichita (Available from the City of Wichita Fire Department). The Contractor Shall not Commence work Without Notification and Approval of the Wichita Fire Department. Inspection of the Fire Protection Line is to be Provided by a Licensed Engineering Firm under Contract with the Owner/Developer and the Fire Department. The Contractor shall not Start Work until the Project Inspector is Assigned to the Project and Present on the Site. Any Work Done Without Inspection will be Required to be Uncovered for Inspection.

An Approved Copy of these Plans Signed by the City Staff are Required On-Site.

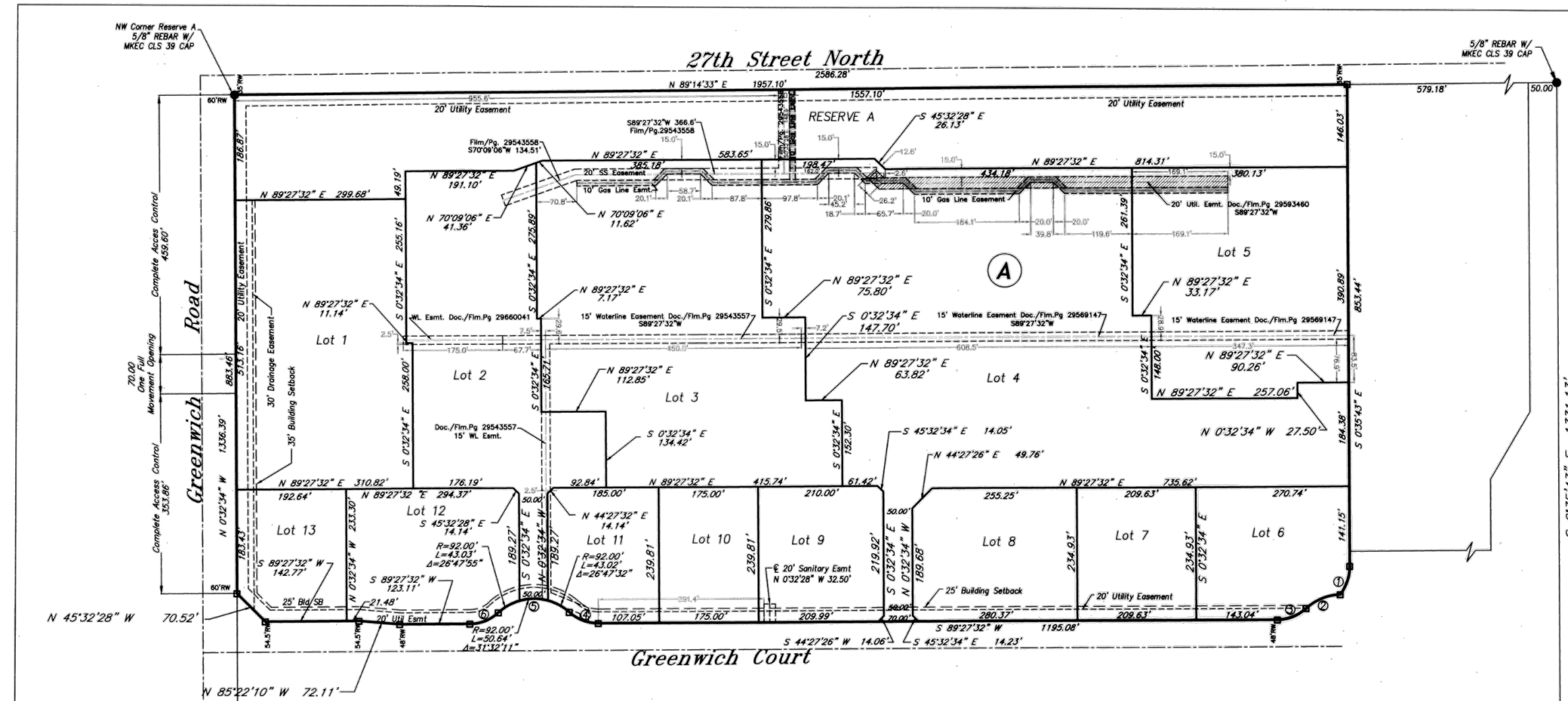
NO.	BY	DATE	REVISION
1	JAK	08/08/18	Per City Comments
2	JAK	07/20/18	Original Submittal

**Renaissance Infrastructure Consulting**  
 914.317.9500  
 www.RIC-CONSULT.COM  
 152 ANGLE AVENUE  
 KANSAS CITY, KANSAS 66103



**AUGUST 2018**

PC 263-5

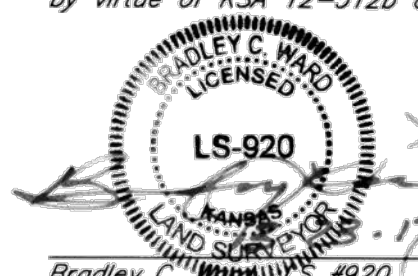


I, Bradley C. Ward, a licensed land surveyor of the State of Kansas, do hereby certify that the following described tract of land was surveyed on this 30th day of January, 2017 and the accompanying one-step final plat prepared and that all the monuments shown herein actually exist and their positions are correctly shown to the best of my knowledge and belief.

**LEGAL DESCRIPTION**  
Part of Lot 1, Block A and Reserve A, Wichita Destination Development Addition, an Addition to Wichita, Sedgwick County, Kansas, a replat of all of K96 and Greenwich North Addition, described as follows: Beginning at the Northwest corner of Reserve A, Wichita Destination Development Addition, an Addition to Wichita, Sedgwick County, Kansas, a replat of all of K96 and Greenwich North Addition; thence N 89°14'33" E, a distance of 1957.10 feet; thence S 0°32'28" E, a distance of 53.34 feet; thence on a curve to the right with a radius of 81.57 feet, a length of 53.53 feet, a delta of 37°36'43", a chord bearing of S 18°11'54" W, and a chord distance of 52.59 feet; thence on a curve to the left with a radius of 92.00 feet, a length of 66.31 feet, a delta of 41°17'58", a chord bearing of S 67°32'42" W, and a chord distance of 64.89 feet; thence on a curve to the right with a radius of 75.00 feet, a length of 55.72 feet, a delta of 42°33'49", a chord bearing of N 69°15'34" W, and a chord distance of 54.44 feet; thence on a curve to the left with a radius of 92.00 feet, a length of 136.69 feet, a delta of 85°07'40", a chord bearing of S 89°27'32" W, and a chord distance of 124.46; thence on a curve to the right with a radius of 75.00 feet, a length of 55.72 feet, a delta of 42°33'49", a chord bearing of S 68°10'38" W, and a chord distance of 54.44 feet; thence S 89°27'32" W, a distance of 1195.08 feet; thence on a curve to the right, with a radius of 75.00 feet, a length of 55.72 feet, a delta of 42°33'49", a chord bearing of N 69°15'34" W, and a chord distance of 54.44 feet; thence on a curve to the left with a radius of 92.00 feet, a length of 136.69 feet, a delta of 85°07'40", a chord bearing of S 89°27'32" W, and a chord distance of 124.46; thence on a curve to the right with a radius of 75.00 feet, a length of 55.72 feet, a delta of 42°33'49", a chord bearing of S 68°10'38" W, and a chord distance of 54.44 feet; thence S 89°27'32" W, a distance of 164.25 feet; thence N 45°32'28" W, a distance of 70.52 feet; thence N 0°32'34" W, a distance of 883.46 feet, to the Point of Beginning.

All easements and rights-of-way within said tract are hereby vacated by virtue of KSA 12-512b amended.

Radius	Length	Delta	Chord Bearing	Chord Length
1	81.57	53.53	37°36'43"	52.59
2	92.00	66.31	41°17'58"	64.89
3	75.00	55.72	42°33'49"	54.44
4	75.00	55.72	42°33'49"	54.44
5	92.00	136.69	85°07'40"	124.46
6	75.00	55.72	42°33'49"	54.44



Know all men by these presents, that we, the undersigned, have caused the land described in the surveyor's certificate to be platted into Lots, a Block and a Reserve, to be known as The Shops at Wichita Destination Development Addition, a replat of Part of Lot 1, Block A and Reserve A, Wichita Destination Development Addition, an Addition to Wichita, Sedgwick County, Kansas, a replat of all of K96 and Greenwich North Addition. Any street dedications shown are dedicated to and for the use of the public. No signs, light poles, private drainage systems, masonry trash enclosures or other structures shall be located within public utility easements. The drainage plan developed for Wichita Destination Development Addition governs this replat and all drainage easements, rights-of-way, or reserves shall remain at established grades or as modified with the approval of the applicable City or County Engineer, and unobstructed to allow for the conveyance of stormwater. Lots 1-13, Block A, shall adhere to the minimum pad elevation shown on the "Minimum Pad Elevations" table. Reserve A is platted for drainage, drives, parking, monuments, signs, landscaping, berms, sidewalks, irrigation, open space, pavement, utilities confined by easements, and walls provided they do not inhibit the conveyance of surface drainage. The Reserve shall be owned and maintained by the Lot owner's association, provided however, that the undersigned or Lot owner's association as the undersigned successor in interest may, at its discretion deed parcels of said Reserve "A" to an owner of an adjoining lot subject to the obligation to maintain such deeded parcel in compliance with the provisions hereof and in compliance with the maintenance covenants of any applicable restrictive covenants or regulations. All abutting rights of access to or from Greenwich Road, over and across the west line of the plot, are hereby granted to the appropriate governing body as indicated hereon. And further that the land contained herein is held and shall be conveyed subject to any applicable restrictions, reservations and covenants now on file or hereafter filed in the Office of the Register of Deeds of Sedgwick County, Kansas.

By: Michael J. Boyd, President, Wichita Destination Developers Inc. ETAL

State of Kansas }  
County of Sedgwick } SS  
This instrument was acknowledged before me on this 23rd day of March, 2017, by Michael J. Boyd, President, WDDMB LLC, a Kansas Limited Liability Company.

Notary Public  
My Commission Expires: May 5, 2017

By: Michael J. Boyd  
Michael J. Boyd, President, WDDMB LLC, a Kansas Limited Liability Company.

State of Kansas }  
County of Sedgwick } SS  
This instrument was acknowledged before me on this 23rd day of March, 2017, by Michael J. Boyd, President, WDDMB LLC, a Kansas Limited Liability Company.

Notary Public  
My Commission Expires: May 5, 2017

The Shops at Wichita Destination Development Addition  
Wichita, Kansas  
Part of the NW 1/4, Section 3, Township 27 South, Range 2 East

We, Emprise Bank, by Jim Faith, holders of a mortgage on the above described property do hereby consent to this plat The Shops at Wichita Destination Development Addition, Wichita, Sedgwick County, Kansas, day of March, 2017 by Jim Faith.

Emprise Bank  
Jim Faith  
State of Kansas }  
County of Sedgwick } SS  
The foregoing instrument was acknowledged before me this 24th day of March, 2017 by Jim Faith of Emprise Bank on behalf of the Bank.

Notary Public  
My Commission Expires: May 5, 2017

State of Kansas }  
City of Wichita } SS  
This plat of The Shops at Wichita Destination Development Addition, Wichita, Sedgwick County, Kansas, has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas. Dated this 23rd day of February, 2017. Wichita-Sedgwick County Metropolitan Area Planning Commission.

David W. Foster, Secretary  
Dale Miller, Secretary

State of Kansas }  
City of Wichita } SS  
This plat approved and all dedications shown hereon accepted by the City Council of the City of Wichita, Kansas, this 18th day of April, 2017.

At the Direction of the City Council  
Jeff Congwell, Mayor  
Karen Sublett, City Clerk

Registered on transfer record this 8th day of May, 2017.

Notary Public  
My Commission Expires: May 5, 2017

State of Kansas }  
County of Sedgwick } SS  
This is to certify that this plat has been filed for record in the Office of the Register of Deeds this 11th day of May, 2017, at 10:01 AM clock M, and is duly recorded.

Notary Public  
My Commission Expires: May 5, 2017

Reviewed in accordance with K.S.A. 58-2005 on this 11th day of May, 2017.

Notary Public  
My Commission Expires: May 5, 2017

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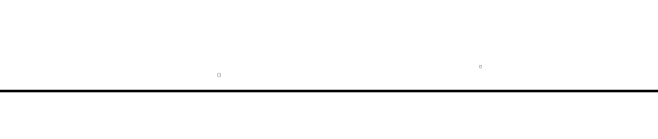
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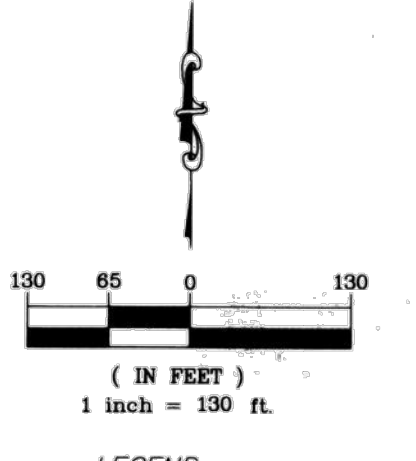
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CTR. SEC. 3, 1275, R2E  
1/2" REBAR W/  
BAUGHMAN CAP



- LEGEND**
- D Deeded
  - M Measured
  - 3/8" Rebar (found) BAUGHMAN
  - 3/8" Rebar (found) MKEC
  - ▲ 1/2" Iron Pipe in Thimble (found)
  - 3/8" Rebar (set) KEMPA CLS 157

**KEMILLER ENGINEERING PA**  
117 E. Lewis, Wichita, KS 67202 (316)264-0242

PC 263-5

NOTE  
Final Plat is for reference only and as such is not to Scale.

**Renaissance Infrastructure Consulting**  
132 ABIE AVENUE  
KANSAS CITY, KANSAS 66103  
913.317.9500  
WWW.RIC-CONSULT.COM

NO.	BY	DATE	REVISION
1	JAR	08/06/18	Per City Comments
2	JAR	07/20/18	Original Submittal

GENERAL NOTES

- The Contractor shall comply with all applicable safety regulations. All construction shall be completed following current City Standard Specifications and Special Provisions.
- 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 316.687.2470  
 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 316.268.4555  
 City of Wichita Sewer 316.268.4073  
 City of Wichita Stormwater 316.268.4090  
 City of Wichita Traffic 316.268.4034  
 Cox Communication 1.888.249.3530  
 Kansas Gas Service 1.888.482.4950  
 Westar Energy 1.800.544.4857
- Utility service lines, poles, ect. 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.
- 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 the site location. Locations, in the opinion of the Engineer, that will leave an unsightly appearance will not be approved. All disposable sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Board of Agriculture permit. Any material buried or stockpiled beyond approved construction limits would require an additional archeological investigation unless buried in a previously approved borrow location.
- Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.
- 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 the start of construction.
- The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-established any property irons which are damage or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.
- The Water Distribution Division shall field locate valves one time during construction when requested by the Contractor. It shall be the Contractor's responsibility to preserve such field locations during the construction process. Water valves, valve boxes or fire hydrants damaged during construction shall be repaired by the Contractor at their own expense. Valve boxes and water meters within the project limits shall be adjusted to match field grades.
- The Contractor shall notify the consultant engineer and Tom Mason with the City at 316.268.4574 with the anticipated construction start date and notify them of project completion. Staking and inspection for this project will be the responsibility of the Contractor.
- If traffic is impacted by construction, a traffic control plan must be submitted and approved by the City Traffic Engineer, Brian Coon at traffic@wichita.gov before construction can begin. The Contractor shall be responsible for all traffic control measures to facilitate construction. All construction zone markings and signage shall conform to the latest version of the Manual on Uniform Traffic Control Devices (MUTCD) as published by the US Department of Transportation, Federal Highway Administration. All cost associated with construction markings and signage shall be the Contractors responsibility.
- All elevations shown are Project Datum (Project Datum = NAVD 88 - 1.08')
- All areas disturbed during construction that will not be under proposed pavemend shall be restored to match existing conditions.
- Opening and Closing of Water Valves Shall be Done Slowly to Prevent Damage to the Water Distribution System for 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.
- 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.
- The Contractor shall Provided Materials for Temporary Blowoff of Waterlines. Connection to the Existing Waterline(s) shall be made with Clean, Swabbed Pipe and Flushed upon Completion of Tie-Ins.
- Requests for Short Term Water Interruptions shall be made to the City Water Distribution Division and will be Subject to their Approval. The Contractor shall give Written Notice to any Property Owner, Business, and/or Tenants that will have Water Service Interrupted at Least 5 days in Advance. Such Notification Should Indicate the Time and Date that the Water will be Turned Off and When ther 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 preformed During non-peak hours.
- The Contractor must Schedule the Connections to the Existing Main with the City such that there is a Minimum Disruption of Service. Connections shall be made during Periods of Low Water Usage. The Contractor shall submit his Proposal Schedule for Completing Work for City Approval at Least 10 Days Prior to Beginning Construction.
- Deflections at Pipe Joint or Couplings shall not exceed the Pipe Manufactures Recommended Maximum. Where Deflections are Greater than the Maximum Allowed, the Contractor shall utilize CI MJ Long Sleeve or Multiple Joints.
- Any Extension Greater than one Length of Pipe shall Require Testing.
- Any Existing Joint Exposed During Excavation shall be Replaced if within Four Feet of Proposed Joint.
- City Maintenance of Water Mains Ends at Right-of-Way or Easement Line.
- Valves 12 inch and Larger are to be Operated by the City Water Distribution Division, 48 Hours of Advance Notice is Required.
- All Wet Taps shall be Installed by the City of Wichita. The Contractor will Reimburse the City for Tapping Gates.
- The Contractor shall Protect from Damage and Support Existing Utilities through Construction as Approved by the Utility Owner and the Engineer at the Contractors Expense
- Contractor shall Limit the Extent of Trench Openings Overnight and Weekends to Less than 50 Feet.
- Any Sidewalk, Drive Approach, Curb, or Street Pavement Removal to Construct Project must have a Pavement Cut Permit and be Replaced by the City Contractor. Permits can be Obtained by Calling 316.268.4501

SUMMARY OF QUANTITIES

No.	Description	Quantity	Unit	As-Built
1	6" C900 PVC	186.68	LF	
2	6" x 45" Bend	5	EA	
3	6" Tapping Sleeve and Gate Valve	3	EA	
4	FDC	2	EA	
5	Remote FDC	1	EA	
6	Connect To Existing 8" Waterline	2	EA	
7	Connect to Existing 8" Fireline	1	EA	
8	Building Connection	3	EA	
9	Erosion Control	1	LS	

Quantities are for Information Only. Contractors to Verify All Quantities Prior to Construction.

Thrust Blocks are Considered Subsidiary to Other Items.

