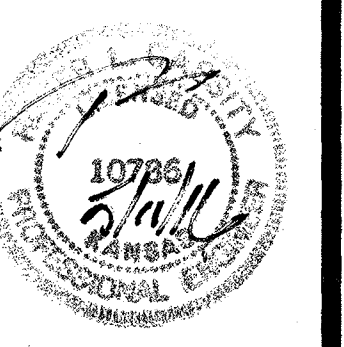


NO.	BY	DATE	REVISION
1	JAR	05/04/16	PER CITY COMMENTS
	JAR	03/30/16	ORIGINAL SUBMITTAL

**Renaissance Infrastructure Consulting**  
1138 W. CAMBRIDGE CIRCLE DRIVE  
KANSAS CITY, KANSAS 66103  
913.317.9500  
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# Storm Sewer Plans to Serve WICHITA DESTINATION DEVELOPMENT - PHASE 5 LOT 1, K96 GREENWICH ADDITION 2632 NORTH GREENWICH COURT

an Addition to Wichita, Sedgwick County, Kansas  
Gary Janzen, P.E., City Engineer  
0392 PPD (607861)

**OWNER/DEVELOPER**

Cavender Real Estate B, Ltd  
7820 South Broadway Avenue  
Tyler, Texas 75703  
903.509.9509

**CONSULTANT/APPLICANT**

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

**INDEX OF SHEETS**

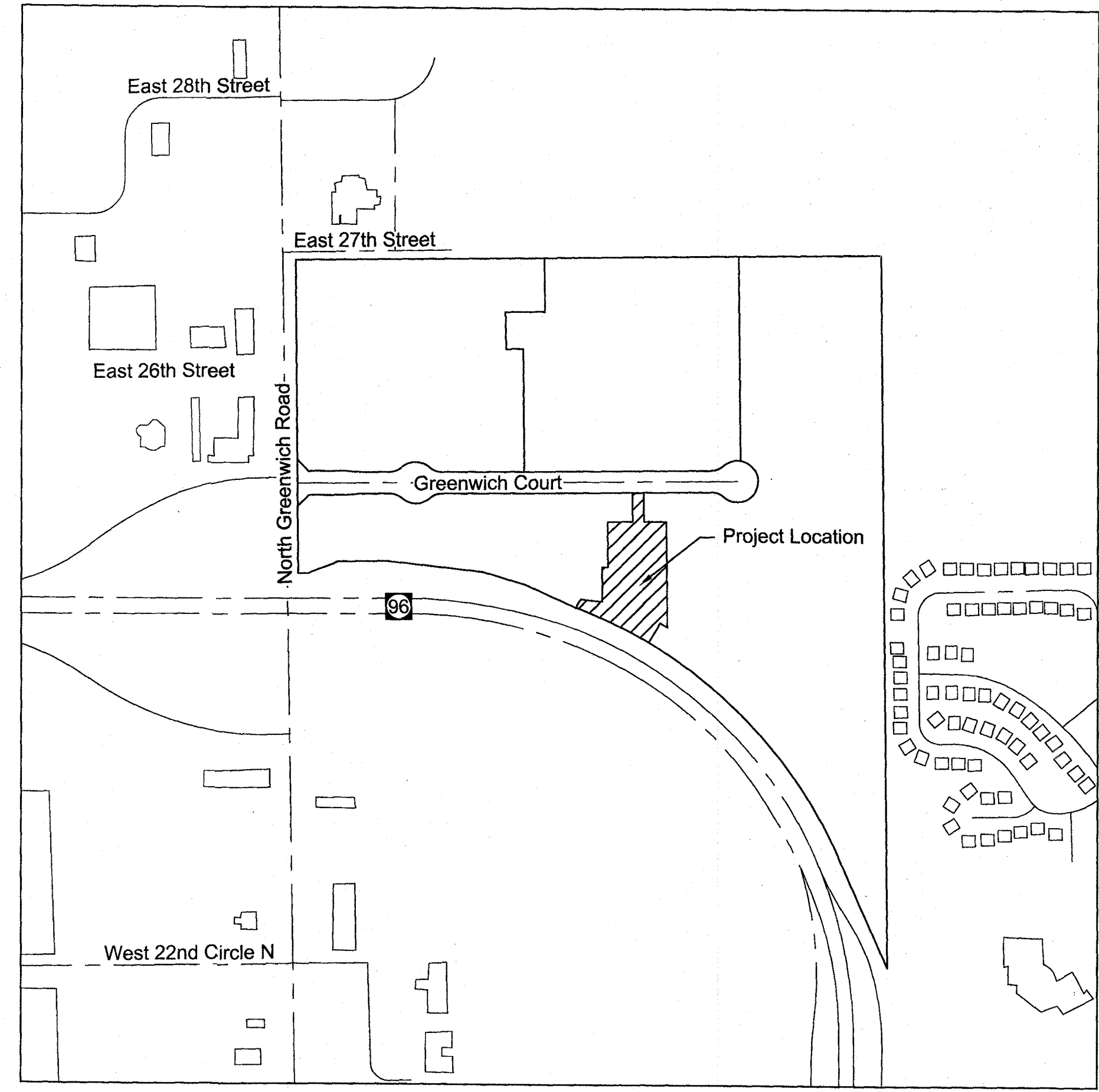
01	Title Sheet
02	Final Plat
03	General Notes & Quantities
04	General Layout/Grading Plan
05	Drainage Area Map
06	Drainage Area Calculations
07	Line A Plan and Profile
08	Line B and E Plan and Profile
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10	Detention Basin Plan
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**PROJECT BENCHMARK**

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



**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     | - U/E - | 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         | A       | 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 BUILTS**

Contractor: Pearson Construction 11/09/2016	Project Inspector: Larry Gann <b>KE MILLER</b> ENGINEERING PA 117 E. Lewis, Wichita, KS 67202 (316)264-0242
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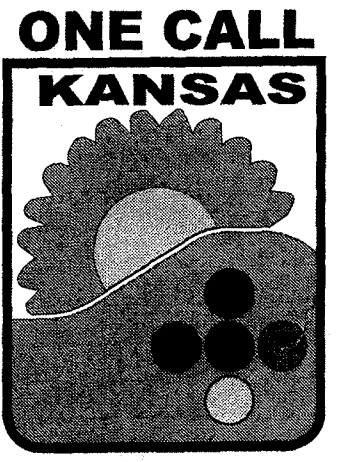
**UTILITY SERVICE & INSTALLATION CONTACTS**

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

**UTILITY EMERGENCY CONTACTS**

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

**KANSAS ONE-CALL:  
1-800-DIG-SAFE**  
(1-800-344-7233)



Protect yourselves and your property against underground utility damage and liability.  
Find out where the underground utility lines might be buried before you dig.  
Anyone digging in Kansas must call before digging. The person who is doing the work is responsible for calling KOC. If the owner contracts with a professional excavator to do the excavation then the professional excavator is responsible for calling KOC.  
You (the digger) will need to provide information about the work site when you call. This is a FREE service.  
**CALL BEFORE YOU DIG  
IT'S THE LAW.**

**Stormwater Certification**  
New Development

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

Disturbed Area: 3.68 Acres  
Water Quality Treatment: Detention Pond and Oil-Debris Hood for Sediment and Trash Removal.  
Downstream Channel Protection: Detention Pond  
Detention:

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

**APPROVED AS NOTED  
BY WICHITA PUBLIC WORKS ENGINEER  
AND STORMWATER DIVISION**

Engineering: *Rebecca Hill* 6/14/16  
Stormwater: *Joe Hill* PE 6/14/16

**NOTE TO CONTRACTORS**

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

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

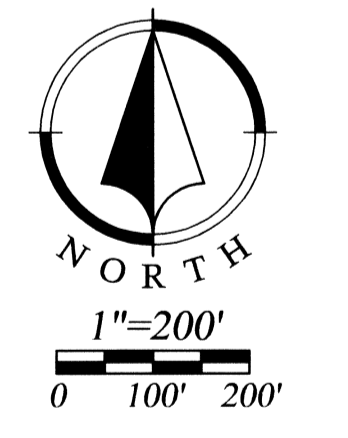
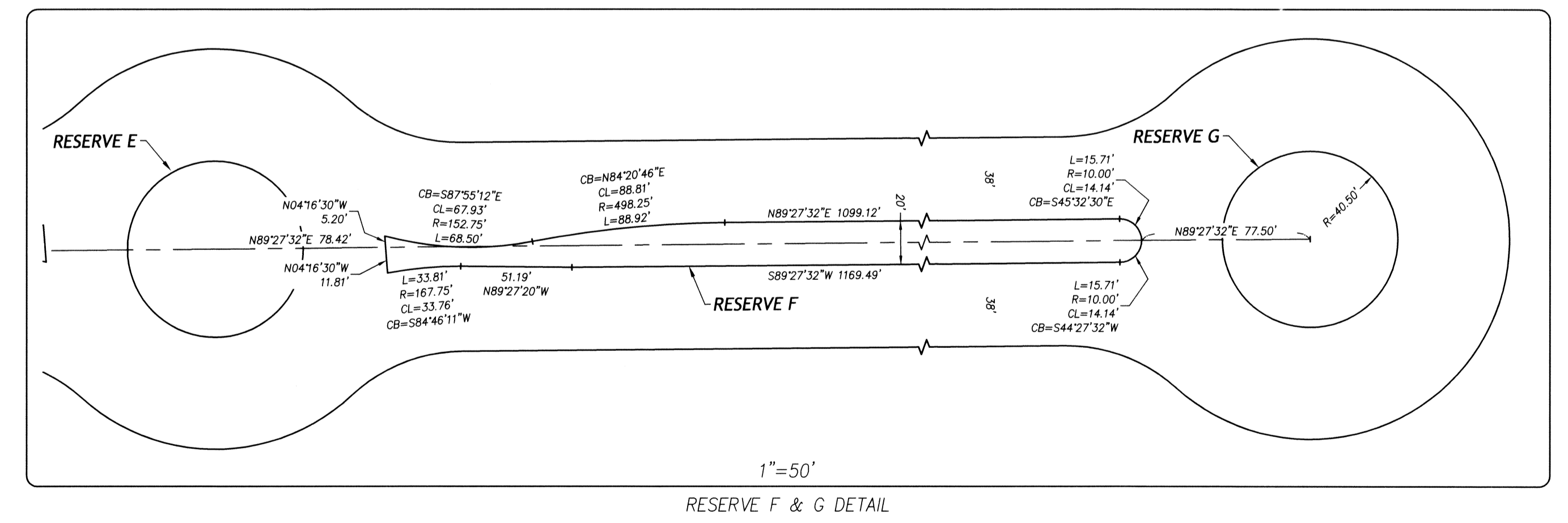
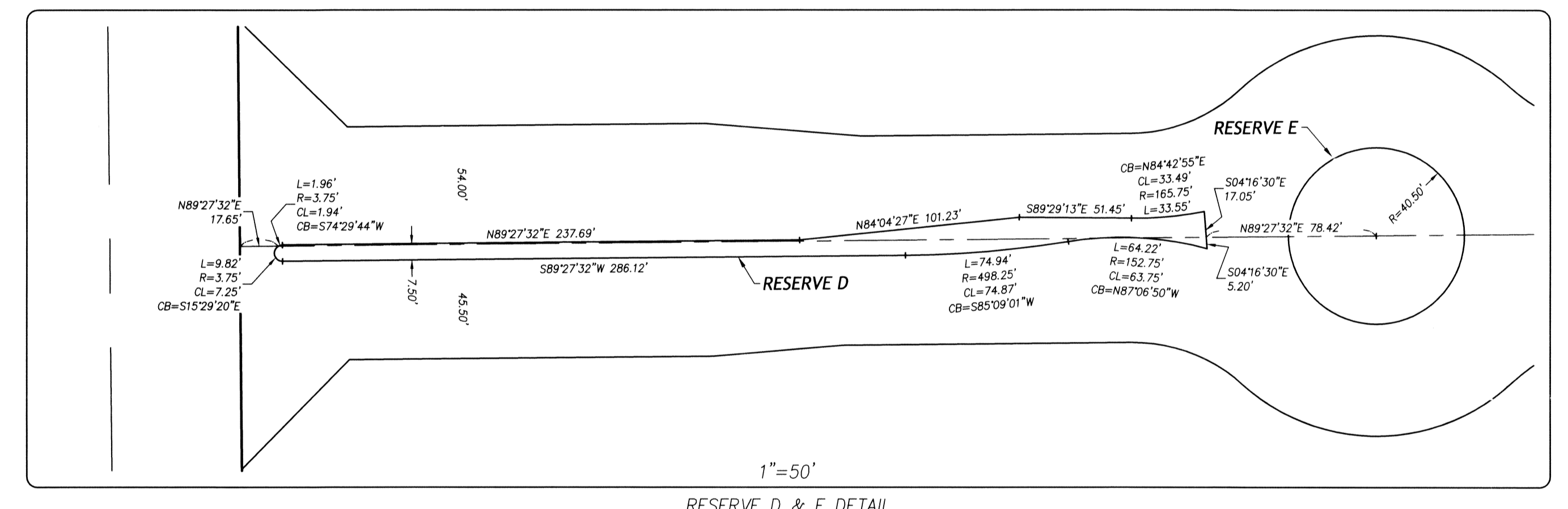
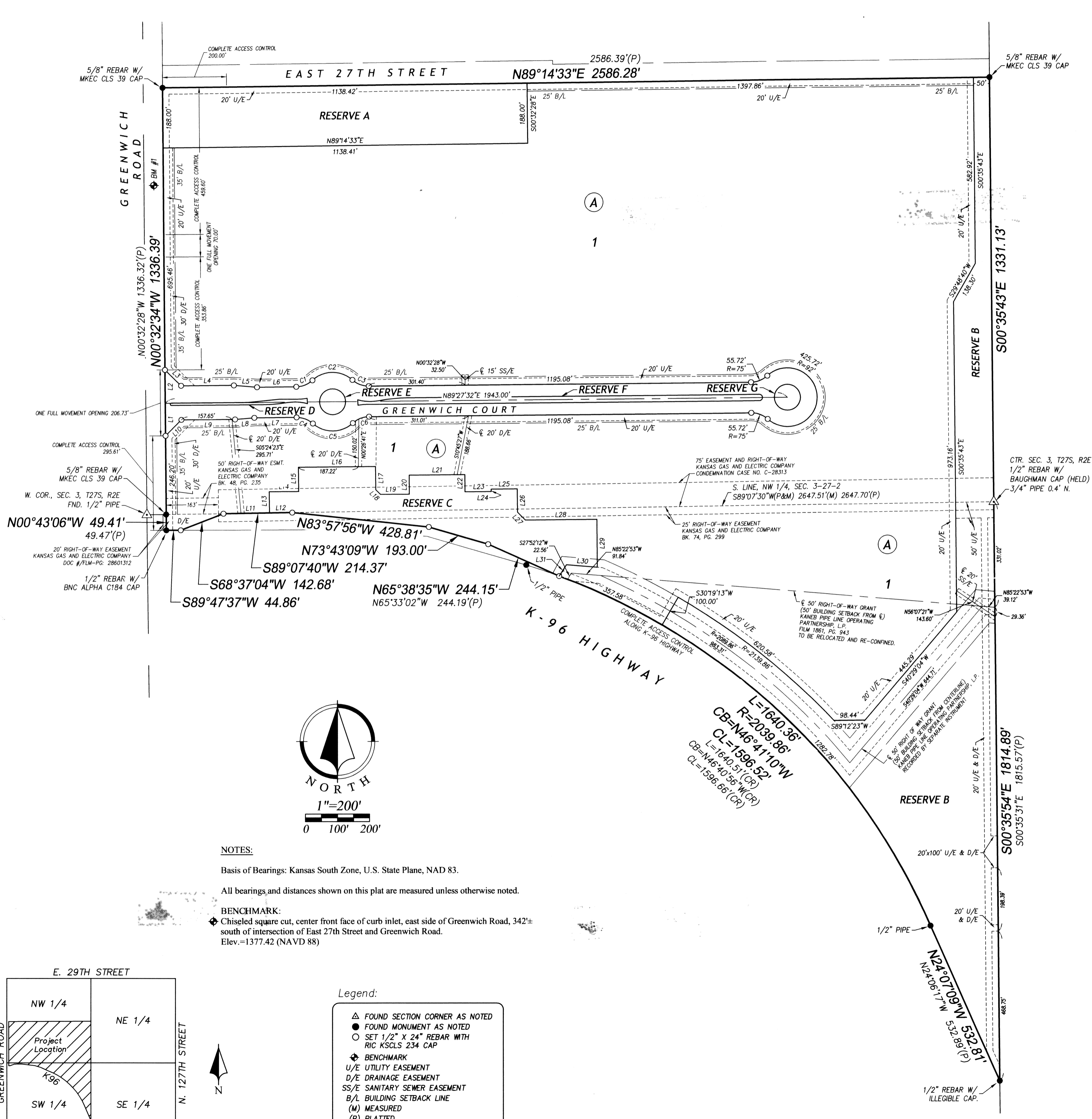
April 2016

# FINAL PLAT

# WICHITA DESTINATION DEVELOPMENT

## AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS

### A REPLAT OF ALL OF K96 AND GREENWICH NORTH ADDITION



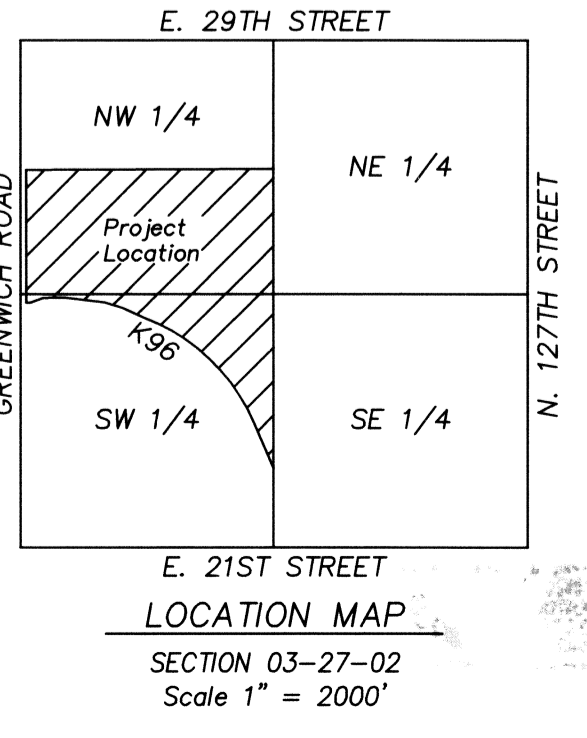
**NOTES:**

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.

