

JOHNS LAKE ROAD

RAI RESPONSE

PREPARED FOR:

LAKE COUNTY
DEPARTMENT OF PUBLIC WORKS
437 ARDICE AVENUE
EUSTIS, FLORIDA 32778

PREPARED BY:

GRIFFEY ENGINEERING, INC.
406 NORTH CENTER STREET
EUSTIS, FLORIDA 32726

OCTOBER 2014

RAI QUESTION 1

1. *The proposed project includes the construction of roadway improvements to an approximate 5.5-acre portion of Johns Lake Road. Stormwater runoff generated by the road will be conveyed via a piped conveyance system to existing Pond A of Lost Lake Reserve, which will be expanded under this permit. Pond A was designed to retain the entire runoff volume generated by the 25-year, 96-hour storm event under Permit No. 40-069-76138-2, which is proposed for modification under this permit.*

Insufficient information was provided to verify whether Pond A, as modified, is sufficiently sized to retain the entire runoff volume generated by the existing development and proposed roadway improvements for consistency with the master system design. Accordingly, please address the following:

- a. *The submitted volumetric analysis indicates that the pre-post difference in runoff volume generated by the 25-year, 96-hour storm event is 7.05 ac-ft and that the pond will retain 13.07 ac-ft at elevation 105.3 feet (road inlet overflow). The road is located in land locked basins for Lost Lake, Lake Felter and Eagle Lake; however, the analysis provided does not appear to account for the diversion of runoff from Basins Lake Felter and Lost Lake to Eagle Lake, for which Pond A is located. Accordingly, please revise the volumetric analysis based on the drainage basin for Eagle Lake in demonstrating that the proposed roadway improvements will not result in adverse impacts to adjacent property not owned by the applicant.*

RESPONSE:

The proposed pond modification does account for the diversion of runoff from Basins Lake Felter and Lost Lake to Eagle Lake. All of the new 25 Year - 96 Hour storm runoff generated by the proposed roadway improvements will be totally retained in the pond.

EXISTING RUNOFF VOLUME

A portion of the existing Johns Lake Road currently drains to the pond and is accounted for in the existing pond. Its basin area and 25Y-96H volume are shown below. The rainfall depth used in these calculations for the 25 Year – 96 Hour storm event is 11.2”.



JLR3

DESCRIPTION	AREAS		CN
	SF	ACRES	
Road & R/W - CN from permitted calcs	111,802	2.57	66
TOTAL AREA	111,802	2.57	
		CN:	66.0
		25Y-96H Q(in) =	6.75
		25Y-96H Q(ac-ft) =	1.444

PROPOSED RUNOFF VOLUME

In the proposed condition, JLR3 will have an increased impervious area and therefore an increased 25Y-96H volume. The basin area and runoff volume are shown below:



JLR3

DESCRIPTION	AREAS		CN
	SF	ACRES	
Road & R/W - 76% Pavement / 24% Grass	113,760	2.61	84
Pasture - Good Condition	15,408	0.35	39
TOTAL AREA	129,168	2.97	
	COMPOSITE CN:		78.6
	25Y-96H Q(in) =		8.49
	25Y-96H Q(ac-ft) =		2.098

$$\text{JLR3 25Y-96H INCREASE} = 2.098 - 1.444 = 0.654 \text{ ac-ft}$$

The rest of the Johns Lake Road project is a new contributing area that did not previously flow to the pond. All of the 25 Year – 96 Hour runoff from these areas will be retained in the expanded pond. Those areas and runoff volumes are shown below.



JLR4

DESCRIPTION	AREAS		CN
	SF	ACRES	
Road & R/W - 76% Pavement / 24% Grass	107,505	2.47	84
Rural Residence - 15% Imperv / 85% Grass	101,272	2.32	48
TOTAL AREA	208,777	4.79	
COMPOSITE CN:			66.5
25Y-96H Q(in) =			6.83
25Y-96H Q(ac-ft) =			2.727

JLR5

DESCRIPTION	AREAS		CN
	SF	ACRES	
Road & R/W - 76% Pavement / 24% Grass	90,218	2.07	84
Residential - 1/2 Acre Lots - 25% Imperv	64,506	1.48	54
Rural Residence - 5% Imperv / 95% Grass	230,327	5.29	42
TOTAL AREA	385,051	8.84	
COMPOSITE CN:			53.9
25Y-96H Q(in) =			4.98
25Y-96H Q(ac-ft) =			3.671

The total new 25 Year – 96 Hour runoff volume that needs to be added to the existing pond is:

$$\text{Volume} = \begin{matrix} \text{JLR3} \\ \text{Increase} \end{matrix} + \begin{matrix} \text{JLR4} \\ \text{Total} \end{matrix} + \begin{matrix} \text{JLR5} \\ \text{Total} \end{matrix}$$

$$\text{Volume} = 0.654 + 2.727 + 3.671 = 7.052 \text{ ac-ft}$$

EXISTING POND VOLUME

The existing storage of the permitted retention pond (Pond A) is 6.028 Ac-Ft. The calculations for the pond volume are shown below.

Elev.	Δd (FT)	Area (SF)	Avg.Area (SF)	ΔV (CF)	ΣV (CF)	ΣV (AC-FT)
100		24,338			0	0.000
	1		32,722	32,722		
101		41,105			32,722	0.751
	1		44,253	44,253		
102		47,400			76,974	1.767
	1		49,835	49,835		
103		52,269			126,809	2.911
	1		54,794	54,794		
104		57,318			181,602	4.169
	1		59,937	59,937		
105		62,556			241,539	5.545
	1		65,756	65,756		
106		68,956			307,295	7.055

VOLUME PROV.	VOLUME (AC-FT)	ELEV.
	5.545	105.00
==>	6.028	105.32
(AC-FT)	7.055	106.00

PROPOSED POND VOLUME

The proposed storage of Pond A is 13.810 Ac-Ft. The calculations for the pond volume are shown below.