PROJECT BENCHMARK

Chiseled square cut, center front face of inlet East side of Greenwich Road, 342 feet +/- South of the intersection of East 27' Street and Greenwich Road  
 Project Elevation = 1377.42  
 KDOT Elevation = 1378.05  
 (Project Elevation is -0.63 feet from KDOT)

BENCHMARKS:

TBM 1:  
 Chiseled Square cut on E. Curb of island in center of Greenwich Road.  
 Approximately 60' S. of intersection of westbound ramp to K-96.  
 RIC Project Datum Elev. = 1373.08

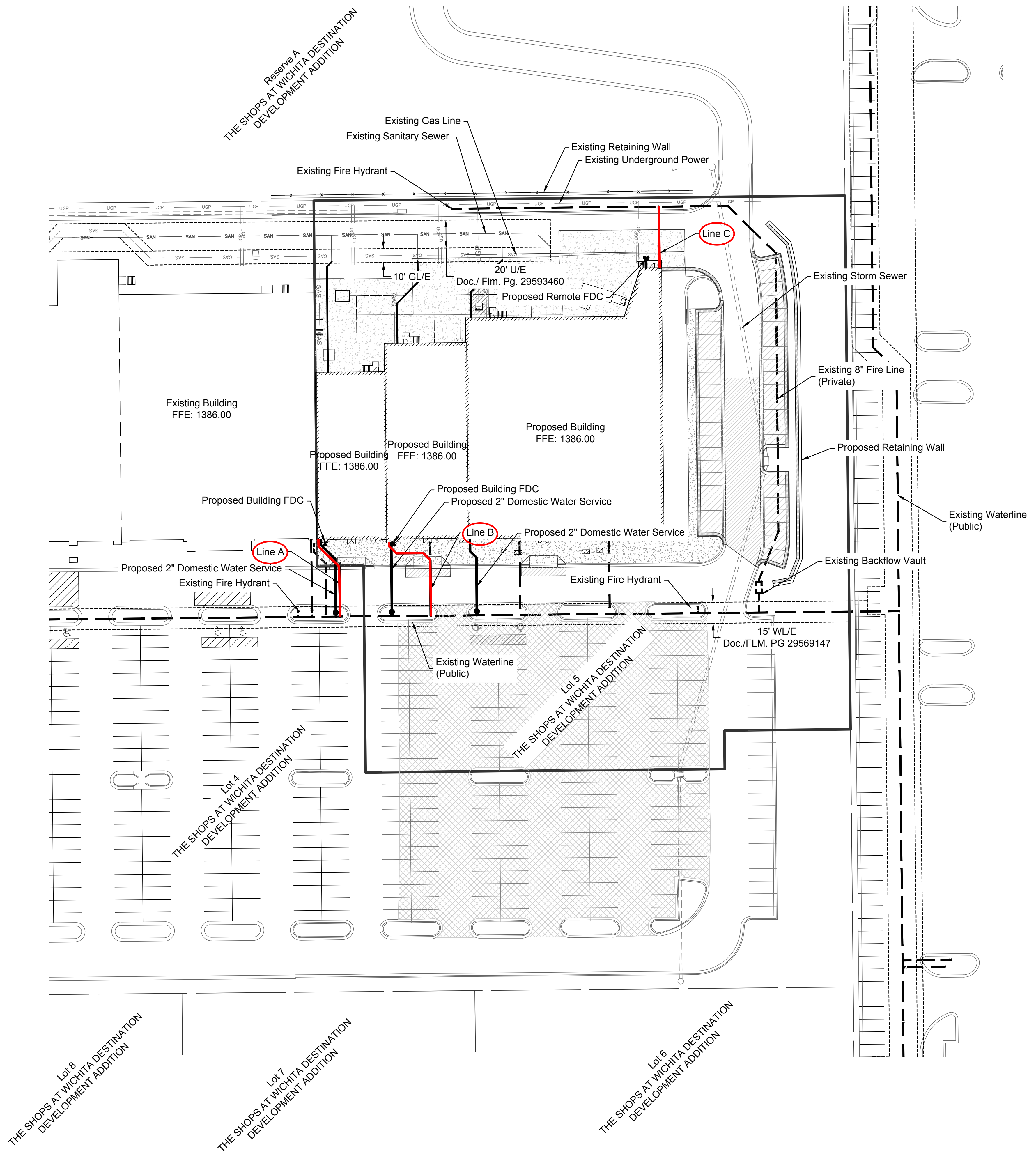
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 Chiseled Square cut on south curb of 27th Street approximately 690 feet east of intersection of Greenwich Road.  
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 Chiseled Square cut on south side of 27th Street approximately 330 feet east of intersection of Greenwich Road.  
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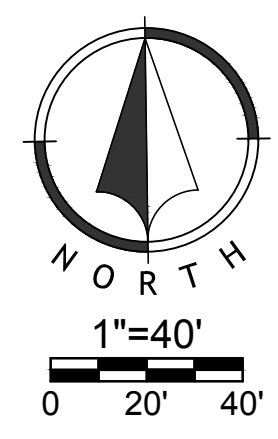
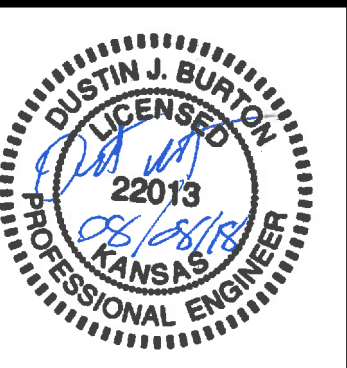
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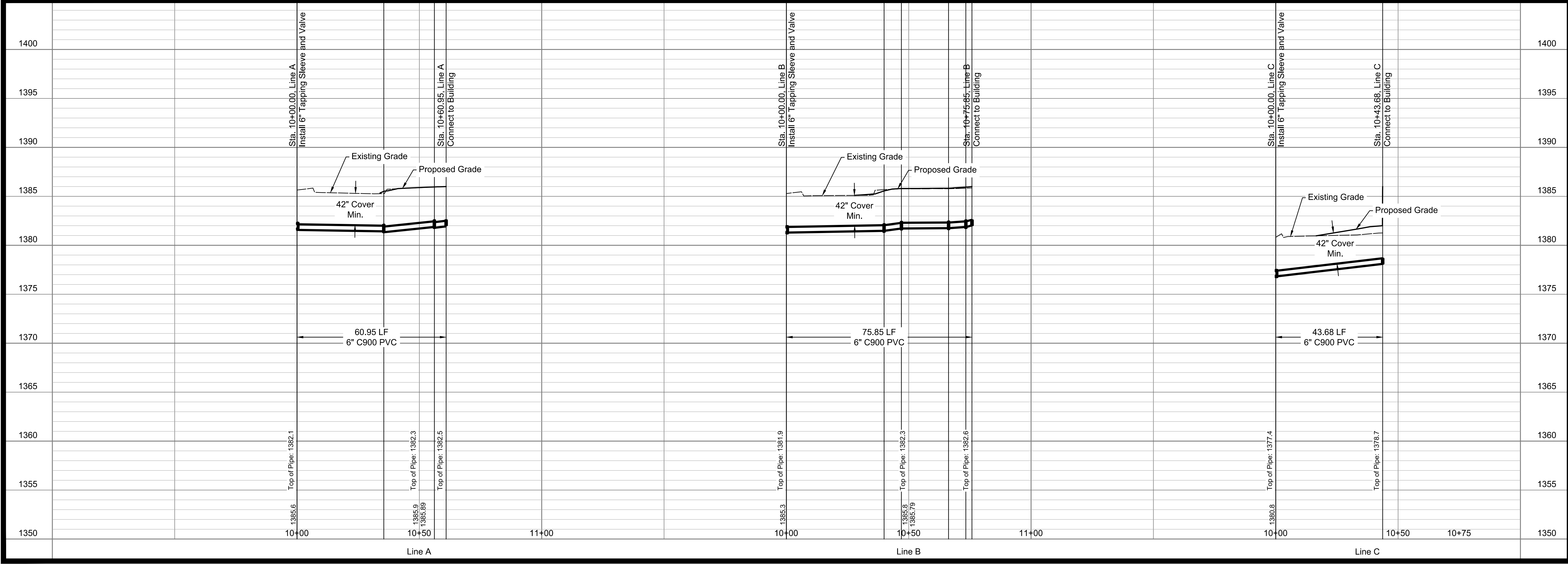
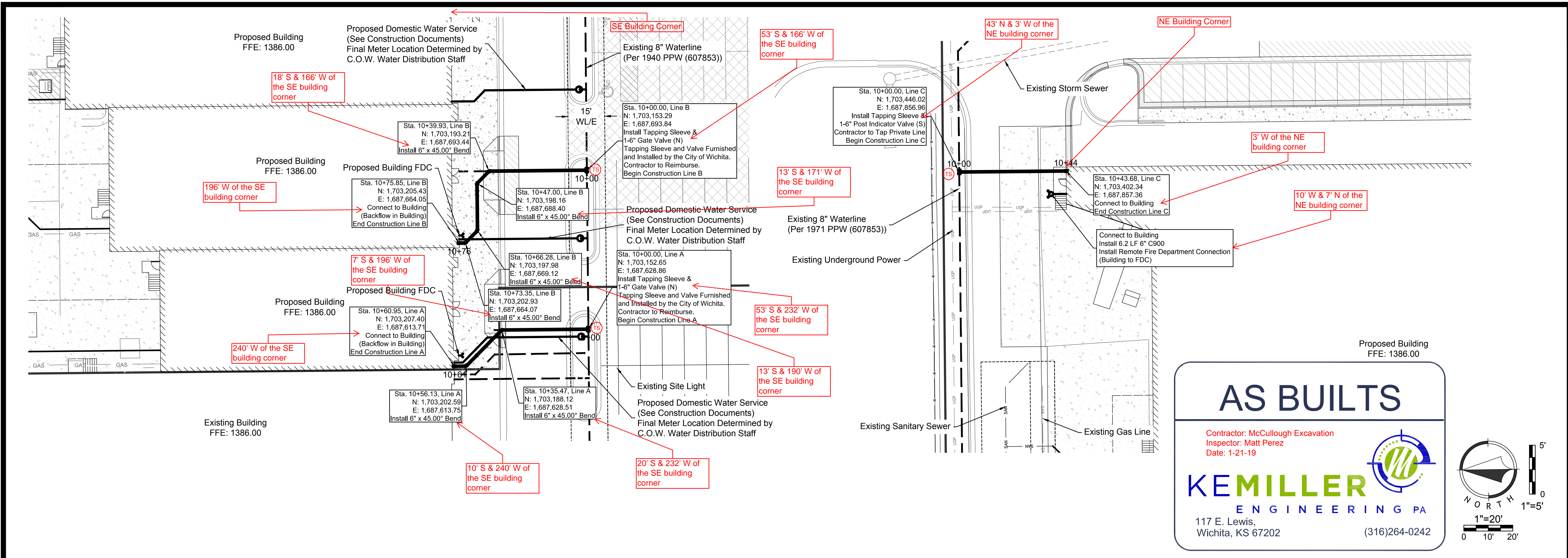


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Aug 06 2018 - 12:27pm  
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**Douglas J. Burton**  
LICENSED PROFESSIONAL ENGINEER  
22013  
08/18/18


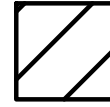
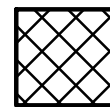
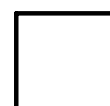



Disturbed Area for Site Improvements : 1.98 Acres

**ESTIMATED EARTHWORK**

Cut: 11,615 CY  
Fill: 3,381 CY

Earthwork calculations are informational only. Contractor shall be responsible for their own earthwork calculations and perform all necessary earthwork shown herein without additional cost to the owner if quantities differ than above. Earthwork numbers are unadjusted.

**EROSION CONTROL LEGEND**

-  Stabilized Construction Entrance
-  Staging Area
-  Stockpile Area
-  Concrete Washout
-  Limits of Disturbance
-  Perimeter Silt Fence
-  Inlet Protection

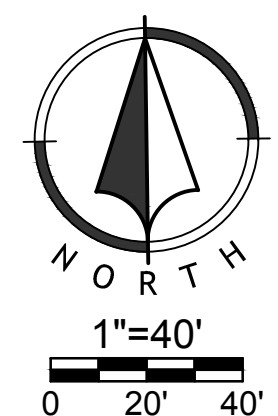
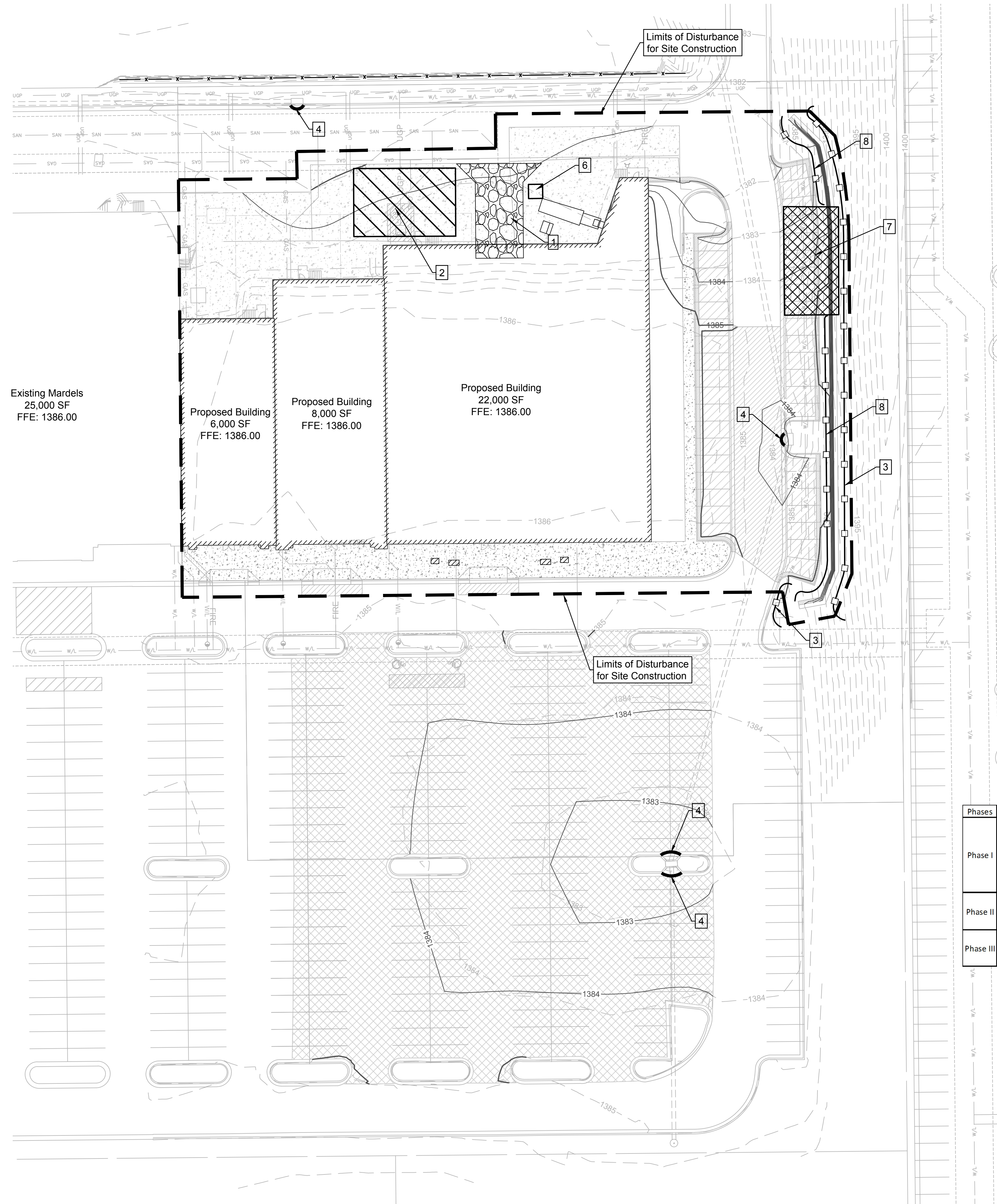
**WRITTEN SEQUENCING**

- Implement Pre-Clearing Plan:**  
All temporary structural BMP's shown on the pre-clearing plan must be in place before the general clearing operations. Clearing necessary to place temporary structural BMP's is the minimum required for installation. Coordinate clearing necessary to place temporary structural BMP's with local weather forecast so that clearing and placement may be completed within a forecast dry period. Stabilize all erosion control measures after installation. Temporary Barrier Fence shall be in Place, around areas not to be disturbed, prior to any construction activities. This area includes Stream Corridor.
- Clear and Stabilize Work Areas:**  
Grade contractor areas and place all-weather surface on contractor areas.
- Clearing and Grubbing:**  
After Phase I BMP's are installed, contractor may clear, grub, and demo required areas as necessary.