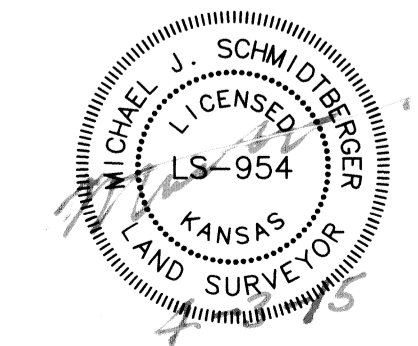
**BENCHMARK:**

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**

14-0112

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

Date of Preparation:  
May 28, 2014

**Renaissance Infrastructure Consulting**

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

GENERAL NOTES

- The Contractor shall comply with all applicable safety regulations. All construction shall be completed following current City Standard Specifications and Special Provisions.
- Contractor will be required to provide notice to utility companies a minimum of seventy-two (72) hours prior to any excavation, as follows:  
 Kansas One-Call 316.687.2470  
 The Contractor must notify the following in case of an emergency:  
 AT&T 1.800.246.8464  
 Black Hills Energy 1.800.694.8989  
 City of Wichita Water 316.268.4555  
 City of Wichita Sewer 316.268.4073  
 City of Wichita Stormwater 316.268.4090  
 City of Wichita Traffic 316.268.4034  
 Cox Communication 1.888.249.3530  
 Kansas Gas Service 1.888.482.4950  
 Westar Energy 1.800.544.4857
- Utility service lines, poles, ect. are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. Existing utilities and their location, as shown on the plans, represent the best information obtainable for design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
- Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer as to suitability, appearance and the site location. Locations, in the opinion of the Engineer, that will leave an unsightly appearance will not be approved. All disposable sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Board of Agriculture permit. Any material buried or stockpiled beyond approved construction limits would require an additional archeological investigation unless buried in a previously approved borrow location.
- Trees and shrubs in public right-of-way which are in direct conflict with proposed new construction shall be removed by the Contractor with the Engineer's approval. Trees and shrubs which are not in direct conflict with proposed new construction shall be saved and protected from damage.
- The Contractor shall give all property owners and / or tenants of developed property abutting the construction of this project a minimum of ten (10) days notice prior to the start of construction.
- The Contractor shall be responsible for preserving property irons. The Contractor will be required to re-established any property irons which are damage or destroyed by his construction operations. Such irons shall be re-established by a licensed land surveyor in accordance with state laws.
- The Water Distribution Division shall field locate valves one time during construction when requested by the Contractor. It shall be the Contractor's responsibility to preserve such field locations during the construction process. Water valves, valve boxes or fire hydrants damaged during construction shall be repaired by the Contractor at their own expense. Valve boxes and water meters within the project limits shall be adjusted to match field grades.
- The Contractor shall notify the consultant engineer and Tim Mason with the City at 316.268.4574 with the anticipated construction start date and notify them of project completion. Staking and inspection for this project will be the responsibility of the Contractor.
- If traffic is impacted by construction, a traffic control plan must be submitted and approved by the City Traffic Engineer, Brian Coon at traffic@wichita.gov before construction can begin. The Contractor shall be responsible for all traffic control measures to facilitate construction. All construction zone markings and signage shall conform to the latest version of the Manual on Uniform Traffic Control Devices (MUTCD) as published by the US Department of Transportation, Federal Highway Administration. All cost associated with construction markings and signage shall be the Contractors responsibility.
- All elevations shown are Project Datum (Project Datum = NAVD 88 - 1.08')
- All areas disturbed during construction that will not be under proposed pavement shall be restored to match existing conditions.
- A portion of excess excavated material shall be mounded around manholes which extent more than one (1) foot above the existing ground. Such mound shall be constructed with new development a six (6) foot diameter with 4 to 1 side slopes down to the original ground. The elevation of the flat top of the mound shall be 0.4 foot below the top of the manhole.
- Geotechnical report available upon request.
- Contractor shall limit the extent of trench openings overnight and weekends to less than 50 feet.
- Contractor shall provide positive drainage away from all manhole covers.
- City maintenance of storm sewer ends at right-of-way or easement line.
- Any sidewalk, drive approach or street pavement removed to construct project, must have a pavement cut permit and be replaced by the City contractor. Permits can be obtained by calling 316.268.4501 or 316.268.4480.
- The inspection firm shall submit to the City Stormwater Maintenance Division a Digital copy of the CCTV inspection of the conduits and structures following construction. The digital file formation shall be compatible with the City input template. A copy of the template is available upon request at 316.268.4090

Line A

Structure	Station	Northing	Easting
A1	0+06.00	1702176.16	1687384.20
A2	0+18.87	1702175.99	1687395.07
A3	1+55.63	1702312.24	1687421.36
A4	3+03.63	1702313.64	1687569.36
A5	4+04.63	1702314.59	1687670.35

Line B

Structure	Station	Northing	Easting
A2	0+00.00	1702175.99	1687395.07
B1	0+78.50	1702097.50	1687395.78

Line C

Structure	Station	Northing	Easting
C1	0+06.00	1701985.33	1687604.71
C2	0+35.27	1702013.33	1687613.27
C3	1+47.76	1702106.64	1687676.09

Line D

Structure	Station	Northing	Easting
C2	0+00.00	1702013.33	1687613.27
D1	1+43.00	1702011.98	1687470.27

Line E

Structure	Station	Northing	Easting
A4	0+00.00	1702313.64	1687569.36
E1	1+28.00	1702441.63	1687568.15

PROJECT BENCHMARK

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

BENCHMARKS:

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

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 Chiseled Square cut on south curb of 27th Street approximately 690 feet east of intersection of Greenwich Road.  
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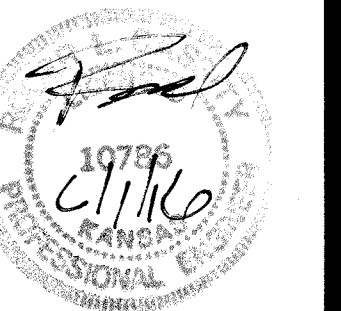
SUMMARY OF QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNIT
1	15" RCP	562.99	LF
2	24" RCP	177.27	LF
3	30" RCP	149.63	LF
4	6' x 4' Type I Curb Inlet	9	EA
5	24 Restrained End Section with Toe Wall	1	EA
6	30" Restrained End Section with Toe Wall	1	EA
7	Oil-Debris Hood	2	EA
8	Seeding	1	LS
9	Erosion Control	1	LS

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

NO.	BY	DATE	DESCRIPTION
1.	JAR	09/04/16	PER CITY COMMENTS
	JAR	03/30/16	ORIGINAL SUBMITTAL
			REVISION

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





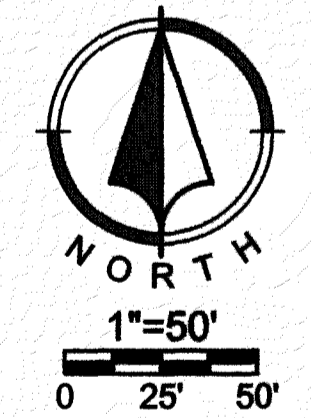
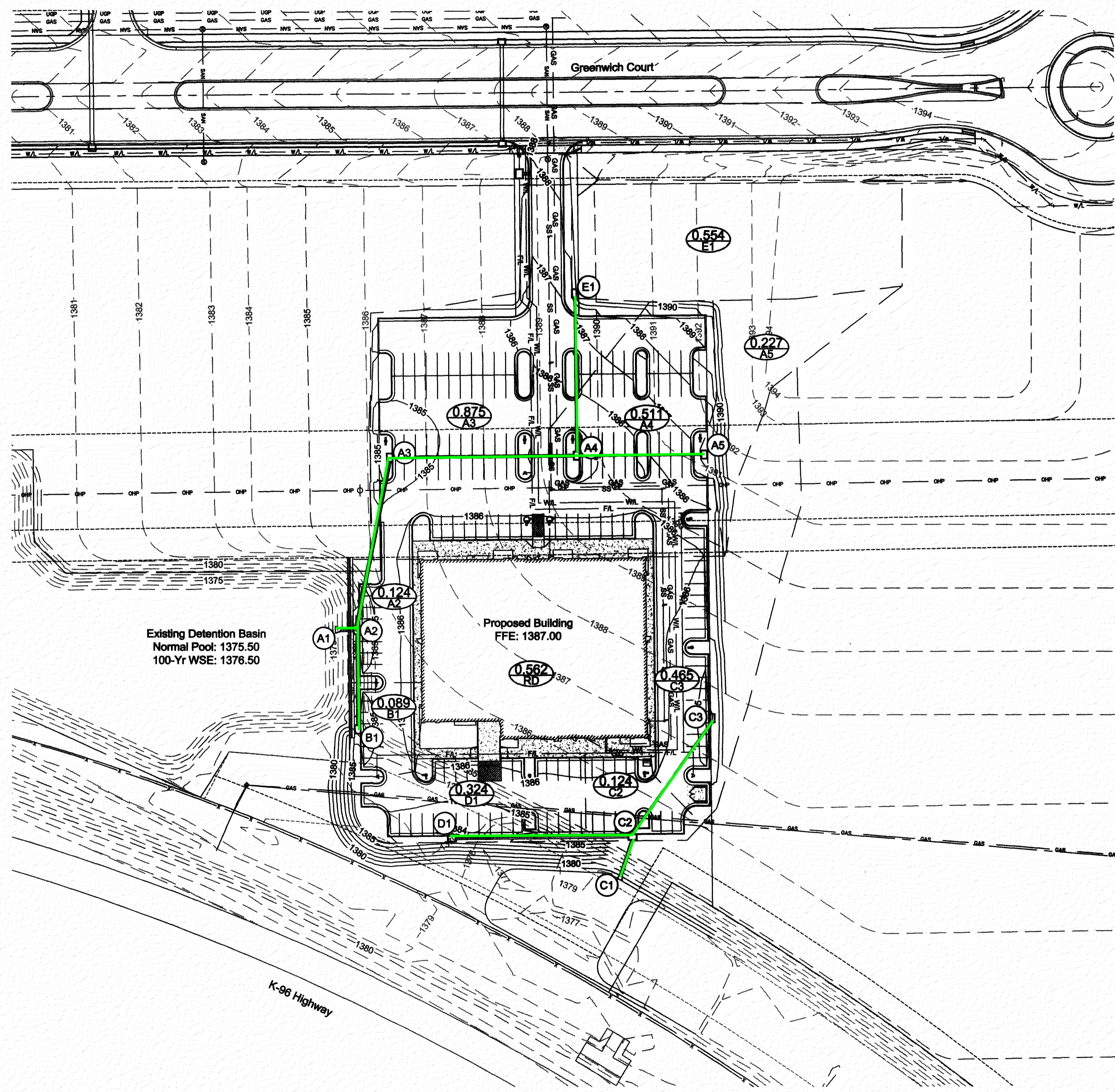
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XXX	XXX	XXX	XXX
XXX	XXX	XXX	XXX

**Renaissance Infrastructure Consulting**  
 1139 W. CAMBRIDGE CIRCLE DRIVE  
 KANSAS CITY, KANSAS 64103  
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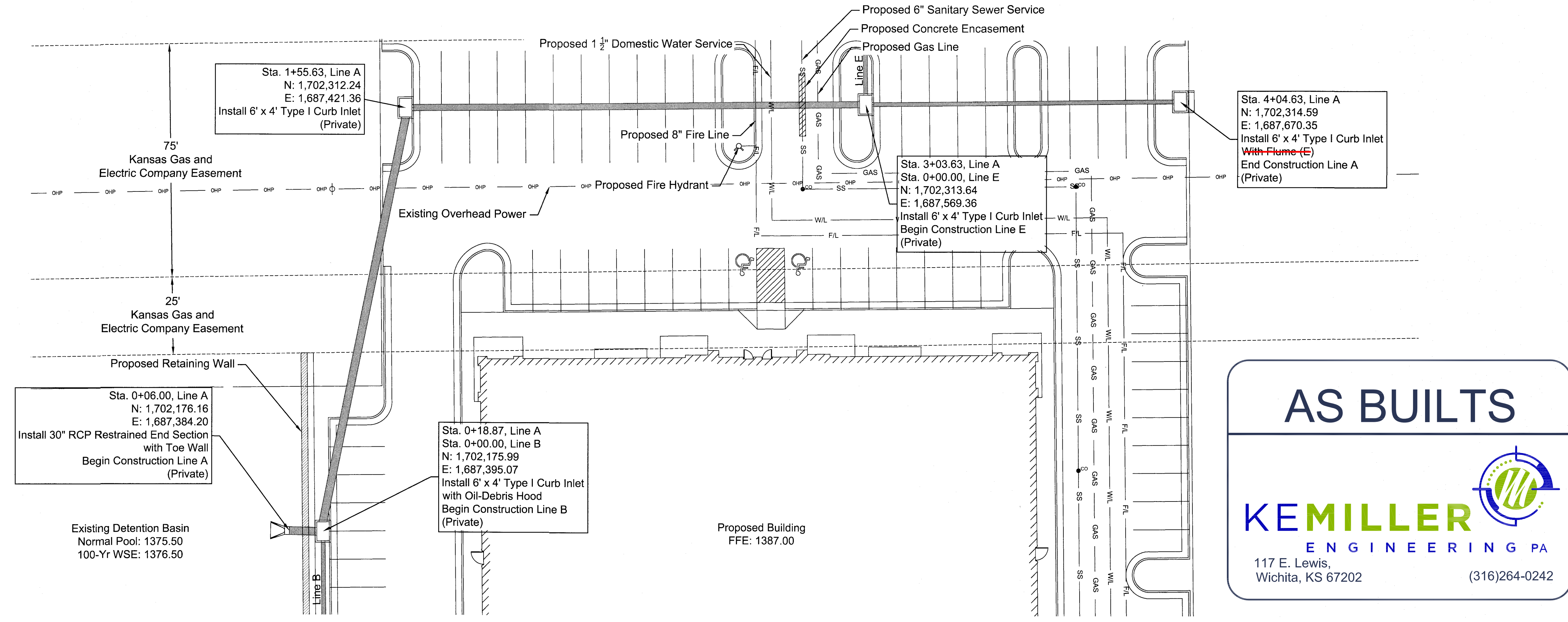
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  - TBM 3:**  
Chiseled Square cut on south side of 27<sup>th</sup> Street approximately 330 feet east  
of intersection of Greenwich Road.  
RIC Project Datum Elev. = 1378.36



