

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

Date: 2-19-19
Inspector: J.Myers
Design/Inspecting Firm: Kaw Valley Engineering, Inc.
Contractor: Ink Construction, Inc.
Subcontractor: Sooter Excavating, Inc.
Built in general conformance to construction plans,
except where noted on plans.

Storm Sewer Plans to Serve DULUTH TRADING COMPANY 2628 NORTH GREENWICH COURT

an Addition to Wichita, Sedgwick County, Kansas
Gary Janzen, P.E., City Engineer
0527 PPD (133119)

INDEX OF SHEETS

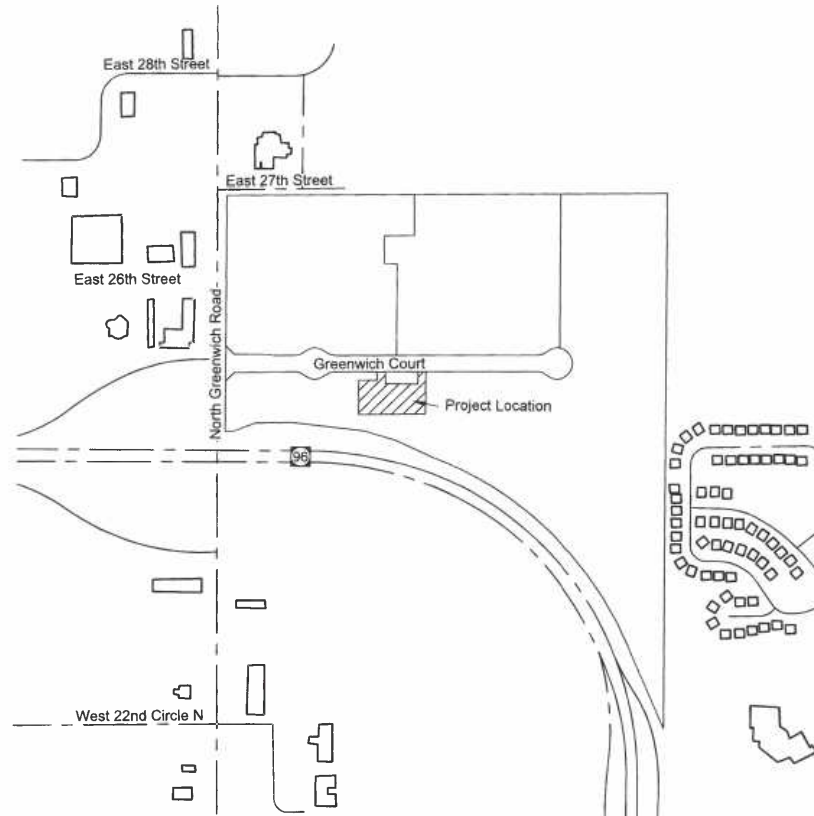
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DEVELOPER

Oppidan
400 Water Street, Suite 200
Excelsior, MN 55331
ATTN: Jay Moore
Ph. 952.294.1246

CONSULTANT/APPLICANT

Renaissance Infrastructure Consulting
132 Abbie Ave.
Kansas City, Kansas 66103
913.317.9500



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 | ▲ 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 |

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

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: *Julianne Kallman 6-29-18*
Stormwater: *Joe Hinkle 7-5-18*

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.

UTILITY SERVICE & INSTALLATION CONTACTS

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

UTILITY EMERGENCY CONTACTS

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

KANSAS ONE-CALL:
1-800-DIG-SAFE
(1-800-344-7253)



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.

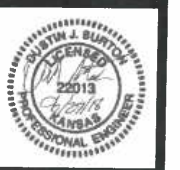
May 2018

Private Project Drainage Plans
18-0149
Duluth Trading Company
Wichita, Sedgwick County, Kansas

Title Sheet

NO.	BY	DATE	REVISION
1	LOVE	DUE	06/20/2018
2	LOVE	DUE	08/08/2018
3	LOVE	DUE	08/08/2018
4	LOVE	DUE	08/08/2018
5	LOVE	DUE	08/08/2018
6	LOVE	DUE	08/08/2018
7	LOVE	DUE	08/08/2018
8	LOVE	DUE	08/08/2018
9	LOVE	DUE	08/08/2018
10	LOVE	DUE	08/08/2018
11	LOVE	DUE	08/08/2018
12	LOVE	DUE	08/08/2018
13	LOVE	DUE	08/08/2018
14	LOVE	DUE	08/08/2018
15	LOVE	DUE	08/08/2018
16	LOVE	DUE	08/08/2018
17	LOVE	DUE	08/08/2018

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



FINAL PLAT

WICHITA DESTINATION DEVELOPMENT

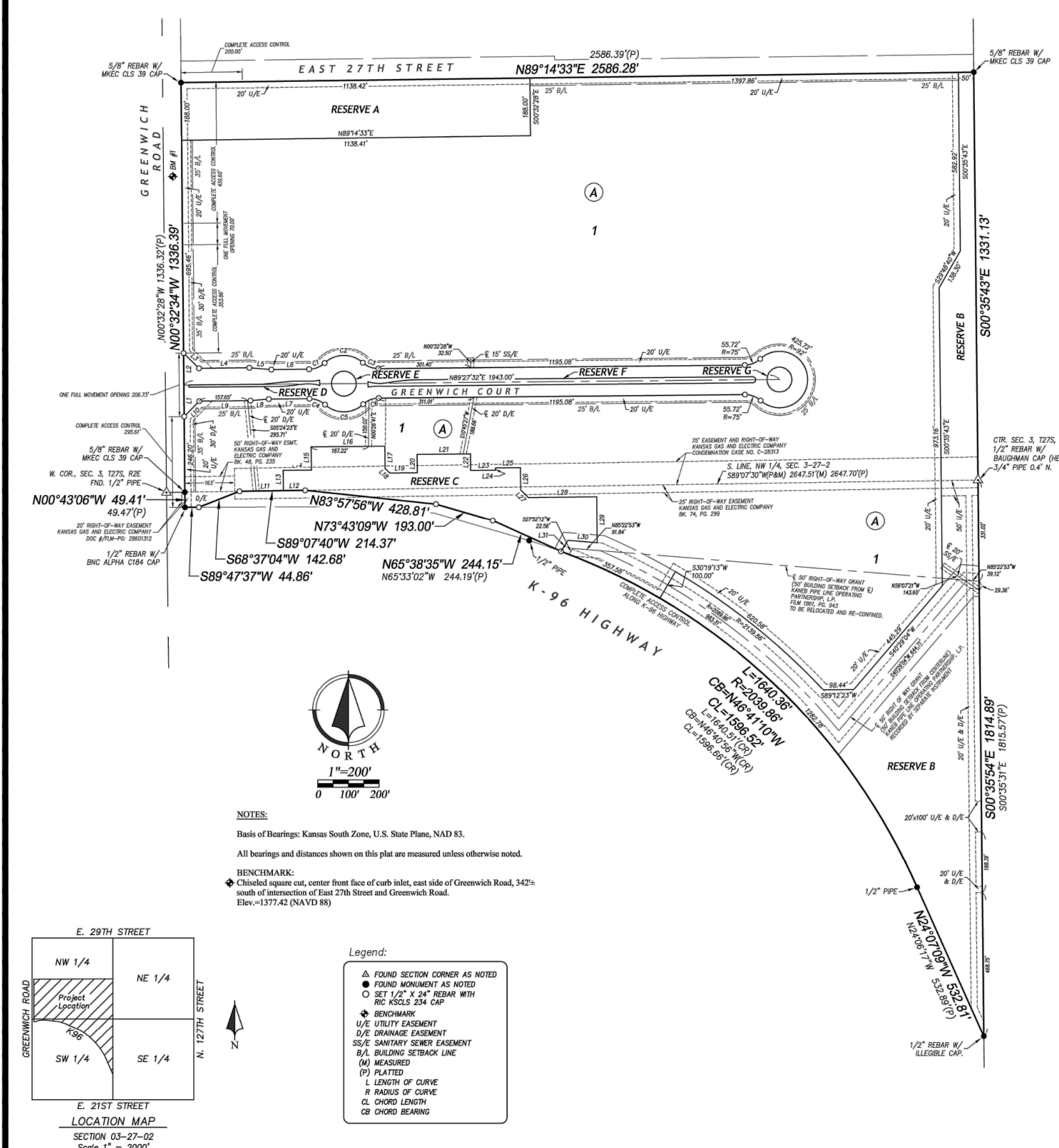
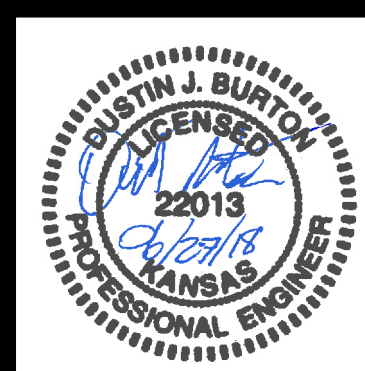
AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS
A REPLAT OF ALL OF K96 AND GREENWICH NORTH ADDITION

Private Project Drainage Plans
18-0149
Duluth Trading Company
Wichita, Sedgwick County, Kansas

Final Plat

NO.	BY	DATE	REVISION
1.	CWE	06/29/2018	PER CITY COMMENTS ORIGINAL SUBMITTAL
	CWE	05/18/2018	ORIGINAL SUBMITTAL

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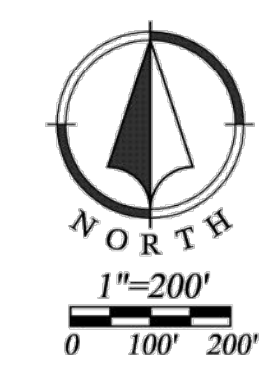
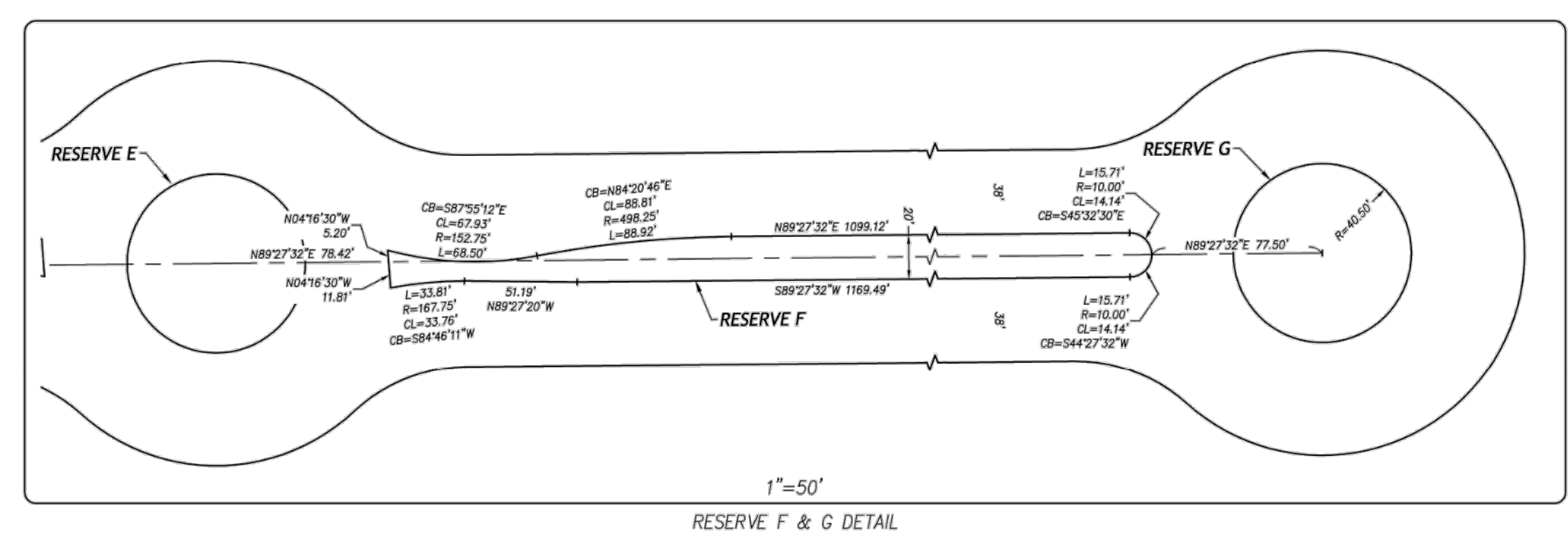
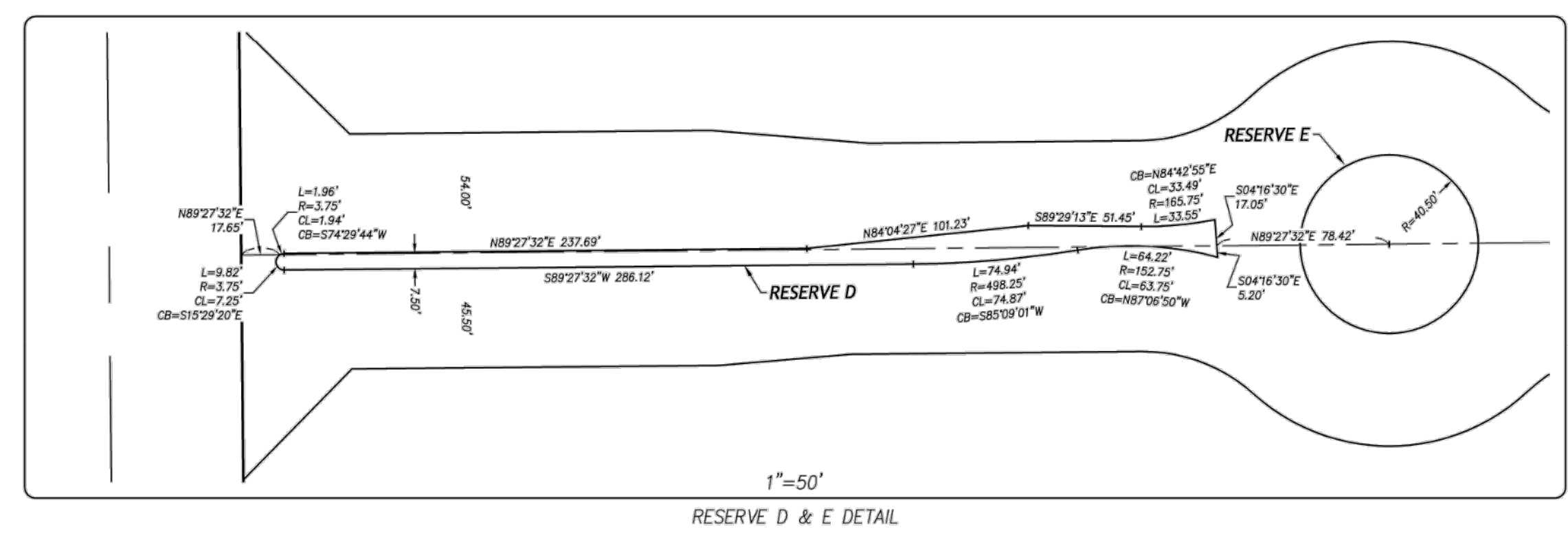
Lot No.	Elevation
1	1374.50

