

PROJECT BENCHMARK

Chiseled square cut, center front face of inlet East side of Greenwich Road,
342 feet +/- South of the intersection of East 27th 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

Storm Sewer Plans to Serve WICHITA DESTINATION DEVELOPMENT - PHASE 4 LOT 1, K96 GREENWICH ADDITION

an Addition to Wichita, Sedgwick County, Kansas
Gary Janzen, P.E., City Engineer
0363 PPD (607853)
607861

OWNER / DEVELOPER

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

CONSULTANT / APPLICANT

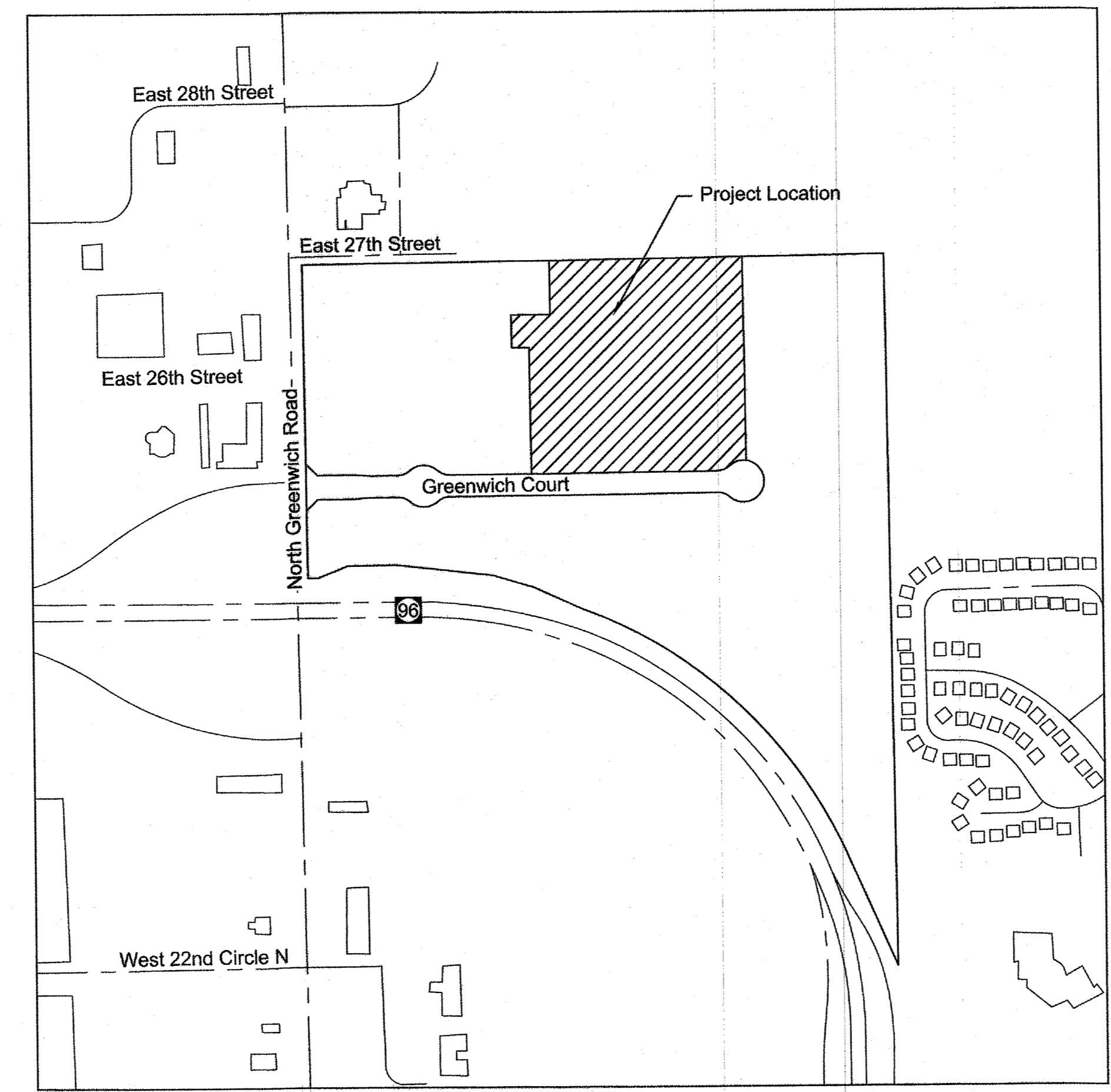
Renaissance Infrastructure Consulting
1138 Cambridge Circle Drive
Kansas City, Kansas 66103

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PRIVATE PROJECT DRAINAGE PLANS
15-0196
WICHITA DESTINATION DEVELOPMENT-PHASE 4
LOT 1, K-96 GREENWICH ADDITION

TITLE SHEET



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 |

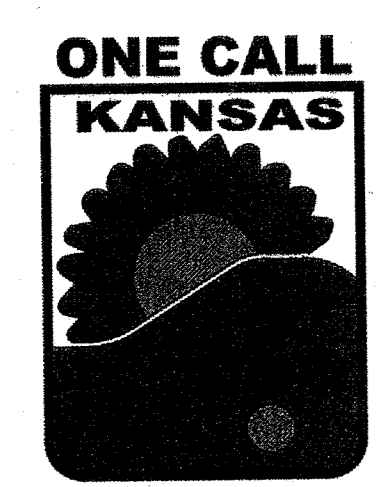
UTILITY SERVICE & INSTALLATION CONTACTS

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

UTILITY EMERGENCY CONTACTS

- | | |
|---|---|
| KANSAS ONE-CALL
(316) 687-2470 | AT&T
1-555-1212 |
| COX COMMUNICATIONS
(316) 687-2470 | CITY OF WICHITA WATER DEPT
(316) 268-4908 |
| WESTAR ENERGY/
KANSAS GAS & ELECTRIC COMPANY
(800) 482-4950 | CITY OF WICHITA SEWER DEPT
(316) 268-4071 |

**KANSAS ONE-CALL:
1-800-DIG-SAFE**
(1-800-344-7235)



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.

AS BUILTS

Contractor: McCullough Excavation, Inc. 9/15/2016	Project Inspector: Larry Gann 117 E. Lewis, Wichita, KS 67202 (316)264-0242
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Stormwater Certification
New Development

These construction plans were prepared in accordance with the current Stormwater Management Regulations as set forth in the City of Wichita's Stormwater Management Ordinance 16.32 and the policies / guidelines presented in the Wichita / Sedgwick County Stormwater Manual.

Disturbed Area: 20.64 Acres
Water Quality Treatment: Detention Pond and Oil-Debris Hood for Sediment and Trash Removal.
Downstream Channel Protection: Detention Pond
Detention:

Outlet structures on this project have staged outlets to meet applicable requirements. The Existing Storm Sewer and Detention Pond were Previously Approved and Permitted under PPD No. 0260.

APPROVED AS NOTED
BY WICHITA PUBLIC WORKS ENGINEER
AND STORMWATER DIVISION

Engineering: *Rebecca Dief 2/5/16*
Stormwater: *B. 02/06/16*

NOTE TO CONTRACTORS

Inspection and testing for this project is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner / Developer. Said Inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer in the State of Kansas. No work shall be performed in dedicated easements or public right-of-way by the Contractor without such inspection nor shall any work be commenced without written authorization by the City Engineer. All Construction and Materials shall comply with the City of Wichita Specifications and Standards and Special Provisions. (on file and available at Wichita.gov).

An Approved copy of these plans signed by City staff are required on-site.

NO.	BY	DATE	REVISION
1.	JAR FHC	12/28/15	ORIGINAL SUBMITTAL
2.	JAR CRT	01/18/16	PER CITY COMMENTS
	JAR FHC	02/06/16	PER REVISED SITE

Renaissance
Infrastructure
Consulting

1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103
913.317.9500
WWW.RIC-CONSULT.COM

CURTIS R. TALCOTT
 LICENSED PROFESSIONAL ENGINEER
 KANSAS

January 2016

46-156-21

FINAL PLAT

WICHITA DESTINATION DEVELOPMENT

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

A REPLAT OF ALL OF K96 AND GREENWICH NORTH ADDITION

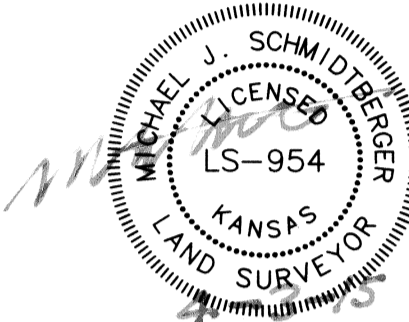
CERTIFICATE OF SURVEY

I, Michael J. Schmidtberger, a registered land surveyor in Kansas, do hereby certify that I have been in responsible charge of surveying and platting of "WICHITA DESTINATION DEVELOPMENT" an addition to Wichita, Sedgwick County, Kansas, into Lots, Reserves and Streets the same being accurately set forth in the accompanying plat and described herein:

A replat of all of Lots 1 thru 7 inclusive, Block 1, Lots 1 thru 8 inclusive, Block 2, Reserves A, B, C, D, E, F and G, K96 AND GREENWICH NORTH ADDITION, an addition to Wichita, Sedgwick County, Kansas, together with WOODSPRING ST, WOODSPRING CIR., and BOULDER DR. platted rights-of-way.

All lots, blocks, streets, easements, setbacks, and access controls, together with all other public dedications or rights-of-way within the above described property are hereby vacated and replatted by virtue of K.S.A. 12-512b, as amended.

I hereby certify that the details of this plat are correct to the best of my knowledge and belief this 5th day of April, 2015.



Michael Schmidtberger, Kansas LS-954
Renaissance Infrastructure Consulting
1138 W. Cambridge Circle Drive
Kansas City, Kansas 66103

OWNER'S CERTIFICATE

Know all men by these presents that we the undersigned property owner of the land above set forth in the Registered Land Surveyor's Certificate, has caused the same to be surveyed and platted into Lots, Blocks, Reserves, and Streets the same to be known as "WICHITA DESTINATION DEVELOPMENT," a replat K96 AND GREENWICH NORTH ADDITION, an addition to Wichita, Sedgwick County, Kansas.

This plat shall conform to the recitals of CUP DP-333.

Easements for the construction and maintenance of public utilities, drainage and sanitary sewer, as indicated on the accompanying plat are hereby granted to the public.

All streets are hereby dedicated to and for the use of the public.

A drainage plan has been developed for this plat. 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.

All abutters rights of access to or from Greenwich Road, over and across the west line of "WICHITA DESTINATION DEVELOPMENT", are hereby granted to the appropriate governing body as indicated hereon. All abutters rights of access to or from Kansas Highway 96, over and across the south line of "WICHITA DESTINATION DEVELOPMENT", are hereby granted to the appropriate governing body as indicated hereon. Access controls are dedicated to and for the use of the public.

Lot 1, Block A, is required to adhere to the minimum pad elevation as shown on the "Minimum Pad Elevations" table.

Reserves "A", "B", "C", "D", "E", "F", and "G" are platted for monuments, signs, landscaping, berming, sidewalks, irrigation, open space, pavement, utilities confined by easements, and walls provided that they do not inhibit the conveyance of surface drainage. Reserves "A", "B", "C" are also platted for drainage, drives, and parking. Reserves "D", "E", "F" and "G" shall allow for public access across said reserves, at various locations for driveways, as approved by the City Engineer. The Reserves shall be owned and maintained by the Lot owner's association, provided however, that the undersigned or Lot owner's association as the undersigned successors in interest may, at its discretion deed parcels of said Reserves "A", "B", and "C" to an owner (s) 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.

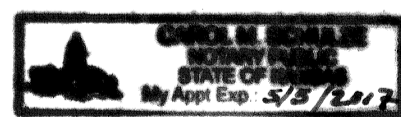
Medical Practice Association Properties, LLC, a Kansas Limited Liability Company

Aaron Ryan
Aaron Ryan, Manager

STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

This instrument was acknowledged before me on 9th day of April, 2015, by Aaron Ryan, Manager, Medical Practice Association Properties, LLC, a Kansas Limited Liability Company.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal; the day and year last above written.



Carol M. Schulze, Notary Public
Notary Public: Carol M. Schulze
My Term Expires: May 5, 2017

Wichita Destination Developers, Inc., a Kansas Corporation

Michael J. Boyd
Michael J. Boyd, President

STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

This instrument was acknowledged before me on 8th day of APRIL, 2015, by Michael J. Boyd, President, Wichita Destination Developers, Inc., a Kansas Corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal; the day and year last above written.



Ruth A. Glaze, Notary Public
Notary Public: Ruth A. Glaze
My Term Expires: 12-24-16

WDDMBB, LLC, a Kansas limited liability company

Michael J. Boyd
Michael J. Boyd, President

STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

This instrument was acknowledged before me on 8th day of April, 2015, by Michael J. Boyd, President, WDDMBB, LLC, a Kansas limited liability company.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year last above written.



Ruth A. Glaze, Notary Public
Notary Public: Ruth A. Glaze
My Term Expires: 12-24-16

PLANNING COMMISSION CERTIFICATE

STATE OF KANSAS)
) SS
CITY OF WICHITA)

This plat of "WICHITA DESTINATION DEVELOPMENT" has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this 24 day of July, 2014

WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION

Don Klausmeyer, Chairman
John L. Schlegel, Secretary



GOVERNING BODY CERTIFICATE

STATE OF KANSAS)
) SS
CITY OF WICHITA)

The dedications shown on this plat are hereby accepted and this plat is hereby approved by the governing body of the City of Wichita, Kansas.

Dated this 12 day of May, 2015

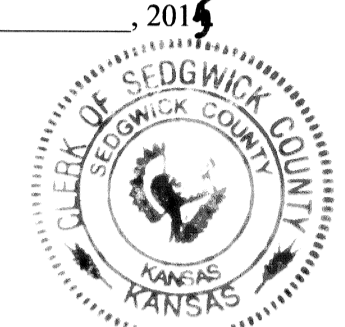
At the direction of the City Council;

Jeff Longwell, Mayor
Karen Sublett, City Clerk

TRANSFER RECORD

Entered on transfer record this 5th day of June, 2015

Kelly B. Arnold
County Clerk



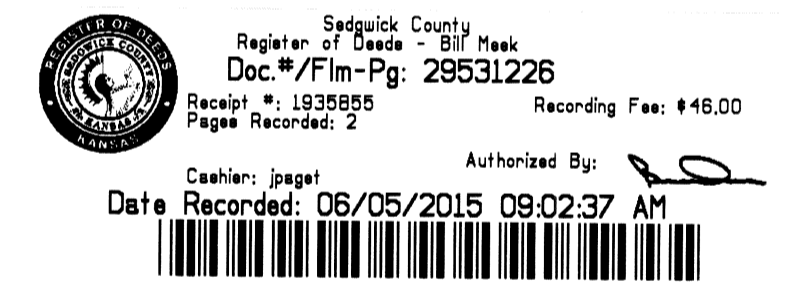
REGISTER OF DEEDS CERTIFICATE

STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

This is to certify that this instrument was filed for record in the Register of Deeds office this 5th day of June, 2015, at 9:02:37 o'clock A.M. and is duly recorded.

Bill Meek, Register of Deeds

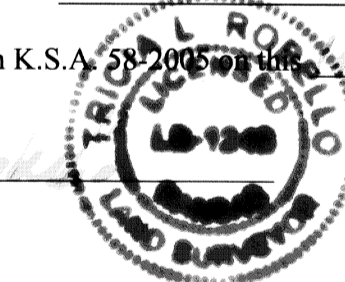
Tonya E. Buckingham, Deputy



COUNTY SURVEYOR

Reviewed in accordance with K.S.A. 12-512b on this 5th day of June, 2015.

Tricia L. Robello, LS #1246
Deputy County Surveyor
Sedgwick County, Kansas



WICHITA DESTINATION DEVELOPMENT

Prepared For:
Wichita Destination Developers, Inc.
1707 N. Waterfront Parkway
Wichita, KS 67206
(316) 685-5341

Date of Preparation:
May 28, 2014



1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103
913.317.9500
WWW.RIC-CONSULT.COM

FINAL PLAT

WICHITA DESTINATION DEVELOPMENT

AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

A REPLAT OF ALL OF K96 AND GREENWICH NORTH ADDITION

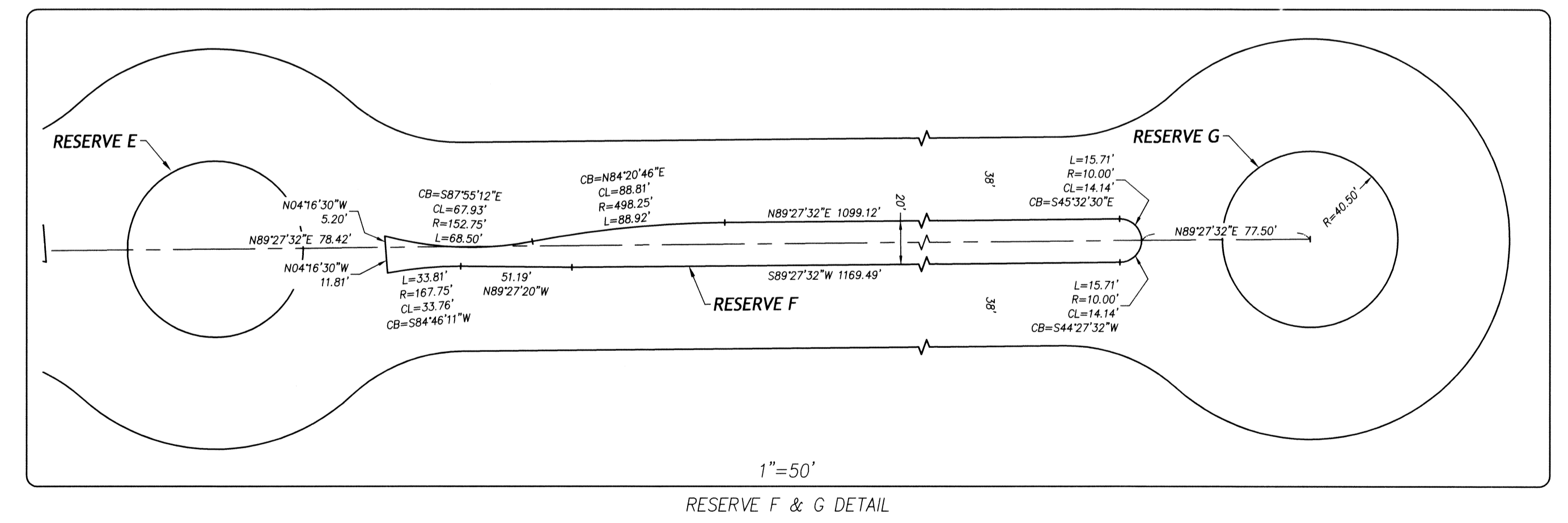
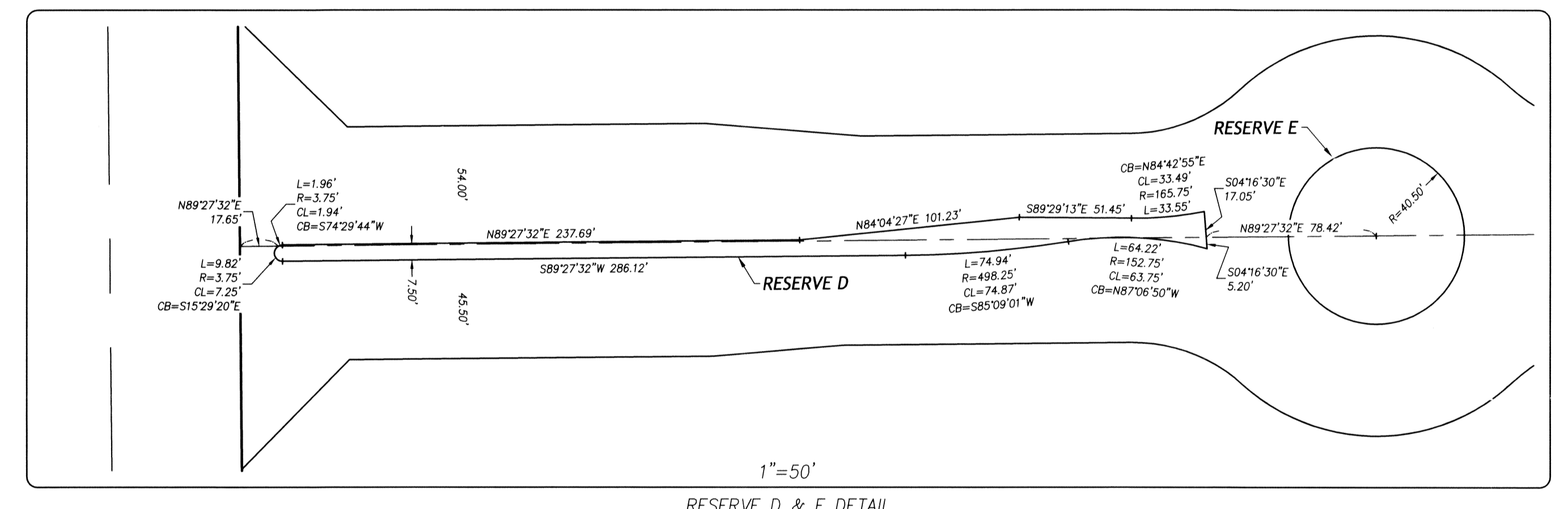
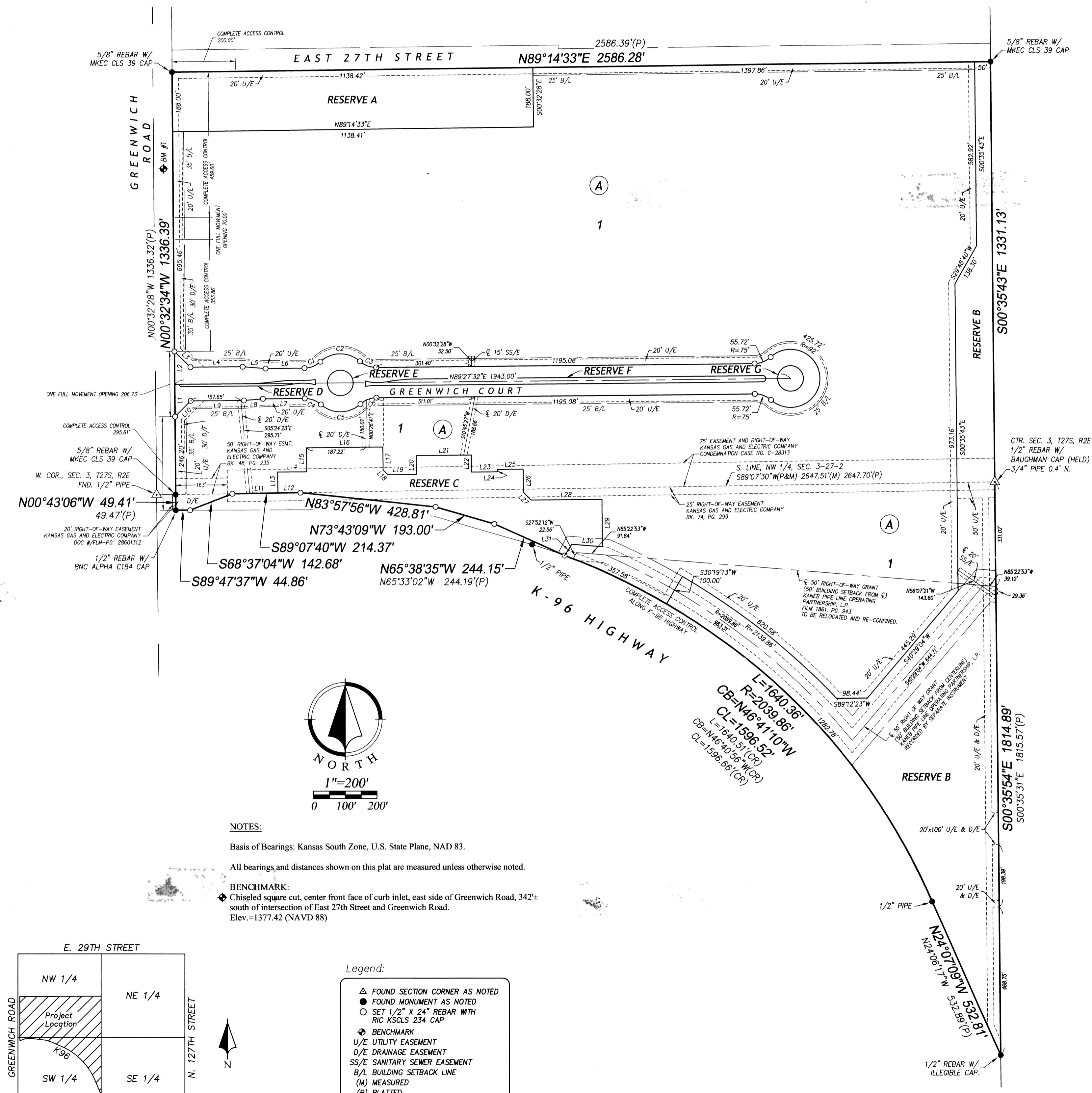
Minimum Pad Elevations	
Lot No.	Elevation
1	1374.50

Line Table		
Line #	Direction	Length
L1	N00°32'34"W	102.36'
L2	N00°32'34"W	104.37'
L3	S45°32'28"E	70.52'
L4	N89°27'32"E	164.25'
L5	S85°22'10"E	72.11'
L6	N89°27'32"E	123.11'
L7	N89°27'32"E	132.38'
L8	N85°09'27"E	60.00'
L9	N89°27'32"E	166.97'
L10	N44°27'32"E	70.51'
L11	S89°07'40"W	143.00'
L12	N89°07'40"E	71.37'
L13	S00°32'28"W	66.14'
L14	N89°27'32"E	92.50'
L15	N00°32'28"W	75.50'
L16	N89°27'32"E	240.41'

Line Table		
Line #	Direction	Length
L17	S00°32'28"E	72.50'
L18	S45°32'28"E	21.21'
L19	N89°27'32"E	90.00'
L20	N00°32'28"W	59.50'
L21	N89°27'32"E	174.00'
L22	S00°32'28"E	53.50'
L23	N89°27'32"E	81.26'
L24	N00°32'28"W	7.50'
L25	N89°27'32"E	81.24'
L26	S00°32'28"E	72.50'
L27	S45°32'28"E	35.36'
L28	N89°27'32"E	223.00'
L29	S00°32'28"E	150.59'
L30	N85°22'53"W	95.75'
L31	S32°31'45"W	42.36'

Curve Table			
Curve #	Length	Radius	Chord
C1	55.716	75.000	N68°10'38"E 54.44'
C2	136.689	92.000	S89°27'32"W 124.46'
C3	55.716	75.000	S69°15'34"E 54.44'
C4	55.716	75.000	N69°15'34"W 54.44'
C5	136.689	92.000	N89°27'32"E 124.46'
C6	55.716	75.000	S68°10'38"W 54.44'

Lot Areas		
Lot #	Sq. Ft.	Ac.
1	3,364,626	77.241
RESERVE A	214,022	4.913
RESERVE B	612,416	14.059
RESERVE C	149,150	3.424
RESERVE D	3,944	0.091
RESERVE E	5,153	0.118
RESERVE F	24,390	0.560
RESERVE G	5,153	0.118

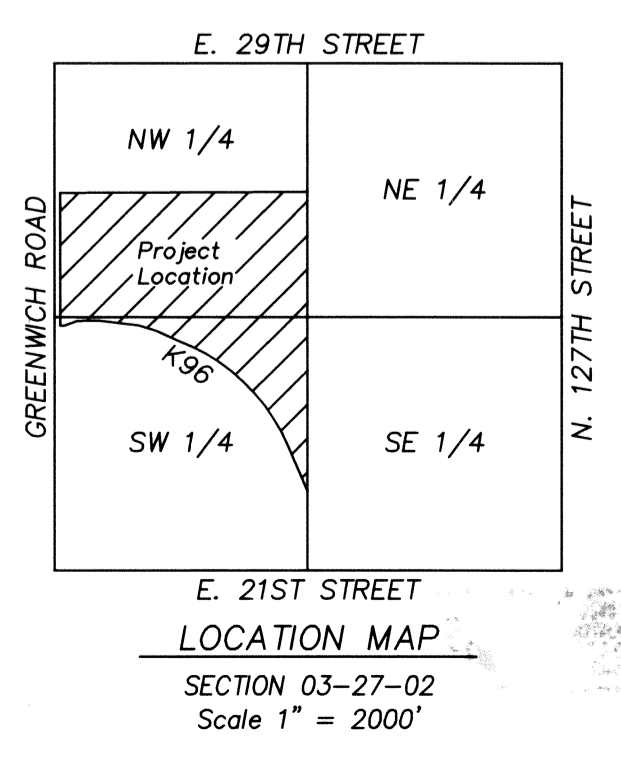


NOTES:

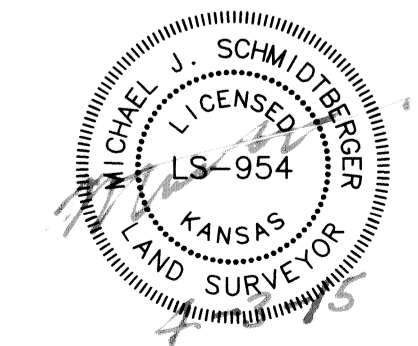
Basis of Bearings: Kansas South Zone, U.S. State Plane, NAD 83.

All bearings and distances shown on this plat are measured unless otherwise noted.