Existing Detention Basin  
 Normal Pool: 1375.50  
 100-Yr WSE: 1376.50

Proposed Building  
 FFE: 1387.00

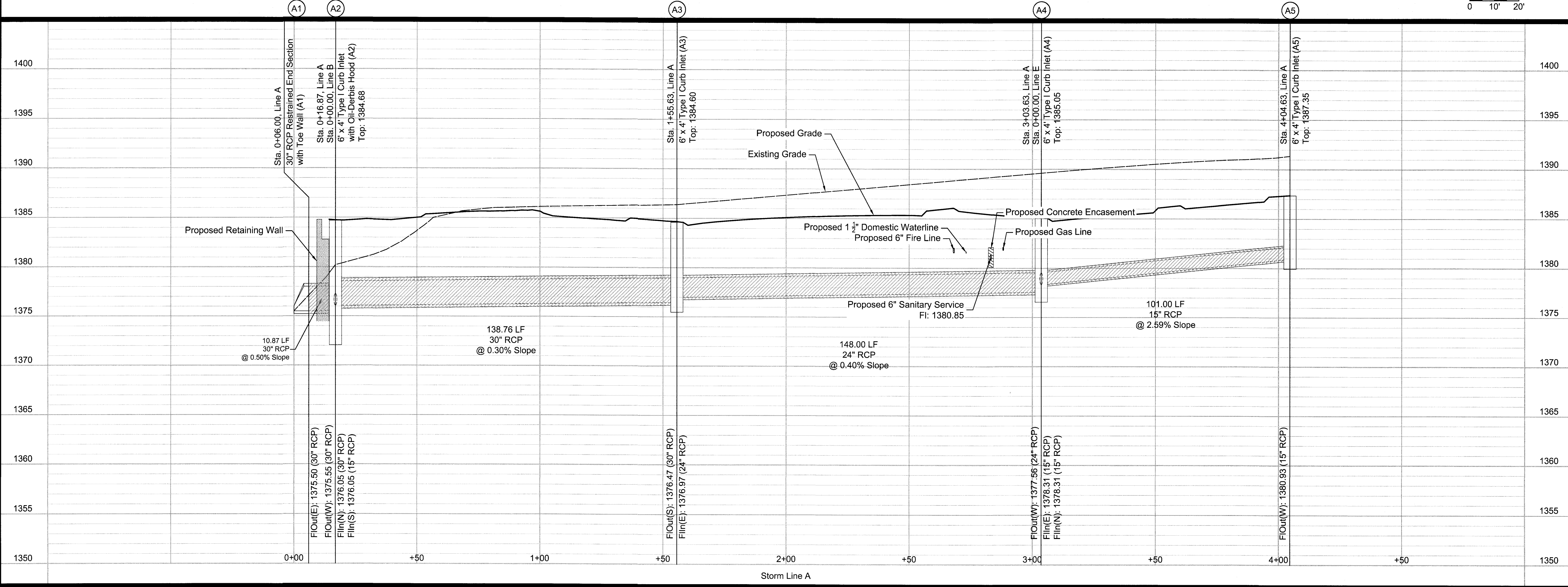




**AS BUILTS**

**KEMILLER ENGINEERING PA**

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



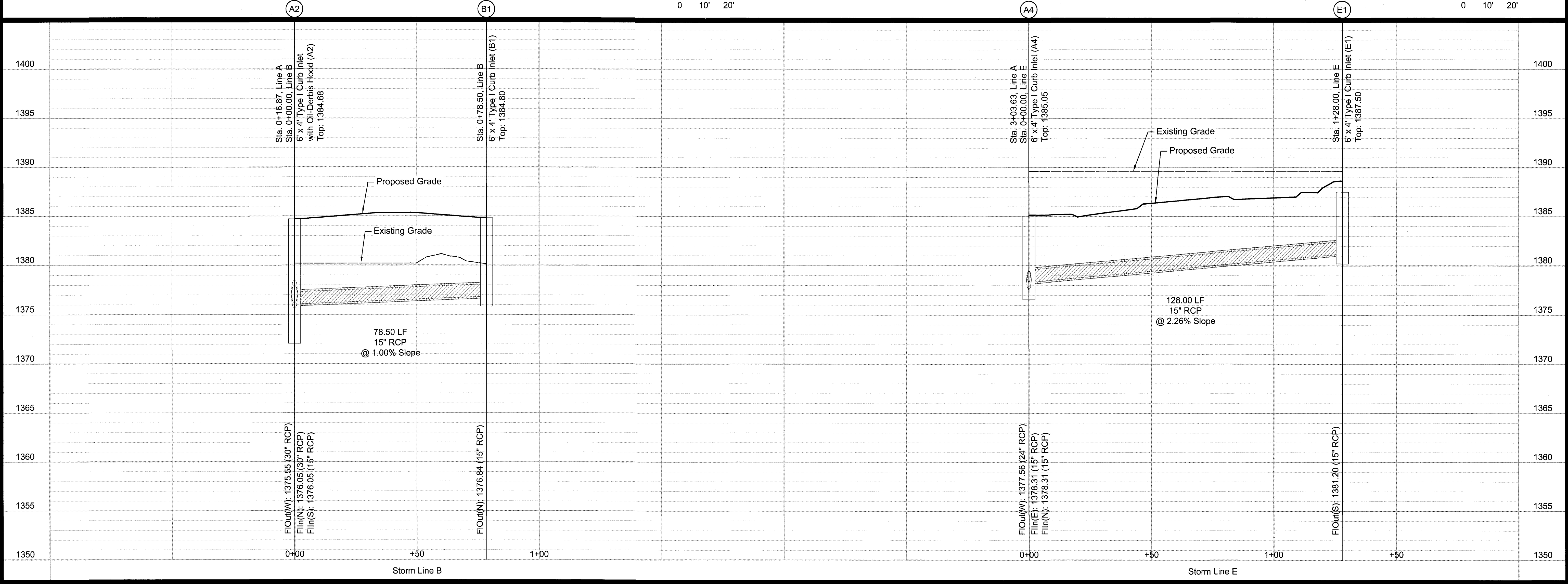
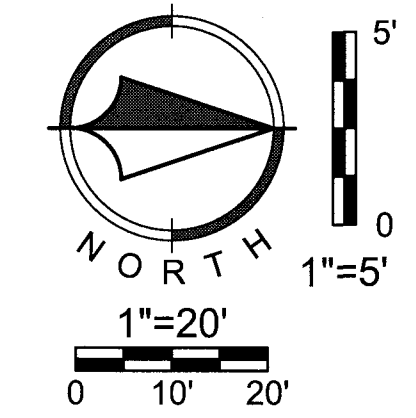
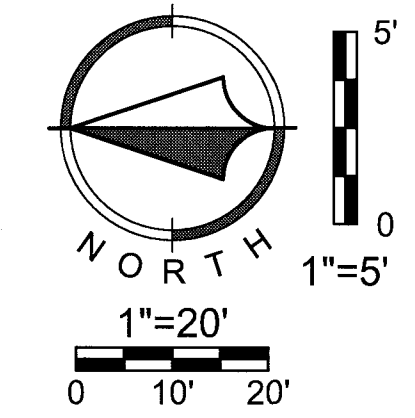
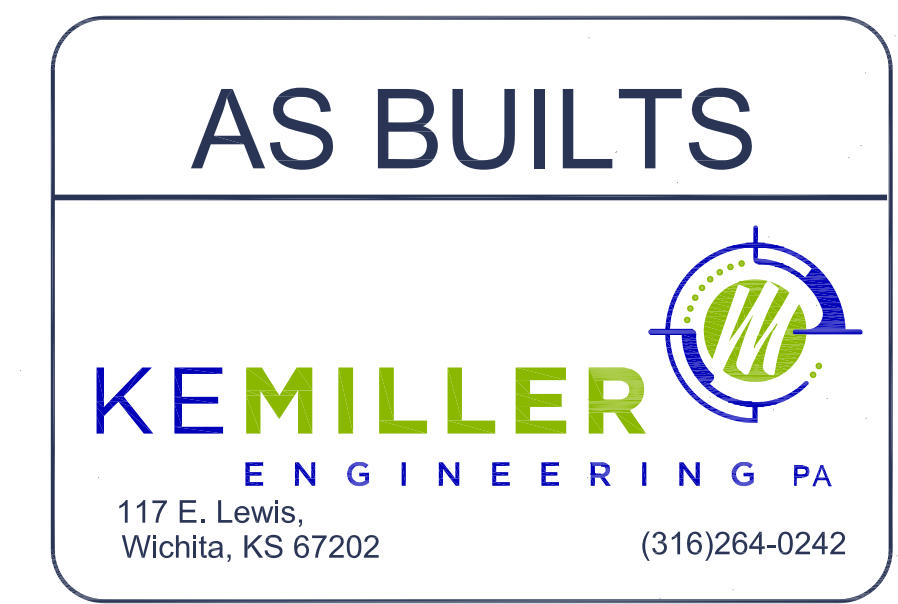
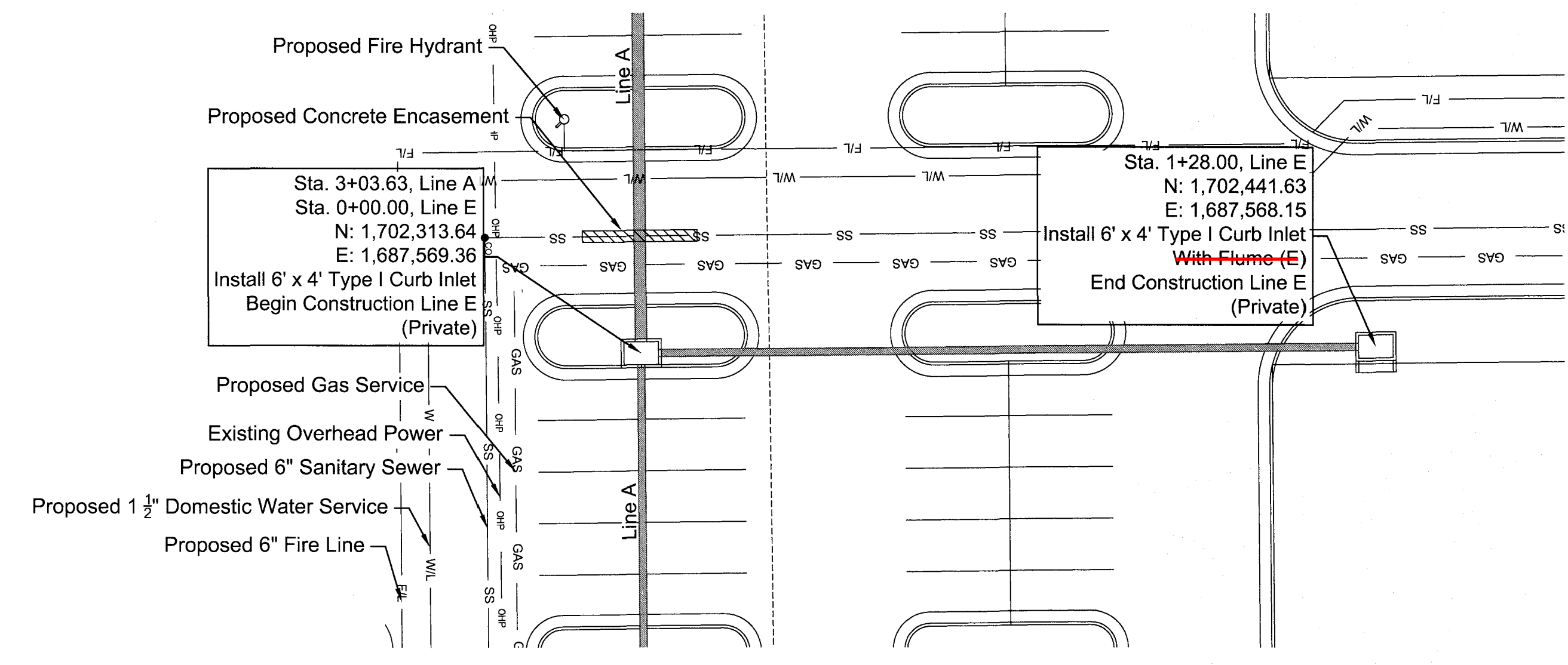
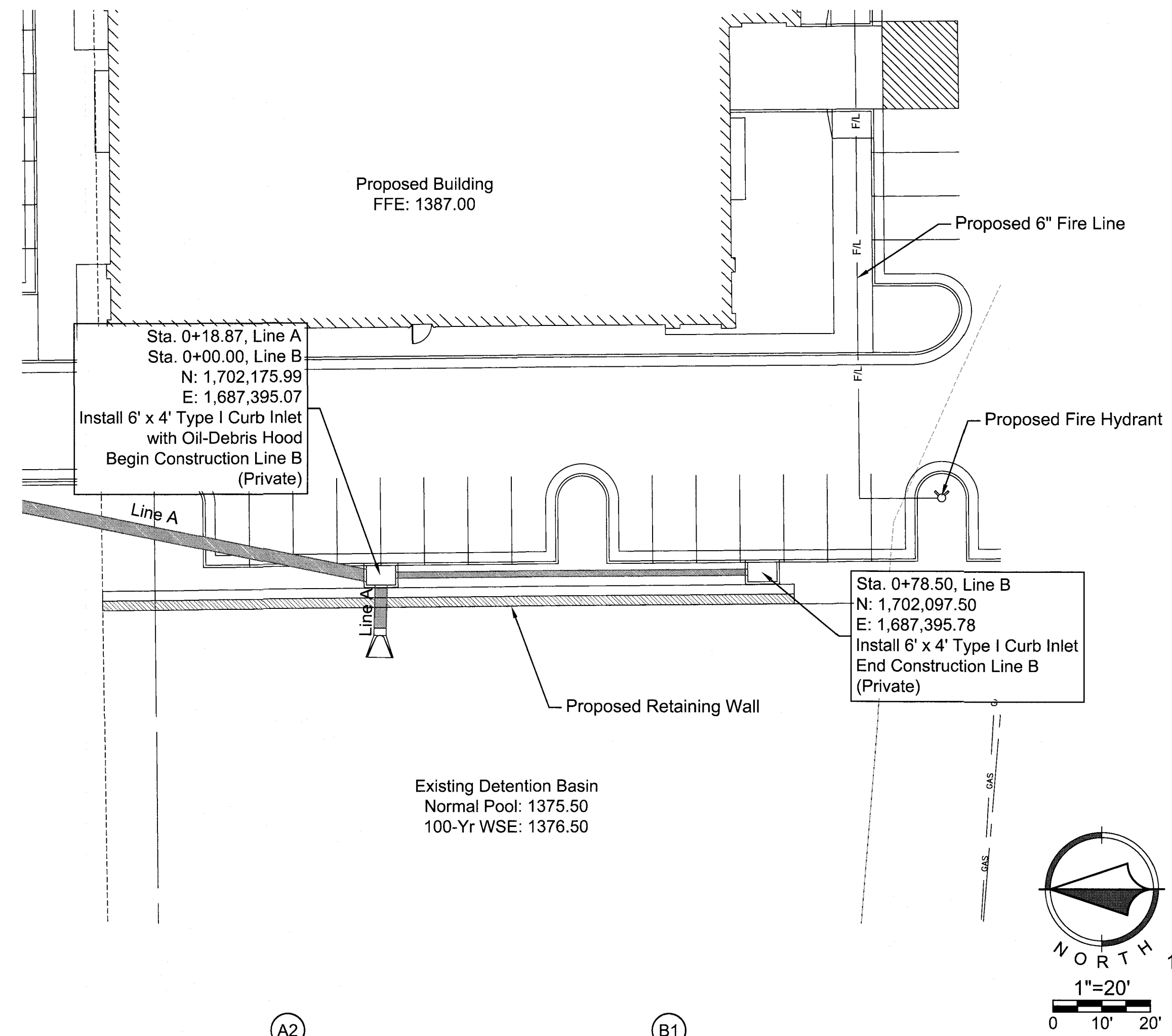
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	JAR	03/03/16	ORIGINAL SUBMITTAL

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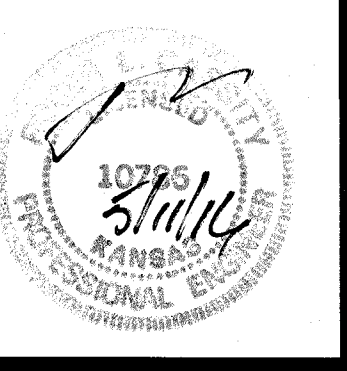


