

- GENERAL NOTES:**
- UTILITY SERVICE LINES, POLES, VALVE BOXES, METERS, ETC. ARE TO BE MAINTAINED UNLESS NECESSARY FOR THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL UTILITIES AND STRUCTURES EXISTING ON THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL UTILITIES AND STRUCTURES EXISTING ON THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ALL UTILITIES AND STRUCTURES EXISTING ON THE PROJECT.
 - CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:
 KANSAS ONE CALL
 811
 KANSAS POWER & LIGHT (KPL) 316-262-0661
 KANSAS TELEPHONE (KTEL) 316-268-2008
 WESTAR ENERGY (ELECTRIC) 316-261-6512
 KANSAS GAS SERVICE (GAS) 316-832-3128
 BLACK HILLS ENERGY (GAS) 316-722-1808
 CITY OF BEL AIR PUBLIC WORKS (WATER, SEWER) 316-744-2888
 CITY OF WICHITA (WATER) 316-268-4555
 SEDGWICK RURAL WATER DISTRICT #1 316-775-0100

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY THE CONTRACTOR AT HIS OWN EXPENSE. ALL COSTS FOR THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO OTHER BID ITEMS.
- THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ABUTTING THE PROJECT LIMITS A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.
- NO SOIL BORINGS HAVE BEEN PERFORMED FOR THIS PROJECT. THE CONTRACTOR SHALL BEAR THE COSTS, AND RESPONSIBILITY FOR ANY SOIL INVESTIGATION DEEMED NECESSARY FOR EXECUTION OF THE WORK.
- ALL CONSTRUCTION AND MATERIALS, UNLESS OTHERWISE NOTED, TO COMPLY WITH CITY OF WICHITA SPECIFICATION AND STANDARDS.
- NO SERVICES WILL BE INSTALLED AS PART OF THIS PROJECT.
- THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL. TWO-WAY TRAFFIC MUST BE MAINTAINED THROUGHOUT THE PROJECT. TRAFFIC CONTROL DEVICES AND SIGNING SHALL BE IN ACCORDANCE OF THE LATEST ADDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- ANY FENCE REMOVED FOR CONSTRUCTION SHALL BE REPAIRED IN A CONDITION EQUAL TO, OR BETTER THAN, ORIGINAL SUBSIDIARY TO OTHER BID ITEMS.
- RUBBLE REMOVAL - RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURE 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 SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT BEFORE THE CONTRACTOR IS PERMITTED TO PERFORM ANY MATERIAL DUMPING IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO US CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURED IN A PREVIOUSLY APPROVED BORROW LOCATION. THE COST OF DISPOSING OF RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION, INCLUDING LOADING AND HAULING SHALL BE SUBSIDIARY TO THE OTHER BID ITEMS.
- TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONTACT WITH THE PROPOSED CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONTACT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE. THIS COST IS SUBSIDIARY TO OTHER BID ITEMS.
- CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR IS ASSIGNED TO THE PROJECT AND IS PRESENT ON THE SITE.
- THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, SHOULDERS, AND ENTRANCES TO THE ORIGINAL SLOPES AND GRADES EXCEPT AS SHOWN OTHERWISE.
- UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL REMOVE ALL CONSTRUCTION DEBRIS AND RESTORE THE PROJECT TO A CONDITION COMPARABLE TO EXISTING. DISTURBED AREAS OUTSIDE PAVEMENT SHALL BE RESTORED WITH THE SAME GRASS/SEED AS EXISTING. SEEDING SHALL INCLUDE TOP SOIL PREPARATION, SEEDING AND MULCHING.
- CONTRACTOR WILL BE REQUIRED TO COMPLY WITH THE EROSION CONTROL PLAN AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AS FILED WITH THE NOTICE OF INTENT (NOI) AND DETAILED IN THE PROJECT PLANS. BMP'S SHALL BE MAINTAINED BY THE CONTRACTOR DURING CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING RECORDS OF THE REQUIRED INSPECTIONS AND MAINTENANCE PER THE SWPPP SUBMITTED WITH THE NOI.
- OPENING AND CLOSING OF WATER VALVES SHALL BE DONE BY CITY OF WICHITA PERSONNEL ONLY.

**DRAINAGE PRIVATE PROJECT PLANS FOR
 QUIKTRIP STORE #0313
 K-15 AND 31ST STREET SOUTH
 WICHITA, SEDGWICK COUNTY, KS.
 PPD (O.C.A. NO. _____)
 GARY JANZEN, P.E., CITY ENGINEER
 AUGUST 2013**

ENGINEERING HAS A FEE FOR THEIR REVIEW



- PROJECT CONTACT LIST:**
- SUBTRACTOR OF RECORD
 SNAVO COMPANY, P.A.
 LEANN D. HODOL, L.S.
 415 W. 10TH ST.
 WICHITA, KS 67211
 TEL: (316) 265-0005
 - ENGINEER OF RECORD
 SCHWAB-EATON
 ANNE STEPHENS, P.E.
 8615 W. FAZLER LAKE, SUITE 2
 WICHITA, KS 67212
 TEL: (316) 722-4472
 - DT CIVIL PROJECT MANAGER
 QUIKTRIP CORPORATION
 MATT BARR, R.L.A.
 4705 S. 129TH EAST AVE.
 TULSA, OK 74134
 TEL: (918) 615-7381
 FAX: (918) 615-7451

- BENCHMARKS:**
- Site Benchmark #1
 Square Cut on Top of Headwall at the South end of R.C.B.C. located 41' SE & 20' SW of the westerly most N.W. Corner of subject Property.
 Elev: 1283.71 NAVD88
 - Site Benchmark #2
 Square Cut on Top of Curb located 40.5' E. & 2.3' N. of the N.E. Corner of subject Property.
 Elev: 1283.65 NAVD88
 - Site Benchmark #3
 Corner of N.W. Corner Concrete Pad for Mailboxes located 134' E. & 48' E. of the S.E. Corner of subject Property.
 Elev: 1284.14 NAVD88

SHEET INDEX

NO.	TITLE
1	COVER SHEET
2	EXISTING PLAN
3	PROPOSED PLAN
4A	SITE PLAN
4B	SITE PLAN (DECEL LANE)
5	PRE DEV. DRAINAGE MAP
6	POST DEV. DRAINAGE MAP
7	GRADING PLAN
8	EROSION CONTROL PLAN PHASE 1
9	EROSION CONTROL PLAN PHASE 2
10	EROSION CONTROL DETAILS 1
11	EROSION CONTROL DETAILS 2
12	EROSION CONTROL DETAILS 3
13	SMS PLAN & PROFILE 1
14	SMS PLAN & PROFILE 2
15	SMS PLAN & PROFILE 3
16	DT DRAINAGE DETAILS 1
17	DT DRAINAGE DETAILS 2
18	WATER QUALITY STRUCTURE DETAIL

*NOI = SUPP
 ER V SHEET
 TOTAL DISTURBED AREA = ac
 PRE-DEVELOPED IMP = ac
 PRE-DEVELOPED PAV. = ac
 PRE-DEVELOPED IMP = a
 POST-DEVELOPED IMP = a
 POST-DEVELOPED PAV. = ac*

*STANDARD COMPARE
 SITE COMPARES
 W/ SECT 16.32
 OF CITY CODE
 DA = ac
 ETC. ---
 DETAILS NOT REQUIRED
 DUE TO NOT
 MEET THE
 1 AC OF IMP.
 CLEARED*

*Concerns w/ pending at K-15
 4.6.1
 Vol. 2, chapt. 4, page 4-12
 FOR ROUTING + POND STORAGE
 STATES TO USE SC3 CLARK EPA-SWMM
 SW METHED (NO ANN. TO W/ SCS.)*

QuikTrip No. 0313R
 K-15 & 31ST STREET SOUTH
 WICHITA, KANSAS

Schwab
 Eaton

8815 W. Faessler, Suite 2
 Wichita, Kansas
 P: 316.722.4472
 F: 316.722.4473

PROJECT NO. 130808

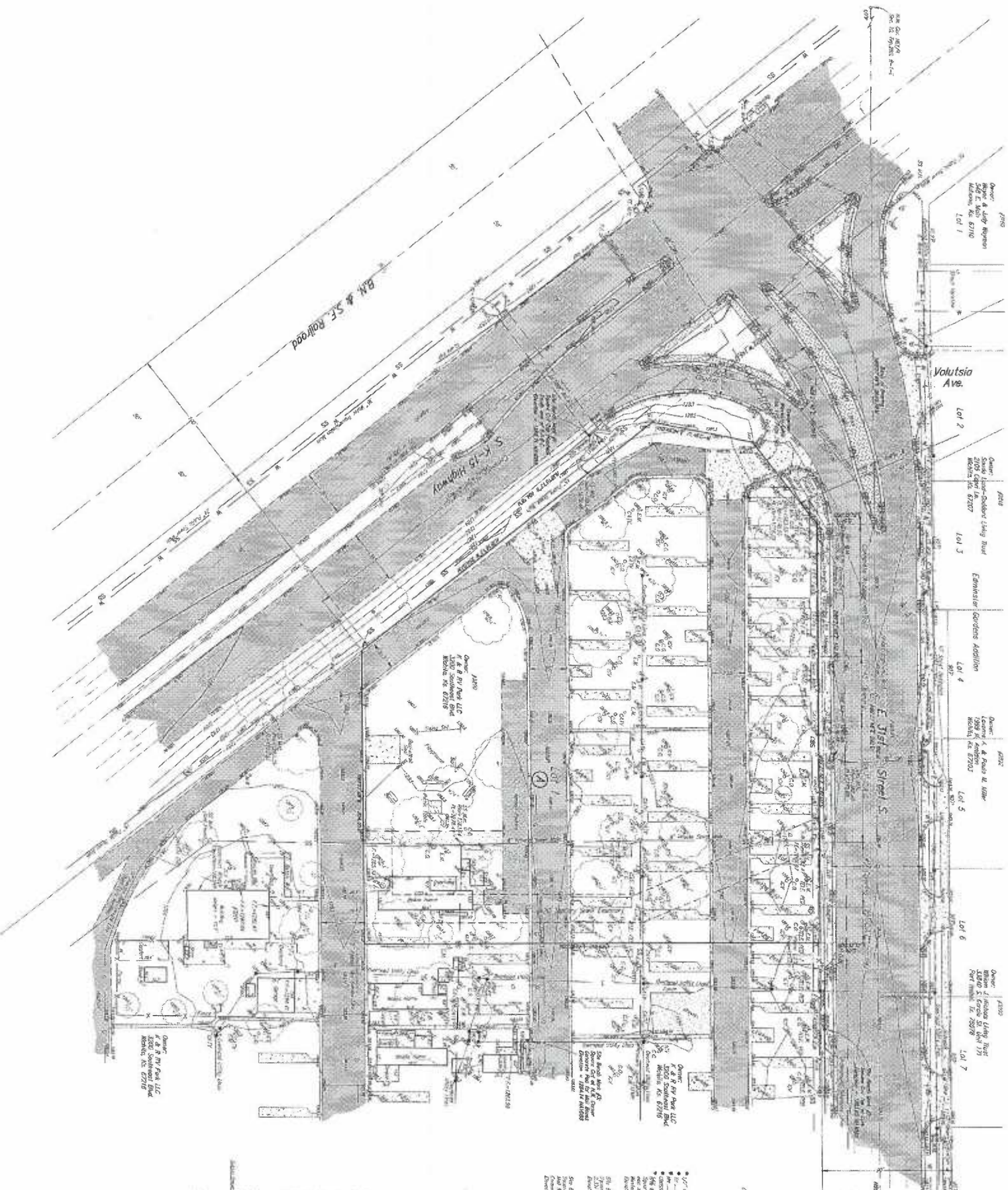
DATE: 8/26/2013

REVISIONS:

