

Preliminary Stormwater Management Plan

NORTH CLOVERLEAF POND



Prepared For The
VILLAGE OF ALLOUEZ
VILLAGE OF ALLOUEZ | BROWN COUNTY, WISCONSIN

DECEMBER 28, 2012
JMH

McMAHON
ENGINEERS ARCHITECTS

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McM. No. A0012-900458.22

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AWS

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I. INTRODUCTION

The Village of Allouez and/or Wisconsin Department of Transportation (WisDOT) desire to construct the North Cloverleaf Pond, which is a regional wet detention pond. The North Cloverleaf Pond is located north of State Highway 172 and east of Riverview Drive (State Highway 57) in the Village of Allouez, Brown County, Wisconsin (SW 1/4 of the SE 1/4, SEC. 11, T23N, R20E). NR 216 and TRANS 401 require that the Village and WisDOT reduce urban non-point source pollutants discharging from their municipal separate storm sewer systems (MS4). The primary purpose of the North Cloverleaf Pond is to reduce total suspended solids (TSS) and total phosphorus (TP) pollutant discharges. The water quality improvements will assist the Village and WisDOT with NR 216, TRANS 401 and Total Maximum Daily Load (TMDL) compliance.

The WisDOT plans to reconstruct Riverside Drive (State Highway 57) in the next few years. TRANS 401.106(3)(b) requires a 40% TSS reduction for highway and street reconstruction projects. The North Cloverleaf Pond will likely be constructed as part of the Riverside Drive (State Highway 57) reconstruction project.

The Village and/or WisDOT will own the North Cloverleaf Pond property, construct the pond, and be responsible for future operation and maintenance. Specific goals for the North Cloverleaf Pond and the Storm Water Management Plan include the following:

- A. Reduce or maintain peak post-construction runoff rates down to the existing peak runoff rates for the 1, 2, 10, and 100-year, 24-hour design rainfall events based on average antecedent moisture conditions.
- B. Reduce average annual Total Suspended Solids (TSS) by 40% for re-development projects within the pond's watershed and contribute to the 40% TSS reduction requirement for the Riverside Drive reconstruction project.
- C. Reduce average annual Total Suspended Solids (TSS) and Total Phosphorus (TP) loads in runoff to the Fox River, a 303 (d) listed water body. The Total Maximum Daily Load (TMDL) developed for the Lower Fox River Basin identifies a TSS load reduction and TP load reduction for NR 216 Municipal Stormwater Dischargers located within the Fox River Watershed.
- D. Provide non-erosive discharge velocities at stormwater outfalls and receiving streams. Reduce stream erosion potential.

II. STUDY AREA

The study area is depicted in Figure 1. The study area contains 103 acres or 0.16 square miles of property located within the Village of Allouez, Brown County, Wisconsin. The North Cloverleaf Pond study area is generally located east of Riverside Drive, north of State Highway 172, south of Mission Road and Braebourne Court, and west of S. Webster Avenue. The study area is urbanized and consists primarily of residential, state park land, and state freeway land uses. The study area is currently drained by three separate storm sewer systems, each of which discharge either directly to the Fox River or to swales that are tributary to the Fox River. The discharging storm sewers vary in size from 18 to 36 inches. The outfalls include an 18" pipe that discharges to the Fox River behind the property at 2556 Riverside Drive (Outfall F100), a 24" pipe that discharges to the Fox River at the end of W. Lazarre Avenue (Outfall F090), and a 36" pipe that discharges to a swale just west of Riverside Drive approximately 400' north of State Highway 172 (Outfall F080).

The proposed North Cloverleaf Pond will collect stormwater from a portion of each of the three outfalls. A new storm sewer will be constructed during the Riverside Drive reconstruction project that will collect runoff from the three existing independent storm sewer systems and combine them in the Riverside Drive storm sewer which will discharge into the North Cloverleaf Pond.

III. HYDROLOGIC ANALYSIS

A. Methodology

A hydrologic computer model was used to develop the rainfall / runoff relationship within the study area. The XP-SWMM (V13.0) computer model was used for this study. The SWMM computer model was used to generate surface runoff hydrographs for each sub-basin within the study area. The hydrographs include information such as peak flow rates, time of peak flow rates, and runoff volumes. The SWMM model was also used to combine, split, and route hydrographs within the study area.

The U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS or formerly SCS), Technical Release 55 methodology was also used to develop the rainfall / runoff relationship within the study area. The TR-55 methodology requires that various hydrologic parameters be input into the computer model. These hydrologic parameters generally include rainfall, sub-basin area, percent imperviousness, runoff curve number, and time of concentration.

B. Rainfall

Rainfall information was obtained from the U.S. Department of Commerce Technical Paper No. 40, *Rainfall Frequency Atlas of the United States*. The 24-hour rainfall depths are summarized below in Table #1. The SCS 24-hour, type II rainfall distribution was used in this study.

Table #1
24-Hour Rainfall Depth

Rainfall Event	Depth (inches)
1-Year	2.2
2-Year	2.5
10-Year	3.7
100-Year	5.1

C. Drainage Area

The contributing watershed to the North Cloverleaf Pond is 103 acres in size and is based upon a recent topographic survey, Brown County 2-foot contour maps, existing development site plans, and Village of Allouez drainage system maps. The pre-development watershed and the North Cloverleaf Pond (post-development) watershed are depicted in Figures 2 and 3 respectively.

D. Soil Types

Soil information was obtained from the U.S. Department of Agriculture *Soil Survey of Brown County, Wisconsin*. A copy of the NRCS / SCS Soil Map is provided in Figure 4. The predominant soil types within the study area are summarized below in Table #2. The Department of Agriculture has classified soil types into four hydrologic soil groups (HSG). The four hydrologic soil groups (i.e. A, B, C and D) are classified according to the minimum infiltration rate of the soil column. Group A soils have the highest permeability rate or lowest runoff potential, whereas Group D soils have the lowest permeability rate or highest runoff potential.

Table #2
Soil Information

Soil Name	Map Symbol	Soil Texture	Feet to Water Table	Inches to Bedrock	Permeability (in/hr)	HSG
Allendale	AeA	Fine Sandy Loam	0-1.5	>60	0.2-0.6	C
Kewaunee	KhB	Silt Loam	>5	>60	0.06	C
Kewaunee	KhB2, KhC2	Eroded	>5	>60	0.06	C
Oshkosh	OnB	Silt Loam	>5	>60	0.08	C
Waymore	WoC2	Silt Loam	>5	>60	0.07	B

E. Land Uses

The study area has experienced urbanization in years prior and will be completely developed with construction of the North Cloverleaf Pond. Since the project is not required to satisfy NR 151.121, and has no peak flow requirements, existing (2004) land uses were used for the hydrologic analysis. However, for purposes of the water quality analysis, future land uses were used. The land uses within the watershed include freeway, low density residential, medium density residential, multi-family residential, and park. A map of the existing and future land uses are depicted in Figures 5 and 6, respectively. Land uses are summarized in Table #3.

Table #3
Land Uses

Land Use	Existing Land Use		Future Land Use	
	Area (acres)	Percent (%)	Area (acres)	Percent (%)
Freeway	19.0	18.4%	19.0	18.4%
Low Density Residential	25.4	24.7%	25.4	24.7%
Medium Density Residential	47.8	46.4%	47.8	46.4%
Multi-Family Residential	3.2	3.1%	3.2	3.1%
Park	7.6	7.4%	7.6	7.4%
Total:	103.1	100.0%	103.1	100.0%

F. Runoff Curve Number

A composite runoff curve number was computed for each sub-basin and land use condition. Runoff curve number computations are based on land uses, vegetation, percent imperviousness, and hydrologic soil groups within each sub-basin. For this study, the following assumptions were used to compute each composite runoff curve number: average antecedent moisture condition, average runoff condition, good hydrologic condition for pervious areas, and directly connected impervious areas. Pre-development areas were assumed to have a runoff curve number of 71 (HSG C). Impervious areas were assumed to have a runoff curve number of 98 and pervious grass areas were assumed to have a runoff curve number of 74 (HSG C). See Tables #4 and #5 for values.

G. Time of Concentration

Existing and future time of concentrations were computed for each sub-basin. Times of concentration calculations include sheet flow, shallow concentrated flow, and open channel flow. Time of concentration values can be found in Tables #4 and #5.

H. Hydrologic Parameters

The existing land use condition refers to watershed conditions on October 1, 2004. The future land use condition refers to ultimate development of the watershed. The hydrologic parameters for each drainage area and land use condition are summarized in Tables #4 and #5.

Table #4
Hydrologic Parameters
Existing Land Use Condition

Drainage Area ID	Drainage Area (acres)	Impervious (%)	Curve Number	Tc (minutes)
F080M01	12.77	50.6%	86.1	15
F080M06	2.28	44.4%	78.8	9
F080M10	3.93	24.1%	77.6	16
F080M13	4.18	33.0%	76.2	11
F080M14	3.33	46.9%	85	6
F090M02A	6.62	37.3%	82.9	9
F090M02B	0.45	44.8%	84.8	6
F090M04	7.00	23.7%	75.7	20
F090M05	3.59	41.4%	83.9	10
F090M09	3.40	36.4%	80.2	15
F100i01	8.46	22.8%	79.5	16
F100M01	8.40	25.0%	80.0	18
F100M04	10.18	38.8%	82.9	18
F100M06	2.58	34.6%	82.3	11
F100M11	8.29	37.6%	83	17
F100M15	8.55	32.9%	81.9	29
F100M21	0.90	30.2%	81.2	19
F100M29	3.64	33.2%	82	15
PBMPF080B	4.44	50.5%	86.1	48
Totals	102.98	35.9%	81.8	-

Table #5
Hydrologic Parameters
Future Land Use Condition

Drainage Area ID	Drainage Area (acres)	Impervious (%)	Curve Number	Tc (minutes)
F080M01	12.77	50.6%	86.1	15
F080M06	2.28	44.4%	78.8	9
F080M10	3.93	24.1%	77.6	16
F080M13	4.18	33.0%	76.2	11
F080M14	3.33	46.9%	85	6
F090M02A	6.62	37.3%	82.9	9
F090M02B	0.45	44.8%	84.8	6

F090M04	7.00	23.7%	75.7	20
F090M05	3.59	41.4%	83.9	10
F090M09	3.40	36.4%	80.2	15
F100i01	8.46	22.8%	79.5	16
F100M01	8.40	25.0%	80.0	18
F100M04	10.18	38.8%	82.9	18
F100M06	2.58	34.6%	82.3	11
F100M11	8.29	37.6%	83	17
F100M15	8.55	32.9%	81.9	29
F100M21	0.90	30.2%	81.2	19
F100M29	3.64	33.2%	82	15
PBMPF080B	4.44	50.5%	86.1	8
Totals	102.98	35.9%	81.8	-

I. Hydrologic Results

The “pre-pond construction” condition refers to hydraulic conditions before construction of the North Cloverleaf Pond. The “existing land use condition” refers to the hydrologic parameters on October 1, 2004. Hydrologic and hydraulic results for the “pre-pond construction / existing land use” condition are provided in Appendix B and summarized in Table #6.

Table #6
Peak Water Surface Elevations
Pre-Pond Construction & Existing Land Use Condition

No.	Outfall (Node)	Location	Ground Elevation	Peak Water Surface Elevation			
				1-yr	2-yr	10-yr	100-yr
1	F080M01	Northbound on-ramp to STH 172 from Riverside Dr.	606.39	603.89	604.03	604.60	605.86
2	F080M06	S Webster Ave. 100' South of Woodview Ln.	661.63	659.03	659.10	659.37	659.66
3	F080M10	S Webster Ave. & Greene Ave.	684.92	680.83	680.91	681.24	684.97
4	F080M13	South end of S Van Buren St.	659.11	648.62	648.72	649.09	649.54
5	F080M14	Riverside Dr. / Northbound on-ramp to STH 172	603.82	599.77	599.92	600.50	601.28
6	F090M02 A	Riverside Dr. / W Lazarre Ave.	605.07	601.66	601.82	605.14	605.38
7	F090M05	Riverside Dr. / Warren Ct.	606.22	603.20	603.44	606.47	606.60

8	F100i01	Braebourne Ct. 750' west of Ducharme Ln.	609.43	605.00	606.53	610.45	610.66
9	F100M01	Riverside Dr. / Iroquois Ave.	604.29	604.14	604.40	604.76	605.02
10	F100M06	Ducharme Ln. 85' South of Braebourne Ct.	647.16	639.38	639.62	645.85	646.70
11	F100M11	Pickard Ct / W Whitney St.	665.74	661.07	661.20	665.87	665.95
12	F100M15	Ducharme Ln / W. Whitney St.	645.57	641.11	642.09	646.44	646.68
13	F100M21	Riverside Drive 380' North of Iroquois Ave.	607.09	603.11	605.11	607.49	607.65
14	F100M29	Riverside Drive 150' South of Iroquois Ave.	605.12	605.23	605.27	605.35	605.41

The “post-pond construction” condition refers to hydraulic conditions after construction of the North Cloverleaf Pond. The “future land use condition” refers to the hydrologic parameters after ultimate development. Hydrologic and hydraulic results for the “post-pond construction / future land use” condition are provided in Appendix C and summarized in Table #7.

Table #7
Peak Water Surface Elevations
Post-Pond Construction & Future Land Use Condition

No.	SWMM (Node)	Location	Ground Elevation	Peak Water Surface Elevation			
				1-yr	2-yr	10-yr	100-yr
1	F080M01	Northbound on- ramp to STH 172 from Riverside Dr.	606.39	603.88	604.03	604.63	605.80
2	F080M06	S Webster Ave. 100' South of Woodview	661.63	659.03	659.10	659.37	659.66
3	F080M10	S Webster Ave. & Greene Ave.	684.92	680.83	680.91	681.24	684.97
4	F080M13	South end of S Van Buren St.	659.11	648.62	648.72	649.09	649.54
5	F080M14	Riverside Dr. / Northbound on- ramp to STH 172	603.82	598.05	598.61	599.63	600.94
6	F090M02 A	Riverside Dr. / W Lazarre Ave.	605.07	601.65	602.75	604.21	605.23
7	F090M05	Riverside Dr. / Warren Ct.	606.22	602.76	603.70	604.75	605.46
8	F100i01	Braebourne Ct. 750' west of Ducharme	609.43	605.11	606.33	610.44	610.66
9	F100M01	Riverside Dr. /	604.29	603.75	604.33	604.81	605.26

		Iroquois Ave.					
10	F100M06	Ducharme Ln. 85' South of Braebourne Ct.	647.16	639.38	639.61	645.85	646.70
11	F100M11	Pickard Ct / W Whitney St.	665.74	661.07	661.20	665.87	665.95
12	F100M15	Ducharme Ln / W. Whitney St.	645.57	641.11	642.09	646.44	646.68
13	F100M21	Riverside Drive 380' North of Iroquois	607.09	604.04	604.88	607.44	607.62
14	F100M29	Riverside Drive 150' South of Iroquois	605.12	603.35	604.08	604.80	605.38
15	BMP- F080B	North Cloverleaf Pond	-	597.68	598.05	599.37	600.70

A comparison of Tables #6 and #7 indicate that the peak water surface elevations for the “post-pond construction /existing land use” condition are either less than the ground surface elevation or less than the peak water surface elevations for the “pre-pond construction / future land use” condition with a few exceptions. The node “M100M01” located at the intersection of Riverside Drive and Iroquois Avenue shows a slight increase in water surface elevation during the 10 and 100 year storms. This report is preliminary and is based on the best available data, which does not include any proposed plans for the reconstruction of Riverside Drive. When the final designs of Riverside Drive and the North Cloverleaf Pond are completed, this area will be reanalyzed and any needed changes will be made then.

The North Cloverleaf Pond has a 103 acre watershed and a permanent pool surface area of 0.97 acres. Performance of the North Cloverleaf wet detention pond is summarized below in Table #8. Construction plans for the North Cloverleaf Pond are provided in Appendix A.

Table #8
North Cloverleaf Pond Summary

Design Storm	SWMM (Node/Link)	Peak Outflow (cfs)	Storage Volume (ac-ft)	Normal Water Elevation (feet)	Peak Water Elevation (feet)
1-year	PBMP F080 / NCP Outfal	4.0	2.76	595.00	597.68
2-year	PBMP F080 / NCP Outfal	7.0	3.13	595.00	598.05
10-year	PBMP F080 / NCP Outfal	17.0	4.09	595.00	599.37
100-year	PBMP F080 / NCP Outfal	20.2	4.67	595.00	600.70

IV. WATER QUALITY ANALYSIS

A. Methodology

The water quality analysis for the study area was prepared using the Source Loading and Management Model (SLAMM) (v9.4.0). SLAMM is an urban water quality model that predicts runoff volumes and non-point source pollution within a watershed. SLAMM calculates mass balances for both particulate and filterable pollutants. SLAMM also calculates the amount of pollutant removal provided by Best Management Practices (BMP), including wet detention ponds.

No historical water quality information was available for the study area. As such, water quality within the study area was predicted using historical data collected during the National Urban Runoff Project (NURP).

B. Rainfall

SLAMM computes pollutant loads from one or more rainfall events. For this study, the series of small rainfall events that occurred between March 29, 1969 and November 25, 1969 in Green Bay, Wisconsin were used to compute pollutant loads. The 1969 historic rainfall series was determined to represent an average year of rainfall within northeast Wisconsin by the WDNR.

C. Drainage Area

The post-development watershed was used to prepare the SLAMM water quality model. The post-development watershed and sub-basins are shown in Figure 3. Drainage areas for the post-development watershed and each sub-basin are tabulated in Table #5.

D. Land Use

The future land uses, depicted in Figure 6, and tabulated in Table #3 were used to prepare the SLAMM water quality model.

E. Water Quality Results

The NR 151 storm water regulations require 80 percent total suspended solids (TSS) removal for new development and 40 percent removal for re-development as compared to no water quality controls. However, due to the North Cloverleaf Pond being an urban retrofit project, TSS is required to be reduced to the maximum extent possible (MEP).

The total suspended solids (TSS) reduction provided for the post-development condition is summarized below in Table #9. The removal rate provided by the North Cloverleaf Pond is 80.8 percent or 17,653 pounds of TSS.

Table #9
Total Suspended Solids (TSS)
Reduction Provided

	Drainage Area (acres)	TSS Inflow (lbs.)	TSS Removed (lbs.)	TSS Outflow (lbs.)	Removal Rate (%)
North Cloverleaf Pond	103.0	21,843	17,653	4,190	80.8

In addition to TSS removal, the North Cloverleaf Pond will also provide total phosphorous (TP) reduction for the post-development condition. The determined percent removal will assist the Village in meeting their Lower Fox River Total Phosphorous TMDL for the Fox River. The removal rate provided by the North Cloverleaf Pond is 57.1 percent or 47.9 pounds of total phosphorous. The total phosphorous reduction provided is summarized in Table #10.

Table #10
Total Phosphorus (TP)
Reduction Provided

	Drainage Area (acres)	TP Inflow (lbs.)	TP Removed (lbs.)	TP Outflow (lbs.)	Removal Rate (%)
North Cloverleaf Pond	103.0	83.9	47.9	36.0	57.1

No street sweeping, catch basin cleaning or other Best Management Practices (BMP) are included in the SLAMM water quality model. The only Best Management Practices within the study area is the North Cloverleaf Pond. For reference, the results of the SLAMM water quality analysis are provided in Appendix D.

V. INFILTRATION

NR 151 stormwater regulations contain infiltration performance standards for new development areas. As shown in Figure 5, the watershed is already developed. Redevelopment areas located in the watershed are exempt from the NR 151 infiltration requirements. As such, infiltration does not appear to be required for the watershed. In the future, if a portion of the watershed is determined to be “new development”, the property owner will be responsible for satisfying the NR 151 infiltration requirements for the new development area at the time of development.

VI. PROTECTIVE AREAS

NR 151 stormwater regulations contain protective area performance standards for new development areas. As shown in Figure 5, the watershed is already developed. Redevelopment areas located in the watershed are exempt from the NR 151 protective area requirements. As such, protective areas do not appear to be required for the watershed. In the future, if a portion of the watershed is determined to be “new development”, the property owner will be responsible for satisfying the NR 151 protective area requirements for the new development area at the time of development.

VII. FUELING & VEHICLE MAINTENANCE

The North Cloverleaf Pond does not satisfy NR 151 petroleum sheen requirements for fueling and vehicle maintenance areas located within the pond’s 103 acre watershed. As such, each property owner will need to satisfy petroleum sheen requirements for their site at the time of development, if applicable. The North Cloverleaf Pond project does not involve any fueling or vehicle maintenance areas.

VIII. SUMMARY

In summary, the North Cloverleaf Pond satisfies the storm water management goals for the 103 acre study area. The intent of this Storm Water Management Plan is not to provide erosion and sediment control for construction sites within the watershed.

The Village of Allouez or State of Wisconsin will own the North Cloverleaf Pond property, construct the pond, and will be responsible for its future operation and maintenance.

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Study Area

Other Mapped Features

Municipal Boundary

Right-of-Way or Parcel Lines

Rivers and Streams

Surface Water

Pond Location

Source: Brown County, 2010-2012.

Disclaimer: The property lines, right-of-way lines, and other property information on this drawing were developed or obtained as part of the County Geographic Information System or through the County property tax mapping function. McMahon does not guarantee this information to be correct, current, or complete. The property and right-of-way information are only intended for use as a general reference and are not intended or suitable for site-specific uses. Any use to the contrary of the above stated uses is the responsibility of the user and such use is at the user's own risk.



FIGURE 1
STUDY AREA
NORTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN

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Pre-Development Watershed

Other Mapped Features

Municipal Boundary

Right-of-Way or Parcel Lines

Rivers and Streams

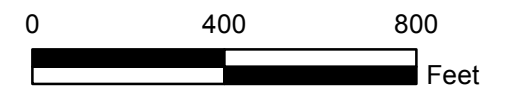
Surface Water

Pre-Development Drainage Area and ID

Outfall and ID

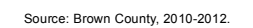
Source: Brown County, 2010-2012.

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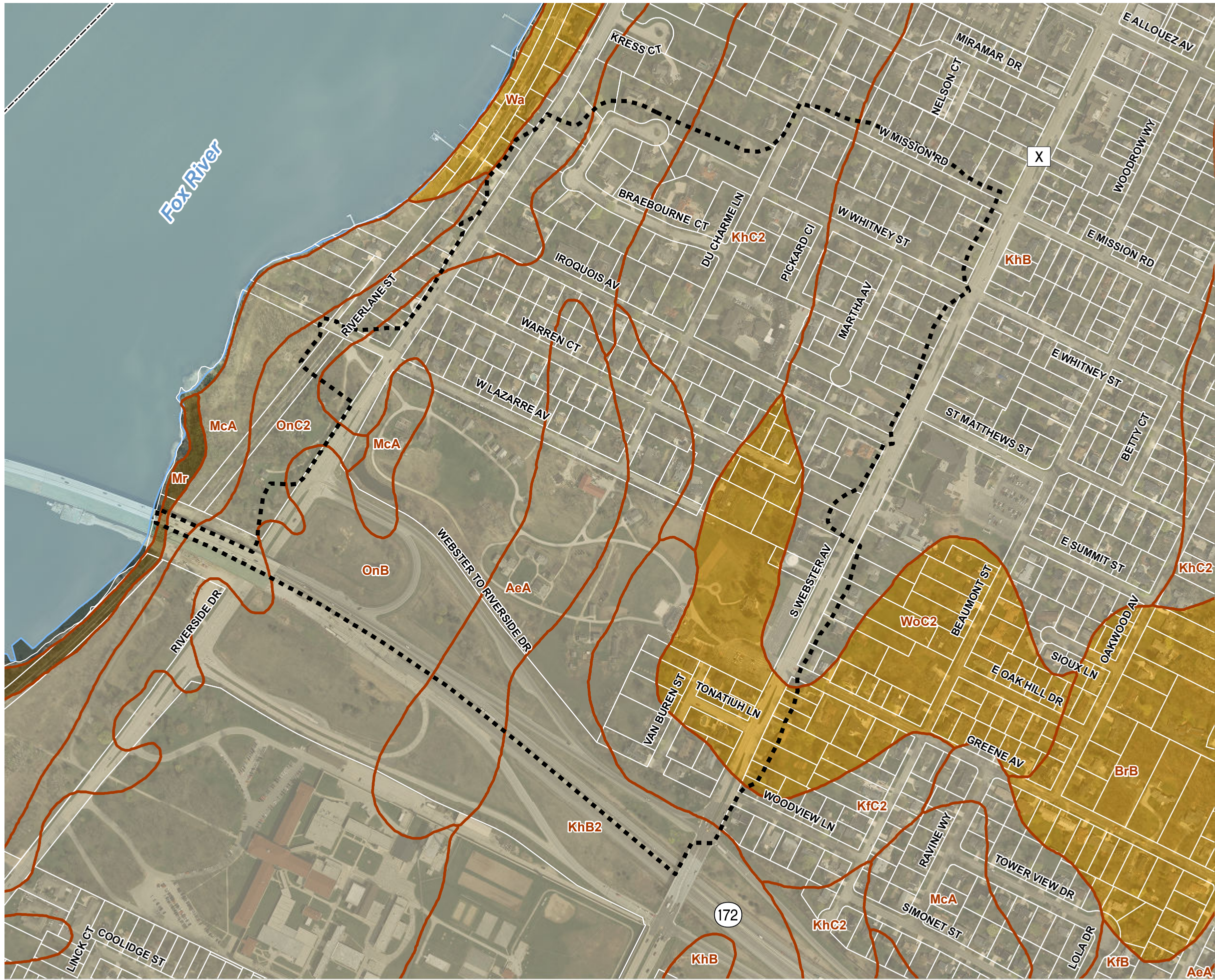
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FIGURE 2
PRE-DEVELOPMENT WATERSHED
NORTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN



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Hydrologic Soil Group (HSG)

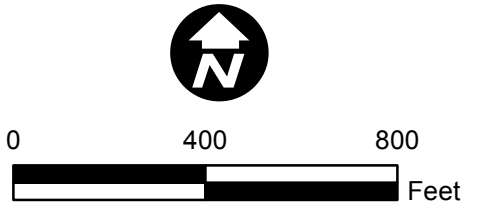
- HSG A
- HSG B
- HSG C
- HSG D (NA)

Other Mapped Features

- North Cloverleaf Pond Watershed Boundary
- Municipal Boundary
- Right-of-Way or Parcel Lines
- Rivers and Streams
- Surface Water
- Soil Type

Source: Brown County, 2010-2012.

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**FIGURE 4
SOILS**

**NORTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN**



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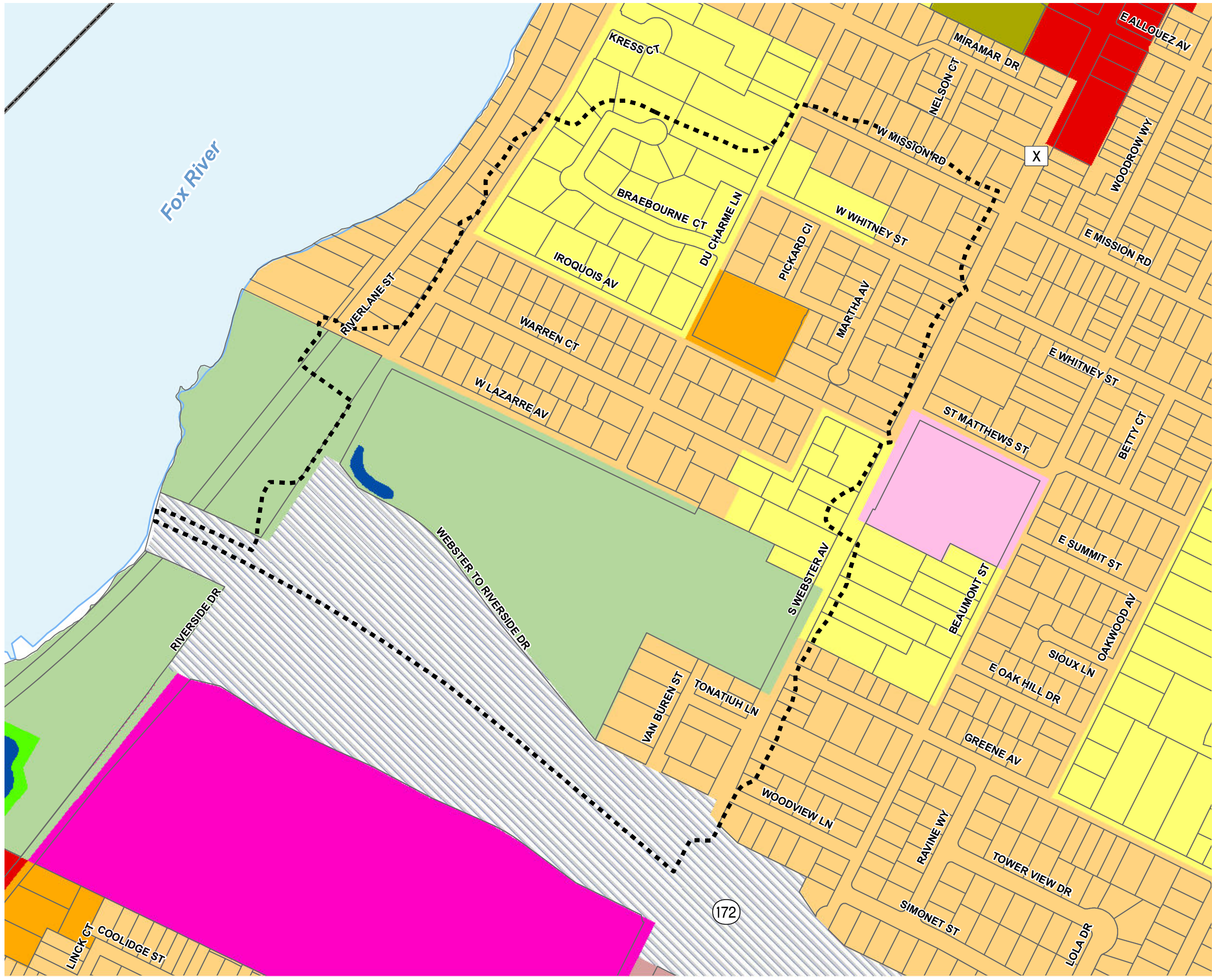
0 400 800

Feet

McMAHON
ENGINEERS ARCHITECTS

FIGURE 5
EXISTING LAND USE
NORTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN

w:\PROJECTS\A00121900458\22 - Taft Pond\GIS\North_Figure6_B.mxd December 28, 2012 kpk



- SLAMM Standard Land Uses**
- Residential**
- LDR - Low Density Single Family Residential (0.5 acre to 1.5 acre lots)
 - MDR - Medium Density Single Family Residential (0.25 acre to 0.5 acre lots)
 - HDR - High Density Single Family Residential (0.125 acre lots or smaller)
 - MFR - Multi-Family Residential (3 or more families, 1-3 story height)
 - HRR - High Rise Residential (1.5 acre to 5 acre lots, > 3 story)
 - SUBR - Suburban Residential (1.5 acre to 5 acre lots)
 - MOBR - Mobile Home or Trailer Park Residential
- Institutional**
- SCHOOL - Public or Private School
 - UNIV - University, College, Technical School, etc.
 - HOSP - Medical Facilities including Nursing Homes, Hospitals, etc.
 - MISC - Miscellaneous Facilities (Churches, Institutional Property)
- Commercial**
- CDNTN - Downtown Commercial and Institutional Areas
 - CSTRIP - Strip Commercial Areas (Courthouses, Police Stations, etc.)
 - SHCNTR - Shopping Centers (parking lot is 2.5 times building area)
 - OFFPRK - Office Parks (non-retail, multi-story, insurance, government)
- Industrial**
- LIGHTI - Light Industrial Areas (storage and distribution of goods for retail or sale)
 - MEDI - Medium Industrial Areas (lumber, junk, or auto salvage yard, ag., co-op, oil tank farm, coal and salt storage, slaughter house)
 - AIRPRT - Airport Facilities
- Open Space**
- CEM - Cemeteries, including grounds, roads, and buildings
 - PARK - Outdoor Recreational Areas (golf course, arboretums, botanical gardens, municipal playgrounds, and natural areas)
 - AGRIC - Agriculture, including limited roads and buildings
 - GRASS - Undeveloped Land that is Vegetated with Grass
 - WOODS - Undeveloped Land that is Vegetated with Woods
 - WETLND - DNR Wetland Inventory Map
 - WATER - Waters of the State and Other Open Waters
 - SW POND - Storm Water Pond
- Freeways**
- FREE - Limited Access Highways and Interchanges, including vegetated ROW
- Other Mapped Features**
- Streams
 - Right-of-Way or Parcel Line
 - Municipal Boundary
 - North Cloverleaf Pond Watershed Boundary

Source: Brown County, 2010-2012.

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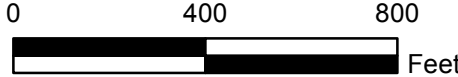


FIGURE 6
FUTURE LAND USE
NORTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN



Study Area

Other Mapped Features

Municipal Boundary

Right-of-Way or Parcel Lines

Rivers and Streams

Surface Water

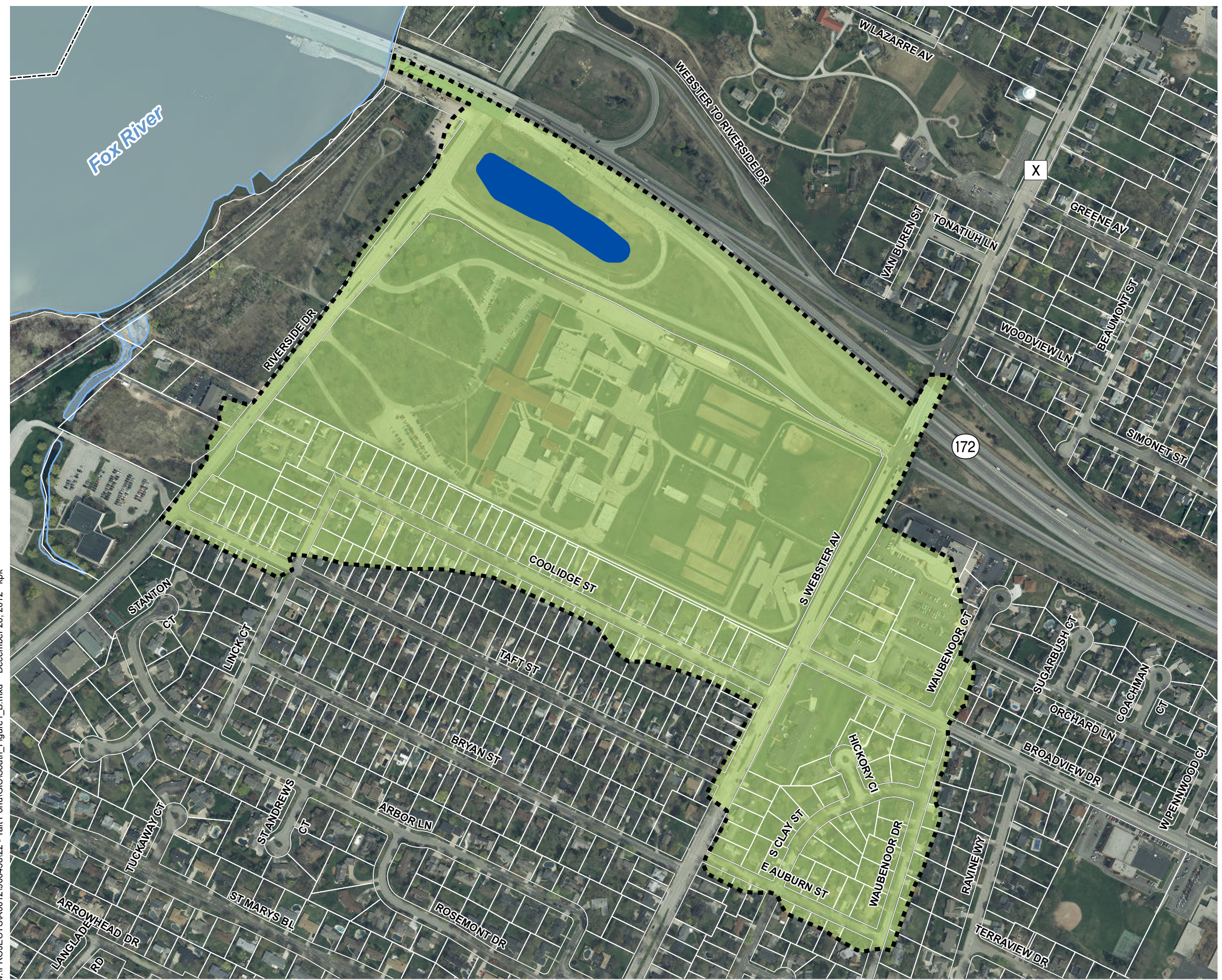
Pond Location

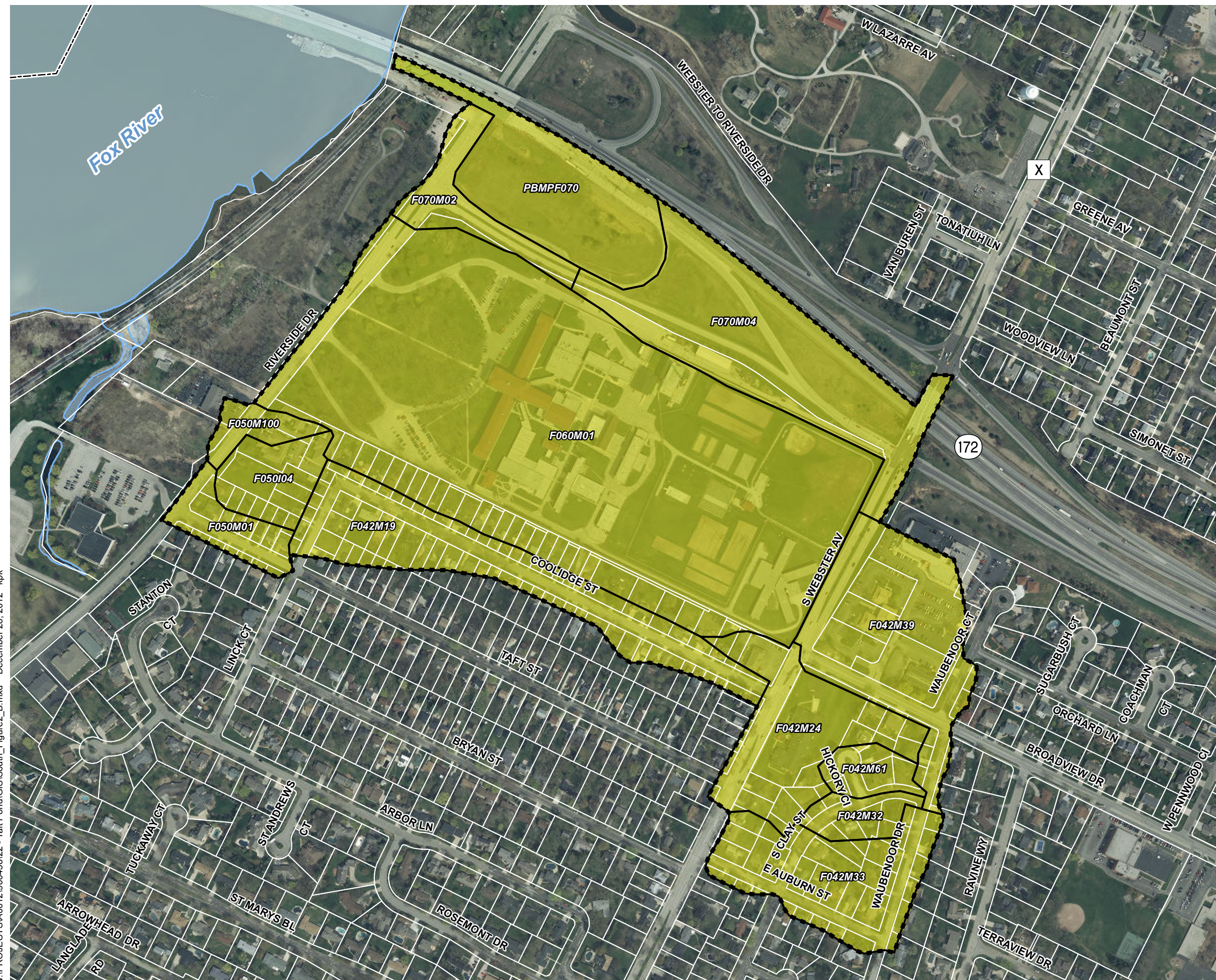
Source: Brown County, 2010-2012.

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FIGURE 1
STUDY AREA
SOUTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN





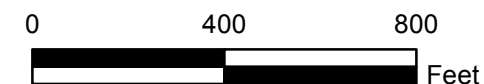
Pre-Development Watershed

Other Mapped Features

- Municipal Boundary
- Right-of-Way or Parcel Lines
- Rivers and Streams
- Surface Water
- Pre-Development Drainage Area and ID
- Outfall and ID

Source: Brown County, 2010-2012.

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FIGURE 2
PRE-DEVELOPMENT WATERSHED
SOUTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN



Post-Development Watershed

Other Mapped Features

Municipal Boundary

Right-of-Way or Parcel Lines

Rivers and Streams

Surface Water

Post-Development Drainage Area and ID

Outfall and ID

Source: Brown County, 2010-2012.

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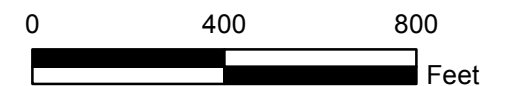
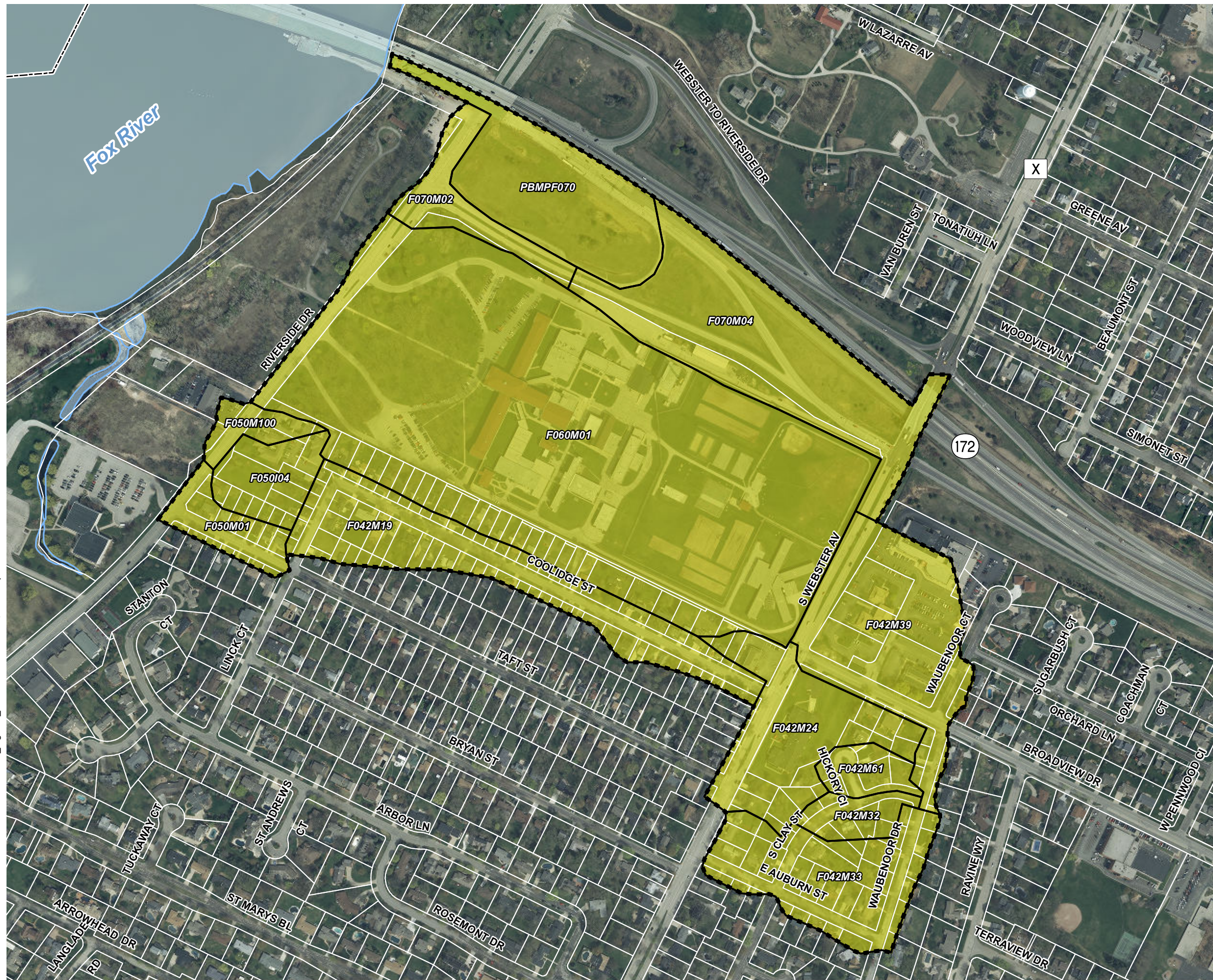
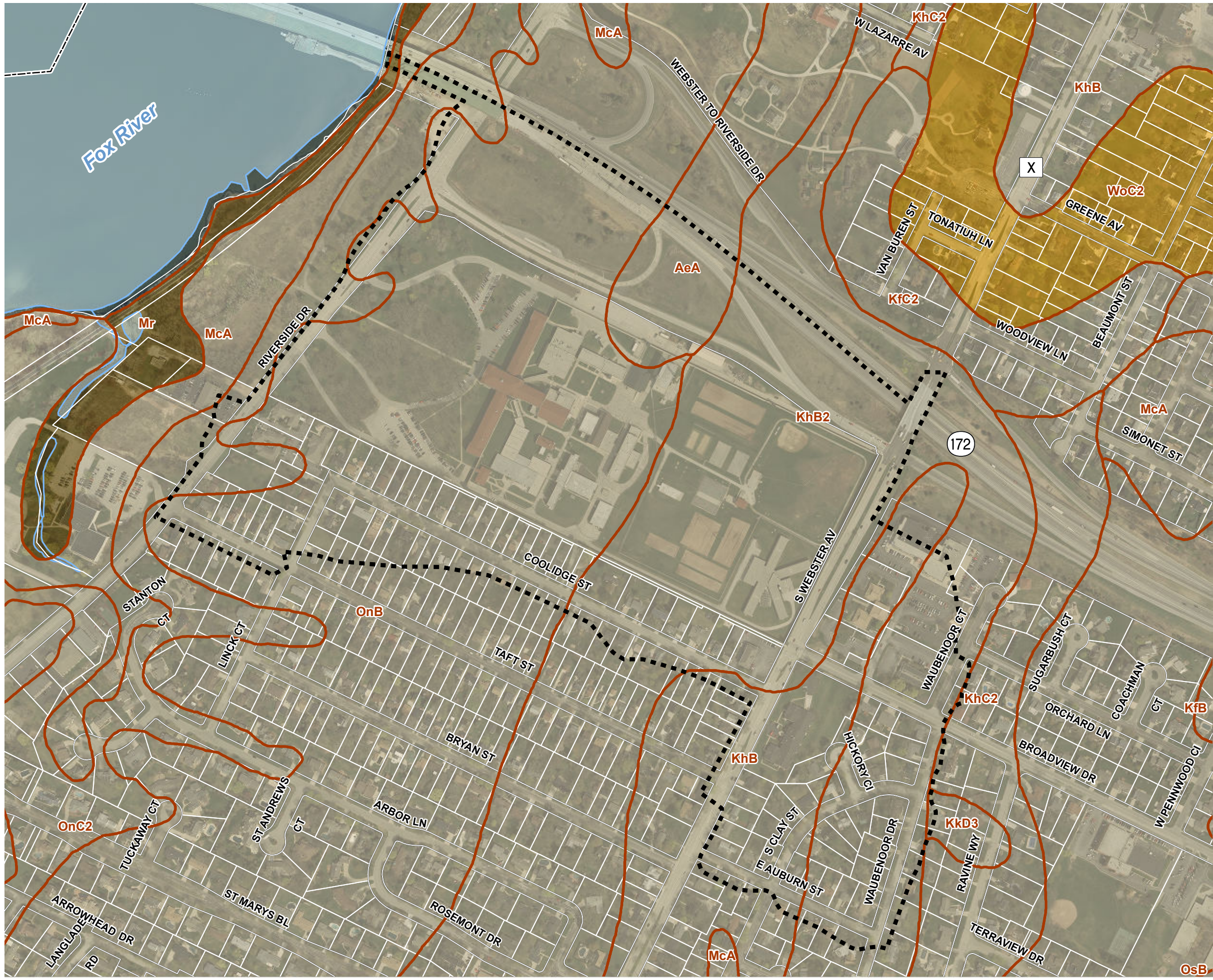


FIGURE 3
POST-DEVELOPMENT WATERSHED
SOUTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN



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Hydrologic Soil Group (HSG)

- HSG A
- HSG B
- HSG C
- HSG D (NA)

Other Mapped Features

- South Cloverleaf Pond Watershed Boundary
- Municipal Boundary
- Right-of-Way or Parcel Lines
- Rivers and Streams
- Surface Water
- Soil Type

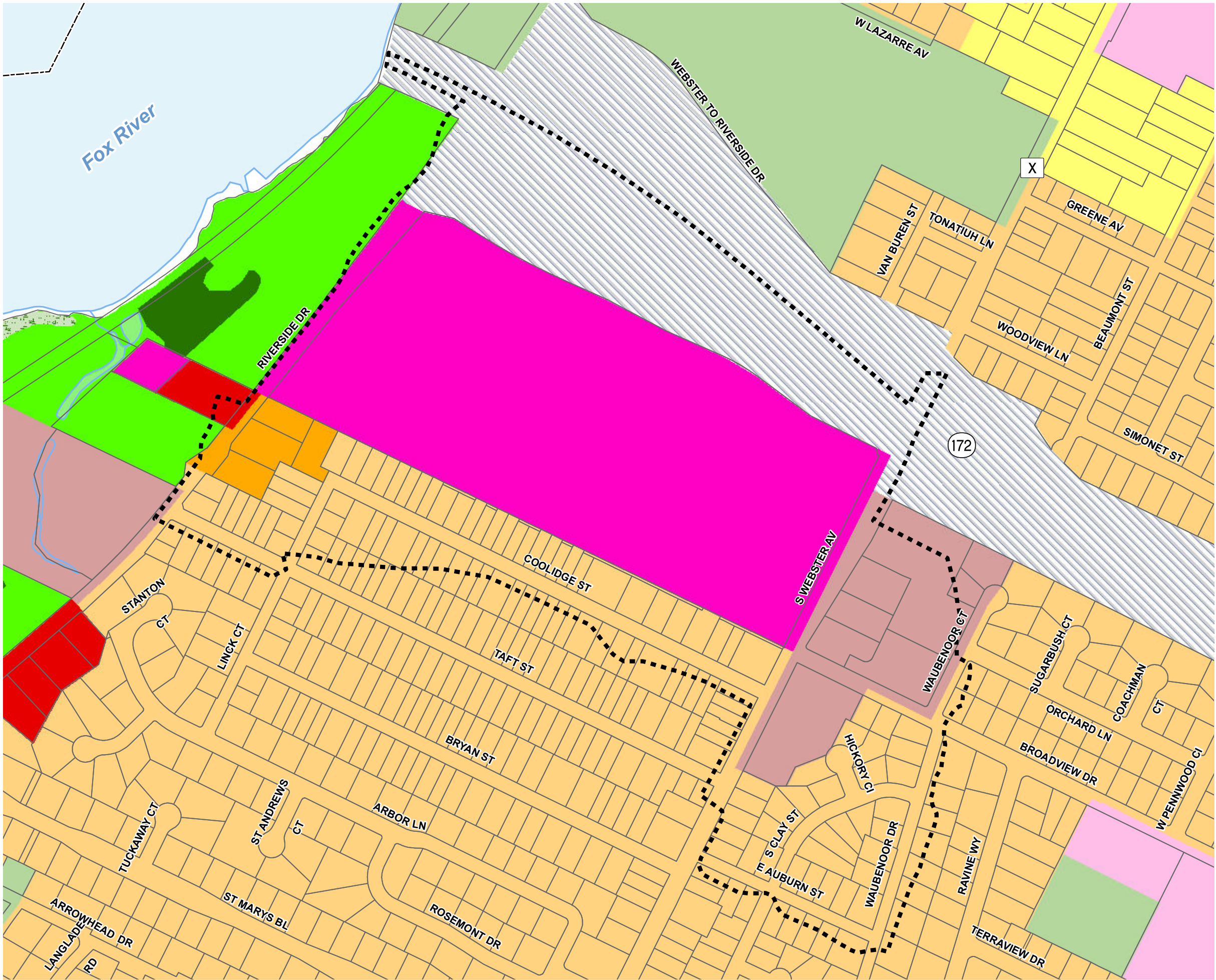
Source: Brown County, 2010-2012.

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**FIGURE 4
SOILS**
SOUTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN

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 - WATER - Waters of the State and Other Open Waters
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- FREE - Limited Access Highways and Interchanges, including vegetated ROW
- Other Mapped Features**
- Streams
 - Right-of-Way or Parcel Line
 - Municipal Boundary
 - South Cloverleaf Pond Watershed Boundary

Source: Brown County, 2010-2012.

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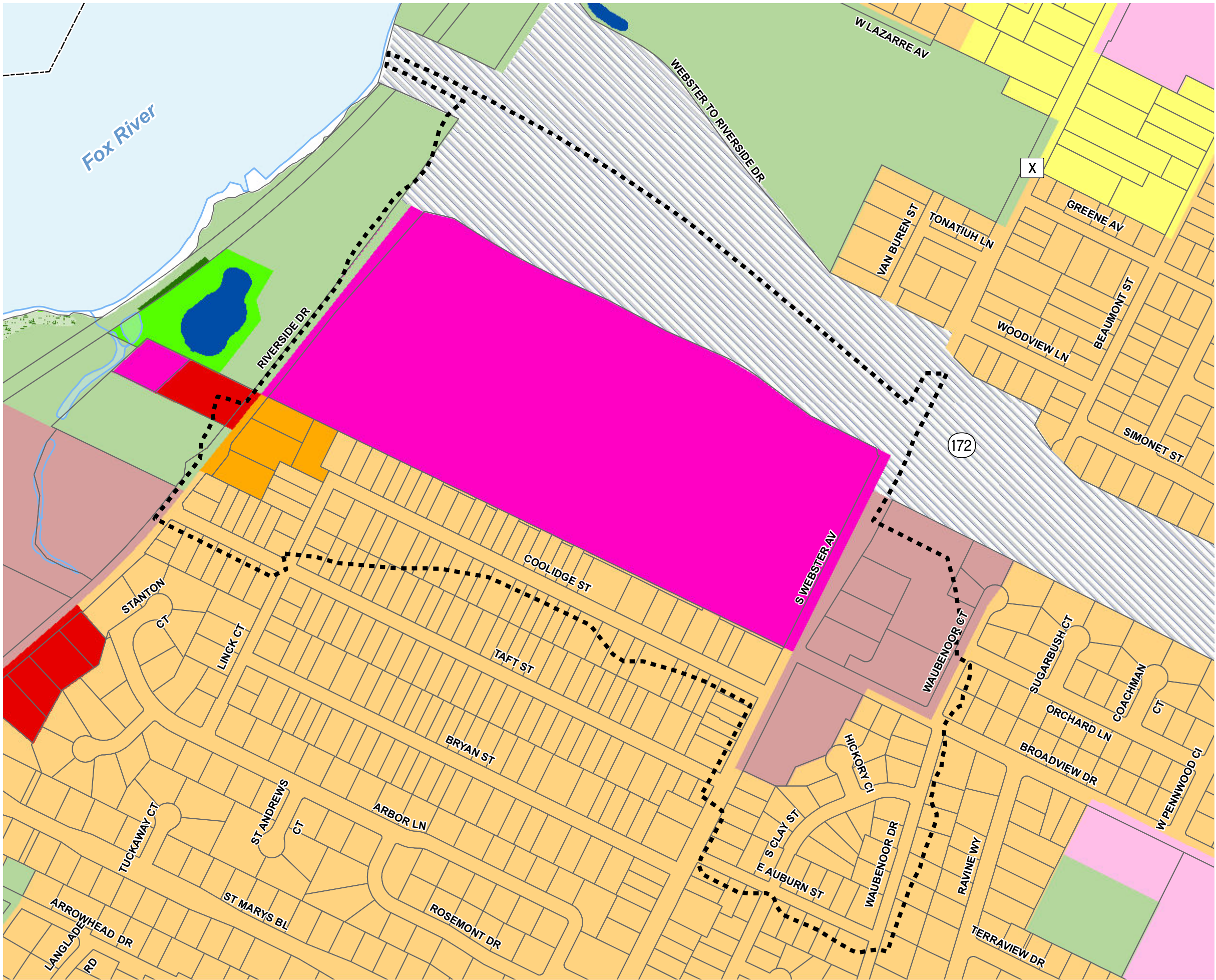


0 400 800 Feet

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FIGURE 5
EXISTING LAND USE
SOUTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN

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FIGURE 6
FUTURE LAND USE
SOUTH CLOVERLEAF POND
STORMWATER MANAGEMENT PLAN
VILLAGE OF ALLOUEZ
BROWN COUNTY, WISCONSIN

APPENDIX A

CONSTRUCTION PLANS

NORTH CLOVERLEAF POND

VILLAGE OF ALLOUEZ

BROWN COUNTY, WISCONSIN



LEGEND

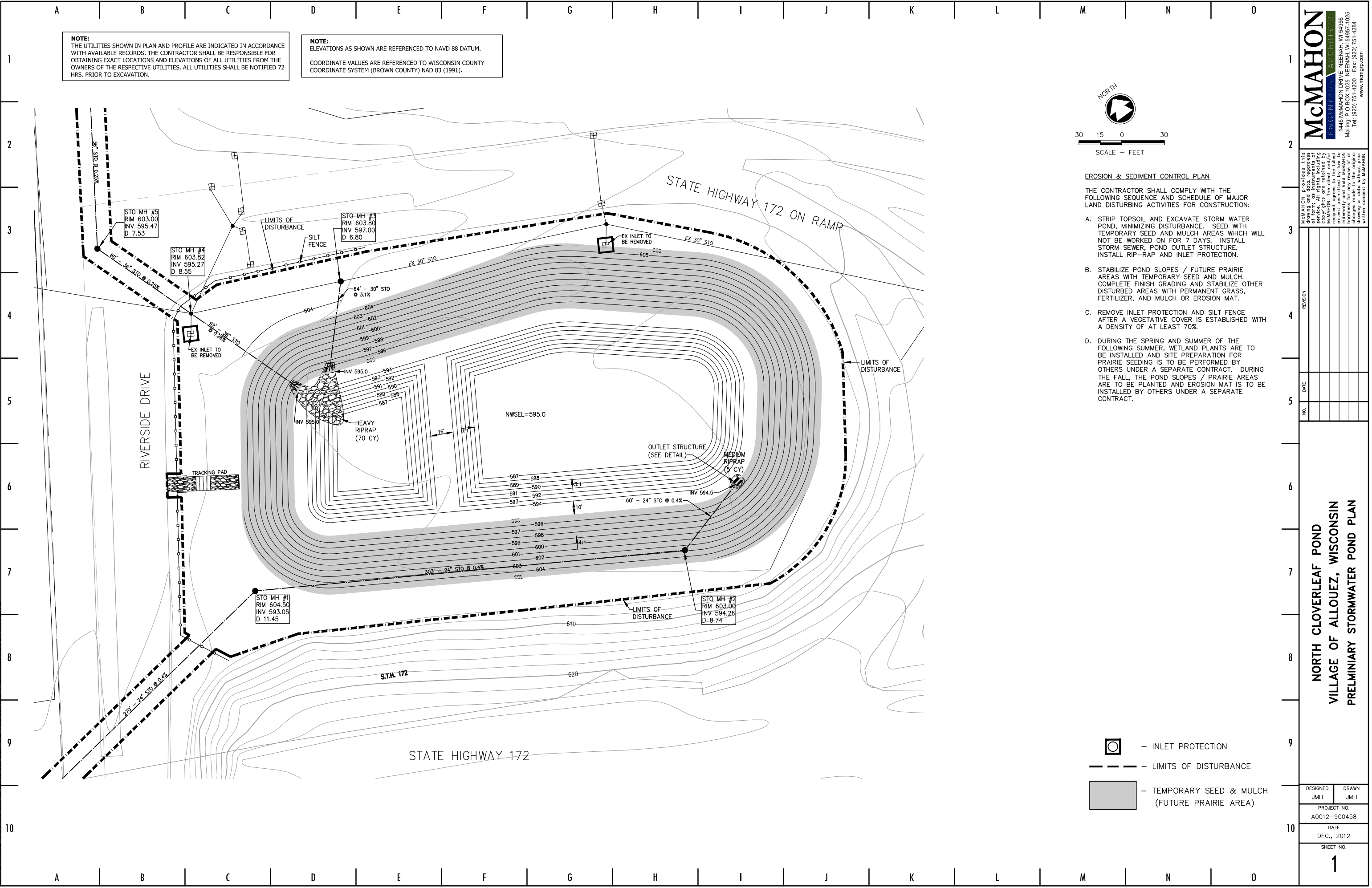
- MANHOLE
- ⊞ INLET
- ⊞ ROUND INLET
- ⊞ HYDRANT
- ⊞ TEE
- ⊞ CROSS
- ⊞ VALVE
- ▶ REDUCER
- ⊞ TELEPHONE PEDESTAL
- ⊞ POWER POLE WITH GUY
- ⊞ LIGHT POLE
- ⊞ ROCK
- ⊞ FENCE LINE
- G— UNDERGROUND GAS LINE
- T— UNDERGROUND TELEPHONE
- E— UNDERGROUND ELECTRIC

SHEET INDEX

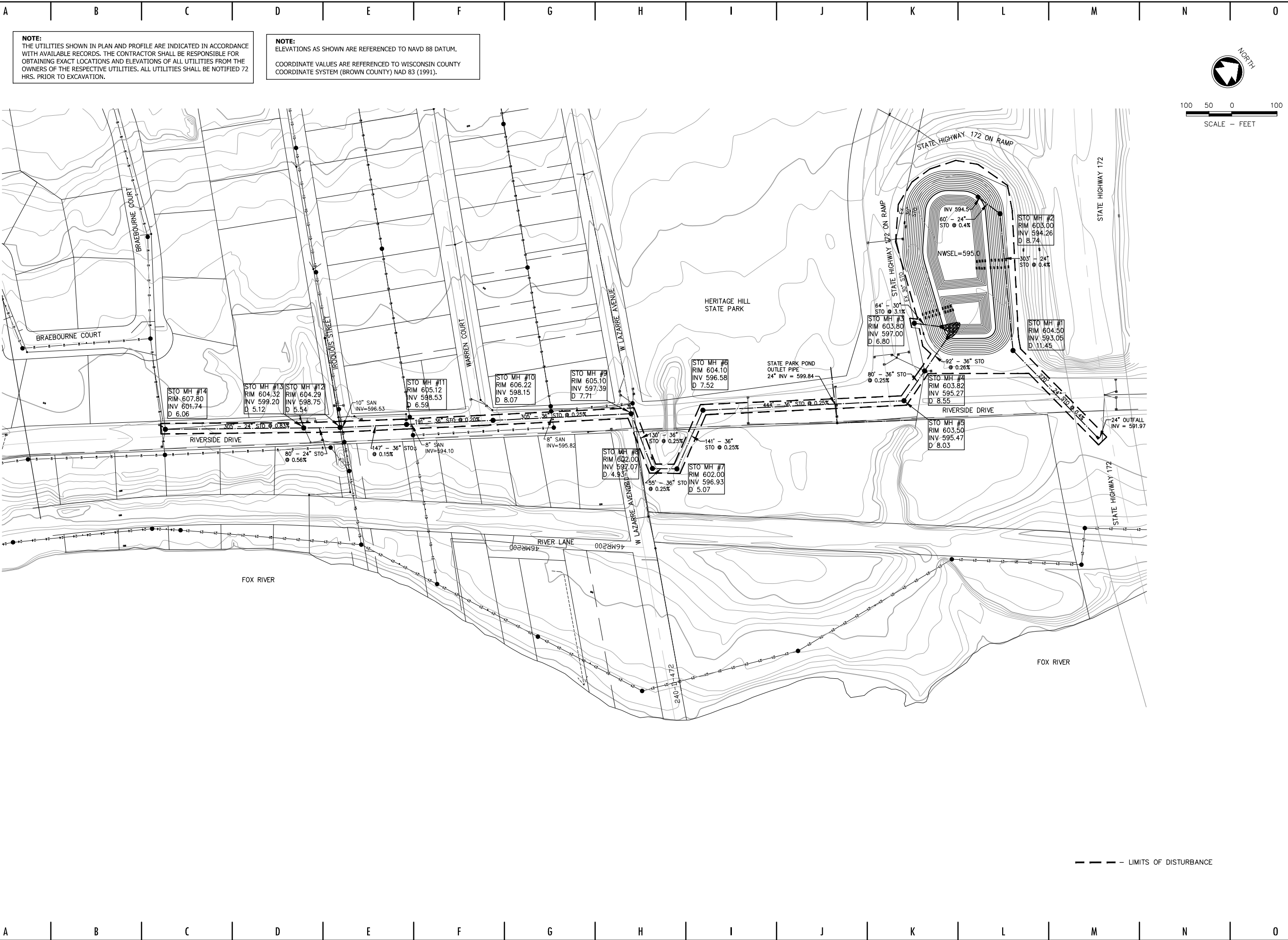
- 1 STORMWATER POND PLAN
- 2 STORM SEWER PLAN
- 3 POND OUTLET STRUCTURE DETAILS
- 4 MISCELLANEOUS DETAILS
- 5 EROSION & SEDIMENT CONTROL DETAILS
- 6 EROSION & SEDIMENT CONTROL DETAILS

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1445 McMAHON DRIVE NEENAH, WI 54956
Mailing: P.O. BOX 1025 NEENAH, WI 54957-1025
Tel: (920) 751-4200 Fax: (920) 751-4284
www.mcmgrp.com

DATE
DECEMBER 2012
PROJECT NO.
A0012-900458.22
FILE NO.
CAD



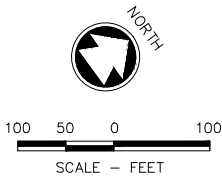
\\proje01\A0012\900458\22 - Tarf Pond\North Cloverleaf Pond\ACAD Plns\02-storm.dwg, model, Plot Date: 1/29/2013 3:17 AM, xrefs: (x-cloverleaf ponds, sto-2009, cont-all, ssn-2004, allouez-parcels, 1-20-2006, y-allouez, z-cloverleaf sub basis for kpk)



NOTE:
THE UTILITIES SHOWN IN PLAN AND PROFILE ARE INDICATED IN ACCORDANCE WITH AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING EXACT LOCATIONS AND ELEVATIONS OF ALL UTILITIES FROM THE OWNERS OF THE RESPECTIVE UTILITIES. ALL UTILITIES SHALL BE NOTIFIED 72 HRS. PRIOR TO EXCAVATION.

NOTE:
ELEVATIONS AS SHOWN ARE REFERENCED TO NAVD 88 DATUM.

COORDINATE VALUES ARE REFERENCED TO WISCONSIN COUNTY COORDINATE SYSTEM (BROWN COUNTY) NAD 83 (1991).



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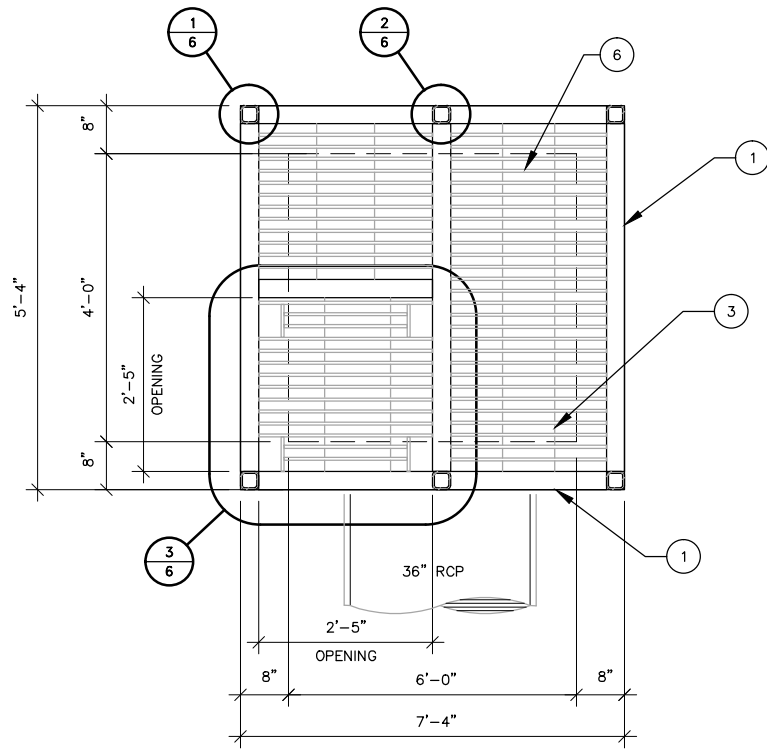
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REVISION	
NO.	DATE

**NORTH CLOVERLEAF POND
VILLAGE OF ALLOUEZ, WISCONSIN
STORM SEWER PLAN**

DESIGNED JMH	DRAWN KRH
PROJECT NO. A0012-900458.22	
DATE DEC., 2012	
SHEET NO. 2	

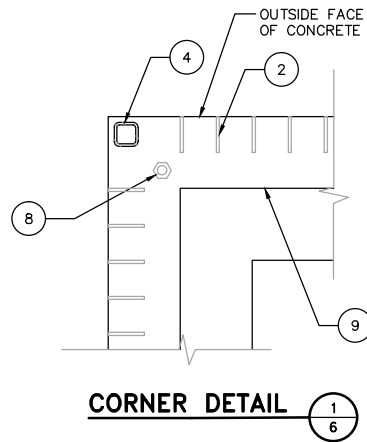
--- LIMITS OF DISTURBANCE



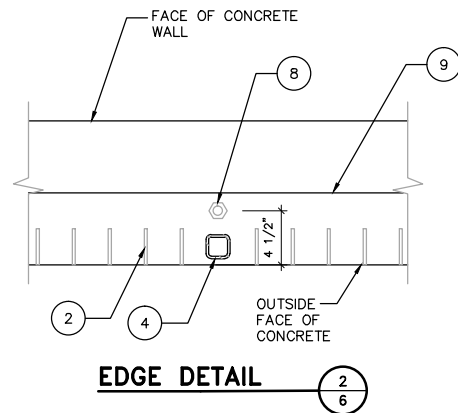
TOP TRASH RACK DETAIL PLAN VIEW

ELEMENT KEY

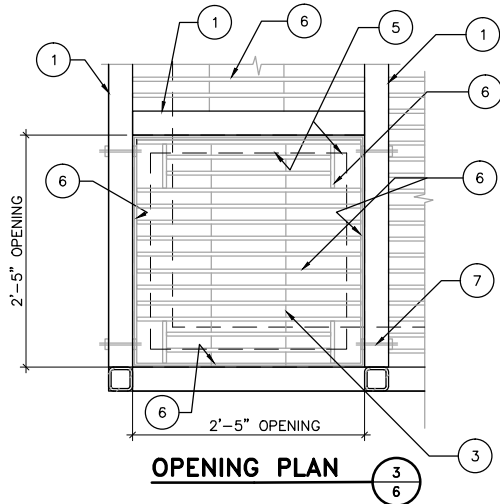
- 1 HSS 3x3x1/4
2 1/4"x3" PLATE @ 3"o.c. MAXIMUM
3 1/2" DIA BAR @ 10"o.c. MAXIMUM
4 HSS2x2x1/4
5 1/4"x2" HORIZONTAL PLATE WELDED TO SIDE OF HSS3x3x1/4
6 1/4"x2" PLATE @ 2"o.c. MAXIMUM
7 3/8" DIA. SST BOLT
8 3/8" DIA. SST ADHESIVE ANCHOR @ 24"o.c. MAXIMUM
9 3/8"x5 1/2"x CONT. PLATE



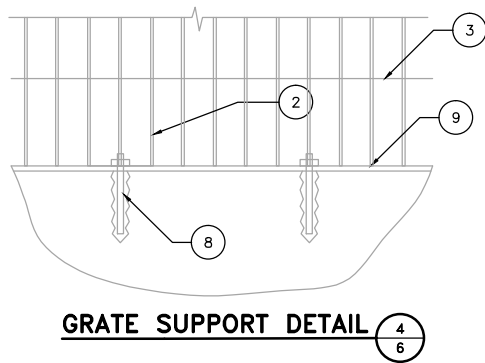
CORNER DETAIL



EDGE DETAIL



OPENING PLAN



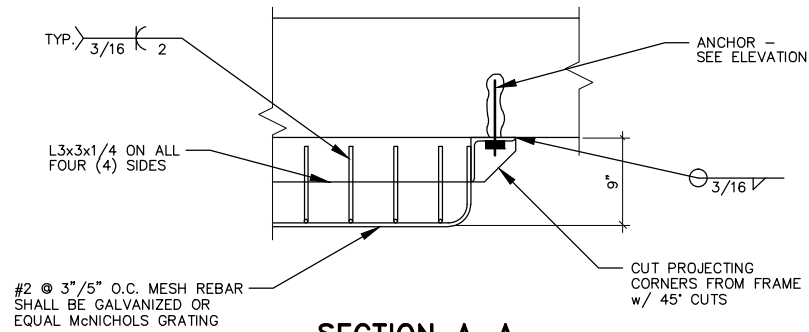
GRATE SUPPORT DETAIL

STRUCTURAL STEEL

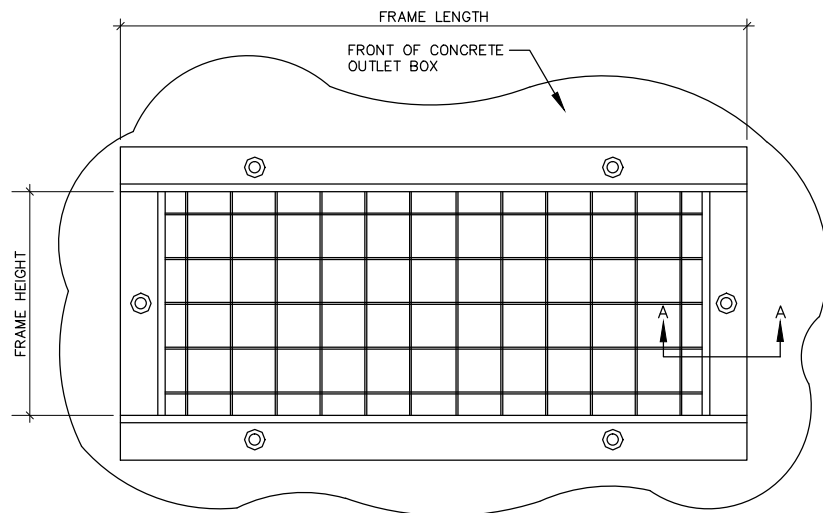
1. STRUCTURAL STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:
BARS & PLATES – ASTM A36 THREADED BOLTS – ASTM A301
ANCHOR BOLTS – ASTM A36 THREADED BOLTS – ASTM A36
WELDS – E70 XX
ALL STEEL SHALL BE GALVANIZED
2. ALL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC "LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS" AND "CODE OF STANDARD PRACTICE FOR BUILDINGS AND BRIDGES", CURRENT EDITION.
3. ALL WELDING SHALL BE PERFORMED BY A CERTIFIED WELDER IN ACCORDANCE WITH A.W.S. CODE FOR WELDING IN BUILDING CONSTRUCTION. SURFACES FOR FIELD WELDED MATERIAL SHALL BE PROPERLY PREPARED PRIOR TO BEING WELDED TO ASSURE A GOOD QUALITY WELD. REMOVE PAINT, GREASE, DIRT, ETC.
4. ALL STEEL MEMBERS SHALL BE WELDED WITH A 3/16" CONTINUOUS FILLET WELD (UNLESS OTHERWISE NOTED)
5. ALL WELDS SHALL BE TOUCHED UP WITH GALVANIZING COMPOUND.

PAIN:

SURFACE	TNEMEC COATING SYSTEM	COVERAGE SQ. FT./GAL	THICKNESS /COAT DMT	COLOR
STEEL	SHOP PRIMER 69-1255	277	4.0	BEIGE
(OUTDOORS)	1 COAT 69 H.B. EPOXY	221	5.0	BLACK
	1 COAT 74 ENDURA-SHELD IV	310	3.0	BLACK



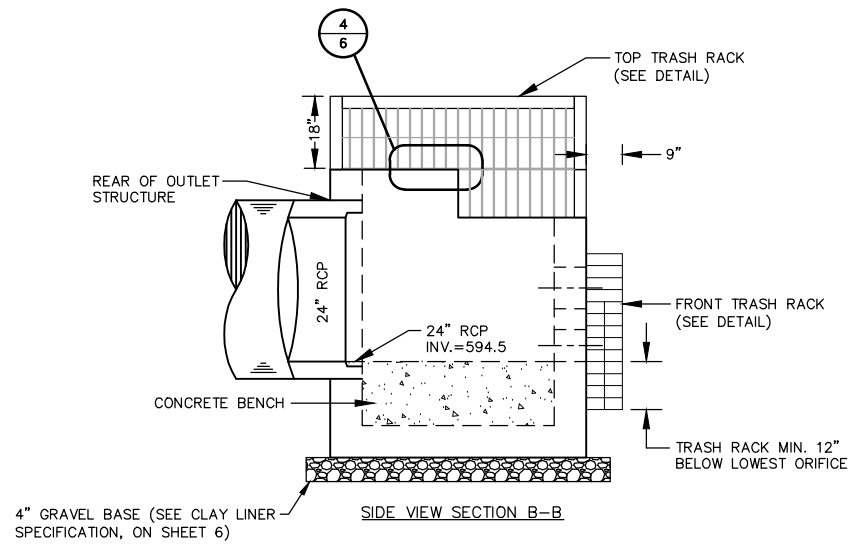
SECTION A-A



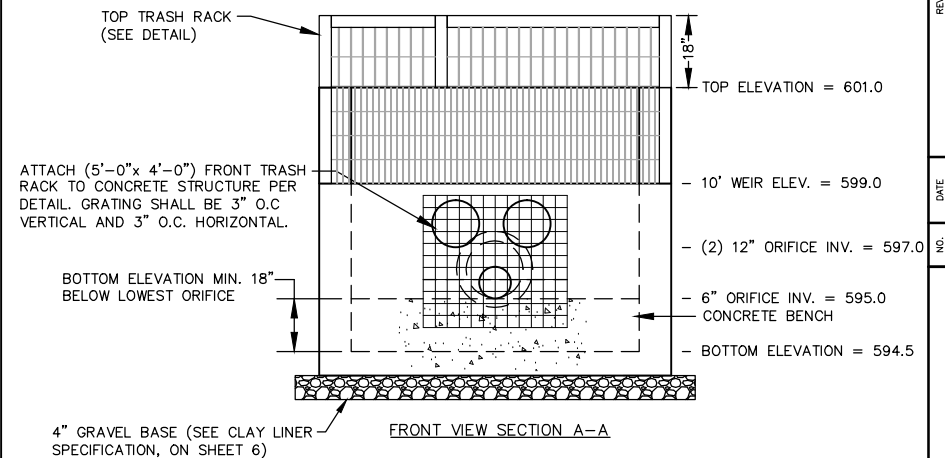
NOTES:

1. WHEN FRAME HEIGHT IS 24 INCHES OR LESS, PROVIDE (1) ANCHOR PER VERTICAL LEG, OTHERWISE PROVIDE TWO OR MORE ANCHORS @ 24" O.C. MAX.
2. WHEN FRAME LENGTH IS 12" OR LESS, PROVIDE (1) ANCHOR PER HORIZONTAL LEG, OTHERWISE PROVIDE TWO OR MORE ANCHORS @ 24" O.C. MAX.
3. PROVIDE 3" EPOXY ANCHOR EMBEDDED 4" MIN. INTO CONCRETE WHERE REQUIRED BY THIS DRAWING OR NOTES.
4. SEE OUTLET STRUCTURE DETAIL FOR TRASH RACK FRAME SIZE.

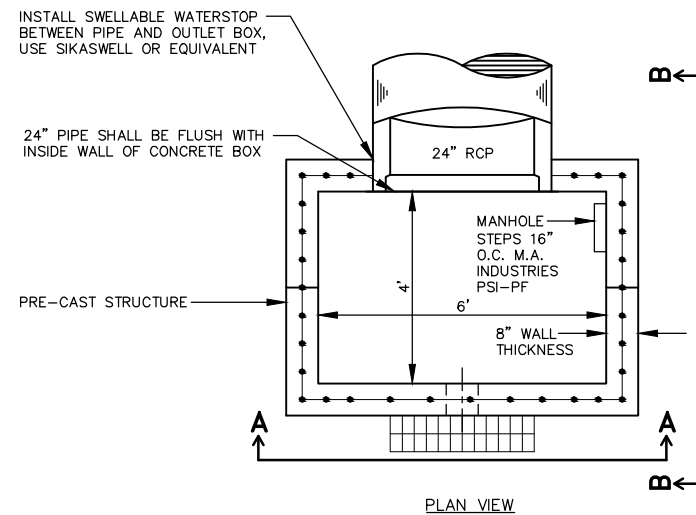
FRONT TRASH RACK DETAIL-ELEVATION VIEW



SIDE VIEW SECTION B-B



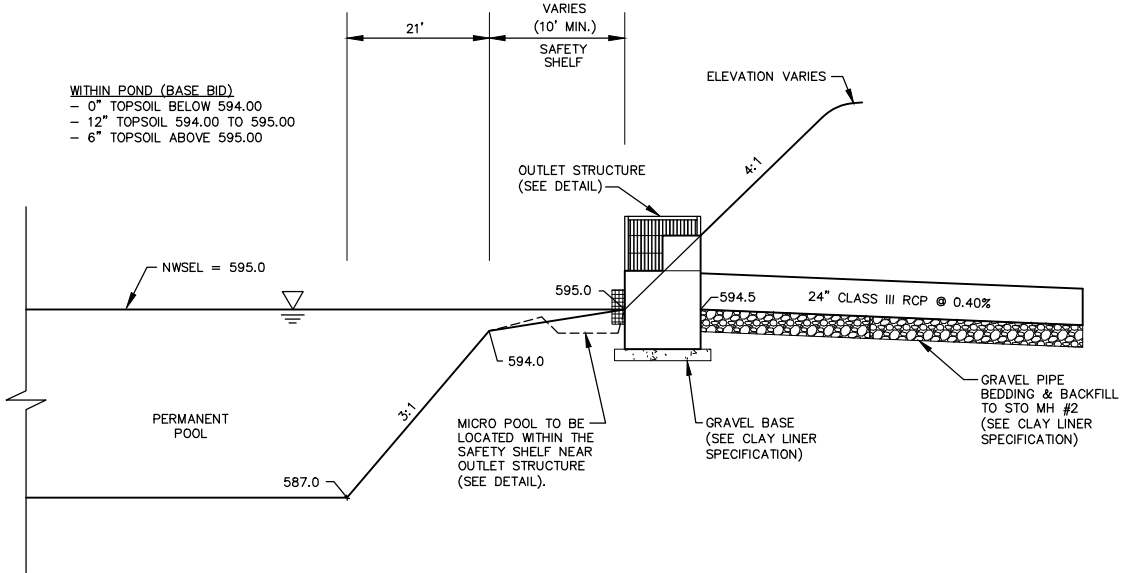
FRONT VIEW SECTION A-A



PLAN VIEW

POND OUTLET STRUCTURE

J:\projects\A0012\900458\22 - 1st Pond\North Cloverleaf Pond\ACAD Plots\04-DET.dwg, model, Plot Date: 1/28/2013 10:33 AM, xref:none



POND CROSS-SECTION

NOTE: ALL ELEVATIONS ARE TO FINISHED GRADE

CLAY LINER SPECIFICATIONS (TYP.)

LINER THICKNESS = 4 FEET
IN PLACE HYDRAULIC CONDUCTIVITY = 1×10^{-7} CM/SEC OR LESS
MINIMUM OF 50% BY WEIGHT WHICH PASSES THE 200 SIEVE
AVERAGE LIQUID LIMIT OF 25 OR GREATER, NONE LESS THAN 20
AVERAGE PLASTICITY INDEX OF 12 OR GREATER, NONE LESS THAN 10

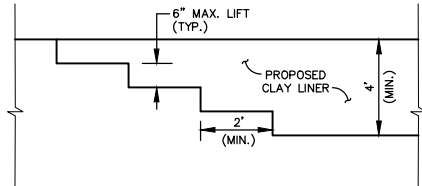
ALL CLAY LAYERS IN THE LINER TO BE CONSTRUCTED IN LIFT HEIGHTS NO GREATER THAN 6 INCHES AFTER COMPACTION USING FOOTED COMPACTION EQUIPMENT HAVING FEET AT LEAST AS LONG AS THE LOOSE LIFT HEIGHT. CLAY IS TO BE DISKED OR OTHERWISE MECHANICALLY PROCESSED BEFORE COMPACTION TO BREAK UP CLODS AND ALLOW FOR MOISTURE ADJUSTMENT. CLOD SIZE TO BE NO GREATER THAN 4 INCHES.

A SUFFICIENT NUMBER OF PASSES OF THE COMPACTION EQUIPMENT IS TO BE MADE OVER EACH LIFT OF CLAY TO ENSURE COMPLETE REMOLDING OF THE CLAY.