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

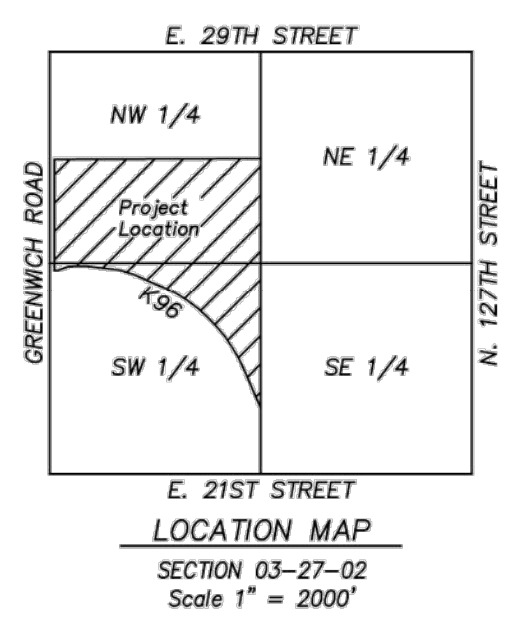
Line #	Direction	Length
L17	S00°32'28"E	72.50'
L18	S45°32'28"E	21.21'
L19	N89°27'32"E	90.00'
L20	N00°32'28"W	59.50'
L21	N89°27'32"E	174.00'
L22	S00°32'28"E	53.50'
L23	N89°27'32"E	81.96'
L24	N00°32'28"W	7.50'
L25	N89°27'32"E	81.24'
L26	S00°32'28"E	72.50'
L27	S45°32'28"E	35.36'
L28	N89°27'32"E	223.00'
L29	S00°32'28"E	150.59'
L30	N89°27'32"E	95.75'
L31	S32°31'45"W	42.36'

Curve #	Length	Radius	Chord
C1	55.716	75.000	N89°03'38"E 54.44'
C2	136.689	92.000	S89°27'32"E 124.46'
C3	55.716	75.000	S89°15'34"E 54.44'
C4	55.716	75.000	N89°15'34"W 54.44'
C5	136.689	92.000	N89°27'32"E 124.46'
C6	55.716	75.000	S89°03'38"W 54.44'

Lot #	Sq. Ft.	Ac.
1	3,364,626	77.241
RESERVE A	214,022	4.913
RESERVE B	612,416	14.059
RESERVE C	148,150	3.424
RESERVE D	3,944	0.091
RESERVE E	5,153	0.118
RESERVE F	24,390	0.560
RESERVE G	5,153	0.118

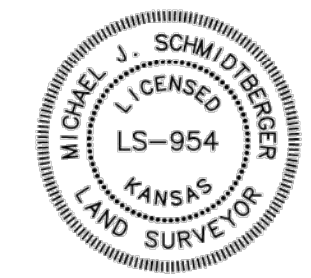


NOTES:
 Basis of Bearings: Kansas South Zone, U.S. State Plane, NAD 83.
 All bearings and distances shown on this plat are measured unless otherwise noted.
BENCHMARK:
 Chiseled square cut, center front face of curb inlet, east side of Greenwich Road, 342' south of intersection of East 27th Street and Greenwich Road.
 Elev.=1377.42 (NAYD 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) PLATTED
- L LENGTH OF CURVE
- R RADIUS OF CURVE
- CL CHORD LENGTH
- CB CHORD BEARING



WICHITA DESTINATION DEVELOPMENT 14-012

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 - 0.63')
- 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

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.
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PROJECT BENCHMARK

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

SUMMARY OF QUANTITIES

ITEM	DESCRIPTION	QUANTITY	UNIT
1	12" HDPE	145	LF
2	18" HDPE	221	LF
3	5' x 3' Type I Curb Inlet	1	EA
4	3'-8" x 3'-4" Type II Curb Inlet	1	EA
5	24" Dia. Nyloplast Drain with Solid Lid	2	EA
6	18" Flared End Section	2	EA
7	12" x 12" 90° Elbow	1	EA
8	12" Nyloplast Drain	1	EA
9	12" Cleanout	1	EA
10	Seeding	1	LS
11	Erosion Control	1	LS

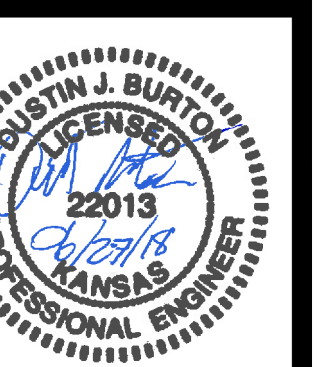
Quantites are for Information Only. Contractor to Verify all Quantities Prior to Construction.

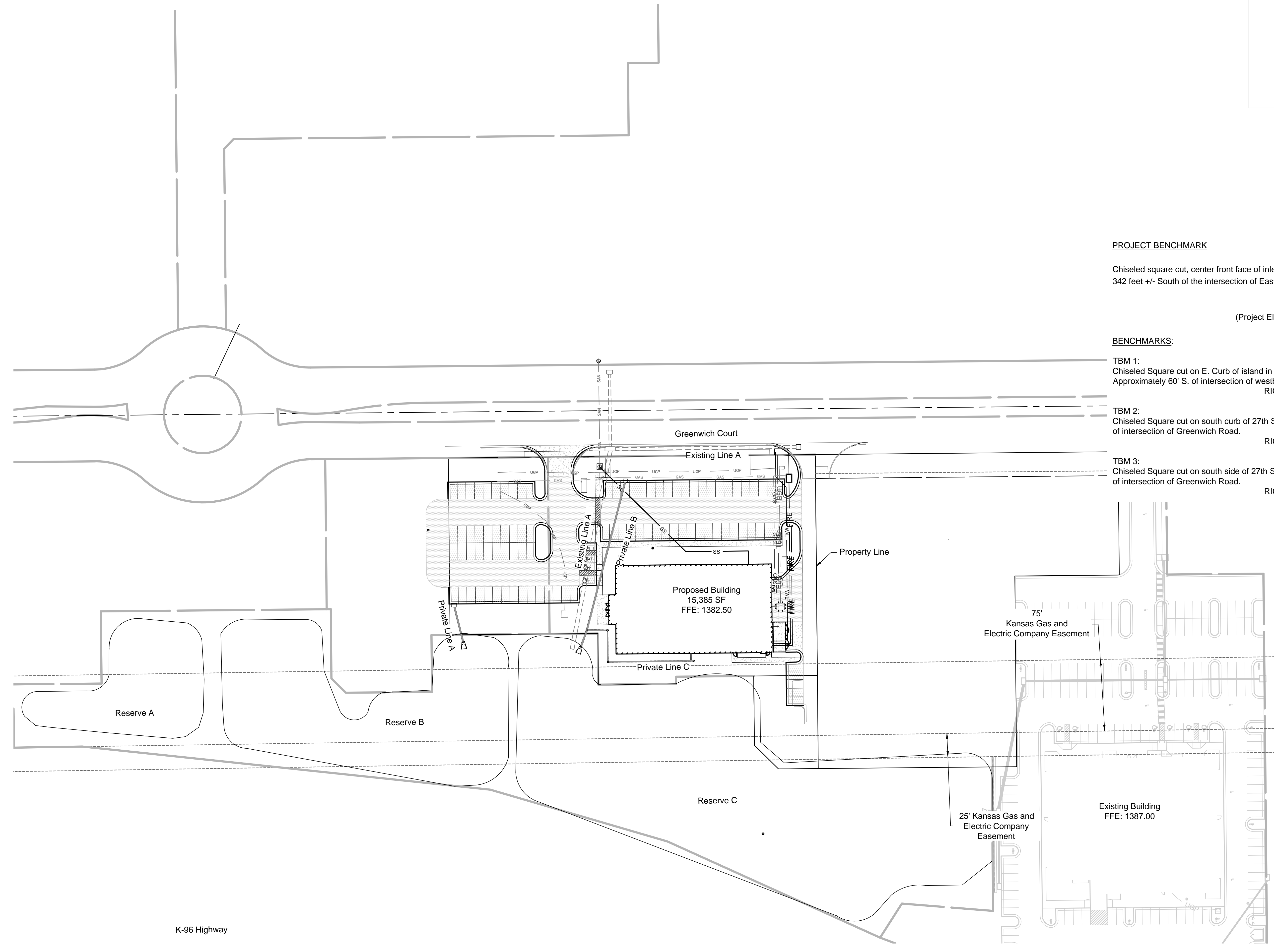
Private Project Drainage Plans
18-0149
Duluth Trading Company
Wichita, Sedgwick County, Kansas

General Notes and
Quantities

NO.	BY	DATE	REVISION
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	CWE	05/18/2018	ORIGINAL SUBMITTAL

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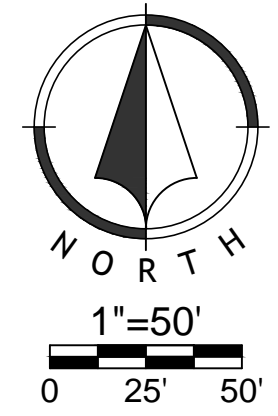


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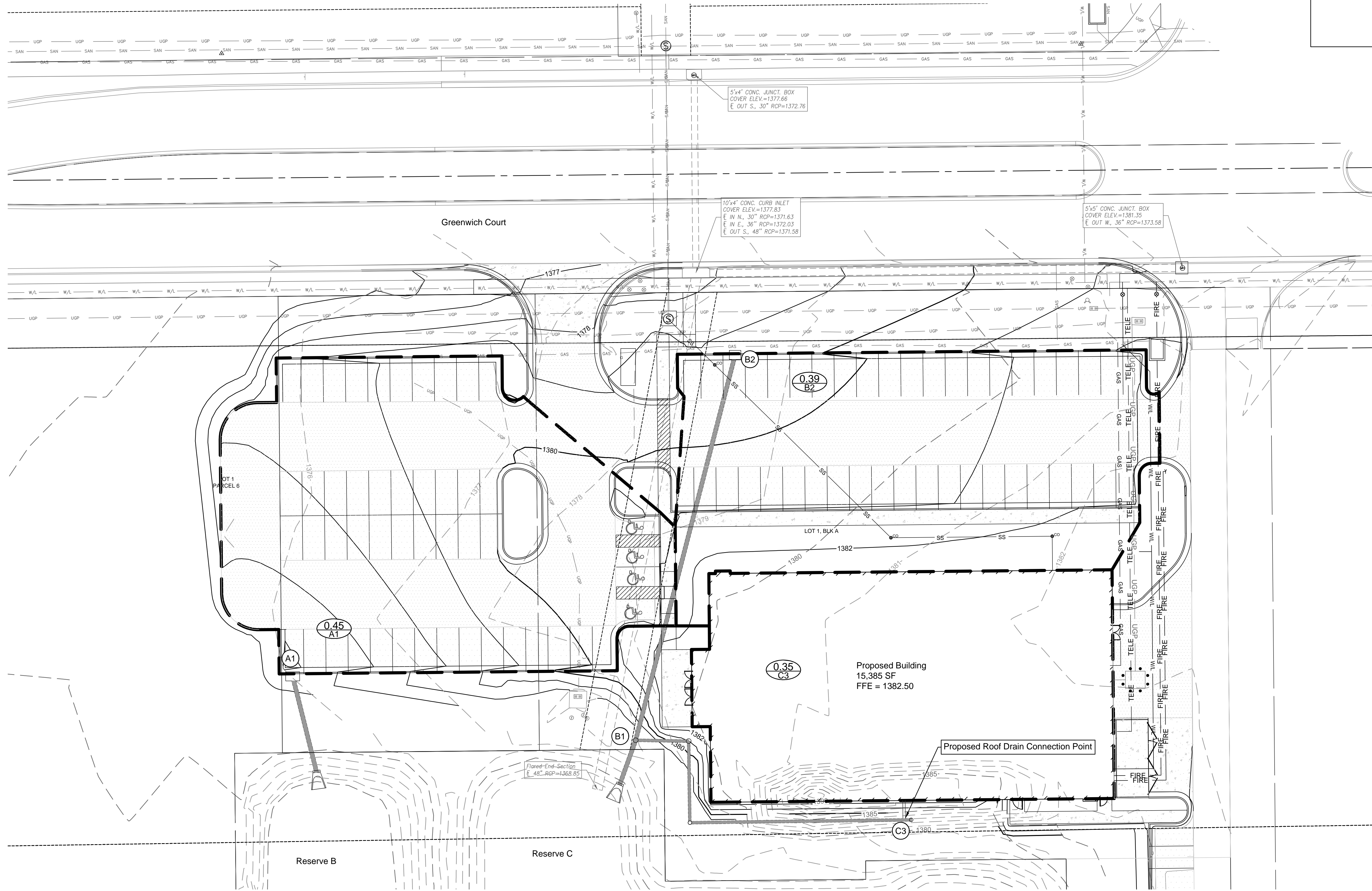
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	CWE	DJB	05/18/2018	REVISION

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132 ABBIE AVENUE
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Jun 29, 2018 8:30am
Z:\R\C\Design\2018\18-0149 Duluth Trading\Drawg\Site CD\18-0149 - Site Plans.dwg