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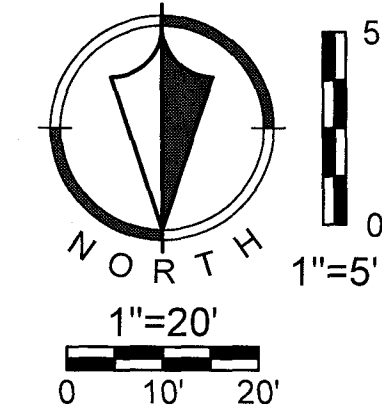
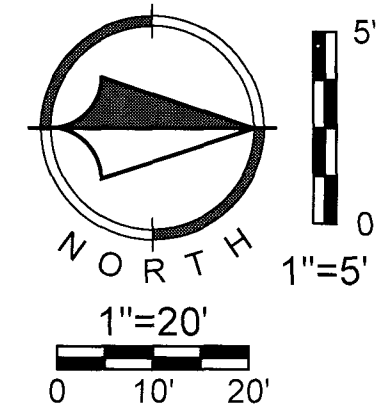
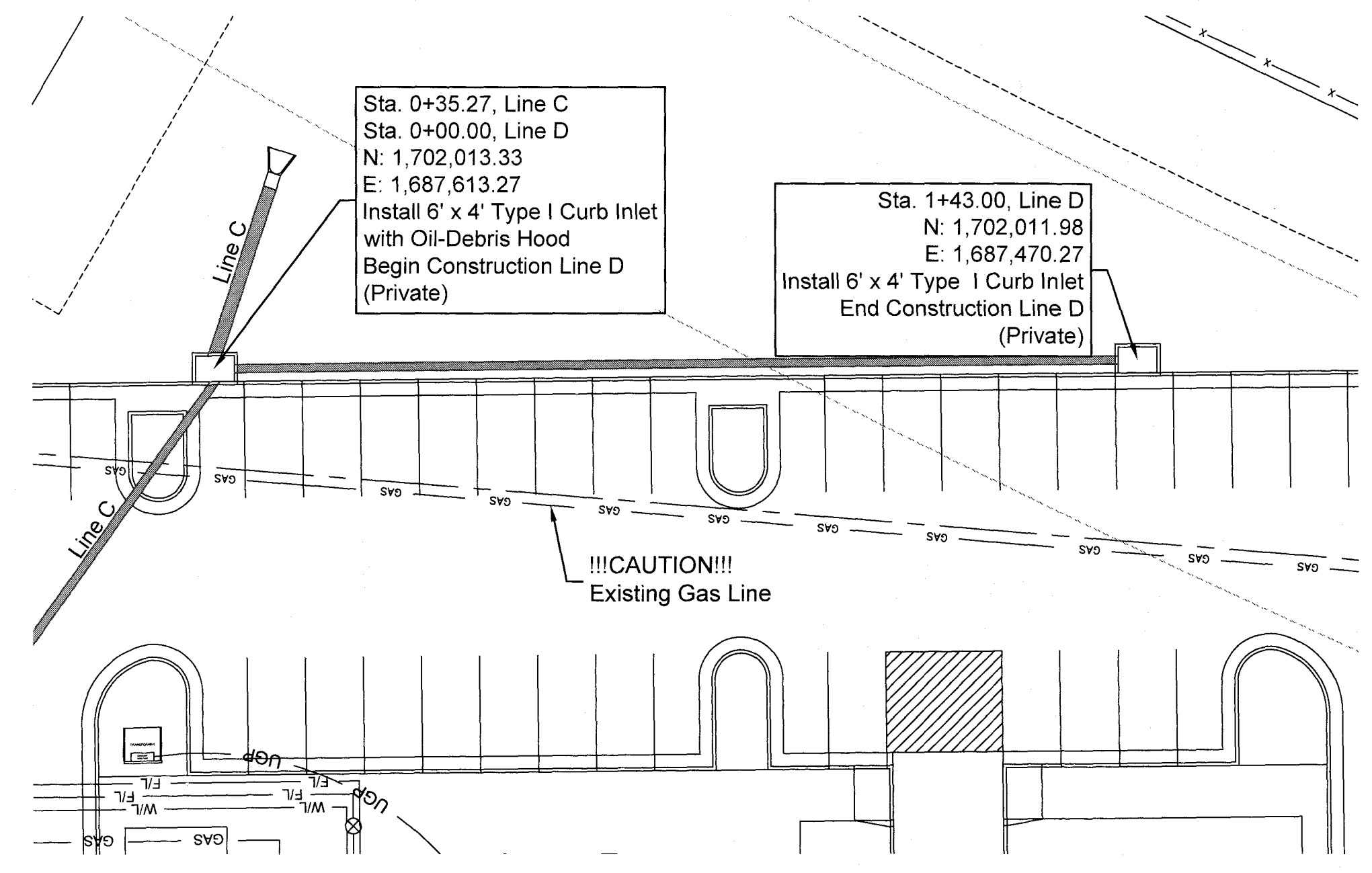
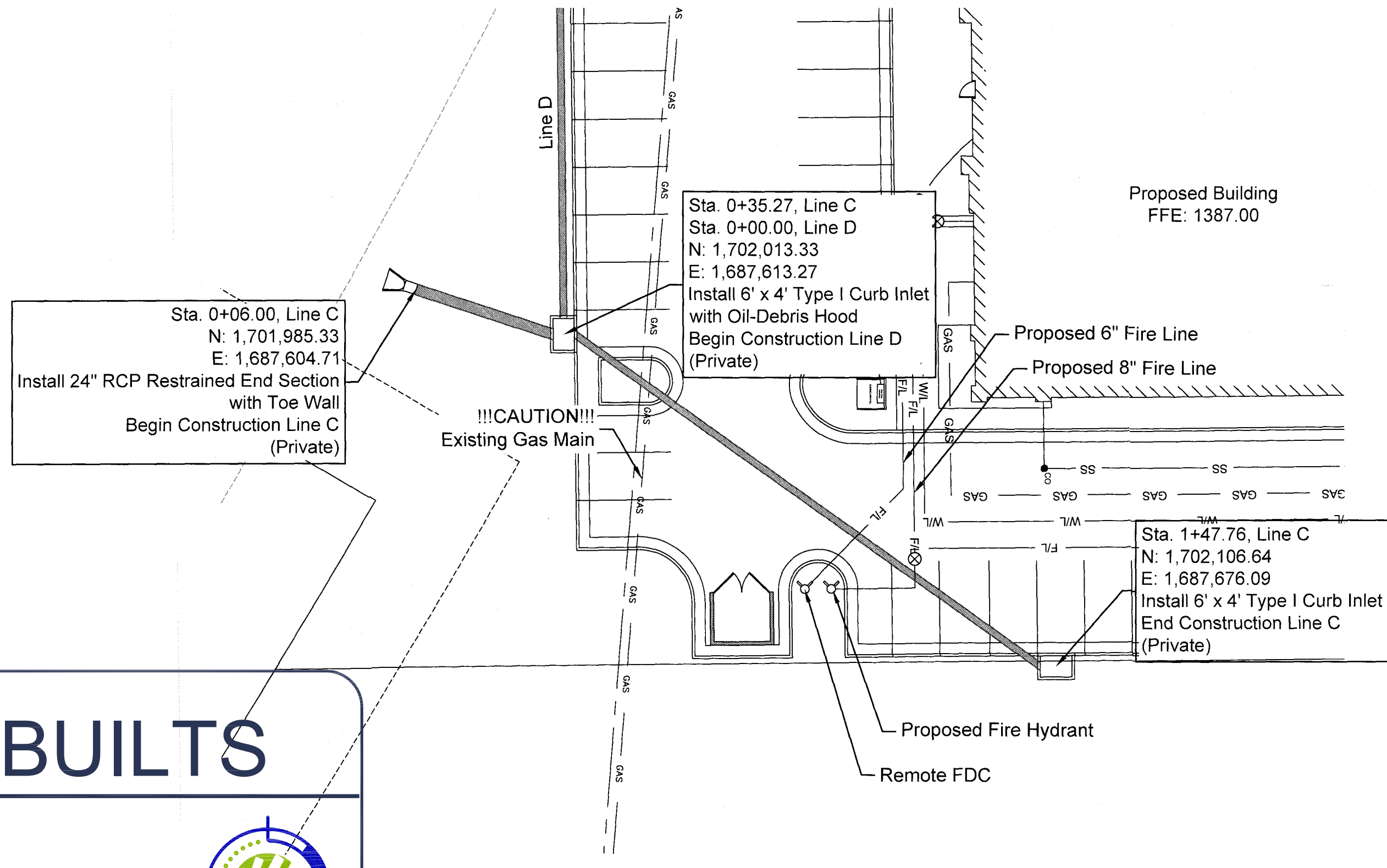


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	JAR	03/30/16	ORIGINAL SUBMITTAL

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May 04, 2016, 4:13pm  
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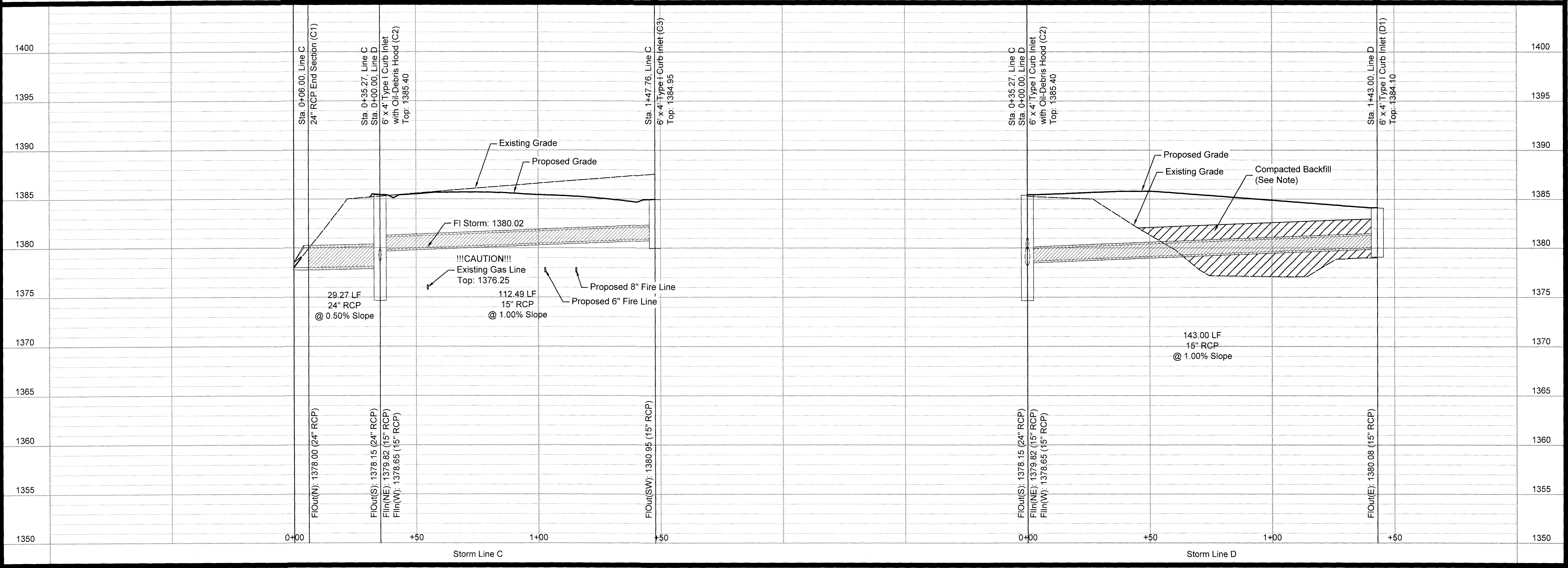


**NOTE**  
Contractor to Locate All Existing Utilities both Horizontally and Vertically Prior to Construction

**COMPACTED BACKFILL NOTE**  
Place Fill 18" Minimum Over Pipe & Compact to 95% Prior to Installation of Storm Sewer. After Mass Grading Place Storm Pipe in Typical Trench Section.

**AS BUILTS**

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

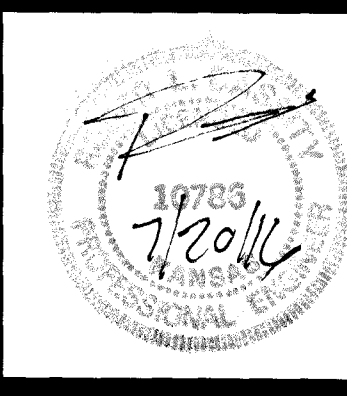


NO.	BY	DATE	REVISION
2	JAR	07/20/16	PER REVISED STORM SEWER
1	JAR	09/01/16	PER CITY COMMENTS
	JAR	03/30/16	ORIGINAL SUBMITTAL

**Renaissance Infrastructure Consulting**

915.317.9500  
WWW.RIC-CONSULT.COM

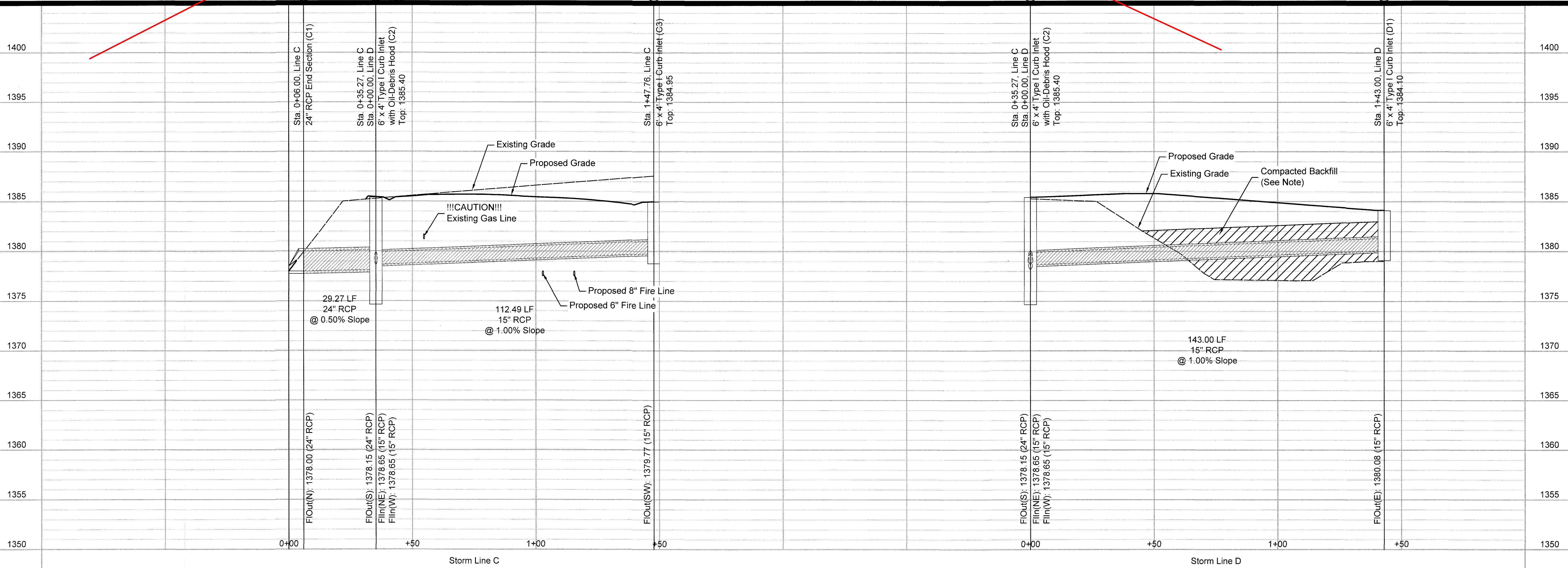
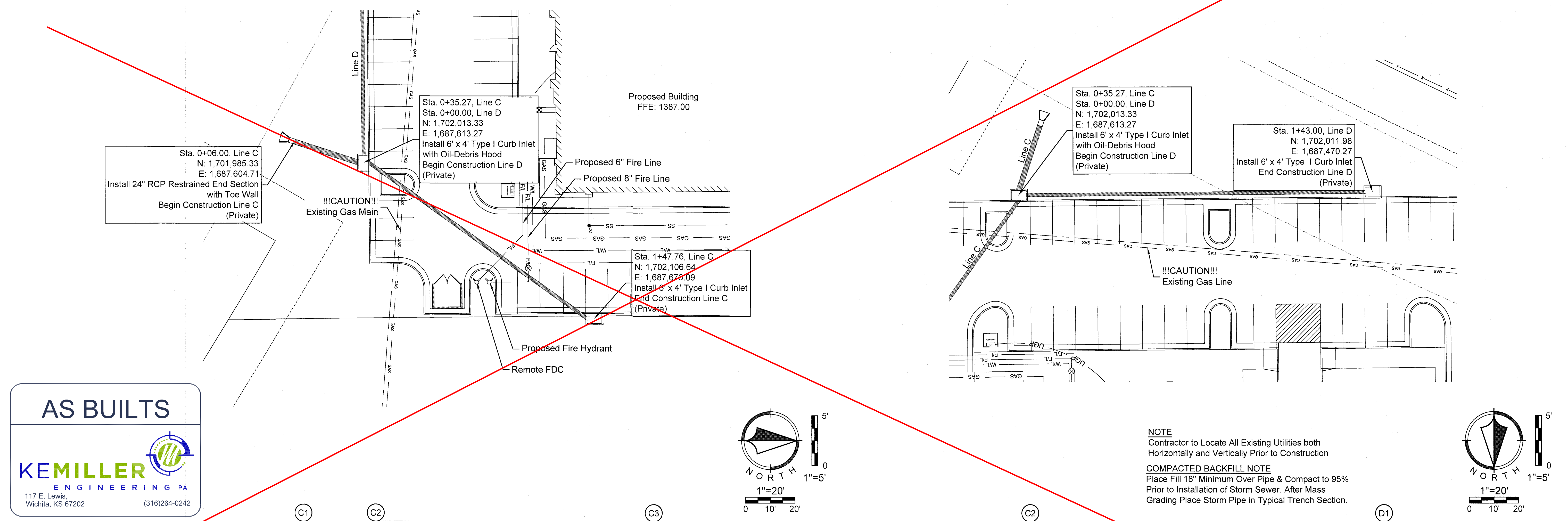
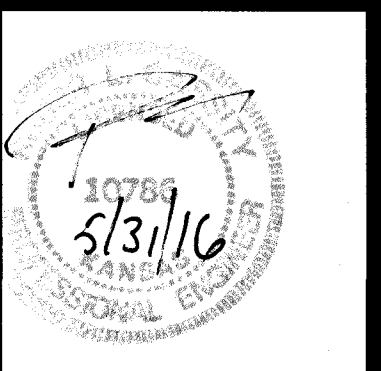
1138 W. CAMBRIDGE CIRCLE DRIVE  
KANSAS CITY, KANSAS 66103



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NO	BY	DATE	REVISION
1	JAR RLC	05/04/16	PER CITY COMMENTS
	JAR RLC	03/02/16	ORIGINAL SUBMITTAL