Elev.	Δd (FT)	Area (SF)	Avg.Area (SF)	ΔV (CF)	ΣV (CF)	ΣV (AC-FT)
89		9,948			0	0.000
	1		11,163	11,163		
90		12,377			11,163	0.256
	1		13,694	13,694		
91		15,010			24,856	0.571
	1		16,425	16,425		
92		17,840			41,281	0.948
	1		19,350	19,350		
93		20,860			60,631	1.392
	1		22,463	22,463		
94		24,066			83,094	1.908
	1		25,760	25,760		
95		27,454			108,854	2.499
	1		29,237	29,237		
96		31,020			138,091	3.170
	1		32,875	32,875		
97		34,729			170,966	3.925
	1		36,640	36,640		
98		38,551			207,606	4.766
	1		40,518	40,518		
99		42,484			248,123	5.696
	1		44,507	44,507		
100		46,530			292,630	6.718
	1		48,609	48,609		
101		50,688			341,239	7.834
	1		52,823	52,823		
102		54,958			394,062	9.046
	1		57,149	57,149		
103		59,340			451,211	10.358
	1		61,585	61,585		
104		63,829			512,796	11.772
	1		66,125	66,125		
105		68,420			578,920	13.290
	1		70,768	70,768		
106		73,115			649,688	14.915

VOLUME PROV.	VOLUME (AC-FT)	ELEV.
	13.290	105.00
==>	13.810	105.32
(AC-FT)	14.915	106.00

The increased storage volume of Pond A is the difference between the proposed pond and the existing pond. The increased volume is: $V = 13.810 - 6.028 = 7.782$ Ac-Ft. The volume needed to retain all of the 25 Year-96 Hour storm runoff generated by the new contributing area is 7.052 Ac-Ft.

As shown above, the pond is being enlarged to provide an additional volume in excess of the new 25Y-96H runoff volume being added to it. This is a total volume increase that does not account for any percolation effects during the storm event. By adding the total volume increase to the pond, the proposed roadway improvements will not result in adverse impacts to adjacent property not owned by the applicant.

RAI QUESTION 2

- Please provide supporting documentation for the design of the proposed cross drains at Stations 116+40 and 133+00. In particular, provide a drainage basin map for each cross drain and include the curve number and time-of-concentration assumed in evaluating the flow rate from each drainage area. Include sufficient information demonstrating that the existing hydraulic conveyance system will be maintained following construction of the proposed roadway improvements.*

RESPONSE:

The requested analysis was performed. The input data and results are presented below.

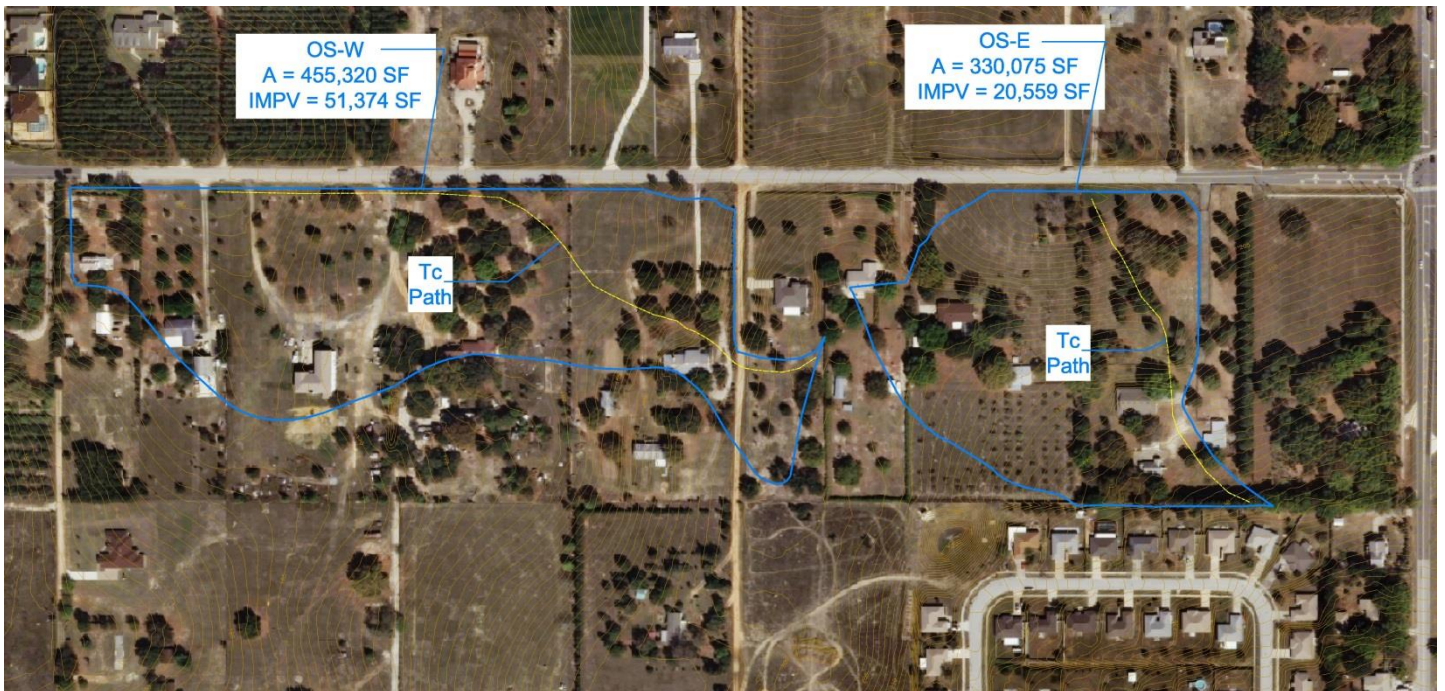
OFFSITE BASINS

The offsite basin areas and time of concentration flow paths were delineated for the existing and proposed conditions.