**EROSION CONTROL NOTES**

- Erosion control plan modifications shall be required if the plan fails to substantially control erosion and offsite sedimentation.
- The retention of access controls and sediment controls shall be required for areas where seed has not established 70% cover.
- The contractor shall temporarily seed and mulch all disturbed areas if there has been no construction activity on them for a period of fourteen (14) calendar days.
- Install "J" Hooks on silt fence every 100 LF

Phases	Project Stage	BMP Plan Ref. No.	BMP Description	Remove after Stage	Notes
Phase I	A-Prior to Land Disturbance	1	Construction Entrance	C	Install Construction Entrance, as shown on Plans.
		2	Staging Area	D	Install Staging Area
		3	Perimeter Sediment Fence	D	Install Perimeter Sediment Fence, as shown on Plans.
		4	Curb Inlet Protection	D	Install Filter Bags around Existing Curb Inlets
		5	Area Inlet Protection	D	Install Filter Bags around Existing Area Inlets
		6	Concrete Washout	D	Install Concrete Washout as shown on plans prior to pouring any concrete.
Phase II	B-Site Grading	7	Stockpile Topsoil	C	Install Sediment Fence a Minimum of 5' Beyond Toe of Slope
		8	Sediment Fence	D	Install Sediment Fence, as shown on Plans
Phase II	C-Site Construction	9	Curb Inlet Protection	D	Install Filter Bags around Proposed Curb Inlets
		10	Establish Perennial Vegetation	N/A	Redistribute Topsoil and seed and mulch all disturbed areas. Sod Right-of-Way. Stabilization complete when 100% disturbed area is established with perennial vegetation with a density of 70%

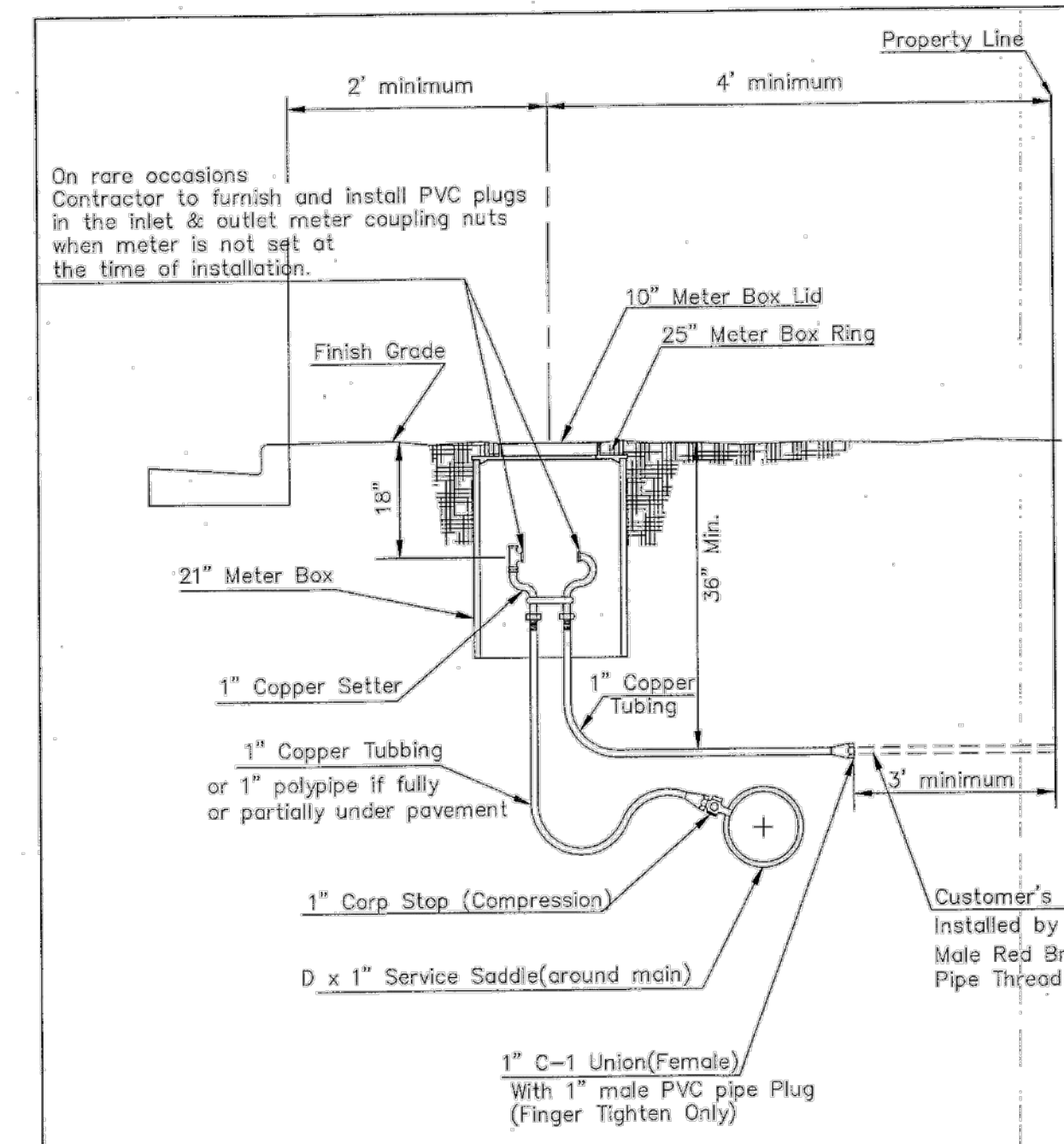




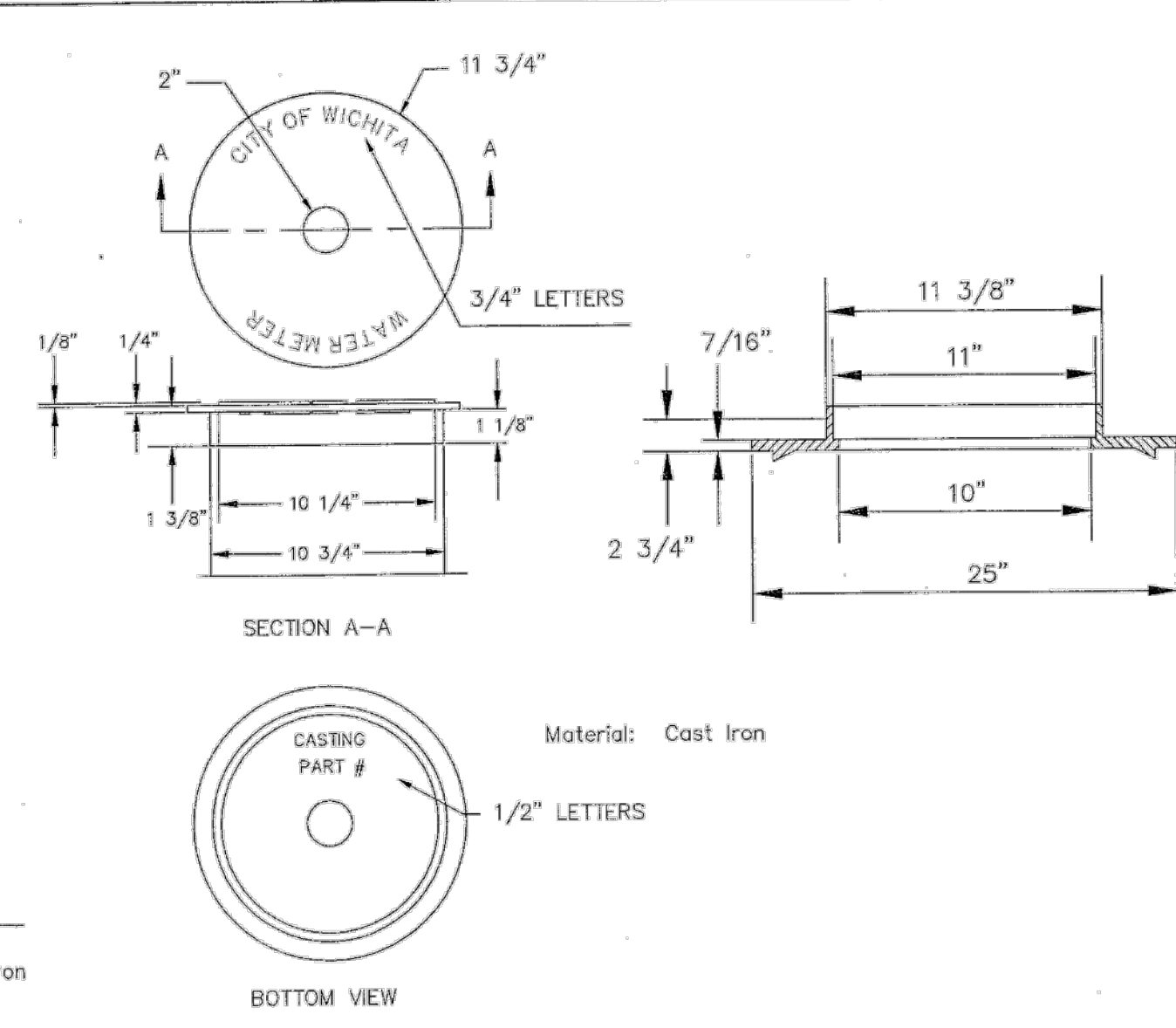
NO.	BY	DATE	DESCRIPTION
1	JAR	08/06/18	Per City Comments
	JAR	07/20/18	Original Submittal
			REVISION

**Renaissance Infrastructure Consulting**  
132 ABBIE AVENUE  
KANSAS CITY, KANSAS 66103  
913.317.9500  
WWW.RIC-CONSULT.COM

**DUSTIN J. BURTON**  
LICENSED PROFESSIONAL ENGINEER  
22013  
08/18/18  
KANSAS

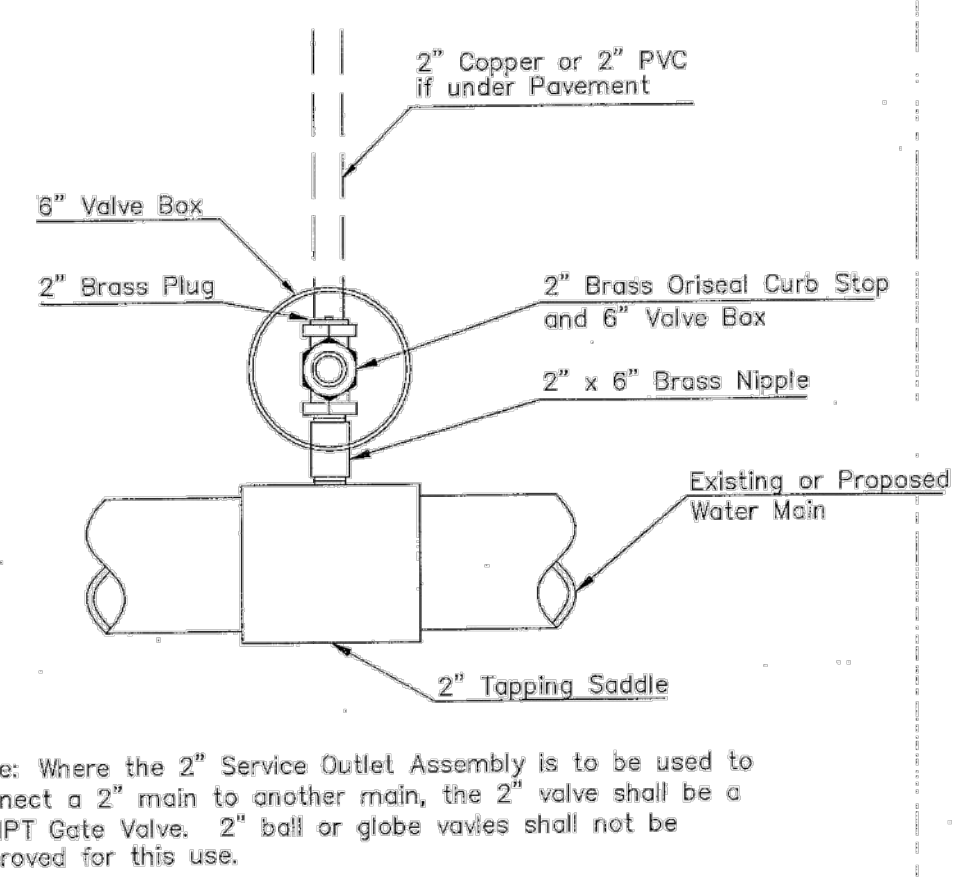


TYPICAL 1" METER SETTING

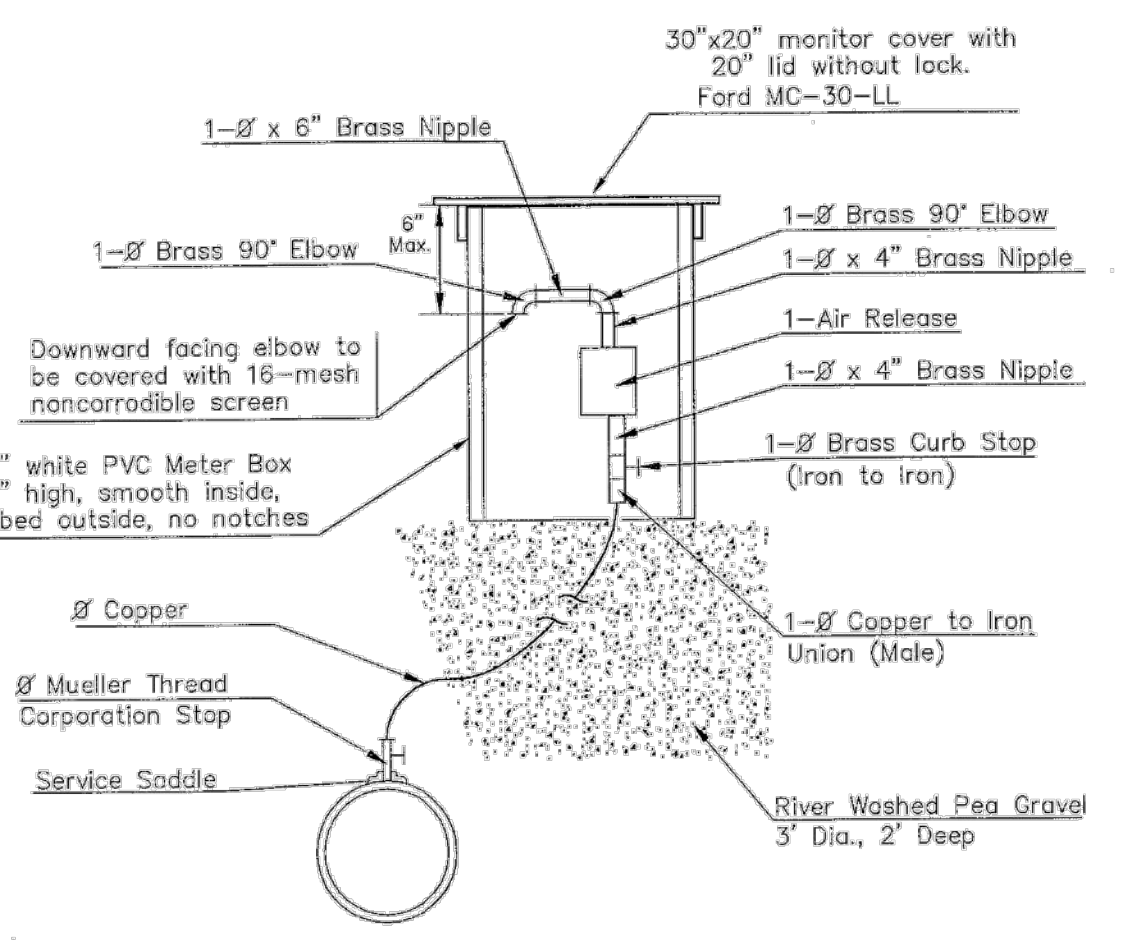


- NOTE:
- 1 - Ø Mueller Thread Corporation Stop
  - Ø Type "K" Copper Tubing
  - 1 - Ø Copper to Iron Union (Male)
  - 1 - Ø Brass Curb Stop (Iron to Iron)
  - 2 - Øx4" Brass Nipple
  - Air Release
  - 2 - Ø Brass Elbows (90°)
  - 1 - 1"x6" Brass Nipple
  - 1 - 30" Monitor Cover
  - 1 - 20" Meter Lid

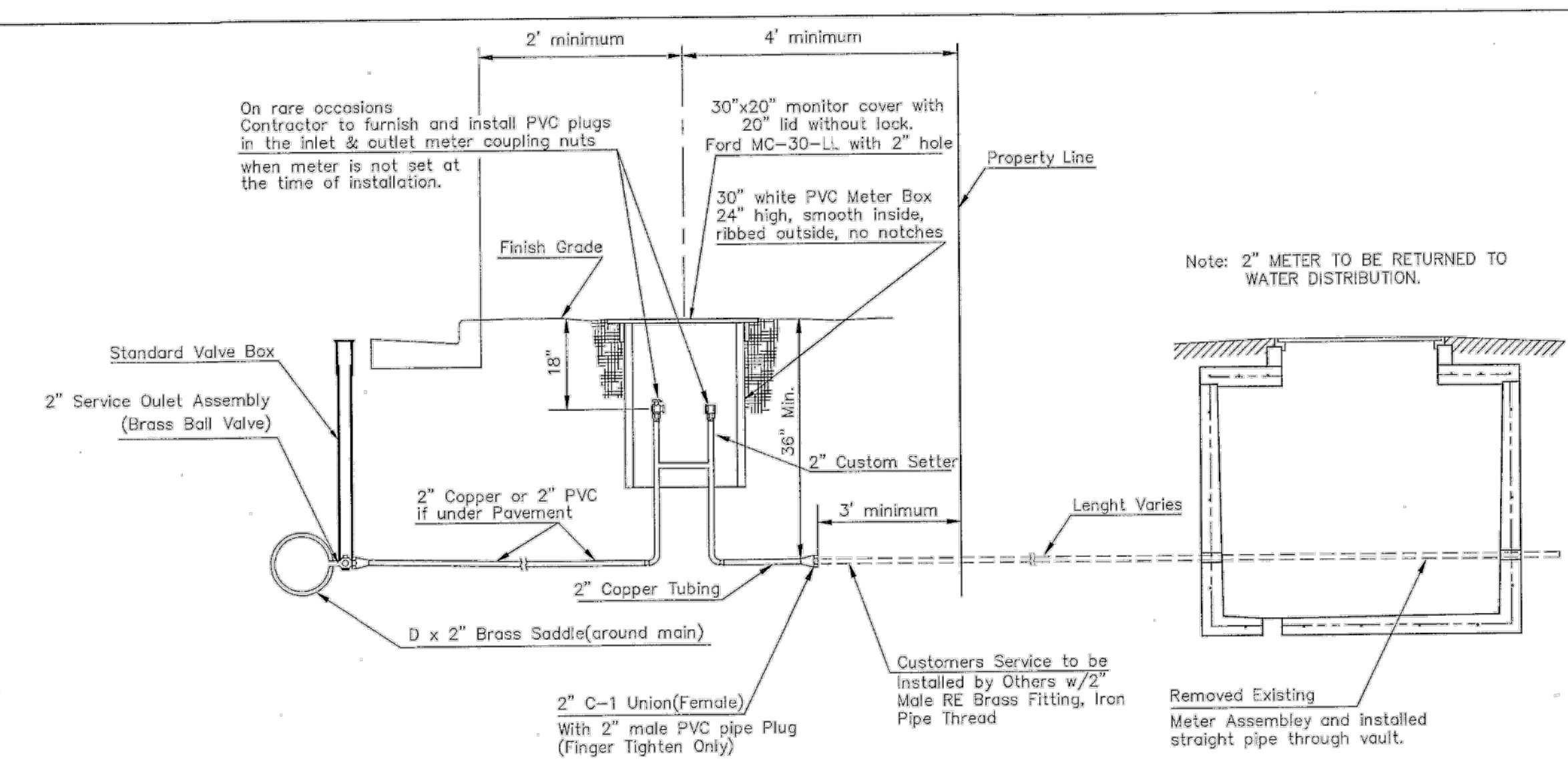
THE 1 1/2" AIR RELEASE ASSEMBLY WILL TYPICALLY BE USED ON WATER MAINS 24" AND SMALLER, AS SPECIFICALLY DESIGNATED IN THE PLANS. COMBINATION AIR RELEASE ASSEMBLIES WILL BE SPECIFICALLY DESIGNED FOR PROJECTS WITH LARGER MAINS, AND WILL BE INCLUDED IN THE PLANS.



