

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
 Project Elevation = 1377.42
 KDOT Elevation = 1378.05
 (Project Elevation is -0.63 feet from KDOT)

BENCHMARKS:

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

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

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

Water Distribution System to Serve WICHITA DESTINATION DEVELOPMENT - PHASE 3 LOT 1, K96 GREENWICH ADDITION

an Addition to Wichita, Sedgwick County, Kansas
 Gary Janzen, P.E., City Engineer
 1904 PPW (607853)

OWNER / DEVELOPER

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

CONSULTANT / APPLICANT

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

INDEX OF SHEETS

01	Title Sheet
02	Final Plat
03	General Notes & Quantities
04	General Layout
05	Waterline Plan and Profile Line A
06	Waterline Plan and Profile Line B & C
07	Erosion Control Plan
08	Standard Details
09	Standard Details
10	Standard Details
11	Standard Details
12	Standard Details
13	Standard Details
14	Standard Details
15	Standard Details
16	Standard Details

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

AQUILA NATURAL GAS
 (316) 941-1608
 (800) 303-0357

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



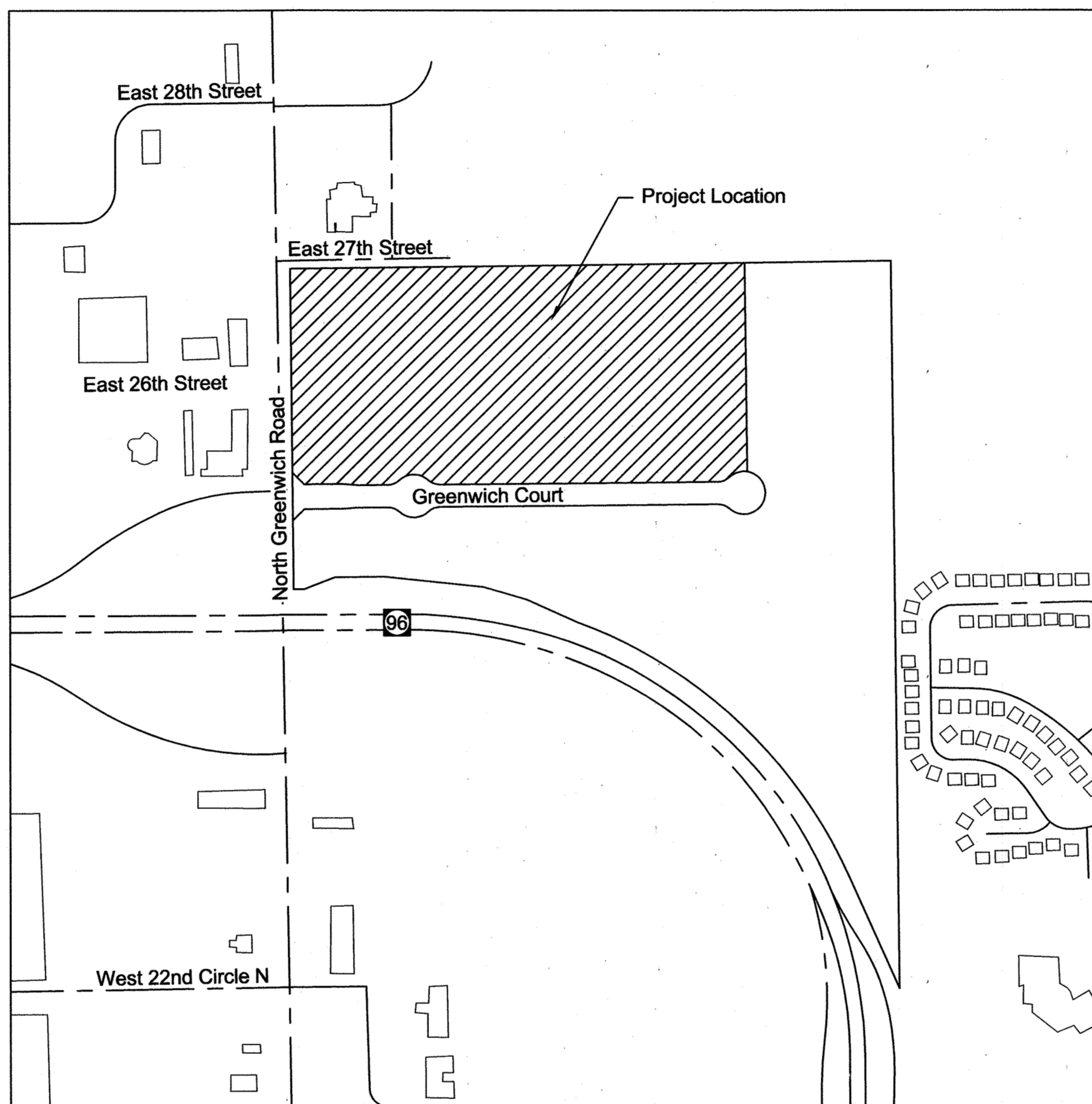
Protect yourselves and your property against underground utility damage and liability.

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.



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

AS-BUILT PLANS
CONTRACTOR: MIES CONSTRUCTION
SUPERINTENDENT: ALBERT WILLIAMS
FOREMAN: DOUG GOSSET
CLIENT: CITY OF WICHITA
INSPECTOR: JACOB MORRIS, SCHWAB-EATON, P.A.
PDF BY: JCM 10/06/15

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

Engineering: *Rebecca Duff* 7/30/2015
 Utilities: *Doug Gossert* 7-30-2015
 Fire Dept: *Jacob Morris* 7-28-15

NOTE TO CONTRACTORS

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

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

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

NO.	BY	DATE	REVISION
1	JAR	07/25/15	PER REVISED WATER LINE LAYOUT ORIGINAL SUBMITTAL
	JAR	08/13/15	

Renaissance Infrastructure Consulting



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

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

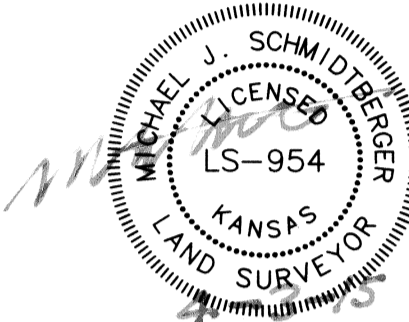
CERTIFICATE OF SURVEY

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.

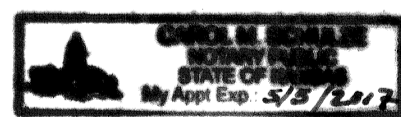
Medical Practice Association Properties, LLC, a Kansas Limited Liability Company

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

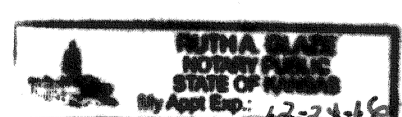
Wichita Destination Developers, Inc., a Kansas Corporation

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

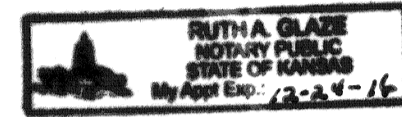
WDDMBB, LLC, a Kansas limited liability company

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
Kelly B. Arnold, County Clerk



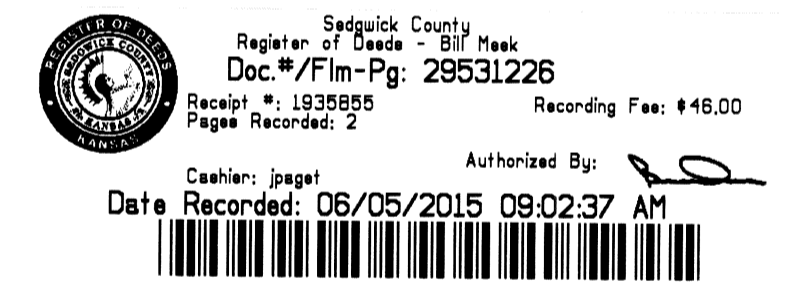
REGISTER OF DEEDS CERTIFICATE

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

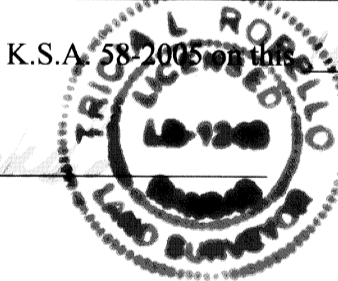
Tonya E. Buckingham, Deputy



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



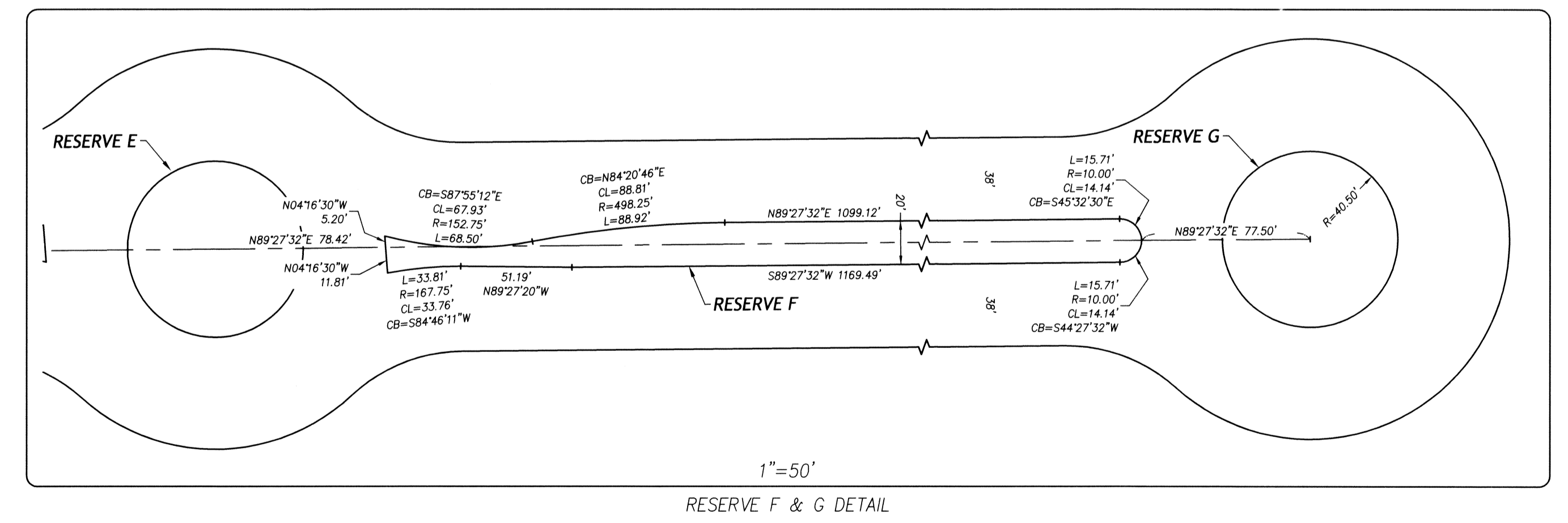
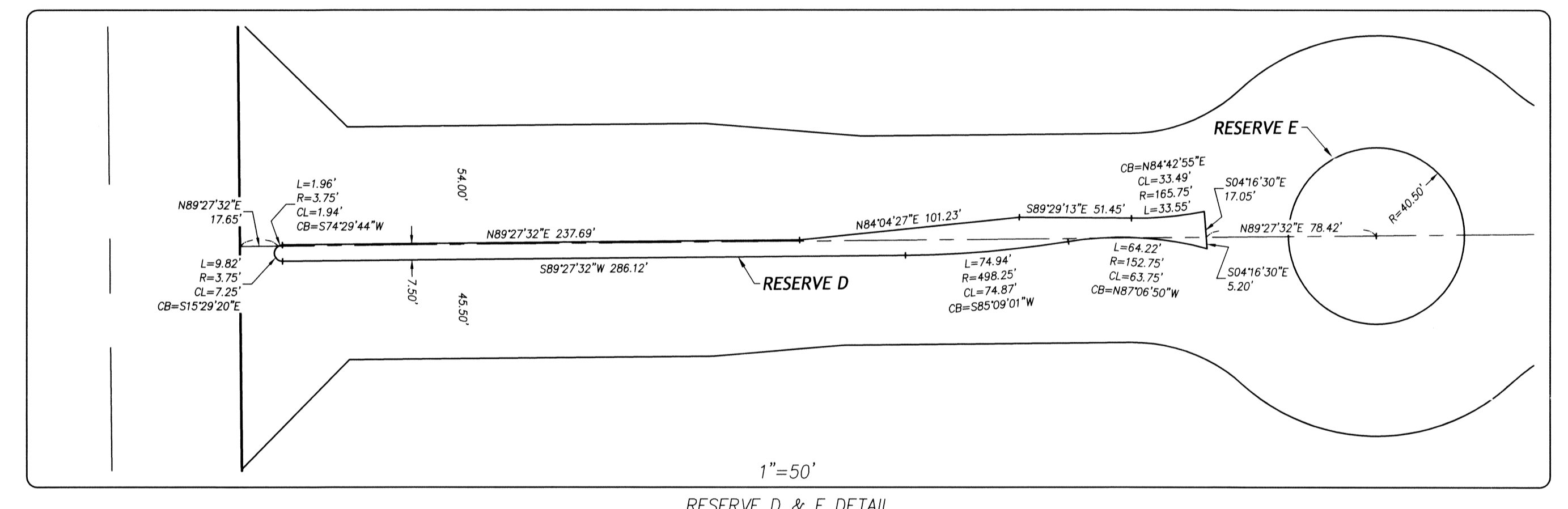
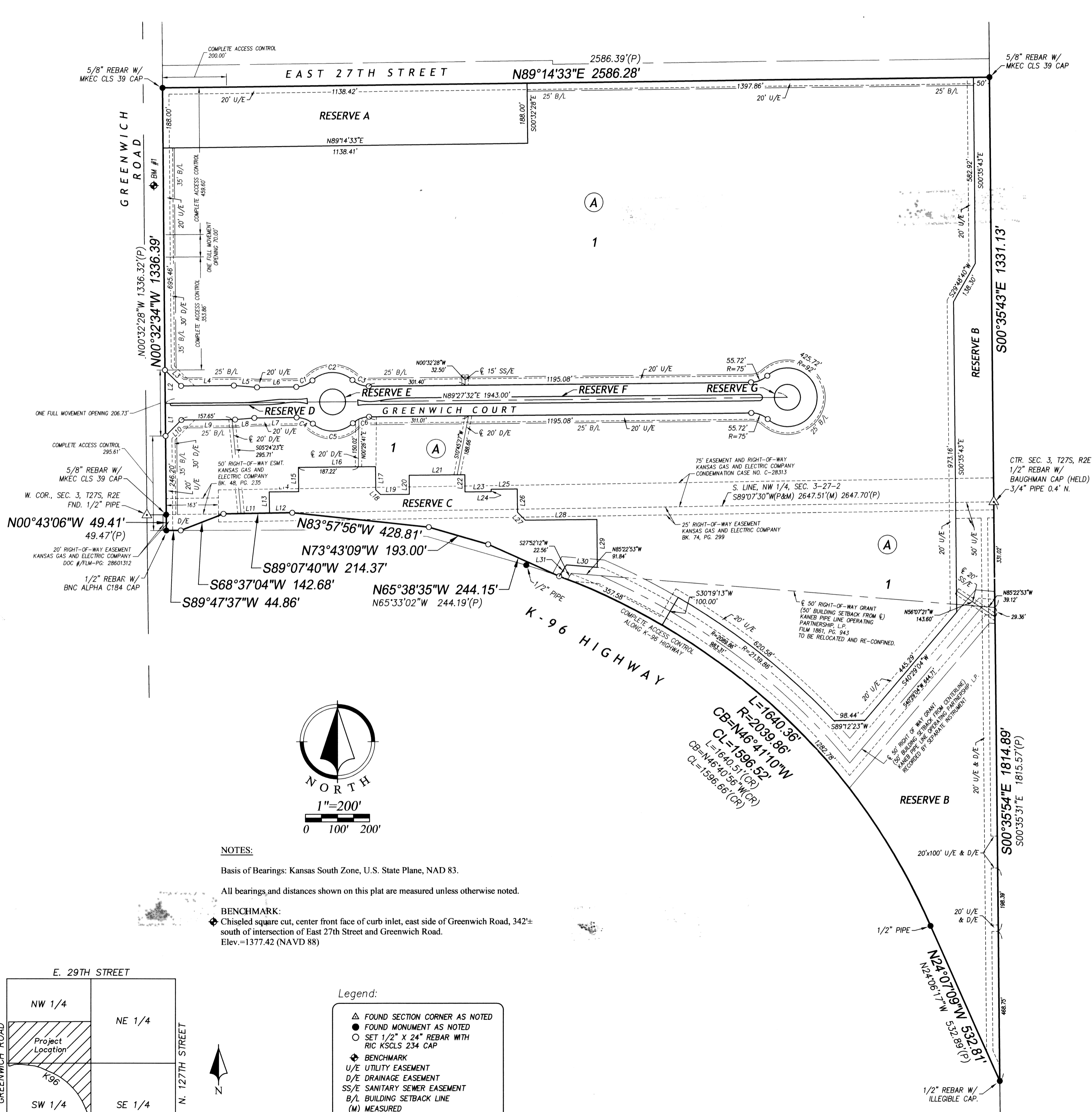
1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103
913.317.9500
WWW.RIC-CONSULT.COM

FINAL PLAT

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AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

A REPLAT OF ALL OF K96 AND GREENWICH NORTH ADDITION



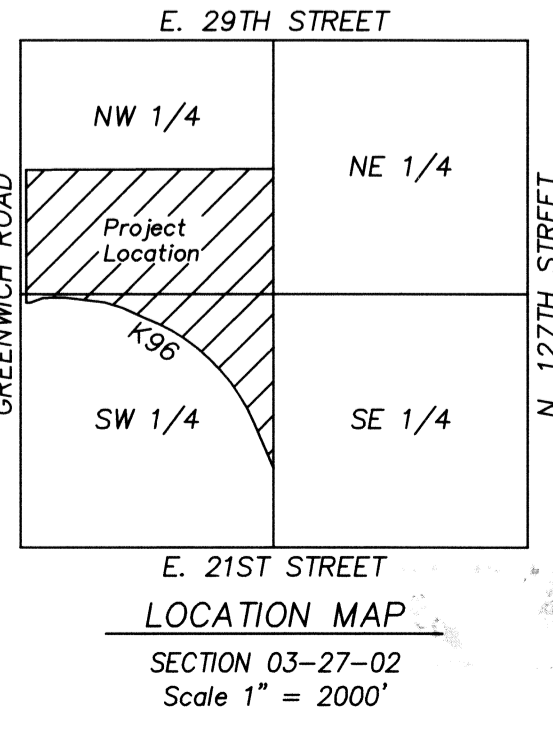
NOTES:

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

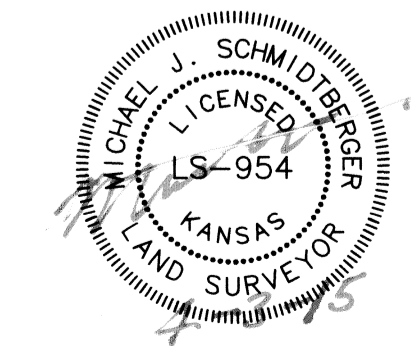
All bearings and distances shown on this plat are measured unless otherwise noted.