5'x4' CONC. JUNCT. BOX
COVER ELEV.=1377.66
E OUT S., 30" RCP=1372.76

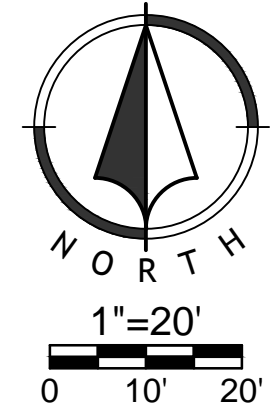
10'x4' CONC. CURB INLET
COVER ELEV.=1377.83
E IN N., 30" RCP=1371.63
E IN E., 36" RCP=1372.03
E OUT S., 48" RCP=1371.58

5'x5' CONC. JUNCT. BOX
COVER ELEV.=1381.35
E OUT W., 36" RCP=1373.58

Proposed Building
15,385 SF
FFE = 1382.50

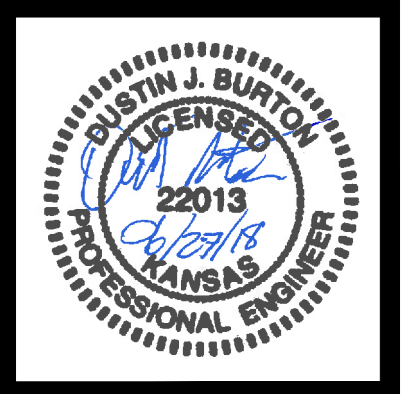
Proposed Roof Drain Connection Point

Flared End-Section
E 48" RCP=1368.85



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	CWE	05/18/2018	REVISION

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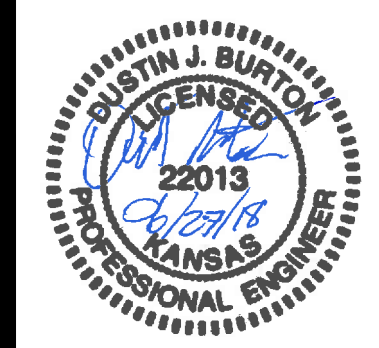


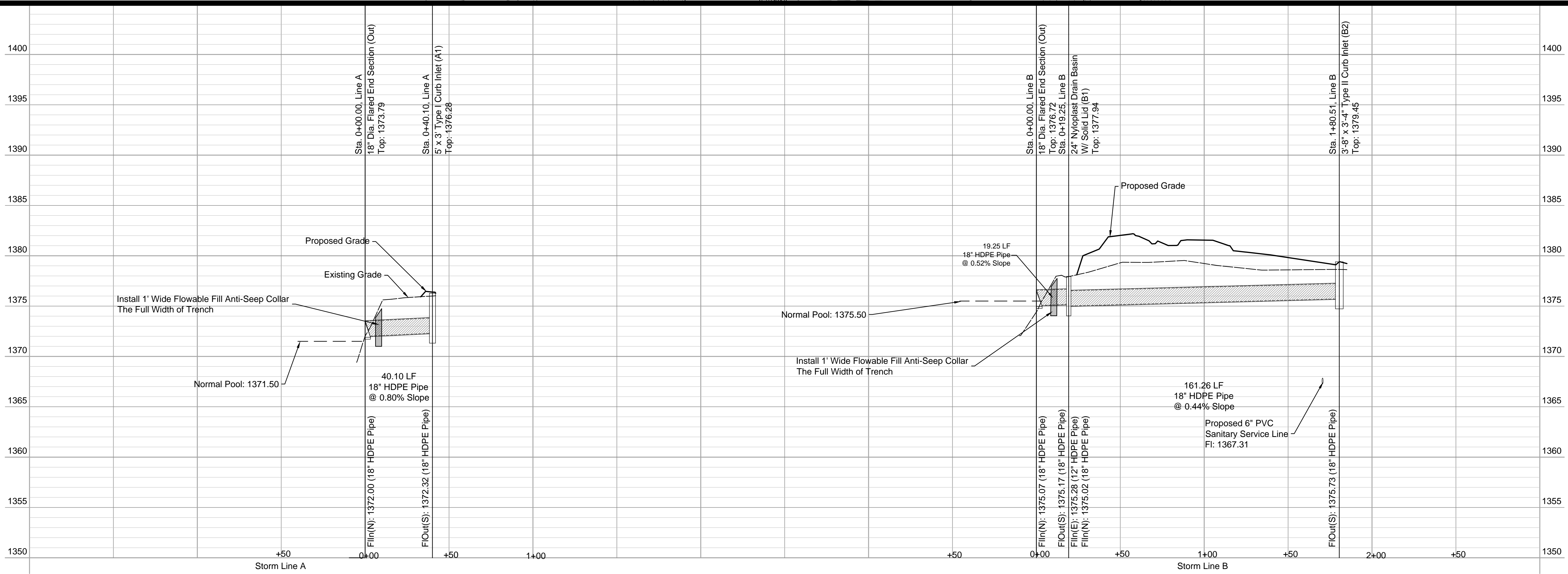
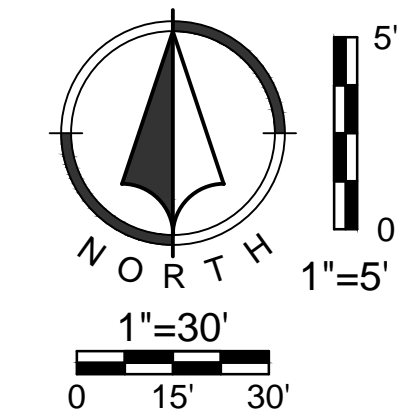
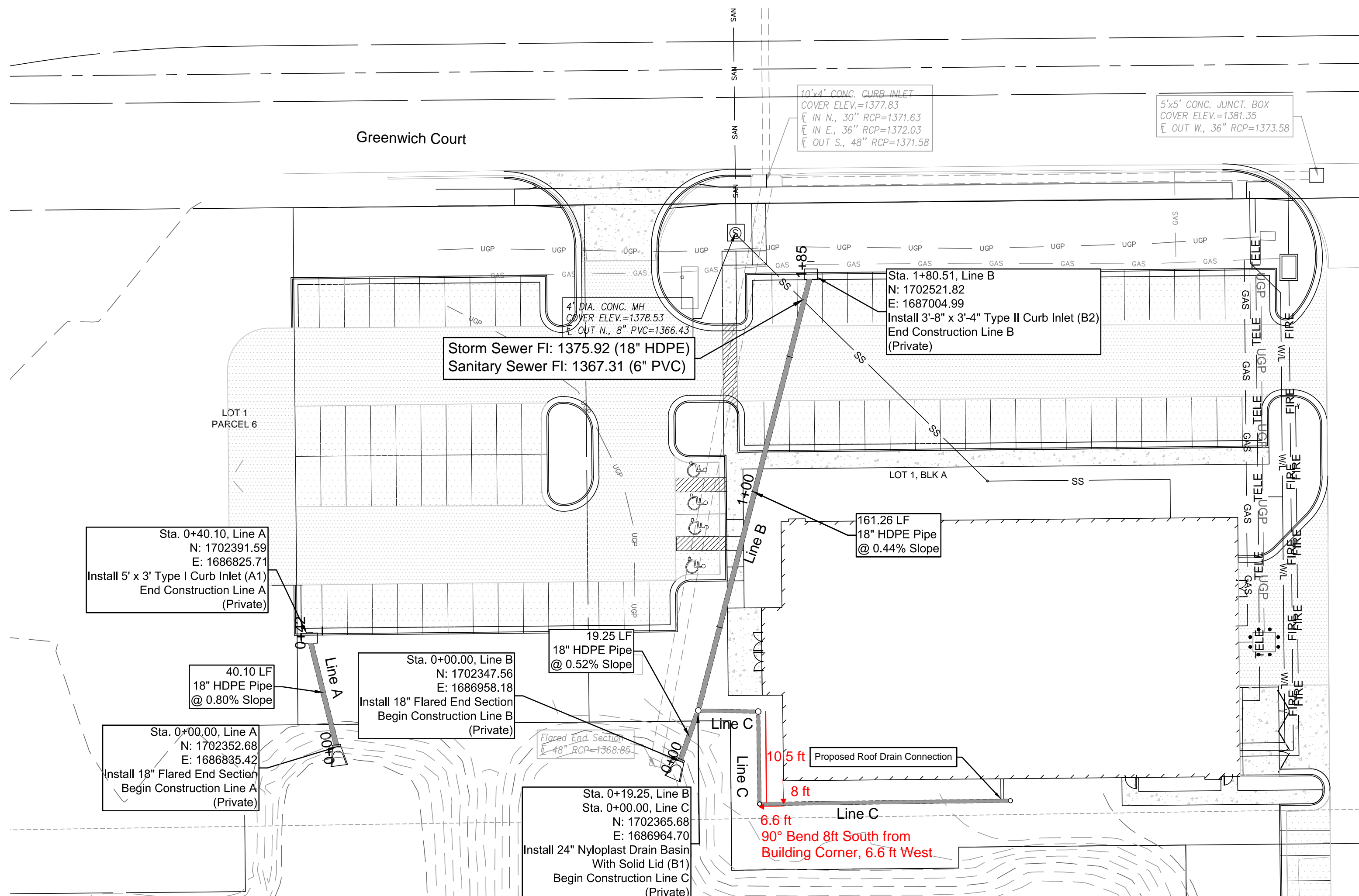
10-Year Calculations																															
LineNo.	InletID	Drainage Area (ac)	InletTime (min)	iInlet (in/hr)	Runoff Coeff (C)	IncrQ (cfs)	QCaptured (cfs)	QBypass (cfs)	JunctType	ThroatHt (in)	StructLength (ft)	InletDepth (ft)	GutterDepth (ft)	GutterSpread (ft)	DnStrmLine No.	LineSize (in)	LineLength (ft)	FlowRate (cfs)	InvertDn (ft)	InvertUp (ft)	LineSlope (%)	n-valuePipe	CapacityFull (cfs)	HGLDn (ft)	HGLUp (ft)	HGLJunct (ft)	DepthDn (ft)	DepthUp (ft)	VelAve (ft/s)	Hw (ft)	J-LossCoeff
1	B1	0	0	0	0	0	....	....	MH	....	2	....	....	....	Outfall	18	19.254	5.32	1375.07	1375.17	0.52	0.024	4.1	1375.96	1376.43	1376.6	0.89	1.26	4.12	1.43	0.96
2	C1	0	0	0.00	0.00	0.00	....	....	MH	....	2.00	....	....	....	1.00	12.00	21.47	2.520	1375.28	1375.39	0.51	0.024	1.38	1376.6	1376.96	1377.12	1.00	1.00	3.21	1.73	1
3	C2	0	0	0.00	0.00	0.00	....	....	None	....	....	....	....	....	2.00	12.00	33.05	2.520	1375.38	1375.55	0.5	0.024	1.36	1377.12	1377.69	1377.85	1.00	1.00	3.21	2.3	1
4	C3	0.35	5	7.99	0.90	2.52	....	....	MH	....	....	....	....	....	3.00	12.00	90.00	2.520	1375.22	1377.17	2.17	0.024	2.84	1377.85	1379.38	1379.54	1.00	1.00	3.21	2.37	1
5	B2	0.39	5	7.99	0.90	2.81	2.81	0.00	Curb	6.00	....	0.67	0.33	13.59	1.00	18.00	161.26	2.810	1375.02	1375.73	0.44	0.024	3.77	1376.6	1376.98	1377.03	1.50	1.25	1.69	1.3	1
6	A1	0.45	5	7.99	0.90	3.24	3.24	0.00	Curb	6.00	5.00	0.69	0.36	14.95	Outfall	18.00	40.10	3.240	1372.00	1372.32	0.8	0.024	5.08	1372.69	1373.31	1373.42	0.68	0.99	3.37	1.09	1

100-Year Calculations																															
LineNo.	InletID	Drainage Area (ac)	InletTime (min)	iInlet (in/hr)	Runoff Coeff (C)	IncrQ (cfs)	QCaptured (cfs)	QBypass (cfs)	JunctType	ThroatHt (in)	StructLength (ft)	InletDepth (ft)	GutterDepth (ft)	GutterSpread (ft)	DnStrmLine No.	LineSize (in)	LineLength (ft)	FlowRate (cfs)	InvertDn (ft)	InvertUp (ft)	LineSlope (%)	n-valuePipe	CapacityFull (cfs)	HGLDn (ft)	HGLUp (ft)	HGLJunct (ft)	DepthDn (ft)	DepthUp (ft)	VelAve (ft/s)	Hw (ft)	J-LossCoeff
1	B1	0.000	0.00	0	0	0.00	....	....	MH	....	2.000	....	....	....	Outfall	18.00	19.25	7.54	1375.07	1375.170	0.52	0.02	4.1	1376.13	1376.75	1377.02	1.06	1.50	4.95	1.85	0.96
2	C1	0.000	0.00	0	0	0.00	....	....	MH	....	2.000	....	....	....	1.00	12.00	21.47	3.56	1375.28	1375.390	0.51	0.02	1.38	1377.02	1377.75	1378.07	1.00	1.00	4.54	2.68	1.00
3	C2	0.000	0.00	0	0	0.00	....	....	None	....	....	....	....	....	2.00	12.00	33.05	3.560	1375.38	1375.55	0.5	0.024	1.36	1378.07	1379.20	1379.52	1.00	1.00	4.54	3.97	1.00
4	C3	0.350	5.00	11.32	0.9	3.56	....	....	MH	....	2.000	....	....	....	3.00	12.00	90.00	3.560	1375.22	1377.17	2.17	0.024	2.84	1379.52	1382.59	1382.91	1.00	1.00	4.54	5.75	1.00
5	B2	0.390	5.00	11.32	0.9	3.97	3.97	0.00	Curb	6.00	3.000	0.74	0.40	17.14	1.00	18.00	161.26	3.970	1375.02	1375.73	0.44	0.024	3.77	1377.02	1377.80	1377.88	1.50	1.50	2.25	2.15	1.00
6	A1	0.450	5.00	11.32	0.9	4.58	4.58	0.00	Curb	6.00	5.000	0.77	0.44	18.85	Outfall	18.00	40.10	4.580	1372	1372.32	0.8	0.024	5.08	1372.82	1373.53	1373.67	0.82	1.21	3.81	1.35	1.00