2" SERVICE OUTLET ASSEMBLY  
TOP VIEW



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

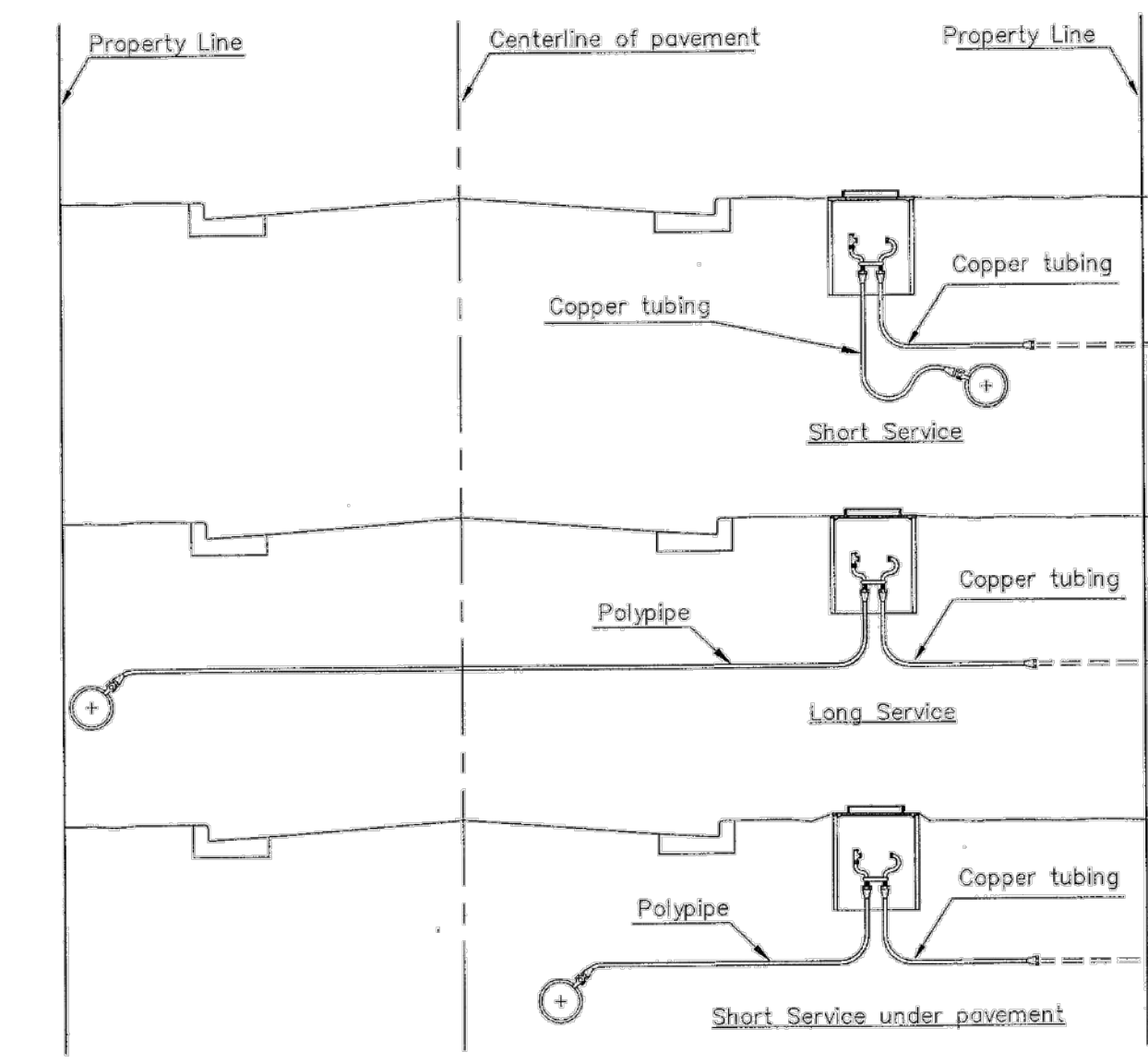


TYPICAL 2" METER SETTING

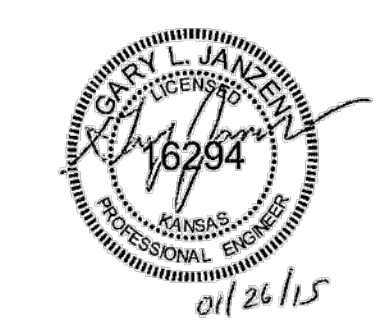
TYPICAL 2" METER SETTING INVOLVING EXISTING 2" METER VAULT

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

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



SERVICE TYPES

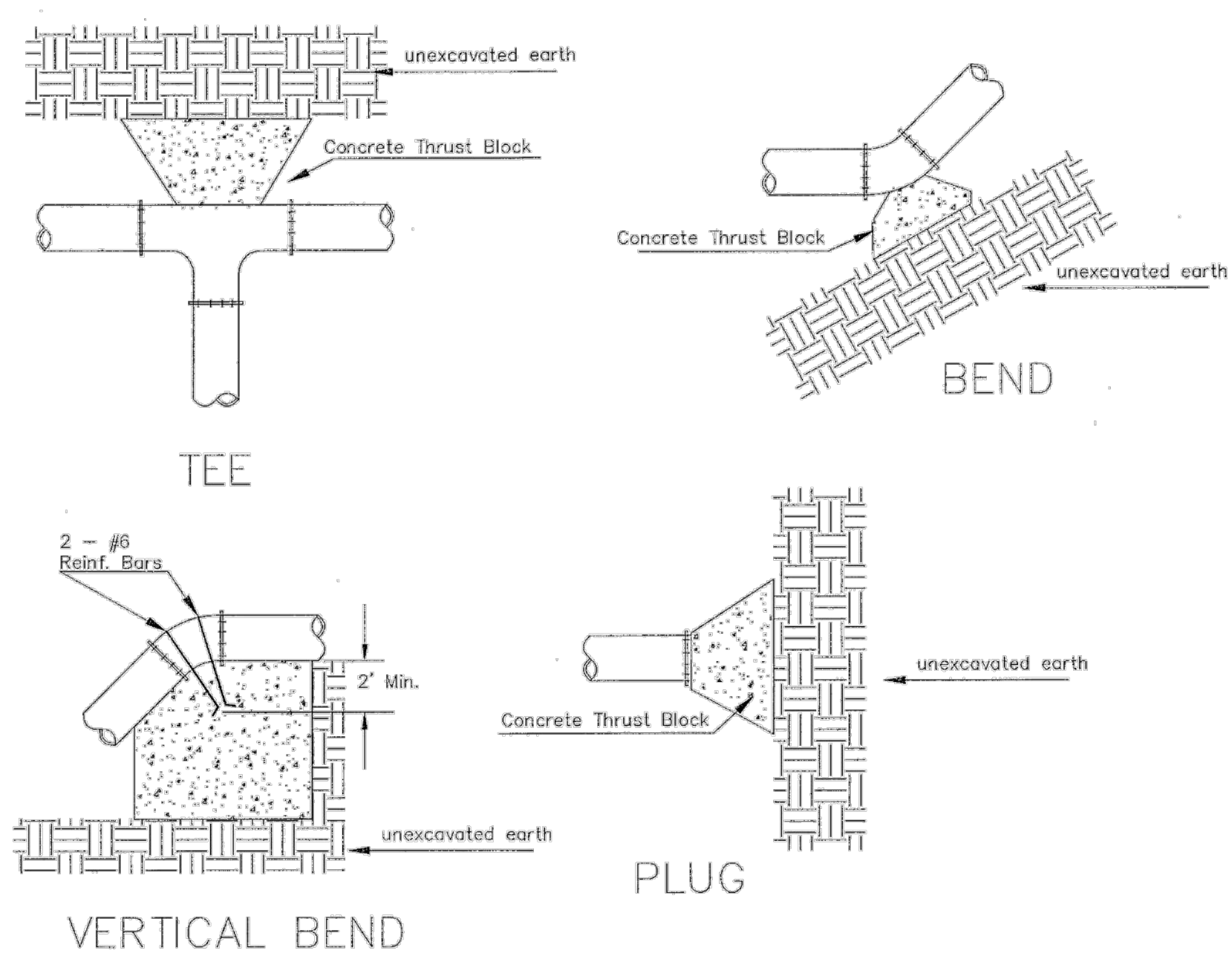


**CITY OF WICHITA**  
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

STANDARD WATER SERVICE DETAIL  
CITY ENGINEER  
**GARY JANZEN, P.E.**  
PROJECT NUMBER OCA NUMBER DATE  
CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4501

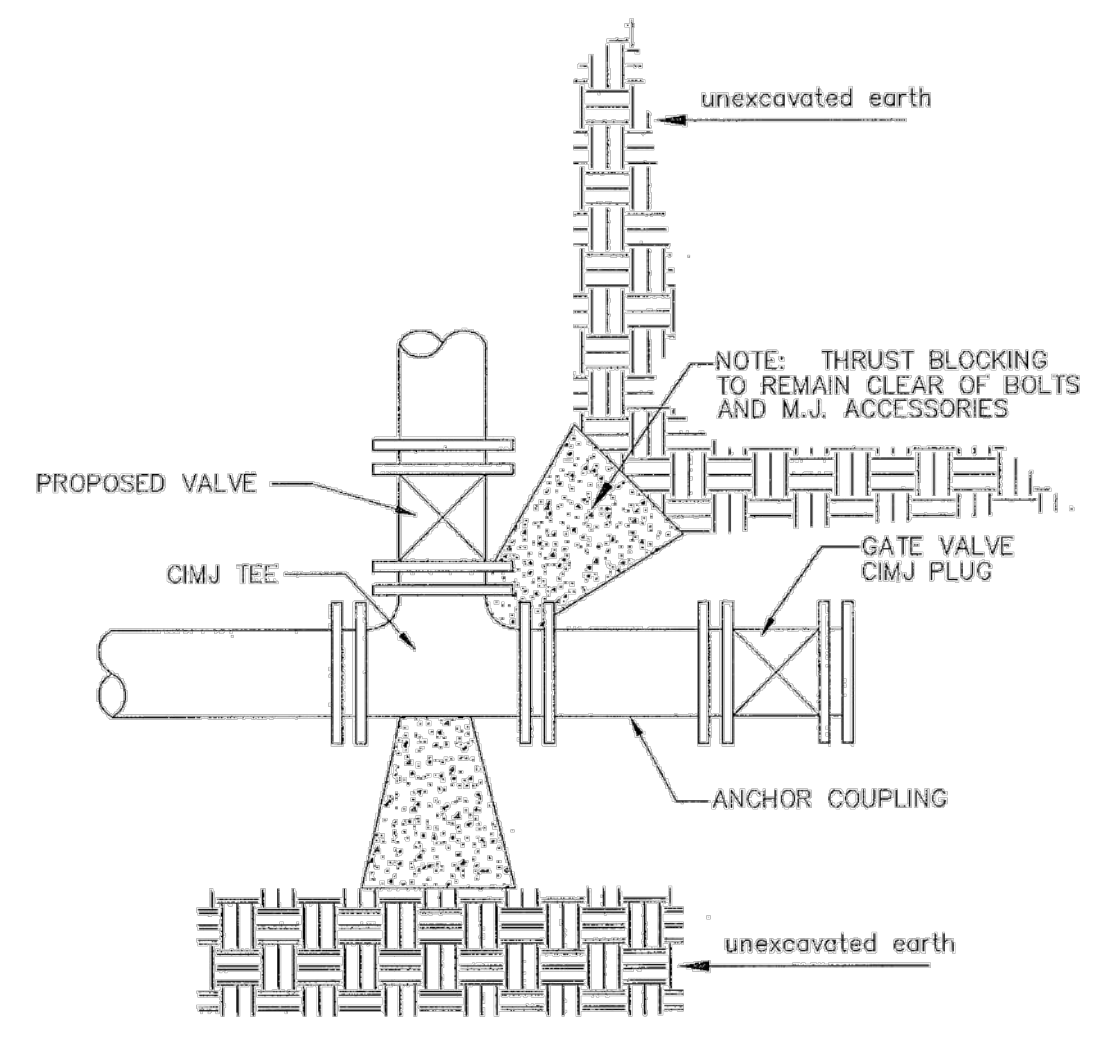
REVISED: JANUARY 2015

WL-102



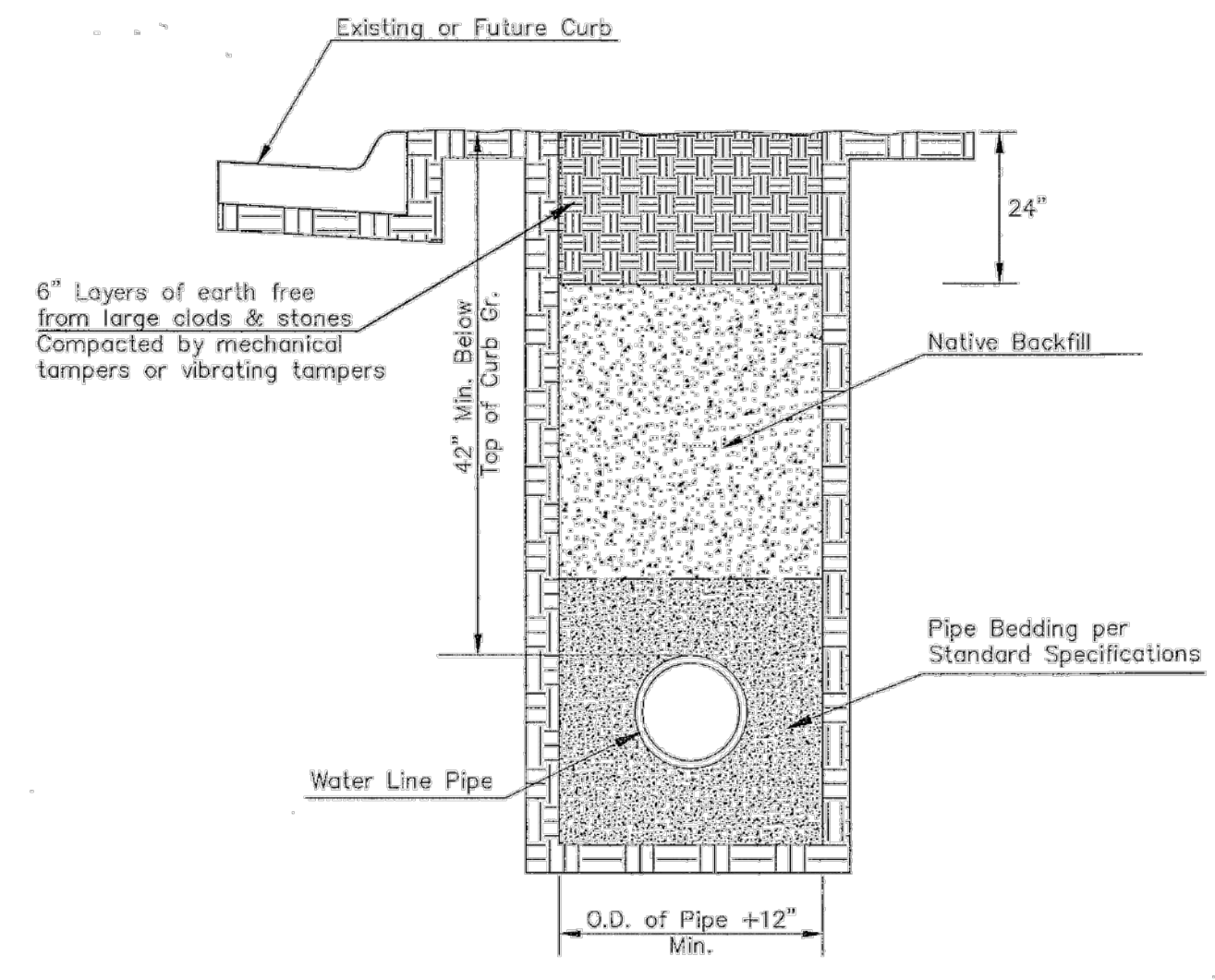
PIPE SIZE	THRUST AT FITTINGS IN TONS--AT 150#/IN <sup>2</sup> P					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75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

