



STORMWATER TECHNICAL REPORT

For:

Kroger Store J-979

Marketplace

**970 North Morton Street
Mallory Parkway and US 31
Johnson County, Franklin, Indiana**

Project #W14-0460

Prepared For:

**The Kroger Company
5960 Castleway West Drive
Indianapolis, Indiana 46256
317-579-8393**

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Certified By: Andrew T. Miller, P.E.

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Prepared For:
Stormwater Technical Report
Kroger Store J-979
Franklin, IN

Project #W14.0460

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PROJECT NARRATIVE

Prepared For:
Stormwater Technical Report
Kroger Store J-979
Franklin, IN

Project #W14.0460

Project Narrative:

The Kroger Company is proposing to develop a Marketplace on an 11.3± acre tract of undeveloped land located approximately 0.1 miles west of the intersection of Mallory Parkway and US31 being situated north of Mallory Parkway. Refer to **Figure 1.1**.

The proposed development is on a site at a Latitude of N 39° 29' 20" and Longitude W 86° 04' 00", falling within Franklin Township. The site is generally located in the Northeast Quarter of Section 15, Township 12 North, and Range 4 East, Johnson County Indiana.

Floodzone:

Based upon a scaled interpretation of the Flood Insurance Map, Panel 227 of 352, Map No.18081 C0227 E for Johnson County, Indiana, dated August 19, 2014 a majority of subject tract **IS** located within a Special Flood Hazard Area inundated by 100-year flood-Base Flood Elevation or Floodway Area in Zone AE. Refer to **Figure 1.2**.

There is currently a draft FIRM out for review which affects the subject tract. The biggest change is that more of the site is now within Zone AE. Refer to **Figure 1.3**.

Stormwater Design:

The stormwater detention plan for the Kroger site will consist of one (1) Wet Detention Basin system that will store and release the sites stormwater runoff per the City of Franklin Subdivision Control Ordinance. Said basin will be a shared detention basin for the 22.1 acres of undeveloped land located north of Mallory Parkway. The Wet Detention Basin will connect into an existing storm sewer network that runs East to West along the North side of the property and drains into an existing regional detention basin. Said storm sewer will be upsized to handle the additional flow from the site. The ultimate discharge point for the site will be Canary Creek. Water Quality for the Kroger site will be met via the said Wet Detention Basin.

Modeling Note: The Pre and Post Developed calculations are for the Master Planned Wet Detention Basin. The Pipe Sizing will only refer to the Kroger storm system only. Future Developments will need to size their own pipes.

Pre-Developed Conditions:

Aerial photography was used to illustrate the current land-use of the subject tract. Currently the subject tract is vacant and contains no structures on the 22.1± acres. The subject tract is adjoined by Commercial development on all sides and Mallory Parkway runs along the south side of the property. Refer to **Figure 1.4**.

The subject tract consists of the following soil types: Brookston and Crosby. A soil map has been included with this report. Curve numbers were assigned using existing land use in conjunction with soils mapping from the Natural Resource Conservation (NRCS). An abbreviated NRCS Soils Report can be found in **Section 1**.

Detailed topography from a survey prepared by Banning Engineering, in 2015 was used to determine the Pre-Developed Basin Map. In addition, LIDAR information from ISDP and verification shoots from Weihe Engineers, Inc. were used. The entire subject tract drains to the Canary Creek via storm sewers that run along the perimeter of the property.

Master Detention Calculations:

A controlled basin was established per the limits of the proposed improvements. Said basin is 22.1 acres which will be used in the Pre-Developed and Post-Developed calculations. In general, the Pre-Developed site drains westerly towards Canary Creek but in general the site is fairly flat. There are existing storm sewers that run along all sides of the property which all outlet into the Regional Detention Basin located west of Canary Creek Drive and northwest of the subject tract. Below is a summary of the peak discharges from the On-site basin:

Release Rates **Basin PRE:**

$Q_{2\text{yr}} =$	2.22 cfs
$Q_{10\text{-yr}} =$	5.51 cfs
$Q_{25\text{-yr}} =$	9.17 cfs
$Q_{100\text{-yr}} =$	16.93 cfs

Allowable Release Rate:

Per Chapter 6.19 (General Drainage Standards) of the Franklin Subdivision Control Ordinance, the minimum allowable rate based on pre-developed conditions will have the following criteria:

$Q_{10\text{post}} = Q_{2\text{pre}}$	2.22 cfs
$Q_{100\text{post}} = Q_{10\text{pre}}$	5.51 cfs

Offsite Drainage:

There is one (1) offsite drainage basin that will need to be conveyed through the site in the Post-Developed Conditions. A 15" culvert that drains a small portion of the Commercial Development to the East will be connected into the proposed storm sewer.

Post-Developed Conditions:

Kroger is proposing to develop a Marketplace on 11.3± acre tract of undeveloped land located at northwest of the intersection between Mallory Parkway and US 31. The on-site site runoff will be conveyed to one (1) Wet Detention Basin with an ultimate discharge point into Canary Creek. As stated above, the Wet Detention Basin will be used a shared Detention basin for the entire 22.1 acres of undeveloped land located north of Mallory Parkway.

There will be three (3) drainage sheds used in the Post-Developed modeling. **Basin: ON** is an 11.3 acre basin for the proposed Kroger site. **Basin: Future** is an 8.6 acre basin for the future development. **Basin: Wet Det** is a 2.2 acre basin for the Wet Detention Basin. The proposed detention basin will discharge to the north through a flow-restricting outlet structure (Str.103). From the flow-restricting outlet structure, stormwater will release to the west into an existing storm system located on the north side of property and drain to a regional detention basin located west of Canary Creek Drive. Refer to **Figure 3.1**.

A Curve Number of 95 was used for all post-developed basins in the ICPR modeling. This Curve Number correlates to a Hydrologic Soil Group D for a Commercial development. Due to the large amount of impervious area, a time of concentration of 10 min will be assumed for the entire site. A tailwater of 739.5 was used for the Existing Detention Basin. This elevation was established based on the overflow weir into Canary Creek and being the worst case scenario.

The relevant ICPR input and output can be found in Section 3. The following table summarizes the computed 2-year, 10-year, 25-year, and 100-year peak/elevations run-off rates for the 24-hour event.

<u>Release Rates Pond “1”:</u>		<u>WSE Pond “1”</u>	
Q _{2yr} =	1.74 cfs	2-yr =	739.52 feet
Q _{10-yr} =	2.11 cfs	10-yr =	740.76 feet
Q _{25-yr} =	3.29 cfs	25-yr =	741.28 feet
Q _{100-yr} =	4.97 cfs	100-yr =	741.97 feet

Wet Detention Basin:

The detention basin will have a Normal Pool elevation of 735.5 and a 30' wide emergency overflow weir set at 742.0.

It should be noted that due to the site having to be raised above the BFE, some of the perimeter drainage will be allowed to drain off-site to existing storm infrastructure as it currently does today. Except for a small portion of the access drives, all proposed impervious area will be routed through the proposed storm sewers.

Storm Sewers

The storm sewer system is designed to convey stormwater at a minimum velocity of 2.5 feet/second through reinforced concrete pipes while maintaining a hydraulic grade line elevation below the top of casting during a 10-year storm event. A runoff coefficient of 0.85 was assumed for all drainage basins. Due to the large amount of impervious area, a time of concentration of 5 min will be assumed for the entire site. Refer to **Section 4** for the pipe and inlet sizing calculations and **Figure 4.1-4.2** for the Pipe Sizing Basin Maps.

It should be noted that the roof drains were sized assuming a runoff coefficient of 0.90 and a time of concentration of 5 min. A 10" drain at 1% has a capacity of 2.4 cfs and an 8" drain at 1.5% has a capacity of 1.6 cfs. The largest acreage draining to 10" drain is 0.26 acres (1.7 cfs) and the largest acreage draining to an 8" drain is 0.25 acres (1.6 cfs).

Water Quality:

Kroger will use utilize a Wet Detention Basin to meet the Water Quality requirements as described in the Drainage Standards. Said basin is located at the north end of the 22.1 acres of undeveloped land and will provide Water Quality for the entire Kroger site and all future developments.

The Post-Developed model was utilized to analyze the Water Quality requirements based on described requirements below:

- Said detention system shall detain, for over 24 hours after peak run-off from a 24-hour storm, at least 20% of the run-off from either a 1-1/4 inch storm or 1/2 inch of direct runoff, whichever is greater.

Volume Based on 1/2 inch of direct runoff:

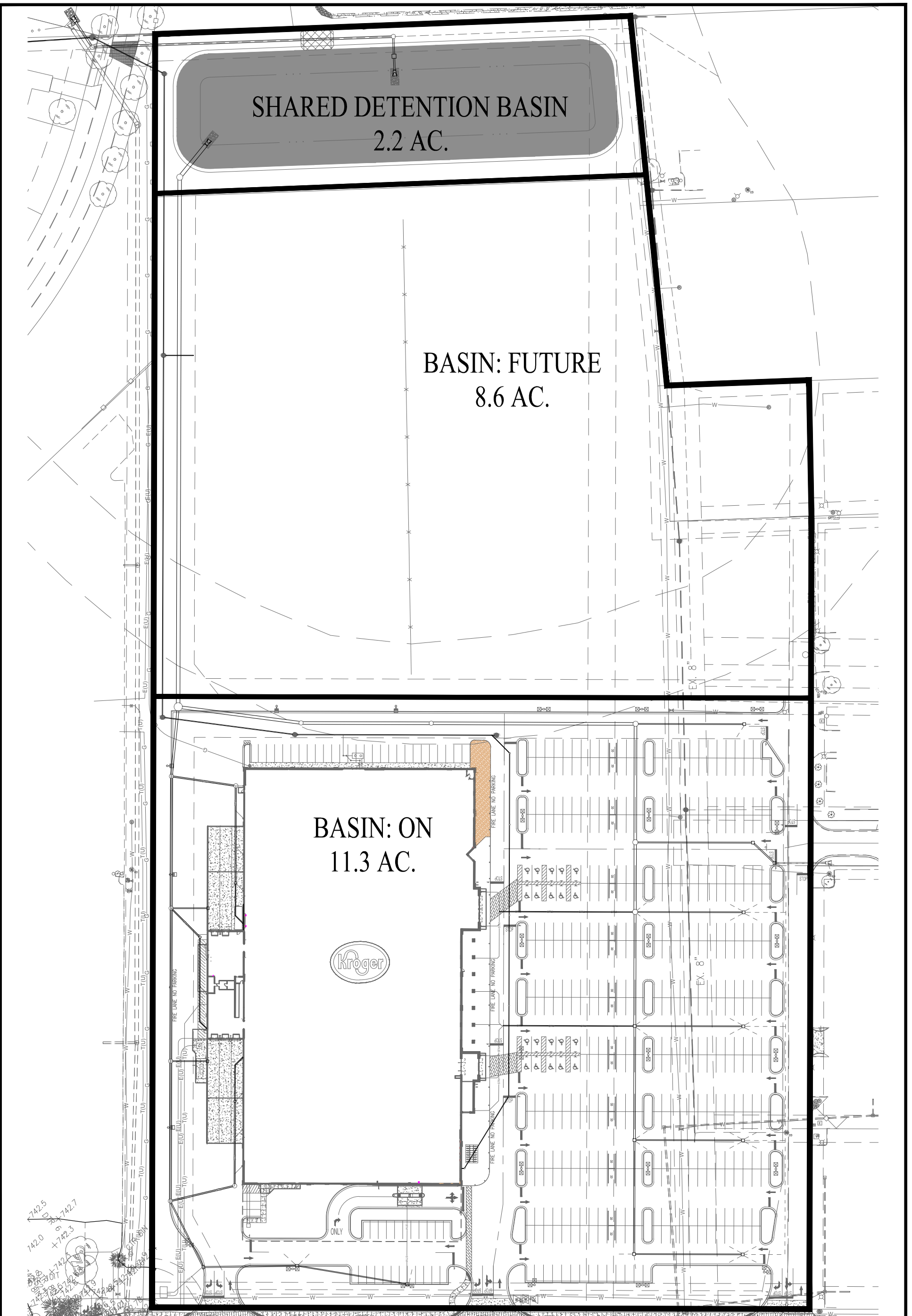
- Area: 22.1 acres (96,2675 square feet)
- Volume: 40,110 cubic feet of storage required

Volume Based on 1-1/4 inch storm

- Total Volume Stored: 42,675 cubic feet
- Total Volume at 24 hours from peak: 25,130 cubic feet
- It should be noted, that this simulation was ran without a tailwater condition.

The controlling parameter will be the 1-1/4 inch storm and said model detention was designed based on said requirement. A 4" orifice has been set in the outlet control structure at an elevation of 735.5 to allow for at least 20% of the run-off to remain for over 24 hours after peak run-off.

POST-DEVELOPED CALCULATIONS




KROGER - FRANKLIN, IN



10505 N. College Avenue
Indianapolis, Indiana 46280
weihe.net
317 | 846 - 6611

SCALE: 1" = 100'



A horizontal scale bar with alternating black and white segments. It is marked with the numbers 0, 25, 50, and 100, representing feet.



POST DEVELOPED BASIN MAP

Date: August 26, 2015

FIGURE 3.1

Post Developed Runoff Calculations

Project:	Kroger - Franklin, IN		
Date:	March 18, 2015		
Job No:	W14-0460		
Checked By:	atm		
Prepared By:	atm		

BASIN:	ON				
Soil Group	Cover type	CN	Area (SF)	Area (Ac.)	Misc. Information
	Commerical and Business	95	490050	11.25	
	TOTAL=	95	490050	11.25	

BASIN:	FUTURE				
Soil Group	Cover type	CN	Area (SF)	Area (Ac.)	Misc. Information
	Commerical and Business	95	374616	8.60	
	TOTAL=	95	374616	8.60	

BASIN:	DET BASIN				
Soil Group	Cover type	CN	Area (SF)	Area (Ac.)	Misc. Information
	Impervious Area, Water	98	32455	0.75	
D	Urban Area, Open Space	80	63165	1.45	
	TOTAL=	86	95620	2.20	

Nodes

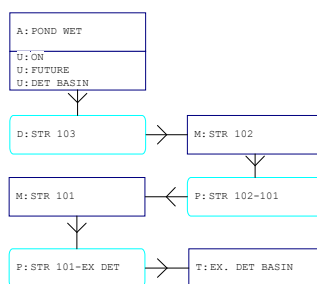
A Stage/Area
 V Stage/Volume
 T Time/Stage
 M Manhole

Basins

O Overland Flow
 U SCS Unit CN
 S SBUH CN
 Y SCS Unit GA
 Z SBUH GA

Links

P Pipe
 W Weir
 C Channel
 D Drop Structure
 B Bridge
 R Rating Curve
 H Breach
 E Percolation
 F Filter
 X Exfil Trench



=====

Basins

=====

Name: DET BASIN Node: POND WET Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 2.200 Time Shift(hrs): 0.00
Curve Number: 86.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: FUTURE Node: POND WET Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 15.00
Area(ac): 8.600 Time Shift(hrs): 0.00
Curve Number: 95.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: ON Node: POND WET Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 15.00
Area(ac): 11.300 Time Shift(hrs): 0.00
Curve Number: 95.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

=====

Nodes

=====

Name: EX. DET BASIN Base Flow(cfs): 0.000 Init Stage(ft): 734.500
Group: BASE Warn Stage(ft): 743.500
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	734.000
12.00	739.500
24.00	734.000

Name: POND WET Base Flow(cfs): 0.000 Init Stage(ft): 735.500
Group: BASE Warn Stage(ft): 742.000
Type: Stage/Area

Stage(ft)	Area(ac)
735.500	0.7500
742.000	1.4000

Name: STR 101 Base Flow(cfs): 0.000 Init Stage(ft): 734.600
Group: BASE Plunge Factor: 1.00 Warn Stage(ft): 744.090
Type: Manhole, Flat Floor

Stage(ft)	Area(ac)
734.600	0.0002
744.090	0.0002

```

-----
Name: STR 102          Base Flow(cfs): 0.000          Init Stage(ft): 735.290
Group: BASE           Plunge Factor: 1.00             Warn Stage(ft): 743.380
Type: Manhole, Flat Floor

```

```

-----
Stage(ft)      Area(ac)
-----
735.290        0.0002
743.380        0.0002

```

==== Pipes =====

```

Name: STR 101-EX DET    From Node: STR 101          Length(ft): 33.00
Group: BASE             To Node: EX. DET BASIN          Count: 1
                        Friction Equation: Automatic
                        Solution Algorithm: Most Restrictive
                        Flow: Both
UPSTREAM                DOWNSTREAM
Geometry: Circular      Circular
Span(in): 24.00         24.00
Rise(in): 24.00         24.00
Invert(ft): 734.600     734.500
Manning's N: 0.012000   0.012000
Top Clip(in): 0.000     0.000
Bot Clip(in): 0.000     0.000
Entrance Loss Coef: 0.00
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Stabilizer Option: None

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

```

-----
Name: STR 102-101       From Node: STR 102          Length(ft): 333.00
Group: BASE             To Node: STR 101          Count: 1
                        Friction Equation: Automatic
                        Solution Algorithm: Most Restrictive
                        Flow: Both
UPSTREAM                DOWNSTREAM
Geometry: Circular      Circular
Span(in): 24.00         24.00
Rise(in): 24.00         24.00
Invert(ft): 735.290     734.600
Manning's N: 0.012000   0.012000
Top Clip(in): 0.000     0.000
Bot Clip(in): 0.000     0.000
Entrance Loss Coef: 0.00
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Stabilizer Option: None

