

## MEMO

To: City of Bryant, Stormwater Division

From: Jeremy Stone, P.E.

Re: Custom Cover Property

9113 Hwy 5 N

Date: 05/08/19

### Stormwater Plan for Custom Covers (Ray and Lisa Baxley)

#### Background

The existing 1.38 acres was comprised of a mobile home surrounded by woods and grass. The home was located in the mobile of the property and was access by a road found on Lot 58. The previous use of the property was a small trailer park with individual 4x6 concrete patios. From the existing owner, it was determined 8 trailers were present at one time. An existing asphalt road is located along the easterly side of the property. The road extends the length of the property.

#### Proposed

The property will use be used as a sales office for preengineered truss cover and buildings. The Baxley's will use a 50x24 preengineered building which will be open on both sides. A small 16x24 office with bathroom will be built inside the building. The remaining area will be for additional parking. A 24'x75' gravel area will be installed along the southern edge of the building for access purposes to the office. Two 10'x 25' gravel parking spaces will be placed at the east end of the building. They will continue to use the existing asphalt driveway on the east side of the property. The Baxley's will place a few displays models of their carports and sheds around the remaining area of the property. A small earthen berm for detention will be installed in the southwest corner of the property. This berm is 1 foot tall. The attached plan sheet indicates the outfall piping and extent of the berm.

Hydrographs for 10-25-100 years have been included as attachments for pre and post conditions on the property. A copy of the SWPPP for ADEQ is included.

If you have any questions, please call 501-707-1236 or email [stone.j@hsassoc.com](mailto:stone.j@hsassoc.com).



---

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	3P	257.00	257.00	8.0	0.0000	0.009	6.0	0.0	0.0

**Summary for Pond 3P: (new Pond)**

Inflow Area = 1.360 ac, 9.56% Impervious, Inflow Depth > 0.44" for 10 yr event  
 Inflow = 0.34 cfs @ 11.93 hrs, Volume= 0.049 af  
 Outflow = 0.12 cfs @ 13.46 hrs, Volume= 0.043 af, Atten= 64%, Lag= 91.8 min  
 Primary = 0.12 cfs @ 13.46 hrs, Volume= 0.043 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 257.30' @ 13.46 hrs Surf.Area= 0.061 ac Storage= 0.015 af

Plug-Flow detention time= 109.2 min calculated for 0.043 af (87% of inflow)  
 Center-of-Mass det. time= 69.3 min ( 897.4 - 828.1 )

Volume	Invert	Avail.Storage	Storage Description
#1	257.00'	0.075 af	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

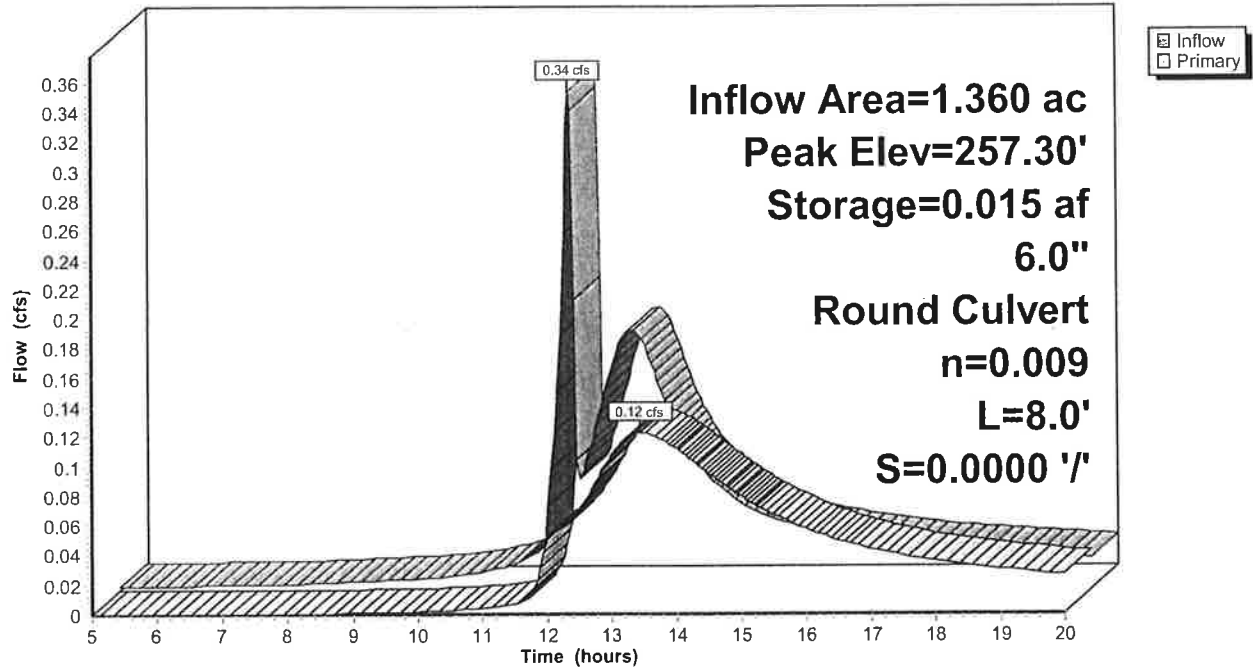
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
257.00	0.040	0.000	0.000
258.00	0.110	0.075	0.075