TYPICAL THRUST BLOCKS

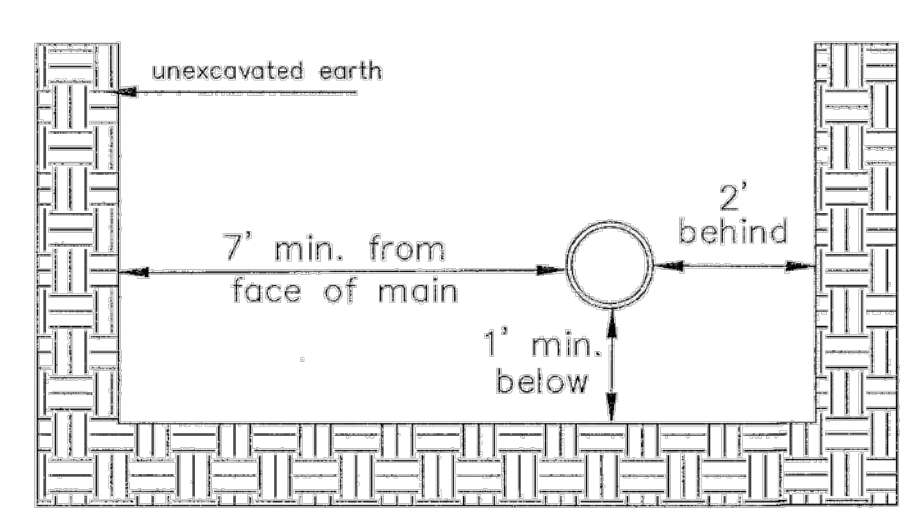


KEY BLOCK DETAIL

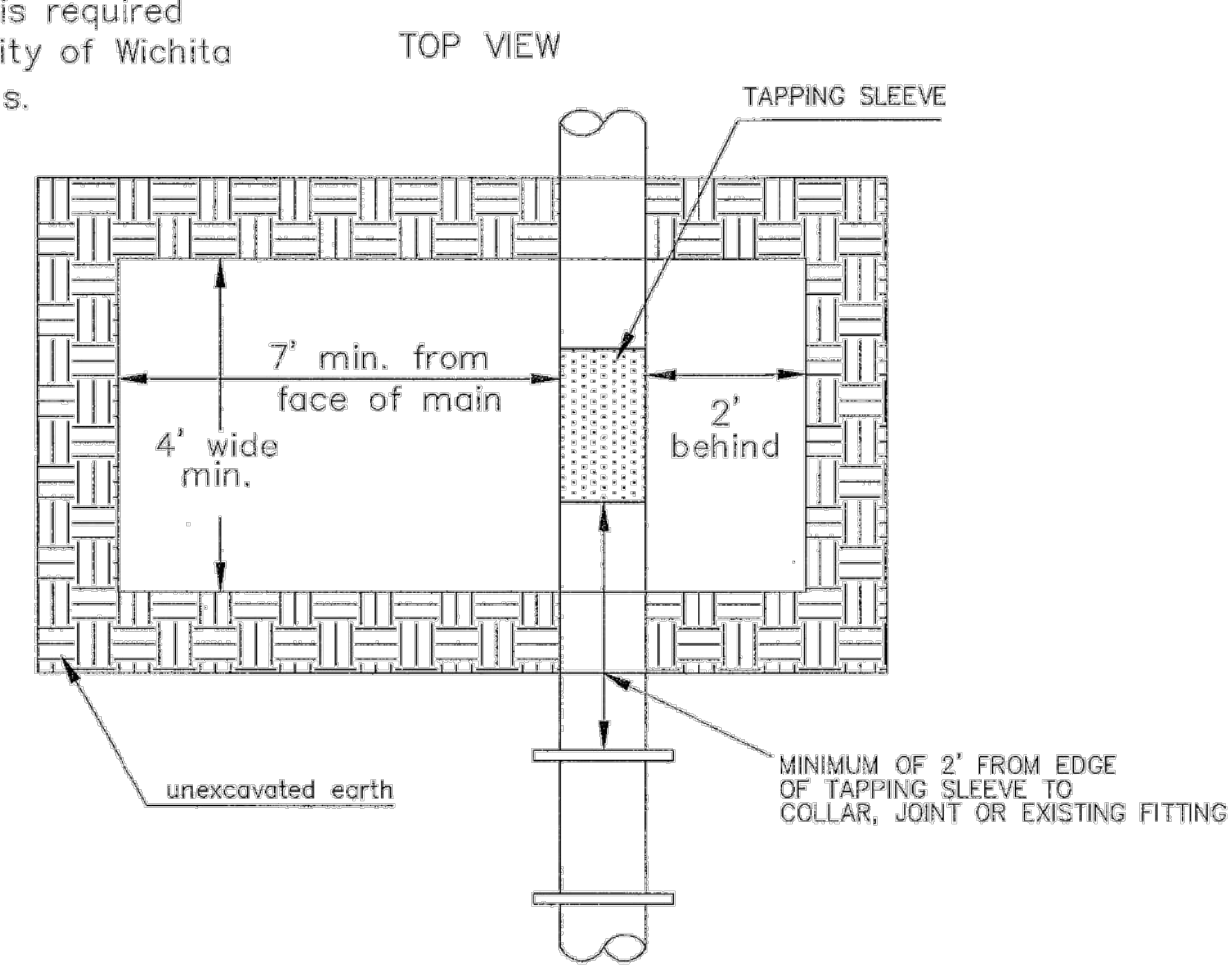
\* PLANS GOVERN  
UNLESS OTHERWISE NOTED ON PLANS



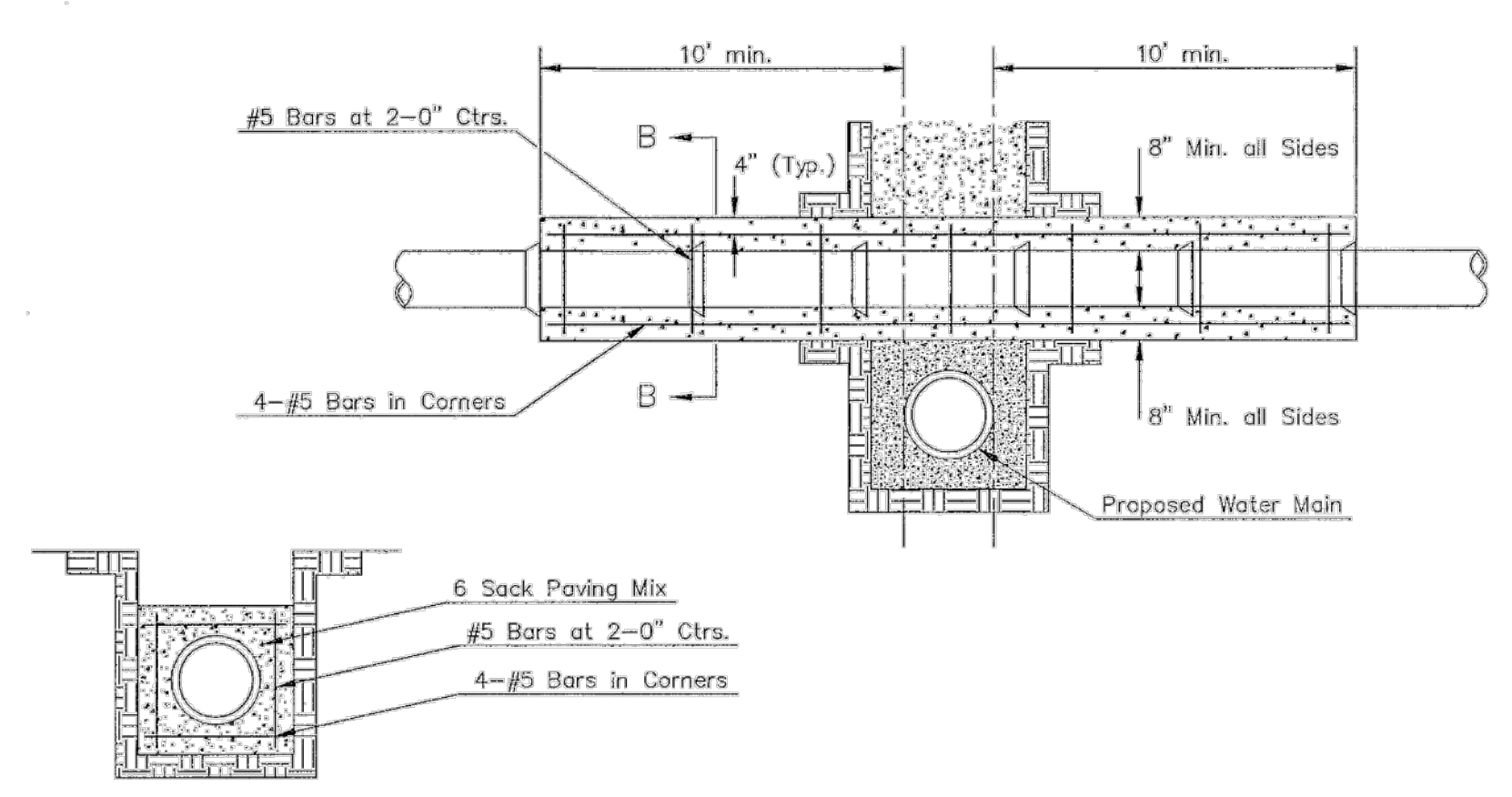
TRENCH COMPACTION IN ROAD RIGHT-OF-WAY



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



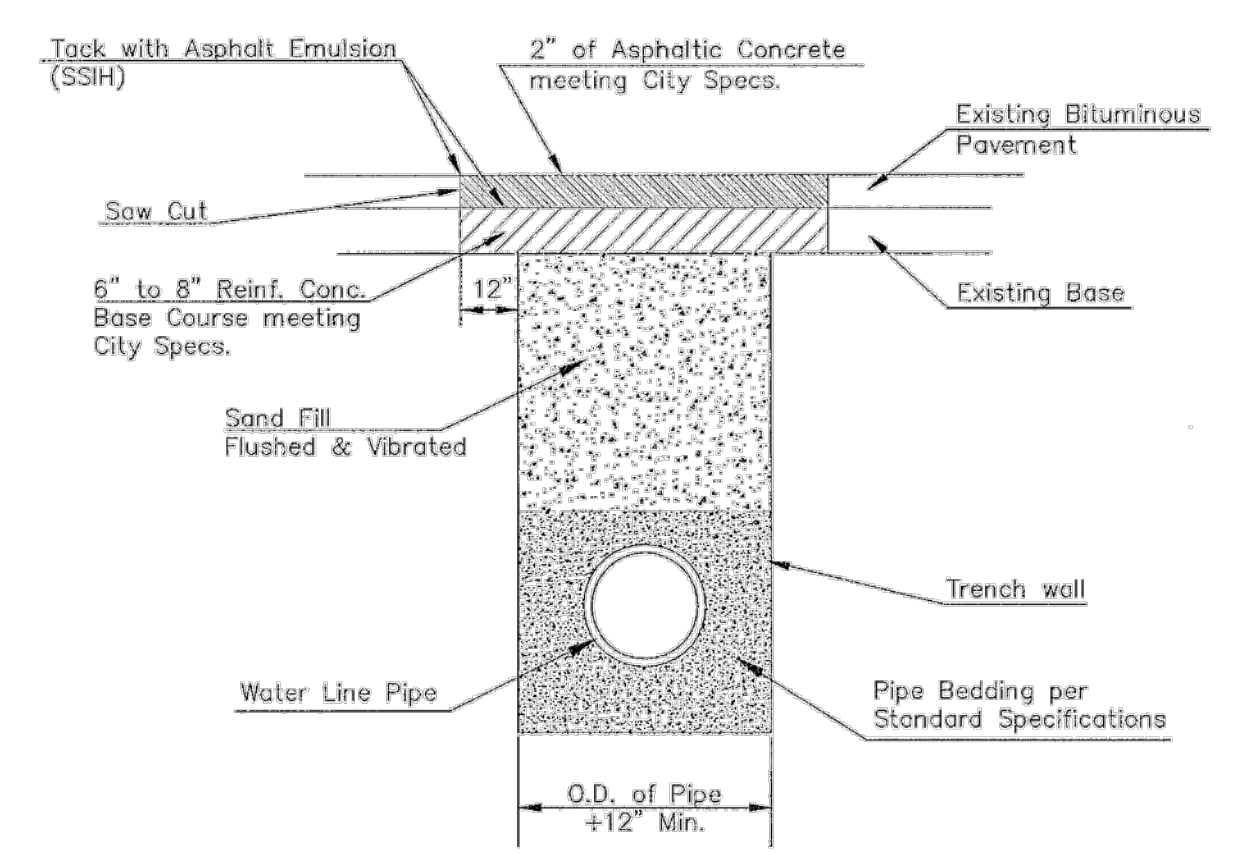
EXCAVATION FOR WET TAP



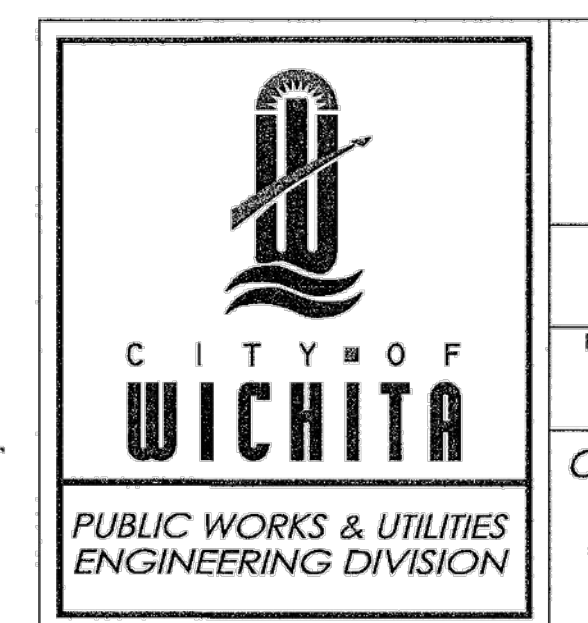
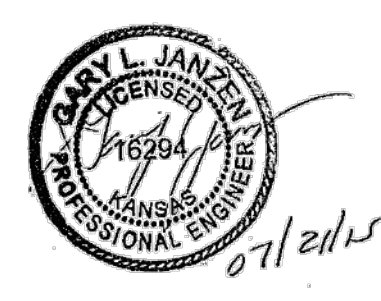
SECTION B-B

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

REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER



PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS

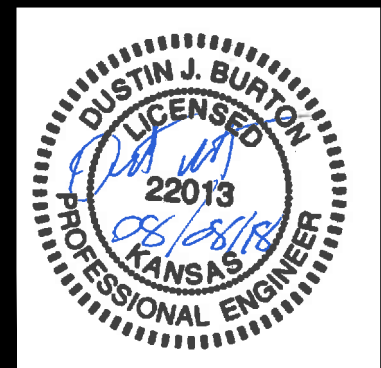


MISCELLANEOUS WATER DETAILS	
CITY ENGINEER GARY JANZEN, P.E.	
PROJECT NUMBER	OCA NUMBER
DATE	DATE
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501	
SHEET	NO.

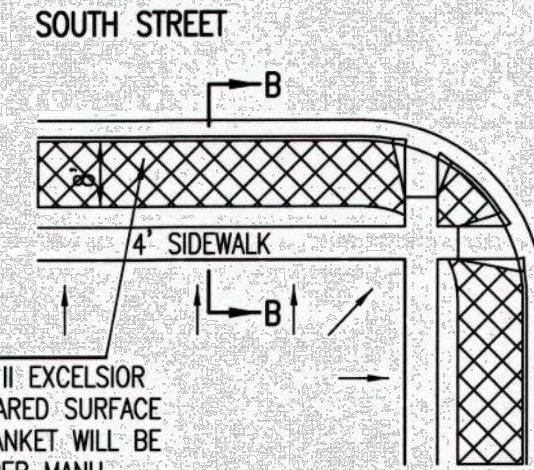
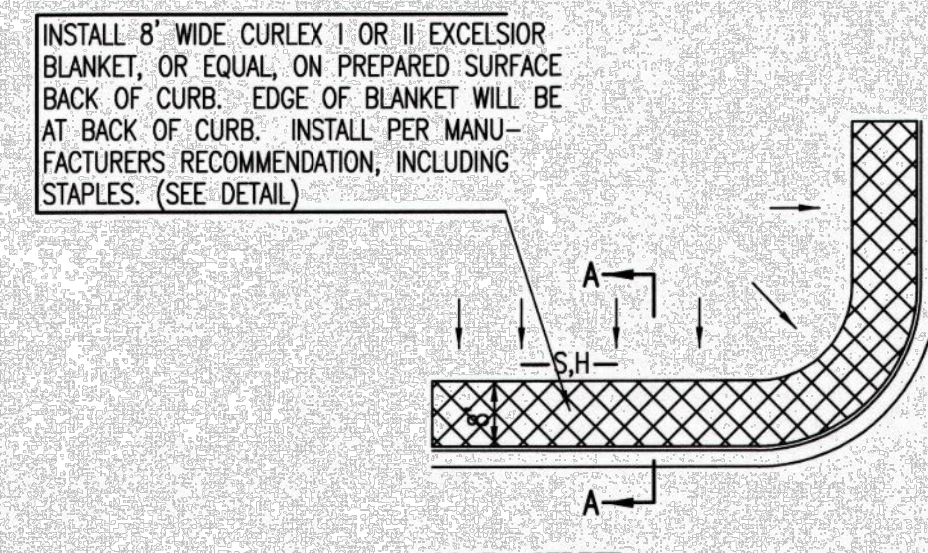
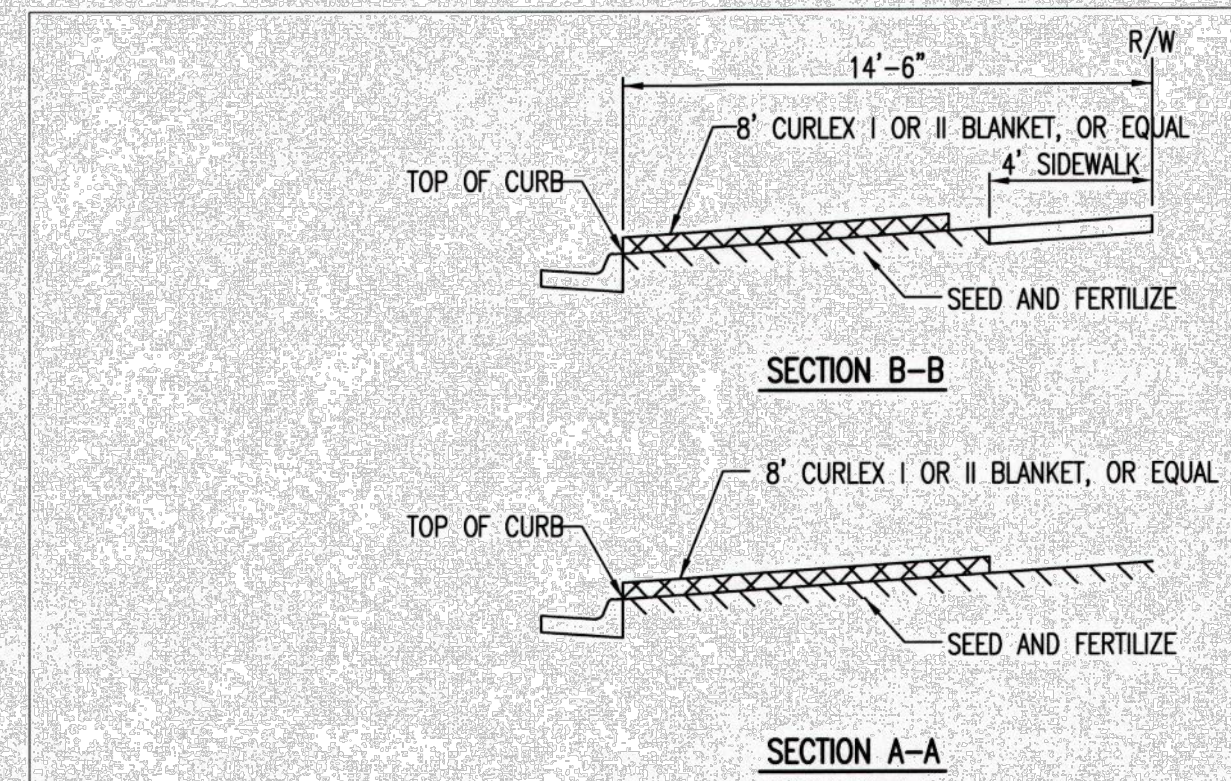
WL-104

NO.	BY	DATE	REVISION
1	JAR/DJB	08/08/18	Per City Comments Original Submittal

**Renaissance Infrastructure Consulting**  
132 ABBIE AVENUE  
KANSAS CITY, KANSAS 66103  
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WWW.RIC-CONSULT.COM