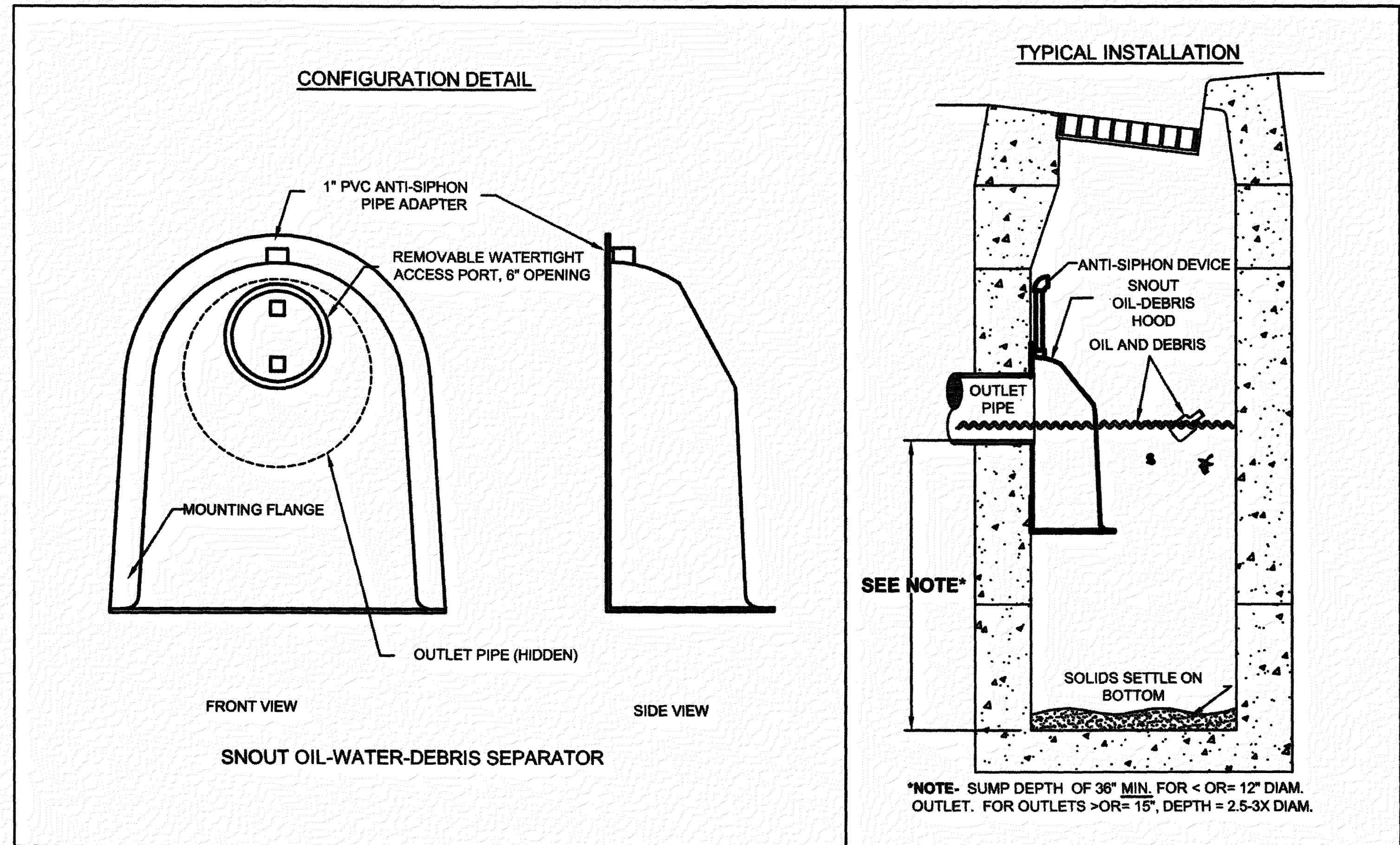
**Renaissance Infrastructure Consulting**  
1138 W. CAMBRIDGE CIRCLE DRIVE  
KANSAS CITY, KANSAS 66105  
913.377.9500  
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May 25, 2016, 11:48am  
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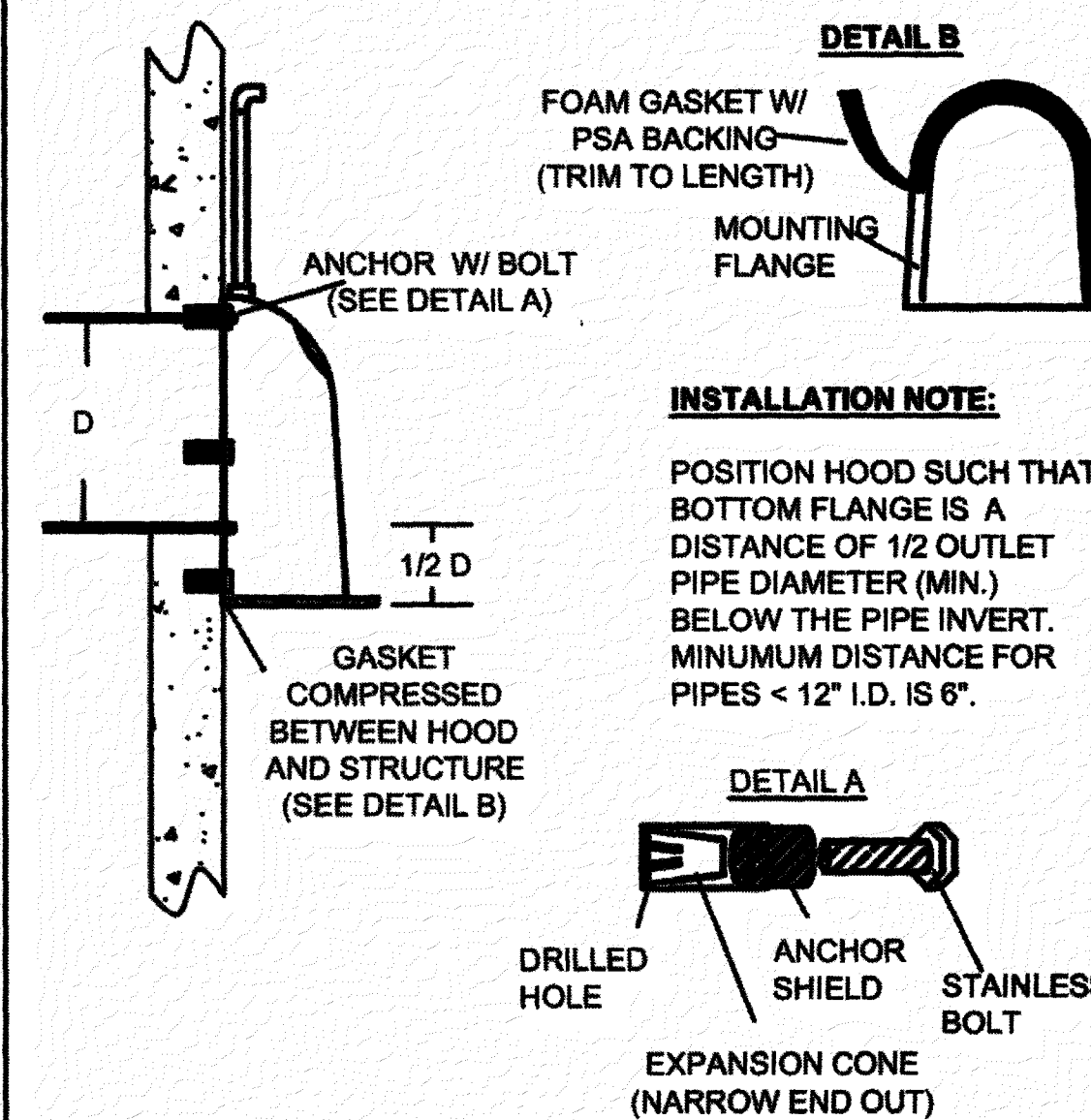
**NOTE**  
Sump Depth shall be According to the Following, as Measured from the Flowline of the Structure Outline Pipe:  
A2 = 36"  
C2 = 36"

**NOTES:**

- ALL HOODS AND TRAPS FOR CATCH BASINS AND WATER QUALITY STRUCTURES SHALL BE AS MANUFACTURED BY:  
BEST MANAGEMENT PRODUCTS, INC.  
53 MT. ARCHER RD.  
LYME, CT 06371  
(860) 434-0277, (860) 434-3195 FAX  
TOLL FREE: (800) 504-8008 OR (888) 354-7585  
WEB SITE: [www.bmpinc.com](http://www.bmpinc.com)  
OR PRE-APPROVED EQUAL
- ALL HOODS SHALL BE CONSTRUCTED OF A GLASS REINFORCED RESIN COMPOSITE WITH ISO GEL COAT EXTERIOR FINISH WITH A MINIMUM 0.125" LAMINATE THICKNESS.
- ALL HOODS SHALL BE EQUIPPED WITH A WATERTIGHT ACCESS PORT, A MOUNTING FLANGE, AND AN ANTI-SIPHON VENT AS DRAWN. (SEE CONFIGURATION DETAIL)
- THE SIZE AND POSITION OF THE HOOD SHALL BE DETERMINED BY OUTLET PIPE SIZE AS PER MANUFACTURER'S RECOMMENDATION.
- THE BOTTOM OF THE HOOD SHALL EXTEND DOWNWARD A DISTANCE EQUAL TO 1/2 THE OUTLET PIPE DIAMETER WITH A MINIMUM DISTANCE OF 6" FOR PIPES <12" I.D.
- THE ANTI-SIPHON VENT SHALL EXTEND ABOVE HOOD BY MINIMUM OF 3" AND A MAXIMUM OF 24" ACCORDING TO STRUCTURE CONFIGURATION.
- THE SURFACE OF THE STRUCTURE WHERE THE HOOD IS MOUNTED SHALL BE FINISHED SMOOTH AND FREE OF LOOSE MATERIAL.
- THE HOOD SHALL BE SECURELY ATTACHED TO STRUCTURE WALL WITH 3/8" STAINLESS STEEL BOLTS AND OIL-RESISTANT GASKET AS SUPPLIED BY MANUFACTURER. (SEE INSTALLATION DETAIL)
- INSTALLATION INSTRUCTIONS SHALL BE FURNISHED WITH MANUFACTURER SUPPLIED INSTALLATION KIT.  
INSTALLATION KIT SHALL INCLUDE:  
A. INSTALLATION INSTRUCTIONS  
B. PVC ANTI-SIPHON VENT PIPE AND ADAPTER  
C. OIL-RESISTANT CRUSHED CELL FOAM GASKET WITH PSA BACKING  
D. 3/8" STAINLESS STEEL BOLTS  
E. ANCHOR SHIELDS

US Patent # 6126817

**INSTALLATION DETAIL**

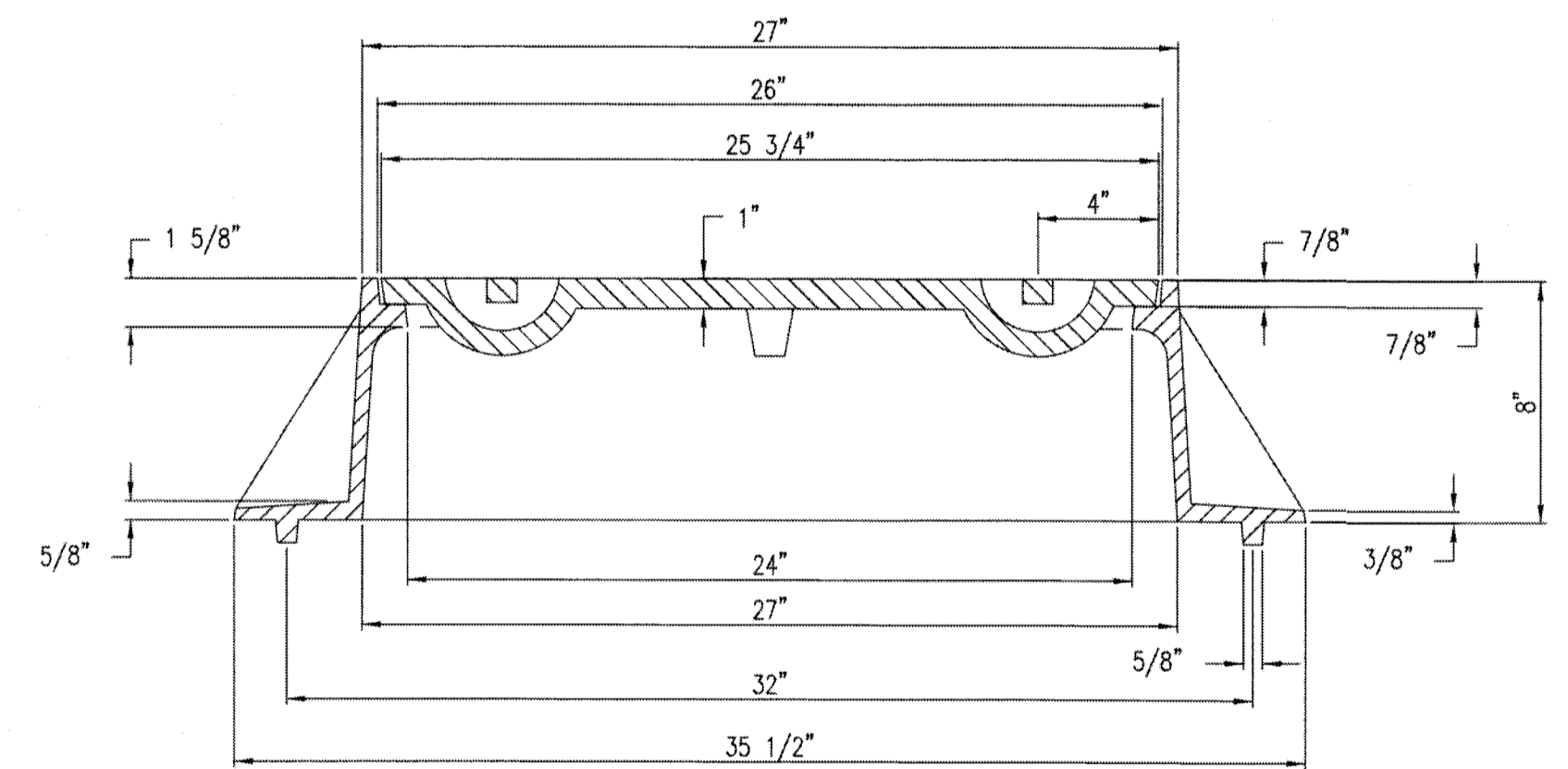
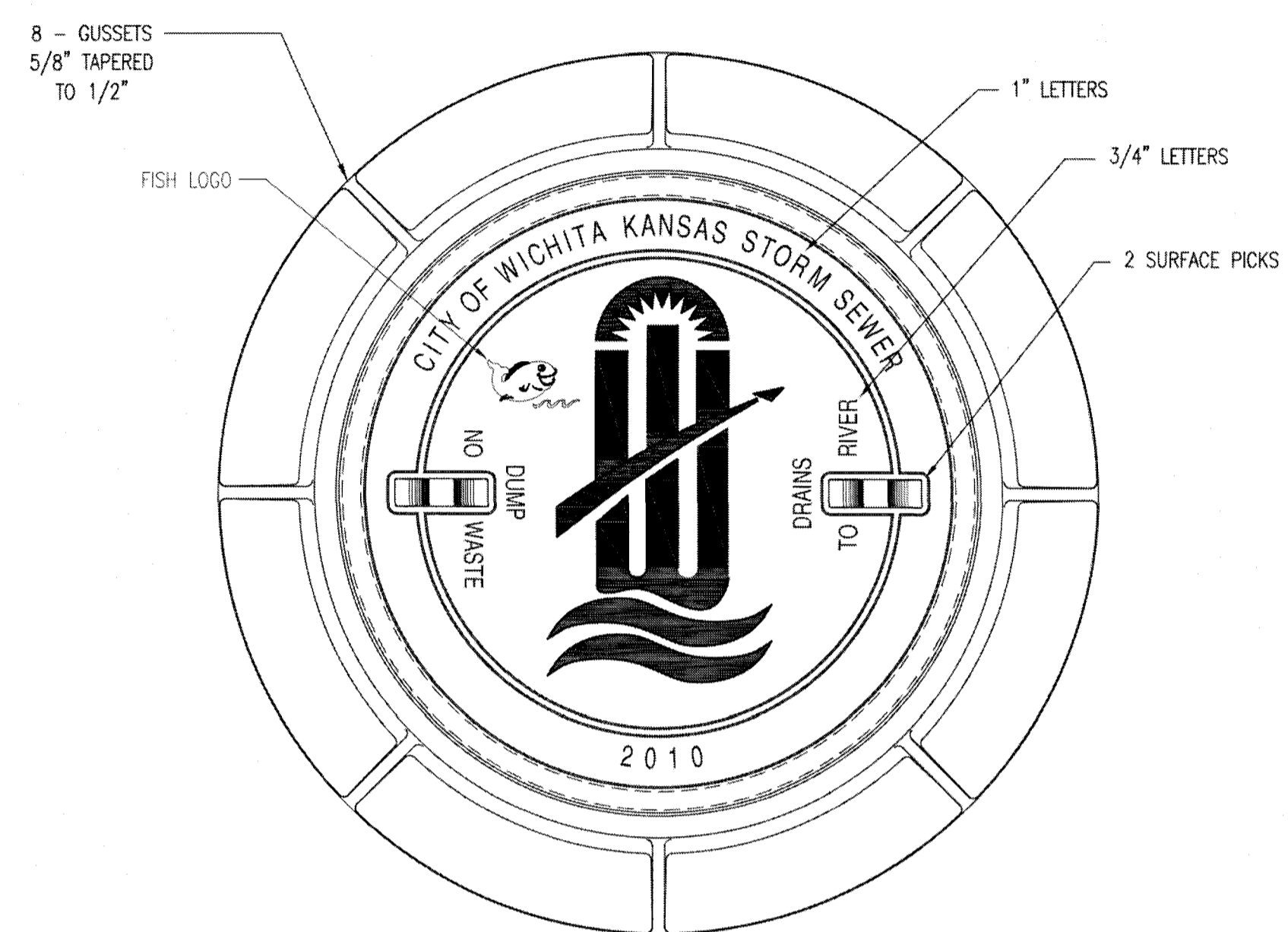