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

==== Drop Structures =====

```

Name: STR 103           From Node: POND WET          Length(ft): 38.00
Group: BASE             To Node: STR 102          Count: 1
                        Friction Equation: Automatic
                        Solution Algorithm: Most Restrictive
                        Flow: Both
UPSTREAM                DOWNSTREAM
Geometry: Circular      Circular
Span(in): 21.00         21.00
Rise(in): 21.00         21.00
Invert(ft): 735.500     735.290
Manning's N: 0.012000   0.012000
Top Clip(in): 0.000     0.000
Bot Clip(in): 0.000     0.000
Entrance Loss Coef: 0.000
Exit Loss Coef: 1.000
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Solution Incs: 10

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:

Circular Concrete: Square edge w/ headwall

*** Weir 1 of 3 for Drop Structure STR 103 ***

Count: 1	Bottom Clip(in): 0.000
Type: Vertical: Mavis	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Circular	Orifice Disc Coef: 0.600
Span(in): 5.00	Invert(ft): 737.100
Rise(in): 5.00	Control Elev(ft): 737.100

TABLE

*** Weir 2 of 3 for Drop Structure STR 103 ***

Count: 1	Bottom Clip(in): 0.000
Type: Vertical: Mavis	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Circular	Orifice Disc Coef: 0.600
Span(in): 4.00	Invert(ft): 735.500
Rise(in): 4.00	Control Elev(ft): 735.500

TABLE

*** Weir 3 of 3 for Drop Structure STR 103 ***

Count: 1	Bottom Clip(in): 0.000
Type: Vertical: Mavis	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Rectangular	Orifice Disc Coef: 0.600
Span(in): 12.00	Invert(ft): 740.800
Rise(in): 7.00	Control Elev(ft): 740.800

TABLE

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==== Hydrology Simulations =====

=====

Name: 100Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-12H.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: Huff II - 50%
Rainfall Amount(in): 5.36

Time(hrs)	Print Inc(min)
-----	-----
30.000	5.00

Name: 100Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-1H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 3.01

Time(hrs)	Print Inc(min)
-----	-----
12.000	5.00

Name: 100Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-24H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Huff III - 50%
Rainfall Amount(in): 5.87

Time(hrs)	Print Inc(min)
-----	-----
30.000	5.00

Name: 100Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-2H.R32

Override Defaults: Yes

Storm Duration(hrs): 2.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 3.65

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 100Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-3H.R32

Override Defaults: Yes
Storm Duration(hrs): 3.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 3.93

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 100Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-6H.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 4.76

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 10Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-12H.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: Huff II - 50%
Rainfall Amount(in): 3.52

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 10Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-1H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 2.02

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 10Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-24H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Huff III - 50%
Rainfall Amount(in): 4.08

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 10Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-2H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 2.38

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 10Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-3H.R32

Override Defaults: Yes
Storm Duration(hrs): 3.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 2.53

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 10Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-6H.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 3.03

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 25Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-12H.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: Huff II - 50%
Rainfall Amount(in): 4.21

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-1H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 2.40

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 25Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-24H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Huff III - 50%
Rainfall Amount(in): 4.77

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-2H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 2.85

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 25Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-3H.R32

Override Defaults: Yes
Storm Duration(hrs): 3.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 3.05

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-6H.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 3.66

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 2Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-12H.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: Huff II - 50%
Rainfall Amount(in): 2.44

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 2Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-1H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.39

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 2Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-24H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Huff III - 50%
Rainfall Amount(in): 2.91

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 2Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-2H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.63

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 2Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-3H.R32

Override Defaults: Yes
Storm Duration(hrs): 3.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.72

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 2Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-6H.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 2.05

Time(hrs)	Print Inc(min)
12.000	5.00

Name: WQ-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-12H.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: Huff II - 50%
Rainfall Amount(in): 1.25

Time(hrs)	Print Inc(min)
30.000	5.00

Name: WQ-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-1H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.25

Time(hrs)	Print Inc(min)
30.000	5.00

Name: WQ-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-24H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Huff III - 50%
Rainfall Amount(in): 1.25

Time(hrs)	Print Inc(min)
50.000	5.00

Name: WQ-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-2H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.25

Time(hrs)	Print Inc(min)
30.000	5.00

Name: WQ-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-3H.R32

Override Defaults: Yes
Storm Duration(hrs): 3.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.25

Time(hrs)	Print Inc(min)
30.000	5.00

Name: WQ-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-6H.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.25

Time(hrs)	Print Inc(min)
30.000	5.00

==== Routing Simulations =====

Name: 100Y-12H Hydrology Sim: 100Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-12H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 100Y-1H Hydrology Sim: 100Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-1H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 100Y-24H Hydrology Sim: 100Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-24H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 100Y-2H Hydrology Sim: 100Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-2H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 100Y-3H Hydrology Sim: 100Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-3H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 100Y-6H Hydrology Sim: 100Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-6H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 10Y-12H Hydrology Sim: 10Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-12H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 10Y-1H Hydrology Sim: 10Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-1H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 10Y-24H Hydrology Sim: 10Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-24H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 10Y-2H Hydrology Sim: 10Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-2H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000

Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 10Y-3H	Hydrology Sim: 10Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-3H.I32	

Execute: Yes	Restart: No	Patch: No
Alternative: No		

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 10Y-6H	Hydrology Sim: 10Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-6H.I32	

Execute: Yes	Restart: No	Patch: No
Alternative: No		

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 25Y-12H	Hydrology Sim: 25Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-12H.I32	

Execute: Yes	Restart: No	Patch: No
Alternative: No		

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 30.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
-----	-----
BASE	Yes

Name: 25Y-1H Hydrology Sim: 25Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-1H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
-----	-----
12.000	10.000

Group	Run
-----	-----
BASE	Yes

Name: 25Y-24H Hydrology Sim: 25Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-24H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 30.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
-----	-----
30.000	10.000

Group	Run
-----	-----
BASE	Yes

Name: 25Y-2H Hydrology Sim: 25Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-2H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
-----	-----
12.000	10.000

Group	Run
-----	-----
BASE	Yes

Name: 25Y-3H Hydrology Sim: 25Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-3H.I32

Execute: Yes Restart: No Patch: No

Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000
Group	Run
BASE	Yes

Name: 25Y-6H Hydrology Sim: 25Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-6H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000
Group	Run
BASE	Yes

Name: 2Y-12H Hydrology Sim: 2Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-12H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 30.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000
Group	Run
BASE	Yes

Name: 2Y-1H Hydrology Sim: 2Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-1H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 2Y-24H	Hydrology Sim: 2Y-24H	
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-24H.I32		
Execute: Yes	Restart: No	Patch: No
Alternative: No		
Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000	
Time Step Optimizer: 10.000		
Start Time(hrs): 0.000	End Time(hrs): 30.00	
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000	
Boundary Stages:	Boundary Flows:	

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 2Y-2H	Hydrology Sim: 2Y-2H	
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-2H.I32		
Execute: Yes	Restart: No	Patch: No
Alternative: No		
Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000	
Time Step Optimizer: 10.000		
Start Time(hrs): 0.000	End Time(hrs): 12.00	
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000	
Boundary Stages:	Boundary Flows:	

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 2Y-3H	Hydrology Sim: 2Y-3H	
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-3H.I32		
Execute: Yes	Restart: No	Patch: No
Alternative: No		
Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000	
Time Step Optimizer: 10.000		
Start Time(hrs): 0.000	End Time(hrs): 12.00	
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000	
Boundary Stages:	Boundary Flows:	

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 2Y-6H Hydrology Sim: 2Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-6H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000
Group	Run
BASE	Yes

Name: WQ-12H Hydrology Sim: WQ-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-12H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000
Group	Run
BASE	Yes

Name: WQ-1H Hydrology Sim: WQ-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-1H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000
Group	Run
BASE	Yes

Name: WQ-24H Hydrology Sim: WQ-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-24H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 50.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000

Boundary Stages:

Boundary Flows:

Time(hrs) Print Inc(min)

50.000 10.000

Group Run

BASE Yes

Name: WQ-2H Hydrology Sim: WQ-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-2H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)

12.000 10.000

Group Run

BASE Yes

Name: WQ-3H Hydrology Sim: WQ-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-3H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)

12.000 10.000

Group Run

BASE Yes

Name: WQ-6H Hydrology Sim: WQ-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-6H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)

12.000 10.000

Group Run

BASE Yes

=====
==== Boundary Conditions =====
=====

Name: Node: STR 102 Type: Flow

Time (hrs)	Flow (cfs)
0.000	0.000
12.000	3.520
30.000	0.000

Simulation	Basin	Group	Time Max hrs	Flow Max cfs	Volume in	Volume ft3
100Y-12H	DET BASIN	BASE	4.82	1.962	3.799	30340.236
100Y-1H	DET BASIN	BASE	0.31	6.986	1.669	13327.054
100Y-24H	DET BASIN	BASE	15.60	1.277	4.280	34181.843
100Y-2H	DET BASIN	BASE	0.42	5.183	2.229	17797.860
100Y-3H	DET BASIN	BASE	0.38	4.314	2.480	19802.562
100Y-6H	DET BASIN	BASE	0.64	3.549	3.239	25869.028
10Y-12H	DET BASIN	BASE	4.84	1.105	2.113	16876.121
10Y-1H	DET BASIN	BASE	0.33	3.462	0.863	6891.971
10Y-24H	DET BASIN	BASE	15.60	0.825	2.615	20886.137
10Y-2H	DET BASIN	BASE	0.51	2.583	1.145	9141.140
10Y-3H	DET BASIN	BASE	0.67	1.940	1.266	10112.780
10Y-6H	DET BASIN	BASE	0.64	1.553	1.686	13463.934
25Y-12H	DET BASIN	BASE	4.82	1.424	2.734	21830.466
25Y-1H	DET BASIN	BASE	0.31	4.757	1.161	9269.640
25Y-24H	DET BASIN	BASE	15.60	1.000	3.249	25942.863
25Y-2H	DET BASIN	BASE	0.49	3.493	1.533	12239.859
25Y-3H	DET BASIN	BASE	0.40	2.648	1.703	13601.022
25Y-6H	DET BASIN	BASE	0.64	2.248	2.238	17869.013
2Y-12H	DET BASIN	BASE	5.40	0.645	1.193	9527.635
2Y-1H	DET BASIN	BASE	0.36	1.602	0.420	3356.141
2Y-24H	DET BASIN	BASE	15.60	0.528	1.583	12645.777
2Y-2H	DET BASIN	BASE	0.56	1.268	0.579	4627.701
2Y-3H	DET BASIN	BASE	0.78	0.970	0.642	5130.843
2Y-6H	DET BASIN	BASE	1.51	0.684	0.886	7074.300
100Y-12H	FUTURE	BASE	4.80	8.977	4.770	148907.944
100Y-1H	FUTURE	BASE	0.30	39.257	2.456	76667.040
100Y-24H	FUTURE	BASE	15.60	5.428	5.275	164685.798
100Y-2H	FUTURE	BASE	0.37	31.248	3.082	96224.112
100Y-3H	FUTURE	BASE	0.40	26.371	3.358	104816.936
100Y-6H	FUTURE	BASE	0.63	19.924	4.176	130375.219
10Y-12H	FUTURE	BASE	4.83	5.702	2.955	92241.181
10Y-1H	FUTURE	BASE	0.33	23.316	1.500	46823.423
10Y-24H	FUTURE	BASE	15.60	3.723	3.505	109426.594
10Y-2H	FUTURE	BASE	0.37	17.701	1.845	57592.156
10Y-3H	FUTURE	BASE	0.43	14.553	1.990	62111.871
10Y-6H	FUTURE	BASE	0.67	11.320	2.475	77275.977
25Y-12H	FUTURE	BASE	4.83	6.936	3.633	113426.268
25Y-1H	FUTURE	BASE	0.30	29.271	1.864	58193.822
25Y-24H	FUTURE	BASE	15.60	4.382	4.186	130683.034
25Y-2H	FUTURE	BASE	0.37	22.670	2.300	71801.966
25Y-3H	FUTURE	BASE	0.40	18.821	2.495	77885.082
25Y-6H	FUTURE	BASE	0.67	14.449	3.092	96530.676
2Y-12H	FUTURE	BASE	4.83	3.752	1.903	59398.070
2Y-1H	FUTURE	BASE	0.33	13.739	0.910	28413.119
2Y-24H	FUTURE	BASE	15.60	2.598	2.358	73624.541
2Y-2H	FUTURE	BASE	0.43	10.240	1.132	35337.419
2Y-3H	FUTURE	BASE	0.47	8.141	1.216	37966.283
2Y-6H	FUTURE	BASE	0.67	6.518	1.528	47715.757
100Y-12H	ON	BASE	4.80	11.796	4.770	195658.113
100Y-1H	ON	BASE	0.30	51.582	2.456	100736.925
100Y-24H	ON	BASE	15.60	7.133	5.275	216389.479
100Y-2H	ON	BASE	0.37	41.059	3.082	126434.008
100Y-3H	ON	BASE	0.40	34.650	3.358	137724.579
100Y-6H	ON	BASE	0.63	26.179	4.176	171306.974
10Y-12H	ON	BASE	4.83	7.493	2.955	121200.621
10Y-1H	ON	BASE	0.33	30.636	1.500	61523.800
10Y-24H	ON	BASE	15.60	4.892	3.505	143781.455
10Y-2H	ON	BASE	0.37	23.258	1.845	75673.415
10Y-3H	ON	BASE	0.43	19.122	1.990	81612.109
10Y-6H	ON	BASE	0.67	14.875	2.475	101537.040
25Y-12H	ON	BASE	4.83	9.114	3.633	149036.841
25Y-1H	ON	BASE	0.30	38.461	1.864	76463.975
25Y-24H	ON	BASE	15.60	5.758	4.186	171711.429
25Y-2H	ON	BASE	0.37	29.788	2.300	94344.444
25Y-3H	ON	BASE	0.40	24.730	2.495	102337.376
25Y-6H	ON	BASE	0.67	18.986	3.092	126836.819
2Y-12H	ON	BASE	4.83	4.930	1.903	78046.301
2Y-1H	ON	BASE	0.33	18.053	0.910	37333.516
2Y-24H	ON	BASE	15.60	3.414	2.358	96739.222
2Y-2H	ON	BASE	0.43	13.455	1.132	46431.726
2Y-3H	ON	BASE	0.47	10.696	1.216	49885.930
2Y-6H	ON	BASE	0.67	8.564	1.528	62696.285

Name: DET BASIN	FUTURE	ON	DET BASIN	FUTURE
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 100Y-12H	100Y-12H	100Y-12H	100Y-1H	100Y-1H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 1.33	2.00	2.00	1.33	2.00
Comp Time Inc(min): 1.33	2.00	2.00	1.33	2.00
Rain File: Huff II - 50%	Huff II - 50%	Huff II - 50%	Huff I - 50%	Huff I - 50%
Rain Amount(in): 5.360	5.360	5.360	3.010	3.010
Duration(hrs): 12.00	12.00	12.00	1.00	1.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 10.00	15.00	15.00	10.00	15.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 2.200	8.600	11.300	2.200	8.600
Vol of Unit Hyd(in): 1.001	1.000	1.000	1.001	1.000
Curve Num: 86.000	95.000	95.000	86.000	95.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 4.82	4.80	4.80	0.31	0.30
Flow Max(cfs): 1.962	8.977	11.796	6.986	39.257
Runoff Volume(in): 3.799	4.770	4.770	1.669	2.456
Runoff Volume(ft3): 30340.236	148907.944	195658.113	13327.054	76667.040
Name: ON	DET BASIN	FUTURE	ON	DET BASIN
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 100Y-1H	100Y-24H	100Y-24H	100Y-24H	100Y-2H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 2.00	1.33	2.00	2.00	1.33
Comp Time Inc(min): 2.00	1.33	2.00	2.00	1.33
Rain File: Huff I - 50%	Huff III - 50%	Huff III - 50%	Huff III - 50%	Huff I - 50%
Rain Amount(in): 3.010	5.870	5.870	5.870	3.650
Duration(hrs): 1.00	24.00	24.00	24.00	2.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 15.00	10.00	15.00	15.00	10.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 11.300	2.200	8.600	11.300	2.200
Vol of Unit Hyd(in): 1.000	1.001	1.000	1.000	1.001
Curve Num: 95.000	86.000	95.000	95.000	86.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 0.30	15.60	15.60	15.60	0.42
Flow Max(cfs): 51.582	1.277	5.428	7.133	5.183
Runoff Volume(in): 2.456	4.280	5.275	5.275	2.229
Runoff Volume(ft3): 100736.925	34181.843	164685.798	216389.479	17797.860
Name: FUTURE	ON	DET BASIN	FUTURE	ON
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 100Y-2H	100Y-2H	100Y-3H	100Y-3H	100Y-3H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 2.00	2.00	1.33	2.00	2.00
Comp Time Inc(min): 2.00	2.00	1.33	2.00	2.00
Rain File: Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%
Rain Amount(in): 3.650	3.650	3.930	3.930	3.930
