SITE GRADING & PAVING

TO SERVE

HERITAGE FAMILY CHURCH

PRIVATE PROJECT NO 0271 PPD (607861)

CITY OF WICHITA, KANSAS

GARY JANZEN, P.E. – CITY ENGINEER

3840 NORTH SENECA

NOT A AS-BUILT
12-6-16
FIELD INSPECTION
T. MASON C.O.W.

NO PRIVATE
INSPECTION DONE

GENERAL NOTES

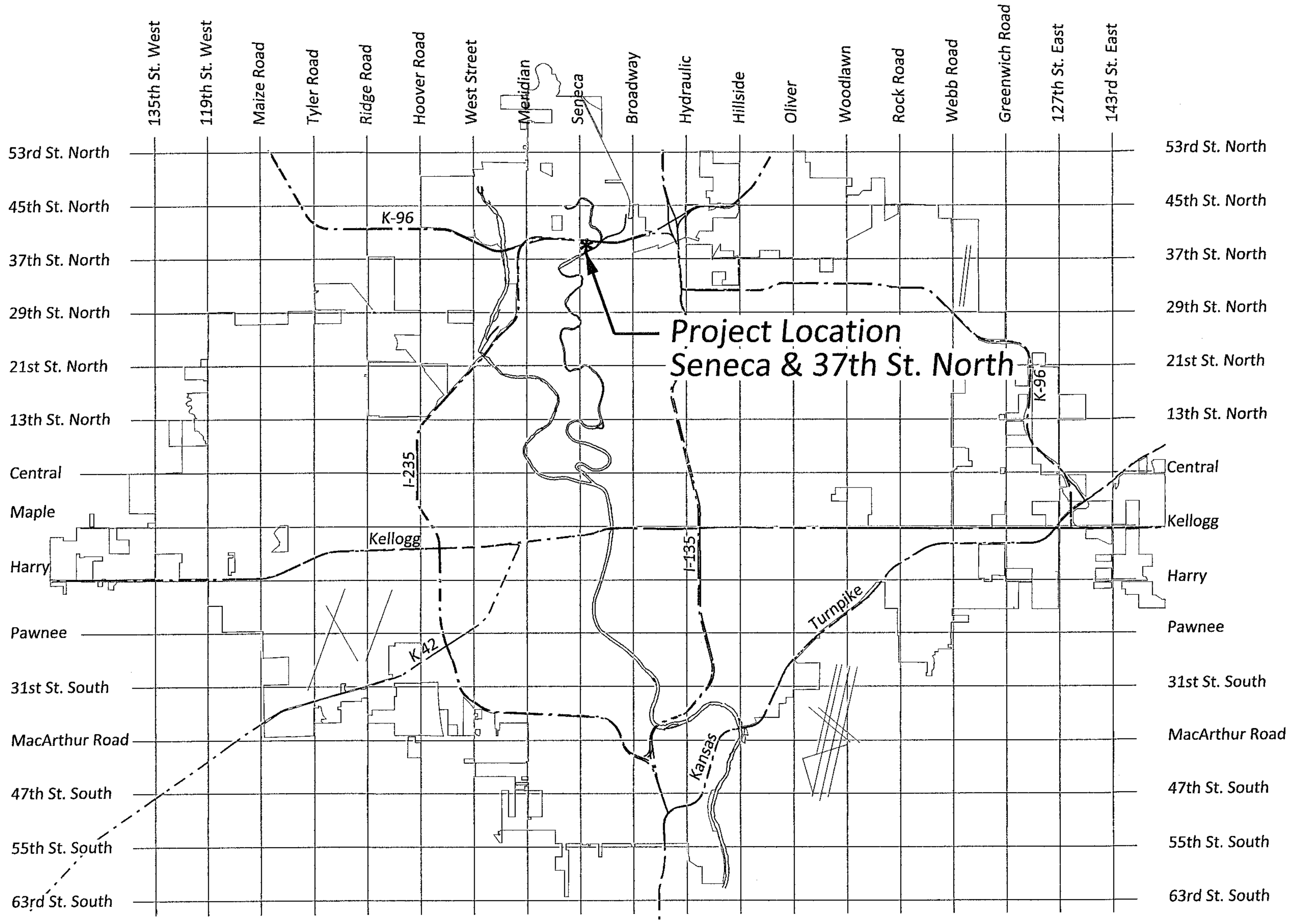
1. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF SEVENTY-TWO (72) HOURS ADVANCE NOTICE PRIOR TO BEGINNING EXCAVATION (EXCLUDING WEEKENDS AND HOLIDAYS), THE CONTRACTOR SHALL CONTACT THE KANSAS DIGGERS HOTLINE, A UTILITY LOCATION SERVICE, AT 1-800-344-7233 TO REQUEST THAT LOCAL UTILITY COMPANIES MARK ANY EXISTING LINES WITHIN THE PROJECT AREA.
2. LOCATIONS OF EXISTING BURIED SERVICE LINES SHOWN IN PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES AND PRIVATE OWNERS TO IDENTIFY LOCATIONS OF THESE LINES.
3. THE CONTRACTOR SHALL SUBMIT HIS ANTICIPATED SEQUENCE OF CONSTRUCTION PLAN PRIOR TO THE START OF CONSTRUCTION.
4. THE CONTRACTOR SHALL PROVIDE THE OWNER ONE SET OF PLANS MARKED IN RED INK INDICATING ALL CHANGES MADE TO THE PROJECT INCLUDING ACTUAL LOCATIONS OF BURIED UTILITIES. ALL RECORD INFORMATION SHALL BE BASED ON PLAN CONTROL POINTS.
5. THE CONTRACTOR, AT THEIR EXPENSE, SHALL REPLACE ANY CONTROL POINTS OR PROPERTY IRONS THAT ARE DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION.
6. BOUNDARY AND TOPOGRAPHIC SURVEY PROVIDED BY ALPHA LAND SURVEYS, INC.
7. PROJECT WAS SURVEYED AND IS LAID OUT USING US SURVEY FEET AS THE PRIMARY UNIT OF MEASURE. CONTRACTOR SHALL ENSURE THAT ALL ELECTRONIC FILES UTILIZED FOR CONSTRUCTION ARE IN US SURVEY FEET AND NOT INTERNATIONAL FEET.
8. ALL CONSTRUCTION SHALL COMPLY WITH CITY OF WICHITA STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

I, Ryan W. McCune of ASM Engineering Consultants, LLC, a Professional Engineer registered in the State of Kansas, hereby certify that this Stormwater Permit Application, the associated Construction Plan and all associated hydrologic and hydraulic analyses for Heritage Family Church was prepared by me (or under my direct supervision).

I further certify that the plans and analyses were prepared in accordance with the provisions of the stormwater management regulation (Regulation) of the appropriate governing locality (i.e., the City of Wichita Stormwater Management Ordinance 16.32 or the Sedgwick County Stormwater Management Resolution 196.40), and the policies and guidelines presented in the Wichita/Sedgwick County Stormwater Manual (Manual).

I further certify that all stormwater management components of the Development, including stormwater management facilities, water quality volume reduction areas, stormwater system components and erosion prevention and sediment control best management practices are designed to comply with the provisions of the Regulation and the Manual.

I understand that the City of Wichita, Kansas and/or Sedgwick County, Kansas does not, and will not, assume liability for drainage facilities designed by others unless such facilities are formally accepted for public ownership by the City or County.



LOCATION MAP

SHEET INDEX

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

Engineering Rebecca Gui 11/4/14

Stormwater 11/04/14

NOTE TO CONTRACTORS

Inspection and testing for this project are 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. No work shall be performed in dedicated easements or public right-of-way by the Contractor without such Inspection, nor shall any work be commenced without written authorization by the City Engineer.

NEW DEVELOPMENT PROJECT

Project Property Area = 14.52 Acres
Disturbed Area = 4.49 Acres
Developed Impervious Area = 1.46 Acres
Existing Impervious Area = 0.0 Acres

DET_{100} =1.70 (Acre-Ft)
WQv=0.20 (Acre-Ft)
CPv = N/A (less than 5 acres of disturbed area)

Water Quality Achieved by: Stormwater Pond

THESE CONSTRUCTION DOCUMENTS SATISFY THE CURRENT REQUIREMENTS SET FORTH IN SECTION 16.32 CITY OF WICHITA'S STORMWATER REGULATIONS.

OCTOBER 2014

ASM Engineering Consultants
202 E. Rhondda Ave. | P.O. Box 432 | Andover, KS 67002
P: (316) 260-5895 | F: (316) 260-5954 | www.asm4.com

DATE: 10–31–2014
Revision 1 –
Revised Entrance
& Sidewalk Grades

RYAN W. McCUNE
LICENSED 10-31-14
17945
KANSAS
PROFESSIONAL ENGINEER

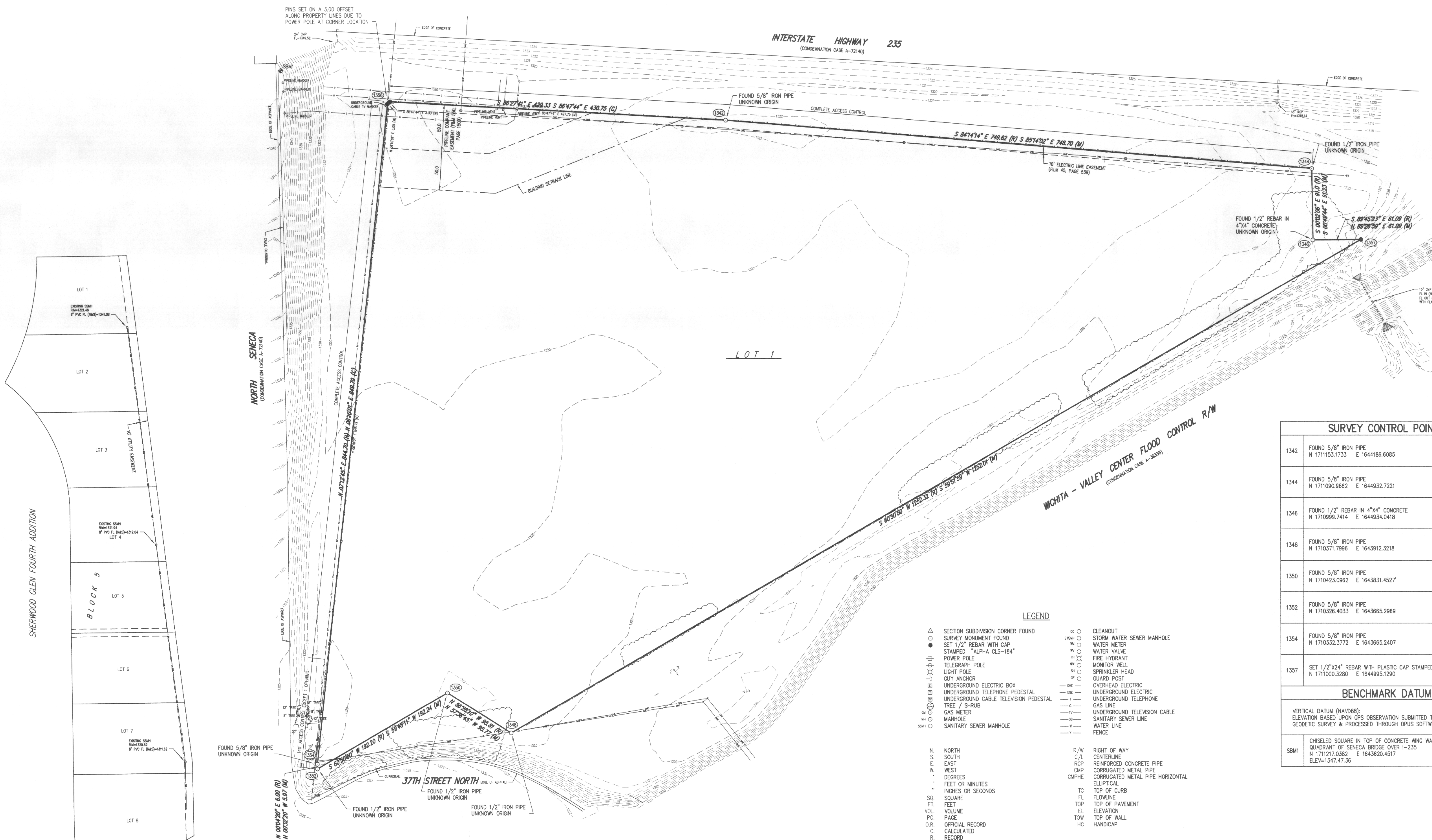
Architectural Innovations, LLC
architects master planners
www.arch-innov.com
7701 E. Kellogg, Suite 690 Wichita, Kansas 67207-1705 Phone 316.689.5175 Fax 316.689.7667
1271 Kelly Johnson Blvd., Suite 111 Colorado Springs, CO. 80920 Phone 719.260.9990 Fax 719.260.9991

project no. 1317

Construction Documents:
Heritage Family Church
New Gym. Building
NORTH SENECA & 37th. STREET
WICHITA, KANSAS

sheet
CV1.0
TITLE
SHEET

DATE: 09-25-2014



SURVEY CONTROL POINTS

1342	FOUND 5/8" IRON PIPE N 1711153.1733 E 1644186.6085
1344	FOUND 5/8" IRON PIPE N 1711090.9662 E 1644932.7221
1346	FOUND 1/2" REBAR IN 4"X4" CONCRETE N 1710999.7414 E 1644934.0418
1348	FOUND 5/8" IRON PIPE N 1710371.7996 E 1643912.3218
1350	FOUND 5/8" IRON PIPE N 1710423.0962 E 1643831.4527'
1352	FOUND 5/8" IRON PIPE N 1710326.4033 E 1643665.2969
1354	FOUND 5/8" IRON PIPE N 1710332.3772 E 1643665.2407
1357	SET 1/2"X24" REBAR WITH PLASTIC CAP STAMPED "ALPHA CLS-184" N 1711000.3280 E 1644995.1290

BENCHMARK DATUM

VERTICAL DATUM (NAVD88):
ELEVATION BASED UPON GPS OBSERVATION SUBMITTED TO NATIONAL GEODETIC SURVEY & PROCESSED THROUGH OPUS SOFTWARE.

SBM1	CHISELED SQUARE IN TOP OF CONCRETE WING WALL IN SOUTHEAST QUADRANT OF SENECA BRIDGE OVER I-235 N 1711217.0382 E 1643620.4517 ELEV=1347.47.36

LEGEND

Symbol	Description	Symbol	Description
△	SECTION SUBDIVISION CORNER FOUND	CO ○	CLEANOUT
○	SURVEY MONUMENT FOUND	SWSMH ○	STORM WATER SEWER MANHOLE
●	SET 1/2" REBAR WITH CAP STAMPED "ALPHA CLS-184"	WM ○	WATER METER
		WV ○	WATER VALVE
	POWER POLE	FH	FIRE HYDRANT
	TELEGRAPH POLE	MW ○	MONITOR WELL
	LIGHT POLE	SH ○	SPRINKLER HEAD
	GUY ANCHOR	GP ○	GUARD POST
E	UNDERGROUND ELECTRIC BOX	— OHE —	OVERHEAD ELECTRIC
T	UNDERGROUND TELEPHONE PEDESTAL	— UGE —	UNDERGROUND ELECTRIC
TV	UNDERGROUND CABLE TELEVISION PEDESTAL	— T —	UNDERGROUND TELEPHONE
	TREE / SHRUB	— G —	GAS LINE
GM ○	GAS METER	— TV —	UNDERGROUND TELEVISION CABLE
MH ○	MANHOLE	— SS —	SANITARY SEWER LINE
SSMH ○	SANITARY SEWER MANHOLE	— W —	WATER LINE
		— X —	FENCE

N.	NORTH	R/W	RIGHT OF WAY
S.	SOUTH	C/L	CENTERLINE
E.	EAST	RCP	REINFORCED CONCRETE PIPE
W.	WEST	CMP	CORRUGATED METAL PIPE
°	DEGREES	CMPHE	CORRUGATED METAL PIPE HORIZONTAL ELLIPTICAL
'	FEET OR MINUTES	TC	TOP OF CURB
"	INCHES OR SECONDS	FL	FLOWLINE
SQ.	SQUARE	TOP	TOP OF PAVEMENT
FT.	FEET	EL	ELEVATION
VOL.	VOLUME	TOW	TOP OF WALL
PG.	PAGE	HC	HANDICAP
O.R.	OFFICIAL RECORD		
C.	CALCULATED		
R.	RECORD		
M.	MEASURED		

DESCRIPTION:
LOT 1, SHERWOOD VILLAGE ADDITION, WICHITA, KANSAS.

ZONING INFORMATION

PER WICHITA-SEDGWICK COUNTY UNIFIED ZONING CODE

GENERAL DESCRIPTION:
MF-18 – MULTI-FAMILY RESIDENTIAL DISTRICT

HEIGHT RESTRICTIONS:
45 FEET

SETBACK REQUIREMENTS:
MINIMUM FRONT 25 FEET
MINIMUM REAR 20 FEET
MINIMUM INTERIOR 6 FEET, EXCEPT 5 FEET IF LOTS IS BELOW 6,000 SQUARE FEET

GENERAL NOTES:
1) SECTION CORNER REFERENCE TIES FILED WITH THE KANSAS STATE HISTORICAL SOCIETY AND THE SEDGWICK COUNTY PUBLIC WORKS DEPARTMENT AS REQUIRED BY KSA 1987 SUPP. 58-2011.
2) NO TITLEWORK WAS PROVIDED BY CLIENT FOR SUBJECT PROPERTY. ALL EASEMENTS AND RIGHTS-OF-WAYS AFFECTING SUBJECT PROPERTY MAY NOT BE SHOWN.

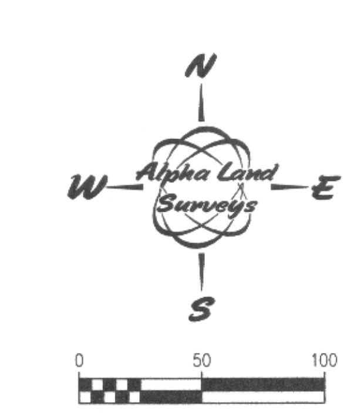
CLOSURE TABLE:

ERROR CLOSURE: 0.0085	COURSE: N 66°16'10" E
ERROR NORTH: 0.0034	ERROR EAST: 0.0078
PERIMETER: 3727.55	PRECISION: 1 : 440168

SURVEYORS CERTIFICATE:
I HEREBY CERTIFY THAT THIS SURVEY WAS MADE UNDER MY SUPERVISION ON DECEMBER 30, 2013.

LLOYD P. DORZWEILER, LS 885
ALPHA LAND SURVEYS, INC.

LLOYD P. DORZWEILER LICENSED 885 2-20-14 KANSAS LAND SURVEYOR



BASIS OF BEARINGS IS NAD83 GRID KANSAS SOUTH ZONE

SURVEY FOR:
ASM ENGINEERING
SURVEY TYPE:
BOUNDARY / TOPO

Alpha Land Surveys, Inc.
216 WEST SECOND AVENUE
HUTCHINSON, KANSAS 67501
PH: (620) 728-0012 FAX: (620) 728-0413

SURVEY DATE: 12/30/2013	PLOT DATE: 01/15/2014
DRAWN BY: RDB	PROJ. NO.: 130311BT
CHECKED BY: LPD	SHEET 1 OF 1

NOTE: SHEET NTS

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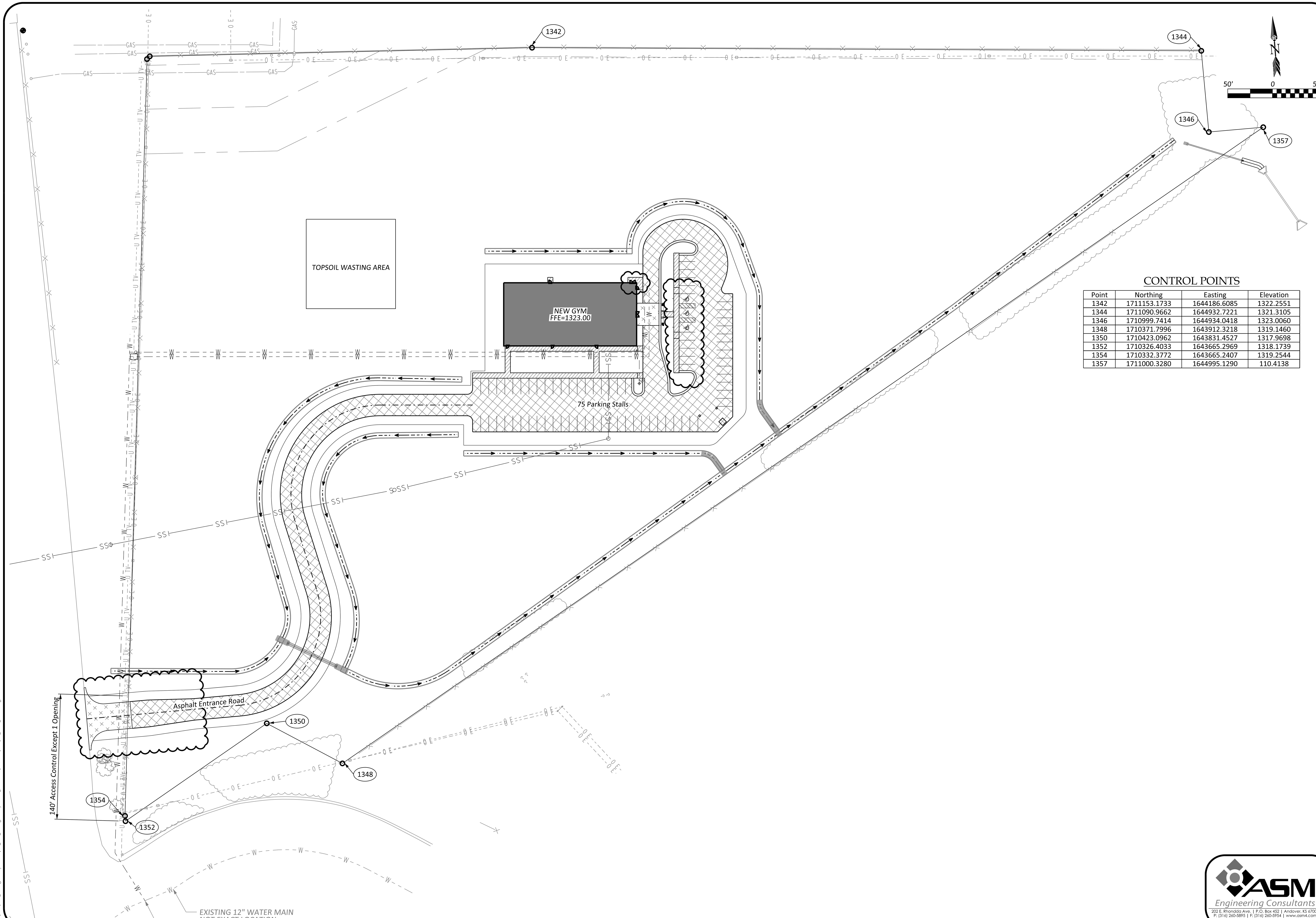
Architectural Innovations, LLC

Construction Documents:
Heritage Family Church
New Gym. Building
NORTH SENECA & 37th. STREET
WICHITA, KANSAS

project no. 1317

sheet
CV1.1
SITE SURVEY



CONTROL POINTS

Point	Northing	Easting	Elevation
1342	1711153.1733	1644186.6085	1322.2551
1344	1711090.9662	1644932.7221	1321.3105
1346	1710999.7414	1644934.0418	1323.0060
1348	1710371.7996	1643912.3218	1319.1460
1350	1710423.0962	1643831.4527	1317.9698
1352	1710326.4033	1643665.2969	1318.1739
1354	1710332.3772	1643665.2407	1319.2544
1357	1711000.3280	1644995.1290	110.4138

DATE: 10-31-2014
Revision 1 -
Revised Entrance
& Sidewalk Grades

RYAN W. McCUNE
LICENSED
17945
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PROFESSIONAL ENGINEER

Architectural Innovations, LLC
architects www.arch-innov.com master planners
7701 E. Kellogg, Suite 650 Wichita, Kansas 67207-1703 Phone 316.685.5175 Fax 316.685.7667
1271 Kelly Johnson Blvd., Suite 111 Colorado Springs, CO. 80920 Phone 719.260.9990 Fax 719.260.9991

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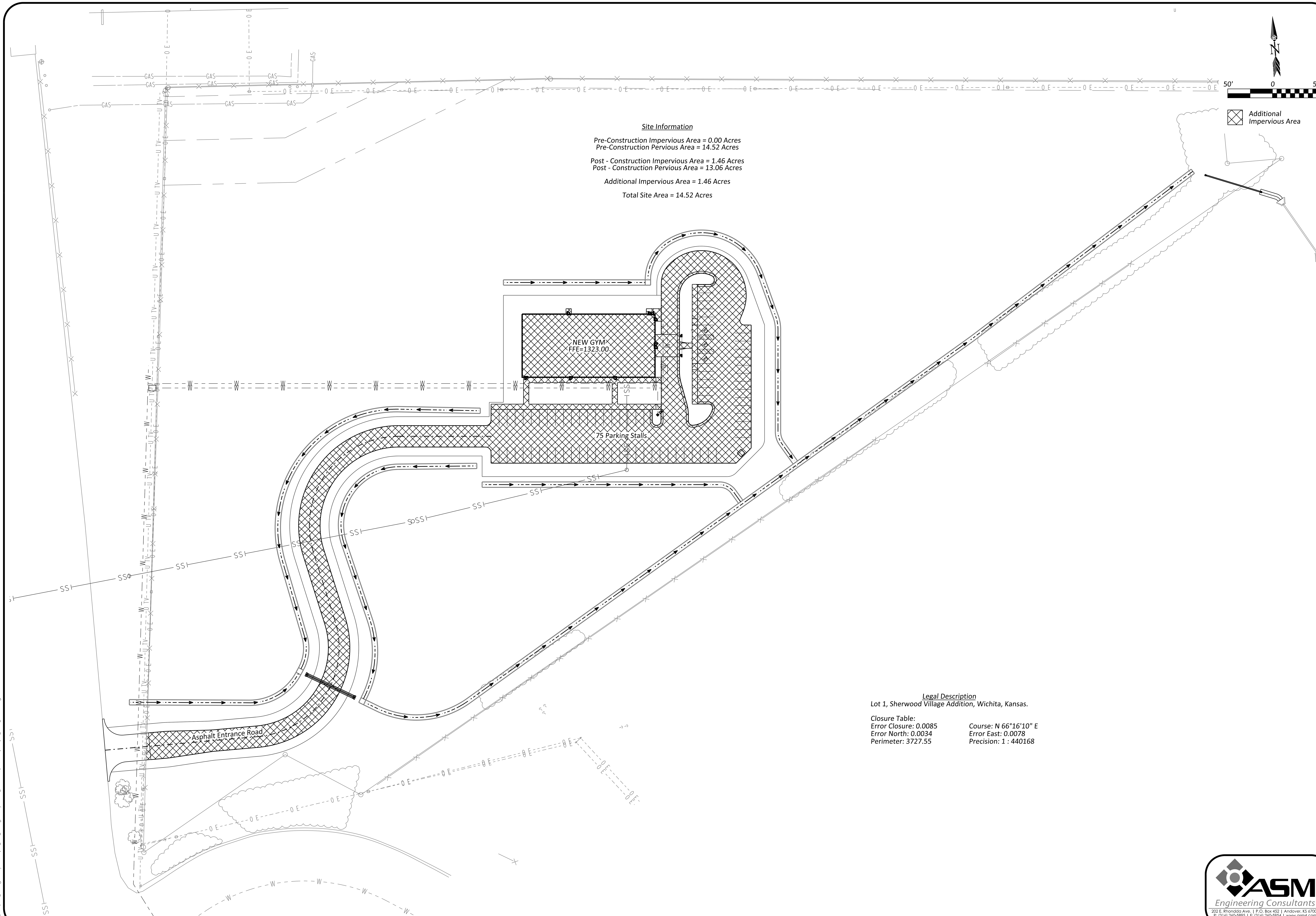
sheet
CV1.2
SITE
PLAN



<u>*Site Information*</u>

Pre-Construction Impervious Area = 0.00 Acres
Pre-Construction Pervious Area = 14.52 Acres

Post - Construction Impervious Area = 1.46 Acres
Post - Construction Pervious Area = 13.06 Acres

Additional Impervious Area = 1.46 Acres

Total Site Area = 14.52 Acres

<u>*Legal Description*</u>

Lot 1, Sherwood Village Addition, Wichita, Kansas.

Closure Table:

Error Closure: 0.0085	*Course: N 66°16'10" E*
Error North: 0.0034	*Error East: 0.0078*
Perimeter: 3727.55	*Precision: 1 : 440168*

DATE: 10–31–2014
Revision 1 –
Revised Sewer
Alignment & Profile

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LICENSED
10-31-14
17945
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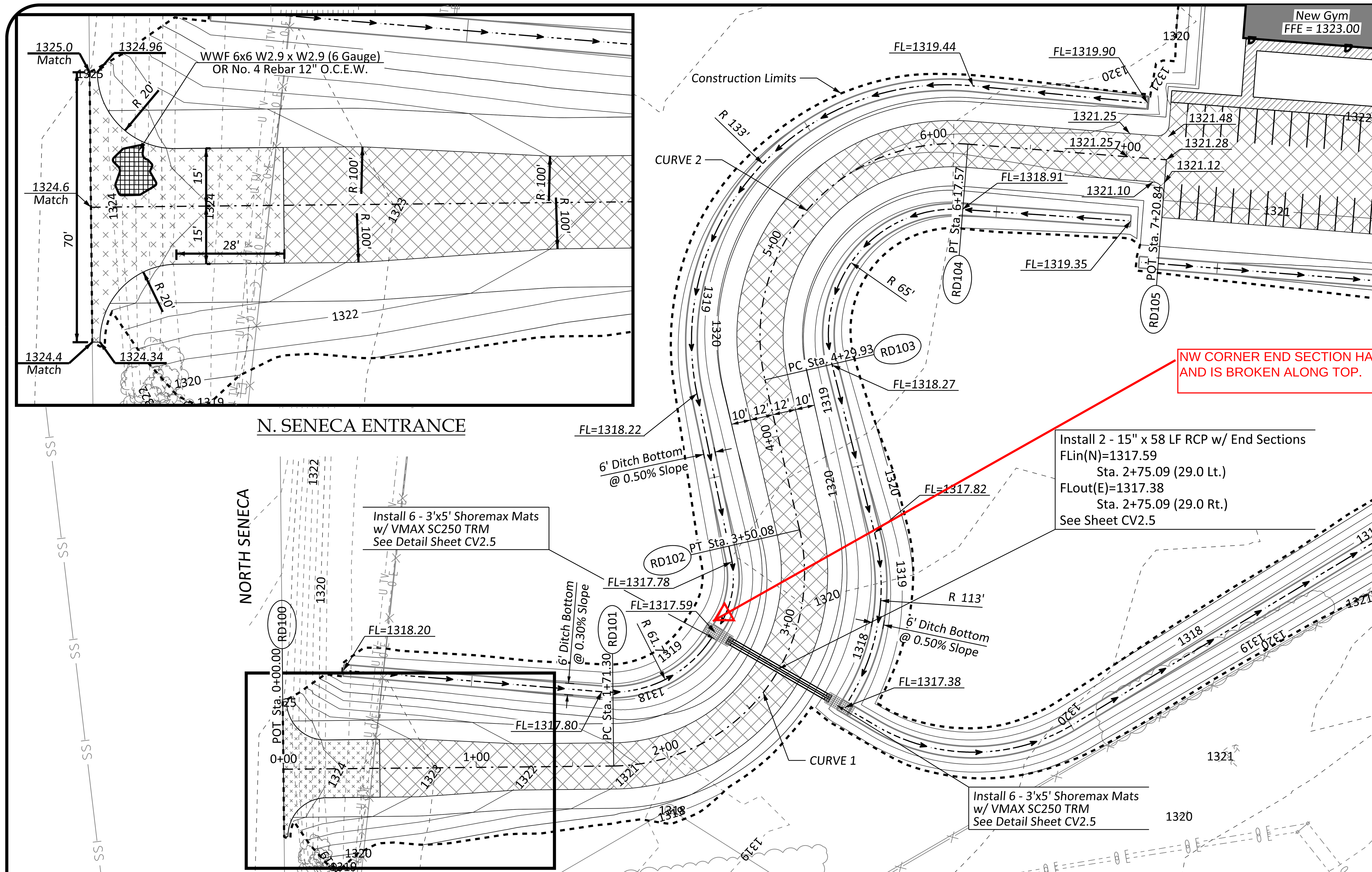
sheet
CV1.3
ERU
PLAN



CURVE INFORMATION

	Curve 1	Curve 2
PC	1+71.30	4+29.93
PI	2+95.75	5+66.34
PT	3+50.08	6+17.57
D	57°17'45"	107°30'31"
R	100.00	100.00
Lc	178.78	187.64
T	124.45	136.40

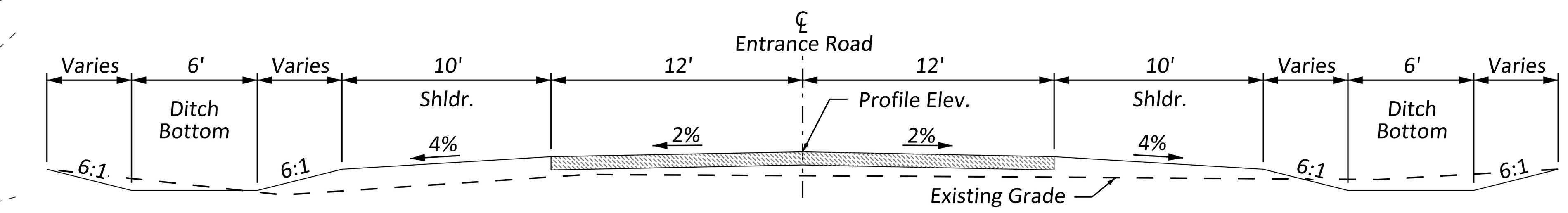
N
40' 0 40'

Asphalt
See Sheet CV2.4
Sidewalk
See Sheet CV2.4
Concrete
See Sheet CV2.4

FL = Flow Line
TC = Top of Curb
TP = Top of Pavement
TS = Top of Sidewalk

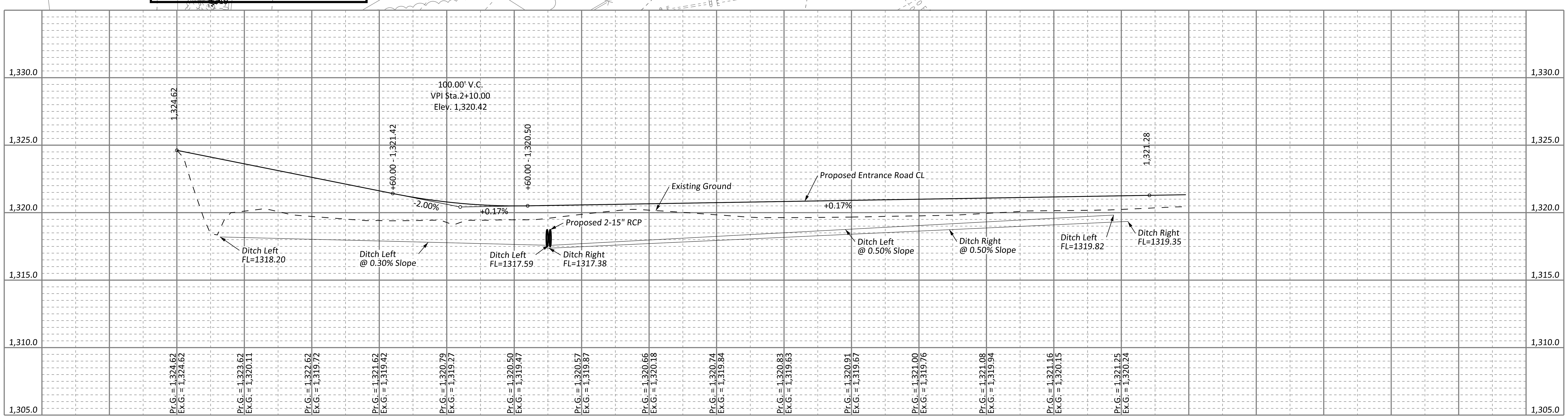
ROAD STAKING POINTS

Point	Northing	Easting
RD100	1710443.8435	1643631.0242
RD101	1710445.5616	1643802.3132
RD102	1710568.0662	1643898.7439
RD103	1710645.8714	1643880.7689
RD104	1710768.0727	1643986.0485
RD105	1710759.9706	1644088.9948



TYPICAL SECTION
Note: See Sheet CV2.4 for Pavement Sections

NOTE:
All Spot Elevations & Contours Are To Finished Grade.
All Spot Elevations & Dimensions Are To Back-Of-Curb, Where Applicable.