REV	DATE	DESCRIPTION

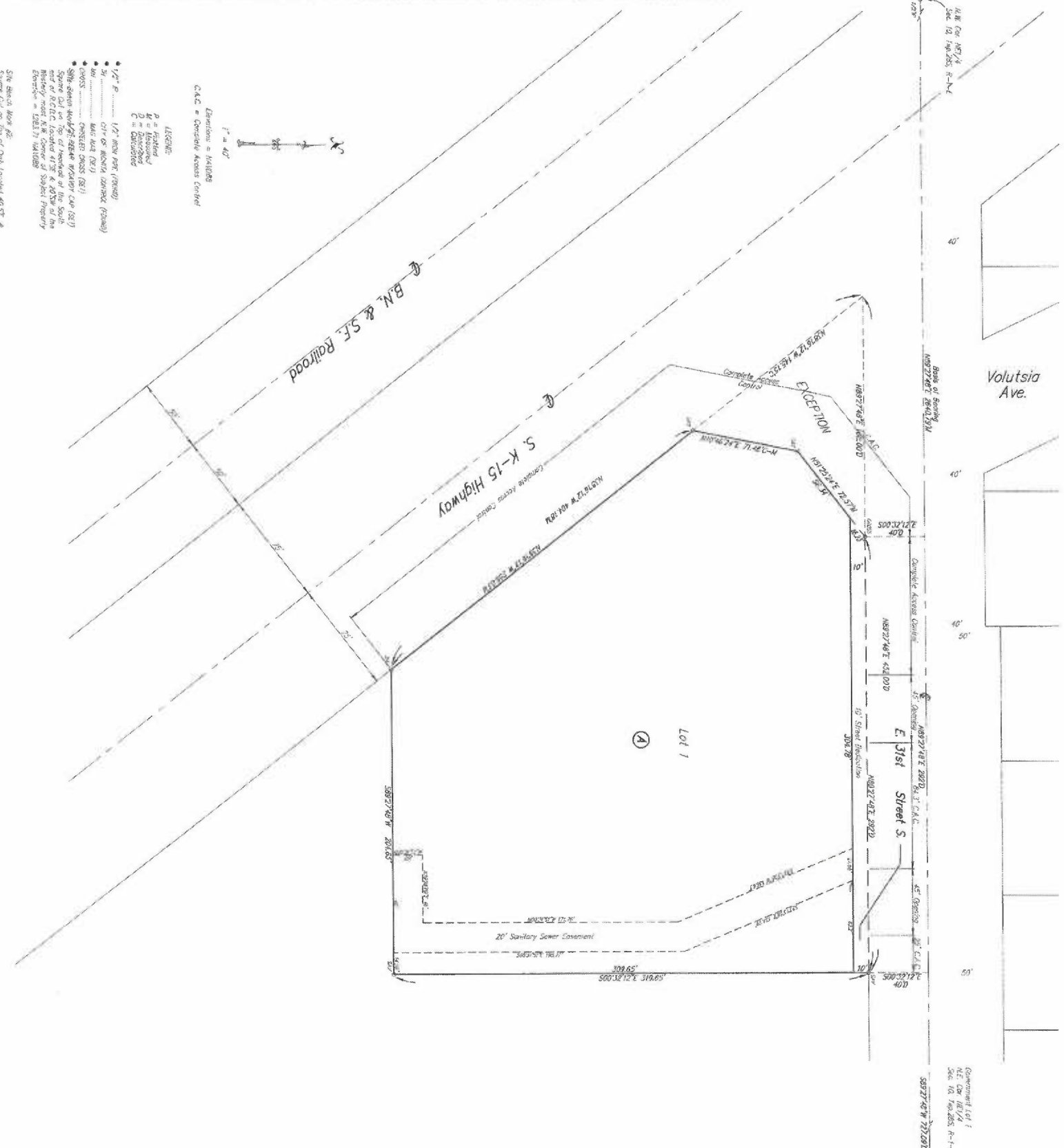
ORIGINAL ISSUE DATE: 08/26/13

SHEET TITLE: COVER SHEET
 SHEET NUMBER: 1

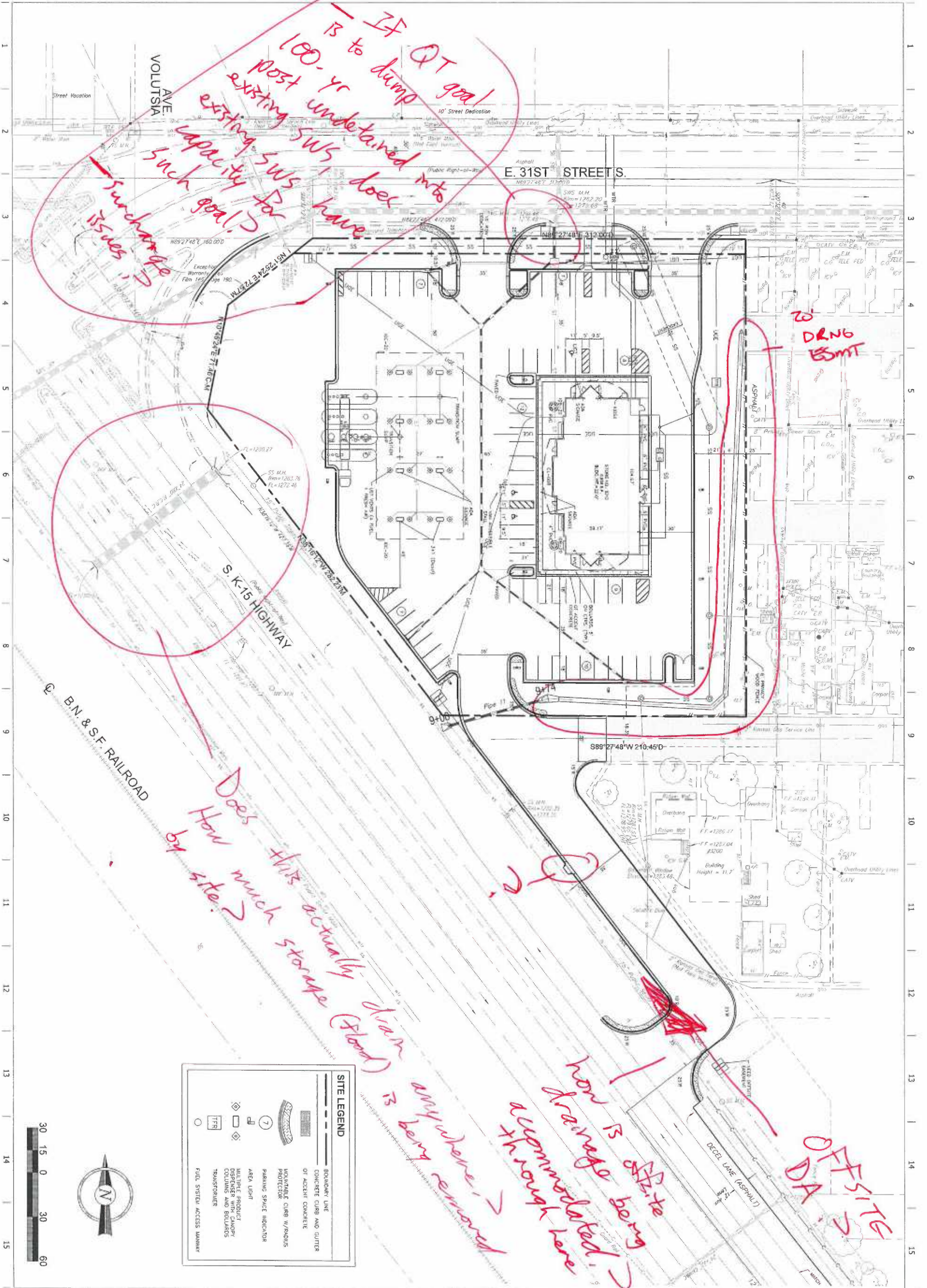


Legend

1" = 40'	Scale
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1/4" = 40'
 C.A.C. = Conclude Access Control
 LEGEND:
 P = Plotted
 M = Measured
 C = Calculated
 1/2" = 10' (NEW PART (2008))
 1/4" = 5' (NEW PART (2008))
 1/8" = 2.5' (NEW PART (2008))
 1/16" = 1.25' (NEW PART (2008))
 1/32" = 0.625' (NEW PART (2008))
 1/64" = 0.3125' (NEW PART (2008))
 1/128" = 0.15625' (NEW PART (2008))
 1/256" = 0.078125' (NEW PART (2008))
 1/512" = 0.0390625' (NEW PART (2008))
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SHEET TITLE: SITE PLAN
SHEET NUMBER: 4A