Duration(hrs): 2.00	2.00	3.00	3.00	3.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 15.00	15.00	10.00	15.00	15.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 8.600	11.300	2.200	8.600	11.300
Vol of Unit Hyd(in): 1.000	1.000	1.001	1.000	1.000
Curve Num: 95.000	95.000	86.000	95.000	95.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 0.37	0.37	0.38	0.40	0.40
Flow Max(cfs): 31.248	41.059	4.314	26.371	34.650
Runoff Volume(in): 3.082	3.082	2.480	3.358	3.358
Runoff Volume(ft3): 96224.112	126434.008	19802.562	104816.936	137724.579
Name: DET BASIN	FUTURE	ON	DET BASIN	FUTURE
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 100Y-6H	100Y-6H	100Y-6H	10Y-12H	10Y-12H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0

Spec Time Inc(min): 1.33	2.00	2.00	1.33	2.00
Comp Time Inc(min): 1.33	2.00	2.00	1.33	2.00
Rain File: Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff II - 50%	Huff II - 50%
Rain Amount(in): 4.760	4.760	4.760	3.520	3.520
Duration(hrs): 6.00	6.00	6.00	12.00	12.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 10.00	15.00	15.00	10.00	15.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 2.200	8.600	11.300	2.200	8.600
Vol of Unit Hyd(in): 1.001	1.000	1.000	1.001	1.000
Curve Num: 86.000	95.000	95.000	86.000	95.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 0.64	0.63	0.63	4.84	4.83
Flow Max(cfs): 3.549	19.924	26.179	1.105	5.702
Runoff Volume(in): 3.239	4.176	4.176	2.113	2.955
Runoff Volume(ft3): 25869.028	130375.219	171306.974	16876.121	92241.181
Name: ON	DET BASIN	FUTURE	ON	DET BASIN
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 10Y-12H	10Y-1H	10Y-1H	10Y-1H	10Y-24H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 2.00	1.33	2.00	2.00	1.33
Comp Time Inc(min): 2.00	1.33	2.00	2.00	1.33
Rain File: Huff II - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff III - 50%
Rain Amount(in): 3.520	2.020	2.020	2.020	4.080
Duration(hrs): 12.00	1.00	1.00	1.00	24.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 15.00	10.00	15.00	15.00	10.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 11.300	2.200	8.600	11.300	2.200
Vol of Unit Hyd(in): 1.000	1.001	1.000	1.000	1.001
Curve Num: 95.000	86.000	95.000	95.000	86.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 4.83	0.33	0.33	0.33	15.60
Flow Max(cfs): 7.493	3.462	23.316	30.636	0.825
Runoff Volume(in): 2.955	0.863	1.500	1.500	2.615
Runoff Volume(ft3): 121200.621	6891.971	46823.423	61523.800	20886.137
Name: FUTURE	ON	DET BASIN	FUTURE	ON
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 10Y-24H	10Y-24H	10Y-2H	10Y-2H	10Y-2H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 2.00	2.00	1.33	2.00	2.00
Comp Time Inc(min): 2.00	2.00	1.33	2.00	2.00
Rain File: Huff III - 50%	Huff III - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%
Rain Amount(in): 4.080	4.080	2.380	2.380	2.380
Duration(hrs): 24.00	24.00	2.00	2.00	2.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 15.00	15.00	10.00	15.00	15.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 8.600	11.300	2.200	8.600	11.300
Vol of Unit Hyd(in): 1.000	1.000	1.001	1.000	1.000
Curve Num: 95.000	95.000	86.000	95.000	95.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 15.60	15.60	0.51	0.37	0.37
Flow Max(cfs): 3.723	4.892	2.583	17.701	23.258
Runoff Volume(in): 3.505	3.505	1.145	1.845	1.845
Runoff Volume(ft3): 109426.594	143781.455	9141.140	57592.156	75673.415
Name: DET BASIN	FUTURE	ON	DET BASIN	FUTURE
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 10Y-3H	10Y-3H	10Y-3H	10Y-6H	10Y-6H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 1.33	2.00	2.00	1.33	2.00
Comp Time Inc(min): 1.33	2.00	2.00	1.33	2.00
Rain File: Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%
Rain Amount(in): 2.530	2.530	2.530	3.030	3.030
Duration(hrs): 3.00	3.00	3.00	6.00	6.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 10.00	15.00	15.00	10.00	15.00

Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 2.200	8.600	11.300	2.200	8.600
Vol of Unit Hyd(in): 1.001	1.000	1.000	1.001	1.000
Curve Num: 86.000	95.000	95.000	86.000	95.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 0.67	0.43	0.43	0.64	0.67
Flow Max(cfs): 1.940	14.553	19.122	1.553	11.320
Runoff Volume(in): 1.266	1.990	1.990	1.686	2.475
Runoff Volume(ft3): 10112.780	62111.871	81612.109	13463.934	77275.977
Name: ON	DET BASIN	FUTURE	ON	DET BASIN
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 10Y-6H	25Y-12H	25Y-12H	25Y-12H	25Y-1H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 2.00	1.33	2.00	2.00	1.33
Comp Time Inc(min): 2.00	1.33	2.00	2.00	1.33
Rain File: Huff I - 50%	Huff II - 50%	Huff II - 50%	Huff II - 50%	Huff I - 50%
Rain Amount(in): 3.030	4.210	4.210	4.210	2.400
Duration(hrs): 6.00	12.00	12.00	12.00	1.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 15.00	10.00	15.00	15.00	10.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 11.300	2.200	8.600	11.300	2.200
Vol of Unit Hyd(in): 1.000	1.001	1.000	1.000	1.001
Curve Num: 95.000	86.000	95.000	95.000	86.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 0.67	4.82	4.83	4.83	0.31
Flow Max(cfs): 14.875	1.424	6.936	9.114	4.757
Runoff Volume(in): 2.475	2.734	3.633	3.633	1.161
Runoff Volume(ft3): 101537.040	21830.466	113426.268	149036.841	9269.640
Name: FUTURE	ON	DET BASIN	FUTURE	ON
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 25Y-1H	25Y-1H	25Y-24H	25Y-24H	25Y-24H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 2.00	2.00	1.33	2.00	2.00
Comp Time Inc(min): 2.00	2.00	1.33	2.00	2.00
Rain File: Huff I - 50%	Huff I - 50%	Huff III - 50%	Huff III - 50%	Huff III - 50%
Rain Amount(in): 2.400	2.400	4.770	4.770	4.770
Duration(hrs): 1.00	1.00	24.00	24.00	24.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 15.00	15.00	10.00	15.00	15.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 8.600	11.300	2.200	8.600	11.300
Vol of Unit Hyd(in): 1.000	1.000	1.001	1.000	1.000
Curve Num: 95.000	95.000	86.000	95.000	95.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 0.30	0.30	15.60	15.60	15.60
Flow Max(cfs): 29.271	38.461	1.000	4.382	5.758
Runoff Volume(in): 1.864	1.864	3.249	4.186	4.186
Runoff Volume(ft3): 58193.822	76463.975	25942.863	130683.034	171711.429
Name: DET BASIN	FUTURE	ON	DET BASIN	FUTURE
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 25Y-2H	25Y-2H	25Y-2H	25Y-3H	25Y-3H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 1.33	2.00	2.00	1.33	2.00
Comp Time Inc(min): 1.33	2.00	2.00	1.33	2.00
Rain File: Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%
Rain Amount(in): 2.850	2.850	2.850	3.050	3.050
Duration(hrs): 2.00	2.00	2.00	3.00	3.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 10.00	15.00	15.00	10.00	15.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 2.200	8.600	11.300	2.200	8.600
Vol of Unit Hyd(in): 1.001	1.000	1.000	1.001	1.000
Curve Num: 86.000	95.000	95.000	86.000	95.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 0.49	0.37	0.37	0.40	0.40
Flow Max(cfs): 3.493	22.670	29.788	2.648	18.821

Runoff Volume(in): 1.533	2.300	2.300	1.703	2.495
Runoff Volume(ft3): 12239.859	71801.966	94344.444	13601.022	77885.082
Name: ON	DET BASIN	FUTURE	ON	DET BASIN
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 25Y-3H	25Y-6H	25Y-6H	25Y-6H	2Y-12H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 2.00	1.33	2.00	2.00	1.33
Comp Time Inc(min): 2.00	1.33	2.00	2.00	1.33
Rain File: Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff II - 50%
Rain Amount(in): 3.050	3.660	3.660	3.660	2.440
Duration(hrs): 3.00	6.00	6.00	6.00	12.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 15.00	10.00	15.00	15.00	10.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 11.300	2.200	8.600	11.300	2.200
Vol of Unit Hyd(in): 1.000	1.001	1.000	1.000	1.001
Curve Num: 95.000	86.000	95.000	95.000	86.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 0.40	0.64	0.67	0.67	5.40
Flow Max(cfs): 24.730	2.248	14.449	18.986	0.645
Runoff Volume(in): 2.495	2.238	3.092	3.092	1.193
Runoff Volume(ft3): 102337.376	17869.013	96530.676	126836.819	9527.635
Name: FUTURE	ON	DET BASIN	FUTURE	ON
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 2Y-12H	2Y-12H	2Y-1H	2Y-1H	2Y-1H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 2.00	2.00	1.33	2.00	2.00
Comp Time Inc(min): 2.00	2.00	1.33	2.00	2.00
Rain File: Huff II - 50%	Huff II - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%
Rain Amount(in): 2.440	2.440	1.390	1.390	1.390
Duration(hrs): 12.00	12.00	1.00	1.00	1.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 15.00	15.00	10.00	15.00	15.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 8.600	11.300	2.200	8.600	11.300
Vol of Unit Hyd(in): 1.000	1.000	1.001	1.000	1.000
Curve Num: 95.000	95.000	86.000	95.000	95.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 4.83	4.83	0.36	0.33	0.33
Flow Max(cfs): 3.752	4.930	1.602	13.739	18.053
Runoff Volume(in): 1.903	1.903	0.420	0.910	0.910
Runoff Volume(ft3): 59398.070	78046.301	3356.141	28413.119	37333.516
Name: DET BASIN	FUTURE	ON	DET BASIN	FUTURE
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 2Y-24H	2Y-24H	2Y-24H	2Y-2H	2Y-2H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 1.33	2.00	2.00	1.33	2.00
Comp Time Inc(min): 1.33	2.00	2.00	1.33	2.00
Rain File: Huff III - 50%	Huff III - 50%	Huff III - 50%	Huff I - 50%	Huff I - 50%
Rain Amount(in): 2.910	2.910	2.910	1.630	1.630
Duration(hrs): 24.00	24.00	24.00	2.00	2.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 10.00	15.00	15.00	10.00	15.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 2.200	8.600	11.300	2.200	8.600
Vol of Unit Hyd(in): 1.001	1.000	1.000	1.001	1.000
Curve Num: 86.000	95.000	95.000	86.000	95.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 15.60	15.60	15.60	0.56	0.43
Flow Max(cfs): 0.528	2.598	3.414	1.268	10.240
Runoff Volume(in): 1.583	2.358	2.358	0.579	1.132
Runoff Volume(ft3): 12645.777	73624.541	96739.222	4627.701	35337.419
Name: ON	DET BASIN	FUTURE	ON	DET BASIN
Group: BASE	BASE	BASE	BASE	BASE
Simulation: 2Y-2H	2Y-3H	2Y-3H	2Y-3H	2Y-6H

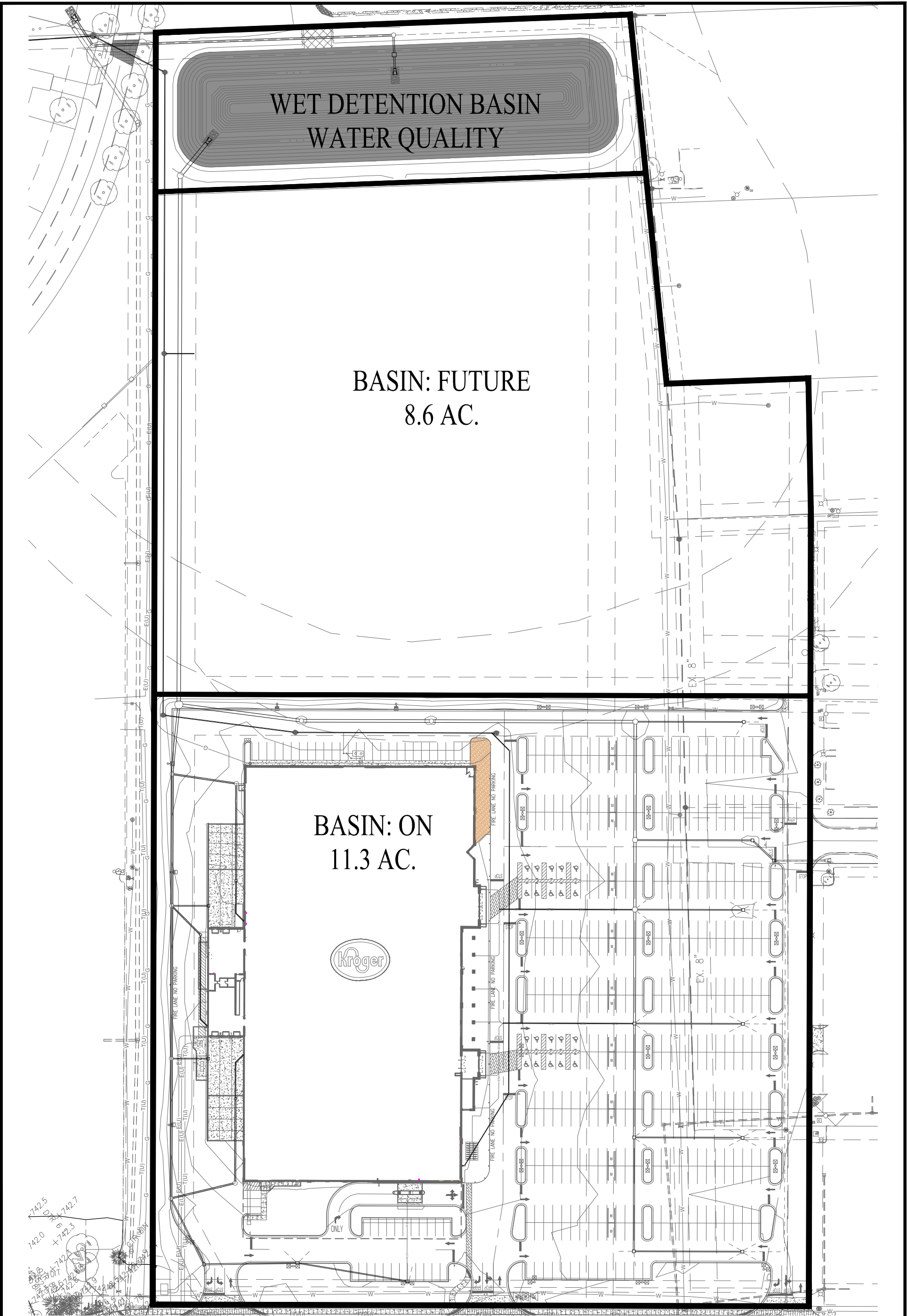
	Node: POND WET	POND WET	POND WET	POND WET	POND WET
	Type: SCS	SCS	SCS	SCS	SCS
	Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
	Peaking Factor: 484.0	484.0	484.0	484.0	484.0
	Spec Time Inc(min): 2.00	1.33	2.00	2.00	1.33
	Comp Time Inc(min): 2.00	1.33	2.00	2.00	1.33
	Rain File: Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%
	Rain Amount(in): 1.630	1.720	1.720	1.720	2.050
	Duration(hrs): 2.00	3.00	3.00	3.00	6.00
	Status: Onsite	Onsite	Onsite	Onsite	Onsite
	TC(min): 15.00	10.00	15.00	15.00	10.00
	Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
	Area(ac): 11.300	2.200	8.600	11.300	2.200
Vol of Unit Hyd(in):	1.000	1.001	1.000	1.000	1.001
Curve Num:	95.000	86.000	95.000	95.000	86.000
DCIA(%):	0.000	0.000	0.000	0.000	0.000
Time Max(hrs):	0.43	0.78	0.47	0.47	1.51
Flow Max(cfs):	13.455	0.970	8.141	10.696	0.684
Runoff Volume(in):	1.132	0.642	1.216	1.216	0.886
Runoff Volume(ft3):	46431.726	5130.843	37966.283	49885.930	7074.300

Name:	FUTURE	ON
Group:	BASE	BASE
Simulation:	2Y-6H	2Y-6H
Node:	POND WET	POND WET
Type:	SCS	SCS
Unit Hydrograph:	Uh484	Uh484
Peaking Factor:	484.0	484.0
Spec Time Inc(min):	2.00	2.00
Comp Time Inc(min):	2.00	2.00
Rain File:	Huff I - 50%	Huff I - 50%
Rain Amount(in):	2.050	2.050
Duration(hrs):	6.00	6.00
Status:	Onsite	Onsite
TC(min):	15.00	15.00
Time Shift(hrs):	0.00	0.00
Area(ac):	8.600	11.300
Vol of Unit Hyd(in):	1.000	1.000
Curve Num:	95.000	95.000
DCIA(%):	0.000	0.000
Time Max(hrs):	0.67	0.67
Flow Max(cfs):	6.518	8.564
Runoff Volume(in):	1.528	1.528
Runoff Volume(ft3):	47715.757	62696.285

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
EX. DET BASIN	100Y-12H	739.500	743.500	-0.5000	2	9.596	0.000
EX. DET BASIN	100Y-1H	739.500	743.500	-0.5000	2	7.357	0.000
EX. DET BASIN	100Y-24H	739.500	743.500	-0.5000	2	8.773	0.000
EX. DET BASIN	100Y-2H	739.500	743.500	-0.5000	2	8.618	0.000
EX. DET BASIN	100Y-3H	739.500	743.500	-0.5000	2	7.277	0.000
EX. DET BASIN	100Y-6H	739.500	743.500	-0.5000	2	8.602	0.000
EX. DET BASIN	10Y-12H	739.500	743.500	-0.5000	2	7.973	0.000
EX. DET BASIN	10Y-1H	739.500	743.500	-0.5000	2	5.888	0.000
EX. DET BASIN	10Y-24H	739.500	743.500	-0.5000	2	6.976	0.000
EX. DET BASIN	10Y-2H	739.500	743.500	-0.5000	2	6.117	0.000
EX. DET BASIN	10Y-3H	739.500	743.500	-0.5000	2	6.158	0.000
EX. DET BASIN	10Y-6H	739.500	743.500	-0.5000	2	6.486	0.000
EX. DET BASIN	25Y-12H	739.500	743.500	-0.5000	2	9.039	0.000
EX. DET BASIN	25Y-1H	739.500	743.500	-0.5000	2	6.179	0.000
EX. DET BASIN	25Y-24H	739.500	743.500	-0.5000	2	10.146	0.000
EX. DET BASIN	25Y-2H	739.500	743.500	-0.5000	2	6.810	0.000
EX. DET BASIN	25Y-3H	739.500	743.500	-0.5000	2	7.637	0.000
EX. DET BASIN	25Y-6H	739.500	743.500	-0.5000	2	8.798	0.000
EX. DET BASIN	2Y-12H	739.500	743.500	-0.5000	2	6.368	0.000
EX. DET BASIN	2Y-1H	739.500	743.500	-0.5000	2	1.614	0.000
EX. DET BASIN	2Y-24H	739.500	743.500	-0.5000	2	7.607	0.000
EX. DET BASIN	2Y-2H	739.500	743.500	-0.5000	2	5.600	0.000
EX. DET BASIN	2Y-3H	739.500	743.500	-0.5000	2	3.216	0.000
EX. DET BASIN	2Y-6H	739.500	743.500	-0.5000	2	5.950	0.000
POND WET	100Y-12H	741.657	742.000	0.0158	59490	22.731	4.009
POND WET	100Y-1H	739.873	742.000	0.0989	51719	96.592	1.854
POND WET	100Y-24H	741.973	742.000	-0.0064	60866	13.837	4.969
POND WET	100Y-2H	740.682	742.000	0.0987	55244	77.186	2.087
POND WET	100Y-3H	740.956	742.000	0.0980	56436	64.714	2.352
POND WET	100Y-6H	741.491	742.000	0.0987	58768	49.316	3.975
POND WET	10Y-12H	740.041	742.000	0.0089	52451	14.300	1.665
POND WET	10Y-1H	738.360	742.000	0.0973	45127	57.099	1.309
POND WET	10Y-24H	740.759	742.000	-0.0038	55578	9.439	2.107
POND WET	10Y-2H	738.852	742.000	0.0751	47272	42.985	1.509
POND WET	10Y-3H	739.001	742.000	0.0623	47921	35.312	1.564
POND WET	10Y-6H	739.468	742.000	0.0592	49954	27.473	1.656
POND WET	25Y-12H	740.851	742.000	0.0115	55979	17.473	1.896
POND WET	25Y-1H	738.957	742.000	0.0962	47731	72.033	1.548
POND WET	25Y-24H	741.283	742.000	-0.0045	57860	11.139	3.289
POND WET	25Y-2H	739.554	742.000	0.0955	50327	54.899	1.753
POND WET	25Y-3H	739.754	742.000	0.0794	51201	46.159	1.817
POND WET	25Y-6H	740.310	742.000	0.0741	53623	35.389	1.920
POND WET	2Y-12H	738.948	742.000	0.0057	47690	9.302	1.326
POND WET	2Y-1H	737.560	742.000	0.0594	41643	33.102	0.617
POND WET	2Y-24H	739.519	742.000	-0.0034	50176	6.539	1.739
POND WET	2Y-2H	737.761	742.000	0.0556	42520	24.756	0.954
POND WET	2Y-3H	737.846	742.000	0.0510	42890	19.360	1.014
POND WET	2Y-6H	738.190	742.000	0.0438	44388	15.654	1.094
STR 101	100Y-12H	739.560	744.090	0.0999	131	5.818	9.596
STR 101	100Y-1H	739.541	744.090	0.0979	131	4.312	7.357
STR 101	100Y-24H	739.455	744.090	-0.0998	131	6.648	8.773
STR 101	100Y-2H	739.563	744.090	-0.0977	131	4.757	8.618
STR 101	100Y-3H	739.567	744.090	0.0979	131	4.817	7.277
STR 101	100Y-6H	739.574	744.090	-0.0995	131	5.903	8.602
STR 101	10Y-12H	739.566	744.090	0.0976	131	4.528	7.973
STR 101	10Y-1H	739.532	744.090	-0.0781	131	3.960	5.888
STR 101	10Y-24H	739.533	744.090	-0.0990	131	5.333	6.976
STR 101	10Y-2H	739.452	744.090	-0.0944	131	4.218	6.117
STR 101	10Y-3H	739.537	744.090	0.0919	131	4.243	6.158
STR 101	10Y-6H	739.456	744.090	-0.0885	131	4.405	6.486
STR 101	25Y-12H	739.574	744.090	-0.0994	131	4.790	9.039
STR 101	25Y-1H	739.451	744.090	-0.0937	131	4.218	6.179
STR 101	25Y-24H	739.537	744.090	-0.0997	131	5.655	10.146
STR 101	25Y-2H	739.540	744.090	-0.0921	131	4.426	6.810
STR 101	25Y-3H	739.542	744.090	0.0949	131	4.362	7.637
STR 101	25Y-6H	739.564	744.090	0.0997	131	4.878	8.798
STR 101	2Y-12H	739.454	744.090	0.0957	131	4.320	6.368
STR 101	2Y-1H	739.491	744.090	-0.0948	131	3.343	1.614
STR 101	2Y-24H	739.538	744.090	-0.0956	131	4.218	7.607
STR 101	2Y-2H	739.532	744.090	-0.0979	131	0.954	5.600
STR 101	2Y-3H	739.492	744.090	-0.0989	131	3.765	3.216
STR 101	2Y-6H	739.452	744.090	-0.0766	131	4.095	5.950
STR 102	100Y-12H	739.659	743.380	0.0840	130	4.009	5.818
STR 102	100Y-1H	739.449	743.380	0.0362	130	1.854	4.312
STR 102	100Y-24H	739.482	743.380	0.0820	130	4.969	6.648
STR 102	100Y-2H	739.510	743.380	-0.0583	130	2.087	4.757

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
STR 102	100Y-3H	739.525	743.380	0.0650	130	2.352	4.817
STR 102	100Y-6H	739.552	743.380	0.0780	130	3.975	5.903
STR 102	10Y-12H	739.529	743.380	0.0473	130	1.665	4.528
STR 102	10Y-1H	739.479	743.380	0.0391	130	1.309	3.960
STR 102	10Y-24H	739.477	743.380	0.0599	130	2.107	5.333
STR 102	10Y-2H	739.464	743.380	0.0328	130	1.509	4.218
STR 102	10Y-3H	739.439	743.380	-0.0362	130	1.564	4.243
STR 102	10Y-6H	739.486	743.380	0.0355	130	1.656	4.405
STR 102	25Y-12H	739.557	743.380	-0.0583	130	1.896	4.790
STR 102	25Y-1H	739.466	743.380	0.0445	130	1.548	4.218
STR 102	25Y-24H	739.438	743.380	0.0791	130	3.289	5.655
STR 102	25Y-2H	739.445	743.380	0.0388	130	1.753	4.426
STR 102	25Y-3H	739.452	743.380	0.0432	130	1.817	4.362
STR 102	25Y-6H	739.518	743.380	-0.0588	130	1.920	4.878
STR 102	2Y-12H	739.479	743.380	-0.0363	130	1.326	4.320
STR 102	2Y-1H	739.479	743.380	0.0290	130	0.617	3.343
STR 102	2Y-24H	739.476	743.380	-0.0363	130	1.739	4.218
STR 102	2Y-2H	739.477	743.380	0.0293	130	0.954	0.954
STR 102	2Y-3H	739.483	743.380	-0.0264	130	1.014	3.765
STR 102	2Y-6H	739.460	743.380	-0.0269	130	1.094	4.095

WATER QUALITY CALCULATIONS



KROGER - FRANKLIN, IN

WATER QUALITY BASIN MAP



10505 N. College Avenue
Indianapolis, Indiana 46280
weihe.net
317 | 846 - 6611

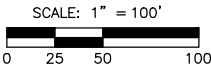


FIGURE 5.1

Date: August 26, 2015

WQ Stage Storage Calculations

Project:	Kroger - Franklin, IN	
Date:	March 17, 2015	
Job No:	W14-0460	
Checked By:	atm	
Prepared By:	atm	

<u>Elevation</u>	<u>Area (sf)</u>	<u>Area (ac)</u>	<u>Volume (cf)</u>	<u>Volume (ac-ft)</u>
735.5	32,455	0.745	0	0
736.0	34,465	0.791	16,730	0.384
737.0	38,570	0.885	53,248	1.222
738.0	42,775	0.982	93,920	2.156
739.0	47,080	1.081	138,848	3.188
740.0	51,480	1.182	188,128	4.319
741.0	55,985	1.285	241,860	5.552
742.0	60,595	1.391	300,150	6.890

Peak Storage
24-Hours after Peak

Volume at:	736.74	0.98
Volume at:	736.23	0.58

Nodes

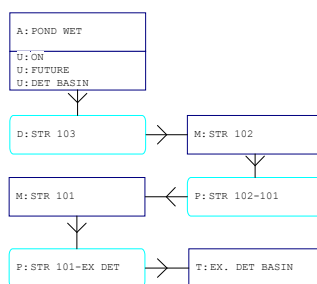
A Stage/Area
 V Stage/Volume
 T Time/Stage
 M Manhole

Basins

O Overland Flow
 U SCS Unit CN
 S SBUH CN
 Y SCS Unit GA
 Z SBUH GA

Links

P Pipe
 W Weir
 C Channel
 D Drop Structure
 B Bridge
 R Rating Curve
 H Breach
 E Percolation
 F Filter
 X Exfil Trench



=====

Basins

=====

Name: DET BASIN Node: POND WET Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 2.200 Time Shift(hrs): 0.00
Curve Number: 86.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: FUTURE Node: POND WET Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 15.00
Area(ac): 8.600 Time Shift(hrs): 0.00
Curve Number: 95.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: ON Node: POND WET Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 15.00
Area(ac): 11.300 Time Shift(hrs): 0.00
Curve Number: 95.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

=====

Nodes

=====

Name: EX. DET BASIN Base Flow(cfs): 0.000 Init Stage(ft): 734.500
Group: BASE Warn Stage(ft): 743.500
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	734.000
12.00	734.000
24.00	734.000

Name: POND WET Base Flow(cfs): 0.000 Init Stage(ft): 735.500
Group: BASE Warn Stage(ft): 742.000
Type: Stage/Area

Stage(ft)	Area(ac)
735.500	0.7500
742.000	1.4000

Name: STR 101 Base Flow(cfs): 0.000 Init Stage(ft): 734.600
Group: BASE Plunge Factor: 1.00 Warn Stage(ft): 744.090
Type: Manhole, Flat Floor

Stage(ft)	Area(ac)
734.600	0.0002
744.090	0.0002