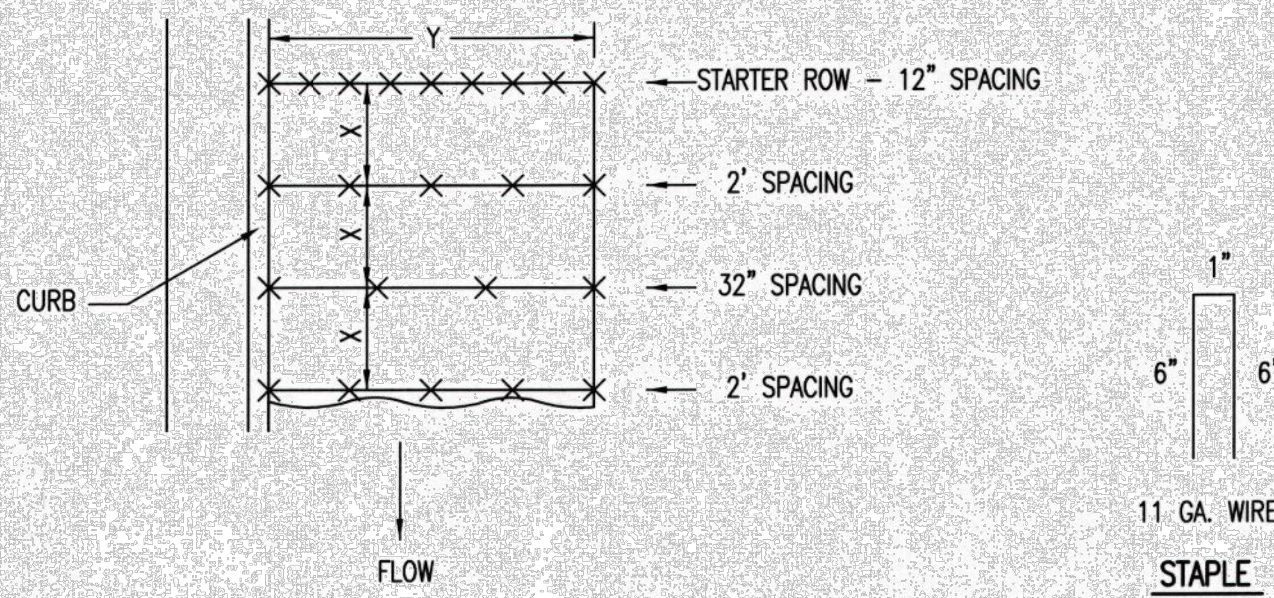
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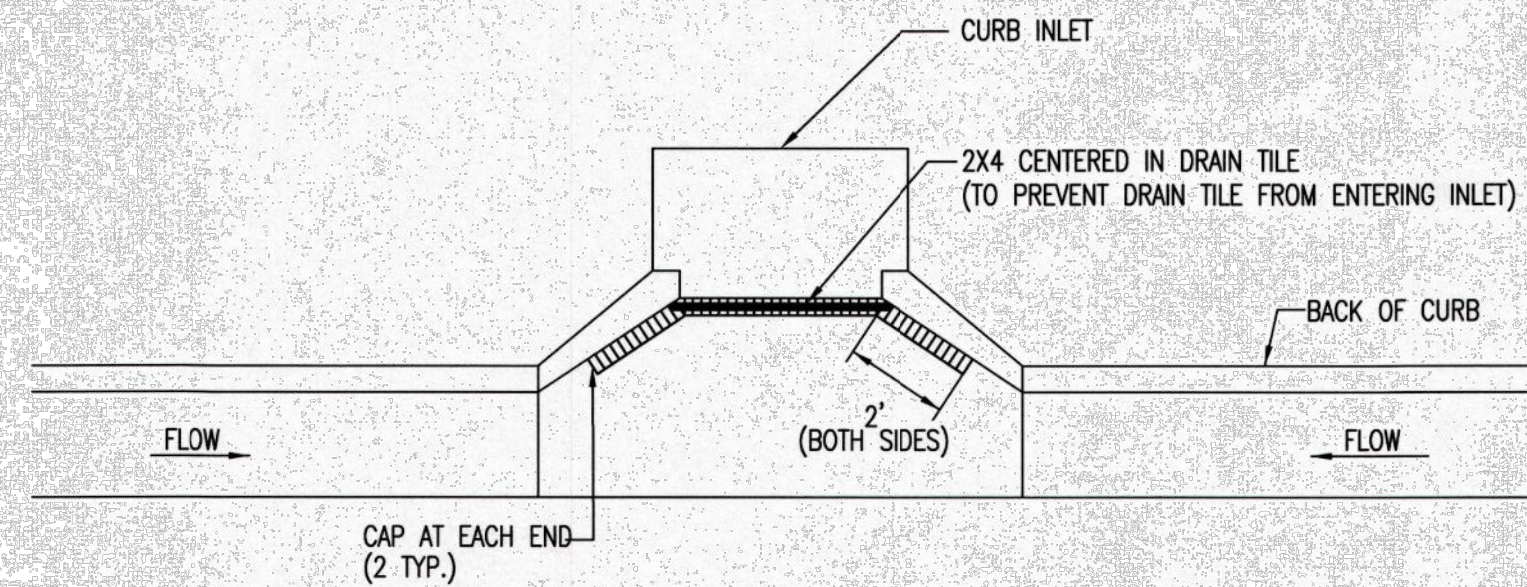
**GENERAL NOTES**

- 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**

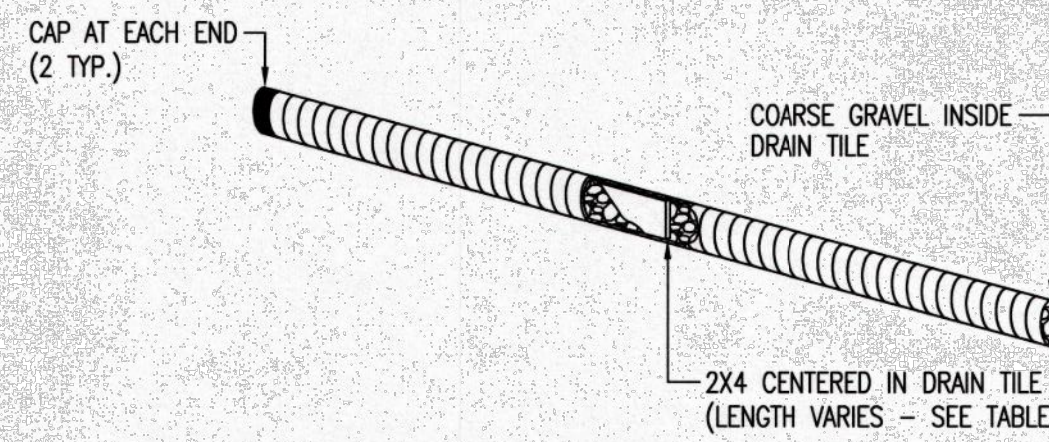


**DETAILS FOR APPROVED EROSION CONTROL MAT**

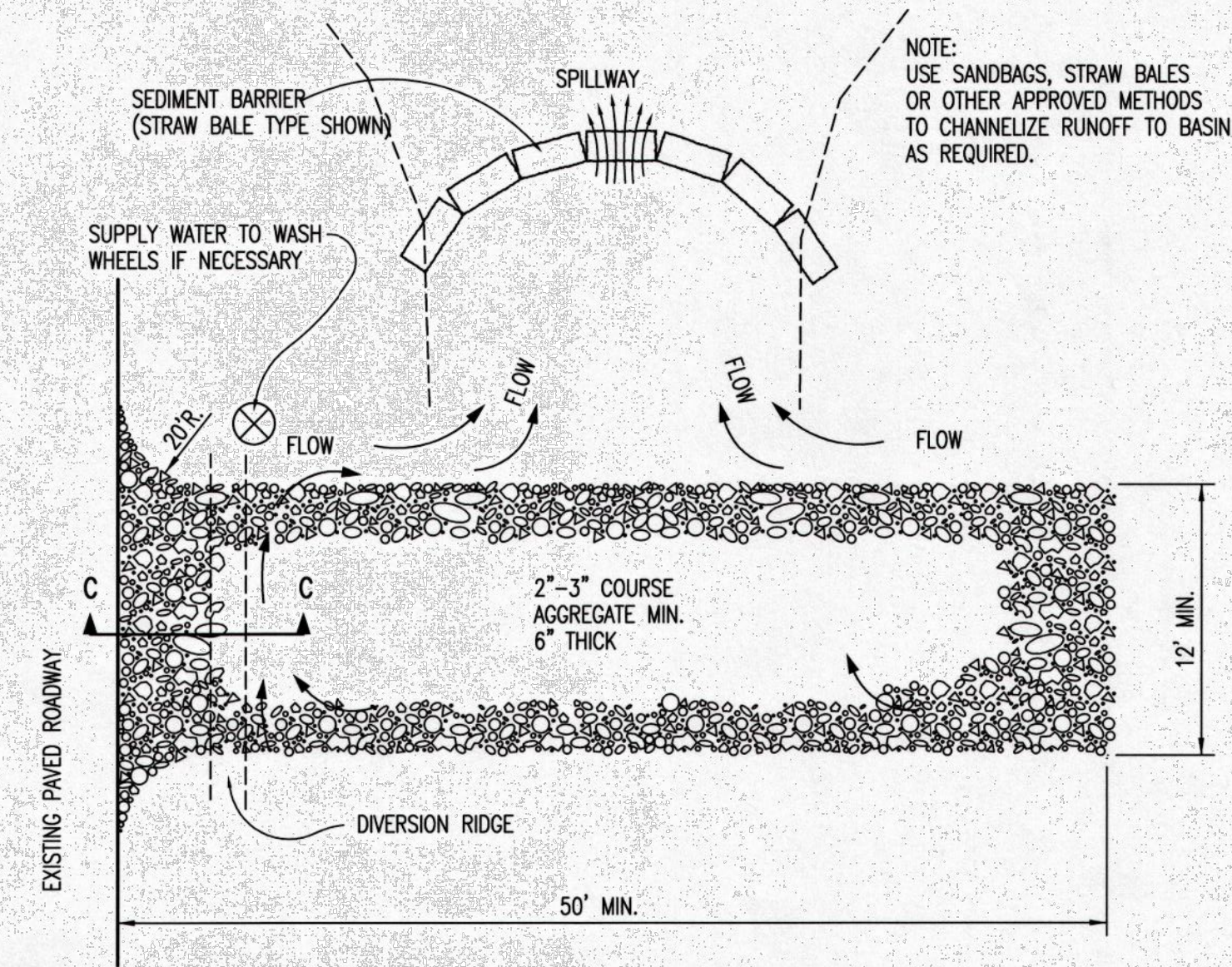
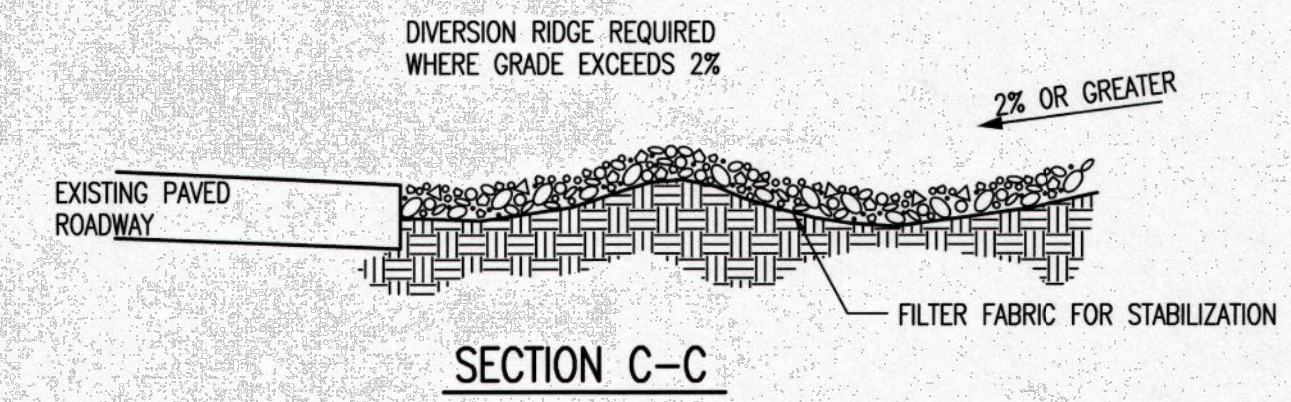


NOTE: PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

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



**CURB INLET PROTECTION**  
4" PERFORATED PIPE W/ GRAVEL

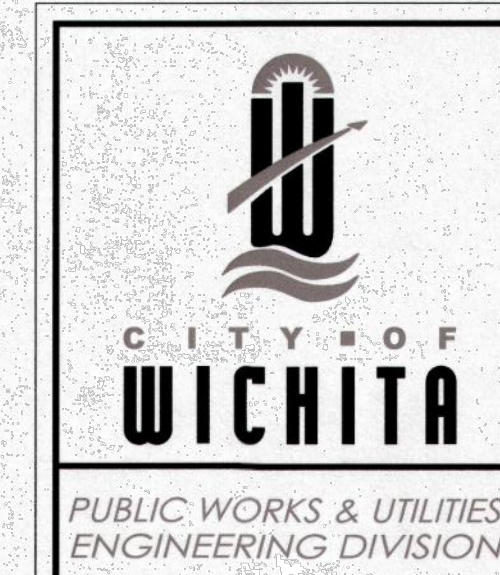


**STABILIZED CONSTRUCTION ENTRANCE**

**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**

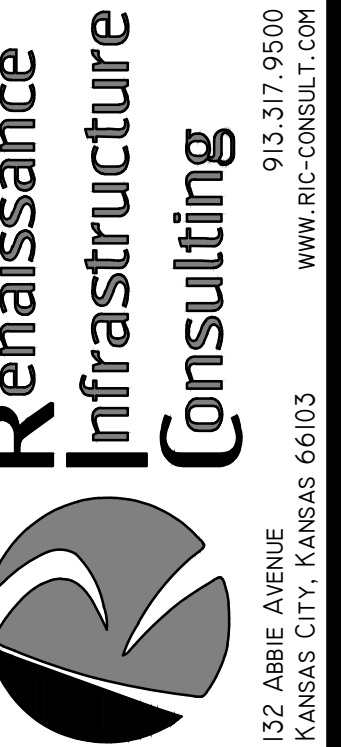
CITY ENGINEER  
**GARY JANZEN, P.E.**

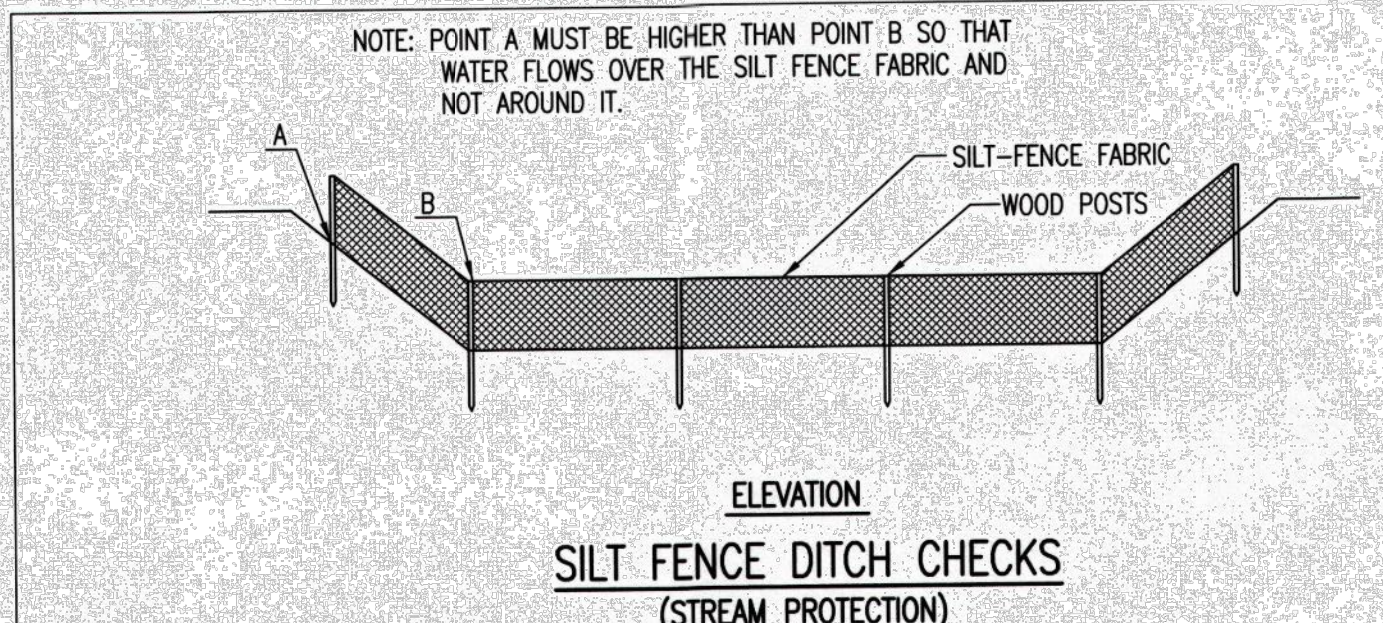
PROJECT NUMBER OCA NUMBER DATE

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

SHEET

SW-501





**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.

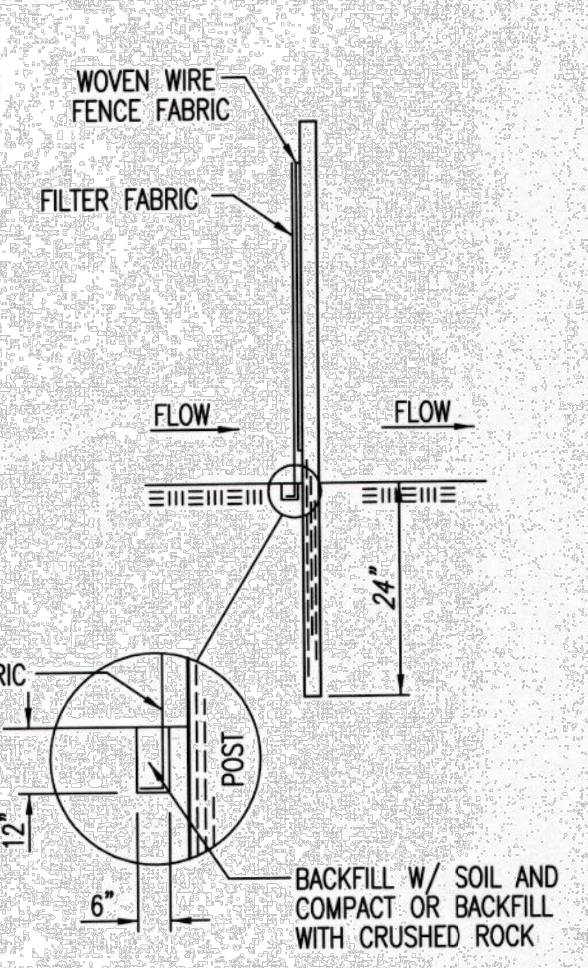
THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

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

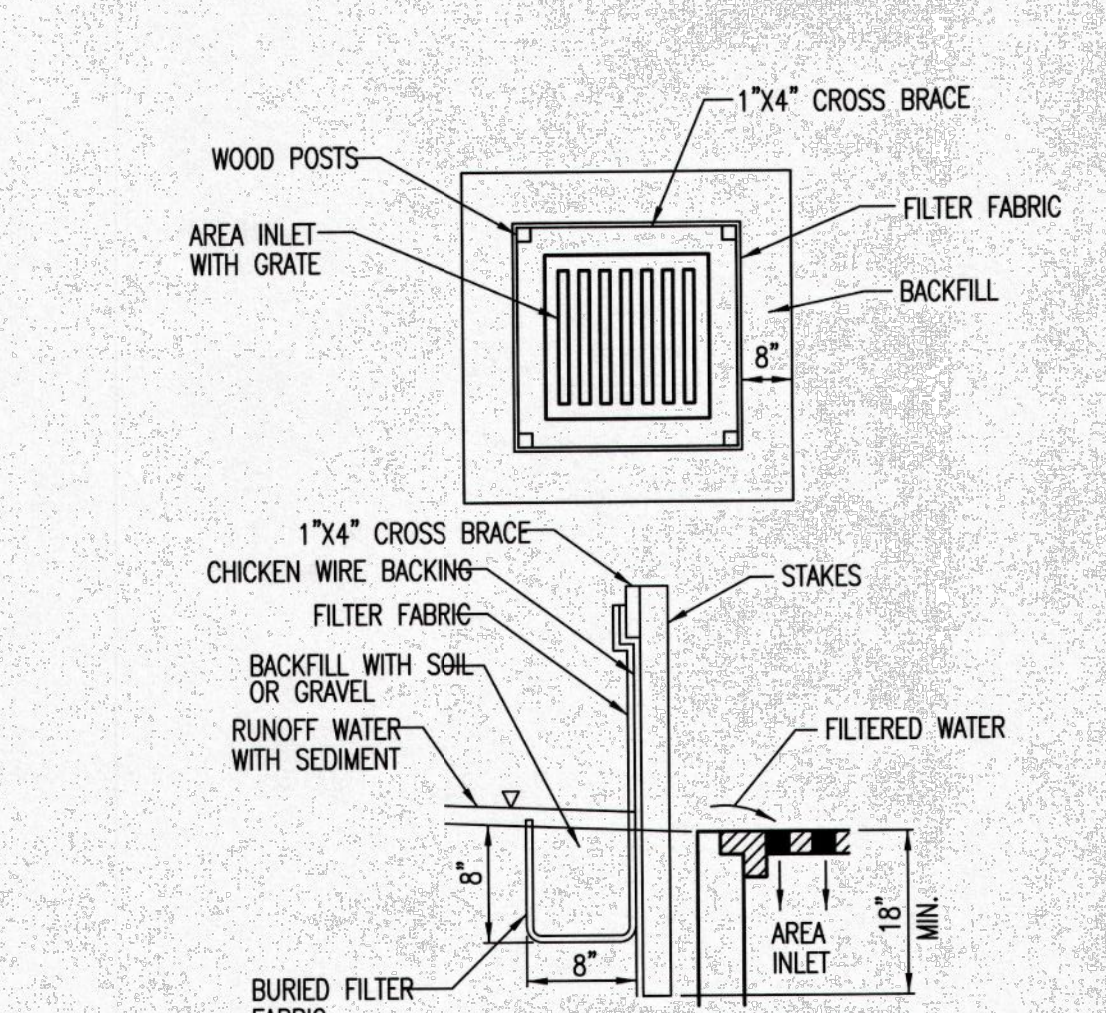
**PROPER INSTALLATION METHOD:**  
EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS AT LEAST 12" DEEP BY 6" WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS 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 UPSLOPE EDGE OF THE TRENCH. LINE TWO SIDES OF THE TRENCH WITH THE FABRIC AS SHOWN ON DETAIL. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE ON THE UPSLOPE 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 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 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.