DATE: 10-31-2014
Revision 1 -
Revised Entrance
& Sidewalk Grades

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project no. 1317

Construction Documents:
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NORTH SENECA & 37th. STREET
WICHITA, KANSAS

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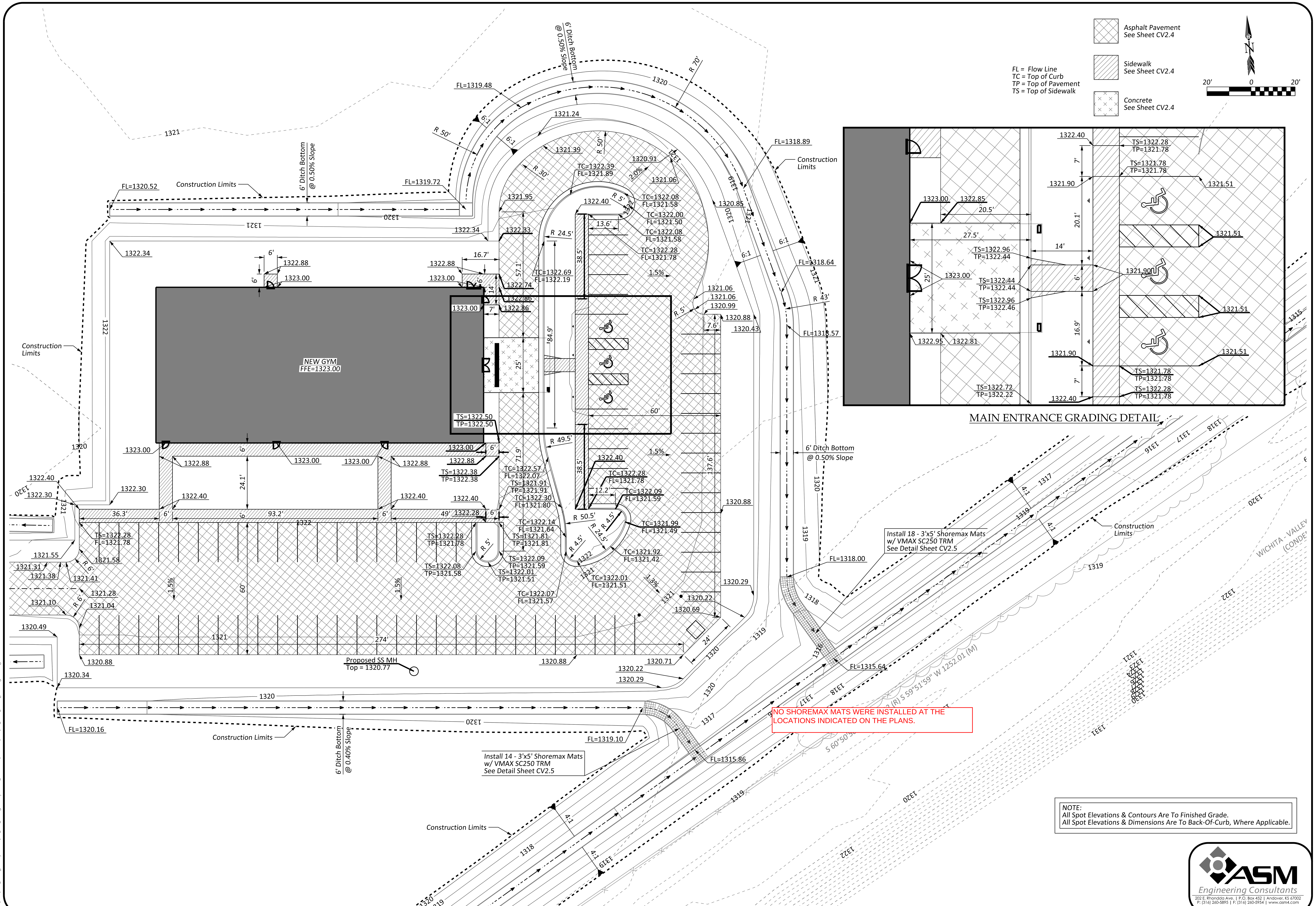
Engineering Consultants
202 E. Rhondda Ave. | P.O. Box 432 | Andover, KS 67002

sheet
CV2.0
ENTRANCE ROAD
PLAN & PROFILE

DATE: 10-31-2014
Revision 1 - Revised Entrance & Sidewalk Grades



Asphalt Pavement See Sheet CV2.4
Sidewalk See Sheet CV2.4
Concrete See Sheet CV2.4
FL = Flow Line
TC = Top of Curb
TP = Top of Pavement
TS = Top of Sidewalk
20' 0 20'
NEW GYM FFE=1323.00
MAIN ENTRANCE GRADING DETAIL
6' Ditch Bottom @ 0.50% Slope
6' Ditch Bottom @ 0.40% Slope
Construction Limits
Proposed SS MH Top = 1320.77
Install 18 - 3'x5' Shoremax Mats w/ VMAX SC250 TRM See Detail Sheet CV2.5
Install 14 - 3'x5' Shoremax Mats w/ VMAX SC250 TRM See Detail Sheet CV2.5
NO SHOREMAX MATS WERE INSTALLED AT THE LOCATIONS INDICATED ON THE PLANS.
NOTE:
All Spot Elevations & Contours Are To Finished Grade.
All Spot Elevations & Dimensions Are To Back-Of-Curb, Where Applicable.

RYAN W. McCUNE LICENSED 17945 KANSAS PROFESSIONAL ENGINEER

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project no. 1317

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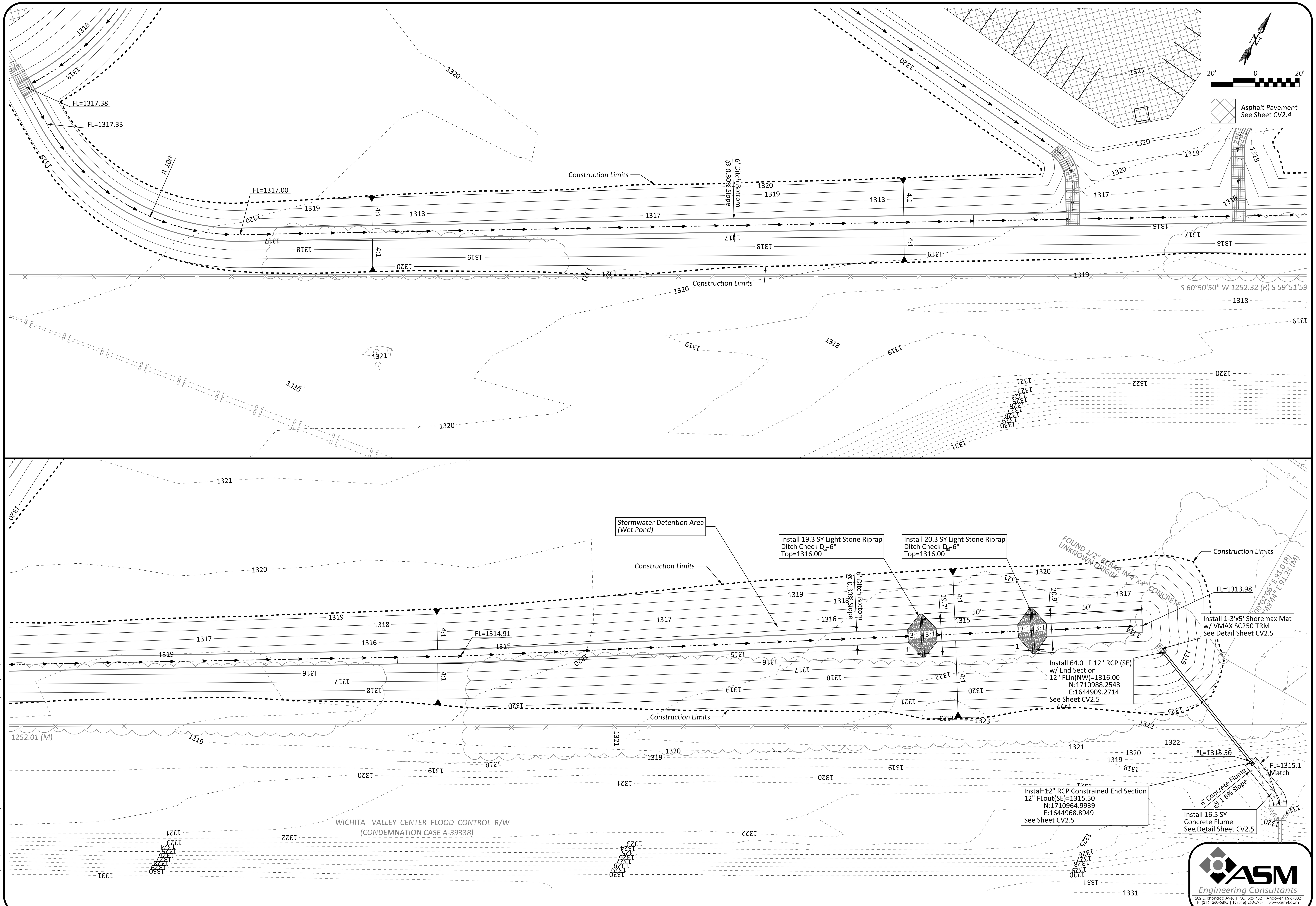
NORTH SENECA & 37th. STREET
WICHITA, KANSAS

ASM Engineering Consultants

sheet
CV2.1
GRADING & PAVING PLAN 1



FL=1317.38
FL=1317.33
FL=1317.00
R 100'
Construction Limits
6' Ditch Bottom @ 0.30% Slope
4:1
1320
1319
1318
1317
1316
1321
Asphalt Pavement
See Sheet CV2.4
20' 0 20'
S 60°50'50" W 1252.32 (R) S 59°51'55
Stormwater Detention Area (Wet Pond)
Install 19.3 SY Light Stone Riprap
Ditch Check D50=6"
Top=1316.00
Install 20.3 SY Light Stone Riprap
Ditch Check D50=6"
Top=1316.00
FOUND 1/2" REBAR IN 4"X4" CONCRETE
UNKNOWN ORIGIN
FL=1314.91
FL=1313.98
Install 1-3'x5' Shoremax Mat
w/ VMAX SC250 TRM
See Detail Sheet CV2.5
Install 64.0 LF 12" RCP (SE)
w/ End Section
12" FLin(NW)=1316.00
N:1710988.2543
E:1644909.2714
See Sheet CV2.5
19.7'
20.9'
50'
3:1
1'
1252.01 (M)
FL=1315.50
FL=1315.1
Match
6' Concrete Flume @ 1.6% Slope
Install 12" RCP Constrained End Section
12" FLout(SE)=1315.50
N:1710964.9939
E:1644968.8949
See Sheet CV2.5
Install 16.5 SY
Concrete Flume
See Detail Sheet CV2.5
WICHITA - VALLEY CENTER FLOOD CONTROL R/W
(CONDEMNATION CASE A-39338)
1331
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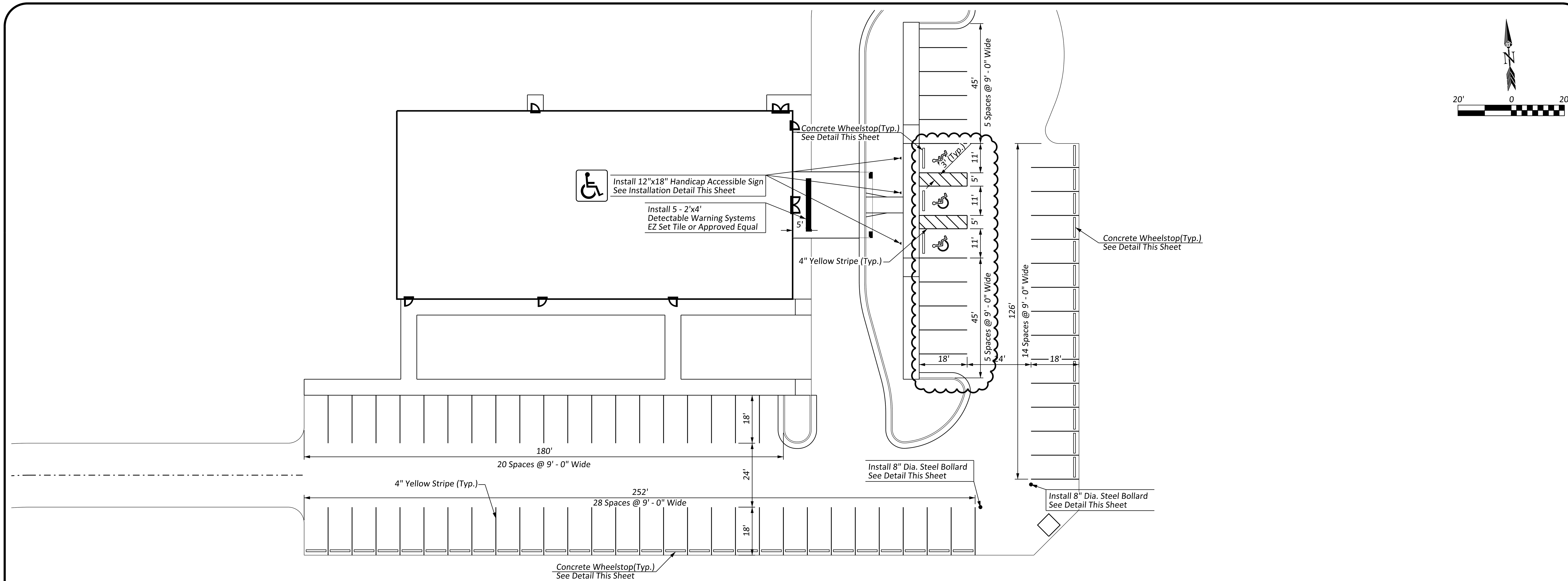
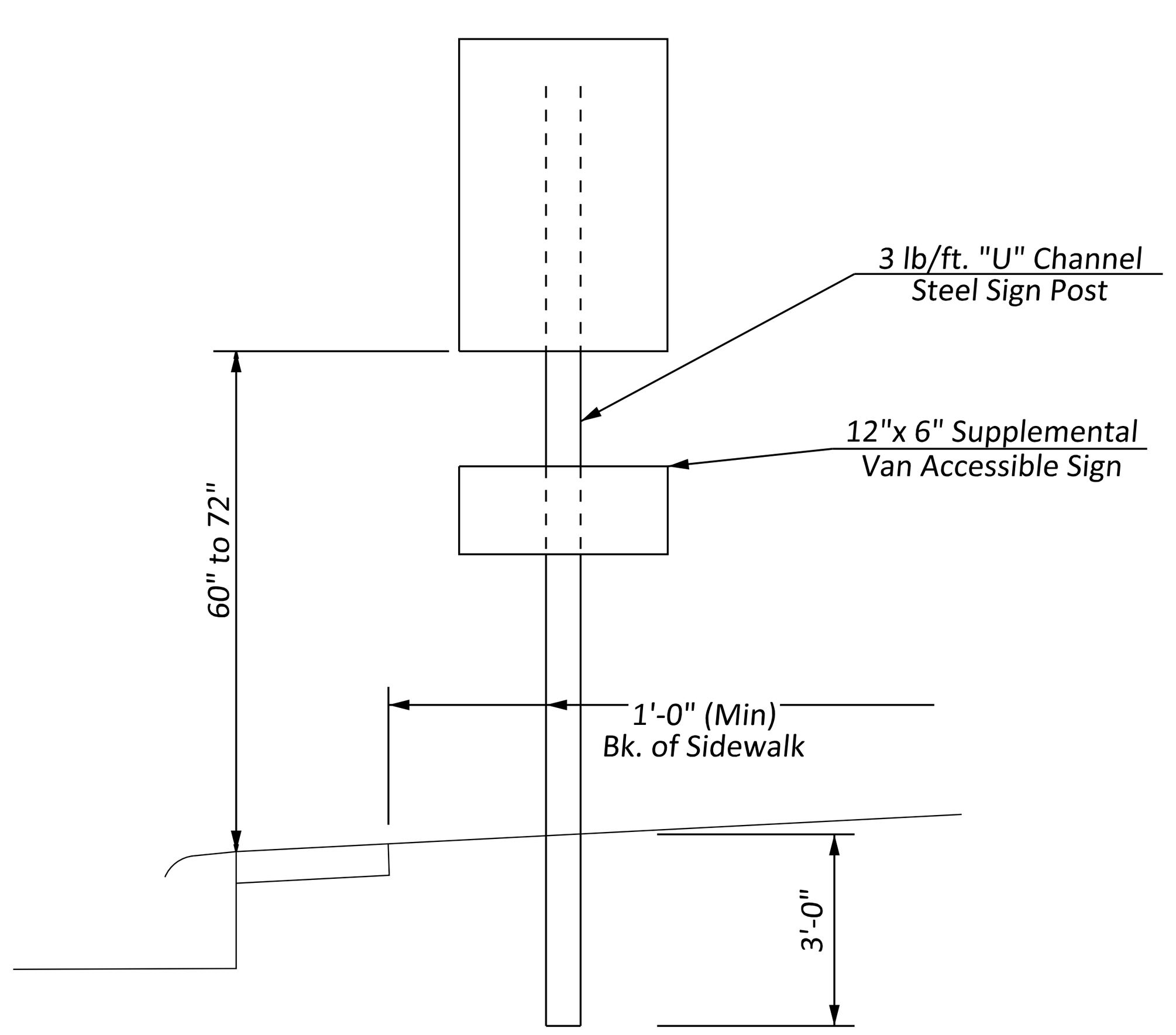
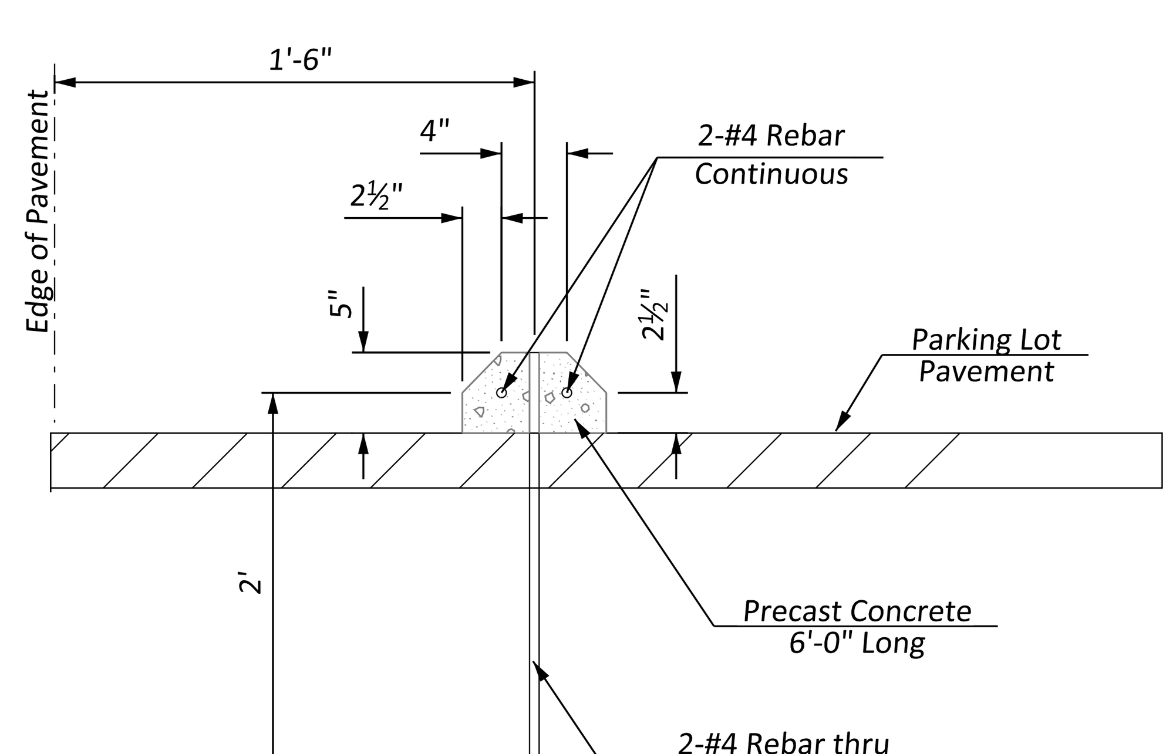
sheet
CV2.2
GRADING & PAVING PLAN 2

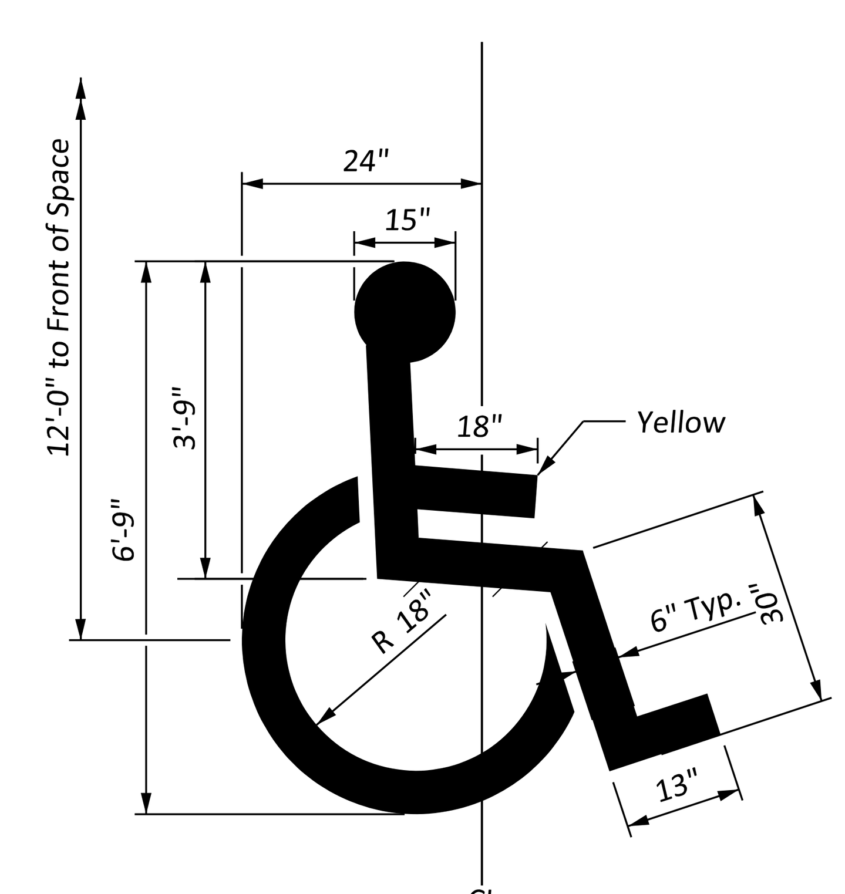




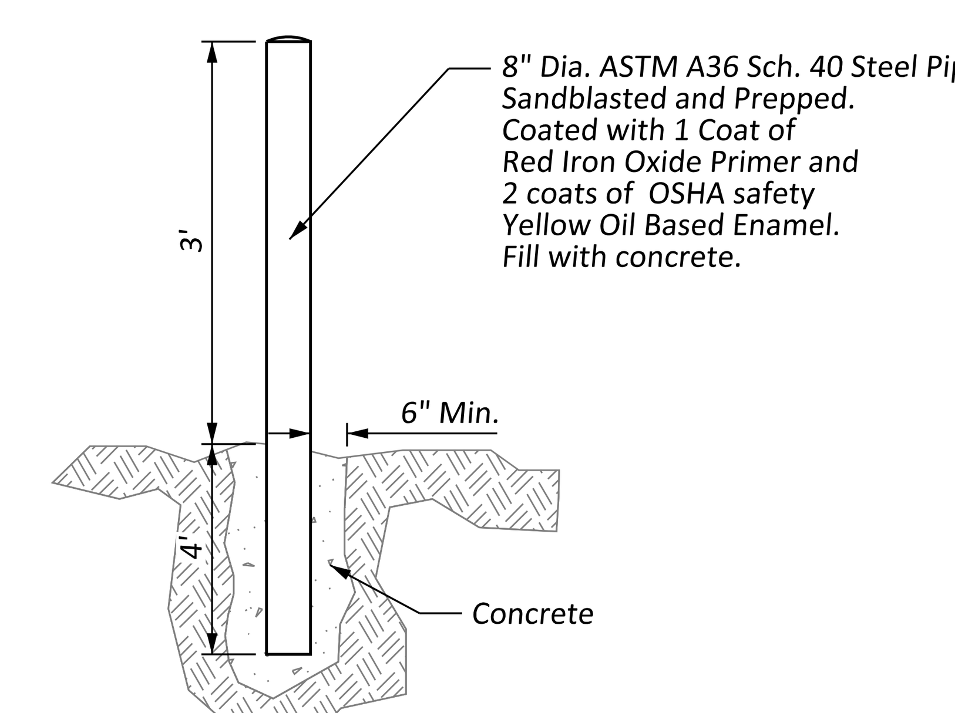
TYPICAL HANDICAP
SIGN INSTALLATION
Note: A sign shall be placed in front of every handicap stall on a post as shown.



WHEELSTOP DETAIL



TYPICAL PAVEMENT MARKING SYMBOL



8" PIPE BOLLARD DETAIL

DATE: 10-31-2014
Revision 1 -
Revised Entrance
& Sidewalk Grades

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architects · master planners

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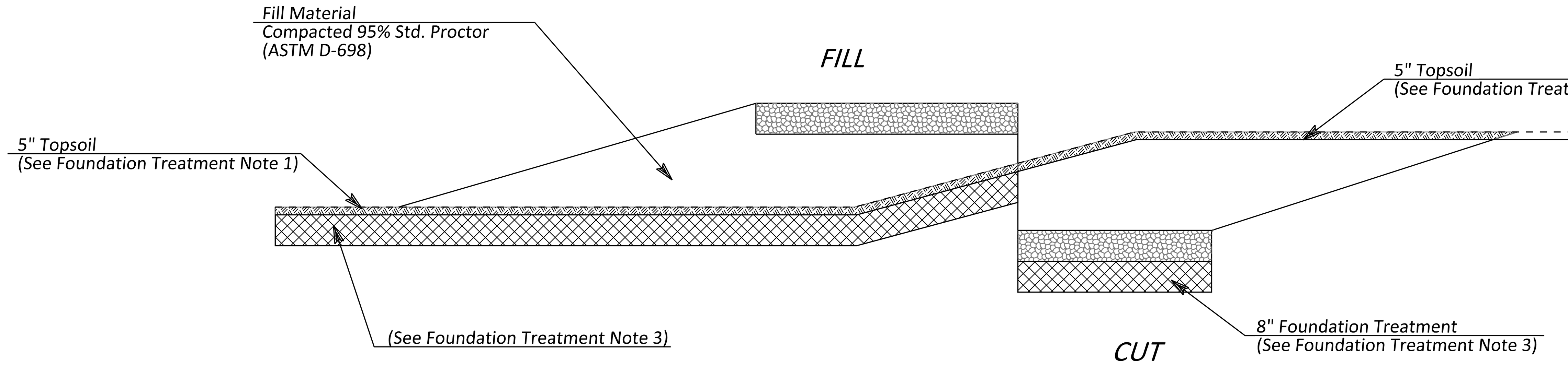
sheet
CV2.3
PAVEMENT
MARKING PLAN

DATE: 09-25-2014



FOUNDATION TREATMENT & COMPACTION DIAGRAM

NOTES FOR FOUNDATION TREATMENT & COMPACTION

1. Strip 5" topsoil where noted in plans. No topsoil shall be incorporated into engineered fill. All topsoil shall be wasted on-site at locations specified in plans and as top 4" lift of all non-roadway areas. The wasted material shall be compacted & graded to drain. This work shall be SUBSIDIARY to "Topsoil Stripping".

2. Areas in cut not receiving pavement shall be over excavated to a depth of 4" and replaced with topsoil.

3. Once the topsoil is stripped, the top 9" of exposed subgrade shall be proof-rolled, scarified, and recompacted to 95% Std. Proctor (ASTM D-698) then brought to grade with fill material.

4. Proof-rolling of the subgrade prior to fill placement provides a more stable base for placement of fill and aids in identifying soft or disturbed areas. Unsuitable areas identified by the proof-rolling operation should be undercut and replaced with engineered fill. Proof-rolling can be accomplished through the use of a fully-loaded tandem-axle dump truck or similar equipment providing equivalent subgrade loading.

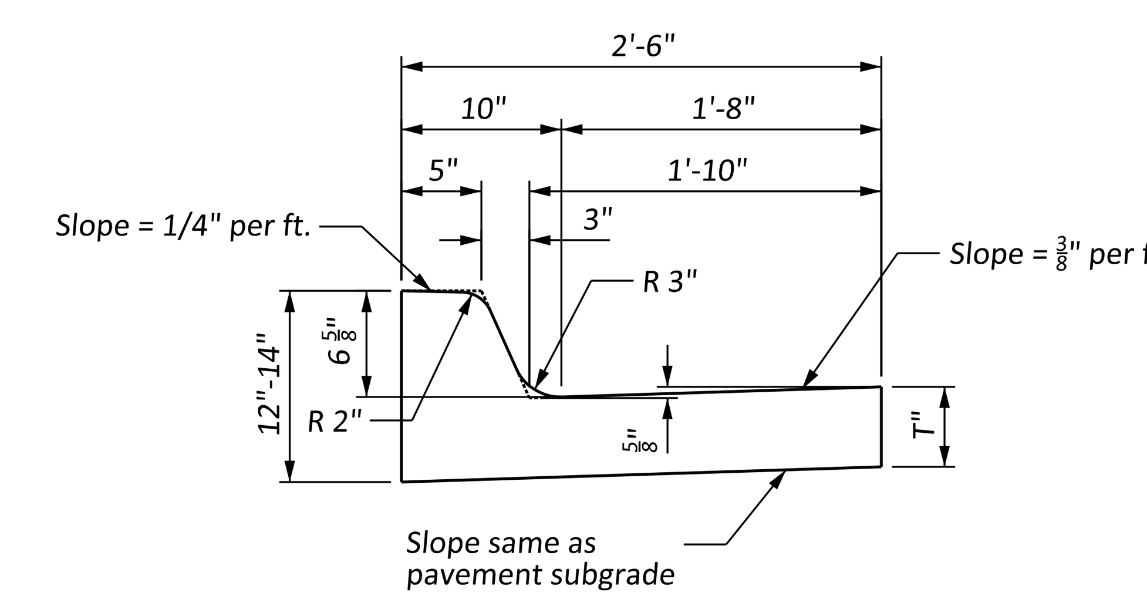
5. Place fill in loose lifts (8" thick or less) to design grade. Lift thickness shall be reduced to 6" in confined areas. Compact each lift to 95% Standard Proctor density (ASTM D-698). Cohesive soils shall be compacted with a sheep's foot roller, while sand and gravel material shall be compacted with a vibratory roller.

6. Moisture content of new fill shall be controlled to within optimum and +2% of optimum moisture content based on ASTM D-698. Drying may be achieved by spreading borrow material out to air-dry in maximum 12" thick layers.

7. Each lift of fill material shall be tested by a geotechnical engineering company licensed in the State of Kansas.

8. Contractor is responsible for protecting areas to be filled from freezing/frost. All fill material to be placed shall be free of frost or any frozen material.

TYPE 4
(Residential curb)



COMBINED CURB & GUTTER (6 5/8")

ASPHALT NOTES

1. A tack coat of emulsified asphalt shall be applied at an approximate rate of 0.05 gallons per square yard between each lift of asphaltic material.

2. Bituminous base and asphaltic concrete wearing surface shall be placed with a laydown machine having automatic controls for line and grade.

3. Asphalt mixes with up to 25% RAP are permissible in the base course, and up to 10% RAP in the surface course.

CONCRETE DESIGN

1. Concrete shall have a minimum 28-day compressive strength of 4000 psi (5.5% air entrained). Concrete mix design shall meet City of Wichita portland cement concrete specifications Section 406.

2. A minimum of 3 cyclinders shall be obtained from each pour, for testing. Cylinders shall be prepared by an engineer approved inspector.

3. A slump test shall be performed for each pour by an engineer approved inspector, maximum allowable slump shall be 3".

4. A air content test shall be performed for each pour by an engineer approved inspector, minimum allowable air content shall be 5.5%, max air content shall be 10%.

BASE ROCK

1. Base rock shall be crushed rock or broken stone (or a mixture of these materials) composed of clean, hard, durable and uncoated particles.

2. Dolomitic Limestone shall have a calcium carbonate to magnesium carbonate ratio of 4:3.

3. Base rock shall not contain shale, clay lumps, or other deleterious substances in a quantity exceeding 2.5% (by weight) of the amount retained on the No. 4 sieve.

4. Base rock shall be free of dust, soft or flaky particles, loams, alkali, organic matter, paper, wood, or other deleterious material.