```

-----
Name: STR 102          Base Flow(cfs): 0.000          Init Stage(ft): 735.290
Group: BASE           Plunge Factor: 1.00             Warn Stage(ft): 743.380
Type: Manhole, Flat Floor

```

```

-----
Stage(ft)      Area(ac)
-----
735.290        0.0002
743.380        0.0002

```

==== Pipes =====

```

Name: STR 101-EX DET    From Node: STR 101          Length(ft): 33.00
Group: BASE             To Node: EX. DET BASIN          Count: 1
                        Friction Equation: Automatic
                        Solution Algorithm: Most Restrictive
                        Flow: Both
UPSTREAM                DOWNSTREAM
Geometry: Circular      Circular
Span(in): 24.00         24.00
Rise(in): 24.00         24.00
Invert(ft): 734.600     734.500
Manning's N: 0.012000   0.012000
Top Clip(in): 0.000     0.000
Bot Clip(in): 0.000     0.000
Entrance Loss Coef: 0.00
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Stabilizer Option: None

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

```

-----
Name: STR 102-101      From Node: STR 102          Length(ft): 333.00
Group: BASE            To Node: STR 101          Count: 1
                        Friction Equation: Automatic
                        Solution Algorithm: Most Restrictive
                        Flow: Both
UPSTREAM                DOWNSTREAM
Geometry: Circular      Circular
Span(in): 24.00         24.00
Rise(in): 24.00         24.00
Invert(ft): 735.290     734.600
Manning's N: 0.012000   0.012000
Top Clip(in): 0.000     0.000
Bot Clip(in): 0.000     0.000
Entrance Loss Coef: 0.00
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Stabilizer Option: None

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

==== Drop Structures =====

```

Name: STR 103          From Node: POND WET          Length(ft): 38.00
Group: BASE            To Node: STR 102          Count: 1
                        Friction Equation: Automatic
                        Solution Algorithm: Most Restrictive
                        Flow: Both
UPSTREAM                DOWNSTREAM
Geometry: Circular      Circular
Span(in): 21.00         21.00
Rise(in): 21.00         21.00
Invert(ft): 735.500     735.290
Manning's N: 0.012000   0.012000
Top Clip(in): 0.000     0.000
Bot Clip(in): 0.000     0.000
Entrance Loss Coef: 0.000
Exit Loss Coef: 1.000
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dc
Solution Incs: 10

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:

Circular Concrete: Square edge w/ headwall

*** Weir 1 of 3 for Drop Structure STR 103 ***

Count: 1	Bottom Clip(in): 0.000
Type: Vertical: Mavis	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Circular	Orifice Disc Coef: 0.600
Span(in): 5.00	Invert(ft): 737.100
Rise(in): 5.00	Control Elev(ft): 737.100

TABLE

*** Weir 2 of 3 for Drop Structure STR 103 ***

Count: 1	Bottom Clip(in): 0.000
Type: Vertical: Mavis	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Circular	Orifice Disc Coef: 0.600
Span(in): 4.00	Invert(ft): 735.500
Rise(in): 4.00	Control Elev(ft): 735.500

TABLE

*** Weir 3 of 3 for Drop Structure STR 103 ***

Count: 1	Bottom Clip(in): 0.000
Type: Vertical: Mavis	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Rectangular	Orifice Disc Coef: 0.600
Span(in): 12.00	Invert(ft): 740.800
Rise(in): 7.00	Control Elev(ft): 740.800

TABLE

==== Hydrology Simulations =====

Name: 100Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-12H.R32
Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: Huff II - 50%
Rainfall Amount(in): 5.36

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 100Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-1H.R32
Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 3.01

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 100Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-24H.R32
Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Huff III - 50%
Rainfall Amount(in): 5.87

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 100Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-2H.R32
Override Defaults: Yes

Storm Duration(hrs): 2.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 3.65

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 100Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-3H.R32

Override Defaults: Yes
Storm Duration(hrs): 3.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 3.93

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 100Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-6H.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 4.76

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 10Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-12H.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: Huff II - 50%
Rainfall Amount(in): 3.52

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 10Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-1H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 2.02

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 10Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-24H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Huff III - 50%
Rainfall Amount(in): 4.08

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 10Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-2H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 2.38

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 10Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-3H.R32

Override Defaults: Yes
Storm Duration(hrs): 3.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 2.53

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 10Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-6H.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 3.03

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 25Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-12H.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: Huff II - 50%
Rainfall Amount(in): 4.21

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-1H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 2.40

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 25Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-24H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Huff III - 50%
Rainfall Amount(in): 4.77

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-2H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 2.85

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 25Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-3H.R32

Override Defaults: Yes
Storm Duration(hrs): 3.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 3.05

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-6H.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 3.66

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 2Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-12H.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: Huff II - 50%
Rainfall Amount(in): 2.44

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 2Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-1H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.39

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 2Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-24H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Huff III - 50%
Rainfall Amount(in): 2.91

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 2Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-2H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.63

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 2Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-3H.R32

Override Defaults: Yes
Storm Duration(hrs): 3.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.72

Time(hrs)	Print Inc(min)
12.000	5.00

Name: 2Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-6H.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 2.05

Time(hrs)	Print Inc(min)
12.000	5.00

Name: WQ-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-12H.R32

Override Defaults: Yes
Storm Duration(hrs): 12.00
Rainfall File: Huff II - 50%
Rainfall Amount(in): 1.25

Time(hrs)	Print Inc(min)
30.000	5.00

Name: WQ-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-1H.R32

Override Defaults: Yes
Storm Duration(hrs): 1.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.25

Time(hrs)	Print Inc(min)
30.000	5.00

Name: WQ-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-24H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Huff III - 50%
Rainfall Amount(in): 1.25

Time(hrs)	Print Inc(min)
50.000	5.00

Name: WQ-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-2H.R32

Override Defaults: Yes
Storm Duration(hrs): 2.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.25

Time(hrs)	Print Inc(min)
30.000	5.00

Name: WQ-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-3H.R32

Override Defaults: Yes
Storm Duration(hrs): 3.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.25

Time(hrs)	Print Inc(min)
30.000	5.00

Name: WQ-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-6H.R32

Override Defaults: Yes
Storm Duration(hrs): 6.00
Rainfall File: Huff I - 50%
Rainfall Amount(in): 1.25

Time(hrs)	Print Inc(min)
30.000	5.00

==== Routing Simulations =====

Name: 100Y-12H Hydrology Sim: 100Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-12H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 100Y-1H Hydrology Sim: 100Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-1H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 100Y-24H Hydrology Sim: 100Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-24H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 100Y-2H Hydrology Sim: 100Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-2H.I32

Execute: No	Restart: No	Patch: No
Alternative: No		
Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000	
Time Step Optimizer: 10.000		
Start Time(hrs): 0.000	End Time(hrs): 12.00	
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000	
Boundary Stages:	Boundary Flows:	

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 100Y-3H Hydrology Sim: 100Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-3H.I32

Execute: No	Restart: No	Patch: No
Alternative: No		
Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000	
Time Step Optimizer: 10.000		
Start Time(hrs): 0.000	End Time(hrs): 12.00	
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000	
Boundary Stages:	Boundary Flows:	

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 100Y-6H Hydrology Sim: 100Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\100Y-6H.I32

Execute: No	Restart: No	Patch: No
Alternative: No		
Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000	
Time Step Optimizer: 10.000		
Start Time(hrs): 0.000	End Time(hrs): 12.00	
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000	
Boundary Stages:	Boundary Flows:	

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 10Y-12H Hydrology Sim: 10Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-12H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)

30.000 10.000

Group Run

BASE Yes

Name: 10Y-1H Hydrology Sim: 10Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-1H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)

12.000 10.000

Group Run

BASE Yes

Name: 10Y-24H Hydrology Sim: 10Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-24H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)

30.000 10.000

Group Run

BASE Yes

Name: 10Y-2H Hydrology Sim: 10Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-2H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000

Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
-----	-----
12.000	10.000

Group	Run
-----	-----
BASE	Yes

Name: 10Y-3H	Hydrology Sim: 10Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-3H.I32	

Execute: No	Restart: No	Patch: No
Alternative: No		

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
-----	-----
12.000	10.000

Group	Run
-----	-----
BASE	Yes

Name: 10Y-6H	Hydrology Sim: 10Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\10Y-6H.I32	

Execute: No	Restart: No	Patch: No
Alternative: No		

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
-----	-----
12.000	10.000

Group	Run
-----	-----
BASE	Yes

Name: 25Y-12H	Hydrology Sim: 25Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-12H.I32	

Execute: No	Restart: No	Patch: No
Alternative: No		

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 30.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
-----	-----
30.000	10.000

Group	Run
-----	-----
BASE	Yes

Name: 25Y-1H Hydrology Sim: 25Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-1H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
-----	-----
12.000	10.000

Group	Run
-----	-----
BASE	Yes

Name: 25Y-24H Hydrology Sim: 25Y-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-24H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 30.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
-----	-----
30.000	10.000

Group	Run
-----	-----
BASE	Yes

Name: 25Y-2H Hydrology Sim: 25Y-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-2H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
-----	-----
12.000	10.000

Group	Run
-----	-----
BASE	Yes

Name: 25Y-3H Hydrology Sim: 25Y-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-3H.I32

Execute: No Restart: No Patch: No

Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000
Group	Run
BASE	Yes

Name: 25Y-6H Hydrology Sim: 25Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\25Y-6H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000
Group	Run
BASE	Yes

Name: 2Y-12H Hydrology Sim: 2Y-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-12H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 30.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000
Group	Run
BASE	Yes

Name: 2Y-1H Hydrology Sim: 2Y-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-1H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 12.00
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 2Y-24H	Hydrology Sim: 2Y-24H	
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-24H.I32		
Execute: No	Restart: No	Patch: No
Alternative: No		
Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000	
Time Step Optimizer: 10.000		
Start Time(hrs): 0.000	End Time(hrs): 30.00	
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000	
Boundary Stages:	Boundary Flows:	

Time(hrs)	Print Inc(min)
30.000	10.000

Group	Run
BASE	Yes

Name: 2Y-2H	Hydrology Sim: 2Y-2H	
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-2H.I32		
Execute: No	Restart: No	Patch: No
Alternative: No		
Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000	
Time Step Optimizer: 10.000		
Start Time(hrs): 0.000	End Time(hrs): 12.00	
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000	
Boundary Stages:	Boundary Flows:	

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 2Y-3H	Hydrology Sim: 2Y-3H	
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-3H.I32		
Execute: No	Restart: No	Patch: No
Alternative: No		
Max Delta Z(ft): 1.00	Delta Z Factor: 0.10000	
Time Step Optimizer: 10.000		
Start Time(hrs): 0.000	End Time(hrs): 12.00	
Min Calc Time(sec): 1.0000	Max Calc Time(sec): 100.0000	
Boundary Stages:	Boundary Flows:	

Time(hrs)	Print Inc(min)
12.000	10.000

Group	Run
BASE	Yes

Name: 2Y-6H Hydrology Sim: 2Y-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\2Y-6H.I32

Execute: No Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000
Group	Run
BASE	Yes

Name: WQ-12H Hydrology Sim: WQ-12H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-12H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	10.000
Group	Run
BASE	Yes

Name: WQ-1H Hydrology Sim: WQ-1H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-1H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
12.000	10.000
Group	Run
BASE	Yes

Name: WQ-24H Hydrology Sim: WQ-24H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-24H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 50.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000

Boundary Stages:

Boundary Flows:

Time(hrs) Print Inc(min)

50.000 10.000

Group Run

BASE Yes

Name: WQ-2H Hydrology Sim: WQ-2H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-2H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)

12.000 10.000

Group Run

BASE Yes

Name: WQ-3H Hydrology Sim: WQ-3H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-3H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)

12.000 10.000

Group Run

BASE Yes

Name: WQ-6H Hydrology Sim: WQ-6H
Filename: H:\2014\W140460\Engineering\design\site design\drainage\pond modeling\icpr\Johnson County\WQ-6H.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 12.00
Min Calc Time(sec): 1.0000 Max Calc Time(sec): 100.0000
Boundary Stages: Boundary Flows:

Time(hrs) Print Inc(min)

12.000 10.000

Group Run

BASE Yes

=====
==== Boundary Conditions =====
=====

Name: Node: STR 102 Type: Flow

Time (hrs)	Flow (cfs)
0.000	0.000
12.000	3.520
30.000	0.000

Simulation	Basin	Group	Time Max hrs	Flow Max cfs	Volume in	Volume ft3
WQ-12H	DET BASIN	BASE	5.42	0.187	0.334	2670.199
WQ-1H	DET BASIN	BASE	0.38	1.251	0.334	2670.199
WQ-24H	DET BASIN	BASE	15.60	0.129	0.334	2670.169
WQ-2H	DET BASIN	BASE	0.58	0.701	0.334	2670.199
WQ-3H	DET BASIN	BASE	0.80	0.489	0.334	2670.199
WQ-6H	DET BASIN	BASE	1.53	0.256	0.334	2670.199
WQ-12H	FUTURE	BASE	4.87	1.585	0.783	24447.961
WQ-1H	FUTURE	BASE	0.37	11.688	0.783	24447.961
WQ-24H	FUTURE	BASE	15.60	0.971	0.783	24447.785
WQ-2H	FUTURE	BASE	0.50	6.901	0.783	24447.961
WQ-3H	FUTURE	BASE	0.50	4.803	0.783	24447.961
WQ-6H	FUTURE	BASE	0.70	2.871	0.783	24447.961
WQ-12H	ON	BASE	4.87	2.083	0.783	32123.483
WQ-1H	ON	BASE	0.37	15.358	0.783	32123.483
WQ-24H	ON	BASE	15.60	1.276	0.783	32123.253
WQ-2H	ON	BASE	0.50	9.067	0.783	32123.483
WQ-3H	ON	BASE	0.50	6.311	0.783	32123.483
WQ-6H	ON	BASE	0.70	3.773	0.783	32123.483

Name: DET BASIN	FUTURE	ON	DET BASIN	FUTURE
Group: BASE	BASE	BASE	BASE	BASE
Simulation: WQ-12H	WQ-12H	WQ-12H	WQ-1H	WQ-1H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 1.33	2.00	2.00	1.33	2.00
Comp Time Inc(min): 1.33	2.00	2.00	1.33	2.00
Rain File: Huff II - 50%	Huff II - 50%	Huff II - 50%	Huff I - 50%	Huff I - 50%
Rain Amount(in): 1.250	1.250	1.250	1.250	1.250
Duration(hrs): 12.00	12.00	12.00	1.00	1.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 10.00	15.00	15.00	10.00	15.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 2.200	8.600	11.300	2.200	8.600
Vol of Unit Hyd(in): 1.001	1.000	1.000	1.001	1.000
Curve Num: 86.000	95.000	95.000	86.000	95.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 5.42	4.87	4.87	0.38	0.37
Flow Max(cfs): 0.187	1.585	2.083	1.251	11.688
Runoff Volume(in): 0.334	0.783	0.783	0.334	0.783
Runoff Volume(ft3): 2670.199	24447.961	32123.483	2670.199	24447.961

Name: ON	DET BASIN	FUTURE	ON	DET BASIN
Group: BASE	BASE	BASE	BASE	BASE
Simulation: WQ-1H	WQ-24H	WQ-24H	WQ-24H	WQ-2H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 2.00	1.33	2.00	2.00	1.33
Comp Time Inc(min): 2.00	1.33	2.00	2.00	1.33
Rain File: Huff I - 50%	Huff III - 50%	Huff III - 50%	Huff III - 50%	Huff I - 50%
Rain Amount(in): 1.250	1.250	1.250	1.250	1.250
Duration(hrs): 1.00	24.00	24.00	24.00	2.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 15.00	15.00	15.00	15.00	10.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 11.300	2.200	8.600	11.300	2.200
Vol of Unit Hyd(in): 1.000	1.001	1.000	1.000	1.001
Curve Num: 95.000	86.000	95.000	95.000	86.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 0.37	15.60	15.60	15.60	0.58
Flow Max(cfs): 15.358	0.129	0.971	1.276	0.701
Runoff Volume(in): 0.783	0.334	0.783	0.783	0.334
Runoff Volume(ft3): 32123.483	2670.169	24447.785	32123.253	2670.199

Name: FUTURE	ON	DET BASIN	FUTURE	ON
Group: BASE	BASE	BASE	BASE	BASE
Simulation: WQ-2H	WQ-2H	WQ-3H	WQ-3H	WQ-3H
Node: POND WET	POND WET	POND WET	POND WET	POND WET
Type: SCS	SCS	SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0	484.0	484.0
Spec Time Inc(min): 2.00	2.00	1.33	2.00	2.00
Comp Time Inc(min): 2.00	2.00	1.33	2.00	2.00
Rain File: Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%	Huff I - 50%
Rain Amount(in): 1.250	1.250	1.250	1.250	1.250
Duration(hrs): 2.00	2.00	3.00	3.00	3.00
Status: Onsite	Onsite	Onsite	Onsite	Onsite
TC(min): 15.00	15.00	10.00	15.00	15.00
Time Shift(hrs): 0.00	0.00	0.00	0.00	0.00
Area(ac): 8.600	11.300	2.200	8.600	11.300
Vol of Unit Hyd(in): 1.000	1.000	1.001	1.000	1.000
Curve Num: 95.000	95.000	86.000	95.000	95.000
DCIA(%): 0.000	0.000	0.000	0.000	0.000
Time Max(hrs): 0.50	0.50	0.80	0.50	0.50
Flow Max(cfs): 6.901	9.067	0.489	4.803	6.311
Runoff Volume(in): 0.783	0.783	0.334	0.783	0.783
Runoff Volume(ft3): 24447.961	32123.483	2670.199	24447.961	32123.483

Name: DET BASIN	FUTURE	ON
Group: BASE	BASE	BASE
Simulation: WQ-6H	WQ-6H	WQ-6H
Node: POND WET	POND WET	POND WET
Type: SCS	SCS	SCS
Unit Hydrograph: Uh484	Uh484	Uh484
Peaking Factor: 484.0	484.0	484.0