BENCHMARK:
 Chiseled square cut, center front face of curb inlet, east side of Greenwich Road, 342± south of intersection of East 27th Street and Greenwich Road.
 Elev.=1377.42 (NAVD 88)



- Legend:**
- ▲ FOUND SECTION CORNER AS NOTED
 - FOUND MONUMENT AS NOTED
 - SET 1/2" X 24" REBAR WITH RIC KSCLS 234 CAP
 - ◆ BENCHMARK
 - U/E UTILITY EASEMENT
 - D/E DRAINAGE EASEMENT
 - SS/E SANITARY SEWER EASEMENT
 - B/L BUILDING SETBACK LINE
 - (M) MEASURED
 - (P) PLATED
 - L LENGTH OF CURVE
 - R RADIUS OF CURVE
 - CL CHORD LENGTH
 - CB CHORD BEARING



WICHITA DESTINATION DEVELOPMENT

Prepared For:
 Wichita Destination Developers, Inc.
 1707 N. Waterfront Parkway
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 (316) 685-5341

Date of Preparation:
 May 28, 2014

Renaissance Infrastructure Consulting

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 www.RIC-CONSULT.COM

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 Tim 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 U.S.G.S. Datum (NAVD 88)
- All areas disturbed during construction that will not be under proposed pavement shall be restored to match existing conditions.
- A portion of excess excavated material shall be mounded around manholes with extent more than one (1) foot above the existing ground. Such mound shall be constructed with new development a six (6) foot diameter with 4 to 1 side slopes down to the original ground. The elevation of the flat top of the mound shall be 0.4 foot below the top of the manhole.
- Geotechnical report available upon request.
- Contractor shall limit the extent of trench openings overnight and weekends to less than 50 feet.
- Contractor shall provide positive drainage away from all manhole covers.
- City maintenance of storm sewer ends at right-of-way or easement line.
- Any sidewalk, drive approach or street pavement removed 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 or 316.268.4480.
- The inspection firm shall submit to the City Stormwater Mainenance Division a Digital copy of the CCTV inspection of the conduits and structures following construction. The digital file formation shall be compatible with the City input template. A copy of the template is available upon request at 316.268.4090

Line H

Structure	Station	Northing	Easting
H2	1+00.00	1703032.81	1687181.45
H3	1+33.50	1703033.14	1687215.45
H4	1+47.50	1703033.27	1687229.45
H5	4+05.00	1703035.70	1687486.94
H6	5+51.46	1702891.02	1687509.70

Line G

Structure	Station	Northing	Easting
G1	0+00.00	1703475.06	1687864.69
G2	0+31.41	1703475.34	1687895.10
G3	2+45.03	1703264.30	1687934.09
G4	4+78.70	1703039.33	1687870.92
G5	6+26.70	1702891.33	1687872.32

Line N

Structure	Station	Northing	Easting
N1	0+00.00	1703452.62	1687452.62
N2	0+13.50	1703439.13	1687320.74
N3	3+66.34	1703442.67	1687673.56

Line O

Structure	Station	Northing	Easting
N2	0+00.00	1703439.13	1687452.62
O1	1+34.16	1703439.03	1687186.58
O2	1+79.88	1703455.84	1687144.07
O3	2+57.45	1703455.11	1687066.50

PROJECT BENCHMARK

Chiseled square cut, center front face of inlet East side of Greenwich Road, 342 feet +/- South of the intersection of East 27th 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

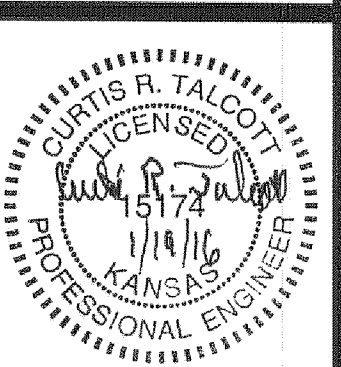
SUMMARY OF QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNIT
1	15" RCP	215.00	LF
2	18" RCP	170.64	LF
3	24" RCP	721.81	LF
4	30" RCP	531.98	LF
5	4' Dia. Manhole	3	EA
6	5' Dia. Manhole	1	EA
7	5' x 3' Type I Curb Inlet	7	EA
8	5' x 4' Type I Curb Inlet	2	EA
9	30" Restrained End Section with Toe Wall	1	EA
10	Oil-Debris Hood	2	EA
11	Concrete Head Wall	1	EA
12	Connect to Existing Curb Inlet	1	EA
13	Seeding	1	LS
14	Erosion Control	1	LS

Quantities are for Information Only. Contractor to Verify all Quantities Prior to Construction.

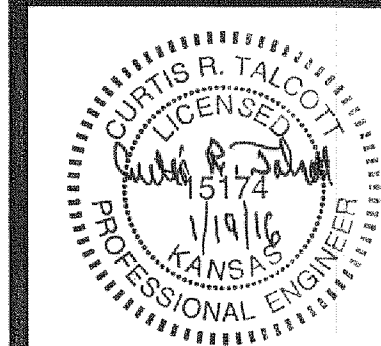
NO.	BY	DATE	REVISION
1.	JAR	10/05/15	ORIGINAL SUBMITTAL
2.	JAR	01/16/16	PER CITY COMMENTS
3.	JAR	12/28/15	PER REVISED SITE

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NO.	BY	DATE	PER CITY COMMENTS
2.	JAR CRT	07/18/16	PER REVISED SITE
1.	JAR FHC	12/28/15	ORIGINAL SUBMITTAL
	JAR FHC	10/28/15	REVISION

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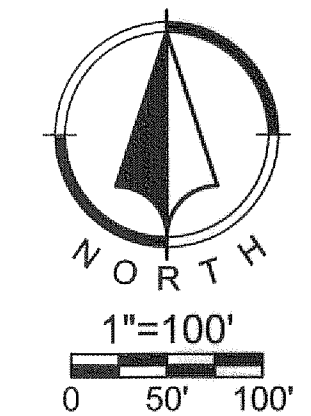
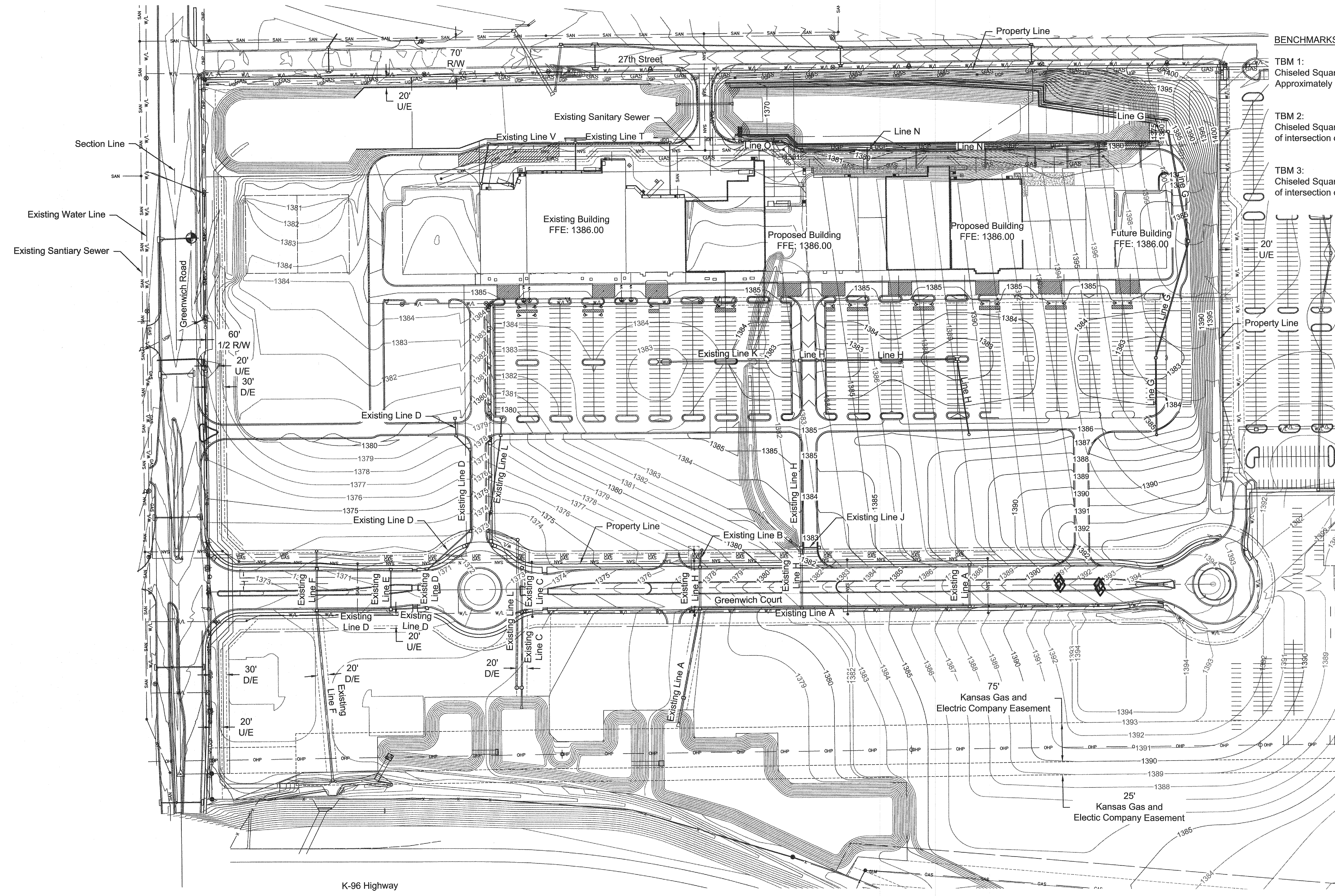


PROJECT BENCHMARK

Chiseled square cut, center front face of inlet East side of Greenwich Road,
342 feet +/- South of the intersection of East 27th 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



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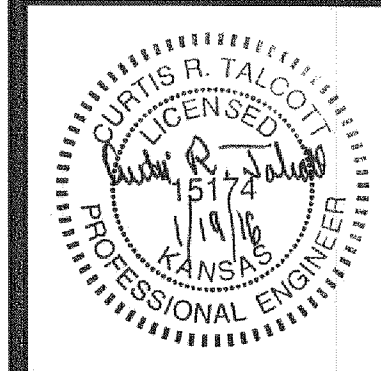
DRAINAGE AREA CALCS

Return Period		100		Drainage Area			Runoff			"Area" * "C"			Time of Concentration		Rain	Runoff	Manning's	Minimum	Suggested	Shape	Pipe	Pipe	Pipe	Full	Q	Velocity		Sec.	Invert Elev.		Crown	Slope	Slope
Str ID	Length	Inc	Add.	Total	Coefficient	Inc.	Add.	Total	9	10	"I"	"Q"	n	Pipe Diameter (Inches)	Pipe Diameter (Inches)	of Pipe	Rise (in)	Span (in)	Area (sf)	Flow Hyd Radius	Full (ft3/s)	Full	Design	Time (min)	U/S (ft)	D/S (ft)	Drop (ft)	(ft/ft)	Check (ft/ft)				
1	2	3	4	4a	5	6	7	7A	8	9	10	11	12				13	13a			14	15	16	17	18	19	20	21					
H6	H5	142.43	0.84		0.84	0.90	0.76		0.76	15.0	15.0	6.83	5.16	0.013	11.8	12	Circular	15	15	1.23	0.31	9.69	7.90	7.90	0.30	1382.24	1379.03		0.0225	0.0225			
H5	H4	253.50	2.26		3.10	0.89	2.01		2.77	15.0	15.3	6.76	18.72	0.013	28.0	30	Circular	30	30	4.91	0.63	22.47	4.58	4.58	0.92	1377.78	1377.02		0.0030	0.0030			
H4	H3	11.00	0.96		4.06	0.89	0.85		3.62	15.0	16.2	6.57	23.80	0.013	29.6	30	Circular	30	30	4.91	0.63	24.61	5.01	5.02	0.04	1376.92	1376.88		0.0036	0.0036			
H3	H2	30.00	0.23		4.29	0.89	0.20		3.83	15.0	16.3	6.56	25.11	0.013	29.6	30	Circular	30	30	4.91	0.63	25.94	5.28	5.29	0.09	1376.78	1376.66		0.0040	0.0040			
H2	H1	354.56	0.22	2.76	7.27	0.89	0.20	2.46	6.48	15.0	16.4	6.54	42.40	0.013	34.6	36	Circular	36	36	7.07	0.75	47.16	6.67	6.68	0.89	1376.56	1374.79		0.0050	0.0050			
H1	A2.5	112.00	0.08	1.61	8.96	0.89	0.07	1.45	8.00	15.0	17.2	6.37	50.98	0.013	37.1	42	Circular	36	36	7.07	0.75	47.16	6.67	6.68	0.28	1374.69	1374.13		0.0050	0.0050			
G5	G4	144.50	1.34		1.34	0.89	1.19		1.19	15.0	15.0	6.83	8.15	0.013	15.9	18	Circular	24	24	3.14	0.50	24.47	7.79	7.79	0.31	1380.30	1378.61		0.0117	0.0117			
G4	G3	229.47	2.54		3.88	0.89	2.26		3.45	15.0	15.3	6.76	23.35	0.013	23.3	24	Circular	24	24	3.14	0.50	25.29	8.05	8.05	0.47	1378.41	1375.54		0.0125	0.0125			
G3	G2	209.57	0.32		4.20	0.89	0.28		3.74	15.0	15.8	6.66	24.90	0.013	24.9	27	Circular	30	30	4.91	0.63	41.02	8.36	8.36	0.42	1375.04	1372.94		0.0100	0.0100			
G2	G1	27.91	0.00		4.20	0.89	0.00		3.74	15.0	16.2	6.57	24.90	0.013	24.0	24	Circular	30	30	4.91	0.63	45.30	9.23	9.23	0.05	1372.44	1372.10		0.0122	0.0122			
N3	N2	347.84	2.57		2.57	0.91	2.34		2.34	15.0	15.0	6.83	15.98	0.013	20.4	21	Circular	24	24	3.14	0.50	24.78	7.89	7.89	0.73	1375.30	1371.14		0.0120	0.0120			
N2	N1	12.00	1.46	1.35	5.38	0.91	1.33	1.23	4.90	15.0	15.7	6.67	32.66	0.013	24.2	27	Circular	30	30	4.91	0.63	58.01	11.82	11.82	0.02	1370.64	1370.40		0.0200	0.0200			
O3	O2	72.57	0.89		0.89	0.91	0.81		0.81	15.0	15.0	6.83	5.53	0.013	14.2	15	Circular	15	15	1.23	0.31	6.46	5.26	5.27	0.23	1375.95	1375.22		0.0100	0.0100			
O2	O1	40.98	0.46		1.35	0.91	0.42		1.23	15.0	15.2	6.78	8.33	0.013	16.5	18	Circular	18	18	1.77	0.38	10.50	5.94	5.95	0.11	1374.97	1374.56		0.0100	0.0100			
O1	N2	129.66	0.00		1.35	0.91	0.00		1.23	15.0	15.3	6.75	8.33	0.013	14.2	15	Circular	18	18	1.77	0.38	15.76	8.92	8.92	0.24	1374.06	1371.14		0.0225	0.0225			

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2.	JAR	CRT	01/18/16	PER CITY COMMENTS
1.	JAR	FHC	12/28/15	PER REVISED SITE
	JAR	FHC	10/26/15	ORIGINAL SUBMITTAL
	JAR	BY	DATE	REVISION

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NO.	BY	DATE	REVISION
2.	JAR CRT	01/18/16	PER CITY COMMENTS
1.	JAR PNC	12/28/15	PER REVISED SITE
	JAR PNC	10/26/15	ORIGINAL SUBMITTAL

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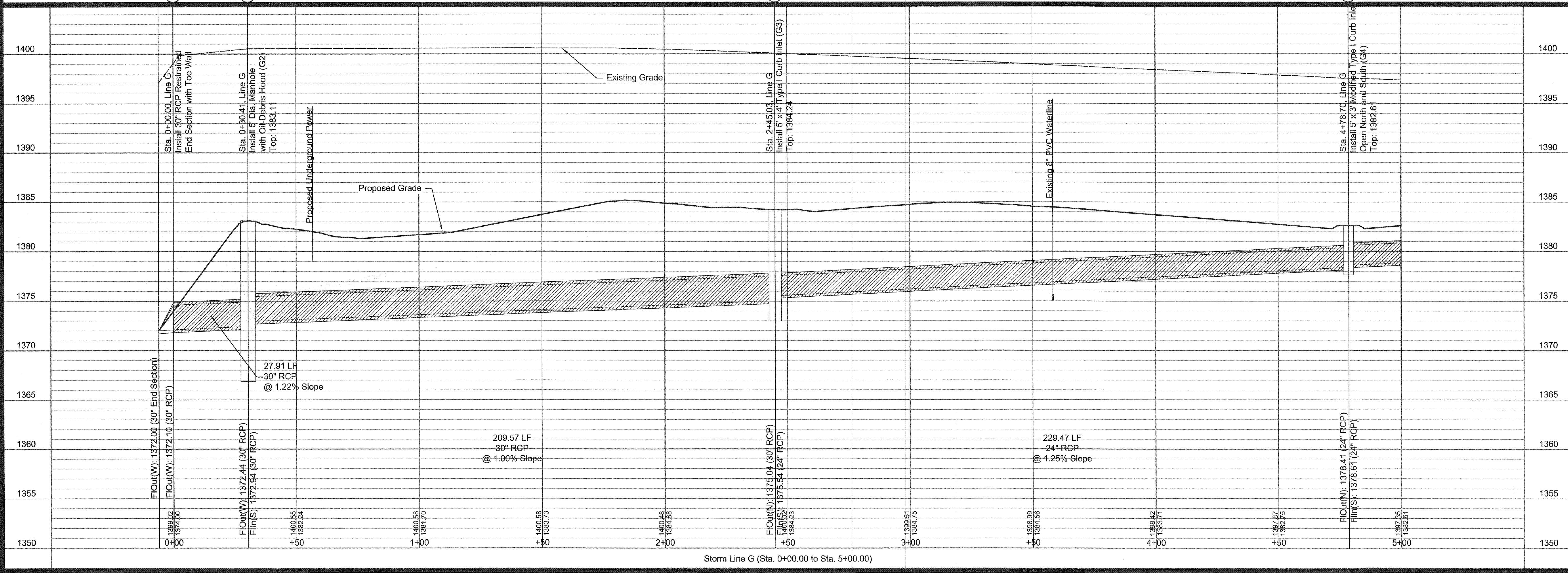
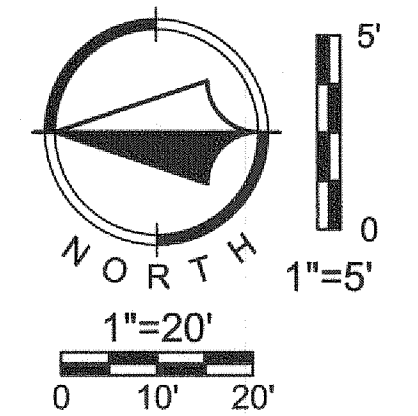
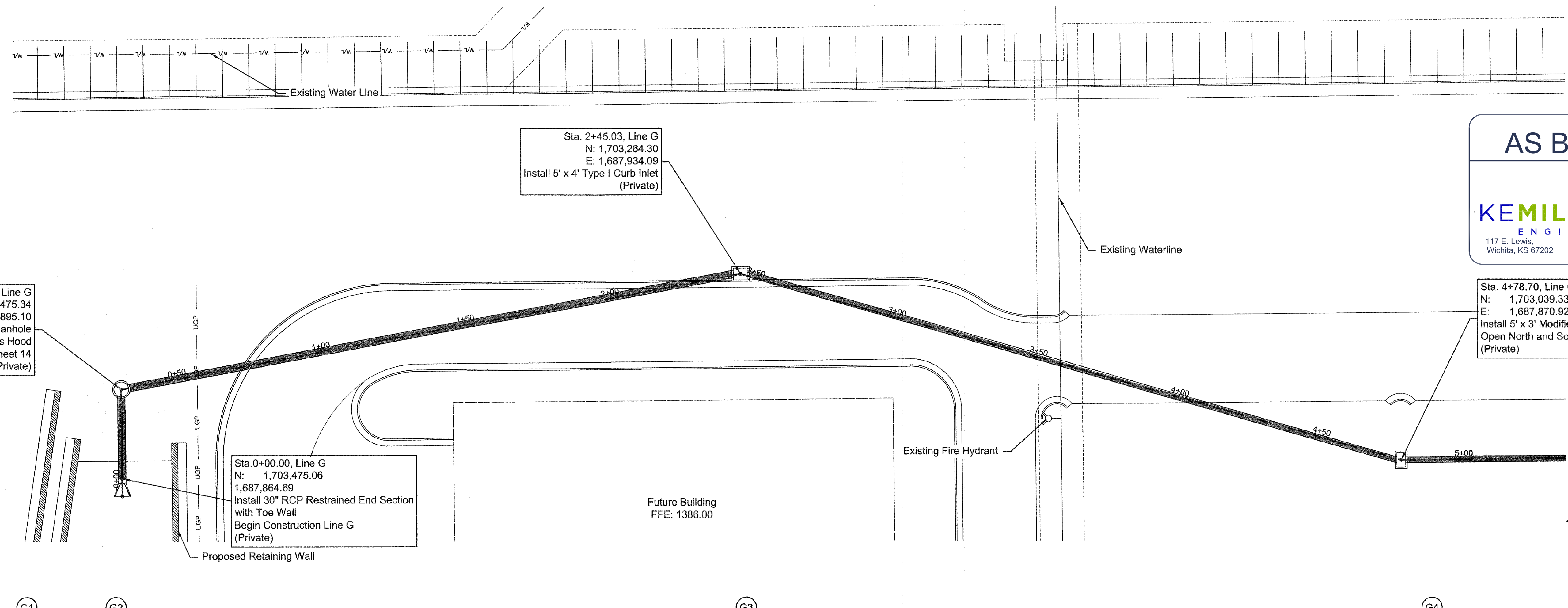
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013.517.9500
KANSAS PROFESSIONAL ENGINEER
JAMES R. TALCOTT
LICENSED
12/12/16

AS BUILT

KEMILLER ENGINEERING PA

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



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NO.	BY	CD	DATE	REVISION
2.	JAR	CRT	01/18/16	PER CITY COMMENTS
1.	JAR	FHC	12/28/15	PER REVISED SITE
	JAR	FHC	10/05/15	ORIGINAL SUBMITTAL

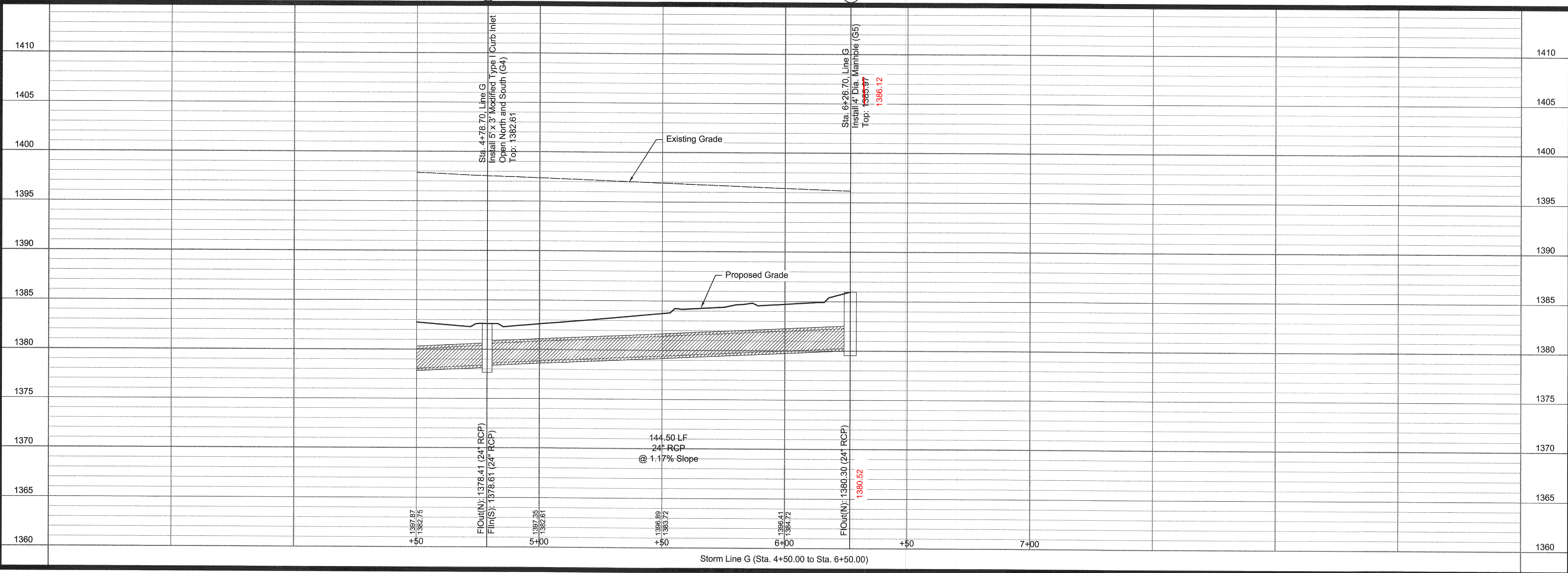
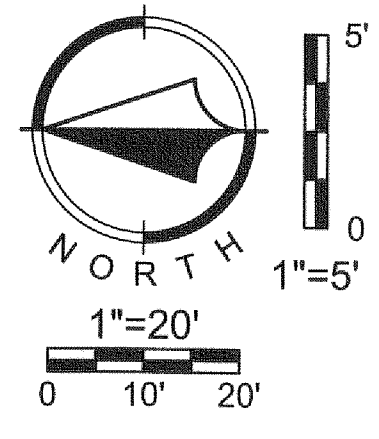
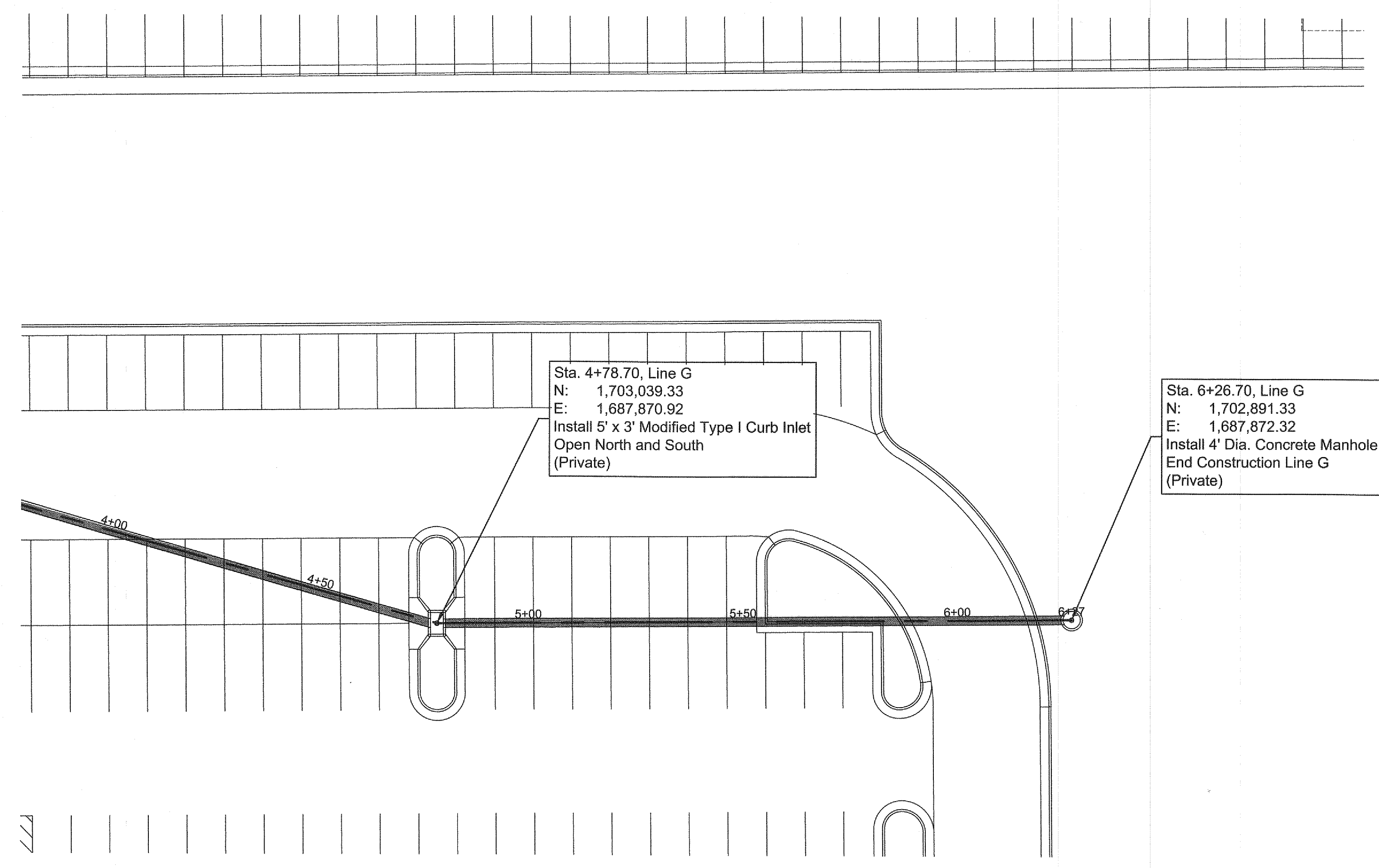
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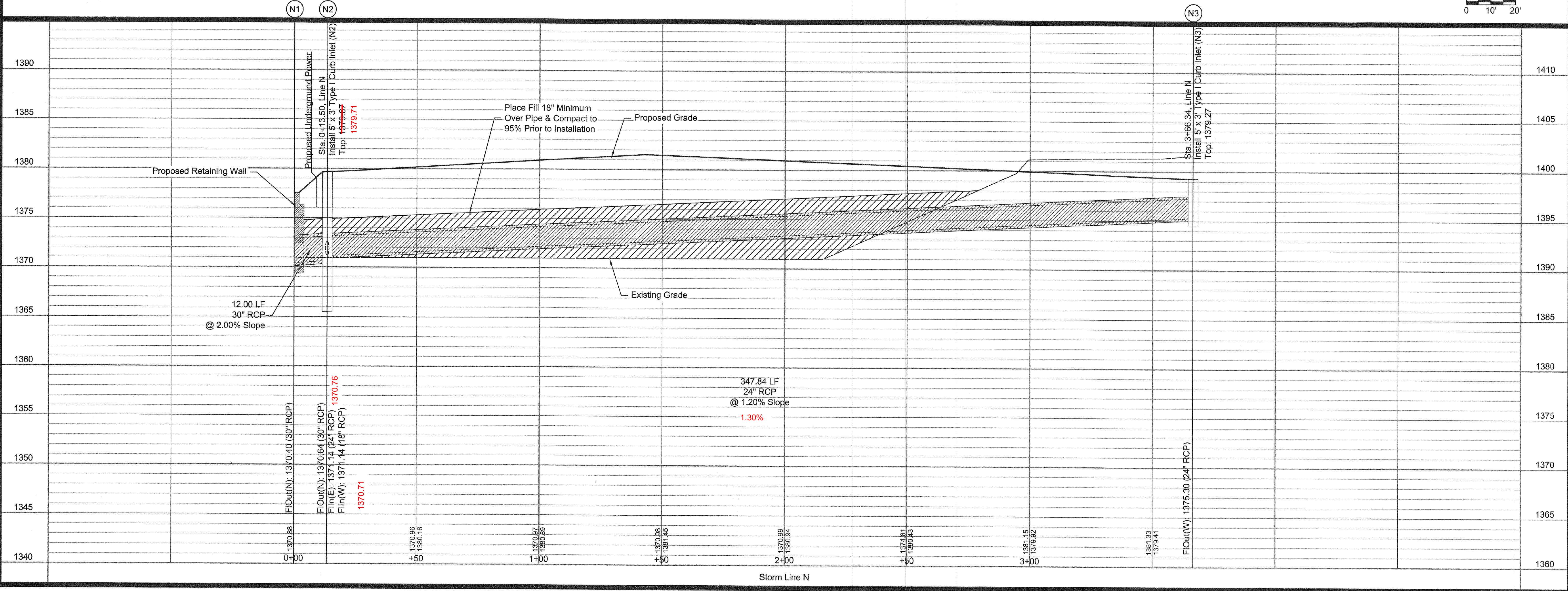
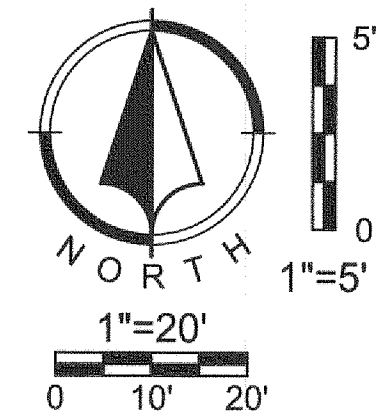
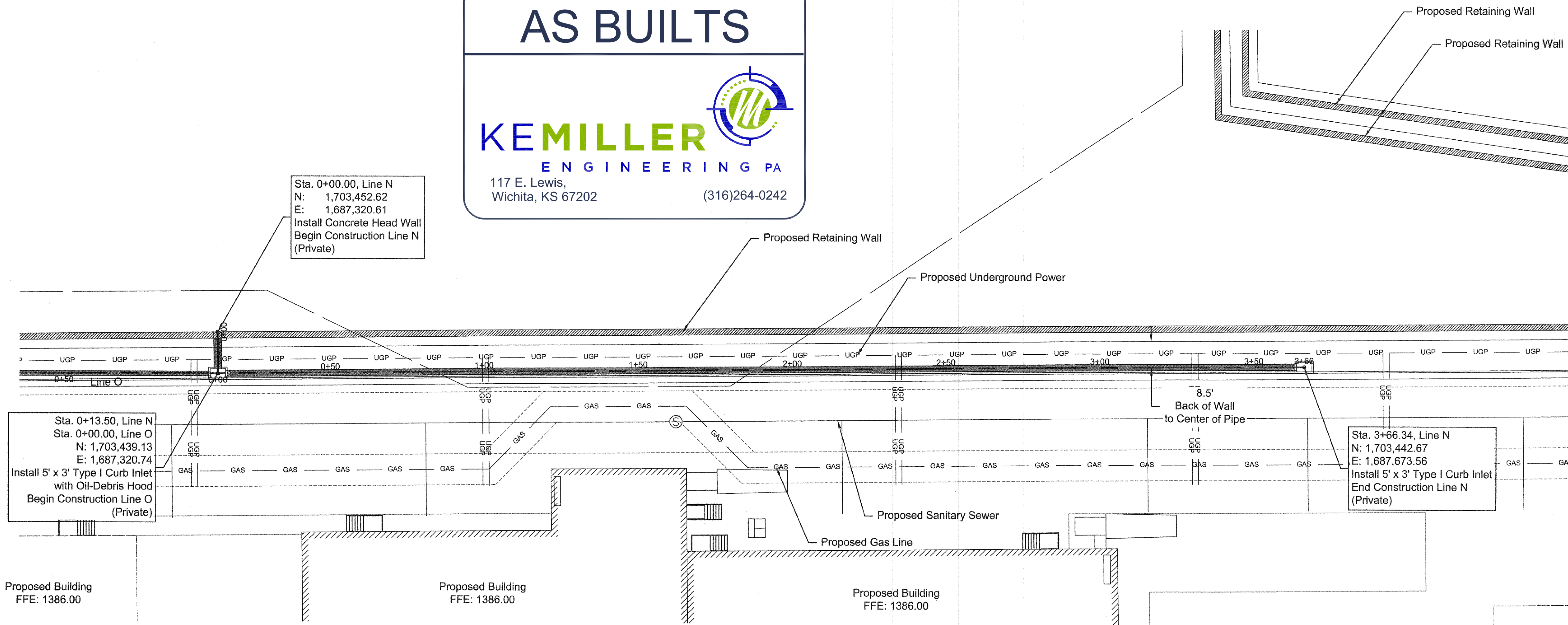
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Storm Line G (Sta. 4+50.00 to Sta. 6+50.00)

