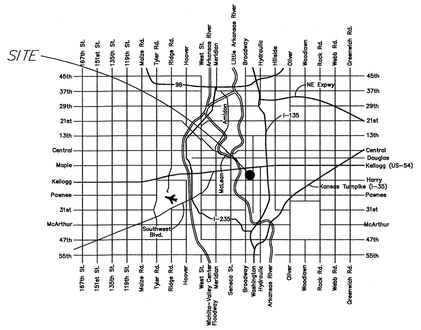
STORM SEWER IMPROVEMENTS
to serve
School Reserve in Zimmerly's 2nd Addition
1210 S. Topeka
CITY OF WICHITA, KANSAS

Gary Janzen, P.E., City Engineer

0333 PPD (607861)

AS BUILTS

Contractor:	Project Inspector:
McCullough Excavation	Matt Perez
11/4/2015	KEMILLER ENGINEERING PA 117 E. Lewis, Wichita, KS 67202 (316)264-0242



Vicinity Map

Index of Sheets:

GENERAL NOTES:

1. The Contractor shall comply with all applicable safety regulations. All construction shall be completed following current City Standard Specifications and Special Provisions.

2. 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 1–316–687–2470

   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	1–316–268–4555
City of Wichita Sewer	1–316–268–4073
City of Wichita Stormwater	1–316–268–4090
City of Wichita Traffic	1–316–268–4034
Cox Communications	1–888–249–3530
Kansas Gas Service	1–888–482–4950
Westar Energy	1–800–544–4857

3. Utility service lines, poles, etc. 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.

4. 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 site location. Locations, in the opinion of the Engineer, that will leave an unsightly appearance will not be approved.. All disposal 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 additional archeological investigations unless buried in a previously approved borrow location.

5. 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.

6. 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 start of construction.

7. The Contractor shall be responsible for preserving property irons. The Contractor will be required to re–establish any property irons which are damaged or destroyed by his construction operations. Such irons shall be re–established by a licensed land surveyor in accordance with state laws.

8. The Water Distribution Division shall field locate water 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 Contractor at his own expense. Valves boxes and water meters within the project limits shall be adjusted to match field grades.

9. The Contractor shall notify the consultant engineer and Tom Mason with the City at 316–268–4574 with the anticipated construction start date and notify them of project completion. Staking and inspection for this project will be the responsibility of the Contractor.

10. 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 Dept. of Transportation, Federal Highway Administration. All costs associated with construction markings and signage shall be the Contractors responsibility.

11. All elevations shown are NAVD 88.

12. All areas disturbed during construction that will not be under proposed pavement shall be restored to match existing conditions.

13. A portion of excess excavated material shall be mounded around manholes which extend more than one (1) foot above the existing ground. Such mound shall be constructed with new development a six (6) foot diameter flat top 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.

14. Geotechnical report available upon request.

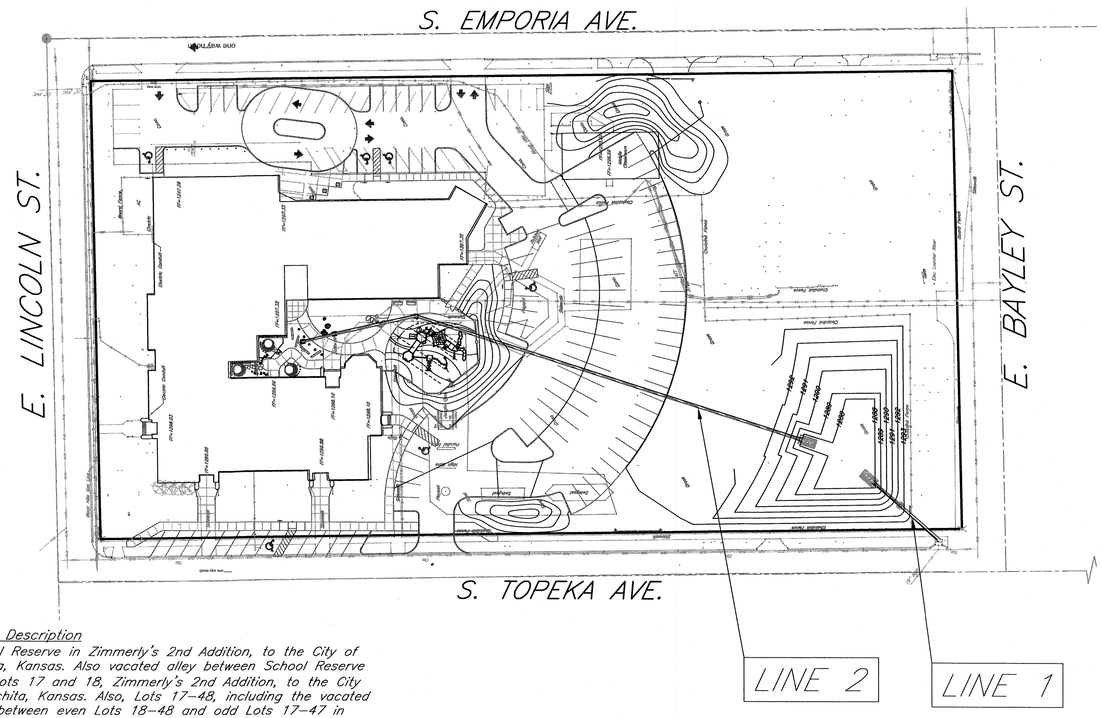
15. Contractor shall limit the extent of trench openings overnight and weekends to less than 50 feet.

16. Contractor shall provide positive drainage away from all manhole covers.

17. City maintenance of storm sewer ends at right–of–way or easement line.

18. 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.

19. 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.



Legal Description

School Reserve in Zimmerly's 2nd Addition, to the City of Wichita, Kansas. Also vacated alley between School Reserve and Lots 17 and 18, Zimmerly's 2nd Addition, to the City of Wichita, Kansas. Also, Lots 17–48, including the vacated alley between even Lots 18–48 and odd Lots 17–47 in Zimmerly's 2nd Addition, to the City of Wichtia, Kansas.

Benchmarks

City of Wichita Disc on the northwest corner of Lincoln and Broadway on the traffic signal light pole base
Elevation=1294.72 NAVD 88

North rim of a traffic manhole approximately 2' west of the northeast property corner.
Elevation=1294.10 NAVD 88

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: 58765 sq. ft.
Water Quality Treatment: Hydroguard Unit.
Downstream Channel Protection: N/A
Detention: Dry Detention Basin
The BMP used for this development is silt fence inlet protection.

APPROVED AS NOTED
BY WICHITA PUBLIC WORKS ENGINEERING
AND STORMWATER DIVISION

Engineering _____ 8/6/2015

Stormwater _____ PE 8/7/15

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 by the Contractor without such inspection nor shall any work be commenced without written authorization by City Engineering. All Construction and Materials shall comply with the City of Wichita Specifications and Standards and Special Provisions (on file and available at Wichita.gov).

An approved copy of these plans signed by City staff are required on–site.

KIRK E. MILLER LICENSED 11283 KANSAS PROFESSIONAL ENGINEER

DATE: 07.29.2015

THIS SHEET HAS BEEN SIGNED, SEALED AND DATED ELECTRONICALLY

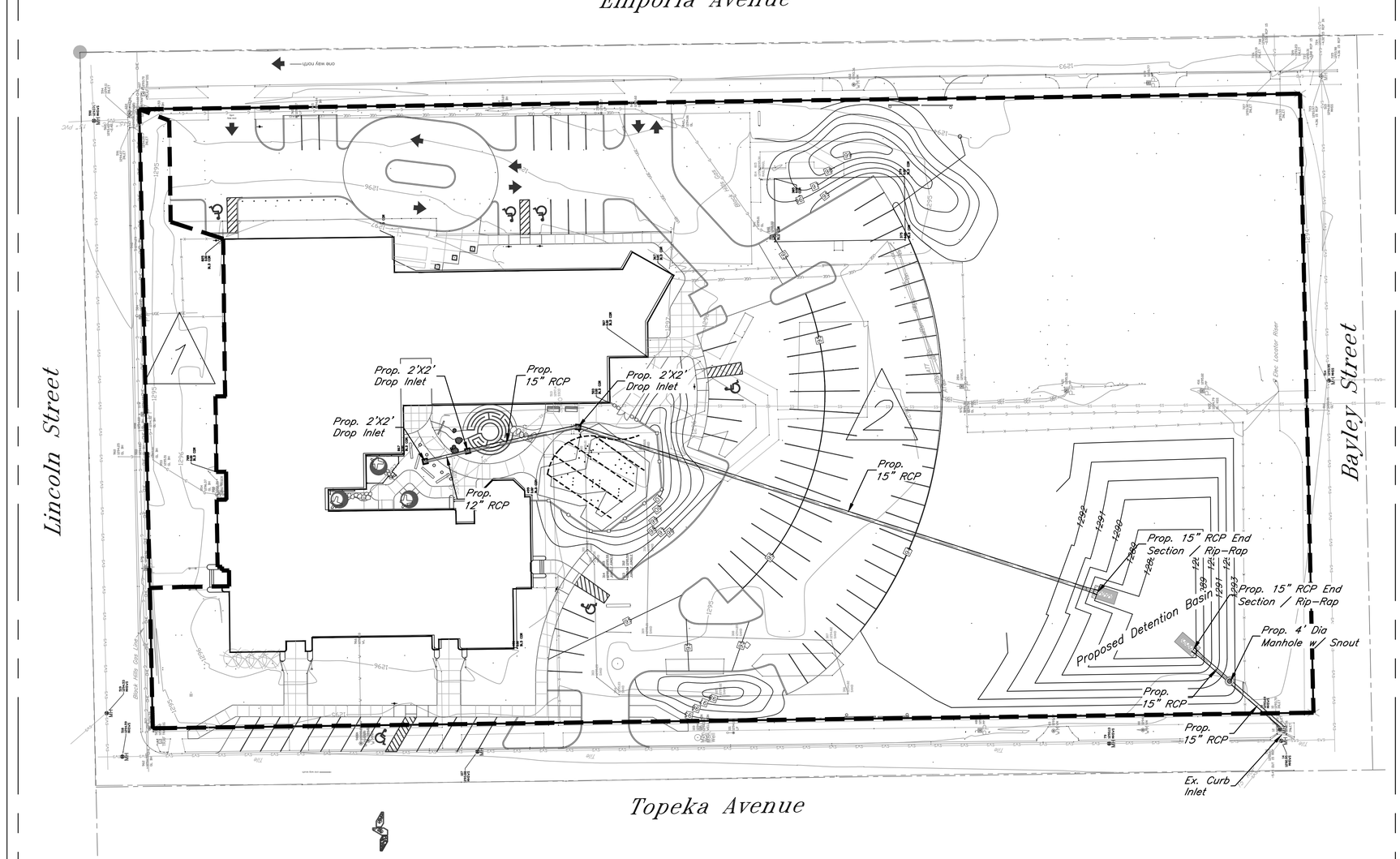
50 0 25 50 10 200

(IN FEET)
1 inch = 50 ft.