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
Wichita, KS 67206
(316) 685-5341

Date of Preparation:
May 28, 2014

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www.RIC-CONSULT.COM

SHEET 1 OF 1

GENERAL NOTES

- The Contractor shall comply with all applicable safety regulations. All construction shall be completed following current City Standard Specifications and Special Provisions.
- Contractor will be required to provide notice to utility companies a minimum of seventy-two (72) hours prior to any excavation, as follows:
 Kansas One-Call 316.687.2470
 The Contractor must notify the following in case of an emergency:
 AT&T 1.800.246.8464
 Black Hills Energy 1.800.694.8989
 City of Wichita Water 316.268.4555
 City of Wichita Sewer 316.268.4073
 City of Wichita Stormwater 316.268.4090
 City of Wichita Traffic 316.268.4034
 Cox Communication 1.888.249.3530
 Kansas Gas Service 1.888.482.4950
 Westar Energy 1.800.544.4857
- Utility service lines, poles, ect. are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
- Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and the site location. Locations, in the opinion of the Engineer, that will leave an unsightly appearance will not be approved. All disposable sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Board of Agriculture permit. Any material buried or stockpiled beyond approved construction limits would require an additional archeological investigation unless buried in a previously approved borrow location.
- Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.
- The Contractor shall give all property owners and / or tenants of developed property abutting the construction of this project a minimum of ten (10) days notice prior to the start of construction.
- The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-established any property irons which are damage or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.
- The Water Distribution Division shall field locate valves one time during construction when requested by the Contractor. It shall be the Contractor's responsibility to preserve such field locations during the construction process. Water valves, valve boxes or fire hydrants damaged during construction shall be repaired by the Contractor at their own expense. Valve boxes and water meters within the project limits shall be adjusted to match field grades.
- The Contractor shall notify the consultant engineer and Tom Mason with the City at 316.268.4574 with the anticipated construction start date and notify them of project completion. Staking and inspection for this project will be the responsibility of the Contractor.
- If traffic is impacted by construction, a traffic control plan must be submitted and approved by the City Traffic Engineer, Brian Coon at traffic@wichita.gov before construction can begin. The Contractor shall be responsible for all traffic control measures to facilitate construction. All construction zone markings and signage shall conform to the latest version of the Manual on Uniform Traffic Control Devices (MUTCD) as published by the US Department of Transportation, Federal Highway Administration. All cost associated with construction markings and signage shall be the Contractors responsibility.
- All elevations shown are 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.
- Opening and Closing of Water Valves Shall be Done Slowly to Prevent Damage to the Water Distribution System for Water Hammer. All Valves Closed by the Contractor must be Reopened as New Construction Permits. The Project Inspector must Ascertain that any Valve Closed by the Contractor is Reopened. The Contractor will be Permitted to Operate Water Valves only when the Project Inspector Assigned to the Project is Present.
- The Contractor shall lay a Tracer Wire and Set Test Stations along all Water Pipe Installed in Accordance with City Specifications and Tracer Wire Detail on Detail Sheet WL-101, Cost is Subsidiary to Pipe Installation.
- The Contractor shall Provided Materials for Temporary Blowoff of Waterlines. Connection to the Existing Waterline(s) shall be made with Clean, Swabbed Pipe and Flushed upon Completion of Tie-Ins.
- Requests for Short Term Water Interruptions shall be made to the City Water Distribution Division and will be Subject to their Approval. The Contractor shall give Written Notice to any Property Owner, Business, and/or Tenants that will have Water Service Interrupted at Least 5 days in Advance. Such Notification Should Indicate the Time and Date that the Water will be Turned Off and When the Service will be Restored. No Business, Property Owner, and/or Tenants shall be without Water Service for more than 8 hours. Proposed Tie In Locations which will Affect Water Service to Property Owners shall be performed During non-peak hours.
- The Contractor must Schedule the Connections to the Existing Main with the City such that there is a Minimum Disruption of Service. Connections shall be made during Periods of Low Water Usage. The Contractor shall submit his Proposal Schedule for Completing Work for City Approval at Least 10 Days Prior to Beginning Construction.
- Deflections at Pipe Joint or Couplings shall not exceed the Pipe Manufactures Recommended Maximum. Where Deflections are Greater than the Maximum Allowed, the Contractor shall utilize CI MJ Long Sleeve or Multiple Joints.
- Any Extension Greater than one Length of Pipe shall Require Testing.
- Any Existing Joint Exposed During Excavation shall be Replaced if within Four Feet of Proposed Joint.
- City Maintenance of Water Mains Ends at Right-of-Way or Easement Line.
- Valves 12 inch and Larger are to be Operated by the City Water Distribution Division, 48 Hours of Advance Notice is Required.
- All Wet Taps shall be Installed by the City of Wichita. The Contractor will Reimburse the City for Tapping Gates.
- The Contractor shall Protect from Damage and Support Existing Utilities through Construction as Approved by the Utility Owner and the Engineer at the Contractors Expense
- Contractor shall Limit the Extent of Trench Openings Overnight and Weekends to Less than 50 Feet.
- Any Sidewalk, Drive Approach, Curb, or Street Pavement Removal to Construct Project must have a Pavement Cut Permit and be Replaced by the City Contractor. Permits can be Obtained by Calling 316.268.4501

SUMMARY OF QUANTITIES

No.	Description	Quantity	Unit	As-Built
1	8" PVC	1342.38	LF	
2	8" Gate Valve	4	EA	
3	8" Gate Valve with Anchor Coupling	1	EA	
4	8" Anchor Valve	1	EA	
5	8" Special Anchor Valve	1	EA	
6	8" Tapping Sleeve, Valve, 6" Valve Box	2	EA	
7	8" x 45" Bend & Block (Horizontal)	2	EA	
8	8" x 8" Tee	2	EA	
9	8" to 6" Reducer	1	EA	
10	Fire Hydrant Assembly	3	EA	
11	8" Cap	1	EA	
12	Connect to Building	1	EA	
13	Connect to Existing Waterline	1	EA	
14	Erosion Control	1	LS	

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

Thrust Blocks are Considered Subsidiary to Other Items.

PROJECT BENCHMARK

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

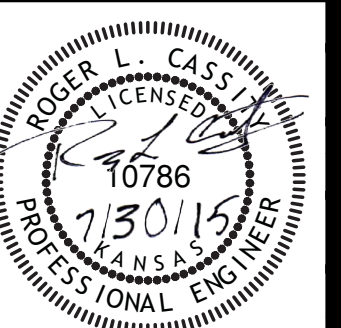
TBM 3:
 Chiseled Square cut on south side of 27th Street approximately 330 feet east of intersection of Greenwich Road.
 RIC Project Datum Elev. = 1378.36

SUMMARY TABLE

Item	Type	Manufacturer	Quantity
8" PVC Pipe	C900 CIOD DR14	JM Eagle	1342.38 LF
12"x8" Tapping Sleeve	DI FLG	Clow	1
8" Gate Valve	DI FLG	Clow	1
8" 45 Deg Bend	CI CL MJ		2
8" 22.5 Deg Bend	CI CL MJ		2
8" Gate Valve	DI MJ	American	6
8"x8" Tee	DI MJ		2
Fire Hydrant Ass'y	4.5" MK 73-5	American	3

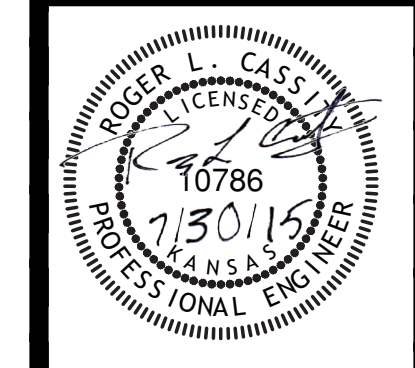
NO.	BY	DATE	REVISION
4.	JAR	07/30/15	ISSUED FOR CONSTRUCTION
3.	JAR	07/29/15	PER CITY COMMENTS
2.	JAR	07/20/15	PER CITY COMMENTS
1.	JAR	06/15/15	PER REVISED WATER LINE LAYOUT ORIGINAL SUBMITTAL

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 KANSAS CITY, KANSAS 66103
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NO.	BY	DATE	REVISION
4.	JAR	RLC 07/30/15	ISSUED FOR CONSTRUCTION
3.	JAR	RLC 07/29/15	PER CITY COMMENTS
2.	JAR	RLC 07/20/15	PER CITY COMMENTS
1.	JAR	RLC 06/15/15	PER REVISED WATER LINE LAYOUT
			ORIGINAL SUBMITTAL

Renaissance Infrastructure Consulting
 913.317.9500
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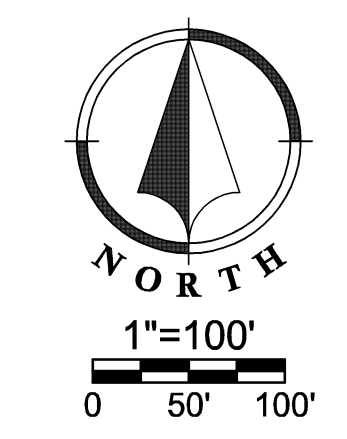
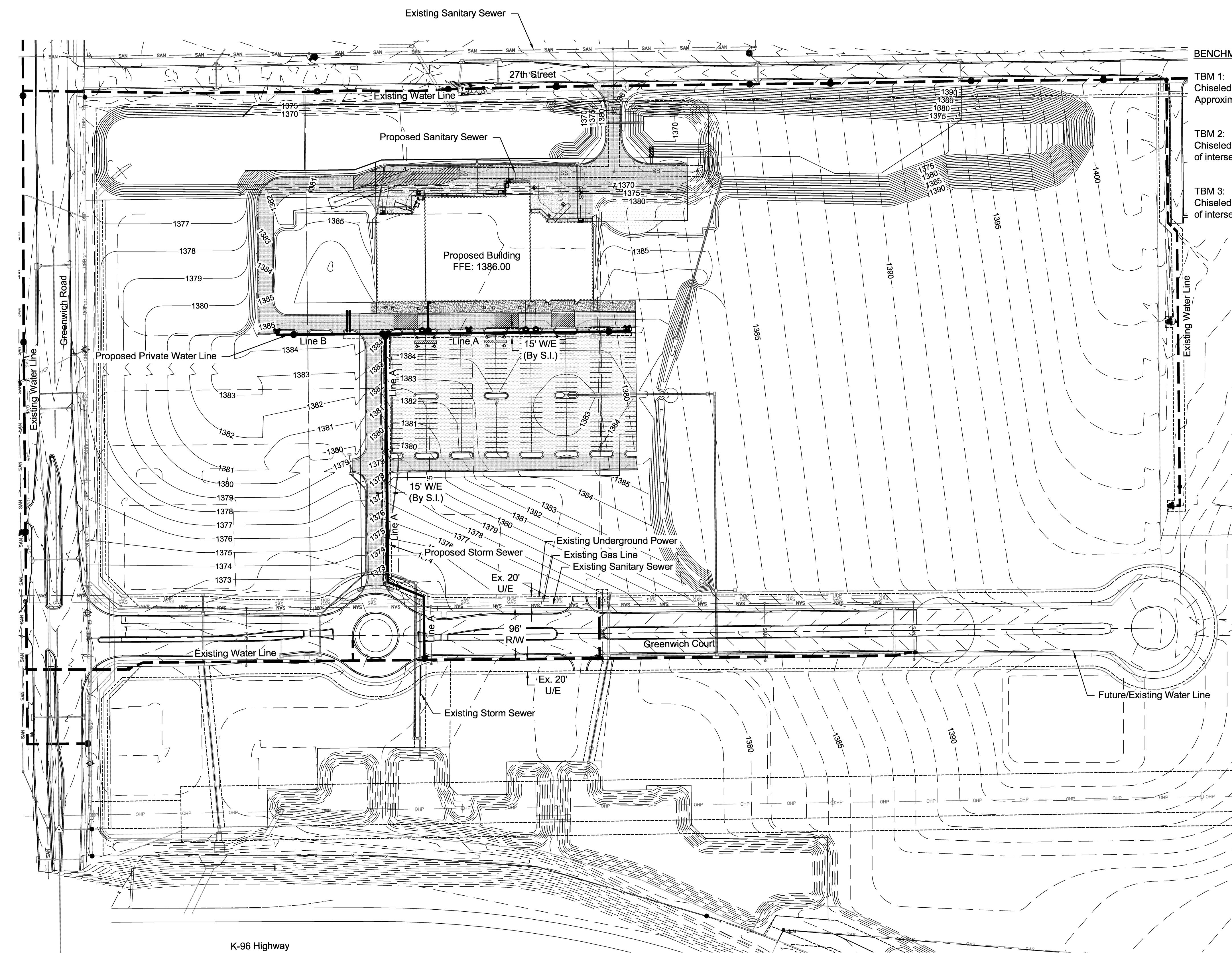


PROJECT BENCHMARK

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

BENCHMARKS:

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

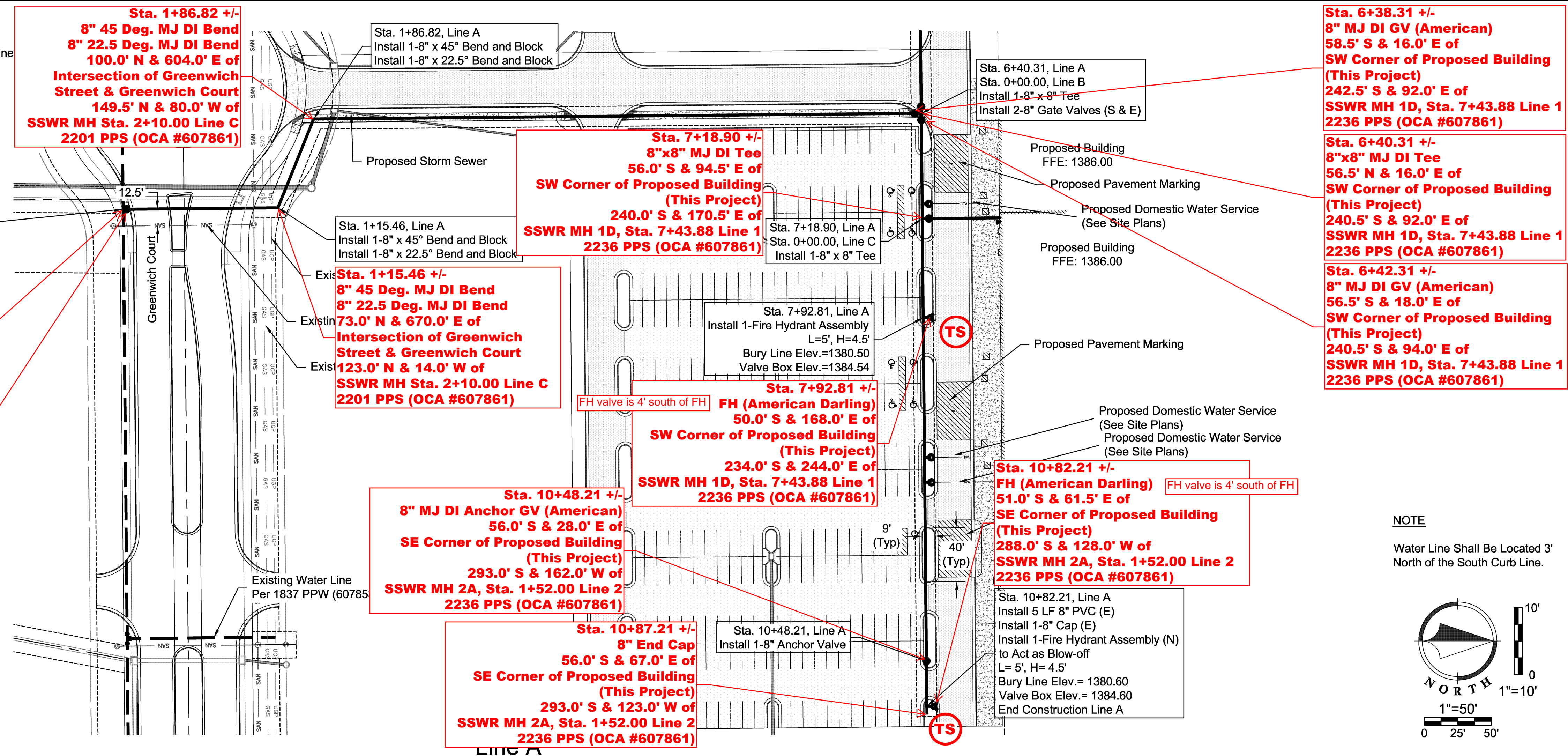
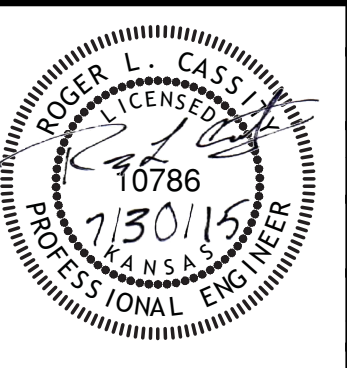


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BUILT TO PLAN

NO.	BY	DATE	REVISION
4.	JAR	RLC 07/30/15	ISSUED FOR CONSTRUCTION
3.	JAR	RLC 07/29/15	PER CITY COMMENTS
2.	JAR	RLC 07/20/15	PER CITY COMMENTS
1.	JAR	RLC 07/15/15	PER REVISION WATER LINE LAYOUT
	JAR	RLC 06/15/15	ORIGINAL SUBMITTAL

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Sta. 0+00.00, Line A
Connect to Existing 12" Water Line
* Install 1-8" Tapping Sleeve
* Install 1-8" Valve
* Install 1-6" Valve Box
Valve Box Elevation: 1373.10
* to be Installed by City of Wichita
and Paid for by Contractor.
Contractor to Verify Location and
Depth of Existing Waterline Prior to
Construction
Begin Construction Line A

Sta. 0+00
8" Tapping Sleeve
41.5' S & 671.5' E of
Intersection of Greenwich
Street & Greenwich Court
7.5' N & 12.5' W of
SSWR MH Sta. 2+10.00 Line C
2201 PPS (OCA #607861)

Sta. 0+02.50
8" FLG DI GV (Clow)
39.0' S & 671.5' E of
Intersection of Greenwich
Street & Greenwich Court
10.0' N & 12.5' W of
SSWR MH Sta. 2+10.00 Line C
2201 PPS (OCA #607861)

Sta. 1+15.46 +/-
8" 45 Deg. MJ DI Bend
8" 22.5 Deg. MJ DI Bend
73.0' N & 670.0' E of
Intersection of Greenwich
Street & Greenwich Court
123.0' N & 14.0' W of
SSWR MH Sta. 2+10.00 Line C
2201 PPS (OCA #607861)

Sta. 7+18.90 +/-
8"x8" MJ DI Tee
56.0' S & 94.5' E of
SW Corner of Proposed Building
(This Project)
240.0' S & 170.5' E of
SSWR MH 1D, Sta. 7+43.88 Line 1
2236 PPS (OCA #607861)

Sta. 7+92.81 +/-
8" (American Darling)
50.0' S & 168.0' E of
SW Corner of Proposed Building
(This Project)
234.0' S & 244.0' E of
SSWR MH 1D, Sta. 7+43.88 Line 1
2236 PPS (OCA #607861)

Sta. 10+48.21 +/-
8" MJ DI Anchor GV (American)
56.0' S & 28.0' E of
SE Corner of Proposed Building
(This Project)
293.0' S & 162.0' W of
SSWR MH 2A, Sta. 1+52.00 Line 2
2236 PPS (OCA #607861)

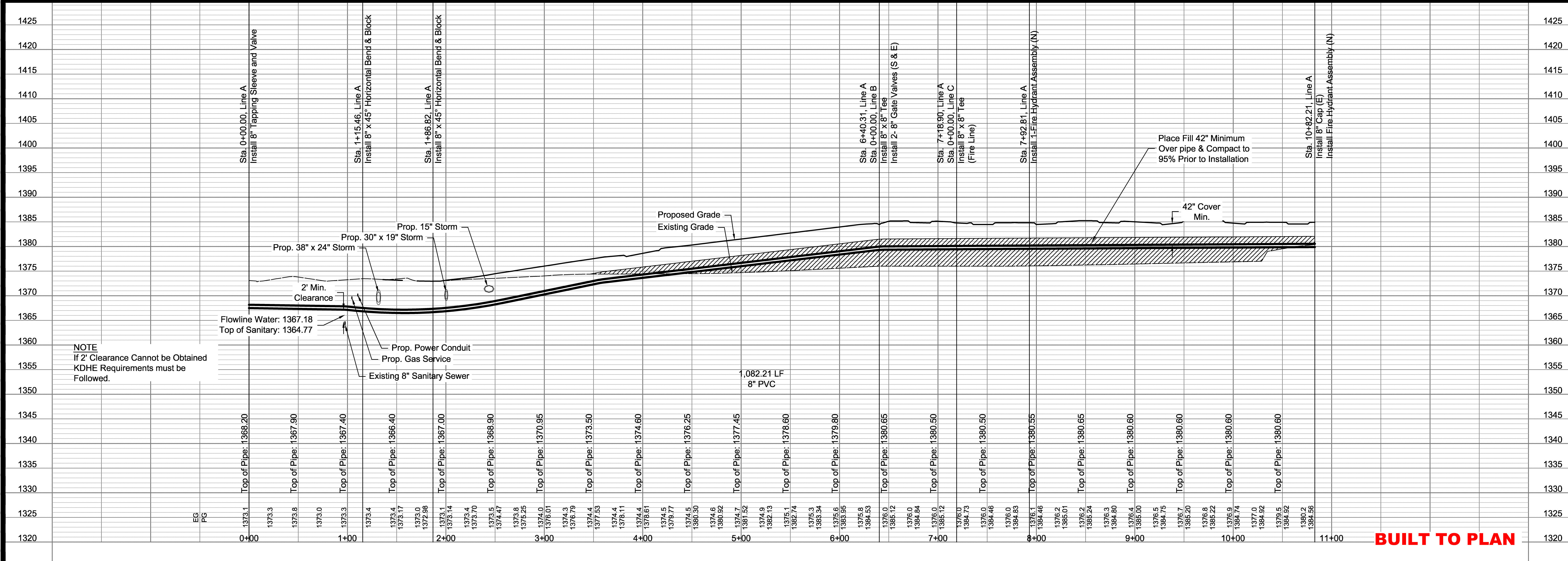
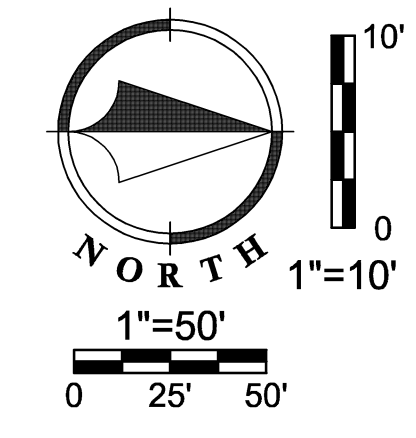
Sta. 10+87.21 +/-
8" End Cap
56.0' S & 67.0' E of
SE Corner of Proposed Building
(This Project)
293.0' S & 123.0' W of
SSWR MH 2A, Sta. 1+52.00 Line 2
2236 PPS (OCA #607861)

Sta. 6+38.31 +/-
8" MJ DI GV (American)
58.5' S & 16.0' E of
SW Corner of Proposed Building
(This Project)
242.5' S & 92.0' E of
SSWR MH 1D, Sta. 7+43.88 Line 1
2236 PPS (OCA #607861)

Sta. 6+40.31 +/-
8"x8" MJ DI Tee
56.5' N & 16.0' E of
SW Corner of Proposed Building
(This Project)
240.5' S & 92.0' E of
SSWR MH 1D, Sta. 7+43.88 Line 1
2236 PPS (OCA #607861)