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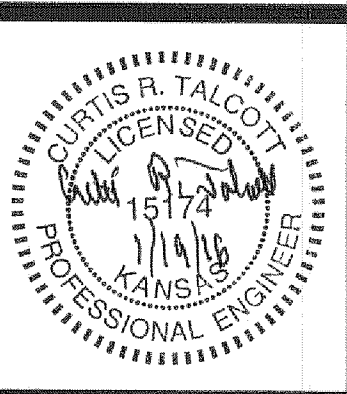
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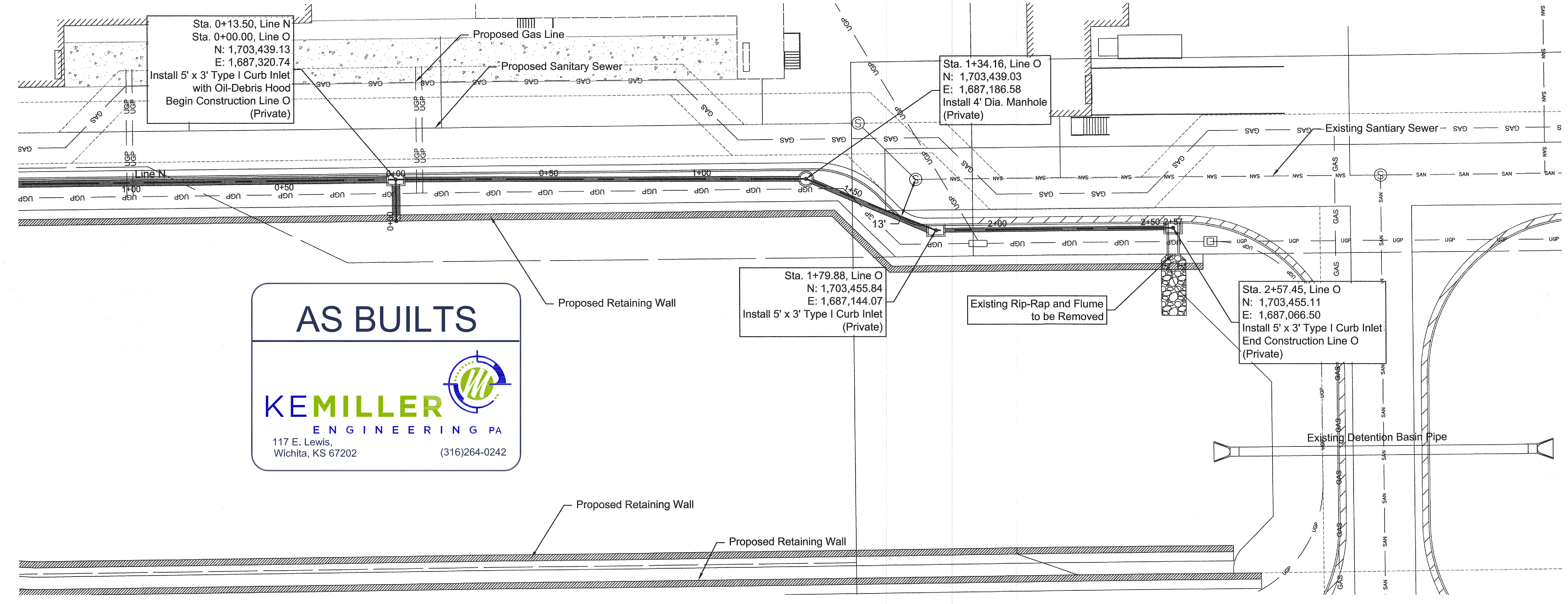
NO.	BY	DATE	REVISION
2	JAR	01/15/16	PER CITY COMMENTS
1	JAR	12/28/15	PER REVISION SITE
	JAR	10/05/15	ORIGINAL SUBMITTAL

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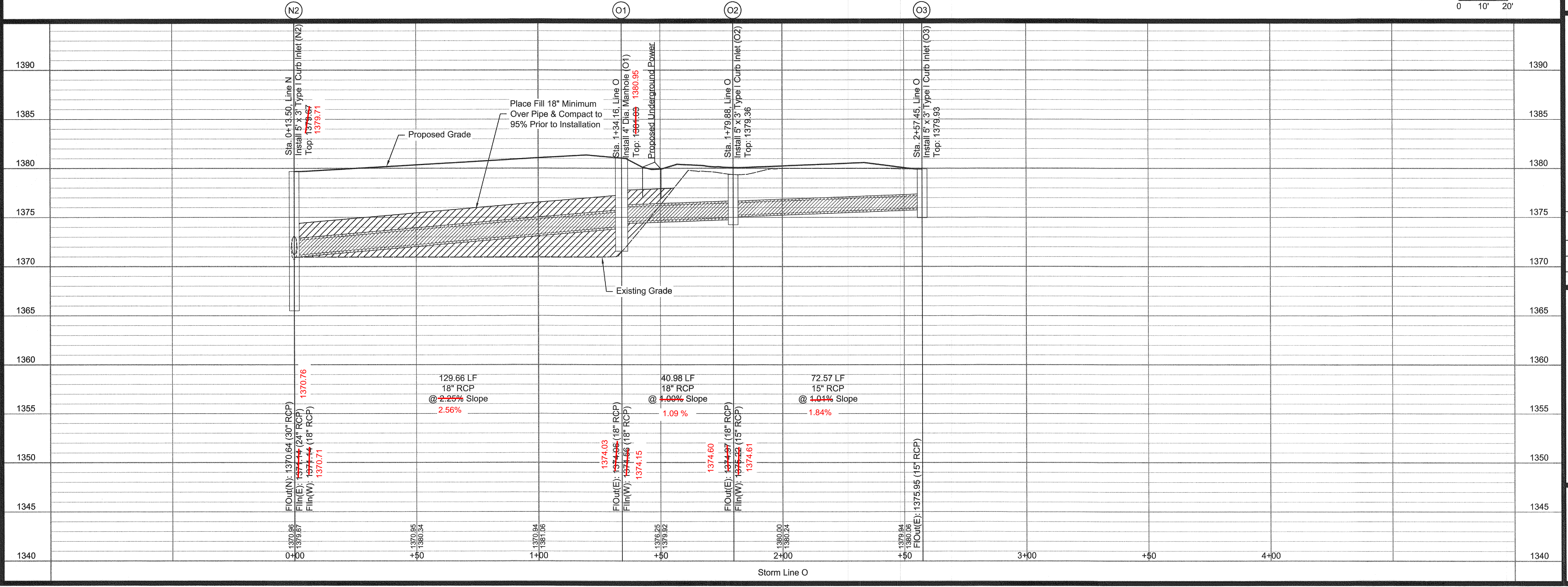
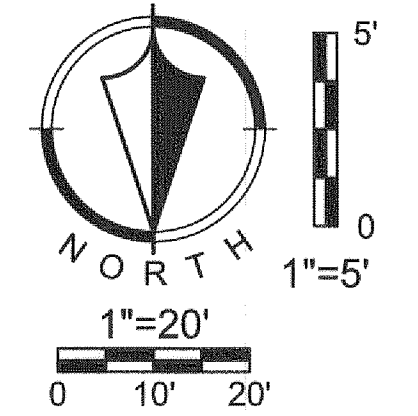


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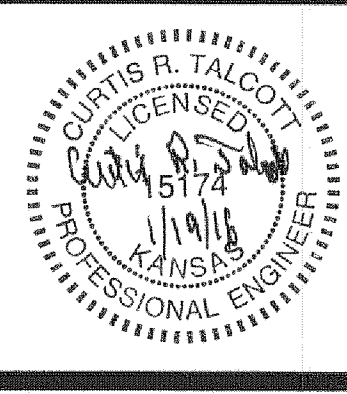


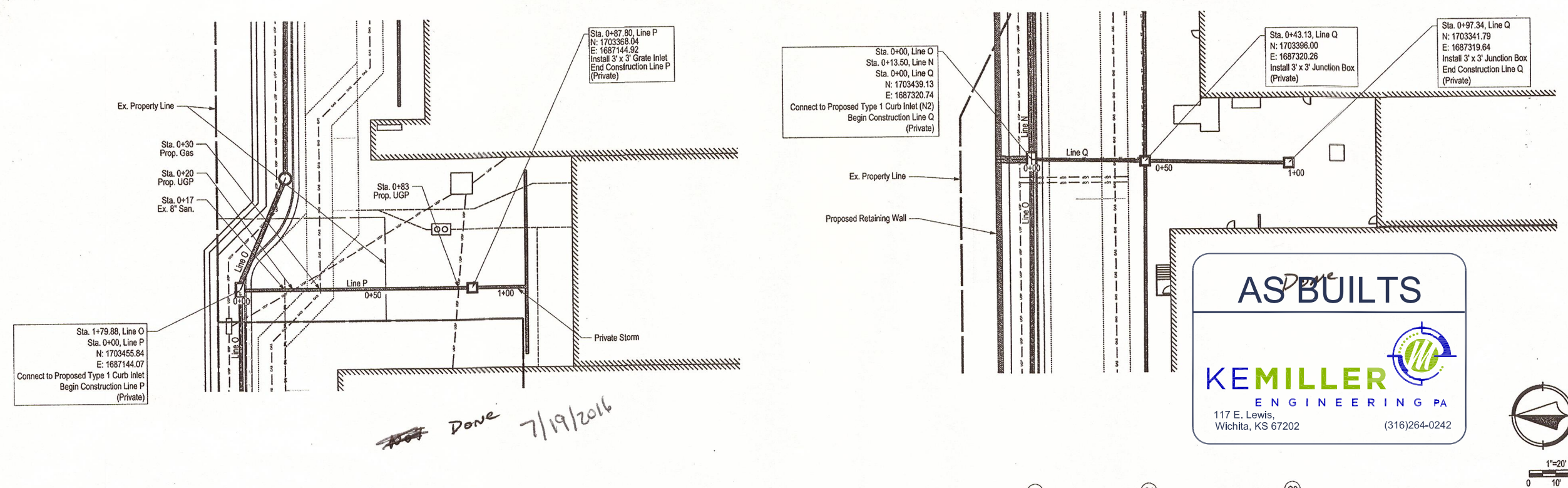
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NO.	BY	DATE	REVISION
2	JAR/CRT	01/18/16	PER CITY COMMENTS
1	JAR/FJC	12/28/15	PER REVISED SITE
1	JAR/FJC	10/26/15	ORIGINAL SUBMITTAL

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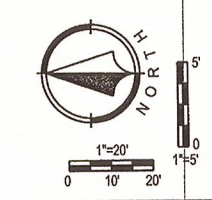




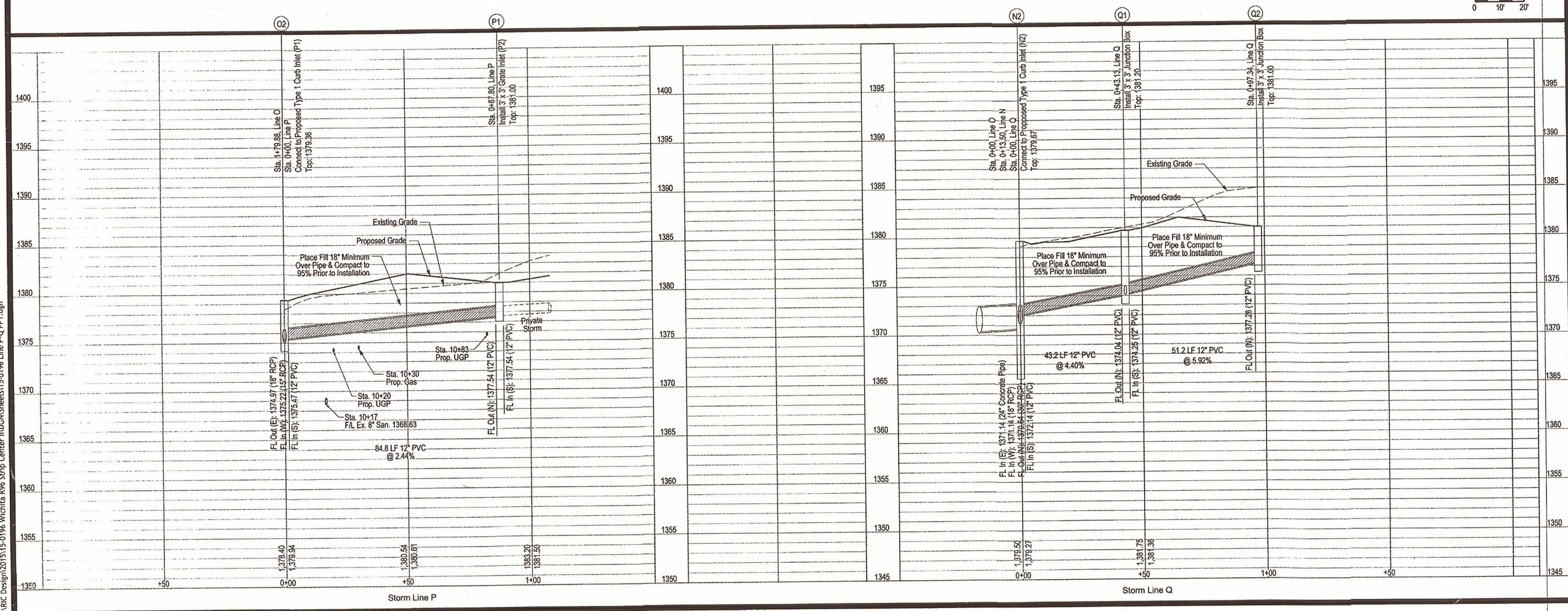
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Done 7/19/2016



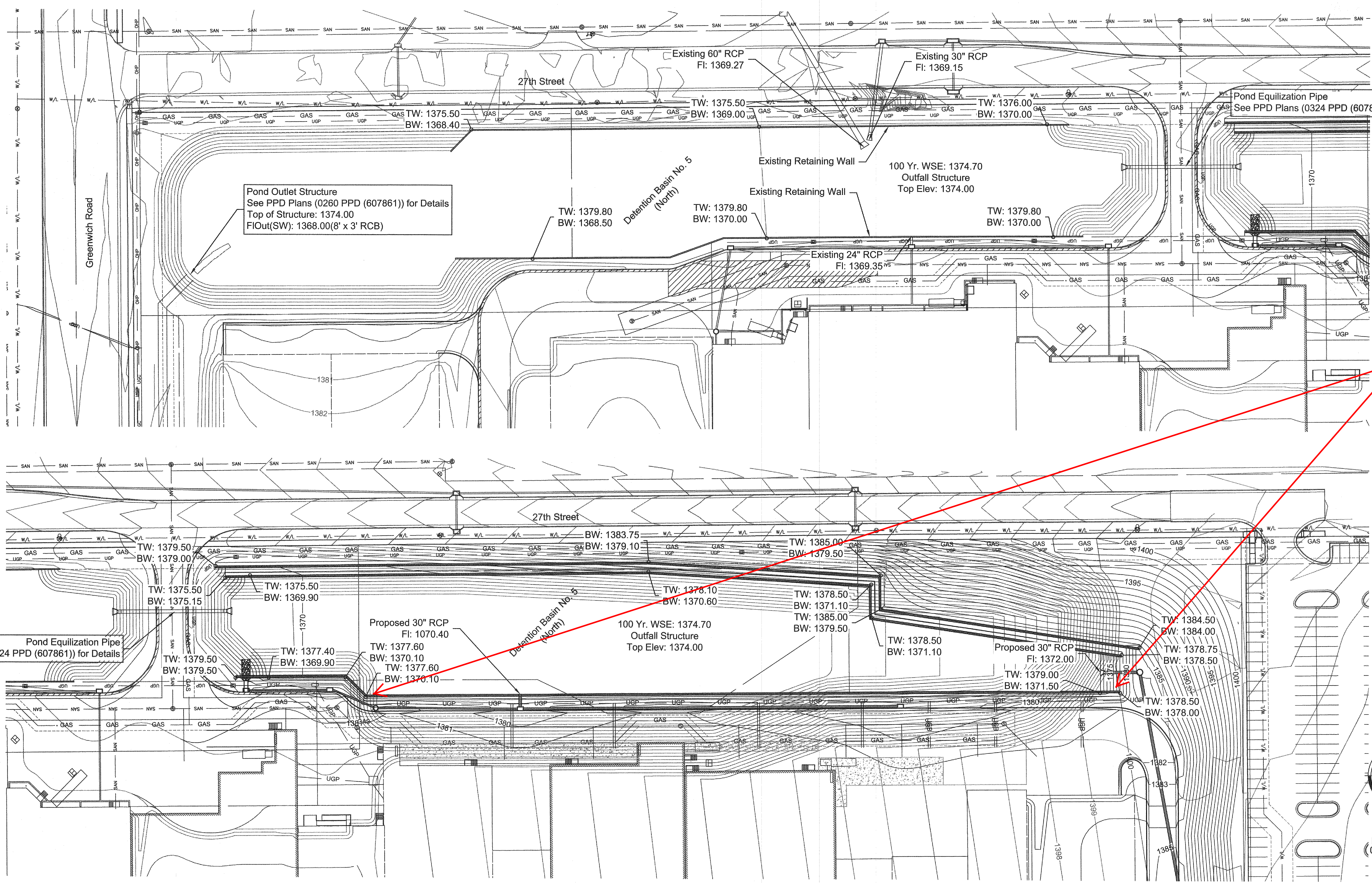
NO.	BY	DATE	REVISION
1	JAR	10/06/15	ORIGINAL SUBMITTAL
2	JAR	10/26/15	PER REBID SITE
3	BY	11/03/16	REMOVED RETAINING WALL AND REPLACED WITH REINFORCED SLOPE

Renaissance Infrastructure Consulting

5015 NW Canal Street, Suite 100
Riverside MO, 64150
816.800.0850
www.ri-consult.com

Professional Engineer
KANSAS
17775

3/31/2016 Z:\RRC Design\2015\15-0196 Wichita K96 Strip Center \LOGNSheets\15-0196 Line P-Q PP1.dgn



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SHOT TOP OF WALL FROM
ONE END TO OTHER
ELEVATION WAS 6' LOW

Detention Basin No. 5 (North) Stage, Storage, Discharge Table

Elevation	Storage Head (Ft.)	Storage Volume (Ac. - Ft.)	Discharge (CFS)
1368	0	0.00	0.00
1369	1	0.60	1.10
1370	2	2.50	1.60
1371	3	5.60	2.00
1372	4	9.20	16.00
1373	5	12.90	25.80
1374	6	17.20	33.20
1375	7	21.00	106.90

West Basin Development Detained Discharges
(Area B = 47.1ac, CN = 88, Impervious = 85%)

Element	Return Period Storm Q (cfs)					
	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Area C	77.4	104.4	120.6	142.3	163.9	171.9
Junct. 1	86.0	125.4	148.1	174.6	200.8	210.5
Area E-1	74.5	100.3	115.9	136.6	157.3	165.1
Pond 5	23.8	32.8	46.1	64.9	93.2	106.4
Pond 1	10.9	35.4	56.4	86.2	114.2	125.8
Area E-2	26.9	36.3	42.0	49.5	57	59.8
Area E-6	3.3	4.8	5.7	6.9	8.1	8.5
K96	38.7	83.0	110.7	153.9	196.4	214.0

West Basin Existing Discharges
(Area B = 47.1ac, CN = 84, Impervious = 0%)

Element	Return Period Storm Q (cfs)					
	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
Area C	77.4	104.4	120.6	142.3	163.9	171.9
Junct. 1	86.0	125.4	148.1	174.6	200.8	210.5
Area E	84.3	129	156.2	192.7	229.3	243
K96	162.7	245.7	293.2	354.5	415.4	438.1

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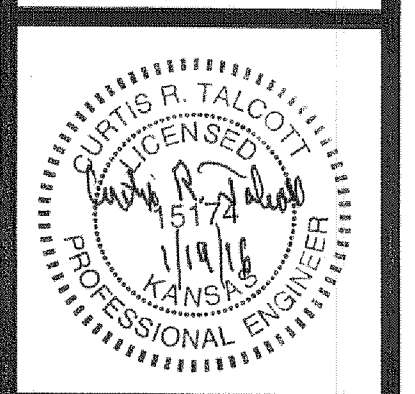
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EROSION CONTROL PLAN

NO.	BY	DATE	REVISION
2.	JAN CRT	01/18/16	PER CITY COMMENTS
1.	JAN FHC	12/28/15	PER REVISED SITE
	JAN FHC	10/05/15	ORIGINAL SUBMITTAL

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Disturbed Area for Site Improvements : 20.64 Acres

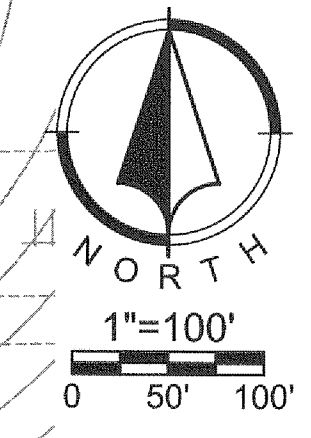
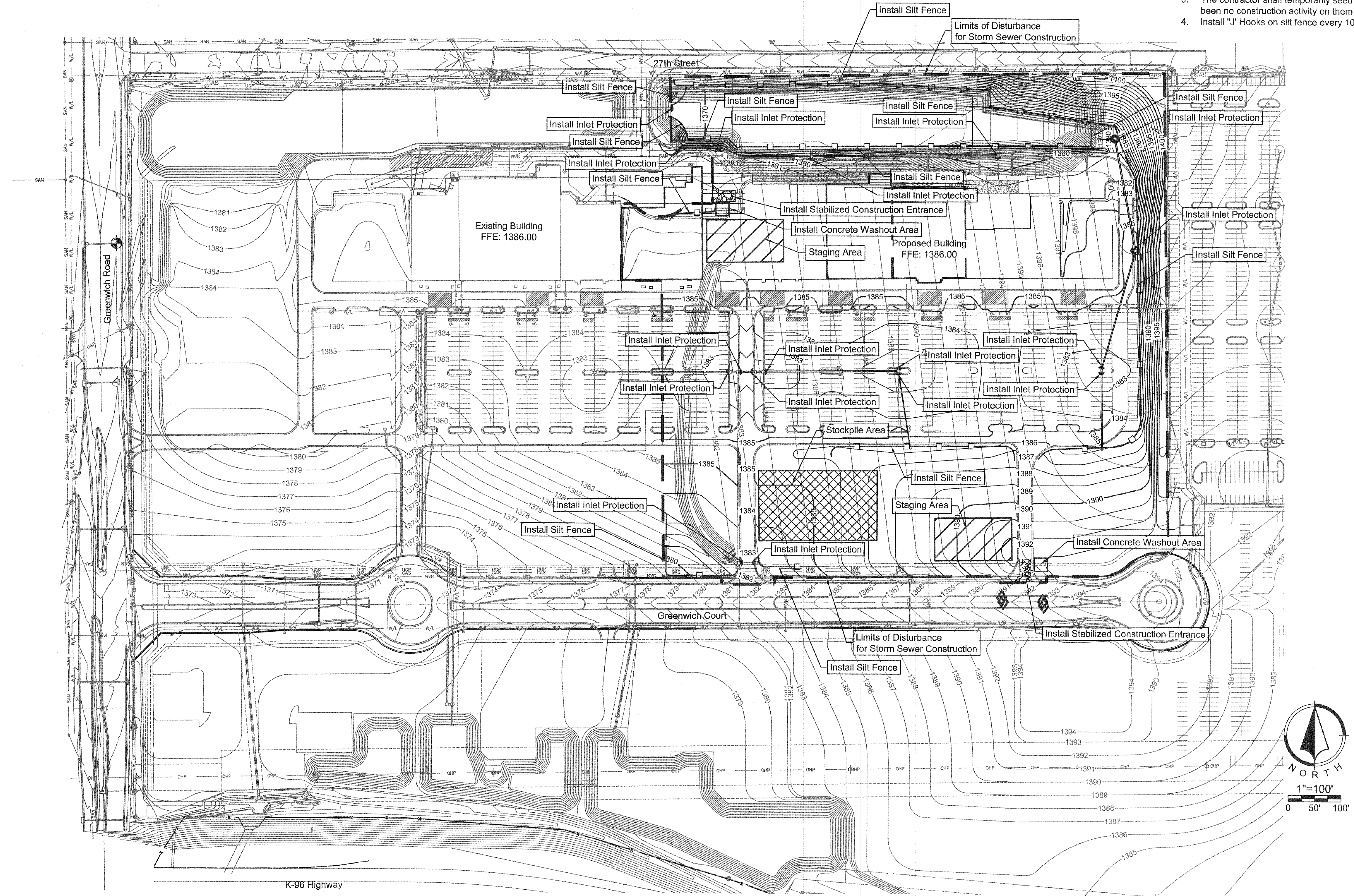
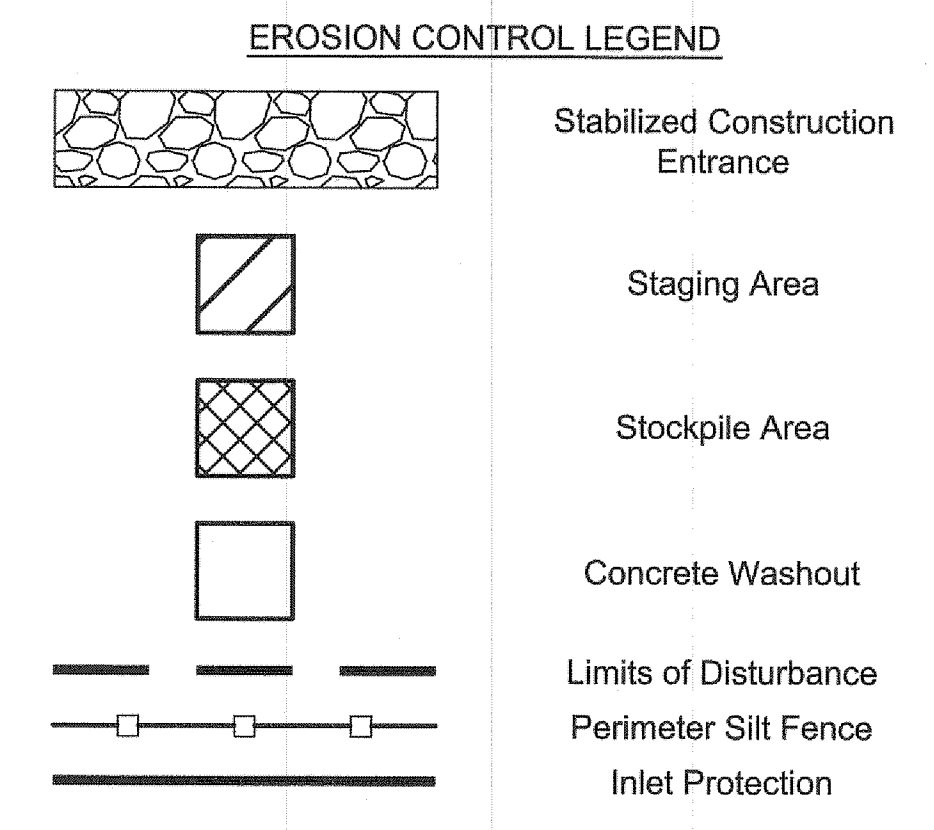
ESTIMATED EARTHWORK