REV	DATE	DESCRIPTION

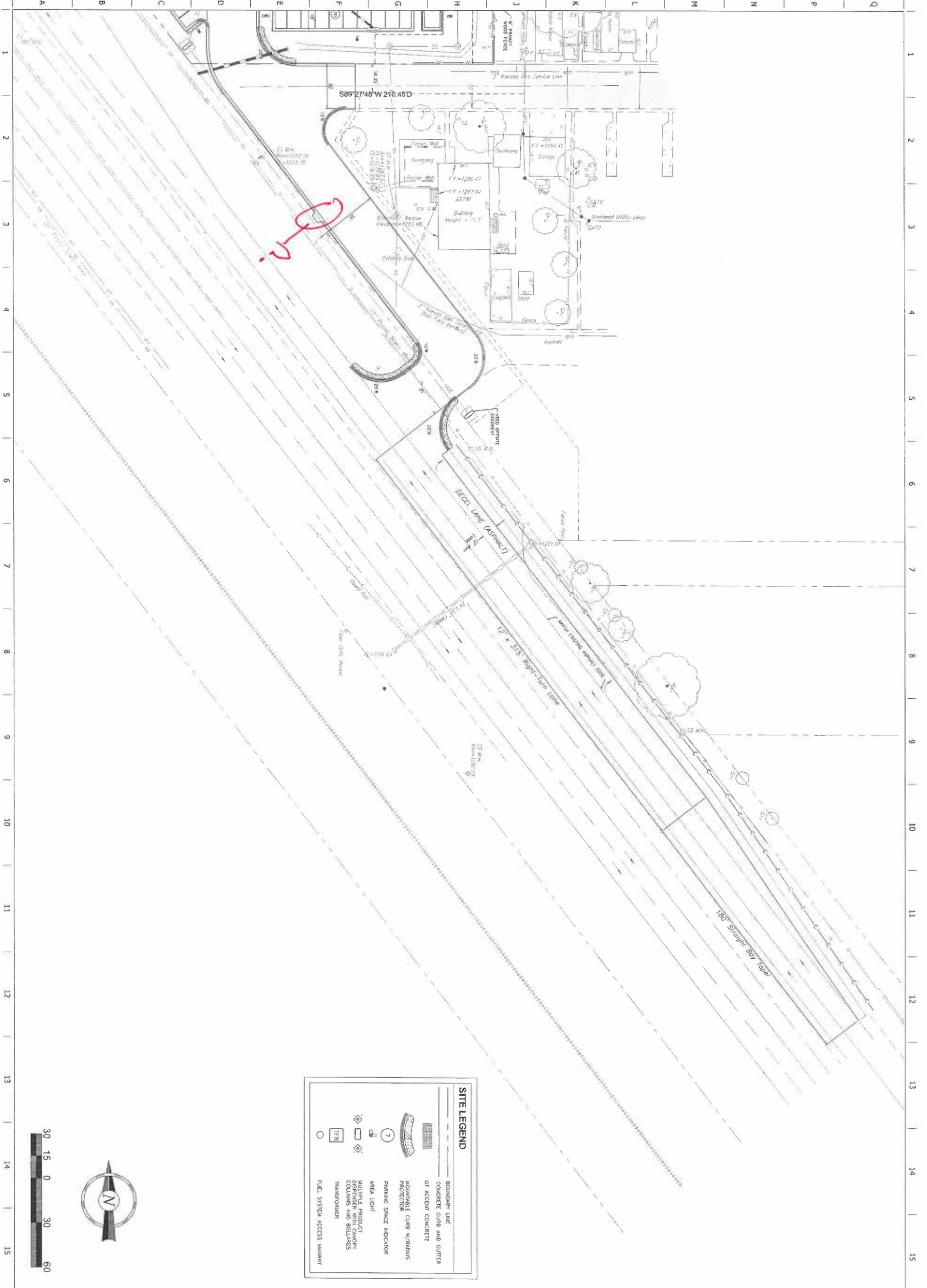
ORIGINAL ISSUE DATE: 08/26/13

PROJECT NO. 13W008
DIVISION: WICHITA
DESIGNER: JAC
DRAWN BY: AL
REVIEWED BY: RB

QuikTrip No. 0313R
K-15 & 31ST STREET SOUTH
WICHITA, KANSAS

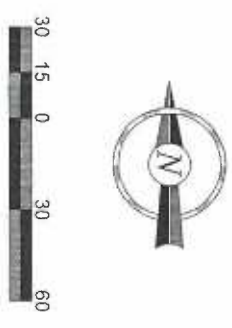
Schwab
Eaton
8815 W. Frontier, Suite 2
Wichita, Kansas
P.O. Box 1224472
Wichita, KS 67222-4472
P: 316.262.4118
F: 316.262.4119





SITE LEGEND

- BOUNDARY LINE
- CONCRETE CURB AND CUTTER OF ACCESS CONCRETE
- MOUNTABLE CURB w/ RADIUS PROTECTOR
- PARKING SPACE INDICATOR
- AREA LIGHT
- MULTIPLE PRODUCT DISPENSER WITH CANOPY COLUMNS AND BOLLARDS
- TRANSFORMER
- FUEL SYSTEM ACCESS MARKWAY



SHEET NUMBER:
4B

SHEET TITLE:
SITE PLAN

REV	DATE	DESCRIPTION

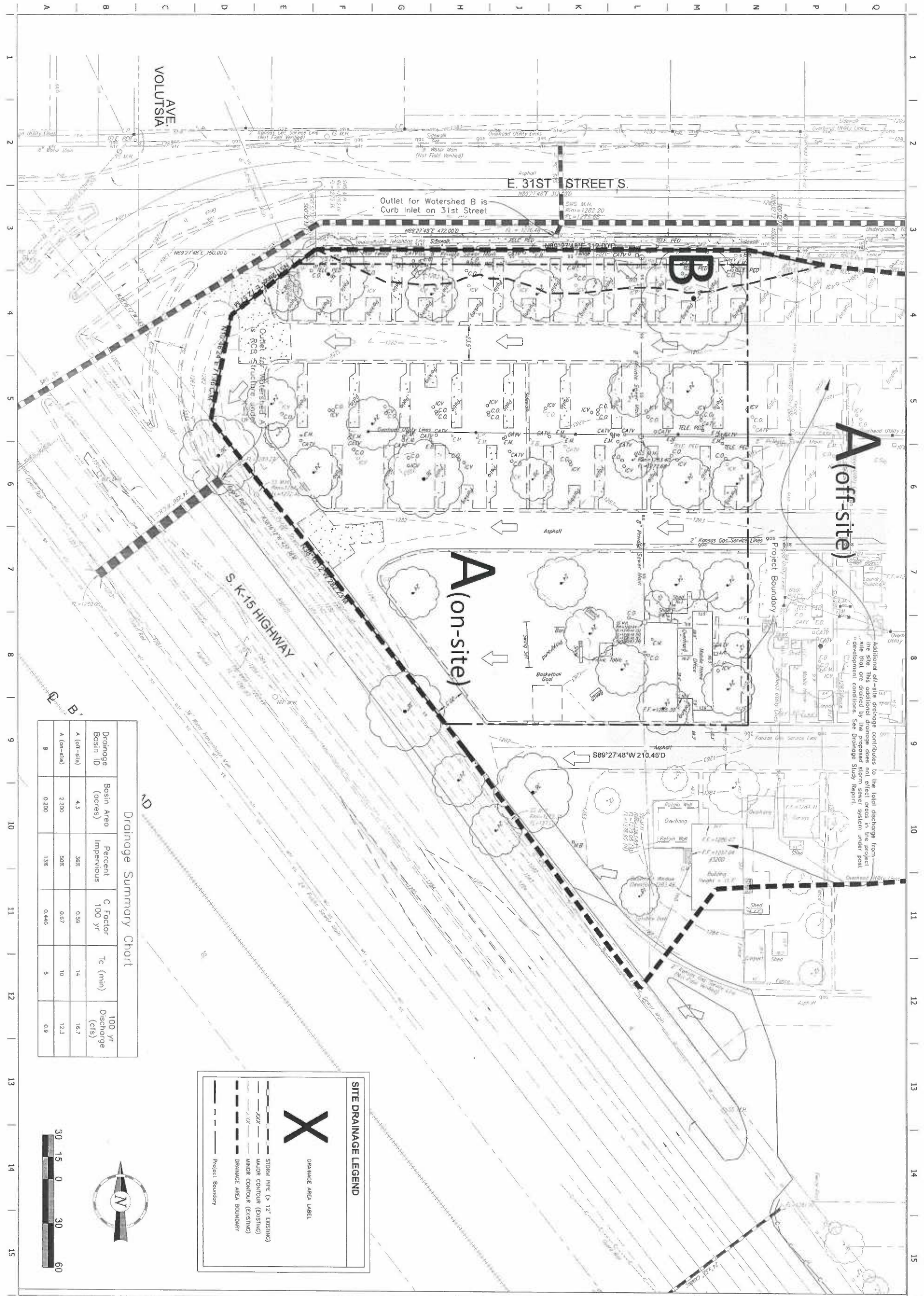
ORIGINAL ISSUE DATE: 08/26/13

PROFESSOR: FCA (282173)
 DESIGNER: WICKITA
 DESIGNER: G01
 DESIGNED BY: AS
 DRAWN BY: AL
 REVIEWED BY: HB

QuikTrip No. 0313R
 K-15 & 31ST STREET SOUTH
 WICHITA, KANSAS

Schwab
Eaton
 8615 W. Frasier, Suite 2
 Wichita, Kansas
 P: 316.222.4472
 F: 316.222.4473





Additional off-site drainage contributes to the total discharge from the site. This additional drainage does not effluent into the storm sewer system under post development conditions. See Drainage Study Report.

Drainage Summary Chart

Drainage Basin ID	Basin Area (acres)	Percent Impervious	C Factor 100 yr	Tc (min)	100 yr Discharge (cfs)
A (on-site)	4.3	36%	0.59	14	16.7
B	2.200	50%	0.67	10	12.3
	0.200	1%	0.440	5	0.9

SITE DRAINAGE LEGEND

X DRAINAGE AREA LABEL

- STORM PIPE (> 12" EXISTING)
- MAJOR CONTOUR (EXISTING)
- MINOR CONTOUR (EXISTING)
- DRAINAGE AREA BOUNDARY
- Project Boundary



<p>PROJECT NO. 13\W008</p> <p>8215 W. Federal, Suite 2 Wichita, Kansas P. 316.224.4172 F. 316.224.4173</p>	<p>QuikTrip No. 0313R</p> <p>K-15 & 31ST STREET SOUTH WICHITA, KANSAS</p>	<p>PROJECT NO. 13\W008</p> <p>8215 W. Federal, Suite 2 Wichita, Kansas P. 316.224.4172 F. 316.224.4173</p>	<p>REVISIONS</p> <table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>ORIGINAL ISSUE DATE: 08/26/13</p>	REV	DATE	DESCRIPTION			
REV	DATE	DESCRIPTION							
<p>SHEET TITLE: Pre-Development Drainage Map</p> <p>SHEET NUMBER: 5</p>	<p>PROJECT NO. 13\W008</p> <p>8215 W. Federal, Suite 2 Wichita, Kansas P. 316.224.4172 F. 316.224.4173</p>	<p>PROJECT NO. 13\W008</p> <p>8215 W. Federal, Suite 2 Wichita, Kansas P. 316.224.4172 F. 316.224.4173</p>	<p>PROJECT NO. 13\W008</p> <p>8215 W. Federal, Suite 2 Wichita, Kansas P. 316.224.4172 F. 316.224.4173</p>						



Is high way embankment used as part of storage pond for B.N. & S.F. RAILROAD

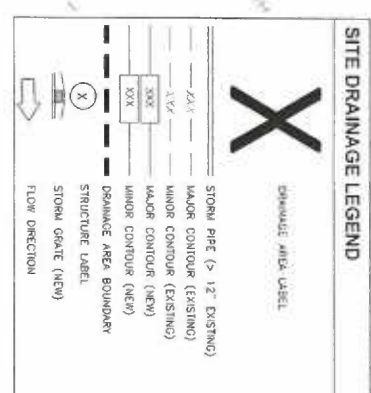
has KDOT seem proposed plans.

What is ponding elevation pre vs. post?