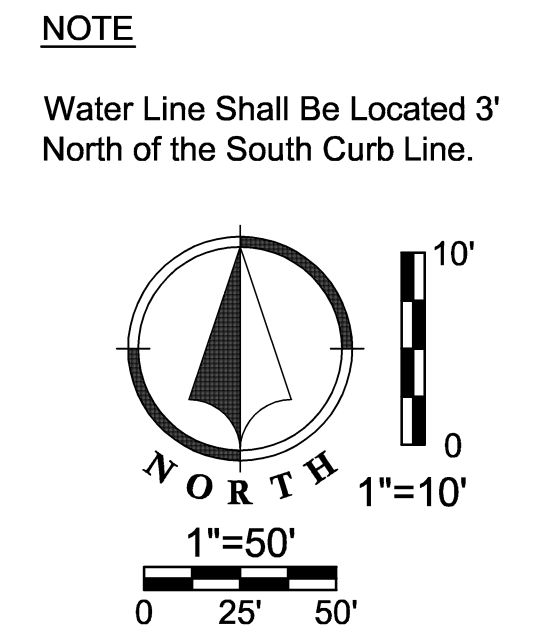
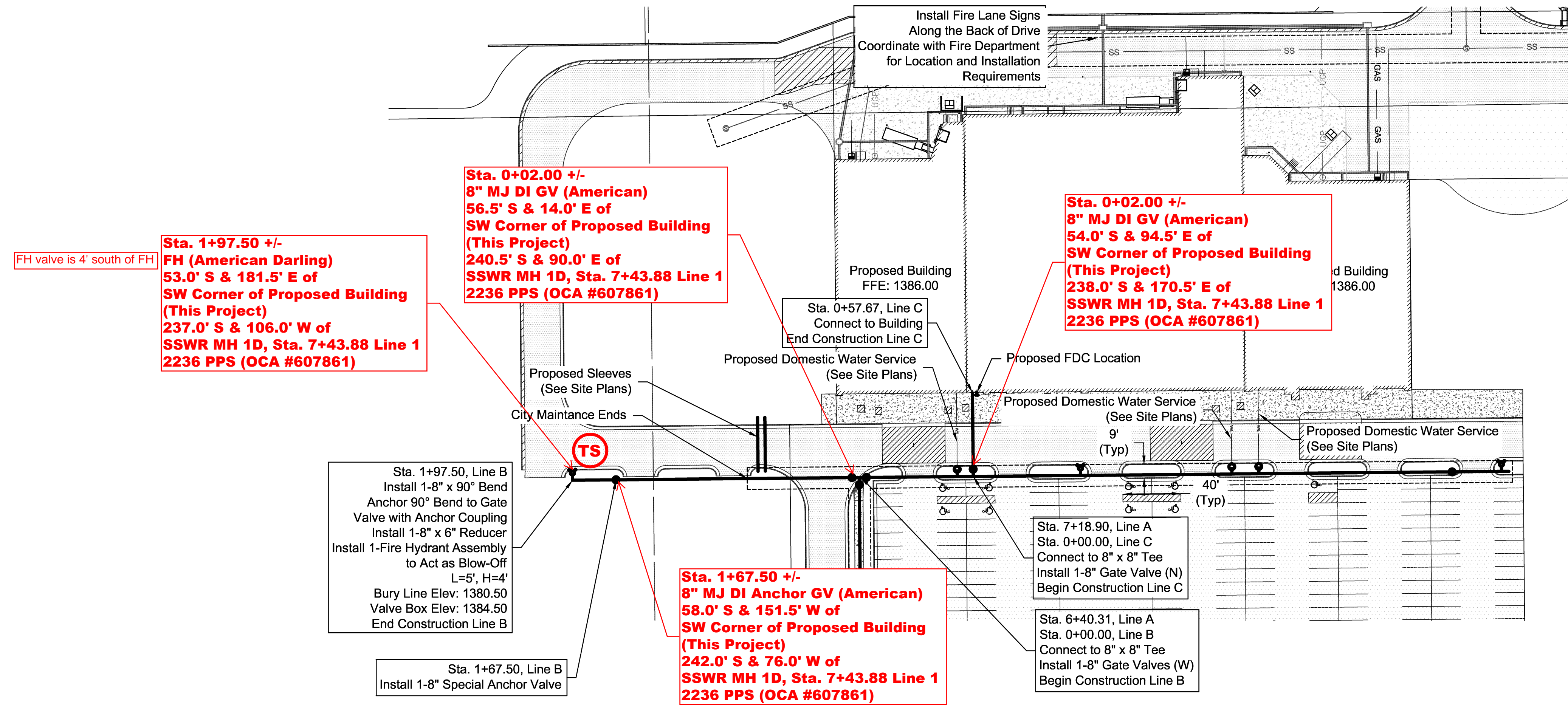
Sta. 6+42.31 +/-
8" MJ DI GV (American)
56.5' S & 18.0' E of
SW Corner of Proposed Building
(This Project)
240.5' S & 94.0' E of
SSWR MH 1D, Sta. 7+43.88 Line 1
2236 PPS (OCA #607861)

NOTE
Water Line Shall Be Located 3'
North of the South Curb Line.



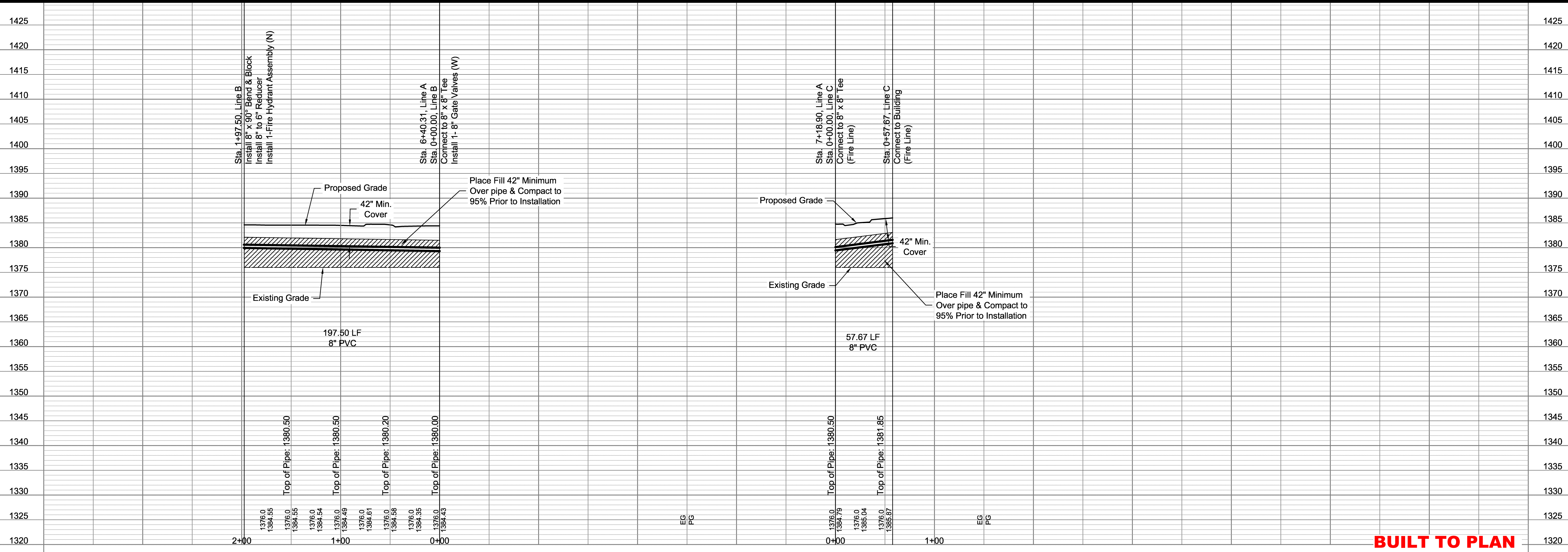
NOTE
If 2' Clearance Cannot be Obtained
KDHE Requirements must be
Followed.

BUILT TO PLAN



Line B

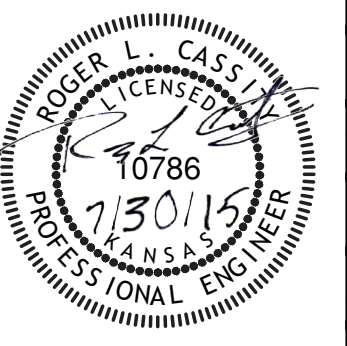
Line C



BUILT TO PLAN

NO.	BY	DATE	REVISION
4.	JAR	07/30/15	ISSUED FOR CONSTRUCTION
3.	JAR	07/29/15	PER CITY COMMENTS
2.	JAR	07/20/15	PER CITY COMMENTS
1.	JAR	07/15/15	PER REVISED WATER LINE LAYOUT
	JAR	06/15/15	ORIGINAL SUBMITTAL

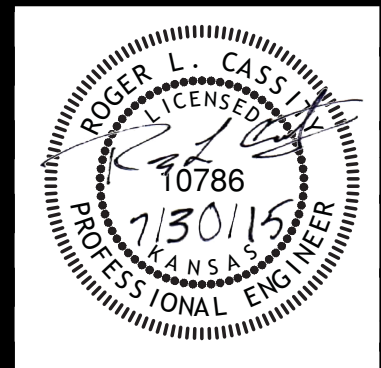
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NO.	BY	DATE	ISSUED FOR CONSTRUCTION
4.	JAR	RLC 07/30/15	PER CITY COMMENTS
3.	JAR	RLC 07/29/15	PER CITY COMMENTS
2.	JAR	RLC 07/20/15	PER CITY COMMENTS
1.	JAR	RLC 06/15/15	ORIGINAL SUBMITTAL

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Disturbed Area for Site Improvements : 42.26 Acres

ESTIMATED EARTHWORK

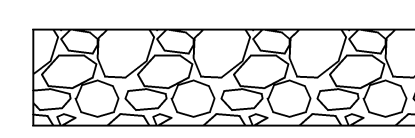
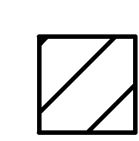
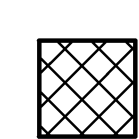
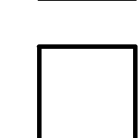
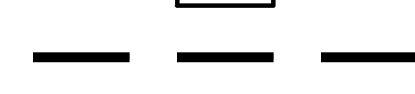
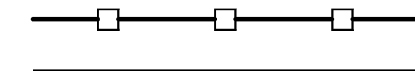

Cut: 159,128 CY
Fill: 206,384 CY

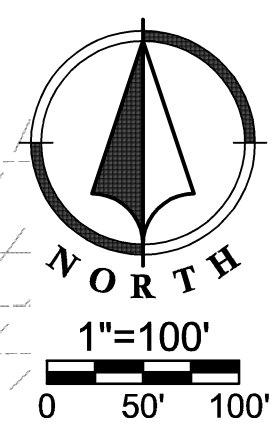
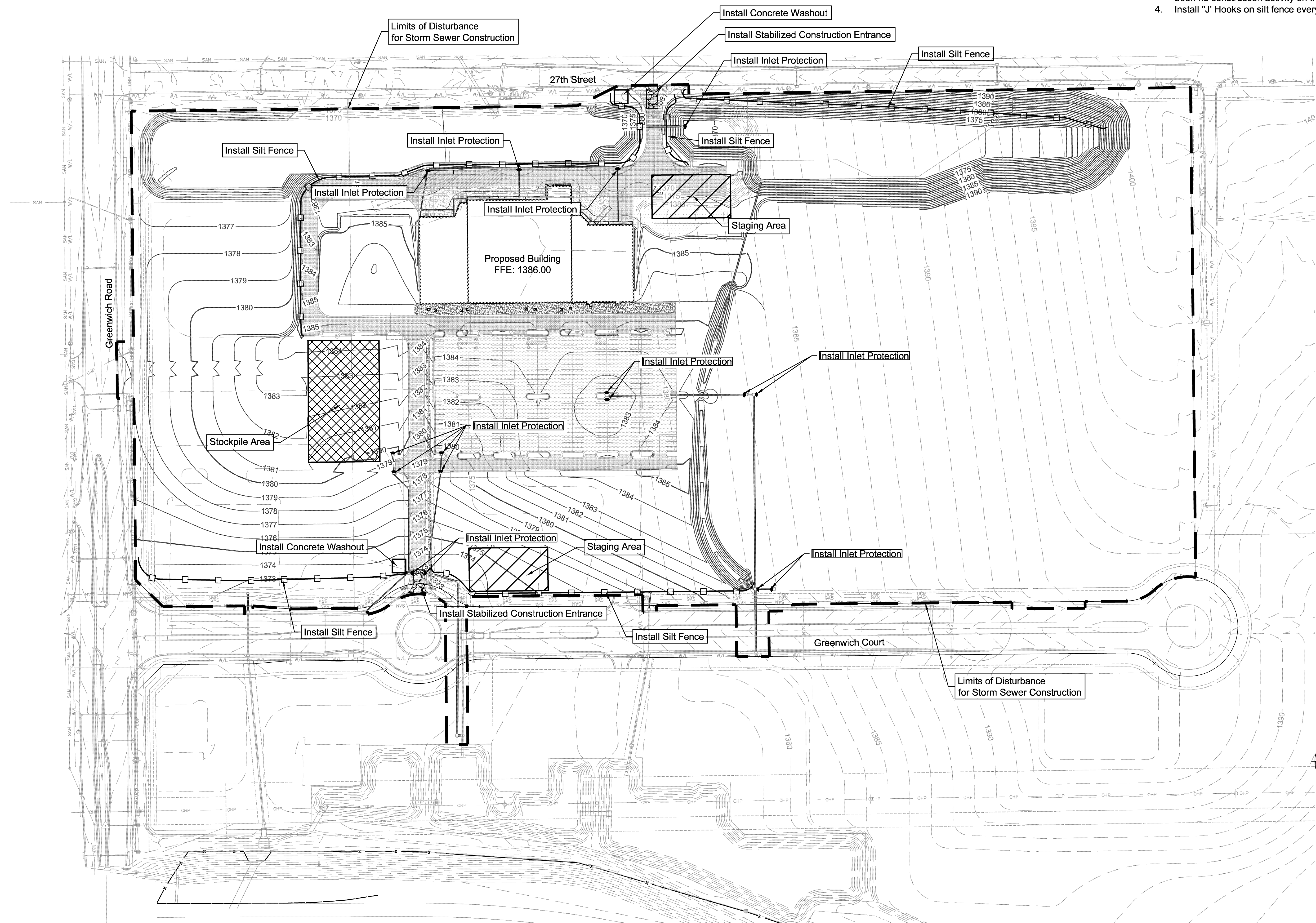
Earthwork calculations are informational only. Contractor shall be responsible for their own earthwork calculations and perform all necessary earthwork shown herein without additional cost to the owner if quantities differ than above. Earthwork numbers are unadjusted. Earthwork is for Entire Site Mass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

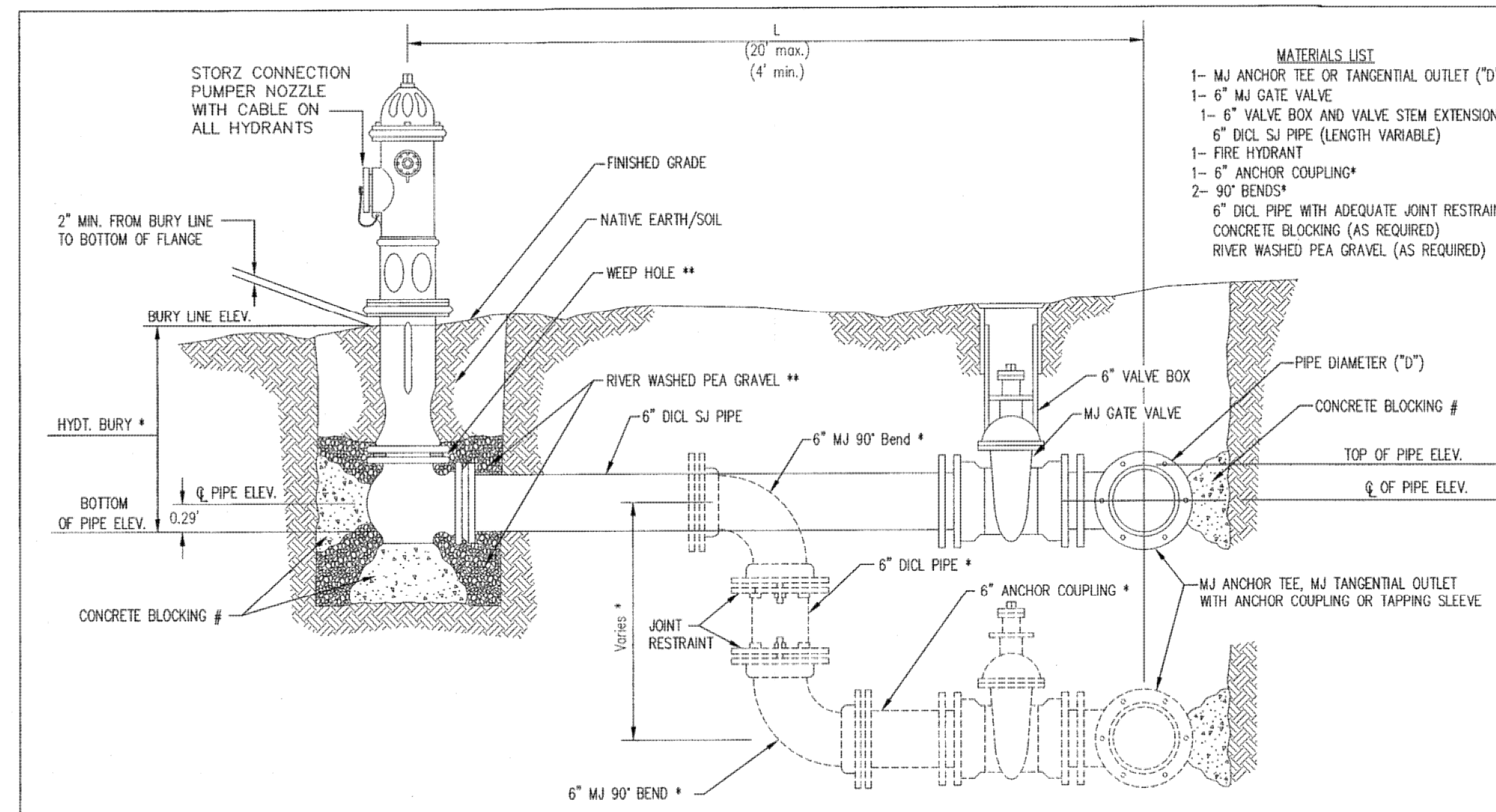
EROSION CONTROL LEGEND

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



K-96 Highway

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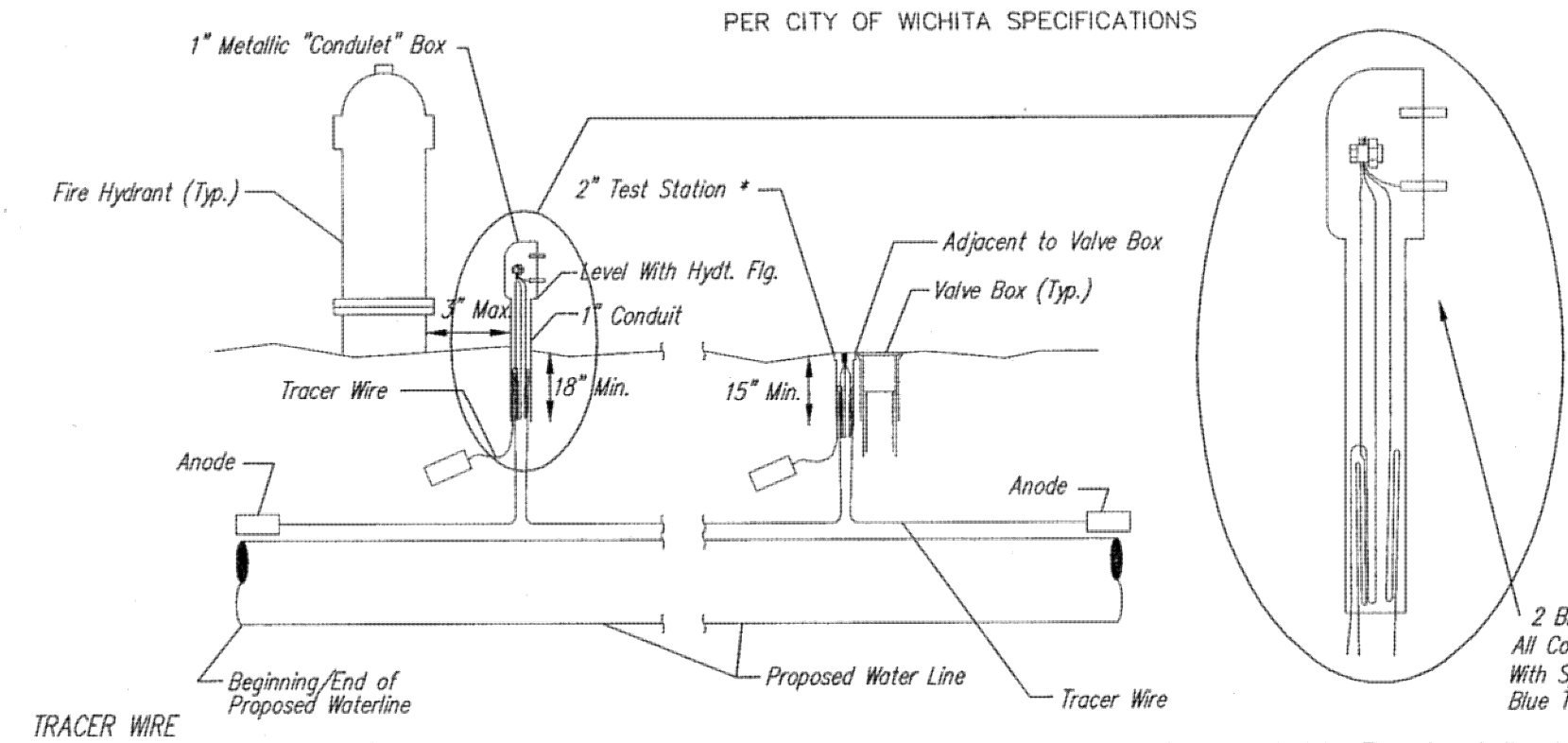
- MATERIALS LIST**
- 1- MJ ANCHOR TEE OR TANGENTIAL OUTLET ("D" x 6")
 - 1- 6" MJ GATE VALVE
 - 1- 6" VALVE BOX AND VALVE STEM EXTENSION IF REQUIRED *
 - 6" DI CL SJ PIPE (LENGTH VARIABLE)
 - 1- FIRE HYDRANT
 - 1- 6" ANCHOR COUPLING*
 - 2- 90° BENDS*
 - 6" DI CL PIPE WITH ADEQUATE JOINT RESTRAINT *
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

* IF THE REQUIRED HYDRANT BURY IS IN EXCESS OF 5', BUT LESS THAN 7', CONTRACTOR SHALL USE STANDARD 5' HYDRANT BURY AND HYDRANT BARREL EXTENSIONS AS NECESSARY. IF THE REQUIRED HYDRANT BURY IS GREATER THAN 7', CONTRACTOR SHALL USE 5' HYDRANT BURY, 2-MJ 90° BENDS, 6" ANCHOR COUPLING AND 6" DI CL PIPE AS NECESSARY FOR VERTICAL ADJUSTMENT. THE CONTRACTOR SHALL PROVIDE ADEQUATE THRUST BLOCKING AT HYDRANT AND MEAGALUGS, OR SIMILAR RESTRAINT BETWEEN 90° BENDS TO SECURE ALL FITTINGS DURING TESTING AND OPERATION. THE CONTRACTOR SHALL PROVIDE A VALVE STEM EXTENSION PER DETAIL THIS SHEET.