Cut: 122,329 CY
Fill: 14,825 CY

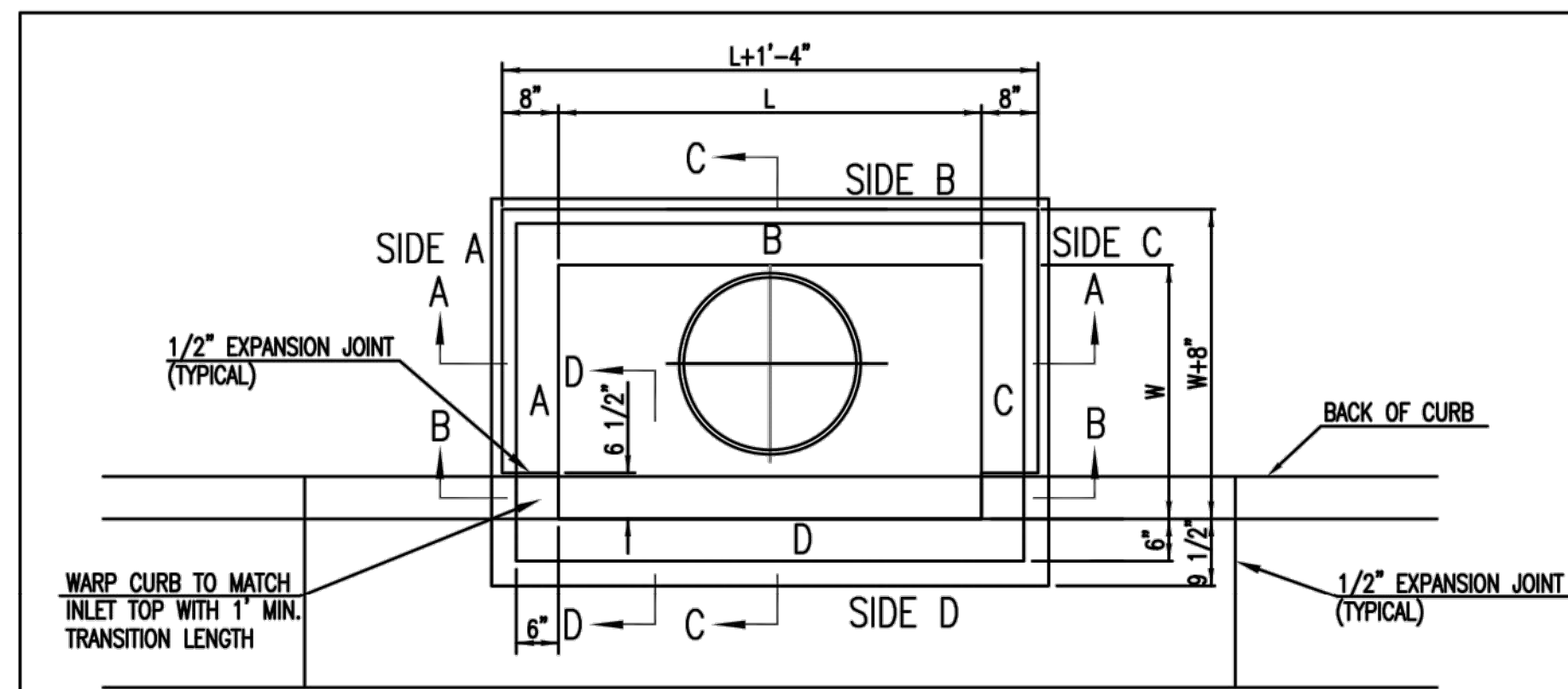
Earthwork calculations are informational only. Contractor shall be responsible for their own earthwork calculations and perform all necessary earthwork shown herein without additional cost to the owner if quantities differ than above. Earthwork numbers are unadjusted. Earthwork is for Entire Site Mass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

EROSION CONTROL NOTES

1. Erosion control plan modifications shall be required if the plan fails to substantially control erosion and offsite sedimentation.
2. The retention of access controls and sediment controls shall be required for areas where seed has not established 70% cover.
3. 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.
4. Install 'J' Hooks on silt fence every 100 LF



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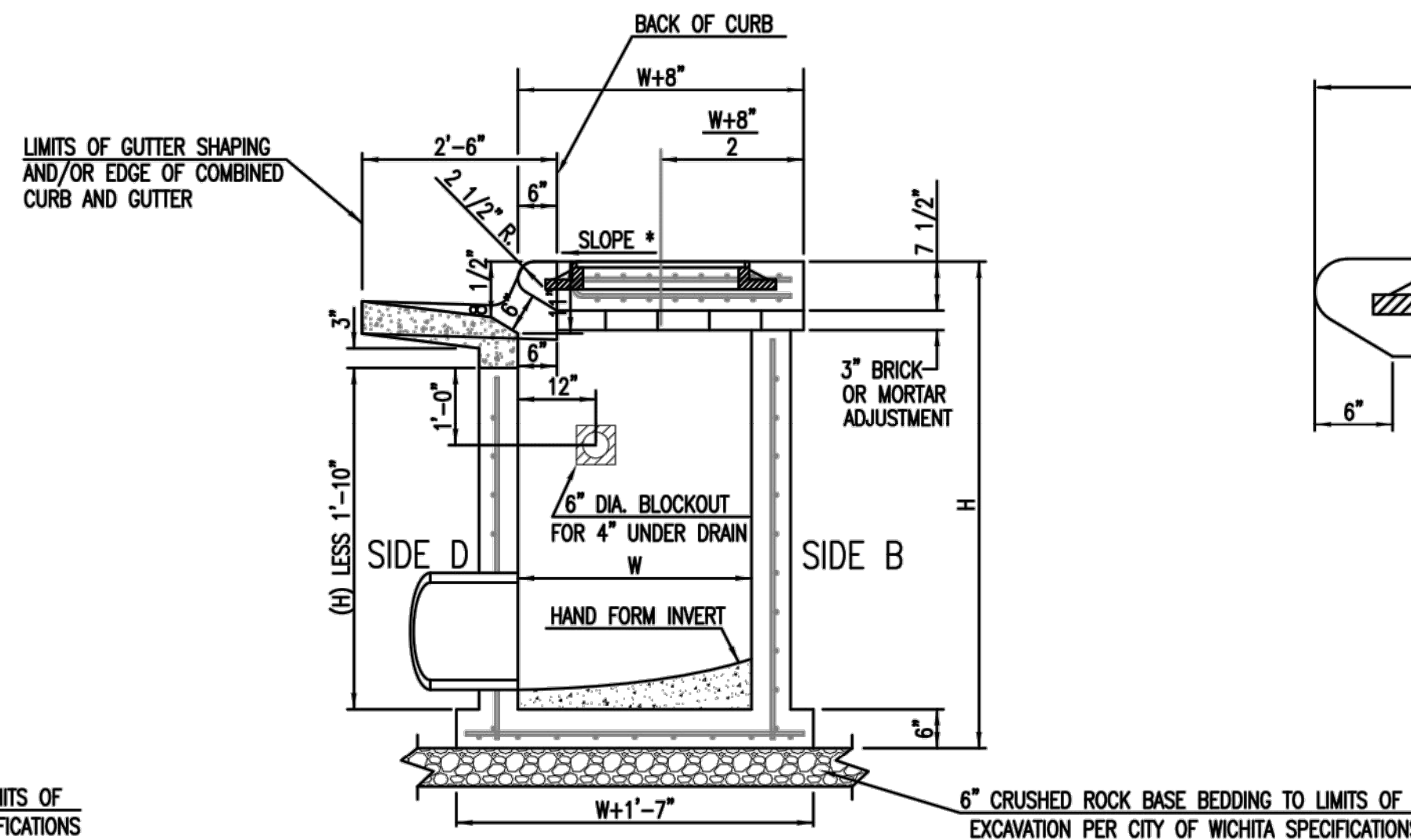
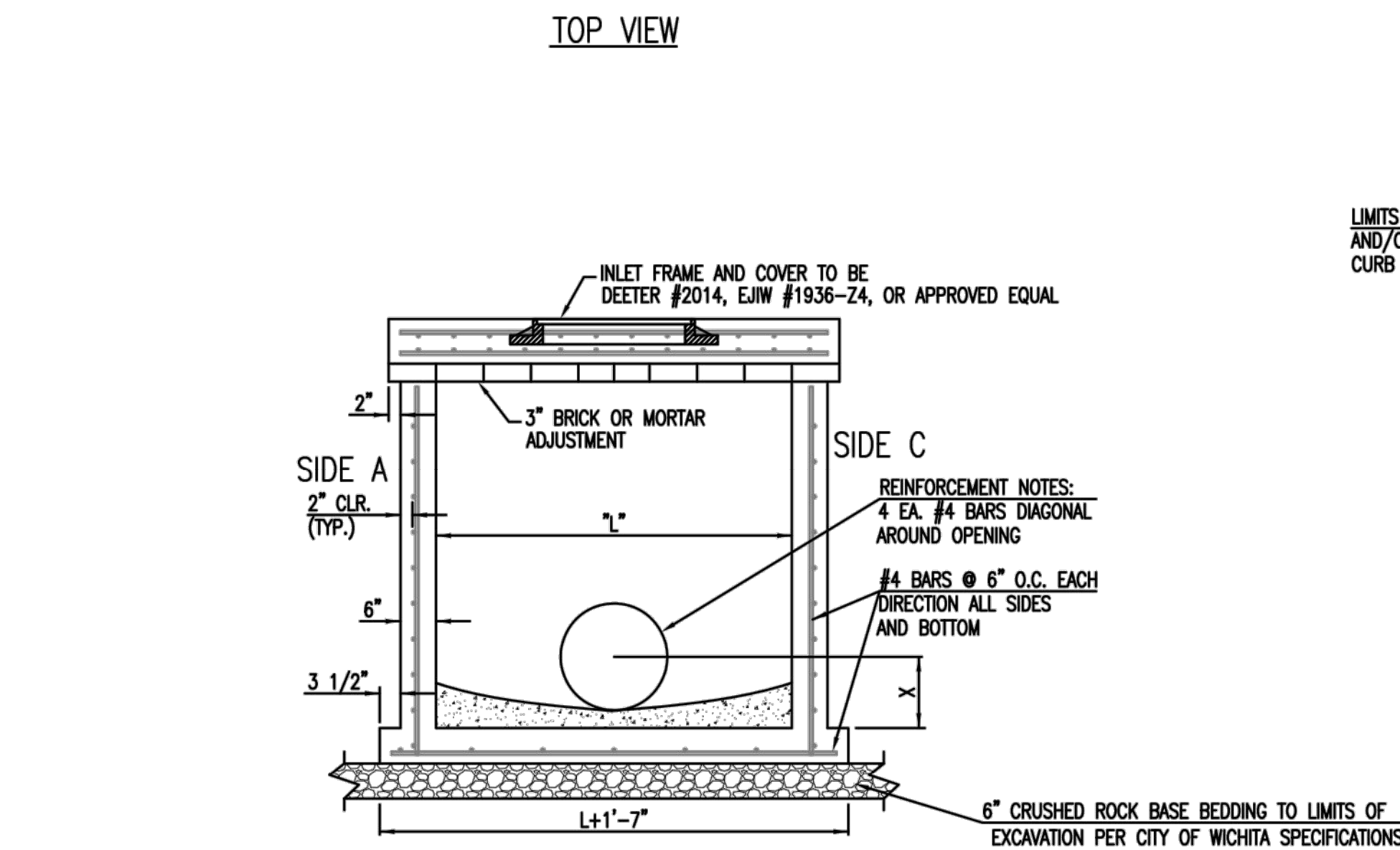
BAR SCHEDULE		
INLET OPENING	B1 BARS	SPACING
5'-0"	#4	4"
10'-0"	#6	3.5"

PRECAST CURB INLET WIDTHS				
W	PRE-CAST TOP SIZE			PIPE DIA.**
	WIDTH	LENGTH	TOP	
3'-0"	W+8"	L+1'-4"	7 1/2"	21" & SMALLER
4'-0"	W+8"	L+1'-4"	7 1/2"	24" & 30"
5'-0"	W+8"	L+1'-4"	7 1/2"	36" & 42"
6'-0"	W+8"	L+1'-4"	7 1/2"	48" & 54"
7'-0"	W+8"	L+1'-4"	7 1/2"	60" & 66"

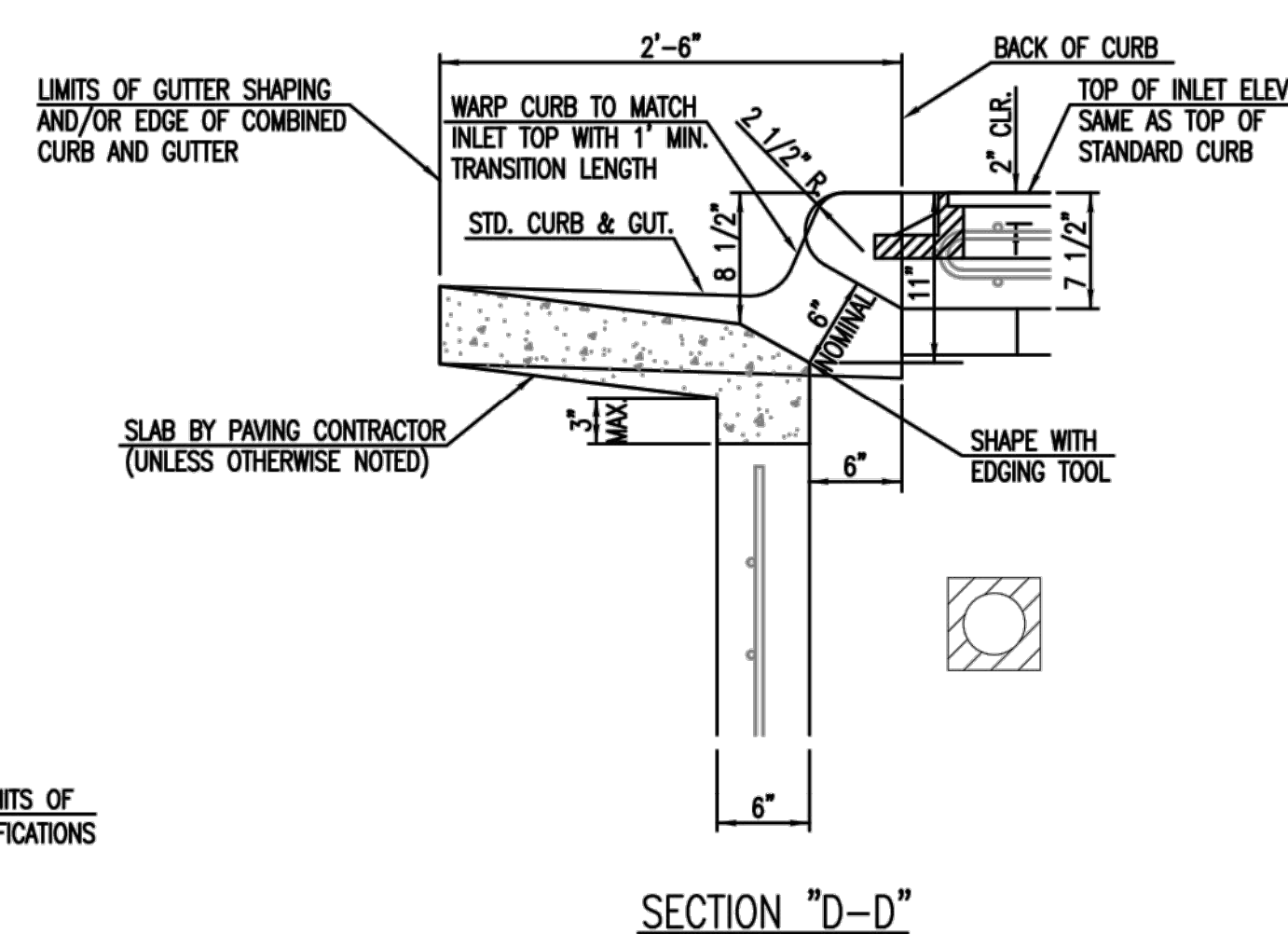
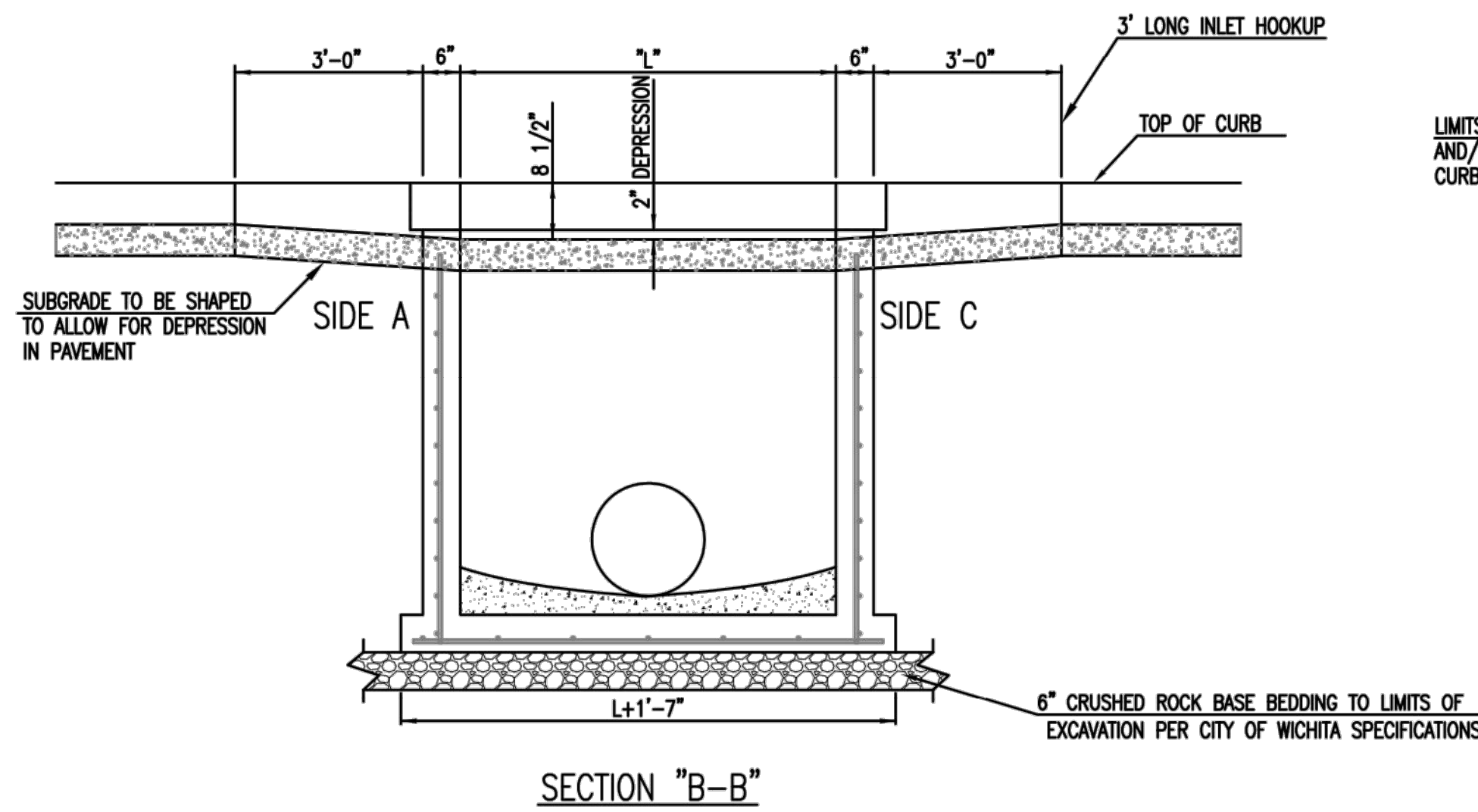
** FOR PIPES PERPENDICULAR TO INLET WALL

GENERAL NOTES

- CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
- CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP OF THIS INLET WHEN W=5'-0" AND H=7'-0" OR LESS.
- INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
- THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
- INLET FRAME AND COVER TO BE DEETER #2014, EJIW #1936-24, OR APPROVED EQUAL, SEE SW-303.
- CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN INLET WALL SHALL BE GROUTED FLUSH TO THE INLET WALL WITH HYDRAULIC CEMENT AFTER THE INLET IS IN PLACE. LIFTING HOLES THRU THE INLET WALL WILL NOT BE ACCEPTED.



NOTES:
* SLOPE OF INLET TOP TO MATCH SIDEWALK OR PARKING SLOPES WITHIN LIMITS INDICATED.



REVISED: MARCH 2015

STANDARD TYPE 1
CURB INLET
5'-0" OR 10'-0" OPENING

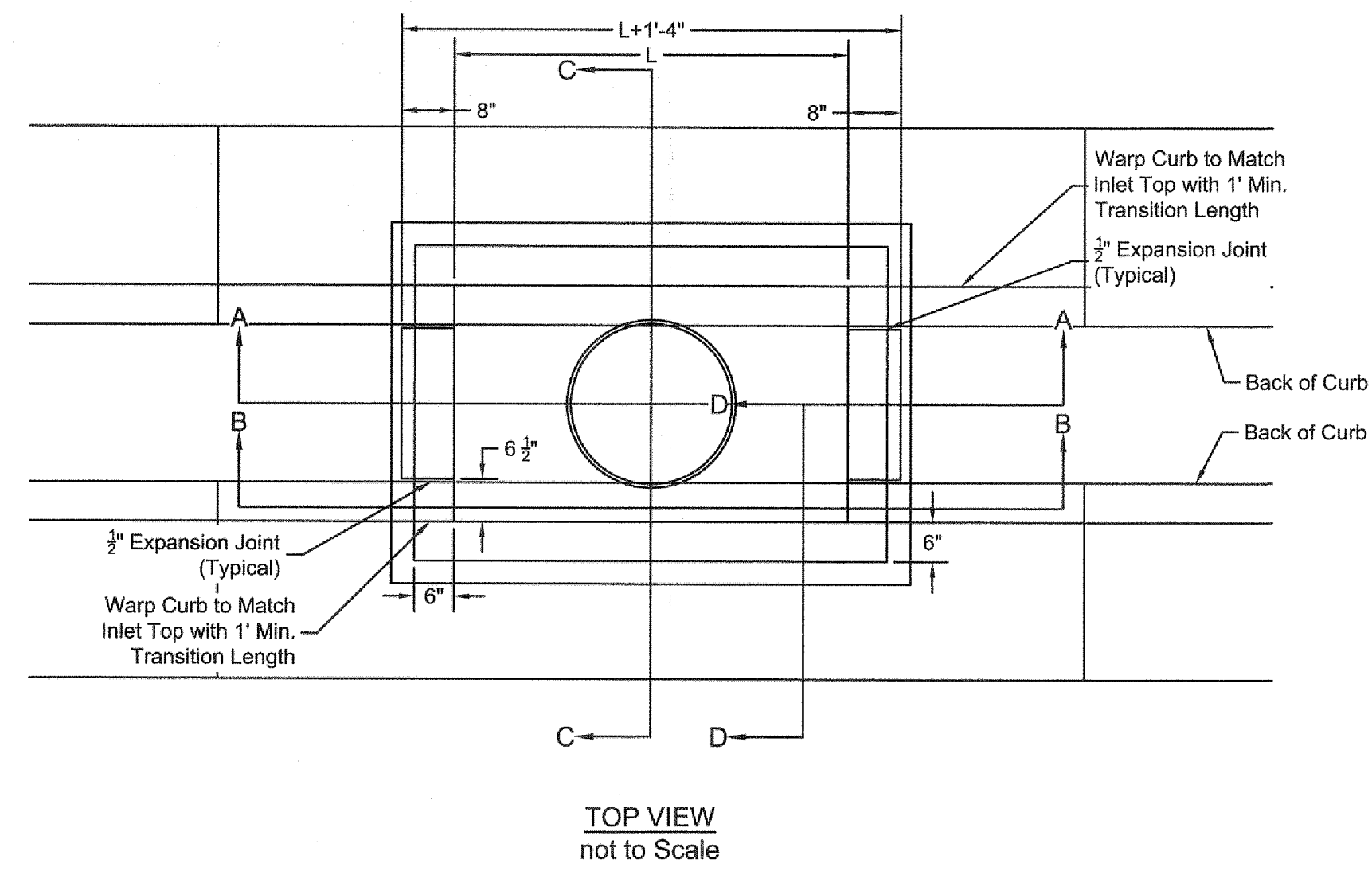
CITY ENGINEER
GARY JANZEN, P.E.

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
2.	JAR CRT	01/18/16	PER CITY COMMENTS
1.	JAR FHC	12/28/15	PER REVISED SITE
	JAR FHC	10/05/15	ORIGINAL SUBMITTAL

REnaissance
Infrastructure
Consulting

913.317.9500
1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103
WWW.RIC-CONSULT.COM