NO.	BY	DD	DATE	REVISION
1.	CWE	DJB	06/29/2018	PER CITY COMMENTS
	CWE	DJB	05/18/2018	ORIGINAL SUBMITTAL

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KANSAS CITY, KANSAS 66103
913.317.9500
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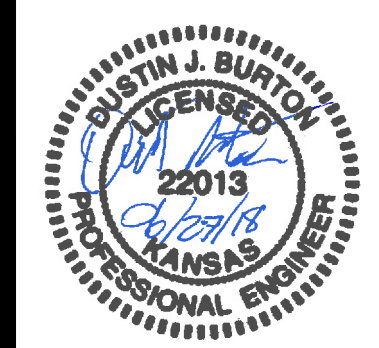


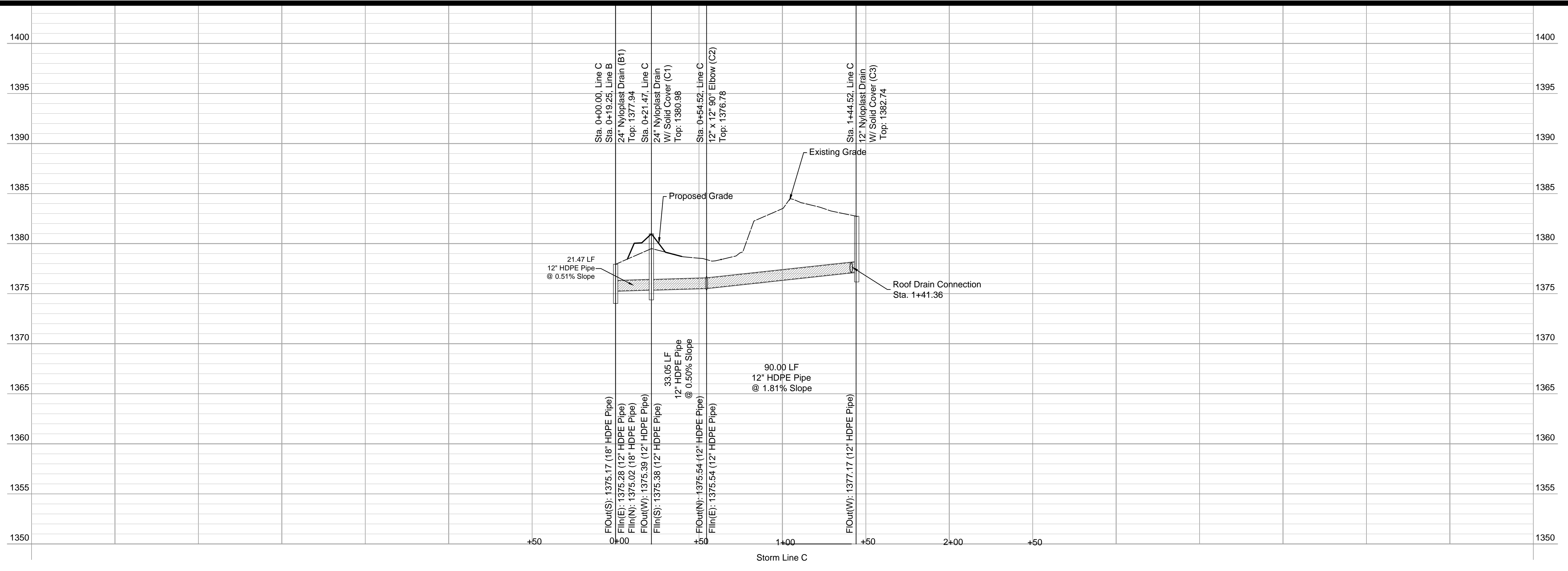
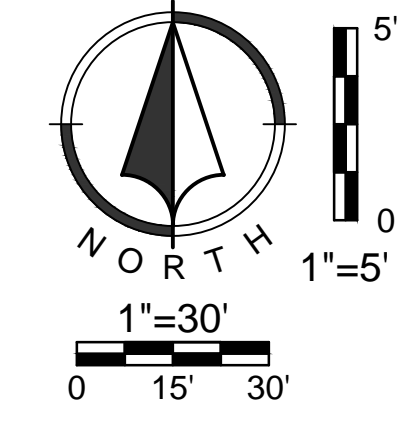
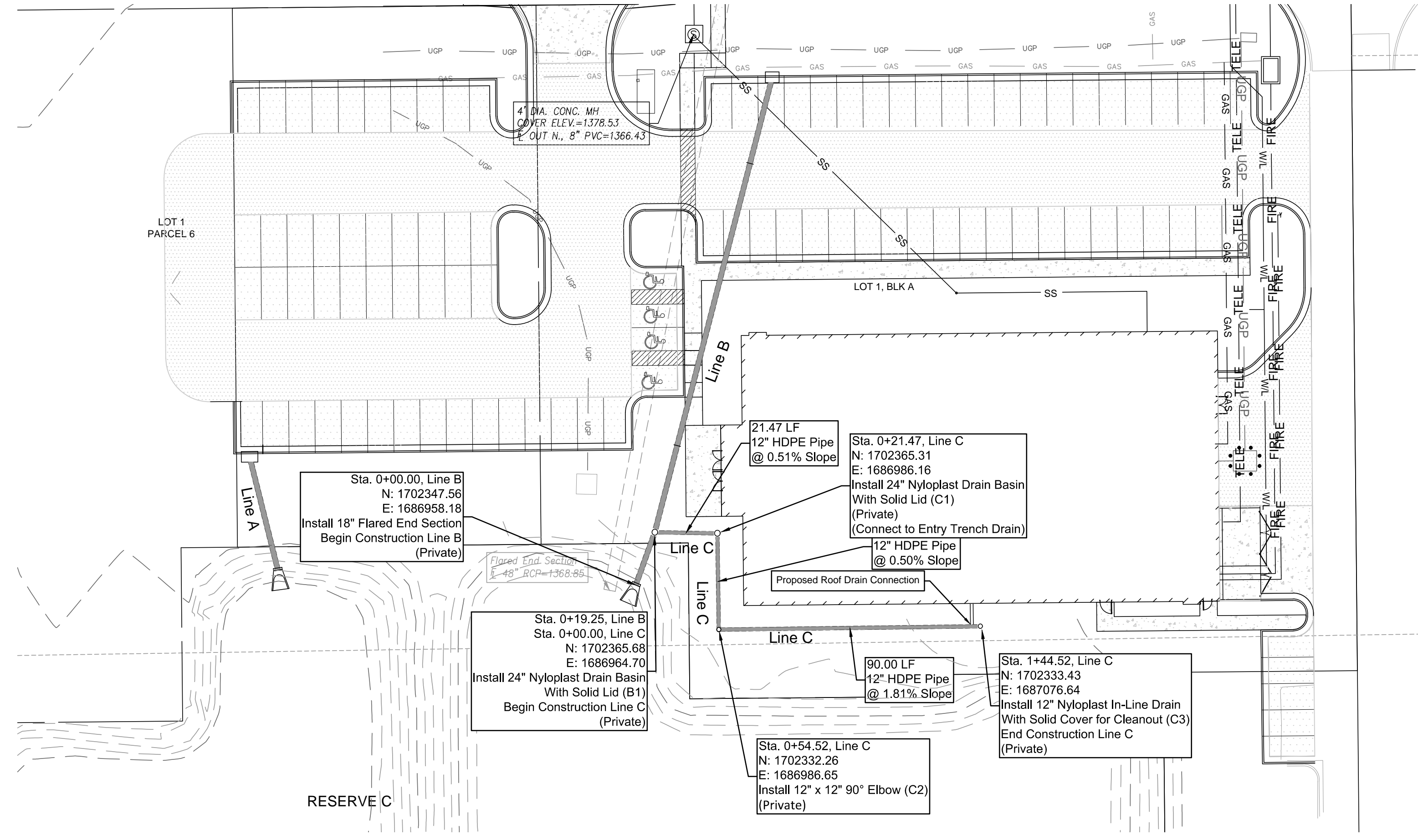


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NO.	BY	DATE	REVISION
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	CWE	05/18/2018	ORIGINAL SUBMITTAL

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915, 317, 9500
132 ABBIE AVENUE
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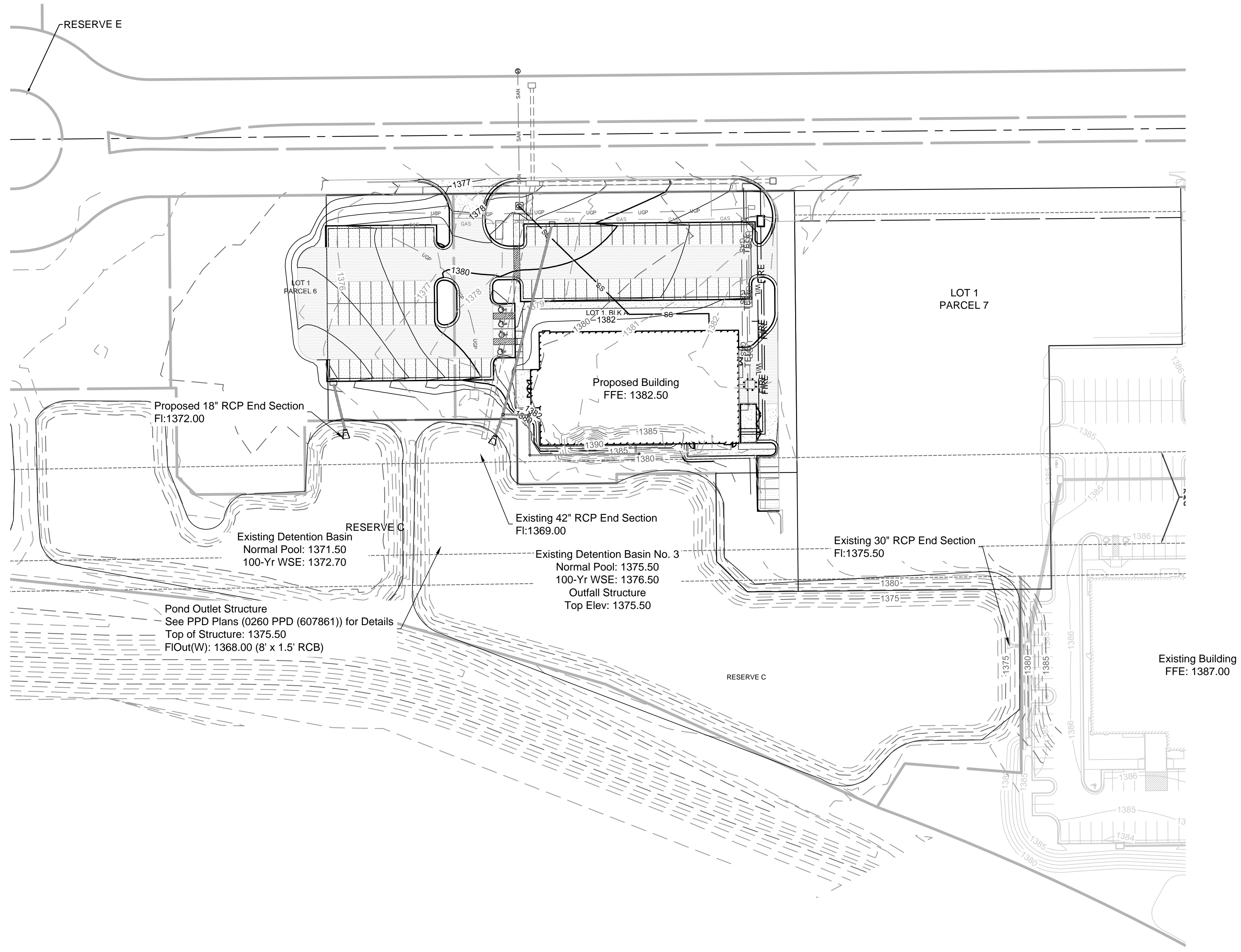




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	CWE	DJB	05/18/2018	REVISION

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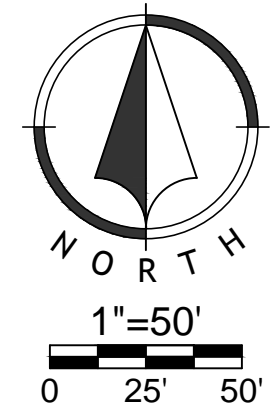
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Detention Basin No. 3 Stage, Storage, Discharge Table

Elevation	Storage Head (Ft.)	Storage Volume (Ac. - Ft.)	Discharge (CFS)
1373	0	0.00	0.00
1374	1	1.40	0.50
1375	2	2.80	0.70
1376	3	4.40	36.50
1377	4	6.10	164.00