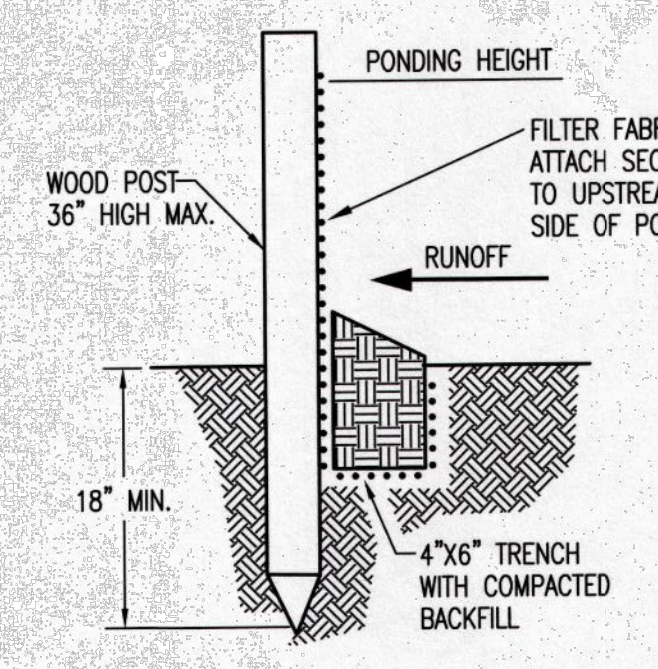
**PLACEMENT:**  
PLACE A SILT FENCE DROP INLET BARRIER IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. WATER SHOULD FLOW THROUGH SILT FENCE, NOT OVER IT. SILT FENCE BARRIERS FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. WHEN USED AS A BARRIER FOR AREA INLETS, SILT FENCE FABRIC AND POSTS 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 DRAMATICALLY 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.

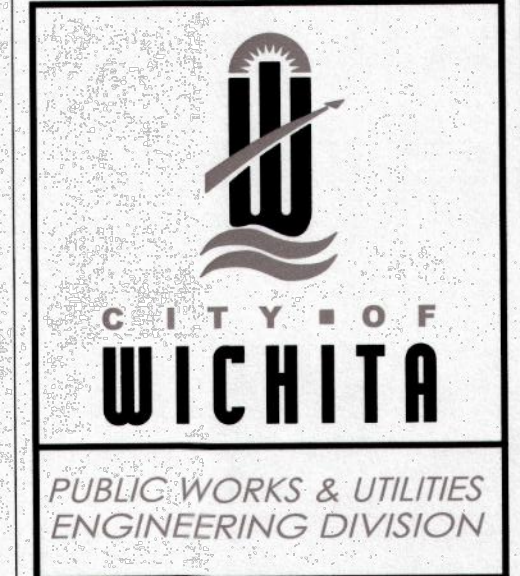
**PROPER INSTALLATION METHOD:**  
EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 6" DEEP BY 4" WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE 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.

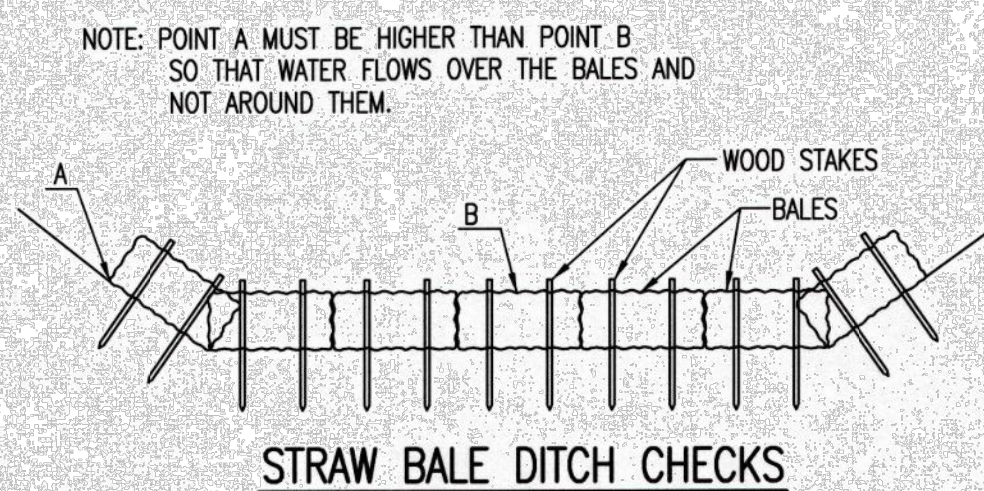
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**  
WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER 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 <b>GARY JANZEN, P.E.</b>	
PROJECT NUMBER	DATE
OCA NUMBER	DATE
CITY ENGINEER'S OFFICE	
CITY HALL - SEVENTH FLOOR	SHEET
455 NORTH MAIN STREET	
WICHITA, KANSAS 67202-1620	
(316) 268-4501	





**MATERIAL SPECIFICATION:**

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

**PLACEMENT:**

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

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

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSLOPE 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 UPSLOPE EDGE OF THE EROSION-CONTROL BLANKET ALONG THE BOTTOM UPSLOPE 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 UPSLOPE SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP AND EXTEND UPSLOPE NO MORE THAN 24".

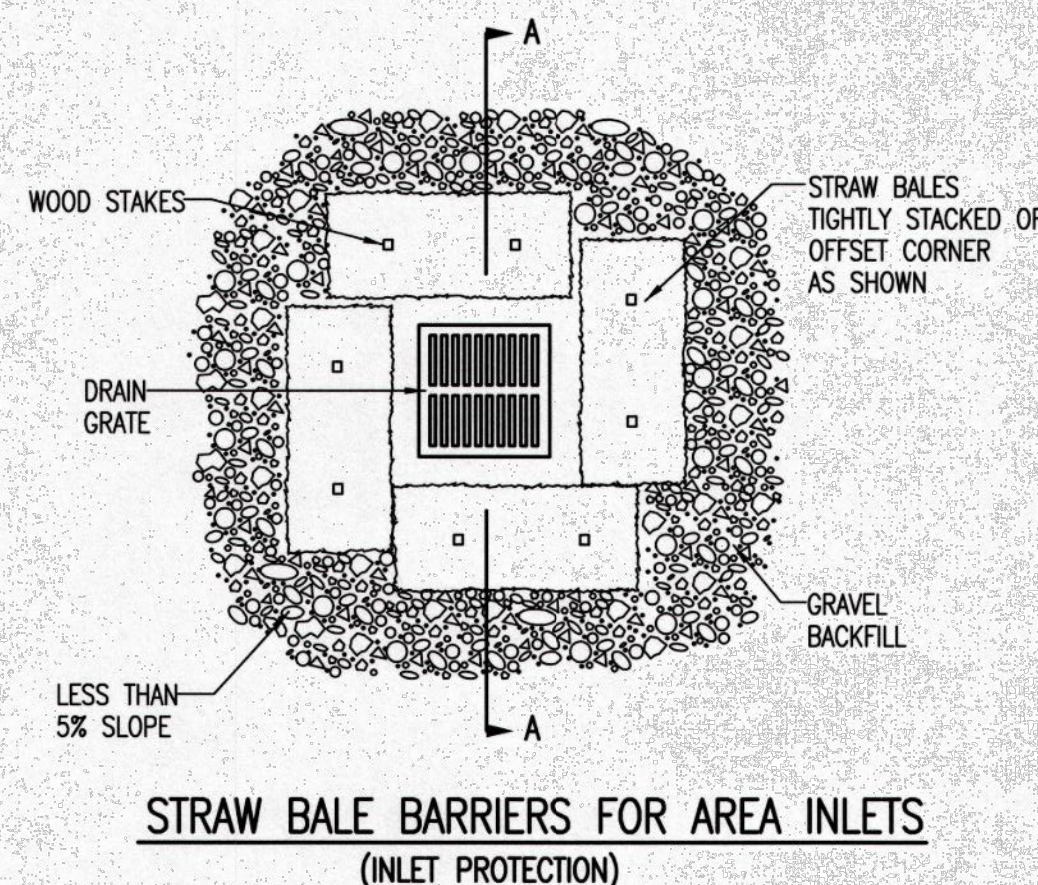
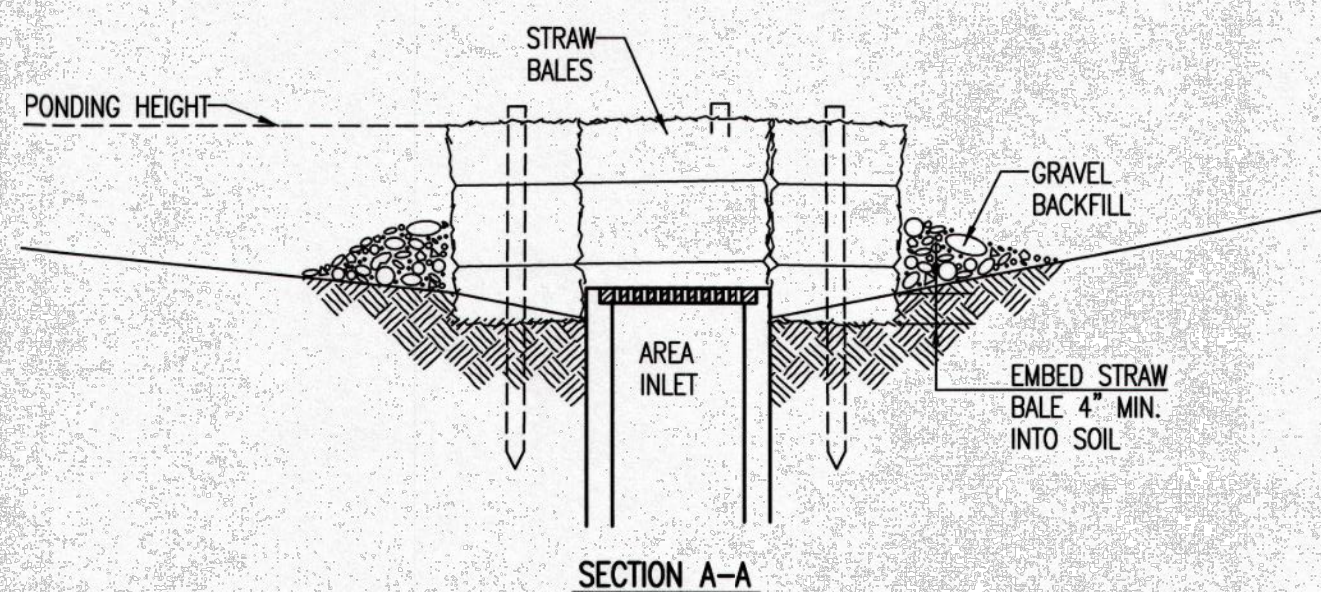
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

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?



**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.

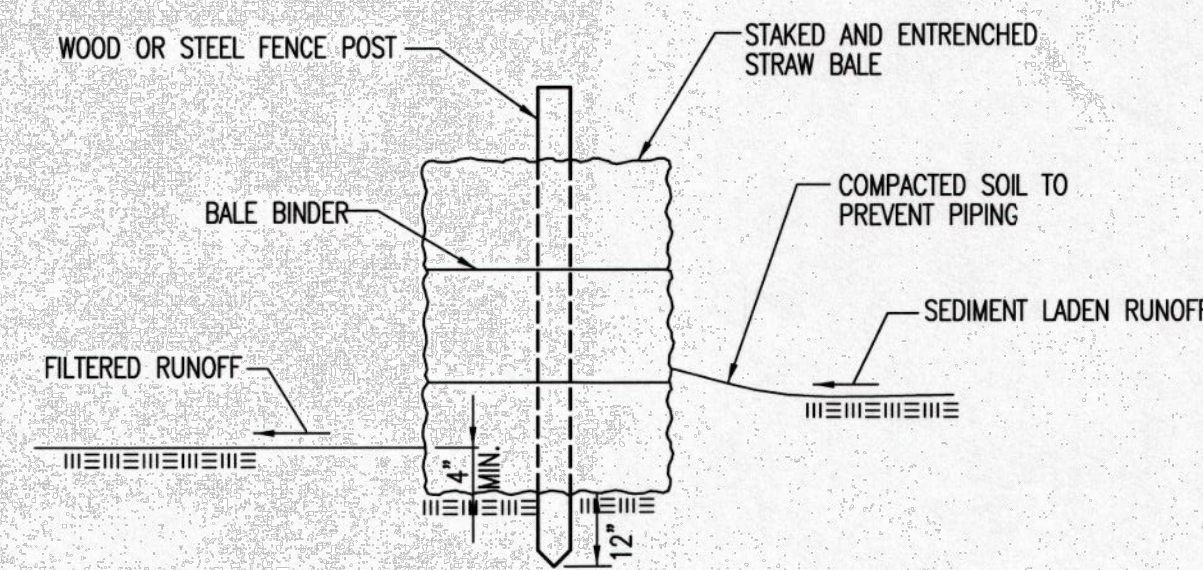
**LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:**

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?



**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:**

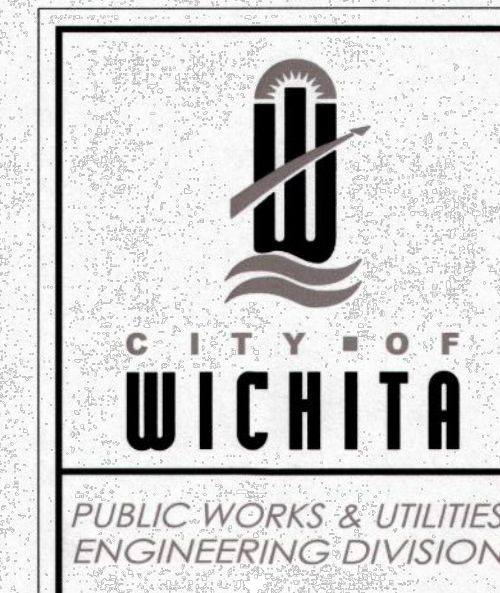
WHEN PRACTICAL, DO NOT PLACE BALE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. CONCENTRATED FLOW OVER A SLOPE BARRIER CREATES A SCOUR HOLE ON THE DOWNSLOPE SIDE OF THE BARRIER. THE SCOUR HOLE EVENTUALLY UNDERMINES THE BALES AND THE BARRIER 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**

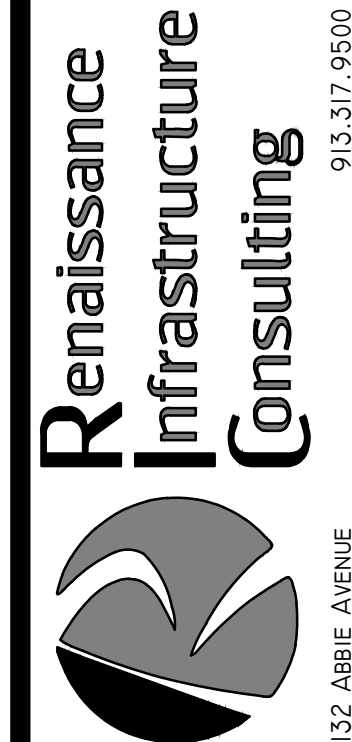
CITY ENGINEER  
**GARY JANZEN, P.E.**

PROJECT NUMBER: OCA NUMBER: DATE:

