

Appendix HYD-1

Drainage Report

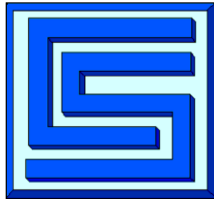
Jackson Township

SACRAMENTO COUNTY, CA

Drainage Report

December 2017

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JACKSON TOWNSHIP MASTER PLAN DRAINAGE REPORT

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JACKSON TOWNSHIP MASTER PLAN DRAINAGE REPORT

PROJECT PLAN SUMMARY

The Jackson Township Master Plan (JTMP) area is a sparsely populated area encompassing roughly 1,379 acres located to the south and west of the City of Rancho Cordova, in the middle portion of Sacramento County.

The area is designated Extensive Industrial and 20 Acre Agricultural on the Sacramento County November 9, 2011. General Plan Land Use Diagram. The JTMP proposes a diversity of land uses from parks and schools through residential and commercial while retaining areas of wetlands and agricultural designation.

The JTMP is roughly bounded by Kiefer Blvd. on the north, Wetland Preserve to the east, Jackson Road (State Hwy. 16) on the south and Excelsior Road on the west. The proposed development area is currently tributary to Morrison Creek and Elder Creek with 450 acres draining north and/or west into Morrison Creek while 929 acres drains to Elder Creek. The proposed development would drain 462 acres to Morrison Creek, a 12 acre increase, and 917 acres to Elder Creek, a 12 acre reduction.

This plan analyzes the following:-

- Pre-project conditions based on 2004 land use;
- JTMP Post-Project Total Project Conditions.
- JTMP Post-Project Phase 1 Project Alternative 1 Conditions.
- JTMP Post-Project Total Project Alternative 1 Conditions.

Alternative 1 would construct the same land use plan as the Total Project alternative, but will allow for phasing of the major drainage improvements in the elder Creek watershed. The Detention 1 basin would be enlarged to accommodate all peak flow, Water Quality and hydrograph modification impacts of the Phase 1 development area. Detention 2 in Elder Creek would be built with a later phase and provide the remaining mitigation for the remaining development areas.

Overall increases in runoff volumes and peak flow increases from the proposed project development areas will be mitigated through the implementation of detention facilities. Potential water quality impacts will be mitigated through the implementation of Low Impact Development (LID) measures and water quality treatment features. Improvements to mitigate Hydrograph Modification consistent with the Sacramento County HMP will also be implemented with this plan. Oversize exhibit DF-1 shows the drainage facilities that need to be developed with each watershed area. For stormwater quality analysis, the point of connection will be considered the point at which waters leave the project site.

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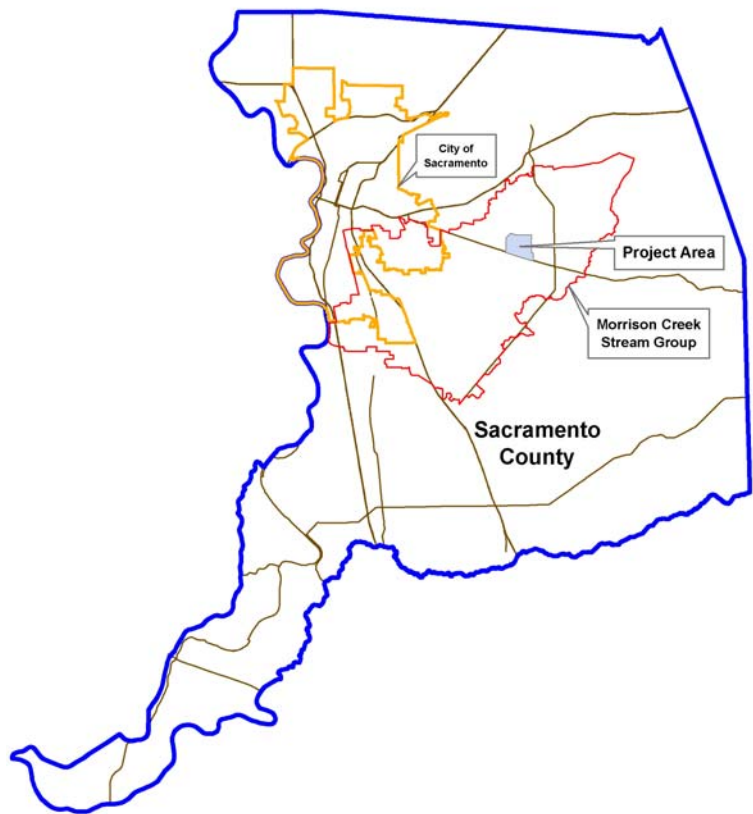
The improvements needed to accomplish the development concept analyzed in this report are as follows:

- Realign and excavate Elder Creek and a tributary of Morrison Creek within the project area.
- Provide flood control and water quality detention basins along the new channels.
- Construct storm drain pipes for the project area

In the pre-project condition, flows to the Morrison Creek watersheds exit the site at six locations. Four locations cross Excelsior Road, one crosses Kiefer Road and one leaves at the northwest corner of the project area near the intersection of Excelsior and Kiefer. The JTMP would consolidate three of the existing Excelsior Road crossings into a single outlet with only minor roadside drainage being collected and conveyed at the remaining location. Storm drain pipe systems would be added for minor road runoff collection at the northeast corner and the Kiefer Road crossing locations.

There are seven locations where flows in the Elder Creek watershed portion of the project cross Jackson Road, the largest crossing diagonally at the intersection of Jackson and Excelsior.

With the implementation of the various channel improvements, detention and water quality facilities identified in the report, the JTMP would build out at the designated land use densities with the proposed mitigation measures identified in this report, to reduce impacts to downstream hydraulic conditions and stormwater quality.



1.1 ASSUMED PRINCIPLES OF THIS PLAN

This drainage master plan assumes certain principles of the project plan will remain static and are attainable. If in the future these aspects of the plan change, this would necessitate a revision of the drainage master plan for those changes, and a new review of the plan by Sacramento County.

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- **LAND USE PLAN:** The analysis is based on the Land Use Plan for the project revised in JUNE 2017. (these revisions pertained to park locations and were provided right before submittal of this version of the document. The exhibits have been updated but some calculations may not be fully revised)
- **RECONSTRUCTION OF STREAM CORRIDORS:** It is assumed that the reconstruction of the stream corridors proposed in this plan will be performed with the project, and that no permitting issues will arise.
- **RECONSTRUCTED STREAMS ARE NOT WATERS OF THE STATE:** It is assumed that the reconstructed streams will not be considered waters of the State, and that stormwater quality treatment and County maintenance activities will be allowed occur within these streams.
- **MORRISON CREEK COOPERATIVE OUTFALL:** The project intends to combine all Morrison Creek discharges into a single outfall location. In order for this water to be conveyed safely to the existing Quarry, the Jackson Township and adjacent downstream property owners will need to reach an agreement on a new outfall channel.

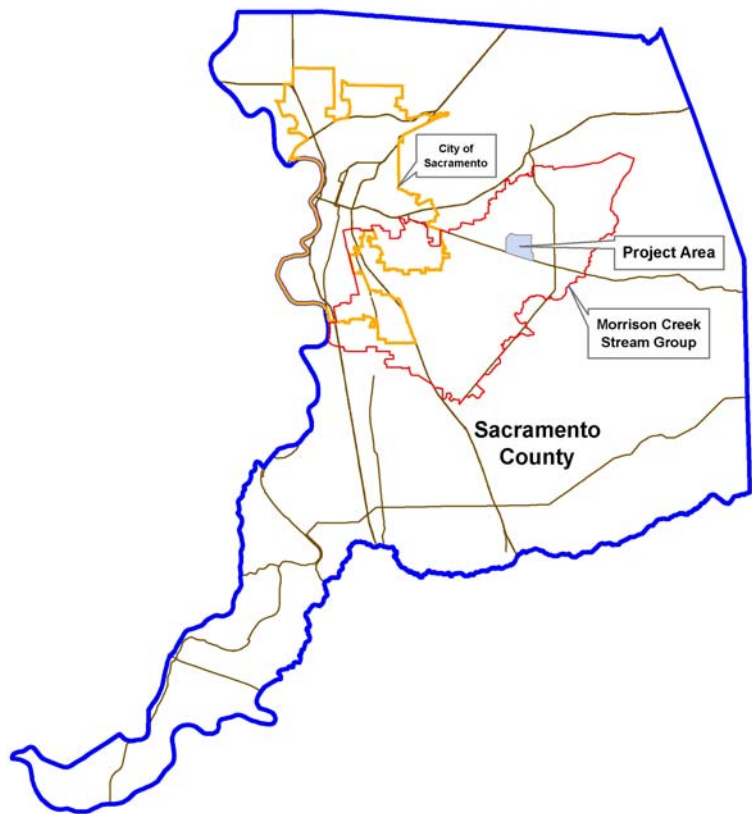
2.0 DRAINAGE PLAN SUMMARY

2.1 PURPOSE

This drainage master plan is a part of the planning process to be used as a tool by community planners, engineers, and interested parties to evaluate drainage needs in the proposed Jackson Township Master Plan (JTMP) area. The drainage master plan analyzes the potential impacts of the proposed developments, and identifies the improvements necessary to mitigate those impacts.

This plan analyzes the following conditions:-

- Pre-project conditions based 2004 land use conditions.;
- JTMP post-project conditions, including detention basins, water quality treatment facilities, trunk storm drainage, and flood control channels. The incorporation of the recommended improvements into the JTMP will provide flood control and protection to the plan area, and ensure that impacts to peak 100-year flow rates are mitigated to less than the pre-project rates, and that stormwater will be properly treated prior to discharge. Improvements within JTMP will be constructed by the developers and maintained by Sacramento County.
- The included hydraulic and hydrologic analysis were performed for the 10-year, 100-year and 200-year events (500-year event was calculated but not reported in the results).



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2.2 BACKGROUND

The area included in the JTMP is a sparsely populated area encompassing roughly 1,379 acres located in the middle portion of Sacramento County. About 1,060 acres of this is proposed for development while the balance would remain as agricultural and wetlands. Each applicant will be required to demonstrate compliance with the master drainage plan prior to improvement plan approval.

2.3 PLANNING AND DESIGN CRITERIA

The parameters of the watersheds for the pre-project conditions come from the existing Sacramento County land use as shown in 2004 aerial photographs, and hydrologic soils shown in exhibit SOIL-1. The parameters for JTMP post-project conditions were determined from the proposed land use plan. The following list briefly describes some critical design criteria implemented with this project and analysis.