June 2015

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

July 29, 2015



Project Narrative:
The site is bound by Linclon and Rail raod track on North and South, and Emporia and Topeka on east and west side. The total acreage of entire property is 4.41 acres. The entire site is zoned as General Office (GO). The site is already developed and has building, parking, playground and other impervious areas. The site drains to the existing stormsewer inlets on northeast, southeast and southwest corner of the property. The proposed development includes reconstruction of parking on east side of existing building, addition of more parking on south and northwest of existing building. There will be addition of sidewalk, landscape area and other impervious area. The proposed drainage will follow the existing pattern with proposed detention to to match the existing flow. The proposed detention basin will route the runoff to the city SWS system.

Water Quality and TSS Removal Calculation

The water quality volume and runoff for the proposed development will be handled through the snouts in series. Runoff from 30% of the redeveloped areas and 100% of newly developed area is proposed to treat in snouts in series. The following calculations show the WQv and corresponding flow from redeveloped and newly developed areas.

Water Quality Volume (WQv) Calculation-Redeveloped Area						
Calculation for water quality volume (WQv=P*Rv*A/12)				Soil Group 'B'		
85th percentile storm event (1.2 inches),P =	1.20	inches		Calulation of Rv		
Total area, A =	1.04	acres			Coeff.	Area
Rainfall Coeff, Rv, =	0.669			Coeff for undisturbed area,R_{VU}=	0.03	0.00
Required Vol. for Water Quality =	**0.070**	ac-ft		Coeff for turf cover,disturbed,R_{VT}=	0.20	0.39
Corresponding Water Quality Peak Flow =	**0.97**	cfs		Coeff for impervious area, R_{VI}=	0.95	0.65
				Weighted, Rv =	**0.669**	

Water Quality Volume (WQv) Calculation-New Development						
Calculation for water quality volume (WQv=P*Rv*A/12)				Soil Group 'C'		
85th percentile storm event (1.2 inches),P =	1.20	inches		Calulation of Rv		
Total area, A =	1.27	acres			Coeff.	Area
Rainfall Coeff, Rv, =	0.456			Coeff for undisturbed area,R_{VU}=	0.04	0.00
Required Vol. for Water Quality =	**0.058**	ac-ft		Coeff for turf cover,disturbed,R_{VT}=	0.22	0.86
Corresponding Water Quality Peak Flow =	**0.80**	cfs		Coeff for impervious area, R_{VI}=	0.95	0.41
				Weighted, Rv =	**0.456**	

TSS Removal Calculation:
*Total volume needs to be treated = 0.058+0.3*0.070=0.079 ac-ft*
*Total flow needs to be treated = 0.8+0.3*0.97=1.09 cfs*
Proposed Snout and Detention Pond will achieve the required 80% TSS removal.

Channel Protection Volume (CPv)

The Channel protection volume detention (1-yr storm for 24 hrs) is not required for this site as the total disturbance of proposed development does not exceed 5.0 acres.

Runoff Calculations (2-, 5-, 10-, 25-, and 100-yr)

EXITING CONDITION:
Soil Group =C (as per COW HSG map)
North Basin (Draining to SWS at Intersection of Lincoln and Emporia)
A1 = 0.19 Acres, CN = 89 Tc= 7.6 Minutes
South Basin (Draining to SWS at Topeka Ave.)
A2 = 4.22 acres CN = 89 Time of Concentration (Tc)= 17.1 Minutes

EXISTING SITE									
DRAINAGE AREA	ACRES	Tc Minutes	CN	Q2	Q5	Q10	Q25	Q100	REMARKS
North Basin (1)	0.19	7.6	89	0.73	1.00	1.19	1.44	31.46	Draining to Ex. SWS at Intersection of Emporia and Lincoln
South Basin (2)	4.22	17.1	89	11.89	16.54	19.72	23.80	1.90	Draining to Ex. SWS at Topeka Ave.

DEVELOPED CONDITION:
North Basin (Draining to SWS at Intersection of Lincoln and Emporia)
A1 = 0.19 Acres, CN = 89 Tc= 7.6 Minutes
South Basin (Draining to SWS at Topeka Ave.)
A2 = 4.22 acres CN = 90 Time of Concentration (Tc)= 17.1 Minutes

DEVELOPED SITE									
DRAINAGE AREA	ACRES	Tc Minutes	CN	Q2	Q5	Q10	Q25	Q100	REMARKS
North Basin (1)	0.19	7.6	89	0.73	1.00	1.19	1.44	31.46	Draining to Ex. SWS at Intersection of Emporia and Lincoln
South Basin (2)	4.22	8.9	90	16.01	21.81	25.85	31.02	40.72	Draining to Ex. SWS at Topeka Ave.

Flood detention is proposed at the southwest corner of the property in dry detention basin.

OUTFLOW									
DRAINAGE AREA	ACRES	Tc Minutes	CN	Q2	Q5	Q10	Q25	Q100	REMARKS
South Basin draining to pond	3.06	8.9	90	5.68	7.09	7.88	8.76	10.09	Draining to Ex. SWS at Topeka Ave.
South Basin Undetained	1.16	8.9	90	4.40	6.00	7.11	8.53	11.19	Draining to Ex. SWS at Topeka Ave.
Total Outflow to City SWS System at Topeka				10.08	13.09	14.99	17.29	21.28	Draining to Ex. SWS at Topeka Ave.

Notes:

1. *Existing and developed flows are calculated using the SCS hydrograph method. "CN" & "Runoff Depth" values are established from "City of Wichita Stormwater Design Manual." Time of concentration (Tc) are calculated using TR-55 method.*
2. *The developed peak flows are calculated for the Type II rainfall distribution for 24 hours. The peak flows are routed to the existing sewer system after detention.*
3. *The site is not in designated 100-yr floodplain (FIRM 20173C0365E, dated February 2, 2007).*
4. *The positive overflows from the entire site are maintained to the existing stormwater system at streets.*

Benchmarks

BM#1
City of Wichita Disc on the northwest corner of Lincoln and Broadway on the traffic signal light pole base
Elevation=1294.72 NAVD 88
BM#2
North rim of a traffic manhole approximately 2' west of the northeast property corner.
Elevation=1294.10 NAVD 88

KIRK E. MILLER LICENSED 11283 KANSAS PROFESSIONAL ENGINEER

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Stage-Storage of Detention Basin			
Storm	Storage (ac-ft)	WS Elevation (ft)	Peak Flow (cfs)
2-yr	0.23	1289.96	5.68
5-yr	0.33	1290.48	7.09
10-yr	0.41	1290.83	7.88
25-yr	0.52	1291.26	8.76
100-yr	0.73	1291.99	10.09

30 0 15 30 60 120
HORIZONTAL SCALE
(IN FEET)
1 inch = 30 ft.

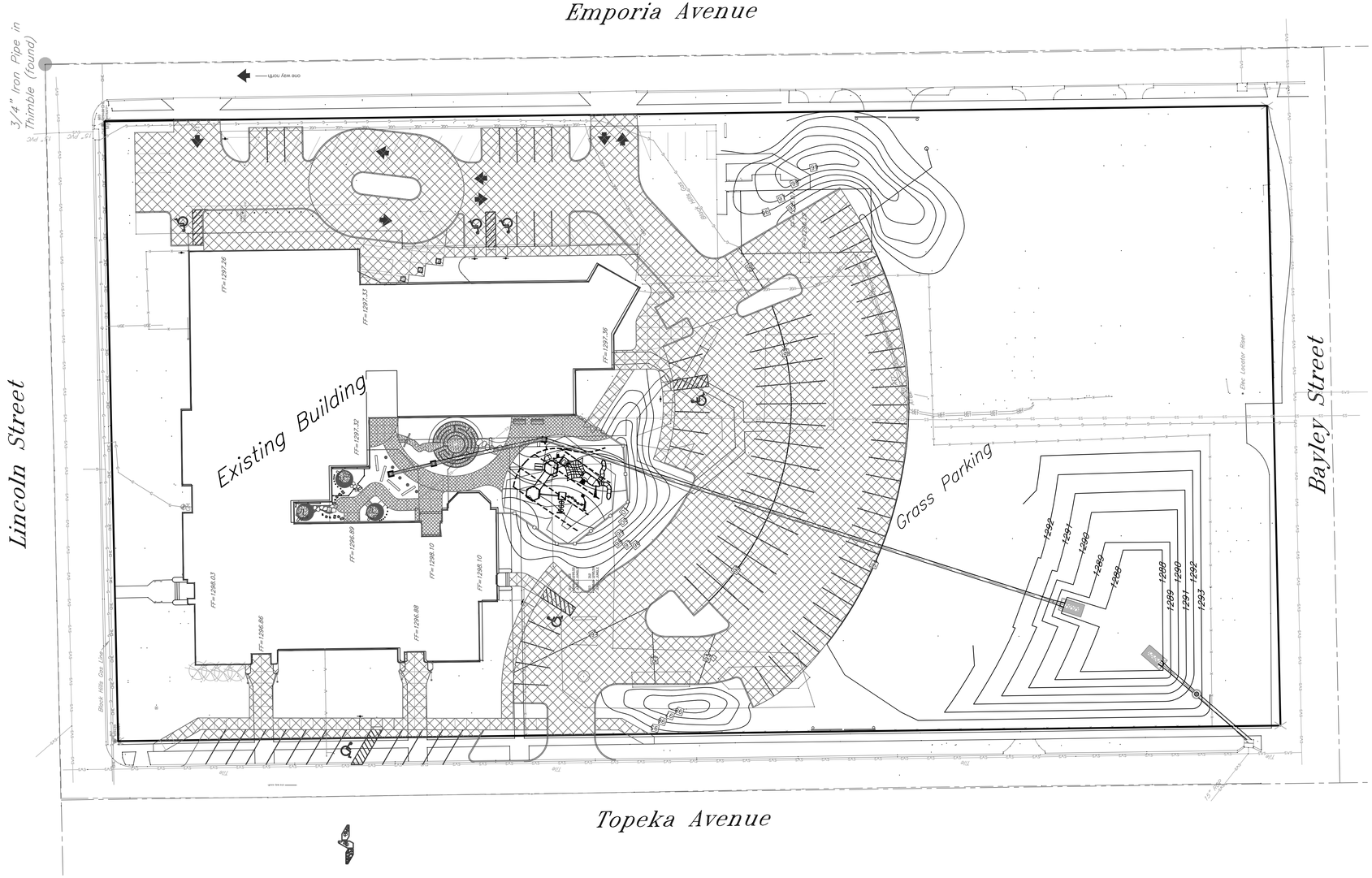
Child Advocacy Center
Drainage Plan
Wichia, Kasnas