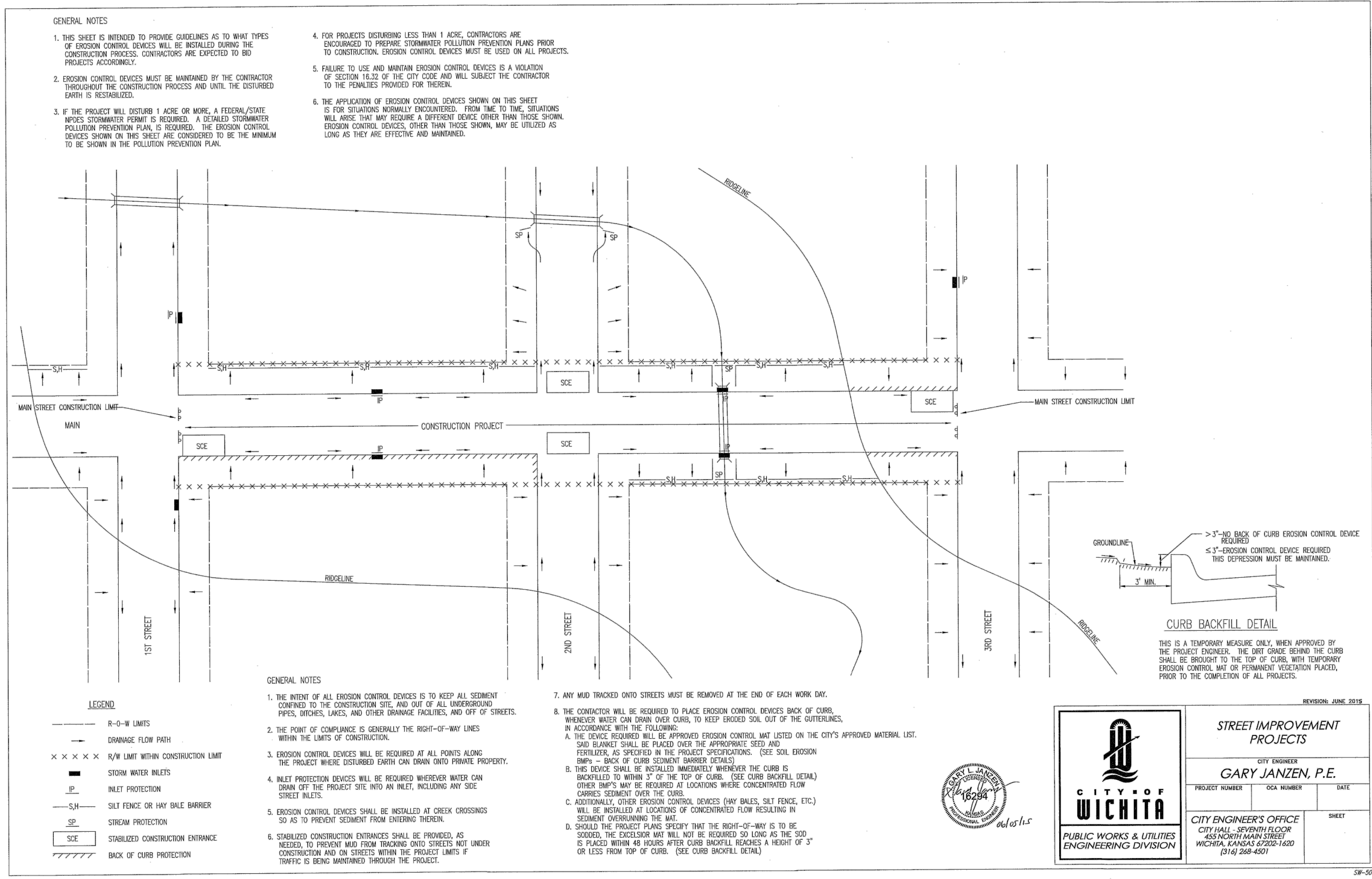
CITY ENGINEER'S OFFICE  
CITY HALL - SEVENTH FLOOR  
455 NORTH MAIN STREET  
WICHITA, KANSAS 67202-1620  
(316) 268-4501

SHEET

SW-503



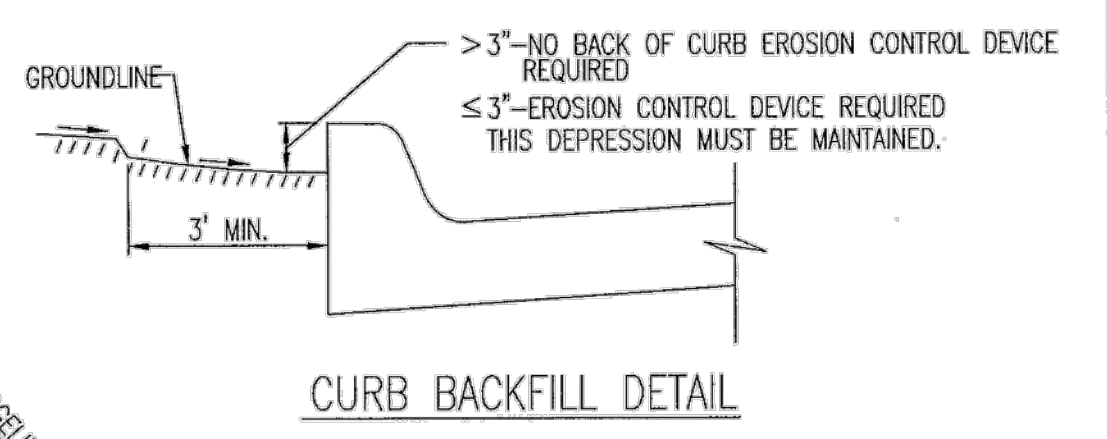
NO.	DATE	BY	DD	DD	DATE	REVISION
1	JAN	DJB	08/08/18			Per City Comments
	JAN	DJB	07/20/18			Original Submittal



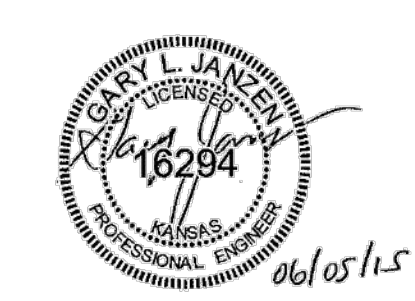
- GENERAL NOTES**
1. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPES OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
  2. EROSION CONTROL DEVICES MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS AND UNTIL THE DISTURBED EARTH IS RESTABILIZED.
  3. IF THE PROJECT WILL DISTURB 1 ACRE OR MORE, A FEDERAL/STATE NPDES STORMWATER PERMIT IS REQUIRED. A DETAILED STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. THE EROSION CONTROL DEVICES SHOWN ON THIS SHEET ARE CONSIDERED TO BE THE MINIMUM TO BE SHOWN IN THE POLLUTION PREVENTION PLAN.
  4. FOR PROJECTS DISTURBING LESS THAN 1 ACRE, CONTRACTORS ARE ENCOURAGED TO PREPARE STORMWATER POLLUTION PREVENTION PLANS PRIOR TO CONSTRUCTION. EROSION CONTROL DEVICES MUST BE USED ON ALL PROJECTS.
  5. FAILURE TO USE AND MAINTAIN EROSION CONTROL DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE CONTRACTOR TO THE PENALTIES PROVIDED FOR THEREIN.
  6. THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT DEVICE OTHER THAN THOSE SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED AS LONG AS THEY ARE EFFECTIVE AND MAINTAINED.

- 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

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



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.

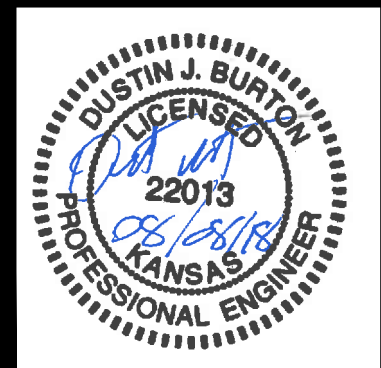


REVISION: JUNE 2015

<b>STREET IMPROVEMENT PROJECTS</b>		
CITY ENGINEER <b>GARY JANZEN, P.E.</b>		
PROJECT NUMBER	OCA NUMBER	DATE
CITY ENGINEER'S OFFICE	SHEET	
CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		

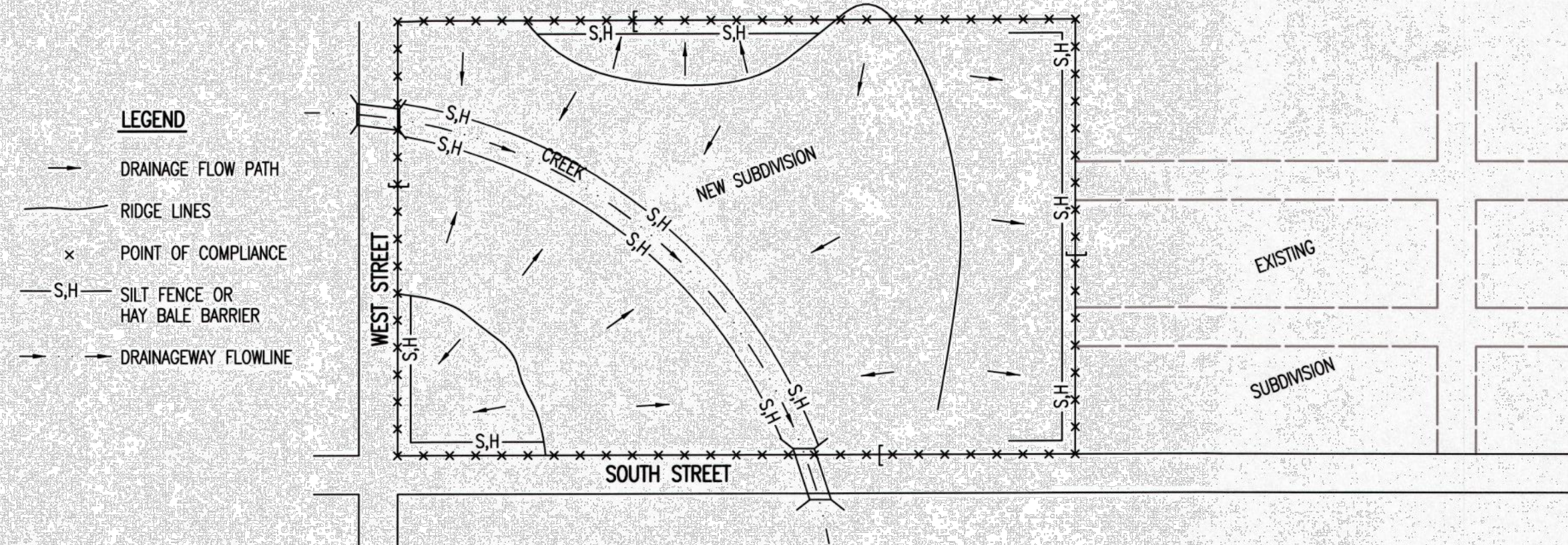
NO.	BY	DATE	REVISION
1	JAR	08/08/18	Per City Comments Original Submittal
	JAR	07/20/18	

**Renaissance Infrastructure Consulting**  
132 ABBIE AVENUE  
KANSAS CITY, KANSAS 66103  
913.317.9500  
WWW.RIC-CONSULT.COM



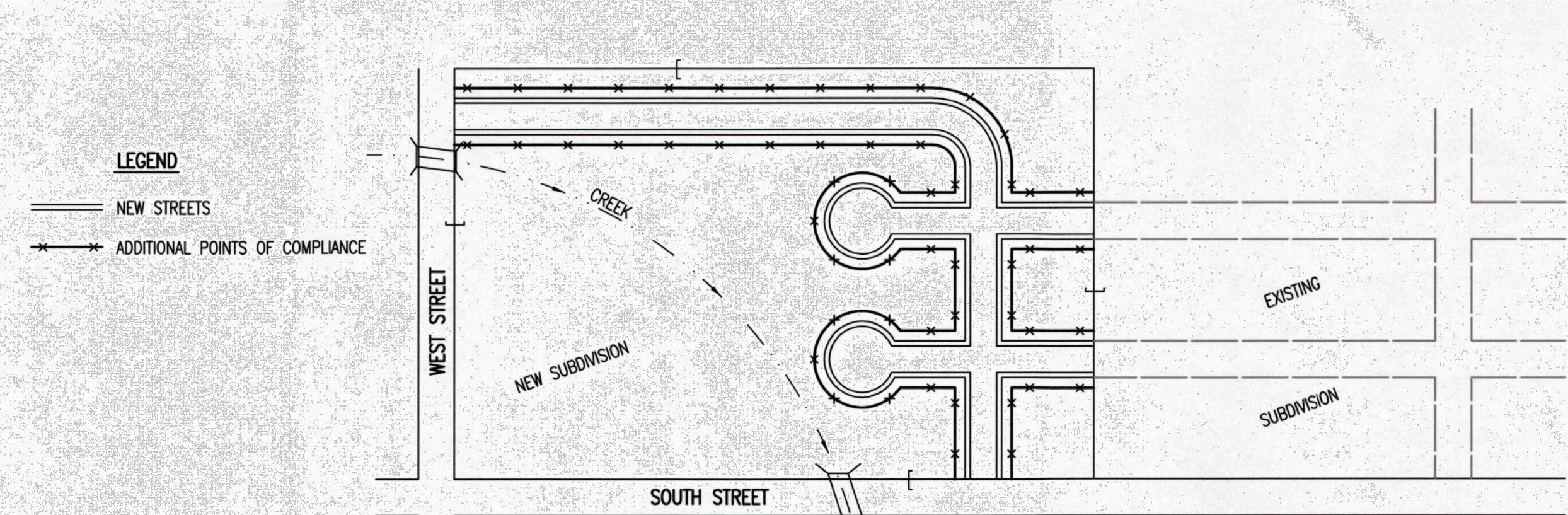
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PHASE 1 - INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



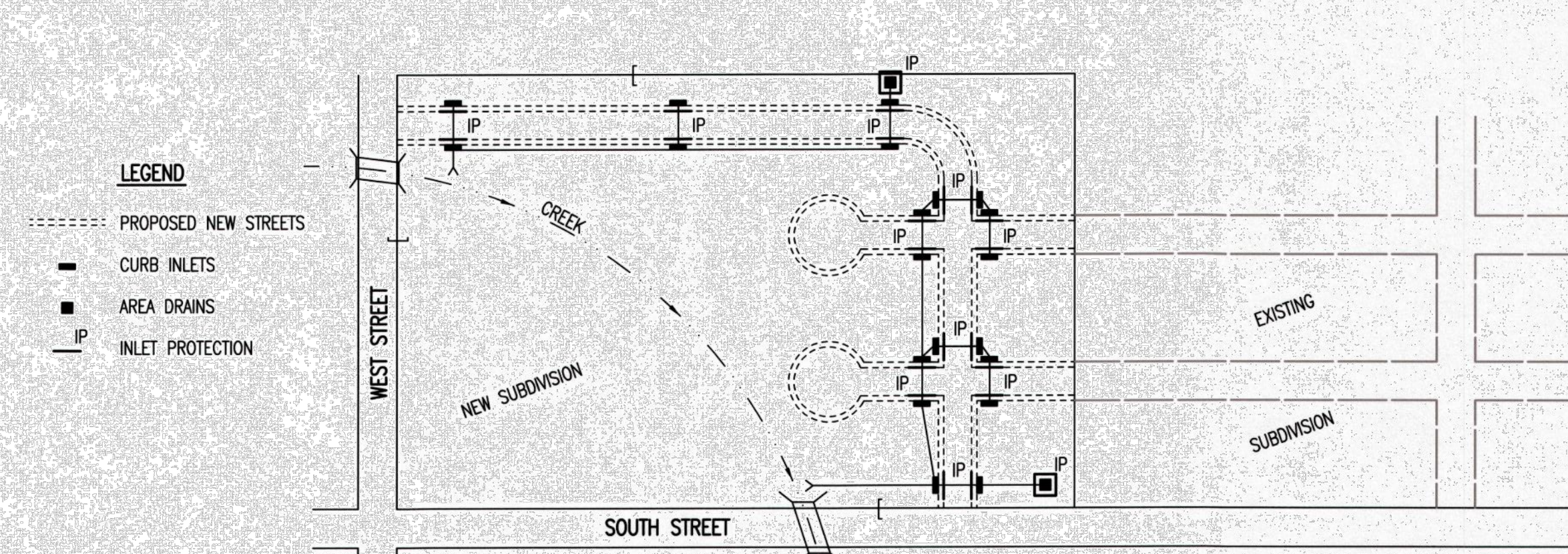
- LEGEND**
- DRAINAGE FLOW PATH
  - RIDGE LINES
  - x POINT OF COMPLIANCE
  - S,H- SILT FENCE OR HAY BALE BARRIER
  - DRAGWAY FLOWLINE
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM 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
  - x 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:
    - SUMP AREAS - INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
    - 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

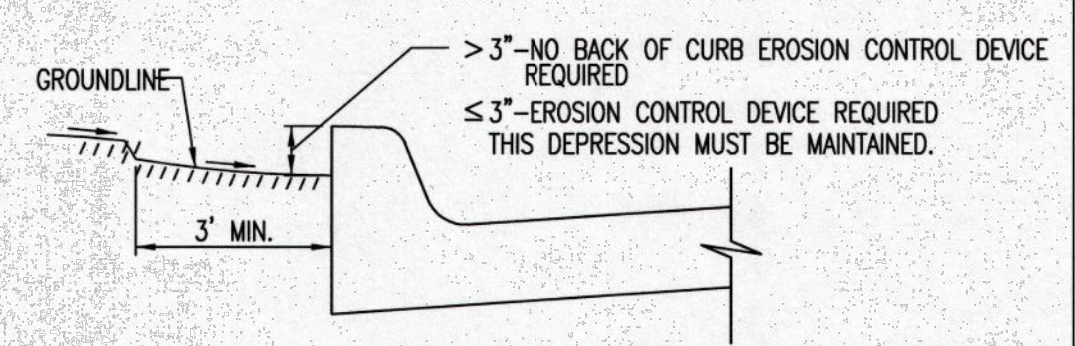


- LEGEND**
- - - - - PROPOSED NEW STREETS
  - CURB INLETS
  - AREA DRAINS
  - IP INLET PROTECTION
- DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
  - AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS 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 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.

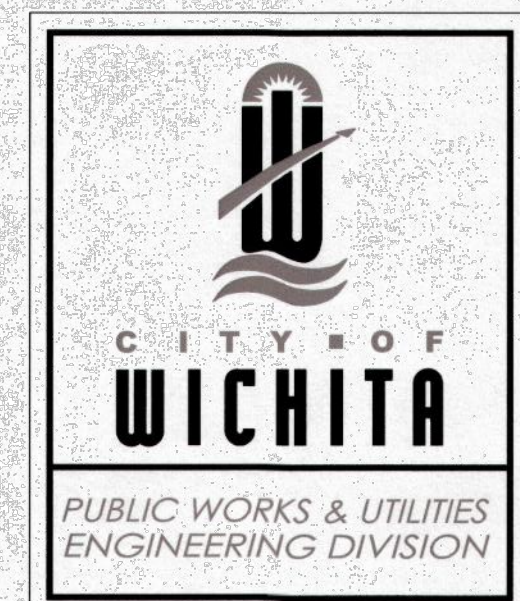
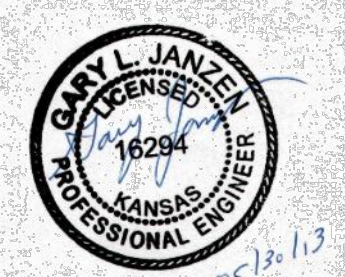
SEE DETAIL SHEET FOR BACK OF CURB PROTECTION DETAIL



CURB BACKFILL DETAIL (STREET CONSTRUCTION ONLY)

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REVISION DATE: MAY 2013



**SUBDIVISION DEVELOPMENT PROCESS**

CITY ENGINEER  
**GARY JANZEN, P.E.**

PROJECT NUMBER	OCA NUMBER	DATE

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

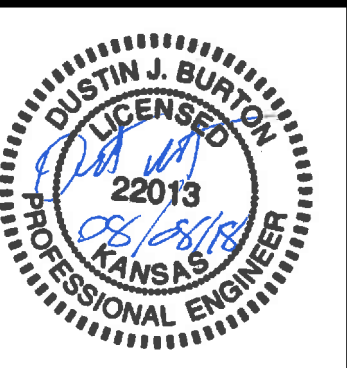
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