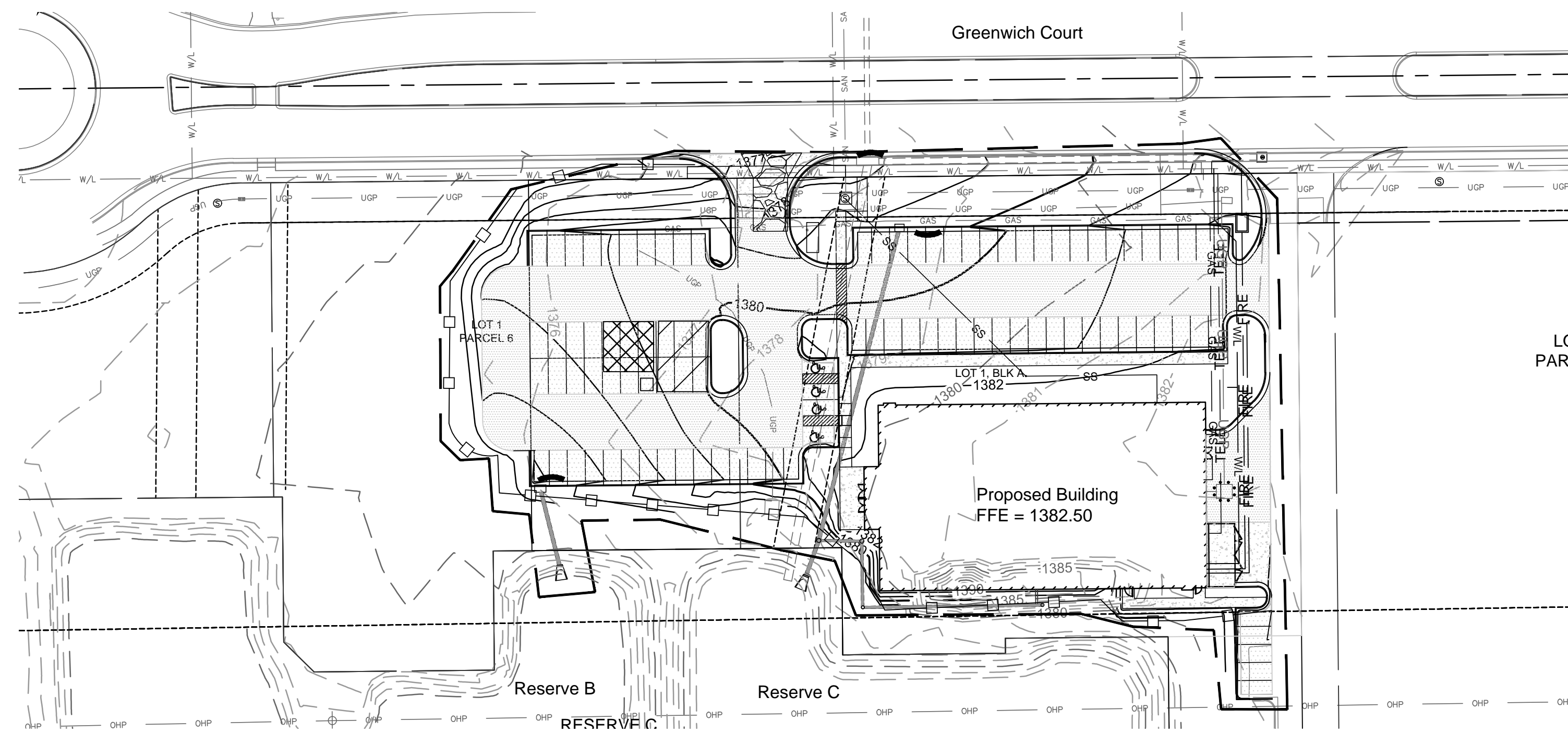
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EROSION CONTROL NOTES

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

Disturbed Area for Site Improvements : 2.00 Acres

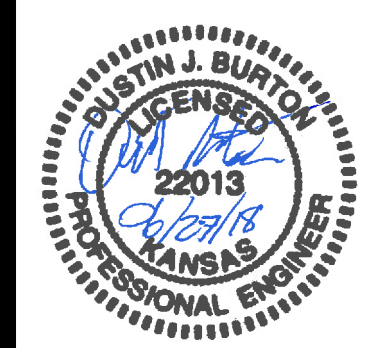
ESTIMATED EARTHWORK

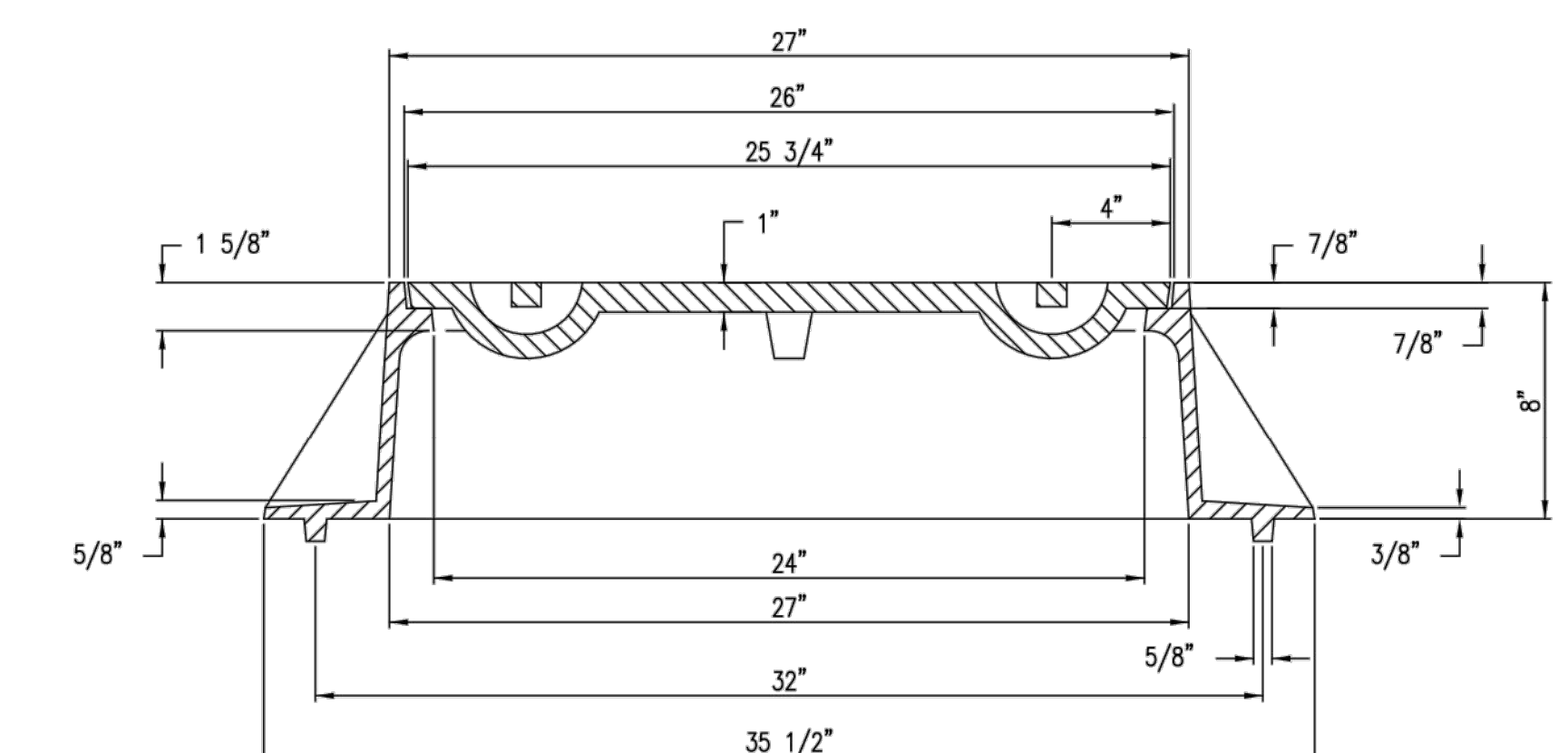
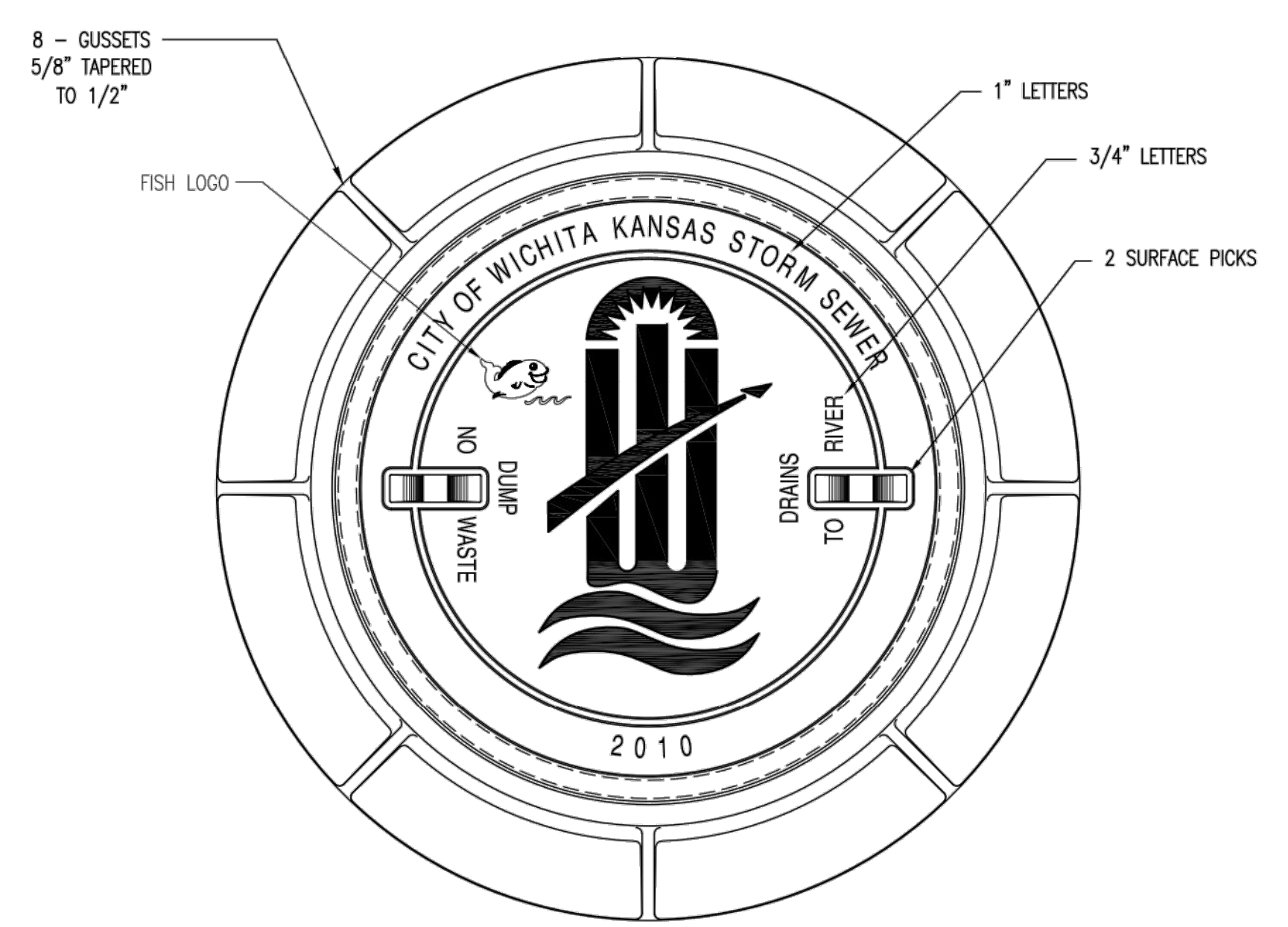
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Earthwork calculations are informational only. Contractor shall be responsible for their own earthwork calculations and perform all necessary earthwork shown herein without additional cost to the owner if quantities differ than above. Earthwork numbers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