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

PROJECT NUMBER 0333 PPD (607861)

KEM NO.	FILE	DATE	SHEET
14006		03/2014	2.0
DESIGN GP	DRAWN GP	REVISED	

July 29, 2015



ERU Calculations:

Ex. Impervious Area=	62952 sq. ft.
Total Post Developed Impervious Area :	83579 sq.ft.
Net Increase in Impervious Area:	20627 sq.ft.

Hatching Legend:

- Building Area
- Parking, Sidewalks, and Other Impervious Area

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30 0 15 30 60 120

HORIZONTAL SCALE
(IN FEET)
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Child Advocacy Center

ERU Plan

Wichita, Kansas

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

PROJECT NUMBER 0333 PPD (607861)			
KEM. NO. 14006	FILE	DATE 04/2014	SHEET 3.0
DESIGN GP	DRAWN GP	REVISED	

July 29, 2015

Emporia Avenue

Lincoln Street

Topeka Avenue

one way north

one way north

Block Hills Gas Line

Electric Conduit

Board Fence

Chainlink Fence

Gate

Elec Locator Riser

Sidewalk

Handicap drainage system

Mobile Classroom

Swingset

Playset

Grass

Curb

Asphalt

Tile

FF=1296.29

FF=1297.33

FF=1297.36

FF=1297.32

FF=1296.69

FF=1298.10

FF=1296.03

FF=1296.86

FF=1296.88

1.5%

1.5%

4.3%

4.7%

WDM ARCHITECTS

WDM Architects P.A.
105 North Washington
Wichita, KS 67202-2815
T 316.262.4700
F 316.262.0002
wdmarchitects.com

we do more

CHILD ADVOCACY CENTER of Sedgwick County

1210 S. Topeka St.
Wichita, Kansas

PRINTS ISSUED
04.25.13 - PROGRESS PRINT

WDM No. **10078**
drawn:
checked: s j l

SITE GRADING PLAN

0 10' 20' 40'
SCALE: 1" = 20'

NORTH

4.0

Emporia Avenue

CP#3
X-Cut
N= 1680348.91
E= 1650087.99

CP#2
X-Cut
N= 1679748.96
E= 1650096.06

Lincoln Street

Bayley Street

Existing Building

SWS
Line 2

Sta 02+81.80
Line 2

Sta 03+62.80
Line 2

Sta 03+40.20
Line 2

SWS
Line 2

Sta 00+00.00
Line 2

Sta 00+37.00
Line 1

Sta 00+62.00
Line 1

SWS
Line 1

Sta 00+00.00
Line 1

CP#4
X-Cut
N= 1680341.92
E= 1649768.01

CP#1
X-Cut
N= 1679742.00
E= 1649776.08

Topeka Avenue

<u>Benchmarks</u>

BM#1
City of Wichita Disc on the northwest corner of Lincoln and Broadway on the traffic signal light pole base
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BM#2
North rim of a traffic manhole approximately 2' west of the northeast property corner.
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LICENSED
11283
KANSAS
PROFESSIONAL ENGINEER

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30 0 15 30 60 120
HORIZONTAL SCALE
(IN FEET)
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Child Advocacy Center
Plan Sheet
Wichita, Kansas

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

PROJECT NUMBER
0333 PPD (607861)

KEM. NO.	FILE	DATE	SHEET
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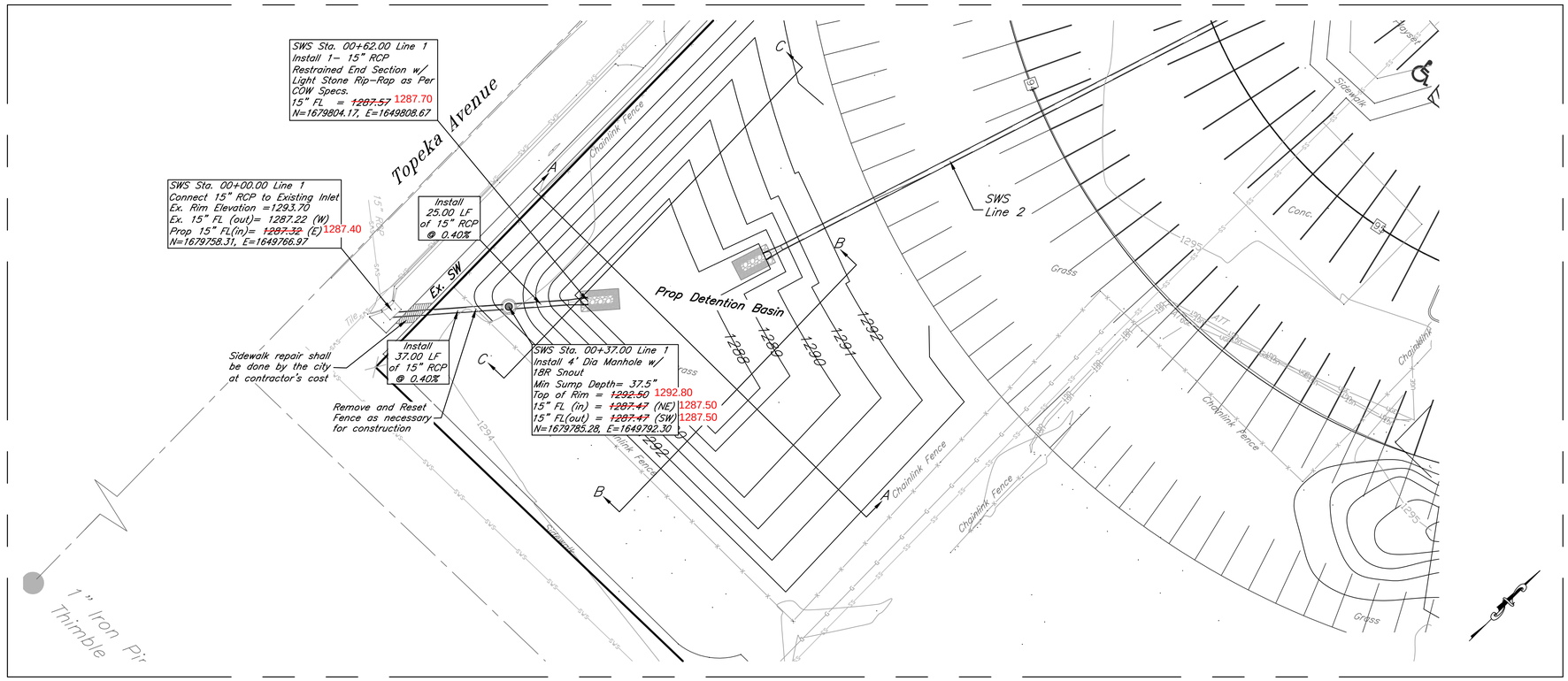
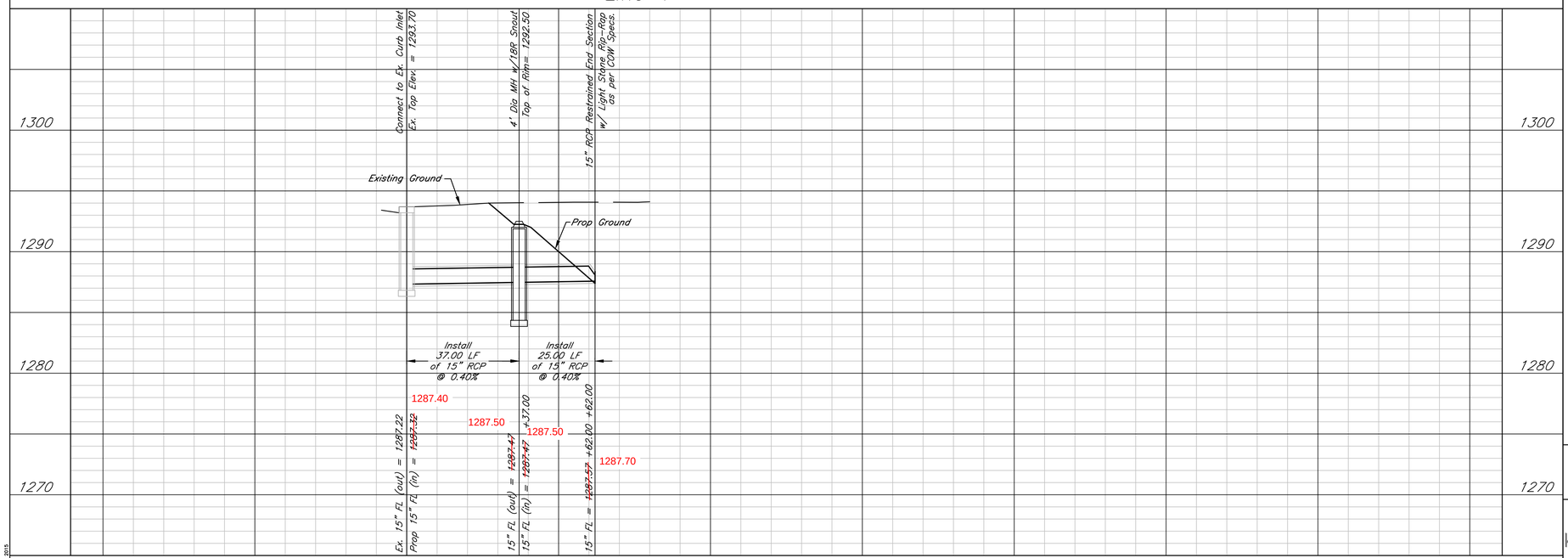
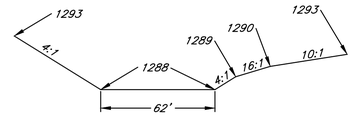
July 29, 2015