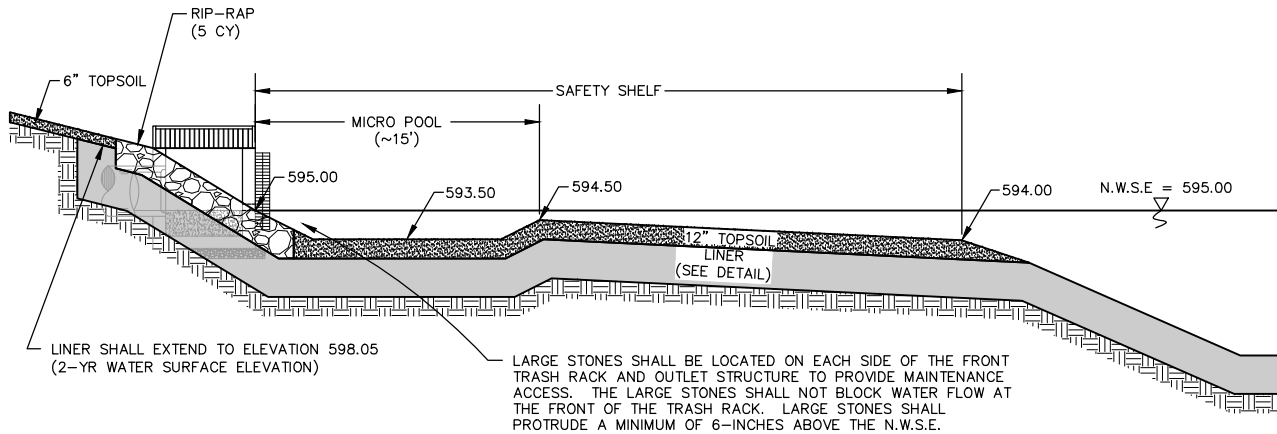
ALL CLAY TO BE COMPACTED TO 90% MODIFIED OR 95% STANDARD PROCTOR DENSITY AT A MOISTURE CONTENT OF AT LEAST 2% WET OF OPTIMUM IF USING THE MODIFIED PROCTOR METHOD AND WET OF OPTIMUM IF USING THE STANDARD PROCTOR METHOD, BASED ON THE CHARACTERISTICS OF THE APPROPRIATE PROCTOR CURVE FOR THE CLAY BEING PLACED. THE CLAY LINER IS TO BE KEYED TOGETHER TO FORM A CONTINUOUS CLAY SEAL, SEE DETAIL.

CLAY LINER SHALL BE PLACED OVER NATIVE SOILS THAT DO NOT SATISFY THE CLAY LINER SPECIFICATIONS. A GEOTECHNICAL ENGINEER SHALL DETERMINE WHICH SOILS DO NOT SATISFY THE CLAY LINER SPECIFICATIONS. THE GEOTECHNICAL ENGINEER SHALL INSPECT SOILS WITHIN THE PERMANENT POOL AND UP TO THE POND'S 2-YEAR, 24-HOUR WATER SURFACE ELEVATION OF 584.00. UPON COMPLETION OF THE LINER, A GEOTECHNICAL ENGINEER REGISTERED IN WISCONSIN SHALL PROVIDE A LETTER OF OPINION INDICATING IF THE CLAY LINER SATISFIES THESE SPECIFICATIONS.

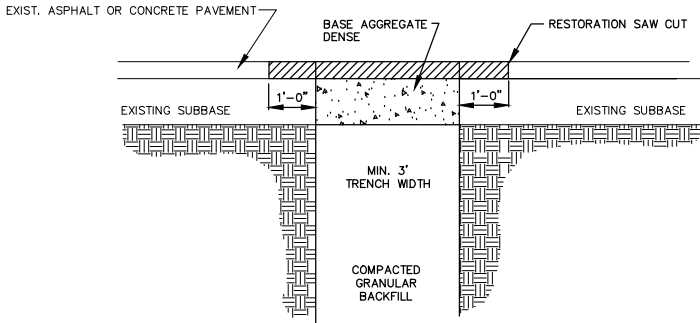
THE CONTRACTOR SHALL INSTALL BENTONITE OR CONCRETE SLURRY (2.0 BAG/C.Y. MIX) BEDDING IN LIEU OF GRAVEL BEDDING & BACKFILL IN AREAS WHERE A CULVERT, STORM SEWER OR OTHER STRUCTURE PASSES THROUGH THE LINER. THE LINER & BENTONITE OR SLURRY SHALL MINIMIZE SEEPAGE ALONG THE OUTSIDE WALL OF THE CULVERT, STORM SEWER OR STRUCTURE. IF BENTONITE IS USED, THE BENTONITE SHALL BE POSITIONED BETWEEN PIPE JOINTS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE BEDDING SUPPORT FOR THE CULVERT, STORM SEWER OR STRUCTURE.



CLAY LINER DETAIL

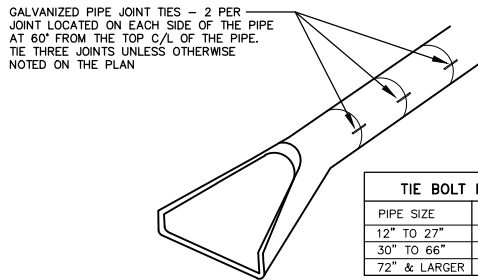


OUTLET MICRO POOL DETAIL



FINAL RESTORATION CONSISTS OF COLD MIX ASPHALT PAVEMENT OR 1 1/4" BASE AGGREGATE DENSE

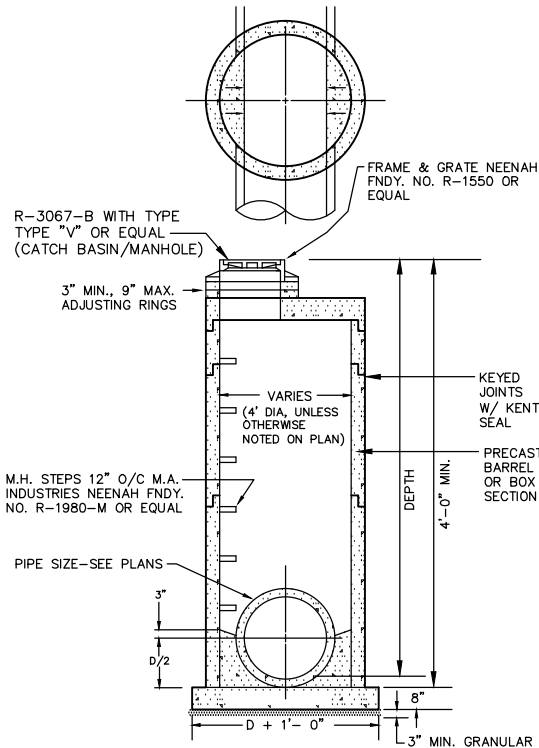
PAVEMENT RESTORATION



CONCRETE APRON DETAIL

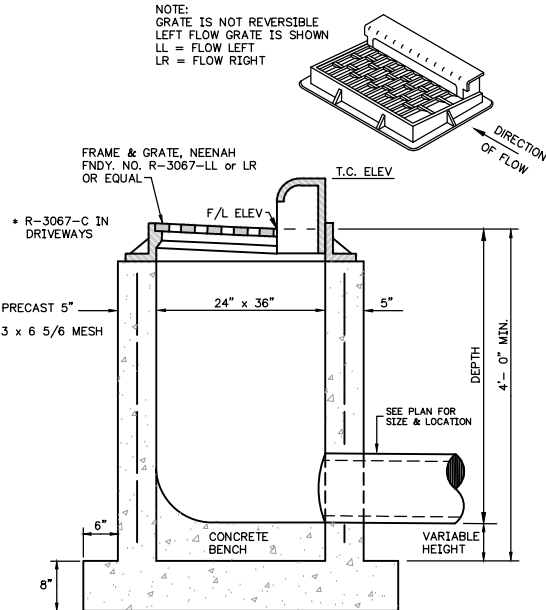
BAR SIZES							
STANDARD DESIGN				HEAVY DESIGN			
PIPE SIZE	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE	PIPE SIZE	HOLE DIA. REQ'D.	BOLT DIA.	BAR SIZE
12"-24"	3/4"	5/8"	5/8"	12"-18"	3/4"	5/8"	3/4"
27"-48"	7/8"	3/4"	3/4"	21"-48"	7/8"	3/4"	1"
54"-90"	1 1/8"	1"	1"	54"-90"	1 1/8"	1"	1 1/4"
22"-29"	3/4"	5/8"	5/8"	22"	3/4"	5/8"	3/4"
36"-59"	7/8"	3/4"	3/4"	29"-59"	7/8"	3/4"	1"
65"-88"	1 1/8"	1"	1"	65"-88"	1 1/8"	1"	1 1/4"
BOLT LG. = PIPE WALL THK. + 2 1/2"							

TRASH GUARD FOR FLARED ENDS



STORM SEWER M.H. DETAIL

NOTE: "FERNCO TYPE" CONNECTIONS WILL ONLY BE ALLOWED UPON PRIOR VILLAGE APPROVAL (ON A CASE BY CASE BASIS)



INLET DETAIL

NOTE: "FERNCO TYPE" CONNECTIONS WILL ONLY BE ALLOWED UPON PRIOR VILLAGE APPROVAL (ON A CASE BY CASE BASIS)

NORTH CLOVERLEAF POND VILLAGE OF ALLOUEZ, WISCONSIN MISCELLANEOUS DETAILS

DESIGNED	DRAWN
JMH	JMH
PROJECT NO. A0012-900458.22	
DATE DECEMBER 2012	
SHEET NO.	

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REVISION

DATE

NO.

EROSION & SEDIMENT CONTROL PLAN

CONTACT INFORMATION:

LANDOWNER: VILLAGE OF ALLOUEZ
1900 LIBAL STREET
GREEN BAY, WI 54301
CRAIG BERNDT, DIRECTOR OF PUBLIC WORKS
PHONE: (920) 448-2800 EXT. 108

DESIGNER: McMAHON
1445 McMAHON DRIVE
P.O. BOX 1025
NEENAH, WI 54957-1025
ANDY SCHMIDT, PROJECT ENGINEER
PHONE: (920) 751-4200
EMAIL: aschmidt@mcmgrp.com

BEST MANAGEMENT PRACTICES:

THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING, INSTALLING, MAINTAINING AND REMOVING BEST MANAGEMENT PRACTICES IN ACCORDANCE WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES (DNR) TECHNICAL STANDARDS. THESE STANDARDS MAY BE FOUND ON THE DNR WEBSITE AT <http://www.dnr.state.wi.us/org/water/wm/nps/stormwater/techstds.htm>. THE MINIMUM BEST MANAGEMENT PRACTICES SPECIFIED FOR THIS PROJECT ARE AS FOLLOWS:

- | | |
|---|-----------------------------------|
| [X] LAND APPLICATION OF POLYACRYLAMIDE (1050) | [X] DE-WATERING (1061) |
| [] WATER APPLICATION OF POLYMERS (1051) | [] DITCH CHECK (1062) |
| [X] NON-CHANNEL EROSION MAT (1052) | [] SEDIMENT TRAP (1063) |
| [] CHANNEL EROSION MAT (1053) | [] SEDIMENT BASIN (1064) |
| [] VEGETATIVE BUFFER (1054) | [X] RIP-RAP (1065) |
| [] SEDIMENT BALE BARRIER (1055) | [] CONSTRUCTION DIVERSION (1066) |
| [X] SILT FENCE (1056) | [] GRADING PRACTICES (1067) |
| [X] TRACKING PAD & TIRE WASHING (1057) | [X] DUST CONTROL (1068) |
| [X] MULCHING (1058) | [] TURBIDITY BARRIER (1069) |
| [X] SEEDING (1059) | [] SILT CURTAIN (1070) |
| [X] STORM DRAIN INLET PROTECTION (1060) | |

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING CONSTRUCTION ACTIVITIES AND IMPLEMENTING BEST MANAGEMENT PRACTICES TO DO THE FOLLOWING TO THE MAXIMUM EXTENT PRACTICABLE:

- A. PRESERVE EXISTING VEGETATION WHERE POSSIBLE. TEMPORARILY STABILIZE EXPOSED SOILS THAT WILL NOT BE ACTIVE FOR 30 DAYS OR MORE. POLYACRYLAMIDE, MULCHING, SEEDING AND GRAVELING MAY BE USED TO TEMPORARILY STABILIZE EXPOSED SOILS.
- B. DIVERT CLEAR WATER AWAY FROM EXPOSED SOILS USING CONSTRUCTION DIVERSIONS.
- C. MANAGE SHEET FLOW THAT IS NOT CONTROLLED WITH A SEDIMENT TRAPPING DEVICE. SILT FENCE IS USED TO MANAGE SHEET FLOW. GRADING PRACTICES MAY BE USED TO SUPPLEMENT THE SILT FENCE.
- D. MANAGE CONCENTRATED FLOW WITH SEDIMENT TRAPPING DEVICES SUCH AS STORM DRAIN INLET PROTECTION, DITCH CHECKS, SEDIMENT TRAPS AND SEDIMENT BASINS. POLYMERS MAY BE USED TO ENHANCE SEDIMENT TRAPPING.
- E. MINIMIZE THE AMOUNT OF SOIL EXPOSED AT ANY ONE TIME.
- F. PROTECT INLETS FROM RECEIVING SEDIMENT WITH STORM DRAIN INLET PROTECTION.
- G. PREVENT TRACKING OF SEDIMENT ONTO ROADS AND PAVED SURFACES USING TRACKING PADS AND/OR TIRE WASHING. MINIMIZE TRACKING AT ALL SITE EXITS AND ENTRANCES.
- H. CLEANUP OFFSITE SEDIMENT DEPOSITS AT THE END OF EACH WORK DAY & BEFORE A RAIN.
- I. MANAGE THE USE, STORAGE AND DISPOSAL OF CHEMICALS, CEMENT, AND OTHER COMPOUNDS AND MATERIALS TO PREVENT THEIR DISCHARGE INTO THE DRAINAGE SYSTEM.
- J. STABILIZE DRAINAGE WAYS AND EROSIIVE DISCHARGE LOCATIONS WITH CHANNEL EROSION MAT, MULCHING, SEEDING, DITCH CHECKS & RIP-RAP AS SOON AS POSSIBLE.
- K. PERMANENTLY STABILIZE EXPOSED SOILS WITH NON-CHANNEL EROSION MAT, MULCHING AND SEEDING AS SOON AS POSSIBLE.
- L. CONTROL AND MINIMIZE DUST FROM VEHICULAR TRAFFIC AND WIND EROSION. PRESERVING VEGETATION, MULCHING, SEEDING, WATERING, GRADING PRACTICES, POLYACRYLAMIDE, SOIL STABILIZERS, CHLORIDES, & BARRIERS MAY BE USED FOR DUST CONTROL.
- M. PREVENT THE DISCHARGE OF SEDIMENT AS PART OF DE-WATERING. GEOTEXTILE BAGS, SEDIMENT TANKS, SEDIMENT TRAPS, SEDIMENT BASINS, AND FILTRATION SYSTEMS MAY BE USED FOR DE-WATERING. POLYMERS MAY BE USED TO ENHANCE SEDIMENT TRAPPING.

THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING OR REPLACING BEST MANAGEMENT PRACTICES DESTROYED AS A RESULT OF CONSTRUCTION ACTIVITIES BY THE END OF THE WORK DAY. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING BEST MANAGEMENT PRACTICES TEMPORARILY REMOVED FOR CONSTRUCTION ACTIVITY AS SOON AS THOSE ACTIVITIES ARE COMPLETED. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND DISPOSING OF TEMPORARY BEST MANAGEMENT PRACTICES AFTER CONSTRUCTION IS COMPLETE AND PERMANENT VEGETATION IS ESTABLISHED.

PROJECT DESCRIPTION:

THE NORTH CLOVERLEAF POND IS LOCATED ON THE NORTH SIDE OF STATE HIGHWAY 172 BETWEEN STATE HIGHWAY 172 AND THE WESTBOUND ON RAMP TO THE HIGHWAY, IN THE VILLAGE OF ALLOUEZ, BROWN COUNTY, WISCONSIN (SW ¼ OF THE SE ¼ OF SEC. 11, T23N, R21E). THE TOTAL AREA OF THE POND SITE IS 2.7 ACRES. THE ENTIRE SITE (2.7 ACRES) IS ESTIMATED TO BE DISTURBED DURING CONSTRUCTION.

THE PROJECT IS EXPECTED TO BE A PART OF THE RIVERSIDE DRIVE (STATE HIGHWAY 57) RECONSTRUCTION PROJECT. THE POND PORTION OF THE PROJECT CONSISTS OF CONSTRUCTION OF A WET DETENTION POND, STORM SEWER AND RESTORATION ON RIVERSIDE DRIVE. THE PROJECT ALSO INCLUDES THE CONSTRUCTION OF A NEW STORM SEWER OUTFALL AT THE LOCATION OF AN EXISTING OUTFALL UNDER THE HIGHWAY 172 OVERPASS ON THE WEST SIDE OF RIVERSIDE DRIVE. THE NORTH CLOVERLEAF POND WILL REDUCE FLOODING, IMPROVE STORM WATER QUALITY AND ASSIST WITH NR 151 COMPLIANCE.

RUNOFF FROM THE SITE AND THE 103 ACRE POND WATERSHED IS DRAINED VIA A 36" STORM SEWER ON RIVERSIDE DRIVE AND A 30" STORM SEWER FROM THE WESTBOUND ON RAMP TO HIGHWAY 172 OFF OF RIVERSIDE DRIVE. THE NEW OUTFALL WILL DISCHARGE INTO THE FOX RIVER, A 303(d) LISTED WATERBODY WITH A TMDL FOR TOTAL PHOSPHORUS.

SOIL INFORMATION WAS OBTAINED FROM NRCS WEB SOIL SURVEY FOR BROWN COUNTY. SOILS INCLUDE ALLENDALE (AeA), KEWAUNEE SOILS (KhB, KhC2), OSHKOSH SILT LOAM (OnB) AND WAYMORE (WoC2). SOILS HAVE BEDROCK AT >60 INCHES, GROUNDWATER AT 0-1.5', >5', >5', >5' AND >5' RESPECTIVELY. ALL ARE HYDROLOGIC SOIL GROUP 'C' (HSG C) EXCEPT FOR WAYMORE SOILS WHICH ARE GROUP 'B'.

TEMPORARY STABILIZATION	APPLICATION RATE	CRITERIA
POLYACRYLAMIDE	*	*TECHNICAL STANDARD 1050.
MULCHING (straw or hay only)		
SEEDED AREA	1½ TO 2-TON/ACRE	USE CRIMPING, NETTING, OR TACKIFIER TO ANCHOR. CONSIDER EROSION MAT.
UNSEEDED	2 TO 3 TON/ACRE	
SEEDING (select one species)		
OATS	131 LBS/ACRE	98% PURITY. SPRING/SUMMER SEEDING
WINTER WHEAT	131 LBS/ACRE	95% PURITY. FALL SEEDING
ANNUAL RYE	80 LBS/ACRE	97% PURITY. FALL SEEDING

GENERAL GRASS:

THE SELECTION OF THE SEED MIXTURES OR MIXTURES FOR USE OF THE PROJECT SHALL BE IN ACCORDANCE WITH THE FOLLOWING PERMANENT SEED MIXTURES:

- SEED MIXTURE #1 SHALL BE USED ON PROJECTS WHERE AVERAGE LOAM, HEAVY CLAY OR MOIST SOILS PREDOMINATE.
- SEED MIXTURE #2 SHALL BE USED ON PROJECTS WHERE LIGHT, DRY, SANDY OR GRAVEL SOILS PREDOMINATE.
- SEED MIXTURE #1 OR #2 SHALL BE USED ON ALL DITCHES, IN-SLOPES, MEDIAN AREAS AND LOW FILLS.
- SEED MIXTURE #3 SHALL BE USED ONLY ON RURAL AREAS AND SHALL BE USED FOR ALL HIGH CUT AND FILL SLOPES, GENERALLY EXCEEDING 6 TO 8 FEET.
- SEED MIXTURE #4 SHALL BE USED IN URBAN OR OTHER AREAS WHERE A LAWN TYPE TURF IS DESIRED.
- SEED MIXTURE #2 OR #3 IS SUITABLE ON VERY STEEP SLOPES WHERE STERILE SOIL AND EROSION CONDITIONS EXIST WHEN USED IN CONJUNCTION WITH EROSION CONTROL MAT IF SPECIFIED BY THE ENGINEER.

INSPECTION & MAINTENANCE:

THE CONTRACTOR IS RESPONSIBLE FOR INSPECTING BEST MANAGEMENT PRACTICES WEEKLY, AND WITHIN 24 HOURS FOLLOWING A RAINFALL OF 0.5 INCHES OR GREATER. WRITTEN DOCUMENTATION OF EACH INSPECTION SHALL BE KEPT AT THE CONSTRUCTION SITE AND SHALL INCLUDE THE FOLLOWING INFORMATION: DATE, TIME, AND LOCATION OF INSPECTION; NAME OF INDIVIDUAL WHO PERFORMED THE INSPECTION; AN ASSESSMENT OF THE CONDITION OF BEST MANAGEMENT PRACTICES; A DESCRIPTION OF ANY BEST MANAGEMENT PRACTICE IMPLEMENTATION AND MAINTANANCE PERFORMED; AND A DESCRIPTION OF THE PRESENT PHASE OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING, REPAIRING, OR REPLACING BEST MANAGEMENT PRACTICES AS NECESSARY WITHIN 24 HOURS OF AN INSPECTION OR NOTIFICATION. THE CONTRACTOR IS RESPONSIBLE FOR INSPECTING, MAINTAINING, REPAIRING, OR REPLACING BEST MANAGEMENT PRACTICES UNTIL ALL LAND DISTURBING CONSTRUCTION ACTIVITY IS COMPLETED AND A UNIFORM PERENNIAL VEGETATIVE COVER IS ESTABLISHED WITH A DENSITY OF AT LEAST 70%.

THE CONTRACTOR IS RESPONSIBLE FOR POSTING THE PERMIT IN A CONSPICUOUS LOCATION ON THE CONSTRUCTION SITE. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING A COPY OF THE APPROVED REPORTS, PLANS, AMENDMENTS, INSPECTION REPORTS, AND PERMITS AT THE CONSTRUCTION SITE AT ALL TIMES UNTIL ALL LAND DISTURBING CONSTRUCTION ACTIVITY IS COMPLETED AND A UNIFORM PERENNIAL VEGETATIVE COVER IS ESTABLISHED WITH A DENSITY OF AT LEAST 70%. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE OWNER/APPLICANT WHEN THE VEGETATIVE DENSITY REACHES AT LEAST 70%. THE OWNER/APPLICANT IS RESPONSIBLE FOR TERMINATING DNR PERMIT COVERAGE.

AMENDMENTS:

THE CONTRACTOR IS RESPONSIBLE FOR AMENDING THE EROSION & SEDIMENT CONTROL PLAN IF: THERE IS A CHANGE IN CONSTRUCTION, OPERATION OR MAINTENANCE AT THE SITE WHICH HAS THE REASONABLE POTENTIAL FOR THE DISCHARGE OF POLLUTANTS; THE ACTIONS REQUIRED BY THE PLAN FAIL TO REDUCE THE IMPACTS OF POLLUTANTS CARRIED BY CONSTRUCTION SITE RUNOFF; OR IF THE DNR NOTIFIES THE OWNER/APPLICANT OF CHANGES NEEDED IN THE PLAN. THE DNR AND OWNER/APPLICANT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO MAKING CHANGES TO THE PLAN.



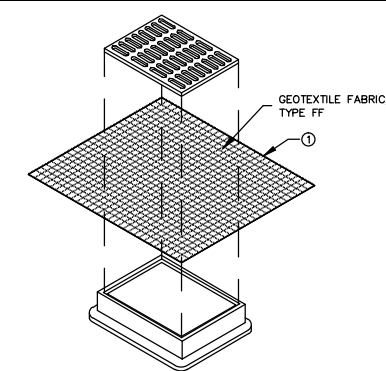
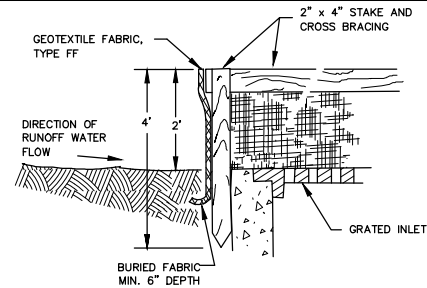
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NO.	DATE	REVISION

NORTH CLOVERLEAF POND
VILLAGE OF ALLOUEZ, WISCONSIN
EROSION & SEDIMENT CONTROL DETAILS

DESIGNED JMH	DRAWN JMH
PROJECT NO. A0012-900458.22	
DATE DECEMBER 2012	
SHEET NO.	

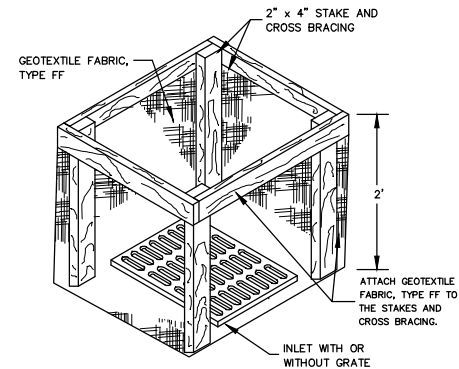
J:\projects\A0012\900458\22 - Tat Pond\North Cloverleaf Pond\ACAD\Plans\06-EC DET.dwg, model: Plot Date: 1/28/2013 10:32 AM, xrefs:none



INLET PROTECTION, TYPE B

(WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE A

GENERAL NOTES

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

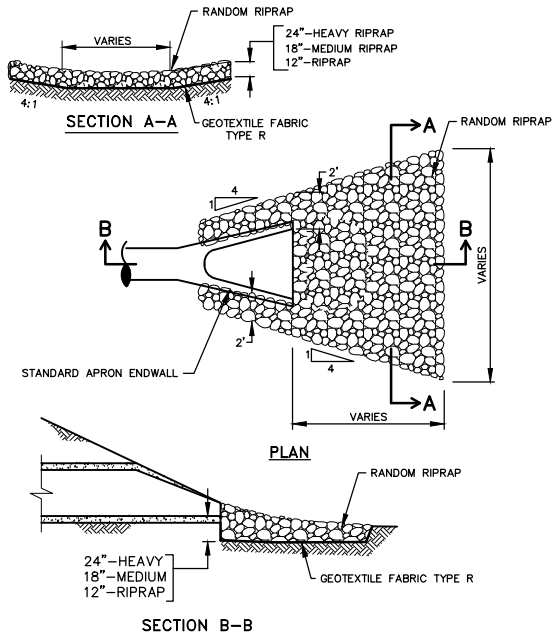
① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

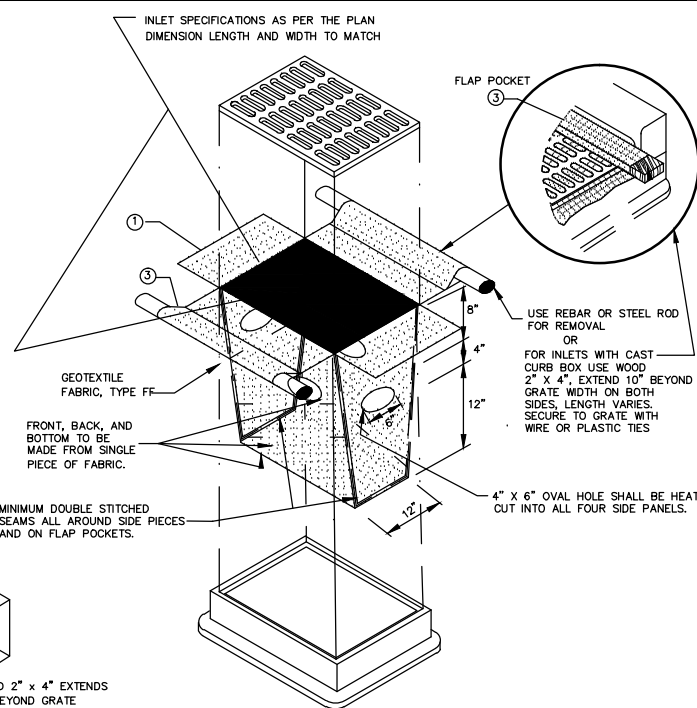
③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

RIP-RAP

- RIP-RAP SHALL BE IN ACCORDANCE WITH SECTION 606, WIS-DOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, 1996 EDITION.
- RIP-RAP SHALL BE ANGULAR. ROUND RIP-RAP IS NOT PERMITTED.



RIPRAP AT STORM SEWER OUTFALL



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 10-2.

INSTALLATION NOTES

TYPE B & C

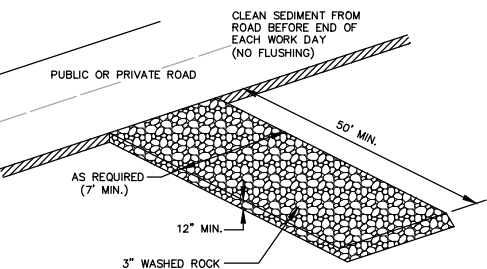
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE. THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

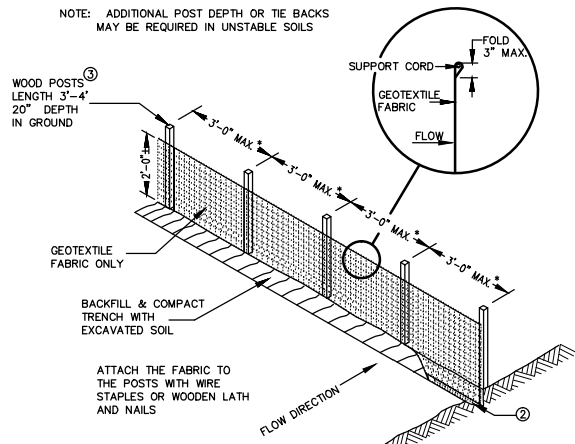
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



CONSTRUCTION ENTRANCE/EXIT DETAIL



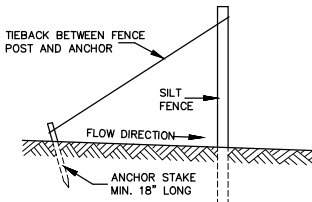
SILT FENCE

* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

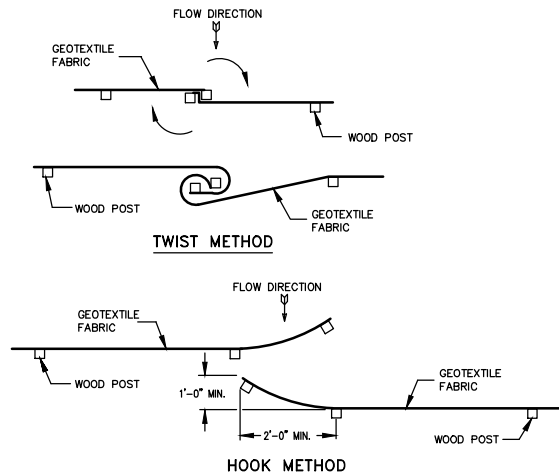
This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 9-6.

GENERAL NOTES

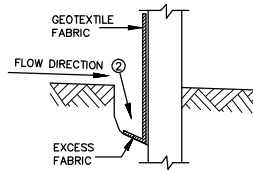
- HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- WOOD POSTS SHALL BE A MINIMUM SIZE OF 1" X 1" OF OAK OR HICKORY.
- SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES. B) HOOK THE END OF EACH SILT FENCE LENGTH.



SILT FENCE TIE BACK (WHEN ADDITIONAL SUPPORT REQUIRED)



JOINING TWO LENGTHS OF SILT FENCE ⑤



TRENCH DETAIL

NORTH CLOVERLEAF POND VILLAGE OF ALLOUEZ, WISCONSIN EROSION & SEDIMENT CONTROL DETAILS

DESIGNED JMH	DRAWN JMH
PROJECT NO. A0012-900458.22	
DATE DECEMBER 2012	
SHEET NO.	

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APPENDIX B

HYDROLOGIC & HYDRAULIC RESULTS Pre-Pond Construction / Existing Land Use Condition

Village of Allouez
 Cloverleaf Ponds
 12-28-12
 Existing Conditions SWMM Model
 100-year storm

Current Directory: C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\Existing C
 Engine Name: C:\XPS\XPSWMM~1\SWMMEN~1.EXE

Input File : actions for SWMP\Existing Conditions Cloverleaf Ponds_100-year.XP

```

=====
|                               |
|               xpswmm         |
|   Storm and Wastewater Management Model   |
|   Developed by XP Software Inc.           |
|=====|
|
| Last Update       : June, 2011
| Interface Version: 13.0
| Engine Version   : 2011.0
| Data File Version: 12.2
| Serial Number    :
|
|=====
  
```

Engine Name: C:\XPS\XPSWMM~1\SWMMEN~1.EXE

```

=====
|               Input and Output file names by Layer               |
|=====
  
```

Input File to Layer # 1 JIN.US

Output File to Layer # 1 C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\data.int

Input File to Layer # 2 C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\data.int

Output File to Layer # 2 JOT.US

```

=====
| Special command line arguments in XP-SWMM2000. This |
| now includes program defaults. $Keywords are the program |
| defaults. Other Keywords are from the SWMMCOM.CFG file. |
| or the command line or any cfg file on the command line. |
| Examples include these in the file xpswm.bat under the |
| section :solve or in the windows version XPSWMM32 in the |
| file solve.bat |
|
| Note: the cfg file should be in the subdirectory swmxcfg |
| or defined by the set variable in the xpswm.bat |
| file. Some examples of the command lines possible |
| are shown below: |
|
| swmcmd swmmcom.cfg |
| swmcmd my.cfg |
| swmcmd nokeys nconv5 perv extranwq |
|=====
  
```

\$powerstation	0.0000	1	2
\$perv	0.0000	0	4
\$olddeg	0.0000	0	7
\$as	0.0000	0	11
\$noflat	0.0000	0	21
\$oldomega	0.0000	0	24
\$oldvol	0.0000	1	28
\$implicit	0.0000	1	29
\$oldhot	0.0000	1	31
\$oldscs	0.0000	0	33
\$flood	0.0000	1	40
\$nokeys	0.0000	0	42
\$pzero	0.0000	0	55
\$oldvol2	0.0000	2	59
\$storage2	0.0000	3	62
\$oldhot1	0.0000	1	63
\$pumpwt	0.0000	1	70


```

$ecloss          0.0000      1      77
$exout           0.0000      0      97
$spatial = 0.90   0.9000      5     124
$djref = -1.0     -0.1000     3     143
$weirlen = 50     50.0000     1     153
$oldbnd          0.0000      1     154
$nogrelelev      0.0000      1     161
$ncmid           0.0000      0     164
$new_n1_97        0.0000      2     290
SCSIADDEPTH=ON    0.0000      1     293
$best97          0.0000      1     294
$newbound         0.0000      1     295
$q_tol = 0.01     0.0001      1     316
$new_storage      0.0000      1     322
$old_iteration    0.0000      1     333
MINLEN=5          5.0000      1     346
$review_elevation 0.0000      1     383
$use_half_volume  0.0000      1     385
VERT_WALLS=ON     0.0000      1     389
$min_ts = 1.0     1.0000      1     407
$design_restart = on 0.0000      1     412
$zero_value=1.e-05 0.0000      1     415
SUBCATCHMENT_RES=ON 0.0000      1     419
$relax_depth = on  0.0000      1     427
$saveallpts = on   0.0000      1     434

```

```

*=====
| Parameter Values on the Tapes Common Block. These are the
| values read from the data file and dynamically allocated
| by the model for this simulation.
*=====

```

```

Number of Subcatchments in the Runoff Block (NW).... 35
Number of Channel/Pipes in the Runoff Block (NG).... 0
Runoff Water quality constituents (NRQ)..... 0
Runoff Land Uses per Subcatchment (NLU)..... 0
Number of Elements in the Transport Block (NET).... 0
Number of Storage Junctions in Transport (NTSE).... 0
Number of Input Hydrographs in Transport (NTH).... 0
Number of Elements in the Extran Block (NEE)..... 115
Number of Groundwater Subcatchments in Runoff (NGW).. 0
Number of Interface locations for all Blocks (NIE).. 115
Number of Pumps in Extran (NEP)..... 0
Number of Orifices in Extran (NEO)..... 0
Number of Tide Gates/Free Outfalls in Extran (NTG).. 10
Number of Extran Weirs (NEW)..... 11
Number of scs hydrograph points..... 4201
Number of Extran printout locations (NPO)..... 0
Number of Tide elements in Extran (NTE)..... 10
Number of Natural channels (NNC)..... 0
Number of Storage junctions in Extran (NVSE)..... 6
Number of Time history data points in Extran (NTVAL).. 0
Number of Variable storage elements in Extran (NVST) 7
Number of Input Hydrographs in Extran (NEH)..... 0
Number of Particle sizes in Transport Block (NPS)... 0
Number of User defined conduits (NHW)..... 35
Number of Connecting conduits in Extran (NECC)..... 20
Number of Upstream elements in Transport (NTCC).... 10
Number of Storage/treatment plants (NSTU)..... 1
Number of Values for R1 lines in Transport (NR1).... 0
Number of Nodes to be allowed for (NNOD)..... 115
Number of Plugs in a Storage Treatment Unit..... 1

```

```

#####
# Entry made to the Runoff Layer(Block) of SWMM #
# Last Updated June, 2011 by XP Software #

```

```

*=====
| RUNOFF TABLES IN THE OUTPUT FILE.
| These are the more important tables in the output file.
| You can use your editor to find the table numbers,
| for example: search for Table R3 to check continuity.
| This output file can be imported into a Word Processor
| and printed on US letter or A4 paper using portrait
| mode, courier font, a size of 8 pt. and margins of 0.75
|
| Table R1 - Physical Hydrology Data
| Table R2 - Infiltration data
| Table R3 - Raingage and Infiltration Database Names
| Table R4 - Groundwater Data
| Table R5 - Continuity Check for Surface Water
| Table R6 - Continuity Check for Channels/Pipes
| Table R7 - Continuity Check for Subsurface Water
| Table R8 - Infiltration/Inflow Continuity Check
| Table R9 - Summary Statistics for Subcatchments
| Table R10 - Sensitivity analysis for Subcatchments

```

=====

A1
Village of Allouez

RUNOFF JOB CONTROL #

Snowmelt parameter - ISNOW..... 0
Number of rain gages - MRGAG..... 1
Quality is not simulated - KWALTY..... 0
Default evaporation rate used - IVAP..... 0
Hour of day at start of storm - NHR..... 0
Minute of hour at start of storm - NMN..... 0
Time TZERO at start of storm (hours)..... 0.000
Use U.S. Customary units for most I/O - METRIC... 0
Runoff input print control... 0
Runoff graph plot control.... 0
Runoff output print control.. 0
Limit number of groundwater convergence messages to 10000

Print headers every 50 lines - NOHEAD (0=yes, 1=no) 0

Print land use load percentages -LANDUPR (0=no, 1=yes) 0
Month, day, year of start of storm is: 12/ 8/2012
Wet time step length (seconds)..... 60.0
Dry time step length (seconds)..... 86400.0
Wet/Dry time step length (seconds)... 60.0
Simulation length is..... 60.0 Hours

If Horton infiltration model is being used
A mixture of infiltration options may be used in
XP-SWMM2000 as a watershed specific option.
Rate for regeneration of infiltration = REGEN * DECAY
Decay is read in for each subcatchment
REGEN = 0.01000

Raingage #..... 1
KTYPE - Rainfall input type..... 0
NHISTO - Total number of rainfall values.. 240
KINC - Rainfall values(pairs) per line.. 10
KPRINT - Print rainfall(0=Yes,1-No)..... 0
KTIME - Precipitation time units
0 --> Minutes 1 --> Hours..... 1
KPREP - Precipitation unit type
0 --> Intensity 1 --> Volume..... 1
KTHIS - Variable rainfall intervals
0 --> No, > 1 --> Yes..... 0
THISTO - Rainfall time interval..... 0.10
TZRAIN - Starting time(KTIME units)..... 0.00

Rainfall input summary from Runoff #
#####

Total rainfall for gage # 1 is 5.1000 inches

Data Group F1 #
Evaporation Rate (in/day) #
#####

JAN. FEB. MAR. APR. MAY JUN. JUL. AUG. SEP. OCT. NOV DEC.

0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100

Table R1. S U B C A T C H M E N T D A T A #
Physical Hydrology Data #
#####

Subcatchment	Channel	Width	Area	Per-	Slope	"n"	"n"	Deprs	Deprs	Pront
Number	Name	or inlet	(ft)	(ac)	cent	ft/ft	Imprv	Imprv	Imprv	Zero
=====	=====	=====	=====	=====	=====	=====	=====	=====	=====	=====
1	F042M33#1	F042M33	1.0000	7.8700	0.00	1.000	0.020	0.020	0.000	0.000
2	F042M32#1	F042M32	1.0000	1.7300	0.00	1.000	0.020	0.020	0.000	0.000
3	F042M61#1	F042M61	1.0000	1.6400	0.00	1.000	0.020	0.020	0.000	0.000
4	F042M39#1	F042M39	1.0000	11.030	0.00	1.000	0.020	0.020	0.000	0.000
5	F042M24#1	F042M24	1.0000	7.8400	0.00	1.000	0.020	0.020	0.000	0.000
6	F042M19#1	F042M19	1.0000	10.120	0.00	1.000	0.020	0.020	0.000	0.000
7	F050M01#1	F050M01	1.0000	2.4400	0.00	1.000	0.020	0.020	0.000	0.000
8	F050E01#1	F050E01	1.0000	3.0600	0.00	1.000	0.020	0.020	0.000	0.000

9	F050E01#2	F050E01	1.0000	1.4700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
10	F060M02#1	F060M02	1.0000	54.760	0.00	1.000	0.020	0.020	0.000	0.000	0.00
11	F070M04#1	F070M04	1.0000	13.860	0.00	1.000	0.020	0.020	0.000	0.000	0.00
12	F070M02#1	F070M02	1.0000	3.1600	0.00	1.000	0.020	0.020	0.000	0.000	0.00
13	F070i05#1	F070i05	1.0000	9.0700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
14	F080M10#1	F080M10	1.0000	3.7300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
15	F080M06#1	F080M06	1.0000	2.2800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
16	F080M13#1	F080M13	1.0000	4.1800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
17	F080M02#1	F080M02	1.0000	12.770	0.00	1.000	0.020	0.020	0.000	0.000	0.00
18	F080M14#1	F080M14	1.0000	4.4400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
19	F080M14#2	F080M14	1.0000	3.3300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
20	F090M04#1	F090M04	1.0000	7.0000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
21	F100M11#1	F100M11	1.0000	8.2900	0.00	1.000	0.020	0.020	0.000	0.000	0.00
22	F100M07#1	F100M07	1.0000	8.5500	0.00	1.000	0.020	0.020	0.000	0.000	0.00
23	F100i01#1	F100i01	1.0000	8.4600	0.00	1.000	0.020	0.020	0.000	0.000	0.00
24	F100M21#1	F100M21	1.0000	.90000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
25	F100M29#1	F100M29	1.0000	3.6400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
26	F100M31#1	F100M31	1.0000	8.4000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
27	F100M06#1	F100M06	1.0000	2.5800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
28	F100M04#1	F100M04	1.0000	10.180	0.00	1.000	0.020	0.020	0.000	0.000	0.00
29	F090M09#1	F090M09	1.0000	3.4000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
30	F090M05#1	F090M05	1.0000	3.5900	0.00	1.000	0.020	0.020	0.000	0.000	0.00
31	F090M02#1	F090M02	1.0000	6.6200	0.00	1.000	0.020	0.020	0.000	0.000	0.00
32	F090M14#1	F090M14	1.0000	4.0000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
33	F090M14#2	F090M14	1.0000	1.6200	0.00	1.000	0.020	0.020	0.000	0.000	0.00
34	EBMPF080#1	EBMPF080	1.0000	23.700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
35	F080i48#1	F080i48	1.0000	.45000	0.00	1.000	0.020	0.020	0.000	0.000	0.00

```
#####
# Table R2. SUBCATCHMENT DATA #
# Infiltration or Time of Concentration Data #
# #
# Infiltration Type Infl #1(#5) Infl #2(#6) Infl #3(#7) Infl #4(#8) #
# SCS -> Comp CN Time Conc Shape Factor Depth or Fraction #
# SBUH -> Comp CN Time Conc N/A N/A #
# Green Ampt -> Suction Hydr Cond Initial MD N/A #
# Horton -> Max Rate Min Rate Decay Rate (1/sec) Max. Infiltr. Volume #
# Proportional -> Constant N/A N/A #
# Initial/Cont Loss -> Initial Continuing N/A N/A #
# Initial/Proportional -> Initial Constant N/A N/A #
# Laurenson Parameters -> B Value Pervious "n" Impervious Cont Exponent #
# Rational Formula -> Tc Method Flow Path Length Flow Path Slope Roughness or Retardance #
# (#1 - #4 is Impervious Data / #5 - #8 is Pervious Data) #
# Rational Formula Tc Method: 1 = Constant #
# 2 = Friend's Equation #
# 3 = Kinematic Wave #
# 4 = Alameda Method #
# 5 = Izzard's Formula #
# 6 = Kerby's Equation #
# 7 = Kirpich's Equation #
# 8 = Bransby Williams Equation #
# 9 = Federal Aviation Authority Equation #
#####
```

Subcatchment Number	Name	Infl # 1	Infl # 2	Infl # 3	Infl # 4	Infl # 5	Infl # 6	Infl # 7	Infl # 8
1	F042M33#1	83.0000	0.2667	484.0000	0.2000				
2	F042M32#1	83.5000	0.2667	484.0000	0.2000				
3	F042M61#1	83.8000	0.3167	484.0000	0.2000				
4	F042M39#1	90.7000	0.2333	484.0000	0.2000				
5	F042M24#1	86.4000	0.9000	484.0000	0.2000				
6	F042M19#1	83.5000	0.7500	484.0000	0.2000				
7	F050M01#1	84.6000	0.3667	484.0000	0.2000				
8	F050E01#1	84.3000	0.2000	484.0000	0.2000				
9	F050E01#2	87.8000	0.2000	484.0000	0.2000				
10	F060M02#1	88.6000	0.8500	484.0000	0.2000				
11	F070M04#1	86.8000	0.5000	484.0000	0.2000				
12	F070M02#1	86.0000	0.3500	484.0000	0.2000				
13	F070i05#1	86.0000	0.8167	484.0000	0.2000				
14	F080M10#1	77.6000	0.2667	484.0000	0.2000				
15	F080M06#1	78.8000	0.1500	484.0000	0.2000				

16	F080M13#1	76.2000	0.1833	484.0000	0.2000
17	F080M02#1	1.0000	1.4350	484.0000	0.2000
18	F080M14#1	86.1000	0.8000	484.0000	0.2000
19	F080M14#2	85.0000	0.1000	484.0000	0.2000
20	F090M04#1	75.7000	0.3333	484.0000	0.2000
21	F100M11#1	83.0000	0.2833	484.0000	0.2000
22	F100M07#1	81.9000	0.4833	484.0000	0.2000
23	F100i01#1	79.5000	0.2667	484.0000	0.2000
24	F100M21#1	81.2000	0.3167	484.0000	0.2000
25	F100M29#1	82.0000	0.2500	484.0000	0.2000
26	F100M31#1	80.0000	0.3000	484.0000	0.2000
27	F100M06#1	82.3000	0.1833	484.0000	0.2000
28	F100M04#1	82.9000	0.3000	484.0000	0.2000
29	F090M09#1	80.2000	0.2500	484.0000	0.2000
30	F090M05#1	83.9000	0.1667	484.0000	0.2000
31	F090M02#1	82.9000	0.1500	484.0000	0.2000
32	F090M14#1	76.7000	0.4333	484.0000	0.2000
33	F090M14#2	79.2000	0.4333	484.0000	0.2000
34	EBMPF080#1	75.7000	0.4000	484.0000	0.2000
35	F080i48#1	84.8000	0.1000	484.0000	0.2000

Table R3. SUBCATCHMENT DATA #
Rainfall and Infiltration Database Names #
#####

Subcatchment Number	Name	Gage No	Infiltration Type	Routing Type
1	F042M33#1	1	SCS Method	SCS curvilinear
2	F042M32#1	1	SCS Method	SCS curvilinear
3	F042M61#1	1	SCS Method	SCS curvilinear
4	F042M39#1	1	SCS Method	SCS curvilinear
5	F042M24#1	1	SCS Method	SCS curvilinear
6	F042M19#1	1	SCS Method	SCS curvilinear
7	F050M01#1	1	SCS Method	SCS curvilinear
8	F050E01#1	1	SCS Method	SCS curvilinear
9	F050E01#2	1	SCS Method	SCS curvilinear
10	F060M02#1	1	SCS Method	SCS curvilinear
11	F070M04#1	1	SCS Method	SCS curvilinear
12	F070M02#1	1	SCS Method	SCS curvilinear
13	F070i05#1	1	SCS Method	SCS curvilinear
14	F080M10#1	1	SCS Method	SCS curvilinear
15	F080M06#1	1	SCS Method	SCS curvilinear
16	F080M13#1	1	SCS Method	SCS curvilinear
17	F080M02#1	1	SCS Method	SCS curvilinear
18	F080M14#1	1	SCS Method	SCS curvilinear
19	F080M14#2	1	SCS Method	SCS curvilinear
20	F090M04#1	1	SCS Method	SCS curvilinear
21	F100M11#1	1	SCS Method	SCS curvilinear
22	F100M07#1	1	SCS Method	SCS curvilinear
23	F100i01#1	1	SCS Method	SCS curvilinear
24	F100M21#1	1	SCS Method	SCS curvilinear
25	F100M29#1	1	SCS Method	SCS curvilinear
26	F100M31#1	1	SCS Method	SCS curvilinear
27	F100M06#1	1	SCS Method	SCS curvilinear
28	F100M04#1	1	SCS Method	SCS curvilinear
29	F090M09#1	1	SCS Method	SCS curvilinear
30	F090M05#1	1	SCS Method	SCS curvilinear
31	F090M02#1	1	SCS Method	SCS curvilinear
32	F090M14#1	1	SCS Method	SCS curvilinear
33	F090M14#2	1	SCS Method	SCS curvilinear
34	EBMPF080#1	1	SCS Method	SCS curvilinear
35	F080i48#1	1	SCS Method	SCS curvilinear

Total Number of Subcatchments... 35
 Total Tributary Area (acres).... 260.16
 Impervious Area (acres)..... 0.00
 Pervious Area (acres)..... 260.16
 Total Width (feet)..... 35.00
 Impervious Area (%)..... 0.00

```
#####
#          S U B C A T C H M E N T   D A T A          #
#  Default, Ratio values for subcatchment data        #
#  Used with the calibrate node in the runoff.         #
#  1 - width      2 - area      3 - impervious %       #
#  4 - slope      5 - imp "n"   6 - perv "n"          #
#  7 - imp ds     8 - perv ds   9 - 1st infil         #
# 10 - 2nd infil  11 - 3rd infil                          #
#####
```

Column	1	2	3	4	5	6	7	8	9	10
11										
Default	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ratio	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.0000										

```
*****
*      Arrangement of Subcatchments and Channel/Pipes      *
*****
```

```

Inlet
F042M33      No Tributary Channel/Pipes
              Tributary Subareas..... F042M33#1
F042M32      No Tributary Channel/Pipes
              Tributary Subareas..... F042M32#1
F042M61      No Tributary Channel/Pipes
              Tributary Subareas..... F042M61#1
F042M39      No Tributary Channel/Pipes
              Tributary Subareas..... F042M39#1
F042M24      No Tributary Channel/Pipes
              Tributary Subareas..... F042M24#1
F042M19      No Tributary Channel/Pipes
              Tributary Subareas..... F042M19#1
F050M01      No Tributary Channel/Pipes
              Tributary Subareas..... F050M01#1
F050E01      No Tributary Channel/Pipes
              Tributary Subareas..... F050E01#1  F050E01#2
F060M02      No Tributary Channel/Pipes
              Tributary Subareas..... F060M02#1
F070M04      No Tributary Channel/Pipes
              Tributary Subareas..... F070M04#1
F070M02      No Tributary Channel/Pipes
              Tributary Subareas..... F070M02#1
F070i05      No Tributary Channel/Pipes
              Tributary Subareas..... F070i05#1
F080M10      No Tributary Channel/Pipes
              Tributary Subareas..... F080M10#1
F080M06      No Tributary Channel/Pipes
              Tributary Subareas..... F080M06#1
F080M13      No Tributary Channel/Pipes
              Tributary Subareas..... F080M13#1
F080M02      No Tributary Channel/Pipes
              Tributary Subareas..... F080M02#1
F080M14      No Tributary Channel/Pipes
              Tributary Subareas..... F080M14#1  F080M14#2
F090M04      No Tributary Channel/Pipes
              Tributary Subareas..... F090M04#1
F100M11      No Tributary Channel/Pipes
              Tributary Subareas..... F100M11#1
F100M07      No Tributary Channel/Pipes
              Tributary Subareas..... F100M07#1
F100i01      No Tributary Channel/Pipes
              Tributary Subareas..... F100i01#1
F100M21      No Tributary Channel/Pipes
              Tributary Subareas..... F100M21#1
F100M29      No Tributary Channel/Pipes
              Tributary Subareas..... F100M29#1
F100M31      No Tributary Channel/Pipes
              Tributary Subareas..... F100M31#1
F100M06      No Tributary Channel/Pipes
              Tributary Subareas..... F100M06#1
F100M04      No Tributary Channel/Pipes
              Tributary Subareas..... F100M04#1
F090M09      No Tributary Channel/Pipes
              Tributary Subareas..... F090M09#1
F090M05      No Tributary Channel/Pipes
              Tributary Subareas..... F090M05#1

```

```

F090M02      No Tributary Channel/Pipes
              Tributary Subareas..... F090M02#1
F090M14      No Tributary Channel/Pipes
              Tributary Subareas..... F090M14#1  F090M14#2
EBMPF080     No Tributary Channel/Pipes
              Tributary Subareas..... EBMPF080#1
F080i48      No Tributary Channel/Pipes
              Tributary Subareas..... F080i48#1

```

```

* hydrographs will be stored for the following 32 INLETS *

```

```

F042M03      F042M02      F042M01      F042M39      F042M24      F042M19
F050M01      F050M01      F060M02      F070M04      F070M02      F070i05
F080M10      F080M06      F080M13      F080M02      F080M14      F090M04
F100M11      F100M07      F100i01      F100M21      F100M29      F100M31
F100M06      F100M04      F090M09      F090M05      F090M02      F090M14
EBMPF080     F080i48

```

```

* Quality Simulation not included in this run *

```

```

* Precipitation Interface File Summary *
* Number of precipitation station.... 1 *

```

```

Location Station Number
-----
1. 1

```

```

#####
# Entry made to the HYDRAULIC Layer of XP-SWMM #
# Last Updated in June, 2011 by XP Software #
#####
# Entry made to the Runoff Layer(Block) of SWMM #
# Last Updated June, 2011 by XP Software #

```

```

*=====
| RUNOFF TABLES IN THE OUTPUT FILE. |
| These are the more important tables in the output file. |
| You can use your editor to find the table numbers, |
| for example: search for Table R3 to check continuity. |
| This output file can be imported into a Word Processor |
| and printed on US letter or A4 paper using portrait |
| mode, courier font, a size of 8 pt. and margins of 0.75 |
| |
| Table R1 - Physical Hydrology Data |
| Table R2 - Infiltration data |
| Table R3 - Rainage and Infiltration Database Names |
| Table R4 - Groundwater Data |
| Table R5 - Continuity Check for Surface Water |
| Table R6 - Continuity Check for Channels/Pipes |
| Table R7 - Continuity Check for Subsurface Water |
| Table R8 - Infiltration/Inflow Continuity Check |
| Table R9 - Summary Statistics for Subcatchments |
| Table R10 - Sensitivity analysis for Subcatchments |
*=====

```

```

A1
Village of Allouez
#####
# RUNOFF JOB CONTROL #
#####

Snowmelt parameter - ISNOW..... 0
Number of rain gages - NRGAG..... 1
Quality is not simulated - KWALTY..... 0
Default evaporation rate used - IVAP..... 0
Hour of day at start of storm - NHR..... 0
Minute of hour at start of storm - NMN..... 0
Time TZERO at start of storm (hours)..... 0.000
Use U.S. Customary units for most I/O - METRIC... 0
Runoff input print control... 0
Runoff graph plot control... 0
Runoff output print control.. 0
Limit number of groundwater convergence messages to 10000

Print headers every 50 lines - NOHEAD (0=yes, 1=no) 0

```

Print land use load percentages -LANDUPR (0=no, 1=yes) 0
 Month, day, year of start of storm is: 12/ 8/2012
 Wet time step length (seconds)..... 60.0
 Dry time step length (seconds)..... 86400.0
 Wet/Dry time step length (seconds)... 60.0
 Simulation length is..... 60.0 Hours

If Horton infiltration model is being used
 A mixture of infiltration options may be used in
 XP-SWMM2000 as a watershed specific option.
 Rate for regeneration of infiltration = REGEN * DECAY
 Decay is read in for each subcatchment
 REGEN = 0.01000

Raingage #..... 1
 KTYPE - Rainfall input type..... 0
 NHISTO - Total number of rainfall values.. 240
 KINC - Rainfall values(pairs) per line.. 10
 KPRINT - Print rainfall(0-Yes,1-No)..... 0
 KTIME - Precipitation time units
 0 --> Minutes 1 --> Hours..... 1
 KPREP - Precipitation unit type
 0 --> Intensity 1 --> Volume..... 1
 KTHIS - Variable rainfall intervals
 0 --> No, > 1 --> Yes..... 0
 THISTO - Rainfall time interval..... 0.10
 TZRAIN - Starting time(KTIME units)..... 0.00

 # Rainfall input summary from Runoff #
 #####

Total rainfall for gage # 1 is 5.1000 inches

 # Data Group F1 #
 # Evaporation Rate (in/day) #
 #####

JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV	DEC.
0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100

 # Table R1. S U B C A T C H M E N T D A T A #
 # Physical Hydrology Data #
 #####

Subcatchment Number	Name	Channel or inlet	Width (ft)	Area (ac)	Per- cent Imprv	Slope ft/ft	"n" Imprv	"n" Perv	Deprs -sion Imprv	Deprs -sion Perv	Prct Zero -tion
1	F042M33#1	F042M33	1.0000	7.8700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
2	F042M32#1	F042M32	1.0000	1.7300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
3	F042M61#1	F042M61	1.0000	1.6400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
4	F042M39#1	F042M39	1.0000	11.030	0.00	1.000	0.020	0.020	0.000	0.000	0.00
5	F042M24#1	F042M24	1.0000	7.8400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
6	F042M19#1	F042M19	1.0000	10.120	0.00	1.000	0.020	0.020	0.000	0.000	0.00
7	F050M01#1	F050M01	1.0000	2.4400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
8	F050E01#1	F050E01	1.0000	3.0600	0.00	1.000	0.020	0.020	0.000	0.000	0.00
9	F050E01#2	F050E01	1.0000	1.4700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
10	F060M02#1	F060M02	1.0000	54.760	0.00	1.000	0.020	0.020	0.000	0.000	0.00
11	F070M04#1	F070M04	1.0000	13.860	0.00	1.000	0.020	0.020	0.000	0.000	0.00
12	F070M02#1	F070M02	1.0000	3.1600	0.00	1.000	0.020	0.020	0.000	0.000	0.00
13	F070i05#1	F070i05	1.0000	9.0700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
14	F080M10#1	F080M10	1.0000	3.7300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
15	F080M06#1	F080M06	1.0000	2.2800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
16	F080M13#1	F080M13	1.0000	4.1800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
17	F080M02#1	F080M02	1.0000	12.770	0.00	1.000	0.020	0.020	0.000	0.000	0.00
18	F080M14#1	F080M14	1.0000	4.4400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
19	F080M14#2	F080M14	1.0000	3.3300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
20	F090M04#1	F090M04	1.0000	7.0000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
21	F100M11#1	F100M11	1.0000	8.2900	0.00	1.000	0.020	0.020	0.000	0.000	0.00
22	F100M07#1	F100M07	1.0000	8.5500	0.00	1.000	0.020	0.020	0.000	0.000	0.00
23	F100i01#1	F100i01	1.0000	8.4600	0.00	1.000	0.020	0.020	0.000	0.000	0.00
24	F100M21#1	F100M21	1.0000	.90000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
25	F100M29#1	F100M29	1.0000	3.6400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
26	F100M31#1	F100M31	1.0000	8.4000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
27	F100M06#1	F100M06	1.0000	2.5800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
28	F100M04#1	F100M04	1.0000	10.180	0.00	1.000	0.020	0.020	0.000	0.000	0.00
29	F090M09#1	F090M09	1.0000	3.4000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
30	F090M05#1	F090M05	1.0000	3.5900	0.00	1.000	0.020	0.020	0.000	0.000	0.00

31	F090M02#1	F090M02	1.0000	6.6200	0.00	1.000	0.020	0.020	0.000	0.000	0.00
32	F090M14#1	F090M14	1.0000	4.0000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
33	F090M14#2	F090M14	1.0000	1.6200	0.00	1.000	0.020	0.020	0.000	0.000	0.00
34	EBMPF080#1	EBMPF080	1.0000	23.700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
35	F080i48#1	F080i48	1.0000	.45000	0.00	1.000	0.020	0.020	0.000	0.000	0.00

```

#####
# Table R2. SUBCATCHMENT DATA #
# Infiltration or Time of Concentration Data #
# #
# Infiltration Type Infl #1(#5) Infl #2(#6) Infl #3(#7) Infl #4(#8) #
# GCS -> Comp CN Time Conc Shape Factor Depth or Fraction #
# SBUH -> Comp CN Time Conc N/A N/A #
# Green Amp -> Suction Hydr Cond Initial MD N/A #
# Horton -> Max Rate Min Rate Decay Rate (1/sec) Max. Infiltr. Volume #
# Proportional -> Constant N/A N/A N/A #
# Initial/Cont Loss -> Initial Continuing N/A N/A #
# Initial/Proportional -> Initial Constant N/A N/A #
# Laurenson Parameters -> B Value Pervious "n" Impervious Cont Exponent #
# Rational Formula -> Tc Method Flow Path Length Flow Path Slope Roughness or Retardance #
# (#1 - #4 is Impervious Data / #5 - #8 is Pervious Data) #
# Rational Formula Tc Method: 1 = Constant #
# 2 = Friend's Equation #
# 3 = Kinematic Wave #
# 4 = Alameda Method #
# 5 = Izzard's Formula #
# 6 = Kerby's Equation #
# 7 = Kirpich's Equation #
# 8 = Bransby Williams Equation #
# 9 = Federal Aviation Authority Equation #
#####

```

Subcatchment Number	Name	Infl # 1	Infl # 2	Infl # 3	Infl # 4	Infl # 5	Infl # 6	Infl # 7	Infl # 8
1	F042M33#1	83.0000	0.2667	484.0000	0.2000				
2	F042M32#1	83.5000	0.2667	484.0000	0.2000				
3	F042M61#1	83.8000	0.3167	484.0000	0.2000				
4	F042M39#1	90.7000	0.2333	484.0000	0.2000				
5	F042M24#1	86.4000	0.9000	484.0000	0.2000				
6	F042M19#1	83.5000	0.7500	484.0000	0.2000				
7	F050M01#1	84.6000	0.3667	484.0000	0.2000				
8	F050E01#1	84.3000	0.2000	484.0000	0.2000				
9	F050E01#2	87.8000	0.2000	484.0000	0.2000				
10	F060M02#1	88.6000	0.8500	484.0000	0.2000				
11	F070M04#1	86.8000	0.5000	484.0000	0.2000				
12	F070M02#1	86.0000	0.3500	484.0000	0.2000				
13	F070i05#1	86.0000	0.8167	484.0000	0.2000				
14	F080M10#1	77.6000	0.2667	484.0000	0.2000				
15	F080M06#1	78.8000	0.1500	484.0000	0.2000				
16	F080M13#1	76.2000	0.1833	484.0000	0.2000				
17	F080M02#1	1.0000	1.4350	484.0000	0.2000				
18	F080M14#1	86.1000	0.8000	484.0000	0.2000				
19	F080M14#2	85.0000	0.1000	484.0000	0.2000				
20	F090M04#1	75.7000	0.3333	484.0000	0.2000				
21	F100M11#1	83.0000	0.2833	484.0000	0.2000				
22	F100M07#1	81.9000	0.4833	484.0000	0.2000				
23	F100i01#1	79.5000	0.2667	484.0000	0.2000				
24	F100M21#1	81.2000	0.3167	484.0000	0.2000				
25	F100M29#1	82.0000	0.2500	484.0000	0.2000				
26	F100M31#1	80.0000	0.3000	484.0000	0.2000				


```
#####
#      Table R3.  SUBCATCHMENT DATA      #
#      Rainfall and Infiltration Database Names      #
#####
```

Total Number of Subcatchments...	35
Total Tributary Area (acres)....	260.16
Impervious Area (acres).....	0.00
Pervious Area (acres).....	260.16
Total Width (feet).....	35.00
Impervious Area (%).....	0.00

```

# SUBCATCHMENT DATA
# Default, Ratio values for subcatchment data
# Used with the calibrate node in the runoff.
# 1 - width      2 - area      3 - impervious %
# 4 - slope      5 - imp "n"   6 - perv "n"
# 7 - imp ds     8 - perv ds   9 - 1st infil
# 10 - 2nd infil      11 - 3rd infil

```

[illegible]

Ratio	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.0000										

 * Arrangement of Subcatchments and Channel/Pipes *

Inlet					
F042M33	No Tributary Channel/Pipes				
	Tributary Subareas.....	F042M33#1			
F042M32	No Tributary Channel/Pipes				
	Tributary Subareas.....	F042M32#1			
F042M61	No Tributary Channel/Pipes				
	Tributary Subareas.....	F042M61#1			
F042M39	No Tributary Channel/Pipes				
	Tributary Subareas.....	F042M39#1			
F042M24	No Tributary Channel/Pipes				
	Tributary Subareas.....	F042M24#1			
F042M19	No Tributary Channel/Pipes				
	Tributary Subareas.....	F042M19#1			
F050M01	No Tributary Channel/Pipes				
	Tributary Subareas.....	F050M01#1			
F050E01	No Tributary Channel/Pipes				
	Tributary Subareas.....	F050E01#1	F050E01#2		
F060M02	No Tributary Channel/Pipes				
	Tributary Subareas.....	F060M02#1			
F070M04	No Tributary Channel/Pipes				
	Tributary Subareas.....	F070M04#1			
F070M02	No Tributary Channel/Pipes				
	Tributary Subareas.....	F070M02#1			
F070i05	No Tributary Channel/Pipes				
	Tributary Subareas.....	F070i05#1			
F080M10	No Tributary Channel/Pipes				
	Tributary Subareas.....	F080M10#1			
F080M06	No Tributary Channel/Pipes				
	Tributary Subareas.....	F080M06#1			
F080M13	No Tributary Channel/Pipes				
	Tributary Subareas.....	F080M13#1			
F080M02	No Tributary Channel/Pipes				
	Tributary Subareas.....	F080M02#1			
F080M14	No Tributary Channel/Pipes				
	Tributary Subareas.....	F080M14#1	F080M14#2		
F090M04	No Tributary Channel/Pipes				
	Tributary Subareas.....	F090M04#1			
F100M11	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M11#1			
F100M07	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M07#1			
F100i01	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100i01#1			
F100M21	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M21#1			
F100M29	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M29#1			
F100M31	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M31#1			
F100M06	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M06#1			
F100M04	No Tributary Channel/Pipes				
	Tributary Subareas.....	F100M04#1			
F090M09	No Tributary Channel/Pipes				
	Tributary Subareas.....	F090M09#1			
F090M05	No Tributary Channel/Pipes				
	Tributary Subareas.....	F090M05#1			
F090M02	No Tributary Channel/Pipes				
	Tributary Subareas.....	F090M02#1			
F090M14	No Tributary Channel/Pipes				
	Tributary Subareas.....	F090M14#1	F090M14#2		
EBMPF080	No Tributary Channel/Pipes				
	Tributary Subareas.....	EBMPF080#1			
F080i48	No Tributary Channel/Pipes				
	Tributary Subareas.....	F080i48#1			

 * Hydrographs will be stored for the following 32 INLETS *

F042M33	F042M32	F042M61	F042M39	F042M24	F042M19
F050M01	F050E01	F060M02	F070M04	F070M02	F070i05
F080M10	F080M06	F080M13	F080M02	F080M14	F090M04
F100M11	F100M07	F100i01	F100M21	F100M29	F100M31
F100M06	F100M04	F090M09	F090M05	F090M02	F090M14
EBMPF080	F080i48				

* Quality Simulation not included in this run *

* Precipitation Interface File Summary *
* Number of precipitation station... 1 *

Location Station Number

1. 1

Cloverleaf Ponds - Existing Conditions 2004 Land Use
Village of Allouez

* =====*
| HYDRAULICS TABLES IN THE OUTPUT FILE |
| These are the more important tables in the output file. |
| You can use your editor to find the table numbers, |
| for example: search for Table E20 to check continuity. |
| This output file can be imported into a Word Processor |
| and printed on US letter or A4 paper using portrait |
| mode, courier font, a size of 8 pt. and margins of 0.75 |
| |
| Table E1 - Basic Conduit Data |
| Table E2 - Conduit Factor Data |
| Table E3a - Junction Data |
| Table E3b - Junction Data |
| Table E4 - Conduit Connectivity Data |
| Table E4a - Dry Weather Flow Data |
| Table E4b - Real Time Control Data |
| Table E5 - Junction Time Step Limitation Summary |
| Table E5a - Conduit Explicit Condition Summary |
| Table E6 - Final Model Condition |
| Table E7 - Iteration Summary |
| Table E8 - Junction Time Step Limitation Summary |
| Table E9 - Junction Summary Statistics |
| Table E10 - Conduit Summary Statistics |
| Table E11 - Area assumptions used in the analysis |
| Table E12 - Mean conduit information |
| Table E13 - Channel losses(H) and culvert info |
| Table E13a - Culvert Analysis Classification |
| Table E14 - Natural Channel Overbank Flow Information |
| Table E14a - Natural Channel Encroachment Information |
| Table E14b - Floodplain Mapping |
| Table E15 - Spreadsheet Info List |
| Table E15a - Spreadsheet Reach List |
| Table E16 - New Conduit Output Section |
| Table E17 - Pump Operation |
| Table E18 - Junction Continuity Error |
| Table E19 - Junction Inflow & Outflow Listing |
| Table E20 - Junction Flooding and Volume List |
| Table E21 - Continuity balance at simulation end |
| Table E22 - Model Judgement Section |
* =====*

Time Control from Hydraulics Job Control
Year..... 2012 Month..... 12
Day..... 8 Hour..... 0
Minute..... 0 Second..... 0

Control information for simulation

Integration cycles..... 7200
Length of integration step is..... 30.00 seconds
Simulation length..... 60.00 hours
Do not create equiv. pipes(NEQUAL).. 0
Use U.S. customary units for I/O... 0
Printing starts in cycle..... 1
Intermediate printout intervals of. 500 cycles
Intermediate printout intervals of. 250.00 minutes
Summary printout intervals of..... 500 cycles
Summary printout time interval of.. 250.00 minutes
Hot start file parameter (REDO).... 0
Initial time..... 0.00 hours

Iteration variables: Flow Tolerance. 0.00010
Head Tolerance. 0.00050
Minimum depth (m or ft)..... 0.00001
Underrelaxation parameter..... 0.85000

Time weighting parameter..... 0.85000
 Conduit roughness factor..... 1.00000
 Flow adjustment factor..... 1.00000
 Initial Condition Smoothing..... 0
 Courant Time Step Factor..... 1.00000
 Default Expansion/Contraction K. 0.00000
 Default Entrance/Exit K..... 0.00000
 Routing Method..... Dynamic Wave
 Default surface area of junctions... 12.57 square feet.
 Minimum Junction/Conduit Depth..... 0.00001 feet.
 Ponding Area Coefficient..... 5000.00
 Ponding Area Exponent..... 1.0000
 Minimum Orifice Length..... 1000.00 feet.
 NJSW input hydrograph junctions..... 0
 or user defined hydrographs....

=====
 | Table E1 - Conduit Data |
 =====

Inp Num	Conduit Name	Length (ft)	Conduit Class	Area (ft^2)	Manning Coef.	Max Width (ft)	Depth (ft)	Trapezoid Side Slopes	
1	LINE042	464.0000	Circular	1.2272	0.0140	1.2500	1.2500		
2	Link3	353.0000	Circular	3.1416	0.0140	2.0000	2.0000		
3	Link4	91.0000	Circular	3.1416	0.0140	2.0000	2.0000		
4	Link6	408.0000	Circular	3.1416	0.0140	2.0000	2.0000		
5	Link7	209.0000	Circular	3.1416	0.0140	2.0000	2.0000		
6	Link9	218.0000	Circular	0.7854	0.0140	1.0000	1.0000		
7	Link13	138.0000	Circular	3.1416	0.0140	2.0000	2.0000		
8	Link14	384.0000	Circular	4.9087	0.0140	2.5000	2.5000		
9	Link15	102.0000	Circular	7.0686	0.0140	3.0000	3.0000		
10	Link17	383.0000	Circular	3.1416	0.0140	2.0000	2.0000		
11	Link26	258.0000	Circular	3.1416	0.0140	2.0000	2.0000		
12	Link27	312.0000	Circular	3.1416	0.0140	2.0000	2.0000		
13	Link31	147.0000	Circular	0.7854	0.0140	1.0000	1.0000		
14	Link32	200.0000	Circular	0.7854	0.0140	1.0000	1.0000		
15	Link38	59.0000	Circular	3.1416	0.0140	2.0000	2.0000		
16	Link39	109.0000	Circular	3.1416	0.0140	2.0000	2.0000		
17	Link40	91.0000	Circular	3.1416	0.0140	2.0000	2.0000		
18	Link41	128.0000	Circular	1.7671	0.0140	1.5000	1.5000		
19	Link44	371.0000	Circular	0.7854	0.0140	1.0000	1.0000		
20	Link46	27.0000	Circular	7.0686	0.0140	3.0000	3.0000		
21	Link48	39.0000	Circular	1.7671	0.0140	1.5000	1.5000		
22	Link51	369.0000	Circular	1.7671	0.0240	1.5000	1.5000		
23	OFLOW 1	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
24	OFLOW 2	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
25	OFLOW 3	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
26	OFLOW 4	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
27	OFLOW 5	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
28	Link61	541.0000	Circular	4.9087	0.0140	2.5000	2.5000		
29	Link64	135.0000	Circular	3.1416	0.0140	2.0000	2.0000		
30	OFLOW 6	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
31	F043M33 OF	323.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
32	F042M61 OF	261.0000	Trapezoid	930.0000	0.0140	10.0000	3.0000	100.0000	100.0000
33	F042M39 OF	2333.0000	Trapezoid	48.2000	0.0450	4.0000	2.0000	20.0000	0.1000
34	F060M02 OF	33.0000	Trapezoid	240.0000	0.0500	20.0000	2.0000	50.0000	50.0000
35	F070M02 OF	50.0000	Trapezoid	420.0000	0.0140	10.0000	2.0000	100.0000	100.0000
36	F070i05 OF	50.0000	Trapezoid	420.0000	0.0140	10.0000	2.0000	100.0000	100.0000
37	Link71	388.0000	Circular	3.1416	0.0140	2.0000	2.0000		
38	F100M07 OF	33.0000	Trapezoid	60.0000	0.0500	10.0000	2.0000	10.0000	10.0000
39	Link75	128.0000	Circular	1.7671	0.0140	1.5000	1.5000		
40	F090M07 OF	365.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
41	Link83	161.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
42	F080M06 OF	1586.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
43	348.1	299.0000	Circular	1.2272	0.0140	1.2500	1.2500		
44	m32OF	50.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
45	352.1	1127.0000	Circular	1.7671	0.0140	1.5000	1.5000		
46	M24 OF	1127.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
47	355.1	139.0000	Circular	3.1416	0.0140	2.0000	2.0000		
48	m28 of	105.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
49	357.1	116.0000	Circular	4.9087	0.0140	2.5000	2.5000		
50	361.1	499.0000	Circular	0.7854	0.0140	1.0000	1.0000		
51	F090M04 OF	499.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
52	363.1	310.0000	Circular	2.4053	0.0140	1.7500	1.7500		
53	F090M05 OF	310.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
54	364.1	338.0000	Circular	1.2272	0.0140	1.2500	1.2500		
55	F100M11 OF	322.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
56	365.1	308.0000	Circular	3.1416	0.0140	2.0000	2.0000		
57	F100M06 OF	257.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
58	366.1	165.0000	Circular	1.7671	0.0140	1.5000	1.5000		
59	370.1	283.0000	Circular	0.7854	0.0140	1.0000	1.0000		
60	F090M09 OF	283.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
61	371.1	303.0000	Circular	0.7854	0.0140	1.0000	1.0000		
62	F090M08 OF	303.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
63	374.1	34.0000	Circular	0.7854	0.0140	1.0000	1.0000		

64	F090M06 OF	34.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
65	375.1	487.0000	Circular	0.7854	0.0140	1.0000	1.0000		
66	F090M03 OF	487.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
67	376.1	390.0000	Circular	2.4053	0.0140	1.7500	1.7500		
68	F100M04 OF	390.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
69	377.1	229.0000	Circular	3.1416	0.0140	2.0000	2.0000		
70	F100M03 OF	229.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
71	378.1	331.0000	Circular	3.1416	0.0140	2.0000	2.0000		
72	F100M02 OF	331.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
73	383.1	378.0000	Circular	1.7671	0.0140	1.5000	1.5000		
74	F080M08 OF	301.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
75	385.1	48.0000	Circular	1.2272	0.0240	1.2500	1.2500		
76	387.1	58.0000	Circular	1.7671	0.0140	1.5000	1.5000		
77	389.1	140.0000	Circular	0.7854	0.0140	1.0000	1.0000		
78	391.1	229.0000	Circular	0.7854	0.0140	1.0000	1.0000		
79	392.1	880.0000	Circular	2.4053	0.0140	1.7500	1.7500		
80	M21 OF	880.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
81	398.1	348.0000	Circular	1.2272	0.0140	1.2500	1.2500		
82	F080M10 of	348.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
83	399.1	1255.0000	Circular	3.1416	0.0140	2.0000	2.0000		
84	E080M13	1247.0000	Trapezoid	204.0000	0.0450	2.0000	2.0000	50.0000	50.0000
85	401.1	114.0000	Circular	0.5411	0.0140	0.8300	0.8300		
86	F100M29 OF	114.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
87	402.1	645.0000	Circular	3.1416	0.0140	2.0000	2.0000		
88	F070M04 OF	644.0000	Trapezoid	204.0000	0.0200	2.0000	2.0000	50.0000	50.0000
89	423.1	259.0000	Circular	3.1416	0.0140	2.0000	2.0000		
90	F090M14 OF	318.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
91	430.1	298.0000	Circular	1.7671	0.0140	1.5000	1.5000		
92	F100M21 OF	298.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
93	433.1	7.0000	Circular	1.7671	0.0240	1.5000	1.5000		
94	F090M02 OF	33.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
Total length of all conduits 30372.0000 feet									

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	Table E2 - Conduit Factor Data	
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Conduit Name	Number of Barrels	Entrance Loss Coef	Exit Loss Coef	Exp/Contc Coefficient	Time Weighting Parameter	Low Flow Roughness Factor	Depth at Which n Changes	Flow Routing	
LINE042	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link3	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link4	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link6	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link7	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link9	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link13	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link14	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link15	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link17	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link26	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link27	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link31	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link32	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link38	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link39	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link40	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link41	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link44	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link46	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link48	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link51	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link61	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link64	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link71	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link75	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
361.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
363.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
364.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
365.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
366.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
370.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
371.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
374.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
375.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
376.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
377.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
378.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
383.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
385.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
387.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
398.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
399.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
401.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
423.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
430.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave

433.1 1.0000 0.5000 0.5000 0.0000 0.8500 1.0000 0.0000 Standard - Dynamic Wave

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*=====
| If there are messages about (sqrt(g*d)*dt/dx), or |
| the sqrt(wave celerity)*time step/conduit length |
| in the output file all it means is that the      |
| program will lower the internal time step to     |
| satisfy this condition (explicit condition).      |
| You control the actual internal time step by      |
| using the minimum courant time step factor in the |
| HYDRAULICS job control. The message put in words |
| states that the smallest conduit with the fastest |
| velocity will control the time step selection.   |
| You have further control by using the modify     |
| conduit option in the HYDRAULICS Job Control.    |
*=====
```

Conduit Name	Courant Ratio	
LINE042	0.41	
Link3	0.68	
Link4	2.65	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link6	0.59	
Link7	1.15	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link9	0.78	
Link13	1.74	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link14	0.70	
Link15	2.89	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link17	0.63	
Link26	0.93	
Link27	0.77	
Link31	1.16	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link32	0.85	
Link38	4.08	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link39	2.21	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link40	2.65	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link41	1.63	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link44	0.46	
Link46	10.92	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link48	5.35	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link51	0.57	
OFLOW 1	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
OFLOW 2	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
OFLOW 3	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
OFLOW 4	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
OFLOW 5	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link61	0.50	
Link64	1.78	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
OFLOW 6	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F043M33 OF	0.53	
F042M61 OF	0.81	
F042M39 OF	0.08	
F060M02 OF	5.39	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F070M02 OF	3.45	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F070i05 OF	3.45	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link71	0.62	
F100M07 OF	5.65	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link75	1.63	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F090M07 OF	0.47	
Link83	1.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F080M06 OF	0.11	
348.1	0.64	
m32OF	3.42	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
352.1	0.18	
M24 OF	0.15	
355.1	1.73	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
m28 of	1.63	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
357.1	2.32	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
361.1	0.34	
F090M04 OF	0.34	
363.1	0.73	
F090M05 OF	0.55	
364.1	0.56	
F100M11 OF	0.53	
365.1	0.78	
F100M06 OF	0.67	
366.1	1.26	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
370.1	0.60	
F090M09 OF	0.60	
371.1	0.56	
F090M08 OF	0.56	
374.1	5.01	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F090M06 OF	5.03	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
375.1	0.35	
F090M03 OF	0.35	

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376.1      0.58
F100M04 OF 0.44
377.1      1.05 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
F100M03 OF 0.75
378.1      0.73
F100M02 OF 0.52
383.1      0.55
F080M08 OF 0.57
385.1      3.97 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
387.1      3.59 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
389.1      1.22 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
391.1      0.74
392.1      0.26
M21 OF     0.19
398.1      0.55
F080M10 of 0.49
399.1      0.19
E080M13    0.14
401.1      1.36 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
F100M29 OF 1.50 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
402.1      0.37
F070M04 OF 0.27
423.1      0.93
F090M14 OF 0.54
430.1      0.70
F100M21 OF 0.57
433.1      29.78 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
F090M02 OF 5.18 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)

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*=====
| Conduit Volume |
*=====

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Full pipe or full open conduit volume
Input full depth volume..... 2.7594E+06 cubic feet

==> Warning !! The upstream and downstream junctions for the following conduits
have been reversed to correspond to the positive flow and decreasing
slope convention. A negative flow in the output thus means
the flow was from your original upstream junction to your original
downstream junction. Any initial flow has been multiplied by -1.

1. Conduit #...Link38 has been changed.
2. Conduit #...0FLOW 3 has been changed.
3. Conduit #...m32OF has been changed.
4. Conduit #...m28 of has been changed.
5. Conduit #...F090M06 OF has been changed.

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*==== Table E3a - Junction Data =====*
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Inp Num	Junction Name	Ground Elevation	Crown Elevation	Invert Elevation	Qinst cfs	Initial Depth-ft	Interface Flow (%)
1	F100E00	600.0000	583.5000	582.0000	0.0000	0.0000	100.0000
2	F100M31	614.2900	606.2900	594.1400	0.0000	0.0000	100.0000
3	F100M21	657.0900	646.0000	601.7400	0.0000	0.0000	100.0000
4	F100i01	619.4300	605.6800	604.1800	0.0000	0.0000	100.0000
5	F100M04	656.0700	655.6600	634.5700	0.0000	0.0000	100.0000
6	F100M07	655.5700	648.0000	639.3200	0.0000	0.0000	100.0000
7	F100M11	675.7400	667.7400	660.4400	0.0000	0.0000	100.0000
8	F090E00	600.0000	592.0000	580.5300	0.0000	0.0000	100.0000
9	F090M02	615.0700	607.0700	600.7700	0.0000	0.0000	100.0000
10	F090M05	616.2200	608.2200	602.0800	0.0000	0.0000	100.0000
11	F090M09	650.9700	650.6600	635.3700	0.0000	0.0000	100.0000
12	F090M04	646.4400	646.1600	632.2400	0.0000	0.0000	100.0000
13	F080E00	610.0000	599.0000	596.0000	0.0000	0.0000	100.0000
14	F080M14	613.8200	613.6600	599.0500	0.0000	0.0000	100.0000
15	F080M13	669.1100	661.1100	648.0900	0.0000	0.0000	100.0000
16	F080M06	671.6300	663.6300	658.6100	0.0000	0.0000	100.0000

17	F070M02	612.9400	612.6600	597.7100	0.0000	0.0000	100.0000
18	F070M01	612.0800	596.9300	594.4300	0.0000	0.0000	100.0000
19	F070E00	610.0000	604.0000	582.0000	0.0000	0.0000	100.0000
20	F060M01	611.0300	592.8200	591.3200	0.0000	0.0000	100.0000
21	F060E01	620.0000	599.5000	598.0000	0.0000	0.0000	100.0000
22	F050M01	613.1900	605.1800	593.3400	0.0000	0.0000	100.0000
23	F050E01	610.0000	609.6600	594.1400	0.0000	0.0000	100.0000
24	F050E00	610.0000	602.0000	590.3600	0.0000	0.0000	100.0000
25	F042M18	616.9300	602.3800	600.3800	0.0000	0.0000	100.0000
26	F042M13	613.8100	596.6100	594.6100	0.0000	0.0000	100.0000
27	F042M19	617.3300	616.1600	601.9300	0.0000	0.0000	100.0000
28	F042M24	660.3200	653.3200	644.2000	0.0000	0.0000	100.0000
29	F042M28	659.9500	652.2500	644.7300	0.0000	0.0000	100.0000
30	F042M39	659.6500	652.5000	645.4000	0.0000	0.0000	100.0000
31	F042M61	659.3500	654.0000	645.5200	0.0000	0.0000	100.0000
32	F042M32	660.8800	653.2500	646.9100	0.0000	0.0000	100.0000
33	F042M33	660.8500	653.5000	647.7500	0.0000	0.0000	100.0000
34	EBMPF080	608.0000	607.6600	601.0000	0.0000	0.0000	100.0000
35	F090M08	629.9600	621.9600	614.8000	0.0000	0.0000	100.0000
36	F090M07	620.9800	612.9800	605.6800	0.0000	0.0000	100.0000
37	F090M06	616.0700	608.0700	603.1700	0.0000	0.0000	100.0000
38	SLOPECHANG	620.0000	605.4800	603.9700	0.0000	0.0000	100.0000
39	F090M03	622.4400	614.4400	607.1900	0.0000	0.0000	100.0000
40	F100M27	614.3100	596.9200	594.9200	0.0000	0.0000	100.0000
41	F100M03	628.7600	620.7600	612.5100	0.0000	0.0000	100.0000
42	F100M02	621.8000	613.8000	605.6000	0.0000	0.0000	100.0000
43	F100M26	608.7600	590.6600	588.6600	0.0000	0.0000	100.0000
44	F100M32	610.0000	587.8900	585.8900	0.0000	0.0000	100.0000
45	F080M08	684.4500	676.4500	669.6500	0.0000	0.0000	100.0000
46	F080M05	683.8700	667.2700	666.2700	0.0000	0.0000	100.0000
47	F080i48	613.3100	601.7500	599.7500	0.0000	0.0000	100.0000
48	F080 TAP	610.0000	599.6400	596.6400	0.0000	0.0000	100.0000
49	F060M02	611.5600	603.1000	591.6100	0.0000	0.0000	100.0000
50	F060i07	615.0000	598.0000	597.0000	0.0000	0.0000	100.0000
51	F060i11	612.7300	612.5600	598.0000	0.0000	0.0000	100.0000
52	F060E00	603.0000	602.0000	584.3200	0.0000	0.0000	100.0000
53	F042M21	626.6000	618.6000	611.9900	0.0000	0.0000	100.0000
54	F080M10	694.9200	686.9200	680.4200	0.0000	0.0000	100.0000
55	F080M02	616.3900	608.3900	603.1100	0.0000	0.0000	100.0000
56	F100M29	615.1200	607.1200	598.0000	0.0000	0.0000	100.0000
57	F070M04	620.5900	612.5900	604.0000	0.0000	0.0000	100.0000
58	F070i05	609.5300	605.1000	595.5000	0.0000	0.0000	100.0000
59	E040i34	660.0000	648.5400	640.0000	0.0000	0.0000	100.0000

60	F090M14	607.5500	599.5500	588.0000	0.0000	0.0000	100.0000
61	F100M06	657.1600	648.8000	638.1600	0.0000	0.0000	100.0000
62	F100M28	614.3200	606.3200	596.5000	0.0000	0.0000	100.0000
63	F100E01	618.0000	598.5000	597.0000	0.0000	0.0000	100.0000
64	F100 E OF	610.0000	590.0000	590.0000	0.0000	0.0000	100.0000
65	F090M02OUT	610.0000	606.5000	590.0000	0.0000	0.0000	100.0000

 | Table E3b - Junction Data |

Inp Num	Junction Name	X Coord.	Y Coord.	Type of Manhole	Type of Inlet	Maximum Capacity	Pavement Shape	Slope
1	F100E00	0.0000	0.0000	No P	Normal		0	0.0000
2	F100M31	0.0000	0.0000	No P	Normal		0	0.0000
3	F100M21	0.0000	0.0000	No P	Normal		0	0.0000
4	F100i01	0.0000	0.0000	No P	Normal		0	0.0000
5	F100M04	0.0000	0.0000	No P	Normal		0	0.0000
6	F100M07	0.0000	0.0000	No P	Normal		0	0.0000
7	F100M11	0.0000	0.0000	No P	Normal		0	0.0000
8	F090E00	0.0000	0.0000	No P	Normal		0	0.0000
9	F090M02	0.0000	0.0000	No P	Normal		0	0.0000
10	F090M05	0.0000	0.0000	No P	Normal		0	0.0000
11	F090M09	0.0000	0.0000	No P	Normal		0	0.0000
12	F090M04	0.0000	0.0000	No P	Normal		0	0.0000
13	F080E00	0.0000	0.0000	No P	Normal		0	0.0000
14	F080M14	0.0000	0.0000	No P	Normal		0	0.0000
15	F080M13	0.0000	0.0000	No P	Normal		0	0.0000
16	F080M06	0.0000	0.0000	No P	Normal		0	0.0000
17	F070M02	0.0000	0.0000	No P	Normal		0	0.0000
18	F070M01	0.0000	0.0000	No P	Normal		0	0.0000
19	F070E00	0.0000	0.0000	No P	Normal		0	0.0000
20	F060M01	0.0000	0.0000	No P	Normal		0	0.0000
21	F060E01	0.0000	0.0000	No P	Normal		0	0.0000
22	F050M01	0.0000	0.0000	No P	Normal		0	0.0000
23	F050E01	0.0000	0.0000	No P	Normal		0	0.0000
24	F050E00	0.0000	0.0000	No P	Normal		0	0.0000
25	F042M18	0.0000	0.0000	No P	Normal		0	0.0000
26	F042M13	0.0000	0.0000	No P	Normal		0	0.0000
27	F042M19	0.0000	0.0000	No P	Normal		0	0.0000
28	F042M24	0.0000	0.0000	No P	Normal		0	0.0000
29	F042M28	0.0000	0.0000	No P	Normal		0	0.0000
30	F042M39	0.0000	0.0000	No P	Normal		0	0.0000
31	F042M61	0.0000	0.0000	No P	Normal		0	0.0000
32	F042M32	0.0000	0.0000	No P	Normal		0	0.0000
33	F042M33	0.0000	0.0000	No P	Normal		0	0.0000

34	EBMPF080	0.0000	0.0000	No P	Normal	0	0.0000
35	F090M08	0.0000	0.0000	No P	Normal	0	0.0000
36	F090M07	0.0000	0.0000	No P	Normal	0	0.0000
37	F090M06	0.0000	0.0000	No P	Normal	0	0.0000
38	SLOPECHANG	0.0000	0.0000	No P	Normal	0	0.0000
39	F090M03	0.0000	0.0000	No P	Normal	0	0.0000
40	F100M27	0.0000	0.0000	No P	Normal	0	0.0000
41	F100M03	0.0000	0.0000	No P	Normal	0	0.0000
42	F100M02	0.0000	0.0000	No P	Normal	0	0.0000
43	F100M26	0.0000	0.0000	No P	Normal	0	0.0000
44	F100M32	0.0000	0.0000	No P	Normal	0	0.0000
45	F080M08	0.0000	0.0000	No P	Normal	0	0.0000
46	F080M05	0.0000	0.0000	No P	Normal	0	0.0000
47	F080i48	0.0000	0.0000	No P	Normal	0	0.0000
48	F080 TAP	0.0000	0.0000	No P	Normal	0	0.0000
49	F060M02	0.0000	0.0000	No P	Normal	0	0.0000
50	F060i07	0.0000	0.0000	No P	Normal	0	0.0000
51	F060i11	0.0000	0.0000	No P	Normal	0	0.0000
52	F060E00	0.0000	0.0000	No P	Normal	0	0.0000
53	F042M21	0.0000	0.0000	No P	Normal	0	0.0000
54	F080M10	0.0000	0.0000	No P	Normal	0	0.0000
55	F080M02	0.0000	0.0000	No P	Normal	0	0.0000
56	F100M29	0.0000	0.0000	No P	Normal	0	0.0000
57	F070M04	0.0000	0.0000	No P	Normal	0	0.0000
58	F070i05	0.0000	0.0000	No P	Normal	0	0.0000
59	E040i34	0.0000	0.0000	No P	Normal	0	0.0000
60	F090M14	0.0000	0.0000	No P	Normal	0	0.0000
61	F100M06	0.0000	0.0000	No P	Normal	0	0.0000
62	F100M28	0.0000	0.0000	No P	Normal	0	0.0000
63	F100E01	0.0000	0.0000	No P	Normal	0	0.0000
64	F100 E OF	0.0000	0.0000	No P	Normal	0	0.0000
65	F090M02OUT	0.0000	0.0000	No P	Normal	0	0.0000