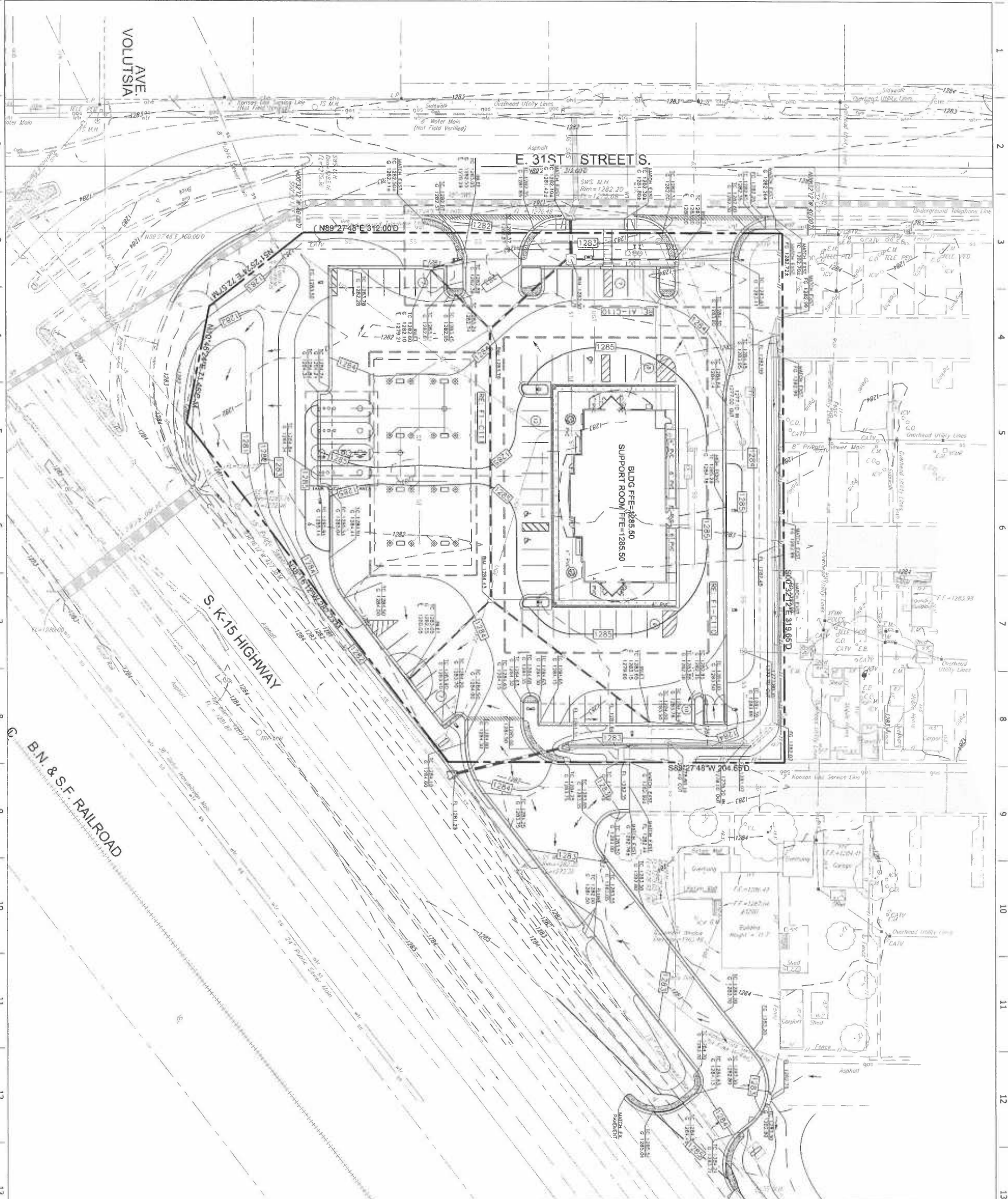
Structure Label	Structure Type	Run	Structure Elevation	100 Yr. Flooding Elev.
A-1	Existing 36" Catch Basin	1281.48	24" FL (50) = 1278.58	1278.58
A-2	Existing 36" Catch Basin	1281.50	24" FL (50) = 1278.60	1278.60
A-3	Existing 36" Catch Basin	1281.52	24" FL (50) = 1278.62	1278.62
A-4	Existing 36" Catch Basin	1281.54	24" FL (50) = 1278.64	1278.64
A-5	Existing 36" Catch Basin	1281.56	24" FL (50) = 1278.66	1278.66
B-1	Existing 36" Catch Basin	1281.58	24" FL (50) = 1278.68	1278.68
B-2	Existing 36" Catch Basin	1281.60	24" FL (50) = 1278.70	1278.70
B-3	Existing 36" Catch Basin	1281.62	24" FL (50) = 1278.72	1278.72
B-4	Existing 36" Catch Basin	1281.64	24" FL (50) = 1278.74	1278.74
B-5	Existing 36" Catch Basin	1281.66	24" FL (50) = 1278.76	1278.76
B-6	Existing 36" Catch Basin	1281.68	24" FL (50) = 1278.78	1278.78
B-7	Existing 36" Catch Basin	1281.70	24" FL (50) = 1278.80	1278.80
B-8	Existing 36" Catch Basin	1281.72	24" FL (50) = 1278.82	1278.82
B-9	Existing 36" Catch Basin	1281.74	24" FL (50) = 1278.84	1278.84

Structure Label	Structure Type	Run	Structure Elevation	100 Yr. Flooding Elev.
A-1 (off-site)	Existing 36" Catch Basin	1281.48	24" FL (50) = 1278.58	1278.58
A-2 (off-site)	Existing 36" Catch Basin	1281.50	24" FL (50) = 1278.60	1278.60
A-3 (off-site)	Existing 36" Catch Basin	1281.52	24" FL (50) = 1278.62	1278.62
A-4 (off-site)	Existing 36" Catch Basin	1281.54	24" FL (50) = 1278.64	1278.64
A-5 (off-site)	Existing 36" Catch Basin	1281.56	24" FL (50) = 1278.66	1278.66

Pipe Size	Slope (%)	Length (ft)
1	0.20	25.0
2	0.20	65.0
3	0.20	153.3
4	0.20	121.4
5	0.20	64.0
6	0.20	56.9
7	0.20	21.1
8	0.20	1.0
9	0.20	1.0
10	0.20	1.0
11	0.20	1.0
12	0.20	1.0
13	0.20	1.0
14	0.20	1.0
15	0.20	1.0



SHEET NUMBER: 6	SHEET TITLE: POST-DEVELOPMENT DRAINAGE MAP	REV DATE DESCRIPTION
		ORIGINAL ISSUE DATE: 08/26/13
PROJECT NO. 13W008		PROJECT NO. 0313R
8315 W. Fisher, Suite 2 Wichita, Kansas F. 316.272.4479		QuikTrip No. 0313R K-15 & 31ST STREET SOUTH WICHITA, KANSAS
Schwab Eaton		PROJECT NO. 13W008



MISCELLANEOUS GRADING NOTES

1. GAS CANOPY INSTALLER SHALL INSTALL THE CANOPY COLUMN DRAIN PIPE AND OVERFLOW FITTING TO THE STORM GAS INSTALLER'S OVERFLOW FITTING.
2. TO AVOID ANY DEFINED CURBS OR SLOPS, "GRADE SURVEYOR & CONTRACTOR SHALL COVER WITH CURB OR CONCRETE PLACEMENT RELATIVE TO ANY GRADE BREAKS WHEN PLAN GRADES INDICATE FINISH TO BE DIRECTED AWAY FROM THE CURB. USE DRAWN AWAY CURB ALTERNATE (SEE CURB DETAIL - BARNER - P0009400X DETAIL).
3. SPOT ELEVATION (EXISTING)

GRADING LEGEND

ST	STORM PIPE (< 10" NEW)
ST	STORM PIPE (> 12" NEW)
ST	STORM PIPE (> 12" EXISTING)
FD	FRENCH DRAIN
CD	BACK OF CURB DRAIN
XXX	MAJOR CONTOUR (NEW)
XXX	MAJOR CONTOUR (EXISTING)
XXX	MINOR CONTOUR (EXISTING)
XXX	LIMITS OF DISTURBANCE
IC XXXXX	TOP OF CURB ELEVATION (NEW)
OC XXXXX	OUTER ELEVATION (NEW)
FG XXX XX	FINISHED GRADE ELEVATION (NEW)
CC XXX XX	CANOPY CLEARANCE ELEVATION (NEW)
TI XXX XX	TOP OF ISLAND ELEVATION (NEW)
TP XXX XX	TOP OF PAVEMENT ELEVATION (NEW)
TF XXX XX	TOP OF FOOTING ELEVATION (NEW)
CE XXXXX	SPOT ELEVATION (EXISTING)
SC XXXXX	STORM GRADE (NEW)
SC XXXXX	STANDARD CANOPY ELEVATION PROJECT DESIGNED WITH CANOPY COLUMNS AND BELLEDES

GRADING PLAN

SHEET TITLE: GRADING PLAN

SHEET NUMBER: 7

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 08/26/2013

QuikTrip No. 0313R

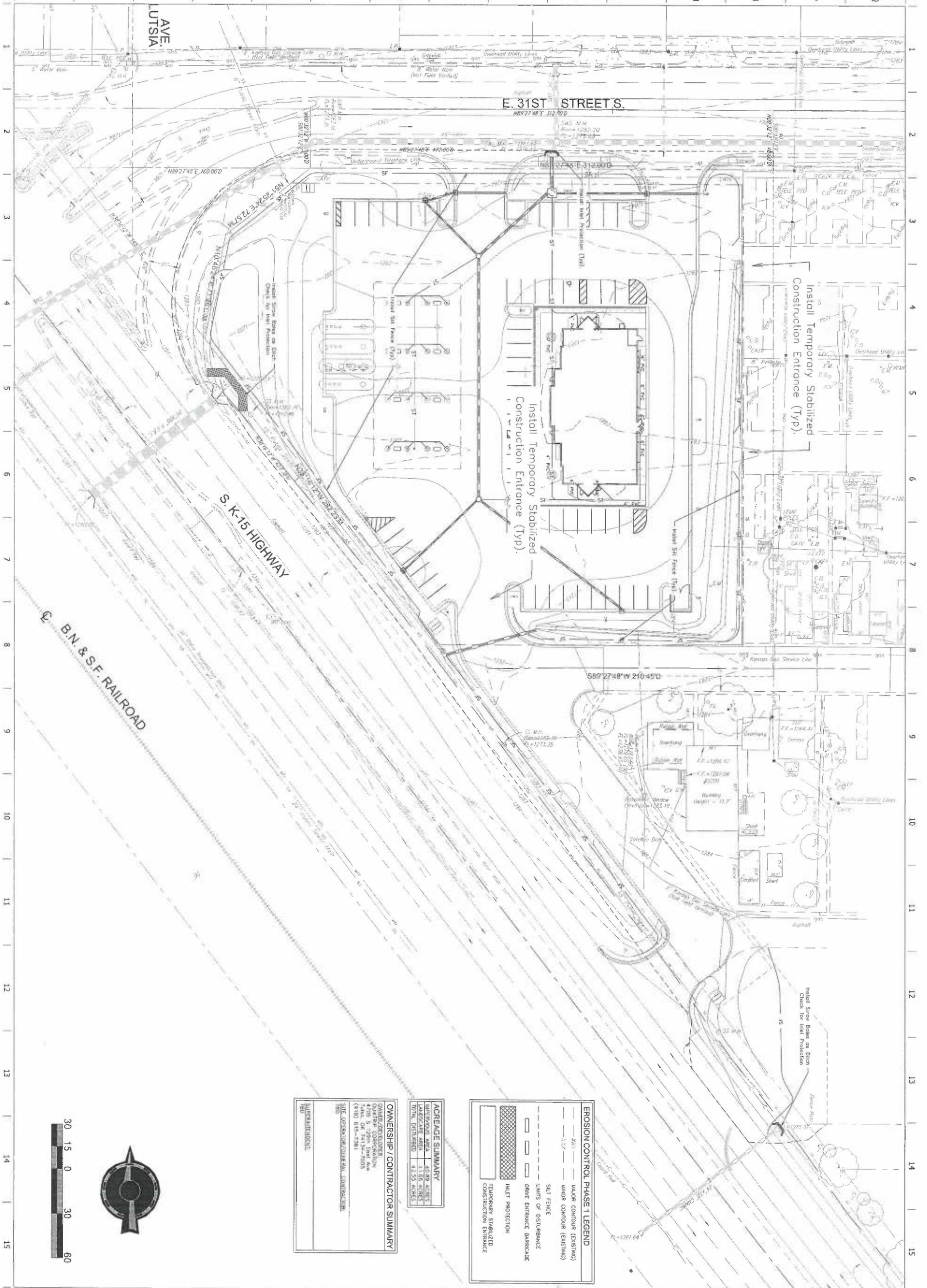
K-15 & 31ST STREET SOUTH
WICHITA, KANSAS