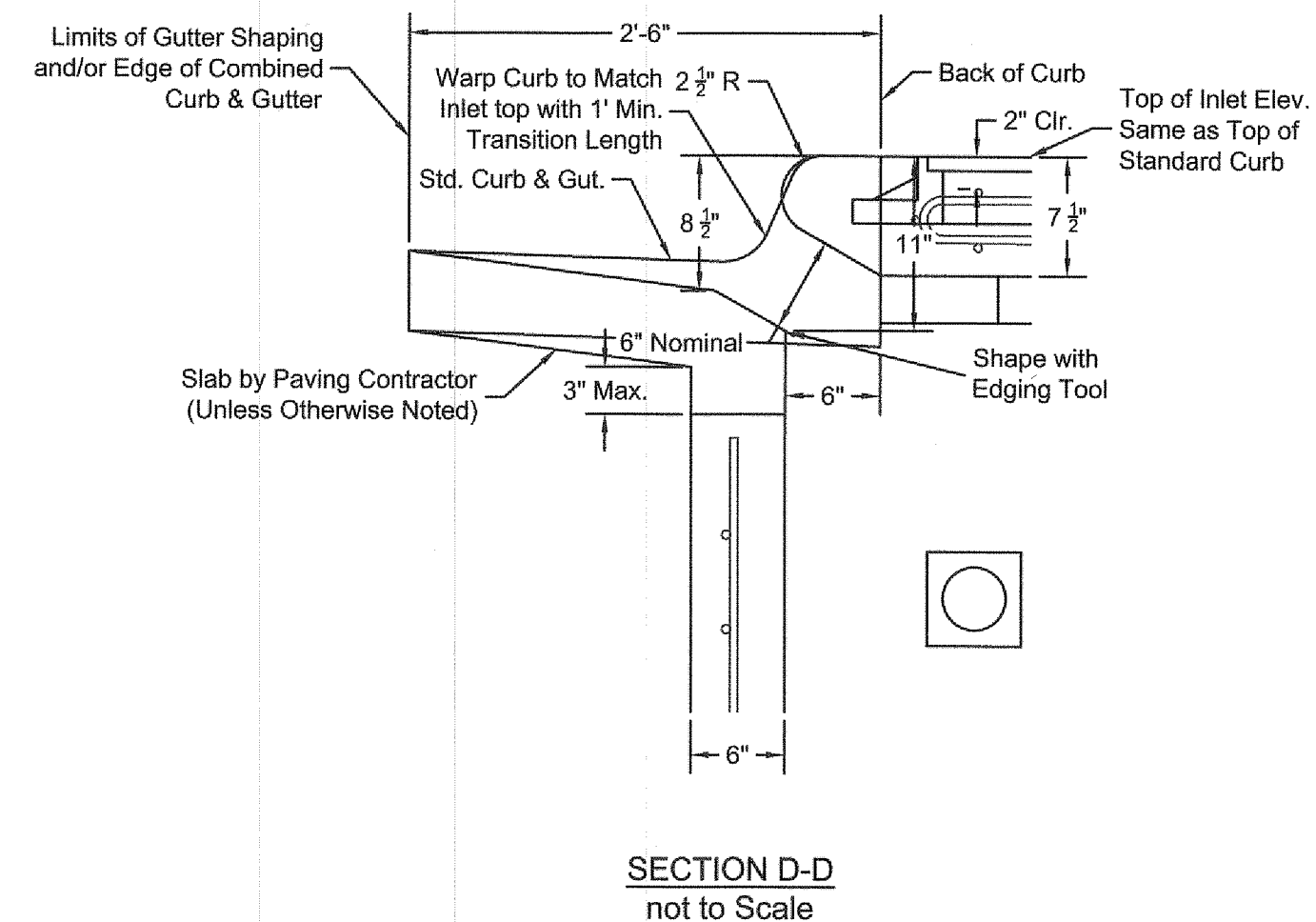
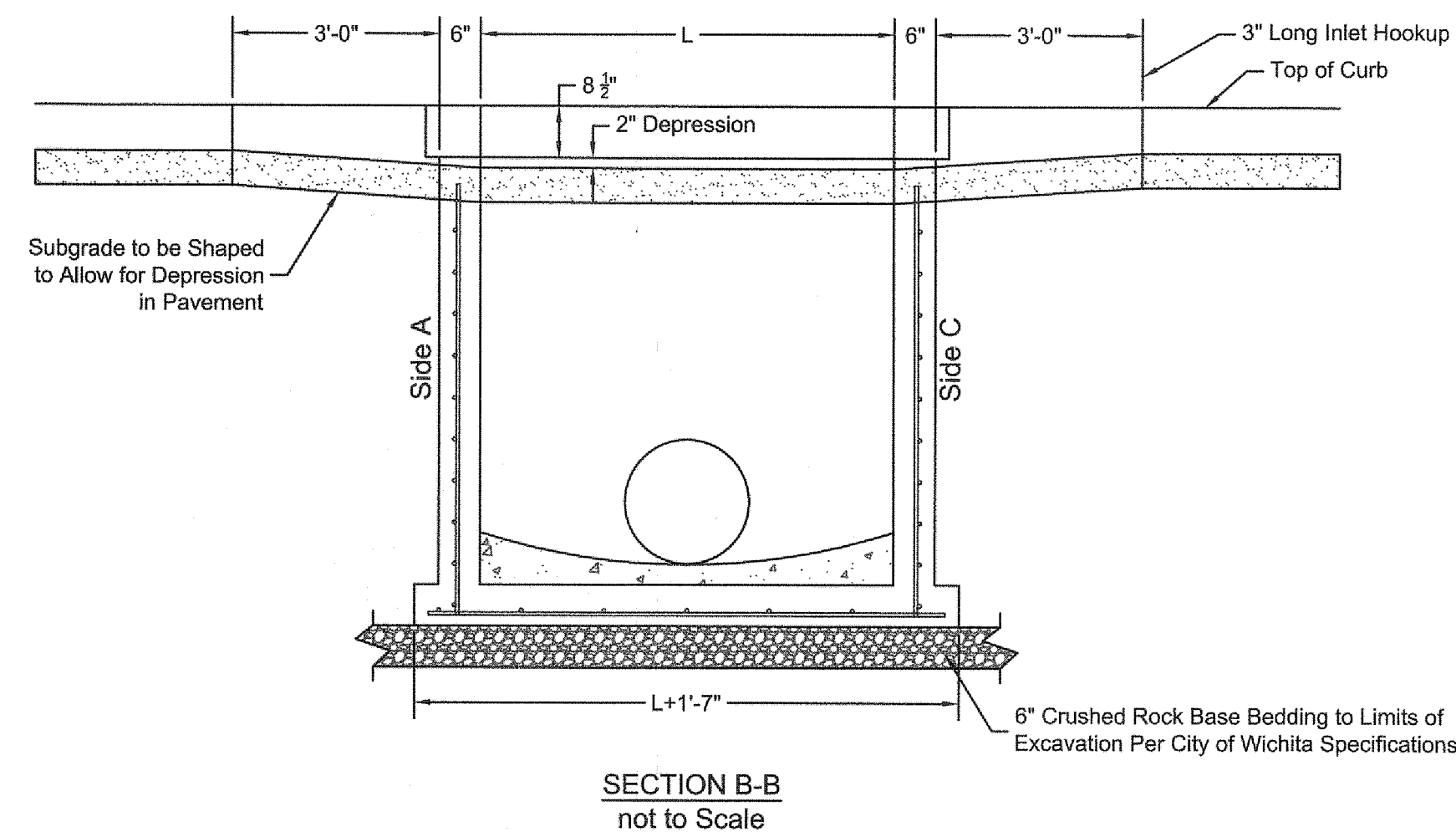
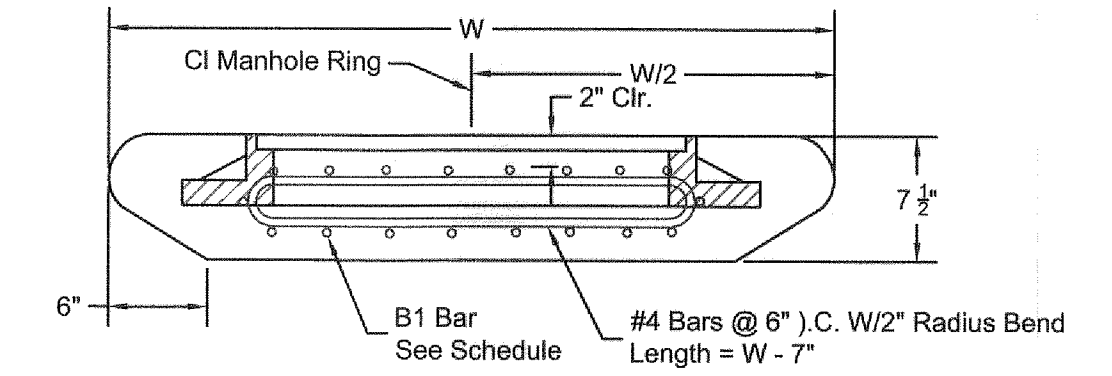
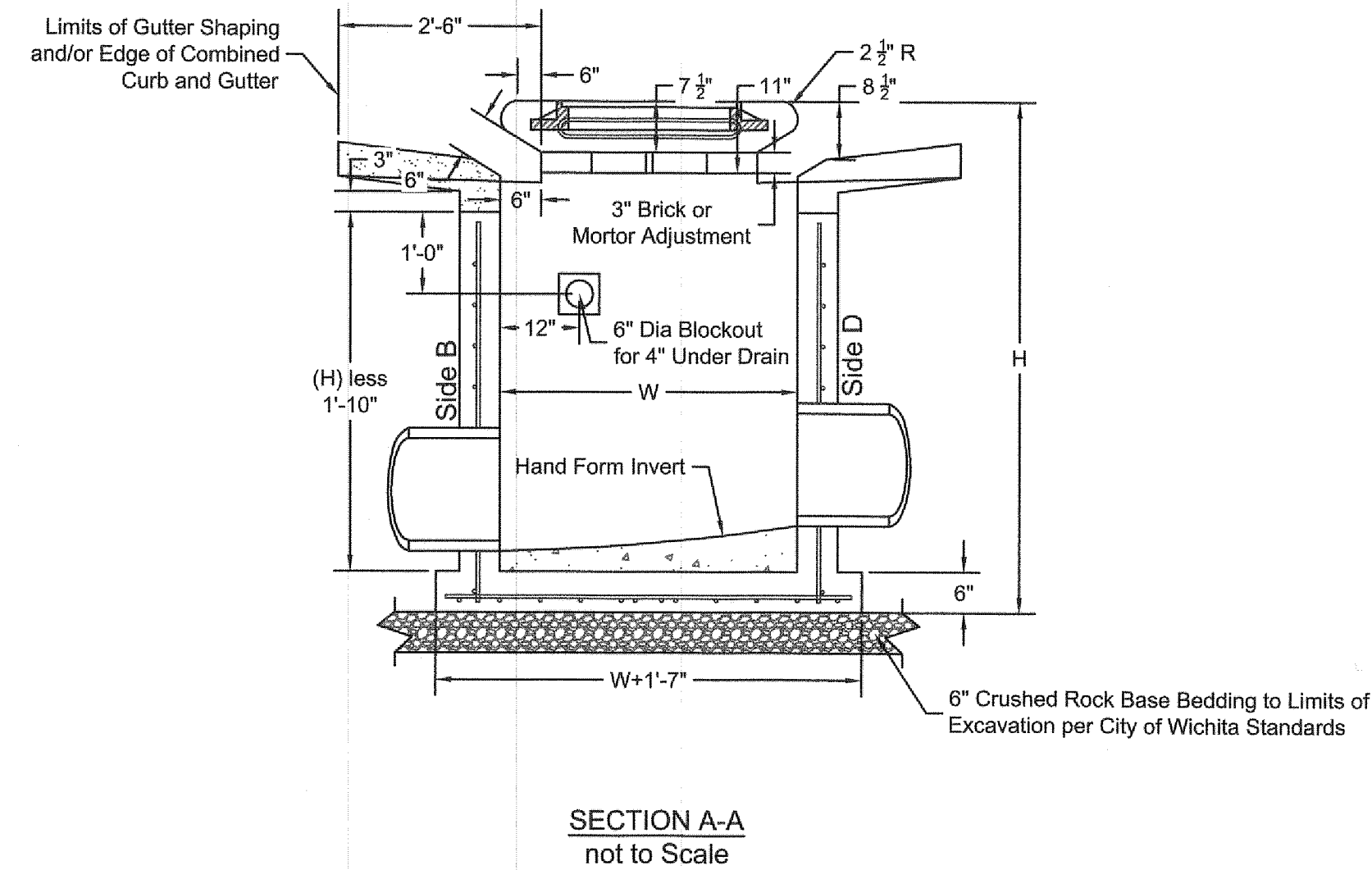
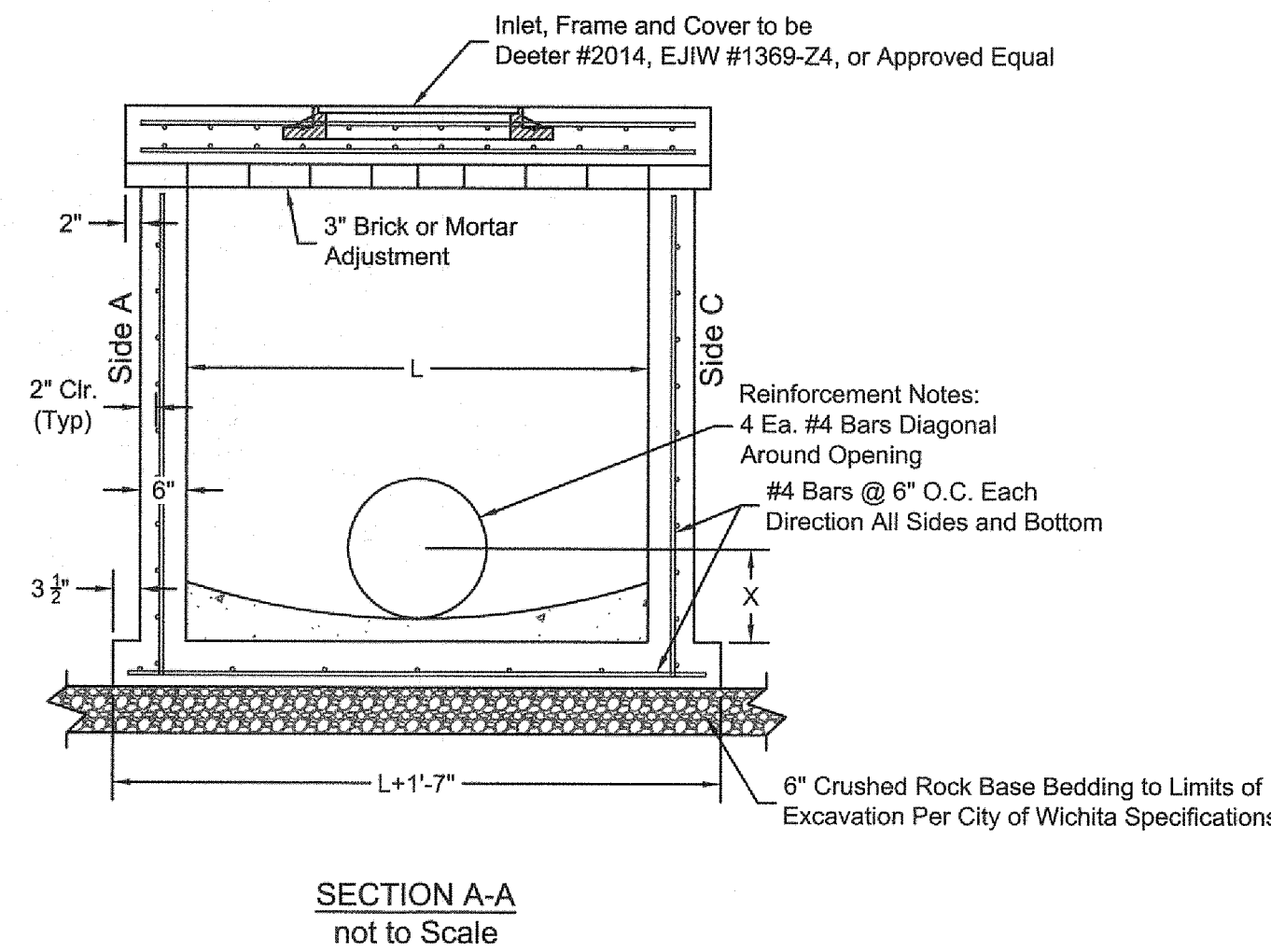
Bar Schedule		
Inlet Opening	B1 Bars	Spacing
5'-0"	#4	0'-4"
10'-0"	#6	0'-3.50"

Precast Curb Inlet Widths			
Precast Top Size			
W	Width	Length	Top
3'-0"	W+8"	L+1'-4"	7 1/2"
4'-0"	W+8"	L+1'-4"	7 1/2"
5'-0"	W+8"	L+1'-4"	7 1/2"
6'-0"	W+8"	L+1'-4"	7 1/2"
7'-0"	W+8"	L+1'-4"	7 1/2"

** For Pipes Perpendicular to Inlet Wall

GENERAL NOTES

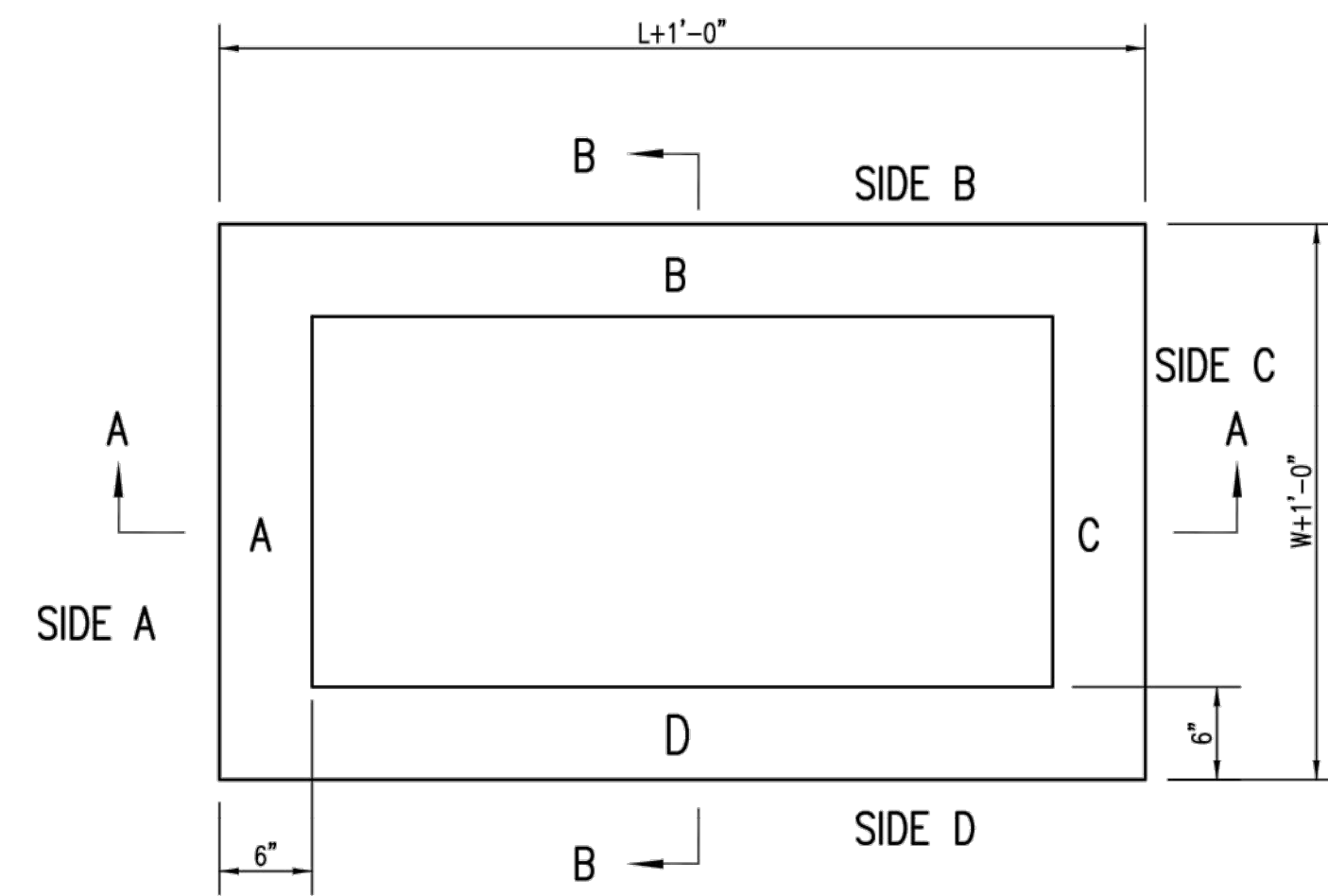
- Concrete Tops to be Installed on Thin Mortar Cushion to Insure Full Support Along Brick. Concrete Tops may be Cast in Place or Precast. Concrete Used for Inlet Construction shall Conform to City of Wichita Specifications for Concrete Pavement Mix.
- Contractor shall have the Option of Construction 8" Brick Masonry Walls between the Concrete Inlet Base and Top of this Inlet when W=5'-0" and H=7'-0" or less.
- Inlet invert shall be Shaped with 8 Sack Sand Mix Concrete to Create Flow Channels and to Increase Hydraulic Efficiency such that the Inlet will be Self Cleaning between all Inlet and/or Outlet Pipes.
- The Ends of all Pipes Installed in Inlets shall be Cut off Flush with the Inside Face of the Inlet Wall.
- Inlet Frame and Cover to be Deeter #2014 EJIW #1936 Z4, or Approved Equal, See SW-303.
- Contractor shall remove Lifting Hooks after Installation. Recesses in Inlet Wall shall be Grouted Flush to the Inlet Wall with Hydraulic Cement after the Inlet is in Place. Lifting Holes thru the Inlet Wall will not be Accepted.



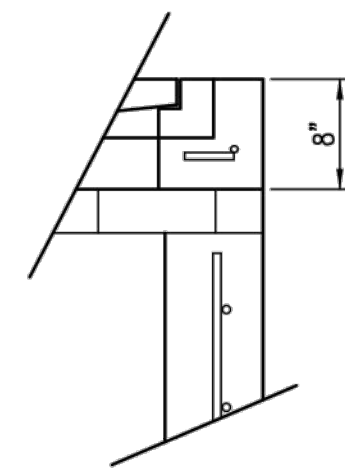
NO.	BY	DD	DATE	REVISION
2.	JAR	FHC	01/18/16	PER CITY COMMENTS
1.	JAR	FHC	12/28/15	PER REVISED SITE
	JAR	FHC	10/05/15	ORIGINAL SUBMITTAL

Renaissance Infrastructure Consulting
CURTIS R. TALCOOT
1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103
913.317.9500
WWW.RIC-CONSULT.COM

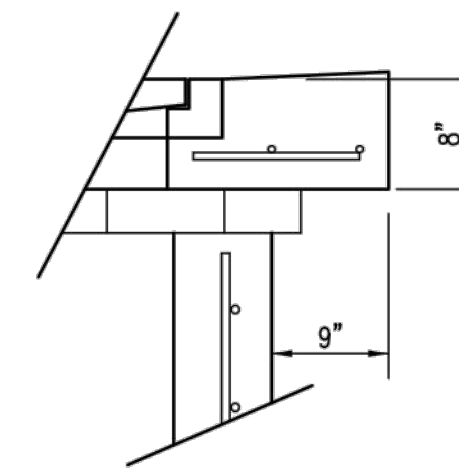




TOP VIEW

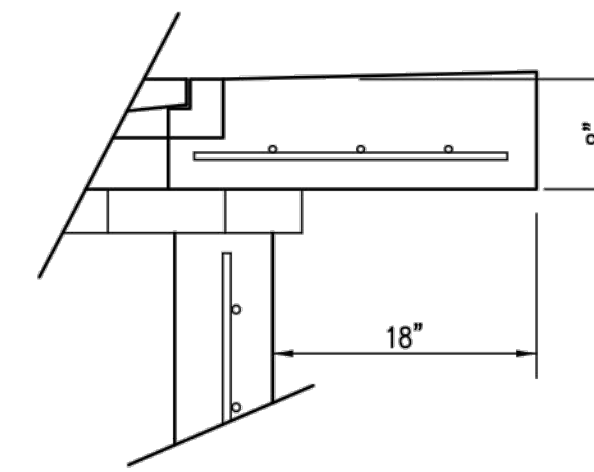


FLUSH STYLE TOP
NO APRON



9" APRON

* APRON TO EXTEND ON ALL 4 SIDES OF INLET.
DESIGNER TO DESIGNATE APRON SIZE.



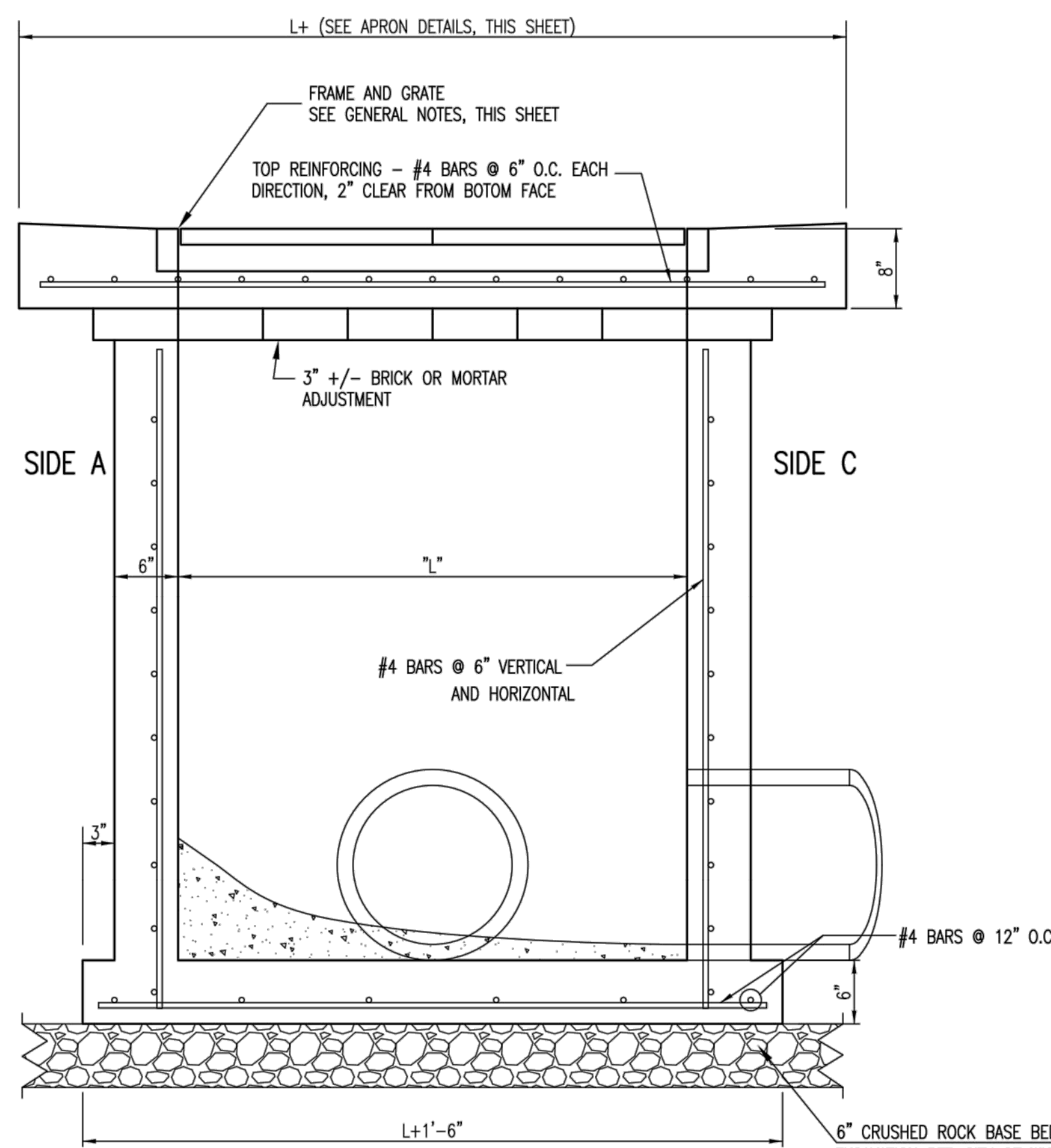
18" APRON

W=2' and L=2' for SINGLE DROP INLET
W=2' and L=4' for DOUBLE DROP INLET

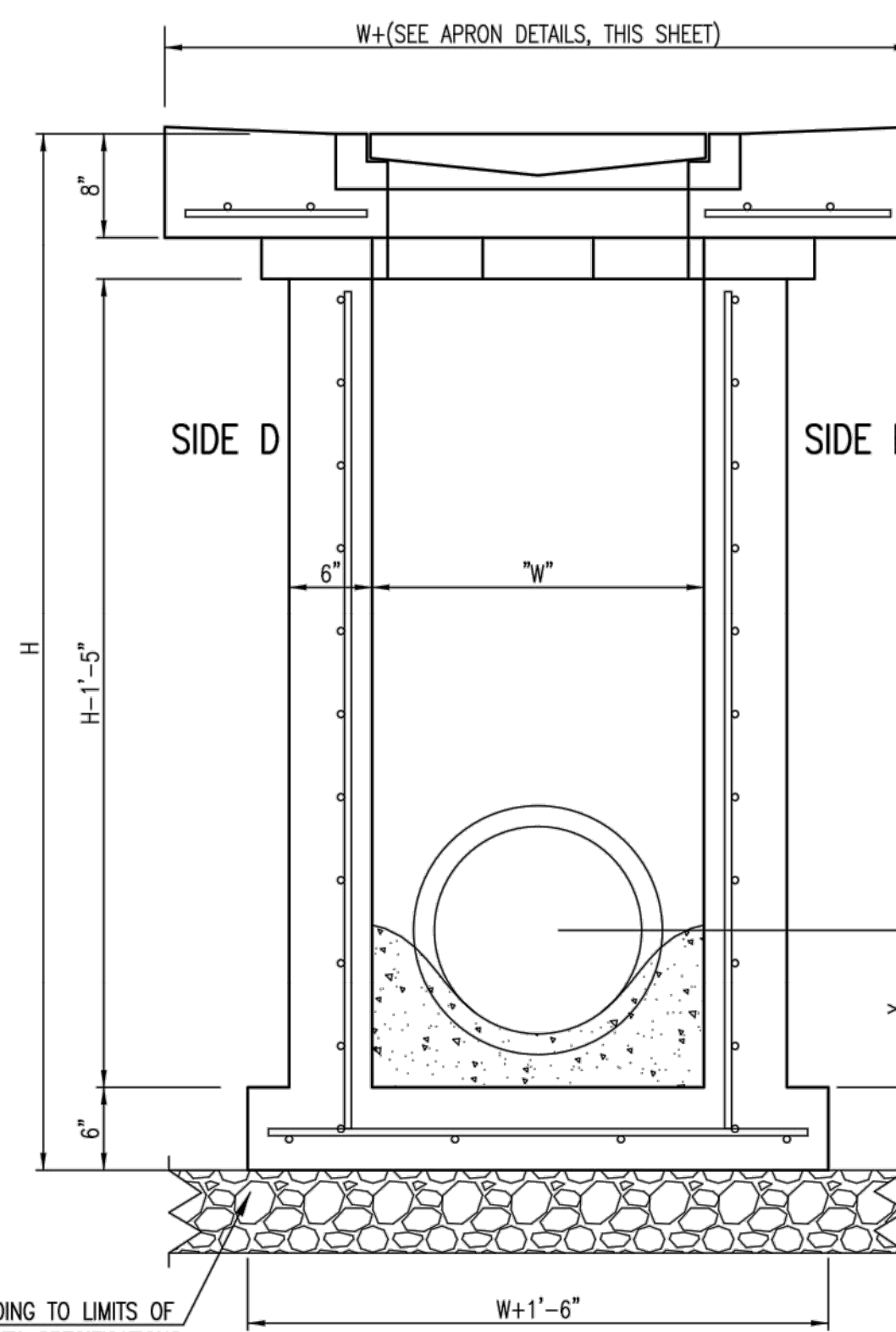
The structure(s) on this detail sheet are designed for HS-20 loading at these specific dimensions only. If larger dimensions are required, the ENGINEER shall provide a project specific structure design for approval by the City Engineer's office.

GENERAL NOTES

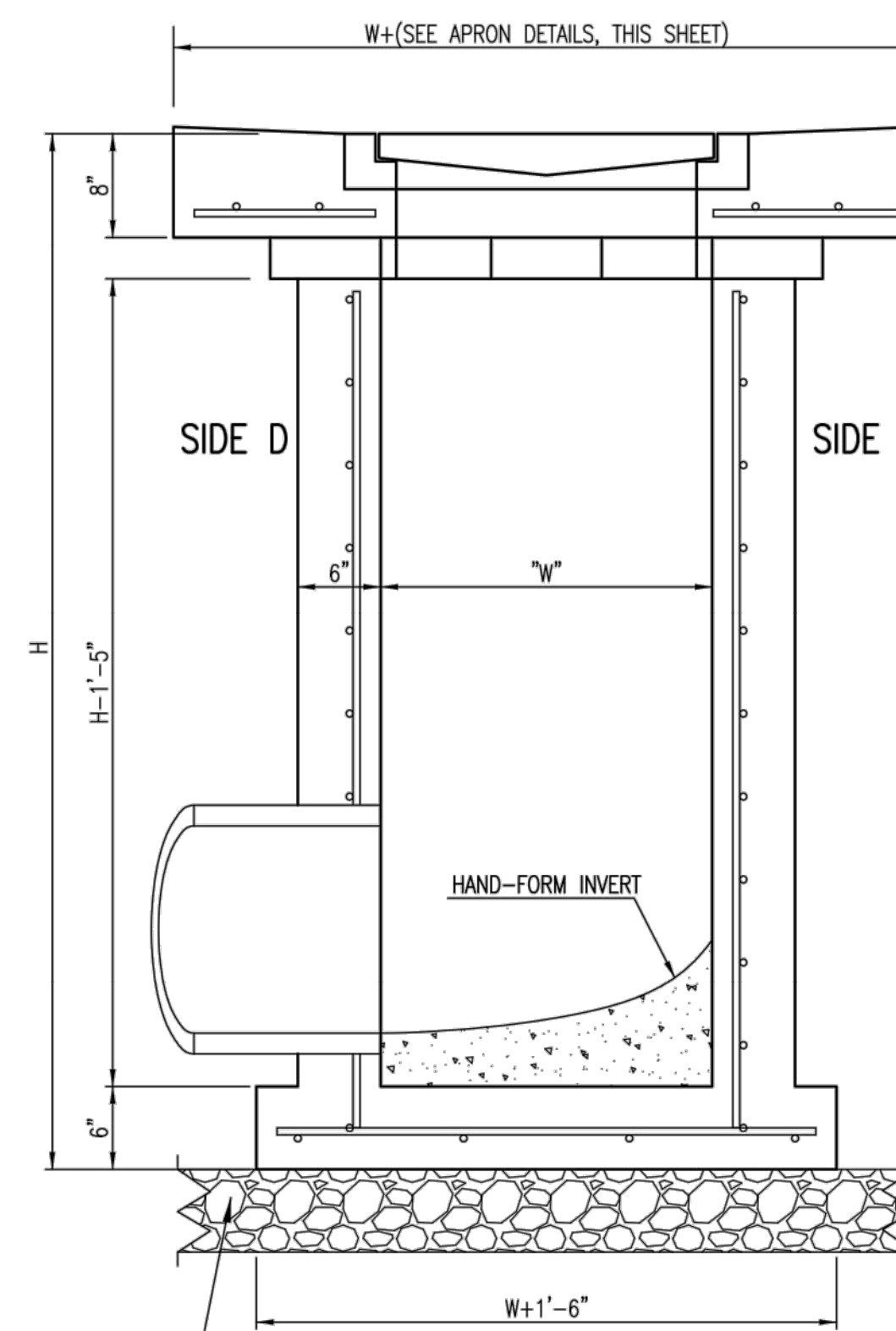
1. GRATE FRAME TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK. CONCRETE USED FOR INLET CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
2. INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
3. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.
4. INLET FRAME AND GRATE TO BE DEETER #2433, EJIW #5391-Z1 OR APPROVED EQUAL FOR 2'x2' SINGLE DROP INLET AND DEETER #2434, EJIW #5391 Z3 OR APPROVED EQUAL FOR 2'x4' DOUBLE DROP INLET.
5. CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN INLET WALL SHALL BE GROUTED FLUSH TO THE INLET WALL WITH HYDRAULIC CEMENT AFTER THE INLET IS IN PLACE. LIFTING HOLES THRU THE INLET WALL WILL NOT BE ACCEPTED.