1. Refinement of drainage sub shed boundaries as they relate to proposed tentative map development and lot configurations.
2. Sizing and alignment of stormwater conveyance systems, including routing of overland release to natural or improved drainage ways.
3. Functionality of detention basins to maintain pre-project peak 100-year runoff rates downstream of those basins
4. The ability to provide treatment to stormwater runoff prior to discharge into the jurisdictional drainage ways.
5. Incorporation of Low Impact Development measures into design assumptions for stormwater quality treatment and hydrograph modification mitigation.
6. Development of preliminary sizing for hydrograph modification mitigation facilities using SAHM software.
7. The lands of the entire specific plan area are not owned by participating property owners. As a result this plan will demonstrate an alternative drainage plan in which phase facilities could serve the participating properties in Phase 1 (Phase 1 Alternative 1), and the remaining properties in Phase II (Total Project Alternative 1)

Each watershed is described by its hydrologic and hydraulic characteristics for pre-project and proposed development. Hydrology quantifies the rainfall runoff generated from the land surface within the JTMP and is a function of the land surface imperviousness, infiltration rate and capacity, slope, soils characteristics, vegetation and rainfall distribution. Runoff will be collected in storm drainage systems and

JACKSON TOWNSHIP MASTER PLAN DRAINAGE REPORT

conveyed to the regional trunk facilities. The runoff will be conveyed through trunk facilities consisting of open channels, piped storm drainage systems, swales and flood control channels. Hydraulic analysis identifies limitations or constraints within existing systems and provides a tool to size proposed conveyance systems to adequately and safely convey flood event runoff to the receiving streams.

The JTMP project sits at the ridge of three major watersheds for south Sacramento County. Significant areas of the project drain to portions of Morrison Creek (north area of project), and Elder Creek (south area of project) and a portion (southeast corner) of the project drains to a tributary of Laguna Creek.

2.4 SCOPE OF WORK

The low-lying areas of Sacramento County are susceptible to local and regional flooding due to prolonged heavy rains characterized by high peak flows and large volumes of runoff that occur during the winter and early spring. The potential for local flooding also occurs from short duration, high intensity cloudbursts. As urban growth expands into rural areas and increased impervious surfaces accelerate runoff and generate additional runoff volumes, the potential for increased flooding occurs. This report will document computer models which estimate the system response to the predicted flood events. The computer models also can estimate the impacts which the proposed development would have on the existing watershed, downstream and upstream of the project.

Stormwater detention facilities ensure that the increased future peak flow rates do not exceed the receiving creek's pre-project peak flow. To comply with regulatory and clean water issues, water quality treatment facilities are to be provided within the regional stormwater detention facilities of the plan.

Guidelines established as drainage goals within the proposed JTMP include enhancement of the channel flow characteristics of existing creek channels and providing 100-year flood protection within the channel open space corridors.

Hydrologic models are used to determine a quantitative estimate of the runoff flow rates that the JTMP area will discharge for the design storm events (100-year for regional hydrology). Impacts resulting from the proposed changed land use conditions are also evaluated. These models provide a tool to determine and evaluate potential areas of flooding, increased peak flow rates, increased water surface elevations, and provide the engineer a basis upon which to recommend improvements to mitigate and attenuate that flooding to meet Sacramento County Municipal Services Agency Department of Water Resources (MSA-DWR) criteria.

The JTMP is subject to the jurisdiction of the County of Sacramento. The drainage and surface water runoff analysis will be reviewed by MSA-DWR. All new developments and drainage improvements within the County are required to follow

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specific guidelines in design, rehabilitation, and maintenance of drainage facilities and natural waters as set forth by MSA-DWR. The County's General Plan and Drainage Master Plan Program require that no adverse downstream impact shall occur due to development. This is achieved by ensuring that the proposed improvements result in no water surface increases outside of the plan area upstream and downstream, and no peak flow increases downstream. Other elements for consideration revolve around public health and safety issues, maintaining compliance with regulatory agencies, and providing the public with aesthetic natural appearing features. Additionally, dual use facilities including parks (active and passive) and trails are encouraged. The JTMP drainage master plan is an integrated part of an overall regional plan.

Stormwater runoff from developing areas is a major focus, especially where historical flooding is known to occur. In most cases, additional flood control facilities are added with modifications to the areas around existing creeks to add attenuation and treatment facilities. In still other circumstances, where there is no intrinsic value to the creek or it is impractical to leave the creek channel intact, a new flood control channel may be proposed to increase flood control capacity. In addition the new drainage corridors help enhance and benefit the environmental and esthetic values.

Within development areas flow events such as the "Nolte" design event will be piped, while major flows will be conveyed via overland release, primarily in streets or along other designated overland or channel release paths.

2.5 DESIGN CRITERIA

All criteria used and the analysis performed for this master plan are in accordance with the "Hydrology Standards, Volume 2 of the Sacramento City/County Drainage Manual", dated December 1996, the Drainage Study Requirements dated June 12, 2008, and "Section 9 Storm Drainage Design" of the Improvement Standards.

2.6 DESIGN EVENTS

A design event of a 100-year recurrence interval was used to evaluate the watershed impacts, regional hydrology and stream flow hydraulics. In addition, hydrologic and Hydraulic analysis of the proposed channel and stream improvements was performed for the 10-year event, 200-year event and 500-year event. All hydrology was performed for the 24-hour storm event, unless noted otherwise herein.

For Trunk Storm Drainage System evaluations, the "Nolte" flow was used to size facilities. (XPSWMM)

For the systems which were analyzed using the XPSWMM software, required parameters including composite percent impervious and infiltration rates were

JACKSON TOWNSHIP MASTER PLAN DRAINAGE REPORT

computed for input into the XPSWMM models. The XPSWMM software then computes and routes the resulting flows.

2.7 STUDY TEAM

Civil Engineering Solutions, Inc. (CESI) was requested to prepare this document in 2013. In 2016 CESI completed this edition of the Master Drainage Plan, which responds to Sacramento County's comments, adds Alternative 1, and responds to project ownership comments.

The hydrologic and hydraulic analyses for the JTMP study (this document) were prepared by Civil Engineering Solutions, Inc. (CESI). Engineering and Grading design for the project were performed by Au Clair Consulting, Inc.

3.0 STUDY AREA CONDITIONS

3.1 STUDY AREA CONDITIONS

The JTMP area boundary includes approximately 1,379 acres roughly bounded by Kiefer Blvd. on the north, Wetland Preserve on the east, the Jackson Road/Highway 16 on the south and Excelsior Road on the west. The project area is a portion of the Morrison Creek Stream Group (MCSG) as shown in Figure 3.1 with 929 acres draining to Elder Creek and 450 acres draining into Morrison Creek.

The drainage master plan is organized to give the reader an overview of the JTMP study area, then develops the hydrology and hydraulic components, including land use changes, adjustments of sub-shed boundaries, and drainage improvements for the individual creek watersheds. This is accomplished by describing the drainage

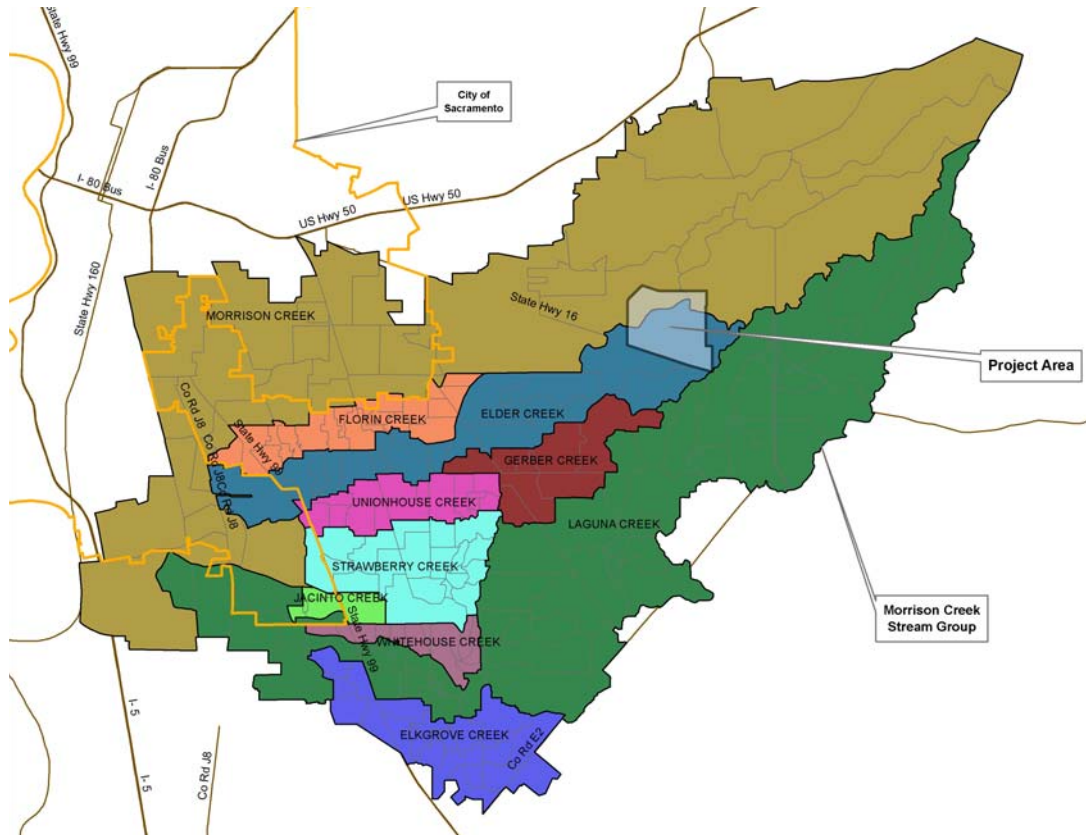


Figure 3.1 Watershed Boundaries

characteristics and proposed improvements within the individual watersheds for Elder Creek, tributaries to Morrison Creek, and the southeast area tributary to Laguna Creek.