**HOOD SPECIFICATION FOR CATCH BASINS AND WATER QUALITY STRUCTURES**

DESCRIPTION OIL- DEBRIS HOOD SPECIFICATION AND INSTALLATION (TYPICAL)	DATE 09/08/00	SCALE NONE
DRAWING NUMBER SP-SN		

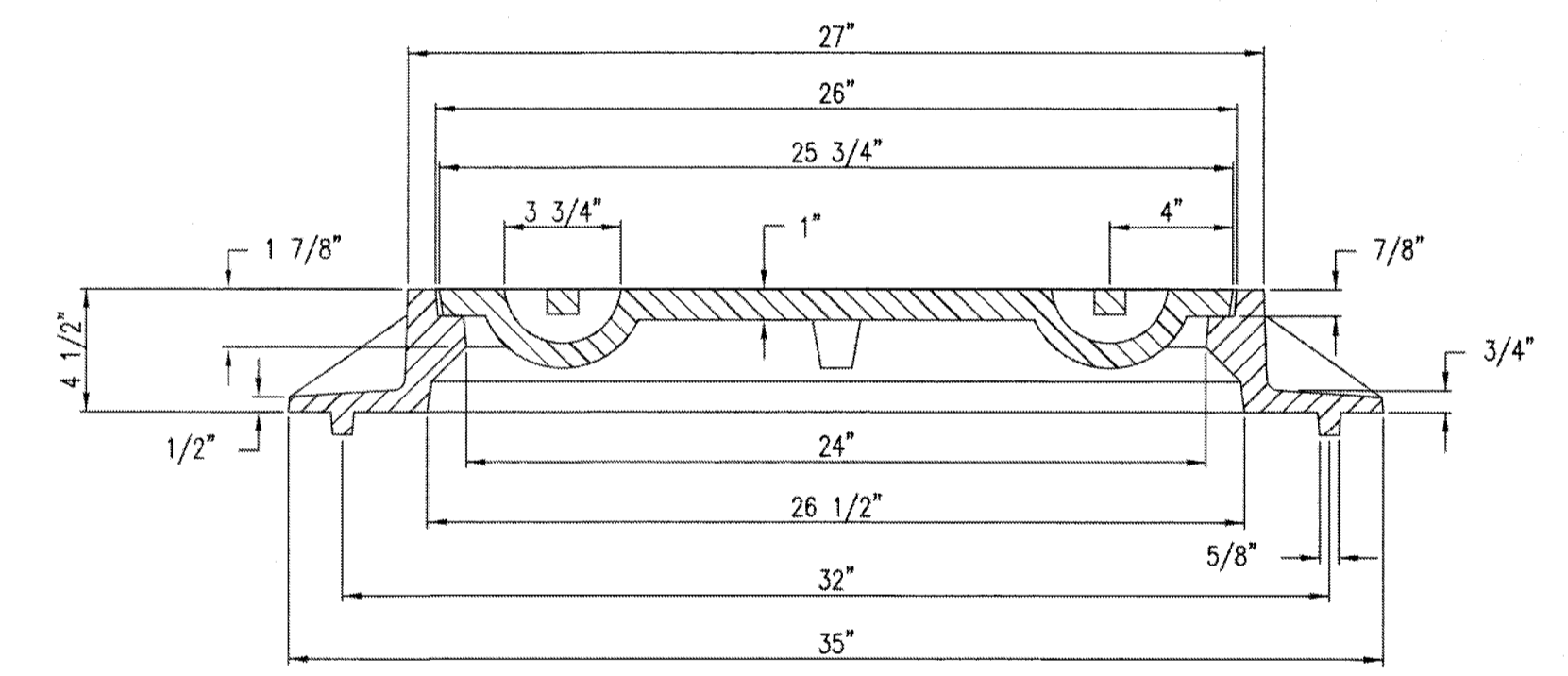
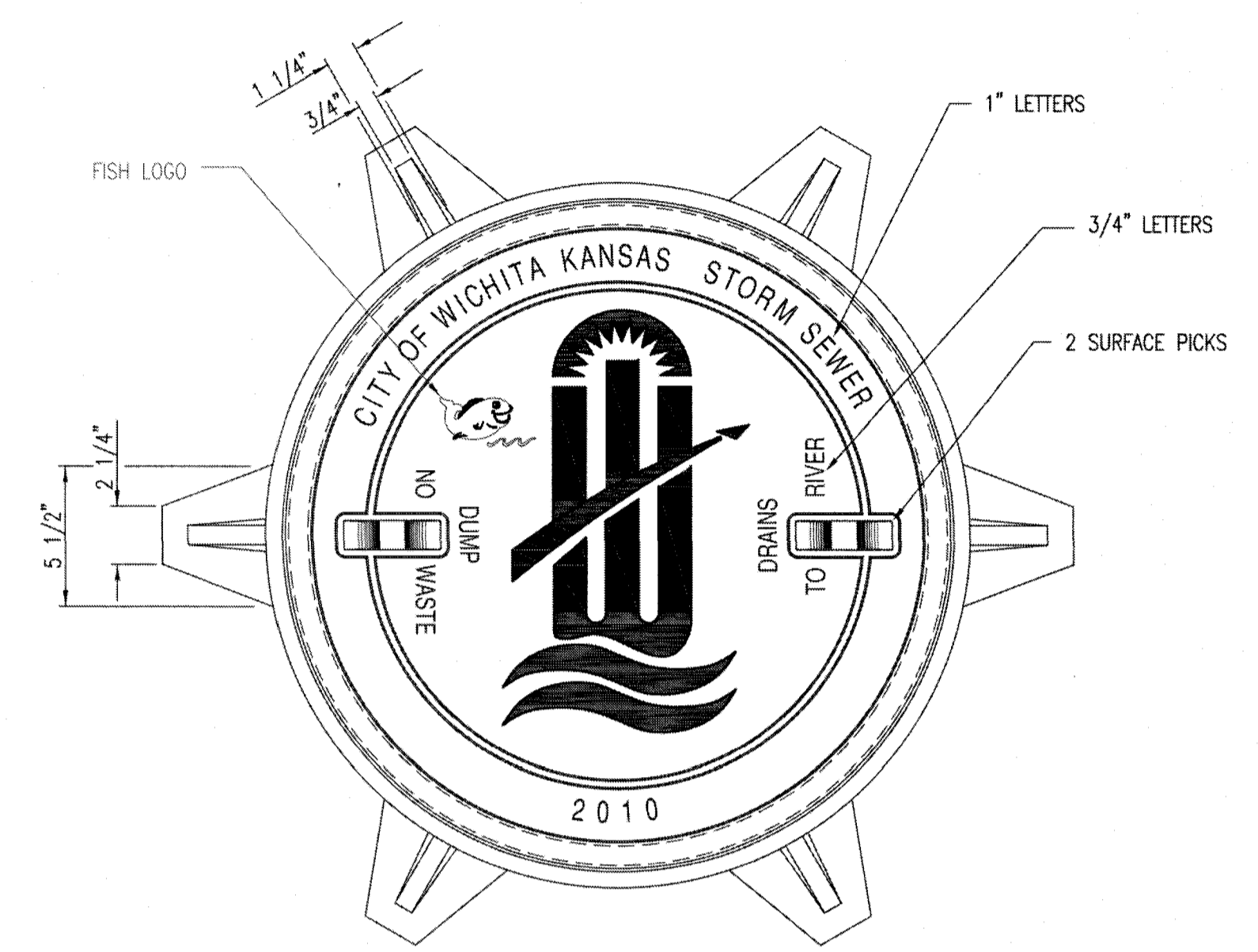
NO.	BY	DATE	REVISION





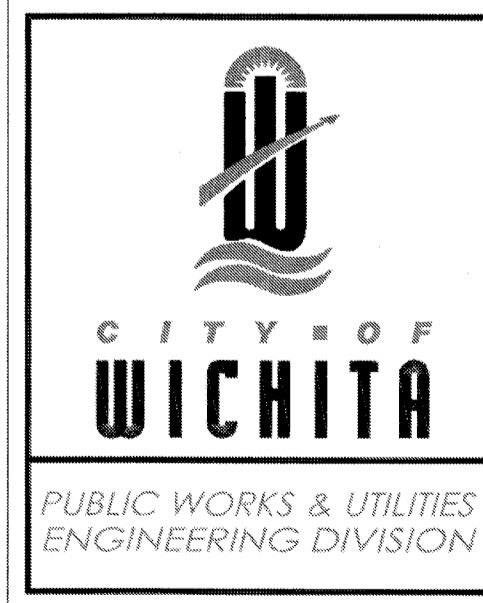
**MANHOLE FRAME**  
DEETER #1261 OR EJIW #1936-Z1

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



**INLET FRAME**  
DEETER #2014 OR EJIW #1936-Z4

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

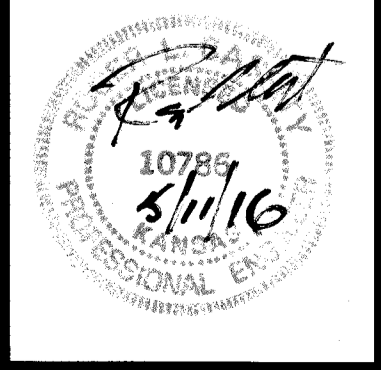


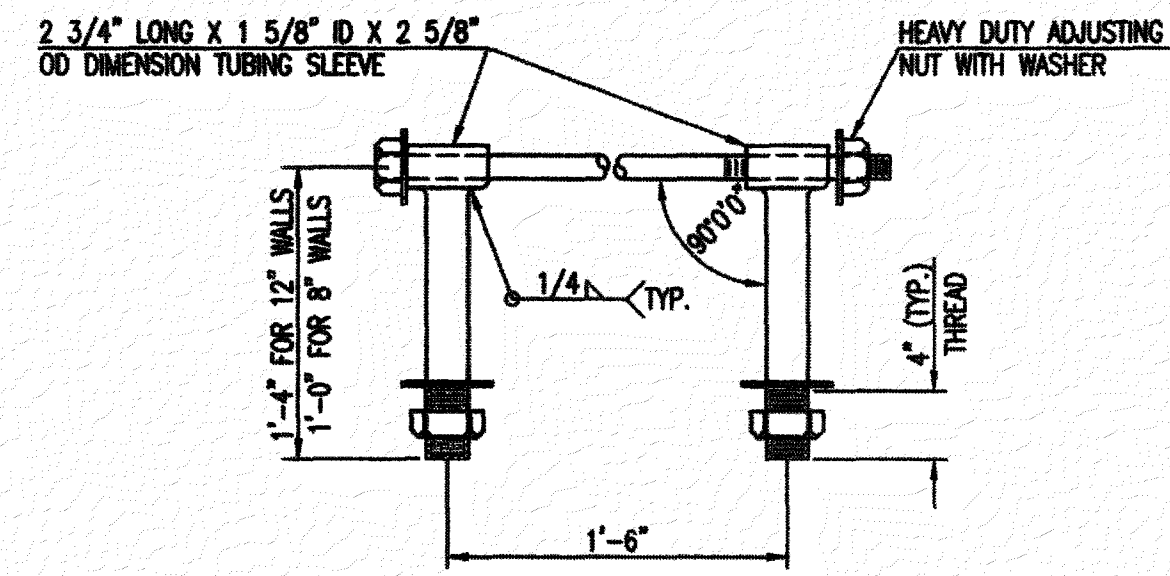
MANHOLE/INLET FRAME AND COVER (STORM SEWER)		
CITY ENGINEER		
GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE
		11/2010
CITY ENGINEER'S OFFICE		SHEET
CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		

SW-303

NO.	BY	DATE	DESCRIPTION
1.	JAR	10/04/16	PER CITY COMMENTS
	JAR	10/30/16	ORIGINAL SUBMITTAL
	GC		REVISION

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

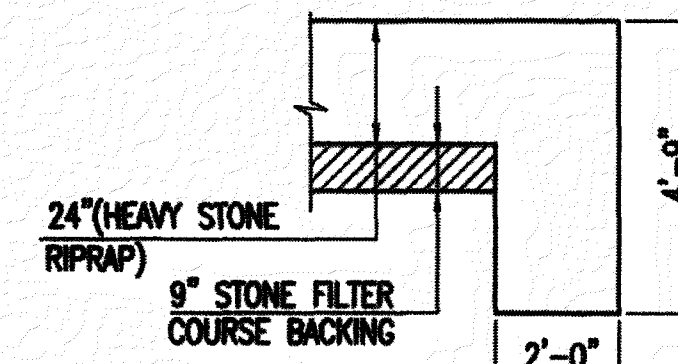




**HEAVY DUTY (H.D.) COUPLER**

NO SCALE

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

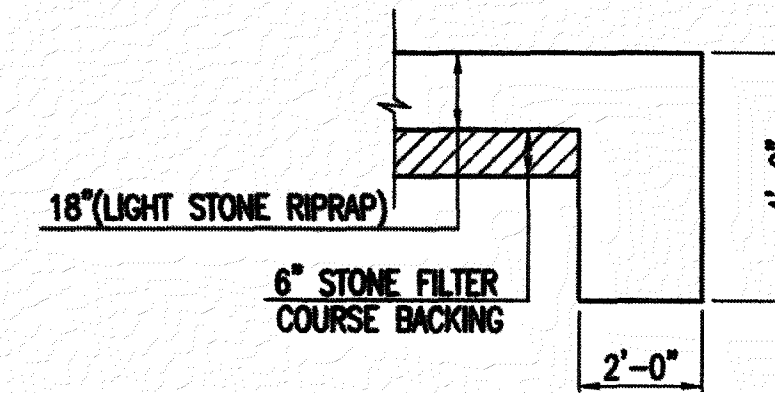


**TYPICAL SECTION THRU TOEWALL**

NO SCALE

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

**HEAVY STONE RIPRAP DETAILS**

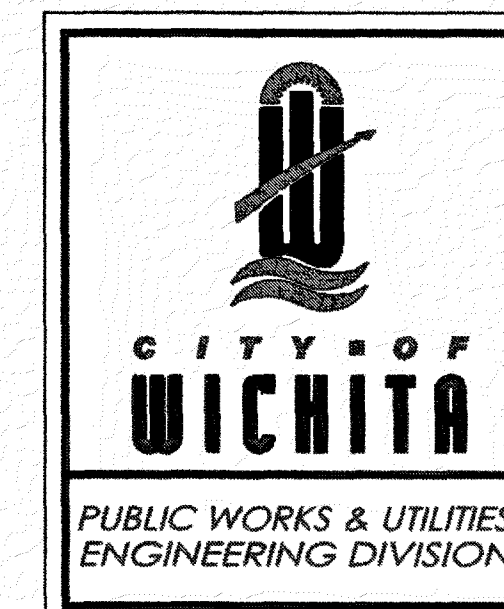


**TYPICAL SECTION THRU TOEWALL**

NO SCALE

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

**LIGHT STONE RIPRAP DETAILS**



**MISCELLANEOUS  
DETAILS  
(STORM SEWER)**

CITY ENGINEER

**GARY JANZEN, P.E.**

PROJECT NUMBER	OCA NUMBER	DATE
		11/2010

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

SHEET

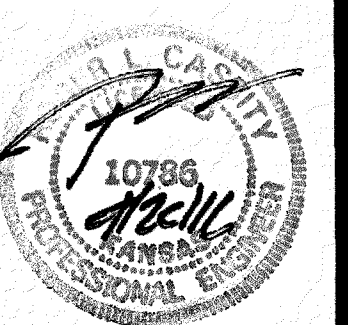
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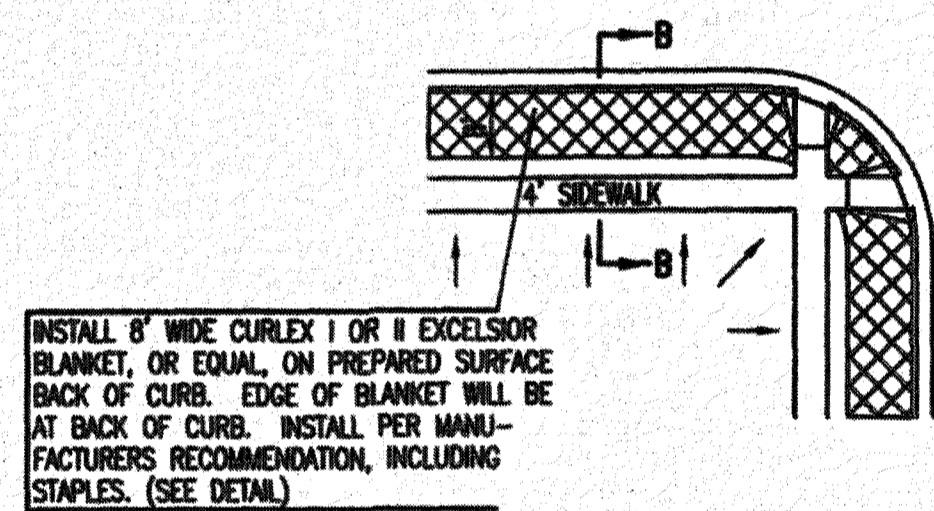
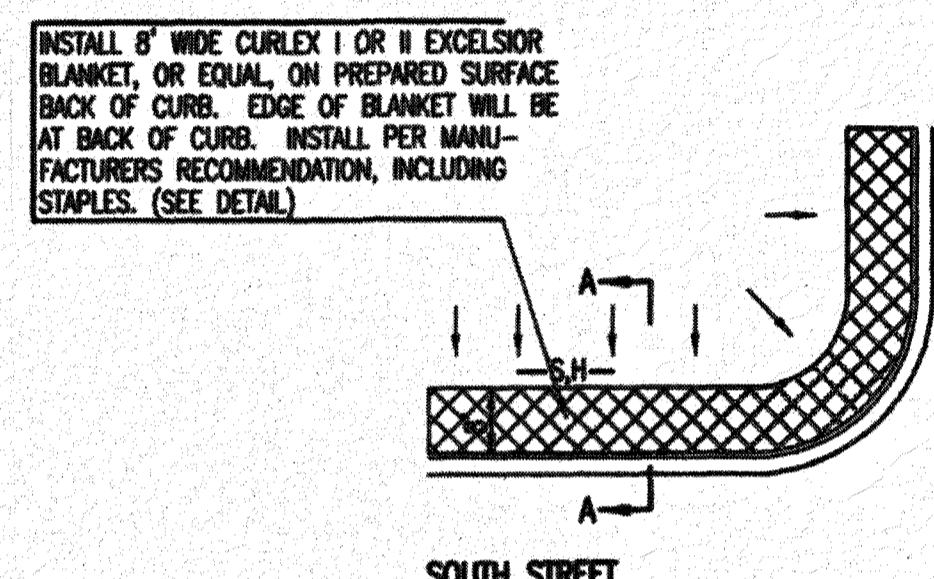
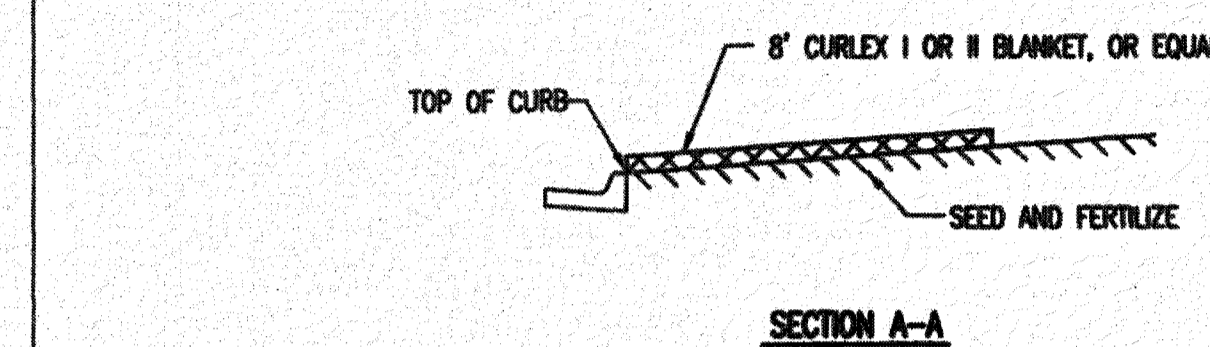
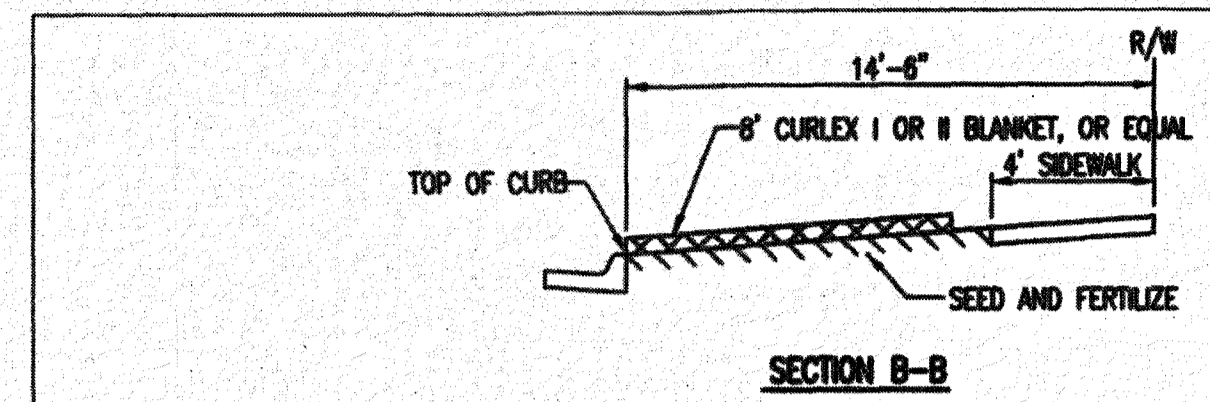
NO.	BY	CD	DATE	ORIGINAL SUBMITTAL REVISION