Spec Time Inc(min): 1.33	2.00	2.00
Comp Time Inc(min): 1.33	2.00	2.00
Rain File: Huff I - 50%	Huff I - 50%	Huff I - 50%
Rain Amount(in): 1.250	1.250	1.250
Duration(hrs): 6.00	6.00	6.00
Status: Onsite	Onsite	Onsite
TC(min): 10.00	15.00	15.00
Time Shift(hrs): 0.00	0.00	0.00
Area(ac): 2.200	8.600	11.300
Vol of Unit Hyd(in): 1.001	1.000	1.000
Curve Num: 86.000	95.000	95.000
DCIA(%): 0.000	0.000	0.000
Time Max(hrs): 1.53	0.70	0.70
Flow Max(cfs): 0.256	2.871	3.773
Runoff Volume(in): 0.334	0.783	0.783
Runoff Volume(ft3): 2670.199	24447.961	32123.483

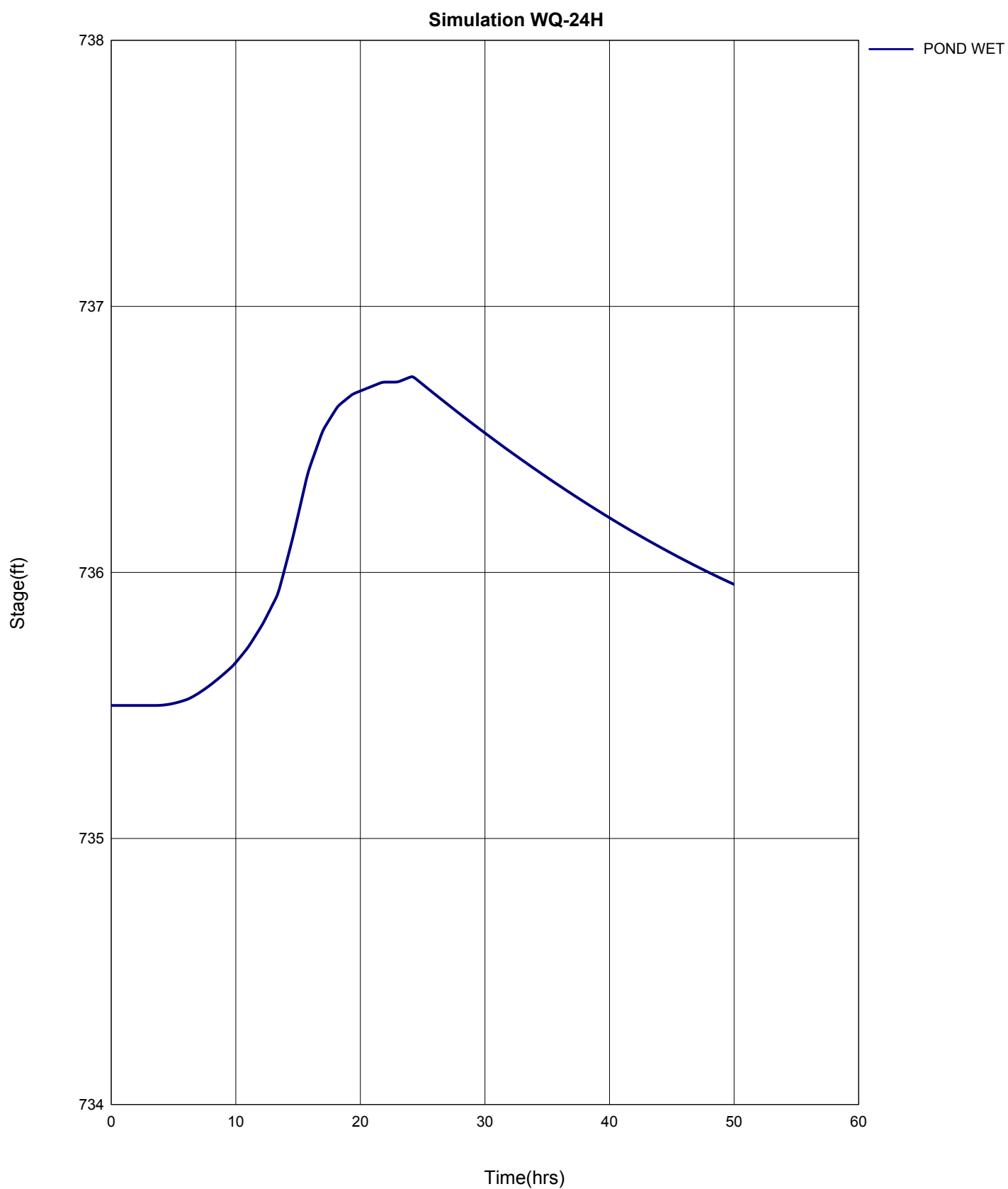
Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
EX. DET BASIN	WQ-12H	734.000	743.500	-0.5000	2	0.430	0.000
EX. DET BASIN	WQ-1H	734.000	743.500	-0.5000	2	0.473	0.000
EX. DET BASIN	WQ-24H	734.000	743.500	-0.5000	2	0.407	0.000
EX. DET BASIN	WQ-2H	734.000	743.500	-0.5000	2	0.468	0.000
EX. DET BASIN	WQ-3H	734.000	743.500	-0.5000	2	0.462	0.000
EX. DET BASIN	WQ-6H	734.000	743.500	-0.5000	2	0.447	0.000
POND WET	WQ-12H	736.859	742.000	0.0103	38588	3.816	0.430
POND WET	WQ-1H	737.093	742.000	0.0593	39610	28.025	0.473
POND WET	WQ-24H	736.736	742.000	0.0057	38054	2.374	0.406
POND WET	WQ-2H	737.064	742.000	0.0438	39483	16.616	0.468
POND WET	WQ-3H	737.035	742.000	0.0325	39356	11.451	0.462
POND WET	WQ-6H	736.947	742.000	0.0195	38974	6.635	0.447
STR 101	WQ-12H	734.918	744.090	0.0050	367	0.430	0.430
STR 101	WQ-1H	734.935	744.090	0.0321	372	0.473	0.473
STR 101	WQ-24H	734.908	744.090	0.0015	364	0.407	0.407
STR 101	WQ-2H	734.933	744.090	0.0268	372	0.467	0.468
STR 101	WQ-3H	734.931	744.090	0.0245	371	0.463	0.462
STR 101	WQ-6H	734.925	744.090	0.0169	369	0.447	0.447
STR 102	WQ-12H	735.605	743.380	0.0050	352	0.430	0.430
STR 102	WQ-1H	735.620	743.380	0.0257	356	0.473	0.473
STR 102	WQ-24H	735.596	743.380	0.0015	349	0.406	0.407
STR 102	WQ-2H	735.618	743.380	0.0221	356	0.468	0.467
STR 102	WQ-3H	735.617	743.380	0.0173	355	0.462	0.463
STR 102	WQ-6H	735.611	743.380	0.0129	353	0.447	0.447

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
WQ-24H	POND WET	BASE	0.00	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	0.17	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	0.35	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	0.50	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	0.67	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	0.83	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	1.00	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	1.17	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	1.33	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	1.50	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	1.67	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	1.83	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	2.00	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	2.17	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	2.33	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	2.50	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	2.67	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	2.83	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	3.00	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	3.17	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	3.33	735.500	742.000	32670	0.000	0.000	0.0	0.0
WQ-24H	POND WET	BASE	3.50	735.500	742.000	32670	0.001	0.000	0.0	0.0
WQ-24H	POND WET	BASE	3.67	735.500	742.000	32670	0.008	0.000	0.0	0.0
WQ-24H	POND WET	BASE	3.83	735.500	742.000	32671	0.020	0.000	0.0	0.0
WQ-24H	POND WET	BASE	4.00	735.501	742.000	32674	0.031	0.000	0.0	0.0
WQ-24H	POND WET	BASE	4.17	735.501	742.000	32676	0.042	0.000	0.0	0.0
WQ-24H	POND WET	BASE	4.33	735.502	742.000	32680	0.053	0.000	0.0	0.0
WQ-24H	POND WET	BASE	4.50	735.503	742.000	32685	0.064	0.000	0.0	0.0
WQ-24H	POND WET	BASE	4.67	735.505	742.000	32691	0.074	0.000	0.0	0.0
WQ-24H	POND WET	BASE	4.83	735.506	742.000	32697	0.085	0.000	0.0	0.0
WQ-24H	POND WET	BASE	5.00	735.508	742.000	32704	0.094	0.000	0.0	0.0
WQ-24H	POND WET	BASE	5.17	735.510	742.000	32712	0.104	0.000	0.0	0.0
WQ-24H	POND WET	BASE	5.33	735.512	742.000	32721	0.113	0.000	0.0	0.0
WQ-24H	POND WET	BASE	5.50	735.514	742.000	32730	0.122	0.000	0.0	0.0
WQ-24H	POND WET	BASE	5.67	735.516	742.000	32740	0.131	0.000	0.0	0.0
WQ-24H	POND WET	BASE	5.83	735.519	742.000	32751	0.140	0.000	0.0	0.0
WQ-24H	POND WET	BASE	6.00	735.521	742.000	32762	0.148	0.001	0.0	0.0
WQ-24H	POND WET	BASE	6.17	735.524	742.000	32775	0.181	0.001	0.0	0.0
WQ-24H	POND WET	BASE	6.33	735.528	742.000	32791	0.217	0.001	0.0	0.0
WQ-24H	POND WET	BASE	6.50	735.532	742.000	32809	0.235	0.002	0.0	0.0
WQ-24H	POND WET	BASE	6.67	735.536	742.000	32828	0.249	0.002	0.0	0.0
WQ-24H	POND WET	BASE	6.83	735.541	742.000	32848	0.261	0.003	0.0	0.0
WQ-24H	POND WET	BASE	7.00	735.546	742.000	32869	0.274	0.004	0.0	0.0
WQ-24H	POND WET	BASE	7.17	735.551	742.000	32891	0.286	0.004	0.0	0.0
WQ-24H	POND WET	BASE	7.33	735.556	742.000	32914	0.297	0.005	0.0	0.0
WQ-24H	POND WET	BASE	7.50	735.561	742.000	32938	0.308	0.006	0.0	0.0
WQ-24H	POND WET	BASE	7.67	735.567	742.000	32962	0.319	0.008	0.1	0.0
WQ-24H	POND WET	BASE	7.83	735.573	742.000	32987	0.330	0.009	0.1	0.0
WQ-24H	POND WET	BASE	8.00	735.579	742.000	33013	0.340	0.010	0.1	0.0
WQ-24H	POND WET	BASE	8.17	735.585	742.000	33039	0.350	0.012	0.1	0.0
WQ-24H	POND WET	BASE	8.33	735.591	742.000	33066	0.360	0.014	0.1	0.0
WQ-24H	POND WET	BASE	8.50	735.597	742.000	33094	0.369	0.016	0.1	0.0
WQ-24H	POND WET	BASE	8.67	735.604	742.000	33122	0.378	0.018	0.1	0.0
WQ-24H	POND WET	BASE	8.83	735.610	742.000	33151	0.387	0.020	0.1	0.0
WQ-24H	POND WET	BASE	9.00	735.617	742.000	33180	0.395	0.022	0.1	0.0
WQ-24H	POND WET	BASE	9.17	735.624	742.000	33209	0.404	0.025	0.1	0.0
WQ-24H	POND WET	BASE	9.33	735.631	742.000	33239	0.412	0.028	0.1	0.0
WQ-24H	POND WET	BASE	9.50	735.638	742.000	33270	0.420	0.030	0.1	0.0
WQ-24H	POND WET	BASE	9.67	735.645	742.000	33301	0.435	0.033	0.1	0.0
WQ-24H	POND WET	BASE	9.83	735.653	742.000	33335	0.515	0.037	0.1	0.0
WQ-24H	POND WET	BASE	10.00	735.662	742.000	33374	0.553	0.041	0.1	0.0
WQ-24H	POND WET	BASE	10.17	735.671	742.000	33415	0.570	0.045	0.1	0.0
WQ-24H	POND WET	BASE	10.33	735.680	742.000	33456	0.582	0.050	0.1	0.0
WQ-24H	POND WET	BASE	10.50	735.690	742.000	33498	0.593	0.055	0.2	0.0
WQ-24H	POND WET	BASE	10.67	735.700	742.000	33540	0.604	0.060	0.2	0.0
WQ-24H	POND WET	BASE	10.83	735.710	742.000	33583	0.617	0.065	0.2	0.0
WQ-24H	POND WET	BASE	11.00	735.720	742.000	33628	0.701	0.071	0.2	0.0
WQ-24H	POND WET	BASE	11.17	735.732	742.000	33680	0.756	0.078	0.2	0.0
WQ-24H	POND WET	BASE	11.33	735.744	742.000	33733	0.777	0.085	0.2	0.0
WQ-24H	POND WET	BASE	11.50	735.756	742.000	33787	0.792	0.092	0.2	0.0
WQ-24H	POND WET	BASE	11.67	735.769	742.000	33841	0.805	0.099	0.2	0.0
WQ-24H	POND WET	BASE	11.83	735.781	742.000	33896	0.817	0.106	0.2	0.0
WQ-24H	POND WET	BASE	12.00	735.794	742.000	33951	0.830	0.113	0.2	0.0
WQ-24H	POND WET	BASE	12.17	735.807	742.000	34008	0.907	0.120	0.3	0.0
WQ-24H	POND WET	BASE	12.33	735.822	742.000	34072	0.982	0.126	0.3	0.0
WQ-24H	POND WET	BASE	12.50	735.837	742.000	34138	1.008	0.133	0.3	0.0
WQ-24H	POND WET	BASE	12.67	735.852	742.000	34205	1.025	0.147	0.3	0.0
WQ-24H	POND WET	BASE	12.83	735.868	742.000	34272	1.039	0.160	0.3	0.0
WQ-24H	POND WET	BASE	13.00	735.883	742.000	34339	1.052	0.174	0.3	0.0

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
WQ-24H	POND WET	BASE	13.17	735.899	742.000	34406	1.065	0.187	0.3	0.0
WQ-24H	POND WET	BASE	13.33	735.915	742.000	34479	1.322	0.193	0.4	0.0
WQ-24H	POND WET	BASE	13.50	735.939	742.000	34583	1.766	0.201	0.4	0.0
WQ-24H	POND WET	BASE	13.67	735.967	742.000	34706	1.889	0.210	0.4	0.0
WQ-24H	POND WET	BASE	13.83	735.997	742.000	34834	1.938	0.220	0.4	0.0
WQ-24H	POND WET	BASE	14.00	736.026	742.000	34963	1.969	0.231	0.5	0.0
WQ-24H	POND WET	BASE	14.17	736.056	742.000	35094	1.997	0.240	0.5	0.0
WQ-24H	POND WET	BASE	14.33	736.087	742.000	35225	2.023	0.249	0.5	0.1
WQ-24H	POND WET	BASE	14.50	736.117	742.000	35358	2.079	0.258	0.5	0.1
WQ-24H	POND WET	BASE	14.67	736.149	742.000	35497	2.212	0.267	0.6	0.1
WQ-24H	POND WET	BASE	14.83	736.182	742.000	35642	2.266	0.278	0.6	0.1
WQ-24H	POND WET	BASE	15.00	736.216	742.000	35788	2.296	0.287	0.6	0.1
WQ-24H	POND WET	BASE	15.17	736.250	742.000	35935	2.320	0.296	0.7	0.1
WQ-24H	POND WET	BASE	15.33	736.283	742.000	36083	2.343	0.304	0.7	0.1
WQ-24H	POND WET	BASE	15.50	736.317	742.000	36231	2.364	0.313	0.7	0.1
WQ-24H	POND WET	BASE	15.67	736.351	742.000	36378	2.332	0.321	0.8	0.1
WQ-24H	POND WET	BASE	15.83	736.380	742.000	36505	1.868	0.328	0.8	0.1
WQ-24H	POND WET	BASE	16.00	736.404	742.000	36608	1.710	0.334	0.8	0.1
WQ-24H	POND WET	BASE	16.17	736.426	742.000	36705	1.686	0.339	0.8	0.1
WQ-24H	POND WET	BASE	16.33	736.448	742.000	36801	1.689	0.344	0.9	0.1
WQ-24H	POND WET	BASE	16.50	736.470	742.000	36896	1.697	0.349	0.9	0.1
WQ-24H	POND WET	BASE	16.67	736.492	742.000	36992	1.705	0.354	0.9	0.1
WQ-24H	POND WET	BASE	16.83	736.514	742.000	37087	1.702	0.360	0.9	0.1
WQ-24H	POND WET	BASE	17.00	736.533	742.000	37171	1.370	0.364	0.9	0.1
WQ-24H	POND WET	BASE	17.17	736.548	742.000	37234	1.191	0.367	1.0	0.1
WQ-24H	POND WET	BASE	17.33	736.561	742.000	37291	1.159	0.370	1.0	0.1
WQ-24H	POND WET	BASE	17.50	736.573	742.000	37346	1.156	0.373	1.0	0.1
WQ-24H	POND WET	BASE	17.67	736.586	742.000	37400	1.159	0.375	1.0	0.1
WQ-24H	POND WET	BASE	17.83	736.598	742.000	37455	1.162	0.378	1.0	0.1
WQ-24H	POND WET	BASE	18.00	736.611	742.000	37510	1.164	0.381	1.0	0.2
WQ-24H	POND WET	BASE	18.17	736.622	742.000	37559	0.983	0.383	1.1	0.2
WQ-24H	POND WET	BASE	18.33	736.630	742.000	37594	0.819	0.385	1.1	0.2
WQ-24H	POND WET	BASE	18.50	736.637	742.000	37623	0.788	0.386	1.1	0.2
WQ-24H	POND WET	BASE	18.67	736.643	742.000	37651	0.782	0.388	1.1	0.2
WQ-24H	POND WET	BASE	18.83	736.650	742.000	37678	0.783	0.389	1.1	0.2
WQ-24H	POND WET	BASE	19.00	736.656	742.000	37706	0.784	0.390	1.1	0.2
WQ-24H	POND WET	BASE	19.17	736.662	742.000	37733	0.785	0.392	1.1	0.2
WQ-24H	POND WET	BASE	19.33	736.668	742.000	37759	0.723	0.393	1.1	0.2
WQ-24H	POND WET	BASE	19.50	736.672	742.000	37777	0.619	0.394	1.1	0.2
WQ-24H	POND WET	BASE	19.67	736.676	742.000	37792	0.596	0.394	1.2	0.2
WQ-24H	POND WET	BASE	19.83	736.679	742.000	37806	0.592	0.395	1.2	0.2
WQ-24H	POND WET	BASE	20.00	736.682	742.000	37819	0.593	0.396	1.2	0.2
WQ-24H	POND WET	BASE	20.17	736.685	742.000	37833	0.593	0.396	1.2	0.2
WQ-24H	POND WET	BASE	20.33	736.688	742.000	37847	0.594	0.397	1.2	0.2
WQ-24H	POND WET	BASE	20.50	736.692	742.000	37860	0.594	0.398	1.2	0.2
WQ-24H	POND WET	BASE	20.67	736.695	742.000	37874	0.595	0.398	1.2	0.2
WQ-24H	POND WET	BASE	20.83	736.698	742.000	37887	0.596	0.399	1.2	0.2
WQ-24H	POND WET	BASE	21.00	736.701	742.000	37901	0.596	0.399	1.2	0.2
WQ-24H	POND WET	BASE	21.17	736.704	742.000	37915	0.597	0.400	1.2	0.3
WQ-24H	POND WET	BASE	21.33	736.707	742.000	37928	0.597	0.401	1.2	0.3
WQ-24H	POND WET	BASE	21.50	736.710	742.000	37942	0.598	0.401	1.2	0.3
WQ-24H	POND WET	BASE	21.67	736.713	742.000	37955	0.584	0.402	1.3	0.3
WQ-24H	POND WET	BASE	21.83	736.715	742.000	37963	0.455	0.402	1.3	0.3
WQ-24H	POND WET	BASE	22.00	736.716	742.000	37965	0.410	0.402	1.3	0.3
WQ-24H	POND WET	BASE	22.17	736.716	742.000	37965	0.401	0.402	1.3	0.3
WQ-24H	POND WET	BASE	22.33	736.716	742.000	37965	0.400	0.402	1.3	0.3
WQ-24H	POND WET	BASE	22.50	736.715	742.000	37965	0.400	0.402	1.3	0.3
WQ-24H	POND WET	BASE	22.67	736.715	742.000	37964	0.401	0.402	1.3	0.3
WQ-24H	POND WET	BASE	22.83	736.715	742.000	37964	0.405	0.402	1.3	0.3
WQ-24H	POND WET	BASE	23.00	736.716	742.000	37968	0.523	0.403	1.3	0.3
WQ-24H	POND WET	BASE	23.17	736.719	742.000	37979	0.588	0.403	1.3	0.3
WQ-24H	POND WET	BASE	23.33	736.722	742.000	37992	0.600	0.404	1.3	0.3
WQ-24H	POND WET	BASE	23.50	736.725	742.000	38006	0.603	0.404	1.3	0.3
WQ-24H	POND WET	BASE	23.67	736.728	742.000	38020	0.604	0.405	1.3	0.3
WQ-24H	POND WET	BASE	23.83	736.731	742.000	38033	0.604	0.406	1.3	0.3
WQ-24H	POND WET	BASE	24.00	736.734	742.000	38047	0.604	0.406	1.4	0.3
WQ-24H	POND WET	BASE	24.17	736.736	742.000	38053	0.317	0.406	1.4	0.4
WQ-24H	POND WET	BASE	24.33	736.732	742.000	38036	0.061	0.406	1.4	0.4
WQ-24H	POND WET	BASE	24.50	736.726	742.000	38011	0.010	0.405	1.4	0.4
WQ-24H	POND WET	BASE	24.67	736.720	742.000	37983	0.001	0.403	1.4	0.4
WQ-24H	POND WET	BASE	24.83	736.713	742.000	37956	0.000	0.402	1.4	0.4
WQ-24H	POND WET	BASE	25.00	736.707	742.000	37928	0.000	0.401	1.4	0.4
WQ-24H	POND WET	BASE	25.17	736.701	742.000	37900	0.000	0.399	1.4	0.4
WQ-24H	POND WET	BASE	25.33	736.694	742.000	37873	0.000	0.398	1.4	0.4
WQ-24H	POND WET	BASE	25.50	736.688	742.000	37845	0.000	0.397	1.4	0.4
WQ-24H	POND WET	BASE	25.67	736.682	742.000	37818	0.000	0.396	1.4	0.4
WQ-24H	POND WET	BASE	25.83	736.676	742.000	37791	0.000	0.394	1.4	0.4
WQ-24H	POND WET	BASE	26.00	736.669	742.000	37763	0.000	0.393	1.4	0.4
WQ-24H	POND WET	BASE	26.17	736.663	742.000	37736	0.000	0.392	1.4	0.4