Device	Routing	Invert	Outlet Devices
#1	Primary	257.00'	<b>6.0" Round Culvert</b> L= 8.0' Ke= 1.000 Inlet / Outlet Invert= 257.00' / 257.00' S= 0.0000 '/' Cc= 0.900 n= 0.009, Flow Area= 0.20 sf

**Primary OutFlow** Max=0.12 cfs @ 13.46 hrs HW=257.30' (Free Discharge)  
 ↑ **1=Culvert** (Barrel Controls 0.12 cfs @ 1.44 fps)

**Pond 3P: (new Pond)**

Hydrograph



**Summary for Pond 3P: (new Pond)**

Inflow Area = 1.360 ac, 9.56% Impervious, Inflow Depth > 0.64" for 25 yr event  
 Inflow = 0.41 cfs @ 11.93 hrs, Volume= 0.072 af  
 Outflow = 0.20 cfs @ 13.41 hrs, Volume= 0.065 af, Atten= 51%, Lag= 89.1 min  
 Primary = 0.20 cfs @ 13.41 hrs, Volume= 0.065 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 257.39' @ 13.41 hrs Surf.Area= 0.068 ac Storage= 0.021 af

Plug-Flow detention time= 94.8 min calculated for 0.065 af (90% of inflow)  
 Center-of-Mass det. time= 62.2 min ( 890.7 - 828.5 )

Volume	Invert	Avail.Storage	Storage Description
#1	257.00'	0.075 af	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

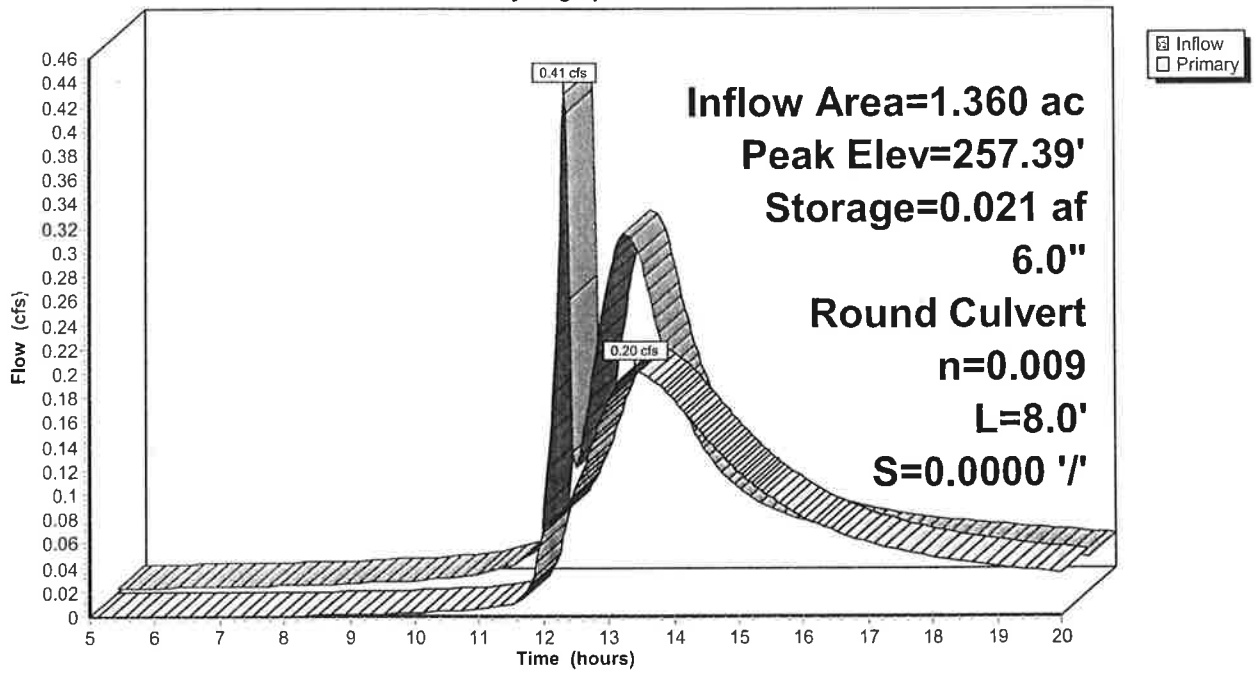
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
257.00	0.040	0.000	0.000
258.00	0.110	0.075	0.075