PROJECT NO.: 13W008

8815 W. Fowler, Suite 2
Wichita, Kansas
P. 316.732.4472
F. 316.732.4479

Schwab
Eaton

PROTOTYPE: P-76 (0/1/13)
DIVISION: WICHITA
VERSION: 001
DESIGNED BY: AS
DRAWN BY: AL
REVIEWED BY: MB



EROSION CONTROL PHASE 1 LEGEND

- 2'x1' --- MAJOR CONTOUR (EXISTING)
- 1'x1' --- MINOR CONTOUR (EXISTING)
- SILT FENCE
- LAMPS OF DISTURBANCE
- DRIVE ENTRANCE BARRIAD
- INLET PROTECTION
- TEMPORARILY STABILIZED CONSTRUCTION ENTRANCE

ACREAGE SUMMARY

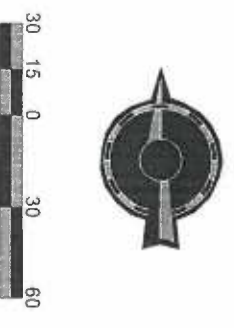
LOT AREA	40.89 ACRES
IMPROVEMENT AREA	11.66 ACRES
TOTAL DISTURBED	29.23 ACRES

OWNERSHIP / CONTRACTOR SUMMARY

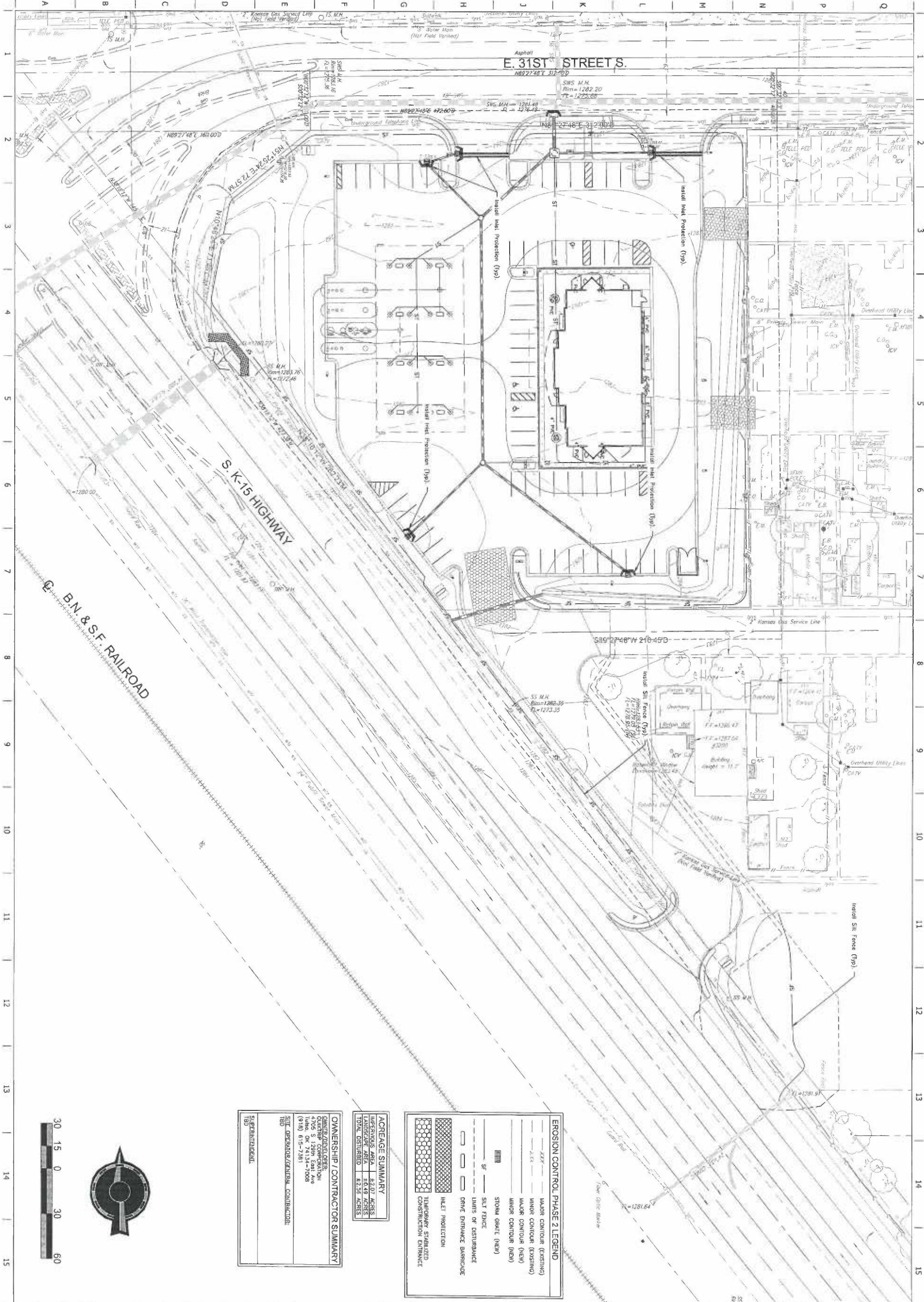
OWNER/DEVELOPER:
QUICKTRIP STORE
4105 S. 3200th Street
Wichita, KS 67214-7001
(913) 615-3381

SITE ADDRESS: 4105 S. 3200th Street, Wichita, KS

SUBMITTER:
Schwab & Fatton



<p>8</p> <p>SHEET NUMBER</p>	<p>EROSION CONTROL PHASE 1</p> <p>SHEET TITLE</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>ORIGINAL ISSUE DATE: 08/26/13</p>	REV	DATE	DESCRIPTION				<p>REGISTERED BY THE STATE OF KANSAS</p>	<p>QuikTrip No. 0313R</p> <p>K-15 & 31ST STREET SOUTH WICHITA, KANSAS</p>	<p>Schwab & Fatton</p> <p>8815 W. Frasier, Suite 2 Wichita, Kansas P. 316.722.4472 F. 316.722.4473 E. info@schwabfatton.com</p>	<p>PROJECT NO. 13W008</p>
REV	DATE	DESCRIPTION										



OWNERSHIP / CONTRACTOR SUMMARY
 QUINCY DEVELOPMENT
 4705 S. 120th East Ave
 Tulsa, OK 74134-7008
 (918) 615-7481
 SITE OPERATOR/GENERAL CONTRACTOR:
 TBD
 SUPERINTENDENT:
 TBD

ACREAGE SUMMARY

LANDSCAPE AREA	42.07 ACRES
LAND AREA	40.49 ACRES
TOTAL DISTURBED	82.56 ACRES

EROSION CONTROL PHASE 2 LEGEND

- MAJOR CONTOUR (EXISTING)
- MINOR CONTOUR (EXISTING)
- MAJOR CONTOUR (NEW)
- MINOR CONTOUR (NEW)
- STORM GATE (NEW)
- SILT FENCE
- LIMITS OF DISTURBANCE
- DRIVE ENTRANCE BARRICADE
- INLET PROTECTION
- TEMPORARY STABILIZED CONSTRUCTION ENTRANCE

SHEET TITLE:
EROSION CONTROL PHASE 2

SHEET NUMBER:
9

REV	DATE	DESCRIPTION

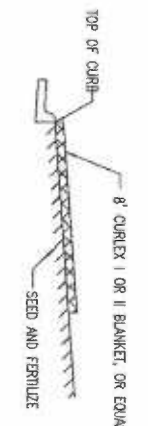
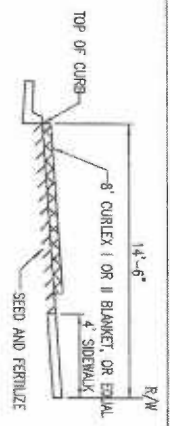
ORIGINAL ISSUE DATE: 08/26/13

PROJECT: 13W008 (0313)
DIVISION: WICHTA
DESIGNED BY: AS
DRAWN BY: AL
REVIEWED BY: HB

QuikTrip No. 0313R
 K-15 & 31ST STREET SOUTH
 WICHITA, KANSAS

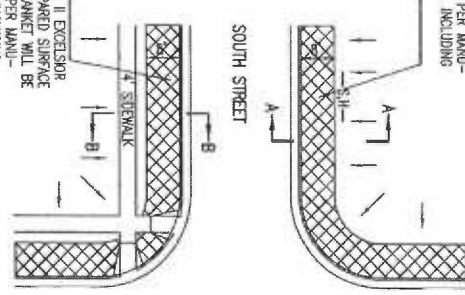
Schwab
Eaton
 8615 W. Fisher, Suite 2
 Wichita, Kansas
 P.O. Box 722, 67212
 (316) 262-4479

PROJECT NO. 13W008



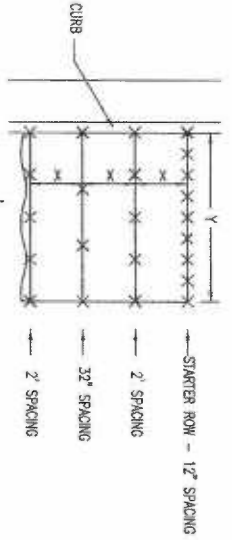
INSTALL 8' WIDE CURLEX I OR II EXCESSOR BLANKET, OR EQUAL, ON PREPARED SURFACE BACK OF CURB. EDGE OF BLANKET WILL BE AT BACK OF CURB. INSTALL PER MANUFACTURER'S RECOMMENDATION, INCLUDING STAPLES (SEE DETAIL).

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



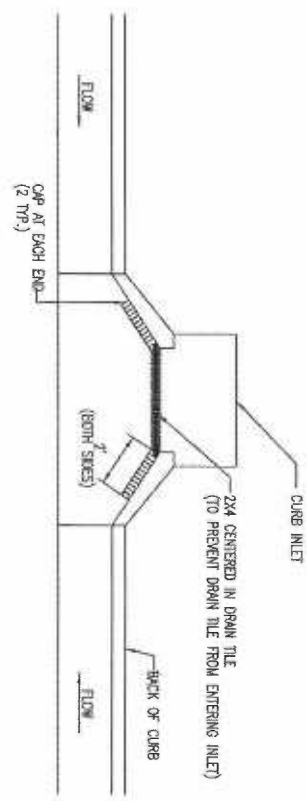
- GENERAL NOTES**
- EXCESSOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
 - EXCESSOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
 - AFTER INSTALLATION OF EXCESSOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB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



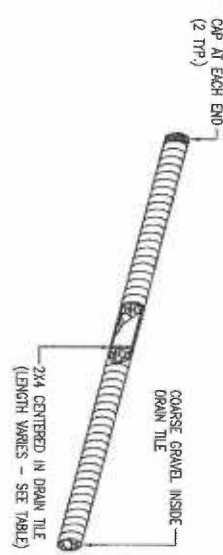
STAPLE PATTERN
 NOTES: USE 6\"/>

DETAILS FOR APPROVED EROSION CONTROL MAT

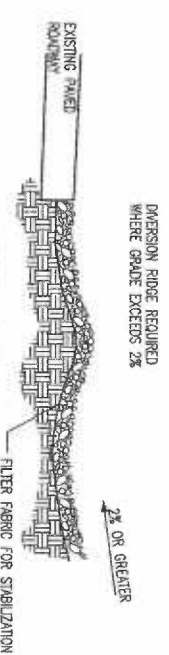


NOTE:
 PLACE 4\"/>

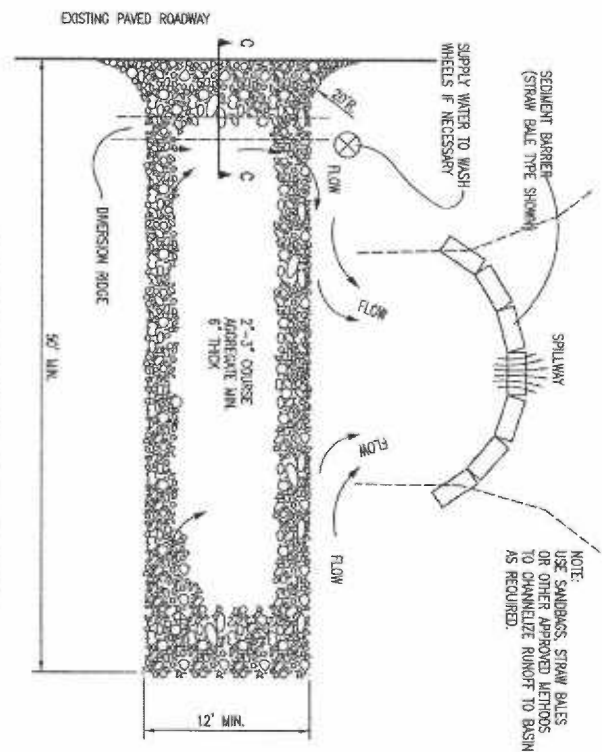
2x4 LENGTH	INLET TYPE	INLET OPENING
5'-6"	1-A	5'-0"
10'-6"	1-A	10'-0"
15'-6"	1-A	15'-0"



CURB INLET PROTECTION
 4\"/>




NOTE:
 USE SANDBAGS, STRAW BALS, OR OTHER APPROVED METHODS TO CHANNELIZE RUNOFF TO BASIN AS REQUIRED.