* ~~~~~
| Table E4 - Conduit Connectivity |
* ~~~~~

Input Number	Conduit Name	Upstream Node	Downstream Node	Upstream Elevation	Downstream Elevation	
1	LINE042	F042M32	F042M61	646.9100	645.5200	No Design
2	Link3	F042M61	F042M28	645.5200	644.7300	No Design
3	Link4	F042M28	F042M24	644.7300	644.2000	No Design
4	Link6	F042M19	F042M18	601.9300	600.3800	No Design
5	Link7	F042M18	F042M13	600.3800	594.6100	No Design
6	Link9	F050M01	F050E01	599.3400	594.1400	No Design
7	Link13	F070M02	F070M01	597.7100	594.4300	No Design

8	Link14	F070M01	F070E00	594.4300	582.0000 No Design
9	Link15	F080M14	F080 TAP	599.0500	596.6400 No Design
10	Link17	F090M02	F090M14	600.7700	588.0000 No Design
11	Link26	F080i48	F080 TAP	599.7500	596.6400 No Design
12	Link27	F080M06	F080M13	658.6100	648.0900 No Design
13	Link31	F090M07	SLOPECHANG	605.6800	604.4800 No Design
14	Link32	SLOPECHANG	F090M06	603.9700	603.1700 No Design
15	Link38	F100M27	F100M31	594.9200	594.1400 No Design
16	Link39	F100M27	F100M26	594.9200	588.6600 No Design
17	Link40	F100M26	F100M32	588.6600	585.8900 No Design
18	Link41	F100M32	F100E00	585.9900	582.0000 No Design
19	Link44	F080M05	F080M13	666.2700	648.0900 No Design
20	Link46	F080 TAP	F080E00	596.6400	596.0000 No Design
21	Link48	F060M02	F060M01	591.6100	591.3200 No Design
22	Link51	F060M01	F060E00	591.3200	584.3200 No Design
23	OFLOW 1	F042M19	F060i11	616.0000	612.0000 No Design
24	OFLOW 2	F060i11	F070M02	612.4000	612.4000 No Design
25	OFLOW 3	F080M14	F070M02	613.5000	612.5000 No Design
26	OFLOW 4	F090M04	EBMPF080	646.0000	607.5000 No Design
27	OFLOW 5	F100M04	F090M09	655.5000	650.5000 No Design
28	Link61	F080M02	F080M14	603.1100	599.0500 No Design
29	Link64	F070i05	F070M01	595.5000	594.4300 No Design
30	OFLOW 6	F050E01	F060E00	609.5000	594.0000 No Design
31	F043M33 OF	F042M33	E040i34	651.5000	646.5400 No Design
32	F042M61 OF	F042M61	F042M24	651.0000	650.3200 No Design
33	F042M39 OF	F042M39	F060i11	650.5000	600.0000 No Design
34	F060M02 OF	F060M02	F060E00	601.1000	600.0000 No Design
35	F070M02 OF	F070M02	F070E00	603.1000	602.0000 No Design
36	F070i05 OF	F070i05	F070E00	603.1000	602.0000 No Design
37	Link71	F100M07	F100M06	639.3200	638.1600 No Design
38	F100M07 OF	F100M07	F100M21	646.0000	644.0000 No Design
39	Link75	F100M28	F100M27	596.5000	594.9200 No Design
40	F090M07 OF	F090M07	F090M05	610.9800	606.2200 No Design
41	Link83	F050M01	F050E00	603.1800	600.0000 No Design
42	F080M06 OF	F080M06	F080M02	661.6300	606.3900 No Design
43	348.1	F042M33	F042M32	647.7500	646.9100 No Design
44	m32OF	F042M32	F042M33	651.2500	650.8500 No Design
45	352.1	F042M24	F042M21	644.2000	611.9900 No Design
46	M24 OF	F042M24	F042M21	650.3200	616.6000 No Design
47	355.1	F042M39	F042M28	645.4000	644.7300 No Design
48	m28 of	F042M28	F042M39	650.2500	649.6500 No Design
49	357.1	F050E01	F050E00	594.1400	590.3600 No Design
50	361.1	F090M04	F090M03	632.2400	607.1900 No Design
51	F090M04 OF	F090M04	F090M03	636.4400	612.4400 No Design

52	363.1	F090M05	F090M02	602.0800	600.7700	No Design
53	F090M05 OF	F090M05	F090M02	606.2200	605.0700	No Design
54	364.1	F100M11	F100M07	660.4400	639.3200	No Design
55	F100M11 OF	F100M11	F100M07	665.7400	645.5700	No Design
56	365.1	F100M06	F100M04	638.1600	634.5700	No Design
57	F100M06 OF	F100M06	F100M04	646.8000	645.7700	No Design
58	366.1	F100i01	F100M21	604.1800	601.7400	No Design
59	370.1	F090M09	F090M08	635.3700	614.8000	No Design
60	F090M09 OF	F090M09	F090M08	640.9700	619.9600	No Design
61	371.1	F090M08	F090M07	614.8000	605.6800	No Design
62	F090M08 OF	F090M08	F090M07	619.9600	610.9800	No Design
63	374.1	F090M06	F090M05	603.1700	602.0800	No Design
64	F090M06 OF	F090M05	F090M06	606.2200	606.0700	No Design
65	375.1	F090M03	F090M02	607.1900	600.7700	No Design
66	F090M03 OF	F090M03	F090M02	612.4400	605.0700	No Design
67	376.1	F100M04	F100M03	634.5700	612.5100	No Design
68	F100M04 OF	F100M04	F100M03	646.0700	618.7600	No Design
69	377.1	F100M03	F100M02	612.5100	605.6000	No Design
70	F100M03 OF	F100M03	F100M02	618.7600	611.8000	No Design
71	378.1	F100M02	F100M31	605.6000	594.1400	No Design
72	F100M02 OF	F100M02	F100M31	611.8000	604.2900	No Design
73	383.1	F080M08	F080M06	669.6500	658.6100	No Design
74	F080M08 OF	F080M08	F080M06	674.4500	661.6300	No Design
75	385.1	EBMPF080	F080i48	601.0000	600.2400	No Design
76	387.1	F060E01	F060M02	598.0000	595.3600	No Design
77	389.1	F060i07	F060M02	597.0000	595.9600	No Design
78	391.1	F060i11	F060M02	598.0000	595.3600	No Design
79	392.1	F042M21	F042M19	611.9900	601.9300	No Design
80	M21 OF	F042M21	F042M19	616.6000	607.3300	No Design
81	398.1	F080M10	F080M08	680.4200	669.6500	No Design
82	F080M10 OF	F080M10	F080M08	684.9200	674.4500	No Design
83	399.1	F080M13	F080M02	648.0900	603.1100	No Design
84	E080M13	F080M13	F080M02	659.1100	606.3900	No Design
85	401.1	F100M29	F100M31	598.0000	594.1400	No Design
86	F100M29 OF	F100M29	F100M31	605.1200	604.2900	No Design
87	402.1	F070M04	F070M02	604.0000	597.7100	No Design
88	F070M04 OF	F070M04	F070M02	610.5900	602.9400	No Design
89	423.1	F090M14	F090E00	588.0000	580.5300	No Design
90	F090M14 OF	F090M14	F090E00	597.5500	590.0000	No Design
91	430.1	F100M21	F100M28	601.7400	596.5000	No Design
92	F100M21 OF	F100M21	F100M28	607.0900	604.3200	No Design
93	433.1	F100E01	F100M28	597.0000	596.5000	No Design
94	F090M02 OF	F090M02	F090M02OUT	605.0000	604.5000	No Design

```

====> Warning !!! Node: F060E01      Area decreases between stages      0.000 and      0.000
====> Warning !!! Node: F060E01      Area = 0.0 at stage      0.000 Area reset to      0.000

```

```

*=====*
|      Storage Junction Data      |
*=====*

```

STORAGE JUNCTION NUMBER OR NAME	JUNCTION TYPE	MAXIMUM OR CONSTANT SURFACE AREA (FT2)	PEAK OR CONSTANT VOLUME (CUBIC FEET)	CROWN ELEVATION (FT)	DEPTH STARTS FROM
F060E01	Stage/Area	3637.2600	70637.2872	620.0000	Node Invert
F050E01	Stage/Area	26571.6000	282568.7076	610.0000	Node Invert
EBMPF080	Stage/Area	31363.2000	147477.6631	608.0000	Node Invert
F060i07	Stage/Area	39204.0000	498713.9380	615.0000	Node Invert
F060i11	Stage/Area	28270.4400	244127.1496	612.7300	Node Invert
F100E01	Stage/Area	18966.0240	270847.8572	618.0000	Node Invert

```

*=====*
|      Variable storage data for node | F060E01
*=====*

```

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	598.0000	0.0000	4.3560	0.0000	0.0001	0.0000
2	598.0000	0.0000	4.3560	0.0000	0.0001	0.0000
3	600.0000	2.0000	1045.4400	744.8451	0.0240	0.0171
4	602.0000	4.0000	3637.2600	5166.6072	0.0835	0.1186
5	620.0000	22.0000	3637.2600	70637.2872	0.0835	1.6216

```

*=====*
|      Variable storage data for node | F050E01
*=====*

```

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	594.1400	0.0000	4.3560	0.0000	0.0001	0.0000
2	596.0000	1.8600	3920.4000	2514.3452	0.0900	0.0577
3	598.0000	3.8600	7405.2000	13656.6834	0.1700	0.3135
4	600.0000	5.8600	11761.2000	32655.7058	0.2700	0.7497
5	602.0000	7.8600	26571.6000	69995.9076	0.6100	1.6069
6	610.0000	15.8600	26571.6000	282568.7076	0.6100	6.4869

```

*=====*
|      Variable storage data for node | EBMPF080
*=====*

```

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	601.0000	0.0000	12196.8000	0.0000	0.2800	0.0000
2	602.0000	1.0000	14374.8000	13270.7652	0.3300	0.3047
3	603.0000	2.0000	16988.4000	28934.0269	0.3900	0.6642
4	604.0000	3.0000	19166.4000	47000.3026	0.4400	1.0790
5	605.0000	4.0000	21780.0000	67459.3817	0.5000	1.5487
6	606.0000	5.0000	25264.8000	90960.0060	0.5800	2.0882
7	608.0000	7.0000	31363.2000	147477.6631	0.7200	3.3856

```

*=====*
|      Variable storage data for node | F060i07
*=====*

```

Data	Elevation	Depth	Area	Volume	Area	Volume
------	-----------	-------	------	--------	------	--------

Point	ft	ft	ft^2	ft^3	acres	ac-ft
1	597.0000	0.0000	4.3560	0.0000	0.0001	0.0000
2	598.0000	1.0000	958.3200	342.4252	0.0220	0.0079
3	600.0000	3.0000	4268.8800	5175.5839	0.0980	0.1198
4	602.0000	5.0000	11107.8000	20017.2642	0.2550	0.4595
5	604.0000	7.0000	39204.0000	67469.9380	0.9000	1.5489
6	615.0000	18.0000	39204.0000	498713.9380	0.9000	11.4489

=====

| Variable storage data for node | F060i11

=====

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	598.0000	0.0000	4.3560	0.0000	0.0001	0.0000
2	600.0000	2.0000	108.9000	90.0231	0.0025	0.0021
3	602.0000	4.0000	3267.0000	2738.2432	0.0750	0.0629
4	604.0000	6.0000	10846.4400	16115.5743	0.2490	0.3700
5	606.0000	8.0000	28270.4400	53867.0884	0.6490	1.2366
6	612.7300	14.7300	28270.4400	244127.1496	0.6490	5.6044

=====

| Variable storage data for node | F100E01

=====

Data Point	Elevation ft	Depth ft	Area ft^2	Volume ft^3	Area acres	Volume ac-ft
1	597.0000	0.0000	4.3560	0.0000	0.0001	0.0000
2	600.0000	3.0000	714.3840	774.5163	0.0164	0.0178
3	602.0000	5.0000	3502.2240	4640.0496	0.0804	0.1065
4	604.0000	7.0000	8598.7440	16365.7035	0.1974	0.3757
5	606.0000	9.0000	18966.0240	43255.5692	0.4354	0.9930
6	618.0000	21.0000	18966.0240	270847.8572	0.4354	6.2178

=====

| Weir Data |

=====

Weir Power	Weir Name	From Junction	To Junction	Type	Crest Height(ft)	Weir Top(ft)	Weir Length(ft)	Discharge Coefficient
1.5000	e01 OF	F050E01	F050E00	1	6.58	7.86	25.00	3.3000
1.5000	F100i01 OV	F100i01	F100M21	1	6.07	8.07	20.00	3.3000
1.5000	F080 EMER	EBMPF080	F080i48	1	4.25	7.00	20.00	3.3000
1.5000	060E01 OF	F060E01	F060M02	1	3.50	4.00	30.00	3.3000
1.5000	i07 of	F060i07	F060M02	1	5.20	7.00	50.00	3.3000
1.5000	i11 OF	F060i11	F060M02	1	6.75	8.00	40.00	3.3000
1.5000	OF F042M19	F042M19	F050E01	1	6.07	8.07	30.00	3.3000
1.5000	100E01 OV	F100E01	F100M28	1	7.23	9.00	20.00	3.3000
1.5000	F100M28 OV	F100M28	F100 E OF	1	7.55	9.50	20.00	3.3000
1.5000	M100M27 OV	F100M27	F100 E OF	1	9.13	11.08	20.00	3.3000
1.5000	F100M31 OV	F100M31	F100 E OF	1	9.91	11.86	20.00	3.3000

```

* =====*
|          FREE OUTFALL DATA (DATA GROUP J1)          |
|          BOUNDARY CONDITION ON DATA GROUP J1        |
* =====*

```

Outfall at Junction...F100E00	has boundary condition number...	1
Outfall at Junction...F090E00	has boundary condition number...	2
Outfall at Junction...F080E00	has boundary condition number...	3
Outfall at Junction...F070E00	has boundary condition number...	4
Outfall at Junction...F050E00	has boundary condition number...	5
Outfall at Junction...F042M13	has boundary condition number...	6
Outfall at Junction...F060E00	has boundary condition number...	7
Outfall at Junction...E040i34	has boundary condition number...	8
Outfall at Junction...F100 E OF	has boundary condition number...	9
Outfall at Junction...F090M02OUT	has boundary condition number...	10

```

==> Warning !! Outfall Junction F090E00      has two or more connecting conduits.

==> Warning !! Outfall Junction F070E00      has two or more connecting conduits.

==> Warning !! Outfall Junction F050E00      has two or more connecting conduits.

==> Warning !! Outfall Junction F060E00      has two or more connecting conduits.

==> Warning !! Outfall Junction F100 E OF    has two or more connecting conduits.

```

```

* =====*
|          Weir Outfall Data          |
|          Boundary Condition on data group J1        |
* =====*

```

Weir Outfall at Junction... F050E00	has boundary condition number...	5
Weir Outfall at Junction... F100 E OF	has boundary condition number...	9
Weir Outfall at Junction... F100 E OF	has boundary condition number...	9
Weir Outfall at Junction... F100 E OF	has boundary condition number...	9

```

* =====*
|          INTERNAL CONNECTIVITY INFORMATION          |
* =====*

```

CONDUIT	JUNCTION	JUNCTION
e01 OF	F050E01	F050E00
F100i01 OV	F100i01	F100M21
F080 EMER	EBMPF080	F080i48
060E01 OF	F060E01	F060M02
i07 of	F060i07	F060M02
i11 OF	F060i11	F060M02
OF F042M19	F042M19	F050E01
100E01 OV	F100E01	F100M28
F100M28 OV	F100M28	F100 E OF
M100M27 OV	F100M27	F100 E OF
F100M31 OV	F100M31	F100 E OF
FREE # 1	F100E00	BOUNDARY
FREE # 2	F090E00	BOUNDARY
FREE # 3	F080E00	BOUNDARY
FREE # 4	F070E00	BOUNDARY
FREE # 5	F050E00	BOUNDARY
FREE # 6	F042M13	BOUNDARY
FREE # 7	F060E00	BOUNDARY
FREE # 8	E040i34	BOUNDARY
FREE # 9	F100 E OF	BOUNDARY
FREE #10	F090M02OUT	BOUNDARY

```

* =====*
|          Boundary Condition Information          |
|          Data Groups J1-J4          |
* =====*

```

BC NUMBER..	1 has no control water surface.
BC NUMBER..	2 has no control water surface.
BC NUMBER..	3 has no control water surface.
BC NUMBER..	4 has no control water surface.
BC NUMBER..	5 has no control water surface.
BC NUMBER..	6 has no control water surface.
BC NUMBER..	7 has no control water surface.
BC NUMBER..	8 has no control water surface.
BC NUMBER..	9 has no control water surface.
BC NUMBER..	10 has no control water surface.

```

#####
# Header information from interface file: #

```

#####

Title from first computational layer:

A1
Village of Allouez

Title from immediately preceding computational layer

A1
Village of Allouez

Name of preceding layer:..... Runoff Layer
Initial Julian date (IDATEZ)..... 2012343
Initial time of day in seconds (TZERO)..... 0.0
No. Transferred input locations..... 32
No. Transferred pollutants..... 0
Size of total catchment area (acres)..... 260.16

Element numbers of interface inlet locations: #
#####

F042M33	F042M32	F042M61	F042M39	F042M24	F042M19	F050M01
F050E01	F060M02	F070M04	F070M02	F070i05	F080M10	F080M06
F080M13	F080M02	F080M14	F090M04	F100M11	F100M07	F100i01
F100M21	F100M29	F100M31	F100M06	F100M04	F090M09	F090M05
F090M02	F090M14	EBMPF080	F080i48			

Conversion factor to cfs for flow units on interface file. Multiply by: 1.00000

Important Information #####
Interface file start: 2012/12/08 00:00:00
Simulation start: 2012/12/08 00:00:00
Same date/time found in interface file and model

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	XP Note Field Summary	
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	Conduit Convergence Criteria	
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Conduit Name	Full Flow	Conduit Slope
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LINE042	3.2831	0.0030
Link3	9.9376	0.0022
Link4	16.0314	0.0058
Link6	12.9476	0.0038
Link7	34.9035	0.0276
Link9	5.1095	0.0239
Link13	32.3856	0.0238
Link14	68.5252	0.0324
Link15	95.2005	0.0236
Link17	38.3575	0.0333
Link26	23.0635	0.0121
Link27	38.5731	0.0337
Link31	2.9891	0.0082
Link32	2.0924	0.0040
Link38	24.1532	0.0132
Link39	50.3417	0.0574
Link40	36.6499	0.0304

Link41	17.2213	0.0312
Link44	7.3235	0.0490
Link46	95.3540	0.0237
Link48	8.4111	0.0074
Link51	7.8368	0.0190
OFLOW 1	0.0869	0.1212
OFLOW 2	0.0008	0.0000
OFLOW 3	0.0435	0.0303
OFLOW 4	0.2696	1.1667
OFLOW 5	0.0972	0.1515
Link61	32.9948	0.0075
Link64	18.7016	0.0079
OFLOW 6	0.1711	0.4697
F043M33 OF	2700.5718	0.0154
F042M61 OF	6674.1470	0.0026
F042M39 OF	241.3741	0.0216
F060M02 OF	1379.8731	0.0333
F070M02 OF	6719.1485	0.0220
F070i05 OF	6719.1485	0.0220
Link71	11.4860	0.0030
F100M07 OF	494.4161	0.0606
Link75	10.8370	0.0123
F090M07 OF	2488.7037	0.0130
Link83	3062.7869	0.0198
F080M06 OF	4067.1613	0.0348
348.1	3.1793	0.0028
m32OF	1949.2213	0.0080
352.1	16.4899	0.0286
M24 OF	3769.6235	0.0299
355.1	14.5842	0.0048
m28 of	1647.3927	0.0057
357.1	68.7539	0.0326
361.1	7.4124	0.0502
F090M04 OF	4779.3793	0.0481
363.1	9.5645	0.0042
F090M05 OF	1327.3462	0.0037
364.1	14.9942	0.0625
F100M11 OF	5454.3269	0.0626
365.1	22.6791	0.0117
F100M06 OF	1379.6477	0.0040
366.1	11.8614	0.0148
370.1	8.9193	0.0727
F090M09 OF	5937.9421	0.0742
371.1	5.7396	0.0301

F090M08 OF	3751.7424	0.0296
374.1	5.9235	0.0321
F090M06 OF	1447.5125	0.0044
375.1	3.7985	0.0132
F090M03 OF	2680.9296	0.0151
376.1	34.9928	0.0566
F100M04 OF	5766.9302	0.0700
377.1	36.4901	0.0302
F100M03 OF	3799.2951	0.0304
378.1	39.0870	0.0346
F100M02 OF	3282.6314	0.0227
383.1	16.6695	0.0292
F080M08 OF	4497.5595	0.0426
385.1	4.4029	0.0158
387.1	20.8100	0.0455
389.1	2.8514	0.0074
391.1	3.5522	0.0115
392.1	15.7314	0.0114
M21 OF	2236.7358	0.0105
398.1	10.5524	0.0309
F080M10 of	3780.0702	0.0301
399.1	39.7687	0.0358
E080M13	1394.0750	0.0423
401.1	3.7039	0.0339
F100M29 OF	1859.5282	0.0073
402.1	20.7443	0.0098
F070M04 OF	1662.6544	0.0119
423.1	35.6750	0.0288
F090M14 OF	3357.9642	0.0237
430.1	12.9343	0.0176
F100M21 OF	2101.1057	0.0093
433.1	15.2068	0.0714
F090M02 OF	2682.5275	0.0152

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*=====
| Initial Model Condition |
| Initial Time = 0.01 hours |
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Junction /	Depth /	Elevation	====>	"*" Junction is Surcharged.					
F100E00/	0.00 /	582.00		F100M31/	0.00 /	594.14	F100M21/	0.00 /	601.74
F100i01/	0.00 /	604.18		F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32
F100M11/	0.00 /	660.44		F090E00/	0.00 /	580.53	F090M02/	0.00 /	600.77
F090M05/	0.00 /	602.08		F090M09/	0.00 /	635.37	F090M04/	0.00 /	632.24
F080E00/	0.00 /	596.00		F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	658.61		F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43
F070E00/	0.00 /	582.00		F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34		F050E01/	0.00 /	594.14	F050E00/	0.00 /	590.36
F042M18/	0.00 /	600.38		F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.93
F042M24/	0.00 /	644.20		F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52		F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.75
EBMPF080/	0.00 /	601.00		F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17		SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19

F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.00 /	585.89	F080M08/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080i48/	0.00 /	599.75	F080 TAP/	0.00 /	596.64
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00	F060i11/	0.00 /	598.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	588.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

Conduit/ FLOW ==> "*" Conduit uses the normal flow option.

LINE042/	0.00	Link3/	0.00	Link4/	0.00
Link6/	0.00	Link7/	0.00	Link9/	0.00
Link13/	0.00	Link14/	0.00	Link15/	0.00
Link17/	0.00	Link26/	0.00	Link27/	0.00
Link31/	0.00	Link32/	0.00	Link38/	0.00
Link39/	0.00	Link40/	0.00	Link41/	0.00
Link44/	0.00	Link46/	0.00	Link48/	0.00
Link51/	0.00	OFLOW 1/	0.00	OFLOW 2/	0.00
OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
Link61/	0.00	Link64/	0.00	OFLOW 6/	0.00
F043M33 OF/	0.00	F042M61 OF/	0.00	F042M39 OF/	0.00
F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/	0.00
Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00
F090M07 OF/	0.00	Link83/	0.00	F080M06 OF/	0.00
348.1/	0.00	m32OF/	0.00	352.1/	0.00
M24 OF/	0.00	355.1/	0.00	m28 of/	0.00
357.1/	0.00	361.1/	0.00	F090M04 OF/	0.00
363.1/	0.00	F090M05 OF/	0.00	364.1/	0.00
F100M11 OF/	0.00	365.1/	0.00	F100M06 OF/	0.00
366.1/	0.00	370.1/	0.00	F090M09 OF/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00
376.1/	0.00	F100M04 OF/	0.00	377.1/	0.00
F100M03 OF/	0.00	378.1/	0.00	F100M02 OF/	0.00
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00
387.1/	0.00	389.1/	0.00	391.1/	0.00
392.1/	0.00	M21 OF/	0.00	398.1/	0.00
F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00
401.1/	0.00	F100M29 OF/	0.00	402.1/	0.00
F070M04 OF/	0.00	423.1/	0.00	F090M14 OF/	0.00
430.1/	0.00	F100M21 OF/	0.00	433.1/	0.00
F090M02 OF/	0.00	e01 OF/	0.00	F100i01 OV/	0.00
F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	0.00
i11 OF/	0.00	OF F042M19/	0.00	100E01 OVF/	0.00
F100M28 OV/	0.00	M100M27 OV/	0.00	F100M31 OV/	0.00
FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/	0.00
FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00
FREE # 7/	0.00	FREE # 8/	0.00	FREE # 9/	0.00
FREE #10/	0.00				

Conduit/	Velocity				
LINE042/	0.00	Link3/	0.00	Link4/	0.00
Link6/	0.00	Link7/	0.00	Link9/	0.00
Link13/	0.00	Link14/	0.00	Link15/	0.00
Link17/	0.00	Link26/	0.00	Link27/	0.00
Link31/	0.00	Link32/	0.00	Link38/	0.00
Link39/	0.00	Link40/	0.00	Link41/	0.00
Link44/	0.00	Link46/	0.00	Link48/	0.00
Link51/	0.00	OFLOW 1/	0.00	OFLOW 2/	0.00
OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
Link61/	0.00	Link64/	0.00	OFLOW 6/	0.00
F043M33 OF/	0.00	F042M61 OF/	0.00	F042M39 OF/	0.00
F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/	0.00
Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00
F090M07 OF/	0.00	Link83/	0.00	F080M06 OF/	0.00
348.1/	0.00	m32OF/	0.00	352.1/	0.00
M24 OF/	0.00	355.1/	0.00	m28 of/	0.00
357.1/	0.00	361.1/	0.00	F090M04 OF/	0.00
363.1/	0.00	F090M05 OF/	0.00	364.1/	0.00
F100M11 OF/	0.00	365.1/	0.00	F100M06 OF/	0.00
366.1/	0.00	370.1/	0.00	F090M09 OF/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00
376.1/	0.00	F100M04 OF/	0.00	377.1/	0.00
F100M03 OF/	0.00	378.1/	0.00	F100M02 OF/	0.00
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00
387.1/	0.00	389.1/	0.00	391.1/	0.00
392.1/	0.00	M21 OF/	0.00	398.1/	0.00
F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00
401.1/	0.00	F100M29 OF/	0.00	402.1/	0.00
F070M04 OF/	0.00	423.1/	0.00	F090M14 OF/	0.00
430.1/	0.00	F100M21 OF/	0.00	433.1/	0.00
F090M02 OF/	0.00				

Conduit/	Cross Sectional Area				
LINE042/	0.00	Link3/	0.00	Link4/	0.00

Link6/	0.00	Link7/	0.00	Link9/	0.00
Link13/	0.00	Link14/	0.00	Link15/	0.00
Link17/	0.00	Link26/	0.00	Link27/	0.00
Link31/	0.00	Link32/	0.00	Link38/	0.00
Link39/	0.00	Link40/	0.00	Link41/	0.00
Link44/	0.00	Link46/	0.00	Link48/	0.00
Link51/	0.00	OFLOW 1/	0.00	OFLOW 2/	0.00
OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
Link61/	0.00	Link64/	0.00	OFLOW 6/	0.00
F043M33 OF/	0.00	F042M61 OF/	0.00	F042M39 OF/	0.00
F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/	0.00
Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00
F090M07 OF/	0.00	Link83/	0.00	F080M06 OF/	0.00
348.1/	0.00	m32OF/	0.00	352.1/	0.00
M24 OF/	0.00	355.1/	0.00	m28 of/	0.00
357.1/	0.00	361.1/	0.00	F090M04 OF/	0.00
363.1/	0.00	F090M05 OF/	0.00	364.1/	0.00
F100M11 OF/	0.00	365.1/	0.00	F100M06 OF/	0.00
366.1/	0.00	370.1/	0.00	F090M09 OF/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00
376.1/	0.00	F100M04 OF/	0.00	377.1/	0.00
F100M03 OF/	0.00	378.1/	0.00	F100M02 OF/	0.00
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00
387.1/	0.00	389.1/	0.00	391.1/	0.00
392.1/	0.00	M21 OF/	0.00	398.1/	0.00
F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00
401.1/	0.00	F100M29 OF/	0.00	402.1/	0.00
F070M04 OF/	0.00	423.1/	0.00	F090M14 OF/	0.00
430.1/	0.00	F100M21 OF/	0.00	433.1/	0.00
F090M02 OF/	0.00				

Conduit/	Hydraulic Radius				
LINE042/	0.00	Link3/	0.00	Link4/	0.00
Link6/	0.00	Link7/	0.00	Link9/	0.00
Link13/	0.00	Link14/	0.00	Link15/	0.00
Link17/	0.00	Link26/	0.00	Link27/	0.00
Link31/	0.00	Link32/	0.00	Link38/	0.00
Link39/	0.00	Link40/	0.00	Link41/	0.00
Link44/	0.00	Link46/	0.00	Link48/	0.00
Link51/	0.00	OFLOW 1/	0.00	OFLOW 2/	0.00
OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
Link61/	0.00	Link64/	0.00	OFLOW 6/	0.00
F043M33 OF/	0.00	F042M61 OF/	0.00	F042M39 OF/	0.00
F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/	0.00
Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00
F090M07 OF/	0.00	Link83/	0.00	F080M06 OF/	0.00
348.1/	0.00	m32OF/	0.00	352.1/	0.00
M24 OF/	0.00	355.1/	0.00	m28 of/	0.00
357.1/	0.00	361.1/	0.00	F090M04 OF/	0.00
363.1/	0.00	F090M05 OF/	0.00	364.1/	0.00
F100M11 OF/	0.00	365.1/	0.00	F100M06 OF/	0.00
366.1/	0.00	370.1/	0.00	F090M09 OF/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00
376.1/	0.00	F100M04 OF/	0.00	377.1/	0.00
F100M03 OF/	0.00	378.1/	0.00	F100M02 OF/	0.00
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00
387.1/	0.00	389.1/	0.00	391.1/	0.00
392.1/	0.00	M21 OF/	0.00	398.1/	0.00
F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00
401.1/	0.00	F100M29 OF/	0.00	402.1/	0.00
F070M04 OF/	0.00	423.1/	0.00	F090M14 OF/	0.00
430.1/	0.00	F100M21 OF/	0.00	433.1/	0.00
F090M02 OF/	0.00				

Conduit/	Upstream/	Downstream Elevation					
LINE042/	645.52/	645.52	Link3/	644.73/	644.73	Link4/	644.20/
Link6/	600.38/	600.38	Link7/	594.61/	594.61	Link9/	594.14/
Link13/	594.43/	594.43	Link14/	582.00/	582.00	Link15/	596.64/
Link17/	588.00/	588.00	Link26/	596.64/	596.64	Link27/	648.09/
Link31/	603.97/	603.97	Link32/	603.17/	603.17	Link38/	594.14/
Link39/	588.66/	588.66	Link40/	585.89/	585.89	Link41/	582.00/
Link44/	648.09/	648.09	Link46/	596.00/	596.00	Link48/	591.32/
Link51/	584.32/	584.32	OFLOW 1/	598.00/	598.00	OFLOW 2/	597.71/
OFLOW 3/	597.71/	597.71	OFLOW 4/	601.00/	601.00	OFLOW 5/	635.37/
Link61/	599.05/	599.05	Link64/	594.43/	594.43	OFLOW 6/	584.32/
F043M33 OF/	640.00/	640.00	F042M61 OF/	644.20/	644.20	F042M39 OF/	598.00/
F060M02 OF/	584.32/	584.32	F070M02 OF/	582.00/	582.00	F070i05 OF/	582.00/
Link71/	638.16/	638.16	F100M07 OF/	601.74/	601.74	Link75/	594.92/
F090M07 OF/	602.08/	602.08	Link83/	590.36/	590.36	F080M06 OF/	603.11/
348.1/	646.91/	646.91	m32OF/	647.75/	647.75	352.1/	611.99/
M24 OF/	611.99/	611.99	355.1/	644.73/	644.73	m28 of/	645.40/
357.1/	590.36/	590.36	361.1/	607.19/	607.19	F090M04 OF/	607.19/
363.1/	600.77/	600.77	F090M05 OF/	600.77/	600.77	364.1/	639.32/
F100M11 OF/	639.32/	639.32	365.1/	634.57/	634.57	F100M06 OF/	634.57/
366.1/	601.74/	601.74	370.1/	614.80/	614.80	F090M09 OF/	614.80/

371.1/	605.68/	605.68	F090M08 OF/	605.68/	605.68	374.1/	602.08/	602.08
F090M06 OF/	603.17/	603.17	375.1/	600.77/	600.77	F090M03 OF/	600.77/	600.77
376.1/	612.51/	612.51	F100M04 OF/	612.51/	612.51	377.1/	605.60/	605.60
F100M03 OF/	605.60/	605.60	378.1/	594.14/	594.14	F100M02 OF/	594.14/	594.14
383.1/	658.61/	658.61	F080M08 OF/	658.61/	658.61	385.1/	599.75/	599.75
387.1/	591.61/	591.61	389.1/	591.61/	591.61	391.1/	591.61/	591.61
392.1/	601.93/	601.93	M21 OF/	601.93/	601.93	398.1/	669.65/	669.65
F080M10 of/	669.65/	669.65	399.1/	603.11/	603.11	E080M13/	603.11/	603.11
401.1/	594.14/	594.14	F100M29 OF/	594.14/	594.14	402.1/	597.71/	597.71
F070M04 OF/	597.71/	597.71	423.1/	580.53/	580.53	F090M14 OF/	580.53/	580.53
430.1/	596.50/	596.50	F100M21 OF/	596.50/	596.50	433.1/	596.50/	596.50
F090M02 OF/	590.00/	590.00						

Cycle 500 Time 4 Hrs - 10.00 Min

Junction /	Depth /	Elevation	====> "*" Junction is Surcharged.		
F100E00/	0.00 /	582.00	F100M31/	0.00 /	594.14
F100i01/	0.00 /	604.18	F100M04/	0.00 /	634.57
F100M11/	0.00 /	660.44	F090E00/	0.00 /	580.53
F090M05/	0.00 /	602.08	F090M09/	0.00 /	635.37
F080E00/	0.00 /	596.00	F080M14/	0.00 /	599.05
F080M06/	0.00 /	658.61	F070M02/	0.00 /	597.71
F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14
F042M18/	0.00 /	600.38	F042M13/	0.00 /	594.61
F042M24/	0.02 /	644.22	F042M28/	0.06 /	644.79
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91
EBMPF080/	0.00 /	601.00	F090M08/	0.00 /	614.80
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97
F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51
F100M26/	0.00 /	588.66	F100M32/	0.00 /	585.89
F080M05/	0.00 /	666.27	F080i48/	0.00 /	599.75
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00
Conduit/	FLOW	====> "*" Conduit uses the normal flow option.			
LINE042/	0.00	Link3/	0.00	Link4/	0.02
Link7/	0.00	Link9/	0.00	Link13/	0.00
Link15/	0.00	Link17/	0.00	Link26/	0.00
Link31/	0.00	Link32/	0.00	Link38/	0.00
Link40/	0.00	Link41/	0.00	Link44/	0.00
Link48/	0.00	Link51/	0.00	OFLOW 1/	0.00
OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
Link64/	0.00	OFLOW 6/	0.00	F043M33 OF/	0.00
F042M39 OF/	0.00	F060M02 OF/	0.00	F070M02 OF/	0.00
Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00
Link83/	0.00	F080M06 OF/	0.00	348.1/	0.00
352.1/	0.01	M24 OF/	0.00	355.1/	0.02*
357.1/	0.00	361.1/	0.00	F090M04 OF/	0.00
F090M05 OF/	0.00	364.1/	0.00	F100M11 OF/	0.00
F100M06 OF/	0.00	366.1/	0.00	370.1/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
375.1/	0.00	F090M03 OF/	0.00	376.1/	0.00
377.1/	0.00	F100M03 OF/	0.00	378.1/	0.00
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00
389.1/	0.00	391.1/	0.00	392.1/	0.00
398.1/	0.00	F080M10 of/	0.00	399.1/	0.00
401.1/	0.00	F100M29 OF/	0.00	402.1/	0.00
423.1/	0.00	F090M14 OF/	0.00	430.1/	0.00
433.1/	0.00	F090M02 OF/	0.00	e01 OF/	0.00

0.00	Link6/
0.00	Link14/
0.00	Link27/
0.00	Link39/
0.00	Link46/
0.00	OFLOW 2/
0.00	Link61/
0.00	F042M61 OF/
0.00	F070i05 OF/
0.00	F090M07 OF/
0.00	m320F/
0.00	m28 of/
0.00	363.1/
0.00	365.1/
0.00	F090M09 OF/
0.00	F090M06 OF/
0.00	F100M04 OF/
0.00	F100M02 OF/
0.00	387.1/
0.00	M21 OF/
0.00	E080M13/
0.00	F070M04 OF/
0.00	F100M21 OF/
0.00	F100i01 OV/

0.00	F080 EMER/	0.00	060E01 OF/	0.00	107 of/	0.00	111 OF/
0.00	OF F042M19/	0.00	100E01 OVE/	0.00	F100M28 OV/	0.00	M100M27 OV/
0.00	F100M31 OV/	0.00	FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/
0.00	FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00	FREE # 7/
0.00	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00	

Cycle 1000 Time 8 Hrs - 20.00 Min

Conduit / Depth / Elevation	====> "S" Junction is Surcharged.				
F100E00/ 0.19 / 582.19	F100M21/ 0.95 / 595.09	F100M21/ 0.07 / 601.81			
F100i01/ 0.37 / 604.25	F100M04/ 0.14 / 634.71	F100M07/ 0.21 / 639.53			
F100M11/ 0.09 / 600.53	F090E00/ 0.11 / 580.64	F090M02/ 0.11 / 630.88			
F090M05/ 0.14 / 602.22	F090M09/ 0.04 / 635.41	F090M04/ 0.00 / 632.24			
F080E00/ 0.09 / 596.09	F080M14/ 0.09 / 599.14	F080M13/ 0.01 / 648.10			
F080M06/ 0.02 / 658.63	F070M02/ 0.17 / 597.88	F070M01/ 0.18 / 594.61			
F070E00/ 0.17 / 582.17	F060M01/ 0.49 / 591.81	F060E01/ 0.00 / 598.00			
F050M01/ 0.07 / 599.41	F050E01/ 0.09 / 594.23	F050E00/ 0.09 / 590.45			
F042M18/ 0.24 / 600.62	F042M13/ 0.24 / 594.85	F042M19/ 0.44 / 602.37			
F042M24/ 0.24 / 644.44	F042M28/ 0.34 / 645.07	F042M39/ 0.28 / 645.68			
F042M61/ 0.19 / 645.71	F042M32/ 0.19 / 647.10	F042M33/ 0.17 / 647.92			
EBMPF080/ 0.00 / 601.00	F090M08/ 0.05 / 614.85	F090M07/ 0.07 / 605.75			
F090M06/ 0.05 / 603.22	SLOPECHANG/ 0.09 / 604.06	F090M03/ 0.00 / 607.19			
F100M27/ 0.15 / 595.07	F100M03/ 0.16 / 612.67	F100M02/ 0.15 / 605.75			
F100M26/ 0.18 / 588.84	F100M32/ 0.29 / 586.18	F080M08/ 0.00 / 669.65			
F080M05/ 0.00 / 666.27	F080i48/ 0.03 / 599.78	F080 TAP/ 0.11 / 596.75			
F060M02/ 0.56 / 592.17	F060i07/ 0.00 / 597.00	F060i11/ 0.00 / 598.00			
F060E00/ 0.49 / 584.81	F042M21/ 0.29 / 612.28	F080M10/ 0.01 / 680.43			
F080M02/ 0.01 / 603.12	F100M29/ 0.07 / 598.07	F070M04/ 0.20 / 604.20			
F070i05/ 0.14 / 595.64	E040i34/ 0.00 / 640.00	F090M14/ 0.12 / 588.12			
F100M06/ 0.16 / 638.32	F100M28/ 0.08 / 596.58	F100E01/ 0.00 / 597.00			
F100 E OF/ 0.00 / 590.00	F090M02OUT/ 0.00 / 590.00				

Conduit/	FLOW	====> "S" Conduit uses the normal flow option.			
LINE042/	0.16	Link3/	0.19*	Link4/	0.78
1.05		Link9/	0.05*	Link13/	0.48
0.68	Link7/	Link17/	0.22*	Link26/	0.01*
0.01	Link15/	Link32/	0.02	Link38/	-0.53
0.59	Link31/	Link41/	0.58	Link44/	0.00
0.21	Link40/	Link51/	1.79	OFLOW 1/	0.00
0.00	Link48/			OFLOW 2/	
0.00*	OFLOW 3/	OFLOW 4/	0.00	OFLOW 5/	0.00
	Link64/	OFLOW 6/	0.00	F043M33 OF/	0.00
0.00				F042M61 OF/	
0.00	F042M39 OF/	F060M02 OF/	0.00	F070M02 OF/	0.00
0.00				F070i05 OF/	
0.00	Link71/	F100M07 OF/	0.00	Link75/	0.06*
0.00	Link83/	F080M06 OF/	0.00		m32OF/
0.00					
0.00	352.1/	M24 OF/	0.00	355.1/	m28 of/
0.00					
0.10	357.1/	361.1/	0.00	F090M04 OF/	0.00
0.27	F090M05 OF/	364.1/	0.14*	F100M11 OF/	0.00
0.00	F100M06 OF/	366.1/	0.05		365.1/
0.00					
0.00	371.1/	F090M08 OF/	0.00	374.1/	F090M09 OF/
0.00					F090M06 OF/
0.00	375.1/	F090M03 OF/	0.00	376.1/	F100M04 OF/
0.00					
0.00	377.1/	F100M03 OF/	0.00	378.1/	F100M02 OF/
0.00					
0.00	383.1/	F080M08 OF/	0.00	385.1/	387.1/
0.00					
0.00	389.1/	391.1/	0.00	392.1/	0.93*
0.00					M21 OF/
0.00	398.1/	F080M10 of/	0.00	399.1/	0.00
0.00					E080M13/
0.00	401.1/	F100M29 OF/	0.00	402.1/	0.39
0.00					F070M04 OF/
0.00	423.1/	F090M14 OF/	0.00	430.1/	0.06*
0.00					F100M21 OF/
0.00	433.1/	F090M02 OF/	0.00	e01 OF/	0.00
0.00					F100i01 OV/
	F080 EMER/	060E01 OF/	0.00	107 of/	0.00
					111 OF/

0.00	OF F042M19/	0.00	100E01 OV/	0.00	F100M28 OV/	0.00	M100M27 OV/
0.00	F100M31 OV/	0.00	FREE # 1/	0.58	FREE # 2/	0.23	FREE # 3/
0.21	FREE # 4/	0.68	FREE # 5/	0.18	FREE # 6/	1.05	FREE # 7/
1.79	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00	

Cycle 1500 Time 12 Hrs - 30.00 Min

Junction /	Depth /	Elevation	====>	*** Junction is Surcharged.			
F100E00/	1.50 /	583.50		F100M31/	10.37 /	604.51	F100M21/ 5.48 / 607.22
F100i01/	3.82*/	608.00		F100M04/	3.20 /	637.77	F100M07/ 6.75 / 646.07
F100M11/	0.64 /	661.08		F090E00/	1.18 /	581.71	F090M02/ 0.91 / 601.68
F090M05/	0.92 /	603.00		F090M09/	0.35 /	635.72	F090M04/ 1.30 / 633.54
F080E00/	1.33 /	597.33		F080M14/	1.08 /	600.13	F080M13/ 0.53 / 648.62
F080M06/	0.42 /	659.03		F070M02/	4.81 /	602.52	F070M01/ 2.01 / 596.44
F070E00/	1.73 /	583.73		F060M01/	9.34*/	600.66	F060E01/ 3.80 / 601.80
F050M01/	0.56 /	599.90		F050E01/	1.23 /	595.37	F050E00/ 1.23 / 591.59
F042M18/	1.44 /	601.82		F042M13/	1.23 /	595.84	F042M19/ 6.49 / 608.42
F042M24/	6.33 /	650.53		F042M28/	6.26 /	650.99	F042M39/ 5.59 / 650.99
F042M61/	5.56 /	651.08		F042M32/	4.78 /	651.69	F042M33/ 3.94 / 651.69
EBMPF080/	4.60 /	605.60		F090M08/	0.45 /	615.25	F090M07/ 0.83 / 606.51
F090M06/	0.61 /	603.78		SLOPECHANG/	1.52*/	605.49	F090M03/ 5.39 / 612.58
F100M27/	8.40*/	603.32		F100M03/	5.72 /	618.23	F100M02/ 6.31 / 611.91
F100M26/	11.57*/	600.23		F100M32/	11.58*/	597.47	F080M08/ 0.41 / 670.06
F080M05/	0.00 /	666.27		F080i48/	2.17*/	601.92	F080 TAP/ 2.11 / 598.75
F060M02/	10.19 /	601.80		F060i07/	3.80 /	600.80	F060i11/ 6.05 / 604.05
F060E00/	1.30 /	585.62		F042M21/	4.90 /	616.89	F080M10/ 0.44 / 680.86
F080M02/	0.74 /	603.85		F100M29/	7.23 /	605.23	F070M04/ 6.85 / 610.85
F070i05/	2.91 /	598.41		E040i34/	0.18 /	640.18	F090M14/ 1.34 / 589.34
F100M06/	3.68 /	641.84		F100M28/	7.83 /	604.33	F100E01/ 7.38 / 604.38
F100 E OF/	0.00 /	590.00		F090M02OUT/	0.00 /	590.00	

Conduit/	FLOW	====>	*** Conduit uses the normal flow option.			
LINE042/	2.13		Link3/ 3.08	Link4/	11.37	Link6/
24.30	Link7/	24.30	Link9/ 2.94	Link13/	36.28	Link14/
56.37	Link15/	17.73	Link17/ 16.12	Link26/	21.25	Link27/
3.78*	Link31/	2.51	Link32/ 2.63	Link38/	-20.70	Link39/
28.35	Link40/	28.35	Link41/ 28.35	Link44/	0.00	Link46/
38.90	Link48/	11.63	Link51/ 11.63	OFLOW 1/	0.00	OFLOW 2/
0.00	OFLOW 3/	0.00	OFLOW 4/ 0.00	OFLOW 5/	0.00	Link61/
6.24*	Link64/	19.78	OFLOW 6/ 0.00	F043M33 OF/	6.12	F042M61 OF/
1.16*	F042M39 OF/	9.52*	F060M02 OF/ 112.27	F070M02 OF/	0.00	F070i05 OF/
0.00	Link71/	20.37	F100M07 OF/ 0.76	Link75/	7.64	F090M07 OF/
0.00	Link83/	0.00	F080M06 OF/ 0.00	348.1/	0.04	m320F/
-0.63	352.1/	17.17	M24 OF/ 11.56*	355.1/	0.22	m28 of/
-7.12	357.1/	33.32*	361.1/ 6.67	F090M04 OF/	0.00*	363.1/
4.76	F090M05 OF/	0.00	364.1/ 6.86	F100M11 OF/	0.00*	365.1/
21.87	F100M06 OF/	0.00	366.1/ 6.07	370.1/	2.36*	F090M09 OF/
0.00*	371.1/	2.40*	F090M08 OF/ 0.00*	374.1/	2.67	F090M06 OF/
0.00	375.1/	4.97	F090M03 OF/ 2.71	376.1/	30.94	F100M04 OF/
0.00*	377.1/	30.96	F100M03 OF/ 0.00*	378.1/	29.05	F100M02 OF/
2.15*	383.1/	2.64	F080M08 OF/ 0.00	385.1/	8.73	387.1/
-0.16	389.1/	-2.88	391.1/ 3.38	392.1/	14.61	M21 OF/
14.70*	398.1/	2.59	F080M10 of/ 0.00	399.1/	6.06*	E080M13/
0.00	401.1/	1.55	F100M29 OF/ 1.14*	402.1/	24.12	F070M04 OF/
8.44	423.1/	23.34	F090M14 OF/ 0.00	430.1/	9.08	F100M21 OF/
1.78	433.1/	2.56	F090M02 OF/ 0.00	e01 OF/	0.00	F100i01 OV/
0.00	F080 EMER/	13.69	060E01 OF/ 0.03	i07 of/	0.00	i11 OF/
0.00	OF F042M19/	26.96	100E01 OV/ 3.47	F100M28 OV/	10.00	M100M27 OV/

0.00	F100M31 OV/	20.35	FREE # 1/	28.35	FREE # 2/	23.34	FREE # 3/
36.90	FREE # 4/	56.37	FREE # 5/	33.35	FREE # 6/	24.30	FREE # 7/
123.89	FREE # 8/	6.13	FREE # 9/	30.39	FREE #10/	0.00	
Cycle	2000	Time	16 Hrs - 40.00 Min				

Junction / Depth / Elevation	====> "*" Junction is Surcharged.					
F100E00/ 0.55 / 582.35	F100M31/ 1.42 / 595.56	F100M21/ 0.26 / 602.00				
F100L01/ 0.27 / 604.45	F100M04/ 0.34 / 631.91	F100M07/ 0.36 / 633.95				
F100M11/ 0.20 / 660.64	F040E00/ 0.35 / 590.58	F050M02/ 0.30 / 601.07				
F090M05/ 0.22 / 602.40	F090M09/ 0.13 / 635.50	F090M04/ 0.19 / 632.42				
F080E00/ 0.55 / 596.55	F080M14/ 0.28 / 599.33	F080M13/ 0.21 / 648.30				
F080M06/ 0.17 / 658.78	F070M02/ 0.33 / 598.64	F070M01/ 0.35 / 594.78				
F070E00/ 0.34 / 582.34	F060M01/ 6.32*/ 597.64	F060E01/ 0.52 / 598.52				
F050M01/ 0.15 / 599.49	F050E01/ 0.18 / 594.32	F050E00/ 0.17 / 590.53				
F042M18/ 0.50 / 600.88	F042M13/ 0.47 / 595.08	F042M19/ 0.91 / 602.84				
F042M24/ 0.45 / 644.65	F042M28/ 0.58 / 645.31	F042M39/ 0.38 / 645.78				
F042M61/ 0.46 / 645.98	F042M32/ 0.47 / 647.38	F042M33/ 0.42 / 648.17				
EBMPF080/ 1.67 / 602.67	F090M08/ 0.16 / 614.96	F090M07/ 0.23 / 605.91				
F090M06/ 0.16 / 603.33	SLOPECHANG/ 0.30 / 604.27	F090M03/ 0.27 / 607.46				
F100M27/ 0.44 / 595.36	F100M03/ 0.40 / 612.91	F100M02/ 0.37 / 605.97				
F100M26/ 0.53 / 589.19	F100M32/ 0.71 / 586.60	F080M08/ 0.15 / 669.80				
F080M05/ 0.00 / 666.27	F080148/ 0.69 / 600.44	F080 TAP/ 0.75 / 597.39				
F060M02/ 6.94 / 598.55	F060107/ 3.00 / 600.00	F060i11/ 0.55 / 598.55				
F060E00/ 1.23 / 585.55	F042M21/ 0.53 / 612.52	F080M10/ 0.16 / 680.58				
F080M02/ 0.29 / 603.40	F100M29/ 0.17 / 598.17	F070M04/ 0.37 / 604.37				
F070i05/ 0.42 / 595.82	E040i34/ 0.00 / 640.00	F090M14/ 0.37 / 588.37				
F100M06/ 0.33 / 638.59	F100M28/ 0.29 / 596.79	F100E01/ 0.00 / 597.00				
F100 E OF/ 0.00 / 590.00	F090M02OUT/ 0.00 / 590.00					

Conduit/	FLOW	====> "*" Conduit uses the normal flow option.					
LINE042/	0.94	Link3/	1.11	Link4/	2.28	Link6/	
4.26	Link7/	4.26	Link9/	0.25*	Link13/	1.78	
2.78	Link15/	1.73*	Link17/	1.92*	Link26/	5.46	
0.54*	Link31/	0.32	Link32/	0.32	Link38/	-4.04	
4.92	Link40/	4.92	Link41/	4.92	Link44/	0.00	
7.19	Link48/	10.25	Link51/	10.27	OFLOW 1/	0.00	
0.00	OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00	
0.91	Link64/	1.00	OFLOW 6/	0.00	F043M33 OF/	0.00	
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00	
0.00	Link71/	1.66	F100M07 OF/	0.00	Link75/	0.87*	
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	0.77*	
0.00	352.1/	3.17*	M24 OF/	0.00*	355.1/	1.16*	
0.00	357.1/	0.70	361.1/	0.61*	F090M04 OF/	0.00*	
0.67	F090M05 OF/	0.00	364.1/	0.81*	F100M11 OF/	0.00*	
1.91	F100M06 OF/	0.00	366.1/	0.79	370.1/	0.32*	
0.00*	371.1/	0.32*	F090M08 OF/	0.00*	374.1/	0.32*	
0.00	375.1/	0.61*	F090M03 OF/	0.00	376.1/	2.90*	
0.00*	377.1/	2.90	F100M03 OF/	0.00*	378.1/	2.90*	
0.00*	383.1/	0.34*	F080M08 OF/	0.00	385.1/	5.40	
0.46	389.1/	3.41	391.1/	0.10	392.1/	3.18*	
0.00	398.1/	0.34	F080M10 OF/	0.00	399.1/	0.91*	
0.00	401.1/	0.35*	F100M29 OF/	0.00	402.1/	1.45	
0.00	423.1/	2.44	F090M14 OF/	0.00	430.1/	0.87	
0.00	433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	0.00	
0.00	F080 EMER/	0.00	060E01 OF/	0.00	i07 OF/	0.00	
0.00	OF F042M19/	0.00	100E01 OV/	0.00	F100M28 OV/	0.00	
0.00	F100M31 OV/	0.00	FREE # 1/	4.92	FREE # 2/	2.44	
						FREE # 3/	

7.19	FREE # 4/	2.78	FREE # 5/	0.70	FREE # 6/	4.26	FREE # 7/
10.27	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00	
Cycle	2500	Time	20 Hrs - 50.00 Min				

Junction / Depth / Elevation			====> "*" Junction is Surcharged.				
F100E00/	0.41 /	582.41	F100M31/	1.21 /	595.35	F100M21/	0.20 / 601.94
F100i01/	0.20 /	604.38	F100M04/	0.26 /	634.83	F100M07/	0.42 / 639.74
F100M11/	0.15 /	660.59	F090E00/	0.27 /	580.80	F090M02/	0.23 / 601.00
F090M05/	0.24 /	602.32	F090M09/	0.10 /	635.47	F090M04/	0.15 / 632.39
F080E00/	0.32 /	596.32	F080M14/	0.21 /	599.26	F080M13/	0.16 / 648.25
F080M06/	0.13 /	658.74	F070M02/	0.24 /	597.95	F070M01/	0.26 / 594.69
F070E00/	0.25 /	582.25	F060M01/	0.70 /	592.02	F060E01/	0.00 / 598.00
F050M01/	0.11 /	599.45	F050E01/	0.14 /	594.28	F050E00/	0.13 / 590.49
F042M18/	0.36 /	600.74	F042M13/	0.35 /	594.96	F042M19/	0.66 / 602.59
F042M24/	0.33 /	644.53	F042M28/	0.43 /	645.16	F042M39/	0.29 / 645.69
F042M61/	0.34 /	645.86	F042M32/	0.35 /	647.26	F042M33/	0.31 / 648.06
EBMPF080/	0.51 /	601.51	F090M08/	0.12 /	614.92	F090M07/	0.17 / 605.85
F090M06/	0.12 /	603.29	SLOPECHANG/	0.23 /	604.20	F090M03/	0.20 / 607.39
F100M27/	0.33 /	595.25	F100M03/	0.30 /	612.81	F100M02/	0.28 / 605.88
F100M26/	0.38 /	589.04	F100M32/	0.54 /	586.43	F080M08/	0.11 / 669.76
F080M05/	0.00 /	666.27	F080i48/	0.33 /	600.08	F080 TAP/	0.39 / 597.03
F060M02/	0.81 /	592.42	F060i07/	0.00 /	597.00	F060i11/	0.00 / 598.00
F060E00/	0.68 /	585.00	F042M21/	0.39 /	612.38	F080M10/	0.12 / 680.54
F080M02/	0.22 /	603.33	F100M29/	0.13 /	598.13	F070M04/	0.28 / 604.28
F070i05/	0.24 /	595.74	E040i34/	0.00 /	640.00	F090M14/	0.27 / 588.27
F100M06/	0.32 /	638.48	F100M28/	0.22 /	596.72	F100E01/	0.00 / 597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00		

Conduit/ FLOW			====> "*" Conduit uses the normal flow option.				
LINE042/	0.53		Link3/	0.62	Link4/	1.28	Link6/
2.33			Link7/	2.33	Link9/	0.14*	Link14/
1.52			Link15/	0.96*	Link17/	1.09*	Link27/
0.31*			Link31/	0.18	Link32/	0.18	Link39/
2.78			Link40/	2.78	Link41/	2.78	Link46/
2.33			Link48/	3.34	Link51/	3.34	OFLOW 2/
0.00			OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/
0.52			OFLOW 6/	0.00	OFLOW 7/	0.00	Link61/
0.00*			OFLOW 8/	0.00	OFLOW 9/	0.00	Link64/
0.00			OFLOW 10/	0.00	OFLOW 11/	0.00	F042M39 OF/
0.00			OFLOW 12/	0.00	OFLOW 13/	0.00	F060M02 OF/
0.00			OFLOW 14/	0.00	OFLOW 15/	0.00	F070M02 OF/
0.00			OFLOW 16/	0.00	OFLOW 17/	0.00	F070i05 OF/
0.00			OFLOW 18/	0.00	OFLOW 19/	0.00	F090M07 OF/
0.00			OFLOW 20/	0.00	OFLOW 21/	0.00	F090M06 OF/
0.00			OFLOW 22/	0.00	OFLOW 23/	0.00	F100M04 OF/
0.00			OFLOW 24/	0.00	OFLOW 25/	0.00	F100M02 OF/
0.00			OFLOW 26/	0.00	OFLOW 27/	0.00	F100M03 OF/
0.00			OFLOW 28/	0.00	OFLOW 29/	0.00	F100M07 OF/
0.00			OFLOW 30/	0.00	OFLOW 31/	0.00	F100M09 OF/
0.00			OFLOW 32/	0.00	OFLOW 33/	0.00	F100M11 OF/
0.00			OFLOW 34/	0.00	OFLOW 35/	0.00	F100M13 OF/
0.00			OFLOW 36/	0.00	OFLOW 37/	0.00	F100M15 OF/
0.00			OFLOW 38/	0.00	OFLOW 39/	0.00	F100M17 OF/
0.00			OFLOW 40/	0.00	OFLOW 41/	0.00	F100M19 OF/
0.00			OFLOW 42/	0.00	OFLOW 43/	0.00	F100M21 OF/
0.00			OFLOW 44/	0.00	OFLOW 45/	0.00	F100M23 OF/
0.00			OFLOW 46/	0.00	OFLOW 47/	0.00	F100M25 OF/
0.00			OFLOW 48/	0.00	OFLOW 49/	0.00	F100M27 OF/
0.00			OFLOW 50/	0.00	OFLOW 51/	0.00	F100M29 OF/
0.00			OFLOW 52/	0.00	OFLOW 53/	0.00	F100M31 OF/
0.00			OFLOW 54/	0.00	OFLOW 55/	0.00	F100M33 OF/
0.00			OFLOW 56/	0.00	OFLOW 57/	0.00	F100M35 OF/
0.00			OFLOW 58/	0.00	OFLOW 59/	0.00	F100M37 OF/
0.00			OFLOW 60/	0.00	OFLOW 61/	0.00	F100M39 OF/
0.00			OFLOW 62/	0.00	OFLOW 63/	0.00	F100M41 OF/
0.00			OFLOW 64/	0.00	OFLOW 65/	0.00	F100M43 OF/
0.00			OFLOW 66/	0.00	OFLOW 67/	0.00	F100M45 OF/
0.00			OFLOW 68/	0.00	OFLOW 69/	0.00	F100M47 OF/
0.00			OFLOW 70/	0.00	OFLOW 71/	0.00	F100M49 OF/
0.00			OFLOW 72/	0.00	OFLOW 73/	0.00	F100M51 OF/
0.00			OFLOW 74/	0.00	OFLOW 75/	0.00	F100M53 OF/
0.00			OFLOW 76/	0.00	OFLOW 77/	0.00	F100M55 OF/
0.00			OFLOW 78/	0.00	OFLOW 79/	0.00	F100M57 OF/
0.00			OFLOW 80/	0.00	OFLOW 81/	0.00	F100M59 OF/
0.00			OFLOW 82/	0.00	OFLOW 83/	0.00	F100M61 OF/
0.00			OFLOW 84/	0.00	OFLOW 85/	0.00	F100M63 OF/
0.00			OFLOW 86/	0.00	OFLOW 87/	0.00	F100M65 OF/
0.00			OFLOW 88/	0.00	OFLOW 89/	0.00	F100M67 OF/
0.00			OFLOW 90/	0.00	OFLOW 91/	0.00	F100M69 OF/
0.00			OFLOW 92/	0.00	OFLOW 93/	0.00	F100M71 OF/
0.00			OFLOW 94/	0.00	OFLOW 95/	0.00	F100M73 OF/
0.00			OFLOW 96/	0.00	OFLOW 97/	0.00	F100M75 OF/
0.00			OFLOW 98/	0.00	OFLOW 99/	0.00	F100M77 OF/
0.00			OFLOW 100/	0.00	OFLOW 101/	0.00	F100M79 OF/
0.00			OFLOW 102/	0.00	OFLOW 103/	0.00	F100M81 OF/
0.00			OFLOW 104/	0.00	OFLOW 105/	0.00	F100M83 OF/
0.00			OFLOW 106/	0.00	OFLOW 107/	0.00	F100M85 OF/
0.00			OFLOW 108/	0.00	OFLOW 109/	0.00	F100M87 OF/
0.00			OFLOW 110/	0.00	OFLOW 111/	0.00	F100M89 OF/
0.00			OFLOW 112/	0.00	OFLOW 113/	0.00	F100M91 OF/
0.00			OFLOW 114/	0.00	OFLOW 115/	0.00	F100M93 OF/
0.00			OFLOW 116/	0.00	OFLOW 117/	0.00	F100M95 OF/
0.00			OFLOW 118/	0.00	OFLOW 119/	0.00	F100M97 OF/
0.00			OFLOW 120/	0.00	OFLOW 121/	0.00	F100M99 OF/
0.00			OFLOW 122/	0.00	OFLOW 123/	0.00	F100M101 OF/
0.00			OFLOW 124/	0.00	OFLOW 125/	0.00	F100M103 OF/
0.00			OFLOW 126/	0.00	OFLOW 127/	0.00	F100M105 OF/
0.00			OFLOW 128/	0.00	OFLOW 129/	0.00	F100M107 OF/
0.00			OFLOW 130/	0.00	OFLOW 131/	0.00	F100M109 OF/
0.00			OFLOW 132/	0.00	OFLOW 133/	0.00	F100M111 OF/
0.00			OFLOW 134/	0.00	OFLOW 135/	0.00	F100M113 OF/
0.00			OFLOW 136/	0.00	OFLOW 137/	0.00	F100M115 OF/
0.00			OFLOW 138/	0.00	OFLOW 139/	0.00	F100M117 OF/
0.00			OFLOW 140/	0.00	OFLOW 141/	0.00	F100M119 OF/
0.00			OFLOW 142/	0.00	OFLOW 143/	0.00	F100M121 OF/
0.00			OFLOW 144/	0.00	OFLOW 145/	0.00	F100M123 OF/
0.00			OFLOW 146/	0.00	OFLOW 147/	0.00	F100M125 OF/
0.00			OFLOW 148/	0.00	OFLOW 149/	0.00	F100M127 OF/
0.00			OFLOW 150/	0.00	OFLOW 151/	0.00	F100M129 OF/
0.00			OFLOW 152/	0.00	OFLOW 153/	0.00	F100M131 OF/
0.00			OFLOW 154/	0.00	OFLOW 155/	0.00	F100M133 OF/
0.00			OFLOW 156/	0.00	OFLOW 157/	0.00	F100M135 OF/
0.00			OFLOW 158/	0.00	OFLOW 159/	0.00	F100M137 OF/
0.00			OFLOW 160/	0.00	OFLOW 161/	0.00	F100M139 OF/
0.00			OFLOW 162/	0.00	OFLOW 163/	0.00	F100M141 OF/
0.00			OFLOW 164/	0.00	OFLOW 165/	0.00	F100M143 OF/
0.00			OFLOW 166/	0.00	OFLOW 167/	0.00	F100M145 OF/
0.00			OFLOW 168/	0.00	OFLOW 169/	0.00	F100M147 OF/
0.00			OFLOW 170/	0.00	OFLOW 171/	0.00	F100M149 OF/
0.00			OFLOW 172/	0.00	OFLOW 173/	0.00	F100M151 OF/
0.00			OFLOW 174/	0.00	OFLOW 175/	0.00	F100M153 OF/
0.00			OFLOW 176/	0.00	OFLOW 177/	0.00	F100M155 OF/
0.00			OFLOW 178/	0.00	OFLOW 179/	0.00	F100M157 OF/
0.00			OFLOW 180/	0.00	OFLOW 181/	0.00	F100M159 OF/
0.00			OFLOW 182/	0.00	OFLOW 183/	0.00	F100M161 OF/
0.00			OFLOW 184/	0.00	OFLOW 185/	0.00	F100M163 OF/
0.00			OFLOW 186/	0.00	OFLOW 187/	0.00	F100M165 OF/
0.00			OFLOW 188/	0.00	OFLOW 189/	0.00	F100M167 OF/
0.00			OFLOW 190/	0.00	OFLOW 191/	0.00	F100M169 OF/
0.00			OFLOW 192/	0.00	OFLOW 193/	0.00	F100M171 OF/
0.00			OFLOW 194/	0.00	OFLOW 195/	0.00	F100M173 OF/
0.00			OFLOW 196/	0.00	OFLOW 197/	0.00	F100M175 OF/
0.00			OFLOW 198/	0.00	OFLOW 199/	0.00	F100M177 OF/
0.00			OFLOW 200/	0.00	OFLOW 201/	0.00	F100M179 OF/
0.00			OFLOW 202/	0.00	OFLOW 203/	0.00	F100M181 OF/
0.00			OFLOW 204/	0.00	OFLOW 205/	0.00	F100M183 OF/
0.00			OFLOW 206/	0.00	OFLOW 207/	0.00	F100M185 OF/
0.00			OFLOW 208/	0.00	OFLOW 209/	0.00	F100M187 OF/
0.00			OFLOW 210/	0.00	OFLOW 211/	0.00	F100M189 OF/
0.00			OFLOW 212/	0.00	OFLOW 213/	0.00	F100M191 OF/
0.00			OFLOW 214/	0.00	OFLOW 215/	0.00	F100M193 OF/

3.35

FREE # 8/ 0.00 FREE # 9/ 0.00 FREE #10/ 0.00
 Cycle 3000 Time 25 Hrs - 0.00 Min

Junction / Depth / Elevation ==> "*" Junction is Surcharged.

F100E00/	0.05 /	582.05	F100M31/	0.92 /	594.96	F100M21/	0.01 /	601.75
F100I01/	0.00 /	604.18	F100M04/	0.03 /	634.60	F100M07/	0.06 /	639.38
F100M11/	0.00 /	660.44	F090E00/	0.01 /	580.54	F090M02/	0.02 /	630.79
F090M05/	0.32 /	602.10	F090M05/	0.00 /	635.37	F090M04/	0.01 /	652.25
F090E00/	0.16 /	596.16	F090M14/	0.04 /	599.09	F030M13/	0.01 /	649.10
F090M08/	0.00 /	659.61	F070M02/	0.04 /	597.35	F070M01/	0.39 /	594.52
F070E00/	0.07 /	582.07	F060M01/	0.31 /	591.53	F060E01/	0.60 /	598.00
F050M01/	0.01 /	599.35	F050E01/	0.00 /	594.14	F050E00/	0.30 /	590.36
F042M19/	0.13 /	600.51	F042M13/	0.12 /	594.73	F042M19/	0.23 /	602.16
F042M24/	0.10 /	644.30	F042M28/	0.03 /	644.76	F042M39/	0.00 /	645.40
F042M61/	0.04 /	645.56	F042M32/	0.03 /	646.94	F042M33/	0.01 /	647.76
EBMPF080/	0.32 /	601.32	F090M08/	0.00 /	614.80	F090M07/	0.01 /	605.69
F090M06/	0.01 /	603.18	SLOPECHANG/	0.02 /	603.99	F090M03/	0.02 /	607.21
F100M27/	0.04 /	594.96	F100M03/	0.03 /	612.54	F100M02/	0.04 /	605.64
F100M26/	0.04 /	588.70	F100M32/	0.16 /	586.05	F080M08/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080I48/	0.23 /	599.98	F080 TAP/	0.19 /	596.83
F060M02/	0.32 /	591.93	F060I07/	0.00 /	597.00	F060I11/	0.00 /	598.00
F060E00/	0.31 /	584.63	F042M21/	0.12 /	612.11	F080M10/	0.00 /	680.42
F080M02/	0.02 /	603.13	F100M29/	0.00 /	598.00	F070M04/	0.06 /	604.06
F070I05/	0.11 /	595.61	E040I34/	0.00 /	640.00	F090M14/	0.03 /	588.03
F100M06/	0.05 /	638.21	F100M28/	0.01 /	596.51	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

Conduit/ LINE042/	FLOW 0.00*	Link3/	Link4/	0.01	0.01*	Link6/
0.27	Link7/	0.27	Link9/	0.00	Link13/	0.04*
0.15	Link15/	0.06*	Link17/	0.01*	Link26/	0.57
0.00*	Link31/	0.00	Link32/	0.00	Link38/	-0.04
0.04*	Link40/	0.04*	Link41/	0.04	Link44/	0.00
0.63	Link48/	0.69	Link51/	0.72	OFLOW 1/	0.00
0.00	OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
0.01*	Link64/	0.10	OFLOW 6/	0.00	F043M33 OF/	0.00
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00
0.00	Link71/	0.02	F100M07 OF/	0.00	Link75/	0.00*
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	0.00*
0.00	352.1/	0.14*	M24 OF/	0.00*	355.1/	0.00*
0.00	357.1/	0.00	361.1/	0.00*	F090M04 OF/	0.00*
0.00	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/	0.00*
0.02	F100M06 OF/	0.00	366.1/	0.00*	370.1/	0.00*
0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/	0.00*
0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/	0.03*
0.00*	377.1/	0.03*	F100M03 OF/	0.00*	378.1/	0.03*
0.00*	383.1/	0.00	F080M08 OF/	0.00	385.1/	0.57
0.00*	389.1/	0.00	391.1/	0.00	392.1/	0.16*
0.00	398.1/	0.00*	F080M10 OF/	0.00	399.1/	0.01*
0.00	401.1/	0.00*	F100M29 OF/	0.00	402.1/	0.03
0.00	423.1/	0.02	F090M14 OF/	0.00	430.1/	0.00*
0.00	433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	0.00
0.00	F080 EMER/	0.00	060E01 OF/	0.00	i07 OF/	0.00
0.00	OF F042M19/	0.00	100E01 OV/	0.00	F100M28 OV/	0.00
0.00	F100M31 OV/	0.00	FREE # 1/	0.04	FREE # 2/	0.02
0.63	FREE # 4/	0.15	FREE # 5/	0.00	FREE # 6/	0.27
0.72	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00

Cycle 3500 Time 29 Hrs - 10.00 Min

Junction / Depth / Elevation	====> *** Junction is Surcharged.								
F100E00/ 0.00 / 582.00	F100M31/ 0.78 / 594.92	F100M21/ 0.00 / 601.74							
F100i01/ 0.00 / 604.18	F100M04/ 0.00 / 634.57	F100M07/ 0.00 / 639.32							
F100M11/ 0.00 / 660.44	F090E00/ 0.00 / 580.53	F090M02/ 0.00 / 600.77							
F090M05/ 0.00 / 602.08	F090M09/ 0.00 / 635.37	F090M04/ 0.00 / 632.24							
F080E00/ 0.02 / 596.02	F090M14/ 0.00 / 599.05	F080M13/ 0.00 / 648.09							
F080M06/ 0.00 / 658.61	F070M02/ 0.00 / 597.71	F070M01/ 0.00 / 594.43							
F070E00/ 0.00 / 582.00	F060M01/ 0.00 / 591.32	F060E01/ 0.00 / 596.00							
F050M01/ 0.00 / 589.34	FC50E01/ 0.00 / 594.14	F050E00/ 0.00 / 590.36							
FC42M18/ 0.00 / 600.38	F042M13/ 0.00 / 594.61	F042M19/ 0.00 / 601.93							
F042M24/ 0.00 / 644.20	F042M28/ 0.00 / 644.73	F042M39/ 0.00 / 645.40							
F042M51/ 0.00 / 645.52	F042M32/ 0.00 / 646.91	F042M33/ 0.00 / 647.75							
EBMPF080/ 0.10 / 601.10	F090M08/ 0.00 / 614.80	F090M07/ 0.00 / 605.68							
F090M06/ 0.00 / 603.17	SLOPECHANG/ 0.00 / 603.97	F090M03/ 0.00 / 607.19							
F100M27/ 0.00 / 594.92	F100M03/ 0.00 / 612.51	F100M02/ 0.00 / 605.60							
F100M26/ 0.00 / 588.66	F100M32/ 0.10 / 585.99	F080M08/ 0.00 / 669.65							
F080M05/ 0.00 / 666.27	F080i48/ 0.08 / 599.83	F080 TAP/ 0.05 / 596.69							
F060M02/ 0.00 / 591.61	F060i07/ 0.00 / 597.00	F060i11/ 0.00 / 598.00							
F060E00/ 0.00 / 584.32	F042M21/ 0.00 / 611.99	F080M10/ 0.00 / 680.42							
F080M02/ 0.00 / 603.11	F100M29/ 0.00 / 598.00	F070M04/ 0.00 / 604.00							
F070i05/ 0.00 / 595.50	E040i34/ 0.00 / 640.00	F090M14/ 0.00 / 588.00							
F100M06/ 0.00 / 638.16	F100M28/ 0.00 / 596.50	F100E01/ 0.00 / 597.00							
F100 E OF/ 0.00 / 590.00	F090M02OUT/ 0.00 / 590.00								

Conduit/	FLOW	====> *** Conduit uses the normal flow option.					
LINE042/	0.00*	Link3/	0.00	Link4/	0.00*	Link6/	
0.00		Link7/	0.00	Link9/	0.00	Link13/	0.00
0.00		Link15/	0.00*	Link17/	0.00*	Link26/	0.06
0.00*		Link31/	0.00	Link32/	0.00	Link38/	0.00
0.00*		Link40/	0.00*	Link41/	0.00	Link44/	0.00
0.06		Link48/	0.00	Link51/	0.00	OFLOW 1/	0.00
0.00		OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
0.00		Link64/	0.00	OFLOW 6/	0.00	F043M33 OF/	0.00
0.00*		F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00
0.00		Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00*
0.00		Link83/	0.00	F080M06 OF/	0.00	348.1/	0.00*
0.00		352.1/	0.00*	M24 OF/	0.00*	355.1/	0.00*
0.00		357.1/	0.00	361.1/	0.00*	F090M04 OF/	0.00*
0.00		F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/	0.00*
0.00		F100M06 OF/	0.00	366.1/	0.00*	370.1/	0.00*
0.00*		371.1/	0.00*	F090M08 OF/	0.00*	374.1/	0.00*
0.00		375.1/	0.00	F090M03 OF/	0.00	376.1/	0.00*
0.00*		377.1/	0.00*	F100M03 OF/	0.00*	378.1/	0.00*
0.00*		383.1/	0.00	F080M08 OF/	0.00	385.1/	0.06
0.00*		389.1/	0.00	391.1/	0.00	392.1/	0.00*
0.00		398.1/	0.00*	F080M10 of/	0.00	399.1/	0.00*
0.00		401.1/	0.00*	F100M29 OF/	0.00	402.1/	0.00
0.00		423.1/	0.00	F090M14 OF/	0.00	430.1/	0.00*
0.00		433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	0.00
0.00		F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	0.00
0.00		OF F042M19/	0.00	100E01 OVF/	0.00	F100M28 OV/	0.00
0.00		F100M31 OV/	0.00	FREE # 1/	0.00	FREE # 2/	0.00
0.06		FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00
0.00		FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00

Cycle 4000 Time 33 Hrs - 20.00 Min

Junction / Depth / Elevation			====> "*" Junction is Surcharged.					
F100E00/	0.00 /	582.00	F100M31/	0.78 /	594.92	F100M21/	0.00 /	601.74
F100i01/	0.00 /	604.18	F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32
F100M11/	0.00 /	660.44	F090E00/	0.00 /	580.53	F090M02/	0.00 /	600.77
F090M05/	0.00 /	602.08	F090M09/	0.00 /	635.37	F090M04/	0.00 /	632.24
F080E00/	0.01 /	596.01	F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	658.61	F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43
F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14	F050E00/	0.00 /	593.36
F042M13/	0.00 /	600.38	F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.92
F042M24/	0.00 /	644.20	F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.78
EBMFF080/	0.66 /	601.06	F090M08/	0.00 /	614.80	F090M07/	0.00 /	608.58
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.18
F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.10 /	585.99	F080M08/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080i48/	0.04 /	599.79	F080 TAP/	0.03 /	596.67
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00	F060i11/	0.00 /	598.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	588.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

Conduit/		FLOW	====> "*" Conduit uses the normal flow option.				
LINE042/	0.00*	Link3/	0.00	Link4/	0.00*	Link6/	
0.00	Link7/	0.00	Link9/	0.00	Link13/	0.00	Link14/
0.00	Link15/	0.00*	Link17/	0.00*	Link26/	0.02	Link27/
0.00*	Link31/	0.00	Link32/	0.00	Link38/	0.00	Link39/
0.00*	Link40/	0.00*	Link41/	0.00	Link44/	0.00	Link46/
0.02	Link48/	0.00	Link51/	0.00	OFLOW 1/	0.00	OFLOW 2/
0.00	OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00	Link61/
0.00	Link64/	0.00	OFLOW 6/	0.00	F043M33 OF/	0.00	F042M61 OF/
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/
0.00	Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00*	F090M07 OF/
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	0.00*	m320F/
0.00	352.1/	0.00*	M24 OF/	0.00*	355.1/	0.00*	m28 of/
0.00	357.1/	0.00	361.1/	0.00*	F090M04 OF/	0.00*	363.1/
0.00	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/	0.00*	365.1/
0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/	0.00*	F090M09 OF/
0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/	0.00*	F090M06 OF/
0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/	0.00*	F100M04 OF/
0.00*	377.1/	0.00*	F100M03 OF/	0.00*	378.1/	0.00*	F100M02 OF/
0.00*	383.1/	0.00	F080M08 OF/	0.00	385.1/	0.02	387.1/
0.00*	389.1/	0.00	391.1/	0.00	392.1/	0.00*	M21 OF/
0.00	398.1/	0.00*	F080M10 of/	0.00	399.1/	0.00*	E080M13/
0.00	401.1/	0.00*	F100M29 OF/	0.00	402.1/	0.00	F070M04 OF/
0.00	423.1/	0.00	F090M14 OF/	0.00	430.1/	0.00*	F100M21 OF/
0.00	433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	0.00	F100i01 OV/
0.00	F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	0.00	i11 OF/
0.00	OF F042M19/	0.00	100E01 OV/	0.00	F100M28 OV/	0.00	M100M27 OV/
0.00	F100M31 OV/	0.00	FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/
0.02	FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00	FREE # 7/
0.00	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00	

Cycle	4500	Time	37 Hrs - 30.00 Min
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Junction / Depth / Elevation			====> "*" Junction is Surcharged.		
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F100E00/	0.00 /	582.00	F100M31/	0.78 /	594.92	F100M21/	0.00 /	601.74
F100i01/	0.00 /	604.18	F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32
F100M11/	0.00 /	660.44	F090E00/	0.00 /	580.53	F090M02/	0.00 /	600.77
F090M05/	0.00 /	602.08	F090M09/	0.00 /	635.37	F090M04/	0.00 /	632.24
F090E00/	0.00 /	596.00	F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	656.61	F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43
F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14	F050E00/	0.00 /	590.36
F042M18/	0.00 /	600.36	F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.93
F042M24/	0.00 /	644.20	F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.75
EBMPP080/	0.05 /	601.05	F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19
F100M27/	0.00 /	594.92	F100M02/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.10 /	585.99	F080M08/	0.00 /	669.65
F090M05/	0.00 /	666.27	F080i48/	0.03 /	599.78	F080 TAP/	0.02 /	596.66
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00	F060i11/	0.00 /	598.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	588.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

	Conduit/ LINE042/	FLOW 0.00*	====> "*" Conduit uses the normal flow option.				
0.00	Link7/	0.00	Link9/	0.00	Link13/	0.00	Link14/
0.00	Link15/	0.00*	Link17/	0.00*	Link26/	0.01	Link27/
0.00*	Link31/	0.00	Link32/	0.00	Link38/	0.00	Link39/
0.00*	Link40/	0.00*	Link41/	0.00	Link44/	0.00	Link46/
0.01	Link48/	0.00	Link51/	0.00	OFLOW 1/	0.00	OFLOW 2/
0.00	OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00	Link61/
0.00	Link64/	0.00	OFLOW 6/	0.00	F043M33 OF/	0.00	F042M61 OF/
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00	F070i05 OF/
0.00	Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00*	F090M07 OF/
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	0.00*	m320F/
0.00	352.1/	0.00*	M24 OF/	0.00*	355.1/	0.00*	m28 of/
0.00	357.1/	0.00	361.1/	0.00*	F090M04 OF/	0.00*	363.1/
0.00	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/	0.00*	365.1/
0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/	0.00*	F090M09 OF/
0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/	0.00*	F090M06 OF/
0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/	0.00*	F100M04 OF/
0.00*	377.1/	0.00*	F100M03 OF/	0.00*	378.1/	0.00*	F100M02 OF/
0.00*	383.1/	0.00	F080M08 OF/	0.00	385.1/	0.01	387.1/
0.00*	389.1/	0.00	391.1/	0.00	392.1/	0.00*	M21 OF/
0.00	398.1/	0.00*	F080M10 of/	0.00	399.1/	0.00*	E080M13/
0.00	401.1/	0.00*	F100M29 OF/	0.00	402.1/	0.00	F070M04 OF/
0.00	423.1/	0.00	F090M14 OF/	0.00	430.1/	0.00*	F100M21 OF/
0.00	433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	0.00	F100i01 OV/
0.00	F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	0.00	i11 OF/
0.00	OF F042M19/	0.00	100E01 OVF/	0.00	F100M28 OV/	0.00	M100M27 OV/
0.00	F100M31 OV/	0.00	FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/
0.01	FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00	FREE # 7/
0.00	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00	

Cycle 5000 Time 41 Hrs - 40.00 Min

Junction /	Depth /	Elevation	====> "*" Junction is Surcharged.					
F100E00/	0.00 /	582.00	F100M31/	0.78 /	594.92	F100M21/	0.00 /	601.74
F100i01/	0.00 /	604.18	F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32

F100M11/	0.00 /	660.44	F090E00/	0.00 /	580.53	F090M02/	0.00 /	600.77
F090M05/	0.00 /	602.08	F090M09/	0.00 /	635.37	F090M04/	0.00 /	632.24
F080E00/	0.00 /	596.00	F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	658.61	F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43
F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14	F050E00/	0.00 /	590.36
F042M18/	0.00 /	600.38	F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.93
F042M24/	0.00 /	644.20	F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.75
EBMPF780/	0.04 /	601.04	F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19
F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51	F100MG2/	0.00 /	605.60
F100M26/	0.00 /	598.66	F100M32/	0.10 /	585.99	F080M08/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080A48/	0.02 /	599.77	F080 TAF/	0.01 /	596.65
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00	F060i11/	0.00 /	598.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	660.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	588.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

	Conduit/ LINE042/	FLOW 0.00*	====> "*" Conduit uses the normal flow option. Link3/	0.00	Link4/ 0.00*	Link6/ 0.00*
0.00	Link7/	0.00	Link9/	0.00	Link13/	Link14/
0.00	Link15/	0.00*	Link17/	0.00*	Link26/	Link27/
0.00*	Link31/	0.00	Link32/	0.00	Link38/	Link39/
0.00*	Link40/	0.00*	Link41/	0.00	Link44/	Link46/
0.01	Link48/	0.00	Link51/	0.00	OFLOW 1/	OFLOW 2/
0.00	OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	Link61/
0.00	Link64/	0.00	OFLOW 6/	0.00	F043M33 OF/	F042M61 OF/
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	F070i05 OF/
0.00	Link71/	0.00	F100M07 OF/	0.00	Link75/	F090M07 OF/
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	m32OF/
0.00	352.1/	0.00*	M24 OF/	0.00*	355.1/	m28 of/
0.00	357.1/	0.00	361.1/	0.00*	F090M04 OF/	363.1/
0.00	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/	365.1/
0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/	F090M09 OF/
0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/	F090M06 OF/
0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/	F100M04 OF/
0.00*	377.1/	0.00*	F100M03 OF/	0.00*	378.1/	F100M02 OF/
0.00*	383.1/	0.00	F080M08 OF/	0.00	385.1/	0.01 387.1/
0.00	389.1/	0.00	391.1/	0.00	392.1/	M21 OF/
0.00	398.1/	0.00*	F080M10 of/	0.00	399.1/	F080M13/
0.00	401.1/	0.00*	F100M29 OF/	0.00	402.1/	F070M04 OF/
0.00	423.1/	0.00	F090M14 OF/	0.00	430.1/	F100M21 OF/
0.00	433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	F100i01 OV/
0.00	F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	i11 OF/
0.00	OF F042M19/	0.00	100E01 OV/	0.00	F100M28 OV/	M100M27 OV/
0.00	F100M31 OV/	0.00	FREE # 1/	0.00	FREE # 2/	FREE # 3/
0.01	FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	FREE # 7/
0.00	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00

Cycle 5500 Time 45 Hrs - 50.00 Min

Junction /	Depth /	Elevation	====> "*" Junction is Surcharged.
F100E00/	0.00 /	582.00	F100M31/ 0.78 / 594.92
F100i01/	0.00 /	604.18	F100M04/ 0.00 / 634.57
F100M11/	0.00 /	660.44	F090E00/ 0.00 / 580.53
F090M05/	0.00 /	602.08	F090M09/ 0.00 / 635.37
			F100M21/ 0.00 / 601.74
			F100M07/ 0.00 / 639.32
			F090M02/ 0.00 / 600.77
			F090M04/ 0.00 / 632.24

F080E00/	0.00 /	596.00	F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	658.61	F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43
F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14	F050E00/	0.00 /	590.36
F042M18/	0.00 /	600.38	F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.93
F042M24/	0.00 /	644.20	F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.75
ERMPPF080/	0.03 /	601.03	F090M08/	0.00 /	614.30	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19
F100M27/	0.00 /	594.92	F100M02/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.10 /	535.49	F030M08/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080i48/	0.02 /	599.77	F080 TA2/	0.01 /	596.85
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00	F060i11/	0.00 /	598.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	600.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	528.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

	Conduit/ LINE042/	FLOW	====> "*" Conduit uses	the normal flow option.		
0.00	Link7/	0.00	Link9/	0.00	Link13/	0.00
0.00	Link15/	0.00*	Link17/	0.00*	Link26/	0.00
0.00*	Link31/	0.00	Link32/	0.00	Link38/	0.00
0.00*	Link40/	0.00*	Link41/	0.00	Link44/	0.00
0.00	Link48/	0.00	Link51/	0.00	OFLOW 1/	0.00
0.00	OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00
0.00	Link64/	0.00	OFLOW 6/	0.00	F043M33 OF/	0.00
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00
0.00	Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00*
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	0.00*
0.00	352.1/	0.00*	M24 OF/	0.00*	355.1/	0.00*
0.00	357.1/	0.00	361.1/	0.00*	F090M04 OF/	0.00*
0.00	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/	0.00*
0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/	0.00*
0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/	0.00*
0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/	0.00*
0.00*	377.1/	0.00*	F100M03 OF/	0.00*	378.1/	0.00*
0.00*	383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00
0.00*	389.1/	0.00	391.1/	0.00	392.1/	0.00*
0.00	398.1/	0.00*	F080M10 of/	0.00	399.1/	0.00*
0.00	401.1/	0.00*	F100M29 OF/	0.00	402.1/	0.00
0.00	423.1/	0.00	F090M14 OF/	0.00	430.1/	0.00*
0.00	433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	0.00
0.00	F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	0.00
0.00	OF F042M19/	0.00	100E01 OVf/	0.00	F100M28 OV/	0.00
0.00	F100M31 OV/	0.00	FREE # 1/	0.00	FREE # 2/	0.00
0.00	FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00
0.00	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00

Cycle 6000 Time 50 Hrs - 0.00 Min

Junction /	Depth /	Elevation	====> "*" Junction is	Surcharged.				
F100E00/	0.00 /	582.00	F100M31/	0.78 /	594.92	F100M21/	0.00 /	601.74
F100i01/	0.00 /	604.18	F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32
F100M11/	0.00 /	660.44	F090E00/	0.00 /	580.53	F090M02/	0.00 /	600.77
F090M05/	0.00 /	602.08	F090M09/	0.00 /	635.37	F090M04/	0.00 /	632.24
F080E00/	0.00 /	596.00	F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	658.61	F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43

F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14	F050E00/	0.00 /	590.36
F042M18/	0.00 /	600.38	F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.93
F042M24/	0.00 /	644.20	F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.75
EBMPF080/	0.03 /	601.03	F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19
F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.10 /	585.99	F080M08/	0.00 /	669.65
F080M05/	3.00 /	666.27	F080i48/	0.01 /	599.76	F080 TAP/	0.01 /	596.65
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.30	F060i11/	0.00 /	596.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	588.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

	Conduit/ LINE042/	FLOW 0.00*	====> ""	Conduit uses the normal Link3/	flow option. Link4/		Link6/
0.00	Link7/	0.00		Link9/	0.00	Link13/	Link14/
0.00	Link15/	0.00*		Link17/	0.00*	Link26/	Link27/
0.00*	Link31/	0.00		Link32/	0.00	Link38/	Link39/
0.00*	Link40/	0.00*		Link41/	0.00	Link44/	Link46/
0.00	Link48/	0.00		Link51/	0.00	OFLOW 1/	OFLOW 2/
0.00	OFLOW 3/	0.00		OFLOW 4/	0.00	OFLOW 5/	Link61/
0.00	Link64/	0.00		OFLOW 6/	0.00	F043M33 OF/	F042M61 OF/
0.00*	F042M39 OF/	0.00*		F060M02 OF/	0.00	F070M02 OF/	F070i05 OF/
0.00	Link71/	0.00		F100M07 OF/	0.00	Link75/	F090M07 OF/
0.00	Link83/	0.00		F080M06 OF/	0.00	348.1/	m32OF/
0.00	352.1/	0.00*		M24 OF/	0.00*	355.1/	m28 of/
0.00	357.1/	0.00		361.1/	0.00*	F090M04 OF/	363.1/
0.00	F090M05 OF/	0.00		364.1/	0.00*	F100M11 OF/	365.1/
0.00	F100M06 OF/	0.00		366.1/	0.00*	370.1/	F090M09 OF/
0.00*	371.1/	0.00*		F090M08 OF/	0.00*	374.1/	F090M06 OF/
0.00	375.1/	0.00		F090M03 OF/	0.00	376.1/	F100M04 OF/
0.00*	377.1/	0.00*		F100M03 OF/	0.00*	378.1/	F100M02 OF/
0.00*	383.1/	0.00		F080M08 OF/	0.00	385.1/	387.1/
0.00*	389.1/	0.00		391.1/	0.00	392.1/	M21 OF/
0.00	398.1/	0.00*		F080M10 of/	0.00	399.1/	E080M13/
0.00	401.1/	0.00*		F100M29 OF/	0.00	402.1/	F070M04 OF/
0.00	423.1/	0.00		F090M14 OF/	0.00	430.1/	F100M21 OF/
0.00	433.1/	0.00*		F090M02 OF/	0.00	e01 OF/	F100i01 OV/
0.00	F080 EMER/	0.00		060E01 OF/	0.00	i07 of/	i11 OF/
0.00	OF F042M19/	0.00		100E01 OV/	0.00	F100M28 OV/	M100M27 OV/
0.00	F100M31 OV/	0.00		FREE # 1/	0.00	FREE # 2/	FREE # 3/
0.00	FREE # 4/	0.00		FREE # 5/	0.00	FREE # 6/	FREE # 7/
0.00	FREE # 8/	0.00		FREE # 9/	0.00	FREE #10/	

Cycle 6500 Time 54 Hrs - 10.00 Min

Junction /	Depth /	Elevation	====> ""	Junction is Surcharged.				
F100E00/	0.00 /	582.00	F100M31/	0.78 /	594.92	F100M21/	0.00 /	601.74
F100i01/	0.00 /	604.18	F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32
F100M11/	0.00 /	660.44	F090E00/	0.00 /	580.53	F090M02/	0.00 /	600.77
F090M05/	0.00 /	602.08	F090M09/	0.00 /	635.37	F090M04/	0.00 /	632.24
F080E00/	0.00 /	596.00	F080M14/	0.00 /	599.05	F080M13/	0.00 /	648.09
F080M06/	0.00 /	658.61	F070M02/	0.00 /	597.71	F070M01/	0.00 /	594.43
F070E00/	0.00 /	582.00	F060M01/	0.00 /	591.32	F060E01/	0.00 /	598.00
F050M01/	0.00 /	599.34	F050E01/	0.00 /	594.14	F050E00/	0.00 /	590.36

F042M18/	0.00 /	600.38	F042M13/	0.00 /	594.61	F042M19/	0.00 /	601.93
F042M24/	0.00 /	644.20	F042M28/	0.00 /	644.73	F042M39/	0.00 /	645.40
F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M33/	0.00 /	647.75
EBMPT080/	0.02 /	601.02	F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19
F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.10 /	585.99	F080M03/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080i48/	0.01 /	599.76	F080 TAP/	0.01 /	596.65
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.03	F060i11/	0.00 /	598.00
F060E09/	0.00 /	584.32	F042M21/	0.00 /	611.99	F030M19/	0.00 /	633.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E04G134/	0.00 /	640.00	F090M14/	0.00 /	588.20
F100M06/	0.00 /	638.16	F100M22/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

	Conduit/ LINE042/	FLOW 0.00*	====> "*" Conduit uses the normal flow option.	Link3/ 0.00	Link4/ 0.00*	Link6/ 0.00
0.00	Link7/	0.00		Link9/	0.00	Link14/
0.00	Link15/	0.00*		Link17/	0.00*	Link27/
0.00*	Link31/	0.00		Link32/	0.00	Link39/
0.00*	Link40/	0.00*		Link41/	0.00	Link46/
0.00	Link48/	0.00		Link51/	0.00	OFLOW 1/
0.00	OFLOW 3/	0.00		OFLOW 4/	0.00	OFLOW 2/
0.00	Link64/	0.00		OFLOW 6/	0.00	Link61/
0.00*	F042M39 OF/	0.00*		F060M02 OF/	0.00	F042M61 OF/
0.00	Link71/	0.00		F100M07 OF/	0.00	F070i05 OF/
0.00	Link83/	0.00		F080M06 OF/	0.00	F090M07 OF/
0.00	352.1/	0.00*		M24 OF/	0.00*	m320F/
0.00	357.1/	0.00		361.1/	0.00*	m28 of/
0.00	F090M05 OF/	0.00		364.1/	0.00*	363.1/
0.00	F100M06 OF/	0.00		366.1/	0.00*	365.1/
0.00*	371.1/	0.00*		F090M08 OF/	0.00*	F090M09 OF/
0.00	375.1/	0.00		F090M03 OF/	0.00	F090M06 OF/
0.00*	377.1/	0.00*		F100M03 OF/	0.00*	F100M04 OF/
0.00*	383.1/	0.00		F080M08 OF/	0.00	F100M02 OF/
0.00*	389.1/	0.00		391.1/	0.00	387.1/
0.00	398.1/	0.00*		F080M10 of/	0.00	392.1/
0.00	401.1/	0.00*		F100M29 OF/	0.00	0.00*
0.00	423.1/	0.00		F090M14 OF/	0.00	M21 OF/
0.00	433.1/	0.00*		F090M02 OF/	0.00	399.1/
0.00	F080 EMER/	0.00		060E01 OF/	0.00	0.00*
0.00	OF F042M19/	0.00		100E01 OV/	0.00	E080M13/
0.00	F100M31 OV/	0.00		FREE # 1/	0.00	402.1/
0.00	FREE # 4/	0.00		FREE # 5/	0.00	430.1/
0.00	FREE # 8/	0.00		FREE # 9/	0.00	0.00*
				FREE #10/	0.00	F070M04 OF/
						F100M21 OF/
						F100i01 OV/
						i11 OF/
						M100M27 OV/
						FREE # 3/
						FREE # 7/

Cycle 7000 Time 58 Hrs - 20.00 Min

Junction / Depth / Elevation	====> "*" Junction is Surcharged.		
F100E00/ 0.00 / 582.00	F100M31/ 0.78 / 594.92	F100M21/ 0.00 / 601.74	
F100i01/ 0.00 / 604.18	F100M04/ 0.00 / 634.57	F100M07/ 0.00 / 639.32	
F100M11/ 0.00 / 660.44	F090E00/ 0.00 / 580.53	F090M02/ 0.00 / 600.77	
F090M05/ 0.00 / 602.08	F090M09/ 0.00 / 635.37	F090M04/ 0.00 / 632.24	
F080E00/ 0.00 / 596.00	F080M14/ 0.00 / 599.05	F080M13/ 0.00 / 648.09	
F080M06/ 0.00 / 658.61	F070M02/ 0.00 / 597.71	F070M01/ 0.00 / 594.43	
F070E00/ 0.00 / 582.00	F060M01/ 0.00 / 591.32	F060E01/ 0.00 / 598.00	
F050M01/ 0.00 / 599.34	F050E01/ 0.00 / 594.14	F050E00/ 0.00 / 590.36	
F042M18/ 0.00 / 600.38	F042M13/ 0.00 / 594.61	F042M19/ 0.00 / 601.93	
F042M24/ 0.00 / 644.20	F042M28/ 0.00 / 644.73	F042M39/ 0.00 / 645.40	

F042M61/	0.00 /	645.52	F042M32/	0.00 /	646.91	F042M35/	0.00 /	647.75
EBMPF080/	0.02 /	601.02	F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68
F090M06/	0.00 /	603.17	SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19
F100M27/	0.00 /	594.92	F100M03/	0.00 /	612.51	F100M02/	0.00 /	605.60
F100M26/	0.00 /	588.66	F100M32/	0.10 /	585.99	F080M08/	0.00 /	669.65
F080M05/	0.00 /	666.27	F080i48/	0.01 /	599.76	F080 TAP/	0.00 /	596.64
F060M02/	0.00 /	591.61	F060i07/	0.00 /	597.00	F060i11/	0.00 /	598.00
F060E00/	0.00 /	584.32	F042M21/	0.00 /	611.99	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.00	F070M04/	0.00 /	604.00
F070i05/	0.00 /	595.50	E040i34/	0.00 /	640.00	F090M14/	0.00 /	588.00
F100M06/	0.00 /	638.16	F100M28/	0.00 /	596.50	F100E01/	0.00 /	597.00
F100 E OF/	0.00 /	590.00	F090M02OUT/	0.00 /	590.00			

	Conduit/ LINE042/	FLOW 0.00*	====> "*" Conduit uses the normal flow option. Link3/	Link4/	0.00*	Link6/
0.00	Link7/	0.00	Link9/	0.00	Link13/	0.00 Link14/
0.00	Link15/	0.00*	Link17/	0.00*	Link26/	0.00 Link27/
0.00*	Link31/	0.00	Link32/	0.00	Link38/	0.00 Link39/
0.00*	Link40/	0.00*	Link41/	0.00	Link44/	0.00 Link46/
0.00	Link48/	0.00	Link51/	0.00	OFLOW 1/	0.00 OFLOW 2/
0.00	OFLOW 3/	0.00	OFLOW 4/	0.00	OFLOW 5/	0.00 Link61/
0.00	Link64/	0.00	OFLOW 6/	0.00	F043M33 OF/	0.00 F042M61 OF/
0.00*	F042M39 OF/	0.00*	F060M02 OF/	0.00	F070M02 OF/	0.00 F070i05 OF/
0.00	Link71/	0.00	F100M07 OF/	0.00	Link75/	0.00* F090M07 OF/
0.00	Link83/	0.00	F080M06 OF/	0.00	348.1/	0.00* m320F/
0.00	352.1/	0.00*	M24 OF/	0.00*	355.1/	0.00* m28 of/
0.00	357.1/	0.00	361.1/	0.00*	F090M04 OF/	0.00* 363.1/
0.00	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/	0.00* 365.1/
0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/	0.00* F090M09 OF/
0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/	0.00* F090M06 OF/
0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/	0.00* F100M04 OF/
0.00*	377.1/	0.00*	F100M03 OF/	0.00*	378.1/	0.00* F100M02 OF/
0.00*	383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00 387.1/
0.00*	389.1/	0.00	391.1/	0.00	392.1/	0.00* M21 OF/
0.00	398.1/	0.00*	F080M10 of/	0.00	399.1/	0.00* E080M13/
0.00	401.1/	0.00*	F100M29 OF/	0.00	402.1/	0.00 F070M04 OF/
0.00	423.1/	0.00	F090M14 OF/	0.00	430.1/	0.00* F100M21 OF/
0.00	433.1/	0.00*	F090M02 OF/	0.00	e01 OF/	0.00 F100i01 OV/
0.00	F080 EMER/	0.00	060E01 OF/	0.00	i07 of/	0.00 i11 OF/
0.00	OF F042M19/	0.00	100E01 OV/	0.00	F100M28 OV/	0.00 M100M27 OV/
0.00	F100M31 OV/	0.00	FREE # 1/	0.00	FREE # 2/	0.00 FREE # 3/
0.00	FREE # 4/	0.00	FREE # 5/	0.00	FREE # 6/	0.00 FREE # 7/
0.00	FREE # 8/	0.00	FREE # 9/	0.00	FREE #10/	0.00

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*=====
| Table E5 - Junction Time Limitation Summary |
| (0.10 or 0.25)* Depth * Area |
| Time step = ----- |
| Sum of Flow |
*=====
| The time this junction was the limiting junction |
| is listed in the third column. |
*=====

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Junction	Time(.10)	Time(.25)	Time(sec)
F100E00	300.0000	300.0000	40380.0000

F100M31	3.6134	9.0335	1620.0000
F100M21	2.1169	5.2922	30.0000
F100i01	1.4959	3.7398	30.0000
F100M04	1.3906	3.4766	420.0000
F100M07	1.9109	4.7772	60.0000
F100M11	0.6860	1.7150	90.0000
F090E00	300.0000	300.0000	0.0000
F090M02	3.2110	8.0276	60.0000
F090M05	4.9175	12.2938	0.0000
F090M09	1.4015	3.5038	240.0000
F090M04	1.3248	3.3121	150.0000
F080E00	300.0000	300.0000	0.0000
F080M14	45.1384	112.8460	0.0000
F080M13	72.7436	181.8591	0.0000
F080M06	145.5914	300.0000	0.0000
F070M02	2.5384	6.3460	480.0000
F070M01	30.4477	76.1192	0.0000
F070E00	300.0000	300.0000	0.0000
F060M01	3.4803	8.7007	156120.000
F060E01	36.5081	91.2701	0.0000
F050M01	2.7343	6.8357	240.0000
F050E01	131.5136	300.0000	0.0000
F050E00	300.0000	300.0000	0.0000
F042M18	64.5295	161.3237	0.0000
F042M13	300.0000	300.0000	0.0000
F042M19	4.4631	11.1579	2580.0000
F042M24	0.8617	2.1544	330.0000
F042M28	0.8281	2.0703	90.0000
F042M39	1.3158	3.2896	60.0000
F042M61	2.2538	5.6344	570.0000
F042M32	2.1121	5.2803	90.0000
F042M33	1.2139	3.0346	90.0000
EBMPF080	36.4335	91.0839	0.0000
F090M08	1.8216	4.5540	60.0000
F090M07	2.3388	5.8469	210.0000
F090M06	4.1087	10.2718	0.0000
SLOPECHANG	3.8251	9.5627	0.0000
F090M03	2.4042	6.0105	150.0000
F100M27	5.8780	14.6951	60.0000
F100M03	0.9459	2.3648	180.0000
F100M02	5.6398	14.0996	120.0000
F100M26	1.5417	3.8542	150.0000
F100M32	2.7190	6.7975	420.0000
F080M08	139.6281	300.0000	0.0000

F080M05	300.0000	300.0000	0.0000
F080i48	57.7753	144.4382	0.0000
F080 TAP	83.0768	207.6919	0.0000
F060M02	2.9723	7.4307	1320.0000
F060i07	34.3520	85.8800	0.0000
F060i11	17.5624	43.9059	1290.0000
F060E00	300.0000	300.0000	0.0000
F042M21	0.4103	1.0257	90.0000
F080M10	2.1380	5.3449	180.0000
F080M02	34.7284	86.8211	0.0000
F100M29	3.2225	8.0561	240.0000
F070M04	0.3001	0.7504	90.0000
F070i05	28.9470	72.3675	7230.0000
E040i34	300.0000	300.0000	0.0000
F090M14	0.9411	2.3528	150.0000
F100M06	0.4688	1.1719	60.0000
F100M28	6.2704	15.6761	60.0000
F100E01	5.6014	14.0036	210.0000
F100 E OF	300.0000	300.0000	0.0000
F090M02OUT	300.0000	300.0000	0.0000

The junction requiring the smallest time step was...F060M01