Device	Routing	Invert	Outlet Devices
#1	Primary	257.00'	<b>6.0" Round Culvert</b> L= 8.0' Ke= 1.000 Inlet / Outlet Invert= 257.00' / 257.00' S= 0.0000 '/' Cc= 0.900 n= 0.009, Flow Area= 0.20 sf

**Primary OutFlow** Max=0.20 cfs @ 13.41 hrs HW=257.39' (Free Discharge)  
 ↳ **1=Culvert** (Barrel Controls 0.20 cfs @ 1.67 fps)

**Pond 3P: (new Pond)**

Hydrograph



**Summary for Pond 3P: (new Pond)**

Inflow Area = 1.360 ac, 9.56% Impervious, Inflow Depth > 1.30" for 100 yr event  
 Inflow = 0.72 cfs @ 12.81 hrs, Volume= 0.147 af  
 Outflow = 0.44 cfs @ 13.43 hrs, Volume= 0.137 af, Atten= 39%, Lag= 37.4 min  
 Primary = 0.44 cfs @ 13.43 hrs, Volume= 0.137 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 257.68' @ 13.43 hrs Surf.Area= 0.087 ac Storage= 0.043 af

Plug-Flow detention time= 78.3 min calculated for 0.136 af (93% of inflow)  
 Center-of-Mass det. time= 55.7 min ( 881.7 - 826.0 )

Volume	Invert	Avail.Storage	Storage Description
#1	257.00'	0.075 af	<b>Custom Stage Data (Prismatic)</b> Listed below (Recalc)

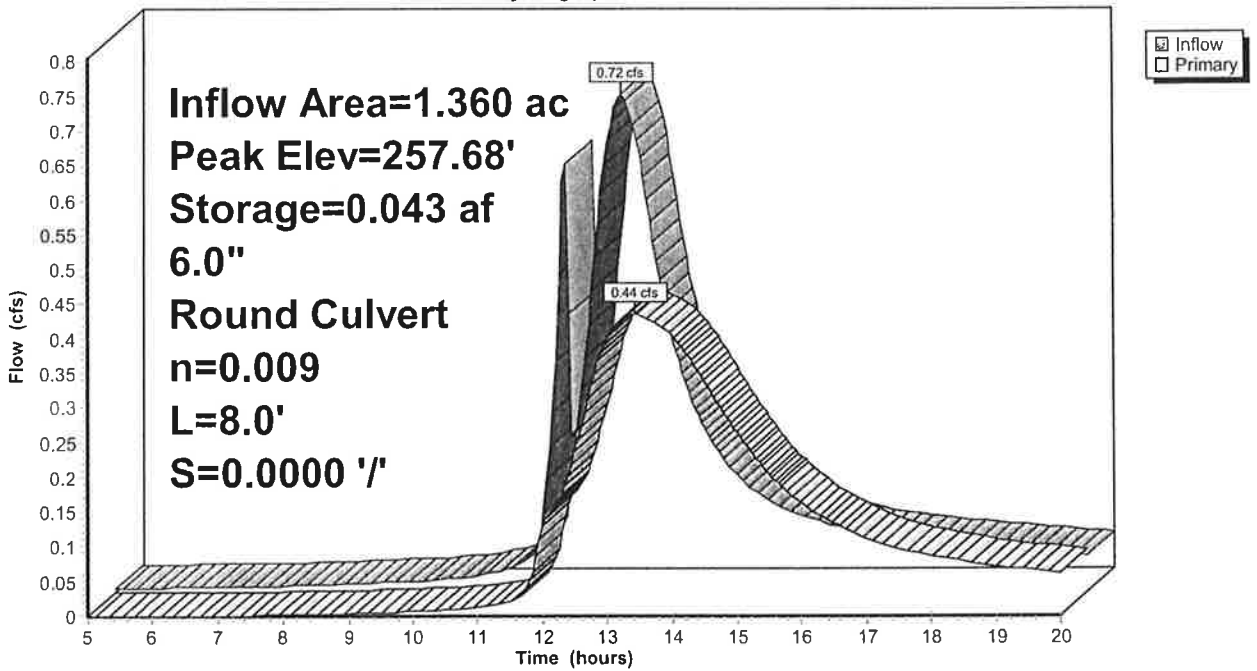
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
257.00	0.040	0.000	0.000
258.00	0.110	0.075	0.075

Device	Routing	Invert	Outlet Devices
#1	Primary	257.00'	<b>6.0" Round Culvert</b> L= 8.0' Ke= 1.000 Inlet / Outlet Invert= 257.00' / 257.00' S= 0.0000 '/' Cc= 0.900 n= 0.009, Flow Area= 0.20 sf

**Primary OutFlow** Max=0.44 cfs @ 13.43 hrs HW=257.68' (Free Discharge)  
 ←**1=Culvert** (Barrel Controls 0.44 cfs @ 2.23 fps)