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 CLEANSING 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.



CITY OF WICHITA
 PUBLIC WORKS & UTILITIES
 ENGINEERING DIVISION

CITY ENGINEER
GARY JANZEN, P.E.

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

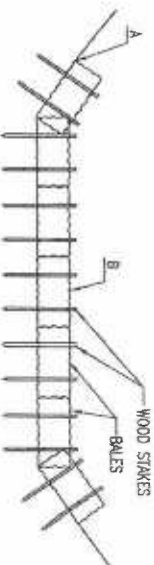
PROJECT NUMBER: 13W006
 GCA NUMBER: 08/2012
 DATE: 08/2012

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

CITY ENGINEER
GARY JANZEN, P.E.

SHEET: 10

NOTE: POINT A MUST BE HIGHER THAN POINT B SO THAT WATER FLOWS OVER THE BALES AND NOT AROUND THEM.



STRAW BALE DITCH CHECKS

MATERIAL SPECIFICATION:

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

PLACEMENT:

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

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

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM SIDE OF THE TRENCH—IT WILL BE USED LATER. OPTIONALLY, ON THE DOWNSTREAM SIDE OF THE TRENCH, ROLL OUT A LENGTH OF EROSION-CONTROL BLANKET (SCOUR APRON) EQUAL TO THE LENGTH OF THE TRENCH. PLACE THE UPSTREAM EDGE OF THE EROSION-CONTROL BLANKET ALONG THE BOTTOM UPSTREAM EDGE OF THE TRENCH. THE EROSION-CONTROL BLANKET SHOULD BE ANCHORED IN THE TRENCH WITH ONE ROW OF 8' LANDSCAPE STAPLES PLACED ON 18" CENTERS. THE REMAINDER OF THE EROSION-CONTROL BLANKET (THE PORTION THAT IS NOT IN THE TRENCH) WILL SERVE AS THE DOWNSTREAM SCOUR APRON. THIS SECTION OF THE BLANKET SHOULD BE ANCHORED TO THE GROUND WITH 8' LANDSCAPE STAPLES PLACED AROUND THE PERIMETER OF THE BLANKET ON 18" CENTERS. THE REMAINDER OF THE BLANKET SHOULD BE ANCHORED USING TWO EVENLY SPACED ROWS OF 8' LANDSCAPE STAPLES ON 18" CENTERS PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTRAL LINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSTREAM SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP AND EXTEND UPSTREAM NO MORE THAN 24".

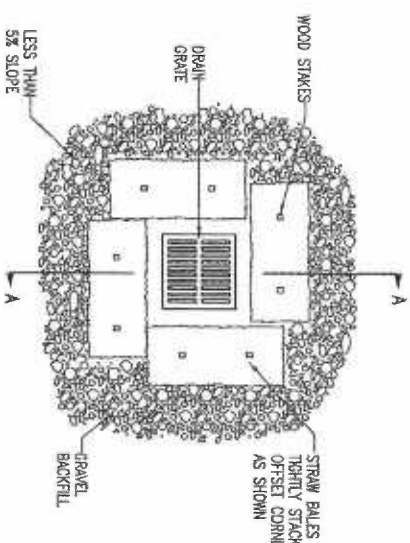
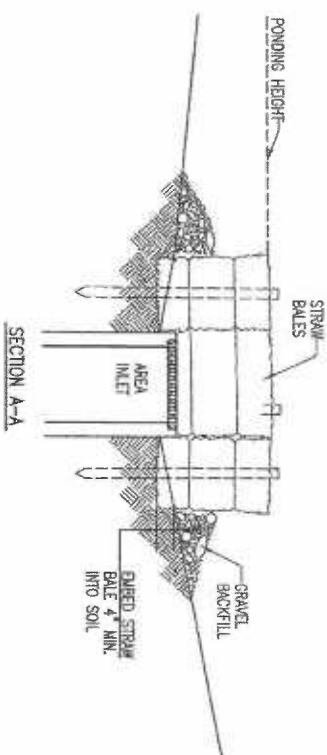
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

- DO NOT PLACE A BALE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW.
- DO NOT PLACE BALE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW.
- FOLLOW PRESCRIBED DITCH-CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS.
- DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE.
- DO NOT PLACE BALE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.
- BALE DITCH CHECKS MUST BE DIG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE CHECK.

INSPECTION AND MAINTENANCE:

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

- DOES WATER FLOW AROUND THE DITCH CHECK?
- DOES WATER FLOW UNDER THE DITCH CHECK?
- DOES WATER FLOW THROUGH SPACES BETWEEN ADJUTING BALES?
- ARE ANY BALES AND/OR SCOUR APRONS (OPTIONAL) DISLOADED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



STRAW BALE BARRIERS FOR AREA INLETS (INLET PROTECTION)

MATERIAL SPECIFICATION:

BALE AREA INLET BARRIERS SHOULD BE CONSTRUCTED OF WHEAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. TIME SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE REMOVAL.

PLACEMENT:

BALE AREA INLET BARRIERS SHOULD BE PLACED DIRECTLY AROUND THE PERIMETER OF A DROP INLET. WHEN A BALE AREA INLET BARRIER IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRAGGICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 4" DEEP BY A BALE'S WIDTH WIDE. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. SOLE BALES MAY NEED TO BE SHORTENED TO FIT INTO THE TRENCH AROUND THE AREA INLET. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE RECEIVING SIDE OF THE BARRIER AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP. NOTE: WHEN A BALE AREA INLET BARRIER IS PLACED IN A SHALLOW MEDIUM DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

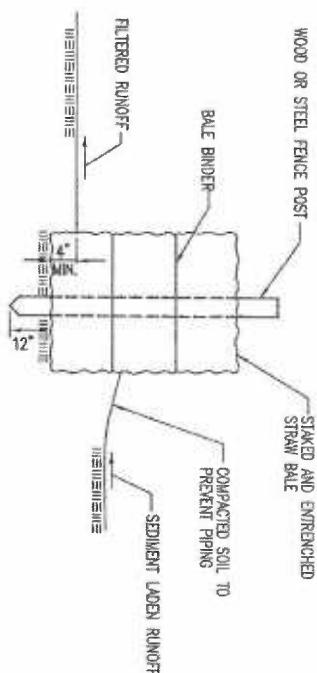
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

- BALES SHOULD BE PLACED DIRECTLY AGAINST THE PERIMETER OF THE AREA INLET. THIS ALLOWS OVERTOPPING WATER TO FLOW DIRECTLY INTO THE INLET INSTEAD OF ONTO NEARBY SOIL CAUSING SCOUR.
- BALE AREA INLET BARRIERS MUST BE DIG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

INSPECTION AND MAINTENANCE:

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

- DOES WATER FLOW UNDER THE AREA INLET BARRIER?
- DOES WATER FLOW THROUGH SPACES BETWEEN ADJUTING BALES?
- ARE ANY BALES DISLOADED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



STRAW BALE BARRIERS

MATERIAL SPECIFICATION:

BALE SLOPE BARRIERS MAY BE CONSTRUCTED OF WHEAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. TIME SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE REMOVAL.

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT. WHEN PRACTICABLE, BALE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. BALE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTRAL LINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSLOPE SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

- WHEN PRACTICABLE, DO NOT PLACE BALE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. CONCENTRATED FLOW OVER A SLOPE BARRIER OPERATES A SCOUR HOLE ON THE DOWNSLOPE SIDE OF THE BARRIER. THE SCOUR HOLE EVENTUALLY UNDERMINES THE BALES AND THE BARRIER FAILS.
- DO NOT PLACE BALE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.
- BALE SLOPE BARRIERS MUST BE DIG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

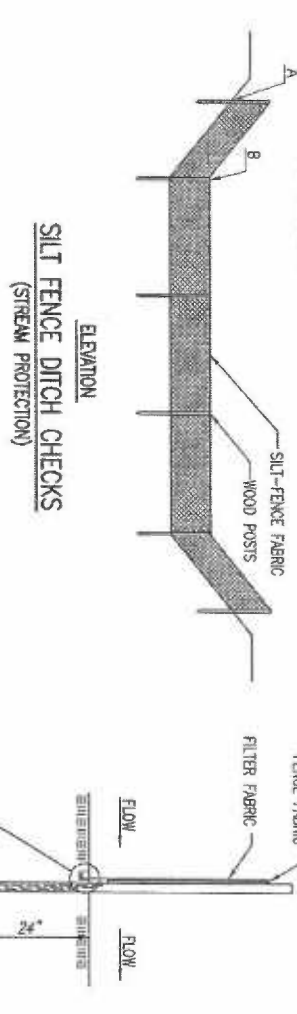
INSPECTION AND MAINTENANCE:

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

- ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
- DOES WATER FLOW UNDER THE SLOPE BARRIER?
- DOES WATER FLOW THROUGH SPACES BETWEEN ADJUTING BALES?
- ARE ANY BALES DISLOADED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

		<p>GARY JANZEN, P.E. CITY ENGINEER</p>
PROJECT NUMBER	004 NUMBER	
<p>STRAW BALE DITCH CHECK AND BARRIER DETAILS</p>		<p>DATE 11/2010</p>
<p>CITY ENGINEER'S OFFICE CITY HALL-SEVENTH FLOOR 353 NORTH WYANDOTT WICHITA, KANSAS 67202-1620 (316) 266-4301</p>		

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. THE 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 SPACING (FEET)	DITCH GRADE (%)
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. 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.

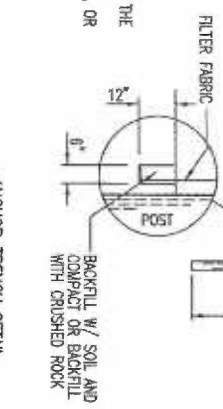
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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 DETROGRADE 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 PRESSURIZED 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.