Line 1





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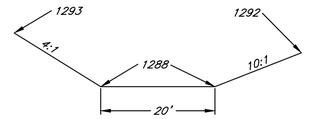

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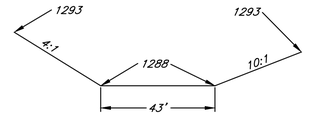

SECTION C–C
No Scale

AS BUILTS

Contractor:
McCullough
Excavation

11/4/2015

Project Inspector:
Matt Perez

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

KIRK E. MILLER
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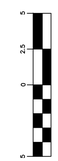

VERTICAL SCALE
(IN FEET)
1 inch = 5 ft.

HORIZONTAL SCALE
(IN FEET)
1 inch = 20 ft.

Child Advocacy Center
SWS, Line 1
Wichita, Kansas

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

PROJECT NUMBER
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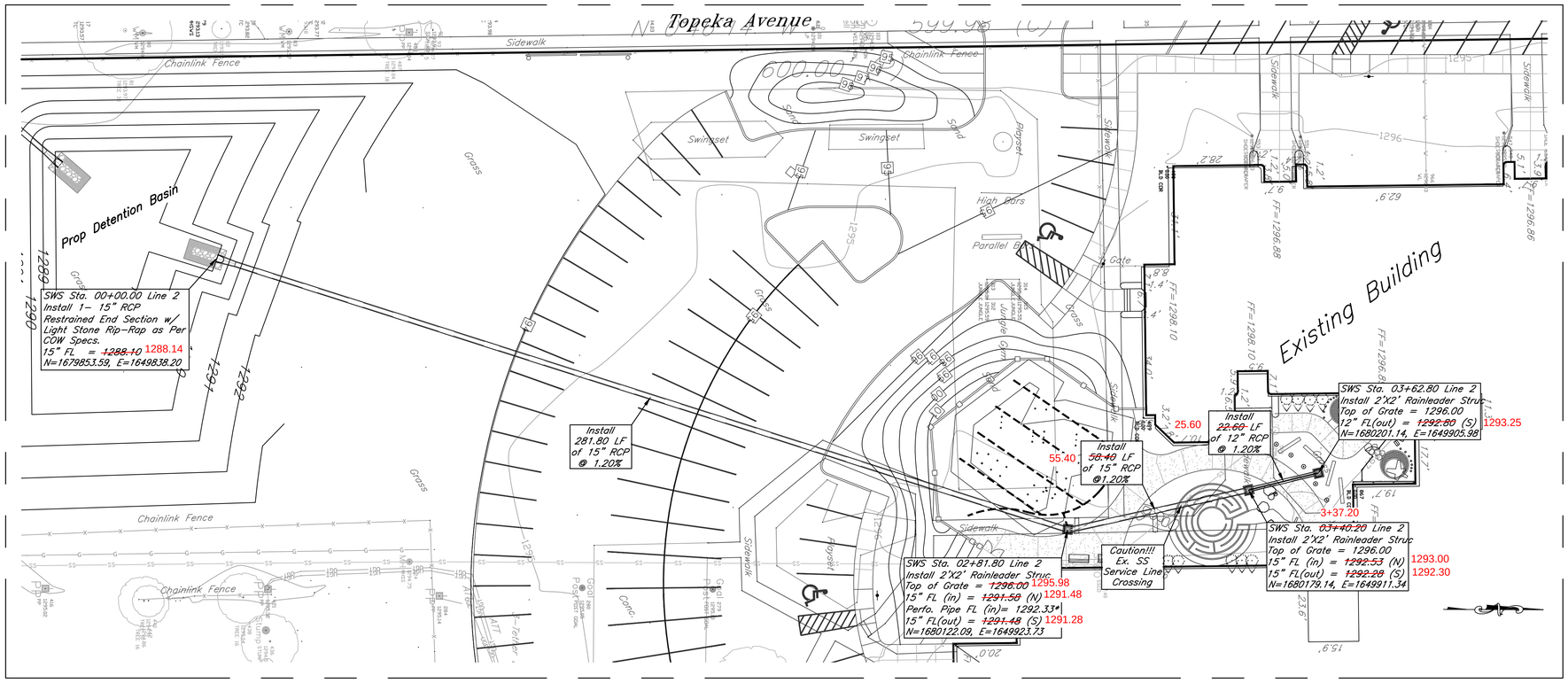
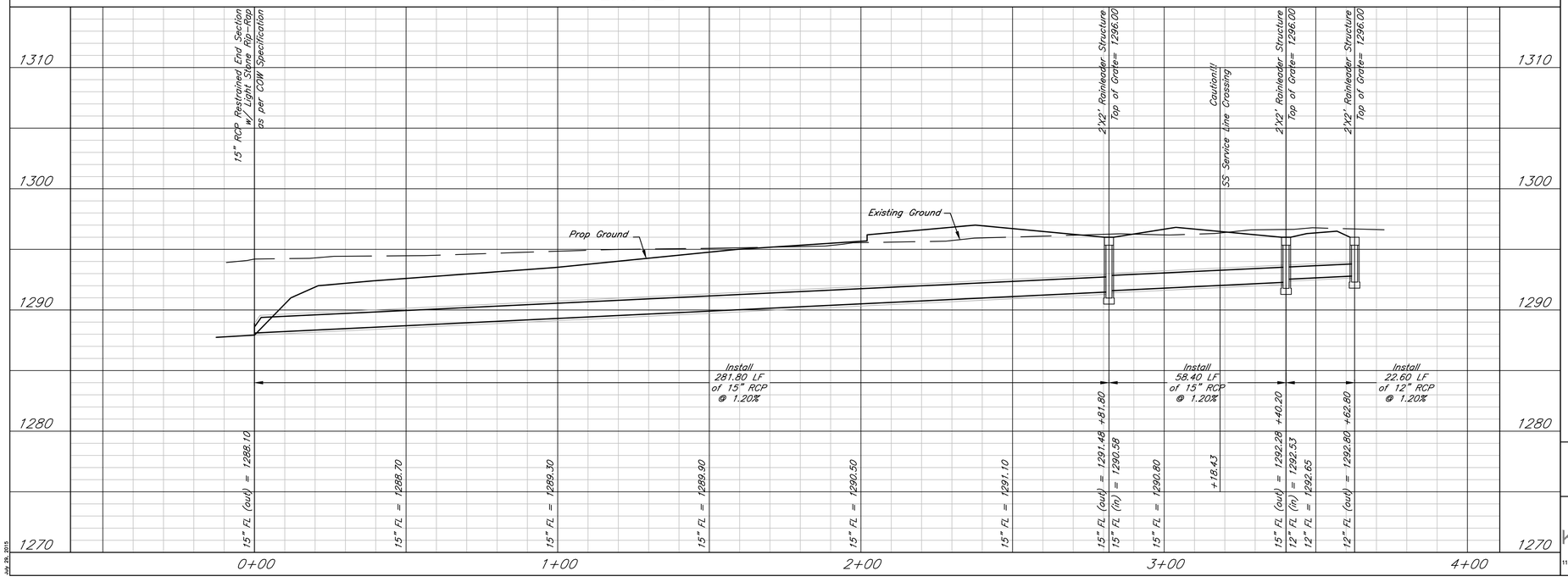
KEM NO.	FILE	DATE	SHEET
14006		04/2014	5.1
DESIGN GP	DRAWN GP	REVISED	

July 29, 2015



Line 2



July 29, 2015

Note:
* Refer Architectural Plans for Size of Perforated Pipe Coming in to Inlet at Sta 02+81.80

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HORIZONTAL SCALE
(IN FEET)
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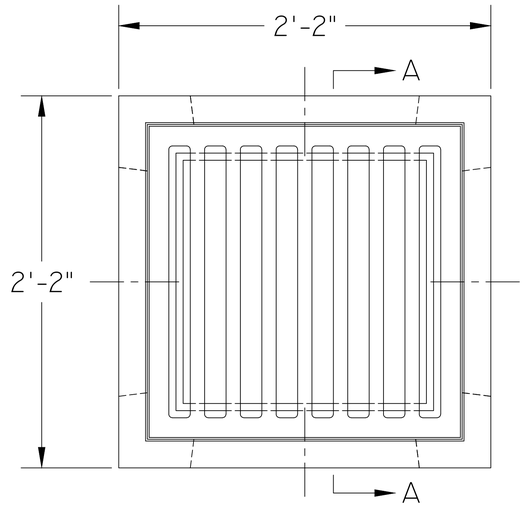
Child Advocacy Center
SWS, Line 2
Wichita, Kansas