SECTION "A-A"



SECTION "B-B"
END OUTLET



SECTION "B-B"
SIDE OUTLET



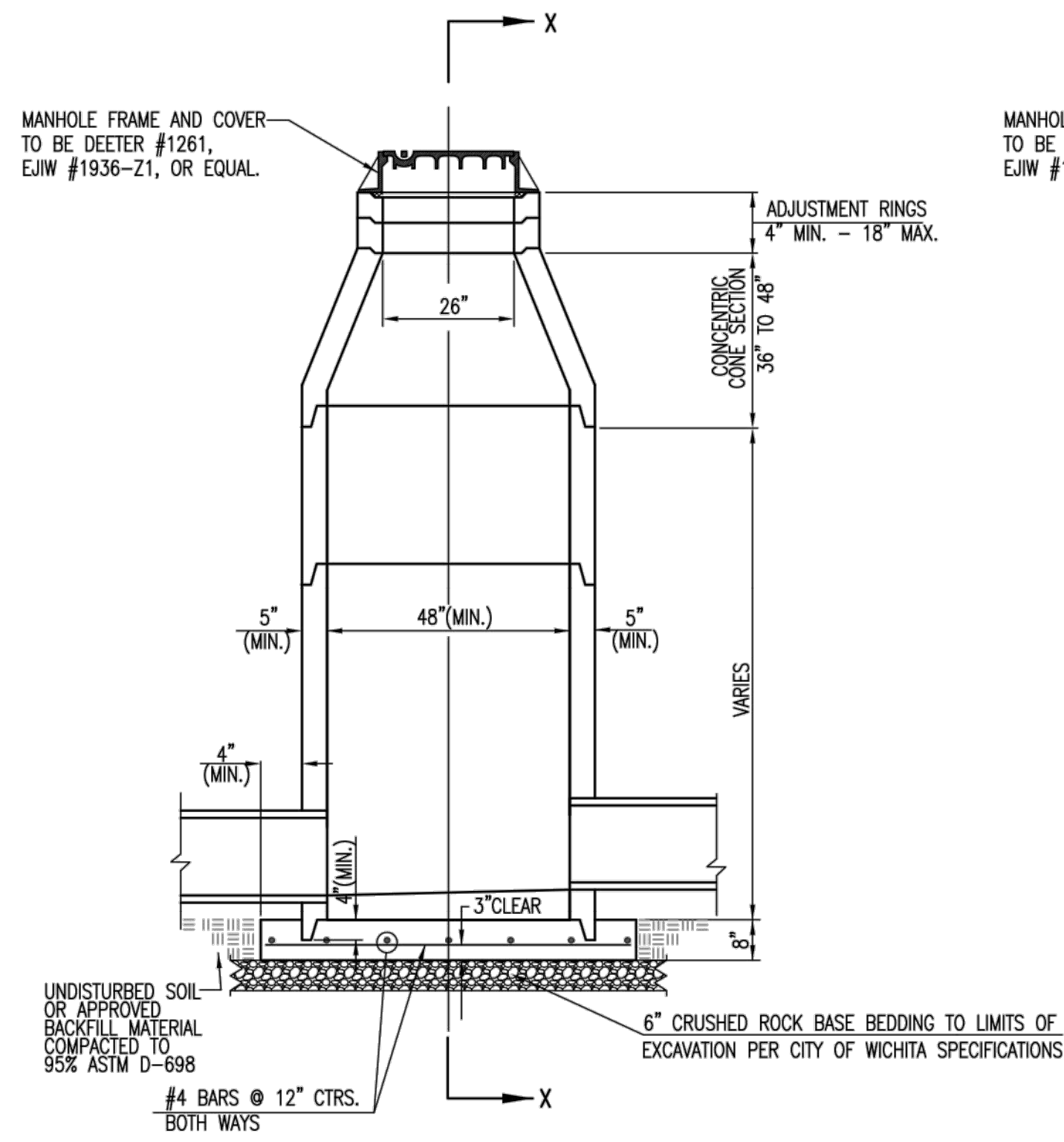
REVISED: MARCH 2015

SINGLE/DOUBLE DROP INLET		
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		

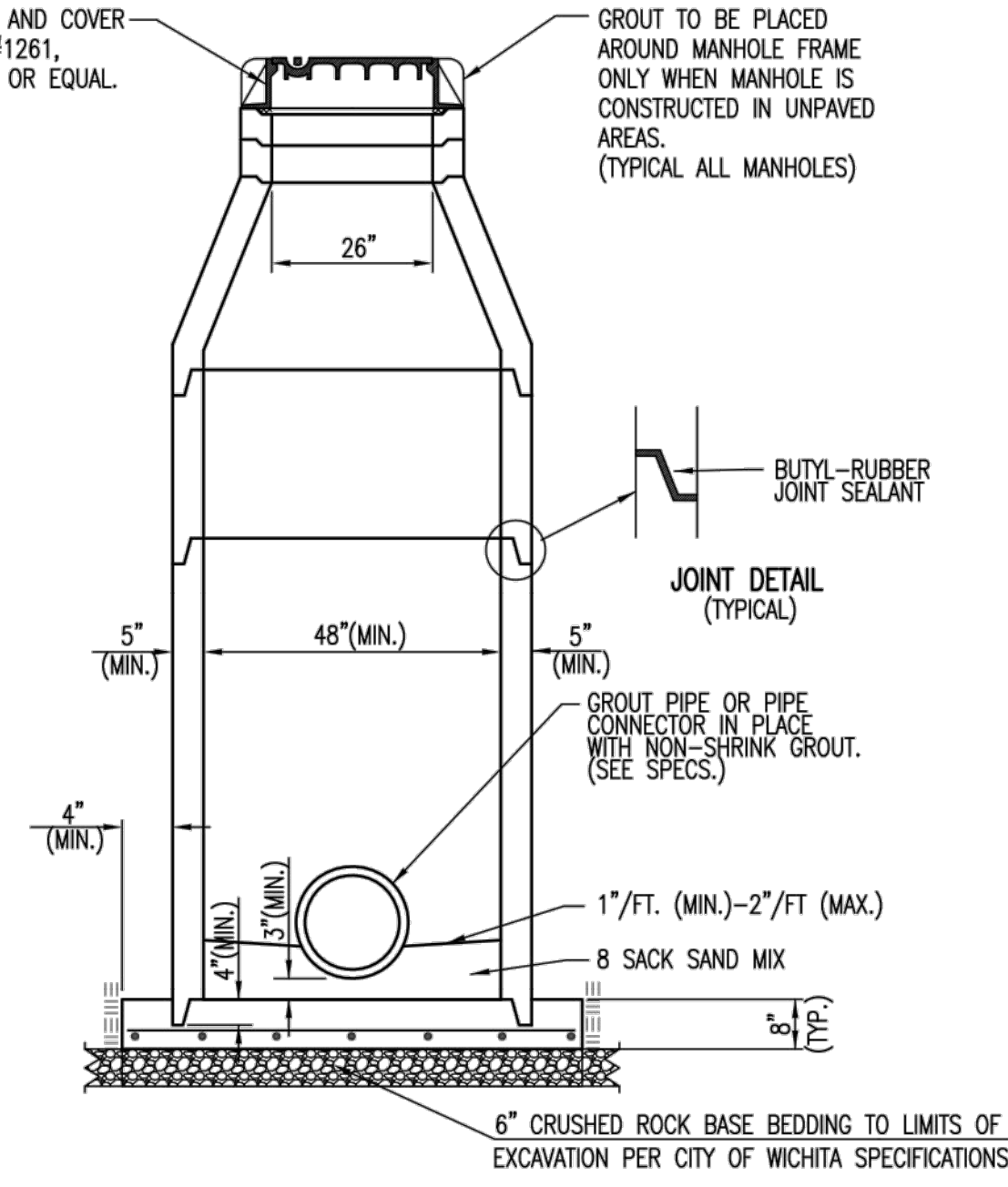
SW-201

NO.	BY	DATE	REVISION
2.	JAR CRT	07/18/16	PER CITY COMMENTS
1.	JAR FHC	12/28/15	PER REVISION SITE ORIGINAL SUBMITTAL

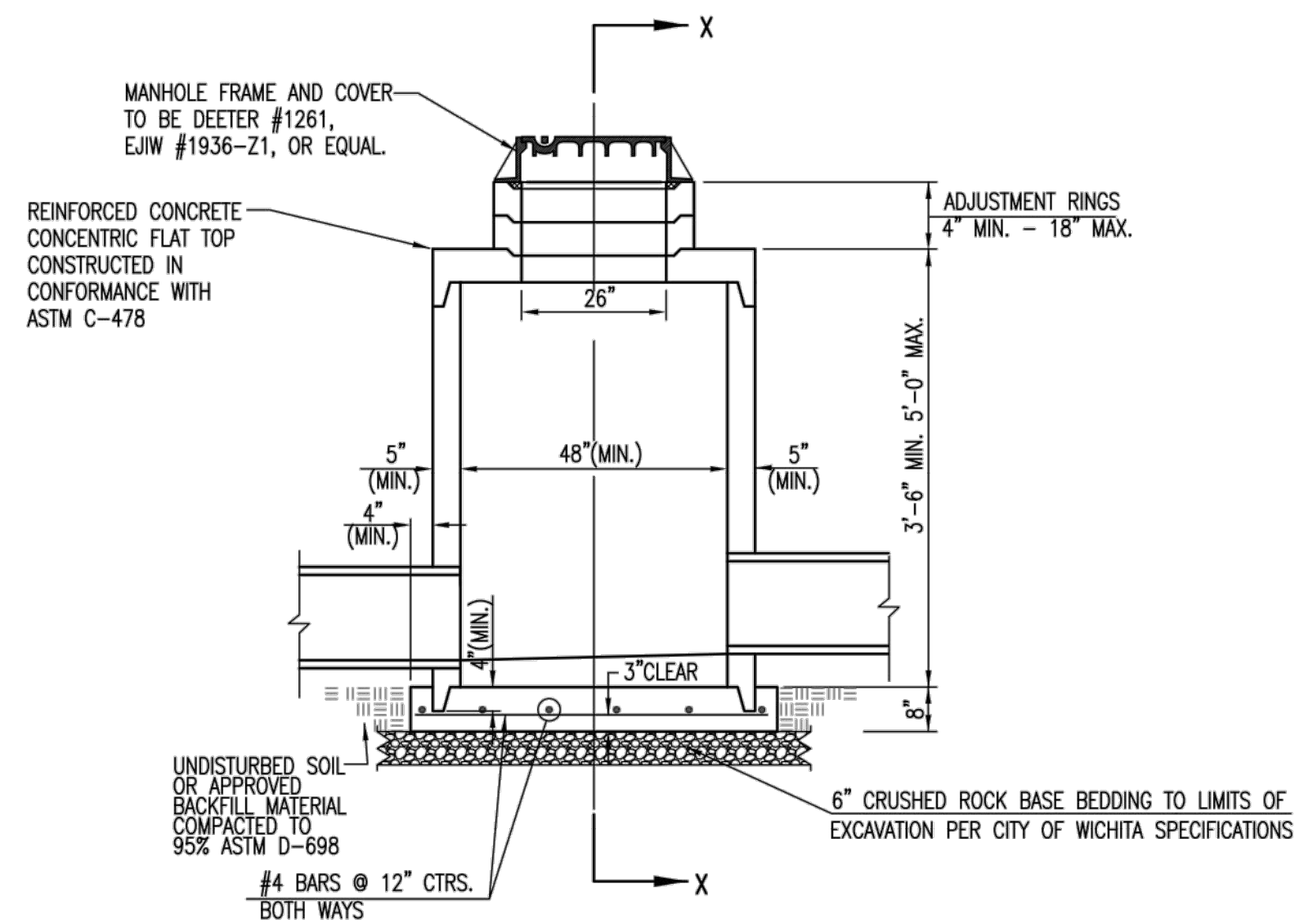
Renaissance Infrastructure Consulting
913.317.9500
1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103
WWW.RIC-CONSULT.COM



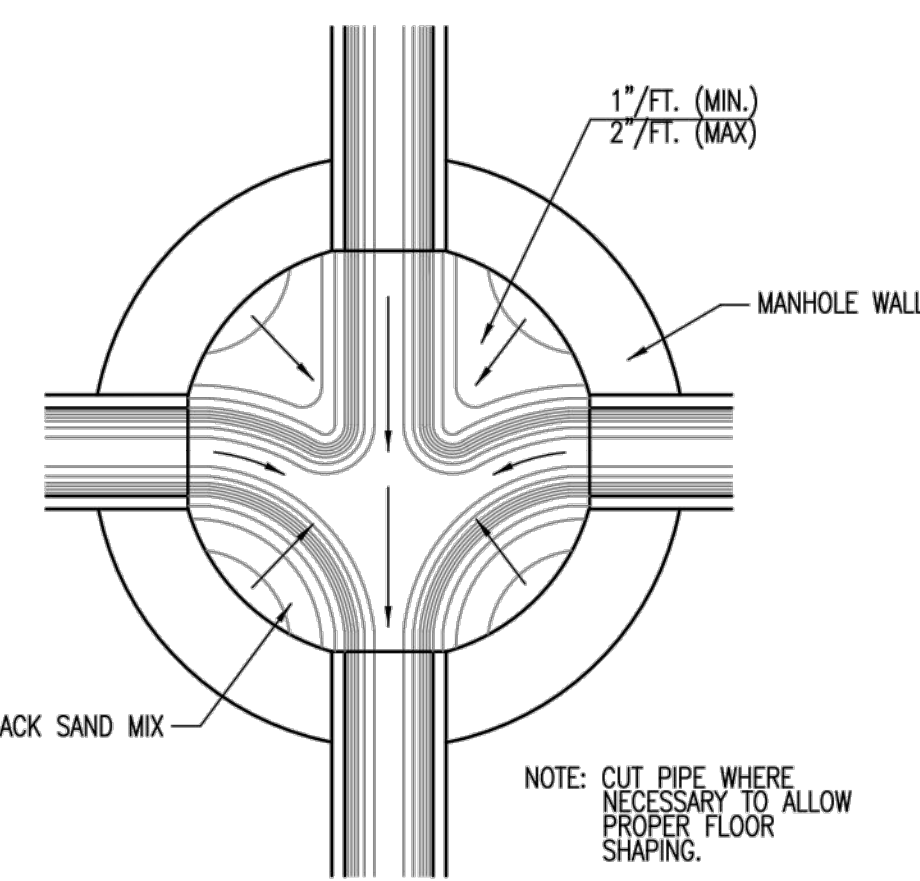
PRECAST STANDARD MANHOLE TYPE "A"



SECTION X-X (TYPICAL)



PRECAST SHALLOW MANHOLE TYPE "B"



TYPICAL MANHOLE FLOOR SHAPING

GENERAL NOTES

- IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL HAVE THE OPTION TO COMPACT SUBGRADE AS SHOWN OR INCREASE THE THICKNESS OF THE MANHOLE BASE AS DIRECTED BY THE ENGINEER.
- STEEL REINFORCING WILL BE REQUIRED IN ALL MANHOLE BASES.
- ALL MANHOLE CONSTRUCTION SHALL BE WATER TIGHT.
- TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF ASTM C-478 AS MODIFIED BY THE SPECIFICATIONS.
- CONCRETE USED FOR MANHOLE CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
- PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO MANHOLE BASE.
- MANHOLES WITH PIPE SIZES 24" AND LARGER SHALL HAVE 5 FOOT INSIDE DIAMETER (MIN.).
- MANHOLES WITH PRECAST BASES MAY BE USED AT THE CONTRACTORS OPTION. THESE MANHOLES SHALL HAVE AN 8" MINIMUM BASE THICKNESS AND SHALL BE PLACED ON AN 8" MIN. CRUSHED ROCK BASE. PIPES SHALL BE ENCASED WITH CRUSHED ROCK TO AT LEAST 3 FEET FROM THE MANHOLE WALL.
- CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN MANHOLE WALL SHALL BE GROUTED FLUSH TO THE MANHOLE WALL WITH HYDRAULIC CEMENT AFTER THE MANHOLE IS IN PLACE. LIFTING HOLES THRU THE MANHOLE WALL WILL NOT BE ACCEPTED.
- THE ENDS OF ALL PIPES IN MANHOLES SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE MANHOLE WALL.
- MANHOLE INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE MANHOLE WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
- MANHOLE FRAME AND COVER TO BE DEETER #1261, EJIW #1936-Z1, OR APPROVED EQUAL, SEE SW-303.
- FOR FLAT GRATED INLET APPLICATION, GRATE TO BE DEETER #1933, EJIW #1205 MDI, OR APPROVED EQUAL.
- FOR BEEHIVE GRATE APPLICATION, GRATE TO BE DEETER #4495, EJIW #120545, OR APPROVED EQUAL.



REVISED: MARCH 2015

PRECAST CONCRETE MANHOLE (STORM SEWER)

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

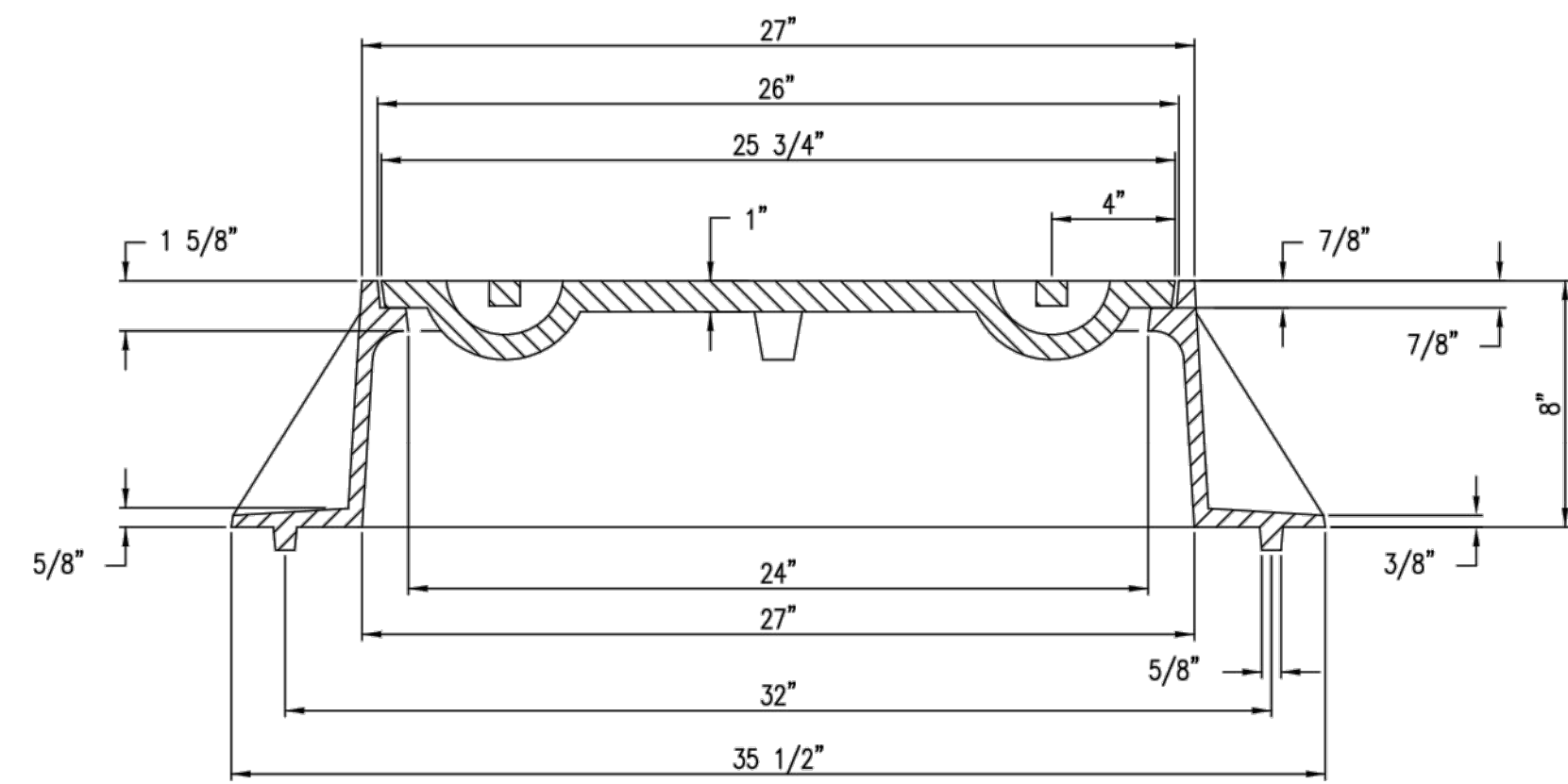
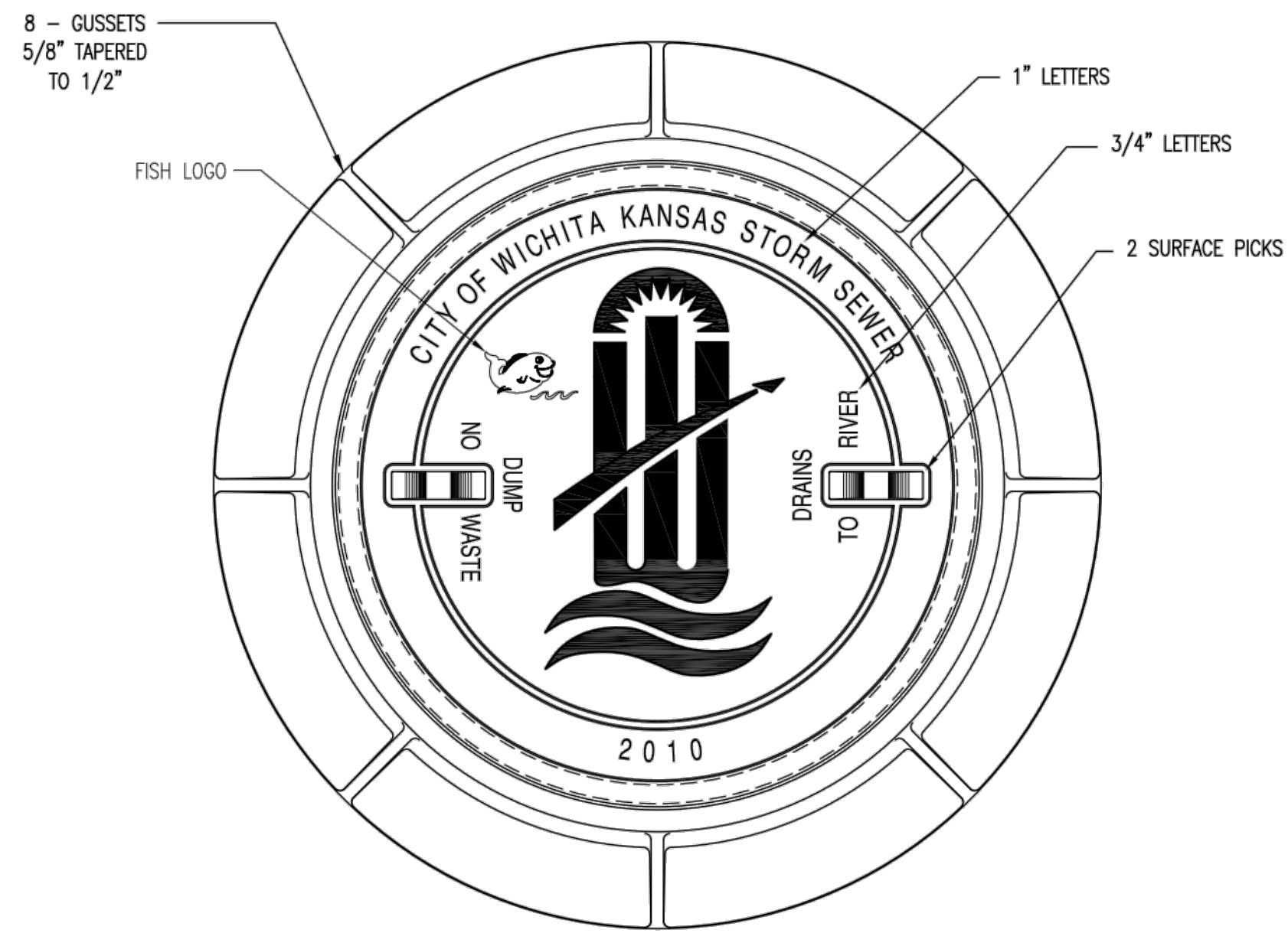
SHEET

SW-301

NO.	BY	DATE	REVISION
2.	JAR CRT	01/18/16	PER CITY COMMENTS
1.	JAR FHC	12/28/15	PER REVISED SITE ORIGINAL SUBMITTAL

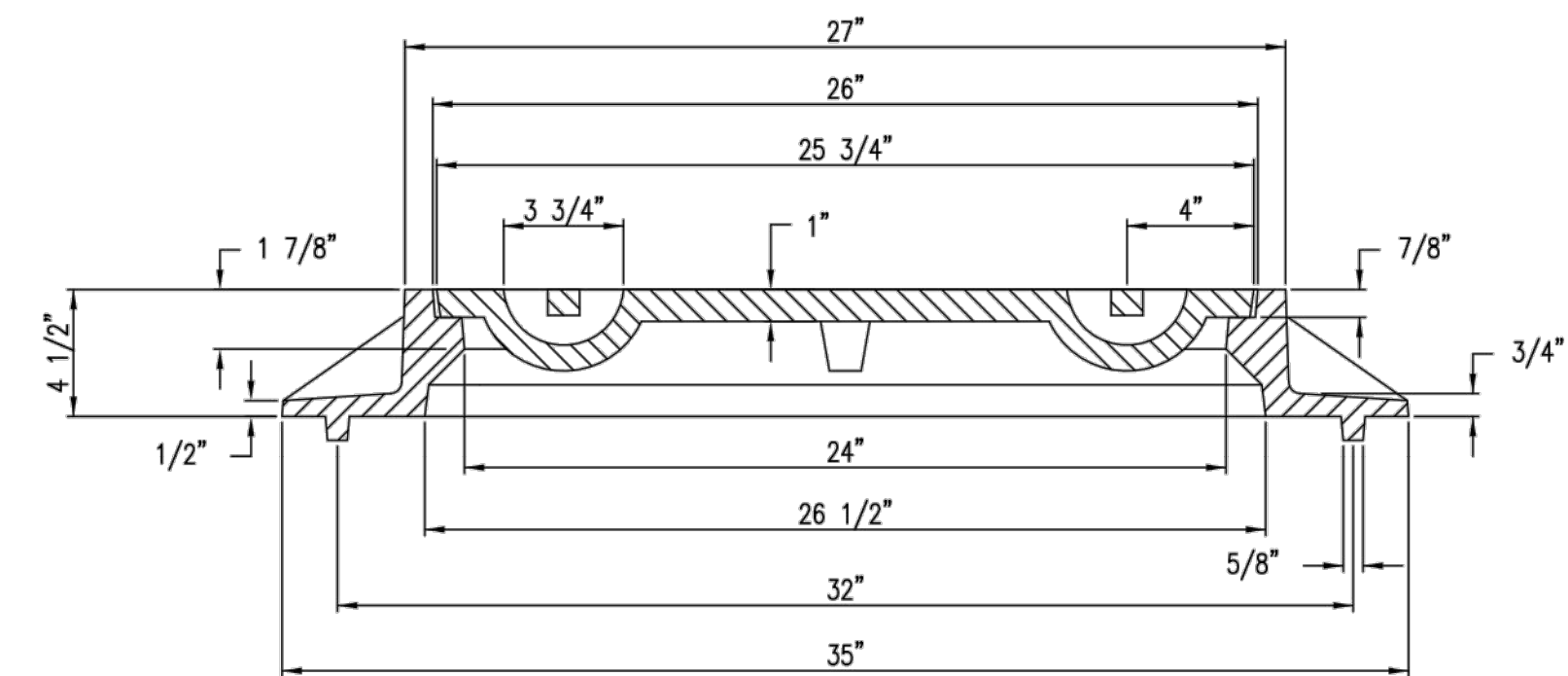
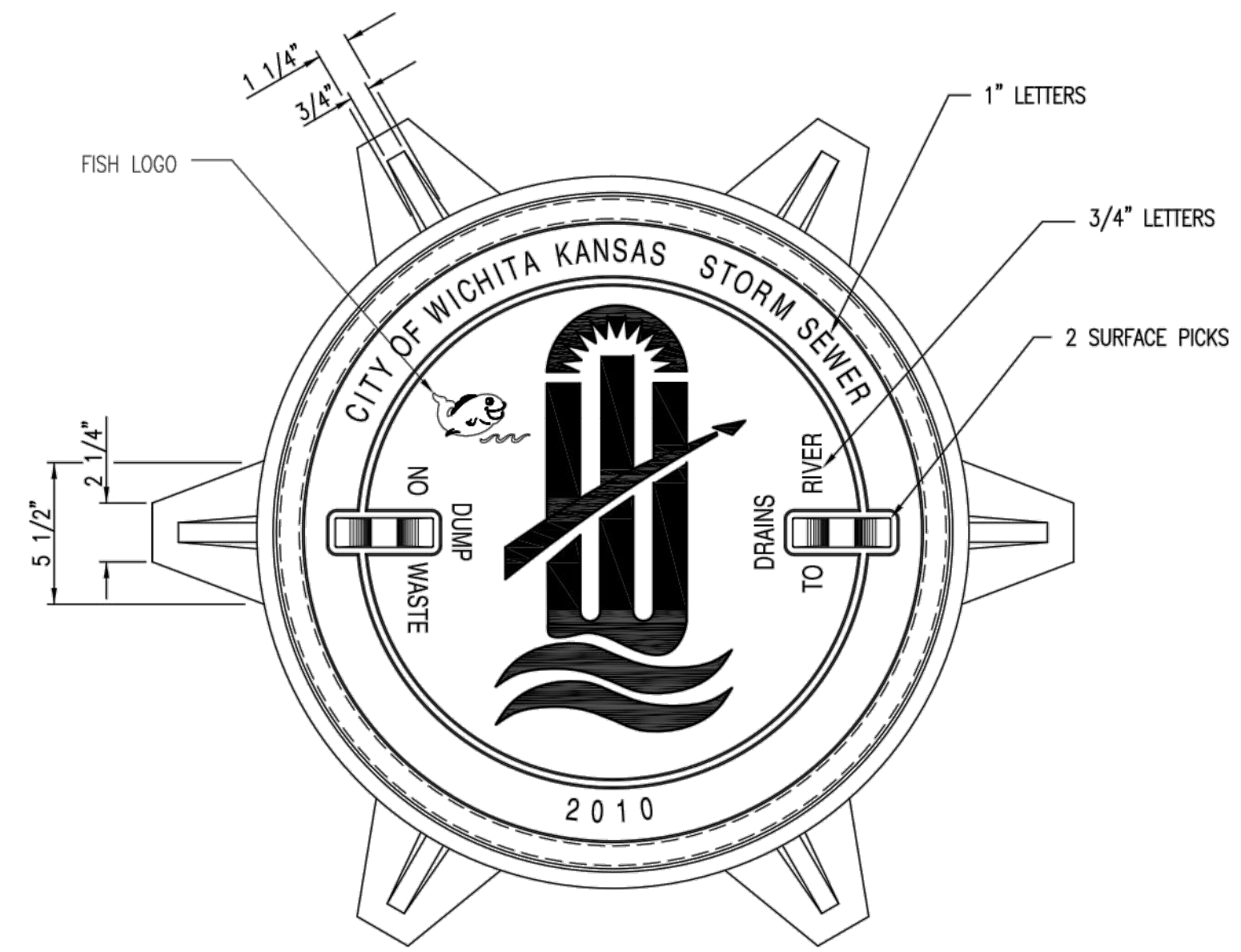
Renaissance Infrastructure Consulting

913.317.9500
1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103
WWW.RIC-CONSULT.COM



MANHOLE FRAME
DEETER #1261 OR EJIW #1936-Z1

- NOTE:
- FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.
 - COVER TO BE DEETER #1261 OR EJIW #1936A.



INLET FRAME
DEETER #2014 OR EJIW #1936-Z4

- NOTE:
- FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACES.
 - NOT TO BE USED UNDER PAVEMENT.
 - COVER TO BE DEETER #1261 OR EJIW #1936A.