```

=====
| Table E5a - Conduit Explicit Condition Summary |
| Courant = Conduit Length |
| Time step = ----- |
| Velocity + sqrt(g*depth) |
| |
| Conduit Implicit Condition Summary |
| Courant = Conduit Length |
| Time step = ----- |
| Velocity |
=====
| The 3rd column is the Explicit time step times the |
| minimum courant time step factor |
| |
| Minimum Conduit Time Step in seconds in the 4th column |
| in the list. Maximum possible is 10 * maximum time step |
| |
| The 5th column is the maximum change at any time step |
| during the simulation. The 6th column is the wobble |
| value which is an indicator of the flow stability. |
| |
| You should use this section to find those conduits that |
| are slowing your model down. Use modify conduits to |
| alter the length of the slow conduits to make your |
| simulation faster, or change the conduit name to |
| "CHME?????" where ????? are any characters, this will |
| lengthen the conduit based on the model time step, |
| not the value listed in modify conduits. |
=====

```

Conduit	Time(exp)	Expl*Cmin	Time{imp}	Time(min)	Max Qchange	Wobble	Type of Soln
LINE042	30.2783	30.2783	120.7850	241.5000	0.0469	6.7664	Normal Soln
Link3	22.6940	22.6940	123.2328	0.0000	-0.2266	6.1467	Normal Soln
Link4	4.7860	4.7860	16.6934	10.5000	0.1724	4.1396	Normal Soln
Link6	18.3144	18.3144	52.2103	0.0000	0.0625	3.8082	Normal Soln
Link7	12.2983	12.2983	20.5439	40.5000	-0.0517	1.3979	Normal Soln
Link9	11.5132	11.5132	28.4904	0.0000	-0.0129	2.4979	Normal Soln

Link13	5.3883	5.3883	11.2210	0.0000	0.2189	2.4230	Normal Soln
Link14	17.7154	17.7154	28.3593	0.0000	-0.1081	1.6959	Normal Soln
Link15	5.6365	5.6365	11.8189	0.0000	0.0590	1.0426	Normal Soln
Link17	14.8114	14.8114	31.5150	0.0000	0.0755	1.9354	Normal Soln
Link26	16.1117	16.1117	36.6988	0.0000	0.0334	1.9985	Normal Soln
Link27	17.2203	17.2203	27.6232	0.0000	-0.0314	1.0301	Normal Soln
Link31	7.9553	7.9553	27.2469	0.0000	-0.0227	3.2909	Normal Soln
Link32	11.4332	11.4332	36.7152	0.0000	-0.0155	4.3732	Normal Soln
Link38	2.1589	2.1589	6.2530	0.0000	0.0891	2.6937	Normal Soln
Link39	3.8130	3.8130	8.9790	0.0000	-0.1263	1.1812	Normal Soln
Link40	3.1919	3.1919	10.2650	0.0000	0.2958	1.6133	Normal Soln
Link41	3.6400	3.6400	8.1824	0.0000	-0.1297	3.4103	Normal Soln
Link44	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
Link46	1.4908	1.4908	3.1288	2634.0000	0.0781	1.3866	Normal Soln
Link48	1.5941	1.5941	6.1436	566.5000	-0.0815	3.6786	Normal Soln
Link51	15.5175	15.5175	57.3014	0.0000	-0.0458	3.1596	Normal Soln
OFLOW 1	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
OFLOW 2	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
OFLOW 3	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
OFLOW 4	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
OFLOW 5	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
Link61	33.6434	33.6434	77.3129	0.0000	-0.0485	2.1043	Normal Soln
Link64	8.4599	8.4599	21.5028	0.0000	0.0505	2.3728	Normal Soln
OFLOW 6	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
F043M33 OF	46.5448	46.5448	73.0571	0.0000	0.0448	0.0255	Normal Soln
F042M61 OF	76.5395	76.5395	189.6883	0.0000	-0.0255	0.0029	Normal Soln
F042M39 OF	300.0000	300.0000	300.0000	0.0000	0.0314	0.2015	Normal Soln
F060M02 OF	4.9574	4.9574	11.1765	0.0000	0.0780	0.1634	Normal Soln
F070M02 OF	10.6256	10.6256	16.5561	0.0000	0.0380	0.0030	Normal Soln
F070i05 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
Link71	18.3417	18.3417	59.8009	0.0000	0.2977	7.1740	Normal Soln
F100M07 OF	3.9167	3.9167	7.3570	0.0000	-0.2216	0.2059	Normal Soln
Link75	5.9588	5.9588	18.9348	0.0000	-0.0971	3.9143	Normal Soln
F090M07 OF	79.7107	79.7107	144.4531	0.0000	0.0209	0.0068	Normal Soln
Link83	41.9389	41.9389	68.4782	0.0000	0.0116	0.0015	Normal Soln
F080M06 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
348.1	21.4370	21.4370	87.8385	0.0000	-0.7957	5.4113	Normal Soln
m320F	13.3467	13.3467	85.8121	0.0000	-0.0697	0.0193	Normal Soln
352.1	47.2975	47.2975	108.5455	0.0000	-0.0530	2.3244	Normal Soln
M24 OF	176.1611	176.1611	258.1930	0.0000	0.0225	0.0077	Normal Soln
355.1	8.5952	8.5952	30.9956	0.0000	-0.2442	4.4964	Normal Soln
m28 of	20.3123	20.3123	190.2332	0.0000	-0.2649	0.0981	Normal Soln
357.1	5.6388	5.6388	8.2001	0.0000	-0.0480	1.0782	Normal Soln

361.1	22.2206	22.2206	53.6827	0.0000	-0.0299	2.0894	Normal Soln
F090M04 OF	74.1953	74.1953	103.2542	0.0000	-0.0004	0.0050	Normal Soln
363.1	18.4198	18.4198	58.4349	0.0000	-0.0453	3.6852	Normal Soln
F090M05 OF	66.8142	66.8142	147.2426	0.0000	0.0401	0.0253	Normal Soln
364.1	12.7654	12.7654	28.1275	0.0000	-0.0617	1.9520	Normal Soln
F100M11 OF	65.7154	65.7154	165.5857	0.0000	0.0717	0.0062	Normal Soln
365.1	13.6407	13.6407	41.4908	0.0000	-0.3575	3.5558	Normal Soln
F100M06 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
366.1	7.8464	7.8464	24.7335	0.0000	-0.1307	2.4247	Normal Soln
370.1	11.5569	11.5569	25.8825	0.0000	-0.0522	2.1022	Normal Soln
F090M09 OF	52.2514	52.2514	71.4176	0.0000	0.0000	0.0012	Normal Soln
371.1	14.9581	14.9581	43.7396	0.0000	0.0181	2.1040	Normal Soln
F090M08 OF	57.1179	57.1179	85.5721	0.0000	-0.0173	0.0035	Normal Soln
374.1	1.9278	1.9278	4.3520	0.0000	-0.0551	3.2985	Normal Soln
F090M06 OF	10.6468	10.6468	47.3216	0.0000	-0.0457	0.0056	Normal Soln
375.1	25.1448	25.1448	78.3381	0.0000	0.0154	3.1229	Normal Soln
F090M03 OF	85.2603	85.2603	136.5598	0.0000	0.0249	0.0111	Normal Soln
376.1	11.3409	11.3409	25.9527	0.0000	0.0784	2.2939	Normal Soln
F100M04 OF	61.3127	61.3127	82.7973	0.0000	-0.0001	0.0023	Normal Soln
377.1	9.3064	9.3064	21.8117	0.0000	0.1105	1.9869	Normal Soln
F100M03 OF	37.2088	37.2088	54.3594	0.0000	-0.0319	0.0061	Normal Soln
378.1	11.9941	11.9941	35.1893	0.0000	-0.1554	1.5749	Normal Soln
F100M02 OF	65.9370	65.9370	130.5866	0.0000	-0.0473	0.0095	Normal Soln
383.1	24.5006	24.5006	39.0791	0.0000	-0.0305	1.4416	Normal Soln
F080M08 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
385.1	2.4492	2.4492	6.3984	0.0000	-0.0050	4.6932	Normal Soln
387.1	3.4881	3.4881	19.1237	0.0000	0.0774	0.8885	Normal Soln
389.1	7.8746	7.8746	29.3345	0.0000	-0.0652	5.6950	Normal Soln
391.1	12.2469	12.2469	51.2136	0.0000	0.0238	3.6147	Normal Soln
392.1	42.9988	42.9988	130.2040	0.0000	-0.1226	2.3063	Normal Soln
M21 OF	196.5939	196.5939	300.0000	0.0000	0.0319	0.0147	Normal Soln
398.1	16.1010	16.1010	36.5856	0.0000	-0.0383	2.3493	Normal Soln
F080M10 OF	145.9415	145.9415	248.6803	0.0000	-0.0029	0.0001	Normal Soln
399.1	54.7978	54.7978	92.9416	0.0000	0.0344	1.7060	Normal Soln
E080M13	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
401.1	5.2570	5.2570	21.8406	0.0000	-0.0145	2.2747	Normal Soln
F100M29 OF	26.1547	26.1547	57.9790	0.0000	0.0326	0.0136	Normal Soln
402.1	27.9895	27.9895	76.6944	0.0000	-0.3471	2.8658	Normal Soln
F070M04 OF	127.9062	127.9062	247.7580	0.0000	-0.0498	0.0213	Normal Soln
423.1	8.5703	8.5703	18.8856	0.0000	0.2231	2.5642	Normal Soln
F090M14 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
430.1	13.9402	13.9402	46.2069	0.0000	-0.0512	1.9910	Normal Soln
F100M21 OF	39.7677	39.7677	66.9156	0.0000	0.1456	0.0700	Normal Soln
433.1	0.2838	0.2838	0.7855	107.0000	-0.2000	4.2093	Normal Soln

F090M02 OF 4.7676 4.7676 7.4875 0.0000 0.0983 0.0255 Normal Soln

The conduit with the smallest time step limitation was..Link46
The conduit with the largest wobble was.....Link71
The conduit with the largest flow change in any
consecutive time step.....348.1

* End of time step DO-loop in Runoff *

Final Date (Mo/Day/Year) = 12/10/2012
Total number of time steps = 3600
Final Julian Date = 2012345
Final time of day = 43200. seconds.
Final time of day = 12.00 hours.
Final running time = 60.0000 hours.
Final running time = 2.5000 days.

* Extrapolation Summary for Watersheds *
* Explains the number of time steps and iterations *
* used in the solution of the subcatchments. *
* # Steps ==> Total Number of Extrapolated Steps *
* # Calls ==> Total Number of OVERLND Calls *

Subcatchment	# Steps	# Calls	Subcatchment	# Steps	# Calls
F042M33#1	0	0	F042M32#1	0	0
F042M39#1	0	0	F042M24#1	0	0
F050M01#1	0	0	F050E01#1	0	0
F060M02#1	0	0	F070M04#1	0	0
F070i05#1	0	0	F080M10#1	0	0
F080M13#1	0	0	F080M02#1	0	0
F080M14#2	0	0	F090M04#1	0	0
F100M07#1	0	0	F100i01#1	0	0
F100M29#1	0	0	F100M31#1	0	0
F100M04#1	0	0	F090M09#1	0	0
F090M02#1	0	0	F090M14#1	0	0
EBMPF080#1	0	0	F080i48#1	0	0

Rainfall input summary from Runoff Continuity Check #
#####

Total rainfall read for gage # 1 is 5.1000 in
Total rainfall duration for gage # 1 is 1440.00 minutes

* Table R5. CONTINUITY CHECK FOR SURFACE WATER *
* Any continuity error can be fixed by lowering the *
* wet and transition time step. The transition time *
* should not be much greater than the wet time step. *

	cubic feet	Inches over Total Basin
Total Precipitation (Rain plus Snow)	4.816342E+06	5.100
Total Infiltration	1.804146E+06	1.910
Total Evaporation	9.443808E+04	0.100
Surface Runoff from Watersheds	2.924302E+06	3.097
Total Water remaining in Surface Storage	0.000000E+00	0.000
Infiltration over the Pervious Area...	1.804146E+06	1.910

Infiltration + Evaporation + Surface Runoff + Snow removal + Water remaining in Surface Storage + Water remaining in Snow Cover.....	4.822886E+06	5.107
Total Precipitation + Initial Storage.	4.816342E+06	5.100

The error in continuity is calculated as

* Precipitation + Initial Snow Cover *
* - Infiltration - *
*Evaporation - Snow removal - *
*Surface Runoff from Watersheds - *
*Water in Surface Storage - *
*Water remaining in Snow Cover *

* Precipitation + Initial Snow Cover *

Percent Continuity Error.....

-0.1359

 * Table R6. Continuity Check for Channel/Pipes *
 * You should have zero continuity error *
 * if you are not using runoff hydraulics *

	cubic feet	Inches over Total Basin
Initial Channel/Pipe Storage.....	0.000000E+00	0.000
Final Channel/Pipe Storage.....	0.000000E+00	0.000
Surface Runoff from Watersheds.....	2.924302E+06	3.097
Groundwater Subsurface Inflow or Diversion..	0.000000E+00	0.000
Evaporation Loss from Channels.....	0.000000E+00	0.000
Groundwater Flow Diverted Out of Network....	0.000000E+00	0.000
Channel/Pipe/Inlet Outflow.....	2.924302E+06	3.097
Initial Storage + Inflow.....	2.924302E+06	3.097
Final Storage + Outflow + Diverted GW.....	2.924302E+06	3.097

* Final Storage + Outflow + Evaporation - *		
* Watershed Runoff - Groundwater Inflow - *		
* Initial Channel/Pipe Storage *		
* ----- *		
* Final Storage + Outflow + Evaporation *		

Percent Continuity Error.....		0.0000

 # Table R9. Summary Statistics for Subcatchments #
 #####

Note: Total Runoff Depth includes pervious & impervious areas.
 Pervious and Impervious Runoff Depth is only the runoff from those two areas.
 For catchments receiving redirected flow, this flow will only be shown if the flow is not
 directed directly to the outlet. Flow that is getting redirected is also listed with
 the original subcatchment.

Subcatchment.....	F042M33#1	F042M32#1	F042M61#1	F042M39#1	F042M24#1
F042M19#1					
Area (acres).....	7.87000	1.73000	1.64000	11.03000	7.84000
10.12000					
Percent Impervious.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000					
Max Intensity (in/hr)..	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210					
Pervious Area					

Total Runoff Depth (in)	3.18983	3.23805	3.26428	3.96621	3.51094
3.22600					
Peak Runoff Rate (cfs).	30.25332	6.74224	5.97695	53.14572	16.09867
21.84988					
Total Impervious Area					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area with depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area without depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Area					

Total Runoff Depth (in)	3.18983	3.23805	3.26428	3.96621	3.51094
3.22600					
Peak Runoff Rate (cfs).	30.25332	6.74224	5.97695	53.14572	16.09867
21.84988					
Rational Formula					

Pervious Tc. (mins)....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Perv. Intensity (in/hr)	0.00000	0.00000	0.00000	0.00000	0.00000

0.00000					
Pervious C	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Tc. (mins)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Imp. Intensity (in/hr)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious C	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area (Ha).....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area Tc.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area Intensity...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Subcatchment.....	F050M01#1	F050E01#1	F050E01#2	F060M02#1	F070M04#1
F070M02#1					
Area (acres).....	2.44000	3.06000	1.47000	54.76000	13.86000
3.16000					
Percent Impervious.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000					
Max Intensity (in/hr)...	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210					
Pervious Area					

Total Runoff Depth (in)	3.34007	3.30371	3.65306	3.73609	3.55154
3.47359					
Peak Runoff Rate (cfs)...	8.41898	13.32384	6.96274	123.87650	42.55451
11.58656					
Total Impervious Area					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area with depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area without depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Area					

Total Runoff Depth (in)	3.34007	3.30371	3.65306	3.73609	3.55154
3.47359					
Peak Runoff Rate (cfs)...	8.41898	13.32384	6.96274	123.87650	42.55451
11.58656					
Rational Formula					

Pervious Tc. (mins)....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Perv. Intensity (in/hr)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Pervious C	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Tc. (mins)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Imp. Intensity (in/hr)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious C	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area (Ha).....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area Tc.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area Intensity...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Subcatchment.....	F070i05#1	F080M10#1	F080M06#1	F080M13#1	F080M02#1
F080M14#1					

Area (acres).....	9.07000	3.73000	2.28000	4.18000	12.77000
4.44000					
Percent Impervious....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000					
Max Intensity (in/hr)...	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210					
Pervious Area					

Total Runoff Depth (in)	3.47495	2.68938	2.78600	2.56707	0.00000
3.48192					
Peak Runoff Rate (cfs)...	19.78631	12.18449	9.05721	14.71044	0.00000
9.83328					
Total Impervious Area					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area with depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area without depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Area					

Total Runoff Depth (in)	3.47495	2.68938	2.78600	2.56707	0.00000
3.48192					
Peak Runoff Rate (cfs)...	19.78631	12.18449	9.05721	14.71044	0.00000
9.83328					
Rational Formula					

Pervious Tc. (mins)....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Perv. Intensity (in/hr)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Pervious C	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Tc. (mins)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Imp. Intensity (in/hr)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious C	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area (Ha).....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area Tc.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area Intensity...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Subcatchment.....	F080M14#2	F090M04#1	F100M11#1	F100M07#1	F100i01#1
F100M21#1					
Area (acres).....	3.33000	7.00000	8.29000	8.55000	8.46000
0.90000					
Percent Impervious....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000					
Max Intensity (in/hr)...	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210					
Pervious Area					

Total Runoff Depth (in)	3.38046	2.51025	3.19649	3.07775	2.86126
3.01625					
Peak Runoff Rate (cfs)...	17.27555	19.23400	31.04880	23.40467	29.34500
3.04483					
Total Impervious Area					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000

0.00000					
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area with depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area without depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Area					

Total Runoff Depth (in)	3.38046	2.51025	3.19649	3.07775	2.86126
3.01625					
Peak Runoff Rate (cfs).	17.27555	19.23400	31.04880	23.40467	29.34500
3.04483					
Rational Formula					

Pervious Tc. (mins)....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Perv. Intensity (in/hr)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Pervious C	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Tc. (mins)..	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Imp. Intensity (in/hr)..	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious C	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area (Ha).....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area Tc.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area Intensity..	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Subcatchment.....					
F090M05#1	F100M29#1	F100M31#1	F100M06#1	F100M04#1	F090M09#1
Area (acres).....	3.64000	8.40000	2.58000	10.18000	3.40000
3.59000					
Percent Impervious.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000					
Max Intensity (in/hr)..	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210					
Pervious Area					

Total Runoff Depth (in)	3.08279	2.89811	3.12460	3.17029	2.91472
3.26233					
Peak Runoff Rate (cfs).	13.87824	28.05016	10.95581	36.99382	12.29757
16.17821					
Total Impervious Area					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area with depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area without depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Area					

Total Runoff Depth (in)	3.08279	2.89811	3.12460	3.17029	2.91472
3.26233					
Peak Runoff Rate (cfs).	13.87824	28.05016	10.95581	36.99382	12.29757
16.17821					

Rational Formula

Pervious Tc. (mins)...	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Perv. Intensity (in/hr)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Pervious C	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Tc. (mins)..	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Imp. Intensity (in/hr).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious C	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area (Ha).....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area Tc.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area Intensity.	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					

Subcatchment.....	F090M02#1	F090M14#1	F090M14#2	EBMPF080#1	F080i48#1
Area (acres).....	6.62000	4.00000	1.62000	23.70000	0.45000
Percent Impervious....	0.00000	0.00000	0.00000	0.00000	0.00000
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
Max Intensity (in/hr)..	6.99210	6.99210	6.99210	6.99210	6.99210

Pervious Area

Total Runoff Depth (in)	3.16731	2.60447	2.82832	2.51218	3.36076
Peak Runoff Rate (cfs).	29.66633	9.89220	4.35998	59.04503	2.32246

Total Impervious Area

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000

Impervious Area with depression storage

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000

Impervious Area without depression storage

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000

Total Area

Total Runoff Depth (in)	3.16731	2.60447	2.82832	2.51218	3.36076
Peak Runoff Rate (cfs).	29.66633	9.89220	4.35998	59.04503	2.32246

Rational Formula

Pervious Tc. (mins)...	0.00000	0.00000	0.00000	0.00000	0.00000
Perv. Intensity (in/hr)	0.00000	0.00000	0.00000	0.00000	0.00000
Pervious C	0.00000	0.00000	0.00000	0.00000	0.00000
Impervious Tc. (mins)..	0.00000	0.00000	0.00000	0.00000	0.00000
Imp. Intensity (in/hr).	0.00000	0.00000	0.00000	0.00000	0.00000
Impervious C	0.00000	0.00000	0.00000	0.00000	0.00000
Partial Area (Ha).....	0.00000	0.00000	0.00000	0.00000	0.00000
Partial Area Tc.....	0.00000	0.00000	0.00000	0.00000	0.00000
Partial Area Intensity.	0.00000	0.00000	0.00000	0.00000	0.00000

====> Runoff simulation ended normally.

```

*=====
| Table E6. Final Model Condition |
| This table is used for steady state |
| flow comparison and is the information |
| saved to the hot-restart file. |
| Final Time = 60.008 hours |
*=====

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Junction / Depth / Elevation	====>	***	Junction is Surcharged.
F100E00/ 0.00 / 582.00/		F100M31/ 0.78 / 594.92/	F100M21/ 0.00 / 601.74/
F100i01/ 0.00 / 604.18/		F100M04/ 0.00 / 634.57/	F100M07/ 0.00 / 639.32/
F100M11/ 0.00 / 660.44/		F090E00/ 0.00 / 580.53/	F090M02/ 0.00 / 600.77/
F090M05/ 0.00 / 602.08/		F090M09/ 0.00 / 635.37/	F090M04/ 0.00 / 632.24/
F080E00/ 0.00 / 596.00/		F080M14/ 0.00 / 599.05/	F080M13/ 0.00 / 648.09/

F080M06/	0.00 /	658.61/	F070M02/	0.00 /	597.71/	F070M01/	0.00 /	594.43/
F070E00/	0.00 /	582.00/	F060M01/	0.00 /	591.32/	F060E01/	0.00 /	598.00/
F050M01/	0.00 /	599.34/	F050E01/	0.00 /	594.14/	F050E00/	0.00 /	590.36/
F042M18/	0.00 /	600.38/	F042M13/	0.00 /	594.61/	F042M19/	0.00 /	601.93/
F042M24/	0.00 /	644.20/	F042M28/	0.00 /	644.73/	F042M39/	0.00 /	645.40/
F042M61/	0.00 /	645.52/	F042M32/	0.00 /	646.91/	F042M33/	0.00 /	647.75/
EBMPF080/	0.02 /	601.02/	F090M08/	0.00 /	614.80/	F090M07/	0.00 /	605.68/
F090M06/	0.00 /	603.17/	SLOPECHANG/	0.00 /	603.97/	F090M03/	0.00 /	607.19/
F100M27/	0.00 /	594.92/	F100M03/	0.00 /	612.51/	F100M02/	0.00 /	605.60/
F100M26/	0.00 /	588.66/	F100M32/	0.10 /	585.99/	F080M08/	0.00 /	669.65/
F080M05/	0.00 /	666.27/	F080i48/	0.01 /	599.76/	F080 TAP/	0.00 /	596.64/
F060M02/	0.00 /	591.61/	F060i07/	0.00 /	597.00/	F060i11/	0.00 /	598.00/
F060E00/	0.00 /	584.32/	F042M21/	0.00 /	611.99/	F080M10/	0.00 /	680.42/
F080M02/	0.00 /	603.11/	F100M29/	0.00 /	598.00/	F070M04/	0.00 /	604.00/
F070i05/	0.00 /	595.50/	E040i34/	0.00 /	640.00/	F090M14/	0.00 /	588.00/
F100M06/	0.00 /	638.16/	F100M28/	0.00 /	596.50/	F100E01/	0.00 /	597.00/
F100 E OF/	0.00 /	590.00/	F090M02OUT/	0.00 /	590.00/			

Conduit/ Flow ==> "*" Conduit uses the normal flow option.

LINE042/	0.00*/	Link3/	0.00 /	Link4/	0.00*/
Link6/	0.00 /	Link7/	0.00 /	Link9/	0.00 /
Link13/	0.00 /	Link14/	0.00 /	Link15/	0.00*/
Link17/	0.00*/	Link26/	0.00 /	Link27/	0.00*/
Link31/	0.00 /	Link32/	0.00 /	Link38/	0.00 /
Link39/	0.00*/	Link40/	0.00*/	Link41/	0.00 /
Link44/	0.00 /	Link46/	0.00 /	Link48/	0.00 /
Link51/	0.00 /	OFLOW 1/	0.00 /	OFLOW 2/	0.00 /
OFLOW 3/	0.00 /	OFLOW 4/	0.00 /	OFLOW 5/	0.00 /
Link61/	0.00 /	Link64/	0.00 /	OFLOW 6/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00*/	F042M39 OF/	0.00*/
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
Link71/	0.00 /	F100M07 OF/	0.00 /	Link75/	0.00*/
F090M07 OF/	0.00 /	Link83/	0.00 /	F080M06 OF/	0.00 /
348.1/	0.00*/	m320F/	0.00 /	352.1/	0.00*/
M24 OF/	0.00*/	355.1/	0.00*/	m28 of/	0.00 /
357.1/	0.00 /	361.1/	0.00*/	F090M04 OF/	0.00*/
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00*/
F100M11 OF/	0.00*/	365.1/	0.00 /	F100M06 OF/	0.00 /
366.1/	0.00*/	370.1/	0.00*/	F090M09 OF/	0.00*/
371.1/	0.00*/	F090M08 OF/	0.00*/	374.1/	0.00*/
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00*/	F100M04 OF/	0.00*/	377.1/	0.00*/
F100M03 OF/	0.00*/	378.1/	0.00*/	F100M02 OF/	0.00*/
383.1/	0.00 /	F080M08 OF/	0.00 /	385.1/	0.00 /
387.1/	0.00*/	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.00*/	M21 OF/	0.00 /	398.1/	0.00*/
F080M10 of/	0.00 /	399.1/	0.00*/	E080M13/	0.00 /
401.1/	0.00*/	F100M29 OF/	0.00 /	402.1/	0.00 /
F070M04 OF/	0.00 /	423.1/	0.00 /	F090M14 OF/	0.00 /
430.1/	0.00*/	F100M21 OF/	0.00 /	433.1/	0.00*/
F090M02 OF/	0.00 /	e01 OF/	0.00 /	F100i01 OV/	0.00 /
F080 EMER/	0.00 /	060E01 OF/	0.00 /	i07 of/	0.00 /
i11 OF/	0.00 /	OF F042M19/	0.00 /	100E01 OVf/	0.00 /
F100M28 OV/	0.00 /	M100M27 OV/	0.00 /	F100M31 OV/	0.00 /
FREE # 1/	0.00 /	FREE # 2/	0.00 /	FREE # 3/	0.00 /
FREE # 4/	0.00 /	FREE # 5/	0.00 /	FREE # 6/	0.00 /
FREE # 7/	0.00 /	FREE # 8/	0.00 /	FREE # 9/	0.00 /
FREE #10/	0.00 /				

Conduit/	Velocity				
LINE042/	0.00 /	Link3/	0.00 /	Link4/	0.00 /
Link6/	0.00 /	Link7/	0.00 /	Link9/	0.00 /
Link13/	0.00 /	Link14/	0.00 /	Link15/	0.00 /
Link17/	0.00 /	Link26/	0.46 /	Link27/	0.00 /
Link31/	0.00 /	Link32/	0.00 /	Link38/	0.00 /
Link39/	0.00 /	Link40/	0.00 /	Link41/	0.00 /
Link44/	0.00 /	Link46/	0.60 /	Link48/	0.00 /
Link51/	0.00 /	OFLOW 1/	0.00 /	OFLOW 2/	0.00 /
OFLOW 3/	0.00 /	OFLOW 4/	0.00 /	OFLOW 5/	0.00 /
Link61/	0.00 /	Link64/	0.00 /	OFLOW 6/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00 /	F042M39 OF/	0.00 /
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
Link71/	0.00 /	F100M07 OF/	0.00 /	Link75/	0.00 /
F090M07 OF/	0.00 /	Link83/	0.00 /	F080M06 OF/	0.00 /
348.1/	0.00 /	m320F/	0.00 /	352.1/	0.00 /
M24 OF/	0.00 /	355.1/	0.00 /	m28 of/	0.00 /
357.1/	0.00 /	361.1/	0.00 /	F090M04 OF/	0.00 /
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00 /
F100M11 OF/	0.00 /	365.1/	0.00 /	F100M06 OF/	0.00 /
366.1/	0.00 /	370.1/	0.00 /	F090M09 OF/	0.00 /
371.1/	0.00 /	F090M08 OF/	0.00 /	374.1/	0.00 /
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00 /	F100M04 OF/	0.00 /	377.1/	0.00 /
F100M03 OF/	0.00 /	378.1/	0.00 /	F100M02 OF/	0.00 /
383.1/	0.00 /	F080M08 OF/	0.00 /	385.1/	0.35 /
387.1/	0.00 /	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.00 /	M21 OF/	0.00 /	398.1/	0.00 /

F080M10 of/	0.00 /	399.1/	0.00 /	E080M13/	0.00 /
401.1/	0.00 /	F100M29 OF/	0.00 /	402.1/	0.00 /
F070M04 OF/	0.00 /	423.1/	0.00 /	F090M14 OF/	0.00 /
430.1/	0.00 /	F100M21 OF/	0.00 /	433.1/	0.00 /
F090M02 OF/	0.00 /				

Conduit/	Width				
LINE042/	0.49 /	Link3/	0.78 /	Link4/	0.78 /
Link6/	0.78 /	Link7/	0.78 /	Link9/	0.39 /
Link13/	0.78 /	Link14/	0.98 /	Link15/	1.18 /
Link17/	0.79 /	Link26/	0.78 /	Link27/	0.78 /
Link31/	0.39 /	Link32/	0.39 /	Link38/	0.90 /
Link39/	0.78 /	Link45/	0.79 /	Link41/	0.59 /
Link44/	0.39 /	Link46/	1.18 /	Link43/	0.59 /
Link51/	0.59 /	OFLOW 1/	0.00 /	OFLOW 2/	0.00 /
OFLOW 3/	0.00 /	OFLOW 4/	0.00 /	OFLOW 5/	0.00 /
Link61/	0.98 /	Link64/	0.78 /	OFLOW 6/	0.00 /
F043M33 OF/	2.02 /	F042M61 OF/	10.00 /	F042M39 OF/	4.02 /
F060M02 OF/	20.00 /	F070M02 OF/	10.17 /	F070i05 OF/	0.00 /
Link71/	0.78 /	F100M07 OF/	10.01 /	Link75/	0.59 /
F090M07 OF/	2.08 /	Link83/	2.09 /	F080M06 OF/	0.00 /
348.1/	0.49 /	m32OF/	6.00 /	352.1/	0.59 /
M24 OF/	2.01 /	355.1/	0.78 /	m28 of/	4.18 /
357.1/	0.98 /	361.1/	0.39 /	F090M04 OF/	2.00 /
363.1/	0.69 /	F090M05 OF/	2.01 /	364.1/	0.49 /
F100M11 OF/	2.25 /	365.1/	0.78 /	F100M06 OF/	2.10 /
366.1/	0.59 /	370.1/	0.39 /	F090M09 OF/	2.00 /
371.1/	0.39 /	F090M08 OF/	2.01 /	374.1/	0.39 /
F090M06 OF/	3.84 /	375.1/	0.39 /	F090M03 OF/	2.02 /
376.1/	0.69 /	F100M04 OF/	2.00 /	377.1/	0.78 /
F100M03 OF/	2.03 /	378.1/	0.90 /	F100M02 OF/	2.00 /
383.1/	0.59 /	F080M08 OF/	0.00 /	385.1/	0.49 /
387.1/	0.59 /	389.1/	0.39 /	391.1/	0.39 /
392.1/	0.69 /	M21 OF/	2.05 /	398.1/	0.49 /
F080M10 of/	2.01 /	399.1/	0.78 /	E080M13/	0.00 /
401.1/	0.33 /	F100M29 OF/	2.01 /	402.1/	0.78 /
F070M04 OF/	2.13 /	423.1/	0.78 /	F090M14 OF/	0.00 /
430.1/	0.59 /	F100M21 OF/	2.01 /	433.1/	0.59 /
F090M02 OF/	2.04 /				

Junction/	EGL				
F100E00/	0.00 /	F100M31/	0.78 /	F100M21/	0.00 /
F100i01/	0.00 /	F100M04/	0.00 /	F100M07/	0.00 /
F100M11/	0.00 /	F090E00/	0.00 /	F090M02/	0.00 /
F090M05/	0.00 /	F090M09/	0.00 /	F090M04/	0.00 /
F080E00/	0.01 /	F080M14/	0.00 /	F080M13/	0.00 /
F080M06/	0.00 /	F070M02/	0.00 /	F070M01/	0.00 /
F070E00/	0.00 /	F060M01/	0.00 /	F060E01/	0.00 /
F050M01/	0.00 /	F050E01/	0.00 /	F050E00/	0.00 /
F042M18/	0.00 /	F042M13/	0.00 /	F042M19/	0.00 /
F042M24/	0.00 /	F042M28/	0.00 /	F042M39/	0.00 /
F042M61/	0.00 /	F042M32/	0.00 /	F042M33/	0.00 /
EBMPF080/	0.02 /	F090M08/	0.00 /	F090M07/	0.00 /
F090M06/	0.00 /	SLOPECHANG/	0.51 /	F090M03/	0.00 /
F100M27/	0.00 /	F100M03/	0.00 /	F100M02/	0.00 /
F100M26/	0.00 /	F100M32/	0.10 /	F080M08/	0.00 /
F080M05/	0.00 /	F080i48/	0.50 /	F080 TAP/	0.01 /
F060M02/	4.35 /	F060i07/	0.00 /	F060i11/	0.00 /
F060E00/	0.00 /	F042M21/	0.00 /	F080M10/	0.00 /
F080M02/	0.00 /	F100M29/	0.00 /	F070M04/	0.00 /
F070i05/	0.00 /	E040i34/	0.00 /	F090M14/	0.00 /
F100M06/	0.00 /	F100M28/	0.00 /	F100E01/	0.00 /
F100 E OF/	0.00 /	F090M02OUT/	0.00 /		

Junction/	Freeboard				
F100E00/	18.00 /	F100M31/	19.37 /	F100M21/	55.35 /
F100i01/	15.25 /	F100M04/	21.50 /	F100M07/	16.25 /
F100M11/	15.30 /	F090E00/	19.47 /	F090M02/	14.30 /
F090M05/	14.14 /	F090M09/	15.60 /	F090M04/	14.20 /
F080E00/	14.00 /	F080M14/	14.77 /	F080M13/	21.02 /
F080M06/	13.02 /	F070M02/	15.23 /	F070M01/	17.65 /
F070E00/	28.00 /	F060M01/	19.71 /	F060E01/	22.00 /
F050M01/	13.84 /	F050E01/	15.86 /	F050E00/	19.64 /
F042M18/	16.55 /	F042M13/	19.20 /	F042M19/	15.40 /
F042M24/	16.12 /	F042M28/	15.22 /	F042M39/	14.25 /
F042M61/	13.83 /	F042M32/	13.97 /	F042M33/	13.10 /
EBMPF080/	6.98 /	F090M08/	15.16 /	F090M07/	15.30 /
F090M06/	12.90 /	SLOPECHANG/	16.03 /	F090M03/	15.25 /
F100M27/	19.39 /	F100M03/	16.25 /	F100M02/	16.20 /
F100M26/	20.10 /	F100M32/	24.01 /	F080M08/	14.80 /
F080M05/	17.60 /	F080i48/	13.55 /	F080 TAP/	13.36 /
F060M02/	19.95 /	F060i07/	18.00 /	F060i11/	14.73 /
F060E00/	18.68 /	F042M21/	14.61 /	F080M10/	14.50 /
F080M02/	13.28 /	F100M29/	17.12 /	F070M04/	16.59 /
F070i05/	14.03 /	E040i34/	20.00 /	F090M14/	19.55 /
F100M06/	19.00 /	F100M28/	17.82 /	F100E01/	21.00 /
F100 E OF/	20.00 /	F090M02OUT/	20.00 /		

Junction/ Max Volume					
F100E00/	18.85 /	F100M31/	136.77 /	F100M21/	74.21 /
F100i01/	81.46 /	F100M04/	146.29 /	F100M07/	92.45 /
F100M11/	69.28 /	F090E00/	25.13 /	F090M02/	57.87 /
F090M05/	56.84 /	F090M09/	71.69 /	F090M04/	55.23 /
F080E00/	20.94 /	F080M14/	28.03 /	F080M13/	18.17 /
F080M06/	13.18 /	F070M02/	69.50 /	F070M01/	25.96 /
F070E00/	22.11 /	F060M01/	117.34 /	F060E01/	4540.72 /
F050M01/	49.78 /	F050E01/	1204.22 /	F050E00/	16.11 /
F042M18/	18.16 /	F042M13/	15.45 /	F042M19/	81.63 /
F042M24/	79.82 /	F042M28/	81.94 /	F042M39/	73.53 /
F042M61/	71.58 /	F042M32/	62.41 /	F042M33/	51.84 /
EBMPF080/	81350.28 /	F090M08/	66.96 /	F090M07/	69.38 /
F090M06/	43.16 /	SLOPECHANG/	65.90 /	F090M03/	69.37 /
F100M27/	111.77 /	F100M03/	81.20 /	F100M02/	81.09 /
F100M26/	150.60 /	F100M32/	149.97 /	F080M08/	12.58 /
F080M05/	0.00 /	F080i48/	31.62 /	F080 TAP/	35.10 /
F060M02/	128.10 /	F060i07/	14908.29 /	F060i11/	18511.56 /
F060E00/	16.30 /	F042M21/	61.71 /	F080M10/	57.15 /
F080M02/	34.57 /	F100M29/	93.13 /	F070M04/	87.21 /
F070i05/	36.58 /	E040i34/	4.66 /	F090M14/	106.35 /
F100M06/	107.28 /	F100M28/	106.54 /	F100E01/	27159.48 /
F100 E OF/	0.00 /	F090M02OUT/	4.66 /		

Junction/Total Fldng					
F100E00/	0.00 /	F100M31/	0.00 /	F100M21/	0.00 /
F100i01/	0.00 /	F100M04/	0.00 /	F100M07/	0.00 /
F100M11/	0.00 /	F090E00/	0.00 /	F090M02/	0.00 /
F090M05/	0.00 /	F090M09/	0.00 /	F090M04/	0.00 /
F080E00/	0.00 /	F080M14/	0.00 /	F080M13/	0.00 /
F080M06/	0.00 /	F070M02/	0.00 /	F070M01/	0.00 /
F070E00/	0.00 /	F060M01/	0.00 /	F060E01/	0.00 /
F050M01/	0.00 /	F050E01/	0.00 /	F050E00/	0.00 /
F042M18/	0.00 /	F042M13/	0.00 /	F042M19/	0.00 /
F042M24/	0.00 /	F042M28/	0.00 /	F042M39/	0.00 /
F042M61/	0.00 /	F042M32/	0.00 /	F042M33/	0.00 /
EBMPF080/	0.00 /	F090M08/	0.00 /	F090M07/	0.00 /
F090M06/	0.00 /	SLOPECHANG/	0.00 /	F090M03/	0.00 /
F100M27/	0.00 /	F100M03/	0.00 /	F100M02/	0.00 /
F100M26/	0.00 /	F100M32/	0.00 /	F080M08/	0.00 /
F080M05/	0.00 /	F080i48/	0.00 /	F080 TAP/	0.00 /
F060M02/	0.00 /	F060i07/	0.00 /	F060i11/	0.00 /
F060E00/	0.00 /	F042M21/	0.00 /	F080M10/	0.00 /
F080M02/	0.00 /	F100M29/	0.00 /	F070M04/	0.00 /
F070i05/	0.00 /	E040i34/	0.00 /	F090M14/	0.00 /
F100M06/	0.00 /	F100M28/	0.00 /	F100E01/	0.00 /
F100 E OF/	0.00 /	F090M02OUT/	0.00 /		

Conduit/ Cross Sectional Area					
LINE042/	0.00 /	Link3/	0.00 /	Link4/	0.00 /
Link6/	0.00 /	Link7/	0.00 /	Link9/	0.00 /
Link13/	0.00 /	Link14/	0.00 /	Link15/	0.00 /
Link17/	0.00 /	Link26/	0.00 /	Link27/	0.00 /
Link31/	0.00 /	Link32/	0.00 /	Link38/	0.11 /
Link39/	0.00 /	Link40/	0.01 /	Link41/	0.00 /
Link44/	0.00 /	Link46/	0.00 /	Link48/	0.00 /
Link51/	0.00 /	OFLOW 1/	0.00 /	OFLOW 2/	0.00 /
OFLOW 3/	0.00 /	OFLOW 4/	0.00 /	OFLOW 5/	0.00 /
Link61/	0.00 /	Link64/	0.00 /	OFLOW 6/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00 /	F042M39 OF/	0.00 /
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
Link71/	0.00 /	F100M07 OF/	0.00 /	Link75/	0.00 /
F090M07 OF/	0.00 /	Link83/	0.00 /	F080M06 OF/	0.00 /
348.1/	0.00 /	m32OF/	0.00 /	352.1/	0.00 /
M24 OF/	0.00 /	355.1/	0.00 /	m28 of/	0.00 /
357.1/	0.00 /	361.1/	0.00 /	F090M04 OF/	0.00 /
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00 /
F100M11 OF/	0.00 /	365.1/	0.00 /	F100M06 OF/	0.00 /
366.1/	0.00 /	370.1/	0.00 /	F090M09 OF/	0.00 /
371.1/	0.00 /	F090M08 OF/	0.00 /	374.1/	0.00 /
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00 /	F100M04 OF/	0.00 /	377.1/	0.00 /
F100M03 OF/	0.00 /	378.1/	0.11 /	F100M02 OF/	0.00 /
383.1/	0.00 /	F080M08 OF/	0.00 /	385.1/	0.01 /
387.1/	0.00 /	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.00 /	M21 OF/	0.00 /	398.1/	0.00 /
F080M10 of/	0.00 /	399.1/	0.00 /	E080M13/	0.00 /
401.1/	0.05 /	F100M29 OF/	0.00 /	402.1/	0.00 /
F070M04 OF/	0.00 /	423.1/	0.00 /	F090M14 OF/	0.00 /
430.1/	0.00 /	F100M21 OF/	0.00 /	433.1/	0.00 /
F090M02 OF/	0.00 /				

Conduit/ Final Volume					
LINE042/	0.00 /	Link3/	0.00 /	Link4/	0.00 /
Link6/	0.00 /	Link7/	0.00 /	Link9/	0.00 /
Link13/	0.00 /	Link14/	0.00 /	Link15/	0.04 /

Link17/	0.00 /	Link26/	1.11 /	Link27/	0.00 /
Link31/	0.00 /	Link32/	0.00 /	Link38/	6.70 /
Link39/	0.00 /	Link40/	0.56 /	Link41/	0.00 /
Link44/	0.00 /	Link46/	0.09 /	Link48/	0.00 /
Link51/	0.00 /	OFLOW 1/	0.00 /	OFLOW 2/	0.00 /
OFLOW 3/	0.00 /	OFLOW 4/	0.00 /	OFLOW 5/	0.00 /
Link61/	0.01 /	Link64/	0.00 /	OFLOW 6/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00 /	F042M39 OF/	0.02 /
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
Link71/	0.00 /	F100M07 OF/	0.00 /	Link75/	0.00 /
F090M07 OF/	0.00 /	Link83/	0.00 /	F080M06 OF/	0.02 /
348.1/	0.00 /	m32OF/	0.00 /	352.1/	0.01 /
M24 OF/	0.01 /	355.1/	0.00 /	m28 of/	0.00 /
357.1/	0.00 /	361.1/	0.00 /	F090M04 OF/	0.00 /
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00 /
F100M11 OF/	0.00 /	365.1/	0.00 /	F100M06 OF/	0.00 /
366.1/	0.00 /	370.1/	0.00 /	F090M09 OF/	0.00 /
371.1/	0.00 /	F090M08 OF/	0.00 /	374.1/	0.00 /
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00 /	F100M04 OF/	0.00 /	377.1/	0.00 /
F100M03 OF/	0.00 /	378.1/	37.57 /	F100M02 OF/	0.00 /
383.1/	0.00 /	F080M08 OF/	0.00 /	385.1/	0.27 /
387.1/	0.00 /	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.01 /	M21 OF/	0.01 /	398.1/	0.00 /
F080M10 of/	0.00 /	399.1/	0.01 /	E080M13/	0.01 /
401.1/	6.01 /	F100M29 OF/	0.00 /	402.1/	0.01 /
F070M04 OF/	0.01 /	423.1/	0.00 /	F090M14 OF/	0.00 /
430.1/	0.00 /	F100M21 OF/	0.00 /	433.1/	0.00 /
F090M02 OF/	0.00 /				

Conduit/ Hydraulic Radius					
LINE042/	0.00 /	Link3/	0.01 /	Link4/	0.00 /
Link6/	0.01 /	Link7/	0.01 /	Link9/	0.00 /
Link13/	0.01 /	Link14/	0.01 /	Link15/	0.01 /
Link17/	0.01 /	Link26/	0.01 /	Link27/	0.00 /
Link31/	0.00 /	Link32/	0.00 /	Link38/	0.05 /
Link39/	0.00 /	Link40/	0.01 /	Link41/	0.00 /
Link44/	0.00 /	Link46/	0.01 /	Link48/	0.00 /
Link51/	0.00 /	OFLOW 1/	0.00 /	OFLOW 2/	0.00 /
OFLOW 3/	0.00 /	OFLOW 4/	0.00 /	OFLOW 5/	0.00 /
Link61/	0.01 /	Link64/	0.01 /	OFLOW 6/	0.00 /
F043M33 OF/	0.00 /	F042M61 OF/	0.00 /	F042M39 OF/	0.00 /
F060M02 OF/	0.00 /	F070M02 OF/	0.00 /	F070i05 OF/	0.00 /
Link71/	0.01 /	F100M07 OF/	0.00 /	Link75/	0.00 /
F090M07 OF/	0.00 /	Link83/	0.00 /	F080M06 OF/	0.00 /
348.1/	0.00 /	m32OF/	0.00 /	352.1/	0.00 /
M24 OF/	0.00 /	355.1/	0.00 /	m28 of/	0.00 /
357.1/	0.01 /	361.1/	0.00 /	F090M04 OF/	0.00 /
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00 /
F100M11 OF/	0.00 /	365.1/	0.01 /	F100M06 OF/	0.00 /
366.1/	0.00 /	370.1/	0.00 /	F090M09 OF/	0.00 /
371.1/	0.00 /	F090M08 OF/	0.00 /	374.1/	0.00 /
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00 /	F100M04 OF/	0.00 /	377.1/	0.00 /
F100M03 OF/	0.00 /	378.1/	0.05 /	F100M02 OF/	0.00 /
383.1/	0.00 /	F080M08 OF/	0.00 /	385.1/	0.01 /
387.1/	0.00 /	389.1/	0.00 /	391.1/	0.00 /
392.1/	0.00 /	M21 OF/	0.00 /	398.1/	0.00 /
F080M10 of/	0.00 /	399.1/	0.01 /	E080M13/	0.00 /
401.1/	0.03 /	F100M29 OF/	0.00 /	402.1/	0.01 /
F070M04 OF/	0.00 /	423.1/	0.01 /	F090M14 OF/	0.00 /
430.1/	0.00 /	F100M21 OF/	0.00 /	433.1/	0.00 /
F090M02 OF/	0.00 /				

Conduit/ Upstream/ Downstream Elevation								
LINE042/	646.91/	645.52	Link3/	645.52/	644.73	Link4/	644.20/	644.20/
Link6/	601.93/	600.38	Link7/	600.38/	594.61	Link9/	599.34/	594.14/
Link13/	597.71/	594.43	Link14/	594.43/	582.00	Link15/	599.05/	596.64/
Link17/	600.77/	588.00	Link26/	599.76/	596.64	Link27/	648.09/	648.09/
Link31/	605.68/	604.48	Link32/	603.97/	603.17	Link38/	594.92/	594.92/
Link39/	588.66/	588.66	Link40/	588.66/	585.99	Link41/	585.99/	582.00/
Link44/	648.09/	648.09	Link46/	596.64/	596.00	Link48/	591.61/	591.32/
Link51/	591.32/	584.32	OFLOW 1/	598.00/	598.00	OFLOW 2/	597.71/	597.71/
OFLOW 3/	597.71/	597.71	OFLOW 4/	601.02/	601.02	OFLOW 5/	635.37/	635.37/
Link61/	603.11/	599.05	Link64/	595.50/	594.43	OFLOW 6/	584.32/	584.32/
F043M33 OF/	640.00/	640.00	F042M61 OF/	644.20/	644.20	F042M39 OF/	598.00/	598.00/
F060M02 OF/	584.32/	584.32	F070M02 OF/	582.00/	582.00	F070i05 OF/	582.00/	582.00/
Link71/	639.32/	638.16	F100M07 OF/	601.74/	601.74	Link75/	594.92/	594.92/
F090M07 OF/	602.08/	602.08	Link83/	590.36/	590.36	F080M06 OF/	603.11/	603.11/
348.1/	646.91/	646.91	m32OF/	647.75/	647.75	352.1/	611.99/	611.99/
M24 OF/	611.99/	611.99	355.1/	644.73/	644.73	m28 of/	645.40/	645.40/
357.1/	594.14/	590.36	361.1/	607.19/	607.19	F090M04 OF/	607.19/	607.19/
363.1/	602.08/	600.77	F090M05 OF/	600.77/	600.77	364.1/	660.44/	639.32/
F100M11 OF/	639.32/	639.32	365.1/	638.16/	634.57	F100M06 OF/	634.57/	634.57/
366.1/	601.74/	601.74	370.1/	614.80/	614.80	F090M09 OF/	614.80/	614.80/
371.1/	614.80/	605.68	F090M08 OF/	605.68/	605.68	374.1/	603.17/	602.08/
F090M06 OF/	603.17/	603.17	375.1/	600.77/	600.77	F090M03 OF/	600.77/	600.77/

376.1/	612.51/	612.51	F100M04 OF/	612.51/	612.51	377.1/	605.60/	605.60/
F100M03 OF/	605.60/	605.60	378.1/	605.60/	594.92	F100M02 OF/	594.92/	594.92/
383.1/	669.65/	658.61	F080M08 OF/	658.61/	658.61	385.1/	601.02/	600.25/
387.1/	591.61/	591.61	389.1/	597.00/	595.96	391.1/	598.00/	595.36/
392.1/	611.99/	601.93	M21 OF/	601.93/	601.93	398.1/	680.42/	669.65/
F080M10 of/	669.65/	669.65	399.1/	648.09/	603.11	E080M13/	603.11/	603.11/
401.1/	598.00/	594.92	F100M29 OF/	594.92/	594.92	402.1/	604.00/	597.71/
F070M04 OF/	597.71/	597.71	423.1/	588.00/	580.53	F090M14 OF/	580.53/	580.53/
430.1/	596.50/	596.50	F100M21 OF/	596.50/	596.50	433.1/	596.50/	596.50/
F090M02 OF/	590.00/	590.00						

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| Table E7 - Iteration Summary |

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Total number of time steps simulated.....	7200
Total number of passes in the simulation.....	72400
Total number of time steps during simulation....	39672
Ratio of actual # of time steps / NTCYC.....	5.510
Average number of iterations per time step.....	1.825
Average time step size(seconds).....	5.445
Smallest time step size(seconds).....	1.000
Largest time step size(seconds).....	30.000
Average minimum Conduit Courant time step (sec)..	14.713
Average minimum implicit time step (sec).....	6.345
Average minimum junction time step (sec).....	6.345
Average Courant Factor Tf.....	6.345
Number of times omega reduced.....	3305

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| Table E8 - Junction Time Step Limitation Summary |

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| Not Convr = Number of times this junction did not |

| converge during the simulation. |

| Avg Convr = Average junction iterations. |

| Convr err = Mean convergence error. |

| Omega Cng = Change of omega during iterations |

| Max Itern = Maximum number of iterations |

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Junction	Not Convr	Avg Convr	Total Itt	Omega Cng	Max Itern	Ittrn >10	Ittrn >25	Ittrn >40
F100E00	0	1.61	63880	4	327	5	4	4
F100M31	0	1.75	69359	6	247	23	6	4
F100M21	0	2.44	96779	123	491	122	117	114
F100i01	0	1.36	53844	20	271	23	20	18
F100M04	0	1.47	58285	0	12	1	0	0
F100M07	0	2.22	88082	91	470	79	74	72
F100M11	0	1.42	56283	2	28	2	1	0
F090E00	0	1.90	75397	33	265	33	33	33
F090M02	0	2.79	110672	112	499	111	107	107
F090M05	2	1.71	67735	22	501	25	20	19
F090M09	0	1.31	51853	1	25	1	1	0
F090M04	0	1.38	54675	1	27	2	1	0
F080E00	0	1.74	68919	0	6	0	0	0
F080M14	0	1.49	59071	0	11	1	0	0
F080M13	0	1.47	58437	0	5	0	0	0
F080M06	0	1.38	54662	0	8	0	0	0
F070M02	0	1.69	67001	23	489	23	22	22
F070M01	42	2.17	86128	343	501	54	46	44
F070E00	0	1.83	72654	2	492	3	2	2
F060M01	0	1.44	57142	4	7	0	0	0
F060E01	0	1.62	64446	1	221	262	24	17
F050M01	0	1.33	52758	3	481	4	3	3
F050E01	0	1.39	55122	1	315	3	2	2
F050E00	3	10.15	402561	910	501	910	907	901
F042M18	0	1.36	54093	0	5	0	0	0
F042M13	0	1.64	65166	0	7	0	0	0
F042M19	0	1.56	61817	2	408	1	1	1
F042M24	0	1.80	71358	6	22	2	0	0
F042M28	0	1.86	73820	27	143	35	4	1
F042M39	0	1.83	72682	10	47	9	1	1
F042M61	0	1.64	65133	24	24	16	0	0
F042M32	0	1.80	71246	25	478	32	9	7
F042M33	1	2.34	92742	85	501	84	77	74
EBMPF080	0	1.36	54025	0	14	3	0	0
F090M08	0	1.38	54808	0	26	2	1	0
F090M07	0	1.38	54723	2	481	3	2	2
F090M06	0	1.45	57463	15	328	17	13	13
SLOPECHANG	0	1.23	48925	0	6	0	0	0
F090M03	0	1.76	69648	34	485	33	32	31
F100M27	0	1.59	62934	3	176	4	2	2
F100M03	0	1.57	62202	0	25	3	1	0
F100M02	0	1.60	63474	1	10	1	0	0
F100M26	0	1.42	56241	1	12	2	0	0
F100M32	0	1.29	51276	0	8	0	0	0

F080M08	0	1.37	54248	0	5	0	0	0
F080M05	0	1.00	39672	0	1	0	0	0
F080i48	0	1.79	71004	63	242	61	60	59
F080 TAP	0	1.72	68165	46	240	44	43	42
F060M02	0	3.27	129680	99	497	240	83	80
F060i07	1	1.66	65802	43	501	45	44	43
F060i11	0	1.23	48761	0	24	6	0	0
F060E00	0	1.75	89473	0	7	0	0	0
F042M21	0	1.85	73472	4	268	4	2	2
F080M10	0	1.22	48368	1	18	1	0	0
F080M02	0	1.45	58792	0	5	0	0	0
F100M29	0	1.39	54750	2	248	3	2	2
F070M04	0	1.54	61068	16	480	15	15	14
F070i05	22	1.71	67855	155	501	61	48	40
E040i34	0	1.66	65871	39	461	39	39	39
F090M14	0	1.40	55726	0	9	0	0	0
F100M06	0	1.44	57046	1	12	2	0	0
F100M28	7	2.15	85213	840	501	67	43	42
F100E01	7	1.41	56103	12	501	14	8	8
F100 E OF	0	1.05	41807	0	22	1	0	0
F090M02OUT	0	1.59	63006	47	500	48	47	47
Total number of iterations for all junctions..				4545403				

Minimum number of possible iterations..... 2578680

Efficiency of the simulation..... 1.76

Excellent Efficiency

```

*=====
| Extran Efficiency is an indicator of the efficiency of |
| the simulation. Ideal efficiency is one iteration per |
| time step. Altering the underrelaxation parameter, |
| lowering the time step, increasing the flow and head |
| tolerance are good ways of improving the efficiency, |
| another is lowering the internal time step. The lower the |
| efficiency generally the faster your model will run. |
| If your efficiency is less than 1.5 then you may try |
| increasing your time step so that your overall simulation |
| is faster. Ideal efficiency would be around 2.0 |
|
| Good Efficiency < 1.5 mean iterations |
| Excellent Efficiency < 2.5 and > 1.5 mean iterations |
| Good Efficiency < 4.0 and > 2.5 mean iterations |
| Fair Efficiency < 7.5 and > 4.0 mean iterations |
| Poor Efficiency > 7.5 mean iterations |
*=====