EXISTING CONDITION



PROPOSED CONDITION



BASIN CURVE NUMBERS

OS-W EXISTING

DESCRIPTION	AREAS		CN
	SF	ACRES	
Impervious	94,714	2.17	98
Pasture - Good Condition	498,209	11.44	39
TOTAL AREA	592,923	13.61	
COMPOSITE CN:			48.4

OS-W PROPOSED

DESCRIPTION	AREAS		CN
	SF	ACRES	
Impervious	51,374	1.18	98
Pasture - Good Condition	403,946	9.27	39
TOTAL AREA	455,320	10.45	
COMPOSITE CN:			45.7

OS-E EXISTING

DESCRIPTION	AREAS		CN
	SF	ACRES	
Impervious	86,981	2.00	98
Pasture - Good Condition	633,430	14.54	39
TOTAL AREA	720,411	16.54	
COMPOSITE CN:			46.1

OS-E PROPOSED

DESCRIPTION	AREAS		CN
	SF	ACRES	
Impervious	20,559	0.47	98
Pasture - Good Condition	309,516	7.11	39
TOTAL AREA	330,075	7.58	
COMPOSITE CN:			42.7

TIME OF CONCENTRATION

Offsite – West: Existing & Proposed Condition

Sheet Flow

Description SHEET FLOW
 Manning's n 0.1500
 Flow Length 300.0000 ft
 Two Yr, 24 hr Rainfall 4.7000 in
 Land Slope 0.0570 ft/ft
 Computed Sheet flow time > 0.2134 hrs

Shallow Concentrated Flow

Description SHALLOW CONC
Surface Unpaved
Flow Length 988.0000 ft
Watercourse Slope 0.0590 ft/ft
Velocity 3.9191 fps
Computed Shallow flow time> 0.0700 hrs

Total Time of Concentration> 0.2834 hrs

Offsite – East: Existing Condition

Sheet Flow

Description SHEET FLOW
Manning's n 0.1500
Flow Length 300.0000 ft
Two Yr, 24 hr Rainfall 4.7000 in
Land Slope 0.0500 ft/ft
Computed Sheet flow time> 0.2249 hrs

Shallow Concentrated Flow

Description SHALLOW CONC
Surface Unpaved
Flow Length 900.0000 ft
Watercourse Slope 0.0600 ft/ft
Velocity 3.9521 fps
Computed Shallow flow time> 0.0633 hrs

Total Time of Concentration> 0.2882 hrs

Offsite – East: Proposed Condition

Sheet Flow

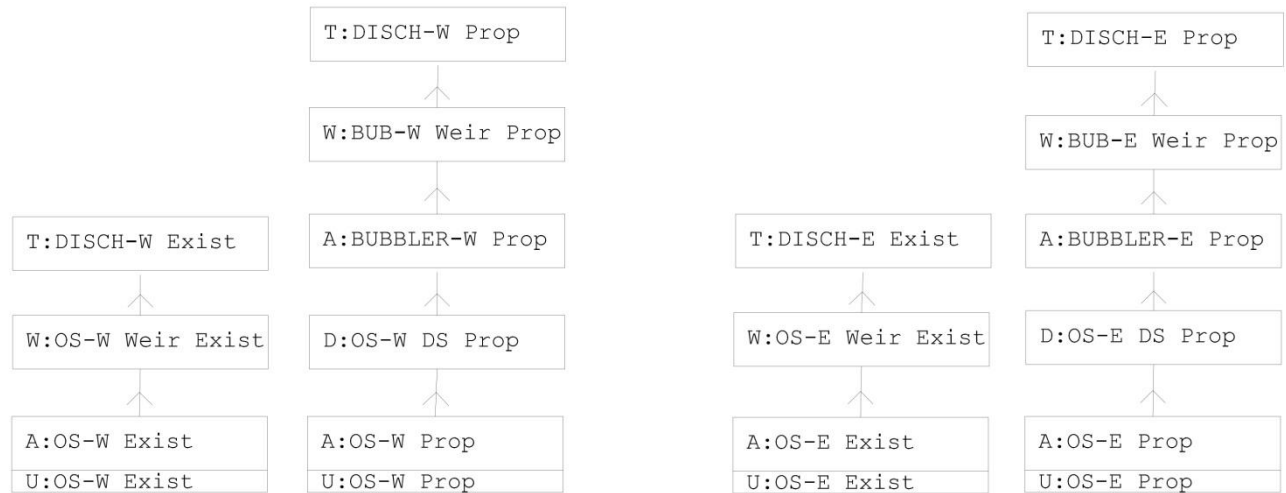
Description SHEET FLOW
Manning's n 0.1500
Flow Length 300.0000 ft
Two Yr, 24 hr Rainfall 4.7000 in
Land Slope 0.0570 ft/ft
Computed Sheet flow time> 0.2134 hrs

Shallow Concentrated Flow

Description SHALLOW CONC
Surface Unpaved
Flow Length 400.0000 ft
Watercourse Slope 0.0650 ft/ft
Velocity 4.1135 fps
Computed Shallow flow time> 0.0270 hrs

Total Time of Concentration> 0.2404 hrs

NODAL DIAGRAM



SUMMARY OF RESULTS

The west and east basins for the offsite area were analyzed using ICPR software for both the 10 Year-24 Hour and 25 Year-24 Hour storm events. Each basin was evaluated for the upstream peak stage, the downstream peak discharge and the downstream total discharge. The summary results (below) show that the existing hydraulic conveyance system will be maintained without any impact to upstream or downstream properties. Detailed input and output reports from the ICPR runs follow.