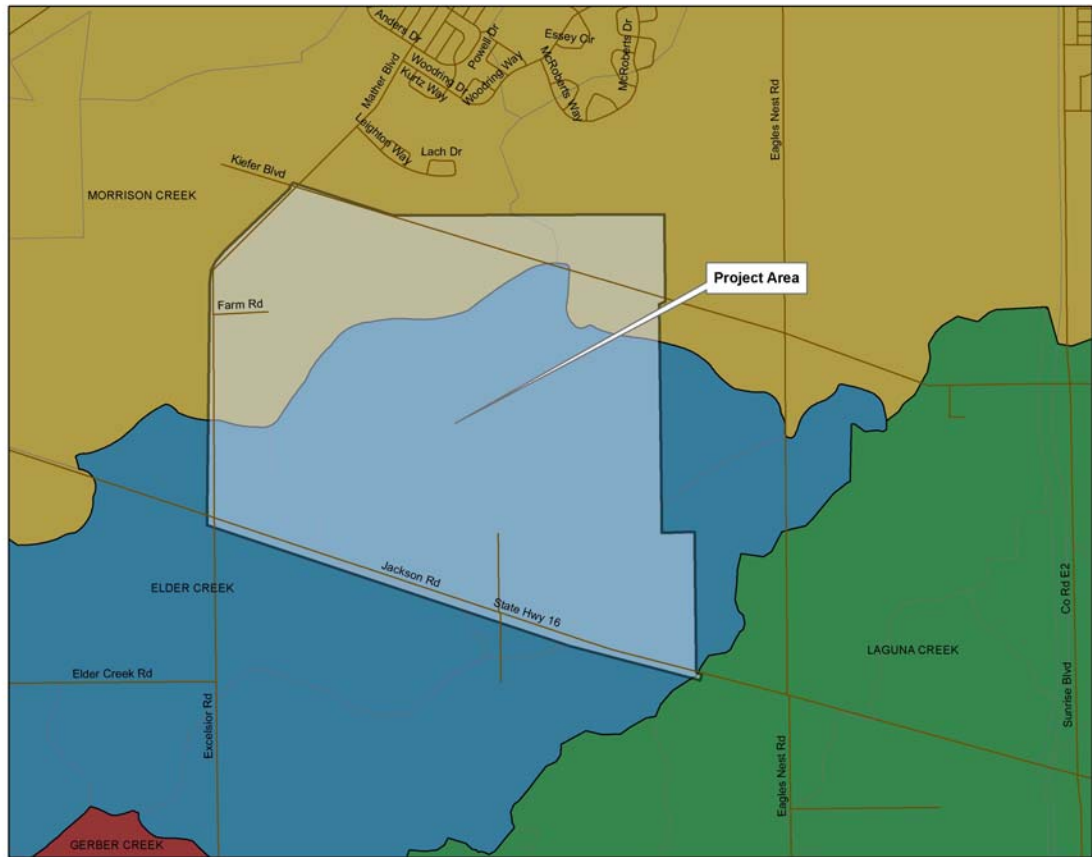


Figure 3.2.1 – Plan Area Boundary

3.2 PRE-PROJECT CONDITIONS AND FACILITIES

The JTMP is primarily located within the watershed boundaries of Elder and Morrison Creeks in Figure 3.2.1. These creeks are tributary to the Morrison Creek Stream Group (MCSG) (see Figure 3.1).

- **Elder Creek**

Elder Creek, with a total watershed area of 7,636 acres, has the largest area within the area of the JTMP. The contributing area within the JTMP is approximately 967 acres and is roughly 13 percent of the Elder Creek total watershed.



Figure 2.2.6 Elder Creek Upstream of Jackson Highway

Elder Creek within the plan area is subdivided into three sub-reaches. Runoff from each of these three sub-reaches makes its way to the south side of Jackson Road through a separate culvert. Portions of two of these sub-reaches

originate outside the proposed development area and will be collected and conveyed through the JTMP. The existing flows are conveyed within natural swales and

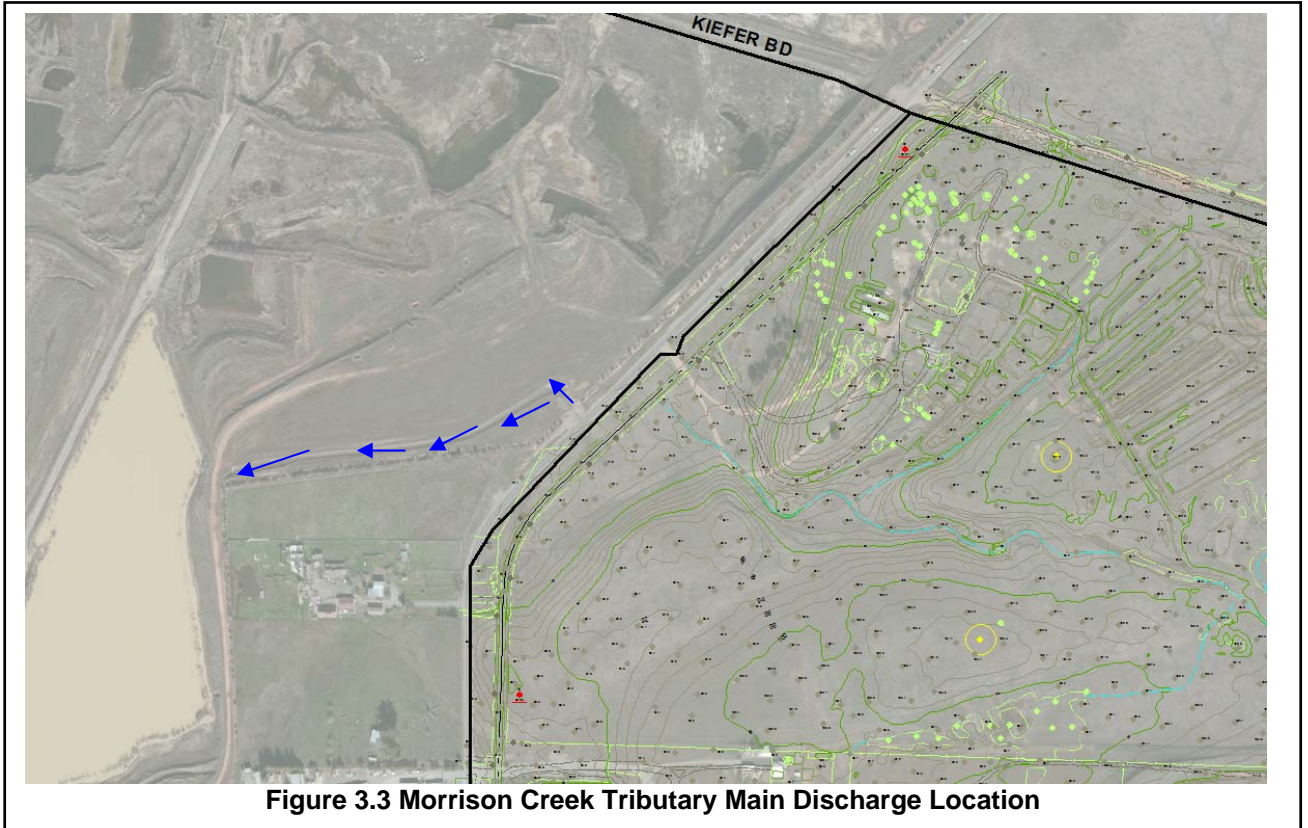


Figure 3.3 Morrison Creek Tributary Main Discharge Location

existing channels. Flow then continues in a southwesterly direction through natural channels with a broad and shallow flood plain for the next two to three miles. Elder Creek eventually discharges into Morrison Creek near Brookfield Drive in the City of Sacramento, approximately ten miles west of the Plan Area.

▪ Morrison Creek Tributaries

Morrison Creek, with a total watershed area of about 40,714 acres, has the largest single area within the Morrison Creek Stream Group. The area contributing to Morrison Creek within the JTMP is approximately 450 acres or roughly 1 percent of the total watershed.

Morrison Creek within the plan area is also subdivided into three sub-reaches, all draining across Excelsior road toward the west through individual culverts. These reaches converge with the main channel of Morrison Creek slightly over two miles downstream.

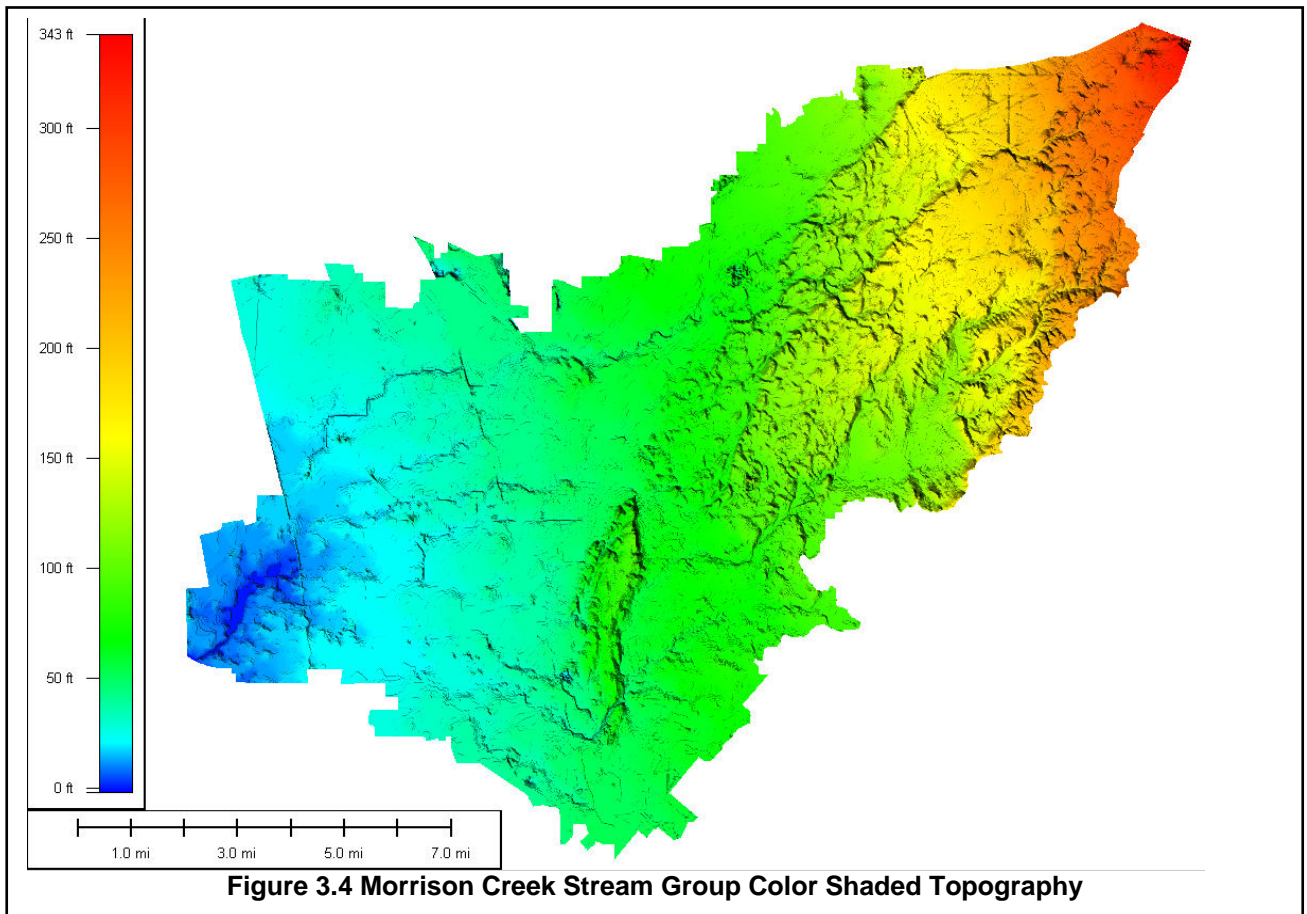
JACKSON TOWNSHIP MASTER PLAN DRAINAGE STUDY

The main discharge location for the Morrison Creek tributaries leaving the JTMP site crosses Excelsior Road to a channelized swale which conveys the drainage to aggregate quarries west of Excelsior Road and south of Morrison Creek.