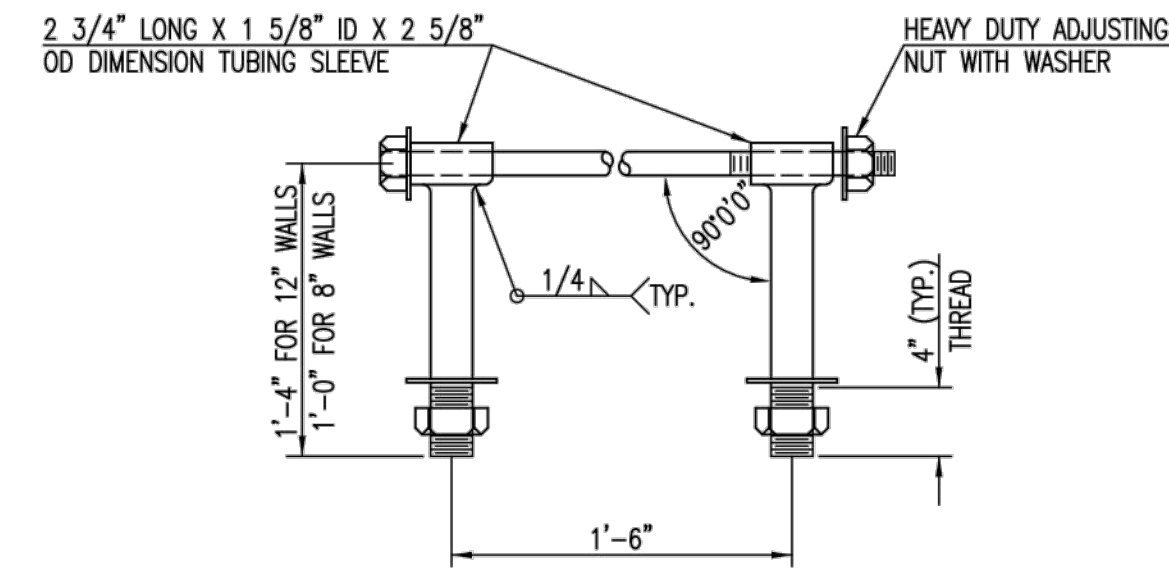
MANHOLE/INLET FRAME AND COVER (STORM SEWER)	
CITY ENGINEER GARY JANZEN, P.E.	
PROJECT NUMBER	DATE
OCA NUMBER	11/2010
CITY ENGINEER'S OFFICE	
CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501	
SHEET	

SW-303

NO.	BY	DATE	REVISION
2.	JAR	01/18/16	PER CITY COMMENTS
1.	JAR	12/28/15	PER REVISED SITE
	JAR	10/05/15	ORIGINAL SUBMITTAL

Renaissance Infrastructure Consulting
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KANSAS CITY, KANSAS 66103

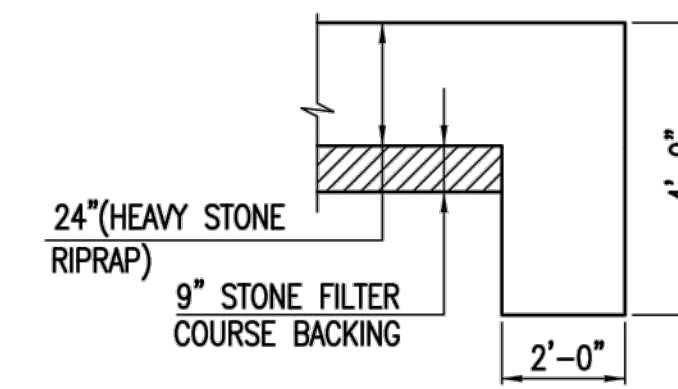


HEAVY DUTY (H.D.) COUPLER

NO SCALE

NOTES

1. BOLTS TO BE A-36 1 1/2" DIAMETER.
2. BOLTS, NUTS, WASHERS AND SLEEVES TO BE ZINC PLATED.
3. WASHERS TO BE 3 1/2" O.D. X 7 GAUGE.
4. SHIP WITH NUTS AND WASHERS PLACED ON BOLTS.



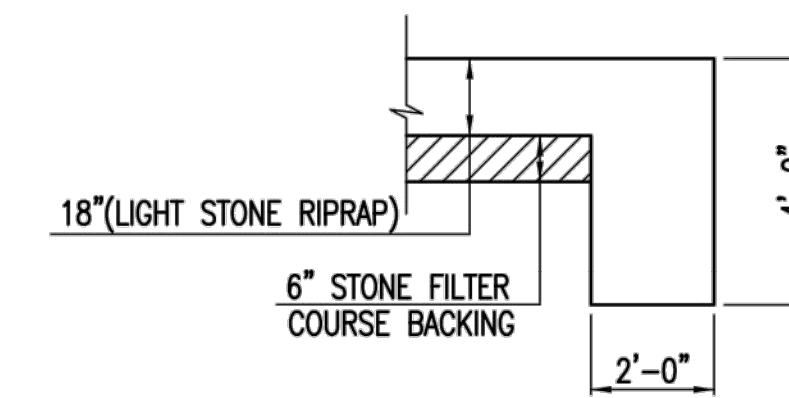
TYPICAL SECTION THRU TOEWALL

NO SCALE

NOTES

1. ALL RIPRAP FOR THIS PROJECT SHALL BE NATURAL STONE. NEITHER BROKEN CONCRETE, FABRIC ENVELOPE, NOR PREMIXED DRY PACKAGED CONCRETE BAG ALTERNATES WILL BE ALLOWED, UNLESS INDICATED OTHERWISE.
2. TOEWALLS SHALL BE INSTALLED ALONG ALL UNPROTECTED EDGES OF STONE RIPRAP.
3. GROUTING OF THE SURFACE OF THE RIPRAP SHALL NOT BE PERFORMED, UNLESS INDICATED OTHERWISE. GROUTING OF THE TOEWALLS SHALL BE PERFORMED PER CITY SPECIFICATIONS.

HEAVY STONE RIPRAP DETAILS



TYPICAL SECTION THRU TOEWALL

NO SCALE

NOTES

1. ALL RIPRAP FOR THIS PROJECT SHALL BE NATURAL STONE. NEITHER BROKEN CONCRETE, FABRIC ENVELOPE, NOR PREMIXED DRY PACKAGED CONCRETE BAG ALTERNATES WILL BE ALLOWED, UNLESS INDICATED OTHERWISE.
2. TOEWALLS SHALL BE INSTALLED ALONG ALL UNPROTECTED EDGES OF STONE RIPRAP.
3. GROUTING OF THE SURFACE OF THE RIPRAP SHALL NOT BE PERFORMED, UNLESS INDICATED OTHERWISE. GROUTING OF THE TOEWALLS SHALL BE PERFORMED PER CITY SPECIFICATIONS.

LIGHT STONE RIPRAP DETAILS



MISCELLANEOUS
DETAILS
(STORM SEWER)

CITY ENGINEER

GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
		11/2010

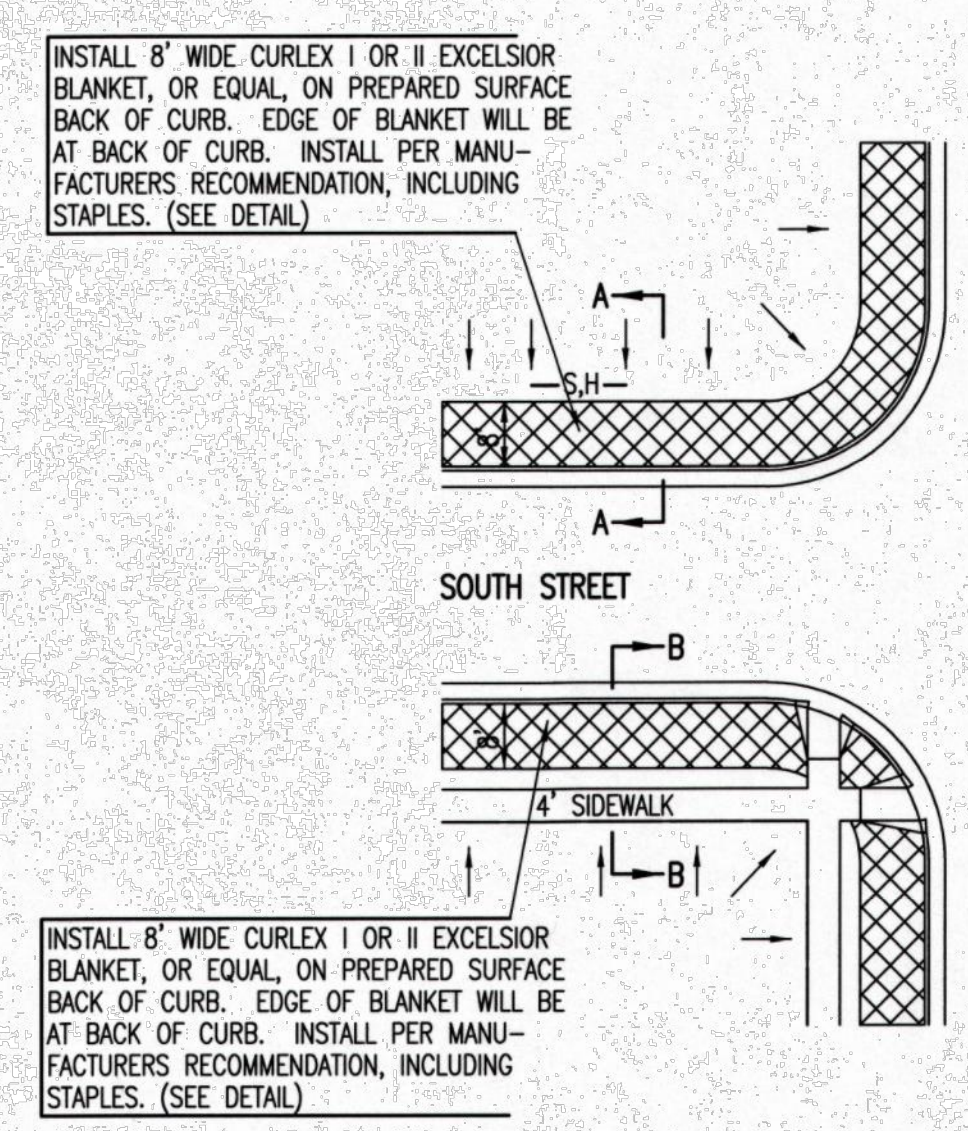
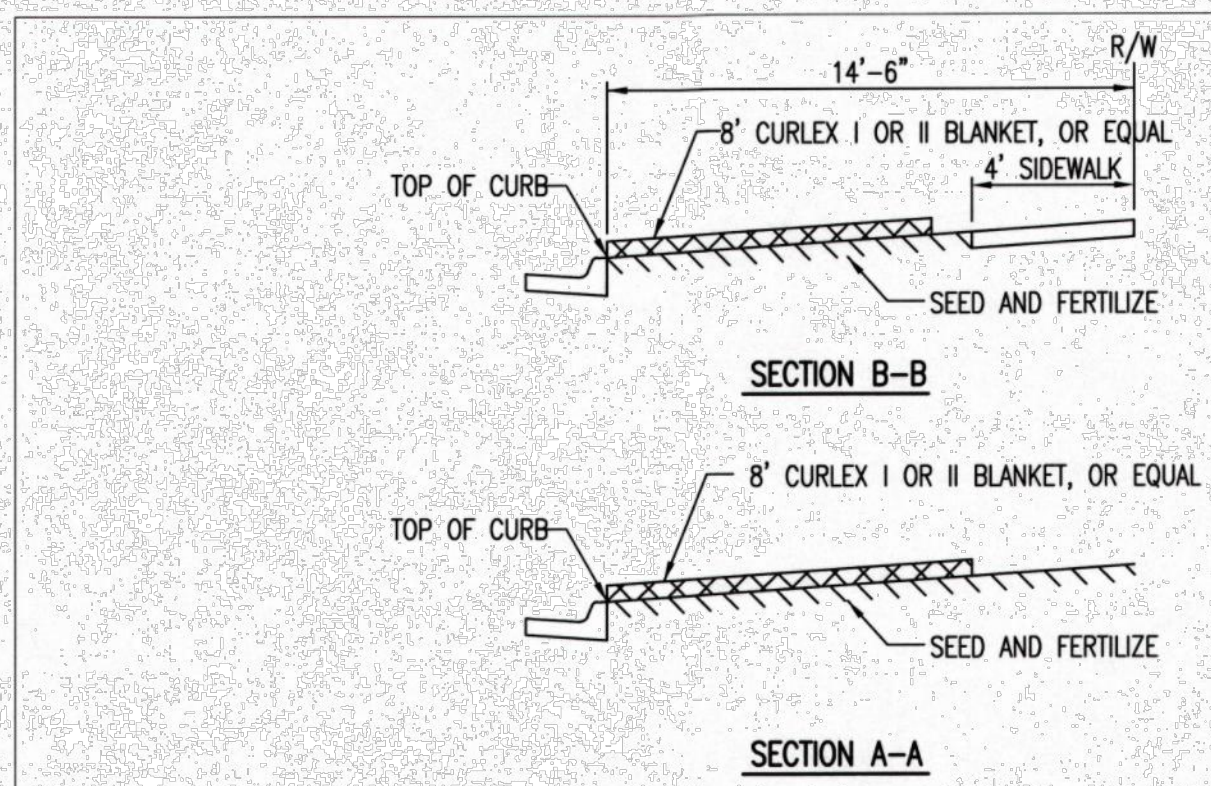
CITY ENGINEER'S OFFICE	SHEET
CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501	

SW-401

NO.	BY	DATE	REVISION
2.	JAR CRT	01/18/16	PER CITY COMMENTS
1.	JAR FHC	12/28/15	PER REVISED SITE
	JAR FHC	10/05/15	ORIGINAL SUBMITTAL

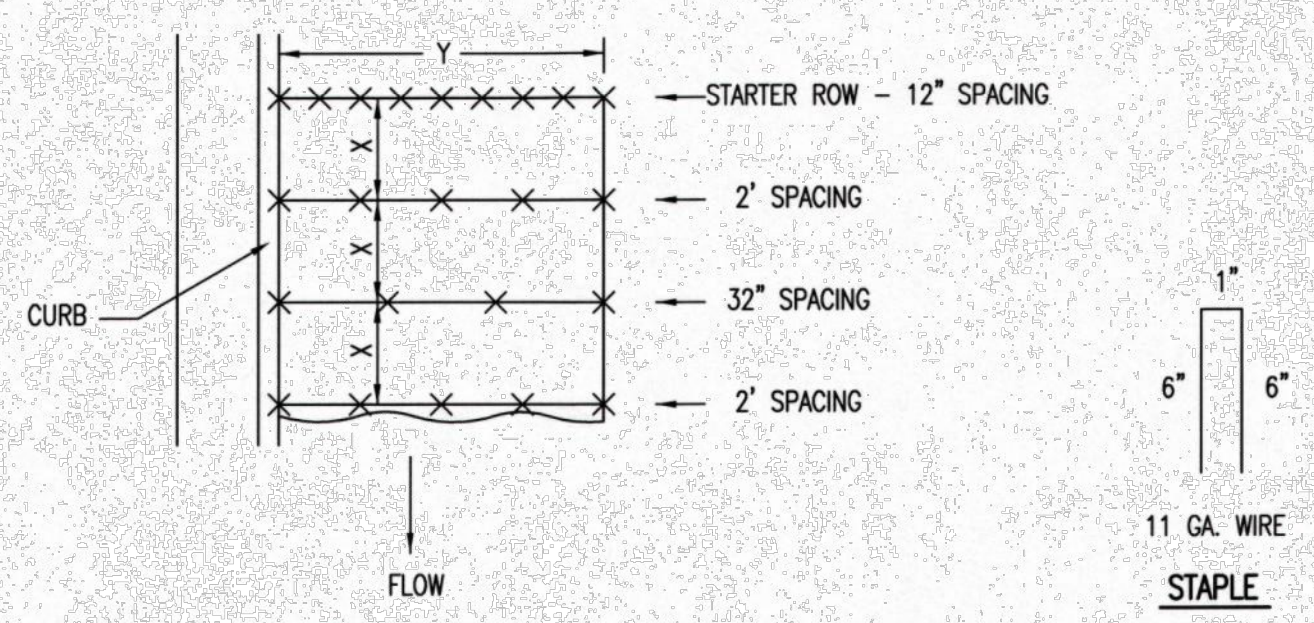
Renaissance Infrastructure Consulting
913.317.9500
WWW.RIC-CONSULT.COM

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KANSAS CITY, KANSAS 66103

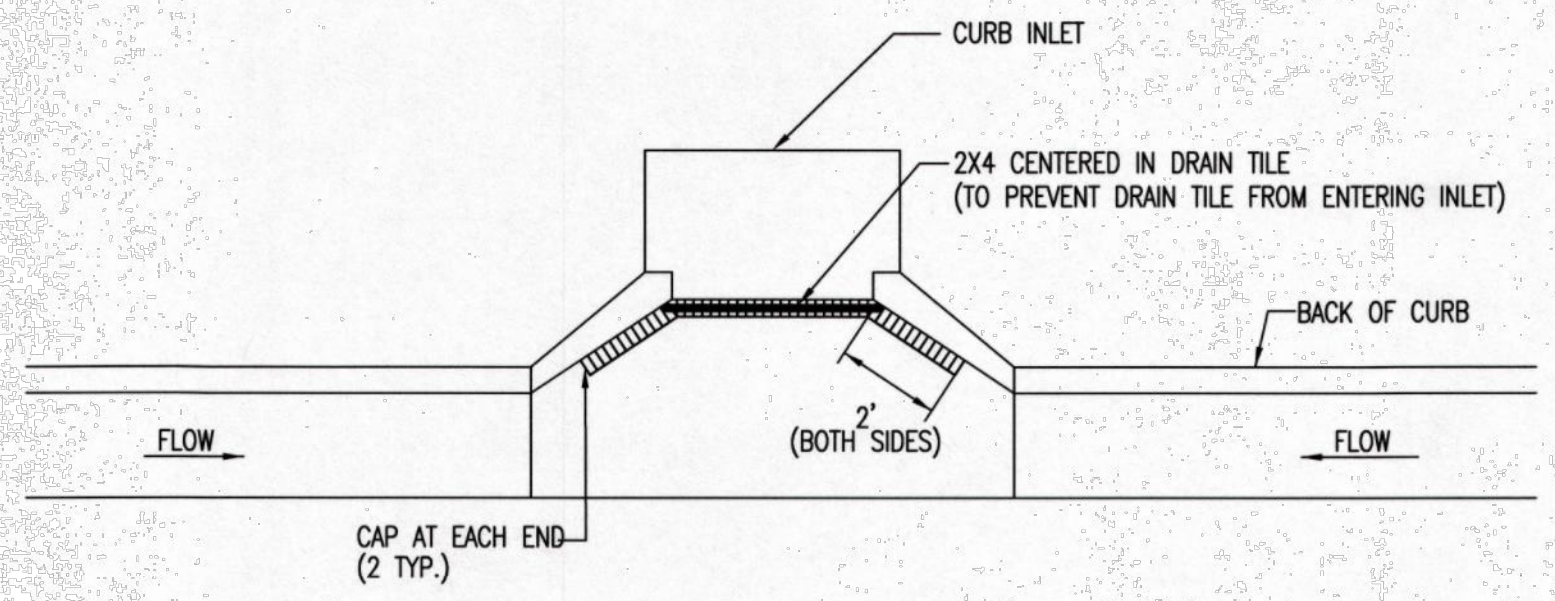


- GENERAL NOTES**
- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
 - EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
 - AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE 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

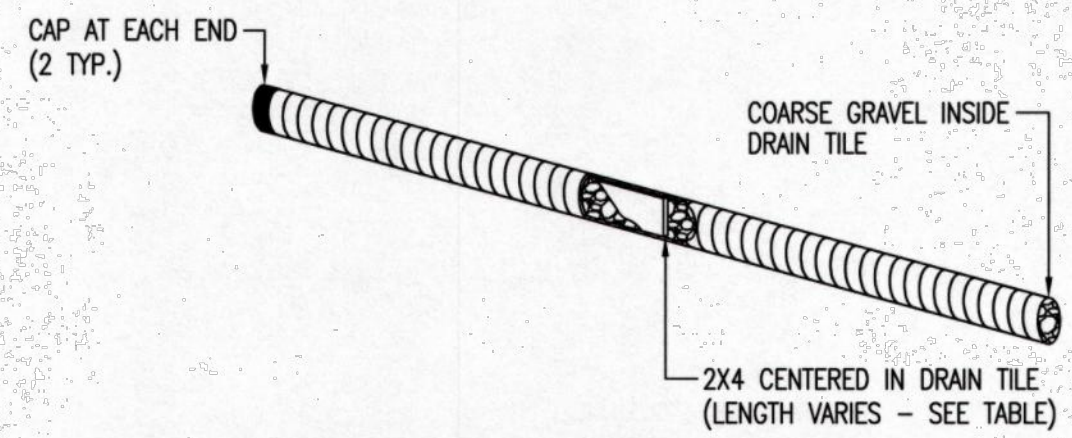


DETAILS FOR APPROVED EROSION CONTROL MAT

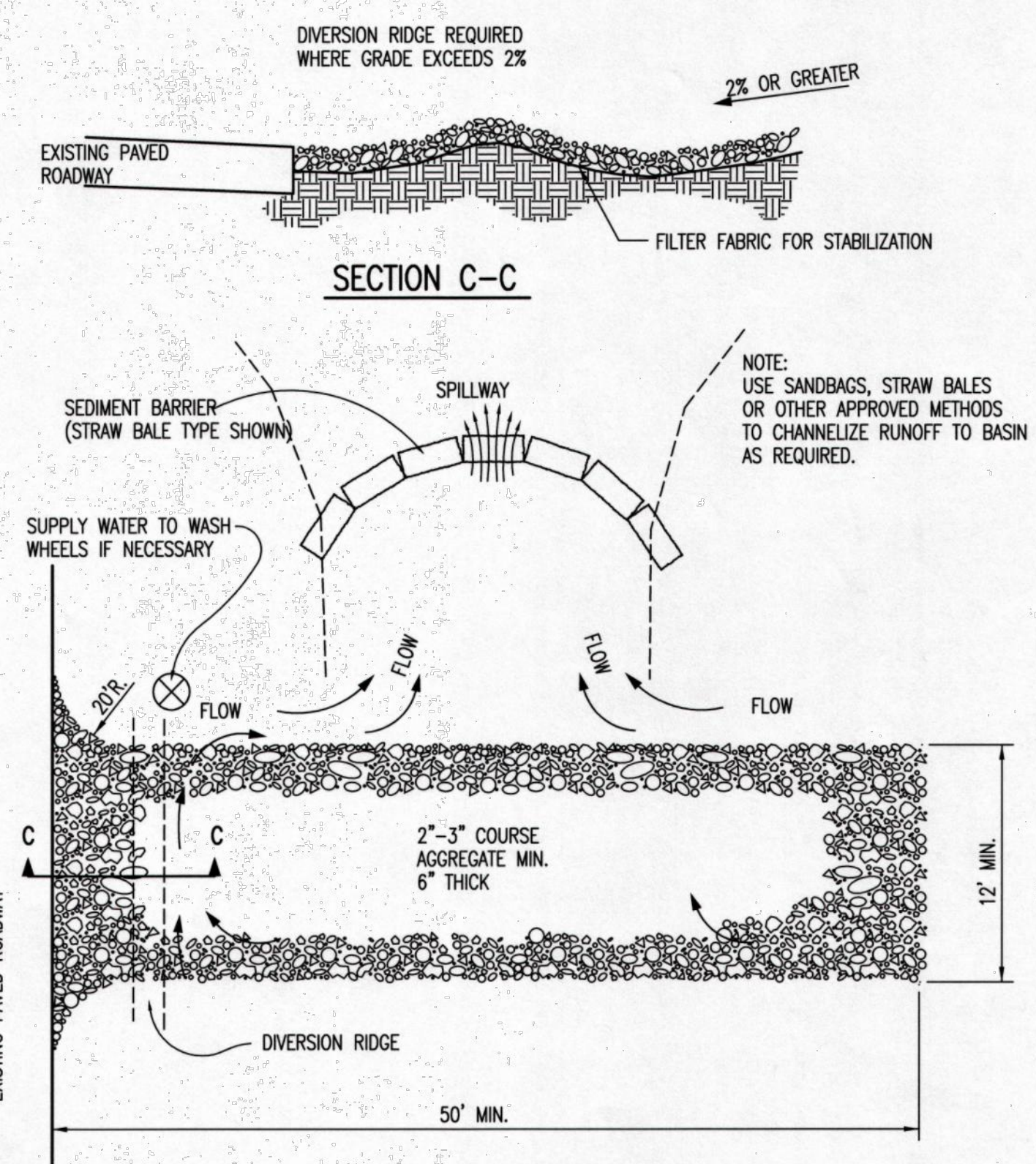


NOTE: PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

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: []

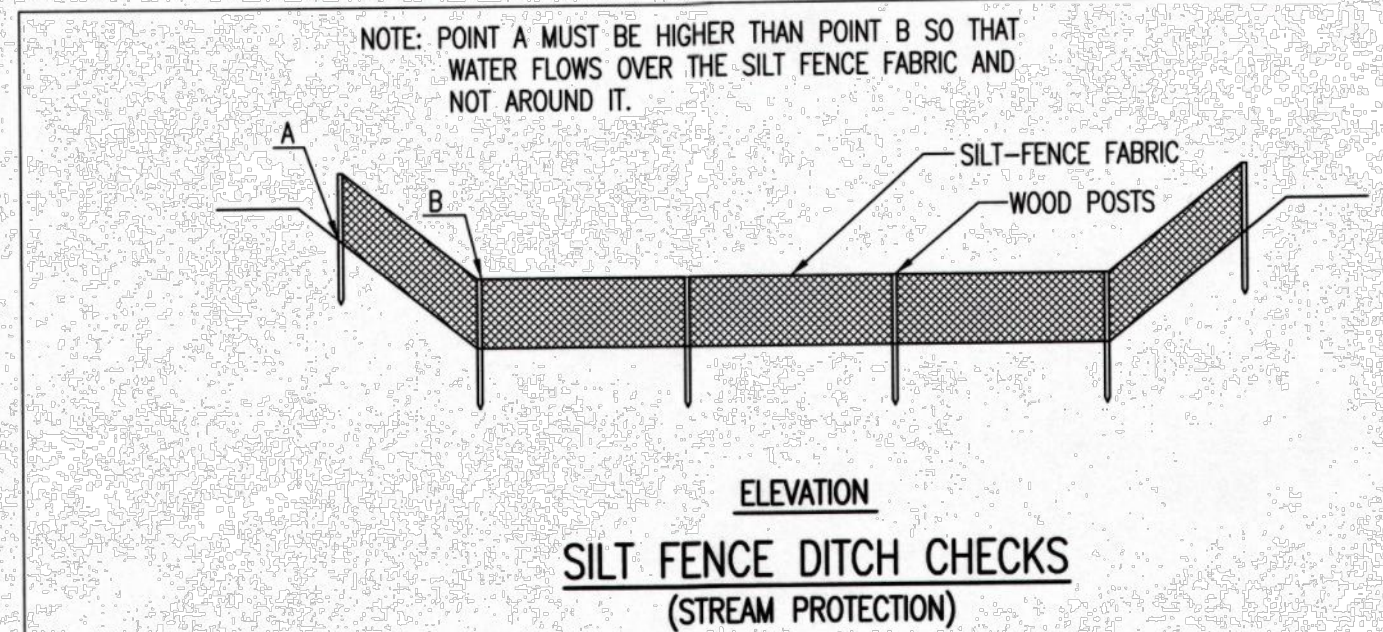
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET []

Renaissance Infrastructure Consulting

1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103

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

PROPER INSTALLATION METHOD:

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

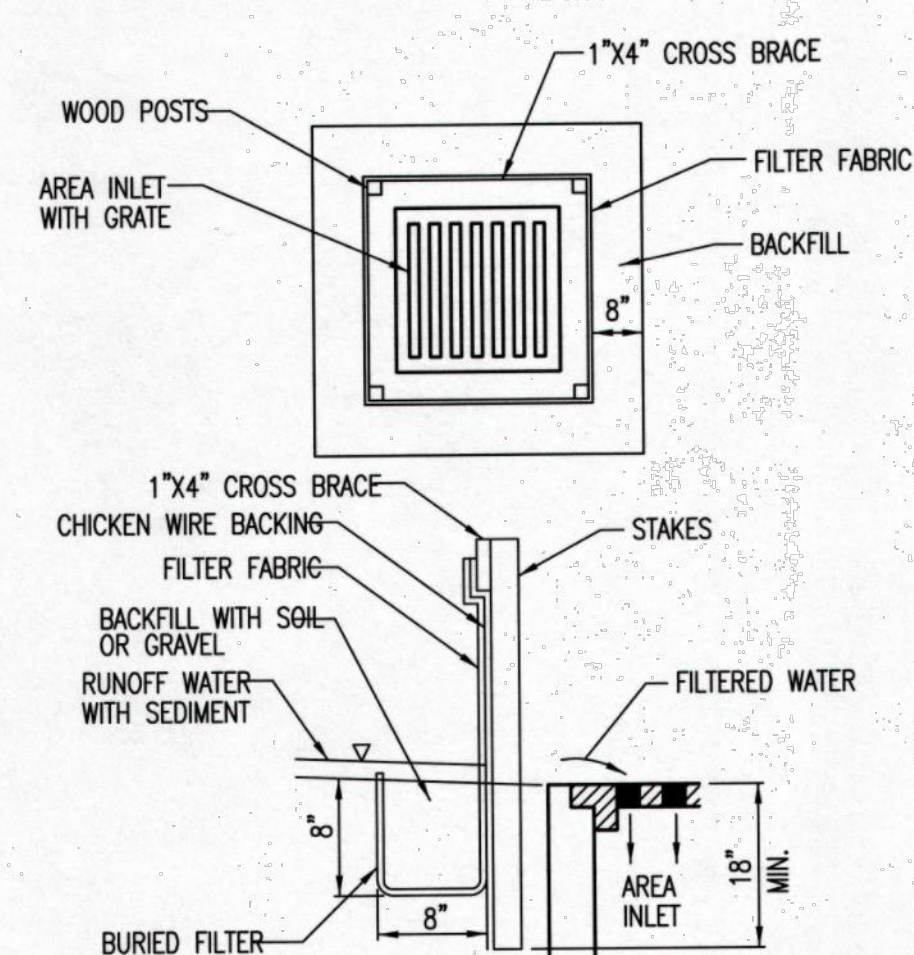
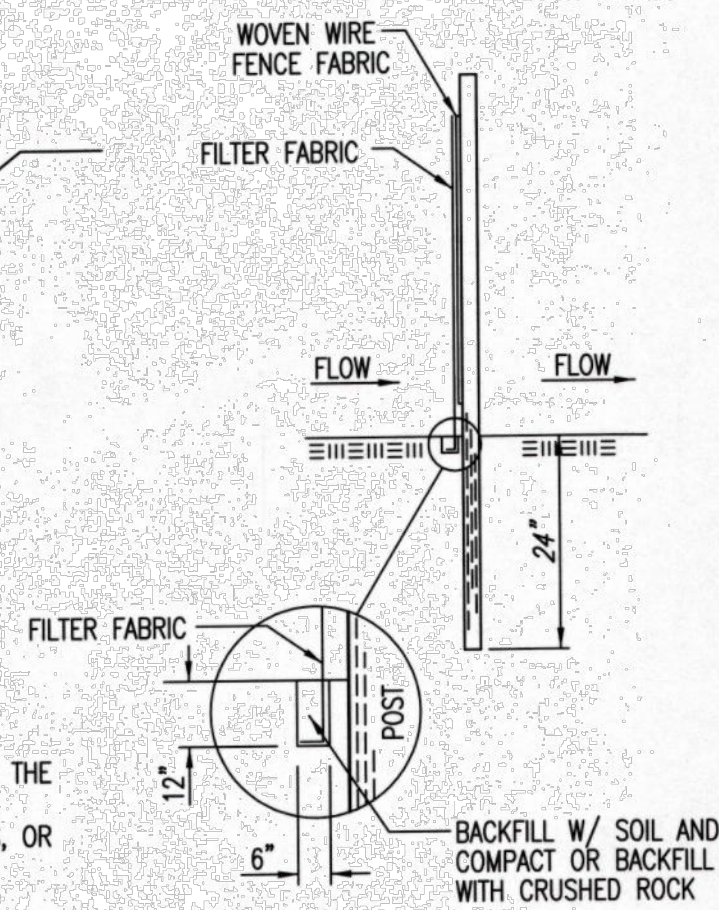
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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

INSPECTION AND MAINTENANCE:

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

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



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 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.