5. The Los Angeles Abrasion loss percentage shall not exceed 45, as measured by ASTM C131.

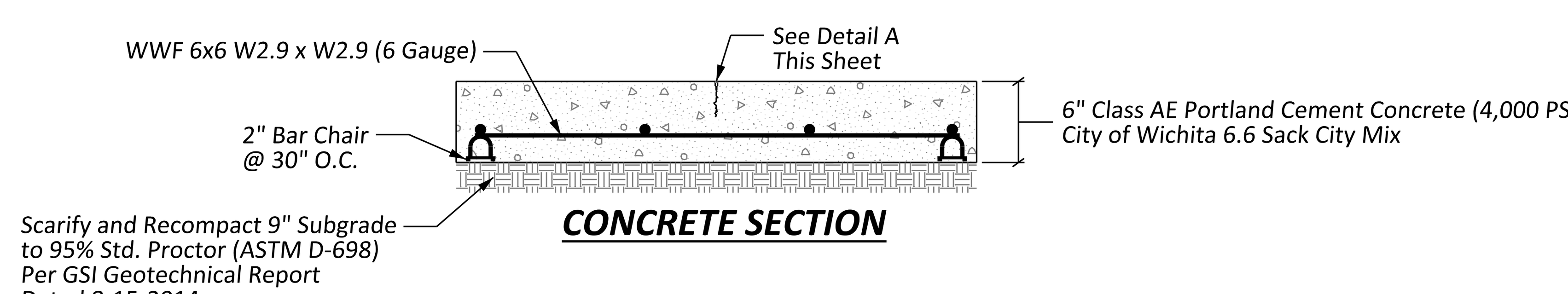
6. Base rock shall not have a loss greater than 14% after 16 freeze-thaw cycles.

7. Base rock shall not have an absorption greater than 5% by weight.

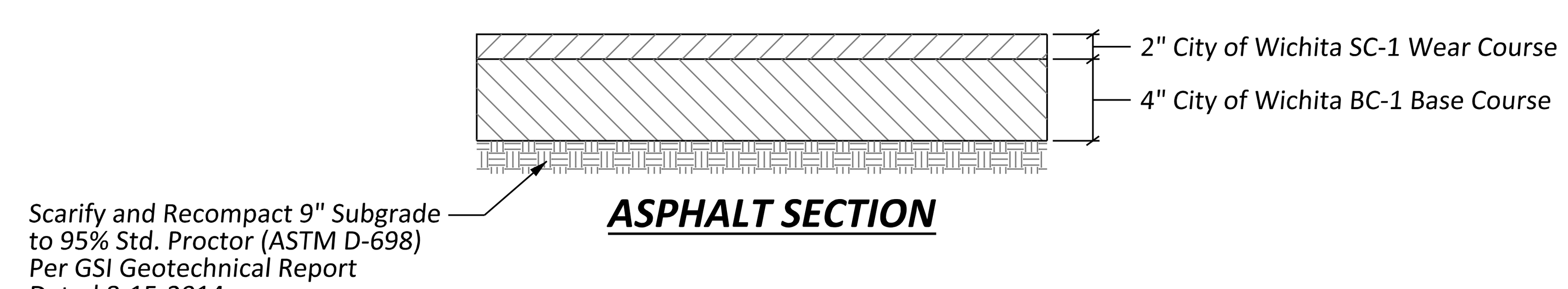
8. Base rock shall meet the gradation shown in Table 2.

TABLE 2 - BASE ROCK GRADATION (% Passing By Weight)

Sieve Size	2"	1-½"	¾"	No. 4	No. 8	No. 40	No. 200
AB-3	100	100-95	95-70	65-40	55-30	40-16	20-8



CONCRETE SECTION



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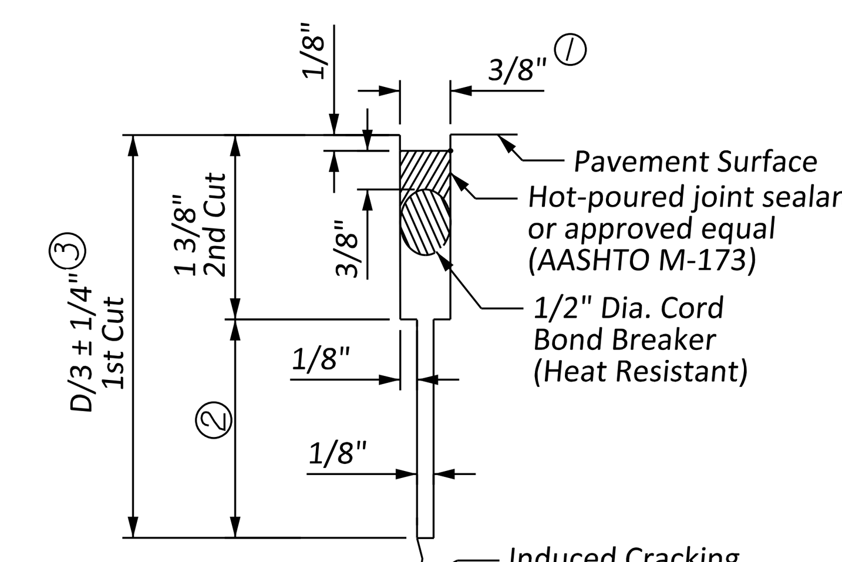
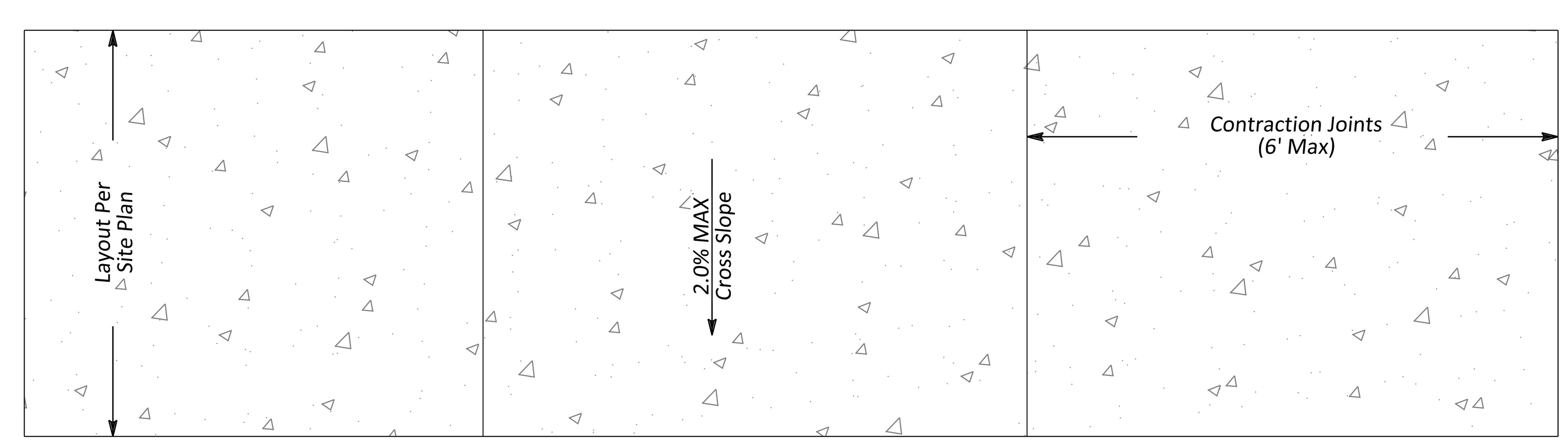


DETAIL A

① To be accomplished in 2 cuts for Longitudinal Joints and Contraction Joints.

② Eliminate bottom of cut when metal keyway is used as part of Longitudinal or Transverse Construction Joint and at Doweled Construction Joint Locations.

③ 1 ⅞" Minimum



TYPICAL 4" CONCRETE SIDEWALK

See Sheet CV2.1

RYAN W. McCUNE LICENSED 17945 KANSAS PROFESSIONAL ENGINEER

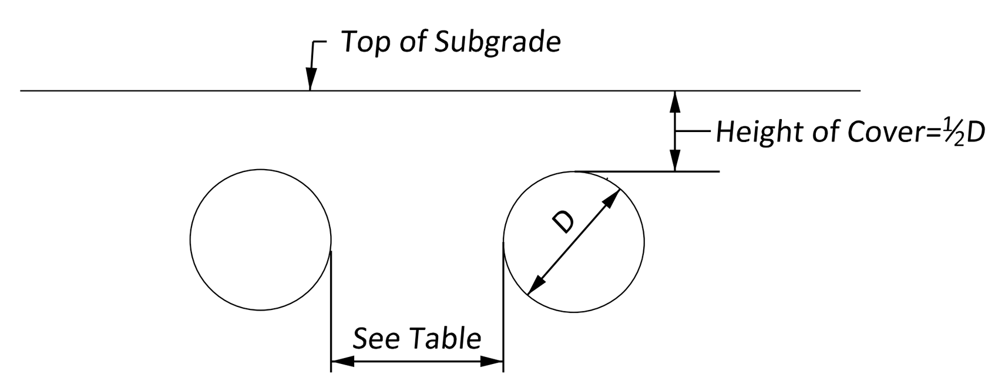
Architectural Innovations, LLC

project no. 1317

Construction Documents: Heritage Family Church
New Gym. Building
NORTH SENECA & 37th. STREET
WICHITA, KANSAS

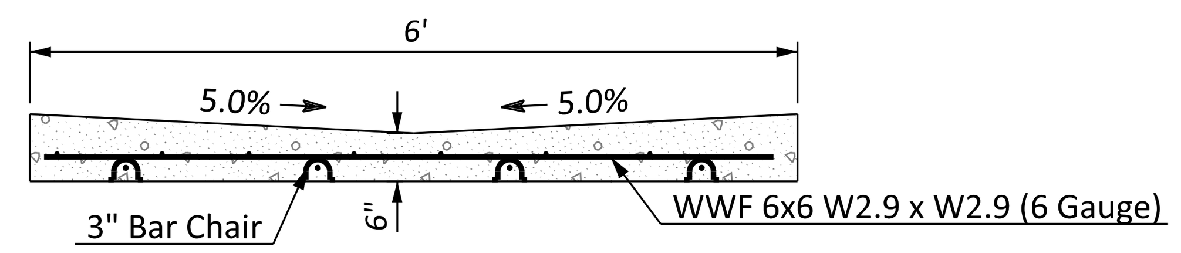
ASM Engineering Consultants
202 E. Rhondda Ave. | P.O. Box 452 | Andover, KS 67002
P: (316) 260-5895 | F: (316) 260-5954 | www.asm4.com

sheet
CV2.4
GRADING & PAVING DETAILS

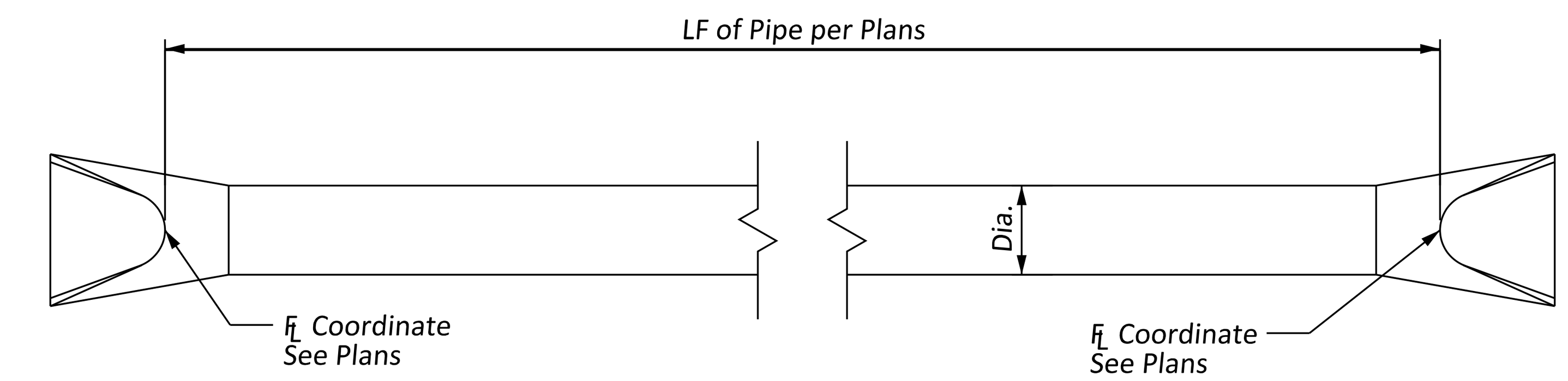


DIAMETER	MINIMUM SPACE BETWEEN PIPE
12" to 48"	One Diameter (D) of Pipe
48" to 144"	48"

SPACING AND COVER REQUIREMENTS
(FOR PIPES UNDER RAIL)



CONCRETE FLUME DETAIL



PIPE PLACEMENT DETAIL
With Sections

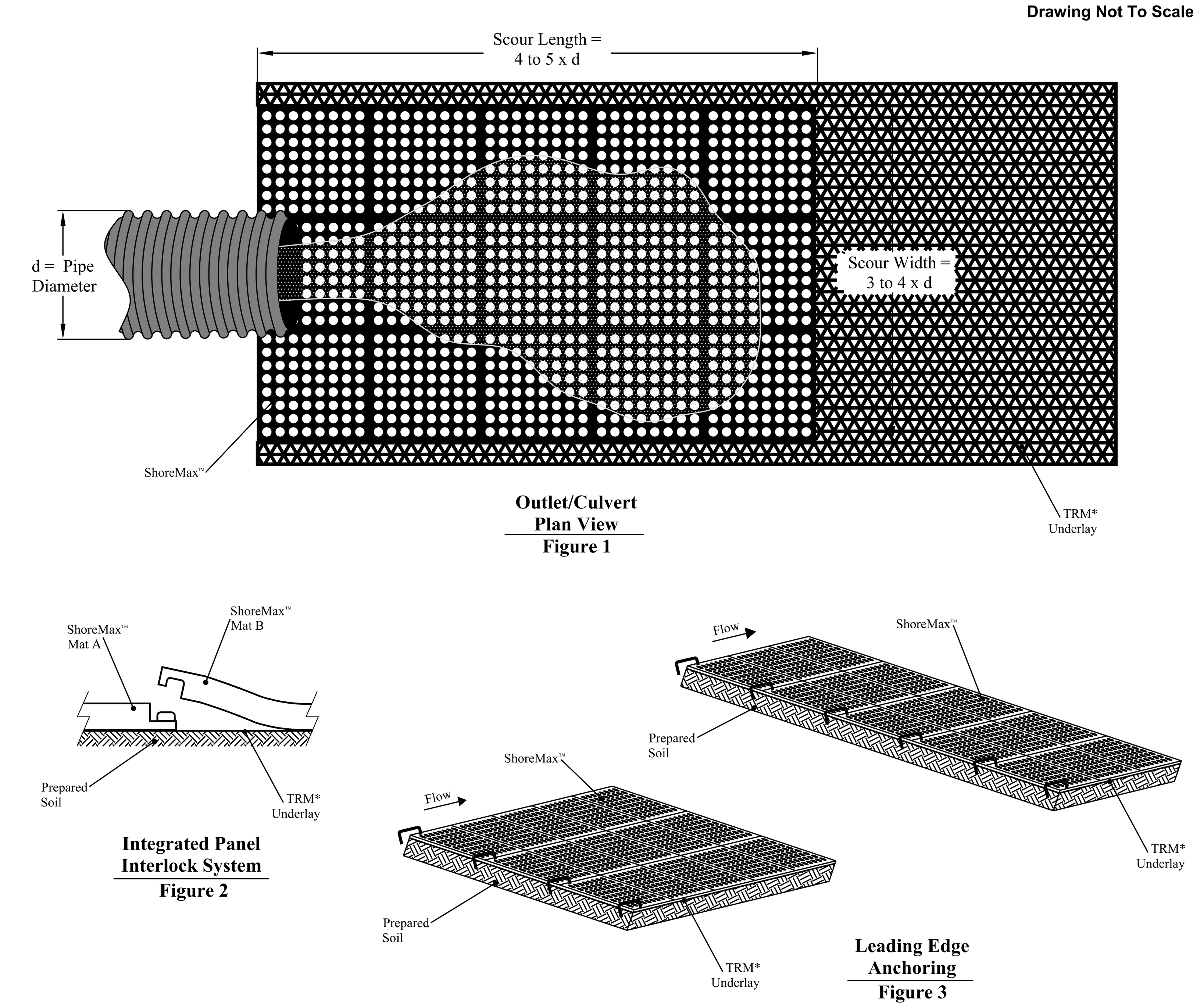
NOTES FOR RCP

1. All Reinforced Concrete Pipe shall be Class III or stronger based on ASTM C-76.
2. Portland Cement Concrete used in RCP manufacturing shall either be Type I or Type II. Fly Ash may be substituted in Type II PCC at a rate of 25%. PCC used in RCP manufacturing shall have a 28-day compressive strength of 4 ksi.
3. RCP dimensions shall conform to the table shown.

RCP SPECIFICATIONS

INSIDE DIAMETER	NOMINAL WALL THICKNESS	WEIGHT (lbs/ft)
12"	2.0"	100
15"	2.25"	128
18"	2.5"	168
24"	3.0"	268
30"	3.5"	385
36"	4.0"	524

Drawing Not To Scale



ShoreMax™

OUTLET/CULVERT PROTECTION DETAIL

* ShoreMax mats can be installed over a variety of underlayments including: sod, turf reinforcement mats (TRMs), geotextiles, and in some cases erosion control blankets (ECBs).

1. Prepare soil before installing erosion control products, including any necessary application of lime, fertilizer, and seed.
2. Install turf reinforcement mat (TRM) over prepared soils according to manufacturer's recommendations.
3. Place ShoreMax mat over the installed TRM (figure 1). When using multiple panels, connect the panels using the Integrated Panel Interlock System (figure 2). ShoreMax mat can be laid in either direction.
4. For culvert and outfall applications, ShoreMax mat scour protection should extend a minimum width of 3-4 times the pipe diameter and a minimum length of 4-5 times the pipe diameter (figure 1). With steeper channel gradients, the length of scour protection may need to be extended.
5. Place staples/anchors in the appropriate pattern. Perimeter staples can be shared between two adjacent panels. In soft or highly erodible soils, percussion earth anchors may be required. View ShoreMax Anchoring Guide, for additional details.
6. Place 1 staple/pin per linear foot along the leading edge of the ShoreMax system, resulting in one staple/pin on each corner and gridline (figure 3).

Tensar. NORTH AMERICAN GREEN®
5401 St. Wendel - Cynthiana Rd.
Poseyville, IN 47633
PH: 800-722-2040
www.nagreen.com

Disclaimer:
The information presented herein is general design information only. For specific applications, consult an independent professional for further design guidance.

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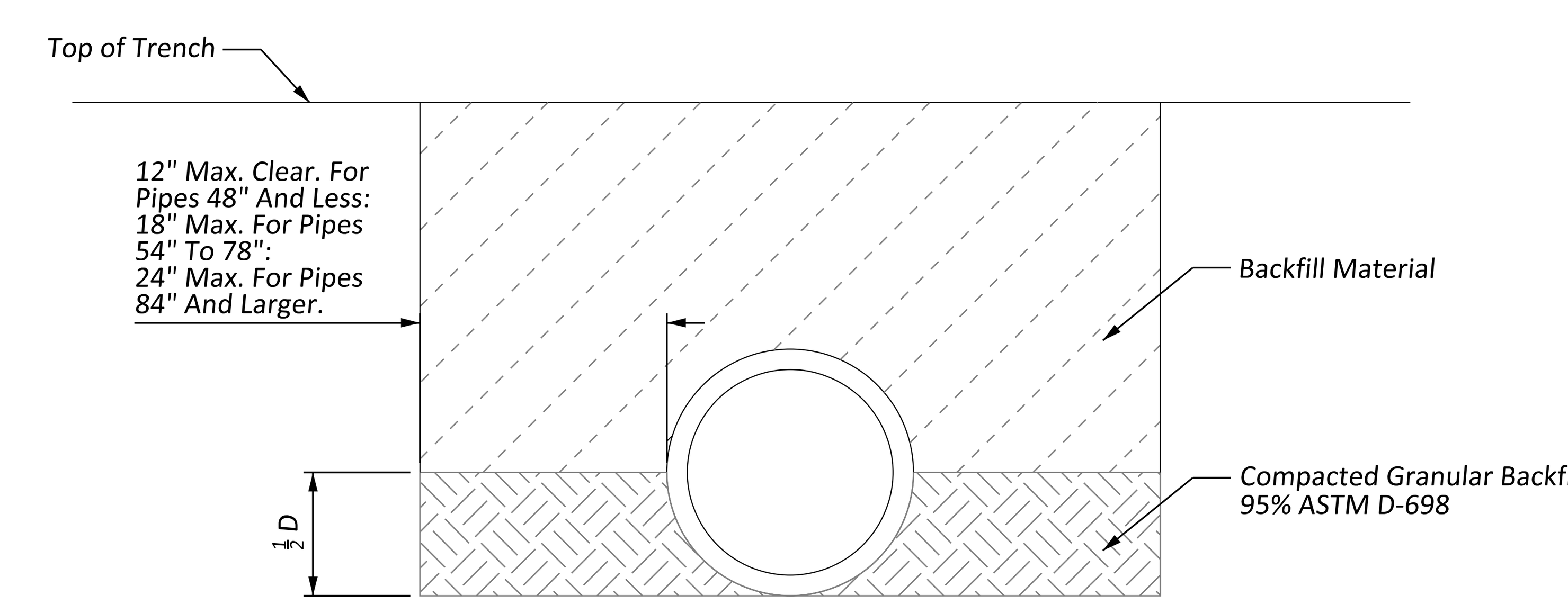
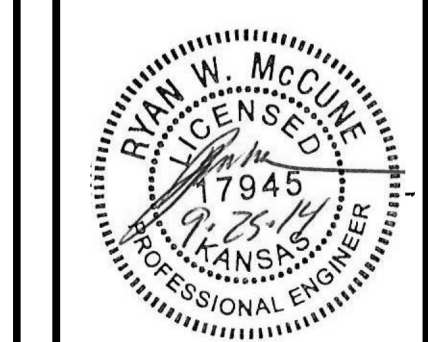


YIELDING (SOIL) FOUNDATION

DATE: 09-25-2014



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architects master planners
www.arch-innov.com

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Construction Documents:
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New Gym. Building
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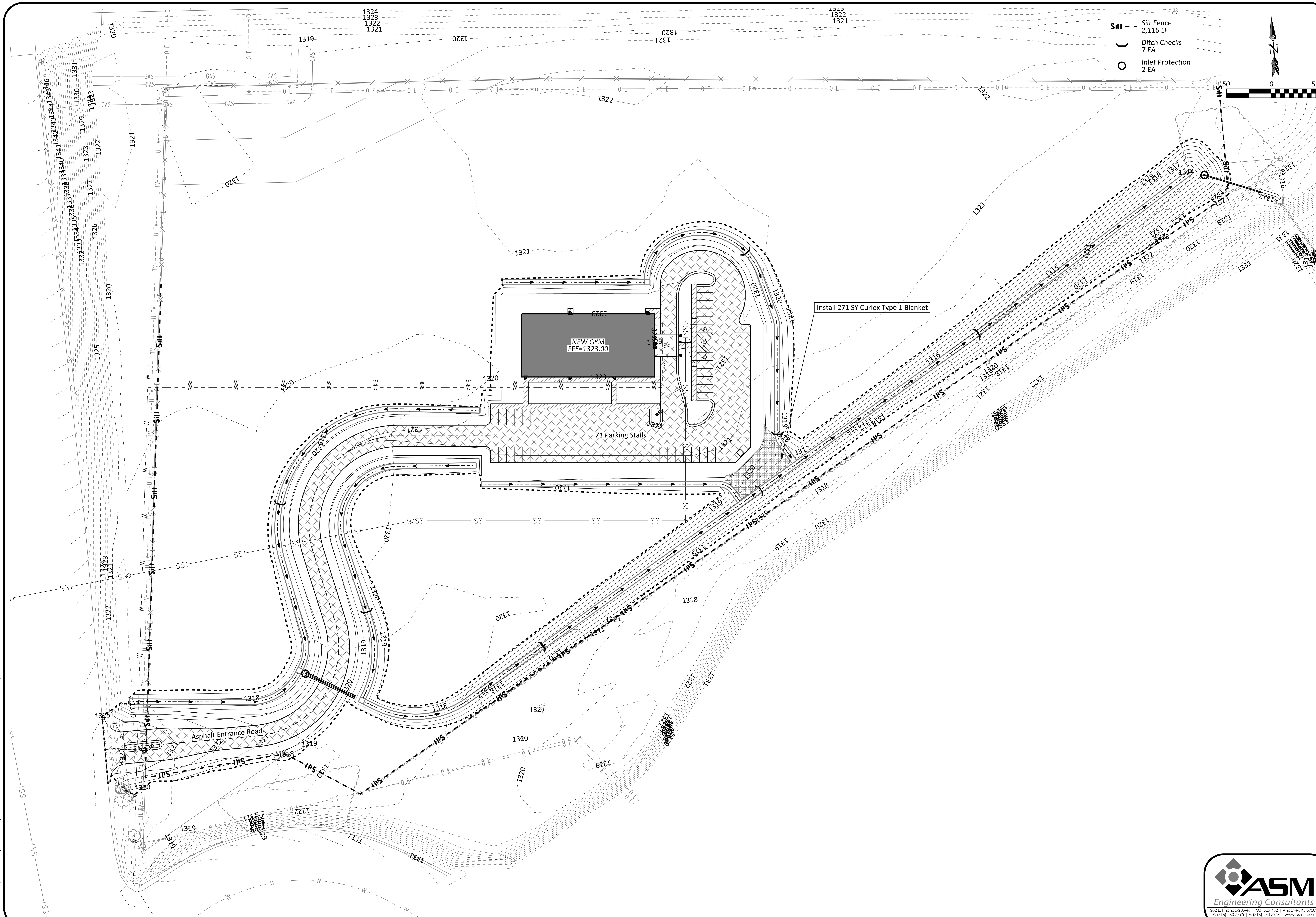
ASM Engineering Consultants
202 E. Rhondda Ave. | P.O. Box 452 | Andover, KS 67002

sheet
CV2.5
CULVERT DETAILS



DATE: 09-25-2014

RYAN W. McCUNE
LICENSED
17945
KANSAS
PROFESSIONAL ENGINEER

Architectural Innovations, LLC
architects www.arch-innov.com master planners
7701 E. Kellogg, Suite 650 Wichita, Kansas 67207-1703
Phone 316.685.5175 Fax 316.685.7667
1271 Kelly Johnson Blvd., Suite 111 Colorado Springs, CO. 80920
Phone 719.260.9990 Fax 719.260.9991

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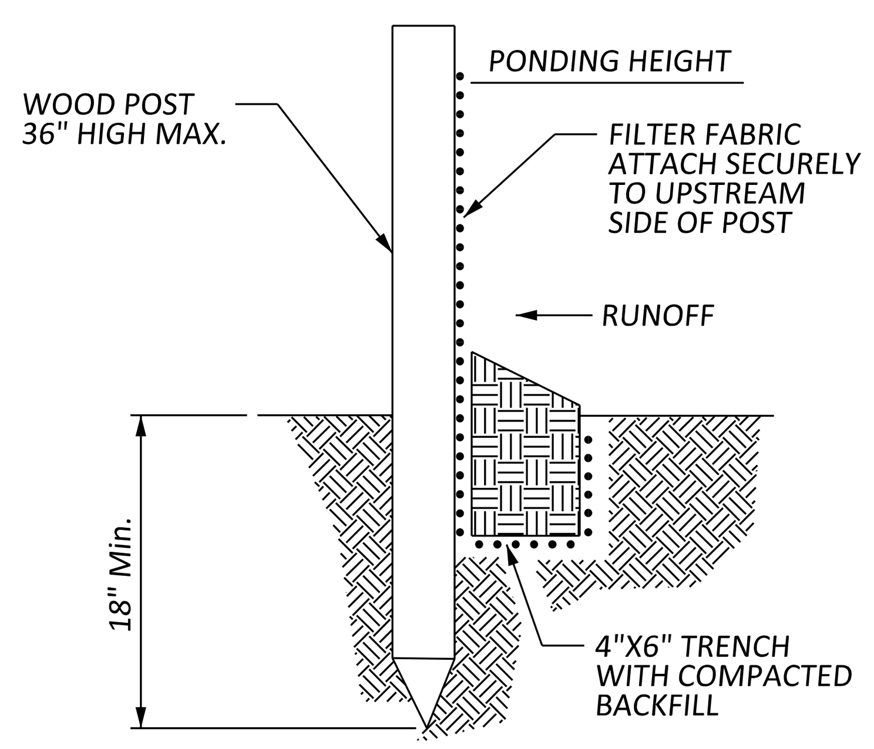
sheet
CV5.0
EROSION CONTROL PLAN



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:

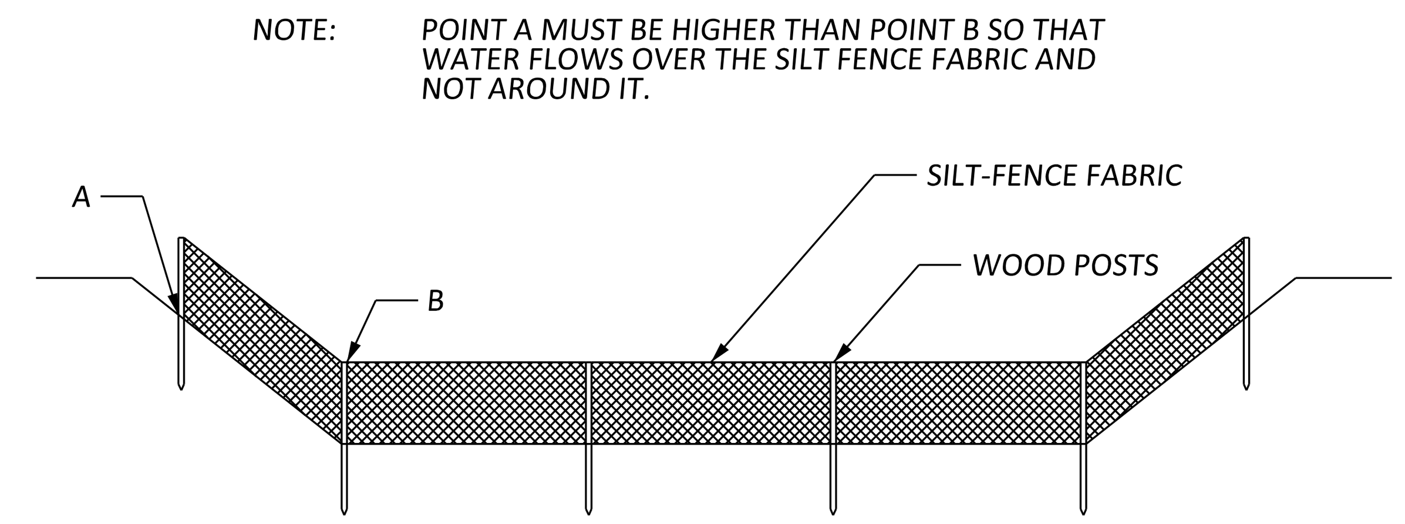
WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES.
DO NOT PLACE SILT-FENCE POSTS ON THE UPSLOPE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

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/DITCH 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 6R LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.

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

DITCH GRADE (%)	DITCH CHECK SPACING (FT)
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.

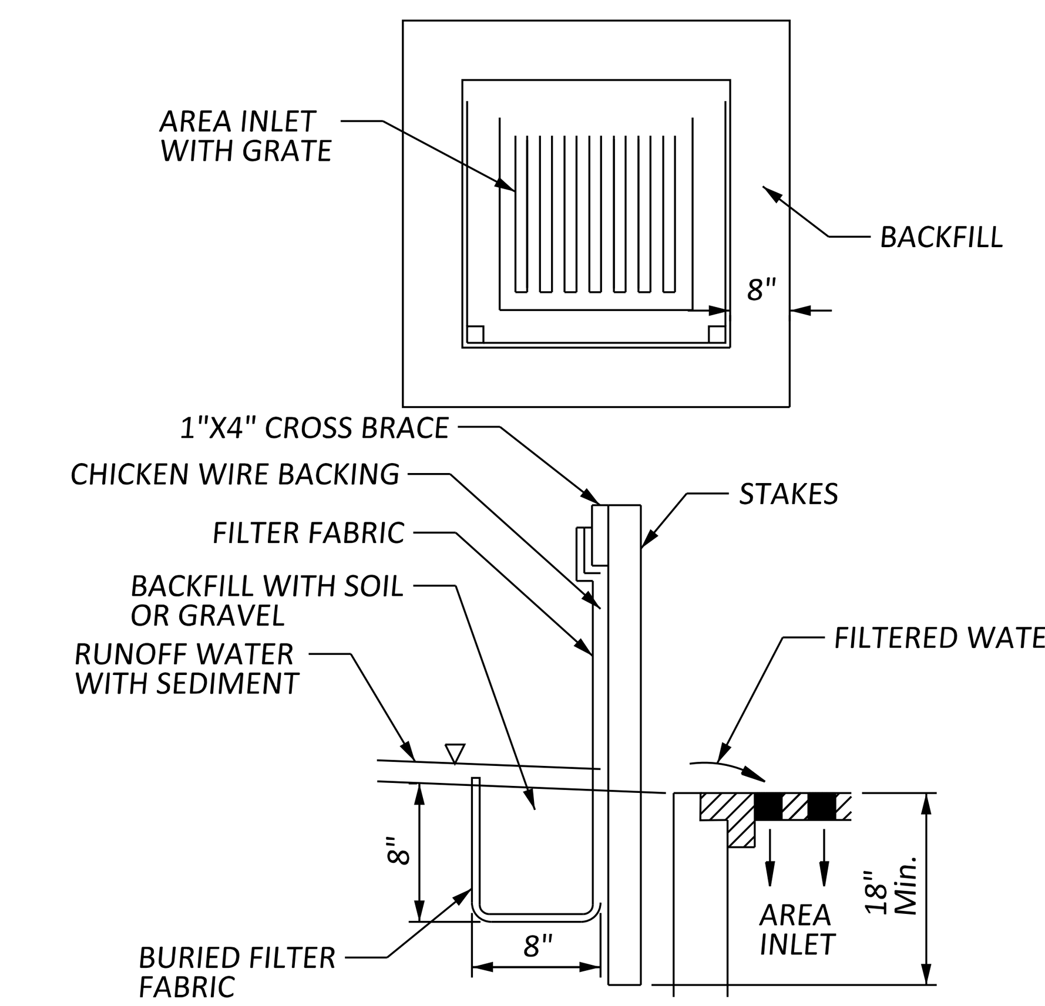
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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?



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?