Pond 3P: (new Pond)

Hydrograph





---

**Summary for Reach 4R: (new Reach)**

Inflow Area = 1.360 ac, 8.09% Impervious, Inflow Depth > 0.70" for 10 yr event  
Inflow = 0.40 cfs @ 11.93 hrs, Volume= 0.080 af  
Outflow = 0.40 cfs @ 11.93 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 1.82 fps, Min. Travel Time= 0.1 min  
Avg. Velocity = 0.80 fps, Avg. Travel Time= 0.2 min

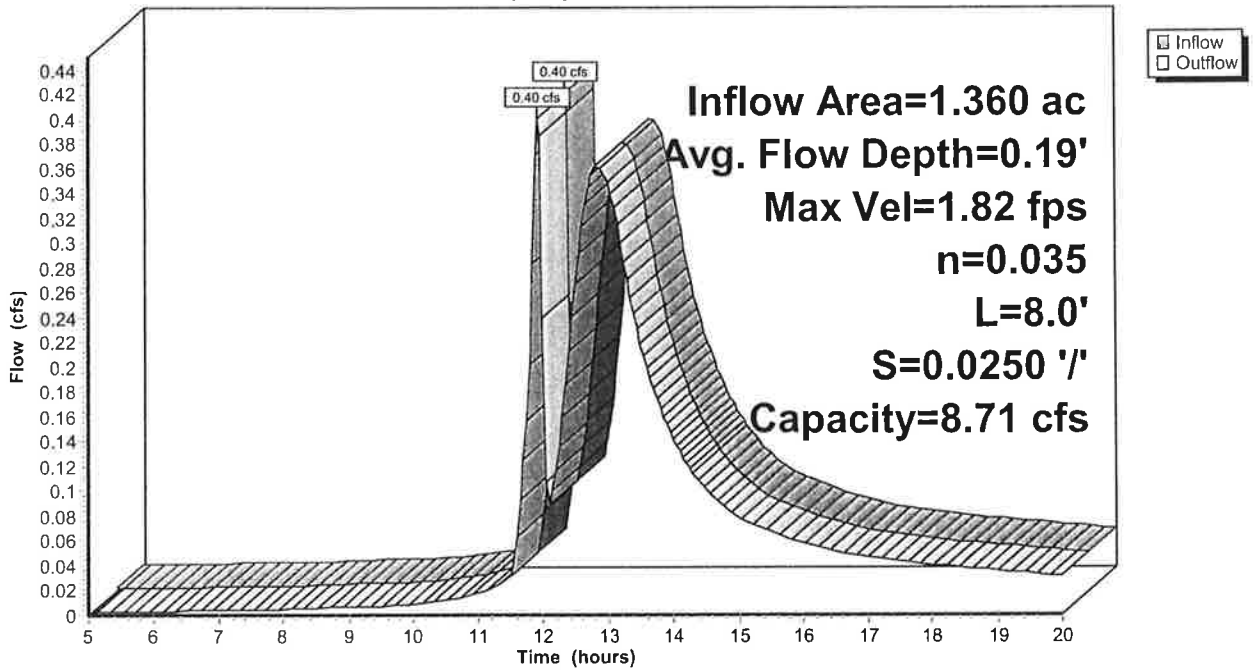
Peak Storage= 2 cf @ 11.93 hrs  
Average Depth at Peak Storage= 0.19'  
Bank-Full Depth= 1.00' Flow Area= 2.0 sf, Capacity= 8.71 cfs

1.00' x 1.00' deep channel, n= 0.035  
Side Slope Z-value= 1.0 '/' Top Width= 3.00'  
Length= 8.0' Slope= 0.0250 '/'  
Inlet Invert= 257.00', Outlet Invert= 256.80'



Reach 4R: (new Reach)

Hydrograph



---

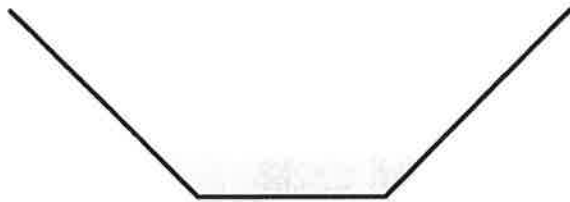
**Summary for Reach 4R: (new Reach)**

Inflow Area = 1.360 ac, 8.09% Impervious, Inflow Depth > 0.94" for 25 yr event  
Inflow = 0.52 cfs @ 12.82 hrs, Volume= 0.107 af  
Outflow = 0.52 cfs @ 12.82 hrs, Volume= 0.107 af, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 2.00 fps, Min. Travel Time= 0.1 min  
Avg. Velocity = 0.88 fps, Avg. Travel Time= 0.2 min