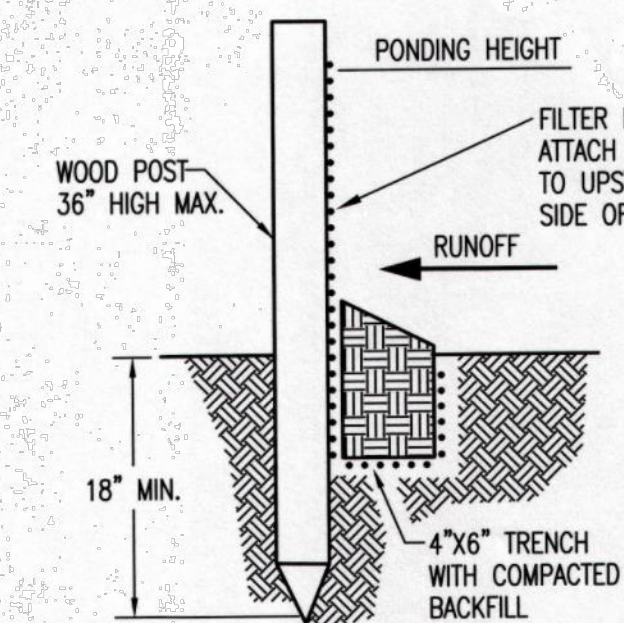
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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?



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:

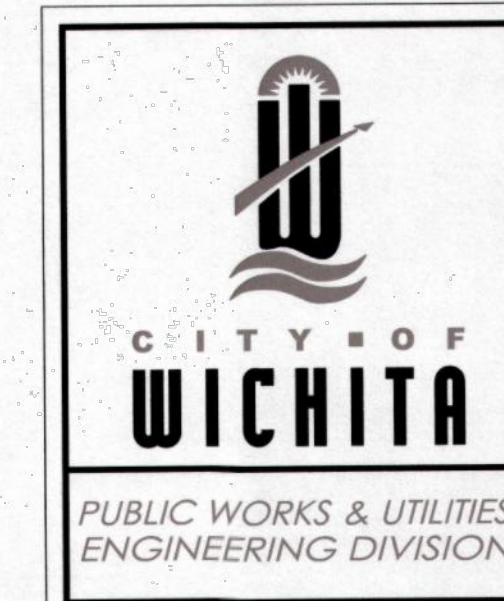
WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES. DO NOT PLACE SILT FENCE POSTS ON THE UPSLOPE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

CITY ENGINEER'S OFFICE

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

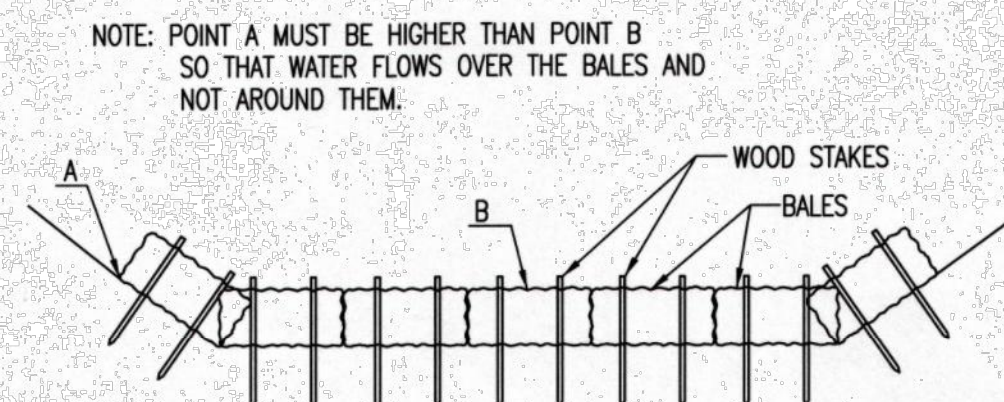
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NO.	BY	DATE	ORIGINAL SUBMITTAL	REVISION
2.	JAR CRT	01/18/16	PER CITY COMMENTS	
1.	JAR FHC	12/28/15	PER REVISED SITE	
	JAR FHC	10/05/15	ORIGINAL SUBMITTAL	

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1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103



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 (%)	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".

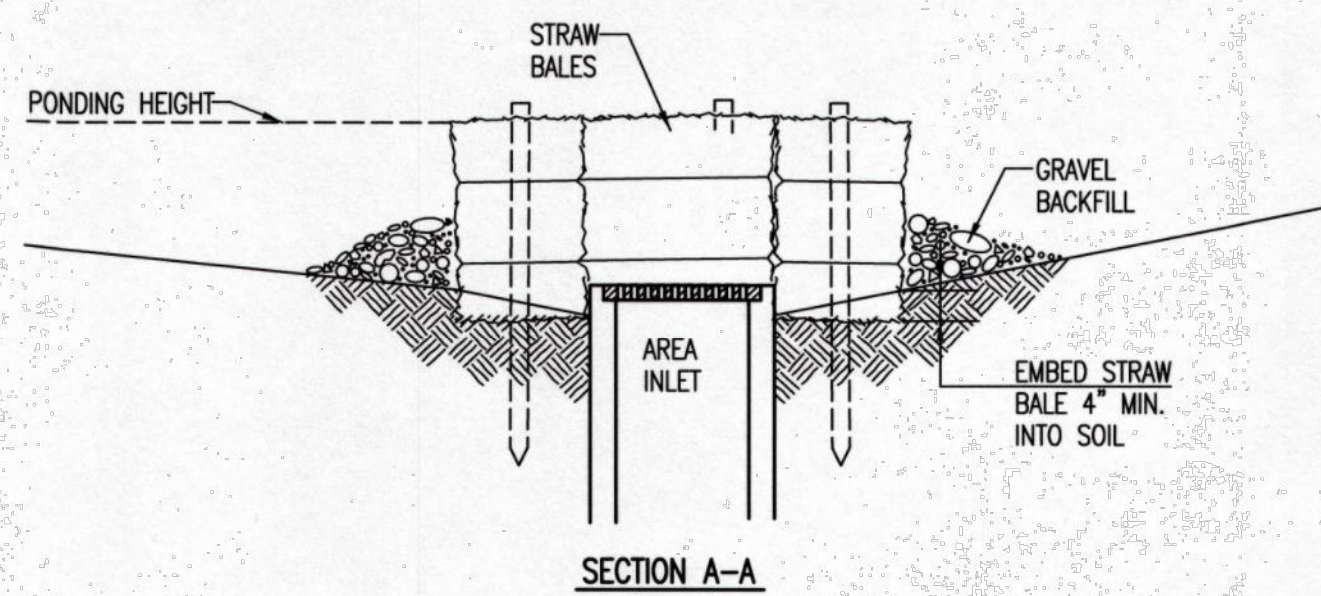
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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.

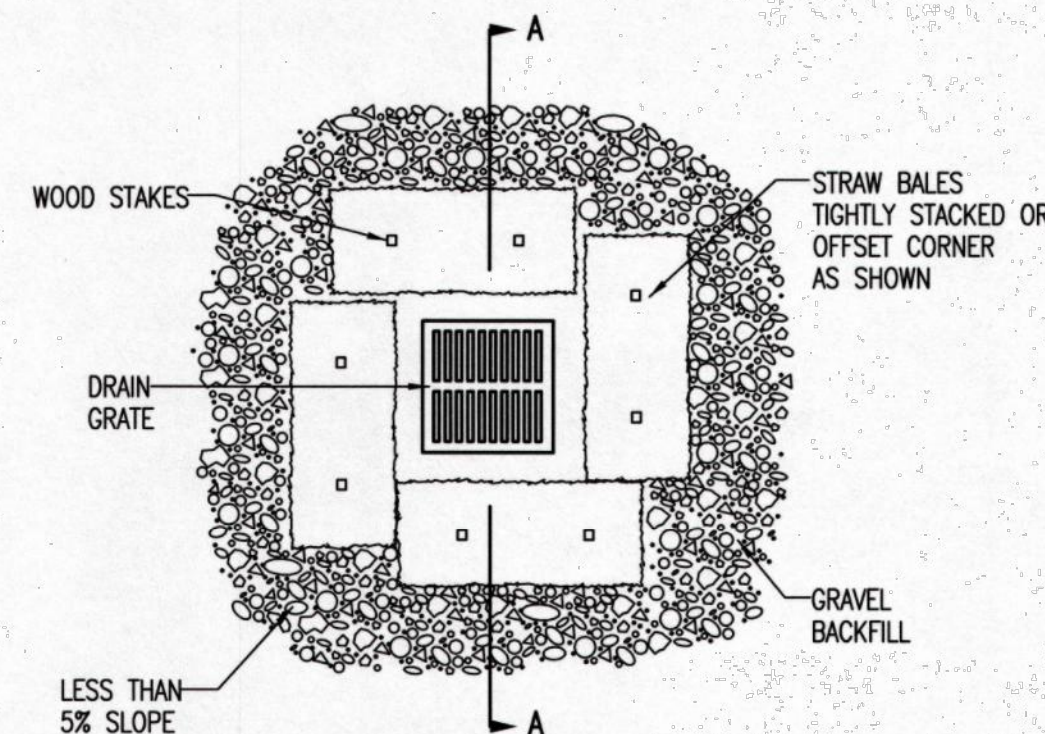
INSPECTION AND MAINTENANCE:

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.

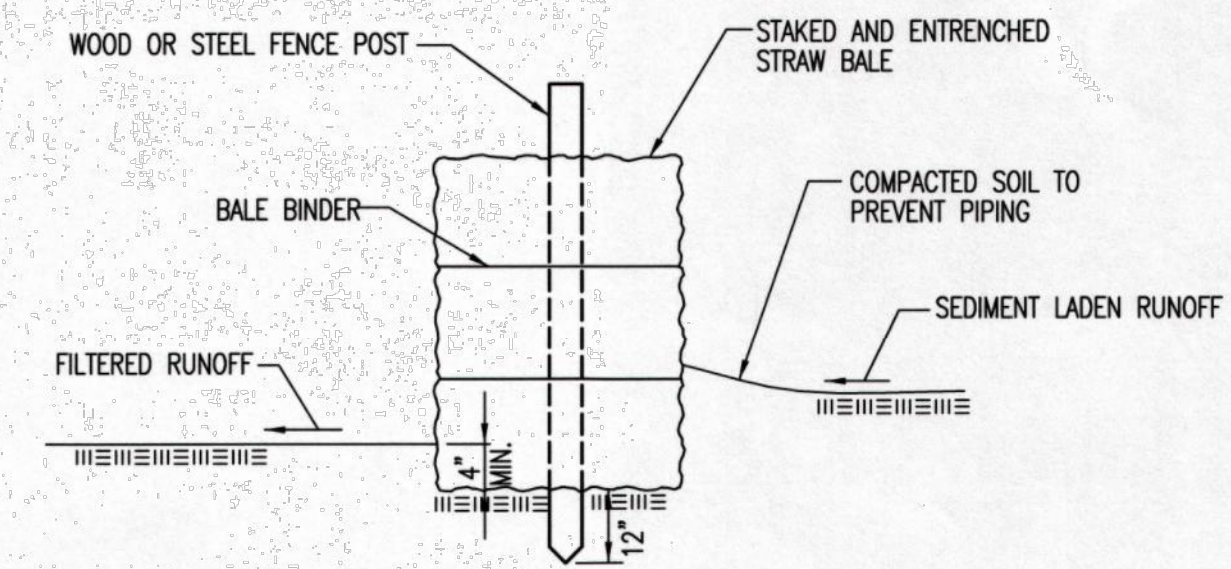
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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:

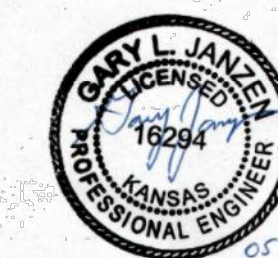
WHEN PRACTICAL, DO NOT PLACE BALE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. CONCENTRATED FLOW OVER A SLOPE BARRIER CREATES A SCOUR HOLE ON THE DOWNSLOPE SIDE OF THE BARRIER. THE SCOUR HOLE EVENTUALLY UNDERMINES THE BALES AND THE BARRIER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

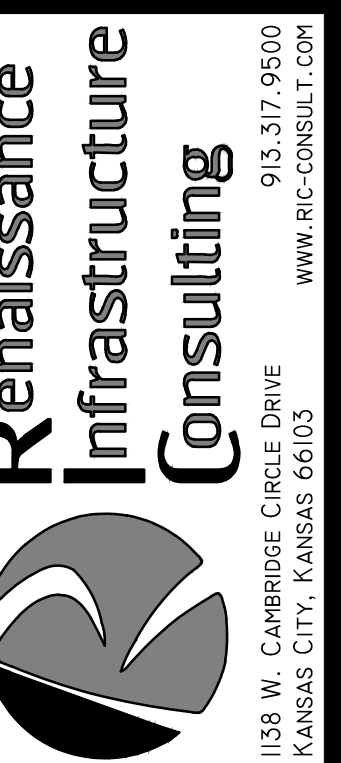
CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER: OCA NUMBER: DATE:

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

SHEET

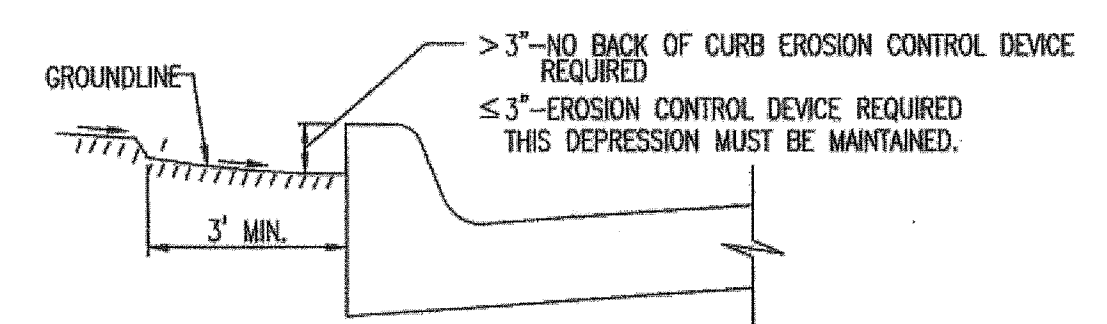
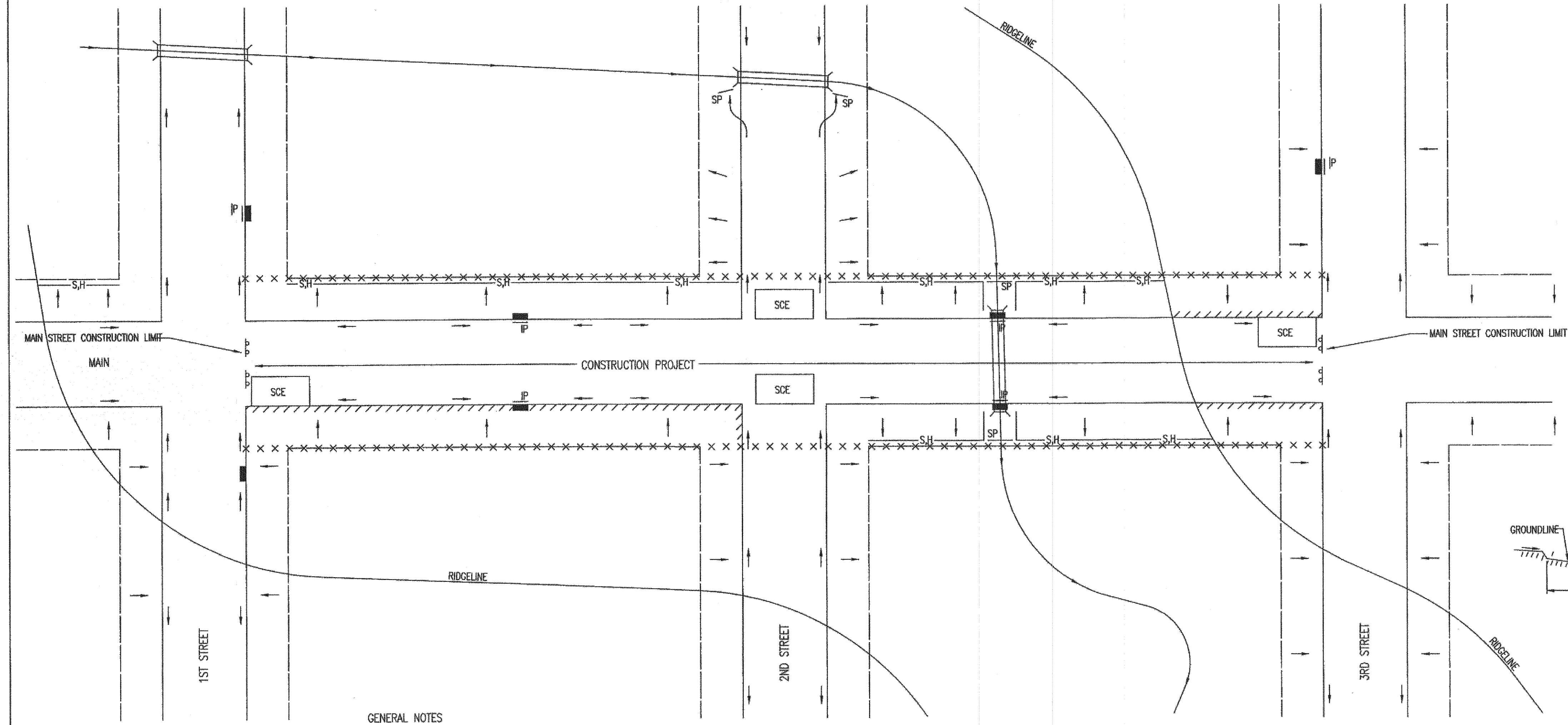
SW-503



NO.	BY	DATE	DESCRIPTION
2.	JAR CRT	01/18/16	PER CITY COMMENTS
1.	JAR FHC	12/28/15	PER REVISED SITE
	JAR FHC	10/05/15	ORIGINAL SUBMITTAL

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.



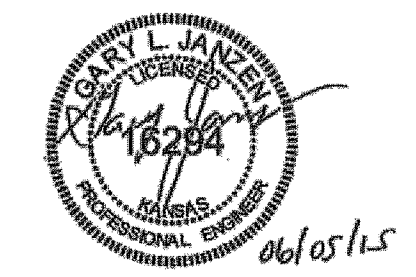
THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

LEGEND

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

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 CUTTERLINES, 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 SOODED, THE EXCELSDOR MAT WILL NOT BE REQUIRED SO LONG AS THE SOO IS PLACED WITHIN 48 HOURS AFTER CURB BACKFILL REACHES A HEIGHT OF 3" OR LESS FROM TOP OF CURB. (SEE CURB BACKFILL DETAIL)



CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

REVISION: JUNE 2015

STREET IMPROVEMENT PROJECTS

CITY ENGINEER
GARY JANZEN, P.E.

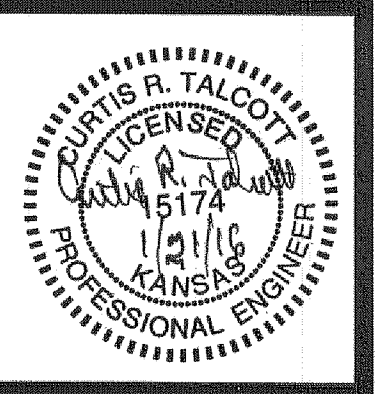
PROJECT NUMBER	CCA NUMBER	DATE
CITY ENGINEER'S OFFICE	SHEET	
CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		

NO.	BY	DATE	REVISION
1.	JAR	FHC	10/28/15 ORIGINAL SUBMITTAL
2.	JAR	DRY	01/18/16 PER CITY COMMENTS
3.	JAR	FHC	12/28/15 PER REVISED SITE
4.	JAR	FHC	10/28/15 ORIGINAL SUBMITTAL

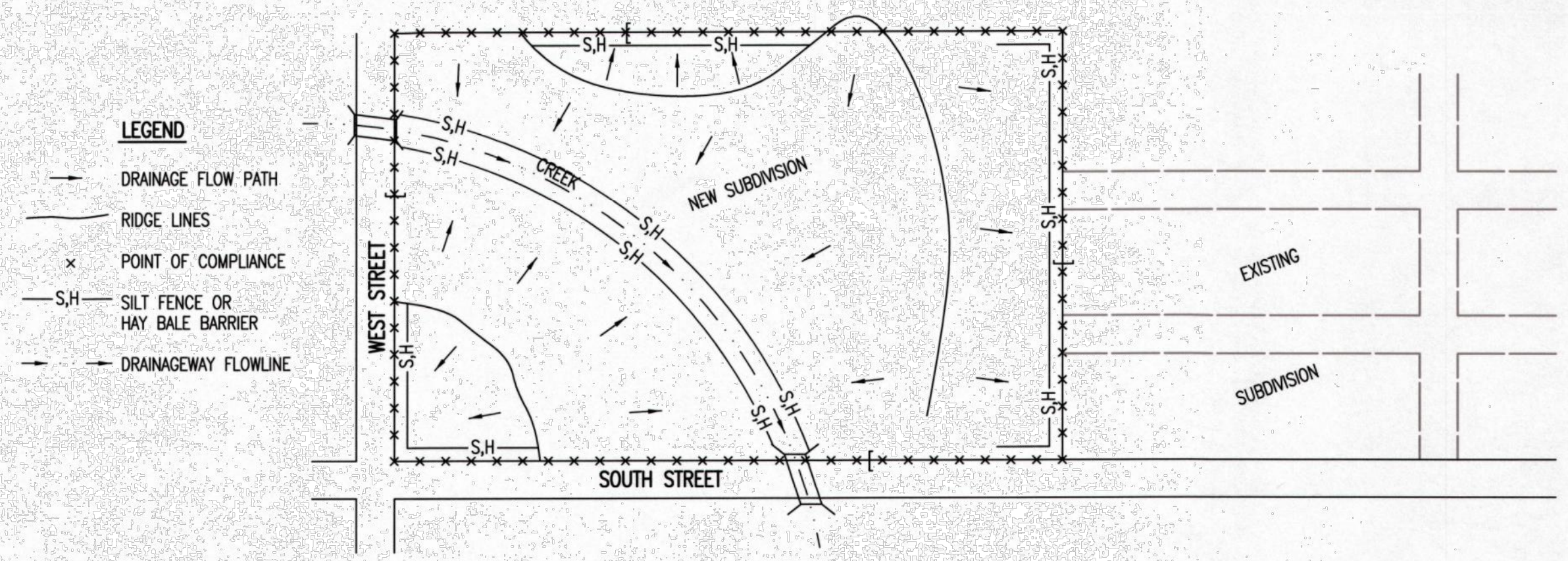
Renaissance Infrastructure Consulting

1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 64103

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WWW.RIC-CONSULT.COM



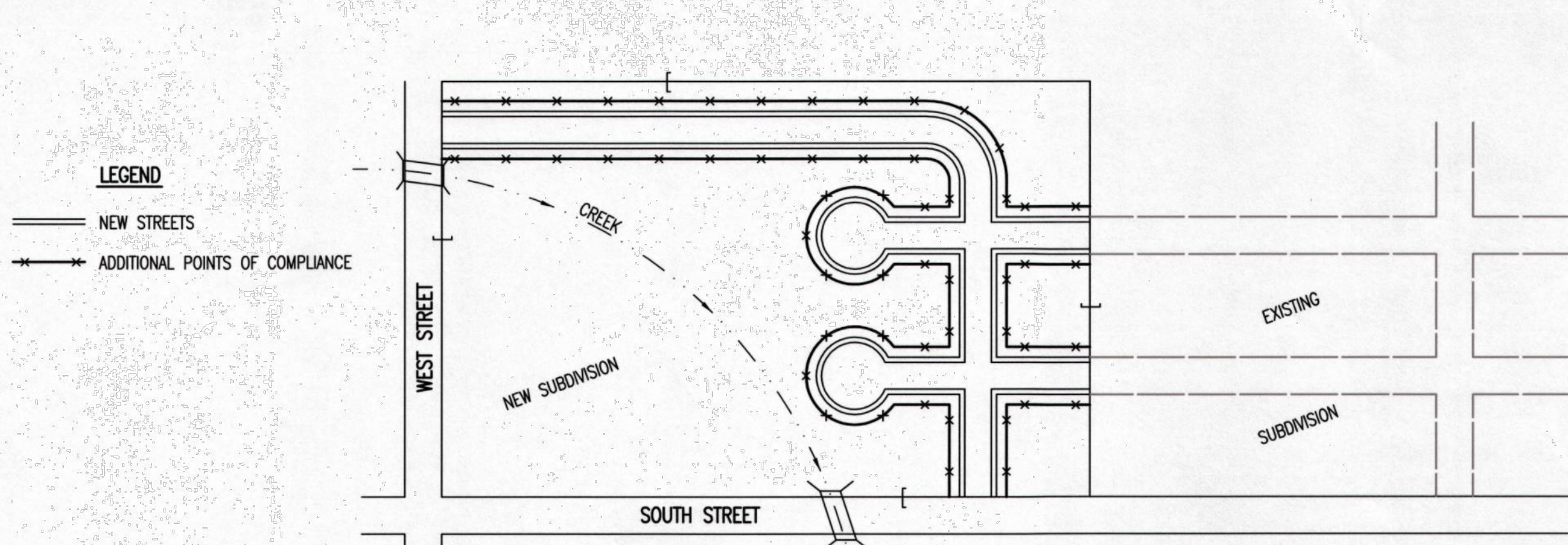
PHASE 1 - INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



- LEGEND**
- DRAINAGE FLOW PATH
 - RIDGE LINES
 - x POINT OF COMPLIANCE
 - S.H. SILT FENCE OR HAY BALE BARRIER
 - DRAINAGEWAY FLOWLINE

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

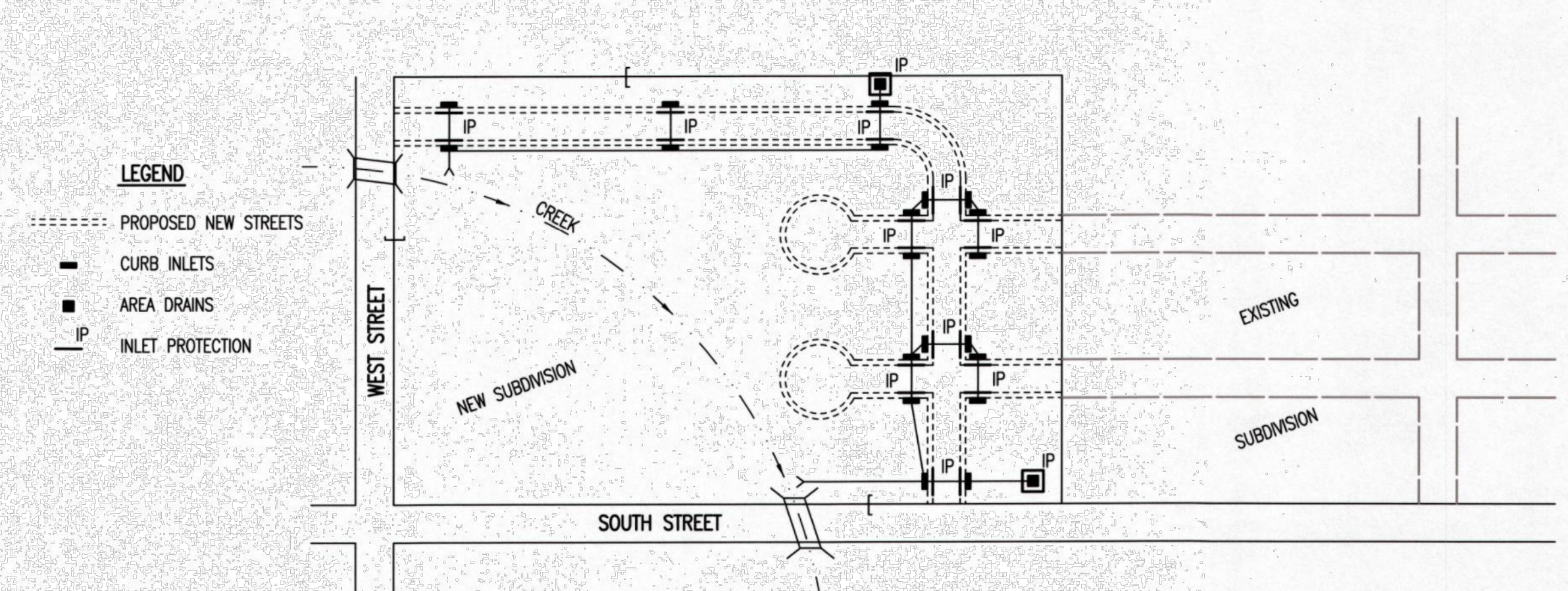
PHASE 3 - STREET CONSTRUCTION



- LEGEND**
- NEW STREETS
 - x ADDITIONAL POINTS OF COMPLIANCE

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

PHASE 2 - INSTALLATION OF STORM SEWER



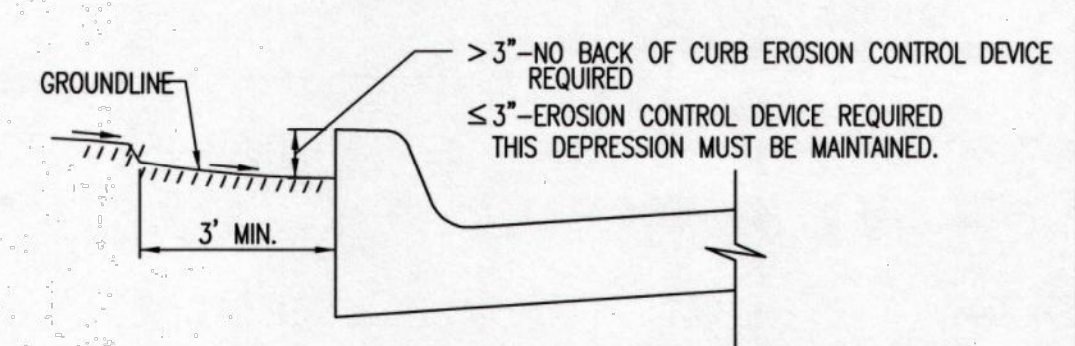
- LEGEND**
- PROPOSED NEW STREETS
 - CURB INLETS
 - AREA DRAINS
 - IP INLET PROTECTION

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

GENERAL NOTES

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

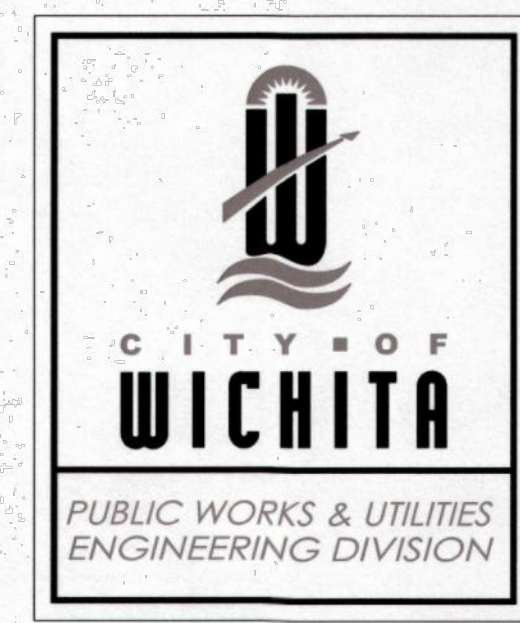
SEE DETAIL SHEET FOR
BACK OF CURB PROTECTION DETAIL



CURB BACKFILL DETAIL
(STREET CONSTRUCTION ONLY)

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REVISION DATE: MAY 2013



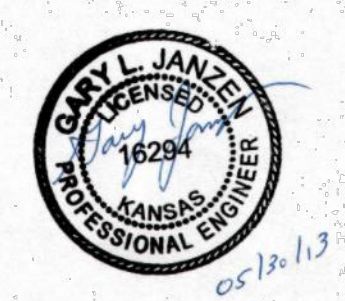
SUBDIVISION DEVELOPMENT PROCESS

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

SHEET



SW-505

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