3.3 TOPOGRAPHY AND GEOGRAPHICAL SETTING

The Morrison Creek Streams Group (MCSG) area is a fairly gently sloping region located south of the American River roughly between Folsom Lake and the Sacramento River. These streams flow in a generally west-southwest direction, from their beginning near the base of the Sierra Nevada foothills to nearly the Sacramento River. The MCSG is contained east of the Sacramento River Levee system, and conveys flows south to the discharge into the Cosumnes River.

Stream slopes in the two main streams flowing through the area of the JTMP range from 0.2% to 0.8%. This results in somewhat faster moving flow.



4.0 DEVELOPMENT OF RUNOFF MODEL

4.1 METHODOLOGY

The current standard application in Sacramento County for creating U.S Army Corps of Engineers (USACE) HEC-1 (Hydrologic Engineering Center) hydrologic models is the SACCALC preprocessor program software. The FEMA basis analysis for Elder Creek from the Letter of Map Revision (LOMR) prepared by CESI for the Elder/Gerber stream group hydrology was based on this software. Similarly current base analysis for the Morrison Creek stream group use equivalent methodologies.

For each watershed, the area of each land use type in each hydrologic soil type was determined and input into the SACCALC pre-processor software to generate the HEC-1 hydrologic models. This data was developed using GIS based land use mapping generated from the existing General Plan data and newly created post-project land use mapping for the project area. Soils maps were obtained from the United States Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS, previously the Soils Conservation Service or SCS).

Hydrographs representing the flows generated by each watershed are transferred to the hydraulic un-steady state modeling which now performs the tasks of combining and routing the hydrographs through the various systems. HEC-RAS is used for the unsteady state modeling of creeks and open channels, and XP-SWMM is used for the unsteady state modeling of systems with pipe networks.

4.2 WATERSHEDS

The proposed development area is contained primarily within one existing Morrison Creek shed and three existing Elder Creek sheds. For the onsite pre-project existing conditions model these sheds were broken out into twenty-two Morrison Creek sheds and thirty-eight Elder Creek sheds for a total of sixty onsite sheds. See oversized Exhibit SH-1 for project area drainage shed locations.

4.3 LAND USE CLASSIFICATIONS

Sacramento County Hydrology Standards specify the use and/or computation of various hydrologic parameters based on a set of 18 land use classifications. The mapping for the land use in Geographic Information System (GIS) was coded with a numeric designation for each land use based on these 18 classifications. In many cases the planning land uses specified had no direct correlation to the hydrologic land use. Where this occurred the planning land use was mapped to the closest corresponding hydrologic land use. The table on page 13-12 of the Hydrology

**JACKSON TOWNSHIP MASTER PLAN DRAINAGE STUDY
RUNOFF MODEL**

Standards, which describes each index, is reproduced here in Table 4.3. These land use index numbers are used in all further references to land use.

Impervious Area/Infiltration Land Use	Index
Highways, Parking	1
Commercial, Offices	2
Intensive Industrial	3
Apartments, High Density Res.	4
Mobil Home Park	5
Condominiums, Medium Density Res.	6
Residential: 8-10 du/ac (20-25 du/ha), Ext. Indust.	7
Residential: 6-8 du/ac (15-20 du/ha), Low Dens. Res., School	8
Residential: 4-6 du/ac (10-15 du/ha)	9
Residential: 3-4 du/ac (7.5-10 du/ha)	10
Residential: 2-3 du/ac (5-7.5 du/ha)	11
Residential: 1-2 du/ac (2.5-5 du/ha)	12
Residential: 0.5-1 du/ac (1-2.5 du/ha)	13
Residential: 0.2-0.5 du/ac (0.5-1 du/ha), Ag Res	14
Residential: 0.2 du/ac (0.5 du/ha), Recreation	15
Open Space, Grassland, Ag	16
Open Space, Woodland, Natural	17
Dense Oak, Shrubs, Vines	18

4.4 PRE-PROJECT CONDITIONS LAND USE FACTORS

New pre-project condition land use mapping was created for the area of Elder and Morrison Creeks affected by the proposed JTMP development.

Oversized Exhibit SH-1 shows the pre-project land use mapping. Table 4.4 summarizes the pre-project land use acreage for each of the sheds affected by the JTMP.

Existing Topography for the site is included on the TOPO-1, TOPO-2, TOPO-3 and TOPO-4 oversized exhibits requested by the County.

**JACKSON TOWNSHIP MASTER PLAN DRAINAGE STUDY
RUNOFF MODEL**

Table - 4.4 Pre-Project Land Use (acres)

Shed	Land Use Index							Total Acres
	1	7	10	12	13	14	16	
1001	0.499			1.216			9.217	10.932
101							39.975	39.975
102							25.723	25.723
103							34.657	34.657
104							20.479	20.479
105							28.572	28.572
106							12.535	12.535
107	0.215					12.175	15.755	28.145
108	0.303						6.210	6.513
201	1.008						32.594	33.602
202	0.578						33.324	33.902
203							30.285	30.285
204	0.223						37.124	37.347
205							18.784	18.784
206							30.845	30.845
207							27.718	27.718
208							6.012	6.012
300	0.649			9.492			33.925	44.066
301							32.322	32.322
302							30.836	30.836
303							28.177	28.177
304					1.867		29.023	30.890
305							38.506	38.506
306				7.977	0.275		24.610	32.862
307				2.289			27.081	29.370
308				0.068	3.567		14.559	18.194
309					0.471		44.497	44.968
310	0.721			5.094			34.902	40.717
311							37.802	37.802
312				0.321			22.555	22.876
313							31.262	31.262
314							21.495	21.495
315							26.188	26.188
316							24.231	24.231
317							34.461	34.461
318	1.375						14.427	15.802
319							34.520	34.520
320							29.699	29.699
321							28.439	28.439
322	0.725						50.493	51.218
323	2.170	8.334					11.874	22.378
325	0.053	5.881		0.924			3.571	10.429
326							32.940	32.940
327		0.256					26.232	26.488
328				0.619			28.548	29.167
4001	2.192	10.425		11.752			24.353	48.722
401	0.024				0.204		39.380	39.608
402	0.351				5.704		28.976	35.031
403					0.843	5.938	21.387	28.168
404					1.105		21.697	22.802
405	0.836			3.535	0.026		21.782	26.179
501	0.878				4.240	0.187	27.948	33.253
502	0.414			2.608	0.819	2.192	23.801	29.834
503	1.982				0.917	4.181	36.824	43.904
601	0.675			1.206	3.542		16.408	21.831
602	0.488			1.611			5.113	7.212
701	0.621			3.405	8.881		11.729	24.636
702	0.584			0.167	0.200		26.830	27.781
800							16.109	16.109
801	1.224	0.065					17.848	19.137
802	1.697	1.277	0.804				34.178	37.956
803	0.261						15.206	15.467
901	0.161					0.782	8.303	9.246

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4.5 POST-PROJECT LAND USE

Proposed land use mapping for the JTMP area consistent with the "Planning Options Plan" land use scenario was provided by AuClair Consulting, Inc. The post-project proposed land use conditions are shown on oversized exhibit SH-2.

Table 4.5 - Post-Project Land Use

Outfall	Land Use Index															Total
	1	2	3	4	7	8	9	12	13	14	15	16				
elder1	55.6	47.8	4.7	42.2	61.8	77.6	217.9	0.5	5.6	0.0	48.7	267.0	829.2			
elder2	7.0	48.3	0.0	0.0	18.7	0.0	16.6	0.0	0.0	0.0	0.0	0.0	90.6			
elder3	2.9	16.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.4			
elder4	1.7	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3			
morrison1	39.7	17.1	0.0	34.1	53.5	20.1	115.4	0.0	0.0	0.0	24.9	48.1	352.8			
morrison2	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	4.4			
Total	109.2	129.1	4.7	84.6	133.9	97.6	349.9	0.5	5.6	0.0	74.7	316.9	1306.7			

4.6 SOILS

Soils information was obtained from the NRCS. Hydrologic soils groups were mapped using GIS and used together with the land use mapping to develop the shed characteristics for the hydrologic models. Figure 4.6.1 shows the soils distribution for the pre-project sheds. These Soil Types can be reviewed for the project area on the oversized exhibit SOIL-1.