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

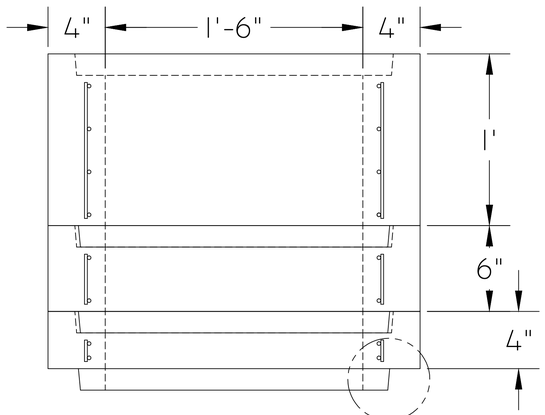
PROJECT NUMBER			
0333 PPD (607861)			
KEM NO. 14006	FILE	DATE 04/2014	SHEET 5.2
DESIGN GP	DRAWN GP	REVISED	

CONSTRUCTION NOTES:

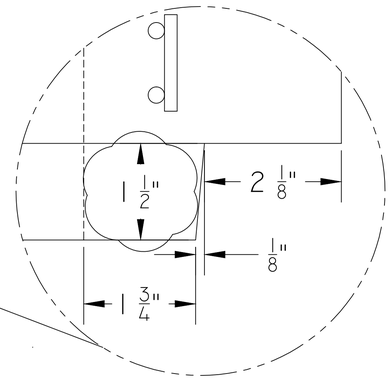
1. *ALL REINFORCING TO BE W5.0 x W3.0 3x6 WWF AND TO HAVE 1" CLEAR FROM INSIDE FACE.*



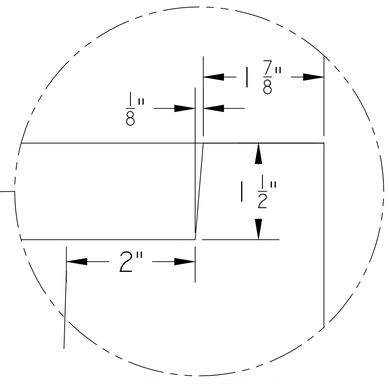
PLAN VIEW
REINFORCING REMOVED FOR CLARITY



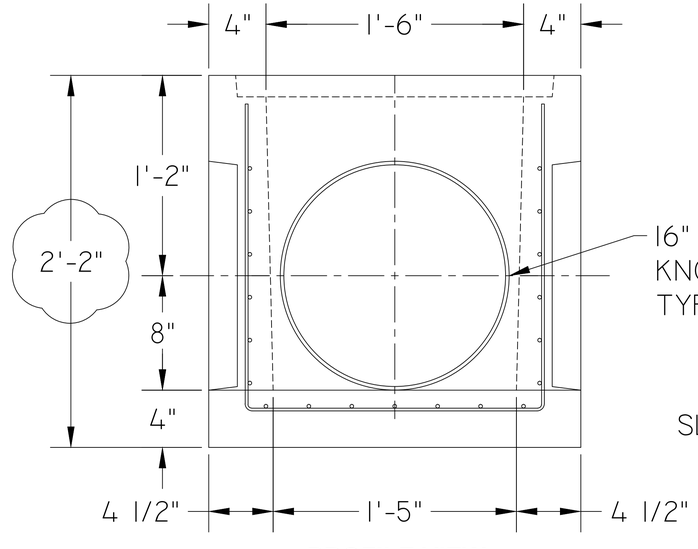
PROFILE VIEW
RISER OPTIONS



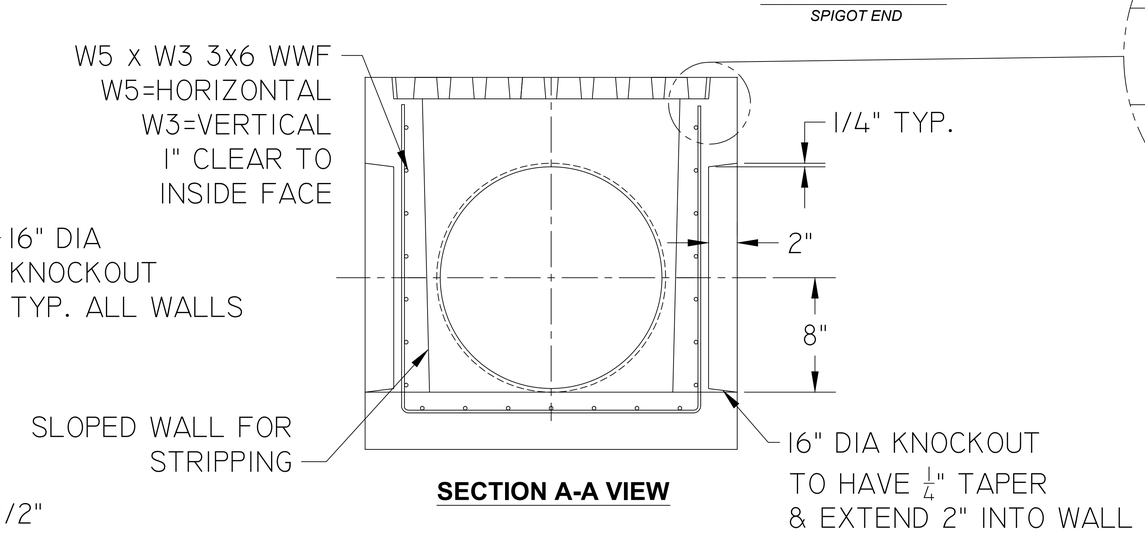
NOTCH DETAIL
SPIGOT END



NOTCH DETAIL
BELL END
GRATE & REINFORCING REMOVED



PROFILE VIEW
TYP. SIDE 'A', 'B', 'C', & 'D'
GRATE REMOVED



SECTION A-A VIEW

WICHITA CONCRETE PIPE COMPANY
221 W. 37th St. North, Wichita,KS. 67204 (316)-838-8651

RAINLEADER STRUCTURE

WCP
RAINLEADER STRUCTURE

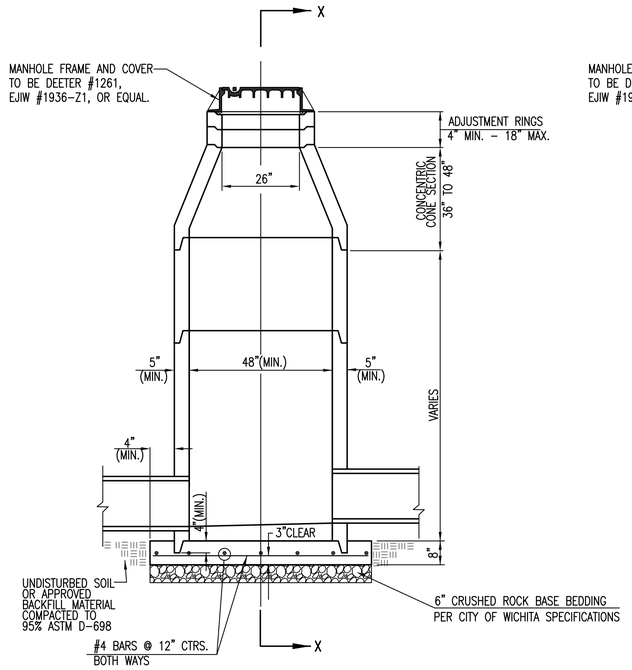
RAINLEADER STRUCTURE.DWG 09/19/14 DBH

Child Advocacy Center
Rainleader Structure Detail
Wichita, Kansas

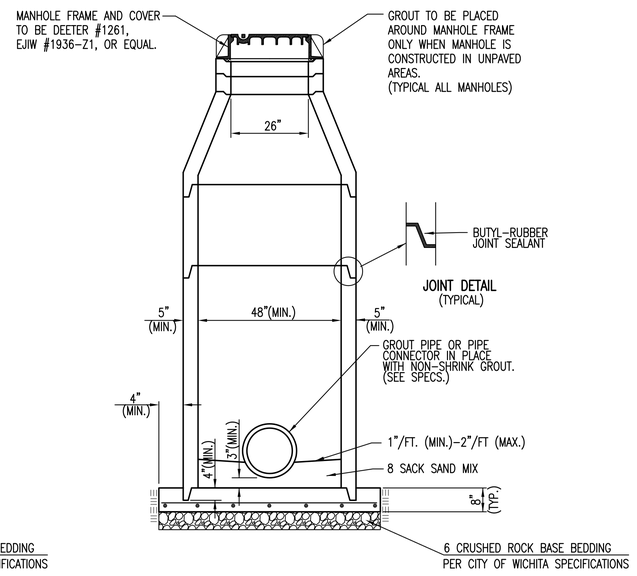
KEMILLER ENGINEERING PA
117 E. Lewis, Wichita, KS 67202 (316)264-0242

PROJECT NUMBER 0333 PPD (607861)			
KEM NO. 14006	FILE	DATE 07/2015	SHEET 5.3
DESIGN KM	DRAWN ME	REVISED	

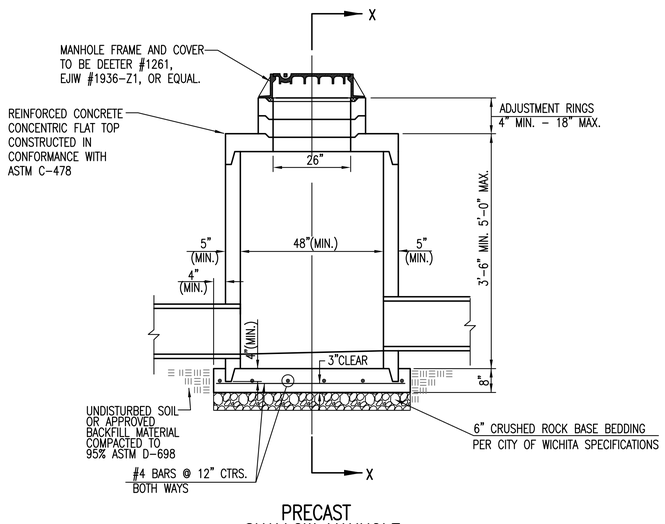
July 29, 2015



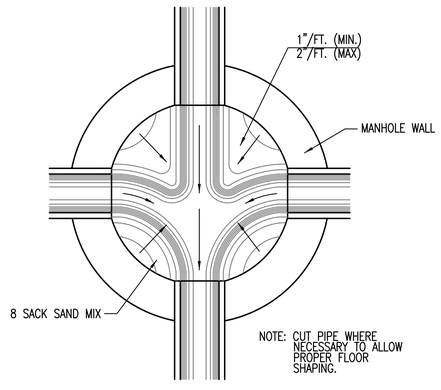
PRECAST
STANDARD MANHOLE
TYPE "A"