** CAUTION: WEEP HOLES TO BE KEPT CLEAR DURING CONSTRUCTION AND BACKFILL. CONCRETE FOR THRUST BLOCKING SHALL NOT OBSTRUCT WEEP HOLES. PLACE 1 CUBIC FOOT OF RIVER WASHED PEA GRAVEL AROUND EACH WEEP HOLE.

CONCRETE THRUST BLOCKING SHALL BE KEPT CLEAR OF BOLTS, NUTS, AND MJ ACCESSORIES.

FIRE HYDRANT ASSEMBLY
PER CITY OF WICHITA SPECIFICATIONS



TRACER WIRE
Conductive type pipe locator/tracer wire shall be installed to locate all waterline pipe regardless of pipe material. The wire shall extend the entire length of the proposed pipe. The wire shall be taped to the waterline and pulled with the pipe. A waterproof connector shall be used at splice locations. Test stations shall be installed adjacent to all fire hydrants along the waterline and at blowoffs or valves near the ends of waterlines. Any exception to the location shall be approved by the engineer. At each test station, the tracer wire shall be connected to a 3 lb. Zinc or magnesium anode. Anodes shall also be attached to the tracer wire at both the beginning and the end of the proposed waterline. A typical layout of the tracer wire and test station is provided in the above figure.

The tracer wire shall be Blue No. 12 AWG CCS with 3045 mil HDPE insulation. The insulation shall be heat, oil, and gasoline resistant as manufactured by Temple Electric or approved equal. To allow for grade adjustment, a minimum of 12" of excess wire shall be coiled at the bottom of the test station for all wires. The insulation sheathing shall be removed such that 1" bare copper wire at all points of connection. Contractor shall attach wire being installed with proposed water main to any tracer wire installed with adjacent waterline projects.

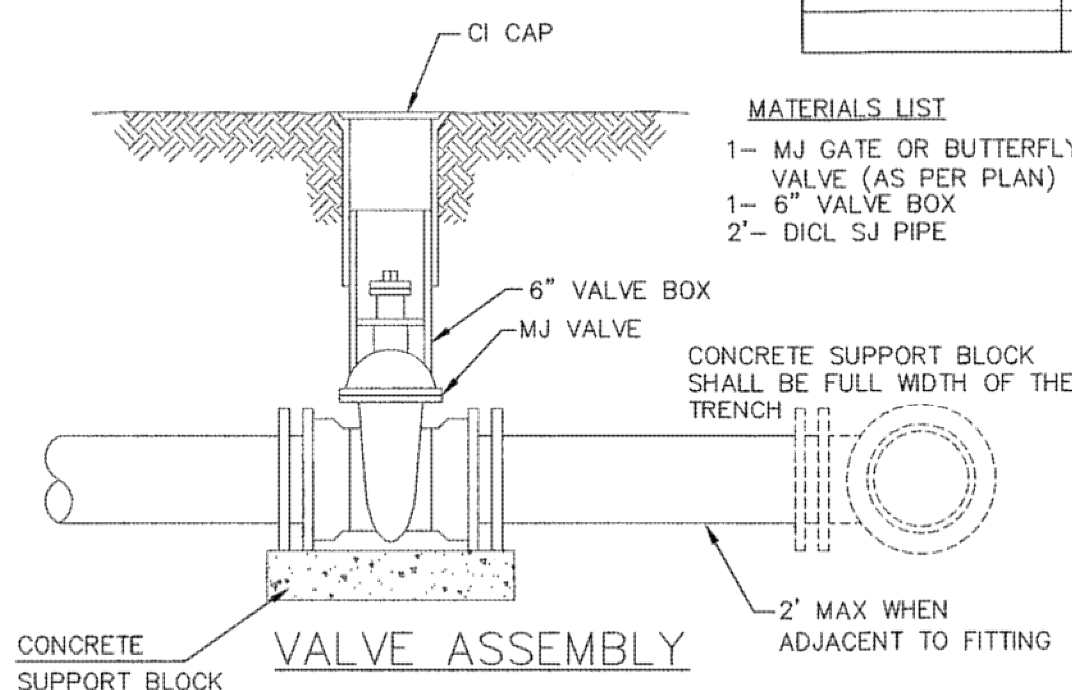
TEST STATIONS
A complete list of approved Tracer Wire can be found on City of Wichita's website at www.wichita.gov. The test station for fire hydrant applications shall be a 1 inch galvanized "conduit" style test station as manufactured by AGRA Industries with a removable solid cover having two leads extending from the face or approved equal. The test station for valve applications shall be 2 inch flush style test station 12PS38 as manufactured by HANDLEY Industries or approved equal. The "conduit" style test station shall be attached to a 1 inch rigid galvanized conduit with a minimum length of 36" and plastic end bushing. The flush style shall have the word "WATER" stamped or molded into the lid. All test stations shall be manufactured using molded blue tops or sufficiently coated with blue enamel paint. The tracer wire and the anode wire shall be installed to allow 10 inches of wire within the test station. In concrete environments such as sidewalks or in the downtown area the contractor shall use the flush style test station. The location of all test stations shall be approved by the engineer, recorded, and shown in the as-built drawings.

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

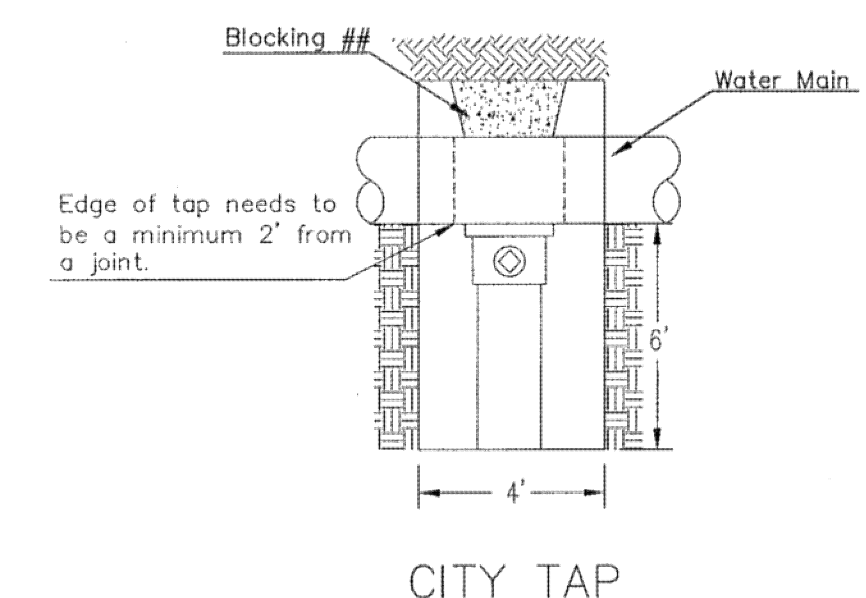
TRACER WIRE DETAIL
COST IS SUBSIDIARY TO PIPE INSTALLATION

FIRE HYDRANTS REQUIRED

STATION	BURY LINE ELEVATION	TOP OF PIPE ELEVATION	FIRE HYDRANT BURY REQUIRED*	VALVE STEM EXT. REQUIRED (ft)*
7+92.81, Line A	1384.50	1380.50	4.50'	
10+82.21, Line A	1384.60	1380.60	4.50'	
1+97.50, Line B	1384.50	1380.50	4.50'	

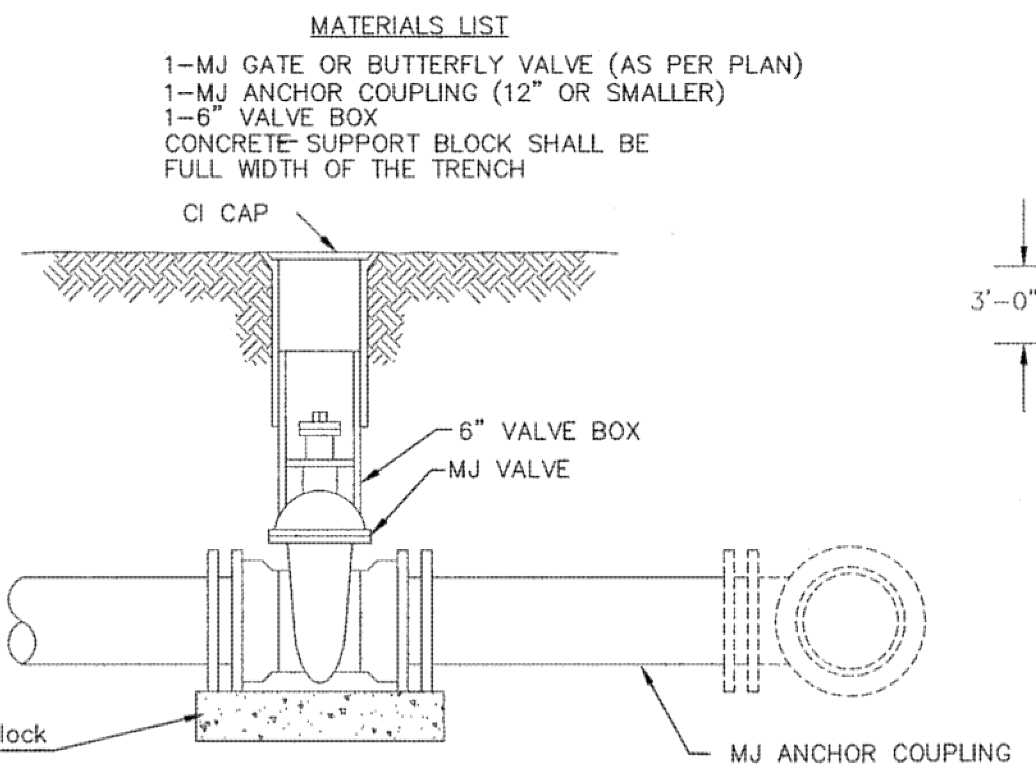


- MATERIALS LIST**
- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 - 1- 6" VALVE BOX
 - 2- DI CL SJ PIPE
- CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH
- 2" MAX WHEN ADJACENT TO FITTING



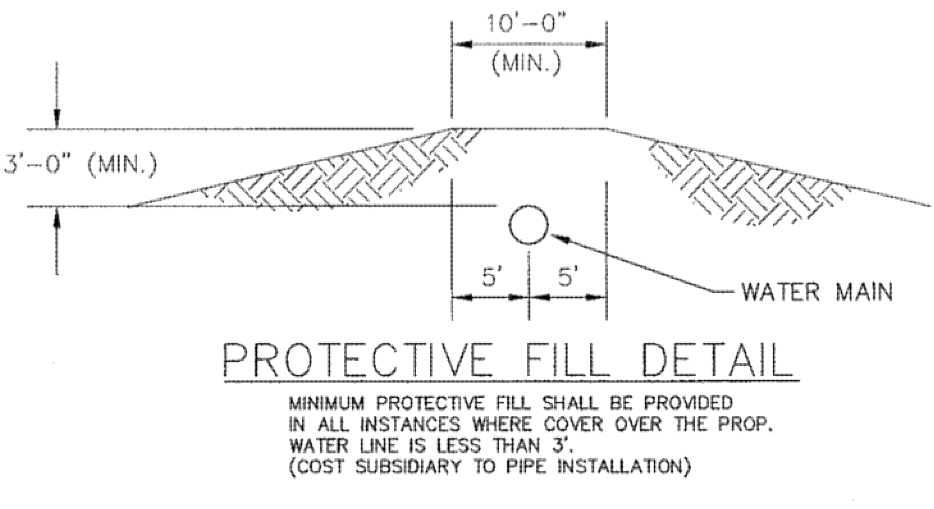
CITY TAP

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



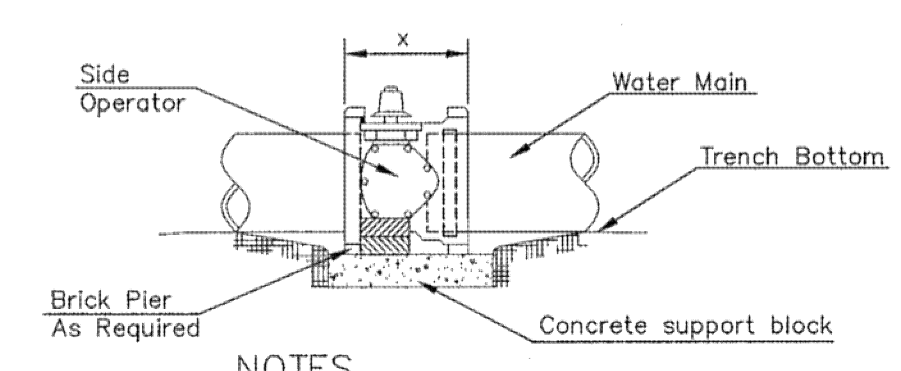
- MATERIALS LIST**
- 1- MJ GATE OR BUTTERFLY VALVE (AS PER PLAN)
 - 1- MJ ANCHOR COUPLING (12" OR SMALLER)
 - 1- 6" VALVE BOX
 - CONCRETE SUPPORT BLOCK SHALL BE FULL WIDTH OF THE TRENCH

ANCHORED VALVE ASSEMBLY



PROTECTIVE FILL DETAIL

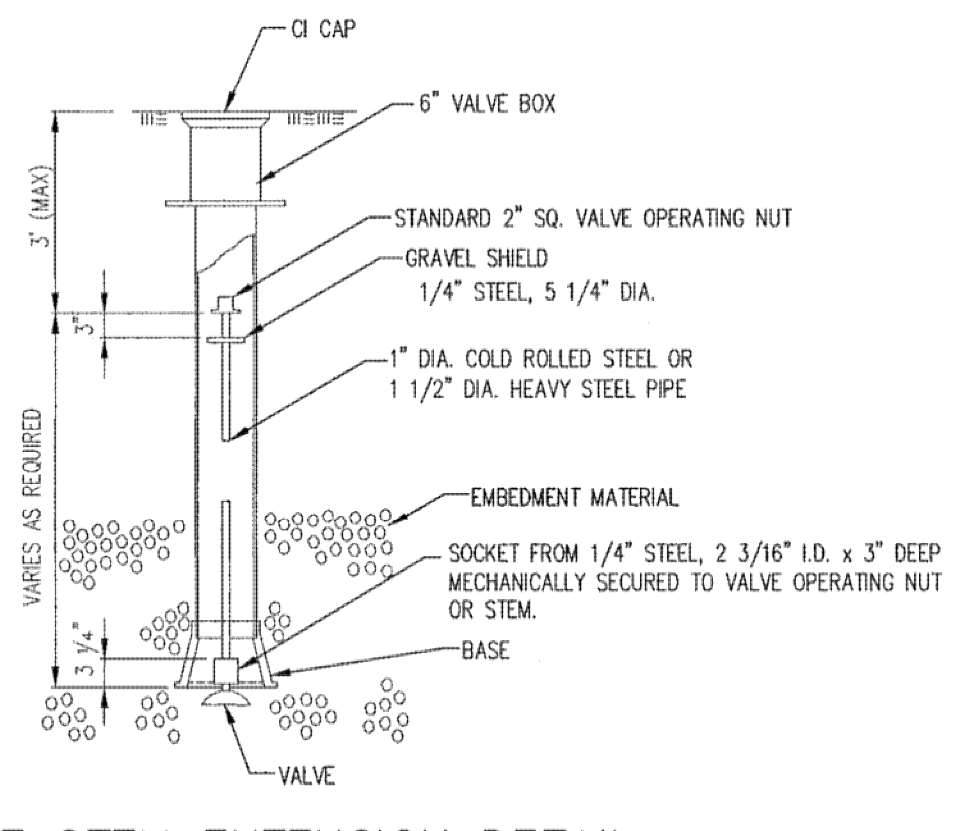
MINIMUM PROTECTIVE FILL SHALL BE PROVIDED IN ALL INSTANCES WHERE COVER OVER THE PROP. WATER LINE IS LESS THAN 3'. (COST SUBSIDIARY TO PIPE INSTALLATION)



NOTES

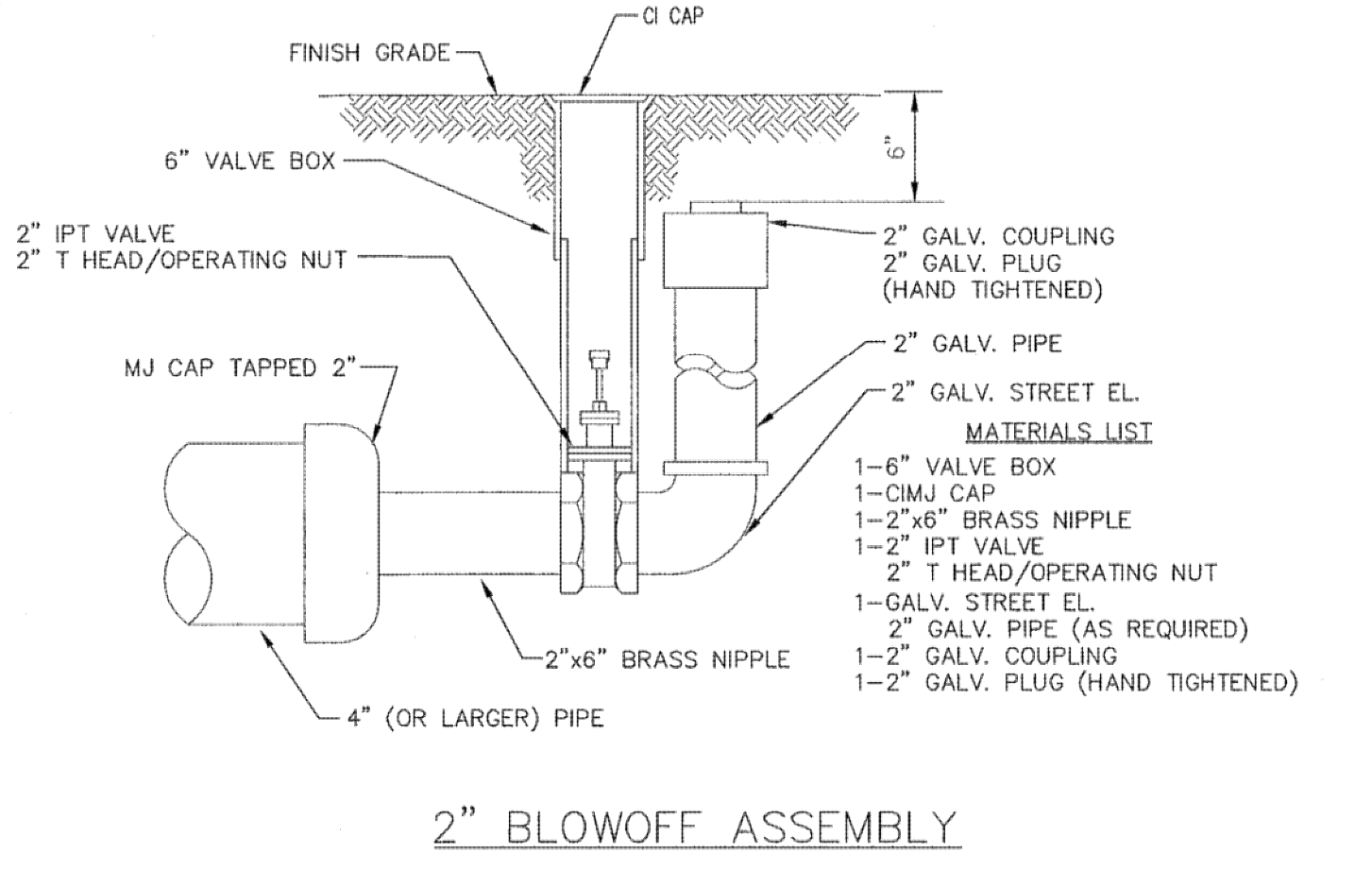
- This detail covers Butterfly Valve installation, inclusive, regardless of type of pipe or joint used. 24" and larger lines to be detailed on plans.
- 6" Valve Box and Cover required per City of Wichita Std. Specifications.
- Conc. Support Block to be full width of trench.