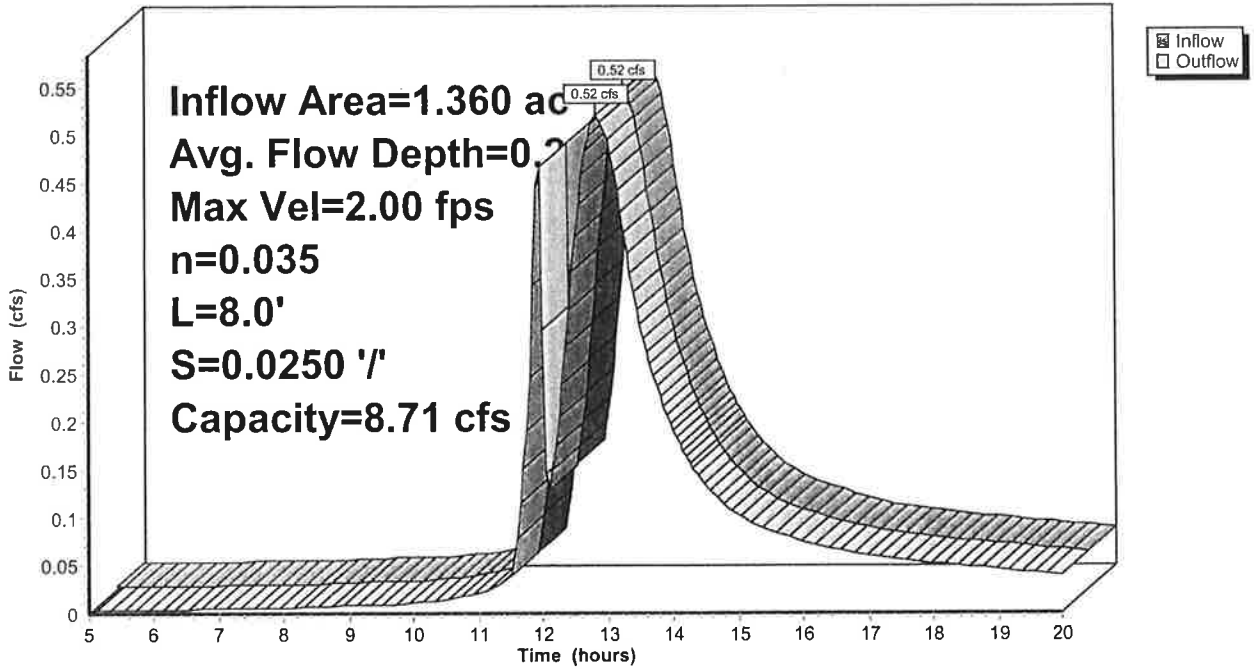
Peak Storage= 2 cf @ 12.82 hrs  
Average Depth at Peak Storage= 0.21'  
Bank-Full Depth= 1.00' Flow Area= 2.0 sf, Capacity= 8.71 cfs

1.00' x 1.00' deep channel, n= 0.035  
Side Slope Z-value= 1.0 ' / ' Top Width= 3.00'  
Length= 8.0' Slope= 0.0250 ' / '  
Inlet Invert= 257.00', Outlet Invert= 256.80'



Reach 4R: (new Reach)

Hydrograph



---

**Summary for Reach 4R: (new Reach)**

Inflow Area = 1.360 ac, 8.09% Impervious, Inflow Depth > 1.41" for 100 yr event  
Inflow = 0.83 cfs @ 12.81 hrs, Volume= 0.160 af  
Outflow = 0.83 cfs @ 12.81 hrs, Volume= 0.160 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 2.30 fps, Min. Travel Time= 0.1 min  
Avg. Velocity = 0.99 fps, Avg. Travel Time= 0.1 min