OFFSITE - WEST

		UPSTREAM	DOWNSTREAM	
		STAGE (ft)	RATE (cfs)	VOL. (ac-ft)
10 Year 24 Hour	EXIST.	160.73	8.45	1.15
	PROP.	160.47	4.26	0.80
25 Year 24 Hour	EXIST.	160.81	17.07	1.73
	PROP.	160.71	8.72	1.33

OFFSITE - EAST

		UPSTREAM	DOWNSTREAM	
		STAGE (ft)	RATE (cfs)	VOL. (ac-ft)
10 Year 24 Hour	EXIST.	190.25	2.18	0.92
	PROP.	189.98	0.00	0.00
25 Year 24 Hour	EXIST.	190.36	11.22	2.00
	PROP.	190.25	0.62	0.31

JLR - Offsite Analysis
 Input Data

156.160 0.0001
 160.500 0.0001

 Name: DISCH-E Exist Base Flow(cfs): 0.000 Init Stage(ft): 189.000
 Group: BASE Warn Stage(ft): 190.000
 Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	189.000
999.00	189.000

 Name: DISCH-E Prop Base Flow(cfs): 0.000 Init Stage(ft): 189.000
 Group: BASE Warn Stage(ft): 190.000
 Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	189.000
999.00	189.000

 Name: DISCH-W Exist Base Flow(cfs): 0.000 Init Stage(ft): 159.000
 Group: BASE Warn Stage(ft): 160.000
 Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	159.000
999.00	159.000

 Name: DISCH-W Prop Base Flow(cfs): 0.000 Init Stage(ft): 159.000
 Group: BASE Warn Stage(ft): 160.000
 Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	159.000
999.00	159.000

 Name: OS-E Exist Base Flow(cfs): 0.000 Init Stage(ft): 188.000
 Group: BASE Warn Stage(ft): 191.000
 Type: Stage/Area

Stage(ft)	Area(ac)
188.000	0.0285
189.000	0.3281
190.000	0.5507
190.500	0.7439

 Name: OS-E Prop Base Flow(cfs): 0.000 Init Stage(ft): 188.000
 Group: BASE Warn Stage(ft): 191.000
 Type: Stage/Area

Stage(ft)	Area(ac)
188.000	0.0285
189.000	0.3281
190.000	0.5507
190.500	0.7439

Name: OS-W Exist Base Flow(cfs): 0.000 Init Stage(ft): 159.000
 Group: BASE Warn Stage(ft): 161.000
 Type: Stage/Area

Stage(ft)	Area(ac)
159.000	0.0001
160.000	0.1814
160.600	0.3395

Name: OS-W Prop Base Flow(cfs): 0.000 Init Stage(ft): 159.000
 Group: BASE Warn Stage(ft): 161.000
 Type: Stage/Area

Stage(ft)	Area(ac)
159.000	0.0001
160.000	0.1814
160.600	0.3395

==== Drop Structures =====

Name: OS-E DS Prop From Node: OS-E Prop Length(ft): 61.00
 Group: BASE To Node: BUBBLER-E Prop Count: 1

UPSTREAM	DOWNSTREAM	Friction Equation: Automatic
Geometry: Circular	Circular	Solution Algorithm: Most Restrictive
Span(in): 24.00	24.00	Flow: Both
Rise(in): 24.00	24.00	Entrance Loss Coef: 0.000
Invert(ft): 186.410	186.210	Exit Loss Coef: 1.000
Manning's N: 0.013000	0.013000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000	0.000	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 1 for Drop Structure OS-E DS Prop ***

TABLE

Count: 1	Bottom Clip(in): 0.000
Type: Horizontal	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Rectangular	Orifice Disc Coef: 0.600
Span(in): 84.00	Invert(ft): 190.190
Rise(in): 6.00	Control Elev(ft): 190.190

Name: OS-W DS Prop From Node: OS-W Prop Length(ft): 60.00
 Group: BASE To Node: BUBBLER-W Prop Count: 1

UPSTREAM	DOWNSTREAM	Friction Equation: Automatic
Geometry: Horz Ellipse	Horz Ellipse	Solution Algorithm: Most Restrictive
Span(in): 38.00	38.00	Flow: Both
Rise(in): 24.00	24.00	Entrance Loss Coef: 0.000
Invert(ft): 156.360	156.160	Exit Loss Coef: 1.000
Manning's N: 0.013000	0.013000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000	0.000	Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000	0.000	Solution Incs: 10

Upstream FHWA Inlet Edge Description:
 Horizontal Ellipse Concrete: Square edge with headwall

Downstream FHWA Inlet Edge Description:
 Horizontal Ellipse Concrete: Square edge with headwall

*** Weir 1 of 1 for Drop Structure OS-W DS Prop ***

TABLE

Count: 1
Type: Horizontal
Flow: Both
Geometry: Rectangular
Span(in): 120.00
Rise(in): 6.00
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Disc Coef: 3.200
Orifice Disc Coef: 0.600
Invert(ft): 160.250
Control Elev(ft): 160.250