ASM
Engineering Consultants
202 E. Rhondda Ave. | P.O. Box 452 | Andover, KS 67002
P: (316) 260-5895 | F: (316) 260-5954 | www.asm4.com

DATE: 09-25-2014

Architectural Innovations, LLC

project no. 1317

Construction Documents:
Heritage Family Church
New Gym. Building
NORTH SENECA & 37th. STREET
WICHITA, KANSAS

sheet
CV5.1
BMP DETAILS

STORM WATER POLLUTION
PREVENTION PLAN

For

CONSTRUCTION ACTIVITIES

At

HERITAGE FAMILY CHURCH

37TH AND SENECA
WICHITA, KS 67204

Prepared for:
Heritage Family Church
Jonathan Dudley
PO Box 49196
Wichita, KS 67201

Prepared by:
ASM Engineering Consultants
202 E Rhondda Avenue, Suite C
Andover, KS 67002
316-260-5895

August 2014

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SECTION 1

Notice of Intent (NOI)
KDWP Coordination
KSHS Coordination
Owner's Certification and Delegation
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Sub-Contractor Certifications
Professional Engineer's Certification

Kansas
Department of Health and Environment

NOTICE OF INTENT (NOI)

For Authorization to Discharge Stormwater Runoff from Construction Activities In accordance with the Kansas Water Pollution Control General Permit Under the National Pollutant Discharge Elimination System (NPDES)

Submission of this Notice of Intent constitutes notice that the party identified in Section I of this form requests authorization for coverage under the Kansas Water Pollution Control general permit, or KDHE issued successor permits, issued for stormwater runoff from construction activities in the State of Kansas. Becoming a permittee obligates the discharger to comply with the terms and conditions of the general permit. **Completion of this NOI does not provide automatic coverage under the general permit. Coverage is provided and discharge permitted when the Kansas Department of Health and Environment (KDHE) authorizes the discharge of stormwater runoff from the construction activities identified on the NOI and supporting documentation. A signed and dated copy of the first page of the NOI indicating the Authorization will be provided to the owner or operator, or all three pages for Conditional Authorizations.** Upon authorization of the construction activity discharge, a Kansas permit number and a Federal permit number will be assigned to the construction project. **A complete request for Authorization for coverage under the general permit must be submitted or the request will not be processed (see listing on Page 3 of this NOI).** KDHE will notify owners or operators whose Notice of Intent (NOI) and supporting documentation for Authorization of stormwater runoff associated with construction activities are incomplete, deficient, or denied.
Please Print or Type.

I. OWNER OR OPERATOR ADDRESS, BILLING, CONTACT & RECORDS LOCATION INFORMATION

A. Owner or Operator's Name: Jonathan Dudley
Company Name: Heritage Family Church
Owner or Operator's Phone: 316-942-6652
Mailing Address: PO Box 49196
City: Wichita State: KS Zip: 67201

B. Billing Contact Name: Same
Billing Contact Address (if different): _____
City: _____ State: ____ Zip: _____

C. Contact Name: _____
Company Name: _____
Contact Phone: _____
Mailing Address: _____
City: _____ State: ____ Zip: _____
E-mail Address (optional): _____

D. Address where records will be kept (if not on-site):
Records Address: _____
City: _____ State: ____ Zip: _____

II. SITE INFORMATION

A. Project Name: Heritage Family Church
Site Address: 37th & Seneca
City: Wichita State: KS Zip: 67204
(Nearest City to Project)
County: Sedgwick

B. LEGAL SITE DESCRIPTION:
____ QTR of ____ QTR of SW QTR Section: 29
Township: 26 South; Range: 1 ☒ E ☐ W
Latitude: 37º 45' 19.52" Deg. Min. Sec., Longitude: - 97º 21' 08.67" Deg. Min. Sec.

For Official Use Only:

Received RECEIVED AUG 13 2014 BUREAU OF WATER	Amount Paid: $60 Date: 8-13-14 Initials: dg Check No.: 14779	Authorized: ☒ Y; ☐ N Is Authorization Conditional? ☐ Y; ☒ N (if yes, see page 3 of NOI for conditions)
_____ Secretary, Kansas Department of Health and Environment		Reviewer: Terry O. Hoole Date: 9/8/14

KS Permit No.: _____ Federal Permit No.: _____

Send completed 3 page NOI form with original signature and all appropriate submittals (see page 3 of NOI) to:

Kansas Department of Health and Environment
Bureau of Water, Industrial Programs Section
1000 SW Jackson, Suite 420
Topeka, KS 66612-1367

Note: A copy of the permit can be obtained at: www.kdheks.gov/stormwater or by submitting a written request to KDHE.

KDHE Contact Information:
Phone: (785) 296-5545
E-mail: stormwater@kdheks.gov

C. EXISTING CONDITIONS/USES

1) Is any part of the project located on Indian Country land? ☐ Y; ☒ N
If yes: Contact EPA regarding discharging stormwater runoff from industrial activities on Indian Country land.

2) If stormwater runoff drains to or through a Municipal Separate Storm Sewer System (MS4): MS4 Name: _____

3) Name of the first receiving water, stream, or lake: Little Arkansas River, River Basin: Arkansas River

4) Are contaminated soils present on the site or is there groundwater contamination located within the site boundary? ☐ Y; ☒ N
If yes: On separate paper please explain in detail the locations, contaminants and concentrations.

5) Are there any contaminated soils that will be disturbed or any contaminated groundwater that will be pumped by the proposed construction activity? ☐ Y; ☒ N
If yes: On separate paper provide a description of the special erosion and sediment control measures to be utilized.

6) Are there any surface water intakes for public drinking water supplies located within ½ mile of the site discharge points? ☐ Y; ☒ N

7) Are there any known historical or archeological sites present within the site boundary or any historic structures located within 1000 feet of the project site? ☐ Y; ☒ N
Note: Include documentation of project-specific coordination with the Kansas Historical Society in making this determination.

8) Is any threatened or endangered species habitat located within the site boundary or in the receiving water body? ☐ Y; ☒ N
Note: Include documentation of project-specific coordination with the Kansas Department of Wildlife, Parks & Tourism in making this determination.

9) Will the project impact the line or grade of a stream or does it include dredge or fill of a potential jurisdictional water body or wetlands? ☐ Y; ☒ N
If yes: Include documentation of project-specific coordination with the US Army Corps of Engineers and/or the Kansas Department of Agriculture, Division of Water Resources in making this determination.

10) Are any Critical Water Quality Management Areas, Special Aquatic Life Use Waters, or Outstanding National Resource Waters located within ½ mile of the facility boundary? ☐ Y; ☒ N

If yes, list the names of all such areas and waters: _____

D. PROJECT DESCRIPTION

1) Project Description: Construct a gym, provide site paving, and site utilities.

_____

2) Does this NOI include all proposed soil disturbing activities associated with the entire common plan of development? ☒ Y; ☐ N

If no, explain what development areas of the site are not included in this NOI and provide contact information, if available, for the party or parties that own or have operational control of these areas:

_____

_____

3) Anticipated project Start Date: 8/25/2014, and Completion Date: 8/25/2015

4) Estimated total area to be disturbed: 4.5 Acres Total area of the site: 14.52 Acres

5) Do you plan to disturb ten or more acres that are within a common drainage area? ☐ Y; ☒ N

If yes, will a sedimentation basin be installed in that drainage area? (Attach design calculations for each sedimentation basin.) If a sediment basin is not feasible, on a separate sheet explain what similarly effective erosion and sediment control measures will be implemented in lieu of a sedimentation basin. ☐ Y; ☐ N

E. Maps

Include an area map showing the outline of the construction site and the general topographic features of the area at least one mile beyond the project site boundary. See Attached

F. EROSION CONTROL PLAN AND BEST MANAGEMENT PRACTICES

1) Provide a site plan showing the existing contour, proposed contour, the erosion control measures and the locations of stormwater management or pollution control features including BMPs. Incorporate details and notes as necessary to describe the erosion control plans and BMPs.

2) Provide a description of the best management practices which will be utilized to control erosion, sedimentation and other pollutants in stormwater runoff during construction.

3) Provide a summary of the sequence of major soil disturbing activities and the corresponding erosion control measures or BMPs.

4) Provide the name and License or Certification Number of the engineer, geologist, architect, landscape architect, or Certified Professional in Erosion and Sediment Control (CPESC) under which the construction stormwater pollution prevention plan has been developed.

Ryan W. McCune	17945	Civil Engineer
Name	License or Certification Number	Profession or Field (Engineer, Architect, etc.)

III. ANNUAL FEE

Enclose a check for the first year of the annual permit fee specified in K.A.R. 28-16-56 et seq. as amended. Make the check payable to "KDHE". Per K.A.R. 28-16-56, as amended, the current annual permit fee for this general permit is $60. An invoice for the annual permit fee will be sent to the contact person requesting a permit until such time as the permittee submits a Notice of Termination (NOT).

Failure to pay the annual fee will result in termination of the construction stormwater discharge Authorization.

IV. OWNER OR OPERATOR CERTIFICATIONS

I, the undersigned, certify that a Stormwater Pollution Prevention Plan (SWP2 Plan) will be or has been developed for the construction site described in this NOI and supporting documentation. I further certify that the plan will be implemented at the time construction begins, and, as required by the NPDES general permit for Stormwater Runoff from Construction Activity, will revise the SWP2 plan if necessary.

I understand that continued coverage under the NPDES general permit for Stormwater Runoff from Construction Activities is contingent upon maintaining eligibility as provided for in the requirements and conditions of the general permit, and paying the annual fee.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

_____ _____

Signature (owner or operator) **Date**

_____

Name and Official Title (Please print or type. **Form with original signature must be sent to KDHE.**)

Conditions of Authorization - For Official Use Only:

When indicated, Conditions of Authorization are as follows:

_____

_____

_____

_____

_____

_____

_____

A complete request for Authorization for coverage under the general permit must be submitted or the request will not be processed. A complete request for Authorization includes:

- **An NOI form (construction stormwater) with an original authorized signature;**
- **The annual permit fee for the first year; ($60.)**
- **An area map showing the outline of the construction site and the general topographic features of the area at least one mile beyond the project site boundary;**
- **A detailed site plan showing the existing contours, proposed contours, erosion and sediment control features, locations where stormwater runoff leaves the construction site;**
- **A narrative summary of the additional erosion and sediment control and other best management practices that will be utilized to prevent or reduce contamination of stormwater runoff from the construction activities;**
- **Total drainage area, storage capacity and design calculations for each sedimentation basin; and**
- **Copies of letters or e-mails documenting coordination with appropriate local, state or federal agencies.**

From: Services, Environmental <ess@ksoutdoors.com>
Sent: Tuesday, July 29, 2014 5:23 PM
To: Don Powers
Subject: KDWPT Project Review: Heritage Family Church in Sedgwick Co.; T26S-R01E-Sec.29 (Track 20140719)

Mr. Powers:

The referenced project was reviewed for potential impacts on crucial wildlife habitats, current State-listed Threatened and Endangered species and Species in Need of Conservation (SINC), and Kansas Department of Wildlife, Parks and Tourism managed areas for which this agency has administrative authority.

We have no objections to the proposed project and provide the following general recommendations:

- **Incorporate principles of low impact development (LID), such as permeable asphalt pavement, swales, bioretention, raingardens and on-site phytoremediation. For more information on LID http://www.epa.gov/owow/NPS/lid**
- **Implement and maintain standard erosion-control Best-Management-Practices.**
- **Reseed with native warm-season grass (e.g. Buffalo Grass, *Bouteloua dactyloides*).**

Results of our review indicate there will be no significant impacts to crucial wildlife habitats; therefore, no special mitigation measures are recommended. The project will not impact any public recreational areas, nor could we document any potential impacts to currently-listed threatened or endangered species or species in need of conservation. No Department of Wildlife, Parks, and Tourism permits or special authorizations will be needed if construction is started within one year, and no design changes are made in the project plans.

Since the Department's recreational land obligations and the State's species listings periodically change, if construction has not started within one year of this date, or if design changes are made in the project plans, the project sponsor must contact this office to verify continued applicability of this assessment report. For our purposes, we consider construction started when advertisements for bids are distributed.

Consider this email our official project review. Contact me with any questions.

Brian Bartels, Ecologist
Ecological Services
Kansas Dept. of Wildlife, Parks, and Tourism
512 SE 25th Ave., Pratt, KS 67124
office: 620-672-0746
cell: 620-770-6628
fax: 620-672-2972

6425 SW 6th Avenue
Topeka, KS 66615

Kansas

phone: 785-272-8681
fax: 785-272-8682
cultural_resources@kshs.org

Kansas Historical Society

Sam Brownback, Governor
Jennie Chinn, Executive Director

KSR&C # 14-06-109
June 17, 2014

Don Powers
ASM Engineering
Via Email

Re: Heritage Family Church Site Improvements, Wichita – Sedgwick County

The Kansas State Historic Preservation Office has reviewed the materials received June 17, 2014 in accordance with KDHE's requirement for a Notice of Intent. According to our records there are no historic properties or areas of concern within the project area. Our office has no objection to the implementation of the project. If, however, any federal funds are to be used or if any federal permits might ultimately be required, the applicant will be required to comply with 36 CFR 800.

Please refer to the Kansas State Review & Compliance number (KSR&C#) listed above on any future correspondence. If you have any questions concerning this review, please contact Kim Gant at 785-272-8681, ext. 225 or kgant@kshs.org.

Sincerely,

Jennie Chinn
State Historic Preservation Officer

Patrick Zollner
Director, Cultural Resources Division
Deputy State Historic Preservation Officer

STORM WATER POLLUTION PREVENTION PLAN

HERITAGE FAMILY CHURCH
37TH AND SENECA
WICHITA, KS 67204

OWNERS CERTIFICATION and DELEGATION

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

Land Owner: Heritage Family Church

Authorized Representative: Jonathan Dudley

Title: _____

Address: PO Box 49196, Wichita, KS 67201

Signature, Date: _____

As Land Owner, I have delegated the following individual to monitor Storm Water Prevention Plan (SWPPP) compliance:

Duly Authorized Representative: _____

Title: _____

Signature, Date: _____

Phone: _____

STORM WATER POLLUTION PREVENTION PLAN

HERITAGE FAMILY CHURCH
37TH AND SENECA
WICHITA, KS 67204

CONTRACTOR'S CERTIFICATION and DELEGATION

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for known violations.

I certify under penalty of law, that I understand the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this Certification. I understand that I am legally required under the Clean Water Act, to ensure compliance with the terms and conditions of NPDES storm water CGP and this Storm Water Pollution Prevention Plan (SWPPP).

I understand that I am fully responsible for all subcontractors who perform work activities on the construction site, to comply with all provisions and requirements of the NPDES storm water CGP and this SWPPP.

Contractor:_____

Authorized Representative:_____

Title:_____

Address:_____

Signature, Date:_____

As Contractor, I have delegated SWPPP compliance and inspection responsibilities to the following individual for the duration of construction activities for which this company is under contract with this project.

Contractor SWPPP Representative:_____

Title:_____

Signature, Date:_____

Phone:_____

STORM WATER POLLUTION PREVENTION PLAN

HERITAGE FAMILY CHURCH
37TH AND SENECA
WICHITA, KS 67204

SUB-CONTRACTOR CERTIFICATION

I certify under penalty of law, that I understand the terms and conditions of the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this Certification. I understand that I am legally required under the Clean Water Act, to ensure compliance with the terms and conditions of NPDES storm water CGP and this Storm Water Pollution Prevention Plan (SWPPP).

Contractor:_____

Sub-Contractor:_____

Authorized Representative:_____

Title:_____

Signature, Date:_____

Phone:_____

Sub-Contractor:_____

Authorized Representative:_____

Title:_____

Signature, Date:_____

Phone:_____

Sub-Contractor:_____

Authorized Representative:_____

Title:_____

Signature, Date:_____

Phone:_____

STORM WATER POLLUTION PREVENTION PLAN

HERITAGE FAMILY CHURCH
37TH AND SENECA
WICHITA, KS 67204

PROFESSIONAL ENGINEER'S CERTIFICATION

I certify this Storm Water Pollution Prevention Plan (SWPPP) has been prepared in accordance with good engineering practice and the Clean Water Act.

Company: ASM Engineering Consultants

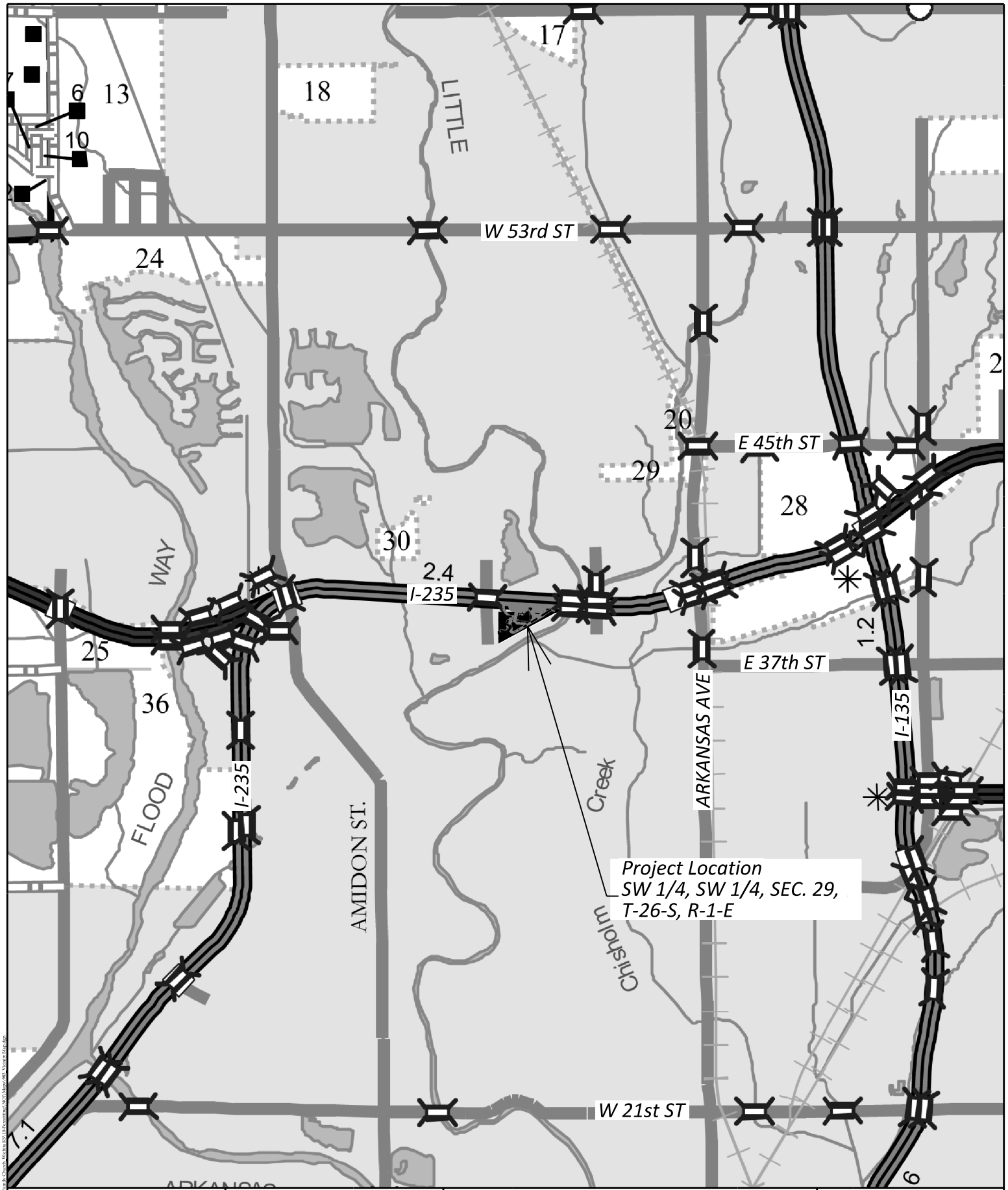
Professional Engineer: Ryan W. McCune

Address: 202 E. Rhondda Avenue, Suite C, Andover, KS 67002

Phone: 316-260-5895

SECTION 2

Vicinity Map
Topographic Map
Storm Water Pollution Prevention Plan (SWPPP)



ASM Engineering Consultants
202 E. Rhondda Ave. | P.O. Box 452 | Andover, KS 67002
P: (316) 260-5895 | F: (316) 260-5954 | www.asm4.com

Heritage Family Church
PO Box 49196
Wichita, KS 67201
316-942-6652

HERITAGE FAMILY CHURCH

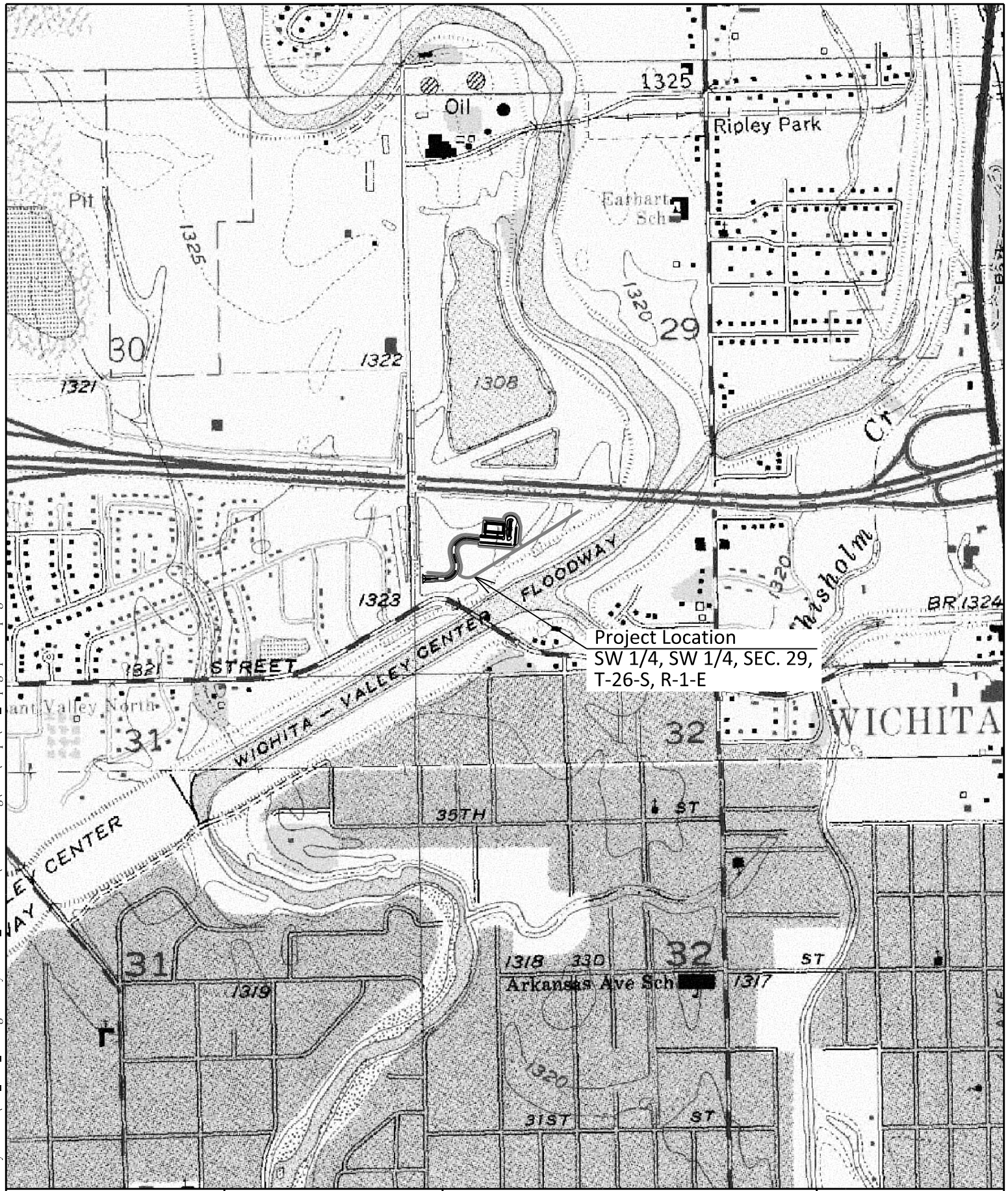
VICINITY MAP

WICHITA, KS

Project No.	Date	Sheet No.
983	June 16, 2014	1

N

0 3000'



W:\2014\HFC_Heritage Family Church\983_HFC_Heritage Family Church_Wichita KS\10-Permitting\NOI\Maps\983_Topographic Map.dgn

ASM Engineering Consultants
202 E. Rhondda Ave, | P.O. Box 452 | Andover, KS 67002
P: (316) 260-5895 | F: (316) 260-5934 | www.asm4.com

Heritage Family Church
PO Box 49196
Wichita, KS 67201
316-942-6652

HERITAGE FAMILY CHURCH

TOPOGRAPHIC MAP

WICHITA, KS

Project No.	Date	Sheet No.
983	June 16, 2014	2

N

0 3000'

PROJECT AND SITE DESCRIPTION:

PROJECT NAME AND LOCATION

HERITAGE FAMILY CHURCH
37TH AND SENECA
WICHITA, KS 67204

Total Site Area: 14.52 Acres Estimated Disturbed Area: 4.5 Acres

OWNER'S NAME AND ADDRESS

Heritage Family Church
PO Box 49196
Wichita, KS 67201

DESCRIPTION

This project will consist of site construction to accommodate a gym. Soil disturbing activities will primarily include:

1. Earthwork for new building and parking.
2. Earthwork for new site road and utilities

The estimated time for completion of the construction project is 365 calendar days or less.

RUNOFF COEFFICIENT, SOILS, AND RAINFALL INFORMATION

The initial runoff curve number for the pre-construction site is "CN" =55
The current site consists of: 100% brome grass pasture. All area to be disturbed is pervious area.

The post-construction runoff curve number for the site will be "CN" = 61

The site has soils, which are classified by the USDA Soil Conservation Service as A. These soils are described as silt loam.

The site is in Sedgwick County, which receives a maximum of 32 to 38 inches of rainfall annually with the highest amounts of rainfall received in the months of April through August.

NAME OF RECEIVING WATERS

Runoff from the project site is discharged into an onsite detention pond, which when filled to capacity, ultimately drains into the Little Arkansas River, and on to the Arkansas River.

CONTROLS:

EROSION AND SEDIMENT CONTROLS

1. Stabilization Practices

   Stabilization practices for this site include:

   A. Land clearing activities shall be done only in areas where earthwork will be performed and shall progress, as earthwork is needed.
   B. Frequent watering of disturbed areas to minimize dust during construction.
   C. Installation of interim Best Management Practices (BMPs) to reduce the amount of sediment leaving the site.

2. Structural Practices

   Structural practices for this site include but are not limited to the following range of BMPs. Construction details of BMPs are included on the Temporary Erosion Control Sheets:

   A. Inlet protection using silt fences, sand bags, etc.
   B. Stabilized construction exit points and sufficient staging area for construction materials.
   C. Containment of the on-site sanitation facility to prevent uncontrolled waste discharges during pumping and cleaning activities.

3. Sequence of Major Activities

   The Contractor will be responsible for implementing the following erosion control and storm water management control structures. All structural practices shall be maintained through the course of the construction and shall be sequenced according to activities in the field. The Contractor may designate these tasks to certain subcontractors as he sees fit, but the ultimate responsibility for implementing these controls and ensuring their proper functioning remains with the Contractor. Refer to Section 3 of this SWPPP for details. The order of activities will be as follows and shall be documented on the Record of Stabilization and Construction Activities Form:

   A. Construct temporary construction entrance/exit.
   B. Install inlet protection and perimeter silt fence as shown on Attachment A - Erosion Control Plan.

C. Frequent watering of the disturbed areas to minimize dust.
D. Carry out final grading and gravel and/or asphalt placement.
E. Remove BMPs only after all paving is complete and exposed surfaces are stabilized.
F. Remove temporary construction exits.

OTHER CONTROLS:

Management of materials and practices, outside of soil disturbing activities, shall be the responsibility of the Contractor. Such activities shall include, but not be limited to, the items shown below.

1. Waste Disposal

   All waste materials will be collected and stored in securely lidded metal dumpters rented from local waste haulers. The dumpster will meet all local and state solid waste management regulations. All waste and construction debris from the site will be deposited in the dumpsters. The dumpster will be emptied on a periodical basis. No construction waste materials will be buried onsite.

2. Sanitary Waste

   All sanitary waste will be collected from the portable units on a frequent, periodical basis by a licensed sanitary waste management contractor.

3. Concrete Waste from Concrete Trucks

   Excess concrete and concrete wash water shall be returned to the concrete plant or deposited at a designated containment area on site, constructed in a manner to prevent run-off from entering the street, storm water drainage systems or waterways. Wash water may not be deposited in streets, curbs, gutters, storm drains, or waterways.

4. Hazardous Substances and Hazardous Waste

   All hazardous waste materials will be disposed of in the manner specified by local or state regulation or by the manufacturer. The contractor's site personnel will be instructed in these practices and the contractor's Site Manager will be responsible for seeing that these practices are followed.

MAINTENANCE/INSPECTION PROCEDURES:

Erosion and Sediment Control and Stabilization Measures Maintenance and Inspection Practices

A. The following inspection and maintenance practices will be used to maintain erosion and sediment controls and stabilization measures to be performed by the Contractor.

1. All control measures will be inspected at minimum of once every 14 days and within 24 hours following a 0.5 inches rainfall event.
2. All measures will be maintained in good working order; if repairs are found to be necessary, they shall be noted on the inspection report and corrected within seven calendar days of the inspection.
3. Built up sediment will be removed from silt fence when it has reached one-third the height of the fence.
4. Silt fences will be inspected for depth of sediment, tears, etc., to see if the fabric is securely attached to the fence posts, and to see that the fence posts are securely in the ground.
5. The sediment basin, if present, will be inspected for depth of sediment, and built up sediment will be removed when it reaches 10 percent of the design capacity.
6. Temporary and permanent seeding and all other stabilization measures will be inspected for bare spots, washouts, and healthy growth.
7. A maintenance inspection report will be made after each inspection. Copies of the Inspection Report Forms to be completed by the inspector are included in this SWPPP under SECTION 4.
8. Any modifications to the Erosion Control Plan (Attachment A) shall be noted in red ink on the Erosion Control Update (Attachment B) under Section 3.
9. The Contractor will be responsible for selecting and training the individuals who will be responsible for these inspections, maintenance and repair activities, and filling out inspection and maintenance reports.
10. Personnel selected for the inspection and maintenance responsibilities will receive training from the Contractor. Documentation of this personnel training will be kept in the Contractor's SWPPP Folder.
11. Disturbed areas and materials storage areas will be inspected for evidence of or potential for pollutants entering storm water systems.
12. Report to **U.S. Environmental Protection Agency** within 24 hours any noncompliance with the SWPPP that will endanger public health or the environment.

Inspection and Maintenance Report Forms

These Inspection Report Forms shall be readily accessible to governmental inspection officials and the Owner for review upon request. Copies of the reports shall be provided to any of these persons, upon request, via mail or facsimile transmission. Inspection and maintenance report forms are to be maintained by the permittee for three (3) years following the final stabilization of the site and the date on the Notice of Termination (NOT).

Other Record-Keeping Requirements

The Contractor shall provide copies of the completed forms and any reports filed with regulatory agencies if reportable quantities of hazardous materials are spilled.

SUMMARY OF EROSION AND SEDIMENT CONTROL AND STABILIZATION MEASURES MAINTENANCE/INSPECTION PROCEDURES

- ☒ All control measures will be inspected at a minimum of once every 14 days and within 24 hours following a rainfall event of 0.5 inches.
- ☒ All measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of report.
- ☒ Built-up sediment will be removed from silt fences when it has reached one-third the height of the fence.
- ☒ Silt fences will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
- ☒ Sediment basins, if present, will be inspected for depth of sediment, and built-up sediment will be removed when it reaches 10% of the design capacity or at the end of the job.
- ☐ Diversion dikes, if present, will be inspected and any breaches promptly repaired.
- ☒ Temporary and permanent seeding and planting and other stabilization measures will be inspected for bare spots, washouts, and healthy growth.
- ☒ A maintenance inspection report will be made after each inspection. A copy of the Inspection Report Forms to be used is included in this SWPPP under SECTION 4.
- ☒ The Contractor will select the individuals who will be responsible for inspections, maintenance and repair activities, and filling out the inspection and maintenance reports.
- ☒ Personnel selected for inspection and maintenance responsibilities will receive training from the Contractor. They will be trained in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used onsite in good working order.
- ☒ Disturbed areas and materials storage areas will be inspected for evidence of or potential for pollutants entering storm water systems.
- ☒ Report to U.S. Environmental Protection Agency within 24 hours any noncompliance with the SWPPP that will endanger public health or the environment. Follow up with a written report within 5 days of the noncompliance event.

CONSTRUCTION/IMPLEMENTATION CHECKLIST

1. Maintain Records of Construction Activities, including:
   - ☐ Dates when major grading activities occur
   - ☐ Dates when construction activities temporarily cease on a portion of the site
   - ☐ Dates when construction activities permanently cease on a portion of the site
   - ☐ Dates when stabilization measures are initiated on the site
   - ☐ Dates of rainfall and the amount of rainfall
   - ☐ Dates and descriptions of the character and amount of any spills of hazardous materials
   - ☐ Records of reports filed with regulatory agencies if reportable quantities of hazardous materials spilled
2. Prepare Inspection Reports summarizing:
   - ☐ Name of inspector
   - ☐ Qualifications of inspector
   - ☐ Measures/areas inspected
   - ☐ Observed conditions
   - ☐ Changes necessary to the SWPPP
3. Report Releases of Reportable Quantities of Oil or Hazardous Materials (if they occur):
   - ☐ Notify National Response Center (1-800-424-8802) immediately
   - ☐ Notify the Kansas Department of Health and Environment**.**
   - ☐ Notify permitting authority in writing within 14 days
   - ☐ Modify the pollution prevention plan to include:
     - the date of release
     - circumstances leading to the release
     - steps taken to prevent reoccurrence of the release
4. Modify Pollution Prevention Plan as necessary to:
   - ☐ Comply with the minimum permit requirements when notified by **U.S. Environmental Protection Agency** or Kansas Dept. of Health and Environment that the plan does not comply
   - ☐ Address a change in design, construction operation, or maintenance, which has an effect on the potential for discharge of pollutants
   - ☐ Prevent reoccurrence of reportable quantity releases of a hazardous material or oil

SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN (SPCC):

MATERIALS COVERED

The following materials or substances with known hazardous properties are expected to be present onsite during construction:

Concrete	Cleaning solvents	Soil stabilization additives
Detergents	Petroleum based products	Concrete additives
Paints	Paint solvents	

MATERIAL MANAGEMENT PRACTICES

The following are the material management practices that will be used to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff.

1. Good Housekeeping

   The following good housekeeping practices will be followed onsite during the construction project.

   A. An effort will be made to store only enough products required to do the job.
   B. All materials stored onsite will be stored in a neat, orderly manner and, if possible, under a roof or other enclosure.
   C. Products will be kept in their original containers with the original manufacturer's label in legible condition.
   D. Substances will not be mixed with one another unless recommended by the manufacturer.
   E. Whenever possible, all of a product will be used up before disposing of the container.
   F. Manufacturer's recommendations for proper use and disposal will be followed.
   G. The Contractor will be responsible for daily inspections to ensure proper use and disposal of materials.
   H. If surplus product must be disposed of, manufacturer's or local/state/federal recommended methods for proper disposal will be followed.
   I. All of the product in a container will be used before the container is disposed of. All such containers will be triple-rinsed with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with storm water discharges.