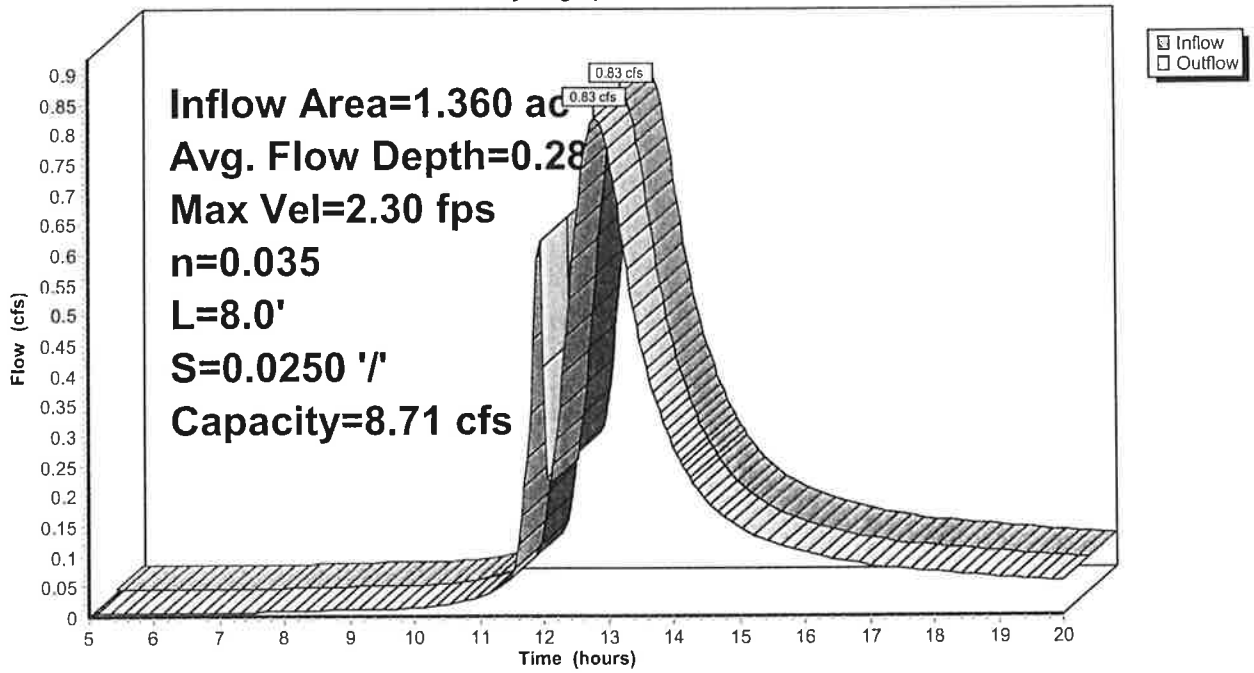
Peak Storage= 3 cf @ 12.81 hrs  
Average Depth at Peak Storage= 0.28'  
Bank-Full Depth= 1.00' Flow Area= 2.0 sf, Capacity= 8.71 cfs

1.00' x 1.00' deep channel, n= 0.035  
Side Slope Z-value= 1.0 '/' Top Width= 3.00'  
Length= 8.0' Slope= 0.0250 '/'  
Inlet Invert= 257.00', Outlet Invert= 256.80'



Reach 4R: (new Reach)

Hydrograph



# SITE WITH AUTOMATIC COVERAGE (LESS THAN 5 ACRES) CONSTRUCTION SITE NOTICE

FOR THE  
Arkansas Department of Environmental Quality (ADEQ)  
Storm Water Program  
**NPDES GENERAL PERMIT NO. ARR150000**

The following information is posted in compliance with **Part I.B.8.A** of the ADEQ General Permit Number **ARR150000** for discharges of stormwater runoff from sites with automatic coverage. Additional information regarding the ADEQ stormwater program may be found on the internet at:

*[www.adeq.state.ar.us/water/branch\\_npdes/stormwater](http://www.adeq.state.ar.us/water/branch_npdes/stormwater)*

Permit Number	ARR150000
Contact Name: Phone Number:	_____ _____
Project Description (Name, Location, etc.): Start Date: End Date: Total Acres:	_____ _____ _____ _____
Location of Stormwater Pollution Prevention Plan:	_____

For Construction Sites Authorized under **Part I.B.6.A** (Automatic Coverage) the following certification must be completed:

I \_\_\_\_\_ (Typed or Printed Name of Person Completing this Certification) certify under penalty of law that I have read and understand the eligibility requirements for claiming an authorization under Part I.B.2. of the ADEQ General Permit Number ARR150000. A stormwater pollution prevention plan has been developed and implemented according to the requirements contained in Part II.A.2.B & D of the permit. I am aware there are significant penalties for providing false information or for conducted unauthorized discharges, including the possibility of fine and imprisonment for knowing violations.

\_\_\_\_\_  
Signature and Title

\_\_\_\_\_  
Date

Stormwater Pollution Prevention Plan (SWPPP) for Construction Activity  
for Small Construction Sites

National Pollutant Discharge Elimination System (NPDES)  
General Permit # ARR150000

Prepared for: *CUSTOM COVERS  
(RAY AND LISA BAXLEY)*

Date: *05/08/19*

Prepared by: *JEREMY STONE, P.E.*



Project Name and Location: CUSTOM COVERS, 9113 HWY 5 N, BRYANT 72022

Property Parcel Number (Optional): \_\_\_\_\_

Operator Name and Address: RAY AND LISA BAXLEY, 9113 HWY 5 N, BRYANT AR 72022

**A. Site Description**

- a. Project description, intended use after NOI is filed: site office for company which sells preengineered truss buildings and covers
- b. Sequence of major activities which disturb soils: site clearing, building of 50'x24' building, gravel parking, regrading site
- c. Total Area: 1.38 acres Disturbed Area: 1.38 acres

**B. Responsible Parties**

Be sure to assign all SWPPP related activities to an individual or position; even if the specific individual is not yet known (i.e. contractor has not been chosen).