==== Weirs =====

Name: BUB-E Weir Prop From Node: BUBBLER-E Prop
Group: BASE To Node: DISCH-E Prop
Flow: Both Count: 1
Type: Horizontal Geometry: Rectangular
Span(in): 84.00
Rise(in): 6.00
Invert(ft): 189.800
Control Elevation(ft): 189.800
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 3.200
Orifice Discharge Coef: 0.600

TABLE

Name: BUB-W Weir Prop From Node: BUBBLER-W Prop
Group: BASE To Node: DISCH-W Prop
Flow: Both Count: 1
Type: Horizontal Geometry: Rectangular
Span(in): 120.00
Rise(in): 6.00
Invert(ft): 160.250
Control Elevation(ft): 160.250
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 3.200
Orifice Discharge Coef: 0.600

TABLE

Name: OS-E Weir Exist From Node: OS-E Exist
Group: BASE To Node: DISCH-E Exist
Flow: Both Count: 1
Type: Vertical: Paved Geometry: Rectangular
Span(in): 600.00
Rise(in): 6.00
Invert(ft): 190.190
Control Elevation(ft): 190.190
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 3.200
Orifice Discharge Coef: 0.600

TABLE

Name: OS-W Weir Exist From Node: OS-W Exist
Group: BASE To Node: DISCH-W Exist
Flow: Both Count: 1
Type: Vertical: Paved Geometry: Rectangular
Span(in): 600.00
Rise(in): 6.00
Invert(ft): 160.590
Control Elevation(ft): 160.590

TABLE

Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 3.200
Orifice Discharge Coef: 0.600

=====
Hydrology Simulations
=====

Name: OS 10Yr24Hr
Filename: I:\Projects\09023GEN\Projects\06-Johns Lake Road\Calculations\OS 10Yr24Hr.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 6.80

Time(hrs)	Print Inc(min)
30.000	5.00

Name: OS 25Yr24Hr
Filename: I:\Projects\09023GEN\Projects\06-Johns Lake Road\Calculations\OS 25Yr24Hr.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 8.40

Time(hrs)	Print Inc(min)
30.000	5.00

=====
Routing Simulations
=====

Name: OS 10Yr24Hr Hydrology Sim: OS 10Yr24Hr
Filename: I:\Projects\09023GEN\Projects\06-Johns Lake Road\Calculations\OS 10Yr24Hr.I32

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

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
999.000	60.000

Group	Run
BASE	Yes

Name: OS 25Yr24Hr Hydrology Sim: OS 25Yr24Hr
Filename: I:\Projects\09023GEN\Projects\06-Johns Lake Road\Calculations\OS 25Yr24Hr.I32

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

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
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JLR - Offsite Analysis
Input Data

999.000 60.000

Group	Run
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BASE	Yes

Basin Name: OS-E Exist
Group Name: BASE
Simulation: OS 10Yr24Hr
Node Name: OS-E Exist
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Fator: 323.0
Spec Time Inc (min): 2.31
Comp Time Inc (min): 2.31
Rainfall File: Flmod
Rainfall Amount (in): 6.800
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 17.30
Time Shift (hrs): 0.00
Area (ac): 16.540
Vol of Unit Hyd (in): 1.001
Curve Number: 46.100
DCIA (%): 0.000

Time Max (hrs): 12.19
Flow Max (cfs): 9.57
Runoff Volume (in): 1.232
Runoff Volume (ft3): 73997

Basin Name: OS-E Prop
Group Name: BASE
Simulation: OS 10Yr24Hr
Node Name: OS-E Prop
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Fator: 323.0
Spec Time Inc (min): 1.92
Comp Time Inc (min): 1.92
Rainfall File: Flmod
Rainfall Amount (in): 6.800
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 14.40
Time Shift (hrs): 0.00
Area (ac): 7.580
Vol of Unit Hyd (in): 1.000
Curve Number: 42.700
DCIA (%): 0.000

Time Max (hrs): 12.29
Flow Max (cfs): 3.24
Runoff Volume (in): 0.967
Runoff Volume (ft3): 26597

Basin Name: OS-W Exist
Group Name: BASE
Simulation: OS 10Yr24Hr
Node Name: OS-W Exist
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Fator: 323.0
Spec Time Inc (min): 2.27
Comp Time Inc (min): 2.27
Rainfall File: Flmod
Rainfall Amount (in): 6.800
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 17.00
Time Shift (hrs): 0.00
Area (ac): 13.610
Vol of Unit Hyd (in): 1.000
Curve Number: 48.400
DCIA (%): 0.000

Time Max (hrs): 12.16

Flow Max (cfs): 9.84
Runoff Volume (in): 1.422
Runoff Volume (ft3): 70232

Basin Name: OS-W Prop
Group Name: BASE
Simulation: OS 10Yr24Hr
Node Name: OS-W Prop
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Fator: 323.0
Spec Time Inc (min): 2.27
Comp Time Inc (min): 2.27
Rainfall File: Flmod
Rainfall Amount (in): 6.800
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 17.00
Time Shift (hrs): 0.00
Area (ac): 10.450
Vol of Unit Hyd (in): 1.000
Curve Number: 45.700
DCIA (%): 0.000

Time Max (hrs): 12.16
Flow Max (cfs): 5.85
Runoff Volume (in): 1.200
Runoff Volume (ft3): 45530