```

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*=====
| Table E9 - JUNCTION SUMMARY STATISTICS |
| The Maximum area is only the area of the node, it |
| does not include the area of the surrounding conduits |
*=====

```

Maximum	Maximum	Uppermost	Maximum	Time	Feet of	Maximum	Maximum		
Gutter	Gutter	Ground	PipeCrown	Junction	of	Freeboard	Junction		
Width	Junction	Elevation	Elevation	Elevation	Occurence	at Max	Area		
Velocity	Name	feet	feet	feet	Hr. Min.	Elevation	ft^2		
ft/s									
-----	-----	-----	-----	-----	-----	-----	-----		
0.0000	F100E00	600.0000	583.5000	583.5000	11 43	0.0000	16.5000	12.5660	0.0000
0.0000	0.0000								
0.0000	F100M31	614.2900	606.2900	605.0240	12 8	0.0000	9.2660	12.5660	0.0000
0.0000	0.0000								
0.0000	F100M21	657.0900	646.0000	607.6455	12 7	0.0000	49.4445	12.5660	0.0000
0.0000	0.0000								
0.0000	F100i01	619.4300	605.6800	610.6624	12 6	4.9824	8.7676	12.5660	0.0000
0.0000	0.0000								
0.0000	F100M04	656.0700	655.6600	646.2121	12 7	0.0000	9.8579	12.5660	0.0000

0.0000	0.0000									
	F100M07	655.5700	648.0000	646.6769	12	7	0.0000	8.8931	12.5660	0.0000
0.0000	0.0000									
	F100M11	675.7400	667.7400	665.9531	12	6	0.0000	9.7869	12.5660	0.0000
0.0000	0.0000									
	F090E00	600.0000	592.0000	582.5300	11	54	0.0000	17.4700	12.5660	0.0000
0.0000	0.0000									
	F090M02	615.0700	607.0700	605.3750	12	4	0.0000	9.6950	12.5660	0.0000
0.0000	0.0000									
	F090M05	616.2200	608.2200	606.6034	12	5	0.0000	9.6166	12.5660	0.0000
0.0000	0.0000									
	F090M09	650.9700	650.6600	641.0752	12	5	0.0000	9.8948	12.5660	0.0000
0.0000	0.0000									
	F090M04	646.4400	646.1600	636.6348	12	9	0.0000	9.8052	12.5660	0.0000
0.0000	0.0000									
	F080E00	610.0000	599.0000	597.6660	12	2	0.0000	12.3340	12.5660	0.0000
0.0000	0.0000									
	F080M14	613.8200	613.6600	601.2802	12	2	0.0000	12.5398	12.5660	0.0000
0.0000	0.0000									
	F080M13	669.1100	661.1100	649.5359	12	4	0.0000	19.5741	12.5660	0.0000
0.0000	0.0000									
	F080M06	671.6300	663.6300	659.6591	12	4	0.0000	11.9709	12.5660	0.0000
0.0000	0.0000									
	F070M02	612.9400	612.6600	603.2406	12	17	0.0000	9.6994	12.5660	0.0000
0.0000	0.0000									
	F070M01	612.0800	596.9300	596.4959	12	28	0.0000	15.5841	12.5660	0.0000
0.0000	0.0000									
	F070E00	610.0000	604.0000	583.7591	12	28	0.0000	26.2409	12.5660	0.0000
0.0000	0.0000									
	F060M01	611.0300	592.8200	600.6577	12	31	7.8377	10.3723	12.5660	0.0000
0.0000	0.0000									
	F060E01	620.0000	599.5000	601.8046	12	31	2.3046	18.1954	3384.0225	0.0000
0.0000	0.0000									
	F050M01	613.1800	605.1800	603.3016	12	10	0.0000	9.8784	12.5660	0.0000
0.0000	0.0000									
	F050E01	610.0000	609.6600	595.4224	12	21	0.0000	14.5776	2704.2735	0.0000
0.0000	0.0000									
	F050E00	610.0000	602.0000	591.6419	12	21	0.0000	18.3581	12.5660	0.0000
0.0000	0.0000									
	F042M18	616.9300	602.3800	601.8249	12	26	0.0000	15.1051	12.5660	0.0000
0.0000	0.0000									
	F042M13	613.8100	596.6100	595.8395	12	26	0.0000	17.9705	12.5660	0.0000
0.0000	0.0000									
	F042M19	617.3300	616.1600	608.4263	12	25	0.0000	8.9037	12.5660	0.0000
0.0000	0.0000									
	F042M24	660.3200	653.3200	650.5520	12	16	0.0000	9.76		

0.0000	F060M02	611.5600	603.1000	601.8043	12	31	0.0000	9.7557	12.5660	0.0000
0.0000	0.0000									
0.0000	F060i07	615.0000	598.0000	601.4699	13	25	3.4699	13.5301	9295.2748	0.0000
0.0000	0.0000									
0.0000	F060i11	612.7300	612.5600	604.2043	12	50	0.0000	8.5257	12626.567	0.0000
0.0000	0.0000									
0.0000	F060E00	603.0000	602.0000	585.6170	12	31	0.0000	17.3830	12.5660	0.0000
0.0000	0.0000									
0.0000	F062M21	626.6000	618.6000	616.9006	12	20	0.0000	9.6994	12.5660	0.0000
0.0000	0.0000									
0.0000	F080M10	694.9200	686.9200	684.9683	12	7	0.0000	9.9517	12.5660	0.0000
0.0000	0.0000									
0.0000	F080M02	616.3900	608.3900	605.8611	12	4	0.0000	10.5289	12.5660	0.0000
0.0000	0.0000									
0.0000	F100M25	615.1200	607.1200	605.4116	12	5	0.0000	9.7084	12.5660	0.0000
0.0000	0.0000									
0.0000	F070M04	620.5900	612.5900	610.9400	12	19	0.0000	9.6500	12.5660	0.0000
0.0000	0.0000									
0.0000	F070i05	609.5300	605.1000	598.4107	12	29	0.0000	11.1193	12.5660	0.0000
0.0000	0.0000									
0.0000	E040i34	660.0000	648.5400	640.3709	12	7	0.0000	19.6291	12.5660	0.0000
0.0000	0.0000									
0.0000	F090M14	607.5500	599.5500	596.4635	12	12	0.0000	11.0865	12.5660	0.0000
0.0000	0.0000									
0.0000	F100M06	657.1600	648.8000	646.6971	12	4	0.0000	10.4629	12.5660	0.0000
0.0000	0.0000									
0.0000	F100M28	614.3200	606.3200	604.9781	12	13	0.0000	9.3419	12.5660	0.0000
0.0000	0.0000									
0.0000	F100E01	618.0000	598.5000	604.9780	12	14	6.4780	13.0220	13668.470	0.0000
0.0000	0.0000									
0.0000	F100 E OF	610.0000	590.0000	590.0000	0	0	0.0000	20.0000	12.5660	0.0000
0.0000	0.0000									
0.0000	F090M02OUT	610.0000	606.5000	590.3710	12	4	0.0000	19.6290	12.5660	0.0000
0.0000	0.0000									

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| Table E10 - CONDUIT SUMMARY STATISTICS |

| Note: The peak flow may be less than the design flow |

| and the conduit may still surcharge because of the |

| downstream boundary conditions. |

| |

| * denotes an open conduit that has been overtopped |

| this is a potential source of severe errors |

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Ratio		Conduit	Maximum	Maximum	Time	Maximum	Time	Ratio of		Maximum Water		
d/D		Design	Design	Vertical	Computed	of		Computed	of		Max. to	Elev at Pipe Ends
US	DS	Conduit	Flow	Velocity	Depth	Flow	Occurence	Velocity	Occurence	Design	Upstream	Dwnstrm
		Name	(cfs)	(ft/s)	(in)	(cfs)	Hr. Min.	(ft/s)	Hr. Min.	Flow	(ft)	(ft)

3.973	4.557	LINE042	3.2831	2.6753	15.0000	4.7720	11 46	3.8430	11 46	1.4535	651.8763	651.2164
2.848	3.261	Link3	9.9376	3.1632	24.0000	6.7791	13 36	2.8687	13 41	0.6822	651.2164	651.2510
3.261	3.176	Link4	16.0314	5.1030	24.0000	17.4644	11 46	5.4640	11 46	1.0894	651.2510	650.5520
3.248	0.722	Link6	12.9476	4.1214	24.0000	24.3104	12 25	7.8146	12 25	1.8776	608.4263	601.8249
0.722	0.615	Link7	34.9035	11.1101	24.0000	24.3102	12 26	10.1734	12 27	0.6965	601.8249	595.8395
3.962	1.282	Link9	5.1095	6.5057	12.0000	6.1268	12 8	7.6518	12 7	1.1991	603.3016	595.4224
2.765	1.033	Link13	32.3856	10.3086	24.0000	38.8598	12 12	12.2986	12 10	1.1999	603.2406	596.4959
0.826	0.704	Link14	68.5252	13.9598	30.0000	57.7188	12 28	13.5619	12 29	0.8423	596.4959	583.7591
0.743	0.931	Link15	95.2005	13.4681	36.0000	49.5812	12 2	8.6338	12 3	0.5208	601.2802	599.4336
2.302	4.232	Link17	38.3575	12.2096	24.0000	34.6196	11 53	12.1606	11 52	0.9026	605.3750	596.4635
1.258	1.397	Link26	23.0635	7.3413	24.0000	22.2691	12 37	7.0316	12 43	0.9656	602.2662	599.4336
0.525	0.723	Link27	38.5731	12.2782	24.0000	19.6931	12 4	11.2978	12 4	0.5105	659.6591	649.5359
5.521	4.734	Link31	2.9891	3.8058	12.0000	4.3546	12 25	5.4025	12 25	1.4568	611.2013	609.2140
5.244	3.435	Link32	2.0924	2.6641	12.0000	4.3760	12 25	5.4494	12 25	2.0914	609.2140	606.6048
5.052	4.837	Link38	24.1532	7.6882	24.0000	-30.4926	11 50	-9.4777	11 50	-1.2625	605.0240	603.8146
4.447	5.992	Link39	50.3417	16.0243	24.0000	28.7361	12 9	12.1400	11 42	0.5708	603.8146	600.6450
		Link40	36.6499	11.6660	24.0000	28.7355	12 10	8.8652	12 10	0.7841	600.6450	597.8246

[illegible]

5.329	5.521	371.1	5.7396	7.3079	12.0000	5.5902	12	1	6.9893	11	50	0.9740	620.1290	611.2013
0.084	0.111	F090M08 OF	3751.742	18.3909	24.0000	6.6428	12	6	3.5418	12	6	0.0018	620.1290	611.2013
3.435	4.523	374.1	5.9235	7.5421	12.0000	6.2272	12	23	7.8365	12	23	1.0513	606.6048	606.6034
0.132	0.267	F030M06 OF	1447.513	7.0956	24.0000	-3.6624	12	10	-1.3186	12	22	-0.0025	606.6048	606.6034
5.521	4.605	375.1	3.7995	4.8364	12.0000	4.9673	12	29	6.2168	12	34	1.3077	612.7106	605.3750
0.135	0.152	F090M03 OF	2680.930	13.1418	24.0000	14.8294	12	11	3.5670	12	9	0.0055	612.7106	605.3750
6.653	3.692	376.1	34.9928	14.5483	21.0000	37.3771	12	7	15.0273	12	6	1.0681	646.2121	618.9715
0.071	0.106	F100M04 OF	5766.930	28.2693	24.0000	6.7365	12	7	4.7118	12	7	0.0012	646.2121	618.9715
3.231	3.226	377.1	36.4901	11.6152	24.0000	32.4531	12	5	10.5108	11	49	0.8894	618.9715	612.0528
0.106	0.126	F100M03 OF	3799.295	18.6240	24.0000	11.6352	12	8	4.2136	12	8	0.0031	618.9715	612.0528
3.226	5.442	378.1	39.0870	12.4418	24.0000	29.0836	12	33	9.4107	11	45	0.7441	612.0528	605.0240
0.126	0.367	F100M02 OF	3282.631	16.0913	24.0000	15.6176	12	9	2.5351	12	9	0.0048	612.0528	605.0240
0.667	0.699	383.1	16.6695	9.4330	18.0000	11.8983	12	7	9.6773	12	7	0.7138	670.6510	659.6591
.0000	.0000	F080M08 OF	4497.559	22.0469	24.0000	0.0000	0	0	0.0000	0	0	0.0000	659.6591	659.6591
3.687	1.621	385.1	4.4029	3.5878	15.0000	9.3239	12	26	7.5078	12	26	2.1177	605.6084	602.2662
2.536	4.296	387.1	20.8100	11.7760	18.0000	-5.4695	11	55	-3.0441	11	55	-0.2628	601.8046	601.8043
4.470	5.844	389.1	2.8514	3.6305	12.0000	3.7846	16	47	4.7726	16	47	1.3273	601.4699	601.8043
6.204	6.444	391.1	3.5522	4.5227	12.0000	3.6268	13	8	4.4715	13	8	1.0210	604.2043	601.8043
2.806	3.712	392.1	15.7314	6.5403	21.0000	16.1762	11	48	6.7599	11	43	1.0283	616.9006	608.4263
0.150	0.548	M21 OF	2236.736	10.9644	24.0000	16.4174	12	20	1.8850	13	30	0.0073	616.9006	608.4263
3.639	0.801	398.1	10.5524	8.5989	15.0000	11.6799	12	8	9.5119	12	7	1.1068	684.9683	670.6510
0.024	.0095	F080M10 OF	3780.070	18.5298	24.0000	0.2775	12	7	1.4047	12	7	0.0001	684.9683	674.4690
0.723	1.376	399.1	39.7687	12.6588	24.0000	33.7464	12	4	13.5037	12	3	0.8486	649.5359	605.8611
.0000	.0000	E080M13	1394.075	6.8337	24.0000	0.0000	0	0	0.0000	0	0	0.0000	605.8611	605.8611
8.930	13.11	401.1	3.7039	6.8456	9.9600	3.0301	11	48	5.3382	11	48	0.8181	605.4116	605.0240
0.146	0.367	F100M29 OF	1859.528	9.1153	24.0000	12.6367	12	5	1.9718	11	54	0.0068	605.4116	605.0240
3.470	2.765	402.1	20.7443	6.6031	24.0000	26.8248	12	36	8.4260	12	36	1.2931	610.9400	603.2406
0.175	0.173	F070M04 OF	1662.654	8.1503	24.0000	17.6971	12	19	2.5994	12	19	0.0106	610.9400	603.2852
4.232	1.000	423.1	35.6750	11.3557	24.0000	43.8885	12	12	13.7162	12	12	1.2302	596.4635	582.5300
.0000	.0000	F090M14 OF	3357.964	16.4606	24.0000	0.0000	0	0	0.0000	0	0	0.0000	582.5300	582.5300
3.937	5.652	430.1	12.9343	7.3193	18.0000	11.5909	11	53	6.4516	11	53	0.8961	607.6455	604.9781
0.278	0.329	F100M21 OF	2101.106	10.2995	24.0000	73.5821	12	8	4.4534	12	8	0.0350	607.6455	604.9781
5.319	5.652	433.1	15.2068	8.6053	18.0000	-16.2215	11	56	-8.9582	11	56	-1.0667	604.9780	604.9781
0.187	0.186	F090M02 OF	2682.528	13.1496	24.0000	34.2071	12	4	4.4097	12	4	0.0128	605.3750	604.8710
	e01 OF	Undefnd	Undefnd	Undefn	0.0000	0	0							
	F100I01 OV	Undefnd	Undefnd	Undefn	17.4775	12	6							
	F080 EMER	Undefnd	Undefnd	Undefn	14.1594	12	32							
	060E01 OF	Undefnd	Undefnd	Undefn	-0.8041	12	13							
	i07 of	Undefnd	Undefnd	Undefn	0.0000	0	0							
	i11 OF	Undefnd	Undefnd	Undefn	0.0000	0	0							
	OF F042M19	Undefnd	Undefnd	Undefn	27.5514	12	25							
	100E01 OV	Undefnd	Undefnd	Undefn	-26.2339	12	7							
	F100M28 OV	Undefnd	Undefnd	Undefn	59.0101	12	13							
	M100M27 OV	Undefnd	Undefnd	Undefn	0.0000	0	0							
	F100M31 OV	Undefnd	Undefnd	Undefn	63.4464	12	8							
	FREE # 1	Undefnd	Undefnd	Undefn	28.7353	12	10							
	FREE # 2	Undefnd	Undefnd	Undefn	43.8886	12	12							
	FREE # 3	Undefnd	Undefnd	Undefn	56.7219	12	2							
	FREE # 4	Undefnd	Undefnd	Undefn	64.9252	12	19							
	FREE # 5	Undefnd	Undefnd	Undefn	35.8626	12	21							
	FREE # 6	Undefnd	Undefnd	Undefn	24.3102	12	26							
	FREE # 7	Undefnd	Undefnd	Undefn	124.3698	12	31							
	FREE # 8	Undefnd	Undefnd	Undefn	34.4209	12	7							

FREE # 9 Undefnd Undefnd Undefn 116.2710 12 11
 FREE #10 Undefnd Undefnd Undefn 34.2074 12 4

* =====*
 | Table E11. Area assumptions used in the analysis |
 | Subcritical and Critical flow assumptions from |
 | Subroutine Head. See Figure 17-1 in the |
 | manual for further information. |
 * =====*

Conduit Name	Duration of Dry Flow(min)	Duration of Sub- Critical Flow(min)	Durat. of Upstream Critical Flow(min)	Durat. of Downstream Critical Flow(min)	Maximum Hydraulic Radius-m	Maximum X-Sect Area(ft^2)	Maximum Vel+D (ft^2/s)
LINE042	2066.5667	1533.4333	0.0000	0.0000	0.3799	1.2711	12.1598
Link3	370.5000	3229.5000	0.0000	0.0000	0.6037	3.2788	9.2341
Link4	1893.6667	1706.3333	0.0000	0.0000	0.6085	3.2920	29.0549
Link6	225.5000	3374.5000	0.0000	0.0000	0.5922	3.1177	31.0279
Link7	227.7500	3372.2500	0.0000	0.0000	0.5939	2.3896	13.6038
Link9	353.8750	3246.1250	0.0000	0.0000	0.3020	0.8200	19.4760
Link13	309.8333	3290.1667	0.0000	0.0000	0.6084	3.2565	45.5967
Link14	311.5000	3288.5000	0.0000	0.0000	0.7582	4.2716	25.8423
Link15	2167.5000	1432.5000	0.0000	0.0000	0.8997	5.7547	21.6315
Link17	2180.5417	1419.4583	0.0000	0.0000	0.5976	3.2827	60.7945
Link26	347.3750	3252.6250	0.0000	0.0000	0.6059	3.2873	16.1214
Link27	2466.6333	1133.3667	0.0000	0.0000	0.5229	1.7450	14.0793
Link31	437.7000	44.5833	0.0000	3117.7167	0.3032	0.8223	24.1561
Link32	447.5000	3152.5000	0.0000	0.0000	0.2988	0.8057	19.5115
Link38	2266.5333	1333.4667	0.0000	0.0000	0.5795	3.2284	78.6553
Link39	2266.6333	1333.3667	0.0000	0.0000	0.5976	3.2827	93.3478
Link40	2265.5667	1334.4333	0.0000	0.0000	0.5976	3.2801	106.0233
Link41	433.0000	3167.0000	0.0000	0.0000	0.4546	1.8369	104.2986
Link44	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Link46	330.0000	3270.0000	0.0000	0.0000	0.8964	6.5698	19.2305
Link48	2259.9000	1340.1000	0.0000	0.0000	0.4552	1.8510	61.9942
Link51	275.5000	3324.5000	0.0000	0.0000	0.4550	1.8069	34.2415
OFLOW 1	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OFLOW 2	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OFLOW 3	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OFLOW 4	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OFLOW 5	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Link61	462.6667	3137.3333	0.0000	0.0000	0.7605	5.0479	16.2285
Link64	2306.3667	1293.6333	0.0000	0.0000	0.6080	3.2733	15.5433
OFLOW 6	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
F043M33 OF	3498.6711	0.0000	0.0000	101.3289	0.1970	7.7866	1.6500
F042M61 OF	3547.9167	44.8167	0.0000	7.2667	0.1285	6.8491	0.2997
F042M39 OF	3502.7632	97.2368	0.0000	0.0000	0.5522	22.0406	2.5510
F060M02 OF	3385.4737	0.0000	0.0000	214.5263	0.4257	38.1834	1.9589
F070M02 OF	3579.3833	0.0000	0.0000	20.6167	0.0882	3.3476	0.4098
F070i05 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Link71	383.9000	3216.1000	0.0000	0.0000	0.6038	3.2176	33.6568
F100M07 OF	3563.0333	0.0000	0.0000	36.9667	0.4808	11.3466	3.0318
Link75	2425.1000	1174.9000	0.0000	0.0000	0.4549	1.8474	40.1466
F090M07 OF	3568.0833	27.7167	0.0000	4.2000	0.1277	3.3960	0.7522
Link83	3581.9000	0.0000	0.0000	18.1000	0.0687	0.9643	0.2696
F080M06 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
348.1	2236.1500	1363.8500	0.0000	0.0000	0.3801	1.2851	10.7084
m320F	3489.7737	106.6544	3.5719	0.0000	0.4278	37.3554	0.1888
352.1	1869.0000	1731.0000	0.0000	0.0000	0.4512	1.8464	53.6286
M24 OF	3525.2167	74.7833	0.0000	0.0000	0.1284	3.3355	1.1465
355.1	2266.8333	1333.1667	0.0000	0.0000	0.6060	3.2919	16.3057
m28 of	3496.4816	96.5307	6.9877	0.0000	0.7803	123.4595	0.2491
357.1	286.2500	3313.7500	0.0000	0.0000	0.6344	2.5353	18.1364
361.1	2517.0167	1082.9833	0.0000	0.0000	0.2988	0.8217	44.5219
F090M04 OF	3567.4333	32.5667	0.0000	0.0000	0.1102	2.4749	1.1212
363.1	363.7500	3236.2500	0.0000	0.0000	0.5320	2.5027	17.9725
F090M05 OF	3571.8333	0.0000	0.0000	28.1667	0.1994	7.9806	0.7700
364.1	2436.9000	1163.1000	0.0000	0.0000	0.3735	1.2840	71.3396
F100M11 OF	3573.2000	26.8000	0.0000	0.0000	0.1603	8.7646	1.2803
365.1	389.6000	3210.4000	0.0000	0.0000	0.6082	3.2913	43.2329
F100M06 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
366.1	2503.8333	1096.1667	0.0000	0.0000	0.4482	1.8456	40.7387
370.1	2502.3833	1097.6167	0.0000	0.0000	0.2988	0.8216	60.3205
F090M09 OF	3586.1333	13.8667	0.0000	0.0000	0.0642	0.8628	0.5425
371.1	2457.1000	1142.9000	0.0000	0.0000	0.2988	0.8218	37.5584
F090M08 OF	3576.3500	23.6500	0.0000	0.0000	0.0960	1.8767	0.6892
374.1	2308.9167	1291.0833	0.0000	0.0000	0.2988	0.8221	20.1897
F090M06 OF	3571.0500	24.7667	4.1833	0.0000	0.2694	14.6453	0.1444
375.1	2409.9167	1190.0833	0.0000	0.0000	0.3025	0.8197	25.3811
F090M03 OF	3554.0000	13.9000	0.0000	32.1000	0.1443	4.1851	0.9548
376.1	2242.4250	1357.5750	0.0000	0.0000	0.5229	2.5133	136.0206
F100M04 OF	3587.1667	12.8333	0.0000	0.0000	0.0833	1.4300	0.8324
377.1	2238.4250	1361.5750	0.0000	0.0000	0.5976	3.2808	65.7418
F100M03 OF	3567.9000	32.1000	0.0000	0.0000	0.1169	2.7626	0.9763
378.1	2227.8500	1372.1500	0.0000	0.0000	0.5976	3.2863	76.9436

F100M02 OF	3557.6333	42.3667	0.0000	0.0000	0.1597	6.1692	1.2486
383.1	489.0000	3111.0000	0.0000	0.0000	0.4353	1.2425	9.6621
F080M08 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
385.1	527.4167	17.0000	0.0000	3055.5833	0.3777	1.2536	22.1201
387.1	3270.7009	329.2991	0.0000	0.0000	0.4482	1.8461	12.8941
389.1	685.4333	337.1381	0.0000	2577.4286	0.3037	0.8086	18.6462
391.1	693.3438	332.6563	0.0000	2574.0000	0.2988	0.8209	27.7291
392.1	1901.6667	1798.3333	0.0000	0.0000	0.5229	2.5120	34.2368
M21 OF	3484.7816	90.2623	0.0000	24.9561	0.1988	10.7376	1.0546
395.1	2517.5000	1082.5000	0.0000	0.0000	0.3795	1.2541	26.3570
F080M10 OF	3593.7000	0.0000	0.0000	6.3000	0.0295	0.1976	0.0469
399.1	2530.9583	1249.0417	0.0000	0.0000	0.5878	2.5036	28.2630
E090M13	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
401.1	2452.3000	1147.7000	0.0000	0.0000	0.2480	0.5698	39.9999
F100M29 OF	3545.8667	43.9667	0.0000	10.1667	0.1761	7.0702	0.9028
402.1	309.0000	3291.0000	0.0000	0.0000	0.6083	3.2848	45.4951
F070M04 OF	3567.1333	0.0000	0.0000	32.8667	0.1842	6.8089	0.9035
423.1	368.2500	3231.7500	0.0000	0.0000	0.6065	3.2268	71.7368
F090M14 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430.1	2433.1000	1166.9000	0.0000	0.0000	0.4482	1.8478	37.1814
F100M21 OF	3561.4000	13.5667	0.0000	25.0333	0.2873	16.5325	2.4702
433.1	3487.5658	112.4342	0.0000	0.0000	0.4561	1.8493	58.7544
F090M02 OF	3574.4333	0.0000	0.0000	25.5667	0.1967	7.7645	1.6411

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| Table E12. Mean Conduit Flow Information |

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Conduit Name	Mean Flow (cfs)	Total Flow (ft^3)	Mean Percent Change	Low Flow Weighting	Mean Froude Number	Mean Hydraulic Radius	Mean Cross Area	Mean Conduit Roughness
LINE042	0.2813	60760.956	0.0001	0.7913	0.4449	0.1766	0.4180	0.0140
Link3	0.3255	70308.022	0.0002	0.7961	0.4150	0.2242	0.8140	0.0140
Link4	0.9176	198195.65	0.0003	0.8126	0.7225	0.2513	0.9145	0.0140
Link6	1.6796	362793.23	0.0003	0.8348	0.8274	0.3123	1.1890	0.0140
Link7	1.6797	362810.69	0.0003	0.8314	1.9441	0.2478	0.6953	0.0140
Link9	0.1302	28120.447	0.0000	0.7353	1.1168	0.0826	0.1055	0.0140
Link13	0.9773	211089.79	0.0003	0.7773	1.4820	0.1805	0.4919	0.0140
Link14	1.5070	325506.23	0.0004	0.7775	1.9784	0.2080	0.6094	0.0140
Link15	0.9049	195458.29	0.0003	0.7783	1.0419	0.1915	0.5936	0.0140
Link17	0.8819	190496.39	0.0002	0.7744	1.7902	0.1620	0.4162	0.0140
Link26	1.0252	221438.43	0.0002	0.9762	1.0621	0.2339	0.6498	0.0140
Link27	0.2753	59464.518	0.0001	0.7106	1.4070	0.0961	0.1635	0.0140
Link31	0.1287	27791.466	0.0000	0.7403	0.7047	0.1048	0.1517	0.0140
Link32	0.1287	27803.495	0.0000	0.7516	0.5814	0.1216	0.1905	0.0140
Link38	-1.3990	-302182.9	0.0003	0.7557	0.3087	0.3977	1.7137	0.0140
Link39	1.8001	388831.64	0.0003	0.7552	1.8986	0.2111	0.7523	0.0140
Link40	1.8002	388835.19	0.0003	0.7556	1.0193	0.2378	0.8542	0.0140
Link41	1.8001	388830.99	0.0003	0.7558	1.5564	0.2178	0.6206	0.0140
Link44	0.0000	0.0000	0.0000	0.0000	0.0000	0.0113	0.0127	0.0140

Link46	1.9302	416930.55	0.0005	0.9797	1.6040	0.3066	1.1736	0.0140
Link48	1.8086	390652.60	0.0002	0.7540	0.4265	0.2709	1.0209	0.0140
Link51	1.8087	390677.39	0.0002	0.7947	0.8209	0.2654	0.9601	0.0240
OFLOW 1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
OFLOW 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
OFLOW 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
OFLOW 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
OFLOW 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
Link61	0.4558	98451.108	0.0002	0.7486	0.8747	0.1593	0.4164	0.0140
Link64	0.5298	114436.95	0.0002	0.7499	0.6567	0.1893	0.5710	0.0140
OFLOW 6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
F043M33 OF	0.2351	50773.785	0.0002	0.1503	0.1831	0.0140	0.3564	0.0140
F042M61 OF	0.0457	9868.4013	0.0001	0.0788	0.0337	0.0059	0.2470	0.0140
F042M39 OF	0.2036	43968.612	0.0001	0.1448	0.0188	0.0790	4.0872	0.0450
F060M02 OF	1.8364	396669.11	0.0006	0.2557	0.1689	0.0586	3.9137	0.0500
F070M02 OF	0.0356	7691.2454	0.0001	0.0312	0.0479	0.0021	0.0708	0.0140
F070i05 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
Link71	0.5988	129349.72	0.0003	0.7637	0.5403	0.2406	0.7555	0.0140
F100M07 OF	0.2906	62763.357	0.0003	0.0559	0.0525	0.0193	0.3986	0.0500
Link75	0.4012	86664.610	0.0001	0.7218	0.6649	0.1480	0.4015	0.0140
F090M07 OF	0.0383	8281.5554	0.0001	0.0482	0.0474	0.0044	0.0929	0.0140
Link83	0.0067	1455.7056	0.0000	0.0274	0.0365	0.0014	0.0172	0.0140
F080M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
348.1	0.1734	37449.669	0.0001	0.7642	0.3526	0.1673	0.3917	0.0140
m32OF	-0.0138	-2984.944	0.0001	0.1596	0.0040	0.0558	3.9732	0.0140
352.1	1.2743	275257.70	0.0002	0.8163	1.4779	0.1963	0.5371	0.0140
M24 OF	0.1528	33008.631	0.0000	0.1131	0.1563	0.0107	0.2247	0.0140
355.1	0.3594	77640.163	0.0002	0.7412	0.4163	0.2127	0.7764	0.0140
m28 of	-0.2314	-49977.45	0.0004	0.1521	0.0050	0.0869	10.7593	0.0140

357.1	0.6910	149248.71	0.0002	0.7445	1.7875	0.1317	0.3159	0.0140
361.1	0.2397	51774.369	0.0000	0.6946	1.4205	0.0933	0.1320	0.0140
F090M04 OF	0.0564	12171.451	0.0000	0.0493	0.0839	0.0041	0.0747	0.0140
363.1	0.2925	63187.423	0.0001	0.7782	0.6274	0.1618	0.3782	0.0140
F090M05 OF	0.0715	15441.493	0.0001	0.0426	0.0262	0.0063	0.2072	0.0140
364.1	0.3794	81944.086	0.0001	0.7177	1.3625	0.1126	0.1943	0.0140
F100M11 OF	0.0675	14590.341	0.0002	0.0405	0.0212	0.0057	0.3020	0.0140
365.1	0.7348	158706.57	0.0003	0.7623	1.0228	0.2039	0.5867	0.0140
F100M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0185	0.0140
366.1	0.3364	72668.659	0.0001	0.7008	0.8084	0.1334	0.2947	0.0140
370.1	0.1585	34241.532	0.0000	0.7005	1.7596	0.0700	0.0823	0.0140
F090M09 OF	0.0082	1765.9760	0.0000	0.0210	0.0401	0.0012	0.0137	0.0140
371.1	0.1425	30771.296	0.0000	0.7139	1.1191	0.0838	0.1096	0.0140
F090M08 OF	0.0244	5265.2477	0.0000	0.0358	0.0488	0.0027	0.0431	0.0140
374.1	0.1035	22354.148	0.0000	0.7452	1.0871	0.0880	0.1220	0.0140
F090M06 OF	-0.0255	-5503.840	0.0000	0.0438	0.0058	0.0096	0.4417	0.0140
375.1	0.2109	45549.361	0.0000	0.7183	0.8400	0.1153	0.1825	0.0140
F090M03 OF	0.0896	19342.841	0.0001	0.0696	0.0818	0.0069	0.1581	0.0140
376.1	1.2632	272841.27	0.0003	0.7626	2.1767	0.1704	0.4261	0.0140
F100M04 OF	0.0139	3013.1925	0.0000	0.0194	0.0365	0.0014	0.0209	0.0140
377.1	1.2323	266186.92	0.0003	0.7636	1.5975	0.1957	0.5681	0.0140
F100M03 OF	0.0448	9680.9784	0.0000	0.0485	0.0681	0.0040	0.0710	0.0140
378.1	1.1944	257989.75	0.0003	0.7657	0.9349	0.2195	0.7138	0.0140
F100M02 OF	0.0828	17891.405	0.0001	0.0641	0.0621	0.0069	0.1923	0.0140
383.1	0.1686	36414.616	0.0001	0.7006	1.2906	0.0839	0.1164	0.0140
F080M08 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
385.1	0.9055	195589.17	0.0001	0.9275	0.7932	0.2006	0.5833	0.0240
387.1	-0.0002	-47.7763	0.0001	0.3629	0.0138	0.1317	0.6170	0.0140
389.1	0.0004	87.9134	0.0001	0.4630	0.2642	0.0952	0.2988	0.0140

391.1	0.2068	44675.667	0.0000	0.4430	0.3371	0.0894	0.2806	0.0140
392.1	1.2102	261393.32	0.0002	0.8267	0.9292	0.2370	0.7651	0.0140
M21 OF	0.2184	47169.252	0.0001	0.1647	0.0914	0.0215	0.9244	0.0140
398.1	0.1683	36356.363	0.0001	0.6962	1.2928	0.6839	0.1155	0.0140
F080M10 of	0.0003	57.3811	0.0000	0.0096	0.0217	0.0002	0.0012	0.0140
399.1	0.4556	98402.102	0.0001	0.7361	1.6261	0.1193	0.2310	0.0140
E080M13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0450
401.1	0.1149	24821.379	0.0000	0.7144	0.6057	0.0971	0.1650	0.0140
F100M29 OF	0.0735	15883.373	0.0001	0.0819	0.0559	0.0085	0.2414	0.0140
402.1	0.7389	159610.14	0.0002	0.7785	0.9991	0.1930	0.5301	0.0140
F070M04 OF	0.0896	19346.590	0.0001	0.0497	0.0376	0.0068	0.2073	0.0200
423.1	1.1340	244943.08	0.0004	0.7749	1.8103	0.1834	0.4990	0.0140
F090M14 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
430.1	0.3470	74944.768	0.0001	0.7197	0.9352	0.1367	0.3431	0.0140
F100M21 OF	0.3882	83840.806	0.0004	0.0584	0.0583	0.0117	0.5453	0.0140
433.1	0.0317	6845.9725	0.0002	0.1628	0.0428	0.0688	0.2837	0.0240
F090M02 OF	0.1346	29078.053	0.0002	0.0387	0.0478	0.0057	0.1851	0.0140
e01 OF	0.0000	0.0000						
F100i01 OV	0.0703	15186.414						
F080 EMER	0.0940	20311.889						
060E01 OF	0.0001	15.6818						
i07 of	0.0000	0.0000						
i11 OF	0.0000	0.0000						
OF F042M19	0.2979	64349.515						
100E01 OVF	-0.0359	-7748.413						
F100M28 OV	0.3315	71600.769						
M100M27 OV	0.0000	0.0000						
F100M31 OV	0.4758	102767.10						
FREE # 1	1.8002	388837.26						

FREE # 2 1.1340 244944.55

FREE # 3 1.9302 416929.89

FREE # 4 1.5426 333197.75

FREE # 5 0.6978 150717.09

FREE # 6 1.6797 362812.92

FREE # 7 3.6450 787328.11

FREE # 8 0.2351 50774.186

FREE # 9 0.8072 174357.04

FREE #10 0.1346 29078.820

 | Table E13. Channel losses(H), headwater depth (HW), tailwater |
 | depth (TW), critical and normal depth (Yc and Yn). |
 | Use this section for culvert comparisons |

Conduit Name	Maximum Flow	Head Loss	Friction Loss	Critical Depth	Normal Depth	HW Elevat	TW Elevat	
LINE042	4.7706	0.2355	2.8573	0.8851	1.2500	650.0529	646.9637	Max Flow
Link3	6.2729	0.1058	0.3612	0.8863	1.1530	647.0288	646.5672	Max Flow
Link4	17.3310	0.4033	0.5610	1.4997	2.0000	647.0133	645.9689	Max Flow
Link6	24.3104	0.7868	5.4310	1.7420	2.0000	608.4262	601.8249	Max Flow
Link7	24.3099	1.4081	3.8462	1.7420	1.2295	601.8249	595.8395	Max Flow
Link9	6.1266	0.9191	7.1792	0.9580	1.0000	603.2988	595.2182	Max Flow
Link13	38.8597	2.2585	4.5551	2.2338	2.0000	603.2198	596.2719	Max Flow
Link14	57.7108	2.5180	9.0038	2.3694	1.7589	596.4958	583.7589	Max Flow
Link15	49.3886	1.3704	0.7740	2.2872	1.5333	601.2719	599.4215	Max Flow
Link17	34.6024	1.8615	10.2496	1.9153	1.4874	604.8719	592.8340	Max Flow
Link26	22.2397	0.7431	2.7740	1.6824	1.5794	602.2025	598.7043	Max Flow
Link27	19.6128	2.8024	8.3410	1.5911	1.0100	659.6578	649.5300	Max Flow
Link31	4.3492	0.4482	2.4115	0.8752	1.0000	610.9959	608.1082	Max Flow
Link32	4.3757	0.4709	3.3448	0.8774	1.0000	608.1082	604.3015	Max Flow
Link38	0.0000	0.0000	0.0000	0.0000	0.0000	594.9200	594.9200	Max Flow
Link39	28.7350	1.2511	1.9492	1.8411	1.0828	603.8121	600.6426	Max Flow
Link40	28.7350	1.2202	1.5995	1.8411	1.3338	600.6449	597.8246	Max Flow
Link41	28.7353	3.6744	10.2812	2.6961	1.5000	597.8246	583.5000	Max Flow
Link44	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
Link46	56.5393	0.8457	0.2150	2.4351	1.6627	599.4229	597.6627	Max Flow
Link48	11.6277	0.6240	0.5158	1.2970	1.5000	601.8042	600.6575	Max Flow
Link51	11.6276	0.5894	14.3612	1.2970	1.5000	600.6576	585.6170	Max Flow
OFLOW 1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
OFLOW 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
OFLOW 3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
OFLOW 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
OFLOW 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
Link61	33.6560	0.6207	3.8854	1.9719	2.0978	605.8610	601.1661	Max Flow
Link64	19.7797	0.6118	1.1901	1.5977	1.7741	598.4097	596.4399	Max Flow
OFLOW 6	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
F043M33 OF	34.4204	0.0000	4.8868	0.4739	0.3709	651.8756	646.9109	Max Flow
F042M61 OF	9.4186	0.0000	0.6765	0.1677	0.2074	651.2164	650.5363	Max Flow
F042M39 OF	24.3067	0.0000	8.8684	0.6430	0.7484	651.2510	602.9729	Max Flow
F060M02 OF	112.7179	0.0000	1.0172	0.6225	0.6825	601.8042	600.6225	Max Flow
F070M02 OF	10.1057	0.0000	1.0308	0.1815	0.1308	603.2406	602.1308	Max Flow
F070i05 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
Link71	20.6646	0.6485	3.6532	1.6285	2.0000	645.9705	641.6313	Max Flow
F100M07 OF	50.8831	0.0000	1.9963	0.7261	0.6750	646.6768	644.6750	Max Flow
Link75	12.1027	0.7069	1.9196	1.3180	1.5000	601.2186	598.5810	Max Flow
F090M07 OF	8.5018	0.0000	3.2130	0.2600	0.2167	611.2011	606.5938	Max Flow
Link83	2.2663	0.0000	2.8091	0.1433	0.1077	603.3016	600.1077	Max Flow
F080M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
348.1	4.2098	0.0000	1.4425	0.8304	1.2500	651.1083	649.6569	Max Flow
m320F	4.4770	0.0000	0.0006	0.1941	0.1827	651.8762	651.8756	Max Flow
352.1	17.1784	0.0000	33.6135	1.4642	1.2975	650.5077	616.8019	Max Flow
M24 OF	14.4875	0.0000	29.4072	0.3288	0.2297	650.5519	616.8922	Max Flow
355.1	14.1882	0.0000	0.5823	1.3567	1.5927	647.6075	647.0133	Max Flow
m28 of	0.0000	0.0000	0.0000	0.0000	0.0000	649.9244	650.1792	Max Flow
357.1	35.8615	0.0000	3.7797	2.0297	1.2819	595.4223	591.6419	Max Flow

361.1	7.2119	1.2600	22.6931	1.1867	0.7964	636.6178	612.6839	Max Flow
F090M04 OF	11.9493	0.0000	19.5479	0.3018	0.1888	636.6347	612.7096	Max Flow
363.1	12.7318	0.4262	2.2835	1.3292	1.7500	606.2442	603.4524	Max Flow
F090M05 OF	16.7846	0.0000	1.0477	0.3483	0.3697	606.6032	605.4183	Max Flow
364.1	13.9795	1.9424	17.5818	1.6800	0.9562	665.8158	646.3242	Max Flow
F100M11 OF	17.0052	0.0000	1.2380	0.3502	0.2076	665.9531	646.6752	Max Flow
365.1	22.1336	0.7628	3.3888	1.6792	1.5975	641.6313	637.4683	Max Flow
F100M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
366.1	12.0144	0.6895	2.4102	1.3141	1.2488	610.2550	607.1417	Max Flow
370.1	8.8426	1.8529	19.0679	1.5057	0.8127	641.0739	620.1266	Max Flow
F090M09 OF	3.4191	0.0000	15.3440	0.1737	0.0972	641.0752	620.1287	Max Flow
371.1	5.5902	0.7457	8.1937	0.9388	0.7972	620.1075	611.1703	Max Flow
F090M08 OF	6.6291	0.0000	7.6482	0.2357	0.1655	620.1288	611.2011	Max Flow
374.1	6.2099	0.9428	1.1696	0.9686	0.8729	606.1672	604.0349	Max Flow
F090M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	606.1672	606.1672	Max Flow
375.1	4.9668	0.5630	10.2845	0.9141	1.0000	612.5775	601.6787	Max Flow
F090M03 OF	14.8233	0.0000	7.1684	0.3317	0.2645	612.7106	605.3345	Max Flow
376.1	37.3771	3.4558	23.5363	2.7611	1.5901	646.2100	618.9684	Max Flow
F100M04 OF	6.7358	0.0000	21.1115	0.2377	0.1353	646.2121	618.9713	Max Flow
377.1	32.4527	1.6111	5.3142	1.8881	1.4699	618.9509	612.0254	Max Flow
F100M03 OF	11.6061	0.0000	6.3202	0.2976	0.2057	618.9713	612.0509	Max Flow
378.1	29.0793	1.3046	6.1573	1.8455	1.2857	611.8955	604.4730	Max Flow
F100M02 OF	15.6149	0.0000	2.1723	0.3384	0.2504	612.0528	605.0238	Max Flow
383.1	11.8844	1.3972	9.4221	1.3083	0.9367	670.6424	659.5731	Max Flow
F080M08 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
385.1	9.2990	0.8382	3.2387	1.1616	1.2500	605.5291	601.4016	Max Flow
387.1	1.7545	0.0140	0.0175	0.4975	0.2940	599.7989	599.7701	Max Flow
389.1	3.7835	0.0000	1.7969	0.8270	1.0000	599.5626	597.7593	Max Flow
391.1	3.6268	0.0000	2.5805	0.8117	0.8400	604.1325	601.5524	Max Flow
392.1	16.1736	0.0000	10.4174	1.4807	1.4850	616.6127	606.1910	Max Flow
M21 OF	16.4093	0.0000	1.6164	0.3451	0.2973	616.9006	608.4054	Max Flow
398.1	11.6796	1.2403	12.7995	1.3487	1.2500	684.9595	670.6503	Max Flow
F080M10 OF	0.2718	0.0000	6.6954	0.0364	0.0186	684.9678	674.4686	Max Flow
399.1	33.6281	3.5867	41.2301	1.9030	1.4116	649.5290	605.8610	Max Flow
E080M13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
401.1	2.8950	0.4069	2.1408	0.7408	0.5523	605.1473	602.6845	Max Flow
F100M29 OF	12.6350	0.0000	0.3426	0.3101	0.2874	605.4115	604.9885	Max Flow
402.1	26.7606	0.0000	10.1894	1.7993	2.0000	610.6563	600.3789	Max Flow
F070M04 OF	17.6754	0.0000	7.5135	0.3559	0.3450	610.9399	603.2850	Max Flow
423.1	43.8812	2.8738	10.8950	2.5919	2.0000	596.4575	582.5300	Max Flow
F090M14 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
430.1	11.5350	0.6412	4.0309	1.2929	1.1050	607.1417	602.4850	Max Flow
F100M21 OF	73.5795	0.0000	2.7644	0.6491	0.5546	607.6454	604.8746	Max Flow
433.1	9.5713	0.4442	0.1932	1.1944	0.8632	601.4721	600.8348	Max Flow
F090M02 OF	34.0649	0.0000	0.4987	0.4716	0.3704	605.3740	604.8704	Max Flow

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| Table E13a. CULVERT ANALYSIS CLASSIFICATION, |

| and the time the culvert was in a particular |

| classification during the simulation. The time is |

| in minutes. The Dynamic Wave Equation is used for |

| all conduit analysis but the culvert flow classification |

| condition is based on the HW and TW depths. |

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Conduit Name	Mild Slope Critical D	Mild Slope TW Control	Steep Slope TW Insignf	Slug Flow Outlet/ Entrance	Mild Slope TW > D Outlet	Mild Slope TW <= D Outlet	Outlet Control	Inlet Control	Inlet Configuration
	Outlet Control	Outlet Control	Entrance Control	Entrance Control	Outlet Control	Outlet Control	Outlet Control	Outlet Control	
LINE042	3.0000	1412.0000	2067.0000	0.0000	115.0000	0.0000	3.0000	0.0000	None
Link3	3.0000	1447.0000	2038.0000	0.0000	112.0000	0.0000	0.0000	0.0000	None
Link4	224.0000	484.0000	2645.0000	0.0000	110.0000	0.0000	137.0000	0.0000	None
Link6	1176.0000	556.0000	1748.0000	0.0000	0.0000	0.0000	120.0000	0.0000	None
Link7	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link9	0.0000	0.0000	3581.0000	0.0000	19.0000	0.0000	0.0000	0.0000	None
Link13	0.0000	0.0000	3597.0000	0.0000	0.0000	0.0000	3.0000	0.0000	None
Link14	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link15	0.0000	0.0000	3588.0000	0.0000	0.0000	0.0000	12.0000	0.0000	None
Link17	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link26	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link27	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link31	171.0000	146.0000	3242.0000	0.0000	41.0000	0.0000	0.0000	0.0000	None
Link32	1021.0000	262.0000	2276.0000	0.0000	34.0000	0.0000	7.0000	0.0000	None
Link38	0.0000	0.0000	430.0000	2155.0000	8.0000	92.0000	915.0000	0.0000	None
Link39	0.0000	0.0000	3504.0000	3.0000	0.0000	81.0000	12.0000	0.0000	None
Link40	0.0000	0.0000	3498.0000	0.0000	0.0000	101.0000	1.0000	0.0000	None
Link41	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link44	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link46	0.0000	0.0000	3387.0000	0.0000	0.0000	0.0000	213.0000	0.0000	None
Link48	27.0000	99.0000	2384.0000	0.0000	358.0000	0.0000	732.0000	0.0000	None
Link51	222.0000	335.0000	2691.0000	0.0000	0.0000	0.0000	352.0000	0.0000	None
OFLOW 1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
OFLOW 2	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
OFLOW 3	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
OFLOW 4	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None

QFLOW 5	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link61	1.0000	7.0000	3592.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link64	0.0000	0.0000	3452.0000	0.0000	0.0000	0.0000	0.0000	148.0000	Square Edge
with Headwall									
QFLOW 6	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F043M3 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F043M1 OF	3.0000	49.0000	3542.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F042M9 OF	0.0000	75.0000	3502.0000	0.0000	22.0000	0.0000	0.0000	0.0000	None
F040M2 OF	156.0000	49.0000	3345.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F070M2 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F070193 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link71	936.0000	383.0000	2238.0000	0.0000	39.0000	0.0000	4.0000	0.0000	None
F100M7 OF	5.0000	2.0000	3593.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link75	0.0000	0.0000	3503.0000	0.0000	20.0000	75.0000	1.0000	0.0000	None
F080M7 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link83	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F080M6 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
348.1	0.0000	1244.0000	2236.0000	0.0000	120.0000	0.0000	0.0000	0.0000	None
m320F	0.0000	0.0000	3489.0000	110.0000	0.0000	0.0000	1.0000	0.0000	None
352.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
M24 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
355.1	4.0000	1217.0000	2267.0000	0.0000	112.0000	0.0000	0.0000	0.0000	None
m28 of	0.0000	38.0000	3496.0000	66.0000	0.0000	0.0000	0.0000	0.0000	None
357.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
361.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F090M04 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
363.1	236.0000	1176.0000	2158.0000	0.0000	29.0000	0.0000	1.0000	0.0000	None
F090M05 OF	17.0000	12.0000	3571.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
364.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F100M11 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
365.1	0.0000	0.0000	3565.0000	1.0000	0.0000	30.0000	4.0000	0.0000	None
F100M06 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
366.1	0.0000	0.0000	3540.0000	5.0000	0.0000	41.0000	14.0000	0.0000	None
370.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F090M09 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
371.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F090M08 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
374.1	0.0000	0.0000	3560.0000	1.0000	0.0000	30.0000	9.0000	0.0000	None
F090M06 OF	0.0000	29.0000	3571.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
375.1	0.0000	0.0000	3551.0000	0.0000	36.0000	0.0000	13.0000	0.0000	None
F090M03 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
376.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F100M04 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
377.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F100M03 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
378.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F100M02 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
383.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F080M08 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
385.1	681.0000	2132.0000	528.0000	0.0000	16.0000	0.0000	243.0000	0.0000	None
387.1	0.0000	0.0000	3288.0000	28.0000	0.0000	282.0000	2.0000	0.0000	Headwall
389.1	48.0000	124.0000	3093.0000	6.0000	132.0000	195.0000	2.0000	0.0000	None
391.1	0.0000	0.0000	3288.0000	18.0000	76.0000	215.0000	3.0000	0.0000	None
392.1	0.0000	0.0000	3597.0000	0.0000	3.0000	0.0000	0.0000	0.0000	None
M21 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
398.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F080M10 of	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
399.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
E080M13	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
401.1	0.0000	0.0000	3506.0000	2.0000	0.0000	89.0000	3.0000	0.0000	None
F100M29 OF	4.0000	8.0000	3588.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
402.1	1.0000	1.0000	3565.0000	0.0000	33.0000	0.0000	0.0000	0.0000	None
F070M04 OF	4.0000	5.0000	3591.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
423.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F090M14 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
430.1	0.0000	0.0000	3520.0000	9.0000	0.0000	62.0000	9.0000	0.0000	None
F100M21 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
433.1	0.0000	0.0000	3493.0000	9.0000	0.0000	95.0000	1.0000	2.0000	Headwall
F090M02 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None

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| Kinematic Wave Approximations |

| Time in Minutes for Each Condition |

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Conduit Name	Duration of Normal Flow	Slope Criteria	Super-Critical	Roll Waves
LINE042	2144.6278	2314.7135	1900.7500	0.0000
Link3	212.5357	1076.6546	0.0000	0.0000
Link4	2135.1875	2207.4289	2002.4000	0.0000
Link6	0.0000	0.0000	151.7000	0.0000
Link7	0.0000	22.5000	3359.0000	0.0000
Link9	1046.5788	1077.2250	3223.6417	0.0000
Link13	271.0000	3107.2000	3269.0000	0.0000
Link14	0.0000	28.3750	3288.5000	0.0000
Link15	2944.0197	3252.1250	1148.5893	0.0000

Link17	3121.9224	3200.1000	3179.2167	0.0000
Link26	358.8333	1095.6083	2883.2667	0.0000
Link27	3025.2391	3067.5000	3111.3333	0.0000
Link31	0.0000	5.2667	0.0000	0.0000
Link32	0.0000	0.0000	0.8333	0.0000
Link38	2.9000	2.9000	0.0000	0.0000
Link39	2201.5458	3166.7000	3072.2319	0.0000
Link40	2272.3841	3167.5000	976.2277	0.0000
Link41	0.0000	0.0000	3167.0000	0.0000
Link44	0.0000	0.0000	0.0000	0.0000
Link46	0.0000	0.0000	3270.6667	0.0000
Link48	0.0000	2086.0833	19.2500	0.0000
Link51	0.0000	0.0000	20.2500	0.0000
OFLOW 1	0.0000	0.0000	0.0000	0.0000
OFLOW 2	0.0000	0.0000	0.0000	0.0000
OFLOW 3	0.0000	0.0000	0.0000	0.0000
OFLOW 4	0.0000	0.0000	0.0000	0.0000
OFLOW 5	0.0000	0.0000	0.0000	0.0000
Link61	361.2236	2533.1055	2055.4833	0.0000
Link64	213.8393	991.7961	0.3750	0.0000
OFLOW 6	0.0000	0.0000	0.0000	0.0000
F043M33 OF	0.3333	0.3333	2890.6833	0.0000
F042M61 OF	2868.8333	2869.0000	2.2667	0.0000
F042M39 OF	2888.0000	2888.0000	0.0000	0.0000
F060M02 OF	0.0000	0.0000	2673.0798	0.0000
F070M02 OF	0.0500	0.0500	2871.7667	0.0000
F070i05 OF	0.0000	0.0000	0.0000	0.0000
Link71	0.0000	12.6167	0.0000	0.0000
F100M07 OF	0.8667	0.8833	2849.4167	0.0000
Link75	2844.8333	3134.1833	847.2452	0.0000
F090M07 OF	27.1000	27.2833	2859.1667	0.0000
Link83	0.0167	0.0167	2877.8333	0.0000
F080M06 OF	0.0000	0.0000	0.0000	0.0000
348.1	2848.6054	3175.1167	80.3750	0.0000
m32OF	0.0000	30.3833	0.0000	0.0000
352.1	3211.1411	3221.5158	3268.2904	0.0000
M24 OF	2880.9167	2880.9167	67.1167	0.0000
355.1	2998.0167	3352.6833	3.0000	0.0000
m28 of	0.0000	0.4333	0.0000	0.0000
357.1	12.1886	33.4386	3314.2500	0.0000
361.1	3005.7548	3053.7143	3014.2143	0.0000
F090M04 OF	2883.4333	2883.4667	31.0167	0.0000
363.1	8.7042	37.0625	0.0000	0.0000
F090M05 OF	0.0000	2857.9500	2858.2167	0.0000
364.1	3145.9000	3188.7000	1046.8500	0.0000
F100M11 OF	2884.9500	2884.9500	0.0000	0.0000
365.1	23.9000	60.6167	3116.7833	0.0000
F100M06 OF	0.0000	0.0000	0.0000	0.0000
366.1	2176.0208	2363.9603	3046.8619	0.0000
370.1	3041.0167	3053.9333	3147.8500	0.0000
F090M09 OF	2880.4667	2880.4667	13.3333	0.0000
371.1	3031.0833	3068.0000	1007.8000	0.0000
F090M08 OF	2884.8500	2884.8500	21.7167	0.0000
374.1	2921.2132	3142.1833	3075.4769	0.0000
F090M06 OF	0.0833	0.1667	0.0000	0.0000
375.1	710.5588	859.5944	841.3167	0.0000
F090M03 OF	13.4000	13.8000	2886.8000	0.0000
376.1	3046.2211	3164.4000	3188.7000	0.0000
F100M04 OF	2878.2667	2878.2667	11.8333	0.0000
377.1	2115.2857	2194.4000	3151.8000	0.0000
F100M03 OF	2886.1833	2886.1833	29.6333	0.0000
378.1	3105.4250	3198.6000	873.7315	0.0000
F100M02 OF	2887.5833	2887.5833	18.3167	0.0000
383.1	899.0056	946.0944	3099.2500	0.0000
F080M08 OF	0.0000	0.0000	0.0000	0.0000
385.1	0.0000	0.0000	210.5000	0.0000
387.1	2594.8125	2843.6438	0.0000	0.0000
389.1	3.0385	187.4367	2496.0000	0.0000
391.1	20.4375	304.1417	2574.0000	0.0000
392.1	3202.0693	3318.3353	2977.0730	0.0000
M21 OF	90.0456	90.1289	2783.2737	0.0000
398.1	2146.2778	2147.3889	3113.0000	0.0000
F080M10 of	0.0000	0.0000	2876.1167	0.0000
399.1	3068.2333	3077.0000	3081.5833	0.0000
E080M13	0.0000	0.0000	0.0000	0.0000
401.1	3042.7966	3197.9000	459.2542	0.0000
F100M29 OF	42.2333	42.5000	2839.7333	0.0000
402.1	0.0000	18.8500	1014.0708	0.0000
F070M04 OF	0.1333	0.1667	2843.7667	0.0000
423.1	0.0000	0.0000	3205.6000	0.0000
F090M14 OF	0.0000	0.0000	0.0000	0.0000
430.1	2289.0736	3120.4167	3059.4500	0.0000
F100M21 OF	13.6833	13.6833	2861.3000	0.0000
433.1	2795.1167	2848.2500	0.0000	0.0000
F090M02 OF	0.3167	2860.4167	2885.5000	0.0000

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Table E15 - SPREADSHEET INFO LIST
 Conduit Flow and Junction Depth Information for use in
 spreadsheets. The maximum values in this table are the
 true maximum values because they sample every time step.
 The values in the review results may only be the
 maximum of a subset of all the time steps in the run.
 Note: These flows are only the flows in a single barrel.

Conduit Maximum Elevation (ft)	Conduit Name	Maximum Flow (cfs)	Total Flow (ft ³)	Maximum Velocity (ft/s)	Maximum Volume (ft ³)	# # #	Junction Name	Invert Elevation (ft)
583.5000	LINE042	4.7720	60760.9556	3.8430	587.3151	##	F100E00	582.0000
605.0240	Link3	6.7791	79308.0222	2.8687	1129.6288	##	F100M31	594.1400
607.6455	Link4	17.4644	198195.6511	5.4640	298.8173	##	F100M21	601.7400
610.6624	Link6	24.3104	362793.2283	7.8146	1064.8479	##	F100i01	604.1800
646.2121	Link7	24.3102	362810.6923	10.1734	99.0703	##	F100M04	634.5700
646.6769	Link9	6.1268	28120.4474	7.6518	42.9500	##	F100M07	639.3200
665.9531	Link13	38.8598	211089.7937	12.2986	276.7743	##	F100M11	660.4400
582.5300	Link14	57.7188	325506.2291	13.5619	217.8521	##	F090E00	580.5300
605.3750	Link15	49.5812	195458.2858	8.6338	635.5583	##	F090M02	600.7700
606.6034	Link17	34.6196	190496.3933	12.1606	812.5164	##	F090M05	602.0800
641.0752	Link26	22.2691	221438.4303	7.0316	574.2594	##	F090M09	635.3700
636.6348	Link27	19.6931	59464.5182	11.2978	87.3279	##	F090M04	632.2400
597.6660	Link31	4.3546	27791.4661	5.4025	120.2053	##	F080E00	596.0000
601.2802	Link32	4.3760	27803.4949	5.4494	162.7494	##	F080M14	599.0500
649.5359	Link38	-30.4926	-302182.920	-9.4777	190.5954	##	F080M13	648.0900
659.6591	Link39	28.7361	388831.6409	12.1400	353.3171	##	F080M06	658.6100
603.2406	Link40	28.7355	388835.1940	8.8652	294.9254	##	F070M02	597.7100
596.4959	Link41	28.7353	388830.9934	15.6433	86.8938	##	F070M01	594.4300
583.7591	Link44	0.0000	0.0000	0.0000	12.5439	##	F070E00	582.0000
600.6577	Link46	56.7224	416930.5501	8.6342	145.1833	##	F060M01	591.3200
601.8046	Link48	11.6278	390652.6042	6.3481	71.9286	##	F060E01	598.0000
603.3016	Link51	11.6276	390677.3886	6.4396	117.8321	##	F050M01	599.3400
595.4224	OFLOW 1	0.0000	0.0000	0.0000	0.0000	##	F050E01	594.1400
	OFLOW 2	0.0000	0.0000	0.0000	0.0003	##	F050E00	590.3600

591.6419								
601.8249	OFLOW 3	0.0000	0.0000	0.0000	0.0000	##	F042M18	600.3800
595.8395	OFLOW 4	0.0000	0.0000	0.0000	0.0000	##	F042M13	594.6100
608.4263	OFLOW 5	0.0000	0.0000	0.0000	0.0000	##	F042M19	601.9300
650.5520	Link61	33.6860	98451.1077	6.9985	1406.0575	##	F042M24	644.2000
651.2510	Link64	19.7859	114436.9513	6.2788	431.1680	##	F042M28	644.7300
651.2512	OFLOW 6	0.0000	0.0000	0.0000	0.0000	##	F042M39	645.4000
651.2164	F043M33 OF	34.4209	50773.7848	4.4216	186.3110	##	F042M61	645.5200
651.8763	F042M61 OF	9.4360	9868.4013	1.3780	619.4276	##	F042M32	646.9100
651.8756	F042M39 OF	24.3166	43968.6125	1.5790	14125.7387	##	F042M33	647.7500
605.6084	F060M02 OF	112.7421	396669.1070	2.9527	659.3660	##	EBMPF080	601.0000
620.1290	F070M02 OF	10.1099	7691.2454	3.0202	19.0207	##	F090M08	614.8000
611.2013	F070i05 OF	0.0000	0.0000	0.0000	0.0000	##	F090M07	605.6800
606.6048	Link71	20.6646	129349.7193	6.4882	1259.1468	##	F090M06	603.1700
609.2140	F100M07 OF	50.8970	62763.3568	4.4857	126.1635	##	SLOPECHANG	603.9700
612.7106	Link75	12.1032	86664.6100	6.7604	233.2931	##	F090M03	607.1900
603.8146	F090M07 OF	8.5196	8281.5554	2.5270	154.1743	##	F100M27	594.9200
618.9715	Link83	2.2671	1455.7056	2.3513	4.8423	##	F100M03	612.5100
612.0528	F080M06 OF	0.0000	0.0000	0.0000	0.0000	##	F100M02	605.6000
600.6450	348.1	4.2201	37449.6691	3.4041	382.5531	##	F100M26	588.6600
597.8246	m320F	4.4815	-2984.9441	-0.8058	1820.9693	##	F100M32	585.8900
670.6510	352.1	17.1784	275257.6956	10.3906	308.3068	##	F080M08	669.6500
666.2700	M24 OF	14.5005	33008.6306	4.3656	40.7746	##	F080M05	666.2700
602.2662	355.1	15.2372	77640.1631	4.8176	457.0946	##	F080i48	599.7500
599.4336	m28 of	-15.4125	-49977.4532	-0.6941	9316.6615	##	F080 TAP	596.6400
601.8043	357.1	35.8625	149248.7121	14.1466	99.7094	##	F060M02	591.6100
601.4699	361.1	7.2119	51774.3687	9.3501	88.8006	##	F060i07	597.0000
604.2043	F090M04 OF	11.9570	12171.6512	4.8332	17.9105	##	F060i11	598.0000
585.6170	363.1	12.8923	63187.4226	5.3069	763.2756	##	F060E00	584.3200
	F090M05 OF	16.7945	15441.4928	2.1056	697.3360	##	F042M21	611.9900

616.9006								
684.9683	364.1	13.9904	81944.0861	12.0334	148.8628	##	F080M10	680.4200
603.9611	F100M11 OF	17.0078	14590.3409	1.9451	466.3100	##	F080M02	603.1100
605.4116	365.1	22.1517	158706.5738	7.4233	997.3032	##	F100M29	598.0000
610.9420	F100M06 OF	0.0000	0.0000	0.0000	392.2157	##	F070M04	604.0000
598.4107	366.1	12.0226	72668.6585	6.6754	297.0308	##	F070i05	595.5000
640.3709	370.1	8.8426	34241.5321	10.9340	59.1816	##	E040i34	640.0000
596.4635	F090M09 OF	3.4194	1765.9760	3.9645	2.7948	##	F090M14	588.0000
646.6971	371.1	5.5902	30771.2958	6.9893	148.2034	##	F100M06	638.1600
604.9781	F090M08 OF	6.6428	5265.2477	3.5418	17.1645	##	F100M28	596.5000
604.9780	374.1	6.2272	22354.1483	7.8365	27.7799	##	F100E01	597.0000
590.0000	F090M06 OF	-3.6624	-5503.8404	-1.3186	392.6497	##	F100 E OF	590.0000
590.3710	375.1	4.9673	45549.3611	6.2168	280.8140	##	F090M02OUT	590.0000
	F090M03 OF	14.8294	19342.8411	3.5670	87.0915	##		
	376.1	37.3771	272841.2651	15.0273	280.1730	##		
	F100M04 OF	6.7365	3013.1925	4.7118	5.8386	##		
	377.1	32.4531	266186.9197	10.5108	681.3446	##		
	F100M03 OF	11.6352	9680.9784	4.2136	26.2602	##		
	378.1	29.0836	257989.7467	9.4107	1014.2262	##		
	F100M02 OF	15.6176	17891.4051	2.5351	456.4064	##		
	383.1	11.8983	36414.6160	9.6773	45.0347	##		
	F080M08 OF	0.0000	0.0000	0.0000	0.0000	##		
	385.1	9.3239	195589.1670	7.5078	61.0364	##		
	387.1	-5.4695	-47.7763	-3.0441	104.6452	##		
	389.1	3.7846	87.9134	4.7726	113.3468	##		
	391.1	3.6268	44675.6673	4.4715	186.0899	##		
	392.1	16.1762	261393.3232	6.7599	1389.3611	##		
	M21 OF	16.4174	47169.2522	1.8850	2940.6006	##		
	398.1	11.6799	36356.3627	9.5119	37.1676	##		
	F080M10 of	0.2775	57.3811	1.4047	0.0786	##		

399.1	33.7464	98402.1022	13.5037	220.9180	##
E080M13	0.0000	0.0000	0.0000	0.0000	##
401.1	3.0301	24621.3786	5.3382	66.4374	##
F100M29 OF	12.6367	15883.3733	1.9718	1494.2454	##
402.1	26.8248	159610.1370	8.4260	1803.1498	##
F070M04 OF	17.6971	19346.5905	2.5994	195.7591	##
423.1	43.8885	244943.0805	13.7162	220.0873	##
F090M14 OF	0.0000	0.0000	0.0000	0.0000	##
430.1	11.5909	74944.7680	6.4516	542.2054	##
F100M21 OF	73.5821	83840.8063	4.4534	1307.9754	##
433.1	-16.2215	6845.9725	-8.9582	12.8685	##
F090M02 OF	34.2071	29078.0532	4.4097	188.3649	##
e01 OF	0.0000	0.0000	0.0000	0.0000	##
F100i01 OV	17.4775	15186.4142	0.0000	0.0000	##
F080 EMER	14.1594	20311.8888	0.0000	0.0000	##
060E01 OF	-0.8041	15.6818	0.0000	0.0000	##
i07 of	0.0000	0.0000	0.0000	0.0000	##
i11 OF	0.0000	0.0000	0.0000	0.0000	##
OF F042M19	27.5514	64349.5149	0.0000	0.0000	##
100E01 OV	-26.2339	-7748.4126	0.0000	0.0000	##
F100M28 OV	59.0101	71600.7689	0.0000	0.0000	##
M100M27 OV	0.0000	0.0000	0.0000	0.0000	##
F100M31 OV	63.4464	102767.0962	0.0000	0.0000	##
FREE # 1	28.7353	388837.2584	0.0000	0.0000	##
FREE # 2	43.8886	244944.5532	0.0000	0.0000	##
FREE # 3	56.7219	416929.8904	0.0000	0.0000	##
FREE # 4	64.9252	333197.7517	0.0000	0.0000	##
FREE # 5	35.8626	150717.0921	0.0000	0.0000	##
FREE # 6	24.3102	362812.9195	0.0000	0.0000	##

FREE # 7	124.3698	787328.1122	0.0000	0.0000	##
FREE # 8	34.4209	50774.1858	0.0000	0.0000	##
FREE # 9	116.2510	174357.0430	0.0000	0.0000	##
FREE #10	34.2074	29078.2199	0.0000	0.0000	##

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| Table E15a - SPREADSHEET REACH LIST |
| Peak flow and Total Flow listed by Reach or those |
| conduits or diversions having the same |
| upstream and downstream nodes. |
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Upstream Node	Downstream Node	Maximum Flow (cfs)	Total Flow (ft^3)
F042M32	F042M61	4.7720	60760.9556
F042M61	F042M28	6.7791	70308.0222
F042M28	F042M24	17.4644	198195.651
F042M19	F042M18	24.3104	362793.228
F042M18	F042M13	24.3102	362810.692
F050M01	F050E01	6.1268	28120.4474
F070M02	F070M01	38.8598	211089.794
F070M01	F070E00	57.7188	325506.229
F080M14	F080 TAP	49.5812	195458.286
F090M02	F090M14	34.6196	190496.393
F080i48	F080 TAP	22.2691	221438.430
F080M06	F080M13	19.6931	59464.5182
F090M07	SLOPECHANG	4.3546	27791.4661
SLOPECHANG	F090M06	4.3760	27803.4949
F100M27	F100M31	30.4926	302182.920
F100M27	F100M26	28.7361	388831.641
F100M26	F100M32	28.7355	388835.194
F100M32	F100E00	28.7353	388830.993
F080 TAP	F080E00	56.7224	416930.550
F060M02	F060M01	11.6278	390652.604
F060M01	F060E00	11.6276	390677.389

F080M02	F080M14	33.6860	98451.1077
F070i05	F070M01	19.7859	114436.951
F042M33	E040i34	34.4209	50773.7849
F042M61	F042M24	9.4360	9868.4013
F042M39	F060i11	24.3166	43968.6125
F060M02	F060E00	112.7421	396669.107
F070M02	F070E00	10.1099	7691.2454
F100M07	F100M06	20.6646	129349.719
F100M07	F100M21	50.8970	62763.3568
F100M28	F100M27	12.1032	86664.6100
F090M07	F090M05	8.5196	8281.5554
F050M01	F050E00	2.2671	1455.7056
F042M33	F042M32	-4.4487	40434.6132
F042M24	F042M21	31.6709	308266.326
F042M39	F042M28	17.5582	127617.616
F050E01	F050E00	35.8625	149248.712
F090M04	F090M03	19.1684	63946.0199
F090M05	F090M02	25.3900	78628.9154
F100M11	F100M07	30.9223	96534.4270
F100M06	F100M04	22.1517	158706.574
F100i01	F100M21	12.0226	72668.6585
F090M09	F090M08	12.2620	36007.5081
F090M08	F090M07	12.2310	36036.5436
F090M06	F090M05	6.8938	27857.9887
F090M03	F090M02	18.9046	64892.2022
F100M04	F100M03	44.1134	275854.458
F100M03	F100M02	44.0769	275867.898
F100M02	F100M31	43.9390	275881.152
F080M08	F080M06	11.8983	36414.6160

EBMPF080	F080i48	9.3239	195589.167
F060E01	F060M02	-5.4695	-47.7763
F060i07	F060M02	3.7546	87.9134
F060i11	F060M02	3.6288	44,75.8673
F042M21	F042M19	31.0507	308562.575
F080M10	F080M08	11.9500	36413.7438
F080M13	F080M02	33.7464	98402.1022
F100M29	F100M31	13.8381	40704.7519
F070M04	F070M02	40.9731	178956.728
F090M14	F090E00	43.8885	244943.081
F100M21	F100M28	82.6285	158785.574
F100E01	F100M28	-16.2215	6845.9725
F090M02	F090M02OUT	34.2071	29078.0532
F100i01	F100M21	17.4775	15186.4142
EBMPF080	F080i48	14.1594	20311.8888
F060E01	F060M02	-0.8041	15.6818
F042M19	F050E01	27.5514	64349.5149
F100E01	F100M28	-26.2339	-7748.4126
F100M28	F100 E OF	59.0101	71600.7689
F100M31	F100 E OF	63.4464	102767.096

Table E16. New Conduit Information Section #
Conduit Invert (IE) Elevation and Conduit #
Maximum Water Surface (WS) Elevations #
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Conduit Name	Upstream Node	Downstream Node	IE Up	IE Dn	WS Up	WS Dn	Conduit Type
LINE042	F042M32	F042M61	646.9100	645.5200	651.8763	651.2164	Circular
Link3	F042M61	F042M28	645.5200	644.7300	651.2164	651.2510	Circular
Link4	F042M28	F042M24	644.7300	644.2000	651.2510	650.5520	Circular
Link6	F042M19	F042M18	601.9300	600.3800	608.4263	601.8249	Circular
Link7	F042M18	F042M13	600.3800	594.6100	601.8249	595.8395	Circular
Link9	F050M01	F050E01	599.3400	594.1400	603.3016	595.4224	Circular

Link13	F070M02	F070M01	597.7100	594.4300	603.2406	596.4959 Circular
Link14	F070M01	F070E00	594.4300	582.0000	596.4959	583.7591 Circular
Link15	F080M14	F080 TAP	599.0500	596.6400	601.2802	599.4336 Circular
Link17	F090M02	F090M14	600.7700	588.0000	605.3750	595.4635 Circular
Link26	F080i48	F080 TAP	599.7500	596.6400	602.2662	599.4336 Circular
Link27	F080M06	F080M13	658.6100	648.0900	659.6591	649.5359 Circular
Link31	F090M07	SLOPECHANG	605.6800	604.4800	611.2013	609.2140 Circular
Link32	SLOPECHANG	F090M06	603.9700	603.1700	609.2140	606.6048 Circular
Link38	F100M27	F100M31	594.9200	594.1400	603.8146	605.0240 Circular
Link39	F100M27	F100M26	594.9200	588.6600	603.8146	600.6450 Circular
Link40	F100M26	F100M32	588.6600	585.8900	600.6450	597.8246 Circular
Link41	F100M32	F100E00	585.9900	582.0000	597.8246	583.5000 Circular
Link44	F080M05	F080M13	666.2700	648.0900	666.2700	649.5359 Circular
Link46	F080 TAP	F080E00	596.6400	596.0000	599.4336	597.6660 Circular
Link48	F060M02	F060M01	591.6100	591.3200	601.8043	600.6577 Circular
Link51	F060M01	F060E00	591.3200	584.3200	600.6577	585.6170 Circular
OFLOW 1	F042M19	F060i11	616.0000	612.0000	604.2043	604.2043 Circular
OFLOW 2	F060i11	F070M02	612.4000	612.4000	603.2406	603.2406 Circular
OFLOW 3	F080M14	F070M02	613.5000	612.5000	603.2406	603.2406 Circular
OFLOW 4	F090M04	EBMPF080	646.0000	607.5000	605.6084	605.6084 Circular
OFLOW 5	F100M04	F090M09	655.5000	650.5000	641.0752	641.0752 Circular
Link61	F080M02	F080M14	603.1100	599.0500	605.8611	601.2802 Circular
Link64	F070i05	F070M01	595.5000	594.4300	598.4107	596.4959 Circular
OFLOW 6	F050E01	F060E00	609.5000	594.0000	585.6170	585.6170 Circular
F043M33 OF	F042M33	E040i34	651.5000	646.5400	651.8756	646.9109 Trapezoid
F042M61 OF	F042M61	F042M24	651.0000	650.3200	651.2164	650.5520 Trapezoid
F042M39 OF	F042M39	F060i11	650.5000	600.0000	651.2512	604.2043 Trapezoid
F060M02 OF	F060M02	F060E00	601.1000	600.0000	601.8043	600.6226 Trapezoid
F070M02 OF	F070M02	F070E00	603.1000	602.0000	603.2406	602.1308 Trapezoid

F070i05 OF	F070i05	F070E00	603.1000	602.0000	583.7591	583.7591	Trapezoid
Link71	F100M07	F100M06	639.3200	638.1600	646.6769	646.6971	Circular
F100M07 OF	F100M07	F100M21	646.0000	644.0000	646.6769	644.6751	Trapezoid
Link75	F100M26	F100M27	596.5000	594.9000	604.9781	603.8146	Circular
F090M07 OF	F090M07	F090M05	610.9800	606.2200	611.2013	606.6034	Trapezoid
Link83	F050M01	F050E00	603.1800	600.0000	603.3016	600.1078	Trapezoid
F080M06 OF	F080M06	F080M02	661.6300	606.3900	605.8611	605.8611	Trapezoid
348.1	F042M33	F042M32	647.7500	646.9100	651.8756	651.8763	Circular
m32OF	F042M32	F042M33	651.2500	650.8500	651.8763	651.8756	Trapezoid
352.1	F042M24	F042M21	644.2000	611.9900	650.5520	616.9006	Circular
M24 OF	F042M24	F042M21	650.3200	616.6000	650.5520	616.9006	Trapezoid
355.1	F042M39	F042M28	645.4000	644.7300	651.2512	651.2510	Circular
m28 of	F042M28	F042M39	650.2500	649.6500	651.2510	651.2512	Trapezoid
357.1	F050E01	F050E00	594.1400	590.3600	595.4224	591.6419	Circular
361.1	F090M04	F090M03	632.2400	607.1900	636.6348	612.7106	Circular
F090M04 OF	F090M04	F090M03	636.4400	612.4400	636.6348	612.7106	Trapezoid
363.1	F090M05	F090M02	602.0800	600.7700	606.6034	605.3750	Circular
F090M05 OF	F090M05	F090M02	606.2200	605.0700	606.6034	605.4184	Trapezoid
364.1	F100M11	F100M07	660.4400	639.3200	665.9531	646.6769	Circular
F100M11 OF	F100M11	F100M07	665.7400	645.5700	665.9531	646.6769	Trapezoid
365.1	F100M06	F100M04	638.1600	634.5700	646.6971	646.2121	Circular
F100M06 OF	F100M06	F100M04	646.8000	645.7700	646.6971	646.2121	Trapezoid
366.1	F100i01	F100M21	604.1800	601.7400	610.6624	607.6455	Circular
370.1	F090M09	F090M08	635.3700	614.8000	641.0752	620.1290	Circular
F090M09 OF	F090M09	F090M08	640.9700	619.9600	641.0752	620.1290	Trapezoid
371.1	F090M08	F090M07	614.8000	605.6800	620.1290	611.2013	Circular
F090M08 OF	F090M08	F090M07	619.9600	610.9800	620.1290	611.2013	Trapezoid
374.1	F090M06	F090M05	603.1700	602.0800	606.6048	606.6034	Circular
F090M06 OF	F090M05	F090M06	606.2200	606.0700	606.6034	606.6048	Trapezoid

375.1	F090M03	F090M02	607.1900	600.7700	612.7106	605.3750 Circular
F090M03 OF	F090M03	F090M02	612.4400	605.0700	612.7106	605.3750 Trapezoid
376.1	F100M04	F100M03	634.5700	612.5100	646.2121	618.9715 Circular
F100M04 OF	F100M04	F100M03	646.0700	618.7600	646.2121	618.9715 Trapezoid
377.1	F100M03	F100M02	612.5100	605.6000	618.9715	612.0528 Circular
F100M03 OF	F100M03	F100M02	618.7600	611.8000	618.9715	612.0528 Trapezoid
378.1	F100M02	F100M31	605.6000	594.1400	612.0528	605.0240 Circular
F100M02 OF	F100M02	F100M31	611.8000	604.2900	612.0528	605.0240 Trapezoid
383.1	F080M08	F080M06	669.6500	658.6100	670.6510	659.6591 Circular
F080M08 OF	F080M08	F080M06	674.4500	661.6300	659.6591	659.6591 Trapezoid
385.1	EBMPF080	F080i48	601.0000	600.2400	605.6084	602.2662 Circular
387.1	F060E01	F060M02	598.0000	595.3600	601.8046	601.8043 Circular
389.1	F060i07	F060M02	597.0000	595.9600	601.4699	601.8043 Circular
391.1	F060i11	F060M02	598.0000	595.3600	604.2043	601.8043 Circular
392.1	F042M21	F042M19	611.9900	601.9300	616.9006	608.4263 Circular
M21 OF	F042M21	F042M19	616.6000	607.3300	616.9006	608.4263 Trapezoid
398.1	F080M10	F080M08	680.4200	669.6500	684.9683	670.6510 Circular
F080M10 of	F080M10	F080M08	684.9200	674.4500	684.9683	674.4690 Trapezoid
399.1	F080M13	F080M02	648.0900	603.1100	649.5359	605.8611 Circular
E080M13	F080M13	F080M02	659.1100	606.3900	605.8611	605.8611 Trapezoid
401.1	F100M29	F100M31	598.0000	594.1400	605.4116	605.0240 Circular
F100M29 OF	F100M29	F100M31	605.1200	604.2900	605.4116	605.0240 Trapezoid
402.1	F070M04	F070M02	604.0000	597.7100	610.9400	603.2406 Circular
F070M04 OF	F070M04	F070M02	610.5900	602.9400	610.9400	603.2852 Trapezoid
423.1	F090M14	F090E00	588.0000	580.5300	596.4635	582.5300 Circular
F090M14 OF	F090M14	F090E00	597.5500	590.0000	582.5300	582.5300 Trapezoid
430.1	F100M21	F100M28	601.7400	596.5000	607.6455	604.9781 Circular
F100M21 OF	F100M21	F100M28	607.0900	604.3200	607.6455	604.9781 Trapezoid
433.1	F100E01	F100M28	597.0000	596.5000	604.9780	604.9781 Circular

F090M02 OF F090M02 F090M02OUT 605.0000 604.5000 605.3750 604.8710 Trapezoid

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Table E18 - Junction Continuity Error. Division by Volume added 11/96
Continuity Error = Net Flow + Beginning Volume - Ending Volume
Total Flow + (Beginning Volume + Ending Volume)/2
Net Flow = Node Inflow - Node Outflow
Total Flow = absolute (Inflow + Outflow)
Intermediate column is a judgement on the node continuity error.
Excellent < 1 percent Great 1 to 2 percent Good 2 to 5 percent
Fair 5 to 10 percent Poor 10 to 25 percent Bad 25 to 50 percent
Terrible > 50 percent
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Junction Name	<-----Continuity Error ----->			Remaining Volume	Beginning Volume	Net Flow Thru Node	Total Flow Thru Node	Failed to Converge
	Volume	% of Node	% of Inflow					
F100E00	-5.5395	-0.0007	0.0002	0.0006	0.0000	-5.5388	777668.2518	0
F100M31	-95.0758	-0.0117	0.0033	93.8547	0.0000	-1.2212	809904.7593	0
F100M21	1681.5646	0.5267	0.0575	0.0040	0.0000	1681.5686	319258.0547	0
F100i01	13.2168	0.0075	0.0005	0.0008	0.0000	13.2176	175723.5145	0
F100M04	-0.7531	-0.0001	0.0000	0.0069	0.0000	-0.7462	551713.5864	0
F100M07	-59.4844	-0.0155	0.0020	0.0056	0.0000	-59.4788	384169.8214	0
F100M11	-345.0453	-0.1790	0.0118	0.0033	0.0000	-345.0420	192725.0812	0
F090E00	-1.8745	-0.0004	0.0001	0.0029	0.0000	-1.8716	489887.6337	0
F090M02	49.6882	0.0113	0.0017	0.0100	0.0000	49.6983	439207.5541	0
F090M05	22.0918	0.0140	0.0008	0.0055	0.0000	22.0973	157281.9146	2
F090M09	-34.6063	-0.0481	0.0012	0.0030	0.0000	-34.6033	71980.8860	0
F090M04	-161.4271	-0.1264	0.0055	0.0052	0.0000	-161.4220	127731.4100	0
F080E00	-6.4543	-0.0008	0.0002	0.0370	0.0000	-6.4173	833860.4405	0
F080M14	-29.0920	-0.0074	0.0010	0.0681	0.0000	-29.0239	390890.4354	0
F080M13	12.7218	0.0065	0.0004	0.0159	0.0000	12.7377	196817.6134	0
F080M06	4.2764	0.0036	0.0001	0.0129	0.0000	4.2893	118937.0390	0
F070M02	19.6414	0.0045	0.0007	0.0079	0.0000	19.6494	437582.5514	0
F070M01	20.9556	0.0032	0.0007	0.0035	0.0000	20.9591	651032.9741	42
F070E00	-2.9484	-0.0004	0.0001	0.0024	0.0000	-2.9459	666395.2262	0
F060M01	-22.3264	-0.0029	0.0008	0.0023	0.0000	-22.3241	781329.9928	0
F060E01	6.6912	10.5443	0.0002	0.0003	0.0000	6.6915	63.4581	0

F050M01	7.1308	0.0121	0.0002	0.0023	0.0000	7.1331	59159.7342	0
F050E01	-561.0900	-0.1883	0.0192	0.0020	0.0000	-561.0880	297908.3963	0
F050E00	-0.4640	-0.0002	0.0000	0.0014	0.0000	-0.4626	301421.5097	3
F042M18	-17.2664	-0.0024	0.0006	0.0033	0.0000	-17.2631	725603.9207	0
F042M13	-3.9608	-0.0005	0.0001	0.0010	0.0000	-3.9598	725623.6119	0
F042M19	-82.7796	-0.0097	0.0028	0.0112	0.0000	-82.7683	854214.3217	0
F042M24	-284.5638	-0.0462	0.0097	0.0130	0.0000	-284.5508	616248.7238	0
F042M28	-264.4264	-0.0668	0.0090	0.0034	0.0000	-264.4230	396121.2896	0
F042M39	-12786.2062	-3.8701	0.4372	0.0129	0.0000	-12786.1934	330388.0862	0
F042M61	16.0027	0.0100	0.0005	0.0056	0.0000	16.0083	160370.2421	0
F042M32	7.3459	0.0060	0.0003	0.0041	0.0000	7.3500	121530.1216	0
F042M33	-82.9866	-0.0455	0.0028	0.0034	0.0000	-82.9832	182335.3732	1
EBMPF080	-4.3572	-0.0010	0.0001	225.0317	0.0000	220.6746	432026.2645	0
F090M08	-28.9743	-0.0402	0.0010	0.0059	0.0000	-28.9684	72044.0517	0
F090M07	-36.4424	-0.0505	0.0012	0.0060	0.0000	-36.4363	72109.5650	0
F090M06	-54.6796	-0.0982	0.0019	0.0013	0.0000	-54.6782	55661.4836	0
SLOPECHANG	-12.3256	-0.0222	0.0004	0.0022	0.0000	-12.3234	55594.9610	0
F090M03	-945.2767	-0.7337	0.0323	0.0099	0.0000	-945.2668	128838.2221	0
F100M27	-9.3368	-0.0012	0.0003	11.1945	0.0000	1.8577	777679.1709	0
F100M03	-13.8572	-0.0025	0.0005	0.0062	0.0000	-13.8510	551722.3558	0
F100M02	-78.9711	-0.0143	0.0027	62.8001	0.0000	-16.1710	551749.0500	0
F100M26	-16.7070	-0.0021	0.0006	0.9372	0.0000	-15.7698	777666.8349	0
F100M32	-9.9635	-0.0013	0.0003	2.1941	0.0000	-7.7694	777666.1874	0
F080M08	-0.5173	-0.0007	0.0000	0.0070	0.0000	-0.5102	72828.3598	0
F080M05	-0.0019	0.0000	0.0000	0.0019	0.0000	0.0000	0.0000	0
F080i48	-50.4036	-0.0114	0.0017	0.6405	0.0000	-49.7631	442829.2329	0
F080 TAP	-41.2040	-0.0049	0.0014	0.5909	0.0000	-40.6131	833827.2663	0
F060M02	61.4134	0.0039	0.0021	0.0025	0.0000	61.4159	1574804.240	0
F060i07	-86.7108	-98.6314	0.0030	0.0013	0.0000	-86.7095	87.9134	1

F060111	-706.8077	-0.7974	0.0242	0.0138	0.0000	-706.7940	88644.2798	0
F060E00	-2.8507	-0.0002	0.0001	0.0022	0.0000	-2.8485	1574674.608	0
F04LM21	-308.9065	-0.0499	0.0105	0.0201	0.0000	-307.9864	616809.9016	0
F090M10	-0.2128	-0.0002	0.0000	0.0035	0.0000	-0.2103	72827.5962	0
F080M02	-51.4513	-0.0262	0.0018	0.0233	0.0000	-51.4690	196853.2033	0
F100M29	17.1566	0.0211	0.0006	10.0620	0.0000	27.2186	81438.0970	0
F070M04	-274.5538	-0.0768	0.0094	0.0057	0.0000	-274.5471	357640.6212	0
F070i05	-26.8288	-0.0117	0.0009	0.0009	0.0000	-26.8279	228846.5688	22
E040i34	-0.0165	0.0000	0.0000	0.0016	0.0000	-0.0149	101547.9706	0
F090M14	-0.2690	-0.0001	0.0000	0.0050	0.0000	-0.2640	489888.5021	0
F100M06	-98.4412	-0.0310	0.0034	0.0050	0.0000	-98.4362	317319.2608	0
F100M28	-322.7197	-0.0973	0.0110	0.0037	0.0000	-322.7161	331645.3383	7
F100E01	920.4861	6.3071	0.0315	0.0000	0.0000	920.4861	14594.3851	7
F100 E OF	-0.1109	0.0000	0.0000	0.0000	0.0000	-0.1109	348724.9082	0
F090M02OUT	0.0173	0.0000	0.0000	0.0002	0.0000	0.0175	58156.8731	0

The total continuity error was -15170. cubic feet
 The remaining total volume was 407.70 cubic feet
 Your mean node continuity error was Excellent
 Your worst node continuity error was Excellent
 * You were using an interface file but had no inflow.
 * Check the output for important messages.

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| Table E19 - Junction Inflow & Outflow Listing |
| Units are either ft^3 or m^3 |
| depending on the units in your model. |
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	Constant	User	Interface	DWF	Inflow	RNF Layer	
Inflow	Inflow	Inflow	Inflow	Inflow	through	Inflow	Outflow
Junction	Junction	Junction	Junction	Junction	Junction	Junction	Junction
Evaporation	Evaporation	Evaporation	Evaporation	Evaporation	Evaporation	Evaporation	Evaporation
from Node	from Node	from Node	from Node	from Node	from Node	from Node	from Node
Name	Name	Name	Name	Name	Name	Name	Name
2D Layer	2D Layer	2D Layer	2D Layer	2D Layer	2D Layer	2D Layer	2D Layer
-----	-----	-----	-----	-----	-----	-----	-----
0.0000	F100E00	0.0000	0.0000	0.0000	0.0000	0.0000	388837.2584
	0.0000						
0.0000	F100M31	0.0000	0.0000	0.0000	0.0000	88367.4505	0.2631
	0.0000						
0.0000	F100M21	0.0000	0.0000	0.0000	0.0000	9853.8907	0.0000
	0.0000						
0.0000	F100i01	0.0000	0.0000	0.0000	0.0000	87866.8520	0.0000
	0.0000						
0.0000	F100M04	0.0000	0.0000	0.0000	0.0000	117150.2089	0.0000
	0.0000						
0.0000	F100M07	0.0000	0.0000	0.0000	0.0000	95521.5738	0.3700
	0.0000						
0.0000	F100M11	0.0000	0.0000	0.0000	0.0000	96188.5318	0.0000
	0.0000						

0.0000	F090E00 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	244944.5532
0.0000	F090M02 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	76108.7447	0.0672
0.0000	F090M05 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	42511.7405	0.0000
0.0000	F090M09 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	35972.6577	0.0000
0.0000	F090M04 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	63784.9618	0.0000
0.0000	F080E00 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	416929.8904
0.0000	F080M14 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	96978.5894	0.0000
0.0000	F080M13 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	38950.0397	0.2043
0.0000	F080M06 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	23057.0910	0.0000
0.0000	F070M02 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	39843.9598	0.0061
0.0000	F070E00 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	333197.7517
0.0000	F050M01 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	29583.0595	0.0000
0.0000	F050E01 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	56187.6234	0.0000
0.0000	F050E00 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	150717.0921
0.0000	F042M13 0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	362812.9195
0.0000	F042M19 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	118509.1814	0.1832
0.0000	F042M24 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	99918.7012	0.1460
0.0000	F042M39 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	158794.2221	0.0002
0.0000	F042M61 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	19432.4729	0.0000
0.0000	F042M32 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	20334.0607	0.0000
0.0000	F042M33 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	91124.8390	0.0000
0.0000	EBMPF080 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	216124.5382	0.0000
0.0000	F080i48 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	5489.4205	0.0000
0.0000	F060M02 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	742653.9788	0.0000
0.0000	F060E00 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	787328.1122
0.0000	F080M10 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	36413.2991	0.0000
0.0000	F100M29 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	40732.4144	0.0000
0.0000	F070M04 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	178681.5165	0.0000
0.0000	F070i05 0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	114409.6901	0.0000

0.0000	E040i34	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	50774.1858
	0.0000							
0.0000	F090M14	0.0000	0.0000	0.0000	0.0000	0.0000	54448.8052	0.0223
	0.0000							
0.0000	F100M06	0.0000	0.0000	0.0000	0.0000	0.0000	29261.9417	0.0001
	0.0000							
0.0000	F100E0F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	174337.0420
	0.0000							
0.0000	F090M02OUT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	39078.5199
	0.0000							