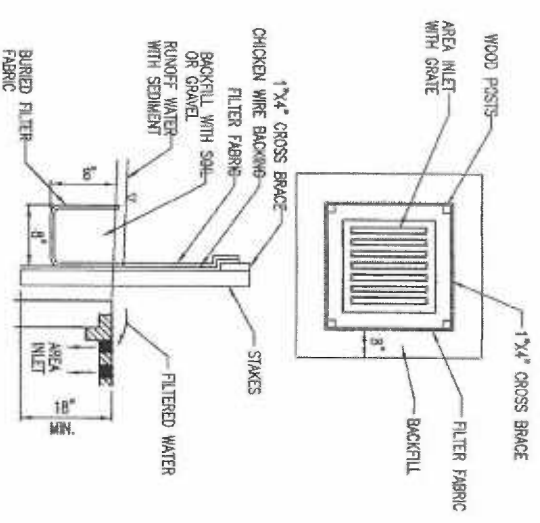
INSPECTION AND MAINTENANCE:

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?



SILT FENCE BARRIERS FOR AREA INLETS
(INLET PROTECTION)



MATERIAL SPECIFICATION:

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

PLACEMENT:

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

PROPER INSTALLATION METHOD:

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

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

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

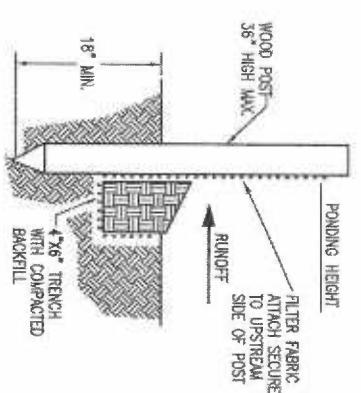
WATER SHOULD FLOW THROUGH A SILT FENCE BARRIER FOR AREA INLET-NOT OVER IT. PLACE A SILT FENCE BARRIER FOR AREA INLET IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. SILT FENCE BARRIERS FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. DO NOT PLACE POSTS ON THE OUTSIDE OF THE SILT FENCE BARRIER 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 WITH-OUT FRAMING THE TOP OF THE POSTS. THE CORNER POSTS AROUND AREA INLETS ARE STRESSED IN TWO DIRECTIONS WHEREAS A NORMAL SILT FENCE IS ONLY STRESSED IN ONE DIRECTION. THIS ADDED STRESS REQUIRES MORE SUPPORT.

INSPECTION AND MAINTENANCE:

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

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

SILT FENCE BARRIERS



MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG. THE 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 DOWNSTREAM 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 DETROGATES. 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 FENCE SAG EXCESSIVELY?

HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?

DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?



CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

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(316) 268-4501

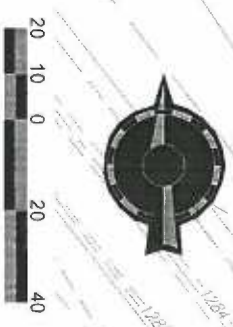
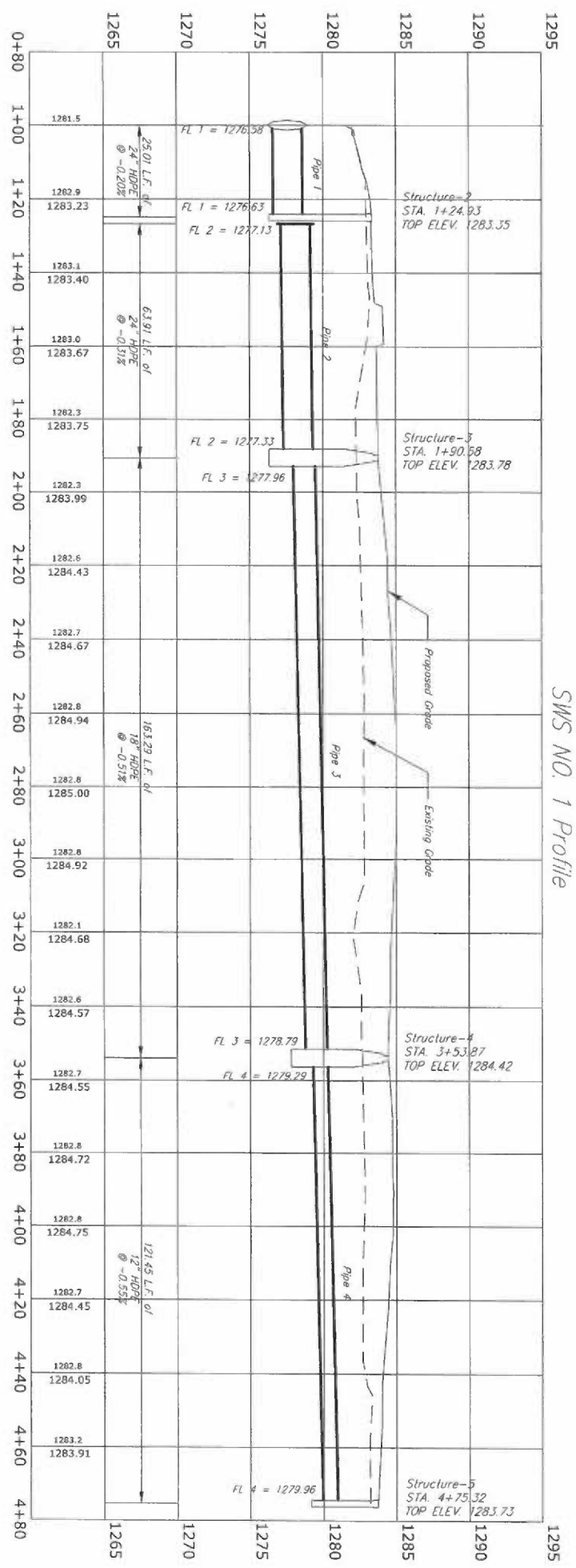
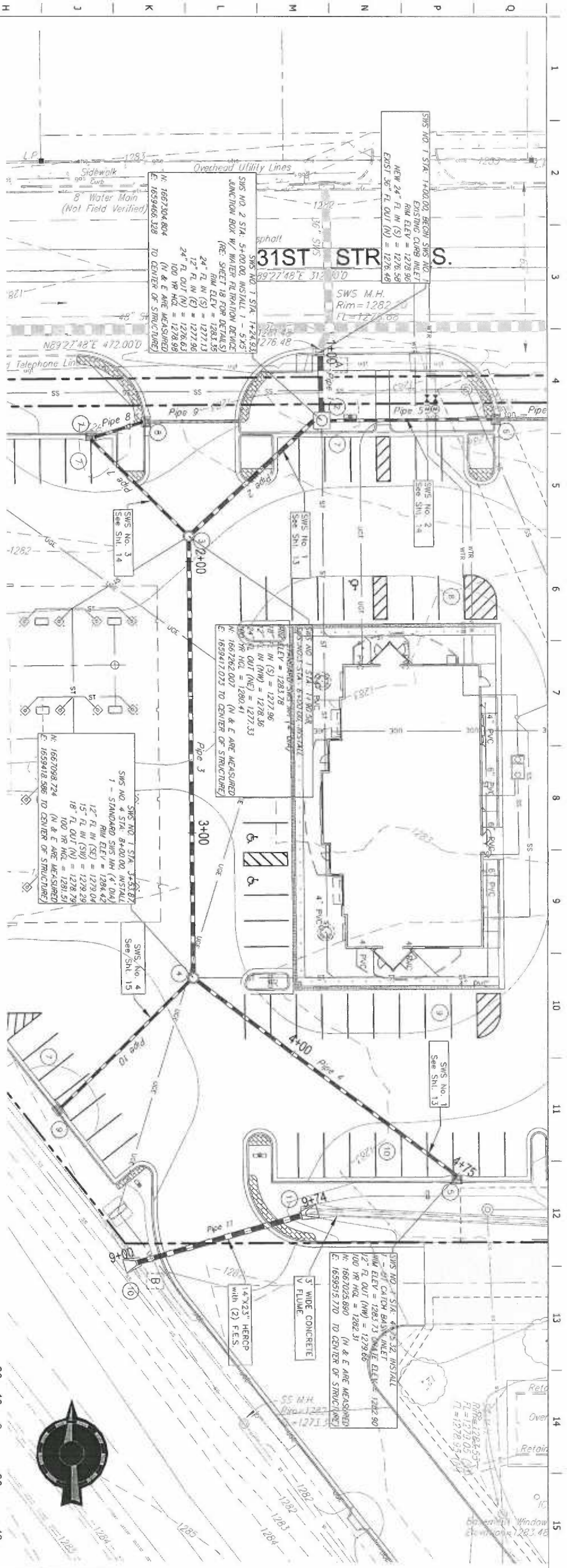
SILT FENCE DITCH CHECK
AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER: _____