**Renaissance  
Infrastructure  
Consulting**

913.317.9500  
WWW.RIC-CONSULT.COM

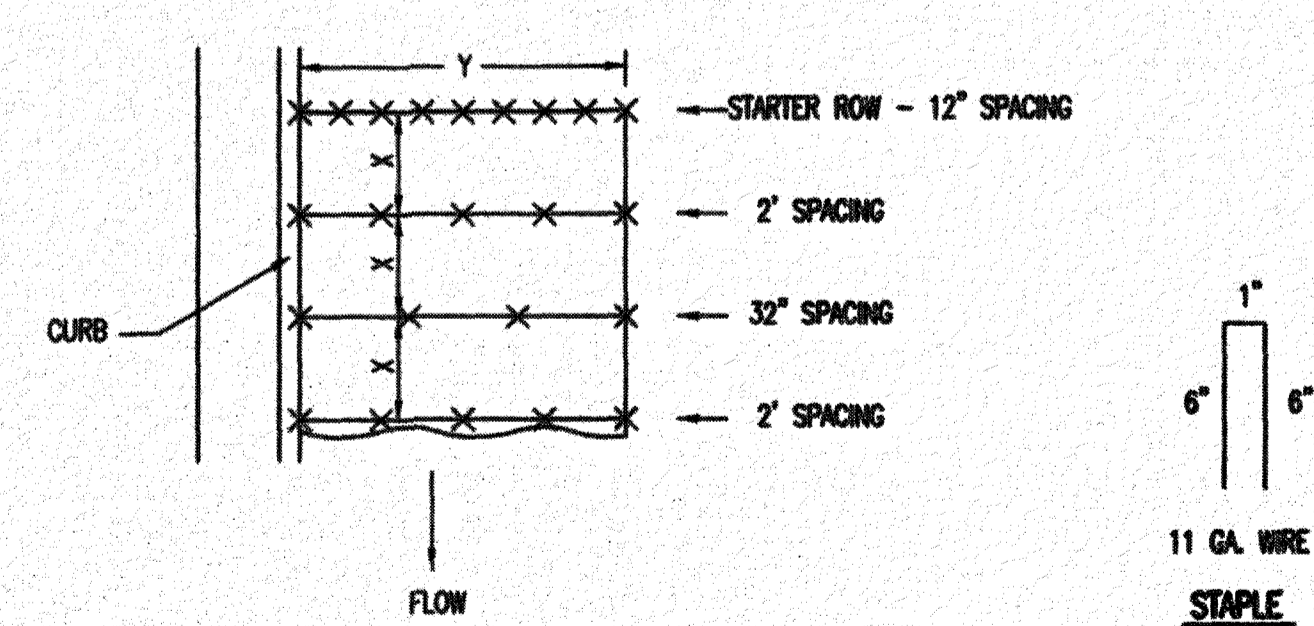
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KANSAS CITY, KANSAS 64103



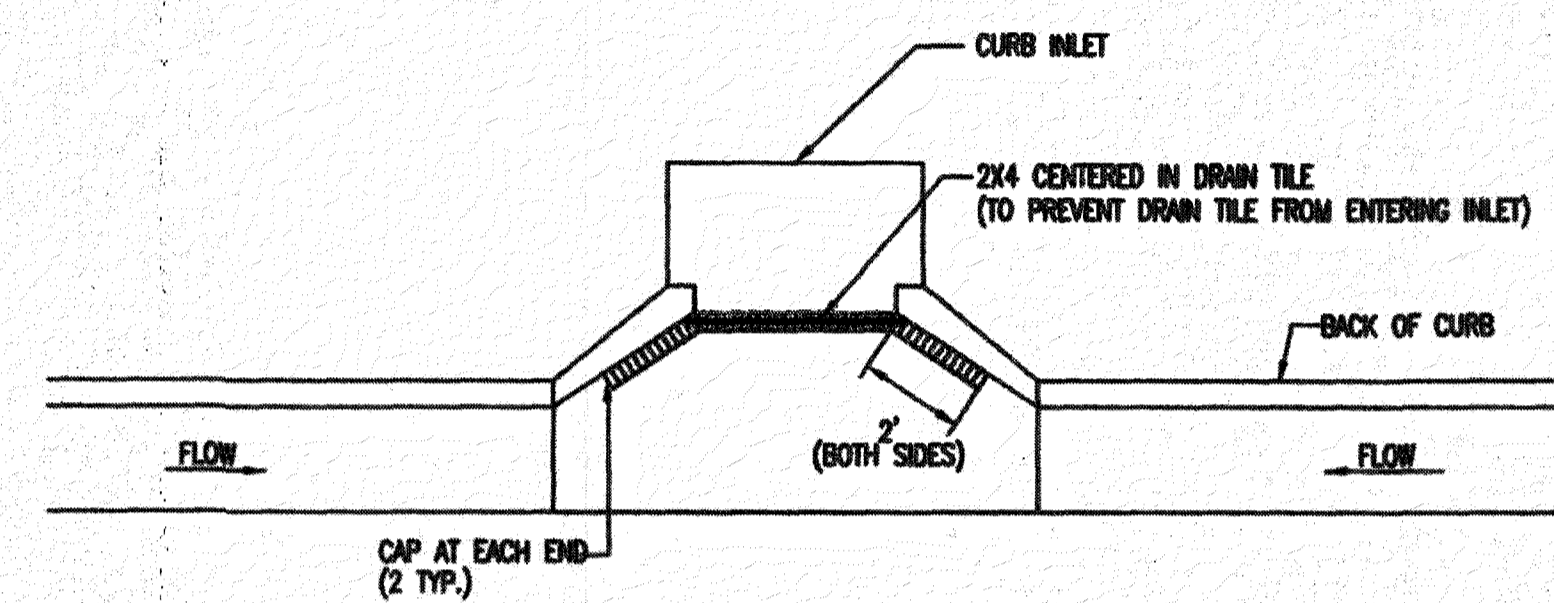


- GENERAL NOTES**
- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
  - EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
  - AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE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

**BACK OF CURB PROTECTION DETAIL**

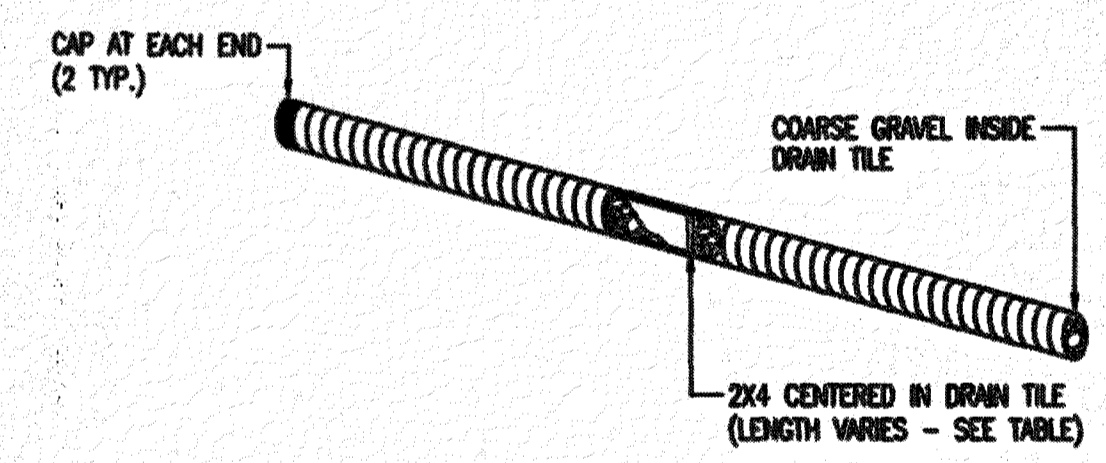


**STAPLE PATTERN**  
NOTES: USE 6" SEAM OVERLAP  
(X & Y = RECOMMENDED BY MANUFACTURE)  
**DETAILS FOR APPROVED EROSION CONTROL MAT**