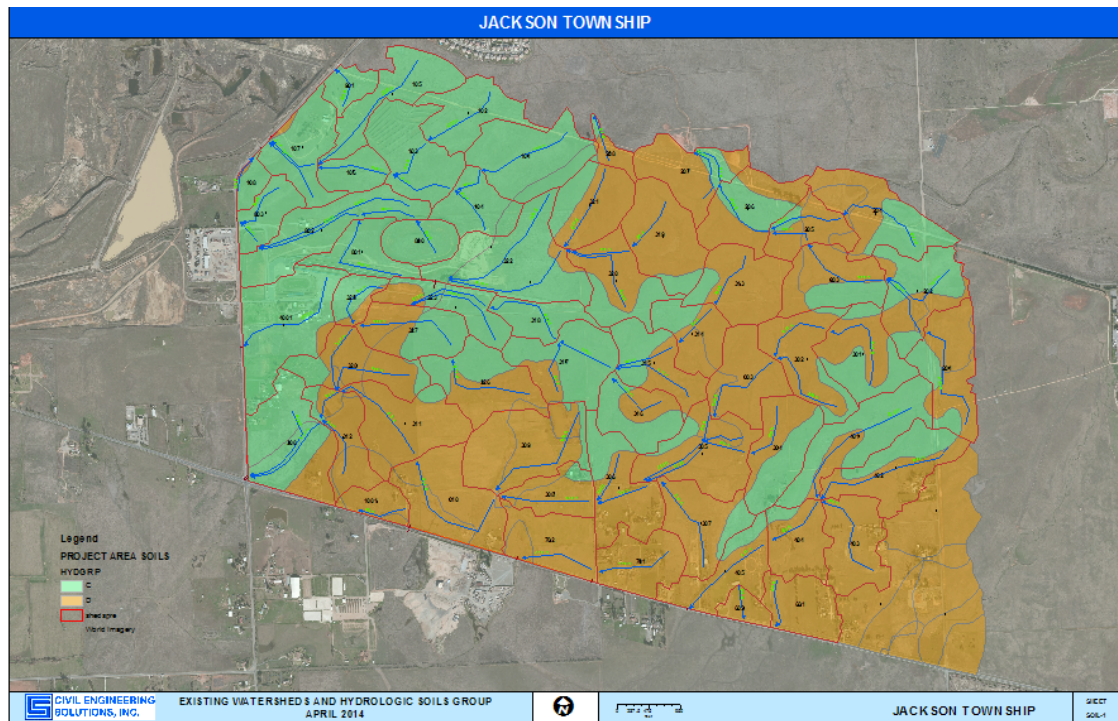


Figure 4.6.1 – Pre-Project Soils and Sheds

5.0 HYDRAULIC MODEL DEVELOPMENT

5.1 HYDRAULIC MODEL DEVELOPMENT

The hydrologic modeling provides runoff hydrographs for the various watersheds in the JTMP study area. The hydrographs developed in these models are used as input in the unsteady state (dynamic) hydraulic routing modeling using HEC-RAS and XPSWMM. For the pre-project conditions, a 3-D surface is built from the existing topography for the project (project topography and County LiDAR). Cross section transects are identified along stream corridors, perpendicular to the estimated direction of flow, and hydraulic model cross sections are developed from the 3-D terrain model at these transect locations. N-value (friction) parameters are developed based on review of the existing conditions aerial photographs and field visits.

For the post-project conditions model, a 3-D terrain model is built from the proposed grading plan received from Au Clair Consulting. CESI performed additional grading refinements for mitigation facilities within the proposed stream corridors. Similar to the pre-project model development, transects are located along the streams, perpendicular to the direction of flow, and model cross sections are developed at these transect locations, from the 3-D terrain model. N-values are estimated based on the long term vegetation outlook for the channels and detention areas assuming only minimal maintenance would occur. N-Values are increased where water will have longer residence times at shallow depths for stormwater quality treatment areas and hydrograph modification mitigation areas, to account for the likely vegetation growth that would occur in these areas.

For Elder Creek downstream of the project, the regional model developed for Sacramento County for The Elder Creek and Gerber Creek Watersheds, ultimate conditions scenario was imported. Some minor stability issues occurred when calculating this extended model with the Jackson Township model, and some interpolated sections, and minor invert modifications were made to the imported portion for model stability.

5.2 VERTICAL DATUM

The vertical datum used for all mapping and calculations with this project is NAVD 88.

5.3 METHODOLOGY

Dynamic Hydraulic modeling for the open channel and creek systems was performed with the USACE HEC-RAS (River Analysis System) modeling software (referred to hereafter as HEC-RAS). This allows for unsteady flow conditions modeling using the flow hydrographs generated by the SACCALC and HEC-1 hydrologic modeling software as direct input to the program (via the DSS interface). Sacramento County uses unsteady flow modeling to evaluate the flow and water surface attenuation characteristics of the open channel systems and the effect of any associated structures including bridges and culverts.

The overall approach for the hydraulic analysis was to apply the proposed land use for the JTMP to the affected sheds, calculate the resulting outflow hydrographs using HEC-1 for each shed, and use the computed flow data as input to the unsteady flow RAS model for each stream. Each of the three streams/stream groups was modeled for both pre-project and proposed post-project conditions.

The HEC-RAS Analysis Plans are summarized below:

EG ULT _ JT PRE_ 500y24h no laguna split : PRE-PROJECT 500-year 24-hour

EG ULT _ JT PRE_ 200y24h no laguna split : PRE-PROJECT 200-year 24-hour

EG ULT _ JT PRE_ 100y24h no laguna split : PRE-PROJECT 100-year 24-hour

EG ULT _ JT PRE_ 10y24h no laguna split : PRE-PROJECT 10-year 24-hour

EG ULT _ JT Post_200y24h : POST-PROJECT (Total) 200-year 24-hour

EG ULT _ JT Post_100y24h : POST-PROJECT (Total) 100-year 24-hour

EG ULT _ JT Post_10y24h : POST-PROJECT (Total) 10-year 24-hour

EG ULT _ JT Post_500y24h : POST-PROJECT (Total) 500-year 24-hour

EG ULT _ JT Ph1A_100y24h : POST-PROJECT Phase 1 100-year 24-hour

EG ULT _ JT Ph1A_10y24h : POST-PROJECT Phase 1 10-year 24-hour

EG ULT _ JT Ph1A_200y24h : POST-PROJECT Phase 1 200-year 24-hour

EG ULT _ JT Ph1A_500y24h : POST-PROJECT Phase 1 500-year 24-hour

EG ULT _ JT Ph2_100y24h : POST-PROJECT Phase 2 100-year 24-hour

EG ULT _ JT Ph2_10y24h : POST-PROJECT Phase 2 10-year 24-hour

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EG ULT _ JT Ph2_200y24h : POST-PROJECT Phase 2 200-year 24-hour

EG ULT _ JT Ph2_500y24h : POST-PROJECT Phase 2 500-year 24-hour

EGUltJtPost100y24hNoMorrDet : Post Project scenario for minimized detention at Morrison creek discharge

EG ULT _ JT PRE_ 100y10d no laguna split : PRE-PROJECT 100-year 10-day

EG ULT _ JT Post_ 100y10d : POST-PROJECT (total) 100-year 10-day

Trunk storm drainage systems were prepared and analyzed for the various areas of the JTMP. For Trunk Storm Drainage System evaluations, the “Nolte” flow was used to size facilities. Simple pipe systems and pipe/open channel systems where attenuation (detention) was not a factor were modeled using the XPSWMM software. The XPSWMM pipe systems analysis results are included in Appendix D XPSWMM Storm Drainage System Analysis. For trunk systems where attenuation and/or detention were a factor the XP-SWMM software was used to evaluate the trunk facilities.

Appendix D Oversized Exhibits contains larger scale presentations of the JTMP area proposed drainage facilities including pipe and drainage channel layouts (“SD-“ Exhibits), SWMM model pipes and channels and the major stream channel alignments.

▪ **Elder Creek**

For the Elder Creek project areas, a new unsteady flow HEC-RAS model was constructed for the pre-project conditions which terminates a few hundred feet offsite at the downstream end near the intersection of Excelsior and Jackson Highway. Most streams estimated to have flooding more than a couple feet deep within the project were modeled with this analysis, and pre-project 100-year onsite floodplains are shown on Exhibit FP-1.

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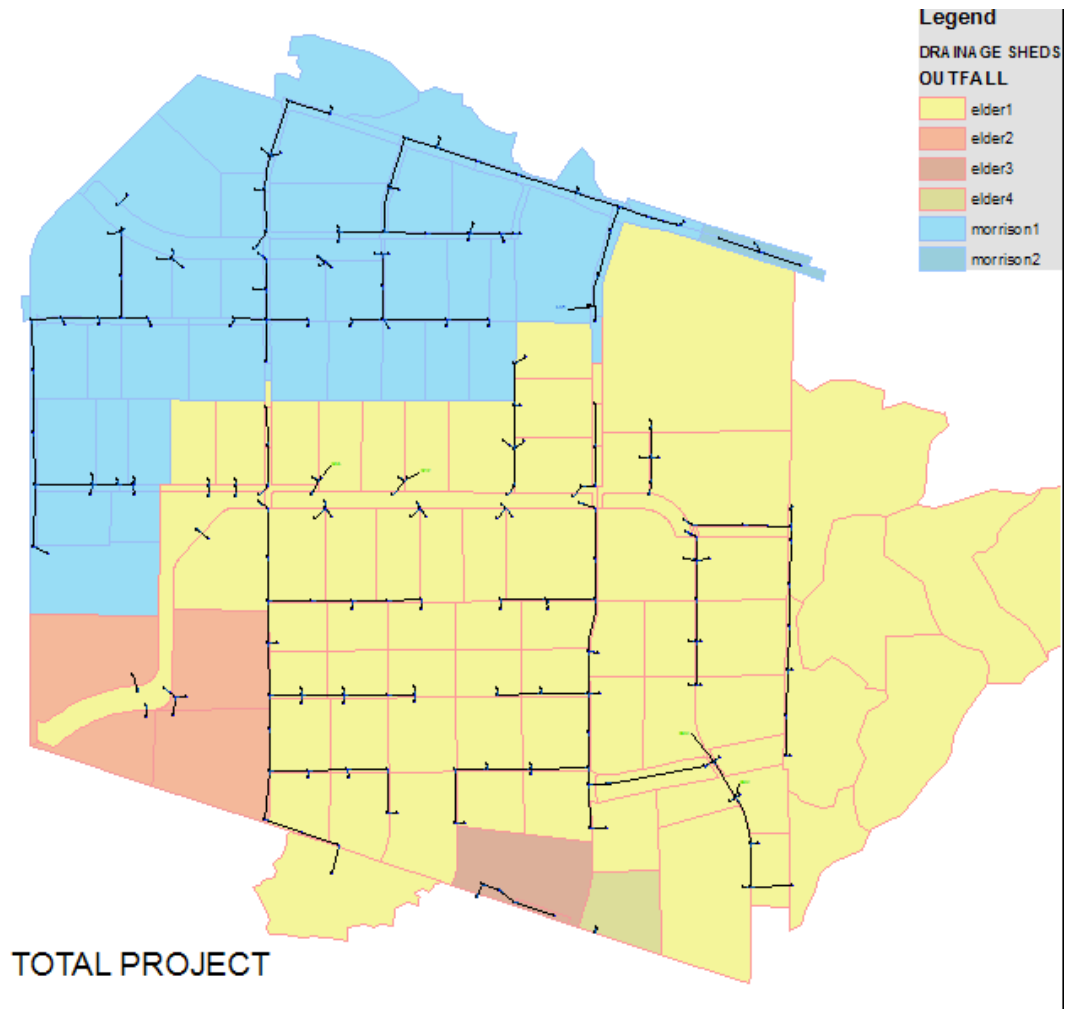


Figure 4.1.1 - Storm Drain Layout and Watersheds by Outfall Location:

The project proposes to completely reconstruct Elder Creek Onsite as a drainage corridor system with inline stormwater quality treatment and hydrograph modification attenuation at the downstream end of the creek within the onsite portion of the project drainage corridor improvements. The attenuation at the downstream area within the proposed drainage corridor will provide a significant part of the 100-year peak flow mitigation due to the project impacts resulting from conversion of ground to a higher level of imperviousness.