SECTION X-X
(TYPICAL)



PRECAST
SHALLOW MANHOLE
TYPE "B"



TYPICAL MANHOLE
FLOOR SHAPING

GENERAL NOTES

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

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

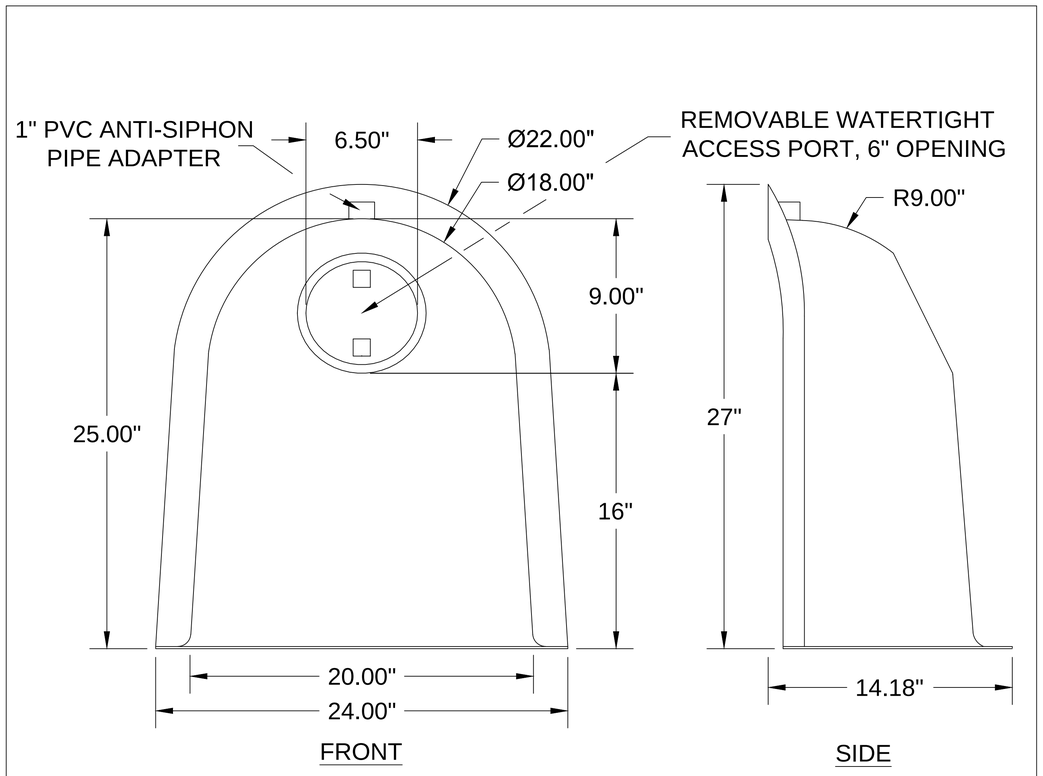
PRECAST CONCRETE MANHOLE (STORM SEWER)

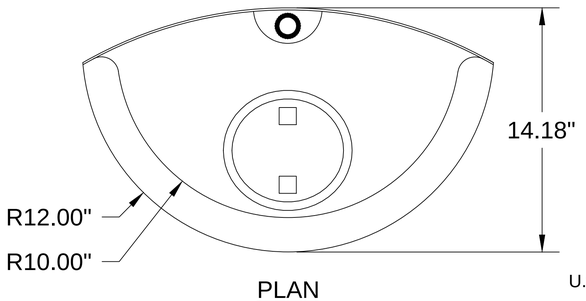
CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
0333 PPD	607861	11/2010

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

SHEET
5.4





PLAN

U.S. PATENT #6126817 ADDITONAL PATENTS PENDING

DESIGNED TO FIT
48"-60" DIAM.
STRUCTURES

RECOMMENDED SUMP DEPTH 2.5 TO
3X OUTLET PIPE I.D.

BMP, INC.
53 MT. ARCHER ROAD, LYME, CT. 06371
(800) 504-8008 FAX: (860)434-3195

DESCRIPTION	DATE	SCALE
18R SNOUT OIL & DEBRIS STOP	09/06/99	NONE
	DRAWING NUMBER	
	18R	

Child Advocacy Center
Snout Detail
Wichita, Kansas

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

PROJECT NUMBER			
0333 PPD (607861)			
KEM NO. 14006	FILE	DATE 04/2014	SHEET 5.5
DESIGN GP	DRAWN GP	REVISED	

July 29, 2015

Emporia Avenue

3/4" Iron Pipe in Thimble (found)

Lincoln Street

Bayley Street

Topeka Avenue

Ex Building

Install Inlet Protection

Construct Const. Entrance/Exit

Install 114.0 LF of Silt Fence

Install 485.0 LF of Silt Fence

Install Inlet Protection

ipe in
ind)
NW 1/4,
'S, R1E

July 29, 2015

General Notes:

1. The BMP's shown on this sheet are considered minimum standards. Whenever sediment enters the streets, storm sewers, ditches, or ponds, contractor will install additional BMP's, as needed, to correct the problem.
2. The soil erosion BMP's shown hereon must be in place at all times during construction until such time as the site is re-established with paving or grass.
3. Back of curb protection can include hay bale, silt fence, Curlex barrier, or approved alternate as shown on BMP standard details. This BMP must remain in place until the area between the curb and right-of-way line has been permanently stabilized.
4. The General Contractor is responsible for the installation and maintenance per the prevention maintenance plan.
5. Concrete trucks will be permitted to wash out only at approved locations. then maintain and clean up as conditions require, by contractor. No hazardous materials are expected to be encountered. Any spills (diesel, fuel, oil, etc.) will be cleaned up and removed immediately. Portable toilets will be supplied and maintained at various sites along the project. Disposal of sewage will be handled by a contracting firm specializing in this activity.
6. The above mentioned storm water prevention methods will be monitored daily and maintained as required. A weekly erosion control log will be posted in the job trailer onsite, and updated weekly. Site inspections are required within 24 hours after a precipitation event of 0.5" or greater.

LEGEND:

- Flow Direction
- Inlet Protection – to be provided at all inlets subject to silt laden runoff.
- Ditch Check
- Temporary Seeding and Mating.
- Silt Fence or Hay Bale Barrier – to be installed along property lines where runoff from construction site can run onto other properties.
- Stabilized Construction Entrance – to be used at all locations where vehicles or equipment enter or exit property.
- Back of Curb Protection – to be installed whenever curb is backfilled to less than 3 inches from top and disturbed earth exists adjacent thereto. (See City Standard Details.)

KIRK E. MILLER LICENSED 11283 KANSAS PROFESSIONAL ENGINEER

DATE: 07.29.2015

THIS SHEET HAS BEEN SIGNED, SELAED AND DATED ELECTRONICALLY

30 0 15 30 60 120

HORIZONTAL SCALE
(IN FEET)
1 inch = 30 ft.

Child Advocacy Center

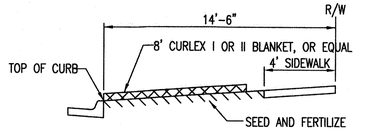
Erosion Plan

Wichita, Kansas

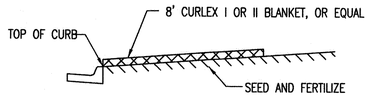
KEMILLER ENGINEERING PA
117 E. Lewis, Wichita, KS 67202 (316)264-0242

PROJECT NUMBER 0333 PPD (607861)

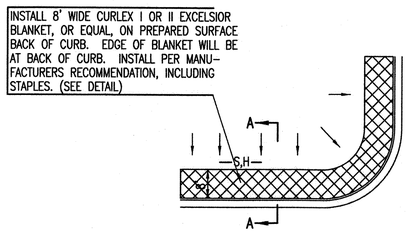
KEM NO.	FILE	DATE	SHEET
14066		04/2014	6.0
DESIGN GP	DRAWN GP	REVISED	



SECTION B–B



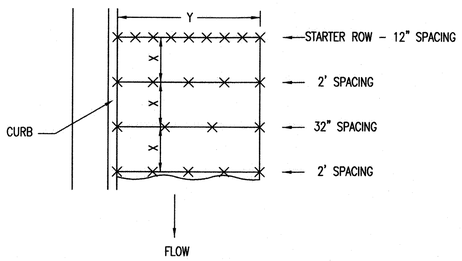
SECTION A–A

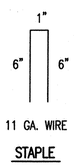


GENERAL NOTES

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

BACK OF CURB PROTECTION DETAIL





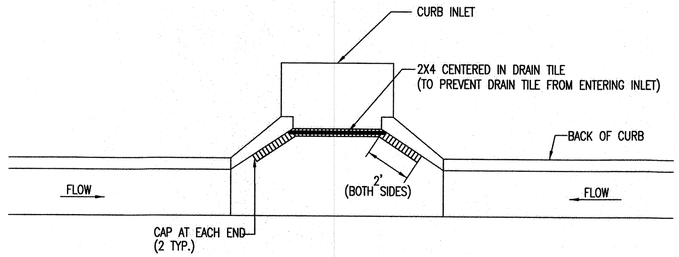
STAPLE

STAPLE PATTERN

NOTES: USE 6" SEAM OVERLAP

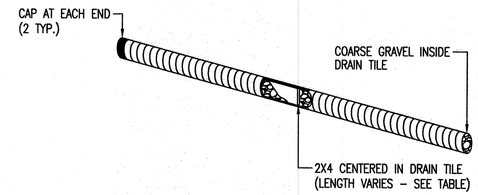
(X & Y = RECOMMENDED BY MANUFACTURE)