CONCRETE SUPPORT BLOCKING FOR BUTTERFLY VALVE INSTALLATION



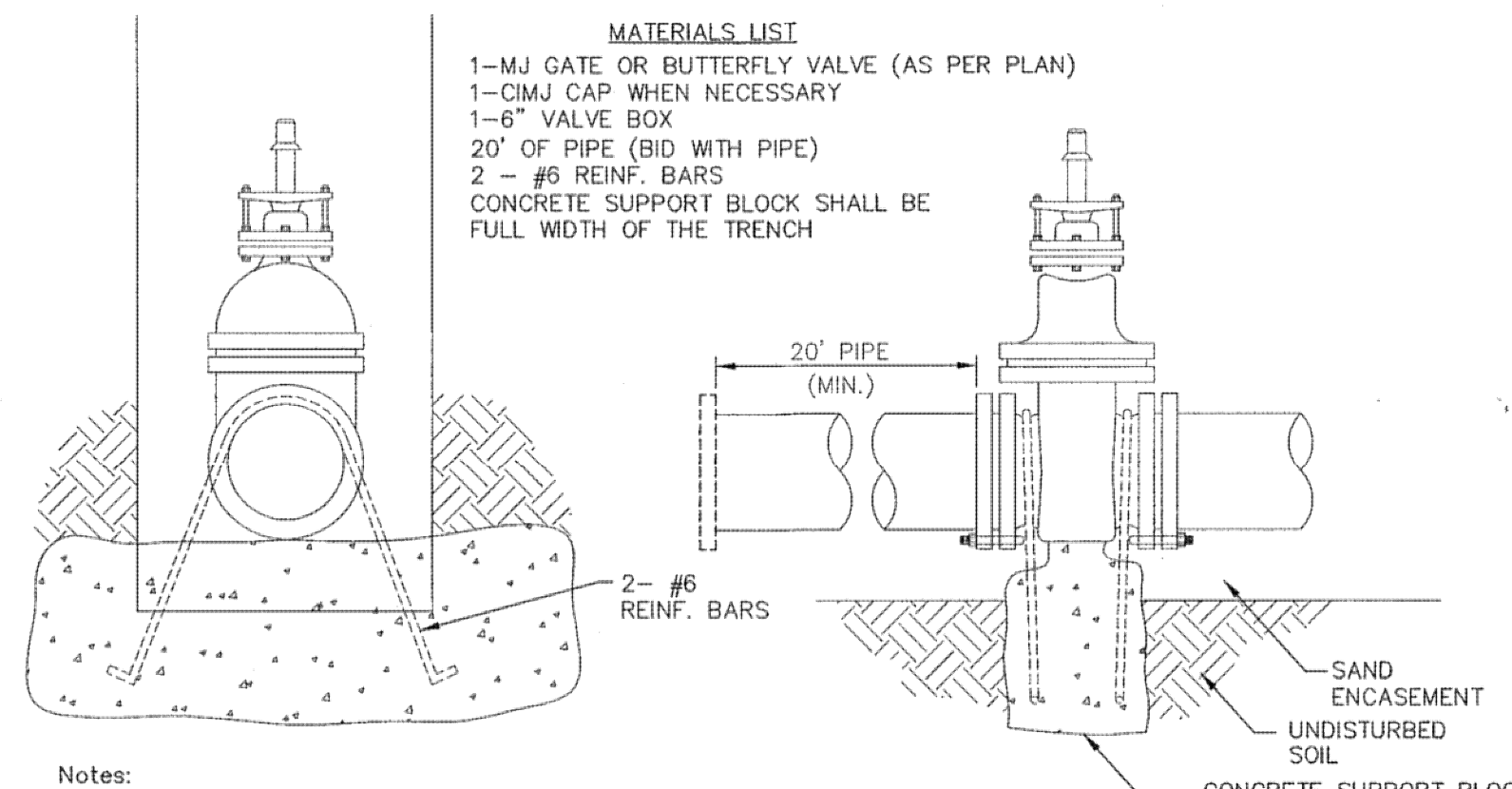
VALVE STEM EXTENSION DETAIL

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



2" BLOWOFF ASSEMBLY

REVISED: JUNE 2015



- Notes:**
- Concrete Block at Valve to have sufficient bearing in undisturbed soil to prevent thrust movement as shown in table at right. Field Engineer to determine thrust loading of undisturbed soil and final size of thrust block.
 - The thrust block shall be constructed such that bolts, nuts, and other MJ accessories are kept clear of concrete.
 - All valves at dead ends and at other locations as called out on the plans shall be blocked as shown here.

THRUST AT VALVES

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

ANCHORED VALVE ASSEMBLY, SPECIAL



STANDARD WATER ASSEMBLY DETAIL

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER: OCA NUMBER: DATE:

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

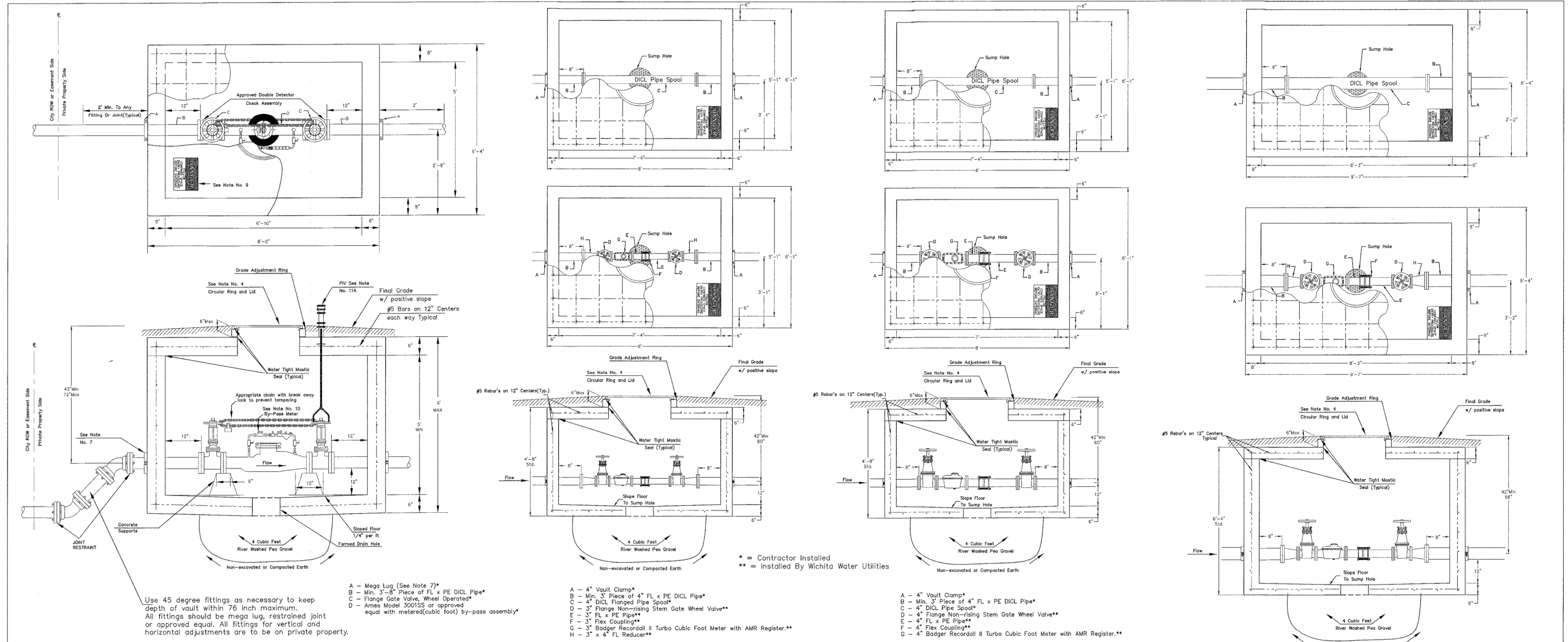
SHEET
_ of _

NO.	BY	DATE	REVISION
1	JAR	07/15/15	ORIGINAL SUBMITTAL
2	JAR	07/20/15	PER CITY COMMENTS
3	JAR	07/29/15	PER CITY COMMENTS
4	JAR	07/30/15	ISSUED FOR CONSTRUCTION

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1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103



4" thru 8" Fire Service

3" Domestic Service

4" Domestic Service

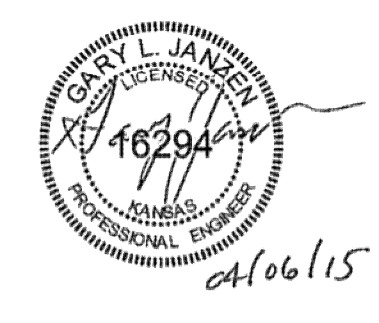
6" Domestic Service with 4" meter

- Notes For All Services - 3" thru 12":
- When the standard vault dimensions are not applicable, such as when additional space is required for special pipe, fittings, additional meters, etc. the consultant design engineering shall design a vault with the required dimensions for Public Works and Utilities approval.
 - The vault shall be poured concrete, cement blocks (voids to be completely filled with 2500 P.S.I. concrete), or approved precast structure. The intent of these details shall not be limited by drawings or standards of precast structures.
 - Vault location to be determined by Public Works and Utilities prior to construction and approved by Department's field supervisor prior to installation. A final inspection will be required for acceptance. Vault location standards include but not limited to: not to be located where subjected to vehicular loads unless vault is H2O traffic rated, not to be located in any right-of-way or utility easement, and must be located on the property being served.
 - The manhole ring and lid shall be Neenah R-6034 Frame with Type "C" Solid Lid and Drop Down Handle or US Foundry APS-30x30 (Aluminum). Where applicable the standard 10" Public Works and Utilities pattern meter reading lid and ring shall be located directly above water meter register. All joints of concrete to concrete or metal to concrete in the construction of the vault shall have an approved water tight mastic joint seal.
 - Any fittings or appurtenances required to achieve proper elevation of pipe through the vault shall be provided by the contractor and appropriately noted on the as-builts submitted by the inspecting engineer. Such fittings shall be a minimum of 2' from the exterior wall of vault.

- For all domestic services larger than 3" the contractor shall provide an outlet flange connection as shown 8" from the inside wall. Inlet and outlet wall sleeves shall be provided and installed by the contractor and shall be in alignment with one another. The inlet and outlet pipe shall be ductile iron pipe, cement lined, Class 150 per Standard Specifications and shall be continuous through vault and joint no less than 2' from the exterior wall of vault. Flanges of inlet and outlet pipe shall be in proper alignment and bolt pattern shall be rotated in such a way that valves and other fittings shall be in their proper vertical alignment when installed.
- For all services 4" and larger the contractor shall install a mega lug, restrained joint, or approved equal on the exterior walls of the vault, which shall be manufactured of ductile iron conforming ASTM A 536-80, heat treated to a minimum hardness of 370 BHN and have a working pressure of a least 250 P.S.I. For a services smaller than 4" the contractor shall install an approved vault clamp on the exterior walls of the vault.
- All valves, meters, assemblies and fitting shall be provided with sufficient concrete or other approved supports to the vault floor.
- The "Confined Space Warning" sign shall be fastened to the top of all vaults. If necessary for landscaping or site consideration, the sign may be fastened to the vault lid if it does not impede access to the handle. Acceptable materials: Aluminum 7341SHH, Plastic 73439HH or S.A. Vinyl 73463HH.
- All meters shall have an electronic read register compatible with the current City of Wichita meter reading system. All detector meters shall be on 5/8 cubic foot Badger meter with ADE register and 25' long iron cord and plug or approved equal. Gallon meters shall not be accepted.

NOTE:
Domestic Services larger than 6" shall be custom designed by Consultant Engineer.

- Additional Notes For Fire Services
 - A post indicator valve (PIV) is an option for the outlet valve and may be requested by the owner. The PIV is not required by City of Wichita ordinance.
 - When Siamese connections are required by the Wichita Fire Department, refer to the current City Code Section 15.
 - If due to any reason the completed vault retains ground or drainage water in excess of 4" in depth from the floor of the vault, the property owner shall be responsible for providing and installing an appropriate automatic sump pump or approved equal, as well as any other appurtenances required to make such system function as intended.
 - The property owner is responsible for completing an "Application for Private Fire Protection" prior to final acceptance of the project.



REVISD: APRIL 2015

STANDARD VAULT DETAILS AND METER ASSEMBLIES

CITY ENGINEER
GARY JANZEN, P.E.

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

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

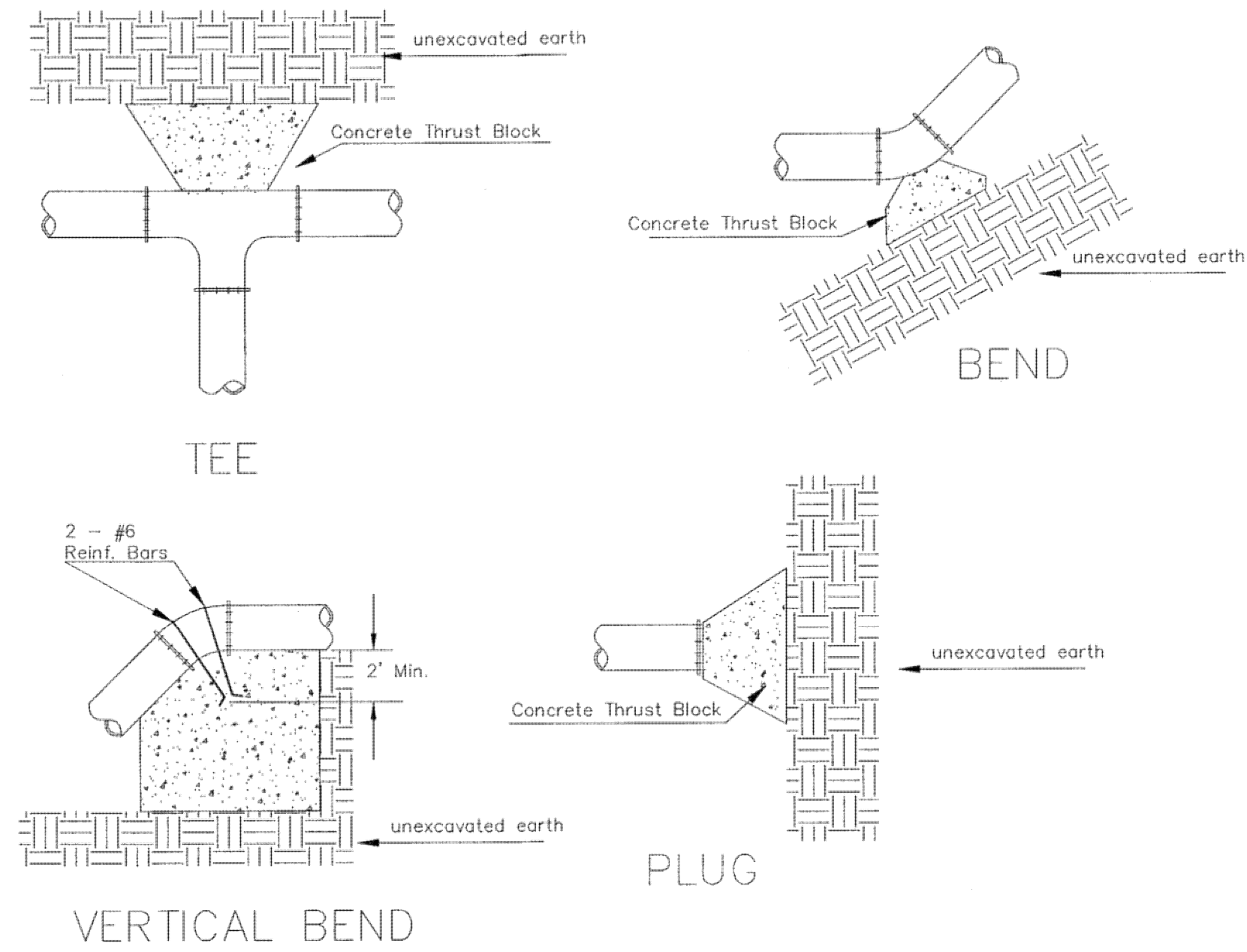
PROJECT NUMBER: OCA NUMBER: DATE: SHEET: WL-103

NO.	BY	DATE	REVISION
1.	JAR	07/15/15	PER ORIGINAL SUBMITTAL
2.	JAR	07/20/15	PER CITY COMMENTS
3.	JAR	07/29/15	PER CITY COMMENTS
4.	JAR	07/30/15	ISSUED FOR CONSTRUCTION

Renaissance Infrastructure Consulting

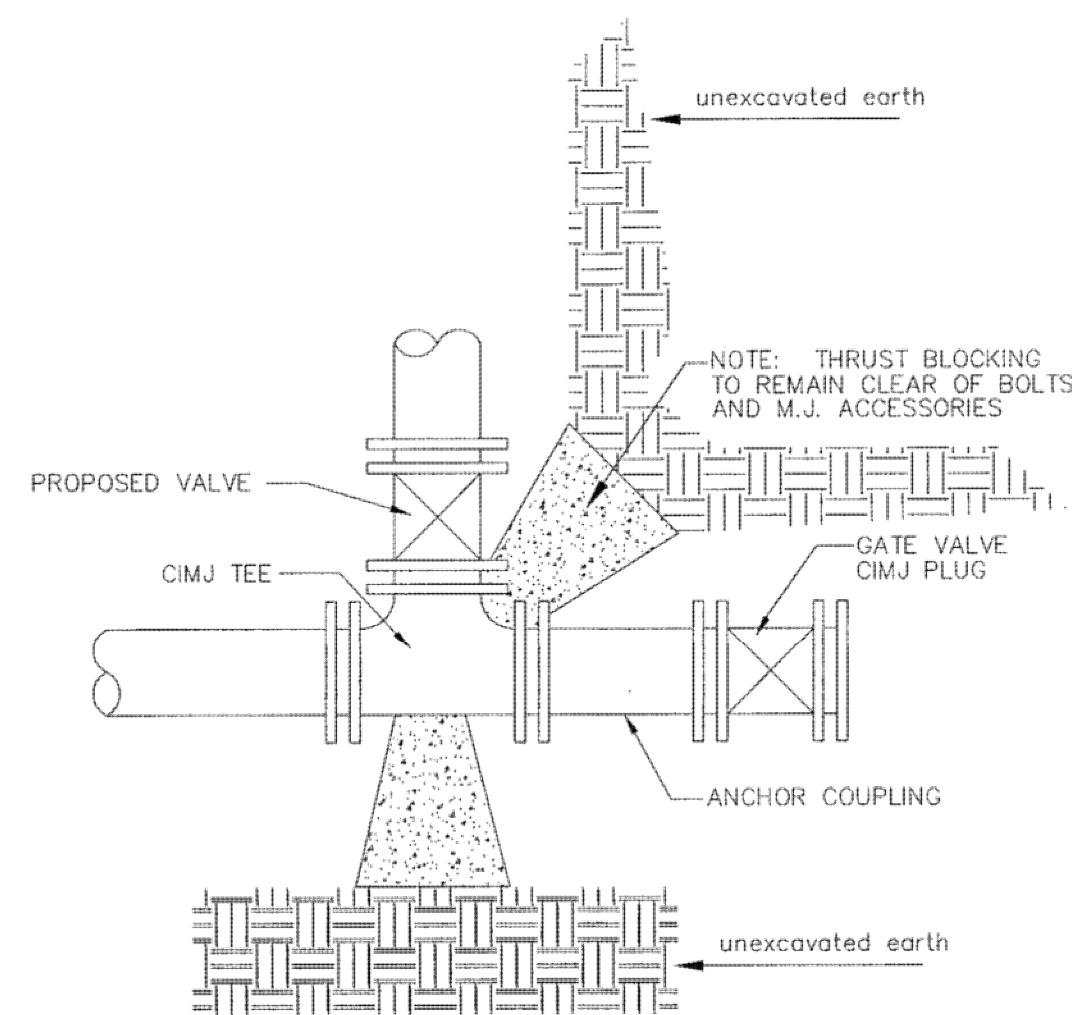
1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103

913.317.9500
WWW.RIC-CONSULT.COM



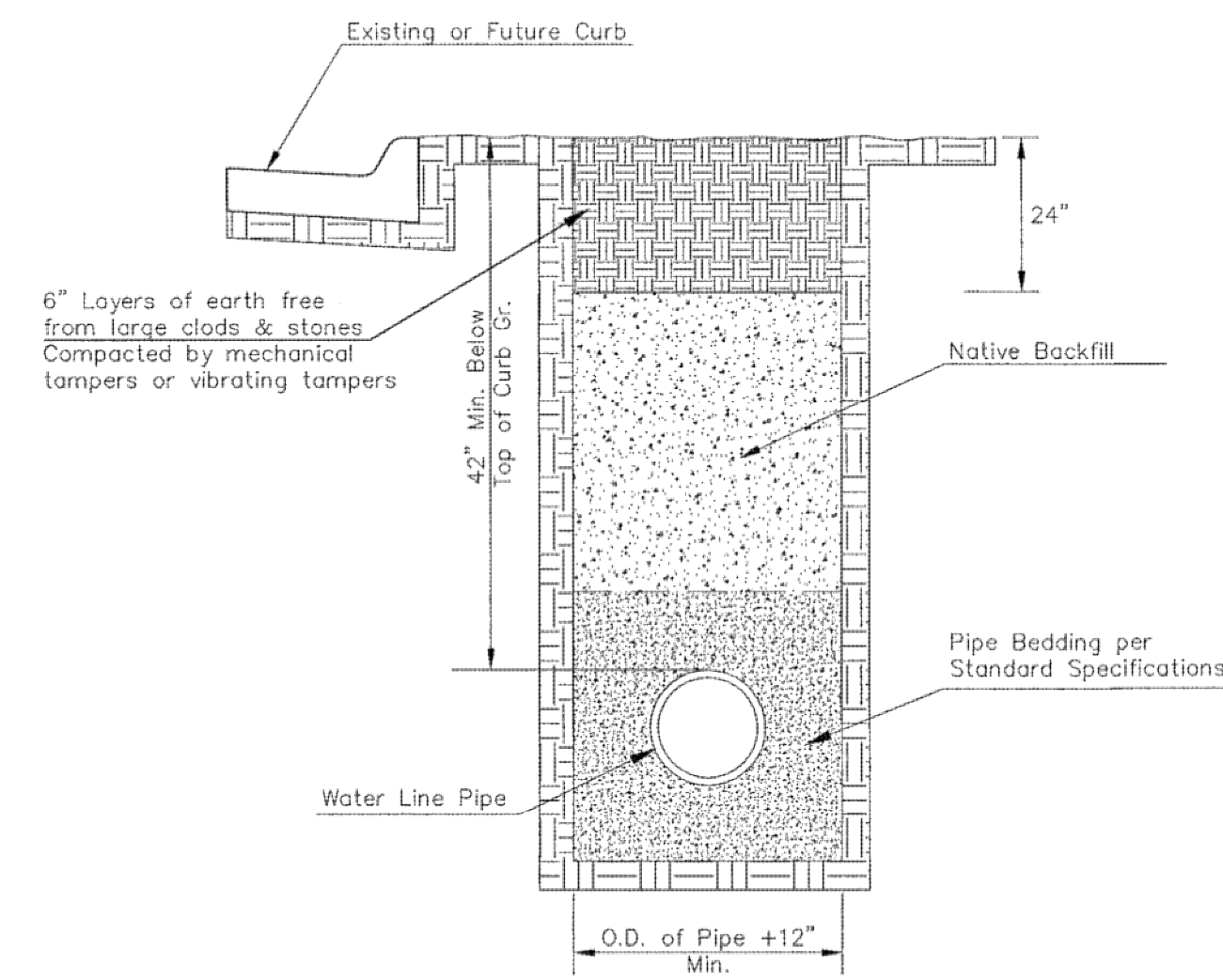
PIPE SIZE	THRUST AT FITTINGS IN TONS-AT 150#/IN ² P					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75	44.55