Elder Creek will include two detention basin areas in the southwest area of the project. Detention 1 is the upstream basin which occurs in the new alignment of the channel where it widens at a bend. Detention 2 occurs in the widened channel upstream of the Jackson Highway crossing.

For the Total Project, Detention 1 will store up to 47.2 acre feet in the 100-year event. Within that volume, 13.7 acre feet of stormwater quality treatment volume, and 14

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HYDRAULIC MODEL DEVELOPMENT

acre feet of hydrograph modification volume are proposed. Detention 2 will store up to 110.6 acre feet in the 100-year event. Within that volume, 7.2 acre feet of stormwater quality treatment volume, and 55.1 acre feet of hydrograph modification volume are proposed.

In Phase 1 of Alternative 1, only Detention 1 will be constructed. Detention 1 will store up to 76.0 acre feet in the 100-year event. Within that volume, 14.2 acre feet of stormwater quality treatment volume, and 44.3 acre feet of hydrograph modification volume are proposed.

In Phase II of Alternative 1, Detention 2 is added. Detention 2 will store up to 129.6 acre feet in the 100-year event. Within that volume, 1.12 acre feet of stormwater quality treatment volume, and 67.9 acre feet of hydrograph modification volume are proposed.

The Point of Connection for Elder Creek will be considered to be at the downstream end of the proposed drainage corridor at Jackson Highway crossing, and all treatment, hydrograph modification, and stormwater quality treatment will occur within the project channel, upstream of this location.

▪ **Morrison Creek:**

The other main system being reconstructed through the project is for a large area that is tributary to Morrison Creek through the western boundary of the project. Identified as Point of Connection Area 107, the swale for this area will be reconstructed into a channel system which also will include volumes for attenuation, hydrograph modification, and stormwater quality treatment mitigations.

Within the segments of the proposed Morrison Creek tributary drainage corridor where attenuation is proposed the combined 100-year floodplain volume would be about 38.7 Acre feet. This includes 7.4 AF of stormwater quality treatment volume for the **Dry Basin** methodology of treatment. **Hydrograph Modification storage at this location has been removed per Sacramento County comments, as these discharges will flow to an existing aggregate quarry with limited discharge.**

Since the entire onsite drainage corridor for the proposed tributary to Morrison Creek will be reconstructed, the Point of Connection for Morrison Creek will be considered to be at the downstream end of the proposed corridor at Excelsior Road, and all treatment, hydrograph modification, and stormwater quality treatment will occur within the project drainage corridor, upstream of this location.

5.4 ELDER CREEK MODELING RESULTS

The Elder Creek proposed condition proposes reconstruction of the stream drainage corridors. As previously noted, improvements would include excavation of an enhanced drainage corridor. Drainage Corridor improvements include deepening and widening of the main channel as well as the overbank areas, and creating peak flow mitigation attenuation, hydrograph modification attenuation, and stormwater quality treatment areas. Figure 4.2 shows an illustration of a representative improved channel cross-section. Proposed channel cross sections are shown in Appendix E.

The model results indicate that the peak 100-year water surface elevations for Elder Creek would be higher than the existing condition in the downstream reaches and lower than the existing conditions in the upstream reaches.

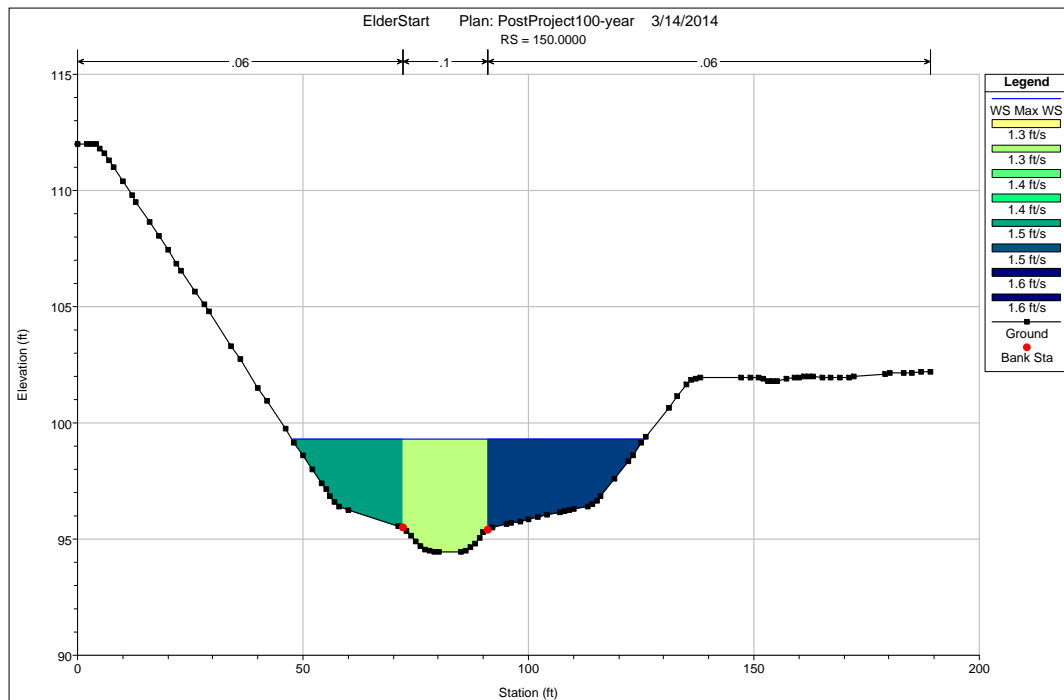


FIGURE 4.2 Sample Proposed Improved Channel Cross-Section Elder Creek (Upstream of Detention 1)

The analysis results demonstrate that the Peak Flow rates will be reduced at the site boundary and downstream of that location. Runoff hydrographs at the Point of Connection are compared in Figure 4.3 for the 10-year, 100-year and 200-year pre-development and post-development conditions.

Exhibit SH-2 in Appendix D identifies the approximate proposed locations and sizes of the storm Drain facilities, and shows the proposed watershed boundaries..

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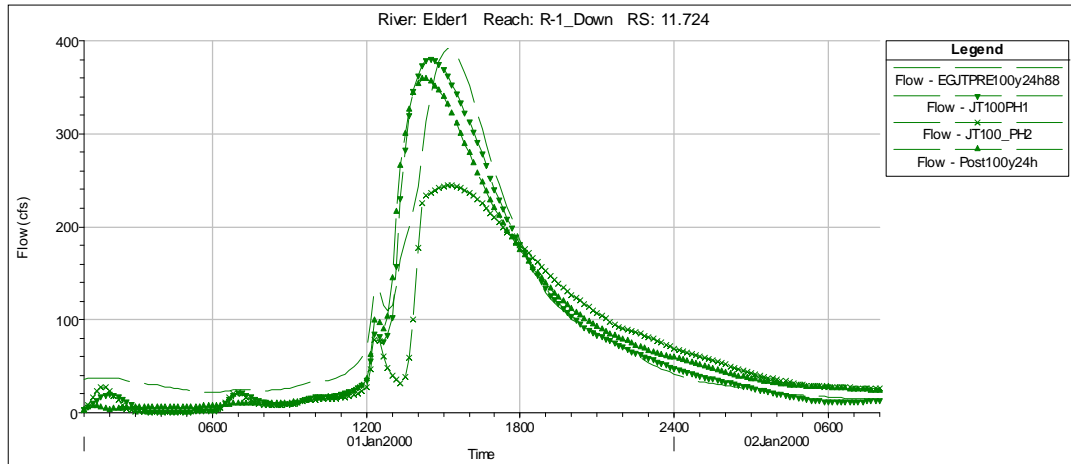


FIGURE 4.3 Comparison of 100-year Hydrograph at Elder Creek POC

5.5 MORRISON CREEK MODELING RESULTS

The Morrison Creek tributary proposed condition proposes reconstruction of the stream drainage corridors. As previously noted, improvements would include

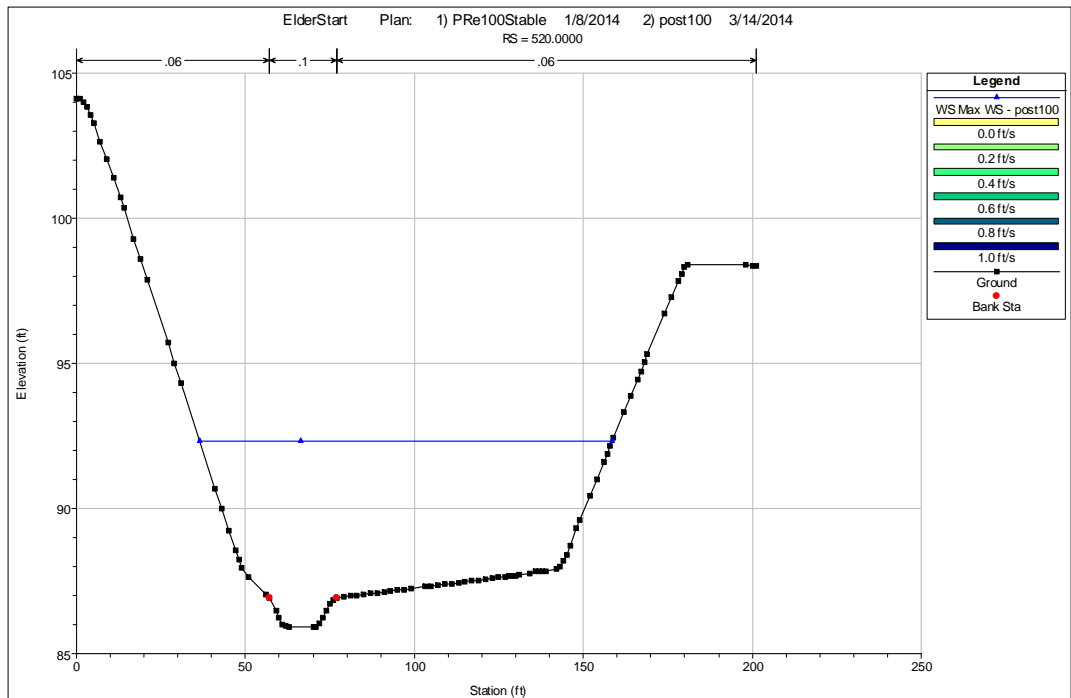


FIGURE 4.4 Sample Proposed Improved Channel Cross-Section Morrison Creek Tributary (Upstream of Excelsior Road)

excavation of enhanced channel. Drainage corridor improvements include deepening and widening of the main channel as well as the overbank areas, and creating peak flow mitigation attenuation, hydrograph modification attenuation, and stormwater quality treatment areas. Figure 4.4 shows an illustration of a representative improved channel cross-section. Proposed drainage corridor cross sections are shown in Appendix E.