DETAILS FOR APPROVED EROSION CONTROL MAT



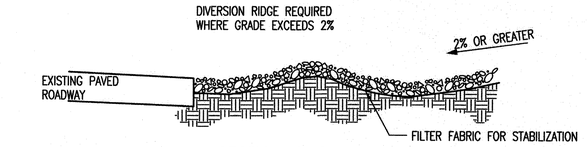
NOTE:
PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"–1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

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

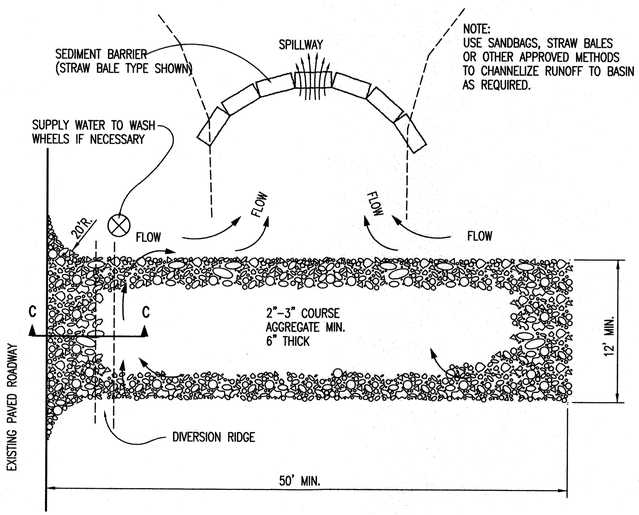


CURB INLET PROTECTION

4" PERFORATED PIPE W/ GRAVEL



SECTION C–C



STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES

1. 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.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY.
3. 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.
4. 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

GARY L. JANZEN LICENSED 18924 PROFESSIONAL KANSAS ENGINEER

05/30/13

CITY OF WICHITA

PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE

CITY ENGINEER
GARY JANZEN, P.E.

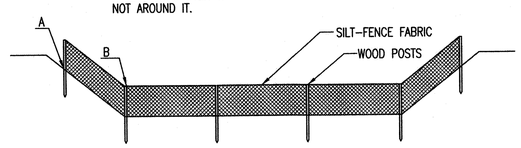
PROJECT NUMBER	OCA NUMBER	DATE

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

SHEET
6.1

SW–501

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



ELEVATION

SILT FENCE DITCH CHECKS
(STREAM 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:

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.

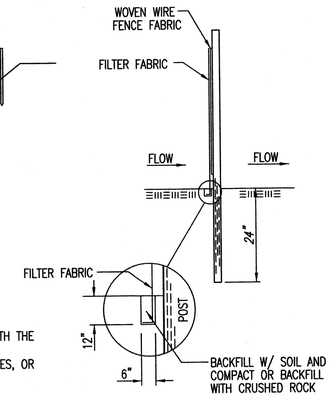
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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.

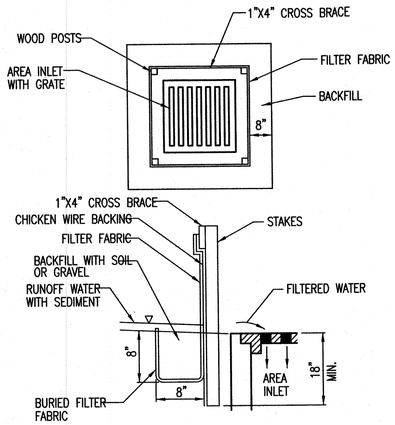
INSPECTION AND MAINTENANCE:

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



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 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.

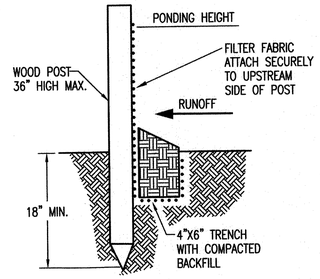
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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 RESISTED 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

MATERIAL SPECIFICATION:

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

PLACEMENT:

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

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 6" DEEP BY 4" WIDE.
MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE.
ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH.
PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT–FENCE FABRIC SHOULD REMAIN EXPOSED.
LAY THE EXPOSED SILT FENCE UPSLOPE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 18".
PLACE POSTS NO MORE THAN 4' APART.
ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES.
DO NOT PLACE SILT–FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL.
DO NOT PLACE SILT FENCE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT SUFFICIENTLY ANCHORED, IT WILL WASH OUT.
SILT FENCE SLOPE BARRIERS MUST BE DUG INTO THE GROUND–SILT FENCE AT GROUND LEVEL DOES NOT WORK BECAUSE WATER WILL FLOW UNDERNEATH.

INSPECTION AND MAINTENANCE:

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

ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
DOES WATER FLOW UNDER THE SLOPE BARRIER?
DO THE SILT FENCES SAG EXCESSIVELY?
HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

REVISION DATE: MAY 2013

GARY L. JANZEN LICENSED 19294 KANSAS PROFESSIONAL ENGINEER
05/21/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SILT FENCE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

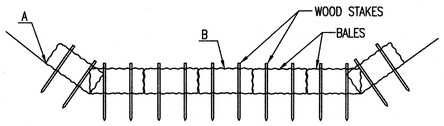
PROJECT NUMBER	OCA NUMBER	DATE

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

SHEET
6.2

SW-502

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, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE.
THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4' LONG.
OPTIONAL: THE DOWNSTREAM SCOUR APRON SHOULD BE CONSTRUCTED OF A DOUBLE-NETTED STRAW EROSION-CONTROL BLANKET AT LEAST 6' WIDE.
OPTIONAL: THE METAL LANDSCAPE STAPLES USED TO ANCHOR THE EROSION-CONTROL BLANKET SHOULD BE AT LEAST 8" LONG.

PLACEMENT:

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

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

PROPER INSTALLATION METHOD:

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

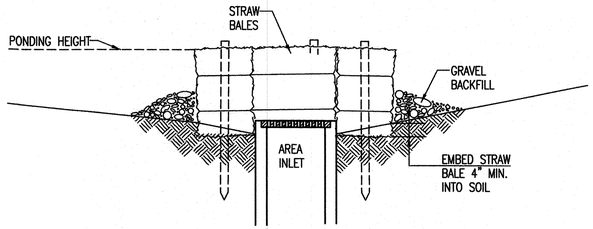
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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

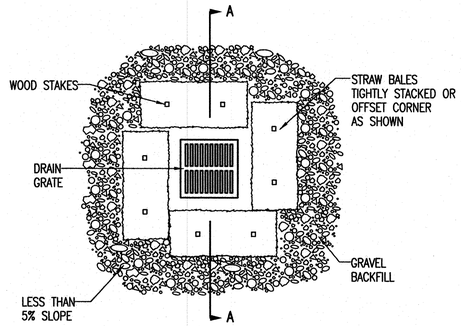
INSPECTION AND MAINTENANCE:

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

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



SECTION A-A



STRAW BALE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

MATERIAL SPECIFICATION:

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

PLACEMENT:

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

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 4" DEEP BY A BALE'S WIDTH WIDE.
PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. SOME BALES MAY NEED TO BE SHORTENED TO FIT INTO THE TRENCH AROUND THE AREA INLET. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS.
STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND.
ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE RECEIVING SIDE OF THE BARRIER AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.
NOTE: WHEN A BALE AREA INLET BARRIER IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

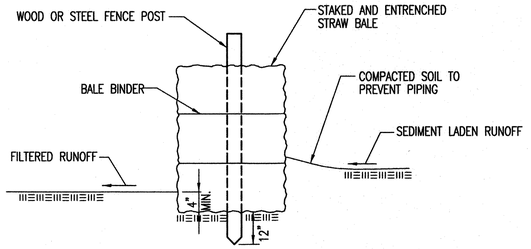
LIST OF COMMON PLACEMENT INSTALLATION MISTAKES TO AVOID:

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

INSPECTION AND MAINTENANCE:

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

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



STRAW BALE BARRIERS

MATERIAL SPECIFICATION:

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

PLACEMENT:

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

PROPER INSTALLATION METHOD:

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

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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

INSPECTION AND MAINTENANCE:

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

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

REVISION DATE: MAY 2013

GARY L. JANZEN LICENSED PROFESSIONAL ENGINEER 16294 KANSAS
05/30/13

CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

STRAW BALE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER
GARY JANZEN, P.E.

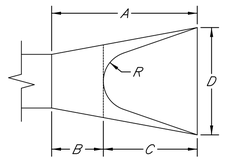
PROJECT NUMBER	OCA NUMBER	DATE

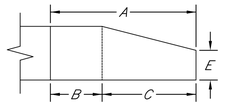
CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