2. Spill Prevention Practices

In addition to the good housekeeping, the following practices will be followed for spill prevention and cleanup.

A. Manufacturer's recommended methods for spill cleanup will be clearly posted and site personnel will be trained regarding these procedures and the location of the information and cleanup supplies.
B. Materials and equipment necessary for spill cleanup will be kept in the material storage area onsite in spill control and containment kit (containing, for example, absorbent such as kitty litter or sawdust, acid neutralizing powder, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.).
C. All spills will be cleaned up immediately after discovery.
D. The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with the hazardous substances.

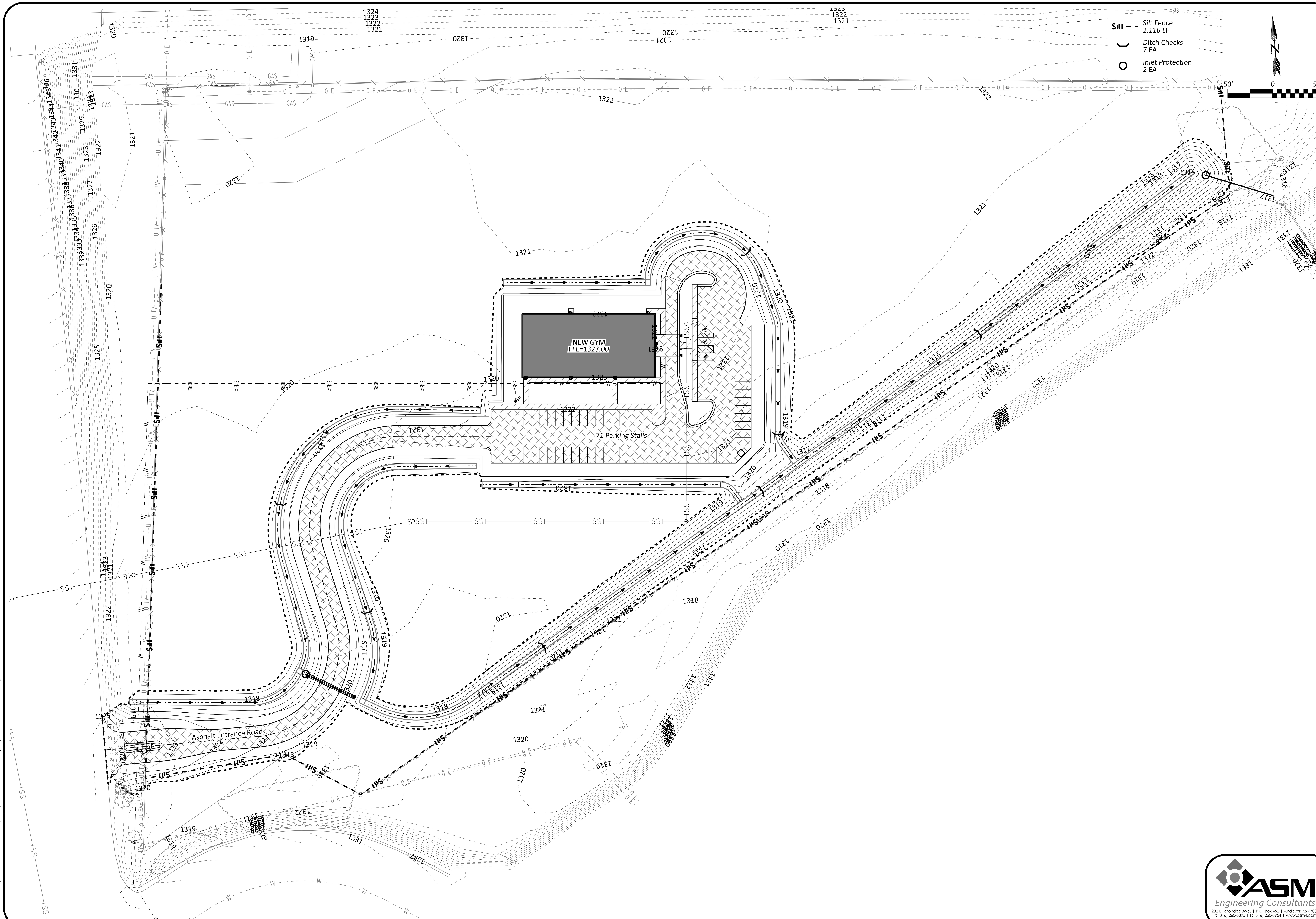
CONTROL OF ALLOWABLE NON-STORMWATER DISCHARGES:

Certain types of discharges are allowable under the U.S. Environmental Protection Agency General Permit for Construction Activity, and it is the intent of this SWPPP to allow such discharges. These types of discharges will be allowed under the conditions that no pollutants will be allowed to come in contact with the water prior to or after its discharge. The control measures, which have been outlined previously in this SWPPP, will be strictly followed to ensure that no contamination of these non-storm water discharges takes place. The following allowable non-storm water discharges that may occur from the job site include:

A. Discharges from fire fighting activities.
B. Waters used to wash vehicles or control dust in order to minimize offsite sediment tracking.
C. Potable water sources such as waterline flushing, irrigation drainage from watering vegetation, routine exterior building wash down (without detergents present).
D. Pavement wash waters where spills or leaks of hazardous materials have not occurred or detergents have not been used.
E. Springs and other uncontaminated groundwater, including dewatering ground water infiltration.
F. Foundation or footing drains where no contamination with process materials such as solvents is present

SECTION 3

Temporary Erosion and Sedimentation Control Plan Sheets (TESCPS)



DATE:08-06-2014

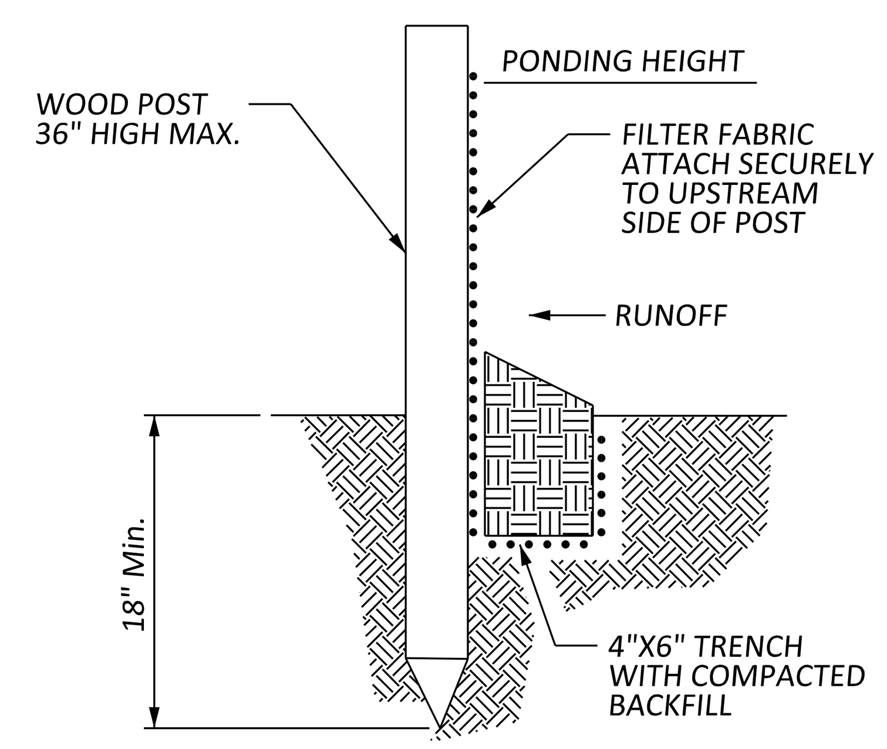
Architectural Innovations, LLC
architects · master planners

project no. 1317

Construction Documents:
Heritage Family Church
New Gym. Building
NORTH SENECA & 37th. STREET
WICHITA, KANSAS

ASM Engineering Consultants

sheet
CV5.0
EROSION CONTROL PLAN



SILT FENCE BARRIERS

<u>MATERIAL SPECIFICATION:</u>

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.

<u>PLACEMENT:</u>

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.

<u>PROPER INSTALLATION METHOD:</u>

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.

<u>LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:</u>

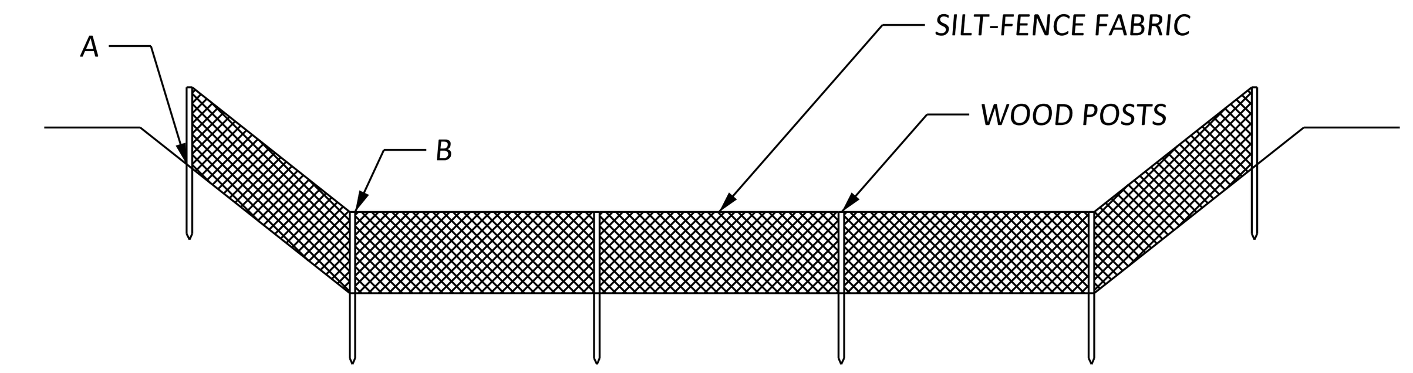
WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES.
DO NOT PLACE SILT-FENCE POSTS ON THE UPSLOPE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

<u>INSPECTION AND MAINTENANCE:</u>

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?

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/DITCH PROTECTION)

<u>MATERIAL SPECIFICATION:</u>

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.

<u>PLACEMENT:</u>

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 6R LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED.

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

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

<u>PROPER INSTALLATION METHOD:</u>

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.

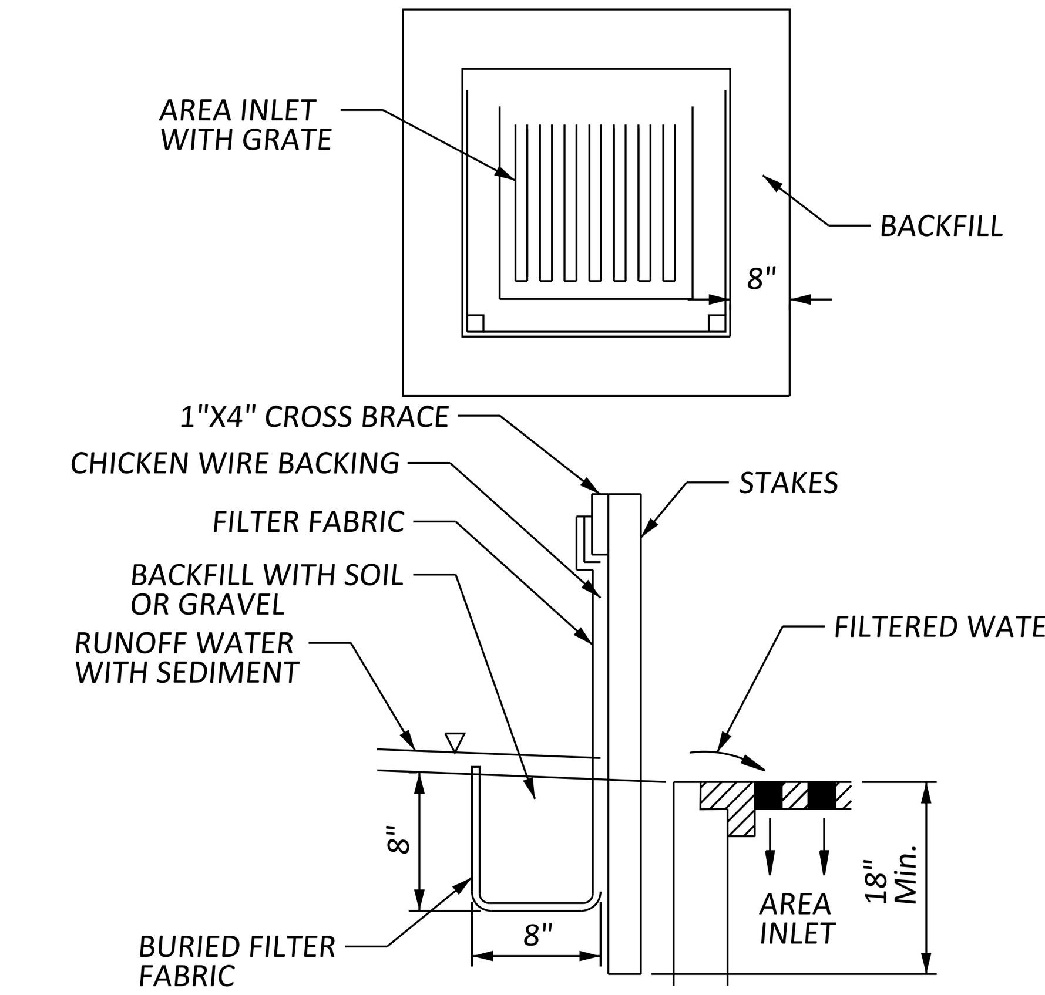
<u>LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:</u>

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.

<u>INSPECTION AND MAINTENANCE:</u>

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)

<u>MATERIAL SPECIFICATION:</u>

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.

<u>PLACEMENT:</u>

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.

<u>PROPER INSTALLATION METHOD:</u>

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.

<u>LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:</u>

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.

<u>INSPECTION AND MAINTENANCE:</u>

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?

ASM Engineering Consultants

DATE:08-06-2014

Architectural Innovations, LLC

project no. 1317

Construction Documents:
Heritage Family Church
New Gym. Building
NORTH SENECA & 37th. STREET
WICHITA, KANSAS

sheet
CV5.1
BMP DETAILS

SECTION 4

Inspection Report Form
Record of Stabilization and Major Activities Form
Project Rainfall Log Form

STORM WATER POLLUTION PREVENTION PLAN

HERITAGE FAMILY CHURCH
37TH AND SENECA
WICHITA, KS 67204

INSPECTION REPORT FORM

Inspector: _____ Inspection Date:_____

Signature: _____

Last Rainfall Date:_____ Last Rainfall Amount:_____

Condition of:

Construction Entrances:	Acceptable	Not Acceptable	N/A
Perimeter Silt Fence:	Acceptable	Not Acceptable	N/A
Temporary Seeding:	Acceptable	Not Acceptable	N/A
Permanent Seeding:	Acceptable	Not Acceptable	N/A
Culvert Inlet Protection:	Acceptable	Not Acceptable	N/A
Dust Control:	Acceptable	Not Acceptable	N/A
Silt Fence Ditch Check:	Acceptable	Not Acceptable	N/A

Maintenance Required for Deficiencies Identified:

_____

_____

_____

To Be Completed By:_____

On or Before:_____, 20___(Corrected within 7 days per Sec. 7.2.8 of General Permit)

These reports shall be kept on file as part of the Storm Water Pollution Prevention Plan for at least three (3) years from the date of completion and submission of the Final Stabilization Certification/Termination Checklist and Notice of Termination (NOT). A copy of the SWPPP shall be available at all times during construction, on the construction site, or pre-approved off-site location.

STORMWATER POLLUTION PREVENTION PLAN

HERITAGE FAMILY CHURCH
37TH AND SENECA
WICHITA, KS 67204

RECORD OF STABILIZATION AND MAJOR ACTIVITIES FORM

A record of dates when major grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be maintained until final site stabilization is achieved and the Notice of Termination is filed.

MAJOR GRADING, CONSTRUCTION, OR STABILIZATION ACTIVITIES

Description of Activity:_____
Location:_____
Contractor:_____
Begin Date:_____ End Date:_____
Stabilization Method:_____ Application Date:_____

Description of Activity:_____
Location:_____
Contractor:_____
Begin Date:_____ End Date:_____
Stabilization Method:_____ Application Date:_____

Description of Activity:_____
Location:_____
Contractor:_____
Begin Date:_____ End Date:_____
Stabilization Method:_____ Application Date:_____

Description of Activity:_____
Location:_____
Contractor:_____
Begin Date:_____ End Date:_____
Stabilization Method:_____ Application Date:_____

Description of Activity:_____
Location:_____
Contractor:_____
Begin Date:_____ End Date:_____
Stabilization Method:_____ Application Date:_____

PROJECT RAINFALL LOG FORM

Day	YEAR: 2014											
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PROJECT RAINFALL LOG FORM

Day	YEAR: 2015											
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SECTION 5

Final Stabilization Checklist and Contractor Certificate of Compliance
Notice of Termination (NOT)

STORMWATER POLLUTION PREVENTION PLAN

HERITAGE FAMILY CHURCH
37TH AND SENECA
WICHITA, KS 67204

FINAL STABILIZATION CHECKLIST AND CONTRACTOR CERTIFICATE OF COMPLIANCE

☐ All soil disturbing activities are complete.

☐ Temporary Erosion and Sediment Control Measures have been removed or will be removed at the appropriate time.

☐ All areas of the Construction Site not otherwise covered by a permanent pavement or structure have been stabilized with a uniform perennial vegetative cover with a density of 70% or equivalent measures have been employed.

CONTRACTOR'S CERTIFICATION STATEMENT:

"I certify under penalty of law that all storm water discharges associated with industrial activity from the identified project that are authorized by NPDES General Permit have been eliminated and that all disturbed areas and soils at the construction site have achieved Final Stabilization and all temporary erosion and sediment control measures have been removed or will be removed at the appropriate time."

Printed Name:_____

Signature:_____ Date:_____

Title:_____

Company Name:_____

NOTICE OF TERMINATION

To Relinquish the Authorization to Discharge Stormwater Runoff from Construction Activities at the Construction Site Described Herein

Submission of this Notice of Termination (NOT) constitutes notice that the party identified below relinquishes authorization for coverage under the Kansas Water Pollution Control general permit, or KDHE authorized successor permits, issued for discharge of Stormwater Runoff from Construction for the construction activity at the site named herein. Completion of this NOT does not automatically relieve the former permittee of any civil, criminal and/or administrative penalties.

To be considered acceptable, the NOT must be signed by the current permittee or a duly authorized representative of the current permittee, and must include the permit number assigned to the construction activity. KDHE will notify any permittee whose NOT is incomplete, deficient or denied. **Please Print or Type**.

Name of Project: _____

City: _____ County: _____ State: KS

Kansas Permit No. _____ Federal Permit No. _____

Company Name: _____ Phone: _____

This Notice of Termination is being submitted because: **(check one)**

- ❑ The construction project or larger common plan of development is finished and final site stabilization has been completed (pavement, buildings, structures, or perennial vegetation having a density of at least 70% of undisturbed areas at the site cover all areas which have been disturbed - See Part 8 of the general NPDES permit S-MCST-0701-1).

- ❑ This project is a house development subdivision project that has had a construction stormwater discharge Authorization for at least 3 years, the vacant lots are all stabilized, and the rate of home construction within the development disturbs less than one (1.0) acre (approximately 5 lots) per year or less than one (1.0) acre of land (approximately 5 lots) remain available for development (see Part 8 of the general NPDES permit S-MCST-0701-1).

I certify under penalty of law that all soil disturbances associated with the construction activity at the construction site named herein meet one of the two criteria indicated above and have therefore attained final stabilization in accordance with Part 8 of the general NPDES permit S-MCST-0701-1. I understand that by submitting this Notice of Termination, I am no longer authorized under the general NPDES permit S-MCST-0701-1 to discharge stormwater associated with construction activity at this construction site. I understand that discharging pollutants in stormwater associated with construction activity to waters of the State is unlawful under K.S.A. 65-164 and 65-165 and the Clean Water Act without authorization by a valid Kansas Water Pollution Control Permit. I understand that by submitting this Notice of Termination, I am not released from liability for any violations of the general NPDES permit S-MCST-0701-1, K.S.A. 65-164 and 65-165, the Kansas Surface Water Quality Standards (K.A.R. 28-16-28 et seq.), or the Clean Water Act. *I also hereby certify that I am authorized to sign this Notice of Termination as a representative of the permittee named herein.*

Signature: _____ Date: _____

Name (typed or printed): _____

Submit the NOT with original signatures to:

Kansas Department of Health and Environment
Bureau of Water, Industrial Programs Section
1000 SW Jackson, Suite 420
Topeka, KS 66612 - 1367

SECTION 6

Attachments
Record Keeping Documentation of the SWPPP

HERITAGE FAMILY CHURCH
STORM WATER MANAGEMENT
OPERATIONS AND MAINTENANCE PLAN

Prepared by:

Ryan W. McCune, P.E.

ASM Engineering Consultants, LLC

Date:

August 7, 2014

Project: Heritage Family Church

37th and Seneca

Wichita, KS 67204

Stormwater Operations and Maintenance Plan

The stormwater for this site will be held in a single stormwater (wet) pond.

Anticipated Maintenance and Replacement Costs				
Facility	Area (acre)	Mowing Cost	Days/Year	Total
Wet Pond	1.33	$30/acre	14	$1,037.40
15% Contingency for As-Needed Maintenance				+ $155.61
				$1,193.01

As-Needed Maintenance

Erosion Repair

Re-Vegetate

Sediment/Debris Removal

$$\text{Days} = \frac{1\text{ day}}{2\text{ week}} * \frac{7\text{ months}}{\text{year}} * \frac{4\text{ weeks}}{\text{month}} = \frac{14\text{ days}}{\text{year}}$$

Attached: O&M Plan Checklist

Wet Pond Inspection Guide

Wet Pond Inspection Checklist

Facility Map

City of Wichita/Sedgwick County
Operations & Maintenance Plan Checklist

Submit completed forms to:
City of Wichita Public Works & Utilities, 455 N. Main 8th Floor, Wichita KS 67202; or
Sedgwick County Stormwater Management, 1144 S. Seneca, Wichita KS 67213.

Project Name:	Heritage Family Church				
Total Area of Project:	4.5 **acres**				
Development Type:	Residential	**Other:**			
Developer Name:	Jonathan Dudley	**Contact:**	PO 49196; Wichita, KS 67201	**Phone:**	316-942-6652
Email:					
Engineer Name:	Ryan W. McCune	**Contact:**		**Phone:**	316-260-5895
Email:	rmccune@asm4.com				

Directions:

(1) Fill-out this checklist completely and include it with the O&M Plan submittal. Incomplete plans and checklists will not be accepted.

*(2) Indicate whether a plan element is included or not included in the submittal by choosing "**Yes**" or "**No**" from the dropdown list in the **"Element Included?**" column. The question must be answered for every plan element for this checklist to be considered complete. An explanation must be provided for all "No" answers.*

NOTE: THE O&M PLAN IS A DOCUMENT THAT IS INTENDED FOR USE BY THE PROPERTY OWNER (I.E., NOT AN ENGINEER OR LANDSCAPE ARCHITECT) TO GUIDE IN THE INSPECTION AND MAINTENANCE OF SITE STORMWATER MANAGEMENT FACILITIES. IT IS THE IMPORTANT THAT THE O&M PLAN BE WRITTEN IN A MANNER THAT CAN BE UNDERSTOOD BY THE GENERAL PUBLIC. PLEASE CONSIDER THIS WHEN PREPARING THE O&M PLAN.

Operations & Maintenance Plan Checklist

#	Plan Element Description	Element Included?	Explanation/Notes
1.0	**General Information**		
1.1	Digital copy of O&M plan. Include all sheets and submit as a single PDF file.	Yes	
1.2	Hard copy of all O&M Plan sheets.	Yes	
1.3	**Final O&M Plans only**: Digital copy of as-built plan, showing changes from approved designs as redlined items. Include all sheets and submit as a single PDF file.	No	Preliminary Submittal
1.4	Narrative describing the name, location and function of all of the stormwater management facilities located on the property. Each facility must be identified using its proper name (as used in the Wichita/Sedgwick County Stormwater Manual).	Yes	
1.5	An *Inspection and Maintenance Guidance* sheet (8.5x11) for **each** stormwater management facility located on the property. Use guidance sheets provided in Volume 2, Chapter 3 of the Wichita/Sedgwick County Stormwater Manual, suitably modified (if necessary) to describe the required inspection and maintenance activities and the expected schedule/frequency for inspection and maintenance activities.	Yes	
1.6	An *Inspection Checklist* template (8.5x11) for **each** stormwater management facility located on the property. Use inspection templates provided in Volume 2, Chapter 3 the Wichita/Sedgwick County Stormwater Manual.	Yes	
1.7	**Proprietary BMPs only**: BMP inspection and maintenance guidance is not provided in the Wichita/Sedgwick County Stormwater Manual for proprietary BMPs. This information, including a suggested frequency for inspection and maintenance activities must be provided, in accordance with the BMP manufacturer's inspection and maintenance recommendations.	No	No BMPs
2.0	**Stormwater Facility Map**		
2.1	Title block with address of project, phase or addition name, date of O&M plan, name/address of site design engineer/company.	Yes	
2.2	Date of completion of construction.	No	Preliminary Submittal
2.3	Identifying label, type (using proper name in accordance with the Wichita/Sedgwick County Stormwater Manual) and location of all stormwater management facilities, with boundary lines for the facilities and all easements/reserves as applicable.	Yes	
2.4	Identifying label, type and location of all proprietary stormwater quality systems. Must include commercial name of the device, vendor name/address, manufacturer name, make, model and size details.	No	None Included
2.5	Identifying label, type and location of all water quality volume reduction areas, with boundary lines for areas and all easements/reserves as applicable.	No	N/A
2.6	Label and location of permanent signage for stormwater management facilities and water quality volume reduction areas located on the property.	No	N/A
2.7	Scale (horizontal).	Yes	

Operations & Maintenance Plan Checklist			
#	Plan Element Description	Element Included?	Explanation/Notes
2.8	Legend key.	Yes	
3.0	**Cost Estimates**		
3.1	Estimate(s) of the expected annual cost associated with routine inspection and maintenance of **each and every** stormwater management facility over the expected life of the facility(s).	Yes	
3.2	Estimate(s) of any non-routine costs associated with expected remedial maintenance (e.g., removal of sediment from a wet pond every 10 to 15 years) of **each and every** stormwater management facility over the expected life of the facility(s).	Yes	
End of Checklist			

Wichita/Sedgwick County
Stormwater Facility Inspection & Maintenance Guidance
Stormwater (Wet) Ponds

Regular inspection and maintenance is critical to the effective operation of this stormwater management facility so that it can function as designed. In the City of Wichita and Sedgwick County, local regulations (City of Wichita Code Chapter 16.32 and Sedgwick County Resolution 196.10) require that property owners maintain all stormwater facilities on their properties to ensure they are fully functioning to treat and control stormwater runoff, and to document facility inspections and maintenance activities. This documentation must be kept by the property owner and must be made available to Stormwater Management staff upon their request.

This page provides guidance on inspection and maintenance activities that must be performed for stormwater ponds. Some facilities may have more, or less, frequent maintenance needs, depending upon a variety of factors including the occurrence of large storm events, overly wet or dry (i.e., drought) regional hydrologic conditions, and any changes in the land (e.g., development, landscaping, etc.) that drains to the facility.

Inspection Activities	**Suggested Schedule**
• **After several storm events or an extreme storm event, inspect for: bank stability; signs of erosion; and damage to, or clogging of, the inlet/outlet structures and pilot channels.**	**As needed**
• **Inspect for: trash and debris; clogging of the inlet/outlet structures and any pilot channels; excessive erosion; sediment accumulation in the basin, forebay and inlet/outlet structures; tree growth on dam or embankment; the presence of burrowing animals; standing water where there should be none; vigor and density of the grass turf on the basin side slopes and floor; differential settlement; cracking; leakage; and slope stability.**	**Semi-annually**
• **Inspect that the inlet/outlet structures, pipes, sediment forebays, and upstream, downstream, and pilot channels are free of debris and are operational.** • **Check for signs of unhealthy or overpopulation of plants and/or fish (if utilized).** • **Note signs of algal growth or pollution, such as oil sheens, discolored water, or unpleasant odors.** • **Check sediment marker(s) for sediment accumulation in the facility and forebay.** • **Check for proper operation of control gates, valves or other mechanical devices.** • **Note changes to the wet pond or contributing drainage area as such changes may affect pond performance.**	**Annually**
Maintenance Activities	**Suggested Schedule**
• **Clean and remove debris from inlet and outlet structures.** • **Mow side slopes (embankment) and maintenance access. Periodic mowing is only required along maintenance rights-of-way and the embankment. The remaining pond buffer can be managed as a meadow (mowing every other year) or forest.**	**Monthly**
• **If wetland vegetation is included, remove invasive vegetation.**	**Semi-annually**
• **Repair damage to pond, outlet structures, embankments, control gates, valves, or other mechanical devices; repair undercut or eroded areas.** • **Remove pollutants or algal overgrowth as appropriate.**	**As Needed**
• **Perform wetland plant management and harvesting.**	**Annually (if needed)**
• **Remove sediment from the forebay. Sediments excavated from stormwater ponds that do not receive hotspot runoff are not considered toxic or hazardous material and can be safely disposed of by either land application or landfilling. Sediment testing is required prior to sediment disposal when the pond receives discharge from a hotspot land use.**	**5 to 7 years or after 50% of the total forebay capacity has been lost**
• **Monitor sediment accumulations and remove sediment when the pond volume has become reduced significantly or the pond is not providing a healthy habitat for vegetation and fish (if used). Discharges of pond water may be considered an illegal discharge by local ordinances. Care should be exercised during pond drawdowns to prevent downstream discharge of sediments, anaerobic water, or high flows with erosive velocities. Consult the local jurisdiction before draining a stormwater pond.**	**10 to 20 years or after 25% of the permanent pool volume has been lost**

The inspection checklist that is presented on the next page is provided to guide and document inspection and maintenance activities. Please use this checklist or other form(s) of maintenance documentation when and where deemed necessary in order to ensure the long-term proper operation of the stormwater management facility.

For more information on the maintenance of your stormwater facility, please contact:

City of Wichita Stormwater Management, 455 N. Main 8th floor Wichita KS. 67202, (316) 268-4498
or Sedgwick County Stormwater Management, 1144 S. Seneca Wichita KS. 67213, (316) 383-7901

Wichita/Sedgwick County
Stormwater (Wet) Ponds Inspection Checklist

Project Name: _____ Project #:_____

BMP Name/ID (as shown on the O&M Plan):_____

Refer to the Operations & Maintenance Plan for this property to get the information requested in this box. The Operations and Maintenance Plan for this property is recorded with the Sedgwick County Register of Deeds.

Property Owner Name: _____

Property Address: _____

Owner Phone #:_____ Owner Email Address:_____

Owner Change since last inspection? Y ☐ N ☐

Inspection Date/Time:_____

Weather and Site Conditions (last rainfall date, dry/wet soil, etc.):_____

_____

Inspection Items	Condition*	Comments/Corrective Action
***Note - Condition should be marked as Satisfactory (S) or Unsatisfactory (U). An explanation of corrective actions must be provided for all items marked as Unsatisfactory. The completion date of any corrective actions taken must also be documented.**		
Inspect the embankment (the dam/berm that holds water in the pond) and the emergency spillway (the location where water exits the facility in the event that the embankment is overtopped).		
1. Does the vegetation appear to be healthy and adequately covering the embankment to prevent erosion? **Yes = Satisfactory**		
2. Are there signs that soil is eroding (washing away) on/from the embankment? **Yes = Unsatisfactory**		
3. Are there signs of animal burrows in embankment? **Yes = Unsatisfactory**		
4. Are there signs of cracking, sliding and/or bulging of the berm/dam? **Yes = Unsatisfactory**		
5. Are the drains (if any) blocked or malfunctioning? **Yes = Unsatisfactory**		
6. Are there signs of leaks or seeps on the embankment? **Yes = Unsatisfactory**		
7. Are there any obstructions of the emergency spillway(s)? **Yes = Unsatisfactory**		

Inspection Items	Condition*	Comments/Corrective Action
8. Are there signs of erosion (washing away of soil) in or around the emergency spillway? **Yes = Unsatisfactory**		
9. Other (describe)?		
Inspect the inlet and outlet structures and channels – these are the locations/structures where water enters and exits the pond.		
10. Are the inlets and outlets and channels clear of debris and functional? **Yes = Satisfactory**		
11. Are trash racks clear of debris and functional? **Yes = Satisfactory**		
12. Has sediment accumulated at any of the inlet and outlet structures? **Yes = Unsatisfactory**		
13. Does the concrete/masonry appear to be in good condition? **Yes = Satisfactory**		
14. Do the pipes appear to be in good condition? **Yes = Satisfactory**		
15. Is the slide gate (if any) operating properly? **Yes = Satisfactory**		
16. Is the pond drain valve operating properly? **Yes = Satisfactory**		
17. Are there signs of erosion (washing away of soil) in the outlet channels? **Yes = Unsatisfactory**		
18. Other (describe)?		
Inspect the permanent pool – this is the area that stays permanently (or nearly permanently) filled with water.		
19. Is there growth of undesirable vegetation or overgrowth of vegetation? **Yes = Unsatisfactory**		
20. Is the pool visibly polluted (trash, oily sheen, foul or chemical odor, discoloration, foaming, etc.)? **Yes = Unsatisfactory**		

Wichita/Sedgwick County
Stormwater (Wet) Ponds Inspection Checklist

Inspection Items	Condition*	Comments/Corrective Action
21. Are there areas of erosion (soil washing away) on the shoreline? **Yes = Unsatisfactory**		
22. Are there signs of erosion (soil washing away) at the location where water enters the pool? **Yes = Unsatisfactory**		
23. Are the headwalls and endwalls in good condition? **Yes = Satisfactory**		
24. Are other activities (e.g., grading, recreational, etc.) encroaching on the pool area? **Yes = Unsatisfactory**		
25. Is there evidence of sediment accumulation? **Yes = Unsatisfactory**		
Inspect the sediment pre-treatment area (usually a forebay) – the location and type of the pre-treatment area should be indicated on the O&M Plan.		
26. Has sediment accumulated in the pre-treatment area? Note – sediment accumulation would indicate that the pre-treatment area is not working as intended and must be cleaned. **Yes = Unsatisfactory**		
Inspect the dry areas.		
27. Is the vegetation healthy and adequately covering the dry areas to prevent soil erosion? **Yes = Satisfactory**		
28. Is there growth of undesirable vegetation or overgrowth of vegetation? **Yes = Unsatisfactory**		
29. Is there excessive sediment accumulation? **Yes = Unsatisfactory**		
Identify any potential hazards to humans or the environment.		
30. Have there been complaints from residents? **Yes = Unsatisfactory**		
31. Are there any other public hazards that should be noted? **Yes = Unsatisfactory**		

Wichita/Sedgwick County
Stormwater (Wet) Ponds Inspection Checklist

By signing my name below, I certify that the information submitted in this document (and all attachments) is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are penalties for knowingly submitting false information, including the possibility of regulatory violations and associated fines.