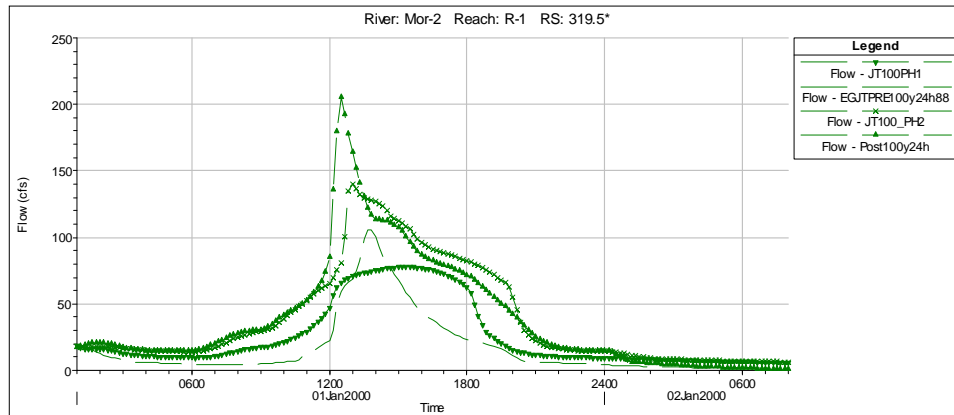


FIGURE 4.5 Comparison of 100-year Hydrograph at Morrison Creek POC (At Downstream limit of project)

The model results indicate that the peak 100-year peak flow rates and water surface elevations for the discharge tributary to Morrison Creek (actually discharges into a Quarry), at the point of discharge would increase. The combined discharges to Morrison Creek would decrease, however, the project proposes to combine the different discharges into a single location. As a result of the increase, the project is coordinating with the adjacent property owner for the future construction of a channel outfall system. See figure 4.5 for comparison of pre-project to post-project runoff hydrographs for the 100-year event.

Exhibit SD-1 in Appendix D identifies the approximate proposed locations and sizes of the storm Drain facilities, and shows the proposed watershed boundaries.

5.5.1. MORRISON CREEK ALTERNATIVE FOR NO DETENTION ANALYSIS

The County of Sacramento has requested that the project consider an alternative to eliminate onsite channelized peak flow mitigation and stormwater quality improvements onsite at the Morrison Creek Tributary discharge location.

An analysis was performed which narrowed the project’s proposed channels in Morrison Creek. The removal of onsite attenuation volume areas in the

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channels has the results of increasing peak flow rates. For example; The Culverts at the onsite crossing would need to become 2-54 inch pipe culverts instead of the single 48 inch pipe culvert proposed in the plan. Upstream of this location flow rates are less than 200 cfs in the 100-year event and could be feasibly piped, eliminating the proposed channel for this condition.

For the reach in the analysis between the onsite crossing and Excelsior Road, the 200-foot wide open space buffer for the channel was narrowed to 100 feet, and the channel was narrowed similarly.

The proposed channel between the onsite crossing and Excelsior Road cannot be piped and peak flow rates in the 100-year event would become approximately 500 cfs (see figure 4.5.2) without onsite peak flow mitigation. Comparing this to the approximately 200 cfs peak 100-year flow rate shown in figure 4.5 we see that flow rates crossing Excelsior Road could increase by 300 cfs in the 100-year event.

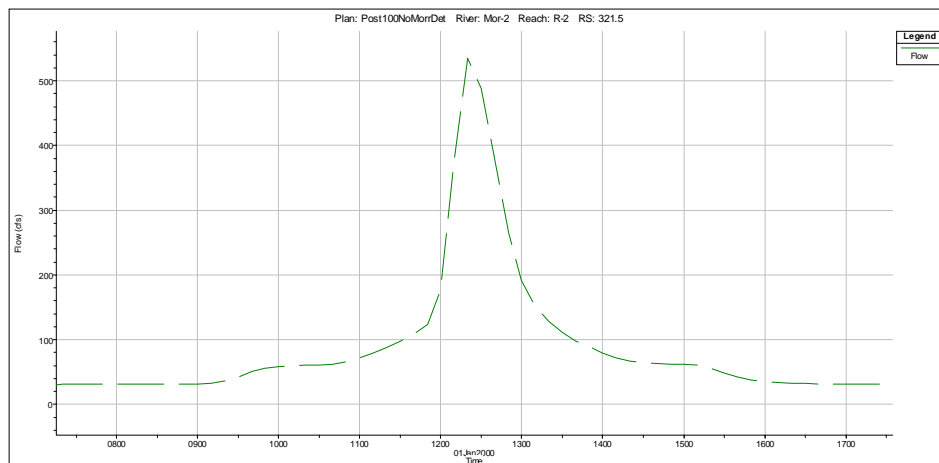


FIGURE 4.5.2 100-year Hydrograph at Morrison Creek POC for non-mitigated condition

The proposed culvert at Excelsior Road would need to be revised to become a 12' wide by 6' tall box culvert to convey this much flow. And the roadway would need to be raised to elevation 83. Downstream of the crossing the existing channel would need to be reconstructed to accept the higher flow rates to the discharge point at the ultimate Quarry Detention Basin. There is significant vertical fall between Excelsior Road and the invert of the quarry, and the channel would like need to use drop structures to step the flows down to the quarry bottom. Currently sheet flows overtop the quarry banks, and the flood waters flow down the banks in an erosive manner. It is the desire of the Jackson Township developer to work with the adjacent property owner to find an equitable solution for the offsite outfall downstream of Excelsior Road.

5.5.2. MORRISON CREEK OUTFALL VOLUMETRIC IMPACTS

To determine the Volumetric Impacts of the Jackson Township Project to the downstream properties at the Morrison Creek Outfall location, the Unsteady State HEC-RAS model (v4.1) was converted to an extended duration 10-day analysis for the 100-year. The Combined volume of outflow for the 10-day 100-year event in the pre-project condition is 179.8 AF. In the post project condition it is 245.8 AF providing a difference of 66 Acre Feet.

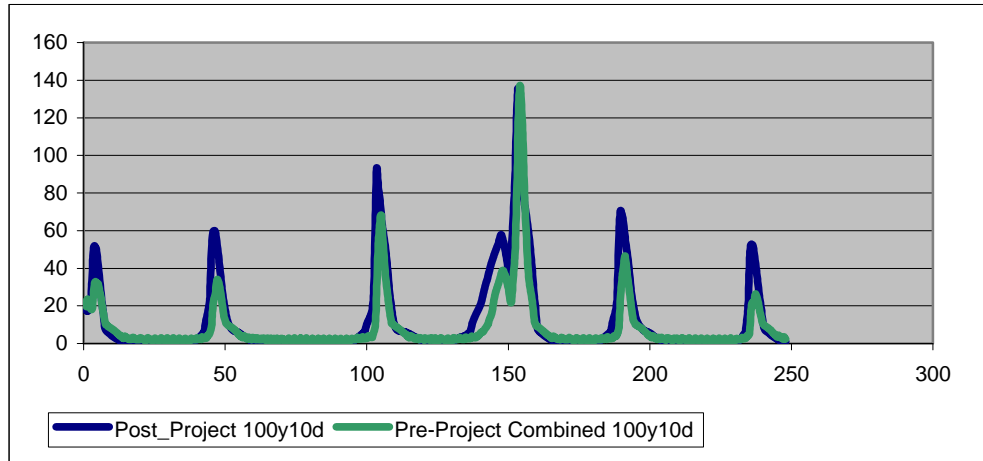


FIGURE 4.5.3 10-day 100-year Hydrograph Comparison at Morrison Creek POC

Figure 4.5.3 Compares the pre-project combined discharges across Excelsior Road, to the Post Project discharges for the 10-day 100-year event.

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5.6 FLOOD CONTROL DETENTION BASINS

Three flood control detention basins are to be constructed with the JTMP along Elder Creek and the Morrison Creek Tributary. The detention basins will function inline within the drainage corridors and will contain components for stormwater Quality Treatment and Hydrograph Modification mitigation storage. Oversize exhibit DR-1 shows the detention basins that need to be constructed with the different areas in the JTMP project.

5.7 BRIDGES AND CULVERTS

Table 4.5.3 shows the recommended culvert sizes at proposed channel crossing locations.