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
WQ-24H	POND WET	BASE	26.33	736.657	742.000	37709	0.000	0.390	1.4	0.4
WQ-24H	POND WET	BASE	26.50	736.651	742.000	37682	0.000	0.389	1.4	0.4
WQ-24H	POND WET	BASE	26.67	736.644	742.000	37655	0.000	0.388	1.4	0.4
WQ-24H	POND WET	BASE	26.83	736.638	742.000	37628	0.000	0.386	1.4	0.4
WQ-24H	POND WET	BASE	27.00	736.632	742.000	37602	0.000	0.385	1.4	0.4
WQ-24H	POND WET	BASE	27.17	736.626	742.000	37575	0.000	0.384	1.4	0.5
WQ-24H	POND WET	BASE	27.33	736.620	742.000	37548	0.000	0.383	1.4	0.5
WQ-24H	POND WET	BASE	27.50	736.614	742.000	37522	0.000	0.381	1.4	0.5
WQ-24H	POND WET	BASE	27.67	736.608	742.000	37495	0.000	0.380	1.4	0.5
WQ-24H	POND WET	BASE	27.83	736.602	742.000	37469	0.000	0.379	1.4	0.5
WQ-24H	POND WET	BASE	28.00	736.596	742.000	37442	0.000	0.377	1.4	0.5
WQ-24H	POND WET	BASE	28.17	736.589	742.000	37416	0.000	0.376	1.4	0.5
WQ-24H	POND WET	BASE	28.33	736.583	742.000	37390	0.000	0.375	1.4	0.5
WQ-24H	POND WET	BASE	28.50	736.577	742.000	37363	0.000	0.374	1.4	0.5
WQ-24H	POND WET	BASE	28.67	736.571	742.000	37337	0.000	0.372	1.4	0.5
WQ-24H	POND WET	BASE	28.83	736.565	742.000	37311	0.000	0.371	1.4	0.5
WQ-24H	POND WET	BASE	29.00	736.560	742.000	37285	0.000	0.370	1.4	0.5
WQ-24H	POND WET	BASE	29.17	736.554	742.000	37259	0.000	0.369	1.4	0.5
WQ-24H	POND WET	BASE	29.33	736.548	742.000	37234	0.000	0.367	1.4	0.5
WQ-24H	POND WET	BASE	29.50	736.542	742.000	37208	0.000	0.366	1.4	0.5
WQ-24H	POND WET	BASE	29.67	736.536	742.000	37182	0.000	0.365	1.4	0.5
WQ-24H	POND WET	BASE	29.83	736.530	742.000	37157	0.000	0.363	1.4	0.5
WQ-24H	POND WET	BASE	30.00	736.524	742.000	37131	0.000	0.362	1.4	0.5
WQ-24H	POND WET	BASE	30.17	736.518	742.000	37106	0.000	0.361	1.4	0.5
WQ-24H	POND WET	BASE	30.33	736.512	742.000	37080	0.000	0.360	1.4	0.5
WQ-24H	POND WET	BASE	30.50	736.507	742.000	37055	0.000	0.358	1.4	0.6
WQ-24H	POND WET	BASE	30.67	736.501	742.000	37030	0.000	0.357	1.4	0.6
WQ-24H	POND WET	BASE	30.83	736.495	742.000	37005	0.000	0.354	1.4	0.6
WQ-24H	POND WET	BASE	31.00	736.489	742.000	36980	0.000	0.353	1.4	0.6
WQ-24H	POND WET	BASE	31.17	736.484	742.000	36955	0.000	0.352	1.4	0.6
WQ-24H	POND WET	BASE	31.33	736.478	742.000	36930	0.000	0.350	1.4	0.6
WQ-24H	POND WET	BASE	31.50	736.472	742.000	36905	0.000	0.349	1.4	0.6
WQ-24H	POND WET	BASE	31.67	736.467	742.000	36880	0.000	0.348	1.4	0.6
WQ-24H	POND WET	BASE	31.83	736.461	742.000	36856	0.000	0.347	1.4	0.6
WQ-24H	POND WET	BASE	32.00	736.455	742.000	36831	0.000	0.345	1.4	0.6
WQ-24H	POND WET	BASE	32.17	736.450	742.000	36807	0.000	0.344	1.4	0.6
WQ-24H	POND WET	BASE	32.33	736.444	742.000	36782	0.000	0.343	1.4	0.6
WQ-24H	POND WET	BASE	32.50	736.438	742.000	36758	0.000	0.342	1.4	0.6
WQ-24H	POND WET	BASE	32.67	736.433	742.000	36734	0.000	0.340	1.4	0.6
WQ-24H	POND WET	BASE	32.83	736.427	742.000	36710	0.000	0.339	1.4	0.6
WQ-24H	POND WET	BASE	33.00	736.422	742.000	36685	0.000	0.338	1.4	0.6
WQ-24H	POND WET	BASE	33.17	736.416	742.000	36661	0.000	0.336	1.4	0.6
WQ-24H	POND WET	BASE	33.33	736.411	742.000	36637	0.000	0.335	1.4	0.6
WQ-24H	POND WET	BASE	33.50	736.405	742.000	36614	0.000	0.334	1.4	0.6
WQ-24H	POND WET	BASE	33.67	736.400	742.000	36590	0.000	0.333	1.4	0.6
WQ-24H	POND WET	BASE	33.83	736.394	742.000	36566	0.000	0.331	1.4	0.6
WQ-24H	POND WET	BASE	34.00	736.389	742.000	36542	0.000	0.330	1.4	0.7
WQ-24H	POND WET	BASE	34.17	736.384	742.000	36519	0.000	0.329	1.4	0.7
WQ-24H	POND WET	BASE	34.33	736.378	742.000	36495	0.000	0.328	1.4	0.7
WQ-24H	POND WET	BASE	34.50	736.373	742.000	36472	0.000	0.326	1.4	0.7
WQ-24H	POND WET	BASE	34.67	736.367	742.000	36449	0.000	0.325	1.4	0.7
WQ-24H	POND WET	BASE	34.83	736.362	742.000	36425	0.000	0.324	1.4	0.7
WQ-24H	POND WET	BASE	35.00	736.357	742.000	36402	0.000	0.322	1.4	0.7
WQ-24H	POND WET	BASE	35.17	736.351	742.000	36379	0.000	0.321	1.4	0.7
WQ-24H	POND WET	BASE	35.33	736.346	742.000	36356	0.000	0.320	1.4	0.7
WQ-24H	POND WET	BASE	35.50	736.341	742.000	36333	0.000	0.319	1.4	0.7
WQ-24H	POND WET	BASE	35.67	736.336	742.000	36310	0.000	0.317	1.4	0.7
WQ-24H	POND WET	BASE	35.83	736.330	742.000	36287	0.000	0.316	1.4	0.7
WQ-24H	POND WET	BASE	36.00	736.325	742.000	36265	0.000	0.315	1.4	0.7
WQ-24H	POND WET	BASE	36.17	736.320	742.000	36242	0.000	0.314	1.4	0.7
WQ-24H	POND WET	BASE	36.33	736.315	742.000	36219	0.000	0.312	1.4	0.7
WQ-24H	POND WET	BASE	36.50	736.310	742.000	36197	0.000	0.311	1.4	0.7
WQ-24H	POND WET	BASE	36.67	736.305	742.000	36174	0.000	0.310	1.4	0.7
WQ-24H	POND WET	BASE	36.83	736.299	742.000	36152	0.000	0.308	1.4	0.7
WQ-24H	POND WET	BASE	37.00	736.294	742.000	36130	0.000	0.307	1.4	0.7
WQ-24H	POND WET	BASE	37.17	736.289	742.000	36108	0.000	0.306	1.4	0.7
WQ-24H	POND WET	BASE	37.33	736.284	742.000	36086	0.000	0.305	1.4	0.7
WQ-24H	POND WET	BASE	37.50	736.279	742.000	36064	0.000	0.303	1.4	0.7
WQ-24H	POND WET	BASE	37.67	736.274	742.000	36042	0.000	0.302	1.4	0.7
WQ-24H	POND WET	BASE	37.83	736.269	742.000	36020	0.000	0.301	1.4	0.8
WQ-24H	POND WET	BASE	38.00	736.264	742.000	35998	0.000	0.299	1.4	0.8
WQ-24H	POND WET	BASE	38.17	736.259	742.000	35976	0.000	0.298	1.4	0.8
WQ-24H	POND WET	BASE	38.33	736.254	742.000	35955	0.000	0.297	1.4	0.8
WQ-24H	POND WET	BASE	38.50	736.249	742.000	35933	0.000	0.296	1.4	0.8
WQ-24H	POND WET	BASE	38.67	736.244	742.000	35912	0.000	0.294	1.4	0.8
WQ-24H	POND WET	BASE	38.83	736.239	742.000	35890	0.000	0.293	1.4	0.8
WQ-24H	POND WET	BASE	39.00	736.234	742.000	35869	0.000	0.292	1.4	0.8
WQ-24H	POND WET	BASE	39.17	736.229	742.000	35848	0.000	0.290	1.4	0.8
WQ-24H	POND WET	BASE	39.33	736.225	742.000	35827	0.000	0.289	1.4	0.8

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
WQ-24H	POND WET	BASE	39.50	736.220	742.000	35805	0.000	0.288	1.4	0.8
WQ-24H	POND WET	BASE	39.67	736.215	742.000	35785	0.000	0.287	1.4	0.8
WQ-24H	POND WET	BASE	39.83	736.210	742.000	35764	0.000	0.285	1.4	0.8
WQ-24H	POND WET	BASE	40.00	736.205	742.000	35743	0.000	0.284	1.4	0.8
WQ-24H	POND WET	BASE	40.17	736.201	742.000	35722	0.000	0.283	1.4	0.8
WQ-24H	POND WET	BASE	40.33	736.196	742.000	35701	0.000	0.282	1.4	0.8
WQ-24H	POND WET	BASE	40.50	736.191	742.000	35681	0.000	0.280	1.4	0.8
WQ-24H	POND WET	BASE	40.67	736.186	742.000	35660	0.000	0.279	1.4	0.8
WQ-24H	POND WET	BASE	40.83	736.182	742.000	35640	0.000	0.278	1.4	0.8
WQ-24H	POND WET	BASE	41.00	736.177	742.000	35620	0.000	0.275	1.4	0.8
WQ-24H	POND WET	BASE	41.17	736.173	742.000	35600	0.000	0.273	1.4	0.8
WQ-24H	POND WET	BASE	41.33	736.168	742.000	35579	0.000	0.272	1.4	0.8
WQ-24H	POND WET	BASE	41.50	736.163	742.000	35560	0.000	0.271	1.4	0.8
WQ-24H	POND WET	BASE	41.67	736.159	742.000	35540	0.000	0.270	1.4	0.8
WQ-24H	POND WET	BASE	41.83	736.154	742.000	35520	0.000	0.268	1.4	0.8
WQ-24H	POND WET	BASE	42.00	736.150	742.000	35500	0.000	0.267	1.4	0.9
WQ-24H	POND WET	BASE	42.17	736.145	742.000	35481	0.000	0.266	1.4	0.9
WQ-24H	POND WET	BASE	42.33	736.141	742.000	35461	0.000	0.265	1.4	0.9
WQ-24H	POND WET	BASE	42.50	736.136	742.000	35441	0.000	0.263	1.4	0.9
WQ-24H	POND WET	BASE	42.67	736.132	742.000	35422	0.000	0.262	1.4	0.9
WQ-24H	POND WET	BASE	42.83	736.127	742.000	35403	0.000	0.261	1.4	0.9
WQ-24H	POND WET	BASE	43.00	736.123	742.000	35384	0.000	0.260	1.4	0.9
WQ-24H	POND WET	BASE	43.17	736.119	742.000	35364	0.000	0.258	1.4	0.9
WQ-24H	POND WET	BASE	43.33	736.114	742.000	35345	0.000	0.257	1.4	0.9
WQ-24H	POND WET	BASE	43.50	736.110	742.000	35326	0.000	0.256	1.4	0.9
WQ-24H	POND WET	BASE	43.67	736.105	742.000	35307	0.000	0.255	1.4	0.9
WQ-24H	POND WET	BASE	43.83	736.101	742.000	35289	0.000	0.254	1.4	0.9
WQ-24H	POND WET	BASE	44.00	736.097	742.000	35270	0.000	0.252	1.4	0.9
WQ-24H	POND WET	BASE	44.17	736.093	742.000	35251	0.000	0.251	1.4	0.9
WQ-24H	POND WET	BASE	44.33	736.088	742.000	35233	0.000	0.250	1.4	0.9
WQ-24H	POND WET	BASE	44.50	736.084	742.000	35214	0.000	0.249	1.4	0.9
WQ-24H	POND WET	BASE	44.67	736.080	742.000	35196	0.000	0.247	1.4	0.9
WQ-24H	POND WET	BASE	44.83	736.076	742.000	35177	0.000	0.246	1.4	0.9
WQ-24H	POND WET	BASE	45.00	736.071	742.000	35159	0.000	0.245	1.4	0.9
WQ-24H	POND WET	BASE	45.17	736.067	742.000	35141	0.000	0.244	1.4	0.9
WQ-24H	POND WET	BASE	45.33	736.063	742.000	35123	0.000	0.242	1.4	0.9
WQ-24H	POND WET	BASE	45.50	736.059	742.000	35105	0.000	0.241	1.4	0.9
WQ-24H	POND WET	BASE	45.67	736.055	742.000	35087	0.000	0.240	1.4	0.9
WQ-24H	POND WET	BASE	45.83	736.051	742.000	35069	0.000	0.239	1.4	0.9
WQ-24H	POND WET	BASE	46.00	736.047	742.000	35051	0.000	0.238	1.4	0.9
WQ-24H	POND WET	BASE	46.17	736.043	742.000	35034	0.000	0.236	1.4	0.9
WQ-24H	POND WET	BASE	46.33	736.039	742.000	35016	0.000	0.235	1.4	0.9
WQ-24H	POND WET	BASE	46.50	736.035	742.000	34999	0.000	0.234	1.4	0.9
WQ-24H	POND WET	BASE	46.67	736.031	742.000	34981	0.000	0.233	1.4	0.9
WQ-24H	POND WET	BASE	46.83	736.027	742.000	34964	0.000	0.231	1.4	1.0
WQ-24H	POND WET	BASE	47.00	736.023	742.000	34947	0.000	0.230	1.4	1.0
WQ-24H	POND WET	BASE	47.17	736.019	742.000	34929	0.000	0.229	1.4	1.0
WQ-24H	POND WET	BASE	47.33	736.015	742.000	34912	0.000	0.228	1.4	1.0
WQ-24H	POND WET	BASE	47.50	736.011	742.000	34895	0.000	0.226	1.4	1.0
WQ-24H	POND WET	BASE	47.67	736.007	742.000	34878	0.000	0.225	1.4	1.0
WQ-24H	POND WET	BASE	47.83	736.003	742.000	34862	0.000	0.224	1.4	1.0
WQ-24H	POND WET	BASE	48.00	735.999	742.000	34845	0.000	0.220	1.4	1.0
WQ-24H	POND WET	BASE	48.17	735.996	742.000	34829	0.000	0.219	1.4	1.0
WQ-24H	POND WET	BASE	48.33	735.992	742.000	34812	0.000	0.218	1.4	1.0
WQ-24H	POND WET	BASE	48.50	735.988	742.000	34796	0.000	0.217	1.4	1.0
WQ-24H	POND WET	BASE	48.67	735.984	742.000	34780	0.000	0.216	1.4	1.0
WQ-24H	POND WET	BASE	48.83	735.981	742.000	34763	0.000	0.214	1.4	1.0
WQ-24H	POND WET	BASE	49.00	735.977	742.000	34747	0.000	0.213	1.4	1.0
WQ-24H	POND WET	BASE	49.17	735.973	742.000	34731	0.000	0.212	1.4	1.0
WQ-24H	POND WET	BASE	49.33	735.970	742.000	34715	0.000	0.211	1.4	1.0
WQ-24H	POND WET	BASE	49.50	735.966	742.000	34699	0.000	0.210	1.4	1.0
WQ-24H	POND WET	BASE	49.67	735.962	742.000	34684	0.000	0.209	1.4	1.0
WQ-24H	POND WET	BASE	49.83	735.959	742.000	34668	0.000	0.207	1.4	1.0
WQ-24H	POND WET	BASE	50.00	735.955	742.000	34652	0.000	0.206	1.4	1.0
WQ-24H	POND WET	BASE	50.01	735.955	742.000	34652	0.000	0.206	1.4	1.0



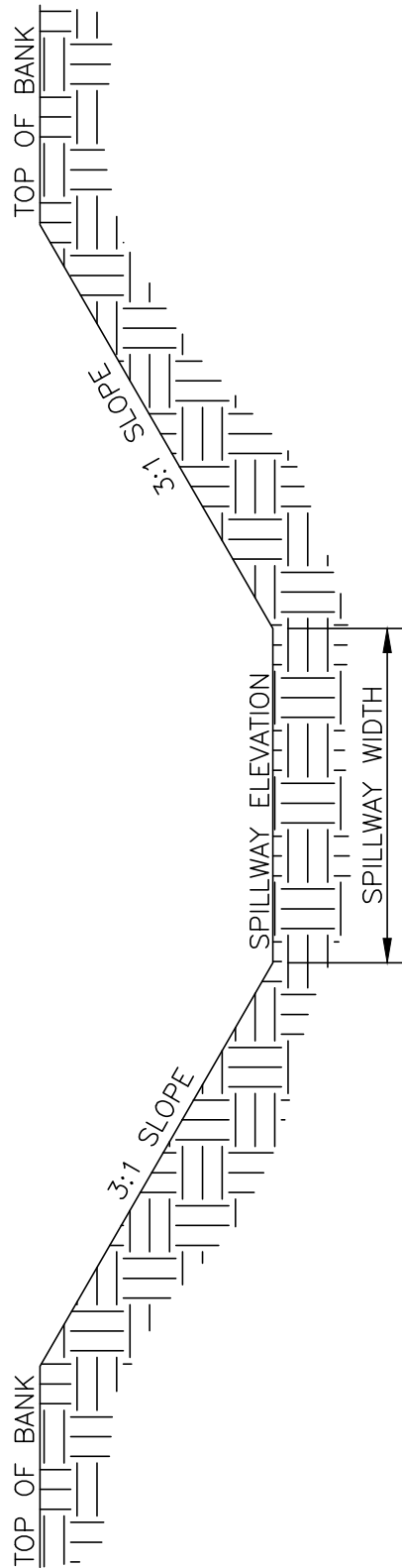
MISC. POND CALCULATIONS AND DETAILS



Emergency Overflow Calculations

Project:	Kroger - Franklin, IN		
Date:	March 17, 2015		
Job No:	W14-0460		
Checked By:	atm		
Prepared By:	atm		