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	CWE	05/18/2018	REVISION

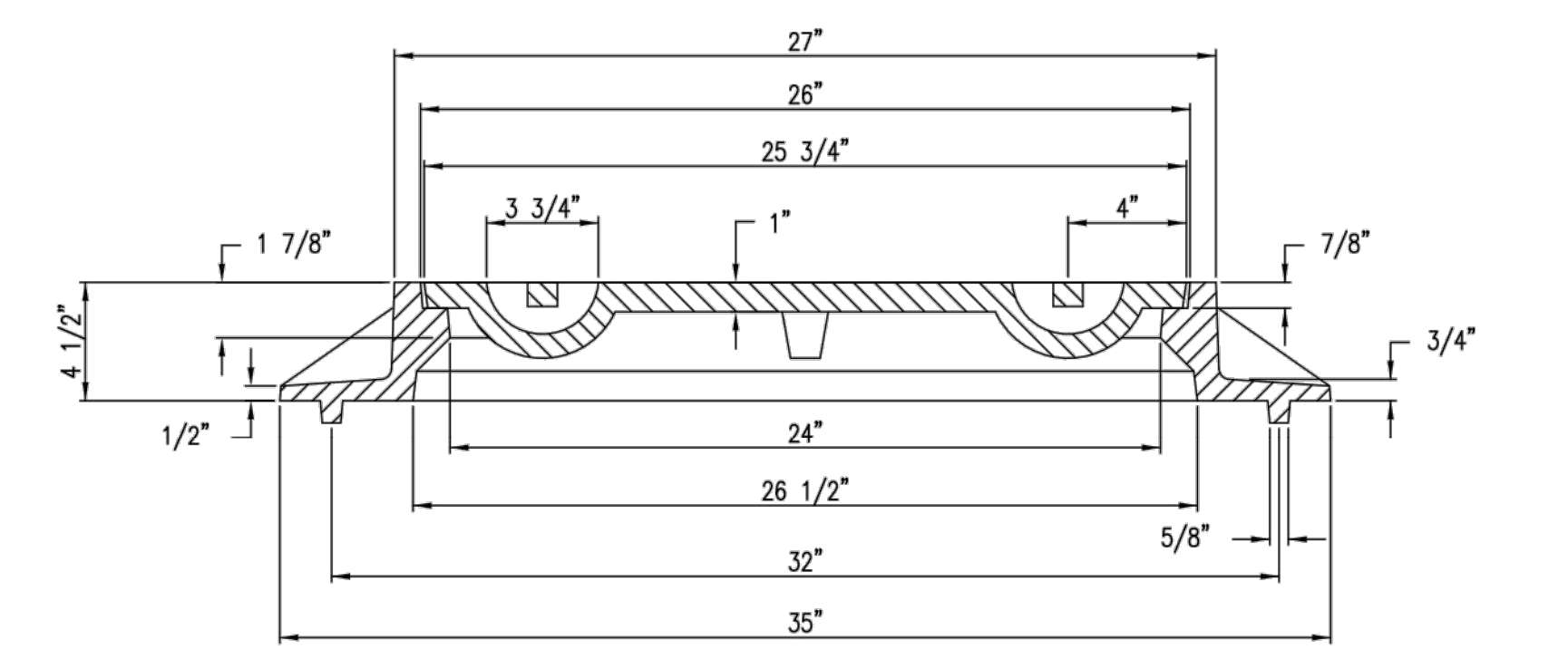
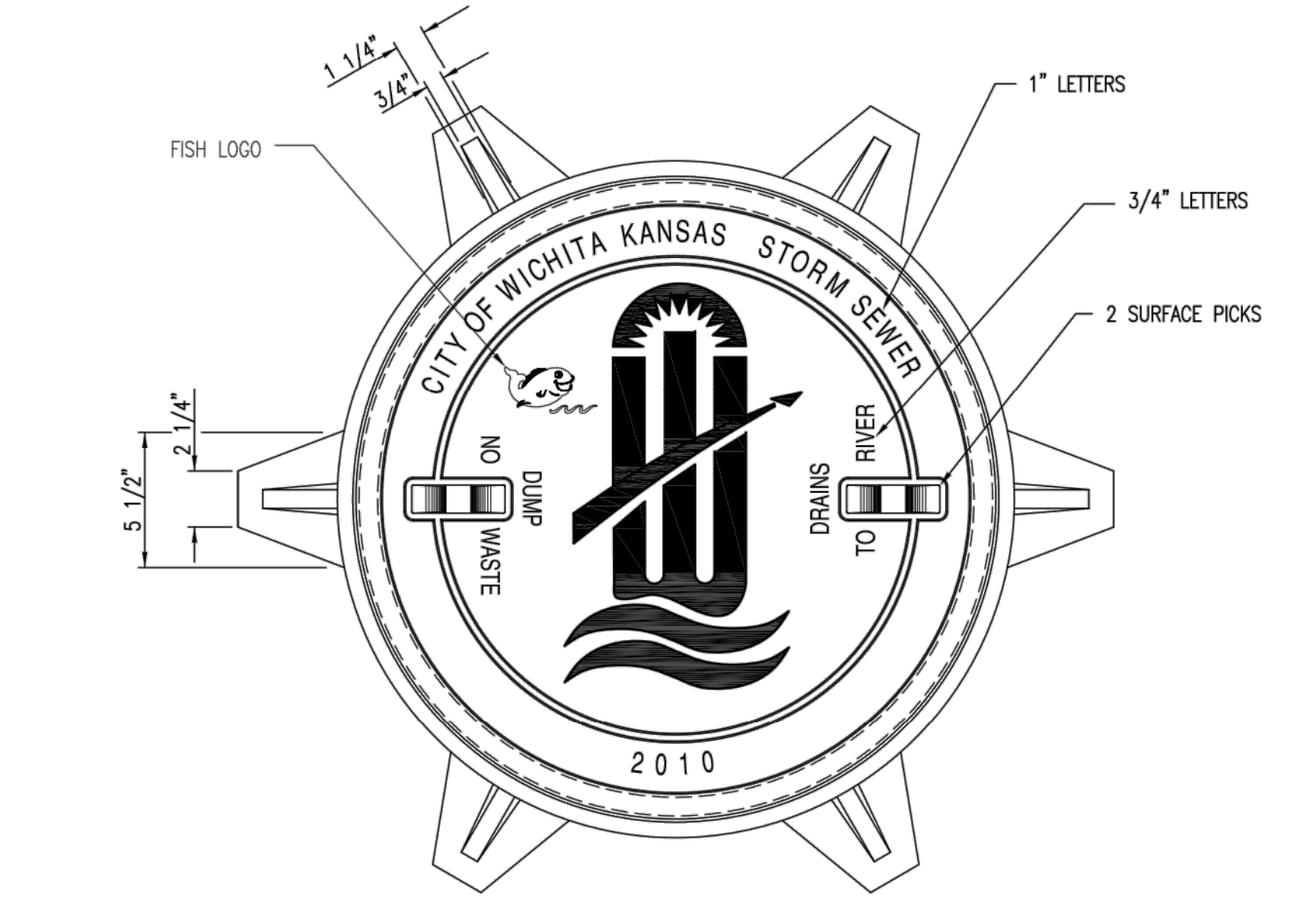
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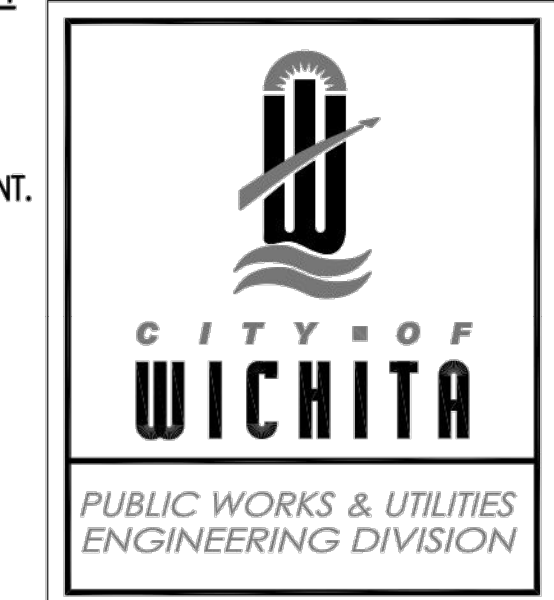
MANHOLE FRAME
DEETER #1261 OR EJIW #1936-Z1