TYPICAL THRUST BLOCKS

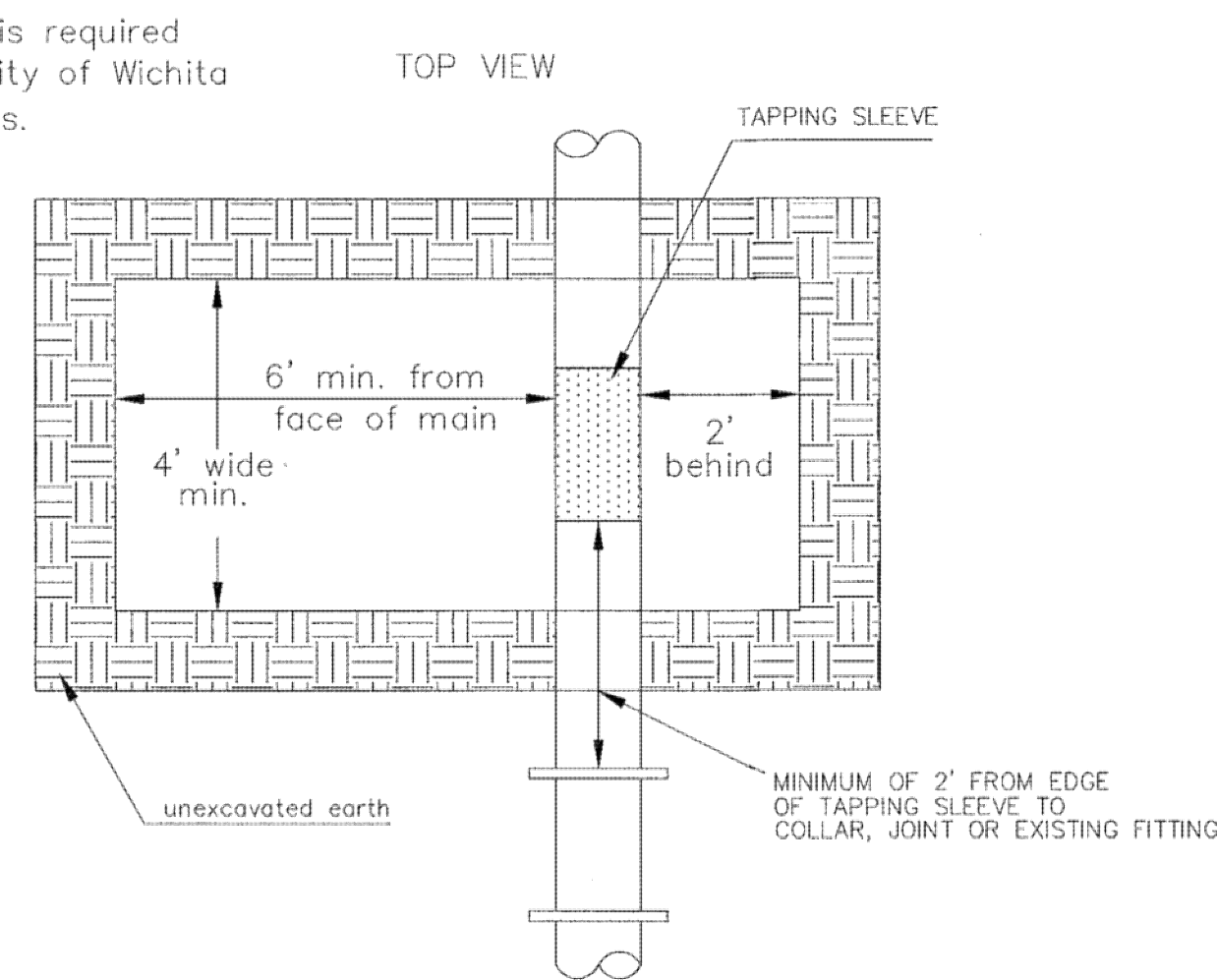
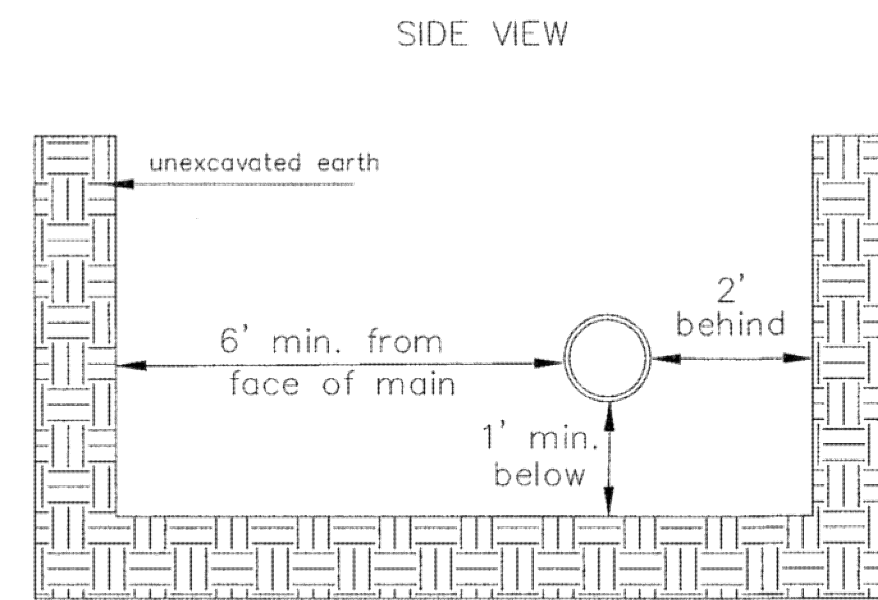


KEY BLOCK DETAIL

* PLANS GOVERN
UNLESS OTHERWISE NOTED ON PLANS

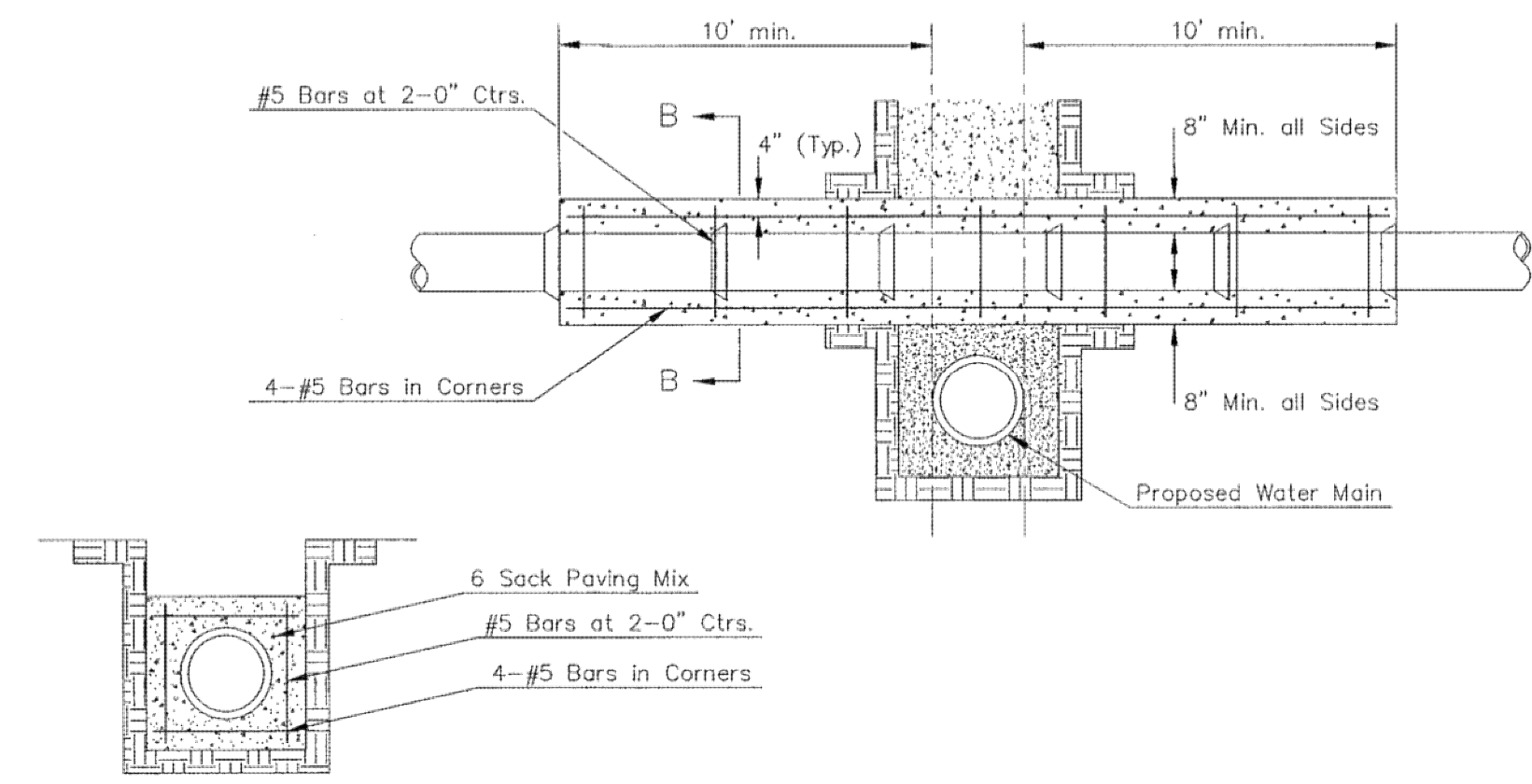


TRENCH COMPACTION IN ROAD RIGHT-OF-WAY



EXCAVATION FOR WET TAP

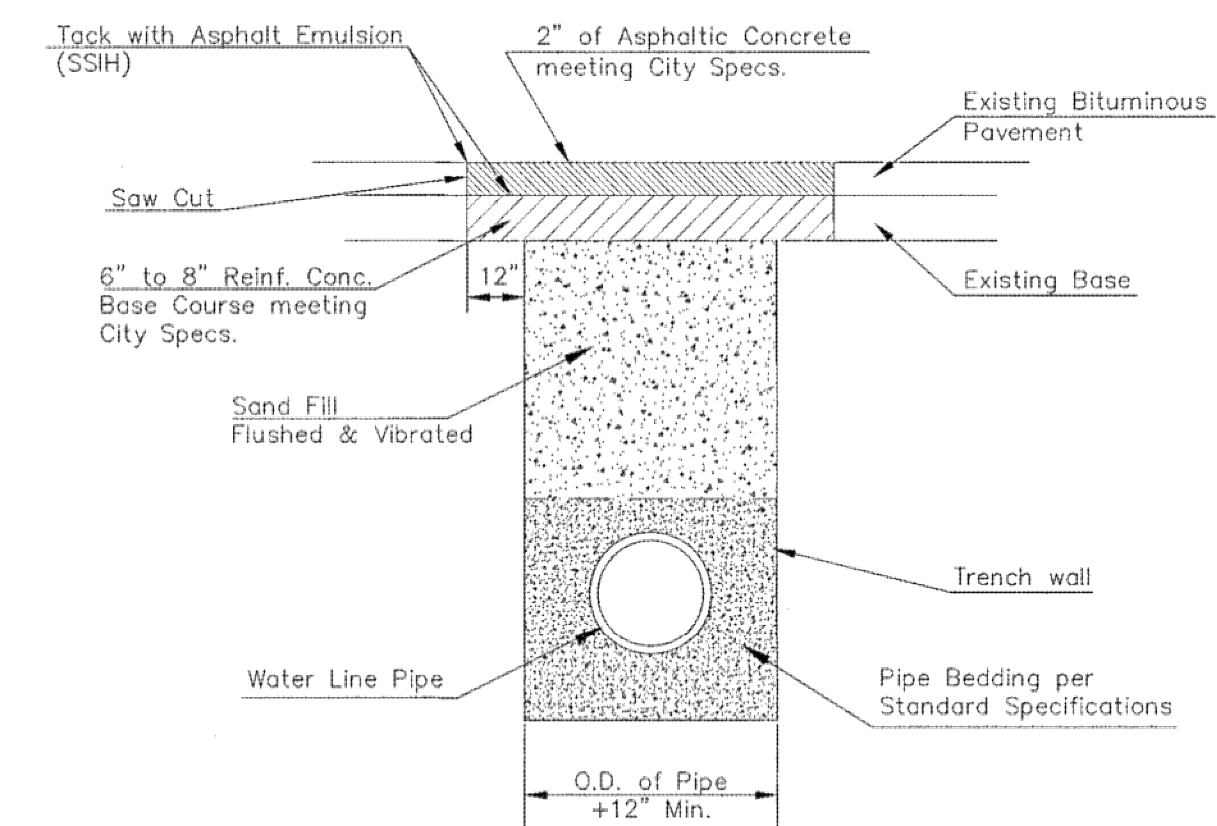
Note: When shoring is required it is to be per The City of Wichita Standard Specifications.



SECTION B-B

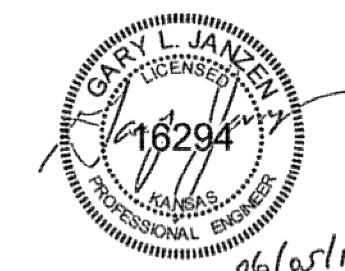
REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER

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



PAVEMENT REPLACEMENT & TRENCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS

REVISED: JUNE 2015



CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

MISCELLANEOUS WATER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

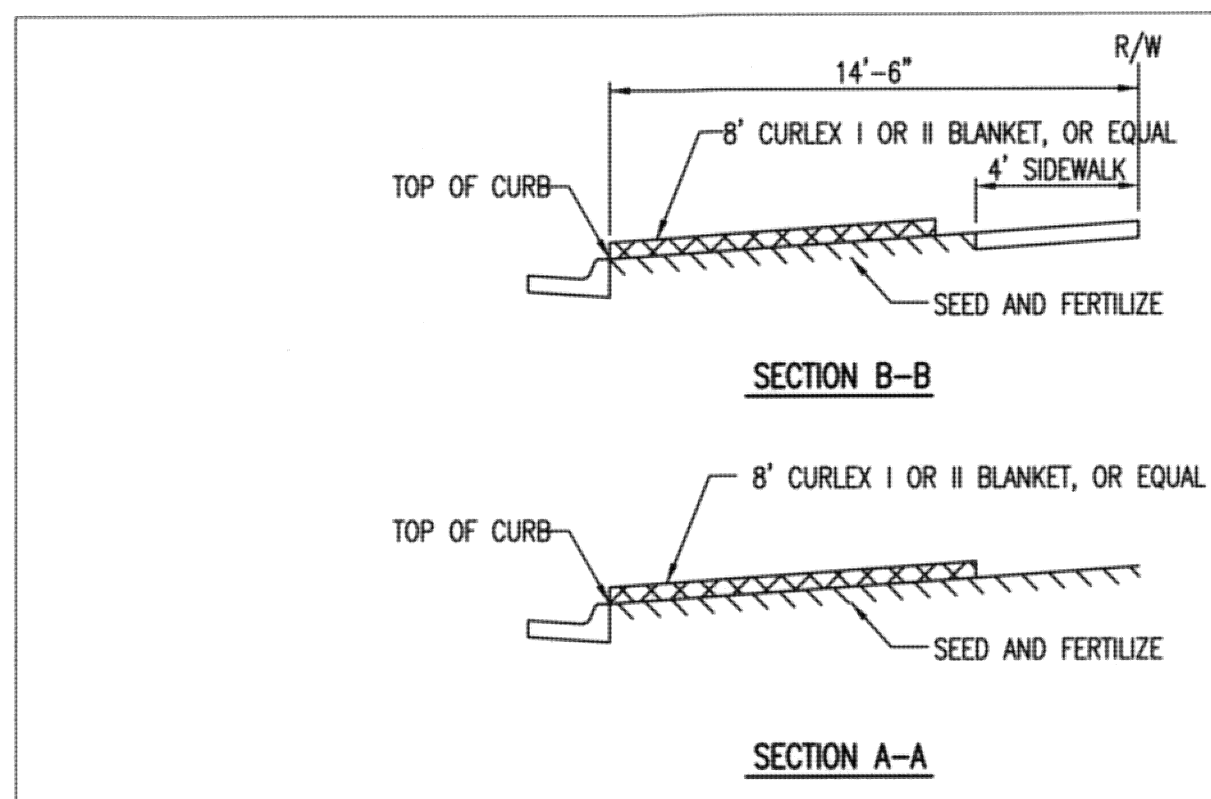
PROJECT NUMBER	OCA NUMBER	DATE

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

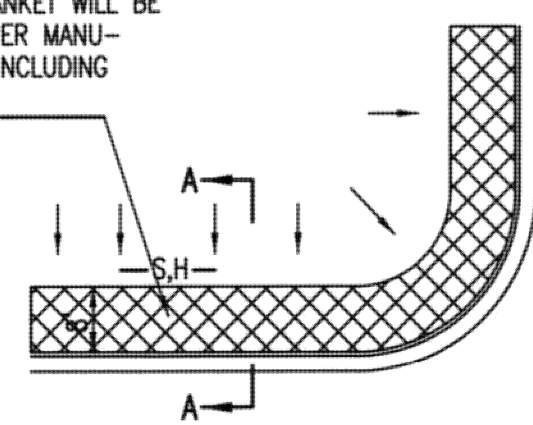
WL-104

NO.	BY	DATE	REVISION
4.	JAR	RLC 07/30/15	ISSUED FOR CONSTRUCTION
3.	JAR	RLC 07/29/15	PER CITY COMMENTS
2.	JAR	RLC 07/20/15	PER CITY COMMENTS
1.	JAR	RLC 07/15/15	PER REVISED WATER LINE LAYOUT
	JAR	RLC 06/15/15	ORIGINAL SUBMITTAL

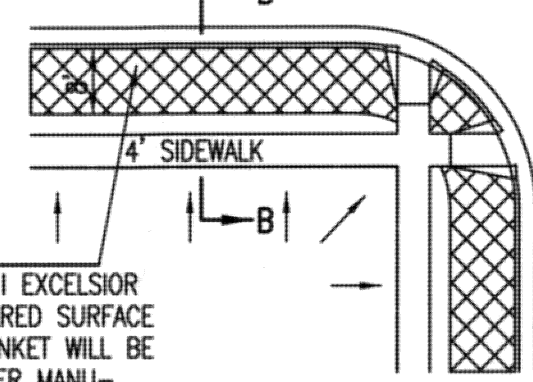
Renaissance Infrastructure Consulting
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WWW.RIC-CONSULT.COM
1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103



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



SOUTH STREET

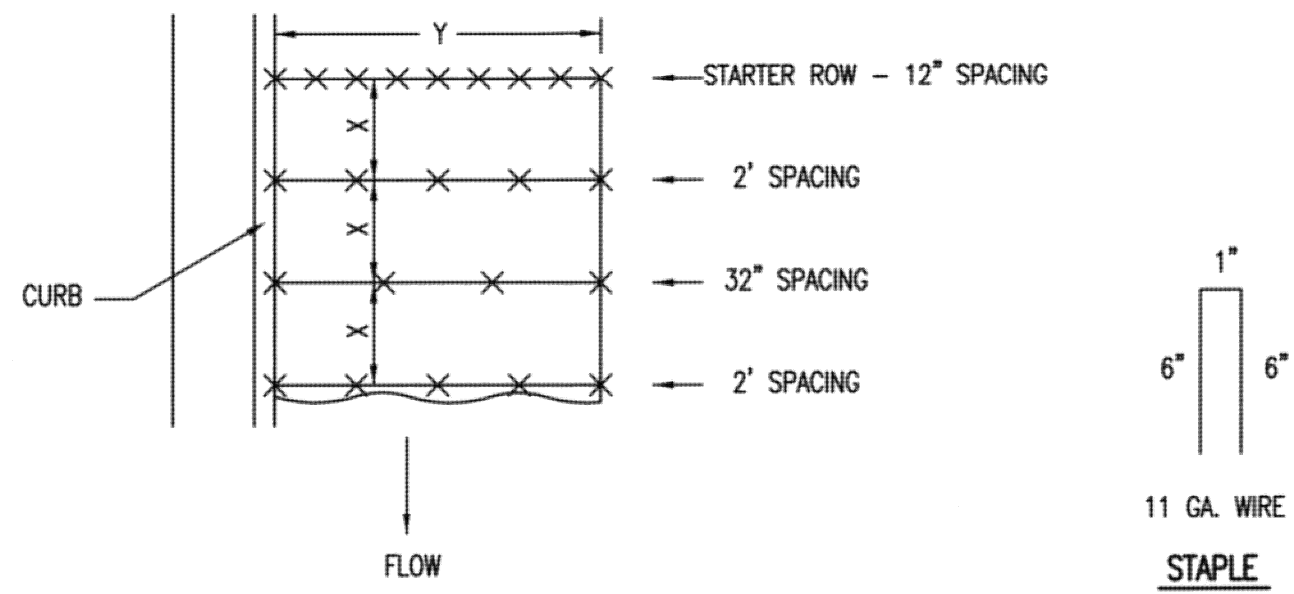


INSTALL 8" WIDE CURLEX I OR II EXCELSIOR BLANKET, OR EQUAL, ON PREPARED SURFACE BACK OF CURB. EDGE OF BLANKET WILL BE AT BACK OF CURB. INSTALL PER MANUFACTURER'S RECOMMENDATION, INCLUDING STAPLES. (SEE DETAIL)