```

*=====*
| Table E20 - Junction Flooding and Volume Listing. |
| The maximum volume is the total volume |
| in the node including the volume in the |
| flooded storage area. This is the max |
| volume at any time. The volume in the |
| flooded storage area is the total volume |
| above the ground elevation, where the |
| flooded pond storage area starts. |
| The fourth column is instantaneous, the fifth is the |
| sum of the flooded volume over the entire simulation |
| Units are either ft^3 or m^3 depending on the units. |
*=====*

```

Junction Name	Surcharged Time (min)	Flooded Time(min)	Out of 1D-System (Flooded Volume)	Maximum Volume	Passed to 2D cell OR Volume Stored in allowed Flood Pond of 1D-System
F100E00	0.0000	0.0000	0.0000	18.8490	0.0000
F100M31	0.0000	0.0000	0.0000	136.7688	0.0000
F100M21	0.0000	0.0000	0.0000	74.2081	0.0000
F100i01	44.5500	0.0000	0.0000	81.4575	0.0000
F100M04	0.0000	0.0000	0.0000	146.2947	0.0000
F100M07	0.0000	0.0000	0.0000	92.4468	0.0000
F100M11	0.0000	0.0000	0.0000	69.2776	0.0000
F090E00	0.0000	0.0000	0.0000	25.1320	0.0000
F090M02	0.0000	0.0000	0.0000	57.8661	0.0000
F090M05	0.0000	0.0000	0.0000	56.8407	0.0000
F090M09	0.0000	0.0000	0.0000	71.6910	0.0000
F090M04	0.0000	0.0000	0.0000	55.2250	0.0000
F080E00	0.0000	0.0000	0.0000	20.9354	0.0000
F080M14	0.0000	0.0000	0.0000	28.0251	0.0000
F080M13	0.0000	0.0000	0.0000	18.1694	0.0000
F080M06	0.0000	0.0000	0.0000	13.1825	0.0000
F070M02	0.0000	0.0000	0.0000	69.4979	0.0000

F070M01	0.0000	0.0000	0.0000	25.9605	0.0000
F070E00	0.0000	0.0000	0.0000	22.1051	0.0000
F060M01	357.7333	0.0000	0.0000	117.3369	0.0000
F060E01	281.1314	0.0000	0.0000	4540.7200	0.0000
F050M01	0.0000	0.0000	0.0000	49.7819	0.0000
F050E01	0.0000	0.0000	0.0000	1204.2227	0.0000
F050E00	0.0000	0.0000	0.0000	16.1083	0.0000
F042M18	0.0000	0.0000	0.0000	18.1564	0.0000
F042M13	0.0000	0.0000	0.0000	15.4500	0.0000
F042M19	0.0000	0.0000	0.0000	81.6320	0.0000
F042M24	0.0000	0.0000	0.0000	79.8196	0.0000
F042M28	0.0000	0.0000	0.0000	81.9430	0.0000
F042M39	0.0000	0.0000	0.0000	73.5257	0.0000
F042M61	0.0000	0.0000	0.0000	71.5808	0.0000
F042M32	0.0000	0.0000	0.0000	62.4061	0.0000
F042M33	0.0000	0.0000	0.0000	51.8423	0.0000
EBMPF080	0.0000	0.0000	0.0000	81350.2806	0.0000
F090M08	0.0000	0.0000	0.0000	66.9640	0.0000
F090M07	0.0000	0.0000	0.0000	69.3810	0.0000
F090M06	0.0000	0.0000	0.0000	43.1619	0.0000
SLOPECHANG	40.1167	0.0000	0.0000	65.8961	0.0000
F090M03	0.0000	0.0000	0.0000	69.3720	0.0000
F100M27	96.1442	0.0000	0.0000	111.7692	0.0000
F100M03	0.0000	0.0000	0.0000	81.1958	0.0000
F100M02	0.0000	0.0000	0.0000	81.0856	0.0000
F100M26	101.3833	0.0000	0.0000	150.6034	0.0000
F100M32	103.5450	0.0000	0.0000	149.9708	0.0000
F080M08	0.0000	0.0000	0.0000	12.5783	0.0000
F080M05	0.0000	0.0000	0.0000	0.0000	0.0000

F080i48	12.1667	0.0000	0.0000	31.6188	0.0000
F080 TAP	0.0000	0.0000	0.0000	35.1049	0.0000
F040M02	0.0000	0.0000	0.0000	128.1017	0.0000
F060i07	328.1992	0.0000	0.0000	14908.2893	0.0000
F060i11	0.0000	0.0000	0.0000	18511.5588	0.0000
F060E00	0.0000	0.0000	0.0000	16.2977	0.0000
F042M21	0.0000	0.0000	0.0000	61.7071	0.0000
F080M10	0.0000	0.0000	0.0000	57.1540	0.0000
F080M02	0.0000	0.0000	0.0000	34.5706	0.0000
F100M29	0.0000	0.0000	0.0000	93.1336	0.0000
F070M04	0.0000	0.0000	0.0000	87.2086	0.0000
F070i05	0.0000	0.0000	0.0000	36.5758	0.0000
E040i34	0.0000	0.0000	0.0000	4.6612	0.0000
F090M14	0.0000	0.0000	0.0000	106.3522	0.0000
F100M06	0.0000	0.0000	0.0000	107.2774	0.0000
F100M28	0.0000	0.0000	0.0000	106.5356	0.0000
F100E01	95.6667	0.0000	0.0000	27159.4804	0.0000
F100 E OF	0.0000	0.0000	0.0000	0.0000	0.0000
F090M02OUT	0.0000	0.0000	0.0000	4.6621	0.0000

=====

| Simulation Specific Information |

=====

Number of Input Conduits.....	94	Number of Simulated Conduits.....	115
Number of Natural Channels.....	0	Number of Junctions.....	65
Number of Storage Junctions.....	6	Number of Weirs.....	11
Number of Orifices.....	0	Number of Pumps.....	0
Number of Free Outfalls.....	10	Number of Tide Gate Outfalls.....	0

=====

| Average % Change in Junction or Conduit is defined as: |

| Conduit % Change ==> 100.0 { Q(n+1) - Q(n) } / Qfull |

| Junction % Change ==> 100.0 { Y(n+1) - Y(n) } / Yfull |

=====

The Conduit with the largest average change was..F060M02 OF with 0.001 percent

The Junction with the largest average change was.F060M02 with 0.023 percent

The Conduit with the largest sinuosity was.....Link71 with 7.174

=====

| Table E21. Continuity balance at the end of the simulation |

| Junction Inflow, Outflow or Street Flooding |

| Error = Inflow + Initial Volume - Outflow - Final Volume |

=====

Junction	Inflow Volume, ft^3	Average Inflow, cfs
----------	------------------------	------------------------

F100M31	88368.8394	0.4091
F100M21	9854.0509	0.0456
F100i01	87868.4418	0.4068
F100M04	117152.5550	0.5424
F100M07	95522.3183	0.4422
F100M11	96190.6542	0.4453
F090M02	76111.9900	0.3524
F090M05	42513.4552	0.1968
F090M09	35973.3779	0.1665
F090M04	63785.3901	0.2953
F080M14	96981.0419	0.4490
F080M13	38950.9930	0.1803
F080M06	23057.9048	0.1067
F070M02	39844.7848	0.1845
F050M01	29583.5812	0.1370
F050E01	56189.7220	0.2601
F042M13	0.0001	0.0000
F042M19	118509.0032	0.5487
F042M24	99918.3451	0.4626
F042M39	158801.8575	0.7352
F042M61	19432.8630	0.0900
F042M32	20334.5527	0.0941
F042M33	91126.9752	0.4219
EBMPF080	216125.2087	1.0006
F080i48	5489.7468	0.0254
F060M02	742655.4899	3.4382
F080M10	36413.8524	0.1686
F100M29	40733.3451	0.1886
F070M04	178683.8937	0.8272

F070i05	114409.6175	0.5297
F090M14	54449.0283	0.2521
F100M06	29262.9677	0.1355
F100E00	-388837.2544	-1.8992
F100i31	-0.2631	0.0000
F100i01	0.0000	0.0000
F100M04	0.0000	0.0000
F100M07	-0.3700	0.0000
F100M11	0.0000	0.0000
F090E00	-244944.5532	-1.1340
F090M02	-0.0672	0.0000
F080E00	-416929.8904	-1.9302
F080M13	-0.2043	0.0000
F080M06	0.0000	0.0000
F070M02	-0.0061	0.0000
F070E00	-333197.7517	-1.5426
F050E00	-150717.0921	-0.6978
F042M13	-362812.9195	-1.6797
F042M19	-0.1832	0.0000
F042M24	-0.1460	0.0000
F042M39	-0.0002	0.0000
F042M33	0.0000	0.0000
F060M02	0.0000	0.0000
F060E00	-787328.1122	-3.6450
F070M04	0.0000	0.0000
E040i34	-50774.1858	-0.2351
F090M14	-0.0223	0.0000
F100M06	-0.0001	0.0000
F100 E OF	-174357.0430	-0.8072

F090M02OUT -29078.8199 -0.1346

Outflow Junction	Outflow Volume, ft^3	Average Outflow, cfs
F100E00	388837.2584	1.8002
E100M31	0.2631	0.0000
F100i01	0.0000	0.0000
F100M04	0.0000	0.0000
F100M07	0.3700	0.0000
F100M11	0.0000	0.0000
F090E00	244944.5532	1.1340
F090M02	0.0672	0.0000
F080E00	416929.8904	1.9302
F080M13	0.2043	0.0000
F080M06	0.0000	0.0000
F070M02	0.0061	0.0000
F070E00	333197.7517	1.5426
F050E00	150717.0921	0.6978
F042M13	362812.9195	1.6797
F042M19	0.1832	0.0000
F042M24	0.1460	0.0000
F042M39	0.0002	0.0000
F042M33	0.0000	0.0000
F060M02	0.0000	0.0000
F060E00	787328.1122	3.6450
F070M04	0.0000	0.0000
E040i34	50774.1858	0.2351
F090M14	0.0223	0.0000
F100M06	0.0001	0.0000
F100 E OF	174357.0430	0.8072
F090M02OUT	29078.8199	0.1346

=====

| Initial system volume = 0.0000 Cu Ft |

| Total system inflow volume = 2.924256E+06 Cu Ft |

| Inflow + Initial volume = 2.924256E+06 Cu Ft |

=====

| Total system outflow = 2.938979E+06 Cu Ft |

| Volume left (Final volume) = 407.6976 Cu Ft |

| Evaporation = 0.0000 Cu Ft |

| Outflow + Final Volume = 2.939387E+06 Cu Ft |

=====

=====

Total Model Continuity Error	
Error in Continuity, Percent =	-0.5174
Error in Continuity, ft^3 =	-15130.530
+ Error means a continuity loss, - a gain	

=====

Table E22. Numerical Model judgement section #
#####

Overall error was (minimum of Table E18 & E21) -0.5174 percent

Worst nodal error was in node F042M39 with -3.8701 percent

Of the total inflow this loss was 0.4372 percent

Your overall continuity error was Excellent

Excellent Efficiency

Efficiency of the simulation 1.76

Most Number of Non Convergences at one Node 42.

Total Number Non Convergences at all Nodes 85.

Total Number of Nodes with Non Convergences 8.

```
#####
# Table E23. New Basin Design Information      #
#           Maximum Hydraulic Grade Line,      #
#           Out Conduit Sizes and Maximum Flow #
#####
```

- A) Resize d/s Pipes based on given HGL
- B) Resize Basin based on given HGL
- C) Resize d/s Pipes and Basin based on HGL and max discharge
- D) Resize d/s pipes based on given max discharge

Basin Name	Type	Max.HGL (ft)	Conduit	Diam. (ft)	Barrels	Max.Flow (ft ³ /s)
------------	------	-----------------	---------	---------------	---------	----------------------------------

==> Hydraulic model simulation ended normally.
==> XP-SWMM Simulation ended normally.

==> Your input file was named : C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\Existing Conditions for SWMP\Existing Conditions Cloverleaf Ponds_100-year.DAT

==> Your output file was named : C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\Existing Conditions for SWMP\Existing Conditions Cloverleaf Ponds_100-year.out

```
*=====*
|                               |
|      SWMM Simulation Date and Time Summary      |
|=====|
| Starting Date... January    7, 2013  Time...  16:11:20:28 |
| Ending Date...  January    7, 2013  Time...  16:12: 3:64 |
| Elapsed Time...   0.72267 minutes or  43.36000 seconds |
|=====|
*=====*
```

APPENDIX C

HYDROLOGIC & HYDRAULIC RESULTS Post-Pond Construction / Future Land Use Condition

Village of Allouez
 North Cloverleaf Pond
 12-28-12
 Proposed Conditions SWMM Model
 100-year storm

Current Directory: C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\Proposed C
 Engine Name: C:\XPS\XPSWMM~1\SWMMEN~1.EXE

Input File : roposed Conditions for SWMP\Proposed North Cloverleaf__100-year.XP

```

*=====*
|                               |
|      xpswmm                   |
|      Storm and Wastewater Management Model   |
|      Developed by XP Software Inc.           |
|=====|
|
| Last Update      : June, 2011
| Interface Version: 13.0
| Engine Version   : 2011.0
| Data File Version: 12.2
| Serial Number    :
|
|=====|

```

Engine Name: C:\XPS\XPSWMM~1\SWMMEN~1.EXE

```

*=====*
|      Input and Output file names by Layer      |
|=====|

```

Input File to Layer # 1 JIN.US

Output File to Layer # 1 C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\data.int

Input File to Layer # 2 C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\data.int

Output File to Layer # 2 JOT.US

```

*=====*
| Special command line arguments in XP-SWMM2000. This |
| now includes program defaults. $Keywords are the program |
| defaults. Other Keywords are from the SWMMCOM.CFG file. |
| or the command line or any cfg file on the command line. |
| Examples include these in the file xpswm.bat under the |
| section :solve or in the windows version XPSWMM32 in the |
| file solve.bat |
| |
| Note: the cfg file should be in the subdirectory swmzp |
| or defined by the set variable in the xpswm.bat |
| file. Some examples of the command lines possible |
| are shown below: |
| |
| swmmd swmmcom.cfg |
| swmmd my.cfg |
| swmmd nokeys nconv5 perv extranwq |
|=====|

```

\$powerstation	0.0000	1	2
\$perv	0.0000	0	4
\$oldegg	0.0000	0	7
\$as	0.0000	0	11
\$noflat	0.0000	0	21
\$oldomega	0.0000	0	24
\$oldvol	0.0000	1	28
\$implicit	0.0000	1	29
\$oldhot	0.0000	1	31
\$oldscs	0.0000	0	33
\$flood	0.0000	1	40
\$nokeys	0.0000	0	42
\$pzero	0.0000	0	55
\$oldvol2	0.0000	2	59
\$storage2	0.0000	3	62
\$oldhot1	0.0000	1	63
\$pumpwt	0.0000	1	70

\$ecloss	0.0000	1	77
\$exout	0.0000	0	97
\$spatial = 0.90	0.9000	5	124
\$djref = -1.0	-0.1000	3	143
\$weirlen = 50	50.0000	1	153
\$oldbnd	0.0000	1	154
\$nogrelev	0.0000	1	161
\$acmid	0.0000	0	164
\$new_n1_97	0.0000	2	290
\$CSIADDEPTH=ON	0.0000	1	293
\$best97	0.0000	1	294
\$newbound	0.0000	1	295
\$q_tol = 0.01	0.0001	1	316
\$new_storage	0.0000	1	322
\$old_iteration	0.0000	1	333
MINLEN=5	5.0000	1	346
\$review_elevation	0.0000	1	383
\$use_half volume	0.0000	1	385
VERT_WALLS=ON	0.0000	1	389
\$min_ts = 1.0	1.0000	1	407
\$design_restart = on	0.0000	1	412
\$zero_value=1.e-05	0.0000	1	415
SUBCATCHMENT_RES=ON	0.0000	1	419
\$relax_depth = on	0.0000	1	427
\$saveallpts = on	0.0000	1	434

=====
 | Parameter Values on the Tapes Common Block. These are the |
 | values read from the data file and dynamically allocated |
 | by the model for this simulation. |
 =====

Number of Subcatchments in the Runoff Block (NW)....	20
Number of Channel/Pipes in the Runoff Block (NG)....	0
Runoff Water quality constituents (NRQ).....	0
Runoff Land Uses per Subcatchment (NLU).....	0
Number of Elements in the Transport Block (NET)....	0
Number of Storage Junctions in Transport (NTSE)....	0
Number of Input Hydrographs in Transport (NTH).....	0
Number of Elements in the Extran Block (NEE).....	73
Number of Groundwater Subcatchments in Runoff (NGW).	0
Number of Interface locations for all Blocks (NIE)..	73
Number of Pumps in Extran (NEP).....	0
Number of Orifices in Extran (NEO).....	3
Number of Tide Gates/Free Outfalls in Extran (NTG)..	4
Number of Extran Weirs (NEW).....	9
Number of scs hydrograph points.....	4201
Number of Extran printout locations (NPO).....	0
Number of Tide elements in Extran (NTE).....	4
Number of Natural channels (NNC).....	0
Number of Storage junctions in Extran (NVSE).....	3
Number of Time history data points in Extran (NTVAL).	0
Number of Variable storage elements in Extran (NVST)	7
Number of Input Hydrographs in Extran (NEH).....	0
Number of Particle sizes in Transport Block (NPS)...	0
Number of User defined conduits (NHW).....	20
Number of Connecting conduits in Extran (NECC).....	20
Number of Upstream elements in Transport (NTCC)....	10
Number of Storage/treatment plants (NSTU).....	1
Number of Values for R1 lines in Transport (NR1)....	0
Number of Nodes to be allowed for (NNOD).....	73
Number of Plugs in a Storage Treatment Unit.....	1

 # Entry made to the Runoff Layer(Block) of SWMM #
 # Last Updated June, 2011 by XP Software #

=====
 | RUNOFF TABLES IN THE OUTPUT FILE. |
 | These are the more important tables in the output file. |
 | You can use your editor to find the table numbers, |
 | for example: search for Table R3 to check continuity. |
 | This output file can be imported into a Word Processor |
 | and printed on US letter or A4 paper using portrait |
 | mode, courier font, a size of 8 pt. and margins of 0.75 |
 | |
 | Table R1 - Physical Hydrology Data |
 | Table R2 - Infiltration data |
 | Table R3 - Rainage and Infiltration Database Names |
 | Table R4 - Groundwater Data |
 | Table R5 - Continuity Check for Surface Water |
 | Table R6 - Continuity Check for Channels/Pipes |
 | Table R7 - Continuity Check for Subsurface Water |
 | Table R8 - Infiltration/Inflow Continuity Check |
 | Table R9 - Summary Statistics for Subcatchments |
 | Table R10 - Sensitivity analysis for Subcatchments |

=====

```

A1
Village of Allouez
#####
#      RUNOFF JOB CONTROL      #
#####

Snowmelt parameter - ISNOW..... 0
Number of rain gages - NRGAG..... 1
Quality is not simulated - KQUALITY..... 0
Default evaporation rate used - IVAP..... 0
Hour of day at start of storm - NHR..... 0
Minute of hour at start of storm - NMN..... 0
Time TZERO at start of storm (hours)..... 0.000
Use U.S. Customary units for most I/O - METRIC... 0
Runoff input print control... 0
Runoff graph plot control... 0
Runoff output print control.. 0
Limit number of groundwater convergence messages to 10000

Print headers every 50 lines - NOHEAD (0=yes, 1=no) 0

Print land use load percentages -LANDUPR (0=no, 1=yes) 0
Month, day, year of start of storm is: 12/ 8/2012
Wet time step length (seconds)..... 60.0
Dry time step length (seconds)..... 86400.0
Wet/Dry time step length (seconds)... 60.0
Simulation length is..... 60.0 Hours

```

```

If Horton infiltration model is being used
A mixture of infiltration options may be used in
XP-SWMM2000 as a watershed specific option.
Rate for regeneration of infiltration = REGEN * DECAY
Decay is read in for each subcatchment
REGEN = ..... 0.01000

```

```

Raingage #..... 1
KTYPE - Rainfall input type..... 0
NHISTO - Total number of rainfall values.. 240
KINC - Rainfall values(pairs) per line.. 10
KPRINT - Print rainfall(0=Yes,1=No)..... 0
KTIME - Precipitation time units
0 --> Minutes 1 --> Hours..... 1
KPREP - Precipitation unit type
0 --> Intensity 1 --> Volume..... 1
KTHIS - Variable rainfall intervals
0 --> No, > 1 --> Yes..... 0
THISTO - Rainfall time interval..... 0.10
TZRAIN - Starting time(KTIME units)..... 0.00

```

```

#####
# Rainfall input summary from Runoff #
#####

```

Total rainfall for gage # 1 is 5.1000 inches

```

#####
#      Data Group F1      #
# Evaporation Rate (in/day) #
#####

```

```

JAN.  FEB.  MAR.  APR.  MAY   JUN.  JUL.  AUG.  SEP.  OCT.  NOV.  DEC.
-----
0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100 0.100

```

```

#####
# Table R1. S U B C A T C H M E N T D A T A #
#      Physical Hydrology Data      #
#####

```

Subcatchment Number	Name	Channel or inlet	Width (ft)	Area (ac)	Per- cent Imperv	Slope ft/ft	"n" Imperv	"n" Perv	Deprs -sion Imprv	Deprs -sion Perv	Prcnt Zero Deten- -tion
1	F100M11#1	F100M11	1.0000	8.2900	0.00	1.000	0.020	0.020	0.000	0.000	0.00
2	F100M07#1	F100M07	1.0000	8.5500	0.00	1.000	0.020	0.020	0.000	0.000	0.00
3	F100M06#1	F100M06	1.0000	2.5800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
4	F100M04#1	F100M04	1.0000	10.180	0.00	1.000	0.020	0.020	0.000	0.000	0.00
5	F090M09#1	F090M09	1.0000	3.4000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
6	F100i01#1	F100i01	1.0000	8.4600	0.00	1.000	0.020	0.020	0.000	0.000	0.00
7	F100M21#1	F100M21	1.0000	.90000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
8	F100M31#1	F100M31	1.0000	8.4000	0.00	1.000	0.020	0.020	0.000	0.000	0.00

9	F100M29#1	F100M29	1.0000	3.6400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
10	F090M05#1	F090M05	1.0000	3.5900	0.00	1.000	0.020	0.020	0.000	0.000	0.00
11	F090M04#1	F090M04	1.0000	7.0000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
12	EBMPF080#1	EBMPF080	1.0000	23.700	0.00	1.000	0.020	0.020	0.000	0.000	0.00
13	F080i48#1	F080i48	1.0000	.45000	0.00	1.000	0.020	0.020	0.000	0.000	0.00
14	F080M14#2	F080M14	1.0000	3.3300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
15	F080M10#1	F080M10	1.0000	3.7300	0.00	1.000	0.020	0.020	0.000	0.000	0.00
16	F080M06#1	F080M06	1.0000	2.2800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
17	F080M13#1	F080M13	1.0000	4.1800	0.00	1.000	0.020	0.020	0.000	0.000	0.00
18	F080M02#1	F080M02	1.0000	12.770	0.00	1.000	0.020	0.020	0.000	0.000	0.00
19	PBMP F080#1	PBMP F080	1.0000	4.4400	0.00	1.000	0.020	0.020	0.000	0.000	0.00
20	F090M02#1	F090M02	1.0000	6.6200	0.00	1.000	0.020	0.020	0.000	0.000	0.00

```

#####
#           Table R2.  SUBCATCHMENT  DATA           #
#           Infiltration or Time of Concentration Data           #
#
# Infiltration Type      Infl #1(#5)      Infl #2(#6)      Infl #3(#7)      Infl #4(#8) #
# SCS                   ->  Comp CN        Time Conc      Shape Factor      Depth or Fraction #
# SBUH                  ->  Comp CN        Time Conc      N/A                      N/A #
# Green Ampt            ->  Suction        Hydr Cond      Initial MD          N/A #
# Horton                 ->  Max Rate      Min Rate      Decay Rate (1/sec)  Max. Infiltr. Volume #
# Proportional           ->  Constant      N/A            N/A                      N/A #
# Initial/Cont Loss      ->  Initial        Continuing      N/A                      N/A #
# Initial/Proportional   ->  Initial        Constant        N/A                      N/A #
# Laurenson Parameters   ->  B Value        Pervious "n"    Impervious Cont      Exponent #
# Rational Formula       ->  Tc Method      Flow Path Length Flow Path Slope Roughness or Retardance #
#                               (#1 - #4 is Impervious Data / #5 - #8 is Pervious Data) #
#           Rational Formula Tc Method: 1 = Constant #
#                                           2 = Friend's Equation #
#                                           3 = Kinematic Wave #
#                                           4 = Alameda Method #
#                                           5 = Izzard's Formula #
#                                           6 = Kerby's Equation #
#                                           7 = Kirpich's Equation #
#                                           8 = Bransby Williams Equation #
#                                           9 = Federal Aviation Authority Equation #
#####

```

Subcatchment Number	Name	Infl # 1	Infl # 2	Infl # 3	Infl # 4	Infl # 5	Infl # 6	Infl # 7	Infl # 8
1	F100M11#1	83.0000	0.2833	484.0000	0.2000				
2	F100M07#1	81.9000	0.4833	484.0000	0.2000				
3	F100M06#1	82.3000	0.1833	484.0000	0.2000				
4	F100M04#1	82.9000	0.3000	484.0000	0.2000				
5	F090M09#1	80.2000	0.2500	484.0000	0.2000				
6	F100i01#1	79.5000	0.2667	484.0000	0.2000				
7	F100M21#1	81.2000	0.3167	484.0000	0.2000				
8	F100M31#1	80.0000	0.3000	484.0000	0.2000				
9	F100M29#1	82.0000	0.2500	484.0000	0.2000				
10	F090M05#1	83.9000	0.1667	484.0000	0.2000				
11	F090M04#1	75.7000	0.3333	484.0000	0.2000				
12	EBMPF080#1	75.7000	0.4000	484.0000	0.2000				
13	F080i48#1	84.8000	0.1000	484.0000	0.2000				
14	F080M14#2	85.0000	0.1000	484.0000	0.2000				
15	F080M10#1	77.6000	0.2667	484.0000	0.2000				
16	F080M06#1	78.8000	0.1500	484.0000	0.2000				
17	F080M13#1	76.2000	0.1833	484.0000	0.2000				
18	F080M02#1	1.0000	1.4350	484.0000	0.2000				
19	PBMP F080#1	86.1000	0.1333	484.0000	0.2000				
20	F090M02#1	82.9000	0.1500	484.0000	0.2000				

```

#####
#           Table R3.  SUBCATCHMENT  DATA           #
#

```

Rainfall and Infiltration Database Names

Subcatchment Number	Name	Gage No	Infiltration Type	Routing Type
1	F100M11#1	1	SCS Method	SCS curvilinear
2	F100M07#1	1	SCS Method	SCS curvilinear
3	F100M06#1	1	SCS Method	SCS curvilinear
4	F100M04#1	1	SCS Method	SCS curvilinear
5	F090M09#1	1	SCS Method	SCS curvilinear
6	F100i01#1	1	SCS Method	SCS curvilinear
7	F100M21#1	1	SCS Method	SCS curvilinear
8	F100M31#1	1	SCS Method	SCS curvilinear
9	F100M29#1	1	SCS Method	SCS curvilinear
10	F090M05#1	1	SCS Method	SCS curvilinear
11	F090M04#1	1	SCS Method	SCS curvilinear
12	EBMPF080#1	1	SCS Method	SCS curvilinear
13	F080i48#1	1	SCS Method	SCS curvilinear
14	F080M14#2	1	SCS Method	SCS curvilinear
15	F080M10#1	1	SCS Method	SCS curvilinear
16	F080M06#1	1	SCS Method	SCS curvilinear
17	F080M13#1	1	SCS Method	SCS curvilinear
18	F080M02#1	1	SCS Method	SCS curvilinear
19	PBMP F080#1	1	SCS Method	SCS curvilinear
20	F090M02#1	1	SCS Method	SCS curvilinear

Total Number of Subcatchments... 20
 Total Tributary Area (acres).... 126.49
 Impervious Area (acres)..... 0.00
 Pervious Area (acres)..... 126.49
 Total Width (feet)..... 20.00
 Impervious Area (%)..... 0.00

 # S U B C A T C H M E N T D A T A #
 # Default, Ratio values for subcatchment data #
 # Used with the calibrate node in the runoff. #
 # 1 - width 2 - area 3 - impervious % #
 # 4 - slope 5 - imp "n" 6 - perv "n" #
 # 7 - imp ds 8 - perv ds 9 - 1st infil #
 # 10 - 2nd infil 11 - 3rd infil #
 #####

Column	1	2	3	4	5	6	7	8	9	10
11										
Default	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ratio	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.0000										

 * Arrangement of Subcatchments and Channel/Pipes *

Inlet
 F100M11 No Tributary Channel/Pipes
 Tributary Subareas..... F100M11#1
 F100M07 No Tributary Channel/Pipes
 Tributary Subareas..... F100M07#1
 F100M06 No Tributary Channel/Pipes
 Tributary Subareas..... F100M06#1
 F100M04 No Tributary Channel/Pipes
 Tributary Subareas..... F100M04#1
 F090M09 No Tributary Channel/Pipes
 Tributary Subareas..... F090M09#1
 F100i01 No Tributary Channel/Pipes
 Tributary Subareas..... F100i01#1
 F100M21 No Tributary Channel/Pipes
 Tributary Subareas..... F100M21#1
 F100M31 No Tributary Channel/Pipes
 Tributary Subareas..... F100M31#1
 F100M29 No Tributary Channel/Pipes
 Tributary Subareas..... F100M29#1
 F090M05 No Tributary Channel/Pipes
 Tributary Subareas..... F090M05#1
 F090M04 No Tributary Channel/Pipes
 Tributary Subareas..... F090M04#1
 EBMPF080 No Tributary Channel/Pipes
 Tributary Subareas..... EBMPF080#1
 F080i48 No Tributary Channel/Pipes
 Tributary Subareas..... F080i48#1
 F080M14 No Tributary Channel/Pipes
 Tributary Subareas..... F080M14#2
 F080M10 No Tributary Channel/Pipes

```

Tributary Subareas..... F080M10#1
F080M06      No Tributary Channel/Pipes
Tributary Subareas..... F080M06#1
F080M13      No Tributary Channel/Pipes
Tributary Subareas..... F080M13#1
F080M02      No Tributary Channel/Pipes
Tributary Subareas..... F080M02#1
PBMP F080    No Tributary Channel/Pipes
Tributary Subareas..... PBMP F080#
F090M02      No Tributary Channel/Pipes
Tributary Subareas..... F090M02#1

```

```

*****
* Hydrographs will be stored for the following 20 INLETS *
*****
F100M11  F100M07  F100M06  F100M04  F090M09  F100i01
F100M21  F100M31  F100M29  F090M05  F090M04  EBMPPF080
F080i48  F080M14  F080M10  F080M06  F080M13  F080M02
PBMP F080 F090M02

```

```

*****
* Quality Simulation not included in this run *
*****

```

```

*****
* Precipitation Interface File Summary          *
* Number of precipitation station....          1  *
*****

```

```

Location Station Number
-----
1.                1

```

```

#####
# Entry made to the HYDRAULIC Layer of XP-SWMM #
# Last Updated in June, 2011 by XP Software   #
#####

```

```

#####
# Entry made to the Runoff Layer(Block) of SWMM #
# Last Updated June, 2011 by XP Software       #
#####

```

```

* =====
| RUNOFF TABLES IN THE OUTPUT FILE.
| These are the more important tables in the output file.
| You can use your editor to find the table numbers,
| for example: search for Table R3 to check continuity.
| This output file can be imported into a Word Processor
| and printed on US letter or A4 paper using portrait
| mode, courier font, a size of 8 pt. and margins of 0.75
|
| Table R1 - Physical Hydrology Data
| Table R2 - Infiltration data
| Table R3 - Raingage and Infiltration Database Names
| Table R4 - Groundwater Data
| Table R5 - Continuity Check for Surface Water
| Table R6 - Continuity Check for Channels/Pipes
| Table R7 - Continuity Check for Subsurface Water
| Table R8 - Infiltration/Inflow Continuity Check
| Table R9 - Summary Statistics for Subcatchments
| Table R10 - Sensitivity analysis for Subcatchments
* =====

```

```

A1
Village of Allouez
#####
# RUNOFF JOB CONTROL #
#####

```

```

Snowmelt parameter - ISNOW..... 0
Number of rain gages - NRGAG..... 1
Quality is not simulated - KWALTY..... 0
Default evaporation rate used - IVAP..... 0
Hour of day at start of storm - NHR..... 0
Minute of hour at start of storm - NMN..... 0
Time TZERO at start of storm (hours)..... 0.000
Use U.S. Customary units for most I/O - METRIC... 0
Runoff input print control... 0
Runoff graph plot control.... 0
Runoff output print control.. 0
Limit number of groundwater convergence messages to 10000

```

Print headers every 50 lines - NOHEAD (0=yes, 1=no) 0

Print land use load percentages -LANDUPR (0=no, 1=yes) 0

Month, day, year of start of storm is: 12/ 8/2012

Wet time step length (seconds)..... 60.0

Dry time step length (seconds)..... 86400.0

Wet/Dry time step length (seconds)... 60.0

Simulation length is..... 60.0 Hours

If Horton infiltration model is being used

A mixture of infiltration options may be used in

XP-SWMM2000 as a watershed specific option.

Rate for regeneration of infiltration = REGEN * DECAY

Decay is read in for each subcatchment

REGEN = 0.01000

Raingage #..... 1

KTYPE - Rainfall input type..... 0

NHISTO - Total number of rainfall values.. 240

KINC - Rainfall values(pairs) per line.. 10

KPRINT - Print rainfall(0=Yes,1=No)..... 0

KTIME - Precipitation time units

0 --> Minutes 1 --> Hours..... 1

KPREP - Precipitation unit type

0 --> Intensity 1 --> Volume..... 1

KTHIS - Variable rainfall intervals

0 --> No, > 1 --> Yes..... 0

THISTO - Rainfall time interval..... 0.10

TZRAIN - Starting time(KTIME units)..... 0.00

#####

Rainfall input summary from Runoff

#####

Total rainfall for gage # 1 is 5.1000 inches

#####

Data Group F1

Evaporation Rate (in/day)

#####

JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100	0.100

#####

Table R1. SUBCATCHMENT DATA

Physical Hydrology Data

#####

Subcatchment Number	Name	Channel or inlet	Width (ft)	Area (ac)	Per- cent Imperv	Slope ft/ft	"n"	"n"	Perv	Deprs	Deprs	Pront
										Storge	Storge	Zero
										Imprv	Perv	-tion
1	F100M11#1	F100M11	1.0000	8.2900	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
2	F100M07#1	F100M07	1.0000	8.5500	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
3	F100M06#1	F100M06	1.0000	2.5800	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
4	F100M04#1	F100M04	1.0000	10.180	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
5	F090M09#1	F090M09	1.0000	3.4000	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
6	F100i01#1	F100i01	1.0000	8.4600	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
7	F100M21#1	F100M21	1.0000	.90000	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
8	F100M31#1	F100M31	1.0000	8.4000	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
9	F100M29#1	F100M29	1.0000	3.6400	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
10	F090M05#1	F090M05	1.0000	3.5900	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
11	F090M04#1	F090M04	1.0000	7.0000	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
12	EBMPF080#1	EBMPF080	1.0000	23.700	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
13	F080i48#1	F080i48	1.0000	.45000	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
14	F080M14#2	F080M14	1.0000	3.3300	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
15	F080M10#1	F080M10	1.0000	3.7300	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
16	F080M06#1	F080M06	1.0000	2.2800	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
17	F080M13#1	F080M13	1.0000	4.1800	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
18	F080M02#1	F080M02	1.0000	12.770	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
19	PBMP F080#1	PBMP F080	1.0000	4.4400	0.00	1.000	0.020	0.020	0.000	0.000	0.00	
20	F090M02#1	F090M02	1.0000	6.6200	0.00	1.000	0.020	0.020	0.000	0.000	0.00	

#####

Table R2. SUBCATCHMENT DATA

Infiltration or Time of Concentration Data

#

Infl #1(#5)	Infl #2(#6)	Infl #3(#7)	Infl #4(#8)
SCS -> Comp CN	Time Conc	Shape Factor	Depth or Fraction
SBUH -> Comp CN	Time Conc	N/A	N/A

#

```

# Green Ampt      -> Suction      Hydr Cond      Initial MD      N/A #
# Horton          -> Max Rate      Min Rate      Decay Rate (1/sec)  Max. Infiltr. Volume #
# Proportional    -> Constant      N/A           N/A           N/A #
# Initial/Cont Loss -> Initial      Continuing    N/A           N/A #
# Initial/Proportional -> Initial      Constant      N/A           N/A #
# Laurenson Parameters -> B Value      Pervious "n"    Impervious Cont Exponent #
# Rational Formula -> Tc Method    Flow Path Length Flow Path Slope Roughness or Retardance #
#                                     (#1 - #4 is Impervious Data / #5 - #8 is Pervious Data) #
# Rational Formula Tc Method: 1 = Constant #
#                                     2 = Friend's Equation #
#                                     3 = Kinematic Wave #
#                                     4 = Alameda Method #
#                                     5 = Izzard's Formula #
#                                     6 = Kerby's Equation #
#                                     7 = Kirpich's Equation #
#                                     8 = Bransby Williams Equation #
#                                     9 = Federal Aviation Authority Equation #
#####

```

Subcatchment Number	Name	Infl # 1	Infl # 2	Infl # 3	Infl # 4	Infl # 5	Infl # 6	Infl # 7	Infl # 8
1	F100M11#1	83.0000	0.2833	484.0000	0.2000				
2	F100M07#1	81.9000	0.4833	484.0000	0.2000				
3	F100M06#1	82.3000	0.1833	484.0000	0.2000				
4	F100M04#1	82.9000	0.3000	484.0000	0.2000				
5	F090M09#1	80.2000	0.2500	484.0000	0.2000				
6	F100i01#1	79.5000	0.2667	484.0000	0.2000				
7	F100M21#1	81.2000	0.3167	484.0000	0.2000				
8	F100M31#1	80.0000	0.3000	484.0000	0.2000				
9	F100M29#1	82.0000	0.2500	484.0000	0.2000				
10	F090M05#1	83.9000	0.1667	484.0000	0.2000				
11	F090M04#1	75.7000	0.3333	484.0000	0.2000				
12	EBMPF080#1	75.7000	0.4000	484.0000	0.2000				
13	F080i48#1	84.8000	0.1000	484.0000	0.2000				
14	F080M14#2	85.0000	0.1000	484.0000	0.2000				
15	F080M10#1	77.6000	0.2667	484.0000	0.2000				
16	F080M06#1	78.8000	0.1500	484.0000	0.2000				
17	F080M13#1	76.2000	0.1833	484.0000	0.2000				
18	F080M02#1	1.0000	1.4350	484.0000	0.2000				
19	PBMP F080#1	86.1000	0.1333	484.0000	0.2000				
20	F090M02#1	82.9000	0.1500	484.0000	0.2000				

```

#####
# Table R3. SUBCATCHMENT DATA #
# Rainfall and Infiltration Database Names #
#####

```

Subcatchment Number	Name	Gage No	Infiltration Type	Routing Type
1	F100M11#1	1	SCS Method	SCS curvilinear
2	F100M07#1	1	SCS Method	SCS curvilinear
3	F100M06#1	1	SCS Method	SCS curvilinear
4	F100M04#1	1	SCS Method	SCS curvilinear
5	F090M09#1	1	SCS Method	SCS curvilinear
6	F100i01#1	1	SCS Method	SCS curvilinear
7	F100M21#1	1	SCS Method	SCS curvilinear
8	F100M31#1	1	SCS Method	SCS curvilinear
9	F100M29#1	1	SCS Method	SCS curvilinear
10	F090M05#1	1	SCS Method	SCS curvilinear
11	F090M04#1	1	SCS Method	SCS curvilinear
12	EBMPF080#1	1	SCS Method	SCS curvilinear
13	F080i48#1	1	SCS Method	SCS curvilinear
14	F080M14#2	1	SCS Method	SCS curvilinear
15	F080M10#1	1	SCS Method	SCS curvilinear

16	F080M06#1	1	SCS Method	SCS curvilinear
17	F080M13#1	1	SCS Method	SCS curvilinear
18	F080M02#1	1	SCS Method	SCS curvilinear
19	PBMP F080#1	1	SCS Method	SCS curvilinear
20	F090M02#1	1	SCS Method	SCS curvilinear

Total Number of Subcatchments...	20
Total Tributary Area (acres)....	126.49
Impervious Area (acres).....	0.00
Pervious Area (acres).....	126.49
Total Width (feet).....	20.00
Impervious Area (%).....	0.00

```
#####
#          S U B C A T C H M E N T   D A T A          #
# Default, Ratio values for subcatchment data         #
# Used with the calibrate node in the runoff.         #
# 1 - width      2 - area      3 - impervious %       #
# 4 - slope      5 - imp "n"   6 - perv "n"          #
# 7 - imp ds      8 - perv ds   9 - 1st infil         #
# 10 - 2nd infil      11 - 3rd infil                  #
#####
```

Column	1	2	3	4	5	6	7	8	9	10
11										
Default	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ratio	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1.0000										

```
*****
* Arrangement of Subcatchments and Channel/Pipes      *
*****
```

```

Inlet
F100M11      No Tributary Channel/Pipes
              Tributary Subareas..... F100M11#1
F100M07      No Tributary Channel/Pipes
              Tributary Subareas..... F100M07#1
F100M06      No Tributary Channel/Pipes
              Tributary Subareas..... F100M06#1
F100M04      No Tributary Channel/Pipes
              Tributary Subareas..... F100M04#1
F090M09      No Tributary Channel/Pipes
              Tributary Subareas..... F090M09#1
F100i01      No Tributary Channel/Pipes
              Tributary Subareas..... F100i01#1
F100M21      No Tributary Channel/Pipes
              Tributary Subareas..... F100M21#1
F100M31      No Tributary Channel/Pipes
              Tributary Subareas..... F100M31#1
F100M29      No Tributary Channel/Pipes
              Tributary Subareas..... F100M29#1
F090M05      No Tributary Channel/Pipes
              Tributary Subareas..... F090M05#1
F090M04      No Tributary Channel/Pipes
              Tributary Subareas..... F090M04#1
EBMPF080     No Tributary Channel/Pipes
              Tributary Subareas..... EBMPF080#1
F080i48      No Tributary Channel/Pipes
              Tributary Subareas..... F080i48#1
F080M14      No Tributary Channel/Pipes
              Tributary Subareas..... F080M14#2
F080M10      No Tributary Channel/Pipes
              Tributary Subareas..... F080M10#1
F080M06      No Tributary Channel/Pipes
              Tributary Subareas..... F080M06#1
F080M13      No Tributary Channel/Pipes
              Tributary Subareas..... F080M13#1
F080M02      No Tributary Channel/Pipes
              Tributary Subareas..... F080M02#1
PBMP F080    No Tributary Channel/Pipes
              Tributary Subareas..... PBMP F080#
F090M02      No Tributary Channel/Pipes
              Tributary Subareas..... F090M02#1

```

```
*****
* Hydrographs will be stored for the following 20 INLETS *
*****
F100M11  F100M07  F100M06  F100M04  F090M09  F100i01
F100M21  F100M31  F100M29  F090M05  F090M04  EBMPF080
F080i48  F080M14  F080M10  F080M06  F080M13  F080M02
PBMP F080 F090M02

```

```
*****
* Quality Simulation not included in this run *
*****
```

```
*****
* Precipitation Interface File Summary          *
* Number of precipitation station...      1      *
*****
```

Location Station Number

```
-----
1.          1
```

Cloverleaf Ponds - Existing Conditions 2004 Land Use
Village of Allouez

```
*****
| HYDRAULICS TABLES IN THE OUTPUT FILE          |
| These are the more important tables in the output file. |
| You can use your editor to find the table numbers, |
| for example: search for Table E20 to check continuity. |
| This output file can be imported into a Word Processor |
| and printed on US letter or A4 paper using portrait |
| mode, courier font, a size of 8 pt. and margins of 0.75 |
| |
| Table E1 - Basic Conduit Data |
| Table E2 - Conduit Factor Data |
| Table E3a - Junction Data |
| Table E3b - Junction Data |
| Table E4 - Conduit Connectivity Data |
| Table E4a - Dry Weather Flow Data |
| Table E4b - Real Time Control Data |
| Table E5 - Junction Time Step Limitation Summary |
| Table E5a - Conduit Explicit Condition Summary |
| Table E6 - Final Model Condition |
| Table E7 - Iteration Summary |
| Table E8 - Junction Time Step Limitation Summary |
| Table E9 - Junction Summary Statistics |
| Table E10 - Conduit Summary Statistics |
| Table E11 - Area assumptions used in the analysis |
| Table E12 - Mean conduit information |
| Table E13 - Channel losses(H) and culvert info |
| Table E13a - Culvert Analysis Classification |
| Table E14 - Natural Channel Overbank Flow Information |
| Table E14a - Natural Channel Encroachment Information |
| Table E14b - Floodplain Mapping |
| Table E15 - Spreadsheet Info List |
| Table E15a - Spreadsheet Reach List |
| Table E16 - New Conduit Output Section |
| Table E17 - Pump Operation |
| Table E18 - Junction Continuity Error |
| Table E19 - Junction Inflow & Outflow Listing |
| Table E20 - Junction Flooding and Volume List |
| Table E21 - Continuity balance at simulation end |
| Table E22 - Model Judgement Section |
*****
```

Time Control from Hydraulics Job Control
Year..... 2012 Month..... 12
Day..... 8 Hour..... 0
Minute..... 0 Second..... 0

Control information for simulation

```
-----
Integration cycles..... 7200
Length of integration step is..... 30.00 seconds
Simulation length..... 60.00 hours
Do not create equiv. pipes(NEQUAL).. 0
Use U.S. customary units for I/O... 0
Printing starts in cycle..... 1
Intermediate printout intervals of. 500 cycles
Intermediate printout intervals of. 250.00 minutes
Summary printout intervals of..... 500 cycles
Summary printout time interval of.. 250.00 minutes
Hot start file parameter (REDO).... 0
Initial time..... 0.00 hours

Iteration variables: Flow Tolerance. 0.00010
                   Head Tolerance. 0.00050
```

Minimum depth (m or ft)..... 0.00001
 Underrelaxation parameter..... 0.85000
 Time weighting parameter..... 0.85000
 Conduit roughness factor..... 1.00000
 Flow adjustment factor..... 1.00000
 Initial Condition Smoothing..... 0
 Courant Time Step Factor..... 1.00000
 Default Expansion/Contraction K. 0.00000
 Default Entrance/Exit K..... 0.00000
 Routing Method..... Dynamic Wave
 Default surface area of junctions... 12.57 square feet.
 Minimum Junction/Conduit Depth..... 0.00001 feet.
 Ponding Area Coefficient..... 5000.00
 Ponding Area Exponent..... 1.0000
 Minimum Orifice Length..... 1000.00 feet.
 NJSW input hydrograph junctions.... 0
 or user defined hydrographs....

 | Table E1 - Conduit Data |

Inp Num	Conduit Name	Length (ft)	Conduit Class	Area (ft^2)	Manning Coef.	Max Width (ft)	Depth (ft)	Trapezoid Side Slopes	
1	Link26	258.0000	Circular	3.1416	0.0140	2.0000	2.0000		
2	Link27	312.0000	Circular	3.1416	0.0140	2.0000	2.0000		
3	Link31	147.0000	Circular	0.7854	0.0140	1.0000	1.0000		
4	Link32	200.0000	Circular	0.7854	0.0140	1.0000	1.0000		
5	Link44	371.0000	Circular	0.7854	0.0140	1.0000	1.0000		
6	Link46	27.0000	Circular	7.0686	0.0140	3.0000	3.0000		
7	OFLOW 4	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
8	OFLOW 5	33.0000	Circular	0.0201	0.0140	0.1600	0.1600		
9	Link61	434.0000	Circular	4.9087	0.0140	2.5000	2.5000		
10	Link71	388.0000	Circular	3.1416	0.0140	2.0000	2.0000		
11	F100M07 OF	33.0000	Trapezoid	60.0000	0.0500	10.0000	2.0000	10.0000	10.0000
12	F090M07 OF	365.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
13	F080M06 OF	1586.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
14	Link85	80.0000	Circular	3.1416	0.0140	2.0000	2.0000		
15	Link87	191.0000	Circular	7.0686	0.0140	3.0000	3.0000		
16	Link88	850.0000	Circular	7.0686	0.0140	3.0000	3.0000		
17	Link89	105.0000	Circular	7.0686	0.0140	3.0000	3.0000		
18	Link90	64.0000	Circular	4.9087	0.0140	2.5000	2.5000		
19	NCPoutPipe	363.0000	Circular	3.1416	0.0140	2.0000	2.0000		
20	Link96	270.0000	Circular	3.1416	0.0140	2.0000	2.0000		
21	Link97	131.0000	Circular	3.1416	0.0140	2.0000	2.0000		
22	Link98	200.0000	Circular	3.1416	0.0140	2.0000	2.0000		
23	361.1	499.0000	Circular	0.7854	0.0140	1.0000	1.0000		
24	F090M04 OF	499.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
25	363.1	305.0000	Circular	7.0686	0.0140	3.0000	3.0000		
26	F090M05 OF	305.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
27	364.1	338.0000	Circular	1.2272	0.0140	1.2500	1.2500		
28	F100M11 OF	322.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
29	365.1	308.0000	Circular	3.1416	0.0140	2.0000	2.0000		
30	F100M06 OF	257.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
31	366.1	165.0000	Circular	1.7671	0.0140	1.5000	1.5000		
32	370.1	283.0000	Circular	0.7854	0.0140	1.0000	1.0000		
33	F090M09 OF	283.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
34	371.1	303.0000	Circular	0.7854	0.0140	1.0000	1.0000		
35	F090M08 OF	303.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
36	374.1	53.0000	Circular	0.7854	0.0140	1.0000	1.0000		
37	F090M06 OF	34.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
38	375.1	487.0000	Circular	0.7854	0.0140	1.0000	1.0000		
39	F090M03 OF	487.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
40	376.1	390.0000	Circular	2.4053	0.0140	1.7500	1.7500		
41	F100M04 OF	390.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
42	377.1	229.0000	Circular	3.1416	0.0140	2.0000	2.0000		
43	F100M03 OF	229.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
44	F100M02 OF	331.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
45	383.1	378.0000	Circular	1.7671	0.0140	1.5000	1.5000		
46	F080M08 OF	301.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
47	385.1	48.0000	Circular	1.2272	0.0240	1.2500	1.2500		
48	398.1	348.0000	Circular	1.2272	0.0140	1.2500	1.2500		
49	F080M10 of	348.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
50	399.1	1255.0000	Circular	3.1416	0.0140	2.0000	2.0000		
51	E080M13	1247.0000	Trapezoid	204.0000	0.0450	2.0000	2.0000	50.0000	50.0000
52	430.1	305.0000	Circular	3.1416	0.0140	2.0000	2.0000		
53	F100M21 OF	305.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
54	433.1	29.0000	Circular	1.7671	0.0140	1.5000	1.5000		
55	F090M02 OF	33.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
56	M31-M29	147.0000	Circular	7.0686	0.0140	3.0000	3.0000		
57	F100M29 OF	147.0000	Trapezoid	204.0000	0.0140	2.0000	2.0000	50.0000	50.0000
Total length of all conduits				18132.0000 feet					

 | Table E2 - Conduit Factor Data |

=====

Conduit Name	Number of Barrels	Entrance Loss Coef	Exit Loss Coef	Exp/Contc Coefficient	Time Weighting Parameter	Low Flow Roughness Factor	Depth at Which n Changes	Flow Routing	
Link26	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link27	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link31	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link32	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link44	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link46	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link61	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link71	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link85	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link87	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link88	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link89	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link90	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
NCPoutPipe	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link96	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link97	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
Link98	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
361.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
363.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
364.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
365.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
366.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
370.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
371.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
374.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
375.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
376.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
377.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
383.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
385.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
398.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
399.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
430.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
433.1	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave
M31-M29	1.0000	0.5000	0.5000	0.0000	0.8500	1.0000	0.0000	Standard	- Dynamic Wave

=====

| If there are messages about (sqrt(g*d)*dt/dx), or |
| the sqrt(wave celerity)*time step/conduit length |
| in the output file all it means is that the |
| program will lower the internal time step to |
| satisfy this condition (explicit condition). |
| You control the actual internal time step by |
| using the minimum courant time step factor in the |
| HYDRAULICS job control. The message put in words |
| states that the smallest conduit with the fastest |
| velocity will control the time step selection. |
| You have further control by using the modify |
| conduit option in the HYDRAULICS Job Control. |

=====

Conduit Name	Courant Ratio	
Link26	0.93	
Link27	0.77	
Link31	1.16	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link32	0.85	
Link44	0.46	
Link46	10.92	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
OFLOW 4	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
OFLOW 5	2.06	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link61	0.62	
Link71	0.62	
F100M07 OF	5.65	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
F090M07 OF	0.47	
F080M06 OF	0.11	
Link85	3.01	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link87	1.54	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link88	0.35	
Link89	2.81	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link90	4.21	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
NCPoutPipe	0.66	
Link96	0.89	
Link97	1.84	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
Link98	1.20	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
361.1	0.34	
F090M04 OF	0.34	
363.1	0.97	
F090M05 OF	0.56	

```

364.1      0.56
F100M11 OF 0.53
365.1      0.78
F100M06 OF 0.67
366.1      1.26 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
370.1      0.60
F090M09 OF 0.60
371.1      0.56
F090M08 OF 0.56
374.1      3.21 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
F090M06 OF 5.03 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
375.1      0.35
F090M03 OF 0.35
376.1      0.58
F100M04 OF 0.44
377.1      1.05 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
F100M03 OF 0.75
F100M02 OF 0.52
383.1      0.55
F080M08 OF 0.57
385.1      3.97 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
398.1      0.55
F080M10 of 0.49
399.1      0.19
E080M13    0.14
430.1      0.79
F100M21 OF 0.56
433.1      7.19 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
F090M02 OF 5.18 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
M31-M29    2.01 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
F100M29 OF 1.16 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)

```

```

*****
| Conduit Volume |
*****

```

Full pipe or full open conduit volume
Input full depth volume..... 1.6190E+06 cubic feet

==> Warning !! The upstream and downstream junctions for the following conduits
have been reversed to correspond to the positive flow and decreasing
slope convention. A negative flow in the output thus means
the flow was from your original upstream junction to your original
downstream junction. Any initial flow has been multiplied by -1.

1. Conduit #...F090M06 OF has been changed.
2. Conduit #...F100M29 OF has been changed.

```

*****
| Table E3a - Junction Data |
*****

```

Inp Num	Junction Name	Ground Elevation	Crown Elevation	Invert Elevation	Qinst cfs	Initial Depth-ft	Interface Flow (%)
1	F100M31	614.2900	606.2900	598.7500	0.0000	0.0000	100.0000
2	F100M21	657.0900	646.0000	601.7400	0.0000	0.0000	100.0000
3	F100i01	619.4300	605.6800	604.1800	0.0000	0.0000	100.0000
4	F100M04	656.0700	655.6600	634.5700	0.0000	0.0000	100.0000
5	F100M07	655.5700	648.0000	639.3200	0.0000	0.0000	100.0000
6	F100M11	675.7400	667.7400	660.4400	0.0000	0.0000	100.0000
7	F090M02	615.0700	607.0700	597.3900	0.0000	0.0000	100.0000
8	F090M05	616.2200	608.2200	598.1500	0.0000	0.0000	100.0000
9	F090M09	650.9700	650.6600	635.3700	0.0000	0.0000	100.0000
10	F090M04	646.4400	646.1600	632.2400	0.0000	0.0000	100.0000
11	F080E00	610.0000	599.0000	596.0000	0.0000	0.0000	100.0000
12	F080M14	613.8200	598.2700	595.2700	0.0000	0.0000	100.0000
13	F080M13	669.1100	661.1100	648.0900	0.0000	0.0000	100.0000
14	F080M06	671.6300	663.6300	658.6100	0.0000	0.0000	100.0000
15	EBMPF080	608.0000	607.6600	601.0000	0.0000	0.0000	100.0000
16	F090M08	629.9600	621.9600	614.8000	0.0000	0.0000	100.0000

17	F090M07	620.9800	612.9800	605.6800	0.0000	0.0000	100.0000
18	F090M06	616.0700	608.0700	603.1700	0.0000	0.0000	100.0000
19	SLOPECHANG	620.0000	605.4800	603.9700	0.0000	0.0000	100.0000
20	F090M03	622.4400	614.4400	607.1900	0.0000	0.0000	100.0000
21	F100M03	628.7600	620.7600	612.5100	0.0000	0.0000	100.0000
22	F100M02	621.8000	613.8000	605.6000	0.0000	0.0000	100.0000
23	F080M08	684.4500	676.4500	669.6500	0.0000	0.0000	100.0000
24	F080M05	683.8700	667.2700	666.2700	0.0000	0.0000	100.0000
25	F080i48	613.3100	602.2400	600.2400	0.0000	0.0000	100.0000
26	F080 TAP	610.0000	599.6400	596.6400	0.0000	0.0000	100.0000
27	F080M10	694.9200	686.9200	680.4200	0.0000	0.0000	100.0000
28	F080M02	616.3900	608.3900	603.1100	0.0000	0.0000	100.0000
29	F100M29	615.1200	607.1200	598.5300	0.0000	0.0000	100.0000
30	F100M06	657.1600	648.8000	638.1600	0.0000	0.0000	100.0000
31	F100M28	614.3200	606.3200	599.2000	0.0000	0.0000	100.0000
32	F100E01	618.0000	601.0000	599.5000	0.0000	0.0000	100.0000
33	F100 E OF	610.0000	590.0000	590.0000	0.0000	0.0000	100.0000
34	F090M02OUT	610.0000	606.5000	590.0000	0.0000	0.0000	100.0000
35	PBMP F080	610.0000	598.0000	595.0000	0.0000	0.0000	100.0000
36	F080M01A	610.0000	602.3500	597.0000	0.0000	0.0000	100.0000
37	NCP Outlet	610.0000	596.5000	594.5000	0.0000	0.0000	100.0000
38	NCP OUTMH1	610.0000	595.0500	593.0500	0.0000	0.0000	100.0000
39	NCP OUTFAL	610.0000	593.9700	591.9700	0.0000	0.0000	100.0000
40	F100M02A	620.0000	603.0000	601.0000	0.0000	0.0000	100.0000

=====

| Table E3b - Junction Data |

=====

Inp Num	Junction Name	X Coord.	Y Coord.	Type of Manhole	Type of Inlet	Maximum Capacity	Pavement Shape	Slope
1	F100M31	0.0000	0.0000	No P	Normal		0	0.0000
2	F100M21	0.0000	0.0000	No P	Normal		0	0.0000
3	F100i01	0.0000	0.0000	No P	Normal		0	0.0000
4	F100M04	0.0000	0.0000	No P	Normal		0	0.0000
5	F100M07	0.0000	0.0000	No P	Normal		0	0.0000
6	F100M11	0.0000	0.0000	No P	Normal		0	0.0000
7	F090M02	0.0000	0.0000	No P	Normal		0	0.0000
8	F090M05	0.0000	0.0000	No P	Normal		0	0.0000
9	F090M09	0.0000	0.0000	No P	Normal		0	0.0000
10	F090M04	0.0000	0.0000	No P	Normal		0	0.0000
11	F080E00	0.0000	0.0000	No P	Normal		0	0.0000
12	F080M14	0.0000	0.0000	No P	Normal		0	0.0000
13	F080M13	0.0000	0.0000	No P	Normal		0	0.0000
14	F080M06	0.0000	0.0000	No P	Normal		0	0.0000
15	EBMPF080	0.0000	0.0000	No P	Normal		0	0.0000

16	F090M08	0.0000	0.0000	No P	Normal	0	0.0000
17	F090M07	0.0000	0.0000	No P	Normal	0	0.0000
18	F090M06	0.0000	0.0000	No P	Normal	0	0.0000
19	SLOPECHANG	0.0000	0.0000	No P	Normal	0	0.0000
20	F090M03	0.0000	0.0000	No P	Normal	0	0.0000
21	F100M03	0.0000	0.0000	No P	Normal	0	0.0000
22	F100M02	0.0000	0.0000	No P	Normal	0	0.0000
23	F080M08	0.0000	0.0000	No P	Normal	0	0.0000
24	F080M05	0.0000	0.0000	No P	Normal	0	0.0000
25	F080i48	0.0000	0.0000	No P	Normal	0	0.0000
26	F080 TAP	0.0000	0.0000	No P	Normal	0	0.0000
27	F080M10	0.0000	0.0000	No P	Normal	0	0.0000
28	F080M02	0.0000	0.0000	No P	Normal	0	0.0000
29	F100M29	0.0000	0.0000	No P	Normal	0	0.0000
30	F100M06	0.0000	0.0000	No P	Normal	0	0.0000
31	F100M28	0.0000	0.0000	No P	Normal	0	0.0000
32	F100E01	0.0000	0.0000	No P	Normal	0	0.0000
33	F100 E OF	0.0000	0.0000	No P	Normal	0	0.0000
34	F090M02OUT	0.0000	0.0000	No P	Normal	0	0.0000
35	EBMP F080	0.0000	0.0000	No P	Normal	0	0.0000
36	F080M01A	0.0000	0.0000	No P	Normal	0	0.0000
37	NCP Outlet	0.0000	0.0000	No P	Normal	0	0.0000
38	NCP OUTMH1	0.0000	0.0000	No P	Normal	0	0.0000
39	NCP OUTFAL	0.0000	0.0000	No P	Normal	0	0.0000
40	F100M02A	0.0000	0.0000	No P	Normal	0	0.0000

=====

| Table E4 - Conduit Connectivity |

=====

Input Number	Conduit Name	Upstream Node	Downstream Node	Upstream Elevation	Downstream Elevation	
1	Link26	F080i48	F080 TAP	600.2400	596.6400	No Design
2	Link27	F080M06	F080M13	658.6100	648.0900	No Design
3	Link31	F090M07	SLOPECHANG	605.6800	604.4800	No Design
4	Link32	SLOPECHANG	F090M06	603.9700	603.1700	No Design
5	Link44	F080M05	F080M13	666.2700	648.0900	No Design
6	Link46	F080 TAP	F080E00	596.6400	596.0000	No Design
7	OFLOW 4	F090M04	EBMPF080	646.0000	607.5000	No Design
8	OFLOW 5	F100M04	F090M09	655.5000	650.5000	No Design
9	Link61	F080M02	F080M01A	603.1100	599.8500	No Design
10	Link71	F100M07	F100M06	639.3200	638.1600	No Design
11	F100M07 OF	F100M07	F100M21	646.0000	644.0000	No Design
12	F090M07 OF	F090M07	F090M05	610.9800	606.2200	No Design
13	F080M06 OF	F080M06	F080M02	661.6300	606.3900	No Design
14	Link85	F100M28	F100M31	599.2000	599.0000	No Design

15	Link87	F100M29	F090M05	598.5300	598.1500 No Design
16	Link88	F090M02	F080M14	597.3900	595.2700 No Design
17	Link89	F080M14	PBMP F080	595.2700	595.0000 No Design
18	Link90	F080M01A	PBMP F080	597.0000	595.0000 No Design
19	NCPoutPipe	NCP Outlet	NCP OUTMH1	594.5000	593.0500 No Design
20	Link96	NCP OUTMH1	NCP OUTFAL	593.0500	591.9700 No Design
21	Link97	F100M02	F100M02A	605.6000	601.0000 No Design
22	Link98	F100M02A	F100M31	601.0000	598.7500 No Design
23	361.1	F090M04	F090M03	632.2400	607.1900 No Design
24	F090M04 OF	F090M04	F090M03	636.4400	612.4400 No Design
25	363.1	F090M05	F090M02	598.1500	597.3900 No Design
26	F090M05 OF	F090M05	F090M02	606.2200	605.0700 No Design
27	364.1	F100M11	F100M07	660.4400	639.3200 No Design
28	F100M11 OF	F100M11	F100M07	665.7400	645.5700 No Design
29	365.1	F100M06	F100M04	638.1600	634.5700 No Design
30	F100M06 OF	F100M06	F100M04	646.8000	645.7700 No Design
31	366.1	F100i01	F100M21	604.1800	601.7400 No Design
32	370.1	F090M09	F090M08	635.3700	614.8000 No Design
33	F090M09 OF	F090M09	F090M08	640.9700	619.9600 No Design
34	371.1	F090M08	F090M07	614.8000	605.6800 No Design
35	F090M08 OF	F090M08	F090M07	619.9600	610.9800 No Design
36	374.1	F090M06	F090M05	603.1700	601.0000 No Design
37	F090M06 OF	F090M05	F090M06	606.2200	606.0700 No Design
38	375.1	F090M03	F090M02	607.1900	600.7700 No Design
39	F090M03 OF	F090M03	F090M02	612.4400	605.0700 No Design
40	376.1	F100M04	F100M03	634.5700	612.5100 No Design
41	F100M04 OF	F100M04	F100M03	646.0700	618.7600 No Design
42	377.1	F100M03	F100M02	612.5100	605.6000 No Design
43	F100M03 OF	F100M03	F100M02	618.7600	611.8000 No Design
44	F100M02 OF	F100M02	F100M31	611.8000	604.2900 No Design
45	383.1	F080M08	F080M06	669.6500	658.6100 No Design
46	F080M08 OF	F080M08	F080M06	674.4500	661.6300 No Design
47	385.1	EBMPF080	F080i48	601.0000	600.2400 No Design
48	398.1	F080M10	F080M08	680.4200	669.6500 No Design
49	F080M10 of	F080M10	F080M08	684.9200	674.4500 No Design
50	399.1	F080M13	F080M02	648.0900	603.1100 No Design
51	F080M13	F080M13	F080M02	659.1100	606.3900 No Design
52	430.1	F100M21	F100M28	601.7400	599.2000 No Design
53	F100M21 OF	F100M21	F100M28	607.0900	604.3200 No Design
54	433.1	F100E01	F100M28	599.5000	599.2000 No Design
55	F090M02 OF	F090M02	F090M02OUT	605.0000	604.5000 No Design
56	M31-M29	F100M31	F100M29	598.7500	598.5300 No Design
57	F100M29 OF	F100M29	F100M31	605.1200	604.2900 No Design

=====

| Storage Junction Data |

=====

STORAGE JUNCTION NUMBER OR NAME	JUNCTION TYPE	MAXIMUM OR CONSTANT SURFACE AREA (FT ²)	PEAK OR CONSTANT VOLUME (CUBIC FEET)	CROWN ELEVATION (FT)	DEPTH STARTS FROM
EBMPF080	Stage/Area	31363.2000	147477.6631	608.0000	Node Invert
F100E01	Stage/Area	18966.0240	251494.5751	618.0000	Node Invert
PBMP F080	Stage/Area	76230.0000	983889.7559	610.0000	Node Invert

=====

| Variable storage data for node | EBMFP080 |

=====

Data Point	Elevation ft	Depth ft	Area ft ²	Volume ft ³	Area acres	Volume ac-ft
1	601.0000	0.0000	12196.8000	0.0000	0.2800	0.0000
2	602.0000	1.0000	14374.8000	13270.7652	0.3300	0.3047
3	603.0000	2.0000	16988.4000	28934.0269	0.3900	0.6642
4	604.0000	3.0000	19166.4000	47000.3026	0.4400	1.0790
5	605.0000	4.0000	21780.0000	67459.3817	0.5000	1.5487
6	606.0000	5.0000	25264.8000	90960.0060	0.5800	2.0882
7	608.0000	7.0000	31363.2000	147477.6631	0.7200	3.3856

=====

| Variable storage data for node | F100E01 |

=====

Data Point	Elevation ft	Depth ft	Area ft ²	Volume ft ³	Area acres	Volume ac-ft
1	599.5000	0.0000	4.3560	0.0000	0.0001	0.0000
2	601.0000	1.5000	714.3840	387.2581	0.0164	0.0089
3	603.0000	3.5000	3502.2240	4252.7914	0.0804	0.0976
4	605.0000	5.5000	8598.7440	15978.4453	0.1974	0.3668
5	607.0000	7.5000	18966.0240	42868.3111	0.4354	0.9841
6	618.0000	18.5000	18966.0240	251494.5751	0.4354	5.7735

=====

| Variable storage data for node | PBMP F080 |

=====

Data Point	Elevation ft	Depth ft	Area ft ²	Volume ft ³	Area acres	Volume ac-ft
1	595.0000	0.0000	42253.2000	0.0000	0.9700	0.0000
2	597.0000	2.0000	48787.2000	90961.2316	1.1200	2.0882
3	599.0000	4.0000	56192.4000	195852.6143	1.2900	4.4962
4	601.0000	6.0000	64033.2000	315991.6960	1.4700	7.2542
5	603.0000	8.0000	72309.6000	452249.3226	1.6600	10.3822
6	604.0000	9.0000	76230.0000	526509.7559	1.7500	12.0870
7	610.0000	15.0000	76230.0000	983889.7559	1.7500	22.5870

=====

| Orifice Data |

=====

Conduit Name	From Junction	To Junction	Type	Area (ft ²)	Depth (ft)	Discharge Coefficient	Height Above Junction (ft)
ORI 1	PBMP F080	NCP Outlet	Circ Side	0.20	0.00	0.600	0.000

or 2	PBMP F080	NCP Outlet Circ Side	0.79	0.00	0.600	2.000
or 3	PBMP F080	NCP Outlet Circ Side	0.79	0.00	1.000	2.000

```

=====> EQUIVALENT PIPE INFORMATION FOR ORIFICE
CONDUIT NAME..... 1
Upstream node..... PBMP F080
Downstream node..... NCP Outlet
PIPE DIAMETER..... 0.50
PIPE LENGTH..... 1000.00
MANNINGS ROUGHNESS..... 0.0024
INVERT ELEVATION AT UPSTREAM END.... 595.0000
INVERT ELEVATION AT DOWNSTREAM END... 594.9900

```

```

=====> EQUIVALENT PIPE INFORMATION FOR ORIFICE
CONDUIT NAME..... 2
Upstream node..... or 2
Downstream node..... PBMP F080
PIPE DIAMETER..... NCP Outlet
PIPE LENGTH..... 1.00
MANNINGS ROUGHNESS..... 1000.00
INVERT ELEVATION AT UPSTREAM END.... 0.0039
INVERT ELEVATION AT DOWNSTREAM END... 597.0000

```

```

=====> EQUIVALENT PIPE INFORMATION FOR ORIFICE
CONDUIT NAME..... 3
Upstream node..... or 3
Downstream node..... PBMP F080
PIPE DIAMETER..... NCP Outlet
PIPE LENGTH..... 1.00
MANNINGS ROUGHNESS..... 1000.00
INVERT ELEVATION AT UPSTREAM END.... 0.0023
INVERT ELEVATION AT DOWNSTREAM END... 597.0000

```

Note: For a Bottom-outlet orifice the invert elevation of the downstream node will be adjusted to accommodate the equivalent conduit. Conduit grades are not affected.

```

*=====
| Weir Data |
*=====

```

Weir	Weir	From	To	Crest	Weir	Weir	Discharge
Power	Name	Junction	Junction	Type	Height(ft)	Top(ft)	Length(ft) Coefficient
1.5000	F100i01 OV	F100i01	F100M21	1	6.07	8.07	20.00 3.3000
1.5000	F080 EMER	EBMPF080	F080i48	1	4.25	7.00	20.00 3.3000
1.5000	100E01 OVF	F100E01	F100M28	1	4.73	6.50	20.00 3.3000
1.5000	F100M28 OV	F100M28	F100 E OF	1	4.85	6.80	20.00 3.3000
1.5000	F100M31 OV	F100M31	F100 E OF	1	5.30	7.25	20.00 3.3000
1.5000	WR	F080M02	PBMP F080	1	2.89	6.89	20.00 3.0000
1.5000	F080M14 OV	F080M14	F080E00	1	8.53	10.73	20.00 3.3000
1.5000	weir 1	PBMP F080	NCP Outlet	1	4.00	9.00	10.00 3.0000
1.5000	weir 2	PBMP F080	NCP Outlet	1	6.00	9.00	4.00 3.0000

```

*=====
| FREE OUTFALL DATA (DATA GROUP I1) |
| BOUNDARY CONDITION ON DATA GROUP J1 |
*=====

```

Outfall at Junction....F080E00	has boundary condition number...	1
Outfall at Junction....F100 E OF	has boundary condition number...	2
Outfall at Junction....F090M02OUT	has boundary condition number...	3
Outfall at Junction....NCP OUTFAL	has boundary condition number...	4

=====> Warning !! Outfall Junction F080E00 has two or more connecting conduits.

=====> Warning !! Outfall Junction F100 E OF has two or more connecting conduits.