Inspected by (Name):_____

Inspected by (Signature):_____

PRELIMINARY NOT FOR CONSTRUCTION

EXISTING BASINS

BASIN	Area (Ac)	TOC (min)
1	9.07	33.3
2	2.10	10.9
3	3.35	16.1

SCS Hydrology Summary - Existing						
	Runoff (CFS)					
Basin	2 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
Basin 1	1.23	3.83	6.68	10.03	14.21	18.22
Basin 2	0.59	1.85	3.12	4.56	6.33	8.01
Basin 3	0.73	2.35	4.04	5.98	8.36	10.63
Total	**2.55**	**8.03**	**13.84**	**20.57**	**28.90**	**36.86**

Issue	Date	By	Description

Drawn By: KLH
Checked By:
Date: June 10, 2014
Issue No.

ASM Engineering Consultants
202 E. Rhondda Ave. | P.O. Box 452 | Andover, KS 67002
P: (316) 260-5895 | F: (316) 260-5954 | www.asm4.com

Client:
HERITAGE FAMILY CHURCH
NORTH SENECA & 37TH STREET
WICHITA, KANSAS 67207

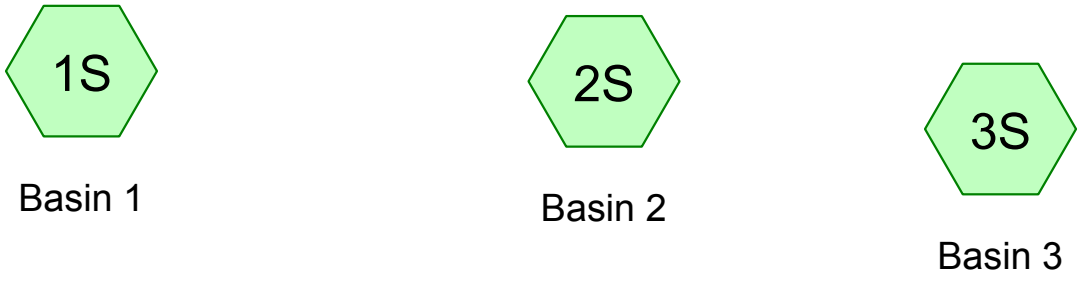
HERITAGE FAMILY CHURCH
NEW GYM BUILDING

EXISTING DRAINAGE MAP

WICHITA, KANSAS

Sheet No.
D1

Project No.
983

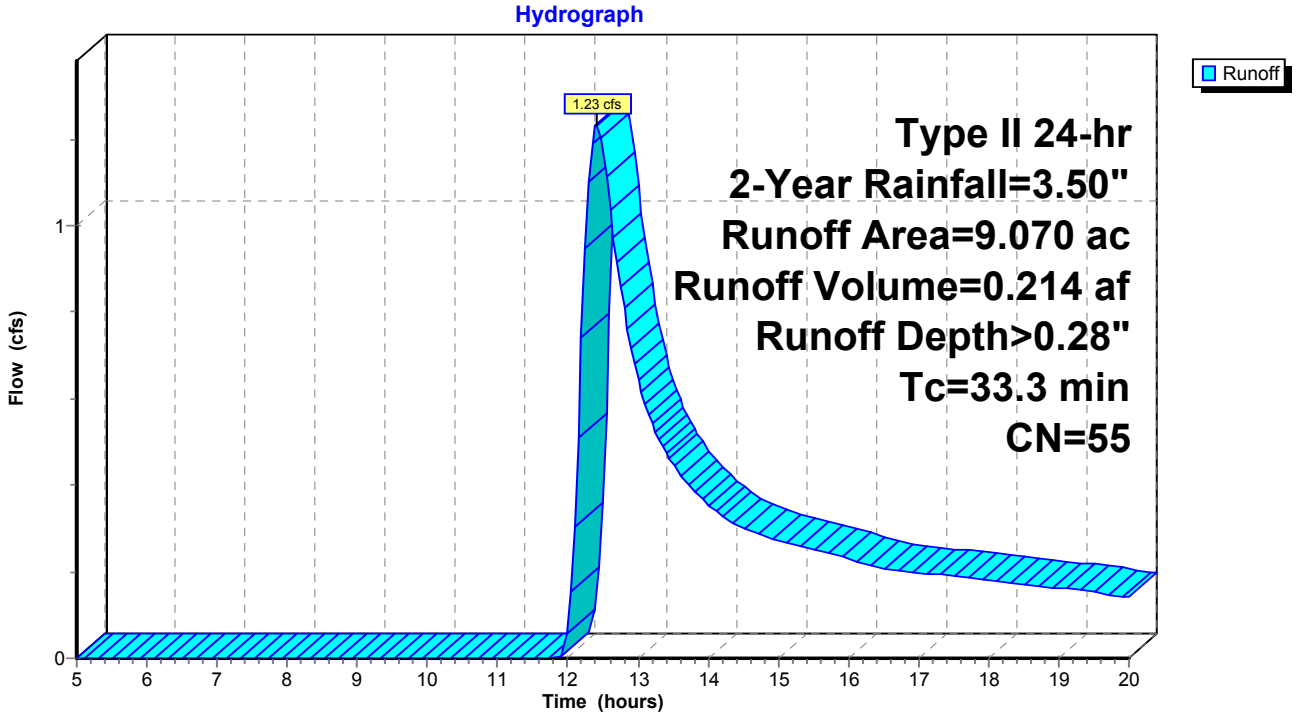


Subcat Reach Pond Link

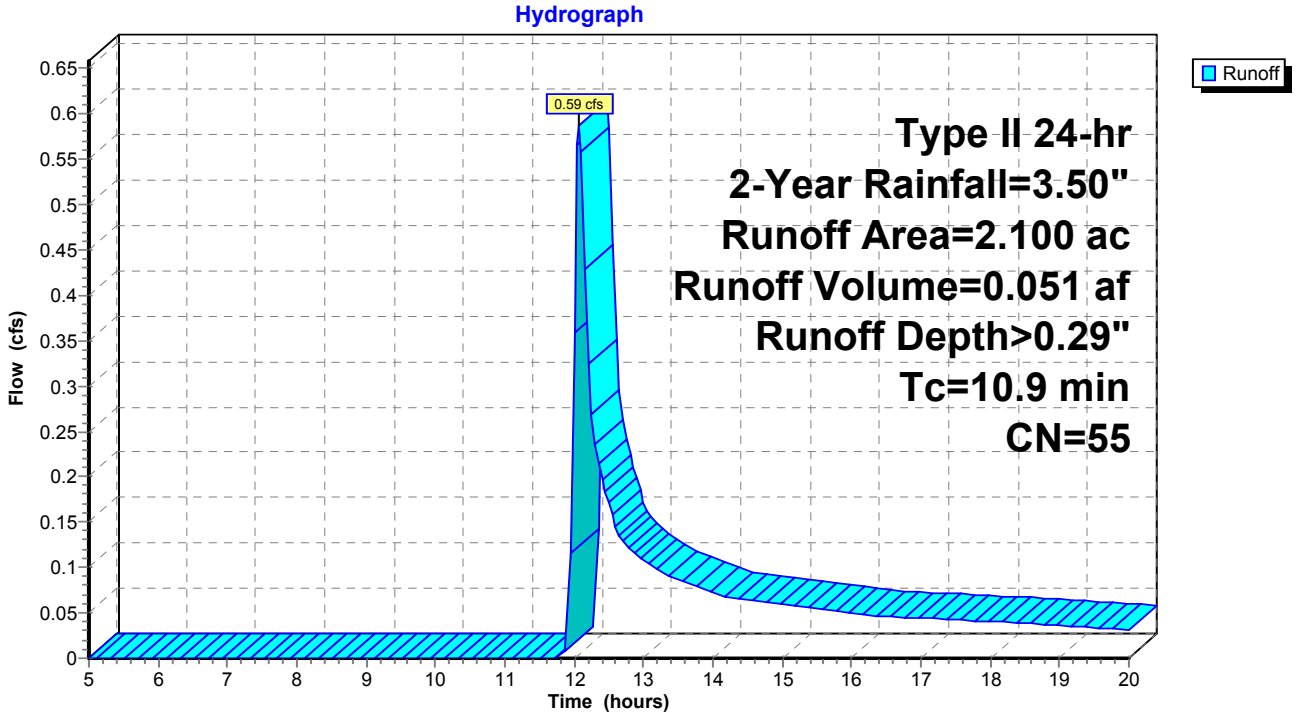
Routing Diagram for 983_Existing SCS

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net, Printed 8/7/2014
HydroCAD® 10.00-12 Sampler s/n S14948

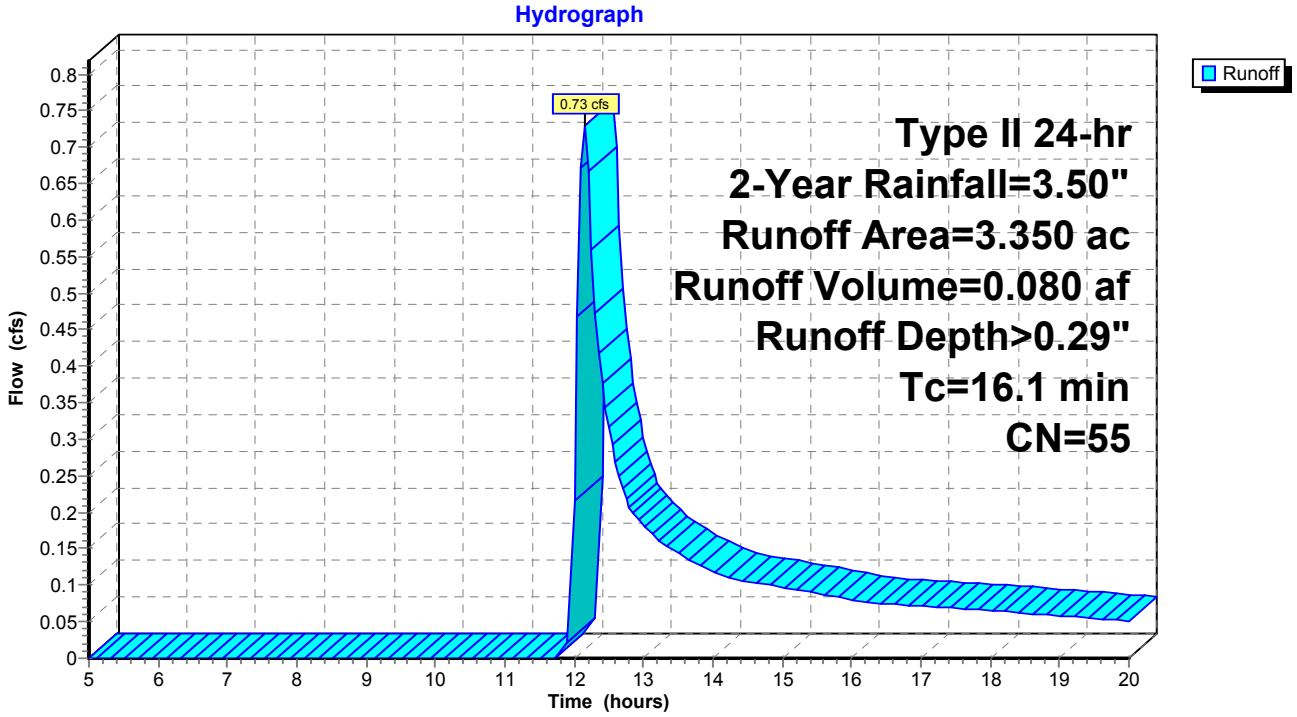
Subcatchment 1S: Basin 1



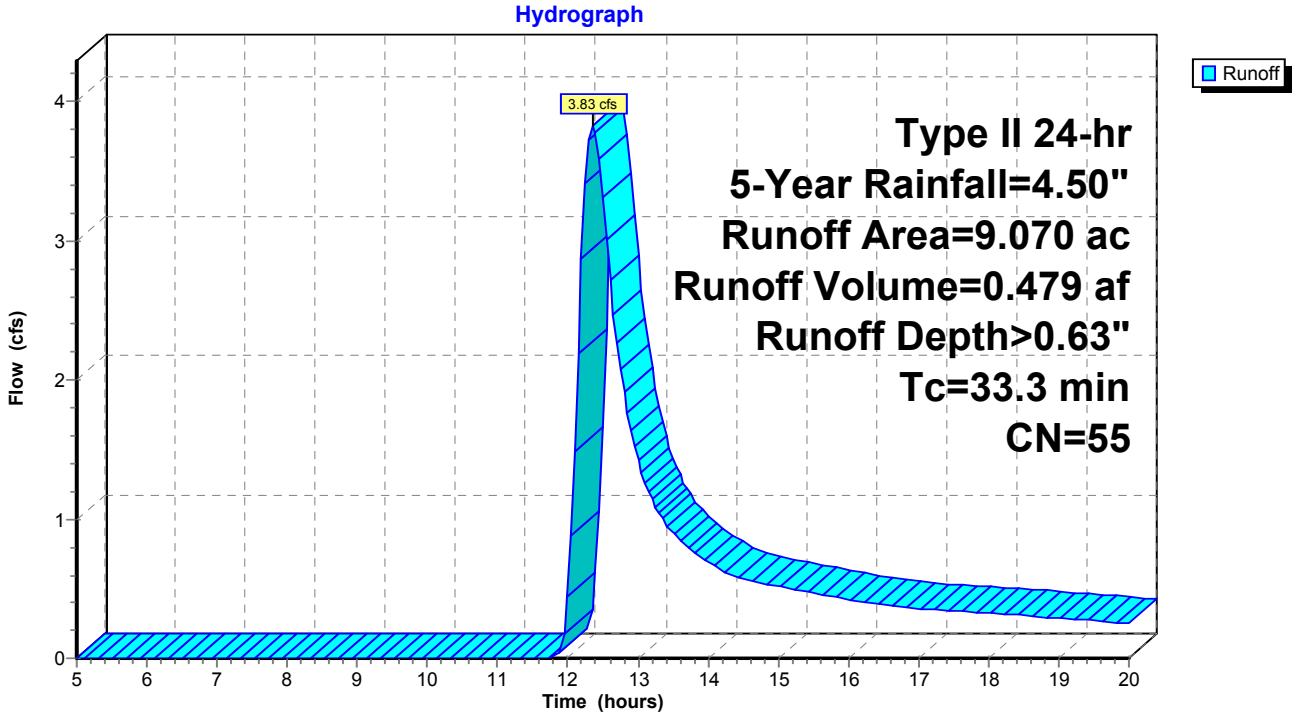
Subcatchment 2S: Basin 2



Subcatchment 3S: Basin 3



Subcatchment 1S: Basin 1



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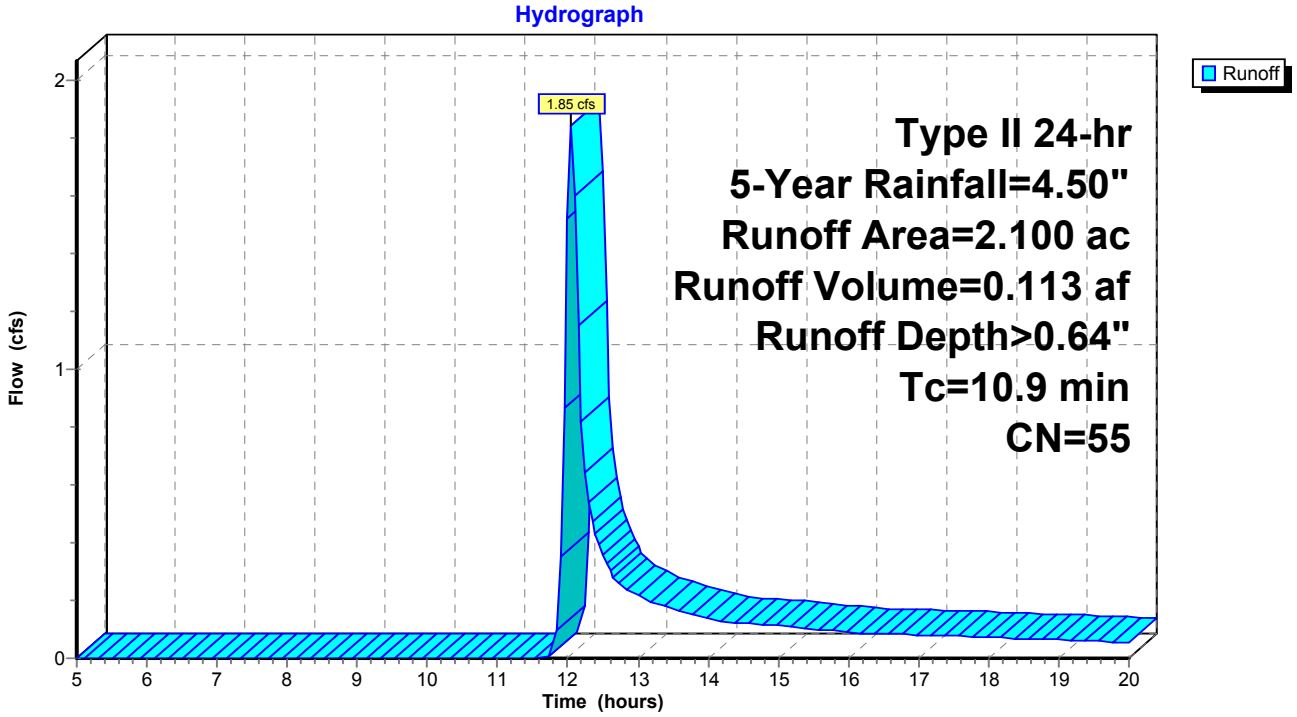

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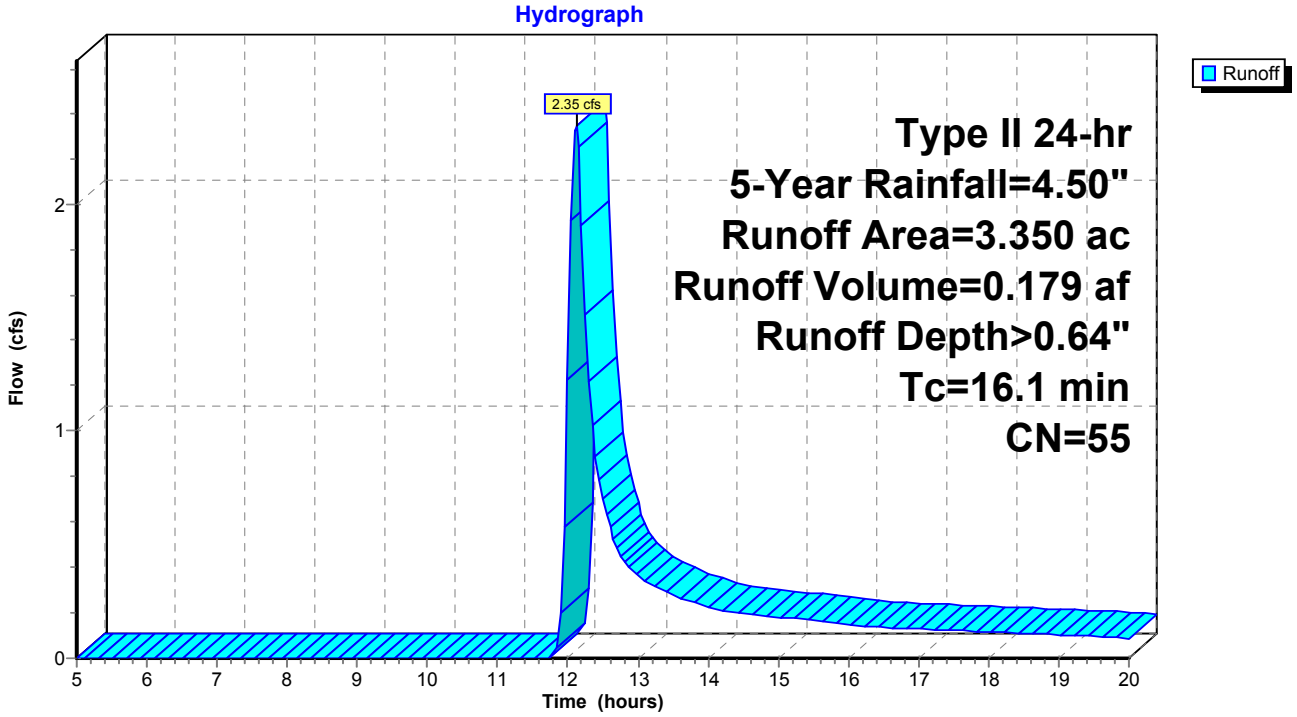

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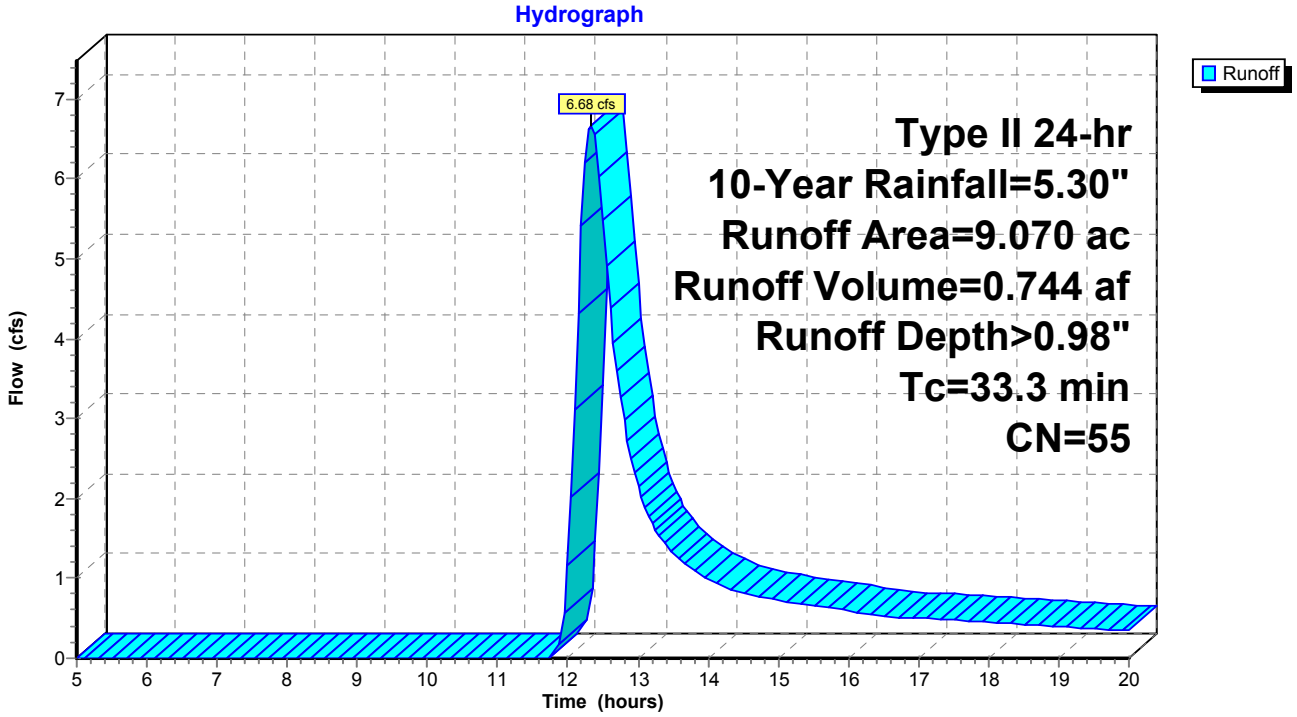

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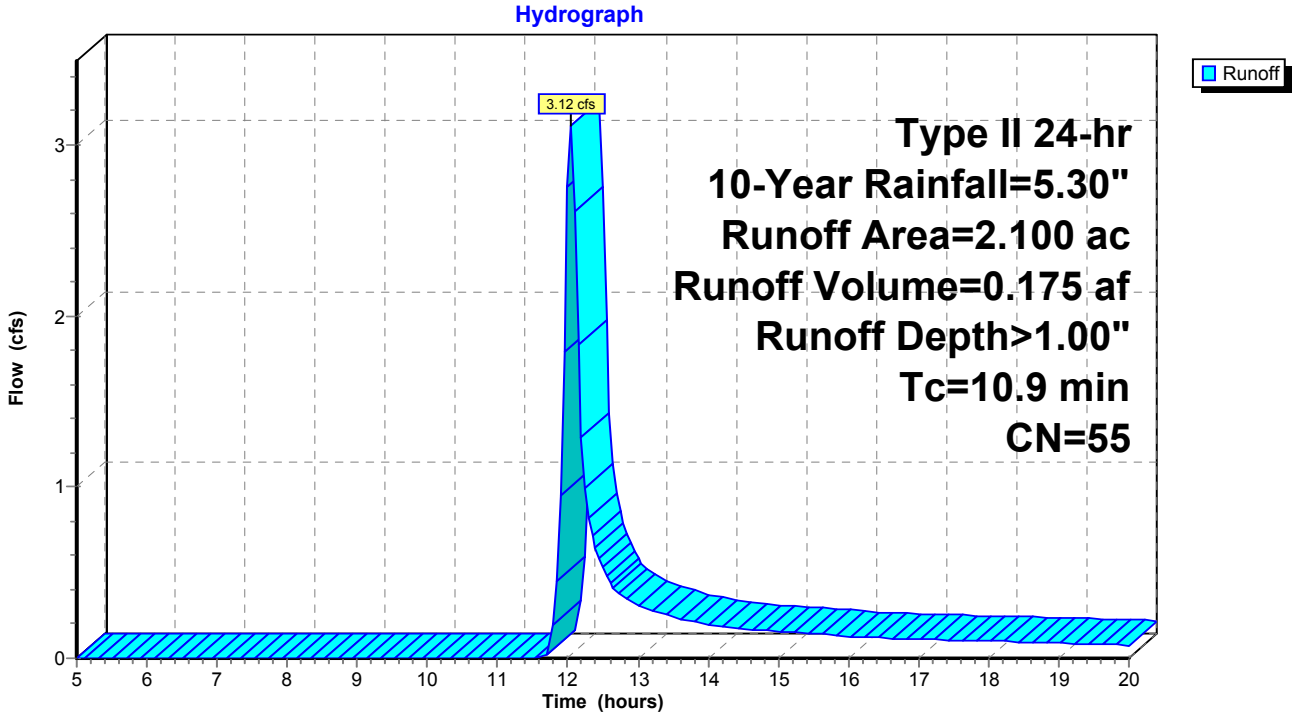

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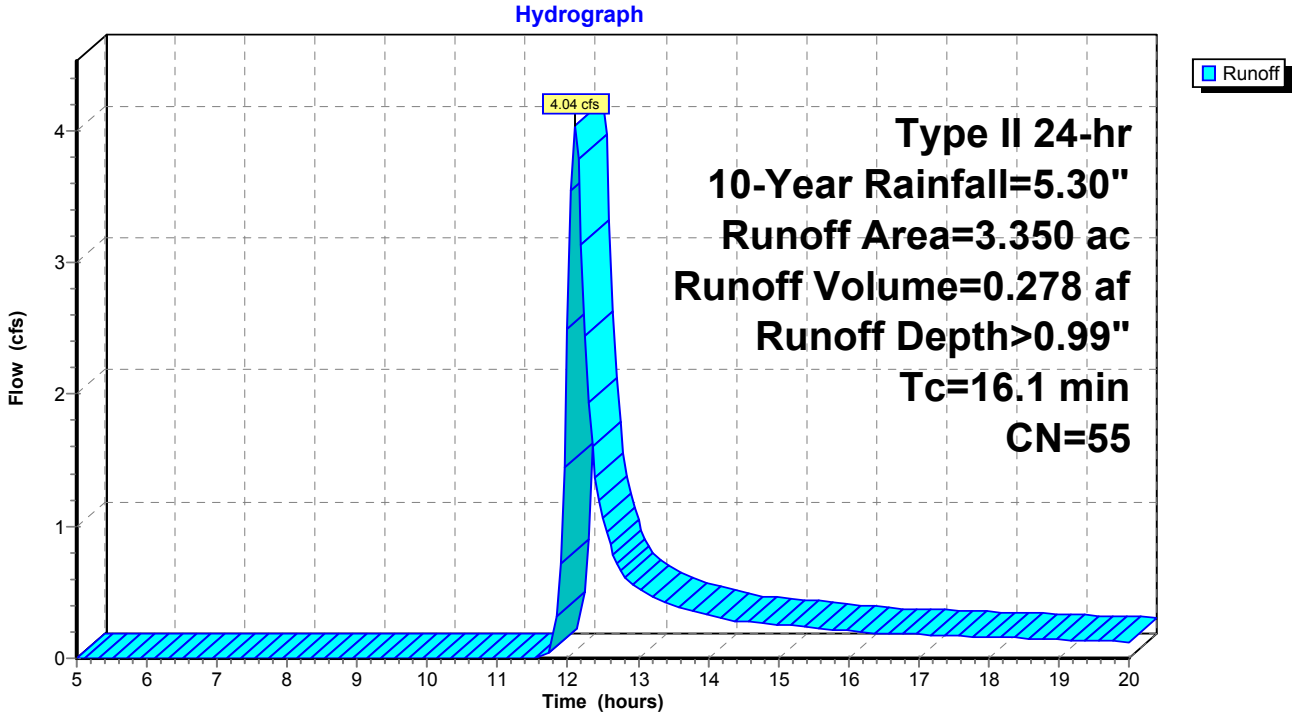
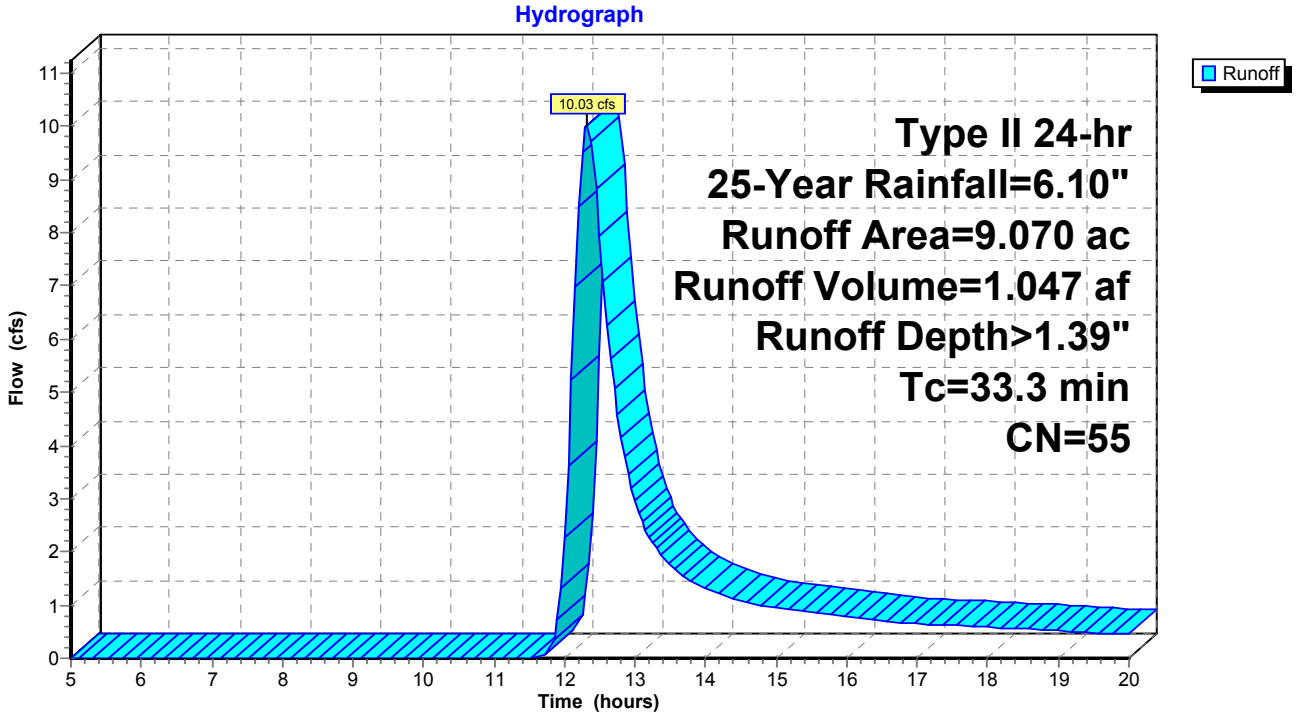
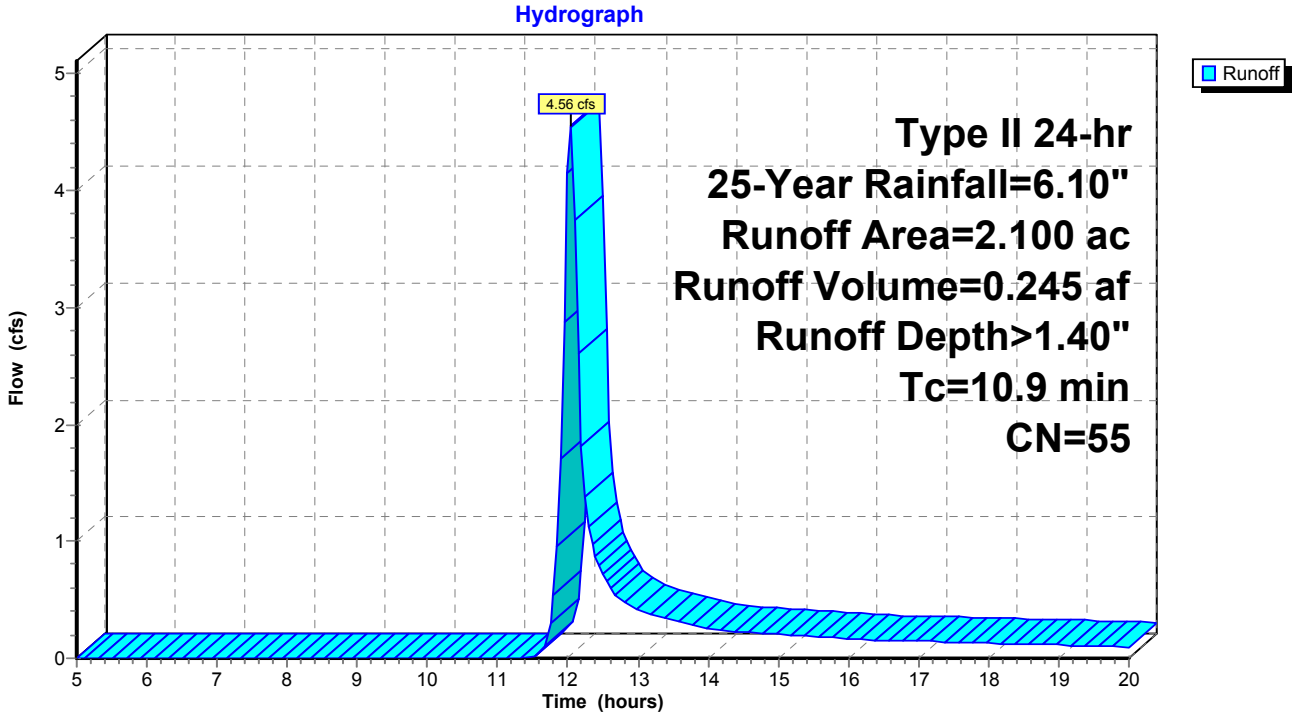