Basin Name: OS-E Exist
Group Name: BASE
Simulation: OS 25Yr24Hr
Node Name: OS-E Exist
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Fator: 323.0
Spec Time Inc (min): 2.31
Comp Time Inc (min): 2.31
Rainfall File: Flmod
Rainfall Amount (in): 8.400
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 17.30
Time Shift (hrs): 0.00
Area (ac): 16.540
Vol of Unit Hyd (in): 1.001
Curve Number: 46.100
DCIA (%): 0.000

Time Max (hrs): 12.15
Flow Max (cfs): 18.52
Runoff Volume (in): 2.070
Runoff Volume (ft3): 124282

Basin Name: OS-E Prop
Group Name: BASE
Simulation: OS 25Yr24Hr
Node Name: OS-E Prop
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Fator: 323.0
Spec Time Inc (min): 1.92
Comp Time Inc (min): 1.92
Rainfall File: Flmod
Rainfall Amount (in): 8.400
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 14.40

Time Shift (hrs): 0.00
Area (ac): 7.580
Vol of Unit Hyd (in): 1.000
Curve Number: 42.700
DCIA (%): 0.000

Time Max (hrs): 12.10
Flow Max (cfs): 7.04
Runoff Volume (in): 1.708
Runoff Volume (ft3): 47003

Basin Name: OS-W Exist
Group Name: BASE
Simulation: OS 25Yr24Hr
Node Name: OS-W Exist
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Fator: 323.0
Spec Time Inc (min): 2.27
Comp Time Inc (min): 2.27
Rainfall File: Flmod
Rainfall Amount (in): 8.400
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 17.00
Time Shift (hrs): 0.00
Area (ac): 13.610
Vol of Unit Hyd (in): 1.000
Curve Number: 48.400
DCIA (%): 0.000

Time Max (hrs): 12.13
Flow Max (cfs): 17.98
Runoff Volume (in): 2.321
Runoff Volume (ft3): 114667

Basin Name: OS-W Prop
Group Name: BASE
Simulation: OS 25Yr24Hr
Node Name: OS-W Prop
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Fator: 323.0
Spec Time Inc (min): 2.27
Comp Time Inc (min): 2.27
Rainfall File: Flmod
Rainfall Amount (in): 8.400
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 17.00
Time Shift (hrs): 0.00
Area (ac): 10.450
Vol of Unit Hyd (in): 1.000
Curve Number: 45.700
DCIA (%): 0.000

Time Max (hrs): 12.13
Flow Max (cfs): 11.47
Runoff Volume (in): 2.027
Runoff Volume (ft3): 76882

JLR - Offsite Analysis
Node Summary

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
OS-E Exist	BASE	OS 10Yr24Hr	13.73	190.25	191.00	0.0039	28147	12.17	9.55	13.73	2.18
OS-E Prop	BASE	OS 10Yr24Hr	24.00	189.98	191.00	0.0024	23771	12.25	3.23	0.00	0.00
OS-W Exist	BASE	OS 10Yr24Hr	12.41	160.73	161.00	0.0050	16290	12.17	9.83	12.41	8.45
OS-W Prop	BASE	OS 10Yr24Hr	12.59	160.47	161.00	0.0040	13279	12.17	5.85	12.62	4.26
OS-E Exist	BASE	OS 25Yr24Hr	12.62	190.36	191.00	0.0042	30049	12.17	18.40	12.62	11.22
OS-E Prop	BASE	OS 25Yr24Hr	17.64	190.25	191.00	0.0027	28116	12.08	6.92	17.64	0.62
OS-W Exist	BASE	OS 25Yr24Hr	12.23	160.81	161.00	0.0050	17255	12.17	17.74	12.23	17.07
OS-W Prop	BASE	OS 25Yr24Hr	12.47	160.71	161.00	0.0043	15998	12.17	11.39	12.48	8.72

JLR - Offsite Analysis
 Discharge to Receiving Areas

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af
OS 10Yr24Hr	DISCH-E Exist	BASE	0.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	1.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	2.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	3.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	4.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	5.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	6.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	7.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	8.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	9.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	10.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	11.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	12.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	13.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Exist	BASE	14.00	189.00	190.00	0	2.05	0.00	0.08
OS 10Yr24Hr	DISCH-E Exist	BASE	15.00	189.00	190.00	0	1.54	0.00	0.23
OS 10Yr24Hr	DISCH-E Exist	BASE	16.00	189.00	190.00	0	1.29	0.00	0.35
OS 10Yr24Hr	DISCH-E Exist	BASE	17.00	189.00	190.00	0	1.10	0.00	0.45
OS 10Yr24Hr	DISCH-E Exist	BASE	18.00	189.00	190.00	0	0.97	0.00	0.53
OS 10Yr24Hr	DISCH-E Exist	BASE	19.00	189.00	190.00	0	0.88	0.00	0.61
OS 10Yr24Hr	DISCH-E Exist	BASE	20.00	189.00	190.00	0	0.85	0.00	0.68
OS 10Yr24Hr	DISCH-E Exist	BASE	21.00	189.00	190.00	0	0.73	0.00	0.75
OS 10Yr24Hr	DISCH-E Exist	BASE	22.00	189.00	190.00	0	0.73	0.00	0.81
OS 10Yr24Hr	DISCH-E Exist	BASE	23.00	189.00	190.00	0	0.69	0.00	0.87
OS 10Yr24Hr	DISCH-E Exist	BASE	24.00	189.00	190.00	0	0.59	0.00	0.92
OS 10Yr24Hr	DISCH-E Exist	BASE	24.00	189.00	190.00	0	0.59	0.00	0.92
OS 10Yr24Hr	DISCH-E Prop	BASE	0.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	1.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	2.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	3.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	4.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	5.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	6.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	7.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	8.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	9.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	10.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	11.02	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	12.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	13.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	14.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	15.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	16.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	17.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	18.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	19.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	20.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	21.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	22.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	23.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	24.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-E Prop	BASE	24.00	189.00	190.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	0.00	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	1.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	2.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	3.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	4.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	5.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	6.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	7.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	8.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	9.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	10.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	11.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	12.00	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Exist	BASE	13.00	159.00	160.00	0	3.98	0.00	0.16
OS 10Yr24Hr	DISCH-W Exist	BASE	14.00	159.00	160.00	0	1.85	0.00	0.41
OS 10Yr24Hr	DISCH-W Exist	BASE	15.00	159.00	160.00	0	1.38	0.00	0.54
OS 10Yr24Hr	DISCH-W Exist	BASE	16.00	159.00	160.00	0	1.15	0.00	0.64
OS 10Yr24Hr	DISCH-W Exist	BASE	17.00	159.00	160.00	0	0.98	0.00	0.73
OS 10Yr24Hr	DISCH-W Exist	BASE	18.00	159.00	160.00	0	0.85	0.00	0.81
OS 10Yr24Hr	DISCH-W Exist	BASE	19.00	159.00	160.00	0	0.78	0.00	0.87
OS 10Yr24Hr	DISCH-W Exist	BASE	20.00	159.00	160.00	0	0.76	0.00	0.94
OS 10Yr24Hr	DISCH-W Exist	BASE	21.00	159.00	160.00	0	0.65	0.00	1.00
OS 10Yr24Hr	DISCH-W Exist	BASE	22.00	159.00	160.00	0	0.66	0.00	1.05