```

*=====
| Weir Outfall Data |
| Boundary Condition on data group J1 |
*=====

```



```

Weir Outfall at Junction... F100 E OF has boundary condition number... 2
Weir Outfall at Junction... F100 E OF has boundary condition number... 2
Weir Outfall at Junction... F080E00 has boundary condition number... 1

```

```

*=====
| INTERNAL CONNECTIVITY INFORMATION |
*=====

```

CONDUIT	JUNCTION	JUNCTION
QRY 1	PSMP F080	NCP Outlet
QRY 2	PSMP F080	NCP Outlet
QRY 3	PSMP F080	NCP Outlet
F100I01 OV	F100I01	F100M31
F080 EWER	EBMPF080	F080I48
F080I01 OV	F100E01	F100M29
F100M28 OV	F100M28	F100 E OF
F100M31 OV	F100M31	F100 E OF
WR	F080M02	PBMP F080
F080M14 OV	F080M14	F080E00
weir 1	PBMP F080	NCP Outlet
weir 2	PBMP F080	NCP Outlet
FREE # 1	F080E00	BOUNDARY
FREE # 2	F100 E OF	BOUNDARY
FREE # 3	F090M02OUT	BOUNDARY
FREE # 4	NCP OUTFALL	BOUNDARY

```

*=====
| Boundary Condition Information |
| Data Groups J1-J4 |
*=====

```

```

BC NUMBER.. 1 has no control water surface.
BC NUMBER.. 2 has no control water surface.
BC NUMBER.. 3 has no control water surface.
BC NUMBER.. 4 has no control water surface.

```

```

#####
# Header information from interface file: #
#####

```

Title from first computational layer:

A1
Village of Allouez

Title from immediately preceding computational layer

A1
Village of Allouez

```

Name of preceding layer:..... Runoff Layer
Initial Julian date (IDATEZ)..... 2012343
Initial time of day in seconds (TZERO)..... 0.0
No. Transferred input locations..... 20
No. Transferred pollutants..... 0
Size of total catchment area (acres)..... 126.49

```

```

#####
# Element numbers of interface inlet locations: #
#####

```

F100M11	F100M07	F100M06	F100M04	F090M09	F100I01	F100M21
F100M31	F100M29	F090M05	F090M04	EBMPF080	F080I48	F080M14
F080M10	F080M06	F080M13	F080M02	PBMP F080	F090M02	

Conversion factor to cfs for flow units on interface file. Multiply by: 1.00000

```

##### Important Information #####
Interface file start: 2012/12/08 00:00:00
Simulation start: 2012/12/08 00:00:00
Same date/time found in interface file and model

```

```

*=====
| XP Note Field Summary |
*=====

```

```

*=====
| Conduit Convergence Criteria |
*=====

```

Conduit Name	Full Flow	Conduit Slope
Link26	24.8139	0.0140
Link27	38.5731	0.0337
Link31	2.9891	0.0082
Link32	2.0924	0.0040
Link44	7.3235	0.0490
Link46	95.3540	0.0237
OFLOW 4	0.2696	1.1667
OFLOW 5	0.0972	0.1515
Link61	33.0099	0.0075
Link71	11.4860	0.0030
F100M07 OF	494.4161	0.0606
F090M07 OF	2488.7037	0.0130
F080M06 OF	4067.1613	0.0348
Link85	10.5033	0.0025
Link87	27.6252	0.0020
Link88	30.9307	0.0025
Link89	31.4064	0.0026
Link90	67.3295	0.0313
NCPoutPipe	13.2765	0.0040
Link96	13.2857	0.0040
Link97	39.3638	0.0351
Link98	22.2808	0.0112
361.1	7.4124	0.0502
F090M04 OF	4779.3793	0.0481
363.1	30.9163	0.0025
F090M05 OF	1338.1819	0.0038
364.1	14.9942	0.0625
F100M11 OF	5454.3269	0.0626
365.1	22.6791	0.0117
F100M06 OF	1379.6477	0.0040
366.1	11.8614	0.0148
370.1	8.9193	0.0727
F090M09 OF	5937.9421	0.0742
371.1	5.7396	0.0301
F090M08 OF	3751.7424	0.0296
374.1	6.6942	0.0409
F090M06 OF	1447.5125	0.0044
375.1	3.7985	0.0132
F090M03 OF	2680.9296	0.0151
376.1	34.9928	0.0566
F100M04 OF	5766.9302	0.0700
377.1	36.4901	0.0302

F100M03 OF	3799.2951	0.0304
F100M02 OF	3282.6314	0.0227
323.1	16.6695	0.0292
F080M08 OF	4497.5595	0.0426
385.1	4.4029	0.0158
338.1	10.5524	0.0309
F080M10 OF	3780.0702	0.0301
399.1	39.7687	0.0358
F080M13	1394.0750	0.0423
430.1	19.1699	0.0083
F100M21 OF	2076.8547	0.0091
433.1	9.9208	0.0103
F090M02 OF	2682.5275	0.0152
M31-M29	23.9598	0.0015
F100M29 OF	1637.5574	0.0056
ORI 1	0.6670	0.0000
or 2	3.7793	0.0000
or 3	6.2988	0.0000

```

* =====
| Initial Model Condition |
| Initial Time = 0.01 hours |
* =====

```

Junction /	Depth /	Elevation	====>	"*" Junction is Surcharged.				
F100M31/	0.00 /	598.75		F100M21/	0.00 /	601.74	F100i01/	0.00 / 604.18
F100M04/	0.00 /	634.57		F100M07/	0.00 /	639.32	F100M11/	0.00 / 660.44
F090M02/	0.00 /	597.39		F090M05/	0.00 /	598.15	F090M09/	0.00 / 635.37
F090M04/	0.00 /	632.24		F080E00/	0.00 /	596.00	F080M14/	0.00 / 595.27
F080M13/	0.00 /	648.09		F080M06/	0.00 /	658.61	EBMPF080/	0.00 / 601.00
F090M08/	0.00 /	614.80		F090M07/	0.00 /	605.68	F090M06/	0.00 / 603.17
SLOPECHANG/	0.00 /	603.97		F090M03/	0.00 /	607.19	F100M03/	0.00 / 612.51
F100M02/	0.00 /	605.60		F080M08/	0.00 /	669.65	F080M05/	0.00 / 666.27
F080i48/	0.00 /	600.24		F080 TAP/	0.00 /	596.64	F080M10/	0.00 / 680.42
F080M02/	0.00 /	603.11		F100M29/	0.00 /	598.53	F100M06/	0.00 / 638.16
F100M28/	0.00 /	599.20		F100E01/	0.00 /	599.50	F100 E OF/	0.00 / 590.00
F090M02OUT/	0.00 /	590.00		PBMP F080/	0.00 /	595.00	F080M01A/	0.00 / 597.00
NCP Outlet/	0.00 /	594.50		NCP OUTMH1/	0.00 /	593.05	NCP OUTFAL/	0.00 / 591.97
F100M02A/	0.00 /	601.00						

Conduit/	FLOW	====>	"*" Conduit uses the normal flow option.		
Link26/	0.00		Link27/	0.00	Link31/ 0.00
Link32/	0.00		Link44/	0.00	Link46/ 0.00
OFLOW 4/	0.00		OFLOW 5/	0.00	Link61/ 0.00
Link71/	0.00		F100M07 OF/	0.00	F090M07 OF/ 0.00
F080M06 OF/	0.00		Link85/	0.00	Link87/ 0.00
Link88/	0.00		Link89/	0.00	Link90/ 0.00
NCPoutPipe/	0.00		Link96/	0.00	Link97/ 0.00
Link98/	0.00		361.1/	0.00	F090M04 OF/ 0.00
363.1/	0.00		F090M05 OF/	0.00	364.1/ 0.00
F100M11 OF/	0.00		365.1/	0.00	F100M06 OF/ 0.00
366.1/	0.00		370.1/	0.00	F090M09 OF/ 0.00
371.1/	0.00		F090M08 OF/	0.00	374.1/ 0.00
F090M06 OF/	0.00		375.1/	0.00	F090M03 OF/ 0.00
376.1/	0.00		F100M04 OF/	0.00	377.1/ 0.00
F100M03 OF/	0.00		F100M02 OF/	0.00	383.1/ 0.00
F080M08 OF/	0.00		385.1/	0.00	398.1/ 0.00
F080M10 OF/	0.00		399.1/	0.00	F080M13/ 0.00
430.1/	0.00		F100M21 OF/	0.00	433.1/ 0.00
F090M02 OF/	0.00		M31-M29/	0.00	F100M29 OF/ 0.00
ORI 1/	0.00		or 2/	0.00	or 3/ 0.00
F100i01 OV/	0.00		F080 EMER/	0.00	100E01 OVE/ 0.00
F100M28 OV/	0.00		F100M31 OV/	0.00	WR/ 0.00
F080M14 OV/	0.00		weir 1/	0.00	weir 2/ 0.00
FREE # 1/	0.00		FREE # 2/	0.00	FREE # 3/ 0.00
FREE # 4/	0.00				

Conduit/ Velocity

Link26/	0.00	Link27/	0.00	Link31/	0.00
Link32/	0.00	Link44/	0.00	Link46/	0.00
OFLOW 4/	0.00	OFLOW 5/	0.00	Link61/	0.00
Link71/	0.00	F100M07 OF/	0.00	F090M07 OF/	0.00
F080M06 OF/	0.00	Link85/	0.00	Link87/	0.00
Link88/	0.00	Link89/	0.00	Link90/	0.00
NCPoutPipe/	0.00	Link96/	0.00	Link97/	0.00
Link98/	0.00	361.1/	0.00	F090M04 OF/	0.00
363.1/	0.00	F090M05 OF/	0.00	364.1/	0.00
F100M11 OF/	0.00	365.1/	0.00	F100M06 OF/	0.00
366.1/	0.00	370.1/	0.00	F090M09 OF/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00
376.1/	0.00	F100M04 OF/	0.00	377.1/	0.00
F100M03 OF/	0.00	F100M02 OF/	0.00	383.1/	0.00
F080M08 OF/	0.00	385.1/	0.00	398.1/	0.00
F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00
430.1/	0.00	F100M21 OF/	0.00	433.1/	0.00
F090M02 OF/	0.00	M31-M29/	0.00	F100M29 OF/	0.00
ORI 1/	0.00	or 2/	0.00	or 3/	0.00

Conduit/ Cross Sectional Area					
Link26/	0.00	Link27/	0.00	Link31/	0.00
Link32/	0.00	Link44/	0.00	Link46/	0.00
OFLOW 4/	0.00	OFLOW 5/	0.00	Link61/	0.00
Link71/	0.00	F100M07 OF/	0.00	F090M07 OF/	0.00
F080M06 OF/	0.00	Link85/	0.00	Link87/	0.00
Link88/	0.00	Link89/	0.00	Link90/	0.00
NCPoutPipe/	0.00	Link96/	0.00	Link97/	0.00
Link98/	0.00	361.1/	0.00	F090M04 OF/	0.00
363.1/	0.00	F090M05 OF/	0.00	364.1/	0.00
F100M11 OF/	0.00	365.1/	0.00	F100M06 OF/	0.00
366.1/	0.00	370.1/	0.00	F090M09 OF/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00
376.1/	0.00	F100M04 OF/	0.00	377.1/	0.00
F100M03 OF/	0.00	F100M02 OF/	0.00	383.1/	0.00
F080M08 OF/	0.00	385.1/	0.00	398.1/	0.00
F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00
430.1/	0.00	F100M21 OF/	0.00	433.1/	0.00
F090M02 OF/	0.00	M31-M29/	0.00	F100M29 OF/	0.00
ORI 1/	0.00	or 2/	0.00	or 3/	0.00

Conduit/ Hydraulic Radius					
Link26/	0.00	Link27/	0.00	Link31/	0.00
Link32/	0.00	Link44/	0.00	Link46/	0.00
OFLOW 4/	0.00	OFLOW 5/	0.00	Link61/	0.00
Link71/	0.00	F100M07 OF/	0.00	F090M07 OF/	0.00
F080M06 OF/	0.00	Link85/	0.00	Link87/	0.00
Link88/	0.00	Link89/	0.00	Link90/	0.00
NCPoutPipe/	0.00	Link96/	0.00	Link97/	0.00
Link98/	0.00	361.1/	0.00	F090M04 OF/	0.00
363.1/	0.00	F090M05 OF/	0.00	364.1/	0.00
F100M11 OF/	0.00	365.1/	0.00	F100M06 OF/	0.00
366.1/	0.00	370.1/	0.00	F090M09 OF/	0.00
371.1/	0.00	F090M08 OF/	0.00	374.1/	0.00
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00
376.1/	0.00	F100M04 OF/	0.00	377.1/	0.00
F100M03 OF/	0.00	F100M02 OF/	0.00	383.1/	0.00
F080M08 OF/	0.00	385.1/	0.00	398.1/	0.00
F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00
430.1/	0.00	F100M21 OF/	0.00	433.1/	0.00
F090M02 OF/	0.00	M31-M29/	0.00	F100M29 OF/	0.00
ORI 1/	0.00	or 2/	0.00	or 3/	0.00

Conduit/ Upstream/ Downstream Elevation							
Link26/	596.64/	596.64	Link27/	648.09/	648.09	Link31/	603.97/
Link32/	603.17/	603.17	Link44/	648.09/	648.09	Link46/	596.00/
OFLOW 4/	601.00/	601.00	OFLOW 5/	635.37/	635.37	Link61/	597.00/
Link71/	638.16/	638.16	F100M07 OF/	601.74/	601.74	F090M07 OF/	598.15/
F080M06 OF/	603.11/	603.11	Link85/	598.75/	598.75	Link87/	598.15/
Link88/	595.27/	595.27	Link89/	595.00/	595.00	Link90/	595.00/
NCPoutPipe/	593.05/	593.05	Link96/	591.97/	591.97	Link97/	601.00/
Link98/	598.75/	598.75	361.1/	607.19/	607.19	F090M04 OF/	607.19/
363.1/	597.39/	597.39	F090M05 OF/	597.39/	597.39	364.1/	639.32/
F100M11 OF/	639.32/	639.32	365.1/	634.57/	634.57	F100M06 OF/	634.57/
366.1/	601.74/	601.74	370.1/	614.80/	614.80	F090M09 OF/	614.80/
371.1/	605.68/	605.68	F090M08 OF/	605.68/	605.68	374.1/	598.15/
F090M06 OF/	603.17/	603.17	375.1/	597.39/	597.39	F090M03 OF/	597.39/
376.1/	612.51/	612.51	F100M04 OF/	612.51/	612.51	377.1/	605.60/
F100M03 OF/	605.60/	605.60	F100M02 OF/	598.75/	598.75	383.1/	658.61/
F080M08 OF/	658.61/	658.61	385.1/	600.24/	600.24	398.1/	669.65/
F080M10 of/	669.65/	669.65	399.1/	603.11/	603.11	E080M13/	603.11/
430.1/	599.20/	599.20	F100M21 OF/	599.20/	599.20	433.1/	599.20/
F090M02 OF/	590.00/	590.00	M31-M29/	598.53/	598.53	F100M29 OF/	598.75/
ORI 1/	594.50/	594.50	or 2/	594.50/	594.50	or 3/	594.50/

Cycle 500 Time 4 Hrs - 10.00 Min

Junction /	Depth /	Elevation	====> "*" Junction is Surcharged.					
F100M31/	0.00 /	598.75	F100M21/	0.00 /	601.74	F100i01/	0.00 /	604.18
F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32	F100M11/	0.00 /	660.44
F090M02/	0.00 /	597.39	F090M05/	0.00 /	598.15	F090M09/	0.00 /	635.37
F090M04/	0.00 /	632.24	F080E00/	0.00 /	596.00	F080M14/	0.00 /	595.27
F080M13/	0.00 /	648.09	F080M06/	0.00 /	658.61	EBMPF080/	0.00 /	601.00
F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68	F090M06/	0.00 /	603.17
SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19	F100M03/	0.00 /	612.81
F100M02/	0.00 /	605.60	F080M08/	0.00 /	669.65	F080M05/	0.00 /	666.27
F080i48/	0.00 /	600.24	F080 TAP/	0.00 /	596.64	F080M10/	0.00 /	680.43
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.53	F100M06/	0.00 /	638.16
F100M28/	0.00 /	599.20	F100E01/	0.00 /	599.50	F100 E OF/	0.00 /	590.00
F090M02OUT/	0.00 /	590.00	PBMP F080/	0.00 /	595.06	F080M01A/	0.00 /	597.00
NCP Outlet/	0.00 /	594.50	NCP OUTMH1/	0.00 /	593.05	NCP OUTFAL/	0.00 /	591.97
F100M02A/	0.00 /	601.00						

Conduit/	FLOW	====> "*" Conduit uses the normal flow option.					
Link26/	0.00	Link27/	0.00	Link31/	0.00	Link32/	
Link44/	0.00	Link46/	0.00	OFLOW 4/	0.00	OFLOW 5/	
Link61/	0.00	Link71/	0.00	F100M07 OF/	0.00	F090M07 OF/	
F080M06 OF/	0.00	Link85/	0.00	Link87/	0.00	Link88/	
Link89/	0.00	Link90/	0.00	NCPoutPipe/	0.00	Link96/	
Link97/	0.00	Link98/	0.00	361.1/	0.00	F090M04 OF/	
363.1/	0.00	F090M05 OF/	0.00	364.1/	0.00	F100M11 OF/	
365.1/	0.00	F100M06 OF/	0.00	366.1/	0.00	370.1/	
F090M09 OF/	0.00	371.1/	0.00	F090M08 OF/	0.00	374.1/	
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/	
F100M04 OF/	0.00	377.1/	0.00	F100M03 OF/	0.00	F100M02 OF/	
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00	398.1/	
F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00	430.1/	
F100M21 OF/	0.00	433.1/	0.00	F090M02 OF/	0.00	M31-M29/	
F100M29 OF/	0.00	ORI 1/	0.00	or 2/	0.00	or 3/	
F100i01 OV/	0.00	F080 EMER/	0.00	100E01 OVF/	0.00	F100M28 OV/	
F100M31 OV/	0.00	WR/	0.00	F080M14 OV/	0.00	weir 1/	
weir 2/	0.00	FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/	
FREE # 4/	0.00						

Cycle 1000 Time 8 Hrs - 20.00 Min

Junction /	Depth /	Elevation	====> "*" Junction is Surcharged.					
F100M31/	0.32 /	599.07	F100M21/	0.08 /	601.82	F100i01/	0.07 /	604.25
F100M04/	0.14 /	634.71	F100M07/	0.21 /	639.53	F100M11/	0.09 /	660.53
F090M02/	0.32 /	597.71	F090M05/	0.30 /	598.45	F090M09/	0.04 /	635.41
F090M04/	0.00 /	632.24	F080E00/	0.00 /	596.00	F080M14/	0.38 /	595.65
F080M13/	0.01 /	648.10	F080M06/	0.02 /	658.63	EBMPF080/	0.00 /	601.00
F090M08/	0.05 /	614.85	F090M07/	0.07 /	605.75	F090M06/	0.04 /	603.21
SLOPECHANG/	0.09 /	604.06	F090M03/	0.00 /	607.19	F100M03/	0.16 /	612.67
F100M02/	0.15 /	605.75	F080M08/	0.00 /	669.65	F080M05/	0.00 /	666.27
F080i48/	0.03 /	600.27	F080 TAP/	0.02 /	596.66	F080M10/	0.01 /	680.43
F080M02/	0.00 /	603.11	F100M29/	0.30 /	598.83	F100M06/	0.16 /	638.32
F100M28/	0.11 /	599.31	F100E01/	0.00 /	599.50	F100 E OF/	0.00 /	590.00
F090M02OUT/	0.00 /	590.00	PBMP F080/	0.06 /	595.06	F080M01A/	0.00 /	597.00
NCP Outlet/	0.01 /	594.51	NCP OUTMH1/	0.01 /	593.06	NCP OUTFAL/	0.00 /	591.97
F100M02A/	0.19 /	601.19						

Conduit/	FLOW	====> "*" Conduit uses the normal flow option.					
Link26/	0.01	Link27/	0.01	Link31/	0.03	Link32/	
Link44/	0.00	Link46/	0.01	OFLOW 4/	0.00	OFLOW 5/	
Link61/	0.00	Link71/	0.23	F100M07 OF/	0.00	F090M07 OF/	
F080M06 OF/	0.00	Link85/	0.05	Link87/	0.56	Link88/	
Link89/	0.81	Link90/	0.00*	NCPoutPipe/	0.00	Link96/	
Link97/	0.43*	Link98/	0.42*	361.1/	0.00	F090M04 OF/	

0.00							
	363.1/	0.65	F090M05 OF/	0.00	364.1/	0.14*	F100M11 OF/
0.00							
	365.1/	0.27	F100M06 OF/	0.00	366.1/	0.05*	370.1/
0.03*							
	F090M09 OF/	0.00	371.1/	0.03*	F090M08 OF/	0.00	374.1/
0.02							
	F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/
0.43*							
	F100M04 OF/	0.00	377.1/	0.43	F100M03 OF/	0.00	F100M02 OF/
0.00							
	383.1/	0.00*	F080M08 OF/	0.00	385.1/	0.00	398.1/
0.00							
	F080M10 of/	0.00	399.1/	0.00	E080M13/	0.00	430.1/
0.06*							
	F100M21 OF/	0.00	433.1/	0.00	F090M02 OF/	0.00	M31-M29/
0.53							
	F100M29 OF/	0.00	ORI 1/	0.00	or 2/	0.00	or 3/
0.00							
	F100i01 OV/	0.00	F080 EMER/	0.00	100E01 OVF/	0.00	F100M28 OV/
0.00							
	F100M31 OV/	0.00	WR/	0.00	F080M14 OV/	0.00	weir 1/
0.00							
	weir 2/	0.00	FREE # 1/	0.01	FREE # 2/	0.00	FREE # 3/
0.00							
	FREE # 4/	0.00					

Cycle 1500 Time 12 Hrs - 30.00 Min

Junction /	Depth /	Elevation	====>	"*" Junction is Surcharged.			
F100M31/	5.74 /	604.49		F100M21/ 3.14 / 604.88		F100i01/	1.54*/ 605.72
F100M04/	3.21 /	637.78		F100M07/ 6.75 / 646.07		F100M11/	0.64 / 661.08
F090M02/	6.09 /	603.48		F090M05/ 5.90 / 604.05		F090M09/	0.35 / 635.72
F090M04/	1.27 /	633.51		F080E00/ 0.99 / 596.99		F080M14/	5.38*/ 600.65
F080M13/	0.53 /	648.62		F080M06/ 0.42 / 659.03		EBMPF080/	4.61 / 605.61
F090M08/	0.45 /	615.25		F090M07/ 1.11 / 606.79		F090M06/	1.36 / 604.53
SLOPECHANG/	1.88*/	605.85		F090M03/ 5.40 / 612.59		F100M03/	5.75 / 618.26
F100M02/	6.35 /	611.95		F080M08/ 0.41 / 670.06		F080M05/	0.00 / 666.27
F080i48/	1.77 /	602.01		F080 TAP/ 1.48 / 598.12		F080M10/	0.44 / 680.86
F080M02/	0.78 /	603.89		F100M29/ 5.79 / 604.32		F100M06/	3.69 / 641.85
F100M28/	5.24 /	604.44		F100E01/ 4.96 / 604.46		F100 E OF/	0.00 / 590.00
F090M02OUT/	0.00 /	590.00		PBMP F080/ 4.93 / 599.93		F080M01A/	2.97 / 599.97
NCP Outlet/	5.34*/	599.84		NCP OUTMH1/ 3.30*/ 596.35		NCP OUTFAL/	1.57 / 593.54
F100M02A/	7.77*/	608.77					

Conduit/	FLOW	====>	"*" Conduit uses the normal flow option.			
Link26/	22.37		Link27/ 3.78*		Link31/	2.50
2.55						Link32/
	Link44/	0.00	Link46/ 22.32		OFLOW 4/	0.00
0.00						OFLOW 5/
	Link61/	6.38	Link71/ 20.36		F100M07 OF/	0.77
0.00						F090M07 OF/
	F080M06 OF/	0.00	Link85/ -3.60		Link87/	18.16
33.82						Link88/
	Link89/	35.44	Link90/ 6.37		NCPoutPipe/	19.02
19.01						Link96/
	Link97/	26.87	Link98/ 26.87		361.1/	6.66
0.00*						F090M04 OF/
	363.1/	22.72	F090M05 OF/ 0.00		364.1/	6.86
0.00*						F100M11 OF/
	365.1/	21.86	F100M06 OF/ 0.00		366.1/	6.25
2.36*						370.1/
	F090M09 OF/	0.00*	371.1/ 2.39*		F090M08 OF/	0.00*
2.56						374.1/
	F090M06 OF/	0.00	375.1/ 4.50		F090M03 OF/	3.13
30.93						376.1/
	F100M04 OF/	0.00*	377.1/ 30.95		F100M03 OF/	0.00*
4.29*						F100M02 OF/
	383.1/	2.64	F080M08 OF/ 0.00		385.1/	8.62
2.59						398.1/
	F080M10 of/	0.00	399.1/ 6.06*		E080M13/	0.00
7.90						430.1/
	F100M21 OF/	0.00*	433.1/ 1.25		F090M02 OF/	0.00
15.54						M31-M29/
	F100M29 OF/	0.00*	ORI 1/ 0.32		or 2/	1.22
2.28						or 3/
	F100i01 OV/	0.00	F080 EMER/ 14.14		100E01 OVF/	2.89
16.30						F100M28 OV/
	F100M31 OV/	19.36	WR/ 0.00		F080M14 OV/	0.00
15.44						weir 1/
	weir 2/	0.00	FREE # 1/ 22.32		FREE # 2/	35.67
0.00						FREE # 3/
	FREE # 4/	19.01				

Cycle 2000 Time 16 Hrs - 40.00 Min

Junction / Depth / Elevation ==> "*" Junction is Surcharged.

	F100M31/	1.22 /	599.97		F100M21/	0.29 /	602.03		F100i01/	0.27 /	604.45
	F100M04/	0.34 /	634.91		F100M07/	0.56 /	639.88		F100M11/	0.20 /	660.64
	F090M02/	2.31 /	599.70		F090M05/	1.63 /	599.78		F090M09/	0.13 /	635.50
	F090M04/	0.19 /	632.43		F080E00/	0.48 /	596.48		F080M14/	4.30*/	599.57
	F080M13/	0.21 /	648.30		F080M06/	0.17 /	658.78		EBMPF080/	1.78 /	602.78
	F090M08/	0.16 /	614.96		F090M07/	0.23 /	605.91		F090M06/	0.16 /	603.33
	SLOPECHANG/	0.30 /	604.27		F090M03/	0.28 /	607.47		F100M03/	0.40 /	612.91
	F100M02/	0.37 /	605.47		F080M08/	0.15 /	669.80		F080M05/	0.00 /	666.27
	F080i48/	0.67 /	600.91		F080 TAP/	0.63 /	597.27		F080M10/	0.16 /	680.58
	F080M02/	0.29 /	603.80		F100M29/	1.34 /	599.87		F100M06/	0.43 /	636.59
	F100M28/	0.78 /	599.98		F100E01/	0.48 /	599.98		F100 E OF/	0.00 /	590.00
	F090M02OUT/	0.00 /	590.00		PBMP F080/	4.63 /	599.53		F080M01A/	2.33 /	595.83
	NCP Outlet/	4.67*/	599.11		NCP OUTMH1/	2.98*/	596.03		NCP OUTFAL/	1.53 /	595.50
	F100M02A/	0.49 /	601.49								
	Conduit/	FLOW	====> "*" Conduit uses the normal flow option.								
0.32	Link26/	5.32		Link27/	0.54*		Link31/	0.32		Link32/	
0.00	Link44/	0.00		Link46/	5.33		OFLOW 4/	0.00		OFLOW 5/	
0.00	Link61/	0.91		Link71/	1.66		F100M07 OF/	0.00		F090M07 OF/	
7.30	F080M06 OF/	0.00		Link85/	0.92		Link87/	5.07		Link88/	
18.03	Link89/	7.67		Link90/	0.92		NCPoutPipe/	18.02		Link96/	
0.00*	Link97/	2.90		Link98/	2.90*		361.1/	0.61*		F090M04 OF/	
0.00*	363.1/	5.85		F090M05 OF/	0.00		364.1/	0.81*		F100M11 OF/	
0.32*	365.1/	1.91		F100M06 OF/	0.00		366.1/	0.79		370.1/	
0.32	F090M09 OF/	0.00*		371.1/	0.32*		F090M08 OF/	0.00*		374.1/	
2.90*	F090M06 OF/	0.00		375.1/	0.61		F090M03 OF/	0.00		376.1/	
0.00*	F100M04 OF/	0.00*		377.1/	2.90		F100M03 OF/	0.00*		F100M02 OF/	
0.34	383.1/	0.34*		F080M08 OF/	0.00		385.1/	5.27		398.1/	
0.87*	F080M10 of/	0.00		399.1/	0.91*		E080M13/	0.00		430.1/	
4.65	F100M21 OF/	0.00*		433.1/	0.03		F090M02 OF/	0.00		M31-M29/	
3.51	F100M29 OF/	0.00*		ORI 1/	0.57		or 2/	2.19		or 3/	
0.00	F100i01 OV/	0.00		F080 EMER/	0.00		100E01 OVF/	0.00		F100M28 OV/	
11.62	F100M31 OV/	0.00		WR/	0.00		F080M14 OV/	0.00		weir 1/	
0.00	weir 2/	0.00		FREE # 1/	5.33		FREE # 2/	0.00		FREE # 3/	
	FREE # 4/	18.03									
Cycle	2500	Time	20 Hrs - 50.00 Min								
	Junction /	Depth /	Elevation	====> "*" Junction is Surcharged.							
	F100M31/	0.71 /	599.46		F100M21/	0.22 /	601.96		F100i01/	0.20 /	604.38
	F100M04/	0.26 /	634.83		F100M07/	0.42 /	639.74		F100M11/	0.15 /	660.59
	F090M02/	1.06 /	598.45		F090M05/	0.71 /	598.86		F090M09/	0.10 /	635.47
	F090M04/	0.15 /	632.39		F080E00/	0.25 /	596.25		F080M14/	2.95*/	598.22
	F080M13/	0.16 /	648.25		F080M06/	0.13 /	658.74		EBMPF080/	0.54 /	601.54
	F090M08/	0.12 /	614.92		F090M07/	0.17 /	605.85		F090M06/	0.12 /	603.29
	SLOPECHANG/	0.23 /	604.20		F090M03/	0.21 /	607.40		F100M03/	0.30 /	612.81
	F100M02/	0.28 /	605.88		F080M08/	0.11 /	669.76		F080M05/	0.00 /	666.27
	F080i48/	0.34 /	600.58		F080 TAP/	0.29 /	596.93		F080M10/	0.12 /	680.54
	F080M02/	0.22 /	603.33		F100M29/	0.69 /	599.22		F100M06/	0.32 /	638.48
	F100M28/	0.35 /	599.55		F100E01/	0.05 /	599.55		F100 E OF/	0.00 /	590.00
	F090M02OUT/	0.00 /	590.00		PBMP F080/	3.21 /	598.21		F080M01A/	1.21 /	598.21
	NCP Outlet/	1.22 /	595.72		NCP OUTMH1/	1.26 /	594.31		NCP OUTFAL/	1.02 /	592.99
	F100M02A/	0.37 /	601.37								
	Conduit/	FLOW	====> "*" Conduit uses the normal flow option.								
0.18	Link26/	1.38		Link27/	0.31*		Link31/	0.18		Link32/	
0.00	Link44/	0.00		Link46/	1.38		OFLOW 4/	0.00		OFLOW 5/	
0.00	Link61/	0.52		Link71/	0.93		F100M07 OF/	0.00		F090M07 OF/	
3.94	F080M06 OF/	0.00		Link85/	0.50		Link87/	2.78		Link88/	
8.25	Link89/	4.18		Link90/	0.53		NCPoutPipe/	8.23		Link96/	
0.00*	Link97/	1.63*		Link98/	1.63*		361.1/	0.35*		F090M04 OF/	
0.00*	363.1/	3.16		F090M05 OF/	0.00		364.1/	0.46*		F100M11 OF/	

0.18*	365.1/	1.07	F100M06 OF/	0.00	366.1/	0.45	370.1/
0.18	F090M09 OF/	0.00*	371.1/	0.18*	F090M08 OF/	0.00*	374.1/
1.63^	F090M06 OF/	0.00	375.1/	0.35	F090M03 OF/	0.00	376.1/
0.00*	F100M04 OF/	0.00*	377.1/	1.63	F100M03 OF/	0.00*	F100M02 OF/
0.19	383.1/	0.19*	F080M08 OF/	0.00	385.1/	1.35	398.1/
0.50*	F080M10 of/	0.00	399.1/	0.52*	E080M13/	0.00	430.1/
3.58	F100M21 OF/	0.00*	433.1/	0.00	F090M02 OF/	0.00	M31-M29/
4.01	F100M29 OF/	0.00*	ORI 1/	1.53	or 2/	2.69	or 3/
0.00	F100i01 OV/	0.00	F080 EMER/	0.00	100E01 OV/	0.00	F100M28 OV/
0.00	F100M31 OV/	0.00	WR/	0.00	F080M14 OV/	0.00	weir 1/
0.00	weir 2/	0.00	FREE # 1/	1.38	FREE # 2/	0.00	FREE # 3/
0.00	FREE # 4/	8.26					

Cycle 3000 Time 25 Hrs - 0.00 Min

Junction /	Depth /	Elevation	====>	*** Junction is Surcharged.			
F100M31/	0.09 /	598.84		F100M21/	0.01 /	601.75	F100i01/
F100M04/	0.03 /	634.60		F100M07/	0.06 /	639.38	F100M11/
F090M02/	0.24 /	597.63		F090M05/	0.10 /	598.25	F090M09/
F090M04/	0.01 /	632.25		F080E00/	0.16 /	596.16	F080M14/
F080M13/	0.01 /	648.10		F080M06/	0.00 /	658.61	EBMPF080/
F090M08/	0.00 /	614.80		F090M07/	0.01 /	605.69	F090M06/
SLOPECHANG/	0.02 /	603.99		F090M03/	0.03 /	607.22	F100M03/
F100M02/	0.03 /	605.63		F080M08/	0.00 /	669.65	F080M05/
F080i48/	0.23 /	600.47		F080 TAP/	0.19 /	596.83	F080M10/
F080M02/	0.03 /	603.14		F100M29/	0.09 /	598.62	F100M06/
F100M28/	0.02 /	599.22		F100E01/	0.00 /	599.50	F100 E OF/
F090M02OUT/	0.00 /	590.00		PBMP F080/	2.62 /	597.62	F080M01A/
NCP Outlet/	0.73 /	595.23		NCP OUTMH1/	0.77 /	593.82	NCP OUTFAL/
F100M02A/	0.05 /	601.05					0.66 / 592.63

Conduit/	FLOW	====>	*** Conduit uses	the normal	flow option.		
Link26/	0.59		Link27/	0.00*	Link31/	0.00	Link32/
0.00							
Link44/	0.00		Link46/	0.59	OFLOW 4/	0.00	OFLOW 5/
0.00							
Link61/	0.01		Link71/	0.02	F100M07 OF/	0.00	F090M07 OF/
0.00							
F080M06 OF/	0.00		Link85/	0.00	Link87/	0.05	Link88/
0.14							
Link89/	0.22		Link90/	0.02	NCPoutPipe/	3.58	Link96/
3.61							
Link97/	0.03*		Link98/	0.03*	361.1/	0.00*	F090M04 OF/
0.00*							
363.1/	0.07*		F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/
0.00*							
365.1/	0.02		F100M06 OF/	0.00	366.1/	0.00*	370.1/
0.00*							
F090M09 OF/	0.00*		371.1/	0.00*	F090M08 OF/	0.00*	374.1/
0.00							
F090M06 OF/	0.00		375.1/	0.01	F090M03 OF/	0.00	376.1/
0.03*							
F100M04 OF/	0.00*		377.1/	0.03	F100M03 OF/	0.00*	F100M02 OF/
0.00*							
383.1/	0.00		F080M08 OF/	0.00	385.1/	0.58	398.1/
0.00*							
F080M10 of/	0.00		399.1/	0.01*	E080M13/	0.00	430.1/
0.00*							
F100M21 OF/	0.00*		433.1/	0.00*	F090M02 OF/	0.00	M31-M29/
0.04							
F100M29 OF/	0.00*		ORI 1/	1.25	or 2/	0.95	or 3/
1.34							
F100i01 OV/	0.00		F080 EMER/	0.00	100E01 OV/	0.00	F100M28 OV/
0.00							
F100M31 OV/	0.00		WR/	0.00	F080M14 OV/	0.00	weir 1/
0.00							
weir 2/	0.00		FREE # 1/	0.59	FREE # 2/	0.00	FREE # 3/
0.00							
FREE # 4/	3.61						

Cycle 3500 Time 29 Hrs - 10.00 Min

Junction /	Depth /	Elevation	====>	*** Junction is Surcharged.			
F100M31/	0.00 /	598.75		F100M21/	0.00 /	601.74	F100i01/
F100M04/	0.00 /	634.57		F100M07/	0.00 /	639.32	F100M11/
F090M02/	0.00 /	597.39		F090M05/	0.00 /	598.15	F090M09/

F090M04/	0.00 /	632.24	F080E00/	0.03 /	596.03	F080M14/	1.83 /	597.10
F080M13/	0.00 /	648.09	F080M06/	0.00 /	658.61	EBMPFC80/	0.12 /	601.12
F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68	F090M06/	0.00 /	603.17
SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19	F100M03/	0.00 /	612.51
F100M02/	0.00 /	605.60	F080M08/	0.00 /	669.65	F080M05/	0.00 /	666.27
F080i48/	0.08 /	600.32	F080 TAP/	0.06 /	596.70	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.53	F100M06/	0.00 /	638.16
F100M23/	0.00 /	599.20	F100E01/	0.00 /	599.50	F100 E OF/	0.00 /	590.00
F090M02OUT/	0.00 /	590.00	PBMP F080/	2.10 /	597.20	F080M013/	0.10 /	597.10
NCP Outlet/	0.42 /	586.92	NCP OUTMH1/	0.44 /	593.49	NCP OUTFAL/	0.39 /	592.36
F100M02A/	0.00 /	601.00						

Conduit/	FLOW	====> "*" Conduit uses the normal flow option.				
Link26/	0.05	Link27/	0.00*	Link31/	0.00	Link32/
Link44/	0.00	Link46/	0.06	OFLOW 4/	0.00	OFLOW 5/
Link61/	0.00	Link71/	0.00	F100M07 OF/	0.00	F090M07 OF/
F080M06 OF/	0.00	Link85/	0.00	Link87/	0.00*	Link88/
Link89/	0.03	Link90/	0.00	NCPoutPipe/	1.26	Link96/
Link97/	0.00*	Link98/	0.00*	361.1/	0.00*	F090M04 OF/
363.1/	0.00*	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/
365.1/	0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/
F090M09 OF/	0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/
F100M04 OF/	0.00*	377.1/	0.00	F100M03 OF/	0.00*	F100M02 OF/
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.06	398.1/
F080M10 of/	0.00	399.1/	0.00*	E080M13/	0.00	430.1/
F100M21 OF/	0.00*	433.1/	0.00*	F090M02 OF/	0.00	M31-M29/
F100M29 OF/	0.00*	ORI 1/	1.22	or 2/	0.02	or 3/
F100i01 OV/	0.00	F080 EMER/	0.00	100E01 OVF/	0.00	F100M28 OV/
F100M31 OV/	0.00	WR/	0.00	F080M14 OV/	0.00	weir 1/
weir 2/	0.00	FREE # 1/	0.06	FREE # 2/	0.00	FREE # 3/
FREE # 4/	1.26					

Cycle 4000 Time 33 Hrs - 20.00 Min

Junction /	Depth /	Elevation	====> "*" Junction is Surcharged.					
F100M31/	0.00 /	598.75	F100M21/	0.00 /	601.74	F100i01/	0.00 /	604.18
F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32	F100M11/	0.00 /	660.44
F090M02/	0.00 /	597.39	F090M05/	0.00 /	598.15	F090M09/	0.00 /	635.37
F090M04/	0.00 /	632.24	F080E00/	0.01 /	596.01	F080M14/	1.49 /	596.76
F080M13/	0.00 /	648.09	F080M06/	0.00 /	658.61	EBMPFC80/	0.07 /	601.07
F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68	F090M06/	0.00 /	603.17
SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19	F100M03/	0.00 /	612.51
F100M02/	0.00 /	605.60	F080M08/	0.00 /	669.65	F080M05/	0.00 /	666.27
F080i48/	0.04 /	600.28	F080 TAP/	0.03 /	596.67	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.53	F100M06/	0.00 /	638.16
F100M28/	0.00 /	599.20	F100E01/	0.00 /	599.50	F100 E OF/	0.00 /	590.00
F090M02OUT/	0.00 /	590.00	PBMP F080/	1.76 /	596.76	F080M01A/	0.00 /	597.00
NCP Outlet/	0.39 /	594.89	NCP OUTMH1/	0.41 /	593.46	NCP OUTFAL/	0.36 /	592.33
F100M02A/	0.00 /	601.00						

Conduit/	FLOW	====> "*" Conduit uses the normal flow option.				
Link26/	0.02	Link27/	0.00*	Link31/	0.00	Link32/
Link44/	0.00	Link46/	0.02	OFLOW 4/	0.00	OFLOW 5/
Link61/	0.00	Link71/	0.00	F100M07 OF/	0.00	F090M07 OF/
F080M06 OF/	0.00	Link85/	0.00	Link87/	0.00*	Link88/
Link89/	0.03	Link90/	0.00*	NCPoutPipe/	1.09	Link96/
Link97/	0.00*	Link98/	0.00*	361.1/	0.00*	F090M04 OF/
363.1/	0.00*	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/
365.1/	0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/
F090M09 OF/	0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/

0.00	F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/
0.00*	F100M04 OF/	0.00*	377.1/	0.00	F100M03 OF/	0.00*	F100M02 OF/
0.00*	383.1/	0.00	F080M08 OF/	0.00	385.1/	0.02	398.1/
0.00*	F080M10 of/	0.00	399.1/	0.00*	E080M13/	0.00	430.1/
0.00*	F100M21 OF/	0.00*	433.1/	0.00*	F090M02 OF/	0.00	M31-M29/
0.00	F100M29 OF/	0.00*	ORI 1/	1.09	or 2/	0.00	or 3/
0.00	F100i01 OV/	0.00	F080 EMER/	0.00	100E01 OVF/	0.00	F100M28 OV/
0.00	F100M31 OV/	0.00	WR/	0.00	F080M14 OV/	0.00	weir 1/
0.00	weir 2/	0.00	FREE # 1/	0.02	FREE # 2/	0.00	FREE # 3/
0.00	FREE # 4/	1.09					

Cycle 4500 Time 37 Hrs - 30.00 Min

Junction /	Depth /	Elevation	====>	*** Junction is Surcharged.			
F100M31/	0.00 /	598.75		F100M21/	0.00 /	601.74	F100i01/ 0.00 / 604.18
F100M04/	0.00 /	634.57		F100M07/	0.00 /	639.32	F100M11/ 0.00 / 660.44
F090M02/	0.00 /	597.39		F090M05/	0.00 /	598.15	F090M09/ 0.00 / 635.37
F090M04/	0.00 /	632.24		F080E00/	0.00 /	596.00	F080M14/ 1.17 / 596.44
F080M13/	0.00 /	648.09		F080M06/	0.00 /	658.61	EBMPF080/ 0.05 / 601.05
F090M08/	0.00 /	614.80		F090M07/	0.00 /	605.68	F090M06/ 0.00 / 603.17
SLOPECHANG/	0.00 /	603.97		F090M03/	0.00 /	607.19	F100M03/ 0.00 / 612.51
F100M02/	0.00 /	605.60		F080M08/	0.00 /	669.65	F080M05/ 0.00 / 666.27
F080i48/	0.03 /	600.27		F080 TAP/	0.02 /	596.66	F080M10/ 0.00 / 680.42
F080M02/	0.00 /	603.11		F100M29/	0.00 /	598.53	F100M06/ 0.00 / 638.16
F100M28/	0.00 /	599.20		F100E01/	0.00 /	599.50	F100 E OF/ 0.00 / 590.00
F090M02OUT/	0.00 /	590.00		PBMP F080/	1.44 /	596.44	F080M01A/ 0.00 / 597.00
NCP Outlet/	0.37 /	594.87		NCP OUTMH1/	0.38 /	593.43	NCP OUTFAL/ 0.34 / 592.31
F100M02A/	0.00 /	601.00					

Conduit/	FLOW	====>	*** Conduit uses the normal flow option.			
Link26/	0.01		Link27/	0.00*	Link31/	0.00 Link32/
Link44/	0.00		Link46/	0.01	OFLOW 4/	0.00 OFLOW 5/
Link61/	0.00		Link71/	0.00	F100M07 OF/	0.00 F090M07 OF/
F080M06 OF/	0.00		Link85/	0.00	Link87/	0.00* Link88/
Link89/	0.02		Link90/	0.00*	NCPoutPipe/	0.96 Link96/
Link97/	0.00*		Link98/	0.00*	361.1/	0.00* F090M04 OF/
363.1/	0.00*		F090M05 OF/	0.00	364.1/	0.00* F100M11 OF/
365.1/	0.00		F100M06 OF/	0.00	366.1/	0.00* 370.1/
F090M09 OF/	0.00*		371.1/	0.00*	F090M08 OF/	0.00* 374.1/
F090M06 OF/	0.00		375.1/	0.00	F090M03 OF/	0.00 376.1/
F100M04 OF/	0.00*		377.1/	0.00	F100M03 OF/	0.00* F100M02 OF/
383.1/	0.00		F080M08 OF/	0.00	385.1/	0.01 398.1/
F080M10 of/	0.00		399.1/	0.00*	E080M13/	0.00 430.1/
F100M21 OF/	0.00*		433.1/	0.00*	F090M02 OF/	0.00 M31-M29/
F100M29 OF/	0.00*		ORI 1/	0.96	or 2/	0.00 or 3/
F100i01 OV/	0.00		F080 EMER/	0.00	100E01 OVF/	0.00 F100M28 OV/
F100M31 OV/	0.00		WR/	0.00	F080M14 OV/	0.00 weir 1/
weir 2/	0.00		FREE # 1/	0.01	FREE # 2/	0.00 FREE # 3/
FREE # 4/	0.96					

Cycle 5000 Time 41 Hrs - 40.00 Min

Junction /	Depth /	Elevation	====>	*** Junction is Surcharged.			
F100M31/	0.00 /	598.75		F100M21/	0.00 /	601.74	F100i01/ 0.00 / 604.18
F100M04/	0.00 /	634.57		F100M07/	0.00 /	639.32	F100M11/ 0.00 / 660.44
F090M02/	0.00 /	597.39		F090M05/	0.00 /	598.15	F090M09/ 0.00 / 635.37
F090M04/	0.00 /	632.24		F080E00/	0.00 /	596.00	F080M14/ 0.89 / 596.16
F080M13/	0.00 /	648.09		F080M06/	0.00 /	658.61	EBMPF080/ 0.04 / 601.04
F090M08/	0.00 /	614.80		F090M07/	0.00 /	605.68	F090M06/ 0.00 / 603.17

SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19	F100M03/	0.00 /	612.51
F100M02/	0.00 /	605.60	F080M08/	0.00 /	669.65	F080M05/	0.00 /	666.27
F080i48/	0.02 /	600.26	F080 TAP/	0.01 /	596.65	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.53	F100M06/	0.00 /	638.16
F100M28/	0.00 /	599.20	F100E01/	0.00 /	599.50	F100 E OF/	0.00 /	590.00
F090M02OUT/	0.00 /	590.00	PBMP F080/	1.16 /	596.16	F080M01A/	0.00 /	597.00
NCP Outlet/	0.34 /	594.84	NCP OUTMH1/	0.36 /	543.41	NCP OUTFAL/	0.31 /	592.28
F100M02A/	0.00 /	601.00						

	Conduit/	FLOW	====> "*" Conduit uses the normal flow option.				
0.00	Link26/	0.01	Link27/	0.00*	Link31/	0.00	Link32/
0.00	Link44/	0.00	Link46/	0.01	OFLOW 4/	0.00	OFLOW 5/
0.00	Link61/	0.00	Link71/	0.00	F100M07 OF/	0.00	F090M07 OF/
0.00*	F080M06 OF/	0.00	Link85/	0.00	Link87/	0.00*	Link88/
0.82	Link89/	0.02	Link90/	0.00*	NCPoutPipe/	0.82	Link96/
0.00*	Link97/	0.00*	Link98/	0.00*	361.1/	0.00*	F090M04 OF/
0.00*	363.1/	0.00*	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/
0.00*	365.1/	0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/
0.00	F090M09 OF/	0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/
0.00	F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/
0.00*	F100M04 OF/	0.00*	377.1/	0.00	F100M03 OF/	0.00*	F100M02 OF/
0.00*	383.1/	0.00	F080M08 OF/	0.00	385.1/	0.01	398.1/
0.00*	F080M10 of/	0.00	399.1/	0.00*	E080M13/	0.00	430.1/
0.00*	F100M21 OF/	0.00*	433.1/	0.00*	F090M02 OF/	0.00	M31-M29/
0.00	F100M29 OF/	0.00*	ORI 1/	0.82	or 2/	0.00	or 3/
0.00	F100i01 OV/	0.00	F080 EMER/	0.00	100E01 OVF/	0.00	F100M28 OV/
0.00	F100M31 OV/	0.00	WR/	0.00	F080M14 OV/	0.00	weir 1/
0.00	weir 2/	0.00	FREE # 1/	0.01	FREE # 2/	0.00	FREE # 3/
0.00	FREE # 4/	0.82					

Cycle 5500 Time 45 Hrs - 50.00 Min

Junction /	Depth /	Elevation	====> "*" Junction is Surcharged.					
F100M31/	0.00 /	598.75	F100M21/	0.00 /	601.74	F100i01/	0.00 /	604.18
F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32	F100M11/	0.00 /	660.44
F090M02/	0.00 /	597.39	F090M05/	0.00 /	598.15	F090M09/	0.00 /	635.37
F090M04/	0.00 /	632.24	F080E00/	0.00 /	596.00	F080M14/	0.65 /	595.92
F080M13/	0.00 /	648.09	F080M06/	0.00 /	658.61	EBMPF080/	0.03 /	601.03
F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68	F090M06/	0.00 /	603.17
SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19	F100M03/	0.00 /	612.51
F100M02/	0.00 /	605.60	F080M08/	0.00 /	669.65	F080M05/	0.00 /	666.27
F080i48/	0.02 /	600.26	F080 TAP/	0.01 /	596.65	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.53	F100M06/	0.00 /	638.16
F100M28/	0.00 /	599.20	F100E01/	0.00 /	599.50	F100 E OF/	0.00 /	590.00
F090M02OUT/	0.00 /	590.00	PBMP F080/	0.92 /	595.92	F080M01A/	0.00 /	597.00
NCP Outlet/	0.31 /	594.81	NCP OUTMH1/	0.33 /	593.38	NCP OUTFAL/	0.28 /	592.25
F100M02A/	0.00 /	601.00						

	Conduit/	FLOW	====> "*" Conduit uses the normal flow option.				
0.00	Link26/	0.01	Link27/	0.00*	Link31/	0.00	Link32/
0.00	Link44/	0.00	Link46/	0.01	OFLOW 4/	0.00	OFLOW 5/
0.00	Link61/	0.00	Link71/	0.00	F100M07 OF/	0.00	F090M07 OF/
0.00*	F080M06 OF/	0.00	Link85/	0.00	Link87/	0.00*	Link88/
0.68	Link89/	0.01	Link90/	0.00*	NCPoutPipe/	0.68	Link96/
0.00*	Link97/	0.00*	Link98/	0.00*	361.1/	0.00*	F090M04 OF/
0.00*	363.1/	0.00*	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/
0.00*	365.1/	0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/
0.00	F090M09 OF/	0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/
0.00	F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/

Cycle 6000 Time 50 Hrs - 0.00 Min

Junction /	Depth /	Elevation	====>	" "	Junction is Surcharged.					
F100M31/	0.00 /	598.75		F100M21/	0.00 /	601.74		F100i01/	0.00 /	604.18
F100M04/	0.00 /	634.57		F100M07/	0.00 /	639.32		F100M11/	0.00 /	660.44
F090M02/	0.00 /	597.39		F090M05/	0.00 /	598.15		F090M09/	0.00 /	635.37
F090M04/	0.00 /	632.24		F080E00/	0.00 /	596.00		F080M14/	0.45 /	595.72
F080M13/	0.00 /	648.09		F080M06/	0.00 /	658.61		EBMPF080/	0.03 /	601.03
F090M08/	0.00 /	614.80		F090M07/	0.00 /	605.68		F090M06/	0.00 /	603.17
SLOPECHANG/	0.00 /	603.97		F090M03/	0.00 /	607.19		F100M03/	0.00 /	612.51
F100M02/	0.00 /	605.60		F080M08/	0.00 /	669.65		F080M05/	0.00 /	666.27
F080i48/	0.01 /	600.25		F080 TAP/	0.01 /	596.65		F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11		F100M29/	0.00 /	598.53		F100M06/	0.00 /	638.16
F100M28/	0.00 /	599.20		F100E01/	0.00 /	599.50		F100 E OF/	0.00 /	590.00
F090M02OUT/	0.00 /	590.00		PBMP F080/	0.72 /	595.72		F080M01A/	0.00 /	597.00
NCP Outlet/	0.28 /	594.78		NCP OUTMH1/	0.30 /	593.35		NCP OUTFAL/	0.26 /	592.23
F100M02A/	0.00 /	601.00								

Cycle 6500 Time 54 Hrs - 10.00 Min

Junction /	Depth /	Elevation	====>	"s" Junction is Surcharged.			
F100M31/	0.00 /	598.75		F100M21/	0.00 /	601.74	F100i01/ 0.00 / 604.18
F100M04/	0.00 /	634.57		F100M07/	0.00 /	639.32	F100M11/ 0.00 / 660.44
F090M02/	0.00 /	597.39		F090M05/	0.00 /	598.15	F090M09/ 0.00 / 635.37
F090M04/	0.00 /	632.24		F080E00/	0.00 /	596.00	F080M14/ 0.28 / 595.55
F080M13/	0.00 /	648.09		F080M06/	0.00 /	658.61	EBMPF080/ 0.02 / 601.02
F090M08/	0.00 /	614.80		F090M07/	0.00 /	605.68	F090M06/ 0.00 / 603.17
SLOPECHANG/	0.00 /	603.97		F090M03/	0.00 /	607.19	F100M03/ 0.00 / 612.51
F100M02/	0.00 /	605.60		F080M08/	0.00 /	669.65	F080M05/ 0.00 / 666.27
F080i48/	0.01 /	600.25		F080 TAP/	0.01 /	596.65	F080M10/ 0.00 / 680.42

F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.53	F100M06/	0.00 /	638.16
F100M28/	0.00 /	599.20	F100E01/	0.00 /	599.50	F100 E OF/	0.00 /	590.00
F090M02OUT/	0.00 /	590.00	PBMP F080/	0.43 /	595.55	F080M01A/	0.00 /	597.00
NCP Outlet/	0.25 /	594.75	NCP OUTMH1/	0.26 /	593.31	NCP OUTEAL/	0.22 /	592.19
F100M02A/	0.00 /	601.00						

Conduit/	FLOW	====> "*" Conduit uses the normal flow option.				
Link26/	0.00	Link27/	0.00*	Link31/	0.00	Link32/
Link44/	0.00	Link46/	0.00	OFLOW 4/	0.00	OFLOW 5/
Link61/	0.00	Link71/	0.00	F100M07 OF/	0.00	F090M07 OF/
F080M06 OF/	0.00	Link85/	0.00	Link87/	0.00*	Link88/
Link89/	0.00	Link90/	0.00*	NCPoutPipe/	0.43	Link96/
Link97/	0.00*	Link98/	0.00*	361.1/	0.00*	F090M04 OF/
363.1/	0.00*	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/
365.1/	0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/
F090M09 OF/	0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/
F100M04 OF/	0.00*	377.1/	0.00	F100M03 OF/	0.00*	F100M02 OF/
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00	398.1/
F080M10 of/	0.00	399.1/	0.00*	E080M13/	0.00	430.1/
F100M21 OF/	0.00*	433.1/	0.00*	F090M02 OF/	0.00	M31-M29/
F100M29 OF/	0.00*	ORI 1/	0.43	or 2/	0.00	or 3/
F100i01 OV/	0.00	F080 EMER/	0.00	100E01 OV/	0.00	F100M28 OV/
F100M31 OV/	0.00	WR/	0.00	F080M14 OV/	0.00	weir 1/
weir 2/	0.00	FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/
FREE # 4/	0.43					

Cycle 7000 Time 58 Hrs - 20.00 Min

Junction / Depth / Elevation	====> "*" Junction is Surcharged.							
F100M31/	0.00 /	598.75	F100M21/	0.00 /	601.74	F100i01/	0.00 /	604.18
F100M04/	0.00 /	634.57	F100M07/	0.00 /	639.32	F100M11/	0.00 /	660.44
F090M02/	0.00 /	597.39	F090M05/	0.00 /	598.15	F090M09/	0.00 /	635.37
F090M04/	0.00 /	632.24	F080E00/	0.00 /	596.00	F080M14/	0.16 /	595.43
F080M13/	0.00 /	648.09	F080M06/	0.00 /	658.61	PBMPF080/	0.02 /	601.02
F090M08/	0.00 /	614.80	F090M07/	0.00 /	605.68	F090M06/	0.00 /	603.17
SLOPECHANG/	0.00 /	603.97	F090M03/	0.00 /	607.19	F100M03/	0.00 /	612.51
F100M02/	0.00 /	605.60	F080M08/	0.00 /	669.65	F080M05/	0.00 /	666.27
F080i48/	0.01 /	600.25	F080 TAP/	0.01 /	596.65	F080M10/	0.00 /	680.42
F080M02/	0.00 /	603.11	F100M29/	0.00 /	598.53	F100M06/	0.00 /	638.16
F100M28/	0.00 /	599.20	F100E01/	0.00 /	599.50	F100 E OF/	0.00 /	590.00
F090M02OUT/	0.00 /	590.00	PBMP F080/	0.43 /	595.43	F080M01A/	0.00 /	597.00
NCP Outlet/	0.21 /	594.71	NCP OUTMH1/	0.22 /	593.27	NCP OUTEAL/	0.19 /	592.16
F100M02A/	0.00 /	601.00						

Conduit/	FLOW	====> "*" Conduit uses the normal flow option.				
Link26/	0.00	Link27/	0.00*	Link31/	0.00	Link32/
Link44/	0.00	Link46/	0.00	OFLOW 4/	0.00	OFLOW 5/
Link61/	0.00	Link71/	0.00	F100M07 OF/	0.00	F090M07 OF/
F080M06 OF/	0.00	Link85/	0.00	Link87/	0.00*	Link88/
Link89/	0.00	Link90/	0.00*	NCPoutPipe/	0.31	Link96/
Link97/	0.00*	Link98/	0.00*	361.1/	0.00*	F090M04 OF/
363.1/	0.00*	F090M05 OF/	0.00	364.1/	0.00*	F100M11 OF/
365.1/	0.00	F100M06 OF/	0.00	366.1/	0.00*	370.1/
F090M09 OF/	0.00*	371.1/	0.00*	F090M08 OF/	0.00*	374.1/
F090M06 OF/	0.00	375.1/	0.00	F090M03 OF/	0.00	376.1/
F100M04 OF/	0.00*	377.1/	0.00	F100M03 OF/	0.00*	F100M02 OF/
383.1/	0.00	F080M08 OF/	0.00	385.1/	0.00	398.1/

0.00*	F080M10 of/	0.00	399.1/	0.00*	E080M13/	0.00	430.1/
0.00*	F100M21 OF/	0.00*	433.1/	0.00*	F090M02 OF/	0.00	M31-M29/
0.00	F100M29 OF/	0.00*	ORI 1/	0.31	or 2/	0.00	or 3/
0.00	F100i01 OV/	0.00	F080 EMER/	0.00	100E01 OVE/	0.00	F100M28 OV/
0.00	F100M31 OV/	0.00	WR/	0.00	F080M14 OV/	0.00	weir 1/
0.00	weir 2/	0.00	FREE # 1/	0.00	FREE # 2/	0.00	FREE # 3/
0.00	FREE # 4/	0.31					

```

*=====
| Table E5 - Junction Time Limitation Summary |
| (0.10 or 0.25)* Depth * Area |
| Time step = ----- |
| Sum of Flow |
*=====
| The time this junction was the limiting junction |
| is listed in the third column. |
*=====

```

Junction	Time(.10)	Time(.25)	Time(sec)
F100M31	6.6827	16.7067	42360.0000
F100M21	0.7958	1.9896	30.0000
F100i01	1.8299	4.5749	60.0000
F100M04	1.6225	4.0563	360.0000
F100M07	1.0071	2.5177	30.0000
F100M11	0.4948	1.2370	120.0000
F090M02	1.1612	2.9031	150.0000
F090M05	3.3379	8.3446	0.0000
F090M09	1.4356	3.5890	270.0000
F090M04	1.3474	3.3685	120.0000
F080E00	300.0000	300.0000	0.0000
F080M14	24.1489	60.3722	0.0000
F080M13	72.5937	181.4842	0.0000
F080M06	118.9264	297.3160	0.0000
EBMPF080	36.3612	90.9031	0.0000
F090M08	1.7496	4.3740	150.0000
F090M07	2.3763	5.9408	210.0000
F090M06	11.4442	28.6106	0.0000
SLOPECHANG	4.9197	12.2993	0.0000
F090M03	1.8983	4.7458	330.0000
F100M03	2.1542	5.3854	270.0000
F100M02	3.5518	8.8795	360.0000
F080M08	77.4816	193.7040	0.0000
F080M05	300.0000	300.0000	0.0000
F080i48	67.0699	167.6748	0.0000
F080 TAP	49.5168	123.7920	0.0000
F080M10	2.2689	5.6723	600.0000
F080M02	24.3384	60.8460	120.0000
F100M29	10.2114	25.5286	0.0000
F100M06	0.6938	1.7344	270.0000

F100M28	2.7841	6.9603	0.0000
F100E01	14.7644	36.9109	0.0000
F100 E OF	300.0000	300.0000	0.0000
F090M02OUT	300.0000	300.0000	0.0000
FBMP F980	51.4068	129.5171	0.0000
F080M01A	29.5315	73.8287	0.0000
NCP Outlet	7.0521	17.6303	30.0000
NCP OUTMH1	10.6202	26.5504	30.0000
NCP OUTFAL	300.0000	300.0000	0.0000
F100M02A	2.2836	5.7091	170130.000

The junction requiring the smallest time step was...F100M02A

```

=====
| Table E5a - Conduit Explicit Condition Summary |
| Courant = Conduit Length |
| Time step = ----- |
| Velocity + sqrt(g*depth) |
| |
| Conduit Implicit Condition Summary |
| Courant = Conduit Length |
| Time step = ----- |
| Velocity |
|=====
| The 3rd column is the Explicit time step times the |
| minimum courant time step factor |
| |
| Minimum Conduit Time Step in seconds in the 4th column |
| in the list. Maximum possible is 10 * maximum time step |
| |
| The 5th column is the maximum change at any time step |
| during the simulation. The 6th column is the wobble |
| value which is an indicator of the flow stability. |
| |
| You should use this section to find those conduits that |
| are slowing your model down. Use modify conduits to |
| alter the length of the slow conduits to make your |
| simulation faster, or change the conduit name to |
| "CHME?????" where ????? are any characters, this will |
| lengthen the conduit based on the model time step, |
| not the value listed in modify conduits. |
|=====

```

Conduit	Time(exp)	Expl*Cmin	Time(imp)	Time(min)	Max Qchange	Wobble	Type of Soln
Link26	16.6887	16.6887	33.2158	380.5000	0.0806	1.8852	Normal Soln
Link27	17.2178	17.2178	27.6181	0.0000	-0.0637	1.0302	Normal Soln
Link31	8.1497	8.1497	29.7472	0.0000	-0.0550	2.9871	Normal Soln
Link32	11.4422	11.4422	40.4267	0.0000	0.0196	4.1913	Normal Soln
Link44	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
Link46	1.9653	1.9653	3.9910	1735.5000	0.0800	0.4906	Normal Soln
OFLOW 4	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
OFLOW 5	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
Link61	27.1037	27.1037	62.9724	0.0000	-0.0983	2.0668	Normal Soln
Link71	18.3450	18.3450	59.8509	0.0000	0.4314	7.1167	Normal Soln
F100M07 OF	3.9167	3.9167	7.3570	0.0000	-0.4423	0.2059	Normal Soln
F090M07 OF	75.3241	75.3241	126.5228	0.0000	-0.0295	0.0067	Normal Soln
F080M06 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
Link85	4.6290	4.6290	23.0702	0.0000	0.3821	5.8728	Normal Soln
Link87	11.2961	11.2961	59.1066	0.0000	-0.1853	4.1518	Normal Soln
Link88	38.4505	38.4505	135.2151	0.0000	0.5322	2.9418	Normal Soln

Link89	4.9564	4.9564	11.9766	1130.5000	0.2158	4.1552	Normal Soln
Link90	3.6115	3.6115	9.4469	182.0000	-0.0819	1.0638	Normal Soln
NCPoutPipe	17.7874	17.7874	57.2558	0.0000	0.0534	3.0917	Normal Soln
Link96	15.5381	15.5381	41.6925	0.0000	0.0878	3.0399	Normal Soln
Link97	5.3960	5.3960	13.7430	0.0000	-0.1473	1.4076	Normal Soln
Link98	8.2497	8.2497	23.7190	0.0000	0.4098	2.5996	Normal Soln
361.1	22.2028	22.2028	41.7756	0.0000	-0.0539	2.0866	Normal Soln
F090M04 OF	74.0689	74.0689	102.9762	0.0000	0.0725	0.0050	Normal Soln
363.1	17.0248	17.0248	80.4469	0.0000	-0.7630	2.9367	Normal Soln
F090M05 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
364.1	12.7655	12.7655	28.1092	0.0000	-0.1161	1.9493	Normal Soln
F100M11 OF	65.7144	65.7144	165.5613	0.0000	0.1263	0.0062	Normal Soln
365.1	13.6435	13.6435	41.6107	0.0000	0.4175	3.4930	Normal Soln
F100M06 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
366.1	7.8376	7.8376	24.4049	0.0000	0.3470	2.6061	Normal Soln
370.1	11.5569	11.5569	15.7739	0.5000	-0.0988	2.0937	Normal Soln
F090M09 OF	52.2481	52.2481	71.4124	0.0000	0.0483	0.0012	Normal Soln
371.1	14.9583	14.9583	43.7048	0.0000	0.0247	2.0687	Normal Soln
F090M08 OF	57.0606	57.0606	85.3781	0.0000	0.0511	0.0035	Normal Soln
374.1	3.2090	3.2090	8.1648	79.0000	0.0293	1.7551	Normal Soln
F090M06 OF	17.9967	17.9967	72.8107	0.0000	-0.0016	0.0003	Normal Soln
375.1	25.9558	25.9558	85.9980	0.0000	-0.0261	2.7017	Normal Soln
F090M03 OF	85.6356	85.6356	137.7516	0.0000	0.0434	0.0110	Normal Soln
376.1	11.3409	11.3409	25.9529	0.0000	-0.1379	2.2797	Normal Soln
F100M04 OF	61.3262	61.3262	82.8273	0.0000	-0.0988	0.0023	Normal Soln
377.1	9.3082	9.3082	22.0232	0.0000	-0.1425	1.9234	Normal Soln
F100M03 OF	37.5259	37.5259	55.1730	0.0000	-0.0956	0.0061	Normal Soln
F100M02 OF	67.6351	67.6351	115.3837	0.0000	0.0905	0.0111	Normal Soln
383.1	24.4916	24.4916	39.0588	0.0000	-0.0609	1.4431	Normal Soln
F080M08 OF	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
385.1	2.4782	2.4782	6.4347	0.0000	0.0107	4.5269	Normal Soln
398.1	16.0986	16.0986	36.5831	0.0000	-0.0708	2.3449	Normal Soln
F080M10 of	142.7210	142.7210	242.2260	0.0000	-0.0060	0.0002	Normal Soln
399.1	55.0451	55.0451	92.9558	0.0000	-0.1433	1.7065	Normal Soln
E080M13	300.0000	300.0000	300.0000	0.0000	0.0000	0.0000	Normal Soln
430.1	15.6976	15.6976	52.3181	0.0000	-0.5146	2.4080	Normal Soln
F100M21 OF	44.6338	44.6338	78.2763	0.0000	0.3381	0.0631	Normal Soln
433.1	1.3850	1.3850	3.4288	92.0000	-0.4348	4.4628	Normal Soln
F090M02 OF	6.3434	6.3434	10.2789	0.0000	0.0567	0.0073	Normal Soln
M31-M29	8.4515	8.4515	48.8456	0.0000	-0.1338	5.1319	Normal Soln
F100M29 OF	39.0632	39.0632	143.9259	0.0000	-0.1060	0.0101	Normal Soln
ORI 1	50.6262	50.6262	121.7071	0.0000	-0.0312	16.0758	Normal Soln
or 2	68.5771	68.5771	170.9589	0.0000	-0.0344	4.8567	Normal Soln

or 3 55.2736 55.2736 102.6681 0.0000 -0.0415 4.4399 Normal Soln

The conduit with the smallest time step limitation was..Link46
The conduit with the largest wobble was.....ORI 1
The conduit with the largest flow change in any
consecutive time step.....363.1

* Hydraulic design routine final results. *

Conduit Name	Height	Width	Barrels	Height	Width	Barrels
ORI 1	0.4996	0.4996	1.0000	0.4996	0.4996	1.0000
or 2	0.9997	0.9997	1.0000	0.9997	0.9997	1.0000
or 3	0.9997	0.9997	1.0000	0.9997	0.9997	1.0000

* End of time step DO-loop in Runoff *

Final Date (Mo/Day/Year) = 12/10/2012
Total number of time steps = 3600
Final Julian Date = 2012345
Final time of day = 43200. seconds.
Final time of day = 12.00 hours.
Final running time = 60.0000 hours.
Final running time = 2.5000 days.

* Extrapolation Summary for Watersheds *
* Explains the number of time steps and iterations *
* used in the solution of the subcatchments. *
* # Steps ==> Total Number of Extrapolated Steps *
* # Calls ==> Total Number of OVERLND Calls *

Subcatchment	# Steps	# Calls	Subcatchment	# Steps	# Calls
F100M11#1	0	0	F100M07#1	0	0
F100M04#1	0	0	F090M09#1	0	0
F100M21#1	0	0	F100M31#1	0	0
F090M05#1	0	0	F090M04#1	0	0
F080i48#1	0	0	F080M14#2	0	0
F080M06#1	0	0	F080M13#1	0	0
EBMP F080#1	0	0	F090M02#1	0	0

Rainfall input summary from Runoff Continuity Check #
#####

Total rainfall read for gage # 1 is 5.1000 in
Total rainfall duration for gage # 1 is 1440.00 minutes

* Table R5. CONTINUITY CHECK FOR SURFACE WATER *
* Any continuity error can be fixed by lowering the *
* wet and transition time step. The transition time *
* should not be much greater than the wet time step. *

	cubic feet	Inches over Total Basin
Total Precipitation (Rain plus Snow)	2.341709E+06	5.100
Total Infiltration	1.098460E+06	2.392
Total Evaporation	4.591587E+04	0.100
Surface Runoff from Watersheds	1.200722E+06	2.615
Total Water remaining in Surface Storage	0.000000E+00	0.000
Infiltration over the Pervious Area...	1.098460E+06	2.392

Infiltration + Evaporation +		
Surface Runoff + Snow removal +		
Water remaining in Surface Storage +		
Water remaining in Snow Cover.....	2.345098E+06	5.107
Total Precipitation + Initial Storage.	2.341709E+06	5.100

The error in continuity is calculated as

* Precipitation + Initial Snow Cover *
* - Infiltration - *
*Evaporation - Snow removal - *
*Surface Runoff from Watersheds - *
*Water in Surface Storage - *
*Water remaining in Snow Cover *

* Precipitation + Initial Snow Cover *

 Percent Continuity Error.....

-0.1447

 * Table R6. Continuity Check for Channel/Pipes *
 * You should have zero continuity error *
 * if you are not using runoff hydraulics *

	cubic feet	Inches over Total Basin
Initial Channel/Pipe Storage.....	0.000000E+00	0.000
Final Channel/Pipe Storage.....	0.000000E+00	0.000
Surface Runoff from Watersheds.....	1.200722E+06	2.615
Groundwater Subsurface Inflow or Diversion..	0.000000E+00	0.000
Evaporation Loss from Channels.....	0.000000E+00	0.000
Groundwater Flow Diverted Out of Network....	0.000000E+00	0.000
Channel/Pipe/Inlet Outflow.....	1.200722E+06	2.615
Initial Storage + Inflow.....	1.200722E+06	2.615
Final Storage + Outflow + Diverted GW.....	1.200722E+06	2.615

* Final Storage + Outflow + Evaporation - *		
* Watershed Runoff - Groundwater Inflow - *		
* Initial Channel/Pipe Storage *		

* Final Storage + Outflow + Evaporation *		

Percent Continuity Error.....		0.0000

 # Table R9. Summary Statistics for Subcatchments #
 #####

Note: Total Runoff Depth includes pervious & impervious areas.
 Pervious and Impervious Runoff Depth is only the runoff from those two areas.
 For catchments receiving redirected flow, this flow will only be shown if the flow is not
 directed directly to the outlet. Flow that is getting redirected is also listed with
 the original subcatchment.

Subcatchment.....	F100M11#1	F100M07#1	F100M06#1	F100M04#1	F090M09#1
F100i01#1					
Area (acres).....	8.29000	8.55000	2.58000	10.18000	3.40000
8.46000					
Percent Impervious.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000					
Max Intensity (in/hr)..	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210					
Pervious Area					

Total Runoff Depth (in)	3.19649	3.07775	3.12460	3.17029	2.91472
2.86126					
Peak Runoff Rate (cfs)..	31.04880	23.40467	10.95581	36.99382	12.29757
29.34500					
Total Impervious Area					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs)..	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area with depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs)..	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area without depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs)..	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Area					

Total Runoff Depth (in)	3.19649	3.07775	3.12460	3.17029	2.91472
2.86126					
Peak Runoff Rate (cfs)..	31.04880	23.40467	10.95581	36.99382	12.29757
29.34500					

Rational Formula						

Pervious Tc. (mins)....	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Perv. Intensity (in/hr)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Pervious C	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Impervious Tc. (mins)...	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Imp. Intensity (in/hr)...	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Impervious C	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Partial Area (Ha).....	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Partial Area Tc.....	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Partial Area Intensity.	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Subcatchment.....	F100M21#1	F100M31#1	F100M29#1	F090M05#1	F090M04#1	
EBMPF080#1						
Area (acres).....	0.90000	8.40000	3.64000	3.59000	7.00000	
23.70000						
Percent Impervious.....	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000						
Max Intensity (in/hr)...	6.99210	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210						
Pervious Area						

Total Runoff Depth (in)	3.01625	2.89811	3.08279	3.26233	2.51025	
2.51218						
Peak Runoff Rate (cfs).	3.04483	28.05016	13.87824	16.17821	19.23400	
59.04503						
Total Impervious Area						

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Impervious Area with depression storage						

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Impervious Area without depression storage						

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Total Area						

Total Runoff Depth (in)	3.01625	2.89811	3.08279	3.26233	2.51025	
2.51218						
Peak Runoff Rate (cfs).	3.04483	28.05016	13.87824	16.17821	19.23400	
59.04503						
Rational Formula						

Pervious Tc. (mins)....	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Perv. Intensity (in/hr)	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Pervious C	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Impervious Tc. (mins)...	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Imp. Intensity (in/hr)...	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Impervious C	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Partial Area (Ha).....	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Partial Area Tc.....	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000						
Partial Area Intensity.	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

0.00000

Subcatchment.....	F080148#1	F080M14#2	F080M10#1	F080M06#1	F080M13#1
FC80M02#1					
Area (acres).....	0.45000	3.33000	3.73000	2.28000	4.18000
12.77000					
Percent Impervious....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Rainfall (in)....	5.10000	5.10000	5.10000	5.10000	5.10000
5.10000					
Max Intensity (in/hr)..	6.99210	6.99210	6.99210	6.99210	6.99210
6.99210					
Pervious Area					

Total Runoff Depth (in)	3.36076	3.38046	2.68938	2.78600	2.56707
0.00000					
Peak Runoff Rate (cfs).	2.32246	17.27555	12.18449	9.05721	14.71044
0.00000					
Total Impervious Area					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area with depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Area without depression storage					

Total Runoff Depth (in)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Peak Runoff Rate (cfs).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Total Area					

Total Runoff Depth (in)	3.36076	3.38046	2.68938	2.78600	2.56707
0.00000					
Peak Runoff Rate (cfs).	2.32246	17.27555	12.18449	9.05721	14.71044
0.00000					
Rational Formula					

Pervious Tc. (mins)....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Perv. Intensity (in/hr)	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Pervious C	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious Tc. (mins)..	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Imp. Intensity (in/hr).	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Impervious C	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area (Ha).....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area Tc.....	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Partial Area Intensity.	0.00000	0.00000	0.00000	0.00000	0.00000
0.00000					
Subcatchment.....	PBMP F080#1	F090M02#1			
Area (acres).....	4.44000	6.62000			
Percent Impervious....	0.00000	0.00000			
Total Rainfall (in)....	5.10000	5.10000			
Max Intensity (in/hr)..	6.99210	6.99210			
Pervious Area					

Total Runoff Depth (in)	3.50437	3.16731			
Peak Runoff Rate (cfs).	22.48007	29.66633			
Total Impervious Area					

Total Runoff Depth (in)	0.00000	0.00000			
Peak Runoff Rate (cfs).	0.00000	0.00000			

```

Impervious Area with depression storage
-----
Total Runoff Depth (in)          0.00000      0.00000
Peak Runoff Rate (cfs).          0.00000      0.00000

```

```

Impervious Area without depression storage
-----
Total Runoff Depth (in)          0.00000      0.00000
Peak Runoff Rate (cfs).          0.00000      0.00000

```

```

Total Area
-----
Total Runoff Depth (in)          3.50437      3.16731
Peak Runoff Rate (cfs).          22.48007      19.66633

```

```

Rational Formula
-----
Pervious Tc. (mins)....          0.00000      0.00000
Perv. Intensity (in/hr)          0.00000      0.00000
Pervious C .....                0.00000      0.00000
Impervious Tc. (mins)..          0.00000      0.00000
Imp. Intensity (in/hr).          0.00000      0.00000
Impervious C .....                0.00000      0.00000
Partial Area (Ha).....           0.00000      0.00000
Partial Area Tc.....           0.00000      0.00000
Partial Area Intensity.          0.00000      0.00000

```

==> Runoff simulation ended normally.

```

* =====
| Table E6. Final Model Condition
| This table is used for steady state
| flow comparison and is the information
| saved to the hot-restart file.
| Final Time = 60.008 hours
| =====

```

```

Junction / Depth / Elevation ==> "*" Junction is Surcharged.
F100M31/ 0.00 / 598.75/ F100M21/ 0.00 / 601.74/ F100i01/ 0.00 / 604.18/
F100M04/ 0.00 / 634.57/ F100M07/ 0.00 / 639.32/ F100M11/ 0.00 / 660.44/
F090M02/ 0.00 / 597.39/ F090M05/ 0.00 / 598.15/ F090M09/ 0.00 / 635.37/
F090M04/ 0.00 / 632.24/ F080E00/ 0.00 / 596.00/ F080M14/ 0.12 / 595.39/
F080M13/ 0.00 / 648.09/ F080M06/ 0.00 / 658.61/ EBMPF080/ 0.02 / 601.02/
F090M08/ 0.00 / 614.80/ F090M07/ 0.00 / 605.68/ F090M06/ 0.00 / 603.17/
SLOPECHANG/ 0.00 / 603.97/ F090M03/ 0.00 / 607.19/ F100M03/ 0.00 / 612.51/
F100M02/ 0.00 / 605.60/ F080M08/ 0.00 / 669.65/ F080M05/ 0.00 / 666.27/
F080i48/ 0.01 / 600.25/ F080 TAP/ 0.01 / 596.65/ F080M10/ 0.00 / 680.42/
F080M02/ 0.00 / 603.11/ F100M29/ 0.00 / 598.53/ F100M06/ 0.00 / 638.16/
F100M28/ 0.00 / 599.20/ F100E01/ 0.00 / 599.50/ F100 E OF/ 0.00 / 590.00/
F090M02OUT/ 0.00 / 590.00/ PBMP F080/ 0.39 / 595.39/ F080M01A/ 0.00 / 597.00/
NCP Outlet/ 0.20 / 594.70/ NCP OUTMH1/ 0.21 / 593.26/ NCP OUTFAL/ 0.17 / 592.14/
F100M02A/ 0.00 / 601.00/

```

```

Conduit/ Flow ==> "*" Conduit uses the normal flow option.
Link26/ 0.00 / Link27/ 0.00* / Link31/ 0.00 /
Link32/ 0.00 / Link44/ 0.00 / Link46/ 0.00 /
OFLOW 4/ 0.00 / OFLOW 5/ 0.00 / Link61/ 0.00 /
Link71/ 0.00 / F100M07 OF/ 0.00 / F090M07 OF/ 0.00 /
F080M06 OF/ 0.00 / Link85/ 0.00 / Link87/ 0.00* /
Link88/ 0.00* / Link89/ 0.00 / Link90/ 0.00* /
NCPoutPipe/ 0.27 / Link96/ 0.27 / Link97/ 0.00* /
Link98/ 0.00* / 361.1/ 0.00* / F090M04 OF/ 0.00* /
363.1/ 0.00* / F090M05 OF/ 0.00 / 364.1/ 0.00* /
F100M11 OF/ 0.00* / 365.1/ 0.00 / F100M06 OF/ 0.00 /
366.1/ 0.00* / 370.1/ 0.00* / F090M09 OF/ 0.00* /
371.1/ 0.00* / F090M08 OF/ 0.00* / 374.1/ 0.00 /
F090M06 OF/ 0.00 / 375.1/ 0.00 / F090M03 OF/ 0.00 /
376.1/ 0.00* / F100M04 OF/ 0.00* / 377.1/ 0.00 /
F100M03 OF/ 0.00* / F100M02 OF/ 0.00* / 383.1/ 0.00 /
F080M08 OF/ 0.00 / 385.1/ 0.00 / 398.1/ 0.00* /
F080M10 of/ 0.00 / 399.1/ 0.00* / E080M13/ 0.00 /
430.1/ 0.00* / F100M21 OF/ 0.00* / 433.1/ 0.00* /
F090M02 OF/ 0.00 / M31-M29/ 0.00 / F100M29 OF/ 0.00* /
ORI 1/ 0.27 / or 2/ 0.00 / or 3/ 0.00 /
F100i01 OV/ 0.00 / F080 EMER/ 0.00 / 100E01 OV/ 0.00 /
F100M28 OV/ 0.00 / F100M31 OV/ 0.00 / WR/ 0.00 /
F080M14 OV/ 0.00 / weir 1/ 0.00 / weir 2/ 0.00 /
FREE # 1/ 0.00 / FREE # 2/ 0.00 / FREE # 3/ 0.00 /
FREE # 4/ 0.27 /

```