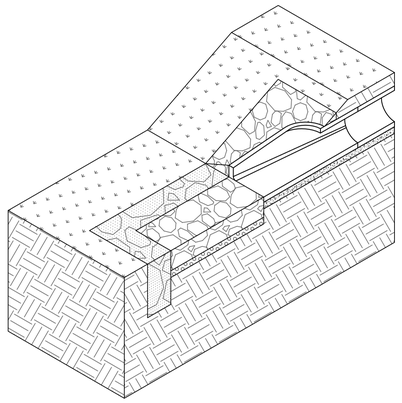
SHEET 6.3

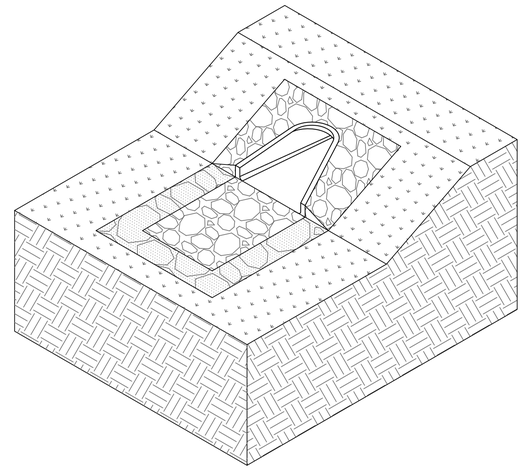
SW-503

Re-Enforced Concrete Pipe Information									
Pipe Size	Wall Thickness	Weight per ft	Elliptical Equivalent	End Section Information					
				"A"	"B"	"C"	"D"	"E"	"R"
12"	2.0"	100 lbs	-----	6.07'	4.07'	2.00'	2.00'	0.33'	0.75'
15"	2.5"	128 lbs	-----	6.08'	3.83'	2.25'	2.50'	0.50'	0.92'
18"	2.5"	168 lbs	23"x14"	6.08'	3.83'	2.25'	3.00'	0.75'	1.00'
24"	3.0"	268 lbs	30"x19"	6.12'	2.50'	3.62'	4.00'	0.79'	1.16'
30"	3.5"	385 lbs	38"x24"	6.12'	1.64'	4.50'	5.00'	1.00'	1.25'
36"	4.0"	524 lbs	45"x29"	8.14'	2.89'	5.25'	6.00'	1.25'	1.66'
42"	4.5"	684 lbs	53"x34"	8.16'	2.92'	5.25'	6.50'	1.75'	1.83'
48"	5.0"	868 lbs	60"x38"	8.16'	2.16'	6.00'	7.00'	2.00'	1.83'
54"	5.5"	1070 lbs	68"x43"	8.18'	2.77'	5.42'	7.50'	2.25'	2.00'
60"	6.0"	1290 lbs	-----	8.25'	3.25'	5.00'	8.00'	2.92'	2.00'
66"	6.5"	1540 lbs	-----	-----	-----	-----	-----	-----	-----
72"	7.0"	1800 lbs	-----	8.25'	1.75'	6.50'	9.00'	3.00'	2.00'
84"	-----	-----	-----	9.25'	1.75'	7.54'	10.00'	3.00'	2.00'
all measurements approximate									









GRADATION REQUIREMENTS:

1. Heavy Stone Riprap: Heavy stone riprap shall be constructed twenty–four inches (24") in thickness and shall be placed on a stone filter course backing having a thickness of nine inches (9"). Stone used in riprap shall meet the required quality requirements and the following size requirements.

Weight of Individual Pieces	Minimum Percent Larger Than
1,000 lbs	0%
500 lbs	50%
75 lbs	90%

Filter course backing for heavy stone riprap shall be produced from the stone meeting the quality requirements of stone for riprap and shall have the following size requirements

Sieve Size	Percent Retained
6"	0%
5"	5–25%
2"	40–60%
3/8"	75–95%

2. Light Stone Riprap: Light stone riprap shall be constructed eighteen inches (18") in thickness and shall be placed on a stone filter course backing having a thickness of six inches (6"). Stone used in riprap shall meet the required quality requirements and the following size requirements.

Weight of Individual Pieces	Minimum Percent Larger Than
500 lbs	0%
250 lbs	50%
125 lbs	70%
10 lbs	90%

Filter course backing for heavy stone riprap shall be produced from the stone meeting the quality requirements of stone for riprap and shall have the following size requirements

Sieve Size	Percent Retained
4"	0%
2"	10–40%
1"	25–60%
3/8"	55–85%
#4	70–95%

INSTALLATION OF STONE RIPRAP:

Stone riprap shall be placed on a prepared bedding layer so as to produce a reasonably well–graded mass with a minimum percentage of void. Stone riprap shall be placed to it's full course thickness in one operation without displacing the bedding. Placing stone riprap by dumping into chutes or any other method likely to cause segregation will not be permitted. Placement of stone on the slope and in toe trenches shall be accomplished by controlled dumping directly in place.

Bulldozing of stone from the upper banks will not be permitted. use of a drag line or similar equipment operated from the top of the bank to pull stone into position on the upper slope will be permitted. Stone riprap may be placed below water, providing it is placed by skip or another approved method which will prevent segregation. Larger stones should be distributed and the entire mass of stones in their final position should be stable and free of pockets of small stones and clusters of larger of larger ones; rearrangement of individual pieces by hand may be required to obtain the results described above. A tolerance of plus three inches (3") from the lines and grades shown on the continuous over an area greater than 100 square feet. Hand placing of riprap stones shall be necessary to produce reasonably true surfaces and close fit of stones. The larger spaces between the stones shall be fitted with spalls of suitable size, rammed thoroughly in place. The spaces between stones shall be fitted with smaller rock, carefully hand placed in such a manner to obtain a tight surface.

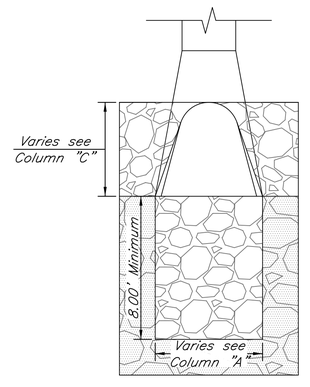
Toewalls shall be installed along all unprotected edges of edges of stone riprap construction. Such toewalls shall be constructed using the same size stone specified for t he riprap with the toewall thickness being the same thickness as specified for the riprap without the filter course backing. The toewalls shall extend a minimum distance of 2' below the bottom of the filter course backing material and they shall be constructed perpendicular to the top surface of the riprap construction. Toewall construction shall be grouted in place for the full depth from the bottom of the toewall to the top surface of the riprap for the full thickness of the toewall to the top surface of riprap for the full thickness of the toewall.

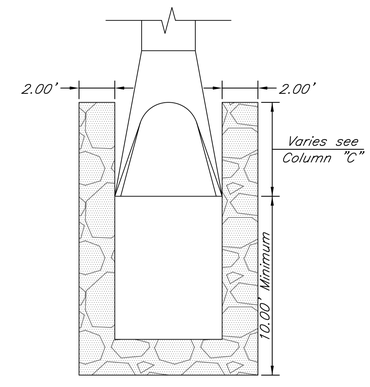
When specified, all riprap placed within the limits of a dimension of 10' from pipe ends, pipe end sections and headwall structures, as measured from the outside edges of such pipe ends or structures, shall be grouted in place. Other area shall be grouted when indicated by the plans. When grouted stone riprap is required, the spaces between the riprap stones shall be filled with water to form a plastic mix. The grout mixture shall be poured and broomed into the voids around the rock until all such voids are completely filled. Grouted stone riprap will be cured in the same manner as specified in the standard specifications for concrete pavement.

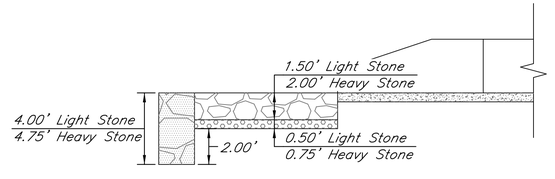
GROUTED TOEWALL

STONE RIPRAP

FILTER COURSE BACKING







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

KEM NO. 14006
DATE 04/2014
SHEET 6.4

X Y Z 2-4

ZIMMERLY'S 2ND ADDITION

TO THE CITY OF WICHITA, KAN.

LINCOLN ST.

30 FT.

320 FEET.

190 FT.

SCHOOL RESERVE.

190 FT.

320 FEET

20 FT.

AVE.

60 FT.

18 FT.

18	17
20	19
22	21
24	23
26	25
28	27
30	29
32	31
34	33
36	35
38	37
40	39
42	41
44	43
46	45
48	47

TOPEKA

PEARL

AVE.

60 FT.

2	1
4	3
6	5
8	7
10	9
12	11
14	13
16	15
18	17
20	19
22	21
24	23
26	25
28	27
30	29
32	31
34	33
36	35
38	37
40	39
42	41
44	43
46	45
48	47

18 FT.

EMPORIA

60 FEET

ST.

30 FT.

AVE.

60 FT.

10.5

2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48

FOURTH

T. B. BAYLEY - CITY ENGINEER

I Thos B Bayley City Engineer in and for the City of Wichita, Sedgwick County Kansas do hereby certify that I have Surveyed and Plotted Zimmerly's 2nd Addition to the City of Wichita, Kansas, of which the accompanying Map is a correct exhibit of said Survey, described as follows, to wit: Beginning at a point 335 feet East of the North West corner of the South West ¼ of Section 28, Township 27 South, Range 1 East. Thence East 972½ feet Thence South 690 feet Thence West 972 feet Thence North 690 feet to place of beginning

Thos. B. Bayley.
Surveyor.

State of Kansas } ss
County of Sedgwick }

Know all men by these presents that we Nettie Zimmerly and M. Zimmerly have caused our land to be Surveyed and Plotted as shown on map into lots, Plat, and Streets. The lots as platted and indicated, are intended for Sale. The Streets and alleys are hereby dedicated to and for the use of the Public. The widths are as indicated by figures on the Map.

Nettie Zimmerly
by M. Zimmerly, her
Atty. in fact.
M. Zimmerly

State of Kansas } ss.
County of Sedgwick }

Before me a Notary Public in and for said County and State, Personally come Nettie Zimmerly, by M. Zimmerly her atty. in fact, and M. Zimmerly who are personally known to me to be the identical persons who laid out and platted the accompanying described land, and they acknowledge the same to be their voluntary act and deed.

Acknowledged before me this 4th day of June A.D. 1885.

A.R. Glenn
N. P.

Commission Expires April 19, 1889

A. R. GLENN
NOTARY PUBLIC
SEDGWICK CO. KAN.

ENTERED ON TRANSFER RECORD.
JUN 4 1885
E. P. FORD CO. CLERK.

FILED JUNE 4, 85, AND RECORDED IN PLAT BOOK "D" PAGE 9.
R.C. DERM — M.D. HEISERMAN
DEP. — REG. OF DEEDS.

All Lots are 25 x 151 feet, except lots 2 to 48 Fourth Ave. which are 25 x 148 feet and Lots 18 Topeka and 17 Emporia Avenues which are 15 x 151 feet. Width of Streets and Alleys are shown by figures on Map.

I Joseph Bowman, Register of Deeds of Sedgwick County Kansas, hereby certify that the above is a true and correct copy of the plat of Zimmerly's 2nd Addition to the City of Wichita, Kan.; that the original, of which above is a copy, is on file in my office, and that I have the legal custody thereof. Witness my hand and the seal of my office this 12 day of Dec 1918

Joseph Bowman
REG. OF DEEDS.

X Y Z 2-4

Inches