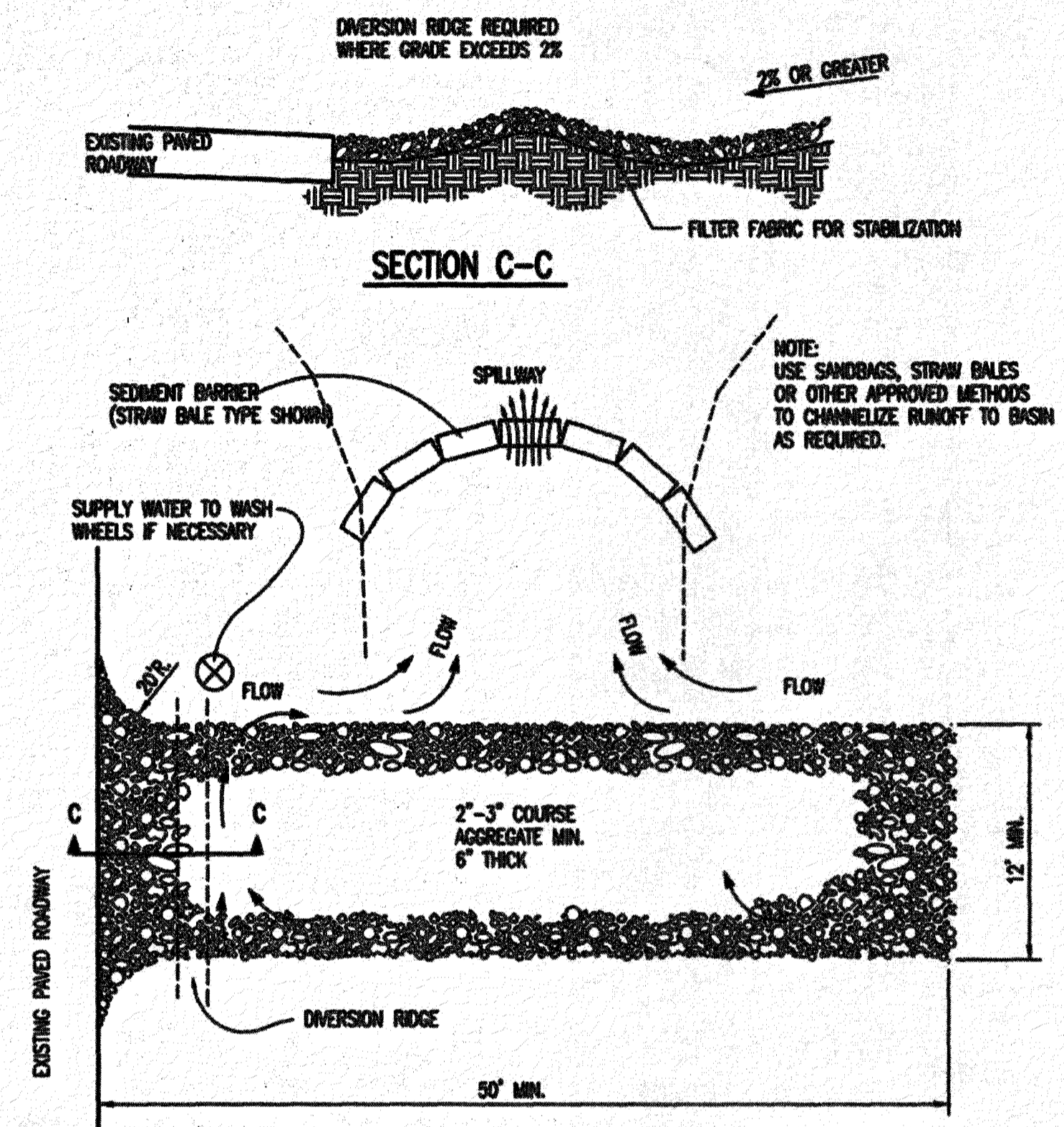


NOTE: PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

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

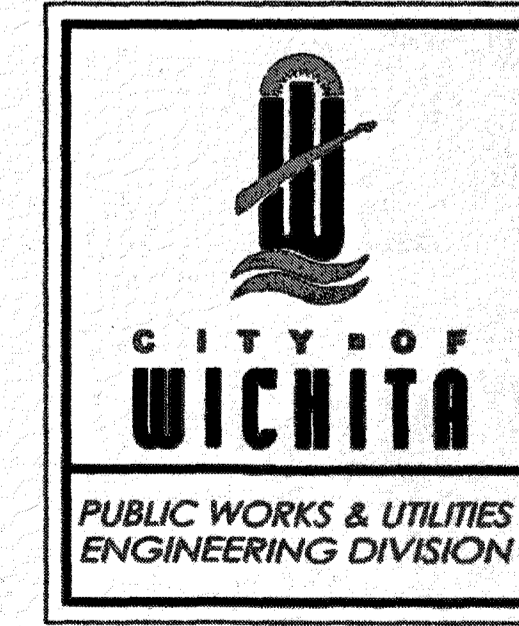


**CURB INLET PROTECTION**  
4" PERFORATED PIPE W/ GRAVEL



**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.

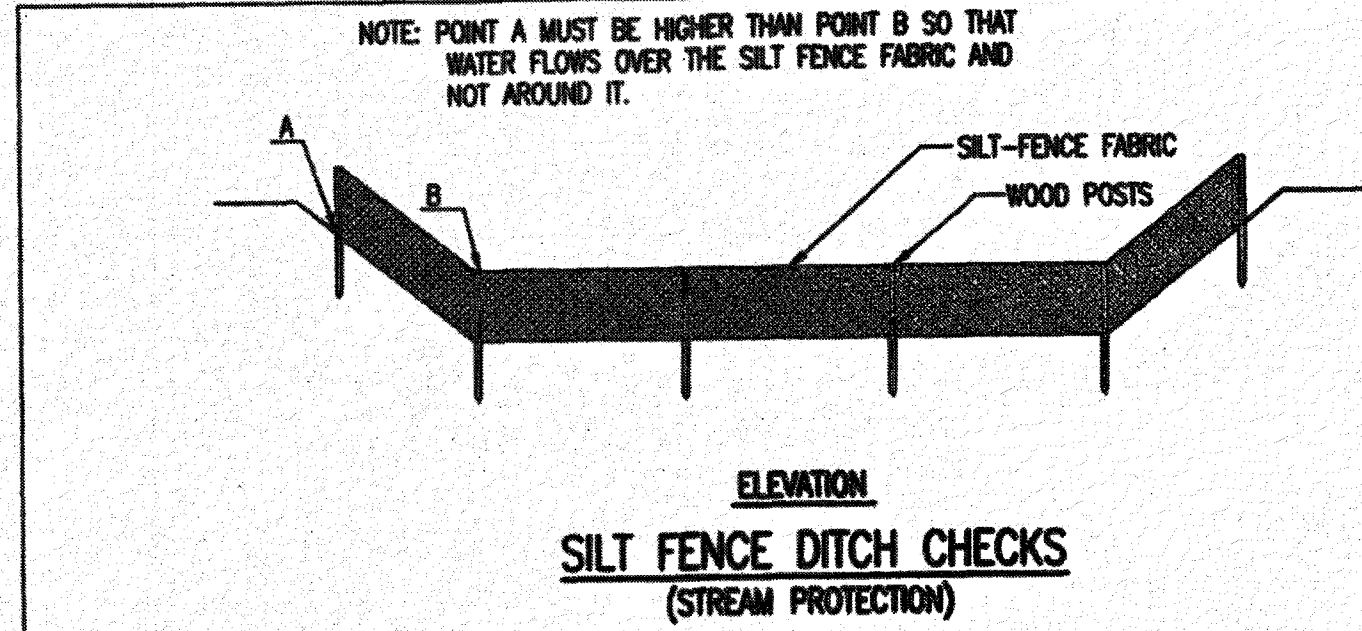


**BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE**

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



**MATERIAL SPECIFICATION:**

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

**PLACEMENT:**

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

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

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

**PROPER INSTALLATION METHOD:**

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

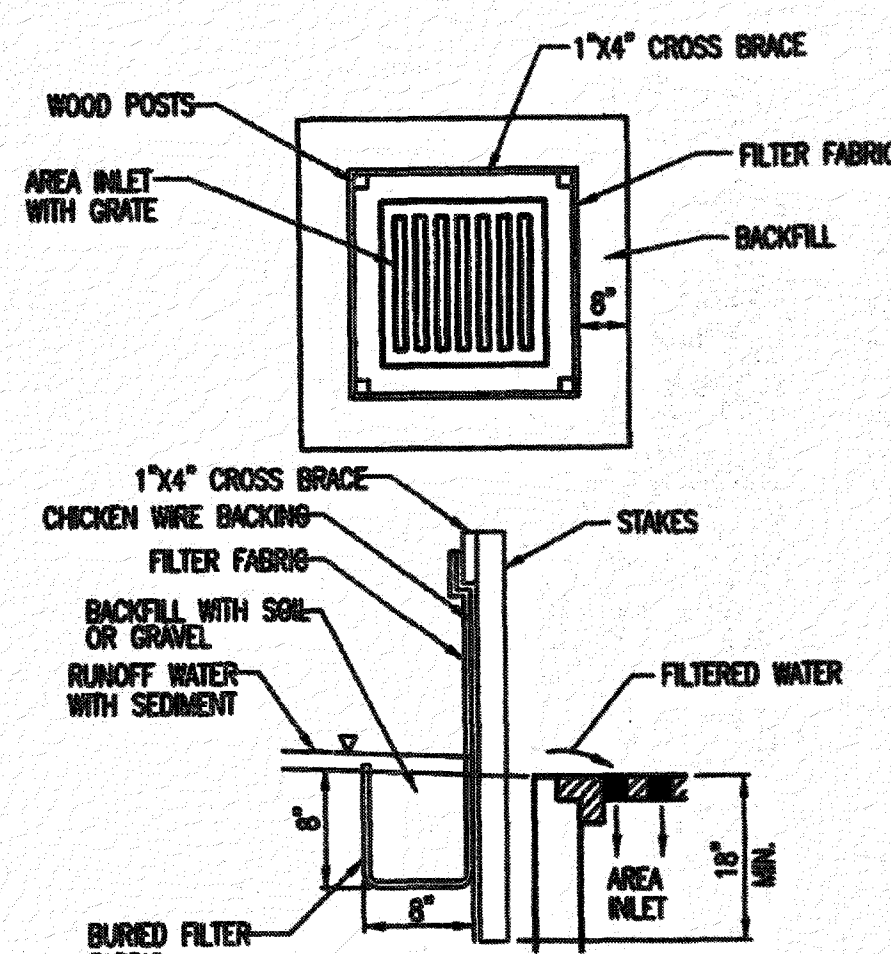
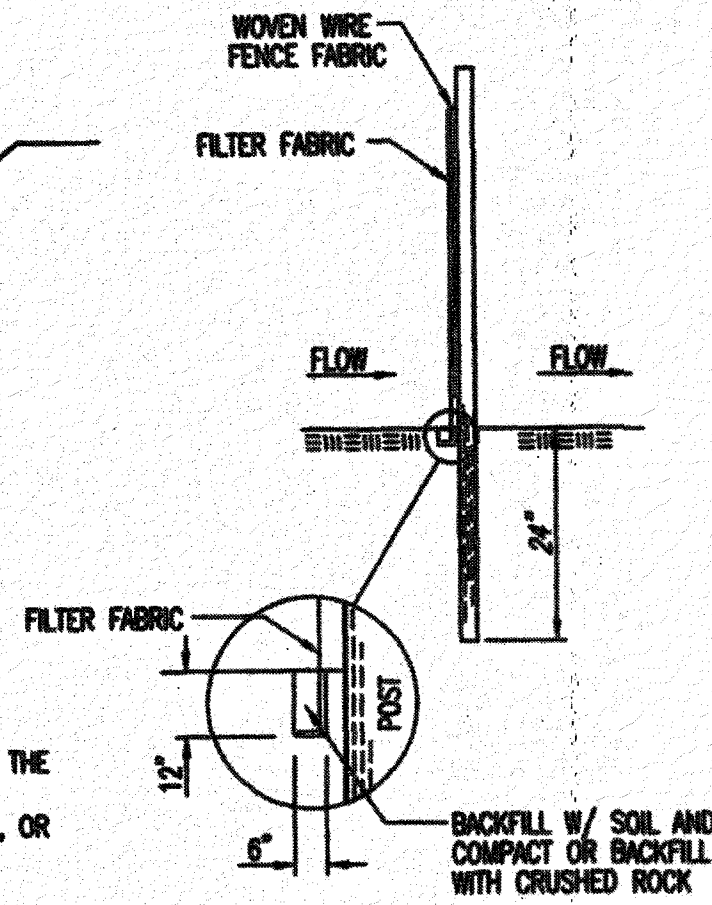
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

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

**INSPECTION AND MAINTENANCE:**

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

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



**MATERIAL SPECIFICATION:**

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

**PLACEMENT:**

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

**PROPER INSTALLATION METHOD:**

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 6" 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.

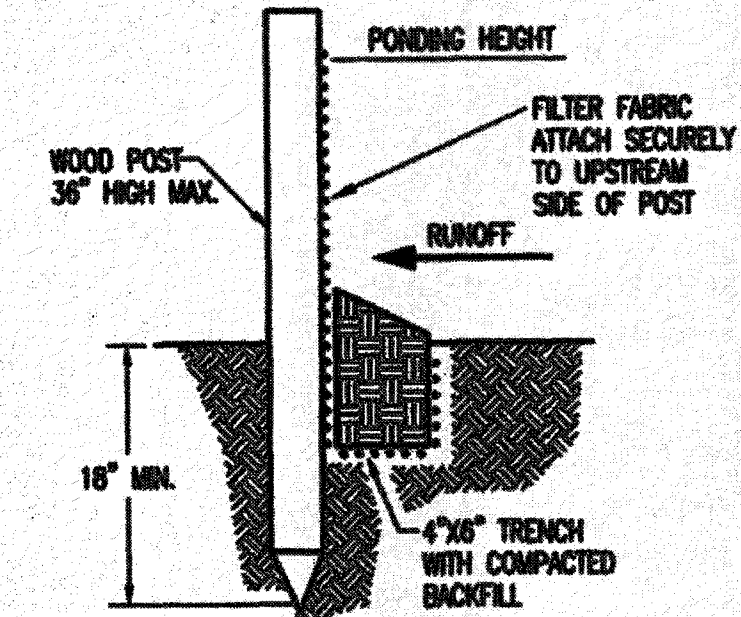
**LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:**

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 INTO 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:**

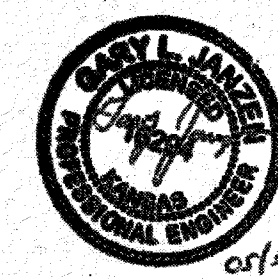
WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES. DO NOT PLACE SILT-FENCE POSTS ON THE UPSLOPE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



<p><b>CITY OF WICHITA</b> PUBLIC WORKS &amp; UTILITIES ENGINEERING DIVISION</p>		<p><b>SILT FENCE DITCH CHECK AND BARRIER DETAILS</b></p>	
		<p>GARY JANZEN, P.E.</p>	
PROJECT NUMBER	OGA NUMBER	DATE	
CITY ENGINEER'S OFFICE		SHEET	
<p>CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (314) 268-4501</p>			

NO.	DATE	BY	DESCRIPTION

**Renaissance Infrastructure Consulting**

1028 W. CAMBERG CIRCLE DRIVE  
KANSAS CITY, KANSAS 64105

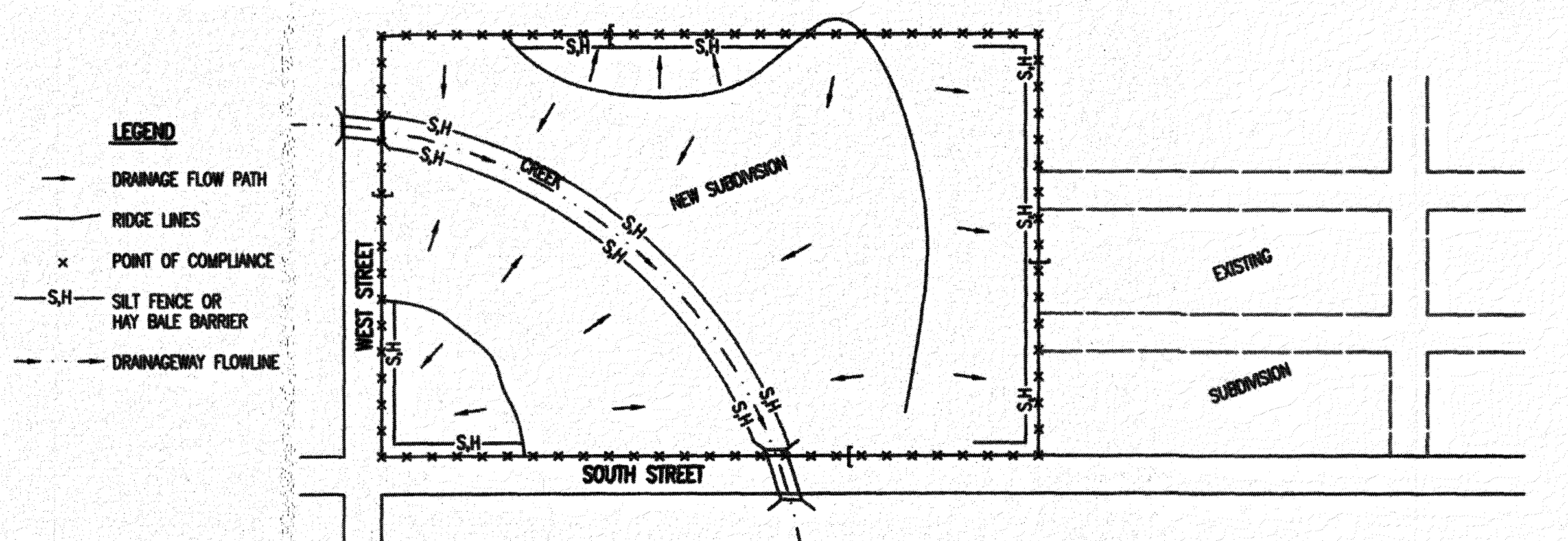
913.317.9600  
WWW.RIC-CONSULT.COM







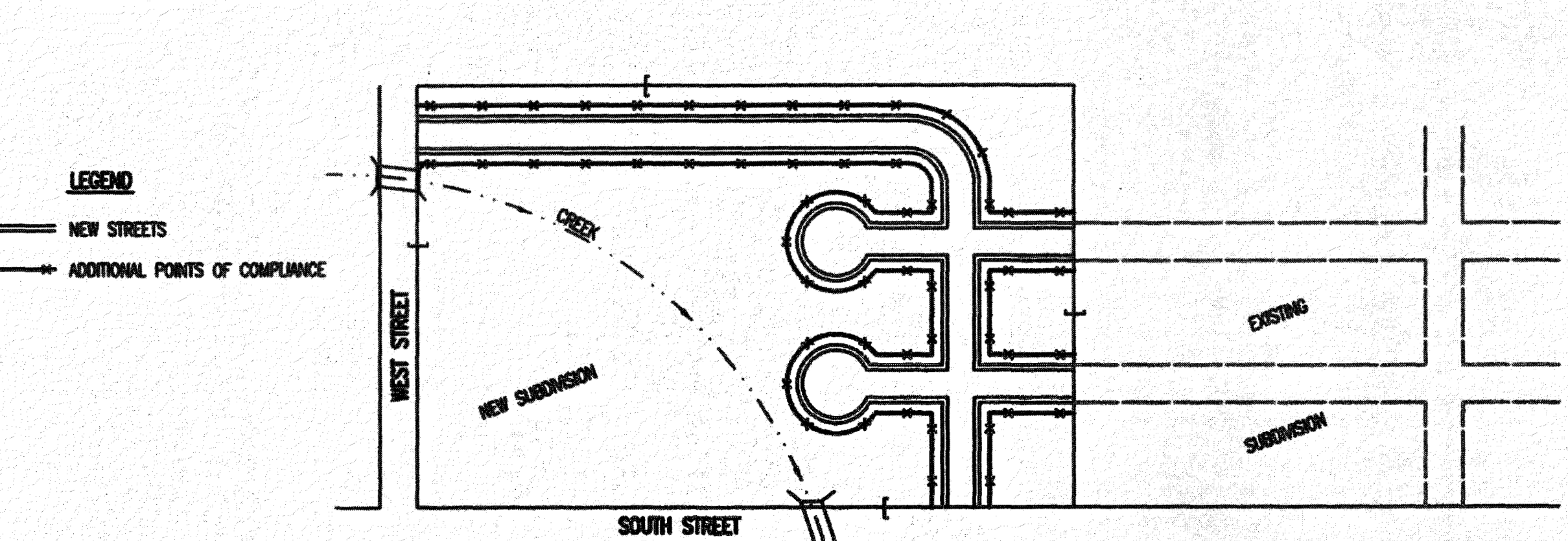
**PHASE 1 - INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)**



- LEGEND**
- - - - - DRAINAGE FLOW PATH
  - - - - - RIDGE LINES
  - x POINT OF COMPLIANCE
  - SH- SILT FENCE OR HAY BALE BARRIER
  - - - - - DRAINAGE WAY FLOWLINE

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

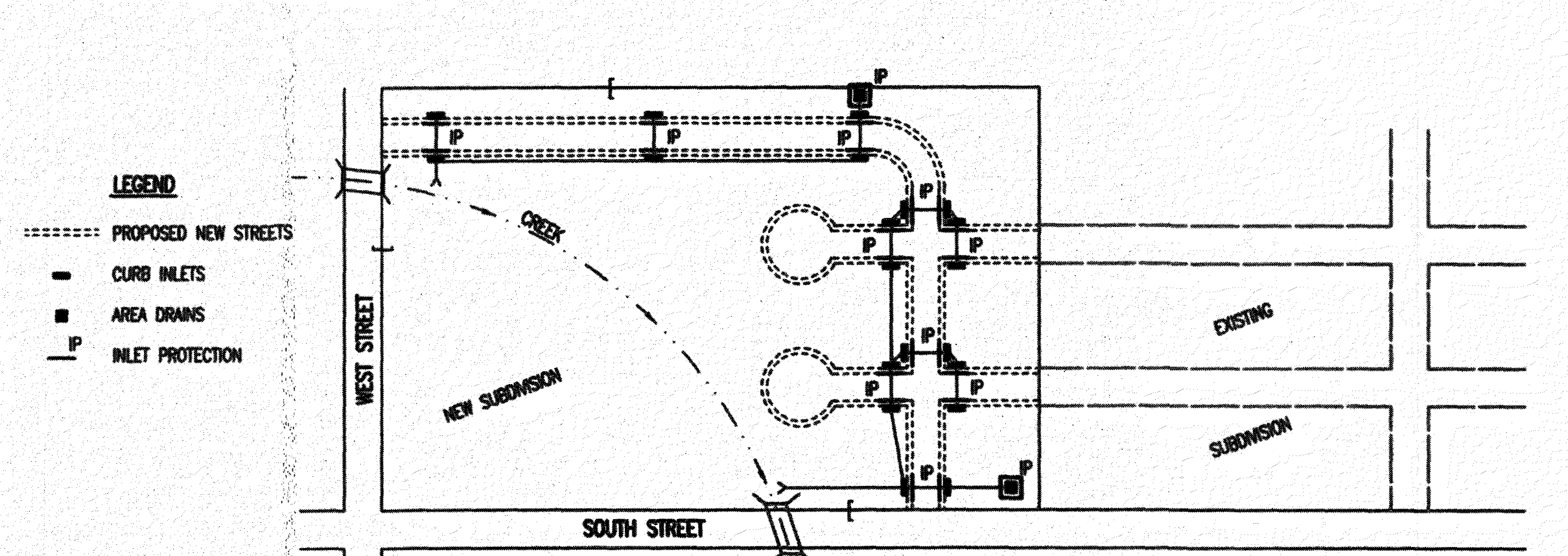
**PHASE 3 - STREET CONSTRUCTION**



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

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

**PHASE 2 - INSTALLATION OF STORM SEWER**



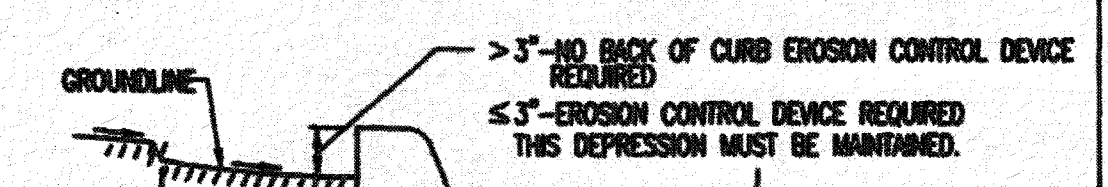
- LEGEND**
- - - - - PROPOSED NEW STREETS
  - Curb Inlets
  - Area Drains
  - IP Inlet Protection

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

**GENERAL NOTES**

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

SEE DETAIL SHEET FOR  
BACK OF CURB PROTECTION DETAIL



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

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: \_\_\_\_\_ DCA NUMBER: \_\_\_\_\_ DATE: \_\_\_\_\_

CITY ENGINEER'S OFFICE  
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SHEET

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