GENERAL NOTES

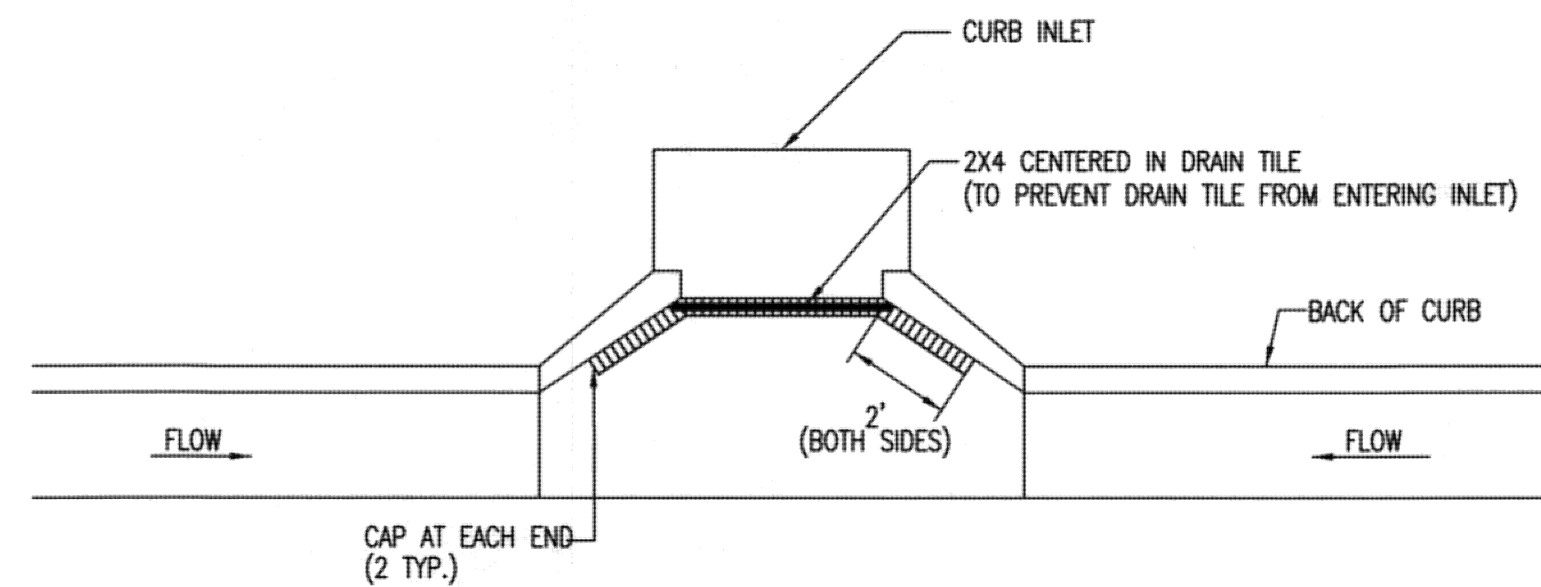
- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
- EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER,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

BACK OF CURB PROTECTION DETAIL



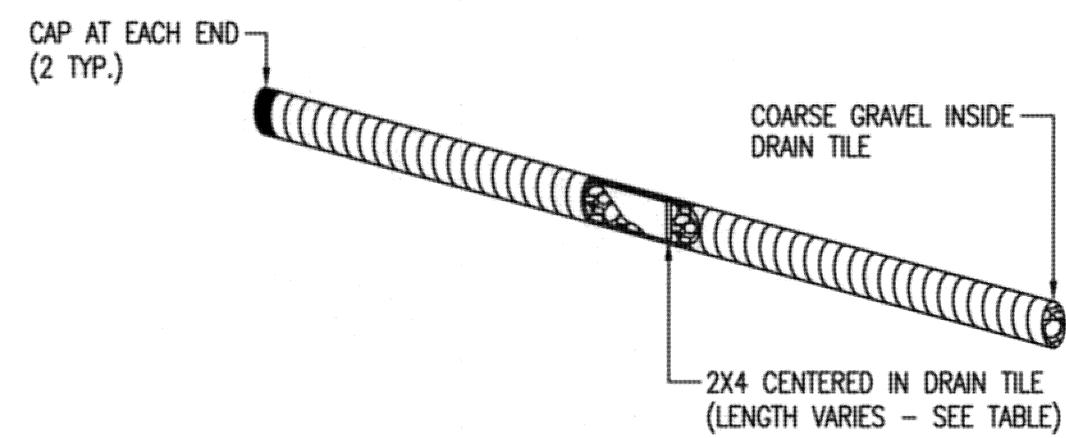
NOTES: USE 6" SEAM OVERLAP (X & Y = RECOMMENDED BY MANUFACTURE)

DETAILS FOR APPROVED EROSION CONTROL MAT

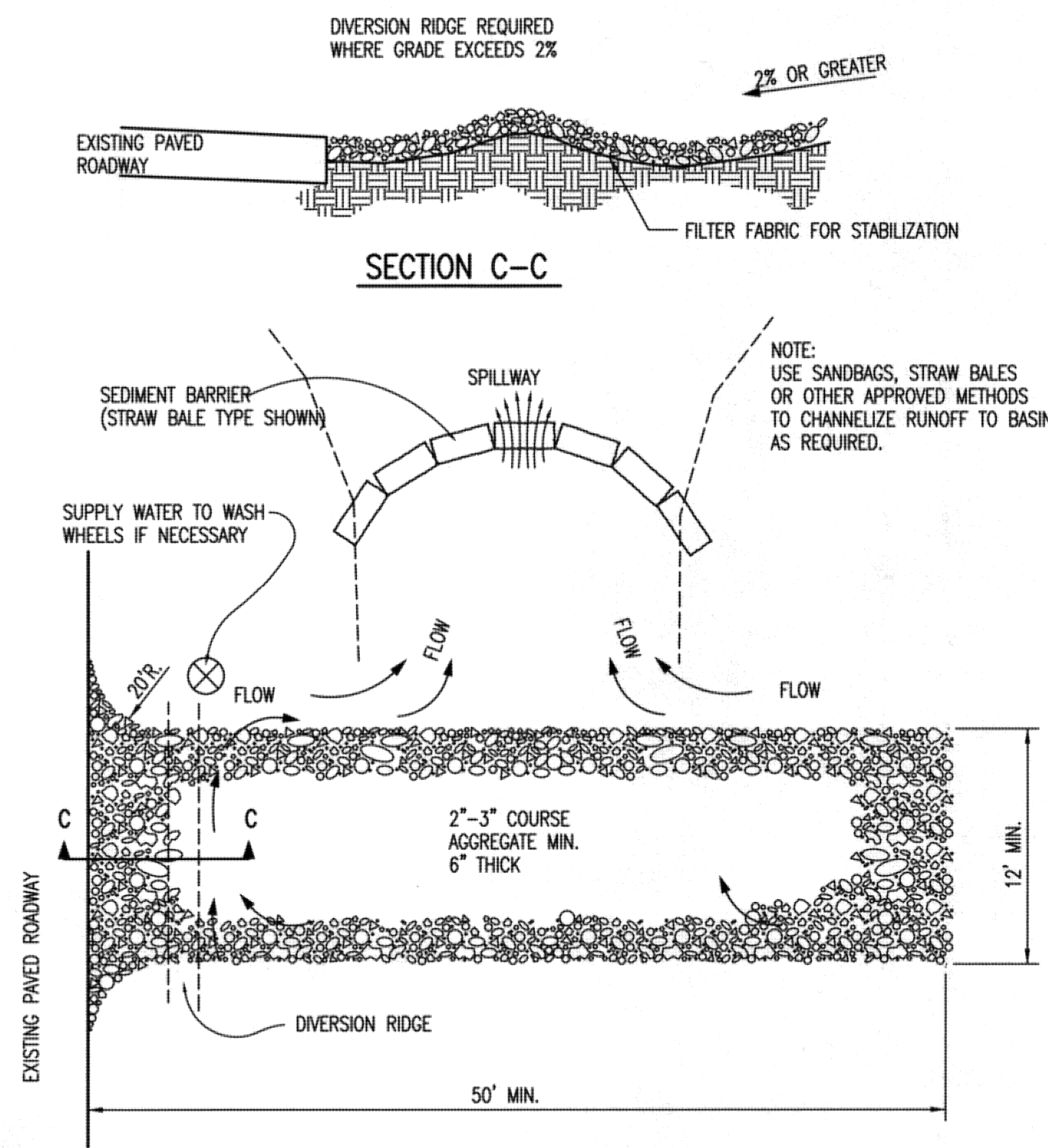


NOTE: PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

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:

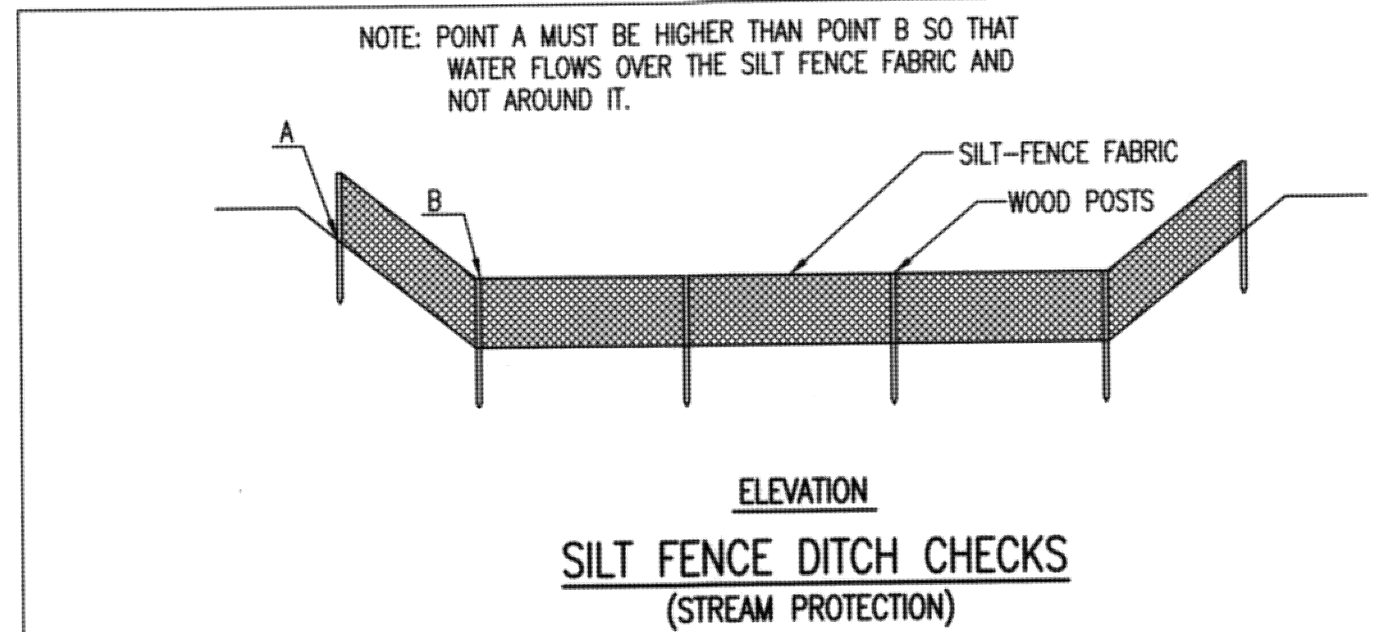
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET

Renaissance Infrastructure Consulting

1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103

913.317.9500
WWW.RIC-CONSULT.COM



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 (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.

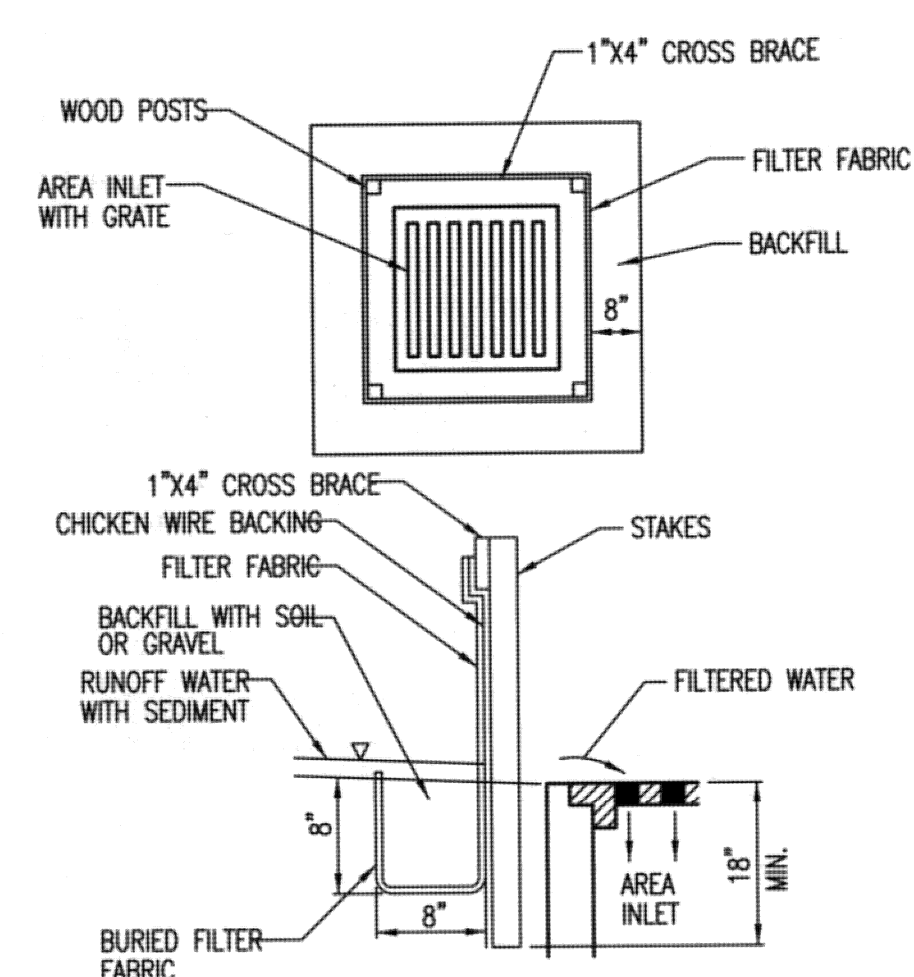
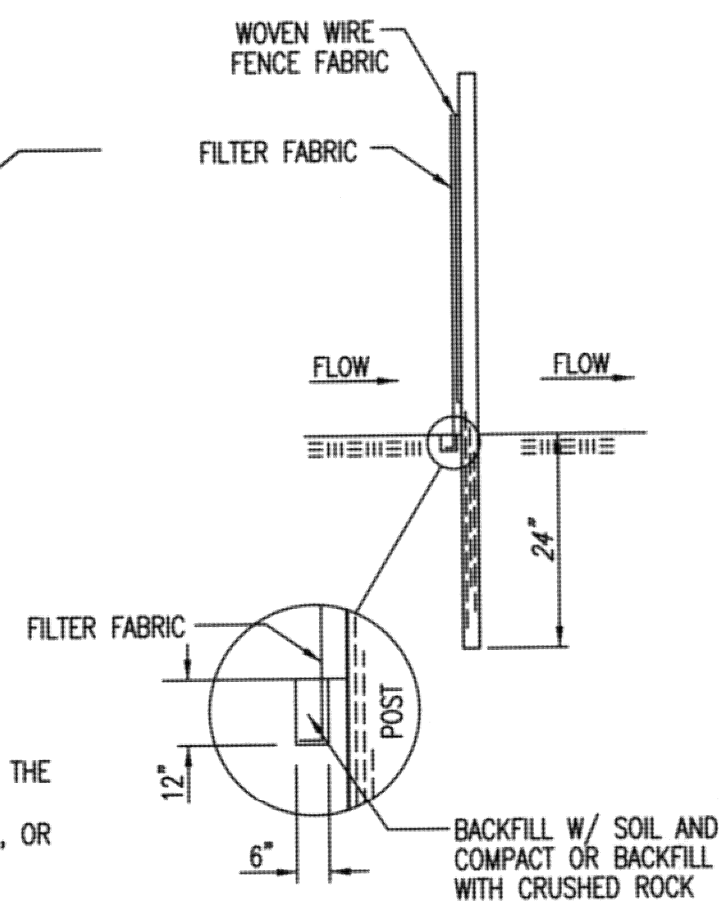
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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

PLACEMENT:

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

PROPER INSTALLATION METHOD:

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

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

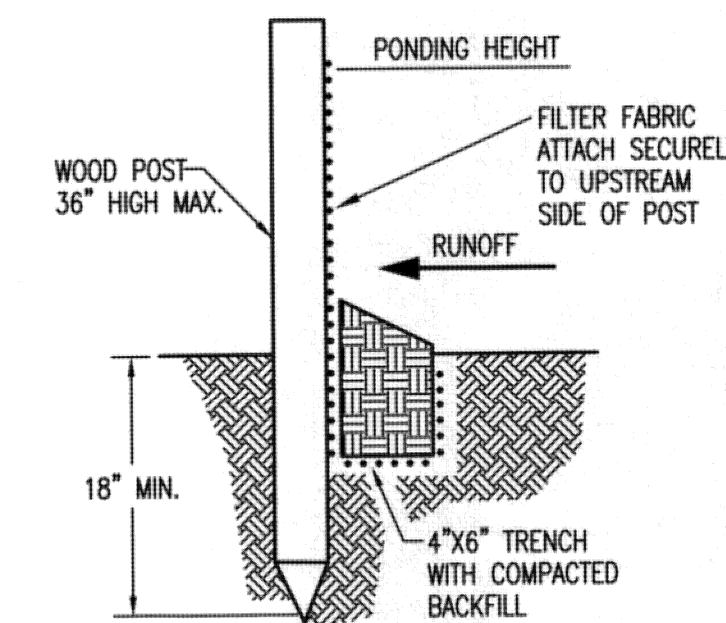
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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

INSPECTION AND MAINTENANCE:

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

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



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

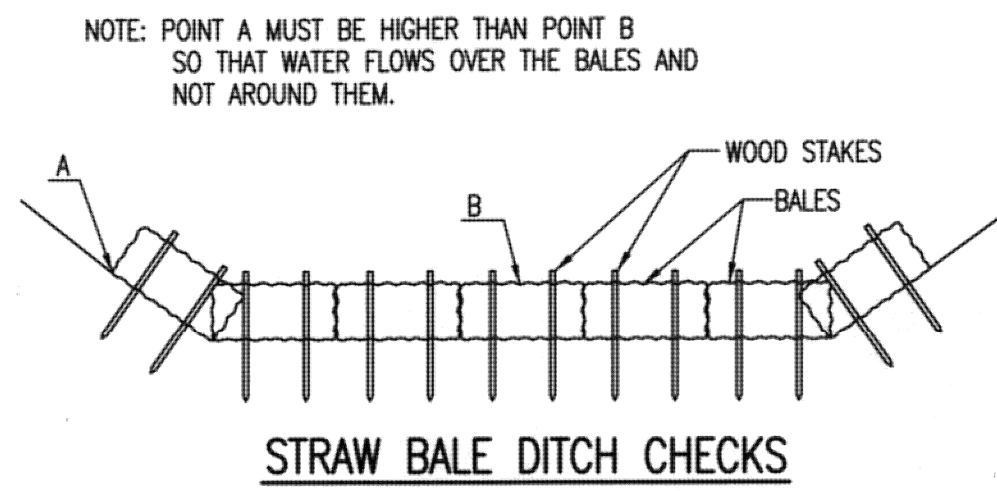
SHEET



NO.	DATE	BY	DESCRIPTION
4.	JAN RLC 07/30/15		ISSUED FOR CONSTRUCTION
3.	JAN RLC 07/29/15		PER CITY COMMENTS
2.	JAN RLC 07/20/15		PER CITY COMMENTS
1.	JAN RLC 07/15/15		PER REVISION WATER LINE LAYOUT
	JAN RLC 06/15/15		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".

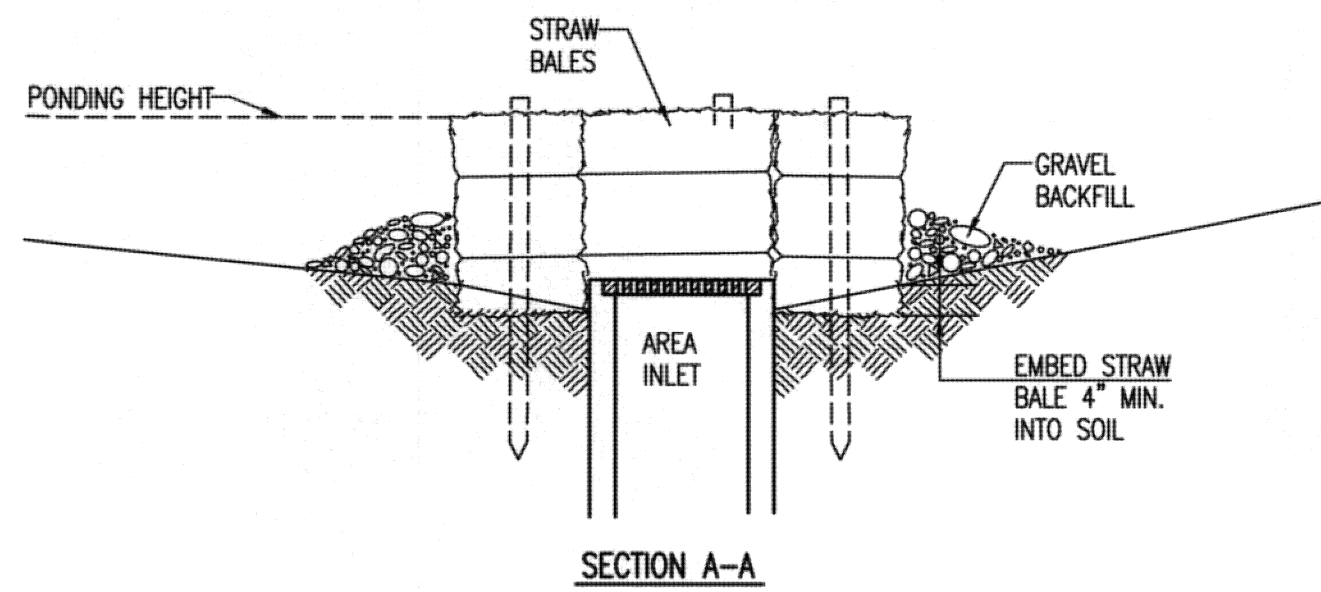
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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.