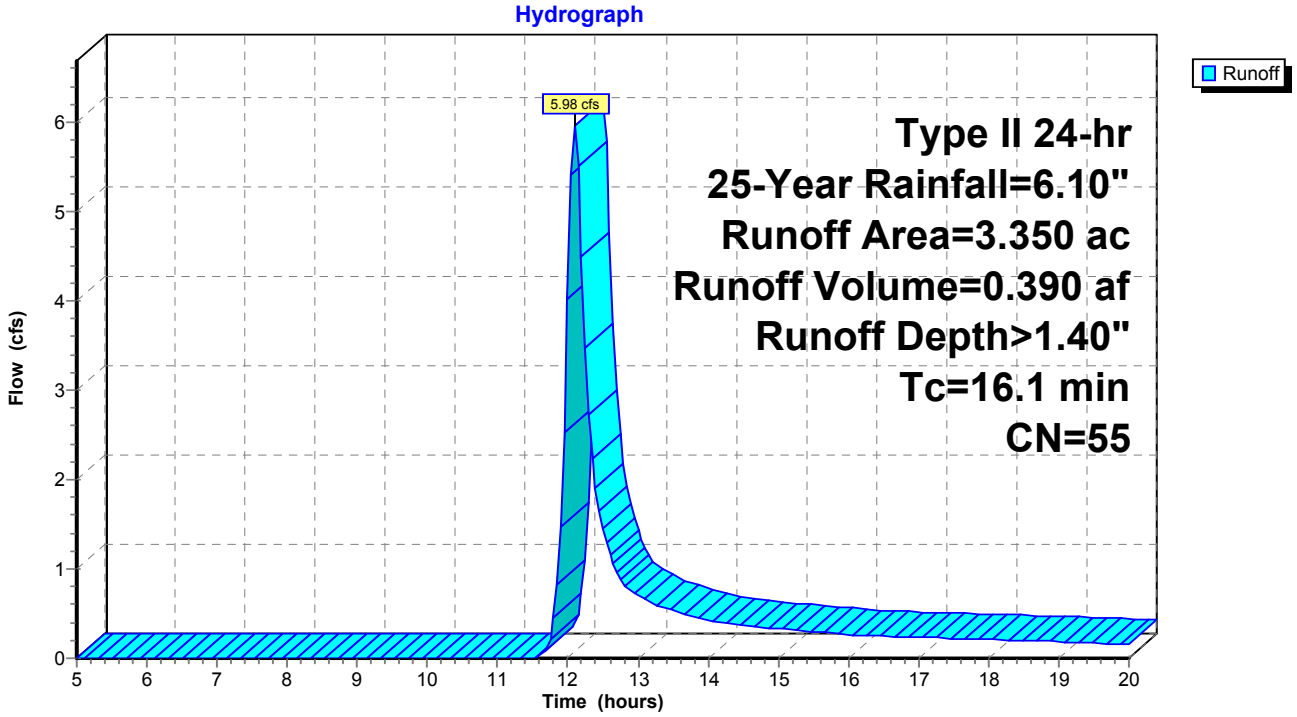
Subcatchment 1S: Basin 1



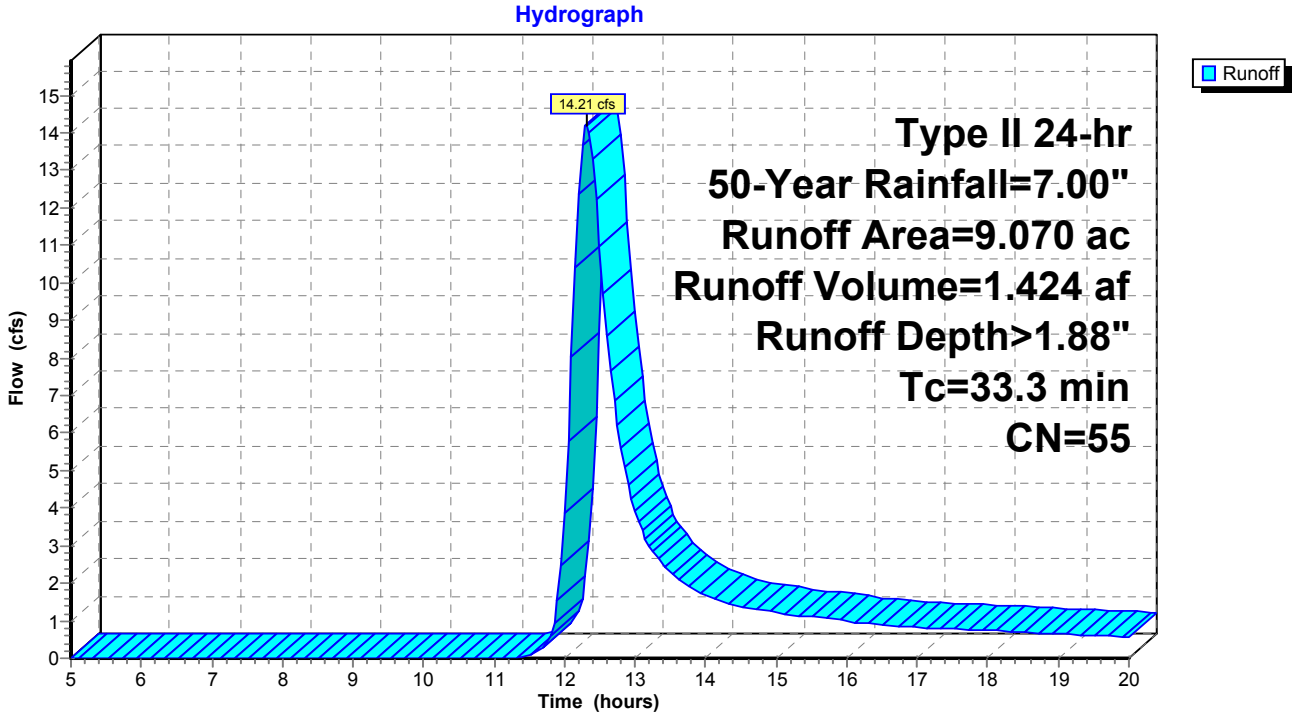
Subcatchment 2S: Basin 2



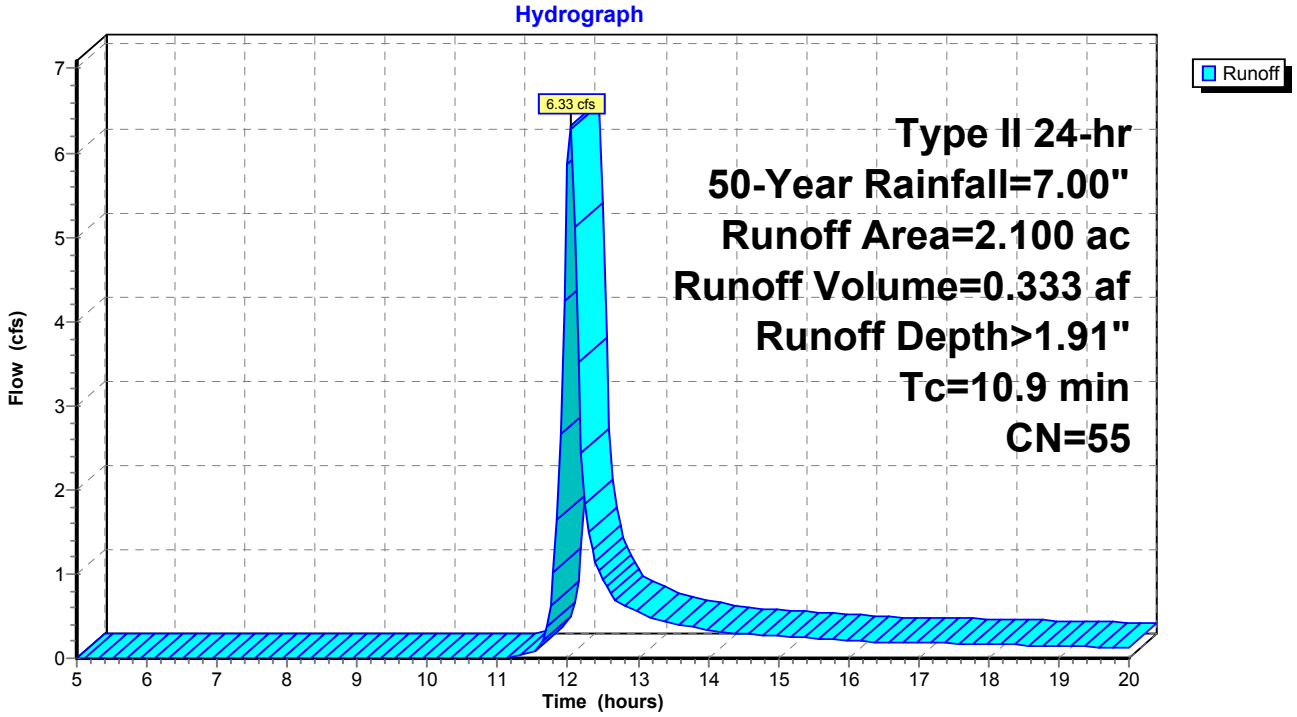
Subcatchment 3S: Basin 3



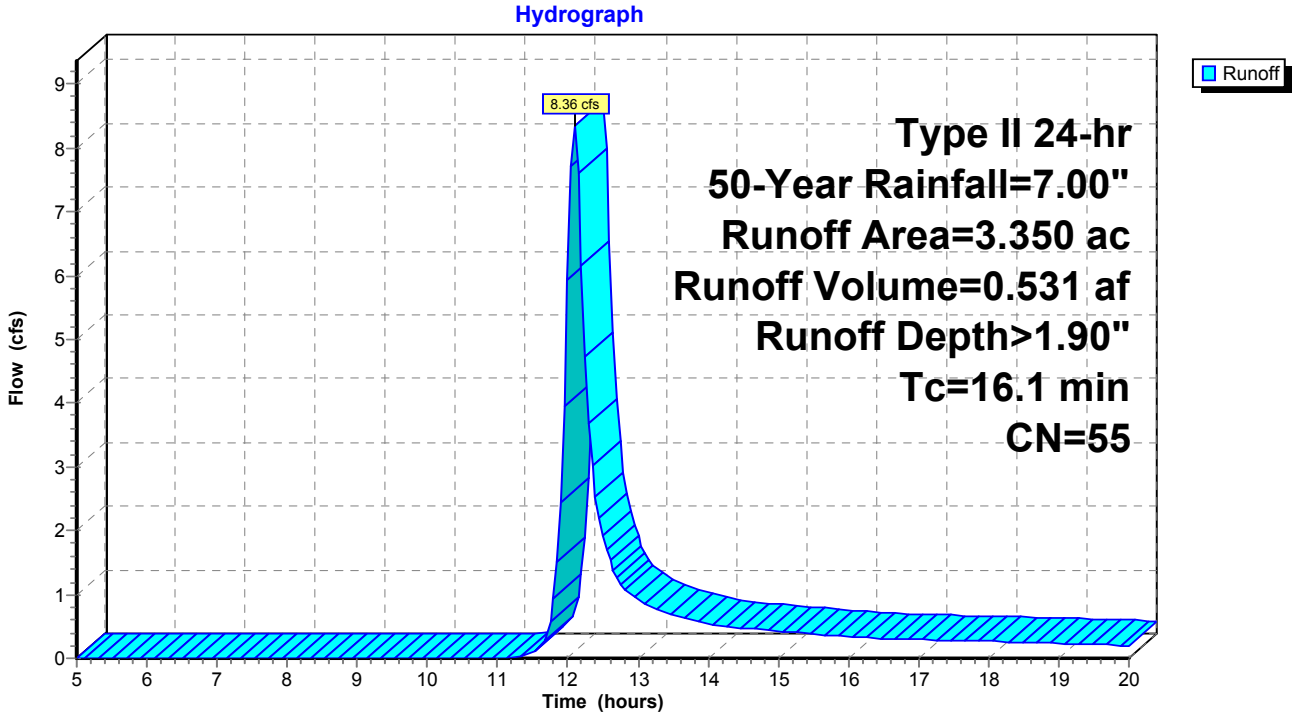
Subcatchment 1S: Basin 1



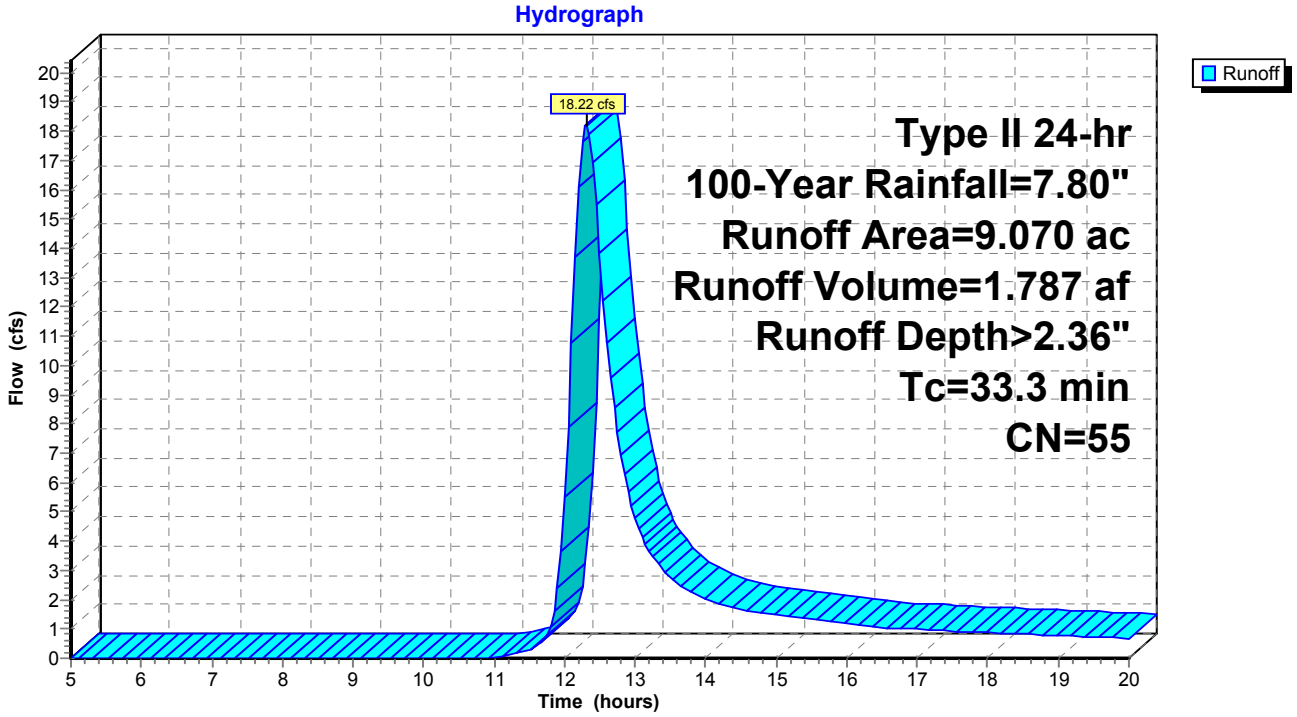
Subcatchment 2S: Basin 2



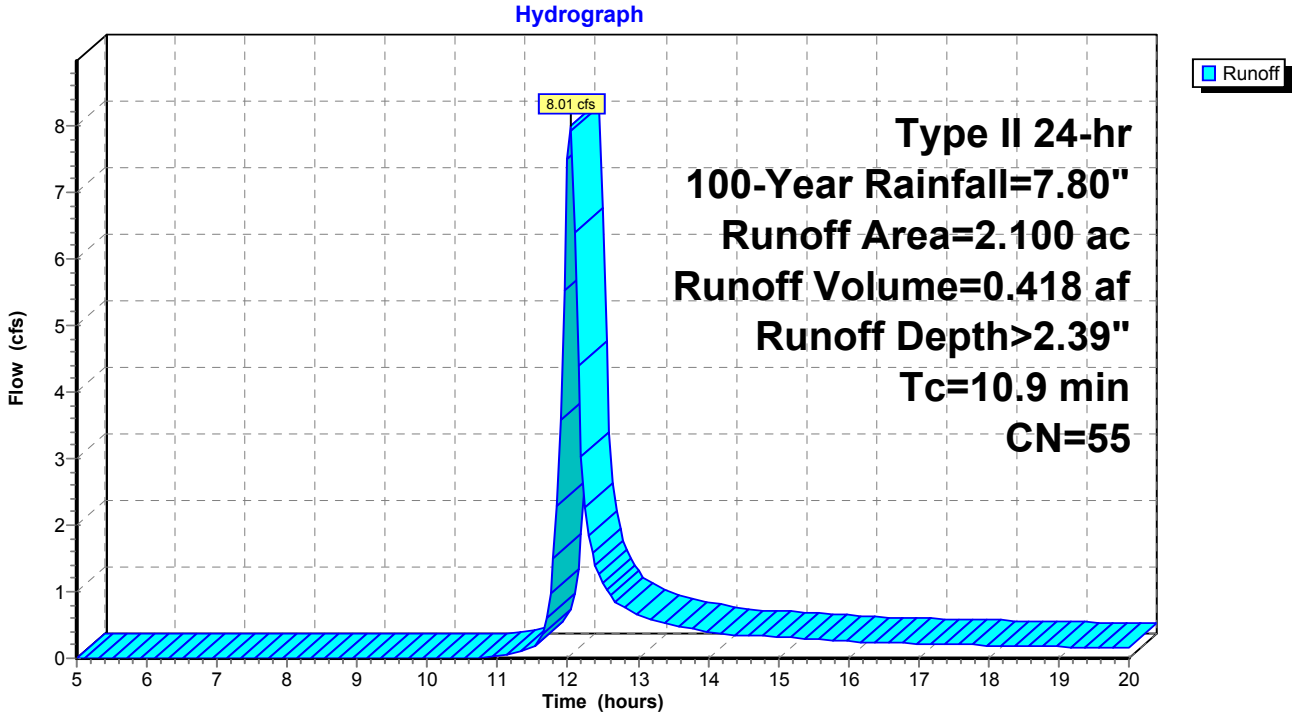
Subcatchment 3S: Basin 3



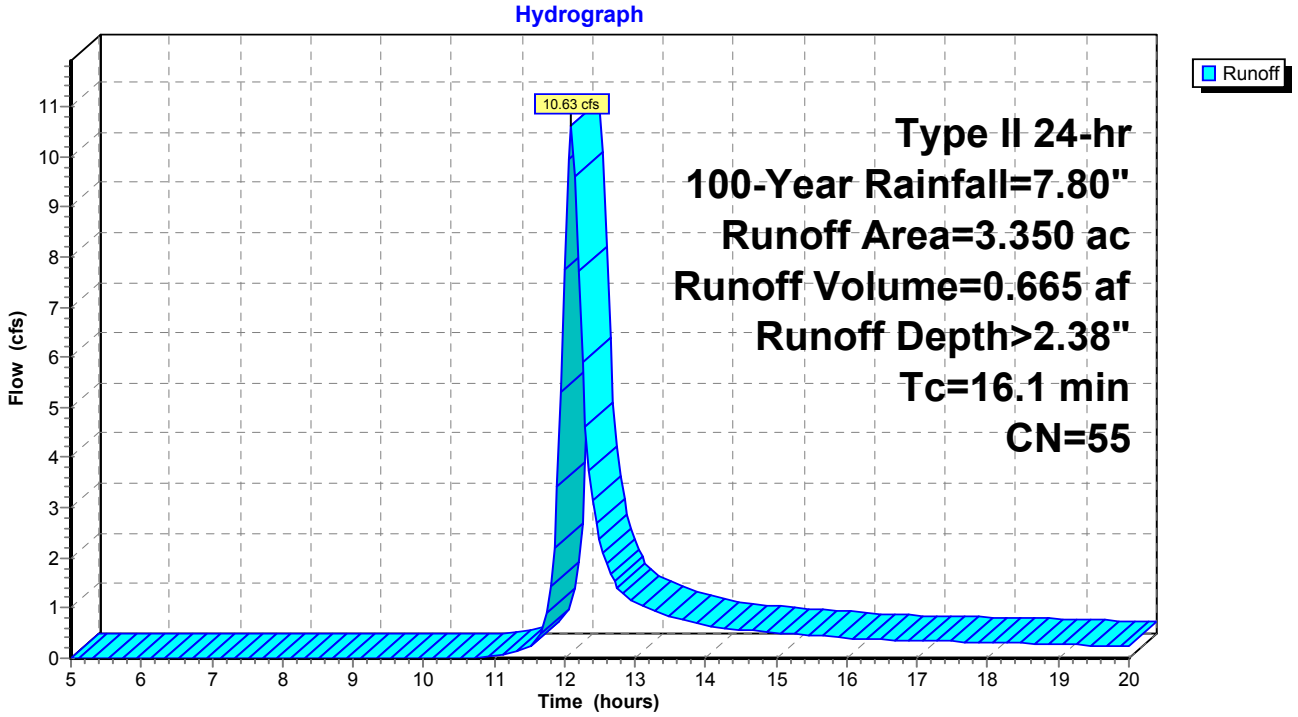
Subcatchment 1S: Basin 1

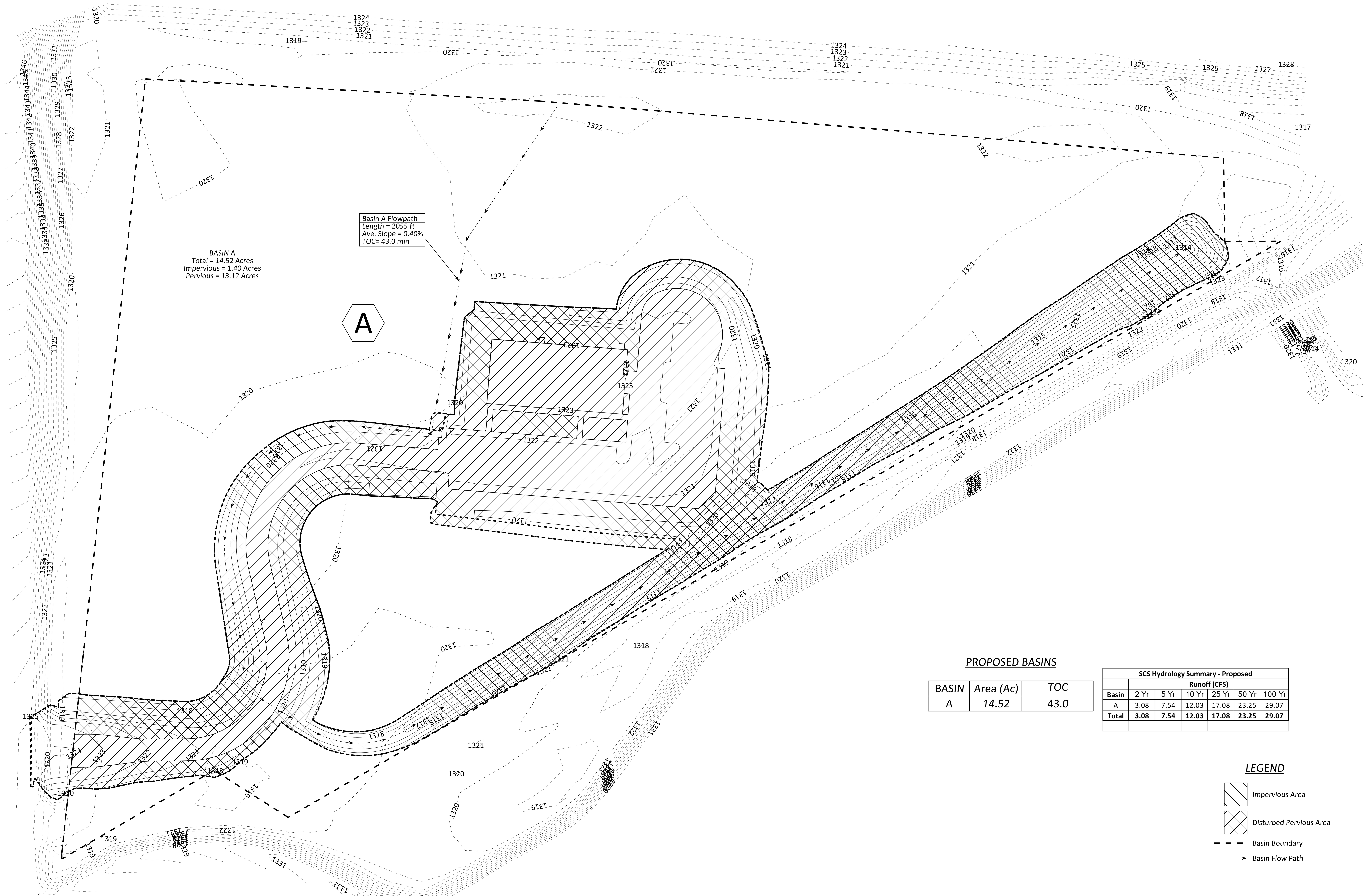


Subcatchment 2S: Basin 2



Subcatchment 3S: Basin 3





PROPOSED BASINS

BASIN	Area (Ac)	TOC
A	14.52	43.0

SCS Hydrology Summary - Proposed						
	Runoff (CFS)					
Basin	2 Yr	5 Yr	10 Yr	25 Yr	50 Yr	100 Yr
A	3.08	7.54	12.03	17.08	23.25	29.07
Total	**3.08**	**7.54**	**12.03**	**17.08**	**23.25**	**29.07**

LEGEND

- Impervious Area
- Disturbed Pervious Area
- Basin Boundary
- Basin Flow Path

25' 0 50'

N

PRELIMINARY NOT FOR CONSTRUCTION

Issue	Date	By	Description

Date: June 10, 2014

Issue No.

Drawn By: KLH

Checked By:

ASM Engineering Consultants

Client:

HERITAGE FAMILY CHURCH
NORTH SENECA & 37TH STREET
WICHITA, KANSAS 67207

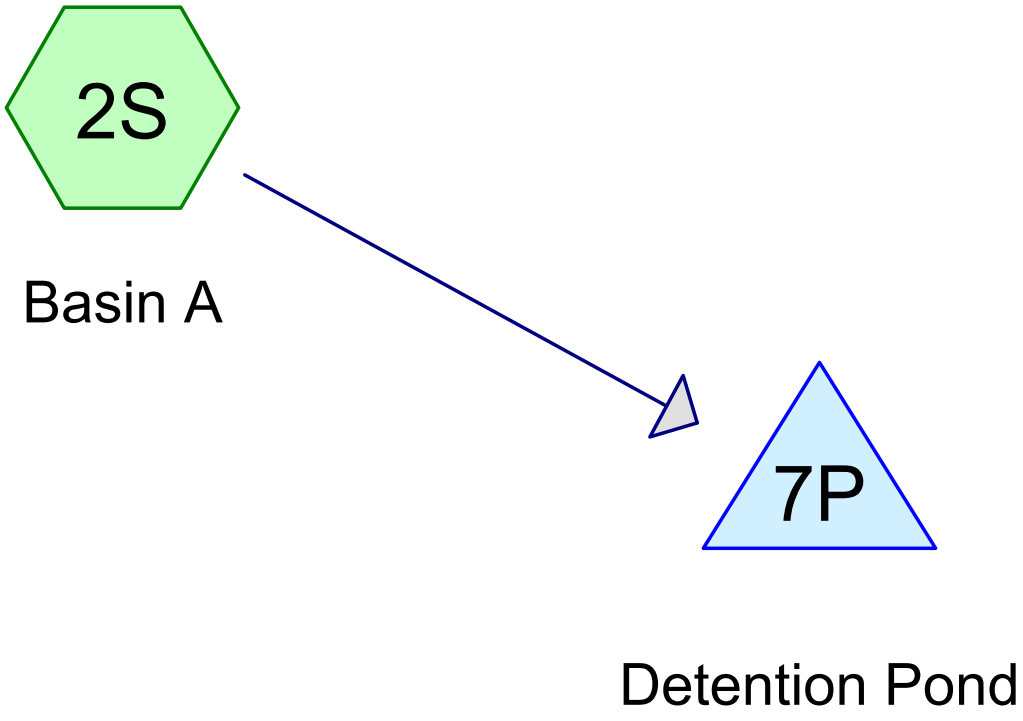
HERITAGE FAMILY CHURCH
NEW GYM BUILDING

PROPOSED DRAINAGE MAP

WICHITA, KANSAS

Sheet No.
D2

Project No.
983

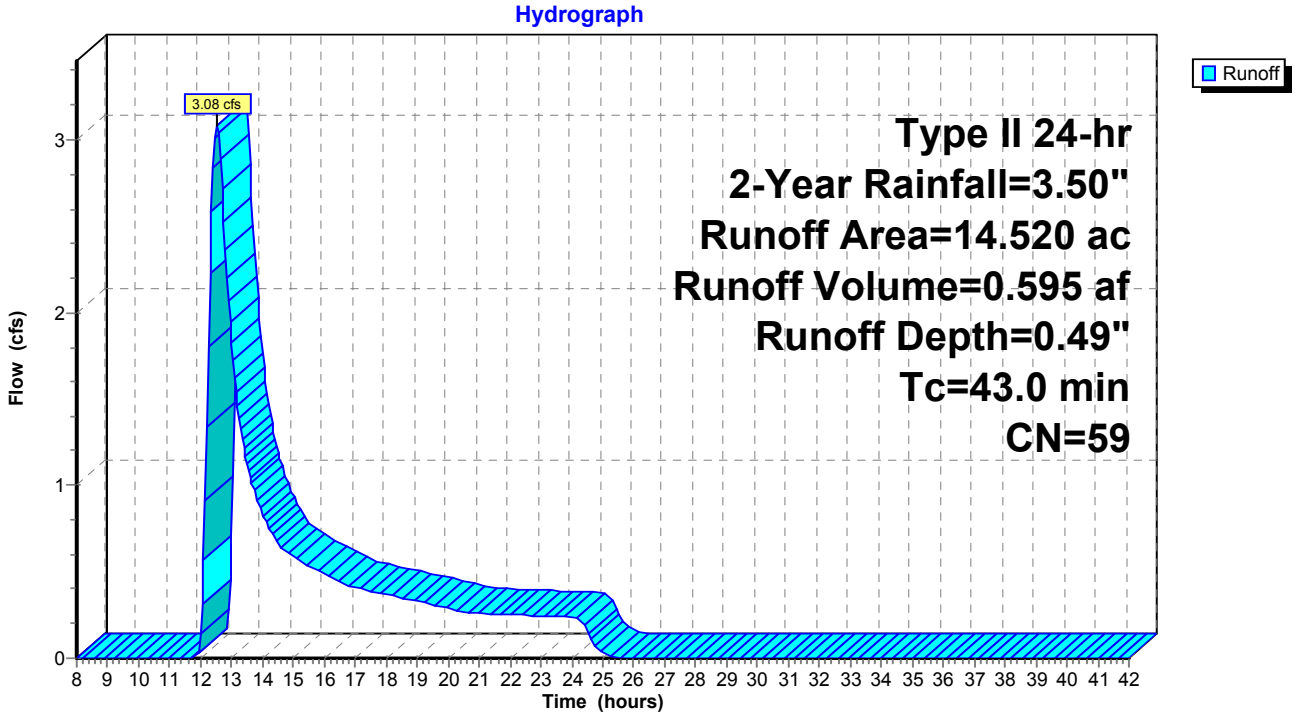


Subcat Reach Pond Link

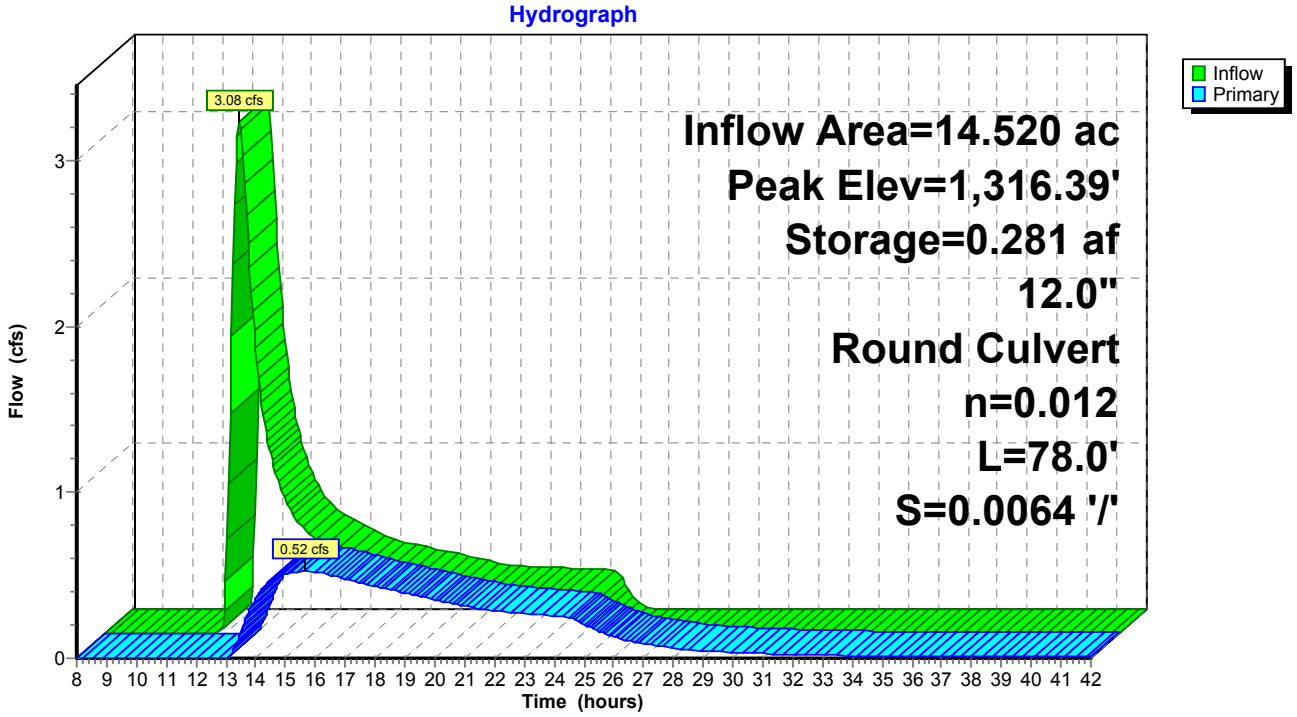
Routing Diagram for 983_Proposed SCS

Prepared by HydroCAD SAMPLER 1-800-927-7246 www.hydrocad.net, Printed 8/7/2014
HydroCAD® 10.00-12 Sampler s/n S14948