Individual/Company	Phone Number	Service Provided for SWPPP (i.e., Inspector, SWPPP revisions, Stabilization Activities, BMP Maintenance, etc.)
<u>RAY BAXLEY</u>	<u>501-455-4442</u>	<u>inspector, stabilize site, BMP Maintenance</u>

**C. Receiving Waters**

- a. The following waterbody (or waterbodies) receives stormwater from this construction site: unnamed tributary of Crooked Creek
- b. Is the project located within the jurisdiction of an MS4?  Yes  No
  - i. If yes, Name of MS4: CITY OF BRYANT, AR
- c. Ultimate Receiving Water:
 

<input type="checkbox"/> Red River	<input type="checkbox"/> White River
<input type="checkbox"/> Ouachita River	<input type="checkbox"/> St. Francis River
<input checked="" type="checkbox"/> Arkansas River	<input type="checkbox"/> Mississippi River

**D. Site Map Requirements (Attach Site Map):**

- a. Pre-construction topographic view;

- b. Direction of stormwater flow (i.e., use arrows to show which direction stormwater will flow) and approximate slopes anticipated after grading activities;
- c. Delineate on the site map areas of soil disturbance and areas that will not be disturbed under the coverage of this permit;
- d. Location of major structural and nonstructural controls identified in the plan;
- e. Location of main construction entrance and exit;
- f. Location where stabilization practices are expected to occur;
- g. Locations of off-site materials, waste, borrow area, or equipment storage area;
- h. Location of areas used for concrete wash-out;
- i. Location of all surface water bodies (including wetlands) with associated natural buffer boundary lines. Identify floodplain and floodway boundaries, if available;
- j. Locations where stormwater is discharged to a surface water and/or municipal separate storm sewer system if applicable,
- k. Locations where stormwater is discharged off-site (should be continuously updated);
- l. Areas where final stabilization has been accomplished and no further construction phase permit requirements apply;
- m. A legend that identifies any erosion and sediment control measure symbols/labels used in the site map and/or detail sheet; and
- n. Locations of any storm drain inlets on the site and in the immediate vicinity of the site.

E. Stormwater Controls

- a. Initial Site Stabilization, Erosion and Sediment Controls, and Best Management Practices:

- i. Initial Site Stabilization: areas after clearing will be graded and seeded once final grades are established on site
- ii. Erosion and Sediment Controls: silt fence on west and south sides of property
- iii. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, the operator will replace or modify the control for site situations:  Yes  No

If No, explain: \_\_\_\_\_

- iv. Off-site accumulations of sediment will be removed at a frequency sufficient to minimize off-site impacts:  Yes  No

If No, explain: \_\_\_\_\_  
\_\_\_\_\_

- v. Sediment will be removed from sediment traps or sedimentation ponds when design capacity has been reduced by 50%:  Yes  No

If No, explain: no traps or ponds will be installed  
\_\_\_\_\_

- vi. Litter, construction debris, and construction chemicals exposed to stormwater shall be prevented from becoming a pollutant source for stormwater discharges:  Yes  No

If No, explain: \_\_\_\_\_  
\_\_\_\_\_

- vii. Off-site material storage areas used solely by the permitted project are being covered by this SWPPP:  Yes  No

If Yes, explain additional BMPs implemented at off-site material storage area: \_\_\_\_\_  
\_\_\_\_\_

b. Stabilization Practices

- i. Description and Schedule: areas outside of the building and parking will be stabilized and seeded, remaining areas will be clean and maintained until City releases project

- ii. Are buffer areas required?  Yes  No

If Yes, are buffer areas being used?  Yes  No

If No, explain why not: \_\_\_\_\_  
\_\_\_\_\_

If Yes, describe natural buffer areas: \_\_\_\_\_  
\_\_\_\_\_

- iii. A record of the dates when grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, and when stabilization measures are initiated shall be included with the plan.

Yes  No

If No, explain: \_\_\_\_\_  
\_\_\_\_\_

- iv. Deadlines for stabilization:

1. Stabilization procedures will be initiated 14 days after construction activity temporarily ceases on a portion of the site.
2. Stabilization procedures will be initiated immediately in portions of the site where construction activities have permanently ceased.

c. Structural Practices

i. Describe any structural practices to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site: N/A

ii. Describe Velocity Dissipation Devices: N/A

iii. Sediment Basins:

Are 10 or more acres draining to a common point?  Yes  No

Is a sediment basin included in the project?  Yes  No

If Yes, what is the designed capacity for the storage?