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

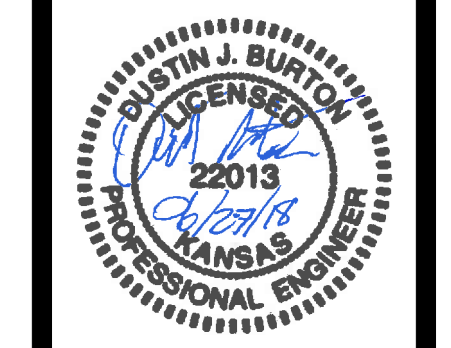
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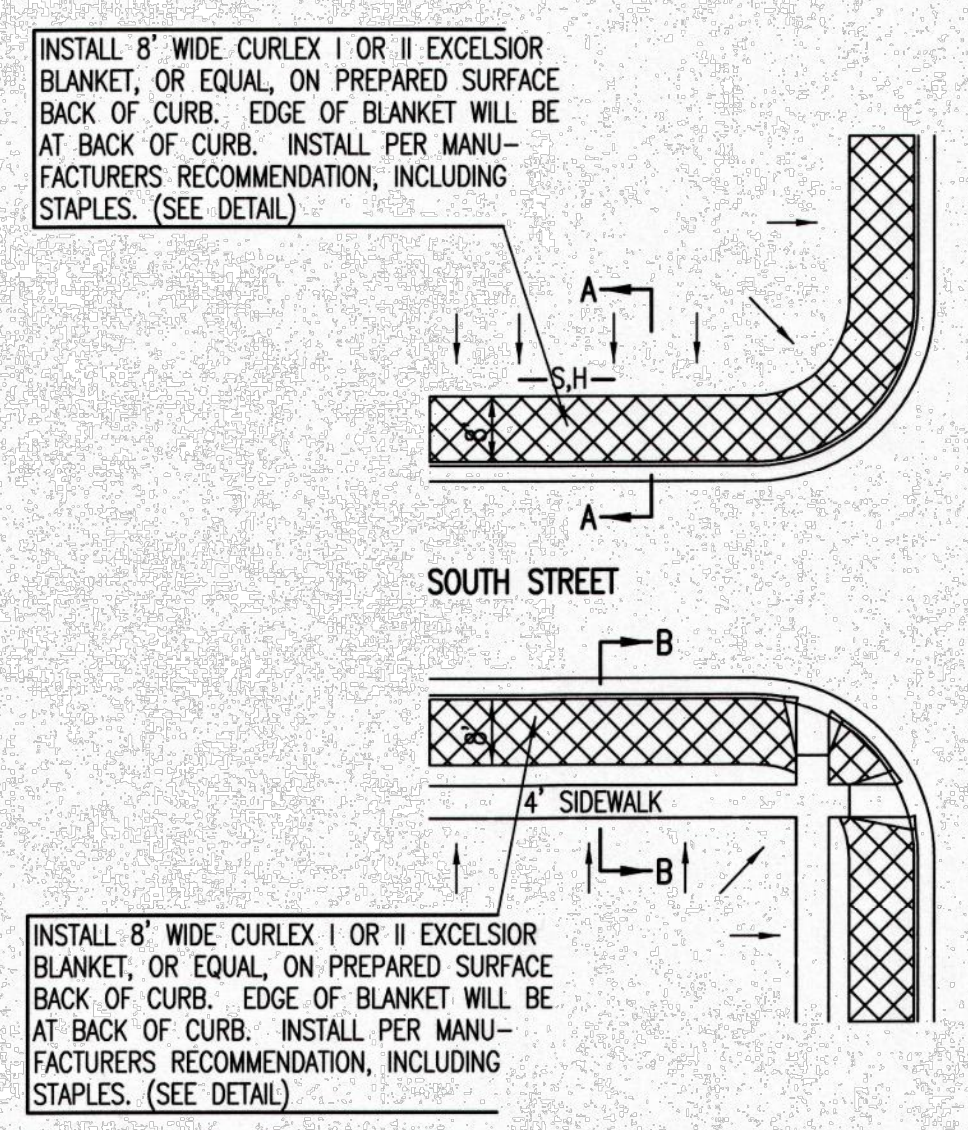
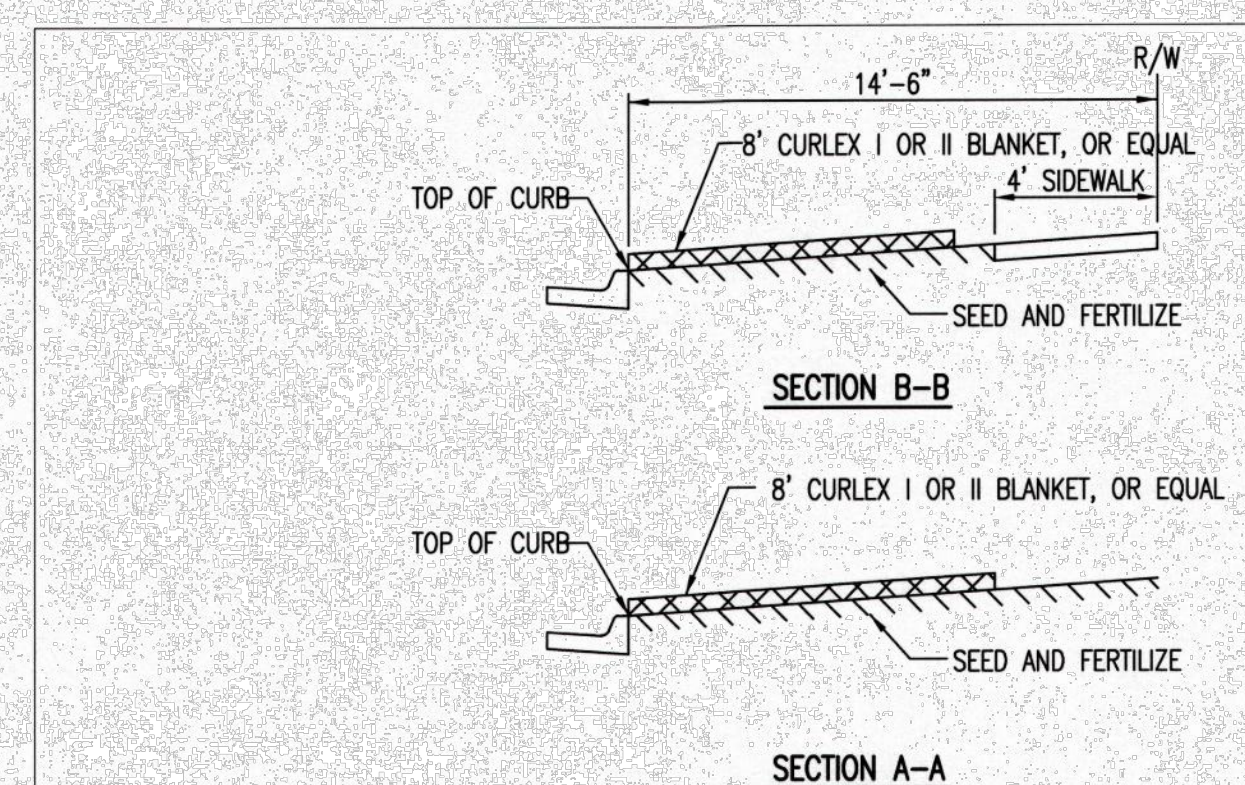
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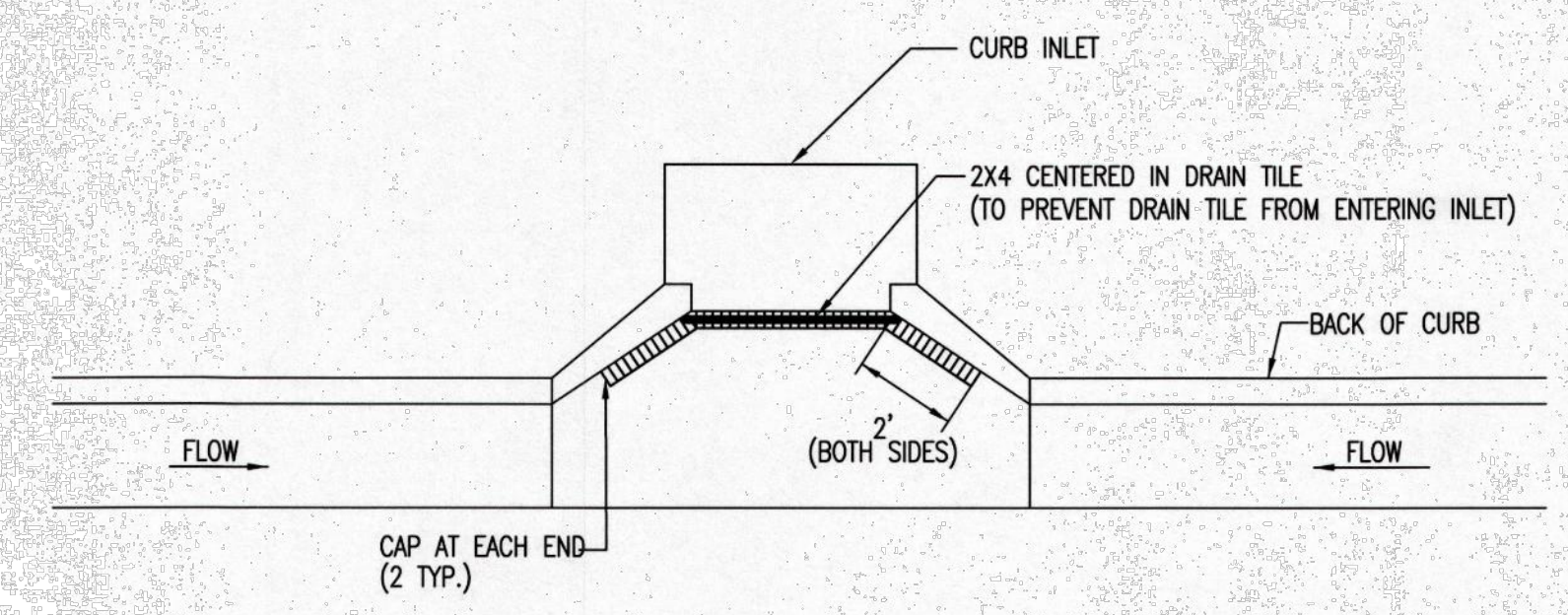
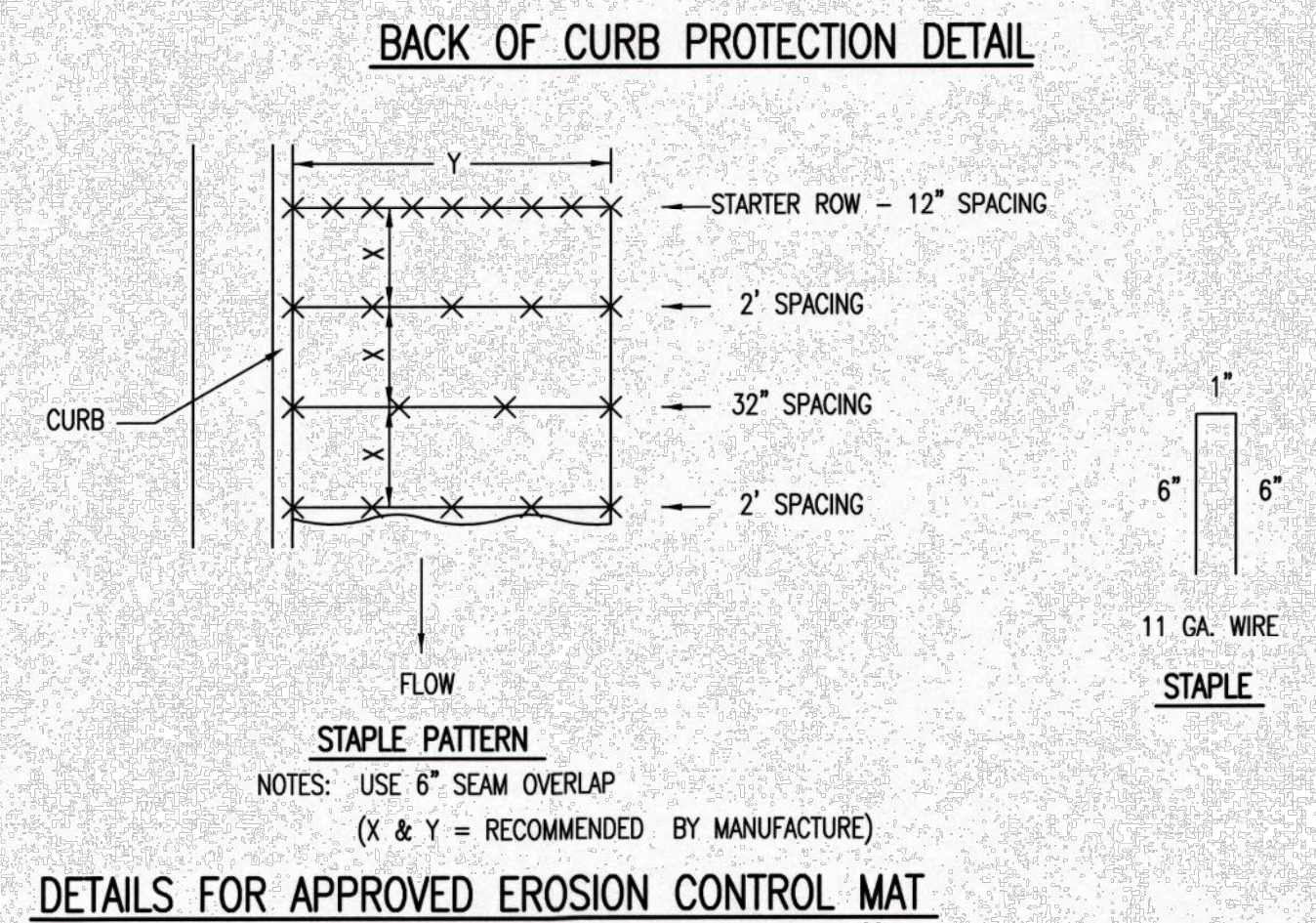
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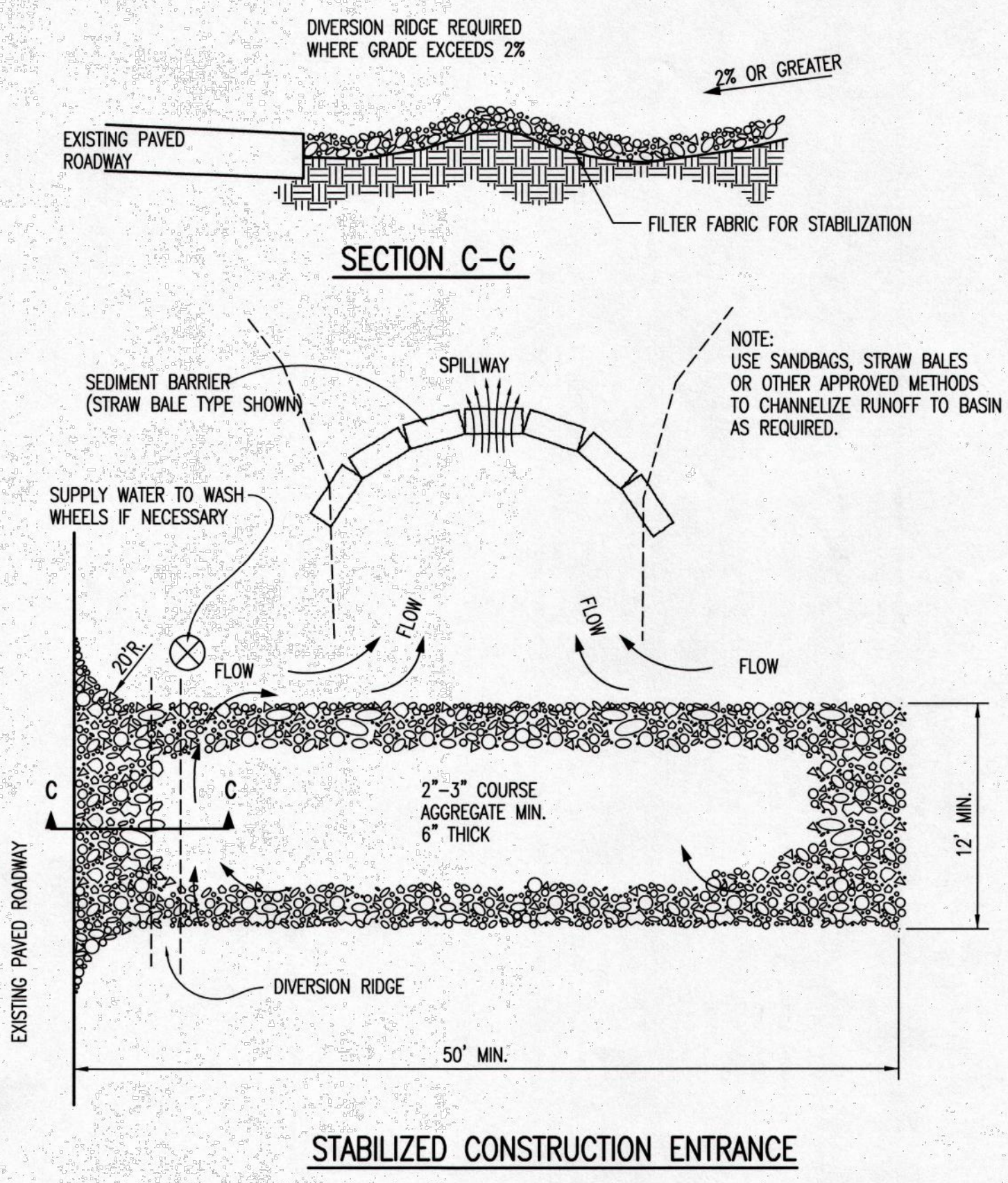
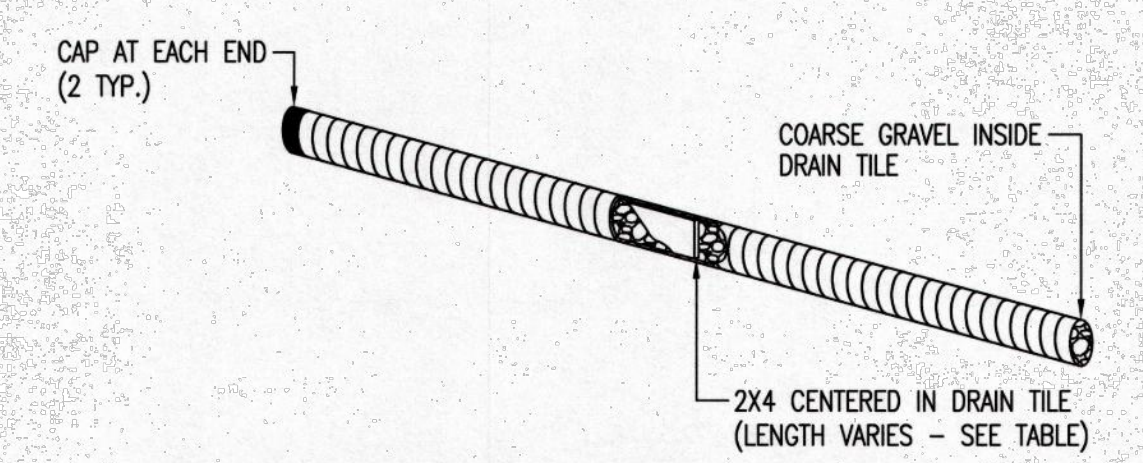


- GENERAL NOTES**
- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
 - EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
 - AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE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

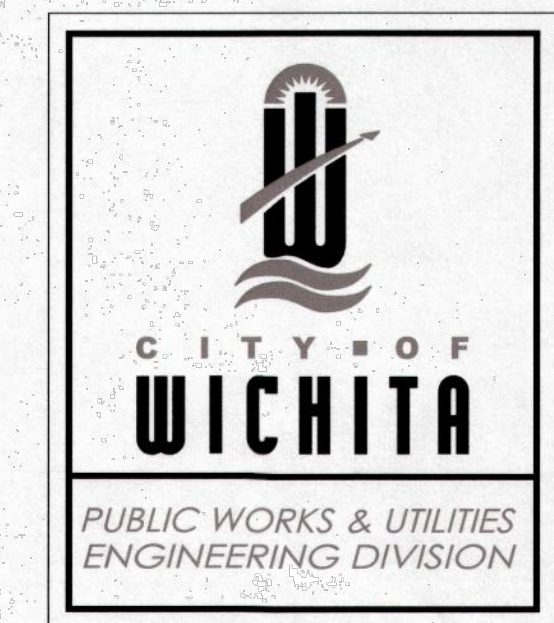
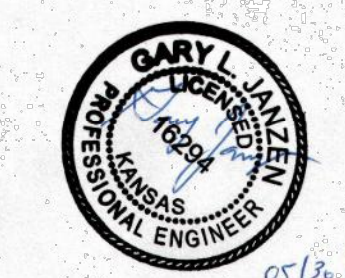


NOTE: PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

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



- 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

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	CWE	05/18/2018	

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KANSAS CITY, KANSAS 66103

DUSTIN J. BURTON
LICENSED PROFESSIONAL ENGINEER
2013

ELEVATION SILT FENCE DITCH CHECKS (STREAM PROTECTION)

NOTE: POINT A MUST BE HIGHER THAN POINT B SO THAT WATER FLOWS OVER THE SILT FENCE FABRIC AND NOT AROUND IT.

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?

ANCHOR TRENCH DETAIL

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

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

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

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

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

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

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

SILT FENCE BARRIERS (INLET PROTECTION)

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

PLACEMENT:
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?
DOES 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?