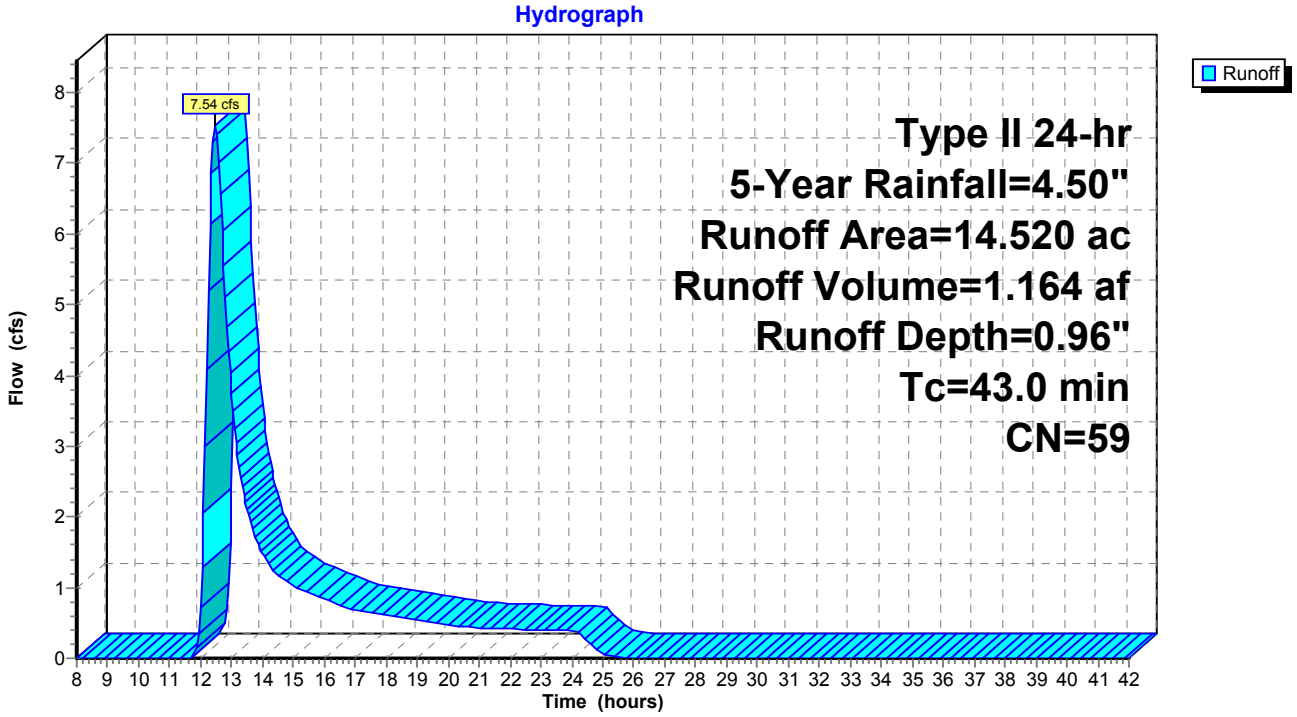
Subcatchment 2S: Basin A



Pond 7P: Detention Pond



Subcatchment 2S: Basin A



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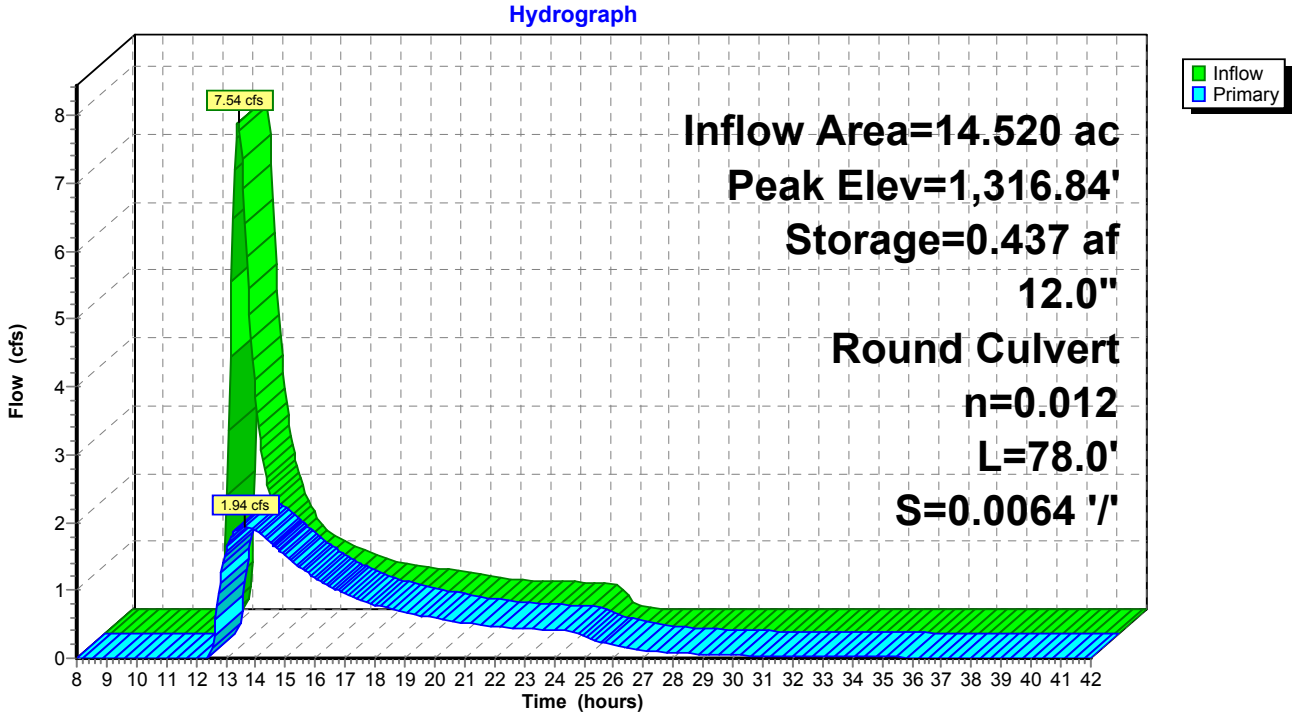
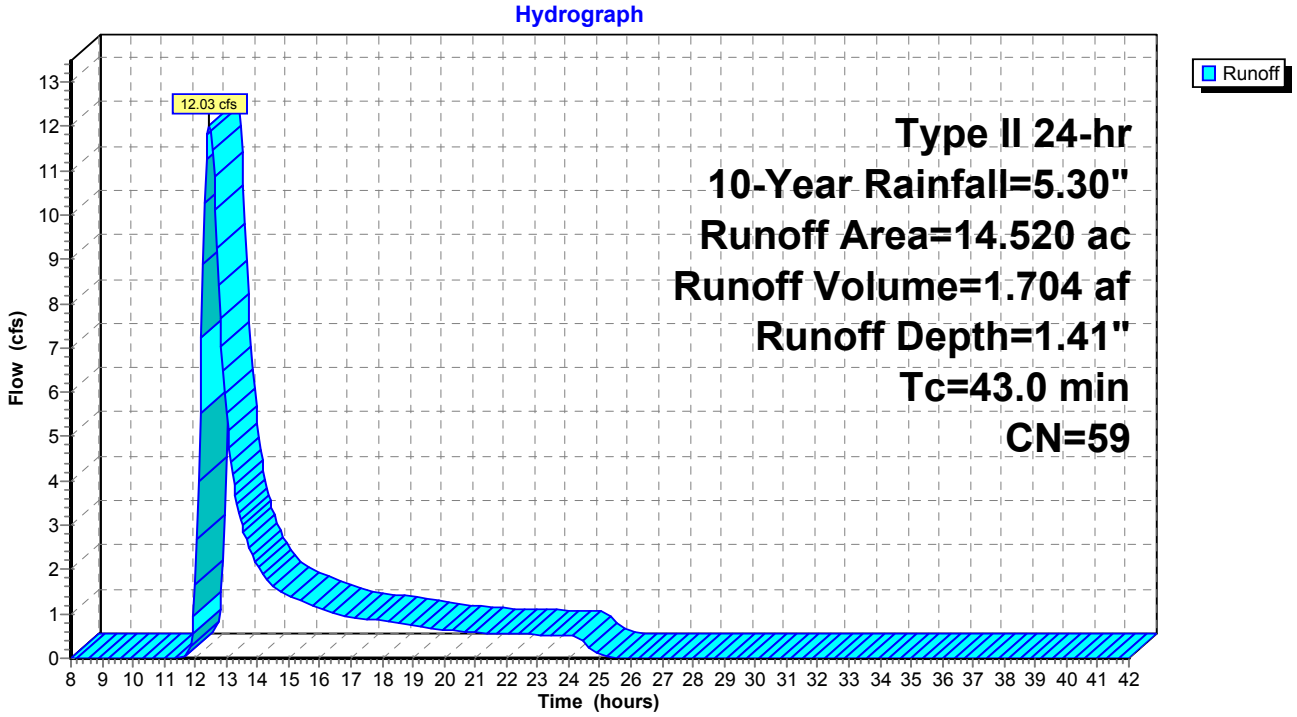


Subcatchment 2S: Basin A



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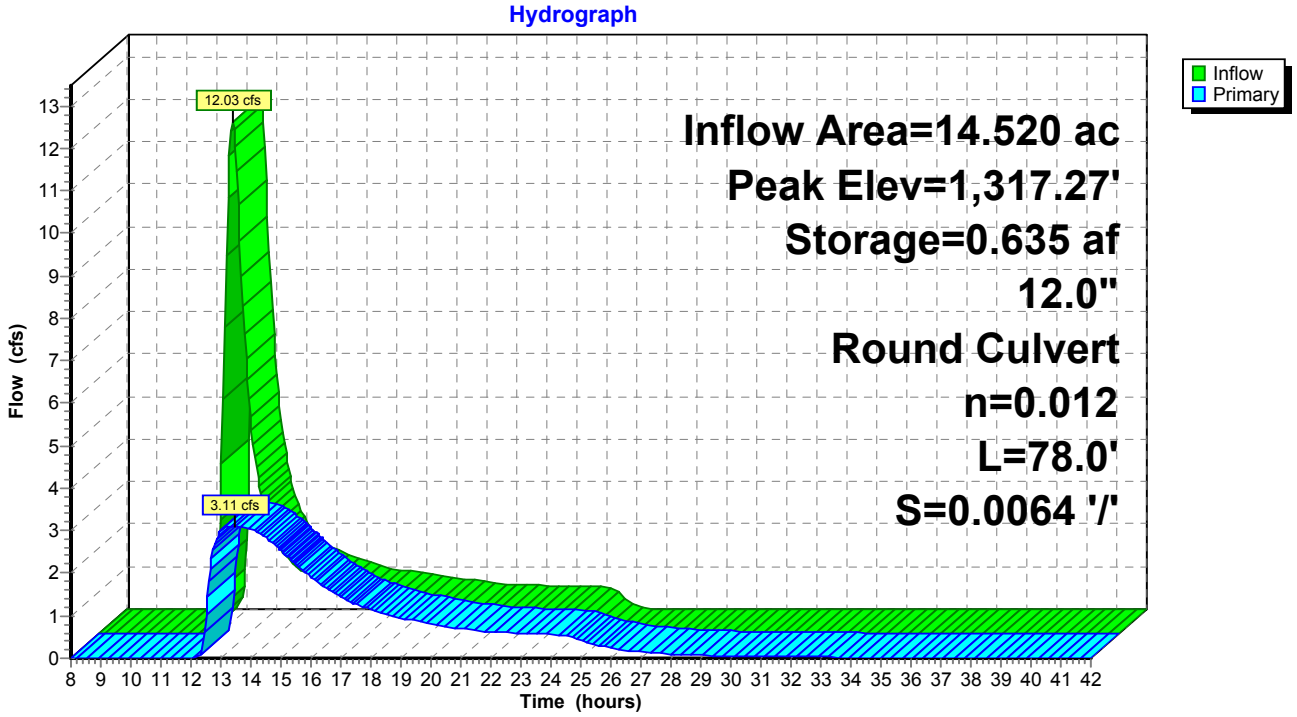
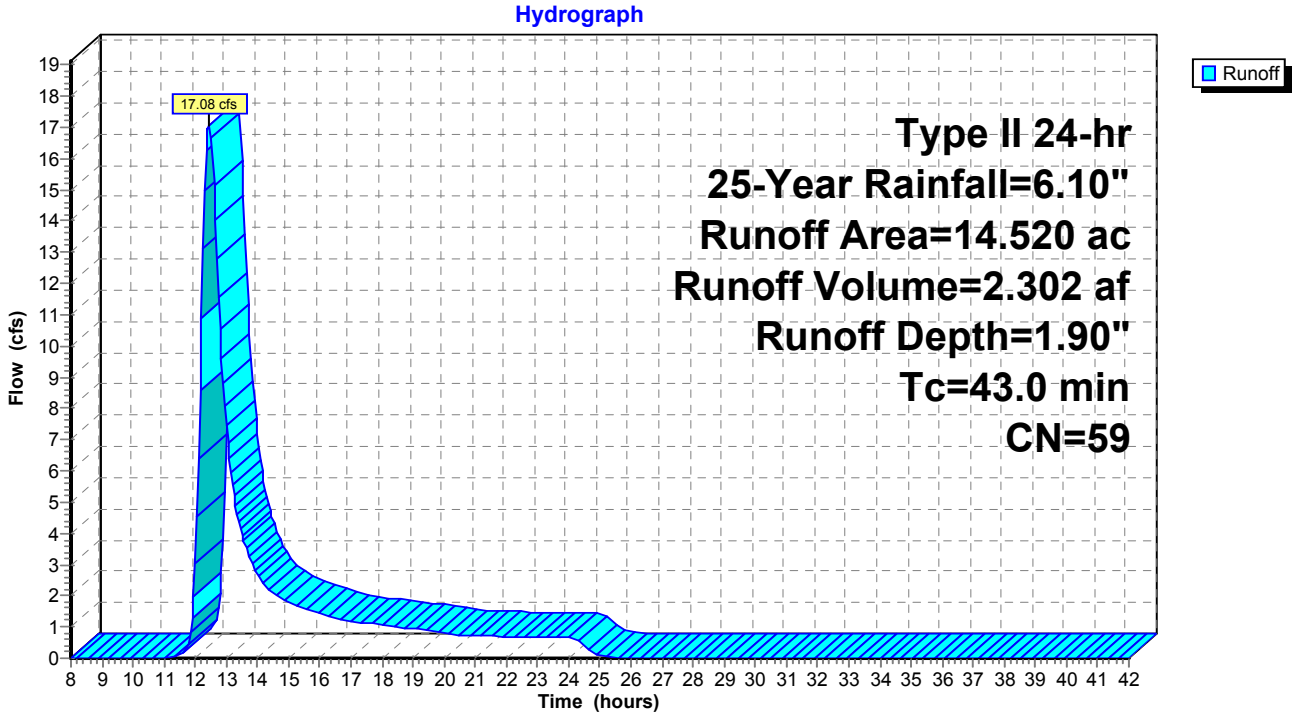


Subcatchment 2S: Basin A



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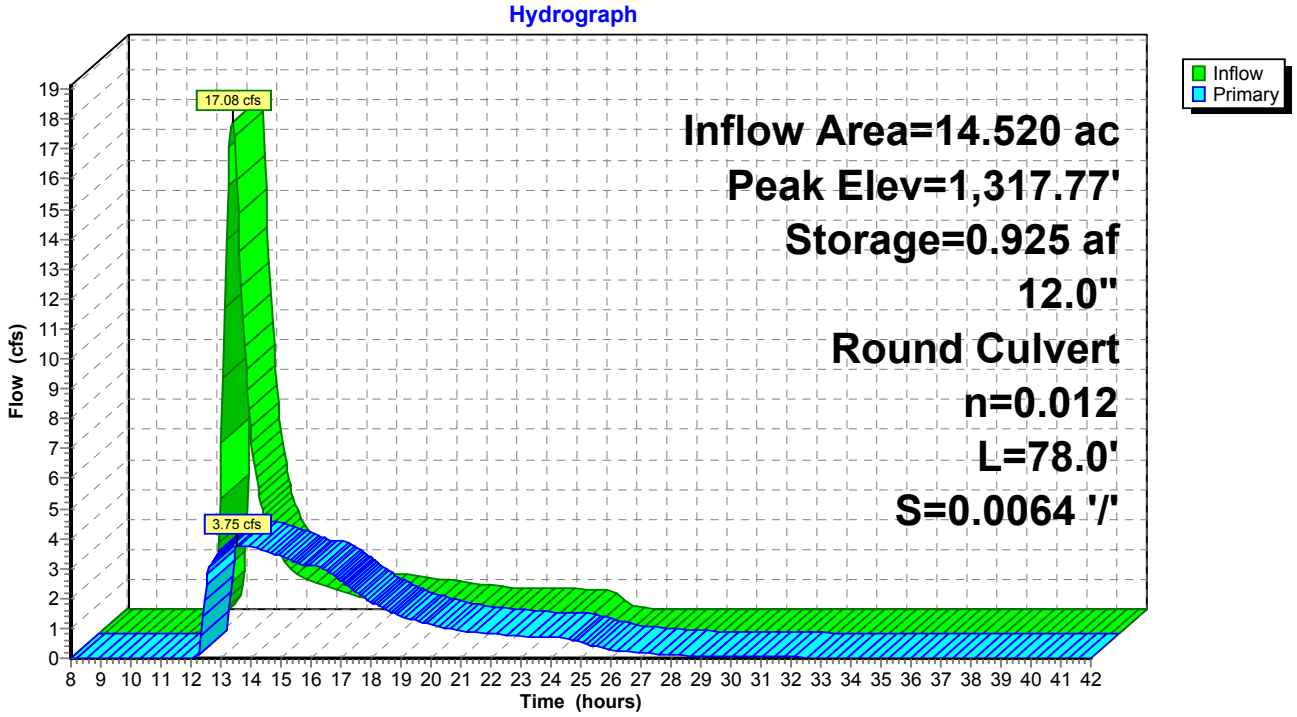
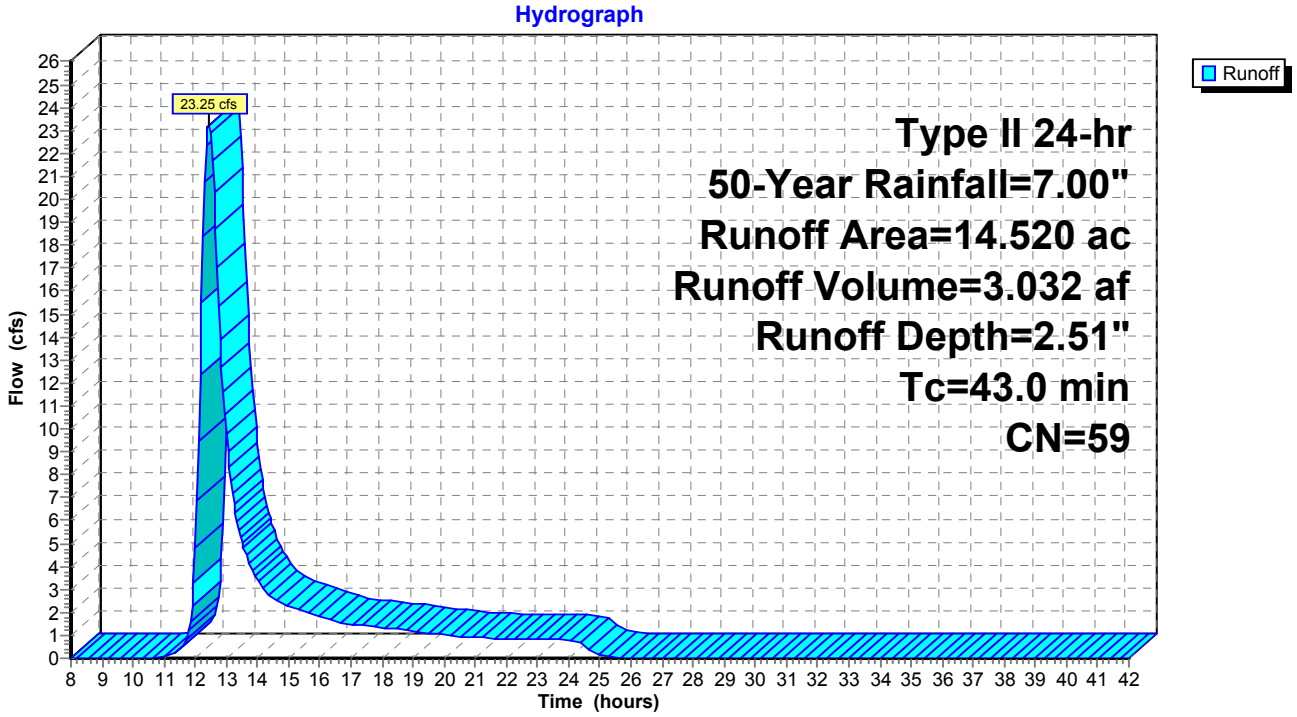


Subcatchment 2S: Basin A



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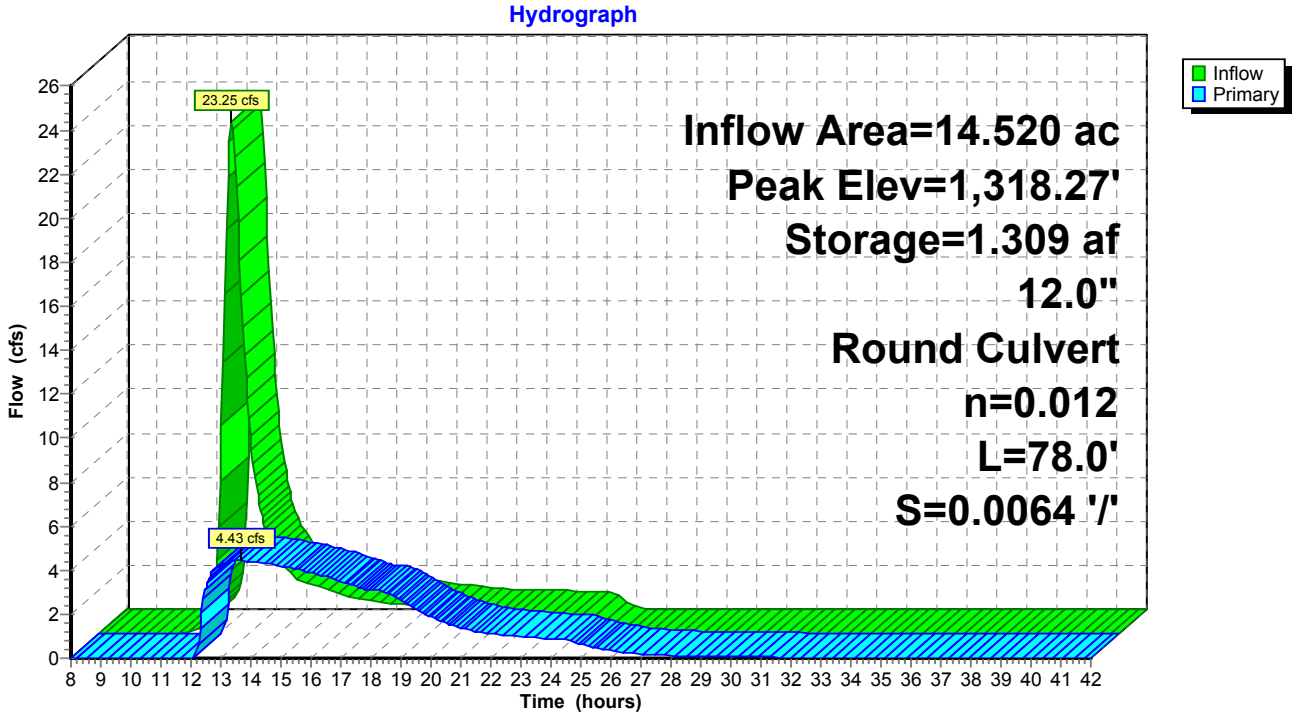
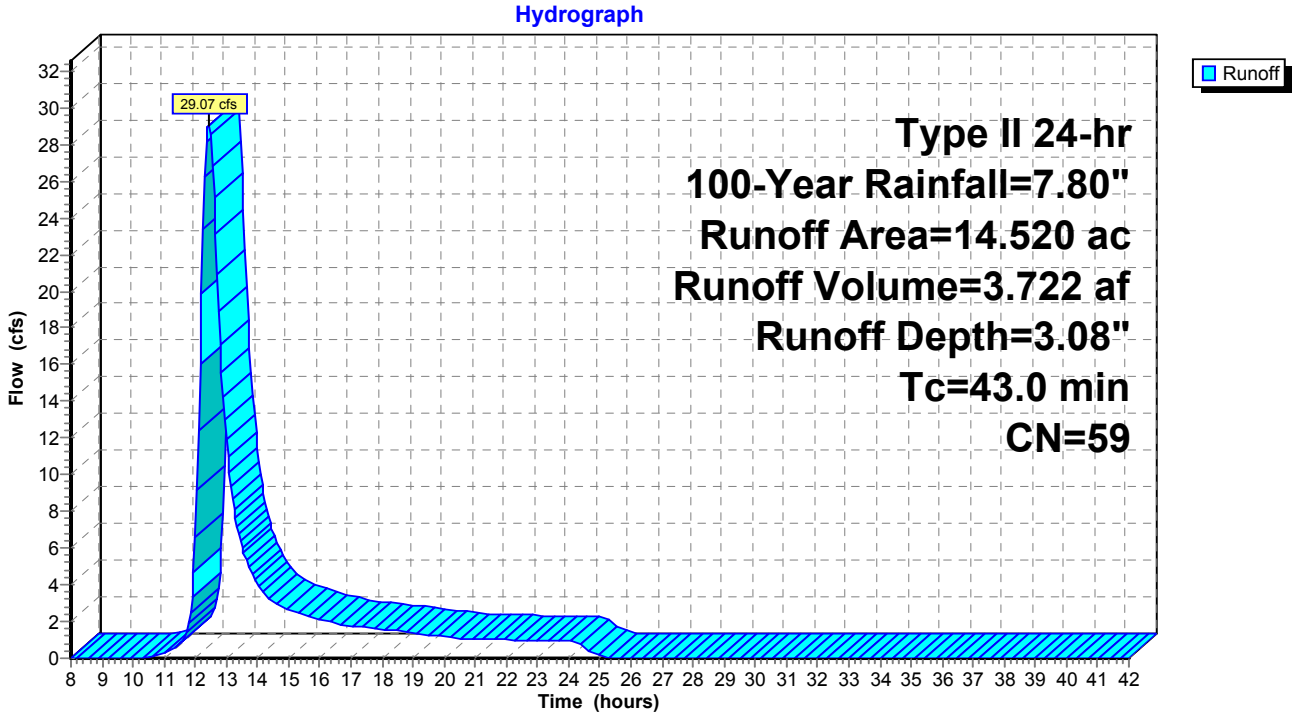
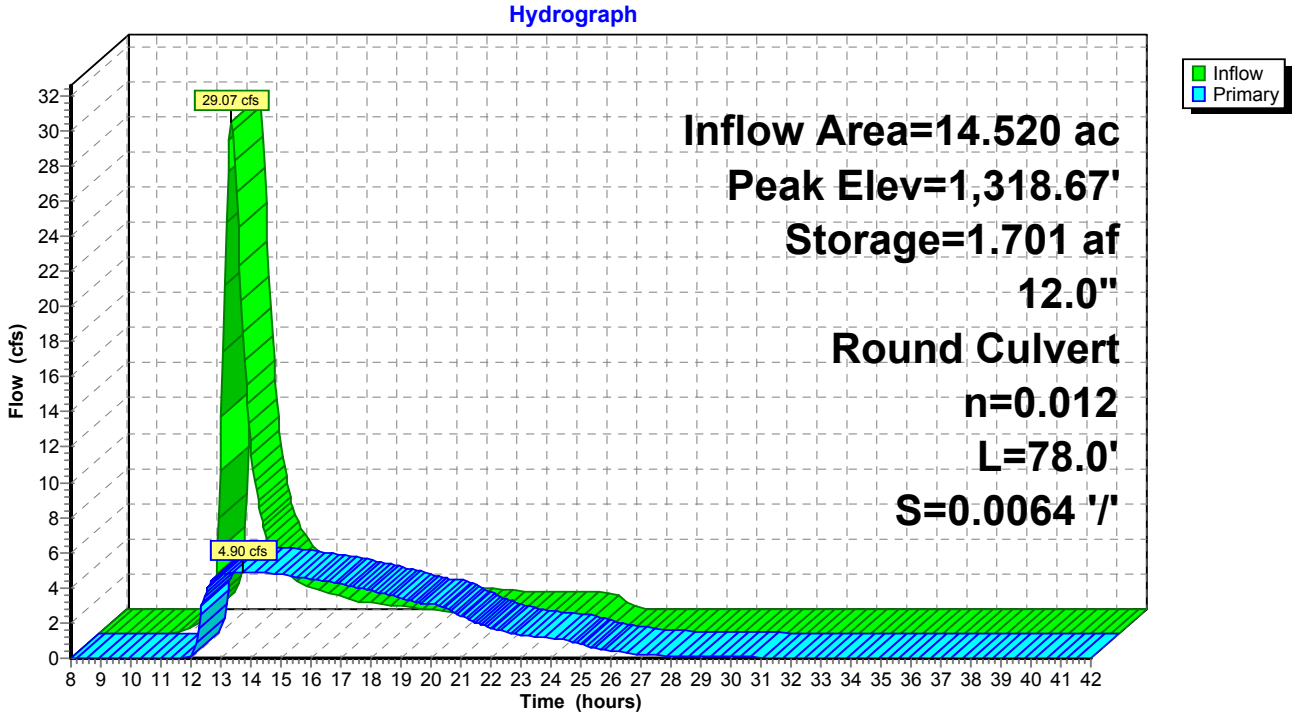


Subcatchment 2S: Basin A



Pond 7P: Detention Pond



Hydrograph for Subcatchment 2S: Basin A

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
8.00	0.94	0.00	0.00	30.50	7.80	3.08	0.00
8.50	1.03	0.00	0.00	31.00	7.80	3.08	0.00
9.00	1.15	0.00	0.00	31.50	7.80	3.08	0.00
9.50	1.27	0.00	0.00	32.00	7.80	3.08	0.00
10.00	1.41	0.00	0.00	32.50	7.80	3.08	0.00
10.50	1.59	0.01	0.03	33.00	7.80	3.08	0.00
11.00	1.83	0.03	0.26	33.50	7.80	3.08	0.00
11.50	2.21	0.09	0.83	34.00	7.80	3.08	0.00
12.00	5.17	1.33	**6.58**	34.50	7.80	3.08	0.00
12.50	5.73	1.67	**28.21**	35.00	7.80	3.08	0.00
13.00	6.02	1.85	11.93	35.50	7.80	3.08	0.00
13.50	6.23	1.99	6.06	36.00	7.80	3.08	0.00
14.00	6.40	2.10	4.09	36.50	7.80	3.08	0.00
14.50	6.53	2.19	3.11	37.00	7.80	3.08	0.00
15.00	6.66	2.27	2.68	37.50	7.80	3.08	0.00
15.50	6.77	2.35	2.40	38.00	7.80	3.08	0.00
16.00	6.86	2.41	2.15	38.50	7.80	3.08	0.00
16.50	6.95	2.47	1.91	39.00	7.80	3.08	0.00
17.00	7.03	2.53	1.76	39.50	7.80	3.08	0.00
17.50	7.11	2.58	1.66	40.00	7.80	3.08	0.00
18.00	7.18	2.63	1.57	40.50	7.80	3.08	0.00
18.50	7.25	2.68	1.48	41.00	7.80	3.08	0.00
19.00	7.31	2.73	1.38	41.50	7.80	3.08	0.00
19.50	7.37	2.77	1.29	42.00	7.80	3.08	0.00
20.00	7.43	2.81	1.19				
20.50	7.48	2.84	1.10				
21.00	7.53	2.88	1.05				
21.50	7.57	2.91	1.03				
22.00	7.62	2.95	1.01				
22.50	7.67	2.98	1.00				
23.00	7.71	3.01	0.98				
23.50	7.76	3.04	0.96				
24.00	**7.80**	**3.08**	0.94				
24.50	7.80	3.08	0.62				
25.00	7.80	3.08	0.12				
25.50	7.80	3.08	0.02				
26.00	7.80	3.08	0.00				
26.50	7.80	3.08	0.00				
27.00	7.80	3.08	0.00				
27.50	7.80	3.08	0.00				
28.00	7.80	3.08	0.00				
28.50	7.80	3.08	0.00				
29.00	7.80	3.08	0.00				
29.50	7.80	3.08	0.00				
30.00	7.80	3.08	0.00				

Hydrograph for Pond 7P: Detention Pond

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Primary (cfs)
8.00	0.00	0.000	1,314.00	0.00
9.00	0.00	0.000	1,314.00	0.00
10.00	0.00	0.000	1,314.00	0.00
11.00	0.26	0.006	1,314.42	0.00
12.00	**6.58**	0.118	1,315.68	0.00
13.00	**11.93**	**1.542**	**1,318.52**	**4.73**
14.00	4.09	**1.691**	**1,318.66**	**4.89**
15.00	2.68	1.557	1,318.53	4.75
16.00	2.15	1.372	1,318.34	4.52
17.00	1.76	1.170	1,318.11	4.22
18.00	1.57	0.973	1,317.84	3.85
19.00	1.38	0.794	1,317.56	3.43
20.00	1.19	0.635	1,317.27	3.11
21.00	1.05	0.495	1,316.98	2.41
22.00	1.01	0.412	1,316.77	1.72
23.00	0.98	0.369	1,316.66	1.33
24.00	0.94	0.348	1,316.60	1.13
25.00	0.12	0.313	1,316.49	0.80
26.00	0.00	0.267	1,316.34	0.41
27.00	0.00	0.242	1,316.25	0.23
28.00	0.00	0.227	1,316.20	0.14
29.00	0.00	0.218	1,316.16	0.09
30.00	0.00	0.212	1,316.13	0.06
31.00	0.00	0.207	1,316.12	0.05
32.00	0.00	0.204	1,316.10	0.04
33.00	0.00	0.201	1,316.09	0.03
34.00	0.00	0.199	1,316.08	0.02
35.00	0.00	0.197	1,316.07	0.02
36.00	0.00	0.196	1,316.07	0.02
37.00	0.00	0.195	1,316.06	0.01
38.00	0.00	0.194	1,316.06	0.01
39.00	0.00	0.193	1,316.06	0.01
40.00	0.00	0.192	1,316.05	0.01
41.00	0.00	0.192	1,316.05	0.01
42.00	0.00	0.191	1,316.05	0.01