DATE: **11/2010**

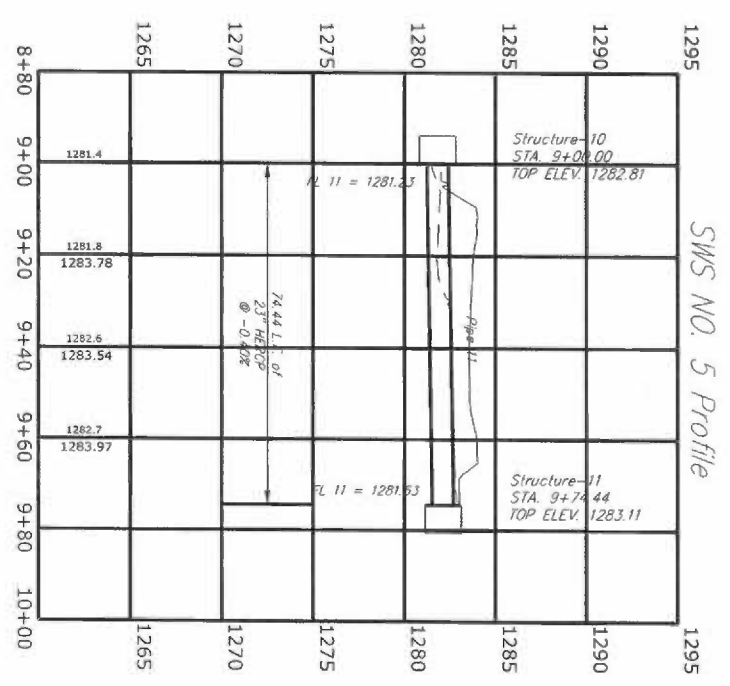
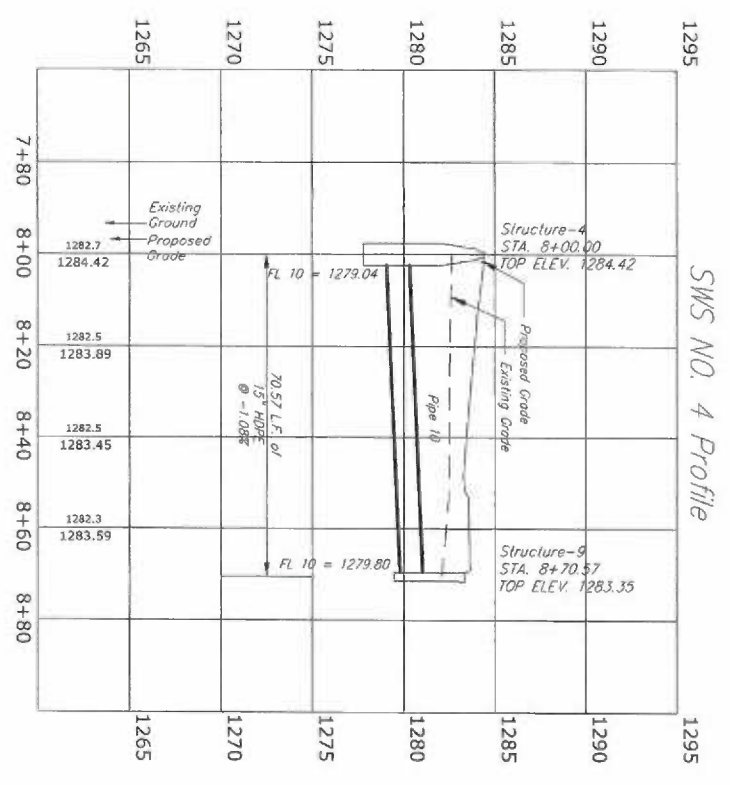
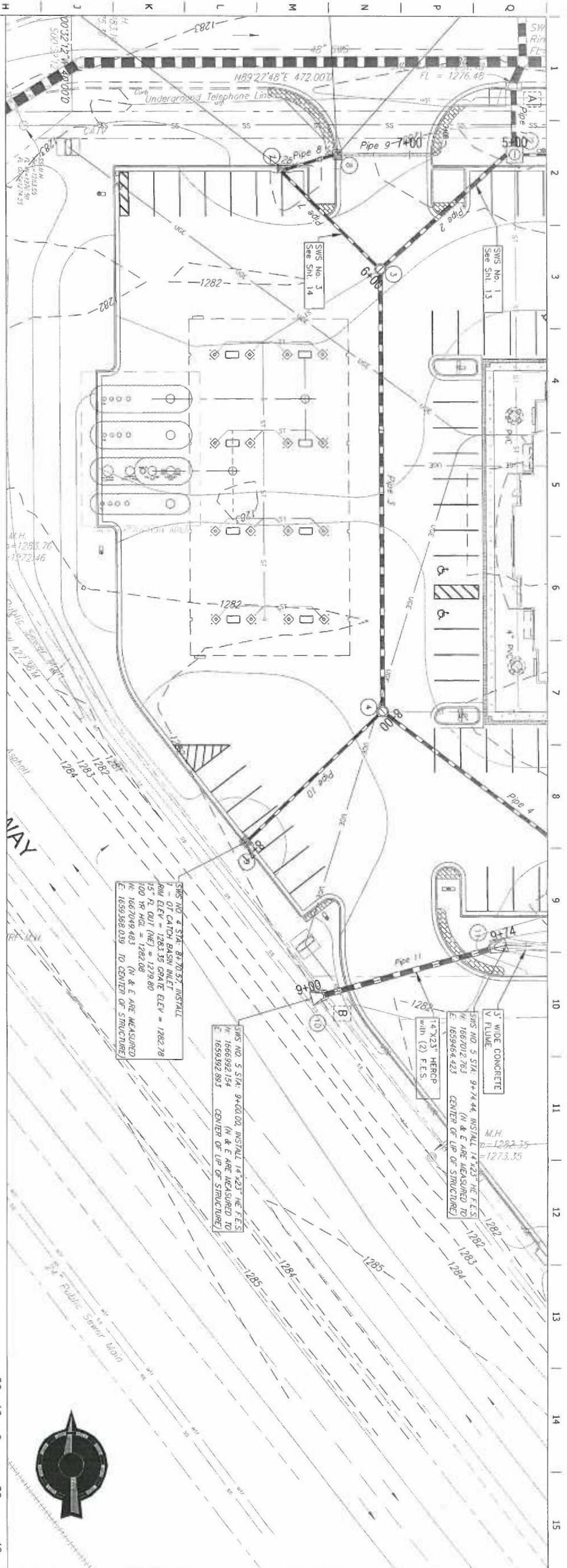
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<p>Schwab Eaton</p> <p>8635 W. PARK, SUITE 2 WICHITA, KANSAS P. 316.232.4472 F. 316.232.4479</p>	<p>PROJECT NO. 131003</p>	<p>QuikTrip No. 0313R</p> <p>K-15 & 31ST STREET SOUTH WICHITA, KANSAS</p>	<p>PROTOTYPE: 2/24/2011</p> <p>DIVISION: WPC/PIA</p> <p>VERSION: 001</p> <p>DESIGNED BY: JAS</p> <p>CHECKED BY: JAS</p> <p>DATE: 07/18/11</p> <p>REVISIONS BY: MS</p>
		<p>REV DATE DESCRIPTION</p>	<p>ORIGINAL ISSUE DATE:</p>

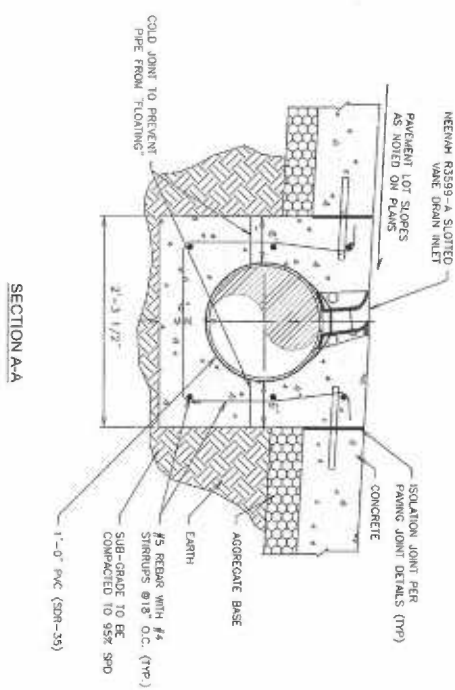
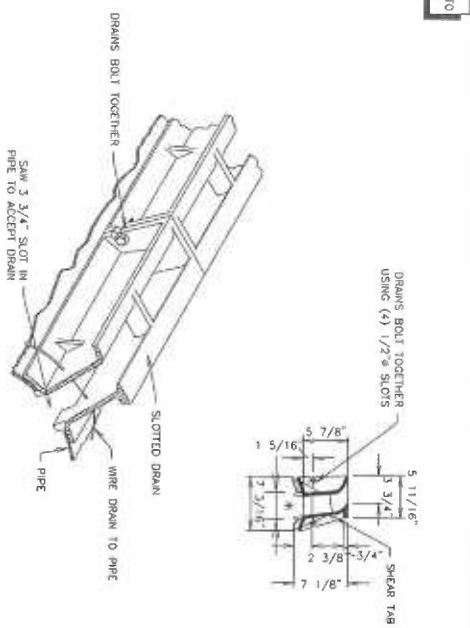
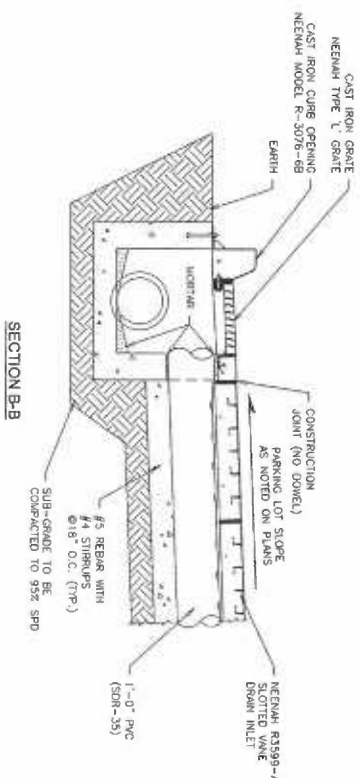
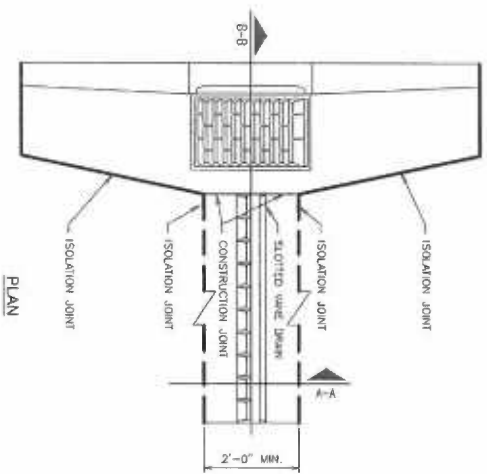
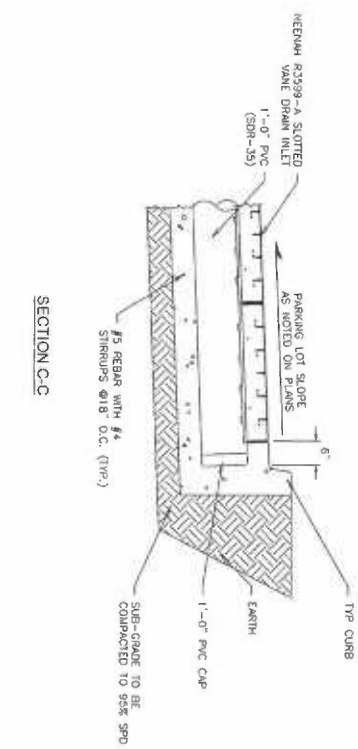
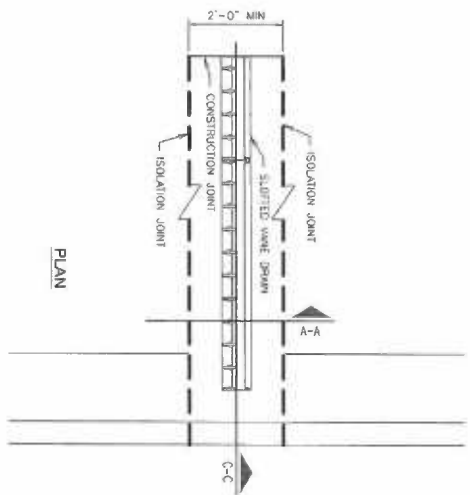
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SHEET NUMBER: 13



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 8615 W. Fenwick, Suite 2 Wichita, Kansas P. 316.722.4878	 PROJECT NO. 131908	QuikTrip No. 0313R K-15 & 31ST STREET SOUTH WICHITA, KANSAS		 PHOTO: B-74 (2/21/13) DIVISION: WPC/CTA VERSION: 001 AS DESIGNED BY: AS DRAWN BY: AL REVIEWED BY: H8	REV DATE DESCRIPTION ORIGINAL ISSUE DATE: 08/20/13	SHEET TITLE SWS PLAN & PROFILE 3	SHEET NUMBER 15



F1 SLOTTED VANE DRAIN INSTALLATION DETAIL

F11 SLOTTED VANE DRAIN (ISOMETRIC VIEW)

A1 SLOTTED VANE DRAIN INSTALLATION @ CATCH BASIN DETAIL

A11 SLOTTED VANE DRAIN INSTALLATION CROSS SECTION "A-A"

STANDARD OF CARE BASIN LOCATED AT LOW END OF STRIP VANE DRAIN (UNLESS NOTED OTHERWISE)

CUT 3/4" SLOT IN PIPE TO ACCEPT DRAIN

REV	DATE	DESCRIPTION

SHEET TITLE:
QT DRAINAGE DETAILS 2

17



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QuikTrip No. 0313R
K-15 & 31ST STREET SOUTH
WICHITA, KANSAS



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PROJECT: P-24 (2/0/13)
DIVISION: WICHITA
VERSION: 001
DESIGNED BY: AS
DRAWN BY: AL
REVIEWED BY: MB

PROJECT NO. 13W008