3600 cubic feet per acre = : \_\_\_\_\_

or

10 year, 24 hour storm = : \_\_\_\_\_

Other criteria were used to design basin: \_\_\_\_\_

If No, explain why no sedimentation basin was included and describe required natural buffer areas and other controls implemented instead: \_\_\_\_\_

F. Other Controls

a. Solid materials, including building materials, shall be prevented from being discharged to Waters of the State:  Yes  No

b. Off-site vehicle tracking of sediments and the generation of dust shall be minimized through the use of:

A stabilized construction entrance and exit

Vehicle tire washing

Other controls, describe: \_\_\_\_\_

c. Temporary Sanitary Facilities: if required by City

d. Concrete Waste Area Provided:

Yes

No. Concrete is used on the site, but no concrete washout is provided.

Explain why: \_\_\_\_\_

N/A, no concrete will be used with this project

e. Fuel Storage Areas, Hazardous Waste Storage, and Truck Wash Areas: \_\_\_\_\_

G. Non-Stormwater Discharges

a. The following allowable non-stormwater discharges comingled with stormwater are present or anticipated at the site:

Fire-fighting activities;

Fire hydrant flushings;

Water used to wash vehicles (where detergents or other chemicals are not used) or control dust in accordance with Part II.A.4.H.2;

Potable water sources including uncontaminated waterline flushings;

Landscape Irrigation;

Routine external building wash down which does not use detergents or other chemicals;

Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled materials have been removed) and where detergents or other chemicals are not used;

Uncontaminated air conditioning, compressor condensate (See Part I.B.12.C of the permit);,

Uncontaminated springs, excavation dewatering and groundwater (See Part I.B.13.C of the permit);

Foundation or footing drains where flows are not contaminated with process materials such as solvents (See Part I.B.13.C of the permit);

b. Describe any controls associated with non-stormwater discharges present at the site: \_\_\_\_\_

H. Applicable State or Local Programs: The SWPPP will be updated as necessary to reflect any revisions to applicable federal, state, or local requirements that affect the stormwater controls implemented at the site.  Yes  No

I. Inspections

a. Inspection frequency:

Every 7 calendar days

or

At least once every 14 calendar days and within 24 hours of the end of a storm even 0.25 inches or greater (a rain gauge must be maintained on-site)

b. Inspections:

Completed inspection forms will be kept with the SWPPP.

ADEQ's inspection form will be used (See Appendix B)

or

A form other than ADEQ's inspection form will be used and is attached  
(See inspection form requirements Part II.A.4.L.2)

c. Inspection records will be retained as part of the SWPPP for at least 3 years from the date of termination.

d. It is understood that the following sections describe waivers of site inspection requirements. All applicable documentation requirements will be followed in accordance with the referenced sections.

i. Winter Conditions (Part II.A.4.L.4)

ii. Adverse Weather Conditions (Part II.A.4.L.5)

J. Maintenance:

The following procedures to maintain vegetation, erosion and sediment control measures and other protective measures in good, effective operating condition will be followed: owner will provide all maintenance by checking site

Any necessary repairs will be completed, when practicable, before the next storm event, but not to exceed a period of 3 business days of discovery, or as otherwise directed by state or local officials.

K. Employee Training:

The following is a description of the training plan for personnel (including contractors and subcontractors) on this project: as directed by the City of Bryant

\*\*Note, Formal training classes given by Universities or other third-party organizations are not required, but recommended for qualified trainers; the permittee is responsible for the content of the training being adequate for personnel to implement the requirements of the permit.

Certification

"I certify under penalty of law that this document and all attachments such as Inspection Form were prepared under my direction or supervision in accordance with a system designed to ensure 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 for knowing violations."

Signature of Responsible or Cognizant Official: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

**ARR150000 Inspection Form**

Appendix A

Inspector Name: \_\_\_\_\_

Date of Inspection: \_\_\_\_\_

Inspector Title: \_\_\_\_\_

Date of Rainfall: \_\_\_\_\_

Duration of Rainfall: \_\_\_\_\_

Days Since Last Rain Event: \_\_\_\_\_ days

Rainfall Since Last Rain Event: \_\_\_\_\_ inches

Description of any Discharges During Inspection: \_\_\_\_\_

Location of Discharges of Sediment/Other Pollutant (specify pollutant & location): \_\_\_\_\_

Locations in Need of Additional BMPs: \_\_\_\_\_

**Information on Location of Construction Activities**

Location	Activity Begin Date	Activity Occuring Now (y/n)?	Activity Ceased Date	Stabilization Initiated Date	Stabilization Complete Date

**Information on BMPs in Need of Maintenance**

Location	In Working Order?	Maintenance Scheduled Date	Maintenance Completed Date	Maintenance to be Performed By

Changes required to the SWPPP: \_\_\_\_\_

Reasons for changes: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SWPPP changes completed (date): \_\_\_\_\_

"I certify under penalty of law that this document and all attachments such as Inspection Form were prepared under my direction or supervision in accordance with a system designed to ensure 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 for knowing violations."

Signature of Responsible or Cognizant Official: \_\_\_\_\_ Date: \_\_\_\_\_

Title: \_\_\_\_\_