JLR - Offsite Analysis
 Discharge to Receiving Areas

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af
OS 10Yr24Hr	DISCH-W Exist	BASE	23.00	159.00	160.00	0	0.60	0.00	1.10
OS 10Yr24Hr	DISCH-W Exist	BASE	24.00	159.00	160.00	0	0.51	0.00	1.15
OS 10Yr24Hr	DISCH-W Exist	BASE	24.00	159.00	160.00	0	0.51	0.00	1.15
OS 10Yr24Hr	DISCH-W Prop	BASE	0.00	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	1.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	2.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	3.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	4.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	5.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	6.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	7.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	8.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	9.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	10.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	11.02	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	12.00	159.00	160.00	0	0.00	0.00	0.00
OS 10Yr24Hr	DISCH-W Prop	BASE	13.00	159.00	160.00	0	2.89	0.00	0.12
OS 10Yr24Hr	DISCH-W Prop	BASE	14.00	159.00	160.00	0	1.30	0.00	0.29
OS 10Yr24Hr	DISCH-W Prop	BASE	15.00	159.00	160.00	0	0.94	0.00	0.39
OS 10Yr24Hr	DISCH-W Prop	BASE	16.00	159.00	160.00	0	0.80	0.00	0.46
OS 10Yr24Hr	DISCH-W Prop	BASE	17.00	159.00	160.00	0	0.62	0.00	0.52
OS 10Yr24Hr	DISCH-W Prop	BASE	18.00	159.00	160.00	0	0.60	0.00	0.57
OS 10Yr24Hr	DISCH-W Prop	BASE	19.00	159.00	160.00	0	0.48	0.00	0.61
OS 10Yr24Hr	DISCH-W Prop	BASE	20.00	159.00	160.00	0	0.53	0.00	0.65
OS 10Yr24Hr	DISCH-W Prop	BASE	21.00	159.00	160.00	0	0.46	0.00	0.69
OS 10Yr24Hr	DISCH-W Prop	BASE	22.00	159.00	160.00	0	0.46	0.00	0.73
OS 10Yr24Hr	DISCH-W Prop	BASE	23.00	159.00	160.00	0	0.43	0.00	0.77
OS 10Yr24Hr	DISCH-W Prop	BASE	24.00	159.00	160.00	0	0.37	0.00	0.80
OS 10Yr24Hr	DISCH-W Prop	BASE	24.00	159.00	160.00	0	0.37	0.00	0.80
OS 25Yr24Hr	DISCH-E Exist	BASE	0.00	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	1.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	2.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	3.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	4.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	5.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	6.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	7.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	8.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	9.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	10.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	11.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	12.00	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Exist	BASE	13.00	189.00	190.00	0	7.39	0.00	0.31
OS 25Yr24Hr	DISCH-E Exist	BASE	14.00	189.00	190.00	0	3.21	0.00	0.74
OS 25Yr24Hr	DISCH-E Exist	BASE	15.00	189.00	190.00	0	2.36	0.00	0.97
OS 25Yr24Hr	DISCH-E Exist	BASE	16.00	189.00	190.00	0	1.95	0.00	1.15
OS 25Yr24Hr	DISCH-E Exist	BASE	17.00	189.00	190.00	0	1.65	0.00	1.30
OS 25Yr24Hr	DISCH-E Exist	BASE	18.00	189.00	190.00	0	1.45	0.00	1.43
OS 25Yr24Hr	DISCH-E Exist	BASE	19.00	189.00	190.00	0	1.31	0.00	1.54
OS 25Yr24Hr	DISCH-E Exist	BASE	20.00	189.00	190.00	0	1.27	0.00	1.65
OS 25Yr24Hr	DISCH-E Exist	BASE	21.00	189.00	190.00	0	1.09	0.00	1.75
OS 25Yr24Hr	DISCH-E Exist	BASE	22.00	189.00	190.00	0	1.09	0.00	1.84
OS 25Yr24Hr	DISCH-E Exist	BASE	23.00	189.00	190.00	0	1.01	0.00	1.92
OS 25Yr24Hr	DISCH-E Exist	BASE	24.00	189.00	190.00	0	0.86	0.00	2.00
OS 25Yr24Hr	DISCH-E Exist	BASE	24.00	189.00	190.00	0	0.86	0.00	2.00
OS 25Yr24Hr	DISCH-E Prop	BASE	0.00	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	1.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	2.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	3.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	4.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	5.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	6.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	7.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	8.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	9.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	10.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	11.02	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	12.00	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	13.00	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	14.00	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	15.00	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	16.00	189.00	190.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-E Prop	BASE	17.00	189.00	190.00	0	0.55	0.00	0.02
OS 25Yr24Hr	DISCH-E Prop	BASE	18.00	189.00	190.00	0	0.60	0.00	0.07