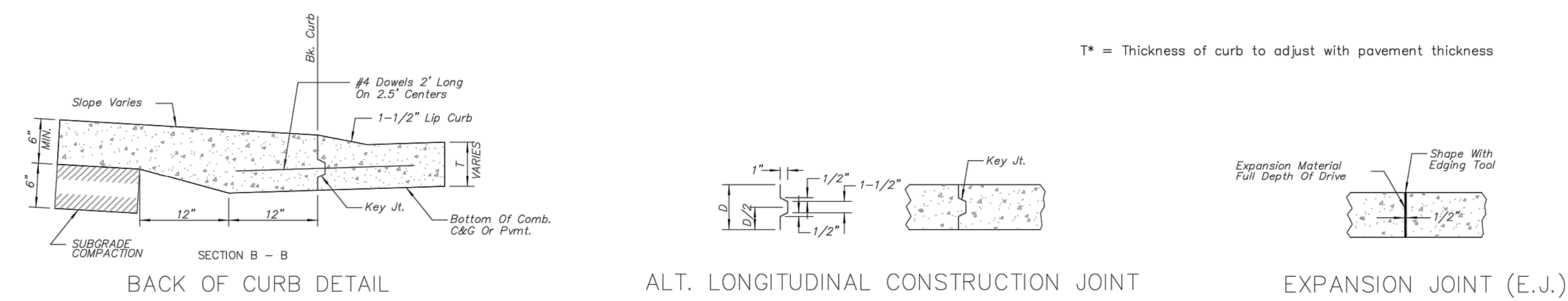
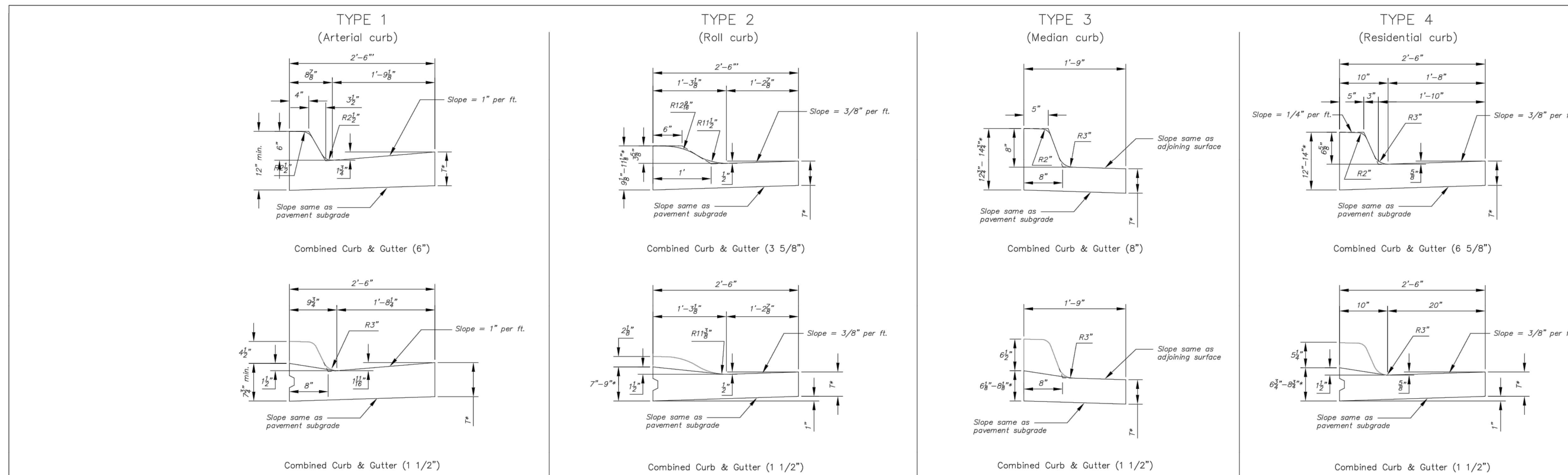
**SILT FENCE DITCH CHECK
AND BARRIER DETAILS**

CITY ENGINEER
GARY JANZEN, P.E.

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

SW-502

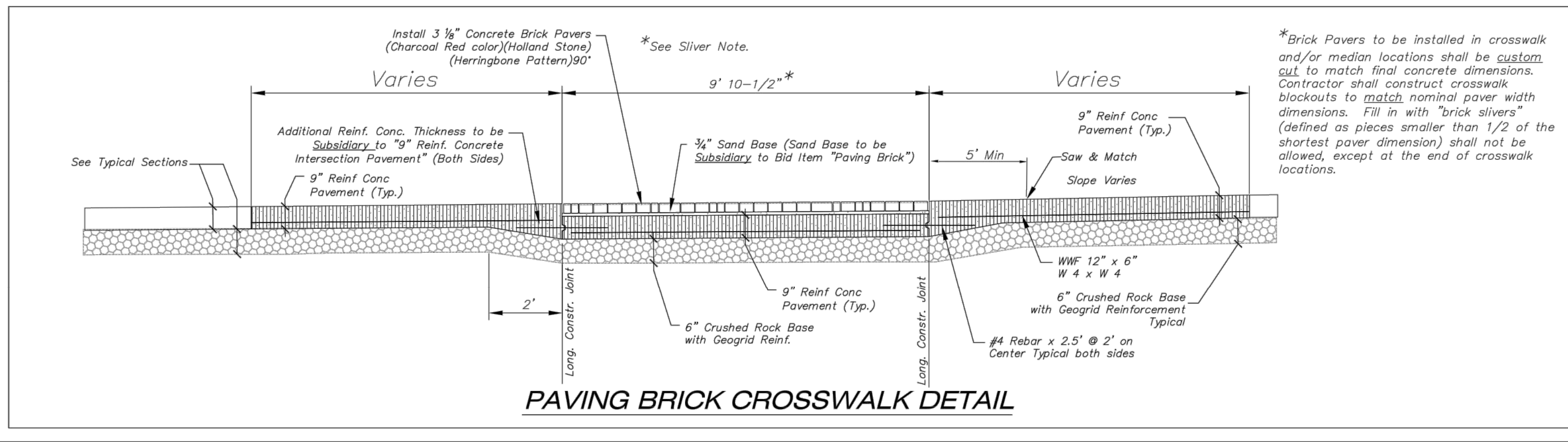
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T* = Thickness of curb to adjust with pavement thickness

GENERAL NOTES

- Expansion (isolation) joints shall be constructed a maximum of 300' apart and at all Pis, PCs, cul-de-sac quadrants, and ends of returns.
- Contraction joints shall be constructed a minimum of 12' apart.
- Joint sealer shall be required at all joints on arterial and industrial streets and at intersections on residential streets.



*Brick Pavers to be installed in crosswalk and/or median locations shall be custom cut to match final concrete dimensions. Contractor shall construct crosswalk blockouts to match nominal paver width dimensions. Fill in with "brick slivers" (defined as pieces smaller than 1/2 of the shortest paver dimension) shall not be allowed, except at the end of crosswalk locations.

REVISED: OCTOBER 2015

CURB & GUTTER & PAVING BRICK CROSSWALK DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER OCA NUMBER DATE

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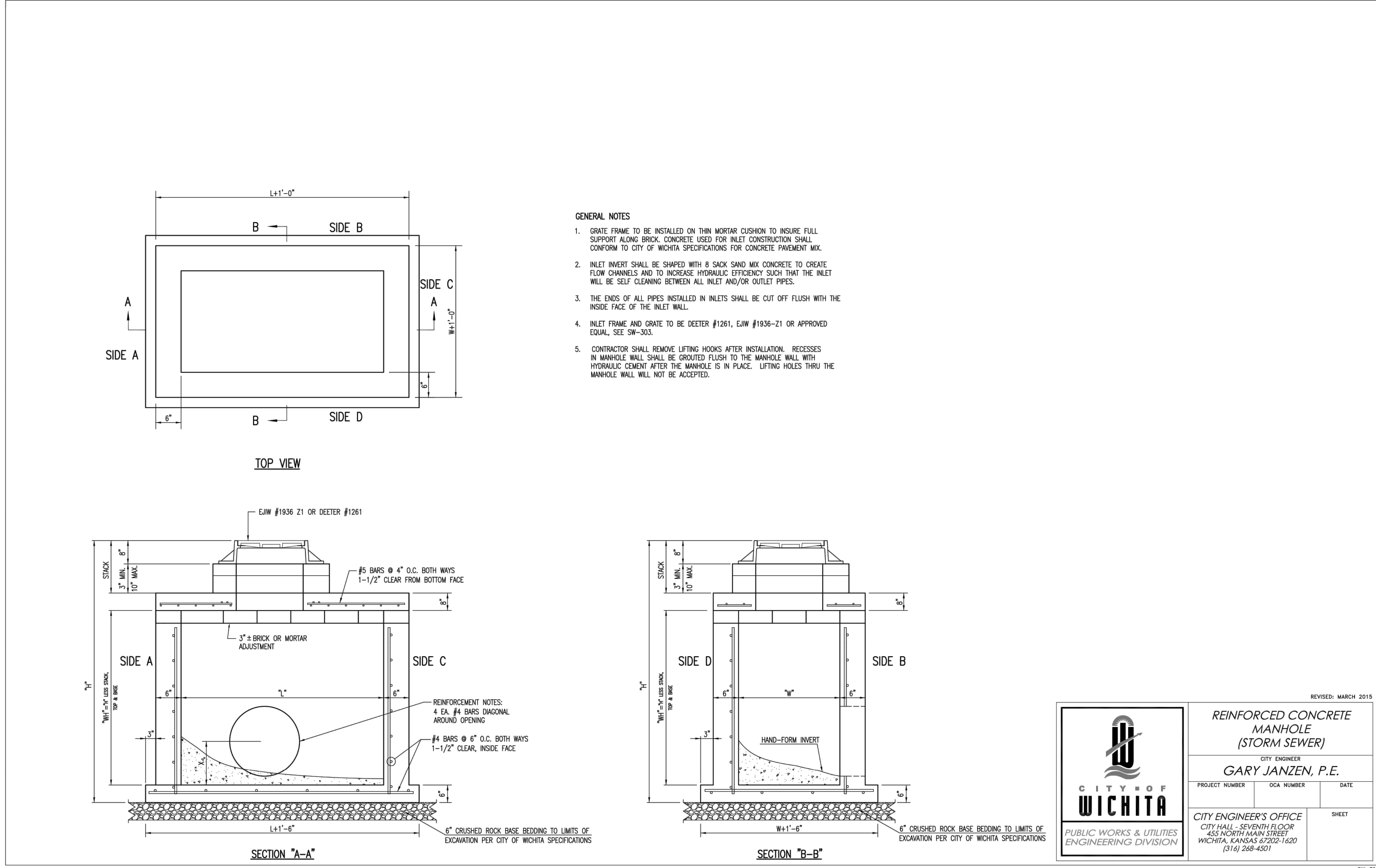


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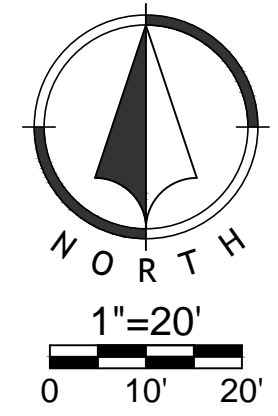


REVISED: MARCH 2015

**REINFORCED CONCRETE
MANHOLE
(STORM SEWER)**

CITY ENGINEER
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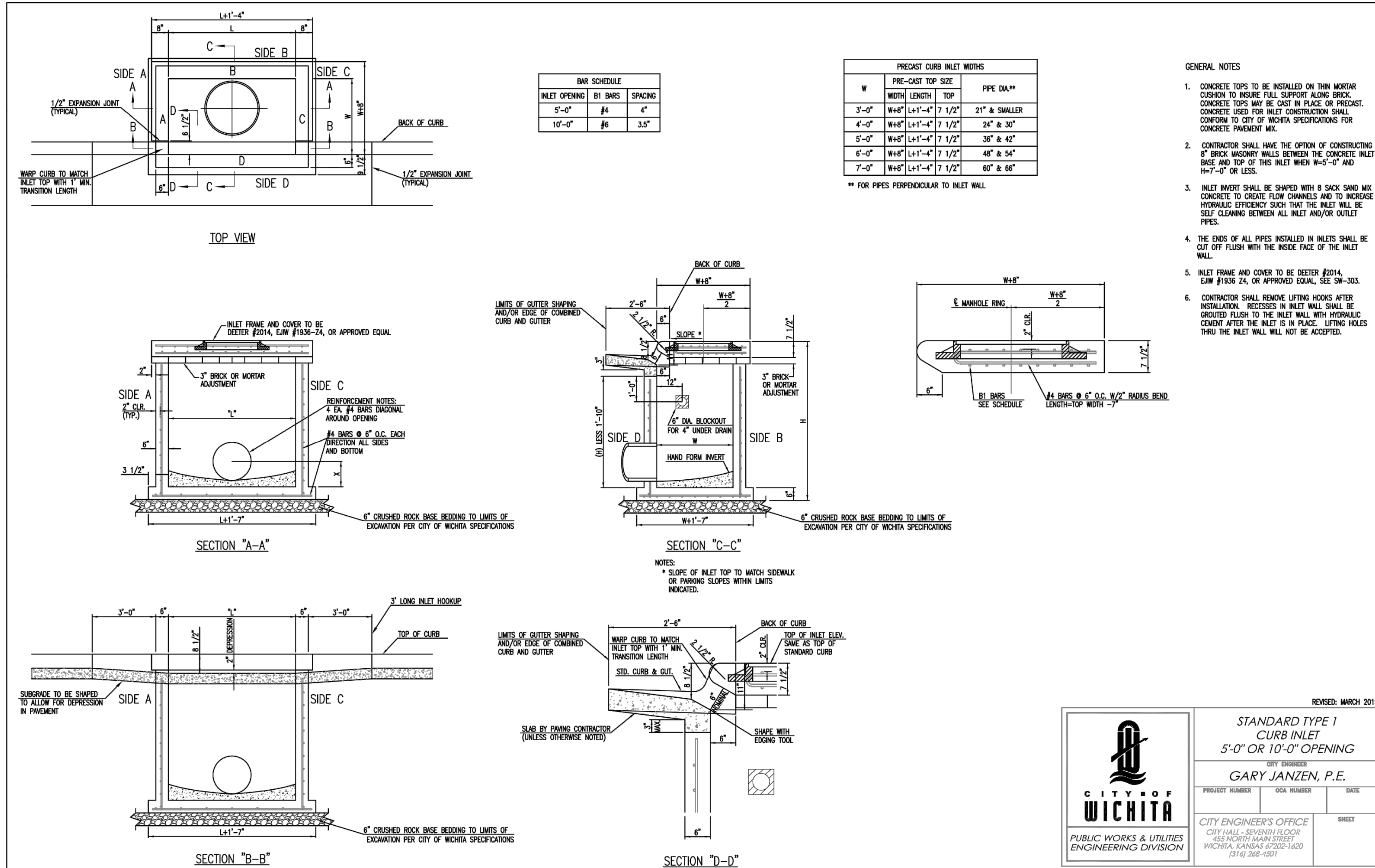
NO.	BY	DD	DATE	REVISION
1.	CWE	DJB	06/29/2018	PER CITY COMMENTS
	CWE	DJB	05/18/2018	ORIGINAL SUBMITTAL

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KANSAS CITY, KANSAS 66103





REVISED: MARCH 2015

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

CITY ENGINEER
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PROJECT NUMBER	OGA NUMBER	DATE

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SHEET



NO.	BY	DD	DATE	REVISION
1.	CWE	DJB	06/29/2018	PER CITY COMMENTS ORIGINAL SUBMITTAL
	CWE	DJB	05/18/2018	

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