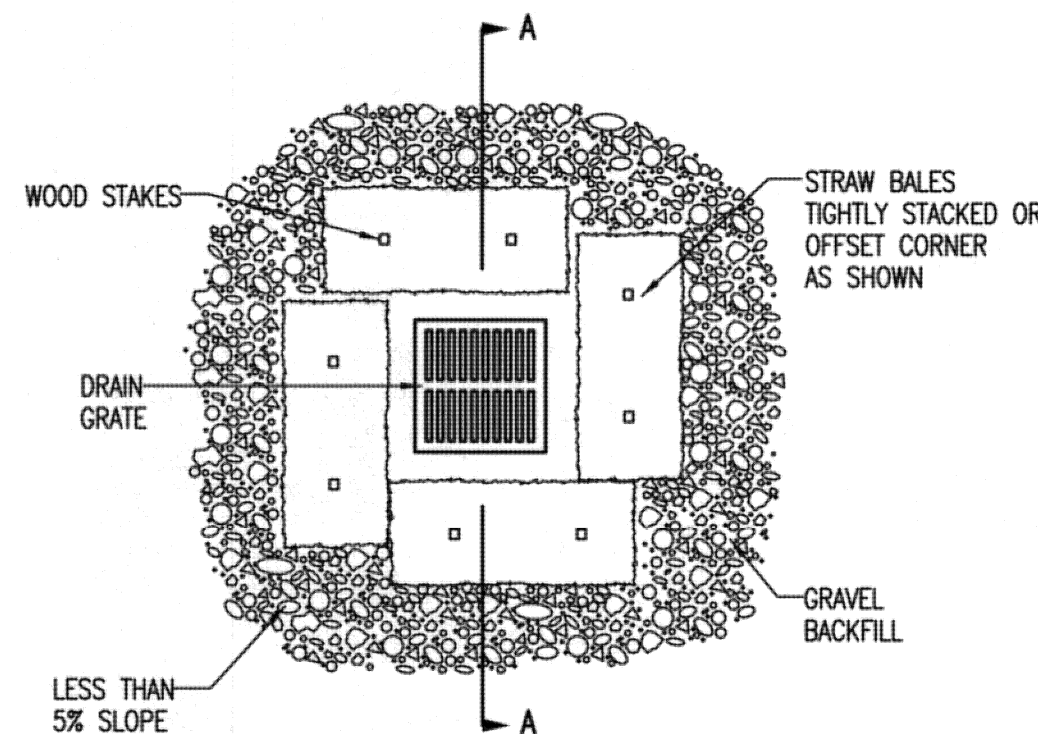
INSPECTION AND MAINTENANCE:

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.

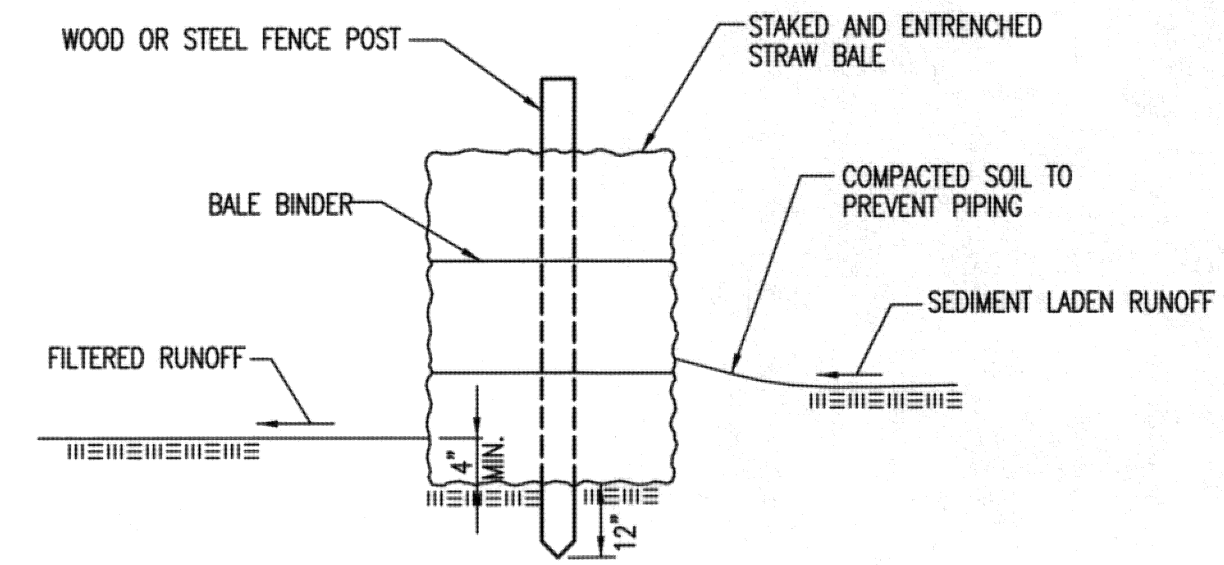
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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 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



CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

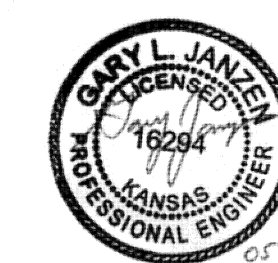
STRAW BALE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER: _____ OCA NUMBER: _____ DATE: _____

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

SHEET _____



NO.	BY	DATE	REVISION
4.	JAR	07/30/15	ISSUED FOR CONSTRUCTION
3.	JAR	07/29/15	PER CITY COMMENTS
2.	JAR	07/20/15	PER CITY COMMENTS
1.	JAR	07/15/15	PER REVISED WATER LINE LAYOUT
	JAR	06/15/15	ORIGINAL SUBMITTAL

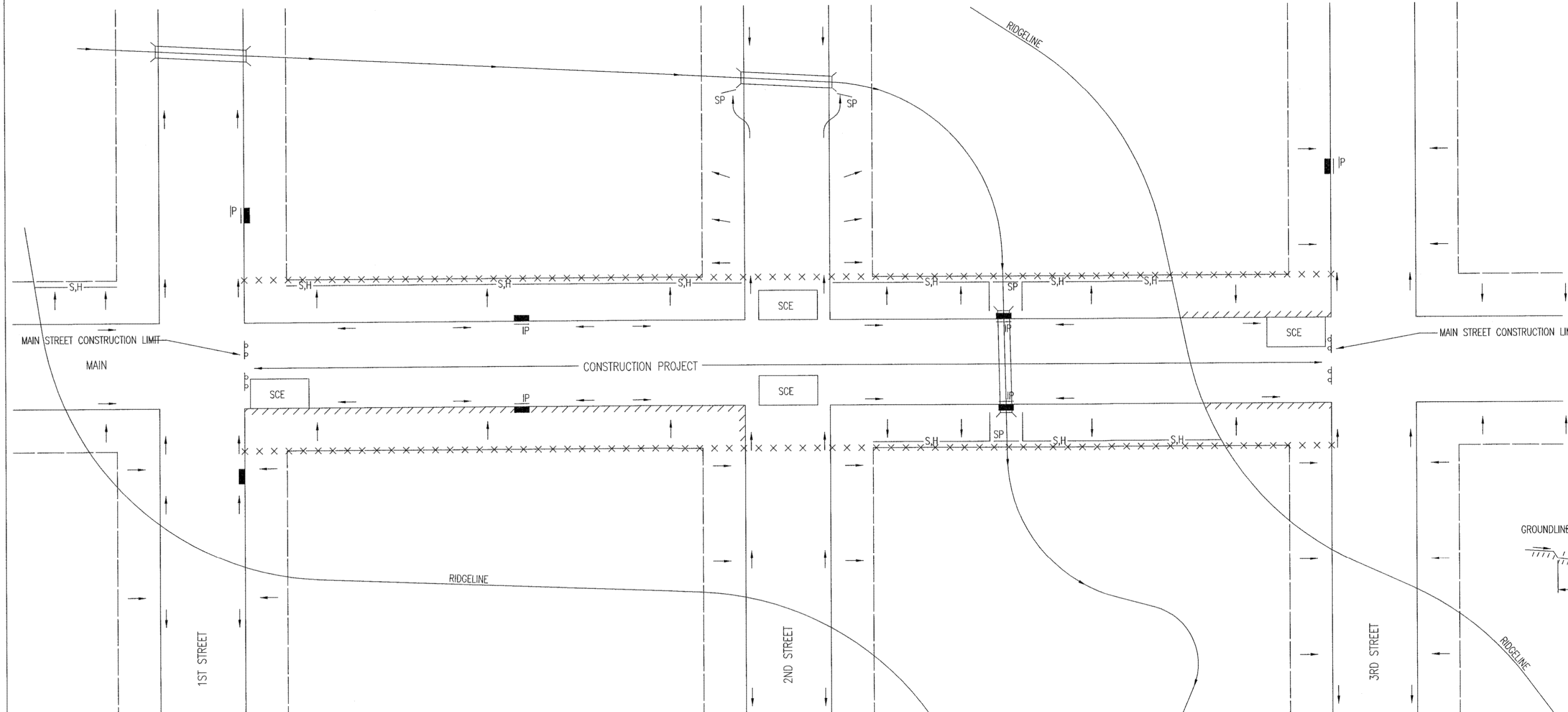
Renaissance Infrastructure Consulting

1138 W. CAMBRIDGE CIRCLE DRIVE
KANSAS CITY, KANSAS 66103

913.317.9500
WWW.RIC-CONSULT.COM

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.



LEGEND

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

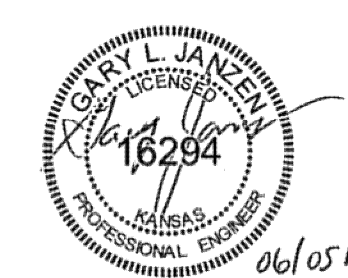
GENERAL NOTES

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

CURB BACKFILL DETAIL

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

REVISION: JUNE 2015

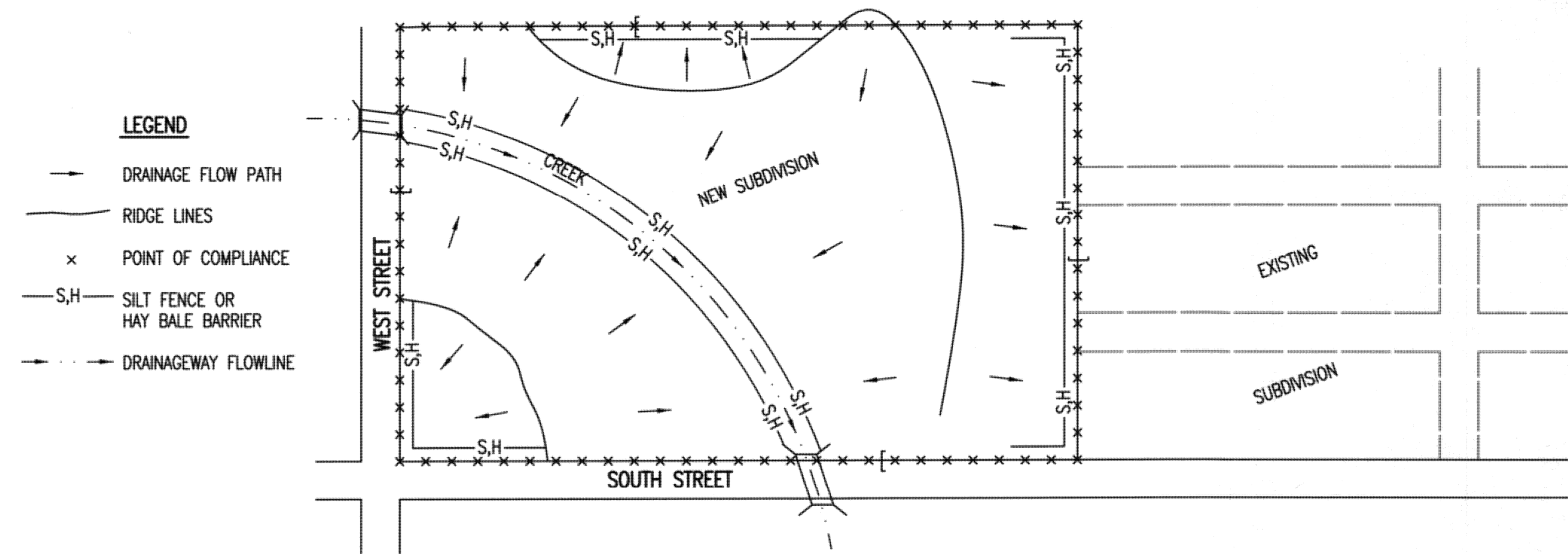


STREET IMPROVEMENT PROJECTS		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OGA NUMBER	DATE
CITY ENGINEER'S OFFICE	SHEET	
CITY HALL - SEVENTH FLOOR 435 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		

NO.	BY	DATE	REVISION
4	JAR	07/30/15	ISSUED FOR CONSTRUCTION
3	JAR	07/29/15	PER CITY COMMENTS
2	JAR	07/20/15	PER CITY COMMENTS
1	JAR	07/15/15	PER REVISED WATER LINE LAYOUT
	JAR	06/15/15	ORIGINAL SUBMITTAL

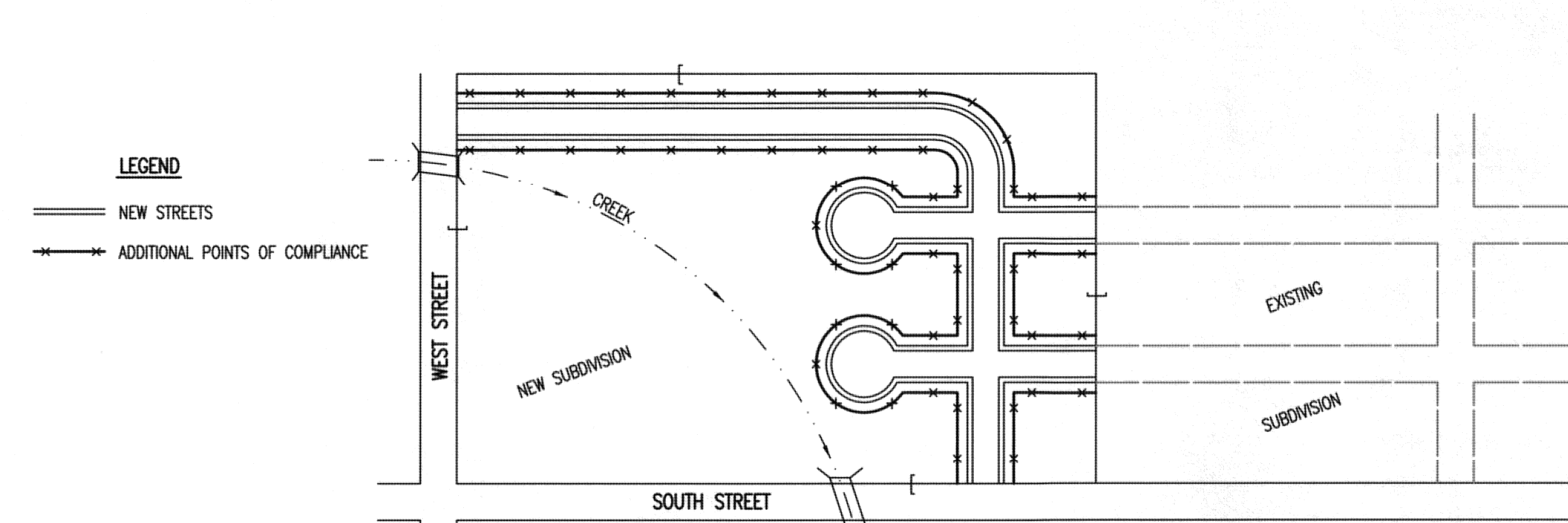
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PHASE 1 - INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



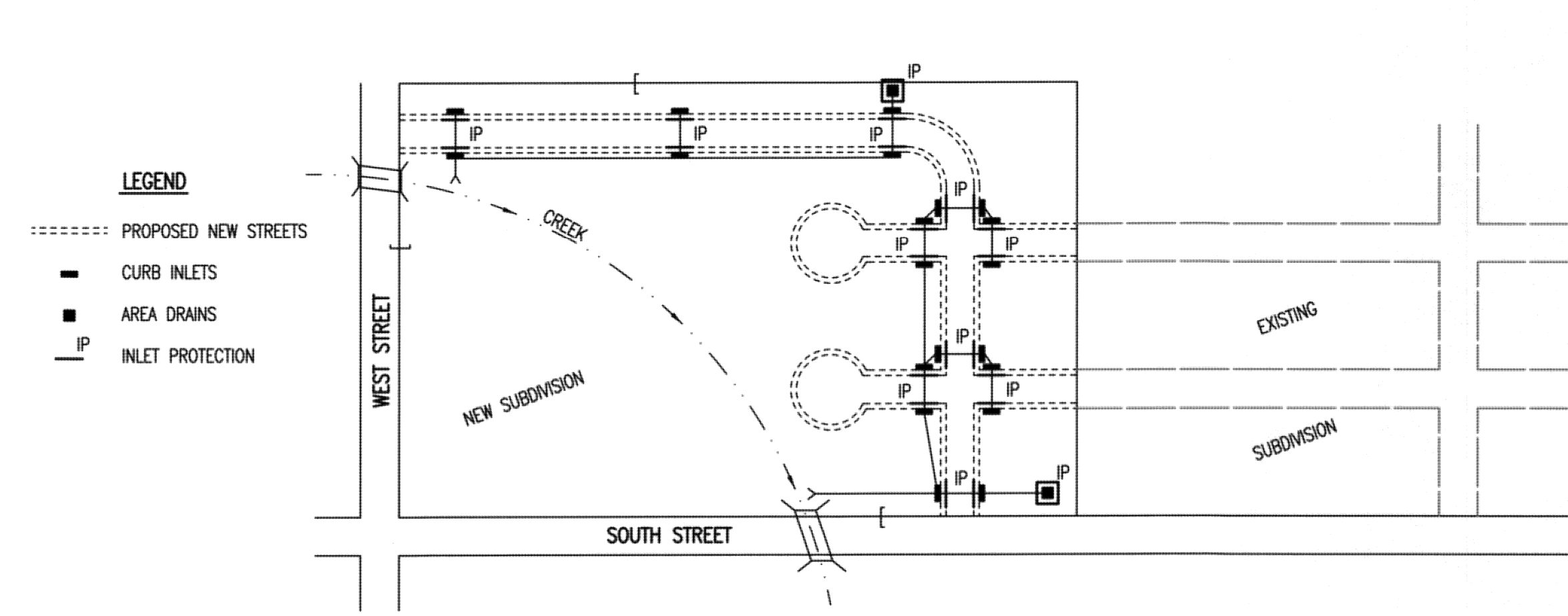
- DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
-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

PHASE 3 - STREET CONSTRUCTION



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

PHASE 2 - INSTALLATION OF STORM SEWER

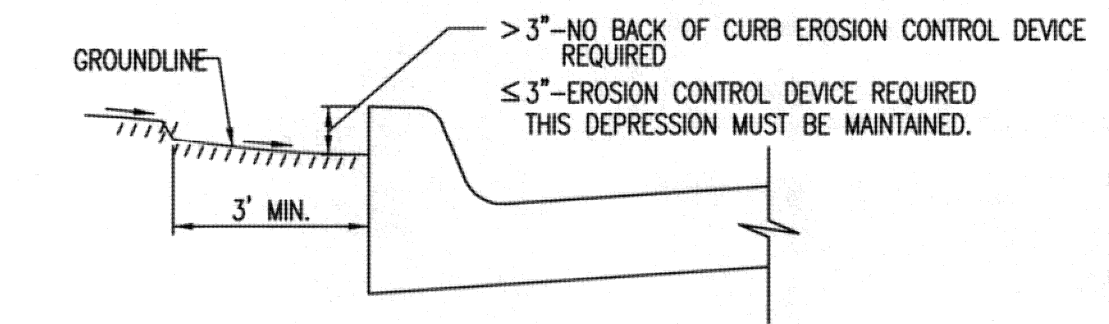


- DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
- AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
- AREA DRAINS - AS SOON AS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

GENERAL NOTES

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

SEE DETAIL SHEET FOR
BACK OF CURB PROTECTION DETAIL

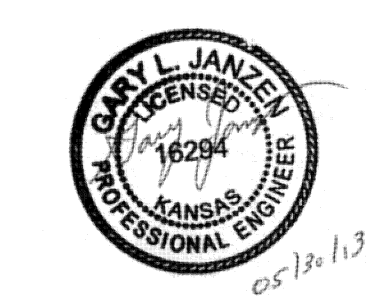


**CURB BACKFILL DETAIL
(STREET CONSTRUCTION ONLY)**

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

REVISION DATE: MAY 2013

 CITY OF WICHITA PUBLIC WORKS & UTILITIES ENGINEERING DIVISION	SUBDIVISION DEVELOPMENT PROCESS CITY ENGINEER GARY JANZEN, P.E.	
	PROJECT NUMBER	DATE
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET



NO.	BY	DATE	REVISION
4.	JAR	07/30/15	ISSUED FOR CONSTRUCTION
3.	JAR	07/29/15	PER CITY COMMENTS
2.	JAR	07/20/15	PER CITY COMMENTS
1.	JAR	07/15/15	PER REVISION WATER LINE LAYOUT
	JAR	06/15/15	ORIGINAL SUBMITTAL

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