JLR - Offsite Analysis
 Discharge to Receiving Areas

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af
OS 25Yr24Hr	DISCH-E Prop	BASE	19.00	189.00	190.00	0	0.55	0.00	0.12
OS 25Yr24Hr	DISCH-E Prop	BASE	20.00	189.00	190.00	0	0.53	0.00	0.16
OS 25Yr24Hr	DISCH-E Prop	BASE	21.00	189.00	190.00	0	0.46	0.00	0.20
OS 25Yr24Hr	DISCH-E Prop	BASE	22.00	189.00	190.00	0	0.45	0.00	0.24
OS 25Yr24Hr	DISCH-E Prop	BASE	23.00	189.00	190.00	0	0.43	0.00	0.28
OS 25Yr24Hr	DISCH-E Prop	BASE	24.00	189.00	190.00	0	0.37	0.00	0.31
OS 25Yr24Hr	DISCH-E Prop	BASE	24.00	189.00	190.00	0	0.37	0.00	0.31
OS 25Yr24Hr	DISCH-W Exist	BASE	0.00	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	1.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	2.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	3.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	4.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	5.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	6.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	7.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	8.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	9.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	10.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	11.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	12.00	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Exist	BASE	13.00	159.00	160.00	0	6.29	0.00	0.26
OS 25Yr24Hr	DISCH-W Exist	BASE	14.00	159.00	160.00	0	2.80	0.00	0.64
OS 25Yr24Hr	DISCH-W Exist	BASE	15.00	159.00	160.00	0	2.07	0.00	0.84
OS 25Yr24Hr	DISCH-W Exist	BASE	16.00	159.00	160.00	0	1.70	0.00	0.99
OS 25Yr24Hr	DISCH-W Exist	BASE	17.00	159.00	160.00	0	1.45	0.00	1.12
OS 25Yr24Hr	DISCH-W Exist	BASE	18.00	159.00	160.00	0	1.25	0.00	1.23
OS 25Yr24Hr	DISCH-W Exist	BASE	19.00	159.00	160.00	0	1.13	0.00	1.33
OS 25Yr24Hr	DISCH-W Exist	BASE	20.00	159.00	160.00	0	1.11	0.00	1.43
OS 25Yr24Hr	DISCH-W Exist	BASE	21.00	159.00	160.00	0	0.95	0.00	1.51
OS 25Yr24Hr	DISCH-W Exist	BASE	22.00	159.00	160.00	0	0.95	0.00	1.59
OS 25Yr24Hr	DISCH-W Exist	BASE	23.00	159.00	160.00	0	0.87	0.00	1.66
OS 25Yr24Hr	DISCH-W Exist	BASE	24.00	159.00	160.00	0	0.74	0.00	1.73
OS 25Yr24Hr	DISCH-W Exist	BASE	24.00	159.00	160.00	0	0.74	0.00	1.73
OS 25Yr24Hr	DISCH-W Prop	BASE	0.00	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	1.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	2.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	3.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	4.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	5.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	6.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	7.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	8.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	9.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	10.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	11.02	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	12.00	159.00	160.00	0	0.00	0.00	0.00
OS 25Yr24Hr	DISCH-W Prop	BASE	13.00	159.00	160.00	0	5.53	0.00	0.23
OS 25Yr24Hr	DISCH-W Prop	BASE	14.00	159.00	160.00	0	1.99	0.00	0.54
OS 25Yr24Hr	DISCH-W Prop	BASE	15.00	159.00	160.00	0	1.48	0.00	0.68
OS 25Yr24Hr	DISCH-W Prop	BASE	16.00	159.00	160.00	0	1.22	0.00	0.79
OS 25Yr24Hr	DISCH-W Prop	BASE	17.00	159.00	160.00	0	1.03	0.00	0.89
OS 25Yr24Hr	DISCH-W Prop	BASE	18.00	159.00	160.00	0	0.91	0.00	0.97
OS 25Yr24Hr	DISCH-W Prop	BASE	19.00	159.00	160.00	0	0.82	0.00	1.04
OS 25Yr24Hr	DISCH-W Prop	BASE	20.00	159.00	160.00	0	0.79	0.00	1.11
OS 25Yr24Hr	DISCH-W Prop	BASE	21.00	159.00	160.00	0	0.68	0.00	1.17
OS 25Yr24Hr	DISCH-W Prop	BASE	22.00	159.00	160.00	0	0.68	0.00	1.22
OS 25Yr24Hr	DISCH-W Prop	BASE	23.00	159.00	160.00	0	0.63	0.00	1.28
OS 25Yr24Hr	DISCH-W Prop	BASE	24.00	159.00	160.00	0	0.54	0.00	1.33
OS 25Yr24Hr	DISCH-W Prop	BASE	24.00	159.00	160.00	0	0.54	0.00	1.33