POND 1 A-A	Peak Inflow	97	cfs
	Peak Inflow (125%)	121	cfs
	Cw (Coefficient of Weir)	0.8	
	h (Flow depth over Weir)	1	ft
	Width of Weir	28	ft
	$L = Q100 * 1.25 / (2/3 * Cw * \sqrt{2*32.2} * h^{3/2})$		



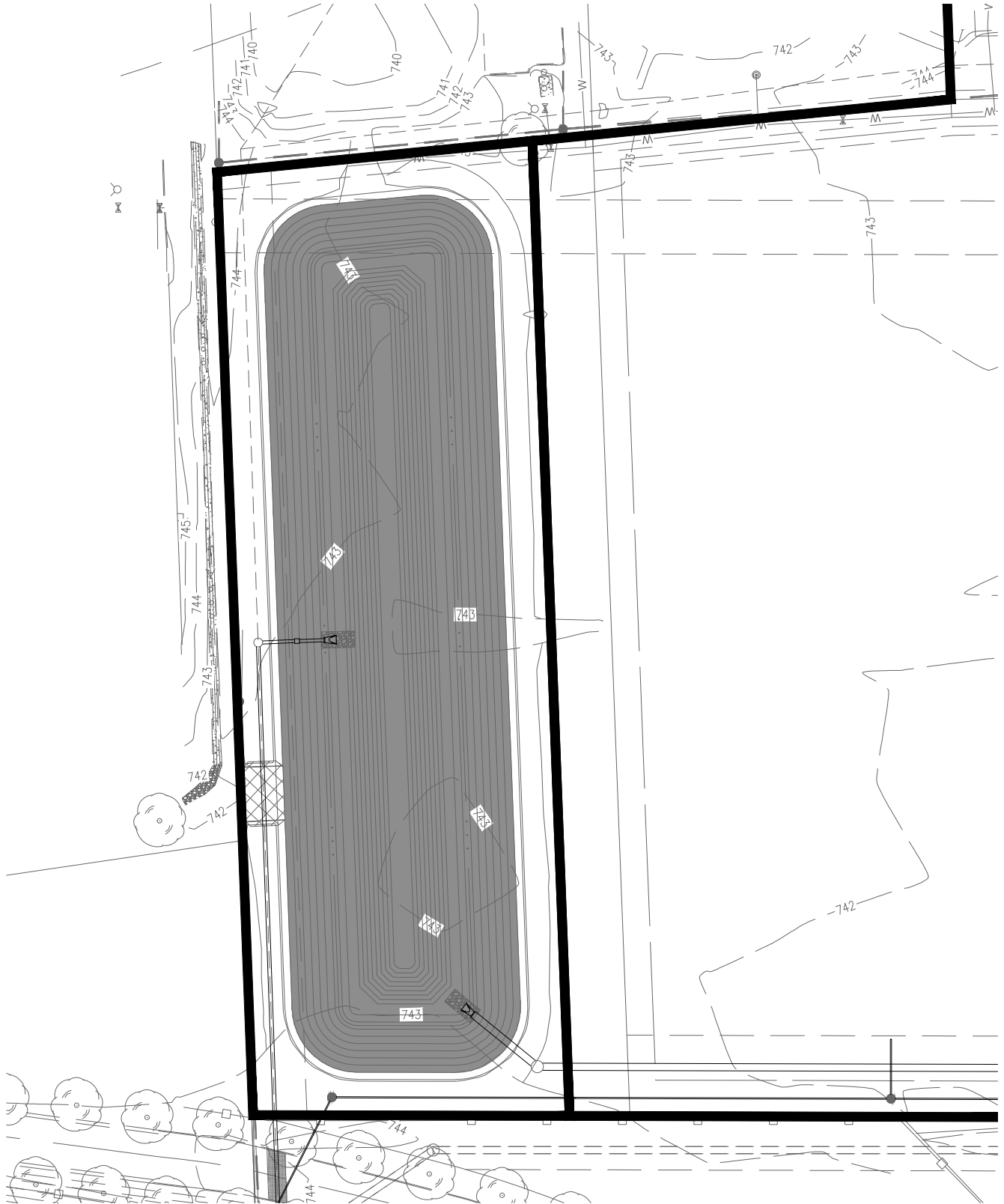
LAKE DESIGNATION:	TOP OF BANK ELEV.:	100YR ELEV.:	SPILLWAY ELEV.:	SPILLWAY WIDTH:
'POND 1'	843.50	841.97	842.00	30'

Stage Storage Calculations

Project:	Kroger - Franklin, IN	
Date:	March 17, 2015	
Job No:	W14-0460	
Checked By:	atm	
Prepared By:	atm	

<u>Elevation</u>	<u>Area (sf)</u>	<u>Area (ac)</u>	<u>Volume (cf)</u>	<u>Volume (ac-ft)</u>
735.5	32,455	0.745	0	0
736.0	34,465	0.791	16,730	0.384
737.0	38,570	0.885	53,248	1.222
738.0	42,775	0.982	93,920	2.156
739.0	47,080	1.081	138,848	3.188
740.0	51,480	1.182	188,128	4.319
741.0	55,985	1.285	241,860	5.552
742.0	60,595	1.391	300,150	6.890

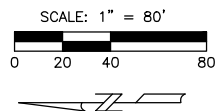
Volume at:	741.97	6.85
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KROGER - FRANKLIN, IN

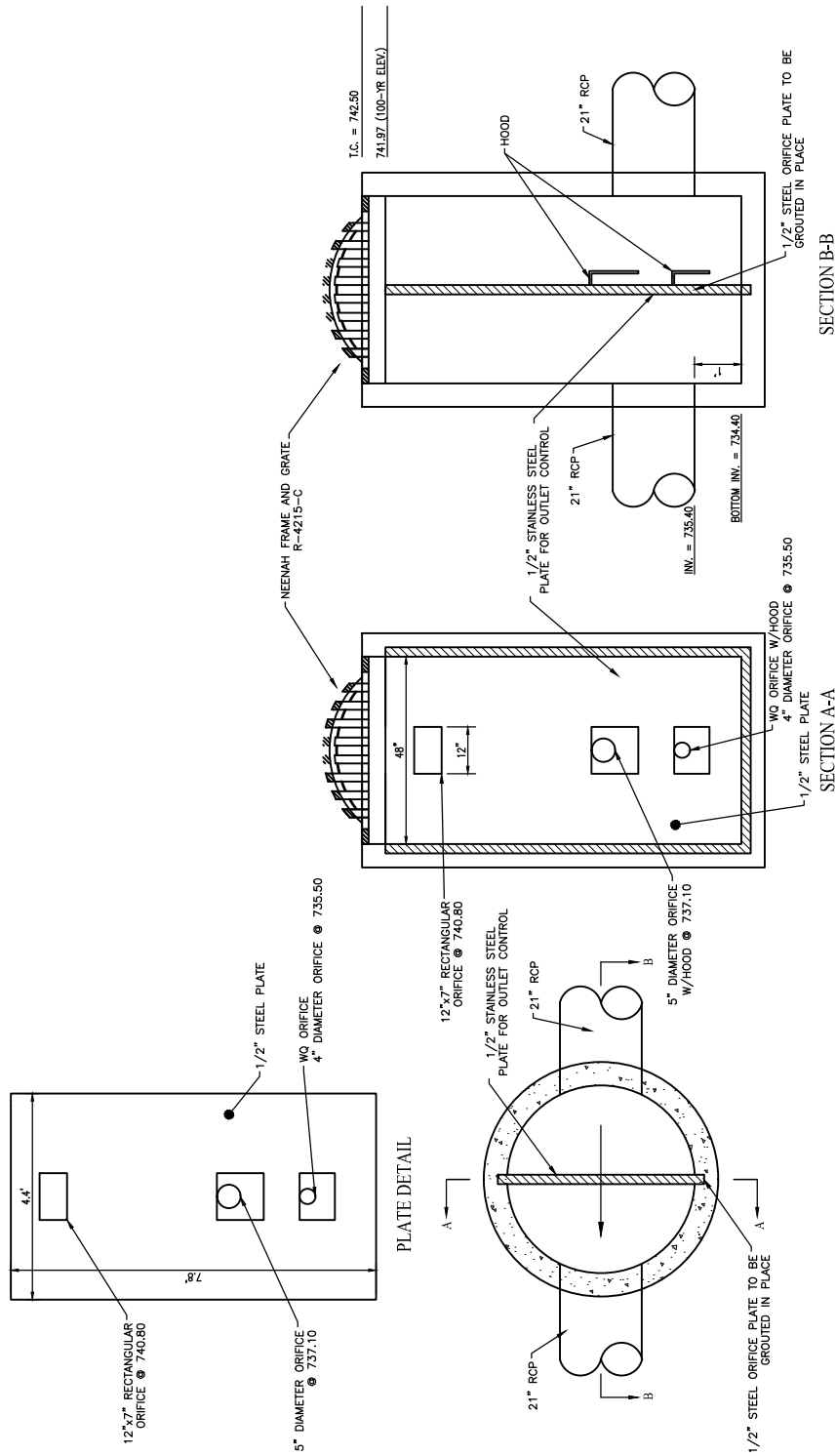
WEIHE
ENGINEERS

10505 N. College Avenue
Indianapolis, Indiana 46280
weihe.net
317 | 846 - 6611



DETENTION EXHIBIT

Date: March 17, 2015



OUTLET DETAIL

NOAA Atlas 14, Volume 2, Version 3 FRANKLIN

Station ID: 12-3095

Location name: Franklin, Indiana, US*

Latitude: 39.5167°, Longitude: -86.0667°

Elevation:

Elevation (station metadata): 771 ft*

* source: Google Maps



POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aeriels](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.373 (0.333-0.422)	0.444 (0.396-0.502)	0.532 (0.472-0.601)	0.602 (0.533-0.679)	0.693 (0.609-0.782)	0.764 (0.666-0.864)	0.833 (0.720-0.945)	0.906 (0.775-1.03)	1.00 (0.844-1.15)	1.08 (0.892-1.24)
10-min	0.580 (0.517-0.656)	0.694 (0.618-0.783)	0.827 (0.734-0.934)	0.929 (0.822-1.05)	1.06 (0.931-1.20)	1.16 (1.01-1.31)	1.25 (1.08-1.42)	1.35 (1.16-1.54)	1.48 (1.24-1.69)	1.57 (1.30-1.81)
15-min	0.711 (0.634-0.804)	0.848 (0.755-0.958)	1.02 (0.902-1.15)	1.14 (1.01-1.29)	1.31 (1.15-1.48)	1.43 (1.25-1.62)	1.56 (1.35-1.77)	1.68 (1.44-1.92)	1.84 (1.55-2.11)	1.96 (1.62-2.26)
30-min	0.940 (0.839-1.06)	1.14 (1.01-1.28)	1.39 (1.24-1.57)	1.59 (1.41-1.79)	1.85 (1.62-2.09)	2.05 (1.79-2.32)	2.25 (1.94-2.55)	2.46 (2.10-2.80)	2.73 (2.29-3.13)	2.94 (2.43-3.39)
60-min	1.15 (1.02-1.30)	1.39 (1.24-1.57)	1.75 (1.55-1.97)	2.02 (1.79-2.28)	2.40 (2.11-2.71)	2.70 (2.35-3.05)	3.01 (2.60-3.41)	3.33 (2.85-3.80)	3.77 (3.17-4.33)	4.12 (3.42-4.76)
2-hr	1.34 (1.20-1.52)	1.63 (1.45-1.84)	2.04 (1.82-2.32)	2.38 (2.10-2.69)	2.85 (2.50-3.22)	3.23 (2.82-3.65)	3.65 (3.13-4.12)	4.08 (3.45-4.61)	4.68 (3.89-5.33)	5.17 (4.23-5.94)
3-hr	1.42 (1.27-1.62)	1.72 (1.53-1.95)	2.17 (1.93-2.46)	2.53 (2.24-2.86)	3.05 (2.67-3.44)	3.48 (3.01-3.93)	3.93 (3.37-4.46)	4.42 (3.73-5.02)	5.11 (4.21-5.85)	5.68 (4.59-6.54)
6-hr	1.70 (1.51-1.94)	2.05 (1.82-2.35)	2.59 (2.29-2.95)	3.03 (2.67-3.45)	3.66 (3.19-4.16)	4.19 (3.62-4.75)	4.76 (4.05-5.40)	5.37 (4.50-6.12)	6.25 (5.11-7.14)	6.98 (5.59-8.02)
12-hr	2.03 (1.82-2.30)	2.44 (2.19-2.77)	3.04 (2.71-3.44)	3.52 (3.14-3.98)	4.21 (3.71-4.73)	4.77 (4.17-5.35)	5.36 (4.63-6.02)	5.98 (5.09-6.74)	6.86 (5.72-7.78)	7.56 (6.21-8.64)
24-hr	2.43 (2.24-2.65)	2.91 (2.68-3.18)	3.57 (3.28-3.89)	4.08 (3.74-4.45)	4.77 (4.36-5.20)	5.32 (4.84-5.81)	5.87 (5.32-6.42)	6.44 (5.80-7.05)	7.21 (6.44-7.92)	7.80 (6.92-8.73)
2-day	2.84 (2.63-3.08)	3.41 (3.15-3.69)	4.15 (3.83-4.50)	4.73 (4.36-5.12)	5.51 (5.05-5.97)	6.12 (5.59-6.64)	6.74 (6.12-7.32)	7.37 (6.66-8.02)	8.21 (7.35-8.96)	8.86 (7.88-9.71)
3-day	3.05 (2.84-3.28)	3.64 (3.39-3.92)	4.42 (4.11-4.75)	5.02 (4.66-5.39)	5.82 (5.38-6.26)	6.45 (5.95-6.94)	7.09 (6.51-7.63)	7.73 (7.07-8.33)	8.59 (7.80-9.28)	9.25 (8.36-10.0)
4-day	3.26 (3.05-3.48)	3.88 (3.63-4.15)	4.68 (4.38-5.00)	5.30 (4.95-5.66)	6.13 (5.72-6.54)	6.78 (6.31-7.23)	7.44 (6.90-7.93)	8.10 (7.48-8.64)	8.98 (8.26-9.59)	9.65 (8.83-10.3)
7-day	3.86 (3.60-4.14)	4.58 (4.28-4.92)	5.50 (5.13-5.89)	6.23 (5.80-6.67)	7.21 (6.70-7.71)	7.99 (7.40-8.54)	8.78 (8.11-9.38)	9.58 (8.81-10.2)	10.7 (9.76-11.4)	11.5 (10.5-12.3)
10-day	4.40 (4.12-4.71)	5.22 (4.90-5.59)	6.25 (5.85-6.68)	7.06 (6.60-7.54)	8.16 (7.61-8.70)	9.02 (8.39-9.61)	9.89 (9.18-10.5)	10.8 (9.96-11.5)	12.0 (11.0-12.8)	12.9 (11.8-13.8)
20-day	6.03 (5.68-6.42)	7.14 (6.72-7.60)	8.42 (7.92-8.96)	9.41 (8.84-10.0)	10.7 (10.1-11.4)	11.7 (11.0-12.5)	12.8 (11.9-13.5)	13.7 (12.8-14.6)	15.0 (13.9-16.0)	16.0 (14.8-17.0)
30-day	7.43 (7.00-7.87)	8.74 (8.24-9.27)	10.2 (9.58-10.8)	11.3 (10.6-11.9)	12.7 (11.9-13.5)	13.8 (13.0-14.6)	14.9 (13.9-15.8)	15.9 (14.9-16.9)	17.3 (16.1-18.4)	18.3 (16.9-19.5)
45-day	9.42 (8.87-9.98)	11.1 (10.4-11.7)	12.8 (12.0-13.5)	14.0 (13.2-14.9)	15.7 (14.7-16.6)	17.0 (15.9-17.9)	18.2 (17.0-19.2)	19.3 (18.0-20.4)	20.8 (19.3-22.0)	21.8 (20.2-23.2)
60-day	11.3 (10.6-11.9)	13.2 (12.4-14.0)	15.1 (14.2-16.0)	16.6 (15.6-17.6)	18.5 (17.4-19.6)	19.9 (18.7-21.1)	21.3 (19.9-22.6)	22.6 (21.1-24.0)	24.2 (22.6-25.7)	25.4 (23.7-27.1)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

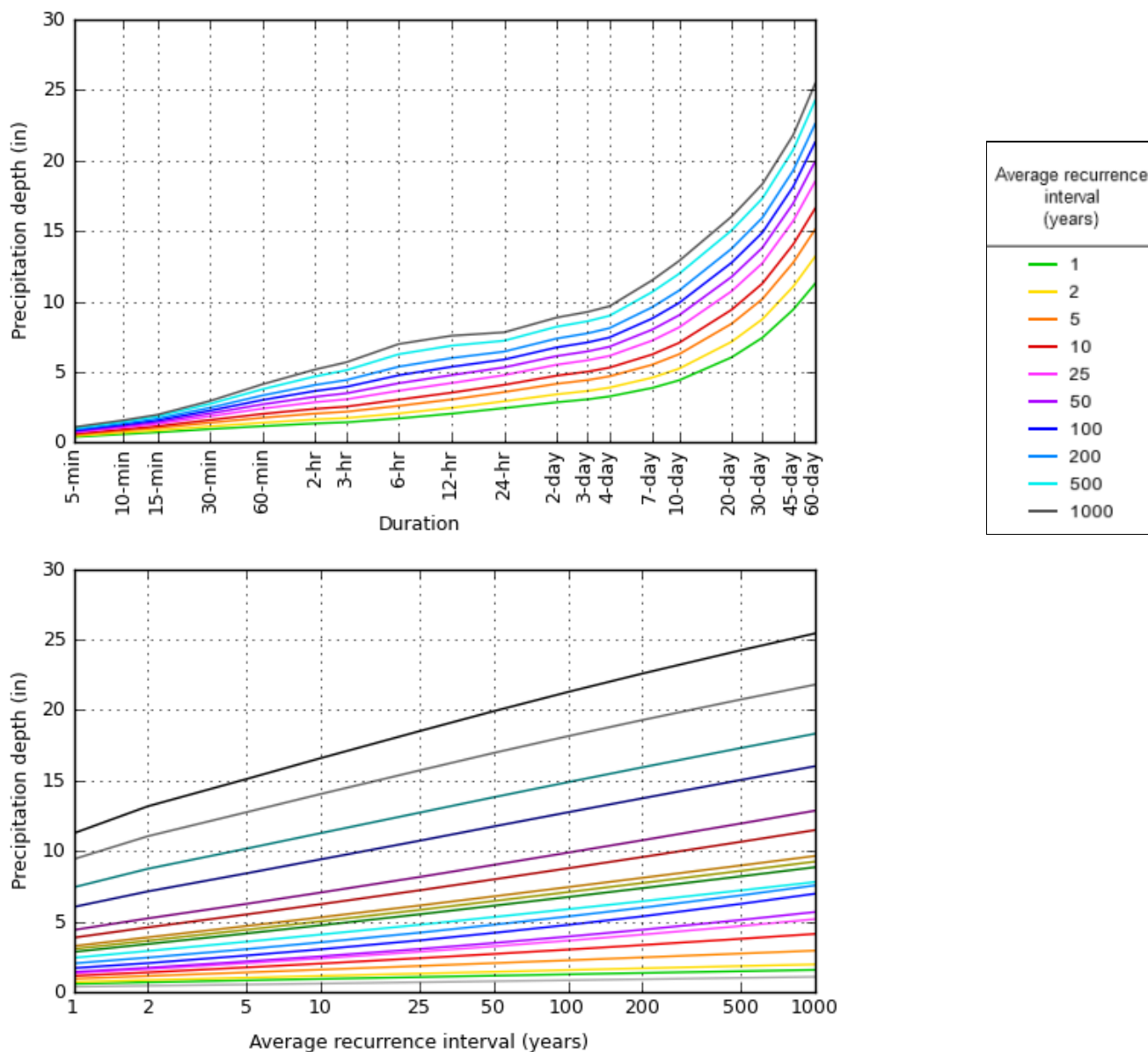
Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves

Latitude: 39.5167°, Longitude: -86.0667°



NOAA Atlas 14, Volume 2, Version 3

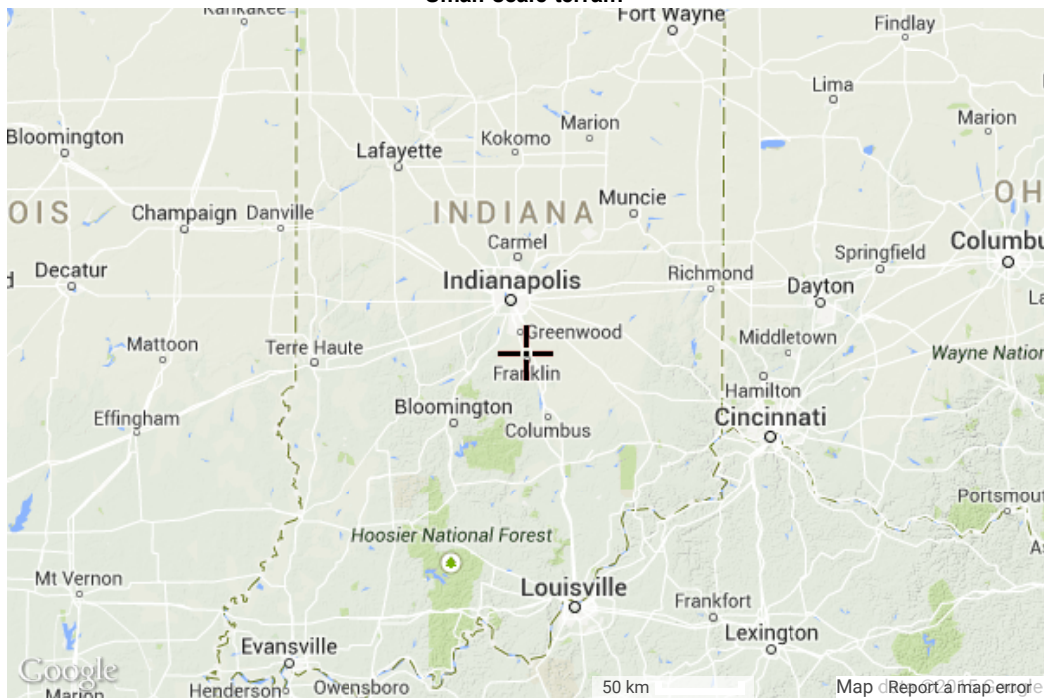
Created (GMT): Wed Feb 11 18:21:46 2015

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10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

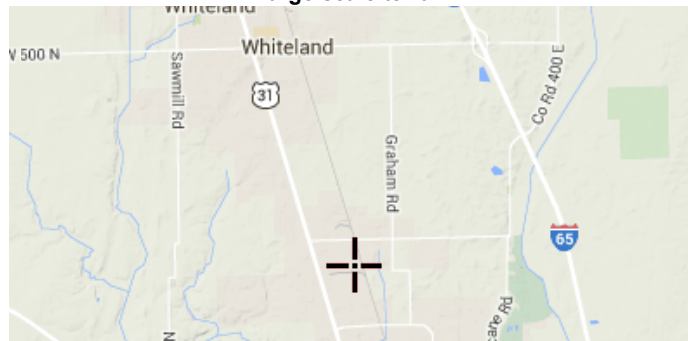
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Maps & aerals

Small scale terrain



Large scale terrain



**Large scale map****Large scale aerial**[Back to Top](#)

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[National Weather Service](#)
[Office of Hydrologic Development](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)



NOAA Atlas 14, Volume 2, Version 3
Location name: Franklin, Indiana, US*
Latitude: 39.5167°, Longitude: -86.0667°
Elevation: 766 ft*
 * source: Google Maps



POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerals](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	4.48 (4.00-5.06)	5.33 (4.75-6.02)	6.38 (5.66-7.21)	7.22 (6.40-8.15)	8.32 (7.31-9.38)	9.17 (7.99-10.4)	10.0 (8.64-11.3)	10.9 (9.30-12.4)	12.0 (10.1-13.8)	12.9 (10.7-14.9)
10-min	3.48 (3.10-3.94)	4.16 (3.71-4.70)	4.96 (4.40-5.60)	5.57 (4.93-6.28)	6.35 (5.59-7.18)	6.95 (6.06-7.86)	7.52 (6.50-8.54)	8.12 (6.95-9.25)	8.86 (7.45-10.2)	9.40 (7.79-10.9)
15-min	2.84 (2.54-3.22)	3.39 (3.02-3.83)	4.06 (3.61-4.59)	4.57 (4.04-5.16)	5.24 (4.60-5.91)	5.73 (5.00-6.49)	6.23 (5.38-7.07)	6.73 (5.76-7.67)	7.37 (6.20-8.45)	7.83 (6.50-9.05)
30-min	1.88 (1.68-2.13)	2.27 (2.02-2.56)	2.78 (2.47-3.14)	3.17 (2.81-3.58)	3.70 (3.25-4.17)	4.10 (3.57-4.64)	4.50 (3.89-5.10)	4.91 (4.20-5.60)	5.46 (4.59-6.26)	5.87 (4.87-6.78)
60-min	1.15 (1.02-1.30)	1.39 (1.24-1.57)	1.75 (1.55-1.97)	2.02 (1.79-2.28)	2.40 (2.11-2.71)	2.70 (2.35-3.05)	3.01 (2.60-3.41)	3.33 (2.85-3.80)	3.77 (3.17-4.33)	4.12 (3.42-4.76)
2-hr	0.671 (0.599-0.761)	0.812 (0.724-0.922)	1.02 (0.908-1.16)	1.19 (1.05-1.34)	1.43 (1.25-1.61)	1.62 (1.41-1.83)	1.82 (1.57-2.06)	2.04 (1.73-2.31)	2.34 (1.95-2.67)	2.59 (2.11-2.97)
3-hr	0.474 (0.423-0.538)	0.573 (0.510-0.650)	0.722 (0.642-0.820)	0.843 (0.746-0.954)	1.01 (0.888-1.15)	1.16 (1.00-1.31)	1.31 (1.12-1.48)	1.47 (1.24-1.67)	1.70 (1.40-1.95)	1.89 (1.53-2.18)
6-hr	0.283 (0.252-0.324)	0.342 (0.304-0.392)	0.432 (0.383-0.493)	0.506 (0.446-0.575)	0.611 (0.533-0.695)	0.700 (0.604-0.794)	0.795 (0.677-0.902)	0.897 (0.751-1.02)	1.04 (0.854-1.19)	1.17 (0.933-1.34)
12-hr	0.169 (0.151-0.191)	0.203 (0.182-0.229)	0.252 (0.225-0.285)	0.293 (0.260-0.330)	0.349 (0.308-0.392)	0.396 (0.346-0.444)	0.445 (0.384-0.500)	0.496 (0.422-0.559)	0.569 (0.475-0.646)	0.628 (0.515-0.717)
24-hr	0.101 (0.093-0.110)	0.121 (0.112-0.132)	0.149 (0.137-0.162)	0.170 (0.156-0.185)	0.199 (0.182-0.217)	0.222 (0.202-0.242)	0.245 (0.222-0.268)	0.268 (0.242-0.294)	0.300 (0.268-0.330)	0.325 (0.288-0.364)
2-day	0.059 (0.055-0.064)	0.071 (0.066-0.077)	0.087 (0.080-0.094)	0.099 (0.091-0.107)	0.115 (0.105-0.124)	0.128 (0.116-0.138)	0.140 (0.128-0.152)	0.153 (0.139-0.167)	0.171 (0.153-0.187)	0.184 (0.164-0.202)
3-day	0.042 (0.039-0.046)	0.051 (0.047-0.054)	0.061 (0.057-0.066)	0.070 (0.065-0.075)	0.081 (0.075-0.087)	0.090 (0.083-0.096)	0.098 (0.090-0.106)	0.107 (0.098-0.116)	0.119 (0.108-0.129)	0.129 (0.116-0.139)
4-day	0.034 (0.032-0.036)	0.040 (0.038-0.043)	0.049 (0.046-0.052)	0.055 (0.052-0.059)	0.064 (0.060-0.068)	0.071 (0.066-0.075)	0.078 (0.072-0.083)	0.084 (0.078-0.090)	0.094 (0.086-0.100)	0.101 (0.092-0.108)
7-day	0.023 (0.021-0.025)	0.027 (0.025-0.029)	0.033 (0.031-0.035)	0.037 (0.035-0.040)	0.043 (0.040-0.046)	0.048 (0.044-0.051)	0.052 (0.048-0.056)	0.057 (0.052-0.061)	0.063 (0.058-0.068)	0.068 (0.062-0.073)
10-day	0.018 (0.017-0.020)	0.022 (0.020-0.023)	0.026 (0.024-0.028)	0.029 (0.028-0.031)	0.034 (0.032-0.036)	0.038 (0.035-0.040)	0.041 (0.038-0.044)	0.045 (0.042-0.048)	0.050 (0.046-0.053)	0.054 (0.049-0.057)
20-day	0.013 (0.012-0.013)	0.015 (0.014-0.016)	0.018 (0.016-0.019)	0.020 (0.018-0.021)	0.022 (0.021-0.024)	0.024 (0.023-0.026)	0.027 (0.025-0.028)	0.029 (0.027-0.030)	0.031 (0.029-0.033)	0.033 (0.031-0.036)
30-day	0.010 (0.010-0.011)	0.012 (0.011-0.013)	0.014 (0.013-0.015)	0.016 (0.015-0.017)	0.018 (0.017-0.019)	0.019 (0.018-0.020)	0.021 (0.019-0.022)	0.022 (0.021-0.023)	0.024 (0.022-0.026)	0.025 (0.024-0.027)
45-day	0.009 (0.008-0.009)	0.010 (0.010-0.011)	0.012 (0.011-0.013)	0.013 (0.012-0.014)	0.015 (0.014-0.015)	0.016 (0.015-0.017)	0.017 (0.016-0.018)	0.018 (0.017-0.019)	0.019 (0.018-0.020)	0.020 (0.019-0.021)
60-day	0.008 (0.007-0.008)	0.009 (0.009-0.010)	0.010 (0.010-0.011)	0.012 (0.011-0.012)	0.013 (0.012-0.014)	0.014 (0.013-0.015)	0.015 (0.014-0.016)	0.016 (0.015-0.017)	0.017 (0.016-0.018)	0.018 (0.016-0.019)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

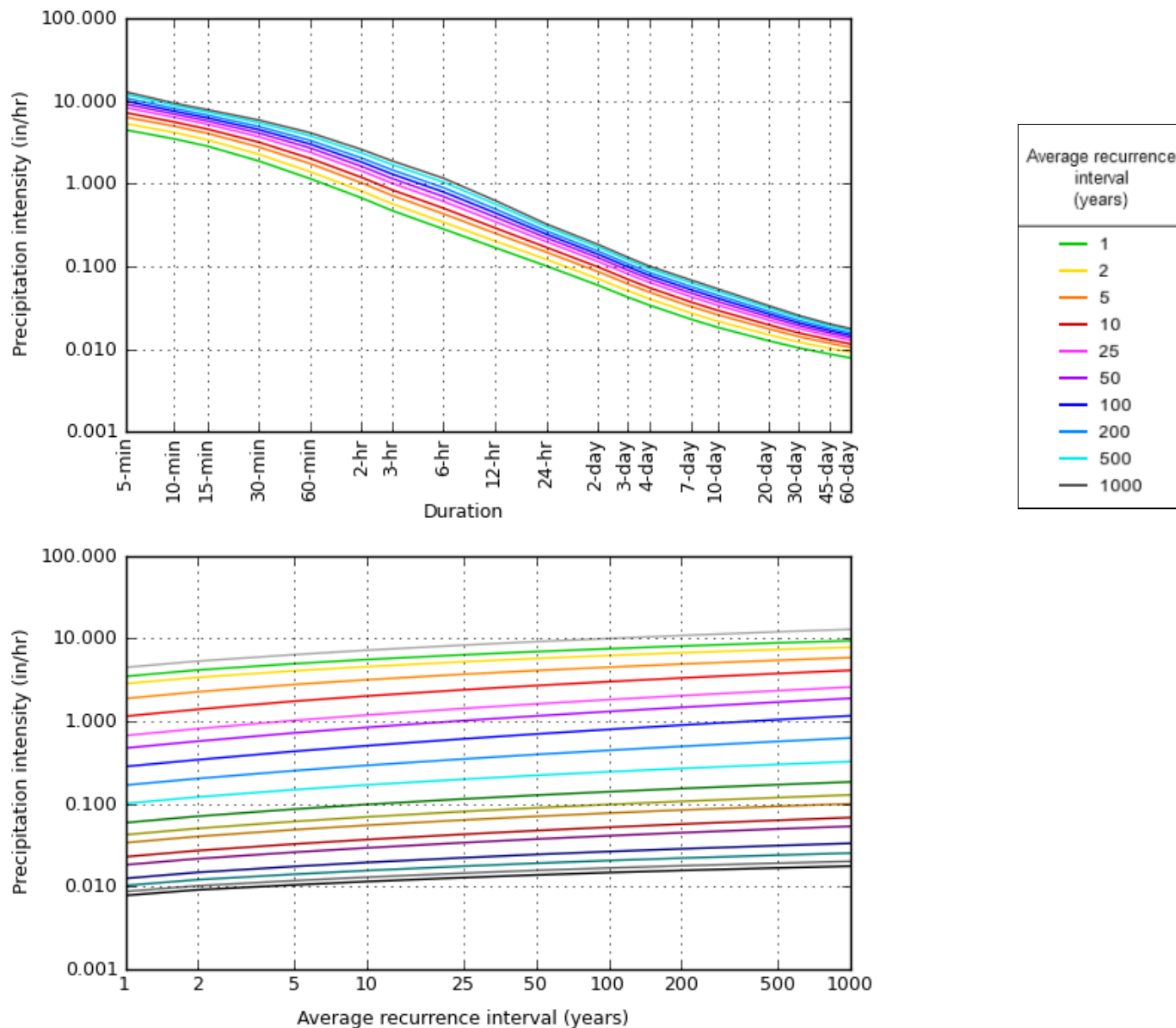
Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based intensity-duration-frequency (IDF) curves

Latitude: 39.5167°, Longitude: -86.0667°



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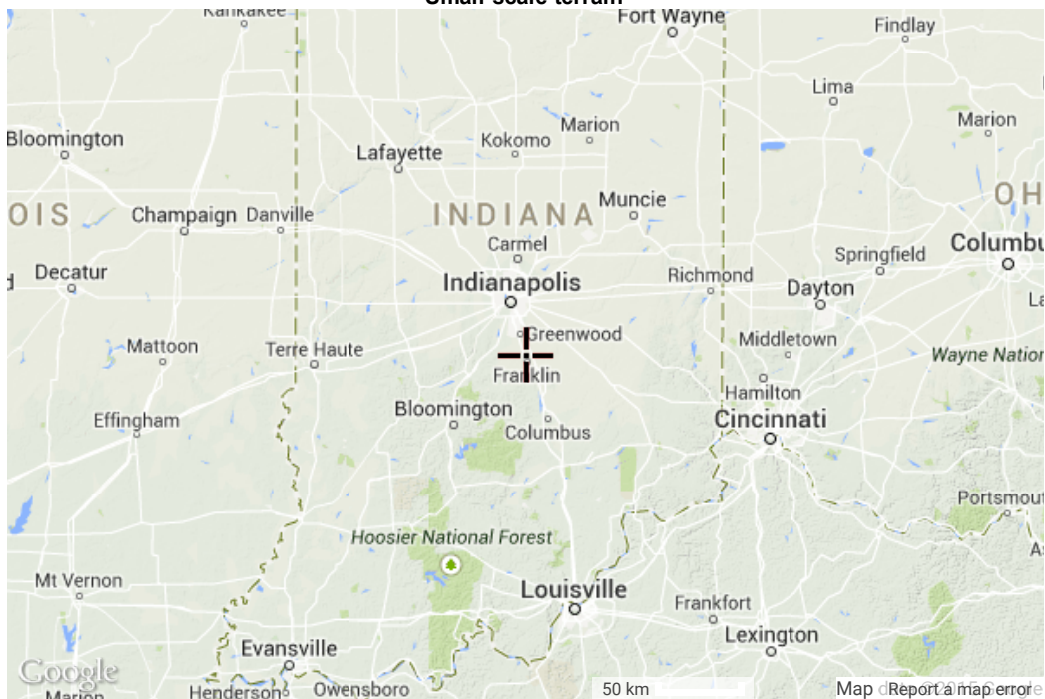
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Duration	
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10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

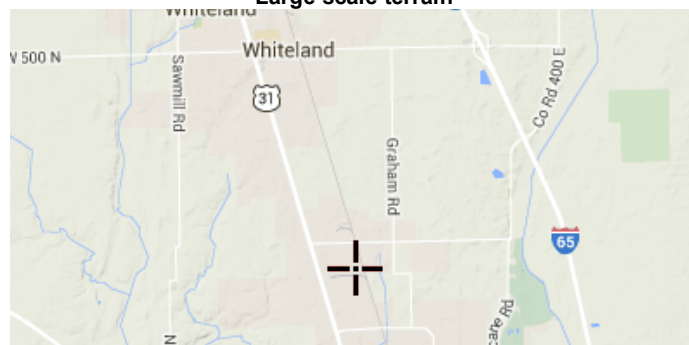
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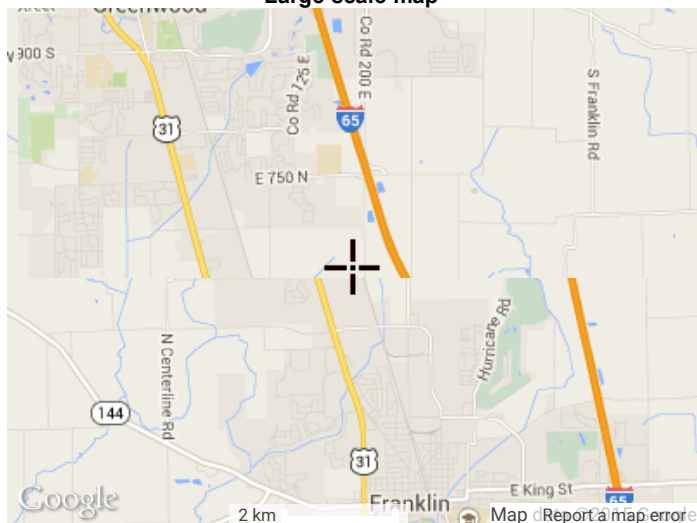
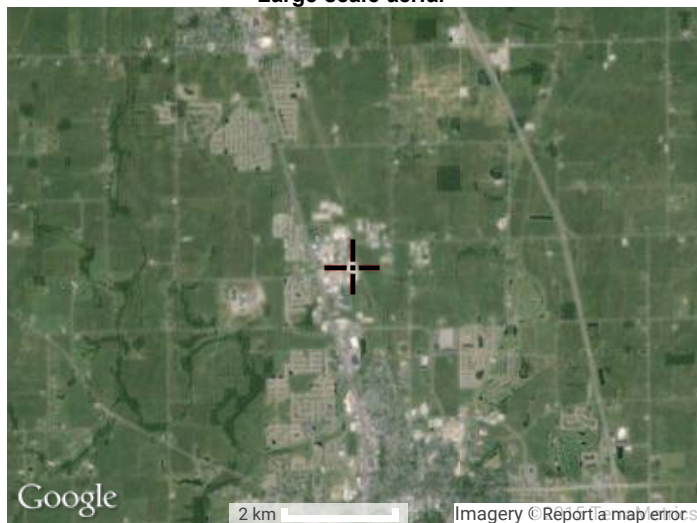
Maps & aerals

Small scale terrain



Large scale terrain



**Large scale map****Large scale aerial**[Back to Top](#)

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