```

Conduit/ Velocity
Link26/ 0.51 / Link27/ 0.00 / Link31/ 0.00 /
Link32/ 0.00 / Link44/ 0.00 / Link46/ 0.61 /
OFLOW 4/ 0.00 / OFLOW 5/ 0.00 / Link61/ 0.00 /
Link71/ 0.00 / F100M07 OF/ 0.00 / F090M07 OF/ 0.00 /
F080M06 OF/ 0.00 / Link85/ 0.00 / Link87/ 0.00 /
Link88/ 0.00 / Link89/ 0.01 / Link90/ 0.00 /

```


NCPoutPipe/	1.65 /	Link96/	1.56 /	Link97/	0.00 /
Link98/	0.00 /	361.1/	0.00 /	F090M04 OF/	0.00 /
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00 /
F100M11 OF/	0.00 /	365.1/	0.00 /	F100M06 OF/	0.00 /
366.1/	0.00 /	370.1/	0.00 /	F090M09 OF/	0.00 /
371.1/	0.00 /	F090M08 OF/	0.00 /	374.1/	0.00 /
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00 /	F100M04 OF/	0.00 /	377.1/	0.00 /
F100M03 OF/	0.00 /	F100M02 OF/	0.00 /	383.1/	0.00 /
F090M08 OF/	0.00 /	385.1/	0.37 /	398.1/	0.60 /
F080M10 of/	0.00 /	399.1/	0.00 /	E080M13/	0.00 /
430.1/	0.00 /	F100M21 OF/	0.00 /	433.1/	0.00 /
F090M02 OF/	0.00 /	M31-M29/	0.00 /	F100M29 OF/	0.00 /
ORI 1/	1.68 /	or 2/	0.00 /	or 3/	0.00 /

Conduit/	Width				
Link26/	0.78 /	Link27/	0.78 /	Link31/	0.39 /
Link32/	0.39 /	Link44/	0.39 /	Link46/	1.18 /
OFLOW 4/	0.00 /	OFLOW 5/	0.00 /	Link61/	0.98 /
Link71/	0.78 /	F100M07 OF/	10.06 /	F090M07 OF/	2.01 /
F080M06 OF/	0.00 /	Link85/	0.78 /	Link87/	1.18 /
Link88/	1.18 /	Link89/	1.26 /	Link90/	1.06 /
NCPoutPipe/	1.18 /	Link96/	1.20 /	Link97/	0.78 /
Link98/	0.78 /	361.1/	0.39 /	F090M04 OF/	2.01 /
363.1/	1.18 /	F090M05 OF/	2.01 /	364.1/	0.49 /
F100M11 OF/	2.66 /	365.1/	0.78 /	F100M06 OF/	2.15 /
366.1/	0.59 /	370.1/	0.39 /	F090M09 OF/	2.00 /
371.1/	0.39 /	F090M08 OF/	2.00 /	374.1/	0.39 /
F090M06 OF/	3.61 /	375.1/	0.39 /	F090M03 OF/	2.07 /
376.1/	0.69 /	F100M04 OF/	2.00 /	377.1/	0.78 /
F100M03 OF/	2.01 /	F100M02 OF/	2.00 /	383.1/	0.59 /
F080M08 OF/	0.00 /	385.1/	0.49 /	398.1/	0.49 /
F080M10 of/	2.04 /	399.1/	0.78 /	E080M13/	0.00 /
430.1/	0.78 /	F100M21 OF/	2.00 /	433.1/	0.59 /
F090M02 OF/	2.11 /	M31-M29/	1.18 /	F100M29 OF/	3.80 /
ORI 1/	0.42 /	or 2/	0.39 /	or 3/	0.39 /

Junction/	EGL				
F100M31/	0.25 /	F100M21/	0.00 /	F100i01/	0.00 /
F100M04/	0.00 /	F100M07/	0.00 /	F100M11/	0.00 /
F090M02/	3.38 /	F090M05/	2.85 /	F090M09/	0.00 /
F090M04/	0.00 /	F080E00/	0.01 /	F080M14/	0.12 /
F080M13/	0.00 /	F080M06/	0.00 /	EBMPF080/	0.02 /
F090M08/	0.00 /	F090M07/	0.00 /	F090M06/	0.00 /
SLOPECHANG/	0.51 /	F090M03/	0.00 /	F100M03/	0.00 /
F100M02/	0.00 /	F080M08/	0.00 /	F080M05/	0.00 /
F080i48/	0.01 /	F080 TAP/	0.01 /	F080M10/	0.00 /
F080M02/	0.00 /	F100M29/	0.00 /	F100M06/	0.00 /
F100M28/	0.00 /	F100E01/	0.00 /	F100 E OF/	0.00 /
F090M02OUT/	0.00 /	PBMP F080/	0.39 /	F080M01A/	2.85 /
NCP Outlet/	0.79 /	NCP OUTMH1/	0.25 /	NCP OUTFAL/	0.21 /
F100M02A/	0.00 /				

Junction/	Freeboard				
F100M31/	15.54 /	F100M21/	55.35 /	F100i01/	15.25 /
F100M04/	21.50 /	F100M07/	16.25 /	F100M11/	15.30 /
F090M02/	17.68 /	F090M05/	18.07 /	F090M09/	15.60 /
F090M04/	14.20 /	F080E00/	14.00 /	F080M14/	18.43 /
F080M13/	21.02 /	F080M06/	13.02 /	EBMPF080/	6.98 /
F090M08/	15.16 /	F090M07/	15.30 /	F090M06/	12.90 /
SLOPECHANG/	16.03 /	F090M03/	15.25 /	F100M03/	16.25 /
F100M02/	16.20 /	F080M08/	14.80 /	F080M05/	17.60 /
F080i48/	13.06 /	F080 TAP/	13.35 /	F080M10/	14.50 /
F080M02/	13.28 /	F100M29/	16.59 /	F100M06/	19.00 /
F100M28/	15.12 /	F100E01/	18.50 /	F100 E OF/	20.00 /
F090M02OUT/	20.00 /	PBMP F080/	14.61 /	F080M01A/	13.00 /
NCP Outlet/	15.30 /	NCP OUTMH1/	16.74 /	NCP OUTFAL/	17.86 /
F100M02A/	19.00 /				

Junction/	Max Volume				
F100M31/	81.80 /	F100M21/	73.93 /	F100i01/	81.45 /
F100M04/	146.29 /	F100M07/	92.45 /	F100M11/	69.28 /
F090M02/	98.50 /	F090M05/	91.85 /	F090M09/	71.69 /
F090M04/	55.23 /	F080E00/	12.62 /	F080M14/	71.21 /
F080M13/	18.17 /	F080M06/	13.19 /	EBMPF080/	81484.40 /
F090M08/	66.96 /	F090M07/	69.38 /	F090M06/	39.53 /
SLOPECHANG/	64.36 /	F090M03/	69.36 /	F100M03/	81.20 /
F100M02/	81.29 /	F080M08/	12.59 /	F080M05/	0.00 /
F080i48/	23.28 /	F080 TAP/	18.97 /	F080M10/	57.18 /
F080M02/	33.84 /	F100M29/	86.07 /	F100M06/	107.28 /
F100M28/	75.60 /	F100E01/	17971.04 /	F100 E OF/	0.00 /
F090M02OUT/	2.82 /	PBMP F080/	297114.70 /	F080M01A/	46.57 /
NCP Outlet/	77.23 /	NCP OUTMH1/	46.37 /	NCP OUTFAL/	20.25 /
F100M02A/	102.56 /				

Junction/Total Fldng					
F100M31/	0.00 /	F100M21/	0.00 /	F100i01/	0.00 /

F100M04/	0.00 /	F100M07/	0.00 /	F100M11/	0.00 /
F090M02/	0.00 /	F090M05/	0.00 /	F090M09/	0.00 /
F090M04/	0.00 /	F080E00/	0.00 /	F080M14/	0.00 /
F080M13/	0.00 /	F080M06/	0.00 /	EBMPF080/	0.00 /
F090M08/	0.00 /	F090M07/	0.00 /	F090M06/	0.00 /
SLOPECHANG/	0.00 /	F090M03/	0.00 /	F100M03/	0.00 /
F100M02/	0.00 /	F080M09/	0.00 /	F080M05/	0.00 /
F080i48/	0.00 /	F080 TAP/	0.00 /	F080M19/	0.00 /
F090M02/	0.00 /	F100M29/	0.00 /	F100M02/	0.00 /
F100M18/	0.00 /	F100E01/	0.00 /	F100 E OF/	0.00 /
F090M02OUT/	0.00 /	EBMP F080/	0.00 /	F080M01A/	0.00 /
NCP Outlet/	0.00 /	NCP OUTIN1/	0.00 /	NCP OUTBAL/	0.00 /
F100M52A/	0.00 /				

Conduit/	Cross Sectional Area				
Link26/	0.00 /	Link27/	0.00 /	Link31/	0.00 /
Link32/	0.00 /	Link44/	0.00 /	Link46/	0.00 /
OFLOW 4/	0.00 /	OFLOW 5/	0.00 /	Link61/	0.00 /
Link71/	0.00 /	F100M07 OF/	0.00 /	F090M07 OF/	0.00 /
F080M06 OF/	0.00 /	Link85/	0.00 /	Link87/	0.00 /
Link88/	0.01 /	Link89/	0.14 /	Link90/	0.05 /
NCPoutPipe/	0.16 /	Link96/	0.17 /	Link97/	0.00 /
Link98/	0.00 /	361.1/	0.00 /	F090M04 OF/	0.00 /
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00 /
F100M11 OF/	0.00 /	365.1/	0.00 /	F100M06 OF/	0.00 /
366.1/	0.00 /	370.1/	0.00 /	F090M09 OF/	0.00 /
371.1/	0.00 /	F090M08 OF/	0.00 /	374.1/	0.00 /
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00 /	F100M04 OF/	0.00 /	377.1/	0.00 /
F100M03 OF/	0.00 /	F100M02 OF/	0.00 /	383.1/	0.00 /
F080M08 OF/	0.00 /	385.1/	0.01 /	398.1/	0.00 /
F080M10 of/	0.00 /	399.1/	0.00 /	E080M13/	0.00 /
430.1/	0.00 /	F100M21 OF/	0.00 /	433.1/	0.00 /
F090M02 OF/	0.00 /	M31-M29/	0.00 /	F100M29 OF/	0.00 /
ORI 1/	0.16 /	or 2/	0.00 /	or 3/	0.00 /

Conduit/	Final Volume				
Link26/	1.13 /	Link27/	0.00 /	Link31/	0.00 /
Link32/	0.00 /	Link44/	0.00 /	Link46/	0.10 /
OFLOW 4/	0.00 /	OFLOW 5/	0.00 /	Link61/	0.00 /
Link71/	0.00 /	F100M07 OF/	0.00 /	F090M07 OF/	0.00 /
F080M06 OF/	0.02 /	Link85/	0.00 /	Link87/	0.00 /
Link88/	8.13 /	Link89/	14.75 /	Link90/	3.14 /
NCPoutPipe/	58.75 /	Link96/	46.16 /	Link97/	0.00 /
Link98/	0.00 /	361.1/	0.00 /	F090M04 OF/	0.00 /
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00 /
F100M11 OF/	0.00 /	365.1/	0.00 /	F100M06 OF/	0.00 /
366.1/	0.00 /	370.1/	0.00 /	F090M09 OF/	0.00 /
371.1/	0.00 /	F090M08 OF/	0.00 /	374.1/	0.00 /
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00 /	F100M04 OF/	0.00 /	377.1/	0.00 /
F100M03 OF/	0.00 /	F100M02 OF/	0.00 /	383.1/	0.00 /
F080M08 OF/	0.00 /	385.1/	0.28 /	398.1/	0.00 /
F080M10 of/	0.00 /	399.1/	0.01 /	E080M13/	0.01 /
430.1/	0.00 /	F100M21 OF/	0.00 /	433.1/	0.00 /
F090M02 OF/	0.00 /	M31-M29/	0.00 /	F100M29 OF/	0.00 /
ORI 1/	158.22 /	or 2/	0.01 /	or 3/	0.01 /

Conduit/	Hydraulic Radius				
Link26/	0.01 /	Link27/	0.00 /	Link31/	0.00 /
Link32/	0.00 /	Link44/	0.00 /	Link46/	0.01 /
OFLOW 4/	0.00 /	OFLOW 5/	0.00 /	Link61/	0.01 /
Link71/	0.01 /	F100M07 OF/	0.00 /	F090M07 OF/	0.00 /
F080M06 OF/	0.00 /	Link85/	0.01 /	Link87/	0.00 /
Link88/	0.01 /	Link89/	0.10 /	Link90/	0.03 /
NCPoutPipe/	0.12 /	Link96/	0.13 /	Link97/	0.00 /
Link98/	0.00 /	361.1/	0.00 /	F090M04 OF/	0.00 /
363.1/	0.00 /	F090M05 OF/	0.00 /	364.1/	0.00 /
F100M11 OF/	0.00 /	365.1/	0.01 /	F100M06 OF/	0.00 /
366.1/	0.00 /	370.1/	0.00 /	F090M09 OF/	0.00 /
371.1/	0.00 /	F090M08 OF/	0.00 /	374.1/	0.00 /
F090M06 OF/	0.00 /	375.1/	0.00 /	F090M03 OF/	0.00 /
376.1/	0.00 /	F100M04 OF/	0.00 /	377.1/	0.00 /
F100M03 OF/	0.00 /	F100M02 OF/	0.00 /	383.1/	0.00 /
F080M08 OF/	0.00 /	385.1/	0.01 /	398.1/	0.00 /
F080M10 of/	0.00 /	399.1/	0.01 /	E080M13/	0.00 /
430.1/	0.01 /	F100M21 OF/	0.00 /	433.1/	0.00 /
F090M02 OF/	0.00 /	M31-M29/	0.00 /	F100M29 OF/	0.00 /
ORI 1/	0.15 /	or 2/	0.00 /	or 3/	0.00 /

Conduit/	Upstream/	Downstream	Elevation					
Link26/	600.25/	596.65	Link27/	648.09/	648.09	Link31/	605.68/	604.48/
Link32/	603.97/	603.17	Link44/	648.09/	648.09	Link46/	596.65/	596.00/
OFLOW 4/	601.02/	601.02	OFLOW 5/	635.37/	635.37	Link61/	603.11/	599.85/
Link71/	639.32/	638.16	F100M07 OF/	601.74/	601.74	F090M07 OF/	598.15/	598.15/
F080M06 OF/	603.11/	603.11	Link85/	599.20/	599.00	Link87/	598.15/	598.15/
Link88/	597.39/	595.39	Link89/	595.39/	595.39	Link90/	597.00/	595.39/

NCPoutPipe/	594.70/	593.26	Link96/	593.26/	592.14	Link97/	601.00/	601.00/
Link98/	598.75/	598.75	361.1/	632.24/	607.19	F090M04 OF/	607.19/	607.19/
363.1/	597.39/	597.39	F090M05 OF/	597.39/	597.39	364.1/	660.44/	639.32/
F100M11 OF/	639.32/	639.32	365.1/	638.16/	634.57	F100M06 OF/	634.57/	634.57/
366.1/	601.74/	601.74	370.1/	614.80/	614.80	F090M09 OF/	614.80/	614.80/
371.1/	614.80/	605.68	F090M08 OF/	605.68/	605.68	374.1/	603.17/	601.00/
F090M06 OF/	603.17/	603.17	375.1/	607.19/	600.77	F090M03 OF/	597.39/	597.39/
376.1/	612.51/	612.51	F100M04 OF/	612.51/	612.51	377.1/	605.60/	605.60/
F100M03 OF/	605.60/	605.60	F100M02 OF/	599.75/	599.75	383.1/	669.65/	658.61/
F090M08 OF/	658.61/	658.61	385.1/	601.02/	600.25	398.1/	680.42/	669.65/
F080M10 OF/	669.65/	669.65	399.1/	648.09/	603.11	F080M13/	603.11/	603.11/
430.1/	601.74/	599.20	F100M21 OF/	599.20/	599.20	433.1/	599.50/	599.20/
F090M02 OF/	590.00/	590.00	M31-M29/	599.53/	598.53	F100M29 OF/	598.75/	598.75/
GRI 1/	595.39/	595.25	or 2/	594.70/	594.70	or 3/	594.70/	594.70/

 | Table E7 - Iteration Summary |

Total number of time steps simulated.....	7200
Total number of passes in the simulation.....	56199
Total number of time steps during simulation....	30500
Ratio of actual # of time steps / NTCYC.....	4.236
Average number of iterations per time step.....	1.843
Average time step size(seconds).....	7.082
Smallest time step size(seconds).....	1.000
Largest time step size(seconds).....	30.000
Average minimum Conduit Courant time step (sec).	15.260
Average minimum implicit time step (sec).....	7.955
Average minimum junction time step (sec).....	7.955
Average Courant Factor Tf.....	7.955
Number of times omega reduced.....	3973

 | Table E8 - Junction Time Step Limitation Summary |

 | Not Convr = Number of times this junction did not
 | converge during the simulation. |
 | Avg Convr = Average junction iterations. |
 | Convr err = Mean convergence error. |
 | Omega Cng = Change of omega during iterations |
 | Max Itern = Maximum number of iterations |

Junction	Not Convr	Avg Convr	Total Itt	Omega Cng	Max Itern	Ittrn >10	Ittrn >25	Ittrn >40
F100M31	0	2.36	71877	120	311	52	26	25
F100M21	0	1.96	59641	52	476	45	38	38
F100i01	0	1.42	43230	20	322	22	14	13
F100M04	0	1.51	45968	4	18	3	0	0
F100M07	0	1.92	58558	42	469	37	34	31
F100M11	0	1.42	43413	3	28	1	1	0
F090M02	0	1.98	60455	22	497	22	19	19
F090M05	0	2.30	70069	72	488	59	47	46
F090M09	0	1.31	39932	0	24	1	0	0
F090M04	0	1.37	41844	2	43	1	1	1
F080E00	0	1.68	51266	0	6	0	0	0
F080M14	0	2.68	81774	0	12	2	0	0
F080M13	0	1.52	46276	0	6	0	0	0
F080M06	0	1.40	42703	0	6	0	0	0
EBMPF080	0	1.41	42906	0	45	6	2	1
F090M08	0	1.36	41421	1	23	2	0	0
F090M07	0	1.47	44887	8	486	8	7	7
F090M06	0	1.77	54107	47	349	52	45	42
SLOPECHANG	0	1.27	38729	0	6	0	0	0
F090M03	0	1.74	53097	24	481	22	21	21
F100M03	0	1.57	47778	2	25	3	1	0
F100M02	0	1.83	55726	11	297	12	9	8
F080M08	0	1.40	42626	1	24	1	0	0
F080M05	0	1.00	30500	0	1	0	0	0
F080i48	0	1.57	47993	0	11	2	0	0
F080 TAP	0	1.40	42671	0	5	0	0	0
F080M10	0	1.25	38053	0	7	0	0	0
F080M02	0	1.41	42904	0	5	0	0	0
F100M29	0	1.83	55772	17	23	4	0	0
F100M06	0	1.53	46566	2	15	2	0	0
F100M28	0	2.41	73491	1389	174	155	4	4
F100E01	0	1.89	57664	0	63	10	2	2
F100 E OF	0	1.05	31925	1	146	1	1	1
F090M02OUT	0	1.12	34152	5	498	5	5	5
PBMP F080	0	3.74	113941	39	359	46	37	34
F080M01A	0	2.63	80088	45	364	39	38	33
NCP Outlet	0	3.44	105007	2015	415	1617	183	171
NCP OUTMH1	0	1.56	47473	0	7	0	0	0
NCP OUTFAL	0	1.66	50707	0	6	0	0	0
F100M02A	0	1.76	53546	29	312	28	25	25

Maximum Gutter Width feet	Maximum Gutter Junction Velocity Name ft/s	Uppermost Ground Elevation feet	Maximum PipeCrown Junction Elevation feet	Maximum Junction Elevation feet	Time of Occurrence Hr. Min.	Feet of Surcharge at Max Elevation	Maximum Freeboard of node feet	Maximum Junction Area ft^2	Maximum Gutter Depth feet
0.0000	F100M31 0.0000	614.2900	606.2900	605.2599	12 8	0.0000	9.0301	12.5660	0.0000
0.0000	F100M21 0.0000	657.0900	646.0000	607.6231	12 7	0.0000	49.4669	12.5660	0.0000
0.0000	F100i01 0.0000	619.4300	605.6800	610.6618	12 6	4.9818	8.7682	12.5660	0.0000
0.0000	F100M04 0.0000	656.0700	655.6600	646.2121	12 7	0.0000	9.8579	12.5660	0.0000
0.0000	F100M07 0.0000	655.5700	648.0000	646.6769	12 7	0.0000	8.8931	12.5660	0.0000
0.0000	F100M11 0.0000	675.7400	667.7400	665.9531	12 6	0.0000	9.7869	12.5660	0.0000
0.0000	F090M02 0.0000	615.0700	607.0700	605.2285	12 3	0.0000	9.8415	12.5660	0.0000
0.0000	F090M05 0.0000	616.2200	608.2200	605.4591	12 4	0.0000	10.7609	12.5660	0.0000
0.0000	F090M09 0.0000	650.9700	650.6600	641.0752	12 5	0.0000	9.8948	12.5660	0.0000
0.0000	F090M04 0.0000	646.4400	646.1600	636.6348	12 9	0.0000	9.8052	12.5660	0.0000
0.0000	F080E00 0.0000	610.0000	599.0000	597.0045	12 33	0.0000	12.9955	12.5660	0.0000
0.0000	F080M14 0.0000	613.8200	598.2700	600.9371	13 19	2.6671	12.8829	12.5660	0.0000
0.0000	F080M13 0.0000	669.1100	661.1100	649.5361	12 4	0.0000	19.5739	12.5660	0.0000
0.0000	F080M06 0.0000	671.6300	663.6300	659.6599	12 4	0.0000	11.9701	12.5660	0.0000
0.0000	EBMPF080 0.0000	608.0000	607.6600	605.6140	12 31	0.0000	2.3860	23919.620	0.0000

0.0000	F090M08	629.9600	621.9600	620.1290	12	6	0.0000	9.8310	12.5660	0.0000
0.0000	0.0000									
0.0000	F090M07	620.9800	612.9800	611.2013	12	8	0.0000	9.7787	12.5660	0.0000
0.0000	0.0000									
0.0000	F090M06	616.0700	608.0700	606.3159	12	7	0.0000	9.7541	12.5660	0.0000
0.0000	0.0000									
0.0000	SLOPECHANG	620.0000	605.4800	609.0919	12	7	3.6119	10.9081	12.5660	0.0000
0.0000	0.0000									
0.0000	F090M03	622.4400	614.4400	612.7095	12	11	0.0000	9.7305	12.5660	0.0000
0.0000	0.0000									
0.0000	F100M03	628.7600	620.7600	618.9718	12	9	0.0000	9.7882	12.5660	0.0000
0.0000	0.0000									
0.0000	F100M02	621.8000	613.8000	612.0689	12	9	0.0000	9.7311	12.5660	0.0000
0.0000	0.0000									
0.0000	F080M08	684.4500	676.4500	670.6518	12	9	0.0000	13.7982	12.5660	0.0000
0.0000	0.0000									
0.0000	F080M05	683.8700	667.2700	666.2700	0	0	0.0000	17.6000	12.5660	0.0000
0.0000	0.0000									
0.0000	F080148	613.3100	602.2400	602.0925	12	33	0.0000	11.2175	12.5660	0.0000
0.0000	0.0000									
0.0000	F080 TAP	610.0000	599.6400	598.1500	12	33	0.0000	11.8500	12.5660	0.0000
0.0000	0.0000									
0.0000	F080M10	694.9200	686.9200	684.9701	12	7	0.0000	9.9499	12.5660	0.0000
0.0000	0.0000									
0.0000	F080M02	616.3900	608.3900	605.8027	12	5	0.0000	10.5873	12.5660	0.0000
0.0000	0.0000									
0.0000	F100M29	615.1200	607.1200	605.3792	12	6	0.0000	9.7408	12.5660	0.0000
0.0000	0.0000									
0.0000	F100M06	657.1600	648.8000	646.6970	12	4	0.0000	10.4630	12.5660	0.0000
0.0000	0.0000									
0.0000	F100M28	614.3200	606.3200	605.2162	12	9	0.0000	9.1038	12.5660	0.0000
0.0000	0.0000									
0.0000	F100E01	618.0000	601.0000	605.2176	12	10	4.2176	12.7824	9726.6431	0.0000
0.0000	0.0000									
0.0000	F100 E OF	610.0000	590.0000	590.0000	0	0	0.0000	20.0000	12.5660	0.0000
0.0000	0.0000									
0.0000	F090M02OUT	610.0000	606.5000	590.2240	12	3	0.0000	19.7760	12.5660	0.0000
0.0000	0.0000									
0.0000	PBMP F080	610.0000	598.0000	600.7019	13	45	2.7019	9.2981	62864.635	0.0000
0.0000	0.0000									
0.0000	F080M01A	610.0000	602.3500	600.7058	13	45	0.0000	9.2942	12.5660	0.0000
0.0000	0.0000									
0.0000	NCP Outlet	610.0000	596.5000	600.6460	13	45	4.1460	9.3540	12.5660	0.0000
0.0000	0.0000									
0.0000	NCP OUTMH1	610.0000	595.0500	596.7402	13	45	1.6902	13.2598	12.5660	0.0000
0.0000	0.0000									
0.0000	NCP OUTFAL	610.0000	593.9700	593.5813	13	45	0.0000	16.4187	12.5660	0.0000
0.0000	0.0000									
0.0000	F100M02A	620.0000	603.0000	609.1618	12	8	6.1618	10.8382	12.5660	0.0000
0.0000	0.0000									

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 | Table E10 - CONDUIT SUMMARY STATISTICS |
 | Note: The peak flow may be less than the design flow |
 | and the conduit may still surcharge because of the |
 | downstream boundary conditions. |
 | |
 | * denotes an open conduit that has been overtopped |
 | this is a potential source of severe errors |
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Ratio		Conduit	Maximum	Maximum	Time	Maximum	Time	Ratio of	Maximum Water			
d/D		Design	Design	Vertical	Computed	of		Computed	of	Max. to	Elev at	Pipe Ends
US	DS	Conduit	Flow	Velocity	Depth	Flow	Occurence	Velocity	Occurence	Design	Upstream	Dwnstrm
		Name	(cfs)	(ft/s)	(in)	(cfs)	Hr. Min.	(ft/s)	Hr. Min.	Flow	(ft)	(ft)

0.926	0.755	Link26	24.8139	7.8985	24.0000	23.1072	12 33	10.0828	5 47	0.9312	602.0925	598.1500
		Link27	38.5731	12.2782	24.0000	19.7156	12 4	11.3006	12 4	0.5111	659.6599	649.5361
0.525	0.723	Link31	2.9891	3.8058	12.0000	3.9843	11 53	4.9416	11 53	1.3329	611.2013	609.0919
5.521	4.612	Link32	2.0924	2.6641	12.0000	3.9703	12 25	4.9480	12 25	1.8975	609.0919	606.3159
5.122	3.146	Link44	7.3235	9.3245	12.0000	0.0000	0 0	0.0000	0 0	0.0000	666.2700	649.5361
.0000	.0000	Link46	95.3540	13.4898	36.0000	23.1072	12 33	6.7654	12 33	0.2423	598.1500	597.0045
0.503	0.335	OFLOW 4	0.2696	13.4092	1.9200	0.0000	0 0	0.0000	0 0	0.0000	605.6140	605.6140
.0000	.0000	OFLOW 5	0.0972	4.8324	1.9200	0.0000	0 0	0.0000	0 0	0.0000	641.0752	641.0752
.0000	.0000	Link61	33.0099	6.7247	30.0000	33.4194	12 5	6.8944	12 8	1.0124	605.8027	601.8153

[illegible]

0.267	0.448	F100M21 OF	2076.855	10.1807	24.0000	65.5220	12	7	3.9133	12	2	0.0315	607.6231	605.2162
3.812	4.011	433.1	9.9208	5.6140	18.0000	-15.2886	11	49	-8.5387	11	49	-1.5411	605.2176	605.2162
0.114	0.112	F090M02 OF	2682.528	13.1496	24.0000	9.8108	12	3	3.2146	12	4	0.0037	605.2285	604.7240
2.170	2.283	M31-M29	23.9598	3.3896	36.0000	20.4433	11	47	3.0103	11	45	0.8532	605.2599	605.3792
0.070	0.545	F100M29 OF	1637.557	8.0272	24.0000	8.2958	12	6	1.3216	12	5	0.0051	605.2599	605.3792
11.41	11.32	ORF 1	0.6670	0.4815	5.9947	1.6782	12	9	8.2165	12	9	2.5160	600.7019	600.6460
3.703	3.657	or 2	3.7793	0.4815	11.9970	4.5388	12	15	6.2125	12	12	1.2010	600.7019	600.6460
3.703	3.657	or 3	6.2988	0.8025	11.9970	7.5056	17	24	9.7403	17	25	1.1916	600.7019	600.6460
		F100i01 OV	Undefnd	Undefnd	Undefn	17.4383	12	6						
		F080 EMER	Undefnd	Undefnd	Undefn	14.4934	12	31						
		100E01 OV	Undefnd	Undefnd	Undefn	-22.7520	12	1						
		F100M28 OV	Undefnd	Undefnd	Undefn	83.1228	12	9						
		F100M31 OV	Undefnd	Undefnd	Undefn	87.8300	12	8						
		WR	Undefnd	Undefnd	Undefn	0.0000	0	0						
		F080M14 OV	Undefnd	Undefnd	Undefn	0.0000	0	0						
		weir 1	Undefnd	Undefnd	Undefn	17.5211	13	39						
		weir 2	Undefnd	Undefnd	Undefn	0.0000	0	0						
		FREE # 1	Undefnd	Undefnd	Undefn	23.1072	12	33						
		FREE # 2	Undefnd	Undefnd	Undefn	170.5060	12	9						
		FREE # 3	Undefnd	Undefnd	Undefn	9.8104	12	3						
		FREE # 4	Undefnd	Undefnd	Undefn	20.1649	13	45						

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 | Table E11. Area assumptions used in the analysis |
 | Subcritical and Critical flow assumptions from |
 | Subroutine Head. See Figure 17-1 in the |
 | manual for further information. |
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Conduit Name	Duration of Dry Flow (min)	Duration of Sub-Critical Flow (min)	Durat. of Upstream Critical Flow (min)	Durat. of Downstream Critical Flow (min)	Maximum Hydraulic Radius-m	Maximum X-Sect Area (ft^2)	Maximum Vel*D (ft^2/s)
Link26	346.0000	3254.0000	0.0000	0.0000	0.6069	2.9867	13.0059
Link27	2466.8000	1133.2000	0.0000	0.0000	0.5231	1.7466	14.0893
Link31	436.7500	46.7833	0.0000	3116.4667	0.3037	0.8232	23.4906
Link32	437.0000	3163.0000	0.0000	0.0000	0.3042	0.8218	19.1653
Link44	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Link46	349.5000	3250.5000	0.0000	0.0000	0.7330	3.4156	8.5055
OFLOW 4	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OFLOW 5	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Link61	461.2500	152.9762	0.0000	2985.7738	0.7592	4.9855	15.6081
Link71	383.5000	3216.5000	0.0000	0.0000	0.6038	3.2169	33.6599
F100M07 OF	3563.0083	0.0000	0.0000	36.9917	0.4808	11.3471	3.0318
F090M07 OF	3567.2333	0.0000	0.0000	32.7667	0.1195	2.8753	0.6278
F080M06 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Link85	420.0000	961.0625	0.0000	2218.9375	0.6074	3.2836	19.5066
Link87	2186.3750	1413.6250	0.0000	0.0000	0.9127	7.4091	16.0941
Link88	1638.2500	1961.7500	0.0000	0.0000	0.9127	7.3794	40.0804
Link89	341.0000	3259.0000	0.0000	0.0000	0.9112	7.3922	34.7506
Link90	2197.1667	1402.8333	0.0000	0.0000	0.7471	5.1252	22.5828
NCPoutPipe	382.7500	3217.2500	0.0000	0.0000	0.6085	3.2809	31.1806
Link96	386.2500	3213.7500	0.0000	0.0000	0.6035	3.2036	17.1660
Link97	2235.0000	1365.0000	0.0000	0.0000	0.5976	3.2816	59.5306
Link98	2222.3750	1377.6250	0.0000	0.0000	0.5976	3.2804	58.9161
361.1	2516.8500	1083.1500	0.0000	0.0000	0.2988	0.8217	44.5167
F090M04 OF	3567.3437	32.6562	0.0000	0.0000	0.1101	2.4698	1.1191
363.1	2113.3333	1486.6667	0.0000	0.0000	0.9126	7.4097	21.5401
F090M05 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
364.1	2436.9167	1163.0833	0.0000	0.0000	0.3735	1.2838	71.3395
F100M11 OF	3573.1583	26.8417	0.0000	0.0000	0.1603	8.7652	1.2804
365.1	384.0000	3216.0000	0.0000	0.0000	0.6085	3.2911	43.1331
F100M06 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
366.1	2504.7500	1095.2500	0.0000	0.0000	0.4482	1.8454	40.8097
370.1	2502.4167	1097.5833	0.0000	0.0000	0.2988	0.8217	60.3206
F090M09 OF	3586.1333	13.8667	0.0000	0.0000	0.0642	0.8630	0.5426
371.1	2456.9500	1143.0500	0.0000	0.0000	0.2988	0.8217	37.5575
F090M08 OF	3576.2833	23.7167	0.0000	0.0000	0.0960	1.8743	0.6885
374.1	437.0000	148.2024	0.0000	3014.7976	0.2988	0.8205	18.1448
F090M06 OF	3585.7639	0.0000	14.2361	0.0000	0.0306	0.4337	0.0638
375.1	518.5000	143.4583	0.0000	2938.0417	0.2988	0.8204	25.2045
F090M03 OF	3551.6476	0.0000	0.0000	48.3524	0.1437	4.1537	0.9422
376.1	2242.7500	1357.2500	0.0000	0.0000	0.5229	2.5134	136.0222
F100M04 OF	3587.2022	12.7978	0.0000	0.0000	0.0833	1.4310	0.8328
377.1	2237.0000	1363.0000	0.0000	0.0000	0.5976	3.2814	65.7508
F100M03 OF	3567.5500	32.4500	0.0000	0.0000	0.1179	2.8135	0.9957
F100M02 OF	3556.1116	43.8884	0.0000	0.0000	0.1788	8.6299	1.3062

383.1	485.5000	3114.5000	0.0000	0.0000	0.4355	1.2440	9.6807
F030M09 OF	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
385.1	527.3333	3072.6667	0.0000	0.0000	0.3759	1.2516	22.1344
398.1	2517.5833	1082.4167	0.0000	0.0000	0.3796	1.2542	26.3700
F080M10 of	3593.6437	0.0000	0.0000	6.3563	0.0305	0.2095	0.0508
399.1	2350.5000	1249.5000	0.0000	0.0000	0.5879	2.5039	27.8473
E090M13	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
430.1	2413.9500	1186.9500	0.0000	0.0000	0.5976	3.2810	32.8122
F100M21 OF	3567.6000	26.3559	0.0000	6.0441	0.2834	17.8041	2.5993
433.1	2741.6875	858.3125	0.0000	0.0000	0.4529	1.8444	32.0858
F090M02 OF	3584.6609	0.0000	0.0000	15.3391	0.1232	3.0968	0.7263
M31-M23	2200.7500	1399.2500	0.0000	0.0000	0.4125	7.4098	17.2352
F100M23 OF	3582.5273	17.1127	0.0000	0.0000	0.1736	8.2821	0.6123
CR1 1	340.0000	903.5667	0.0000	2348.4333	0.1439	0.2690	25.9080
or 2	2486.8077	319.7394	0.0000	793.4529	0.3998	0.7985	11.3272
or 3	2486.8077	319.7394	0.0000	793.4529	0.3022	0.8097	19.4893

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Table E12. Mean Conduit Flow Information

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Conduit Name	Mean Flow (cfs)	Total Flow (ft^3)	Mean Percent Change	Low Flow Weighting	Mean Froude Number	Mean Hydraulic Radius	Mean Cross Area	Mean Conduit Roughness
Link26	1.0251	221432.11	0.0004	0.9771	1.1993	0.2017	0.4955	0.0140
Link27	0.2753	59474.946	0.0003	0.6432	1.2615	0.0801	0.1305	0.0140
Link31	0.1298	28032.367	0.0001	0.6786	0.6880	0.0888	0.1221	0.0140
Link32	0.1298	28026.185	0.0001	0.6962	0.5540	0.1040	0.1546	0.0140
Link44	0.0000	0.0000	0.0000	0.0000	0.0000	0.0097	0.0103	0.0140
Link46	1.0252	221436.99	0.0004	0.9770	1.6867	0.1977	0.5586	0.0140
OFLOW 4	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
OFLOW 5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
Link61	0.4554	98362.720	0.0005	0.7243	1.0995	0.1355	0.3373	0.0140
Link71	0.5987	129316.22	0.0007	0.6969	0.5313	0.2045	0.6050	0.0140
F100M07 OF	0.2895	62536.960	0.0007	0.0406	0.0381	0.0137	0.2812	0.0500
F090M07 OF	0.0369	7977.3594	0.0001	0.0363	0.0412	0.0029	0.0550	0.0140
F080M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
Link85	0.1989	42954.851	0.0004	0.6742	0.2993	0.2240	0.9082	0.0140
Link87	1.4314	309191.52	0.0010	0.7124	0.3251	0.3643	2.1327	0.0140
Link88	2.4205	522827.72	0.0010	0.8094	0.1729	0.4411	2.9495	0.0140
Link89	2.6143	564694.58	0.0014	0.9775	0.1683	0.6651	4.9125	0.0140
Link90	0.4554	98366.503	0.0006	0.7168	0.1160	0.3828	2.2380	0.0140
NCPoutPipe	3.2530	702651.53	0.0005	0.9743	0.6641	0.3676	1.5412	0.0140
Link96	3.2532	702696.89	0.0004	0.9734	0.7663	0.3736	1.5299	0.0140
Link97	1.1653	251706.33	0.0006	0.6978	1.5441	0.1613	0.4724	0.0140

Link98	1.1651	251659.55	0.0006	0.7012	0.7711	0.2029	0.7106	0.0140
361.1	0.2397	51779.682	0.0001	0.6375	1.2778	0.0803	0.1058	0.0140
F090M04 OF	0.0565	12193.852	0.0001	0.0351	0.0599	0.0029	0.0518	0.0140
363.1	1.7952	387770.56	0.0009	0.7244	0.2791	0.3789	2.3217	0.0140
F090M05 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0013	0.0140
364.1	0.3794	81944.835	0.0003	0.6356	1.1913	0.0950	0.1553	0.0140
F100M11 OF	0.0664	14352.970	0.0003	0.0290	0.0144	0.0040	0.2128	0.0140
365.1	0.7346	158664.69	0.0006	0.6969	1.0152	0.1717	0.4651	0.0140
F100M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003	0.0126	0.0140
366.1	0.3371	72815.754	0.0003	0.6267	0.7311	0.1121	0.2315	0.0140
370.1	0.1585	34239.467	0.0001	0.6237	1.5626	0.0585	0.0652	0.0140
F090M09 OF	0.0081	1753.6516	0.0000	0.0145	0.0274	0.0008	0.0094	0.0140
371.1	0.1425	30774.396	0.0001	0.6417	1.0025	0.0708	0.0875	0.0140
F090M08 OF	0.0243	5248.3335	0.0001	0.0258	0.0350	0.0019	0.0300	0.0140
374.1	0.1293	27921.211	0.0001	0.6896	1.4618	0.0701	0.0984	0.0140
F090M06 OF	-0.0005	-102.5063	0.0000	0.0148	0.0070	0.0007	0.0048	0.0140
375.1	0.2090	45136.900	0.0001	0.7265	0.9995	0.0994	0.1498	0.0140
F090M03 OF	0.0869	18774.835	0.0002	0.0531	0.0637	0.0049	0.1072	0.0140
376.1	1.2629	272791.54	0.0007	0.6959	2.1196	0.1429	0.3378	0.0140
F100M04 OF	0.0140	3016.8608	0.0000	0.0132	0.0248	0.0010	0.0143	0.0140
377.1	1.2317	266045.58	0.0007	0.6973	1.5539	0.1638	0.4512	0.0140
F100M03 OF	0.0452	9772.4171	0.0001	0.0355	0.0473	0.0029	0.0529	0.0140
F100M02 OF	0.1110	23984.278	0.0002	0.0487	0.0438	0.0060	0.2030	0.0140
383.1	0.1686	36427.569	0.0002	0.6378	1.2176	0.0704	0.0922	0.0140
F080M08 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0140
385.1	0.9034	195143.74	0.0002	0.9551	0.8299	0.1900	0.5132	0.0240
398.1	0.1683	36359.609	0.0002	0.6307	1.1910	0.0706	0.0913	0.0140
F080M10 of	0.0003	66.5019	0.0000	0.0065	0.0140	0.0002	0.0009	0.0140
399.1	0.4556	98404.430	0.0004	0.6775	1.3626	0.1006	0.1849	0.0140

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| Table E13. Channel losses(H), headwater depth (HW), tailwater |
| depth (TW), critical and normal depth (Yc and Yn).          |
| Use this section for culvert comparisons                     |
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[illegible]

Link61	33.3077	0.5993	3.1341	1.9621	2.0724	605.7961	601.8121	Max Flow
Link71	20.6464	0.6475	3.6469	1.6279	2.0000	645.9634	641.6449	Max Flow
F100M07 OF	50.8837	0.0000	1.9963	0.7261	0.6750	646.6768	644.6750	Max Flow
F090M07 OF	8.2898	0.0000	4.5781	0.2574	0.2141	611.2013	606.4341	Max Flow
F080M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
Link85	6.2205	0.0600	0.0691	0.8326	1.1077	603.4737	603.3442	Max Flow
Link87	21.3786	0.1533	0.1975	1.4849	1.9824	601.3047	600.9721	Max Flow
Link88	44.8524	0.6107	4.3753	2.1809	3.0000	605.1065	603.1025	Max Flow
Link89	61.3745	1.1591	1.0280	2.5344	3.0000	600.0245	597.7821	Max Flow
Link90	33.2530	0.6442	0.4538	1.9606	1.2410	599.3762	598.7886	Max Flow
NCPoutPipe	20.1649	0.6203	3.2634	1.6113	2.0000	600.6460	596.7402	Max Flow
Link96	20.1649	0.3819	2.4612	1.6112	2.0000	596.7402	593.5812	Max Flow
Link97	26.9472	1.1147	2.0957	1.6034	1.2154	611.9267	608.7291	Max Flow
Link98	26.9558	1.0984	3.1804	1.8035	2.0000	608.7291	604.4248	Max Flow
361.1	7.2120	1.2604	22.7026	1.1869	0.7965	636.6096	612.6657	Max Flow
F090M04 OF	11.9493	0.0000	19.6584	0.3018	0.1888	636.6347	612.7077	Max Flow
363.1	25.9908	0.1909	0.4889	1.6449	2.1078	601.5755	600.8790	Max Flow
F090M05 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
364.1	13.9684	1.9402	17.5602	1.6785	0.9555	665.7770	646.3082	Max Flow
F100M11 OF	17.0072	0.0000	1.2380	0.3502	0.2076	665.9531	646.6752	Max Flow
365.1	22.1222	0.7619	3.3850	1.6788	1.5967	641.6449	637.4742	Max Flow
F100M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
366.1	12.1184	0.7080	2.4755	1.3187	1.2612	609.1314	605.9066	Max Flow
370.1	8.8426	1.8529	19.0679	1.5057	0.8127	641.0739	620.1266	Max Flow
F090M09 OF	3.4198	0.0000	15.3447	0.1738	0.0972	641.0752	620.1287	Max Flow
371.1	5.5932	0.7470	8.2078	0.9389	0.7976	620.0563	611.1038	Max Flow
F090M08 OF	6.6305	0.0000	7.6698	0.2357	0.1666	620.1289	611.2002	Max Flow
374.1	4.1368	0.4218	0.8074	0.8579	0.5688	606.1329	604.9057	Max Flow
F090M06 OF	0.0000	0.0000	0.0000	0.0000	0.0000	606.2169	606.2169	Max Flow
375.1	4.5605	0.4906	8.8005	0.8893	1.0000	612.4858	603.1067	Max Flow
F090M03 OF	14.6569	0.0000	7.1659	0.3302	0.2633	612.7094	605.3333	Max Flow
376.1	37.3769	3.4558	23.5360	2.7611	1.5900	646.2100	618.9687	Max Flow
F100M04 OF	6.7376	0.0000	21.0888	0.2377	0.1353	646.2121	618.9716	Max Flow
377.1	32.4125	1.6070	5.3006	1.8876	1.4684	618.9620	612.0546	Max Flow
F100M03 OF	11.6471	0.0000	6.0702	0.2981	0.2060	618.9716	612.0669	Max Flow
F100M02 OF	18.2049	0.0000	1.2989	0.3604	0.2648	612.0688	605.2594	Max Flow
383.1	11.9123	1.4620	9.5680	1.3096	0.9382	670.6352	659.6009	Max Flow
F080M08 OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
385.1	9.1897	0.7901	3.1883	1.1588	1.2500	605.3950	601.3008	Max Flow
398.1	11.6810	1.2412	12.8001	1.3489	1.2500	684.9605	670.6514	Max Flow
F080M10 OF	0.2925	0.0000	6.7282	0.0392	0.0201	684.9694	674.4701	Max Flow
399.1	33.6595	3.5891	41.2771	1.9034	1.4126	649.5295	605.7963	Max Flow
E080M13	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	Max Flow
430.1	18.5248	0.5273	2.3184	1.5484	1.5826	607.3755	604.5269	Max Flow
F100M21 OF	65.4951	0.0000	1.8879	0.6179	0.5308	607.6230	605.1972	Max Flow
433.1	3.6156	0.0637	0.0390	0.7258	0.6261	603.4862	603.3838	Max Flow
F090M02 OF	9.8100	0.0000	0.4926	0.2758	0.2240	605.2285	604.7240	Max Flow
M31-M29	20.3832	0.1345	0.1383	1.4490	2.1273	601.5798	601.3047	Max Flow
F100M29 OF	8.2663	0.0000	0.1356	0.2571	0.2557	605.3790	605.2454	Max Flow
ORI 1	1.6771	0.0000	2.9057	0.8141	0.4996	599.1265	596.1943	Max Flow
or 2	4.5162	0.0000	1.4370	0.8865	0.9997	599.1678	597.7117	Max Flow
or 3	7.5051	0.0000	1.4287	1.2462	0.9997	599.1678	597.7117	Max Flow

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 | Table E13a. CULVERT ANALYSIS CLASSIFICATION, |
 | and the time the culvert was in a particular |
 | classification during the simulation. The time is |
 | in minutes. The Dynamic Wave Equation is used for |
 | all conduit analysis but the culvert flow classification |
 | condition is based on the HW and TW depths. |
 =====

Conduit Name	Mild Slope Critical D	Mild Slope TW Control	Steep Slope TW Insignf Entrance Control	Slug Flow Outlet/ Entrance Control	Mild Slope TW > D Outlet Control	Mild Slope TW <= D Outlet Control	Outlet Control	Inlet Control	Inlet Configuration
	Outlet Control	Outlet Control	Control	Control	Control	Control	Control	Control	
Link26	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link27	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link31	239.0000	80.0000	3238.0000	0.0000	43.0000	0.0000	0.0000	0.0000	None
Link32	966.0000	320.0000	2268.0000	0.0000	46.0000	0.0000	0.0000	0.0000	None
Link44	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link46	0.0000	0.0000	3552.0000	0.0000	0.0000	0.0000	48.0000	0.0000	None
OFLOW 4	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
OFLOW 5	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link61	7.0000	2.0000	3591.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link71	928.0000	391.0000	2238.0000	0.0000	39.0000	0.0000	4.0000	0.0000	None
F100M07 OF	3.0000	4.0000	3593.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F090M07 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F080M06 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
Link85	14.0000	1064.0000	2344.0000	0.0000	178.0000	0.0000	0.0000	0.0000	None
Link87	0.0000	1261.0000	2187.0000	0.0000	152.0000	0.0000	0.0000	0.0000	None
Link88	0.0000	1432.0000	1639.0000	0.0000	529.0000	0.0000	0.0000	0.0000	None
Link89	339.0000	2311.0000	341.0000	0.0000	606.0000	0.0000	3.0000	0.0000	None
Link90	0.0000	0.0000	2486.0000	827.0000	0.0000	267.0000	20.0000	0.0000	None
NCPoutPipe	1.0000	2894.0000	385.0000	0.0000	320.0000	0.0000	0.0000	0.0000	None

Link96	366.0000	2580.0000	392.0000	0.0000	0.0000	0.0000	262.0000	0.0000	None
Link97	0.0000	0.0000	3540.0000	2.0000	0.0000	47.0000	11.0000	0.0000	None
Link98	0.0000	0.0000	3422.0000	27.0000	47.0000	45.0000	59.0000	0.0000	None
361.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F090M04 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
363.1	22.0000	1240.0000	2113.0000	0.0000	225.0000	0.0000	0.0000	0.0000	None
F090M05 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
364.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F100M11 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
365.1	0.0000	0.0000	3585.0000	1.0000	0.0000	30.0000	1.0000	0.0000	None
F100M06 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
366.1	0.0000	0.0000	3535.0000	2.0000	0.0000	31.0000	2.0000	0.0000	None
370.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F090M09 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
371.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F090M08 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
374.1	0.0000	0.0000	3525.0000	10.0000	0.0000	37.0000	28.0000	0.0000	None
F090M06 OF	0.0000	14.0000	3586.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
375.1	0.0000	0.0000	3550.0000	0.0000	50.0000	0.0000	0.0000	0.0000	None
F090M03 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
376.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F100M04 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
377.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F100M03 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F100M02 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
383.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F080M08 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
385.1	1725.0000	1081.0000	527.0000	0.0000	26.0000	0.0000	241.0000	0.0000	None
398.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
F080M10 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
399.1	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
E080M13	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
430.1	0.0000	0.0000	3474.0000	34.0000	16.0000	61.0000	15.0000	0.0000	None
F100M21 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
433.1	0.0000	0.0000	2754.0000	666.0000	8.0000	171.0000	1.0000	0.0000	Headwall
F090M02 OF	0.0000	0.0000	3600.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
M31-M29	9.0000	1258.0000	2201.0000	0.0000	132.0000	0.0000	0.0000	0.0000	None
F100M29 OF	0.0000	12.0000	3583.0000	0.0000	0.0000	0.0000	5.0000	0.0000	None
ORI 1	547.0000	395.0000	355.0000	0.0000	301.0000	351.0000	1651.0000	0.0000	None
or 2	29.0000	628.0000	2486.0000	0.0000	299.0000	0.0000	158.0000	0.0000	None
or 3	29.0000	628.0000	2486.0000	0.0000	289.0000	10.0000	158.0000	0.0000	None

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	Kinematic Wave Approximations	
	Time in Minutes for Each Condition	

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Conduit Name	Duration of Normal Flow	Slope Criteria	Super-Critical	Roll Waves
Link26	0.0000	0.0000	3220.0000	0.0000
Link27	3026.5278	3068.6667	3139.5000	0.0000
Link31	0.0000	31.7450	24.2500	0.0000
Link32	0.0000	4.5771	24.2500	0.0000
Link44	0.0000	0.0000	0.0000	0.0000
Link46	0.0000	0.0000	3252.5000	0.0000
OFLOW 4	0.0000	0.0000	0.0000	0.0000
OFLOW 5	0.0000	0.0000	0.0000	0.0000
Link61	138.0167	151.1964	2184.2857	0.0000
Link71	0.0000	12.6417	18.7500	0.0000
F100M07 OF	1.1333	1.1500	2849.4250	0.0000
F090M07 OF	0.1333	2854.3667	2884.9702	0.0000
F080M06 OF	0.0000	0.0000	0.0000	0.0000
Link85	0.0000	897.1167	34.0000	0.0000
Link87	2123.4286	2984.2736	1923.2500	0.0000
Link88	2222.7500	3168.5333	2.0000	0.0000
Link89	0.0000	2793.1923	203.8333	0.0000
Link90	2005.0417	3124.5000	189.7803	0.0000
NCPoutPipe	29.8333	2704.6548	0.0000	0.0000
Link96	0.0000	0.0000	0.0000	0.0000
Link97	2615.2906	3189.5000	3153.4890	0.0000
Link98	2888.3583	3130.2190	2686.4053	0.0000
361.1	3000.5426	3050.5000	1034.5392	0.0000
F090M04 OF	2883.4565	2883.5000	30.9014	0.0000
363.1	2140.1875	3171.1665	21.0000	0.0000
F090M05 OF	0.0000	0.0000	0.0000	0.0000
364.1	3149.4858	3203.2500	1063.9869	0.0000
F100M11 OF	2885.0000	2885.0000	0.0000	0.0000
365.1	41.7500	77.7000	3132.0461	0.0000
F100M06 OF	0.0000	0.0000	0.0000	0.0000
366.1	2289.3793	3111.7246	3021.3810	0.0000
370.1	3115.7504	3128.6781	3147.9868	0.0000
F090M09 OF	2880.5000	2880.5000	13.3333	0.0000
371.1	3097.7242	3136.0000	1102.7381	0.0000
F090M08 OF	2884.8500	2884.8500	21.4917	0.0000
374.1	39.6346	147.5893	3072.5321	0.0000
F090M06 OF	0.0000	0.0000	0.0000	0.0000

375.1	50.8643	92.1917	2974.0220	0.0000
FC90M03 OF	0.2979	0.2979	2887.6190	0.0000
376.1	3040.9583	3174.0667	3205.8333	0.0000
F100M04 OF	2878.2353	2878.2353	11.8500	0.0000
377.1	0.0000	91.1071	3169.8665	0.0000
F100M03 OF	2886.2500	2886.2500	28.8583	0.0000
F100M02 OF	2888.3910	2888.3810	12.6854	0.0000
383.1	902.3636	949.2063	3098.7500	0.0000
F080M08 OF	0.0000	0.0000	0.0000	0.0000
385.1	82.4167	88.6667	246.3553	0.0000
398.1	2146.3125	2163.3750	3114.5000	0.0000
F080M10 OF	0.0000	0.0000	2876.1562	0.0000
399.1	3064.0397	3072.8333	3127.1250	0.0000
F080M13	0.0000	0.0000	0.0000	0.0000
430.1	3011.4306	3121.8438	75.7333	0.0000
F100M21 OF	2878.2562	2879.0985	0.1250	0.0000
433.1	2151.8125	2849.8208	0.0000	0.0000
F090M02 OF	0.1333	0.1333	2883.1339	0.0000
M31-M29	0.0000	2485.7908	21.7500	0.0000
F100M29 OF	2880.0774	2882.6316	0.0000	0.0000
ORI 1	0.0000	0.0000	1676.3617	0.0000
or 2	0.0000	0.0000	1821.8742	0.0000
or 3	0.0000	0.0000	2015.1064	0.0000

=====

Table E15 - SPREADSHEET INFO LIST

Conduit Flow and Junction Depth Information for use in spreadsheets. The maximum values in this table are the true maximum values because they sample every time step. The values in the review results may only be the maximum of a subset of all the time steps in the run.

Note: These flows are only the flows in a single barrel.

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Conduit	Maximum	Total	Maximum	Maximum	##	Junction	Invert
Maximum	Name	Flow	Flow	Velocity	##	Name	Elevation
Elevation		(cfs)	(ft^3)	(ft/s)			(ft)
(ft)					##		
605.2599	Link26	23.1072	221432.1063	10.0828	301.4677	##	F100M31 598.7500
607.6231	Link27	19.7156	59474.9459	11.3006	87.3980	##	F100M21 601.7400
610.6618	Link31	3.9843	28032.3675	4.9416	118.1083	##	F100i01 604.1800
646.2121	Link32	3.9703	28026.1847	4.9480	162.7168	##	F100M04 634.5700
646.6769	Link44	0.0000	0.0000	0.0000	12.5472	##	F100M07 639.3200
665.9531	Link46	23.1072	221436.9857	6.7654	75.2551	##	F100M11 660.4400
605.2285	OFLOW 4	0.0000	0.0000	0.0000	0.0000	##	F090M02 597.3900
605.4591	OFLOW 5	0.0000	0.0000	0.0000	0.0000	##	F090M05 598.1500
641.0752	Link61	33.4194	98362.7198	6.8944	1203.4889	##	F090M09 635.3700
636.6348	Link71	20.6507	129316.2240	6.4839	1258.2467	##	F090M04 632.2400
597.0045	F100M07 OF	50.8992	62536.9602	4.4857	126.1656	##	F080E00 596.0000
600.9371	F090M07 OF	8.2930	7977.3594	2.8849	46.0635	##	F080M14 595.2700
649.5361	F080M06 OF	0.0000	0.0000	0.0000	0.0000	##	F080M13 648.0900
659.6599	Link85	-11.0693	42954.8508	-3.4903	263.4724	##	F080M06 658.6100
605.6140	Link87	21.4142	309191.5195	3.2317	1415.3412	##	EBMPF080 601.0000

620.1290	Link88	44.8541	522827.7221	6.2866	6196.3419	##	F090M08	614.8000
611.2013	Link89	61.9745	564694.5772	8.7694	778.0671	##	F090M07	605.6800
606.3159	Link90	33.3829	98366.5026	6.7789	318.0190	##	F090M06	603.1700
603.0913	RCOutPipe	20.1649	702651.5311	6.3400	1175.2874	##	SLOPECHANG	603.9100
612.7095	Link96	20.1649	702696.8856	5.4760	791.6830	##	F090M03	607.1000
618.9718	Link97	26.9522	251706.3296	9.5432	419.6205	##	F100M03	612.5100
612.0689	Link98	26.9572	251659.5476	8.4323	637.3377	##	F100M02	605.6000
670.6518	361.1	7.2130	51779.6822	11.9448	88.7823	##	F080M08	669.6500
666.2700	F090M04 OF	11.9589	12193.8524	4.8468	17.7198	##	F080M05	666.2700
602.0925	363.1	27.6609	387770.5570	3.9024	2258.0948	##	F080i48	600.2400
598.1500	F090M05 OF	0.0000	0.0000	0.0000	22.0829	##	F080 TAP	596.6400
684.9701	364.1	13.9720	81944.8352	12.0357	148.8625	##	F080M10	680.4200
605.8027	F100M11 OF	17.0104	14352.9700	1.9453	466.2940	##	F080M02	603.1100
605.3792	365.1	22.1401	158664.6901	7.4295	997.3082	##	F100M29	598.5300
646.6970	F100M06 OF	0.0000	0.0000	0.0000	392.2680	##	F100M06	638.1600
605.2162	366.1	12.1354	72815.7535	6.7682	297.0030	##	F100M28	599.2000
605.2176	370.1	8.8426	34239.4666	17.9410	59.1817	##	F100E01	599.5000
590.0000	F090M09 OF	3.4201	1753.6516	3.9647	2.7954	##	F100 E OF	590.0000
590.2240	371.1	5.5933	30774.3964	6.9637	148.2037	##	F090M02OUT	590.0000
600.7019	F090M08 OF	6.6435	5248.3335	3.5500	17.1100	##	PBMP F080	595.0000
600.7058	374.1	4.2251	27921.2109	6.5376	42.5428	##	F080M01A	597.0000
600.6460	F090M06 OF	-0.2026	-102.5063	-0.4672	47.2984	##	NCP Outlet	594.5000
596.7402	375.1	4.5607	45136.8999	5.6630	271.6659	##	NCP OUTMH1	593.0500
593.5813	F090M03 OF	14.6834	18774.8346	3.5357	71.1148	##	NCP OUTFAL	591.9700
609.1618	376.1	37.3769	272791.5396	15.0272	280.1857	##	F100M02A	601.0000
	F100M04 OF	6.7390	3016.8608	4.7104	5.8560	##		
	377.1	32.4128	266045.5784	10.4113	683.0693	##		
	F100M03 OF	11.6740	9772.4171	4.1511	29.8308	##		
	F100M02 OF	18.2113	23984.2783	2.8786	958.8010	##		

383.1	11.9293	36427.5692	9.6815	45.1676	##
F080M08 OF	0.0000	0.0000	0.0000	0.0000	##
385.1	9.2029	195143.7369	7.4595	61.0425	##
398.1	11.6815	36359.6088	9.5126	37.2069	##
F080M10 OF	0.3015	66.5019	1.4393	0.0928	##
399.1	33.7821	98404.4302	13.5063	215.2286	##
E080M13	0.0000	0.0000	0.0000	0.0000	##
430.1	18.5273	91803.7939	5.8302	970.4351	##
F100M21 OF	65.5220	67090.4386	3.9133	2690.8135	##
433.1	-15.2886	2592.7914	-8.5387	53.3931	##
F090M02 OF	9.8108	4773.1932	3.2146	44.5292	##
M31-M29	20.4433	272852.3877	3.0103	1089.2741	##
F100M29 OF	8.2958	4508.0470	1.0216	3235.6629	##
ORI 1	1.6782	153836.8592	8.2165	208.8797	##
or 2	4.5388	106436.3958	6.2125	822.8958	##
or 3	7.5056	163768.5872	9.7403	822.8958	##
F100i01 OV	17.4383	15037.2064	0.0000	0.0000	##
F080 EMER	14.4934	20745.0653	0.0000	0.0000	##
100E01 OV	-22.7520	-3153.2122	0.0000	0.0000	##
F100M28 OV	83.1228	115705.2573	0.0000	0.0000	##
F100M31 OV	87.8300	138894.5687	0.0000	0.0000	##
WR	0.0000	0.0000	0.0000	0.0000	##
F080M14 OV	0.0000	0.0000	0.0000	0.0000	##
weir 1	17.5211	278570.5746	0.0000	0.0000	##
weir 2	0.0000	0.0000	0.0000	0.0000	##
FREE # 1	23.1072	221435.8814	0.0000	0.0000	##
FREE # 2	170.5060	254632.2785	0.0000	0.0000	##
FREE # 3	9.8104	4774.0136	0.0000	0.0000	##
FREE # 4	20.1649	702710.1233	0.0000	0.0000	##

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*=====*
| Table E15a - SPREADSHEET REACH LIST |
| Peak Flow and Total Flow listed by Reach or those |
| conduits or diversions having the same |
| upstream and downstream nodes. |
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Upstream Node	Downstream Node	Maximum Flow (cfs)	Total Flow (ft ³ /s)
F080148	F080 TAP	23.1072	221432.106
F080M06	F080M12	19.7156	59474.3459
F090M07	SLOPECHANG	3.9843	28032.3675
SLOPECHANG	F090M06	3.9703	28026.1847
F080 TAP	F080E00	23.1072	221436.986
F080M02	F080M01A	33.4194	98362.7198
F100M07	F100M06	20.6507	129316.224
F100M07	F100M21	50.8992	62536.9602
F090M07	F090M05	8.2930	7977.3594
F100M28	F100M31	-11.0693	42954.8508
F100M29	F090M05	21.4142	309191.520
F090M02	F080M14	44.8541	522827.722
F080M14	PBMP F080	61.9745	564694.577
F080M01A	PBMP F080	33.3829	98366.5026
NCP Outlet	NCP OUTMH1	20.1649	702651.531
NCP OUTMH1	NCP OUTFAL	20.1649	702696.886
F100M02	F100M02A	26.9522	251706.330
F100M02A	F100M31	26.9572	251659.548
F090M04	F090M03	19.1706	63973.5346
F090M05	F090M02	27.6609	387770.557
F100M11	F100M07	30.9248	96297.8052
F100M06	F100M04	22.1401	158664.690
F100i01	F100M21	12.1354	72815.7535
F090M09	F090M08	12.2626	35993.1182
F090M08	F090M07	12.2322	36022.7299

F090M06	F090M05	4.2398	28023.7172
F090M03	F090M02	18.8227	63911.7345
F100M04	F100M03	44.1157	275808.400
F100M03	F100M02	44.0793	275817.996
F100M02	F100M31	18.2113	23984.2783
F080M08	F080M06	11.9293	36427.5692
EBMPF080	F080i48	9.2029	195143.737
F080M10	F080M08	11.9761	36426.1108
F080M13	F080M02	33.7821	98404.4302
F100M21	F100M28	82.6719	158894.233
F100E01	F100M28	-15.2886	2592.7914
F090M02	F090M02OUT	9.8108	4773.1932
F100M31	F100M29	-24.1198	268344.341
PBMP F080	NCP Outlet	22.1895	702612.417
F100i01	F100M21	17.4383	15037.2064
EBMPF080	F080i48	14.4934	20745.0653
F100E01	F100M28	-22.7520	-3153.2122
F100M28	F100 E OF	83.1228	115705.257
F100M31	F100 E OF	87.8300	138894.569

Table E16. New Conduit Information Section #
Conduit Invert (IE) Elevation and Conduit #
Maximum Water Surface (WS) Elevations #
#####

Conduit Name	Upstream Node	Downstream Node	IE Up	IE Dn	WS Up	WS Dn	Conduit Type
Link26	F080i48	F080 TAP	600.2400	596.6400	602.0925	598.1500	Circular
Link27	F080M06	F080M13	658.6100	648.0900	659.6599	649.5361	Circular
Link31	F090M07	SLOPECHANG	605.6800	604.4800	611.2013	609.0919	Circular
Link32	SLOPECHANG	F090M06	603.9700	603.1700	609.0919	606.3159	Circular
Link44	F080M05	F080M13	666.2700	648.0900	666.2700	649.5361	Circular
Link46	F080 TAP	F080E00	596.6400	596.0000	598.1500	597.0045	Circular
OFLOW 4	F090M04	EBMPF080	646.0000	607.5000	605.6140	605.6140	Circular

OFLOW 5	F100M04	F090M09	655.5000	650.5000	641.0752	641.0752	Circular
Link61	F080M02	F080M01A	603.1100	599.8500	605.8027	601.8153	Circular
Link71	F100M07	F100M06	639.3200	638.1600	646.6769	646.6970	Circular
F100M07 OF	F100M07	F100M21	646.0000	644.0000	646.6769	644.6751	Trapezoid
F090M07 OF	F090M07	F090M05	610.9300	606.2200	611.2013	606.4341	Trapezoid
F080M06 OF	F080M06	F080M02	661.6300	606.3900	605.8027	605.8027	Trapezoid
Link85	F100M28	F100M31	599.2000	599.0000	605.2162	605.2599	Circular
Link87	F100M29	F090M05	598.5300	598.1500	605.3792	605.4592	Circular
Link88	F090M02	F080M14	597.3900	595.2700	605.2285	600.9371	Circular
Link89	F080M14	PBMP F080	595.2700	595.0000	600.9372	600.7019	Circular
Link90	F080M01A	PBMP F080	597.0000	595.0000	600.7058	600.7019	Circular
NCPoutPipe	NCP Outlet	NCP OUTMH1	594.5000	593.0500	600.6460	596.7402	Circular
Link96	NCP OUTMH1	NCP OUTFAL	593.0500	591.9700	596.7402	593.5813	Circular
Link97	F100M02	F100M02A	605.6000	601.0000	612.0688	609.1618	Circular
Link98	F100M02A	F100M31	601.0000	598.7500	609.1618	605.2599	Circular
361.1	F090M04	F090M03	632.2400	607.1900	636.6348	612.7095	Circular
F090M04 OF	F090M04	F090M03	636.4400	612.4400	636.6348	612.7095	Trapezoid
363.1	F090M05	F090M02	598.1500	597.3900	605.4591	605.2285	Circular
F090M05 OF	F090M05	F090M02	606.2200	605.0700	605.4591	605.2285	Trapezoid
364.1	F100M11	F100M07	660.4400	639.3200	665.9531	646.6769	Circular
F100M11 OF	F100M11	F100M07	665.7400	645.5700	665.9531	646.6769	Trapezoid
365.1	F100M06	F100M04	638.1600	634.5700	646.6970	646.2121	Circular
F100M06 OF	F100M06	F100M04	646.8000	645.7700	646.6970	646.2121	Trapezoid
366.1	F100i01	F100M21	604.1800	601.7400	610.6618	607.6231	Circular
370.1	F090M09	F090M08	635.3700	614.8000	641.0752	620.1290	Circular
F090M09 OF	F090M09	F090M08	640.9700	619.9600	641.0752	620.1290	Trapezoid
371.1	F090M08	F090M07	614.8000	605.6800	620.1290	611.2013	Circular
F090M08 OF	F090M08	F090M07	619.9600	610.9800	620.1290	611.2013	Trapezoid
374.1	F090M06	F090M05	603.1700	601.0000	606.3159	605.4592	Circular

=====

Junction Name	<-----Continuity Error ----->			Remaining Volume	Beginning Volume	Net Flow Thru Node	Total Flow Thru Node	Failed to Converge
	Volume	% of Node	% of Inflow					
F100M31	-301.7085	-0.0366	0.0251	0.0045	0.0000	-301.7040	823222.8631	0
F100M21	1341.5462	0.4204	0.1117	0.0040	0.0000	1341.5509	319138.2434	0
F100i01	11.5067	0.0060	0.0009	0.0008	0.0000	10.5075	115721.5611	0
F100M04	-0.0325	0.0000	0.0000	0.0069	0.0000	-0.0256	551626.0491	0
F100M07	-36.6678	-0.0096	0.0031	0.0056	0.0000	-36.6621	383674.0098	0
F100M11	-108.2596	-0.0562	0.0090	0.0033	0.0000	-108.2563	192488.6683	0
F090M02	129.5010	0.0123	0.0108	13.6894	0.0000	143.1904	1055394.452	0
F090M05	-127.1398	-0.0164	0.0106	0.0063	0.0000	-127.1336	775476.2884	0
F090M09	-20.1751	-0.0280	0.0017	0.0030	0.0000	-20.1721	71966.5367	0
F090M04	-188.5633	-0.1476	0.0157	0.0052	0.0000	-188.5581	127759.3234	0
F080E00	-4.2661	-0.0010	0.0004	0.0406	0.0000	-4.2255	442872.8670	0
F080M14	-1061.2298	-0.0940	0.0884	30.3859	0.0000	-1030.8439	1128383.871	0
F080M13	23.6680	0.0120	0.0020	0.0159	0.0000	23.6840	196830.1807	0
F080M06	5.4581	0.0046	0.0005	0.0129	0.0000	5.4710	118960.2132	0
EBMPF080	-9.7799	-0.0023	0.0008	233.0317	0.0000	223.2518	432015.7918	0
F090M08	-28.6720	-0.0398	0.0024	0.0059	0.0000	-28.6661	72015.8481	0
F090M07	13.8677	0.0193	0.0012	0.0060	0.0000	13.8738	72032.4568	0
F090M06	2.5844	0.0046	0.0002	0.0019	0.0000	2.5863	56049.9018	0
SLOPECHANG	5.5999	0.0100	0.0005	0.0022	0.0000	5.6021	56058.5522	0
F090M03	61.5085	0.0481	0.0051	0.0103	0.0000	61.5188	127885.2691	0
F100M03	-9.3114	-0.0017	0.0008	0.0062	0.0000	-9.3052	551626.3959	0
F100M02	125.8822	0.0228	0.0105	0.0046	0.0000	125.8868	551508.6034	0
F080M08	-1.8984	-0.0026	0.0002	0.0070	0.0000	-1.8914	72853.6800	0
F080M05	-0.0019	0.0000	0.0000	0.0019	0.0000	0.0000	0.0000	0
F080i48	-59.4992	-0.0134	0.0050	0.6754	0.0000	-58.8237	442810.5601	0
F080 TAP	-8.8012	-0.0020	0.0007	0.5516	0.0000	-8.2496	442869.0920	0
F080M10	-12.2623	-0.0168	0.0010	0.0035	0.0000	-12.2588	72840.0425	0
F080M02	34.7008	0.0176	0.0029	0.0228	0.0000	34.7236	196767.1500	0

F100M29	-155.0586	-0.0247	0.0129	0.0024	0.0000	-155.0561	627285.3318	0
F100M06	-90.3989	-0.0285	0.0075	0.0050	0.0000	-90.3939	317243.6986	0
F100M28	-168.9540	-0.0523	0.0141	0.0038	0.0000	-168.9501	323300.3442	0
F100E01	714.2330	12.4301	0.0595	0.0001	0.0000	714.2332	5746.0036	0
F100 E OF	0.1902	0.0000	0.0000	0.0000	0.0000	0.1902	509232.1045	0
F090M02OUT	-0.0042	0.0000	0.0000	0.0002	0.0000	-0.0040	9547.2068	0
PBMP F080	77.2992	0.0054	0.0064	16844.0526	0.0000	16921.3518	1422152.977	0
F080M01A	-11.1971	-0.0057	0.0009	5.2609	0.0000	-5.9363	196729.2224	0
NCP Outlet	-114.8635	-0.0082	0.0096	99.1748	0.0000	-15.6887	1405263.948	0
NCP OUTMH1	-107.6477	-0.0077	0.0090	53.8696	0.0000	-53.7781	1405348.417	0
NCP OUTFAL	-36.7065	-0.0026	0.0031	23.0161	0.0000	-13.6904	1405407.009	0
F100M02A	35.1527	0.0070	0.0029	0.0017	0.0000	35.1543	503365.8773	0

The total continuity error was -81.400 cubic feet
The remaining total volume was 17304. cubic feet
Your mean node continuity error was Excellent
Your worst node continuity error was Excellent
* You were using an interface file but had no inflow.
* Check the output for important messages.

```

*=====
| Table E19 - Junction Inflow & Outflow Listing |
|           Units are either ft^3 or m^3         |
|           depending on the units in your model. |
*=====

```

	Constant	User	Interface	DWF	Inflow	RNF Layer	
Inflow							
Junction	Inflow	Inflow	Inflow	Inflow	through	Inflow	Outflow
Evaporation	from	to Node	to Node	to Node	Outfall	to Node	from Node
from Node	Name	2D Layer					
-----	-----	-----	-----	-----	-----	-----	-----
0.0000	F100M31	0.0000	0.0000	0.0000	0.0000	88368.2866	0.3286
	0.0000						
0.0000	F100M21	0.0000	0.0000	0.0000	0.0000	9853.9556	0.0000
	0.0000						
0.0000	F100i01	0.0000	0.0000	0.0000	0.0000	87867.8046	0.0000
	0.0000						
0.0000	F100M04	0.0000	0.0000	0.0000	0.0000	117150.6246	0.0000
	0.0000						
0.0000	F100M07	0.0000	0.0000	0.0000	0.0000	95521.4995	0.3785
	0.0000						
0.0000	F100M11	0.0000	0.0000	0.0000	0.0000	96188.8048	0.0000
	0.0000						
0.0000	F090M02	0.0000	0.0000	0.0000	0.0000	76106.9590	0.0672
	0.0000						
0.0000	F090M05	0.0000	0.0000	0.0000	0.0000	42510.9586	0.0001
	0.0000						
0.0000	F090M09	0.0000	0.0000	0.0000	0.0000	35972.9880	0.0000
	0.0000						
	F090M04	0.0000	0.0000	0.0000	0.0000	63786.0325	0.0000

0.0000	0.0000							
0.0000	F080E00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	221435.8814
0.0000	0.0000							
0.0000	F080M14	0.0000	0.0000	0.0000	0.0000	0.0000	40856.9164	0.0003
0.0000	0.0000							
0.0000	F080M13	0.0000	0.0000	0.0000	0.0000	0.0000	36350.4155	0.4300
0.0000	0.0000							
0.0000	F080M06	0.0000	0.0000	0.0000	0.0000	0.0000	23056.8500	0.0000
0.0000	0.0000							
0.0000	LBMPF080	0.0000	0.0000	0.0000	0.0000	0.0000	216127.3994	0.0001
0.0000	0.0000							
0.0000	F080i48	0.0000	0.0000	0.0000	0.0000	0.0000	5489.0334	0.0000
0.0000	0.0000							
0.0000	F080M10	0.0000	0.0000	0.0000	0.0000	0.0000	36413.8575	0.0000
0.0000	0.0000							
0.0000	F100M29	0.0000	0.0000	0.0000	0.0000	0.0000	40732.6217	0.0010
0.0000	0.0000							
0.0000	F100M06	0.0000	0.0000	0.0000	0.0000	0.0000	29261.6852	0.0015
0.0000	0.0000							
0.0000	F100 E OF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	254632.2785
0.0000	0.0000							
0.0000	F090M02OUT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	4774.0136
0.0000	0.0000							
0.0000	PBMP F080	0.0000	0.0000	0.0000	0.0000	0.0000	56474.4946	0.0003
0.0000	0.0000							
0.0000	NCP UTFAL	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	702710.1233
0.0000	0.0000							

```

*=====
| Table E20 - Junction Flooding and Volume Listing. |
| The maximum volume is the total volume |
| in the node including the volume in the |
| flooded storage area. This is the max |
| volume at any time. The volume in the |
| flooded storage area is the total volume |
| above the ground elevation, where the |
| flooded pond storage area starts. |
| The fourth column is instantaneous, the fifth is the |
| sum of the flooded volume over the entire simulation |
| Units are either ft^3 or m^3 depending on the units. |
*=====

```

Junction Name	Surcharged Time (min)	Flooded Time(min)	Out of 1D-System (Flooded Volume)	Maximum Volume	Passed to 2D cell OR Volume Stored in allowed Flood Pond of 1D-System
F100M31	0.0000	0.0000	0.0000	81.8028	0.0000
F100M21	0.0000	0.0000	0.0000	73.9269	0.0000
F100i01	40.5653	0.0000	0.0000	81.4498	0.0000
F100M04	0.0000	0.0000	0.0000	146.2950	0.0000
F100M07	0.0000	0.0000	0.0000	92.4470	0.0000
F100M11	0.0000	0.0000	0.0000	69.2778	0.0000
F090M02	0.0000	0.0000	0.0000	98.4988	0.0000
F090M05	0.0000	0.0000	0.0000	91.8470	0.0000
F090M09	0.0000	0.0000	0.0000	71.6911	0.0000

F090M04	0.0000	0.0000	0.0000	55.2252	0.0000
F080E00	0.0000	0.0000	0.0000	12.6222	0.0000
F080M14	529.1250	0.0000	0.0000	71.2143	0.0000
F080M13	0.0000	0.0000	0.0000	18.1718	0.0000
F080M06	0.0000	0.0000	0.0000	13.1930	0.0000
EBMPF080	0.0000	0.0000	0.0000	81484.4027	0.0000
F090M08	0.0000	0.0000	0.0000	66.9641	0.0000
F090M07	0.0000	0.0000	0.0000	69.3813	0.0000
F090M06	0.0000	0.0000	0.0000	39.5318	0.0000
SLOPECHANG	42.9517	0.0000	0.0000	64.3621	0.0000
F090M03	0.0000	0.0000	0.0000	69.3582	0.0000
F100M03	0.0000	0.0000	0.0000	81.1994	0.0000
F100M02	0.0000	0.0000	0.0000	81.2876	0.0000
F080M08	0.0000	0.0000	0.0000	12.5888	0.0000
F080M05	0.0000	0.0000	0.0000	0.0000	0.0000
F080i48	0.0000	0.0000	0.0000	23.2785	0.0000
F080 TAP	0.0000	0.0000	0.0000	18.9746	0.0000
F080M10	0.0000	0.0000	0.0000	57.1767	0.0000
F080M02	0.0000	0.0000	0.0000	33.8364	0.0000
F100M29	0.0000	0.0000	0.0000	86.0675	0.0000
F100M06	0.0000	0.0000	0.0000	107.2759	0.0000
F100M28	0.0000	0.0000	0.0000	75.6000	0.0000
F100E01	178.8056	0.0000	0.0000	17971.0395	0.0000
F100 E OF	0.0000	0.0000	0.0000	0.0000	0.0000
F090M02OUT	0.0000	0.0000	0.0000	2.8150	0.0000
PBMP F080	606.0691	0.0000	0.0000	297114.6997	0.0000
F080M01A	0.0000	0.0000	0.0000	46.5667	0.0000
NCP Outlet	330.1455	0.0000	0.0000	77.2311	0.0000
NCP OUTMH1	320.5364	0.0000	0.0000	46.3707	0.0000

NCP OUTFAL	0.0000	0.0000	0.0000	20.2470	0.0000
F100M02A	101.4583	0.0000	0.0000	102.5607	0.0000

 | Simulation Specific Information |

Number of Input Conduits.....	57	Number of Simulated Conduits.....	73
Number of Natural Channels.....	0	Number of Junctions.....	40
Number of Storage Junctions.....	3	Number of Weirs.....	9
Number of Orifices.....	3	Number of Pumps.....	0
Number of Free Outfalls.....	4	Number of Tide Gate Outfalls.....	0

 | Average % Change in Junction or Conduit is defined as: |
 | Conduit % Change ==> 100.0 (Q(n+1) - Q(n)) / Qfull |
 | Junction % Change ==> 100.0 (Y(n+1) - Y(n)) / Yfull |

The Conduit with the largest average change was..weir 1 with 0.003 percent
 The Junction with the largest average change was.F090M02 with 0.029 percent
 The Conduit with the largest sinuosity was.....ORI 1 with 16.076

 | Table E21. Continuity balance at the end of the simulation |
 | Junction Inflow, Outflow or Street Flooding |
 | Error = Inflow + Initial Volume - Outflow - Final Volume |

Junction	Inflow Volume,ft^3	Average Inflow, cfs
F100M31	88369.1831	0.4091
F100M21	9854.0908	0.0456
F100i01	87868.6012	0.4068
F100M04	117152.9576	0.5424
F100M07	95523.0204	0.4422
F100M11	96190.8631	0.4453
F090M02	76111.2450	0.3524
F090M05	42513.1354	0.1968
F090M09	35973.4185	0.1665
F090M04	63785.7889	0.2953
F080M14	40861.5715	0.1892
F080M13	38950.8046	0.1803
F080M06	23057.6980	0.1067
EBMPF080	216126.9896	1.0006
F080i48	5489.6516	0.0254
F080M10	36413.9317	0.1686
F100M29	40733.3776	0.1886

F100M06	29262.7845	0.1355
PBMP F080	56479.4807	0.2615
F100M31	-0.3286	0.0000
F100i01	0.0000	0.0000
F100M04	0.0000	0.0000
F100M07	-0.3785	0.0000
F100M11	0.0000	0.0000
F090M02	-0.0672	0.0000
F090M05	-0.0001	0.0000
F080E00	-221435.8814	-1.0252
F080M14	-0.0003	0.0000
F080M13	-0.4300	0.0000
F080M06	0.0000	0.0000
EBMPF080	-0.0001	0.0000
F080i48	0.0000	0.0000
F100M29	-0.0010	0.0000
F100M06	-0.0015	0.0000
F100 E OF	-254632.2785	-1.1789
F090M02OUT	-4774.0136	-0.0221
PBMP F080	-0.0003	0.0000
NCP OUTFAL	-702710.1233	-3.2533

Outflow Junction	Outflow Volume, ft^3	Average Outflow, cfs
-----	-----	-----
F100M31	0.3286	0.0000
F100i01	0.0000	0.0000
F100M04	0.0000	0.0000
F100M07	0.3785	0.0000
F100M11	0.0000	0.0000
F090M02	0.0672	0.0000

EQ90M05	0.0001	0.0000
EQ90E00	221435.8814	1.0252
EQ90M14	0.0003	0.0000
EQ90M13	0.4399	0.0000
EQ90M06	0.0000	0.0000
EBMP EQ90	0.0001	0.0000
F080i49	0.0000	0.0000
F100M29	0.0010	0.0000
F100M06	0.0015	0.0000
F100 E OF	254632.2785	1.1789
F090M02OUT	4774.0136	0.0221
PBMP F080	0.0003	0.0000
NCP OUTFAL	702710.1233	3.2533

=====

Initial system volume	=	0.0000 Cu Ft
Total system inflow volume	=	1.200691E+06 Cu Ft
Inflow + Initial volume	=	1.200691E+06 Cu Ft

=====

Total system outflow	=	1.183554E+06 Cu Ft
Volume left (Final volume)	=	17303.9027 Cu Ft
Evaporation	=	0.0000 Cu Ft
Outflow + Final Volume	=	1.200857E+06 Cu Ft

=====

Total Model Continuity Error	
Error in Continuity, Percent =	-0.0138
Error in Continuity, ft^3 =	-166.220
+ Error means a continuity loss, - a gain	

=====

 # Table E22. Numerical Model judgement section #
 #####

Overall error was (minimum of Table E18 & E21) -0.0068 percent

Worst nodal error was in node F100M21 with 0.4204 percent

Of the total inflow this loss was 0.1117 percent

Your overall continuity error was Excellent

Excellent Efficiency

Efficiency of the simulation 1.75

Most Number of Non Convergences at one Node 0.

Total Number Non Convergences at all Nodes 0.

Total Number of Nodes with Non Convergences 0.

```
#####
# Table E23. New Basin Design Information #
# Maximum Hydraulic Grade Line, #
# Out Conduit Sizes and Maximum Flow #
#####
```

- A) Resize d/s Pipes based on given HGL
- B) Resize Basin based on given HGL
- C) Resize d/s Pipes and Basin based on HGL and max discharge
- D) Resize d/s pipes based on given max discharge

Basin Name	Type	Max.HGL (ft)	Conduit	Diam. (ft)	Barrels	Max.Flow (ft^3/s)
------------	------	-----------------	---------	---------------	---------	----------------------

==> Hydraulic model simulation ended normally.
==> XP-SWMM Simulation ended normally.

==> Your input file was named : C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\Proposed Conditions for SWMP\Proposed North Cloverleaf_100-year.DAT

==> Your output file was named : C:\data-jmh\Allouez\900458\22 - Taft Pond\SWMM\Proposed Conditions for SWMP\Proposed North Cloverleaf_100-year.out

```
*=====
| SWMM Simulation Date and Time Summary |
*=====
| Starting Date... December 31, 2012 Time... 0:58:41:77 |
| Ending Date... December 31, 2012 Time... 0:59:10: 2 |
| Elapsed Time... 0.47083 minutes or 28.25000 seconds |
*=====
```

APPENDIX D

SLAMM WATER QUALITY ANALYSIS

NORTH CLOVERLEAF POND - InputData

Village of Allouez
SLAMM Input File
North Cloverleaf Pond
12-28-12

Data file name: C:\data-jmh\Allouez\900458\22 - Taft Pond\SLAMM\NORTH CLOVERLEAF POND.mdb
WinSLAMM Version 10.0.0
Rain file name: C:\winSLAMM Files\Rain Files\WI Green Bay 69.RAN
Particulate Solids Concentration file name: C:\winSLAMM Files\WI_AVG01.pscx
Runoff Coefficient file name: C:\winSLAMM Files\v10 WI_SL06 Dec06.rsv
Residential Street Delivery file name: C:\winSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\winSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\winSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\winSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\winSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\winSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\winSLAMM Files\WI_GEO02.ppd
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/02/69 Study period ending date: 12/28/69
Start of Winter Season: 11/25 End of Winter Season: 03/29
Date: 12-31-2012 Time: 00:51:05
Site information:

LU# 1 - Freeway: Type1:4 Lane Urban XS with Median ADT=30000 Slopes2 Total area (ac): 0.070
1 - Paved Lane/Shldr Area 1: 0.028 ac. Poor/Flat C&G Freeway Length = 0.003206 mi ADT = 30000 veh/day Default Initial St. Dirt Loading
21 - Large Turf Areas 3: 0.042 ac. Clayey

LU# 2 - Residential: Low Density Residential_Non ROW Total area (ac): 20.370
3 - Roofs 3: 0.456 ac. Pitched Connected
6 - Roofs 6: 0.134 ac. Pitched Disconnected Silty
8 - Roofs 8: 1.330 ac. Pitched Disconnected Clayey Low Density
13 - Paved Parking 1: 0.024 ac. Connected
25 - Driveways 1: 0.576 ac. Connected
27 - Driveways 3: 0.029 ac. Disconnected Silty
28 - Driveways 4: 0.284 ac. Disconnected Clayey Low Density
31 - Sidewalks 1: 0.041 ac. Connected
33 - Sidewalks 3: 0.008 ac. Disconnected Silty
34 - Sidewalks 4: 0.076 ac. Disconnected Clayey Medium/High Density
No Alleys
52 - Small Landscaped Areas 2: 1.490 ac. Silty
53 - Small Landscaped Areas 3: 14.744 ac. Clayey Medium/High Density
No Alleys
58 - Undeveloped Areas 2: 0.097 ac. Silty
59 - Undeveloped Areas 3: 0.960 ac. Clayey Medium/High Density No
Alleys
69 - Isolated Areas: 0.048 ac.
72 - Other Pervious Areas 2: 0.004 ac. Silty
73 - Other Pervious Areas 3: 0.044 ac. Clayey Medium/High Density No
Alleys
79 - Other Part Con Imp Areas 2: 0.002 ac. Disconnected Silty

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80 - Other Part Con Imp Areas 3: 0.022 ac. Disconnected Clayey Low Density

LU# 3 - Residential: Multi Family Residential_Non ROW Total area (ac): 2.750

1 - Roofs 1: 0.131 ac. Flat Connected
 3 - Roofs 3: 0.544 ac. Pitched Connected
 8 - Roofs 8: 0.124 ac. Pitched Disconnected Clayey Medium/High Density
 No Alleys
 13 - Paved Parking 1: 0.417 ac. Connected
 19 - Unpaved Parking 1: 0.019 ac. Connected
 25 - Driveways 1: 0.055 ac. Connected
 28 - Driveways 4: 0.035 ac. Disconnected Clayey Medium/High Density
 No Alleys
 31 - Sidewalks 1: 0.041 ac. Connected
 34 - Sidewalks 4: 0.081 ac. Disconnected Clayey Medium/High Density
 No Alleys
 47 - Large Landscaped Areas 3: 0.054 ac. Clayey
 53 - Small Landscaped Areas 3: 0.979 ac. Clayey
 59 - Undeveloped Areas 3: 0.116 ac. Clayey
 66 - Paved Playgrounds 4: 0.004 ac. Disconnected Clayey Medium/High Density
 No Alleys
 69 - Isolated Areas: 0.004 ac.
 73 - Other Pervious Areas 3: 0.147 ac. Clayey

LU# 4 - Residential: Multi Family Residential_ROW Total area (ac): 0.410

25 - Driveways 1: 0.007 ac. Connected
 31 - Sidewalks 1: 0.015 ac. Connected
 37 - : 0.087 ac. Smooth Street Length = 4.843642E-02 curb-mi Default
 St. Dirt Accum. Annual Winter Load = 2500 lbs
 38 - Streets 2: 0.121 ac. Intermediate Street Length = 6.263968E-02
 curb-mi Default St. Dirt Accum. Annual Winter Load = 2500 lbs
 53 - Small Landscaped Areas 3: 0.180 ac. Clayey

LU# 5 - Residential: Medium Density Res. No Alleys_Non ROW Total area (ac): 35.880

3 - Roofs 3: 2.157 ac. Pitched Connected
 8 - Roofs 8: 5.034 ac. Pitched Disconnected Clayey Medium/High Density
 No Alleys
 13 - Paved Parking 1: 0.096 ac. Connected
 25 - Driveways 1: 2.014 ac. Connected
 28 - : 0.911 ac. Disconnected Clayey Medium/High Density No Alleys
 31 - Sidewalks 1: 0.264 ac. Connected
 34 - : 0.527 ac. Disconnected Clayey Medium/High Density No Alleys
 47 - Large Landscaped Areas 3: 0.096 ac. Clayey
 53 - Small Landscaped Areas 3: 22.576 ac. Clayey
 59 - : 0.192 ac. Clayey
 69 - Isolated Areas: 0.096 ac.
 73 - : 1.918 ac. Clayey

LU# 6 - Other Urban: Parks_Non ROW Total area (ac): 4.930

1 - : 0.005 ac. Flat Connected
 3 - : 0.006 ac. Pitched Connected
 8 - : 0.013 ac. Pitched Disconnected Clayey Low Density
 13 - : 0.222 ac. Connected
 22 - : 0.012 ac. Disconnected Clayey Low Density
 25 - : 0.048 ac. Connected
 31 - : 0.013 ac. Connected
 47 - : 3.965 ac. Clayey Low Density
 53 - : 0.045 ac. Clayey

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63 - :	0.048 ac.	Connected		
66 - :	0.048 ac.	Disconnected	Clayey	Low Density
69 - :	0.375 ac.			
80 - :	0.131 ac.	Disconnected	Clayey	Low Density

LU# 7 - Freeway: Type1:4 Lane Urban XS with Median ADT=30000 Slopes2 Total area (ac): 18.980

1 - Paved Lane/Shldr Area 1: 7.529 ac. Poor/Flat C&G Freeway Length = 0.869284 mi ADT = 30000 veh/day Default Initial St. Dirt Loading

21 - Large Turf Areas 3: 11.451 ac. Clayey

LU# 8 - Residential: Low Density Residential_ROW Total area (ac): 5.020

25 - Driveways 1: 0.265 ac. Connected

31 - Sidewalks 1: 0.060 ac. Connected

37 - : 0.728 ac. Smooth Street Length = 0.463639 curb-mi Default St. Dirt Accum. Annual Winter Load = 2500 lbs

38 - Streets 2: 1.389 ac. Intermediate Street Length = 0.8915626 curb-mi Default St. Dirt Accum. Annual Winter Load = 2500 lbs

39 - : 0.198 ac. Rough Street Length = 0.1319486 curb-mi Default St. Dirt Accum. Annual Winter Load = 2750 lbs

53 - Small Landscaped Areas 3: 2.381 ac. Clayey

LU# 9 - Residential: Medium Density Res. No Alleys_ROW Total area (ac): 11.940

25 - : 0.664 ac. Connected

31 - : 0.261 ac. Connected

37 - : 1.756 ac. Smooth Street Length = 0.9500747 curb-mi Default St. Dirt Accum. Annual Winter Load = 2500 lbs

38 - : 3.607 ac. Intermediate Street Length = 1.895404 curb-mi Default St. Dirt Accum. Annual Winter Load = 2500 lbs

39 - : 0.712 ac. Rough Street Length = 0.3801248 curb-mi Default St. Dirt Accum. Annual Winter Load = 2750 lbs

53 - : 4.940 ac. Clayey

LU# 10 - Other Urban: Parks_ROW Total area (ac): 2.630

25 - Driveways 1: 0.114 ac. Connected

31 - Sidewalks 1: 0.095 ac. Connected

37 - : 0.381 ac. Smooth Street Length = 0.2359768 curb-mi Default St. Dirt Accum. Annual Winter Load = 2500 lbs

38 - Streets 2: 0.864 ac. Intermediate Street Length = 0.526 curb-mi Default St. Dirt Accum. Annual Winter Load = 2500 lbs

47 - Large Landscaped Areas 3: 1.176 ac. Clayey Low Density

Control Practice 1: Wet Detention Pond CP# 1 (DS)

Particle Size Distribution file name: C:\WinSLAMM Files\NURP.CPZ

Initial stage elevation (ft): 9

Peak to Average Flow Ratio: 3.8

Maximum flow allowed into pond (cfs): No maximum value entered

Outlet Characteristics:

outlet type: Sharp Crested Weir

1. Sharp crested weir length (ft): 10

2. Sharp crested weir height from invert: 3

3. Sharp crested weir invert elevation above datum (ft): 13

outlet type: Orifice 1

1. Orifice diameter (ft): 0.5

2. Number of orifices: 1

3. Invert elevation above datum (ft): 9

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Outlet type: Orifice 2

1. Orifice diameter (ft): 1
2. Number of orifices: 2
3. Invert elevation above datum (ft): 11

Outlet type: Broad Crested Weir

1. Weir crest length (ft): 0.01
2. Weir crest width (ft): 0.01
3. Discharge Coefficient (ft): 0
4. Height of weir opening (cfs): 0.01
5. Height from datum to bottom of weir opening: 15.99

Outlet type: Vertical Stand Pipe

1. Stand pipe diameter (ft): 1.25
2. Stand pipe height above datum (ft): 15

Pond stage and surface area (cfs)	Entry Number	Stage (ft)	Pond Area (acres)	Natural Seepage (in/hr)	Other Outflow
0.00	0	0.00	0.0000	0.00	
0.00	1	1.00	0.3900	0.00	
0.00	2	5.00	0.5800	0.00	
0.00	3	7.00	0.6900	0.00	
0.00	4	8.00	0.7400	0.00	
0.00	5	9.00	0.9700	0.00	
0.00	6	10.00	1.0400	0.00	
0.00	7	11.00	1.1200	0.00	
0.90	8	12.00	1.2000	0.00	
2.20	9	13.00	1.2900	0.00	
5.50	10	14.00	1.4000	0.00	
55.00	11	15.00	1.4900	0.00	
121.00	12	16.00	1.5900	0.00	
0.00					

NORTH CLOVERLEAF POND - Output Summary

Village of Allouez
SLAMM Output File
North Cloverleaf Pond
12-28-12

SLAMM for windows version 10.0.0
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Data file name: C:\data-jmh\Allouez\900458\22 - Taft Pond\SLAMM\NORTH CLOVERLEAF POND.mdb

Data file description:

Rain file name: C:\winSLAMM Files\Rain Files\WI Green Bay 69.RAN

Particulate Solids Concentration file name: C:\winSLAMM Files\WI_AVG01.pscx

Runoff Coefficient file name: C:\winSLAMM Files\v10 WI_SL06 Dec06.rsv

Residential Street Delivery file name: C:\winSLAMM Files\WI_Res and Other Urban Dec06.std

Institutional Street Delivery file name: C:\winSLAMM Files\WI_Com Inst Indust Dec06.std

Commercial Street Delivery file name: C:\winSLAMM Files\WI_Com Inst Indust Dec06.std

Industrial Street Delivery file name: C:\winSLAMM Files\WI_Com Inst Indust Dec06.std

Other Urban Street Delivery file name: C:\winSLAMM Files\WI_Res and Other Urban Dec06.std

Freeway Street Delivery file name: C:\winSLAMM Files\Freeway Dec06.std

Pollutant Relative Concentration file name: C:\winSLAMM Files\WI_GEO02.ppdx

Start of Winter Season: 11/25 End of Winter Season: 03/29

Model Run Start Date: 01/02/69 Model Run End Date: 12/28/69

Date of run: 12-31-2012 Time of run: 00:50:44

Total Area Modeled (acres): 102.980

Years in Model Run: 0.99

Particulate	Percent	Runoff	Percent Particulate	
Solids	Particulate	Volume	Runoff	Solids
Yield	Solids	(cu ft)	Volume	Conc.
(lbs)	Reduction		Reduction	(mg/L)
Total of all Land Uses without Controls:		2.105E+06	-	166.2
21843	-			
Outfall Total with Controls:		2.105E+06	0.00%	31.88
4190	80.82%			
Annualized Total After Outfall Controls:		2.135E+06		
4248				

Pollutant	Pollutant Yield	Pollutant Yield	Concentration - Pol. Yield	Concentration - Yield	Conc.	
		No Controls	Units	with Controls	Units	No
Controls	with Controls			Reduction		
Total Phosphorus		0.6383	lbs	0.2740	mg/L	
83.89	36.02			57.07 %		