Table 4.5.3 - Crossing Culvert Sizes

Location	Recommended Culvert Size	Section in HEC-RAS
Morrison Creek – Road Crossing	1-48" Pipe Culvert	
Morrison Creek – Excelsior Road Crossing	3-42" Pipe Culvert	
Elder Creek – Western Road Crossing	2-66" Pipe Culverts	

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<p>Elder Creek – Middle Road Crossing</p>	<p>1-60" Pipe Culvert</p>	
<p>Elder Creek – East Road Crossing</p>	<p>1-48" Pipe Culvert</p>	

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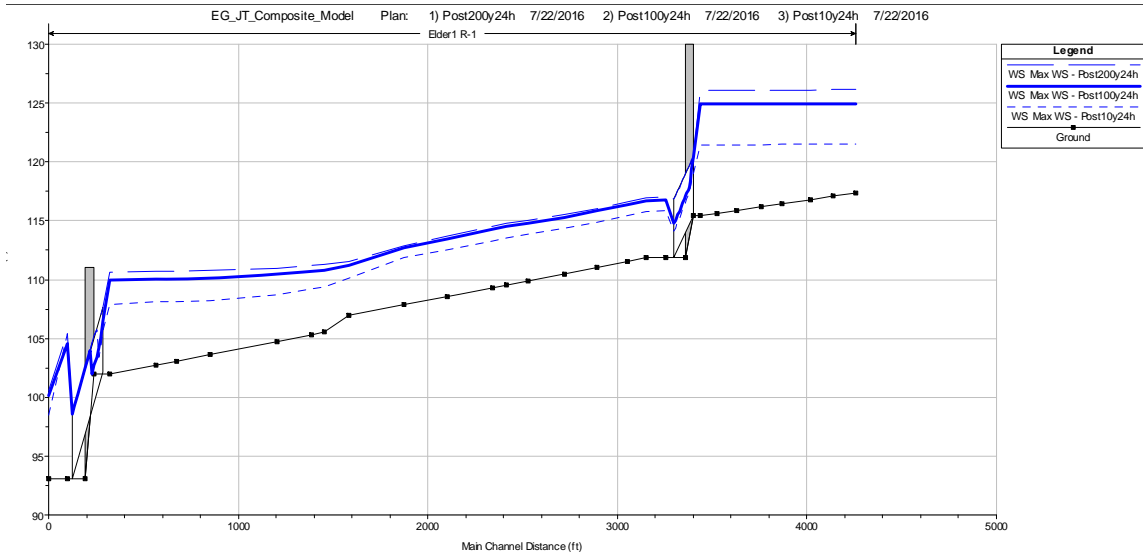


Figure 4.5.1 Elder Creek Max W.S

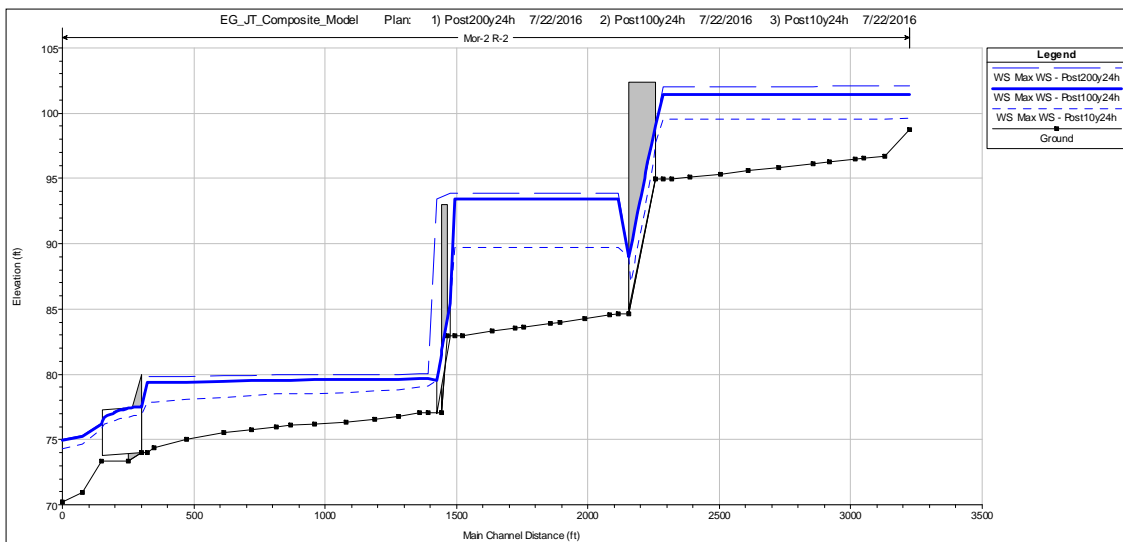


Figure 4.5.2 Morrison Creek Max W.S

5.8 FUTURE BUILDOUT CONDITIONS

Future combined build-out analysis modeling outside of the JTMP for the combined watershed impacts at Elder Creek and Morrison Creek has not been performed for this master plan. Future development in watersheds EL301, EL302, EL303, EL304, EL305, N376 and N462 upstream of the JTMP will be required to mitigate their impacts to existing conditions as shown in this plan.

5.9 TRUNK PIPES AND PIPE SHED GROUPS

A preliminary evaluation was undertaken to determine possible alignments and feasibility of trunk pipe drainage (serving 30 acres or more) for the various portions of the JTMP area. The XP-SWMM model was used for this analysis. Nodes and Pipe linkages are shown in Exhibit SD-1. The results of this analysis are included in the swmm section Appendix C and shown on the oversize exhibits in Appendix D. The results of these analyses are presented in Appendix D.

5.10 FEMA FLOODPLAIN

Existing FIRM Panels show Zone AE floodplain in the south western corner of the site (see Exhibit FP-1). A CLOMR will be required for any necessary mapping changes to this floodzone required for the proposed development, and for proposed improvements such as fill to be placed within this floodzone.

6.0 POST CONSTRUCTION STORM WATER QUALITY MEASURES

6.1 METHODOLOGY AND RESULTS

The volume for each of the water quality basins was computed in accordance with the WEF method as described in the stormwater quality manual. Each shed was assigned to a group. A composite land use percent impervious was calculated for each group and the WEF water quality volume was computed for each discharge point from the project. The Dry Basin Design Criteria will be applied to the SWQ treatment in this project. The required volume for the basins is summarized in the Table 5.1. Calculation of outflow from the detention basins is based on the “March 2007 Draft Stormwater Quality Design Manual”.

The included water quality treatment measures of the JTMP do not include treatment capacity for areas which are outside the JTMP boundary. If/When these areas develop, additional measures may be needed within those projects, or supplemental capacity added to the JTMP facilities such that treatment of the runoff from these additional areas can be accomplished. Areas that cannot drain directly into water quality treatment basins as shown on Oversize Sheet SD-1 will need to be provided with local water quality treatment facilities.

Where water quality treatment is to take place within a detention basin a portion of the basin volume was reserved by including a downstream structure in the hydraulic model which will emulate the release characteristics of the Stormwater Quality Basin outlet. All water quality in the plan is assumed to be sized and configured per the “Dry Design Criteria” BMP alternative.

Tables 6.1.1, 6.1.2 and 6.1.3 demonstrate how the WEF Water Quality volumes were calculated for each watershed, for the Total Project, Alternative 1 Phase 1 Project, and Alternative 1 Total Project scenarios. Refer to Figure 4.1.1 for watershed identification.

The stormwater quality and hydrograph modification analysis include Low Impact Development credit reductions to imperviousness of each watershed, based on the credit system established in the “LID_CREDITS” Spreadsheets for commercial and residential (included in the Appendix).

The regional stormwater quality treatment facilities identified in this section include reductions for possible “Low Impact Development” (LID) measures as may ultimately

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be required by Sacramento County. Implementing LID measures with these projects effectively reduces the amount of stormwater which would runoff from the project development areas by reducing the effective imperviousness of the project, and promoting infiltration and pre-treatment. For example, LID measures may include features such as disconnected roof drains, planting of trees, and Hollywood driveways at residential areas.

TABLE 6.1.1 - TOTAL PROJECT WEF SWQ TREATMENT VOLUME DRY BASIN

WQBasin	Area acres	Post LID %Imperv	C	ModC	48-hr Po(in)	WEF WQV(af)	Dry Basin Volume (af)	WET BASIN PERM POOL VOLUME	COMBO BASIN TOTAL VOLUME	COMBO BASIN PERM POOL VOLUME	COMBO BASIN DRY POOL VOLUME	Optional for Grassy Swale
elder1	829.2	28.04		0.215	0.232	16.011	16.011	20.014	18.013	10.007	8.006	
elder2	90.6	48.86		0.332	0.358	2.707	2.707	3.383	3.045	1.692	1.353	
elder3	19.4	49.68		0.337	0.364	0.589	0.589	0.736	0.662	0.368	0.294	
elder4	10.3	56.98		0.387	0.417	0.358	0.358	0.448	0.403	0.224	0.179	
morrison1	352.8	37.05		0.263	0.284	8.359	8.359	10.448	9.403	5.224	4.179	
morrison2	4.4	27.57		0.212	0.229	0.084	0.084	0.105	0.094	0.052	0.042	X

TABLE 6.1.2 - ALTERNATIVE 1 PHASE 1 WEF SWQ TREATMENT VOLUME DRY BASIN

WQBasin	Area acres	Post LID %Imperv	C	ModC	48-hr Po(in)	WEF WQV(af)	Dry Basin Volume (af)	WET BASIN PERM POOL VOLUME	COMBO BASIN TOTAL VOLUME	COMBO BASIN PERM POOL VOLUME	COMBO BASIN DRY POOL VOLUME	Optional for Grassy Swale
elder1	878.10	26.05		0.204	0.220	16.106	16.106	20.132	18.119	10.066	8.053	
elder3	19.40	49.68		0.337	0.364	0.589	0.589	0.736	0.662	0.368	0.294	
elder4	10.30	56.98		0.387	0.417	0.358	0.358	0.448	0.403	0.224	0.179	
morrison1	233.80	33.99		0.247	0.266	5.189	5.189	6.486	5.837	3.243	2.594	
morrison2	4.40	27.57		0.212	0.229	0.084	0.084	0.105	0.094	0.052	0.042	X
morrison3	71.60	3.91		0.069	0.075	0.445	0.445	0.557	0.501	0.278	0.223	
morrison4	48.70	19.89		0.170	0.183	0.744	0.744	0.930	0.837	0.465	0.372	

TABLE 6.1.3 - ALTERNATIVE 1 TOTAL PROJECT WEF SWQ TREATMENT VOLUME DRY BASIN

WQBasin	Area acres	Post LID %Imperv	C	ModC	48-hr Po(in)	WEF WQV(af)	Dry Basin Volume (af)	WET BASIN PERM POOL VOLUME	COMBO BASIN TOTAL VOLUME	COMBO BASIN PERM POOL VOLUME	COMBO BASIN DRY POOL VOLUME	Optional for Grassy Swale
elder1	864.10	28.94		0.219	0.237	17.062	17.062	21.328	19.195	10.664	8.531	
elder2	37.60	42.54		0.294	0.318	0.995	0.995	1.244	1.119	0.622	0.498	
elder3	19.40	49.68		0.337	0.364	0.589	0.589	0.736	0.662	0.368	0.294	
elder4	10.30	56.98		0.387	0.417	0.358	0.358	0.448	0.403	0.224	0.179	
morrison1	370.80	37.10		0.264	0.285	8.794	8.794	10.993	9.894	5.496	4.397	
morrison2	4.40	27.57		0.212	0.229	0.084	0.084	0.105	0.094	0.052	0.042	X

Drawdown calculations for the outfall structures at the main Elder Creek and Morrison Creek Outfalls are provided in the “Models\SWQ_LID” directory of the data files provided with this report. The drawdown is calculated such that no more than 75% of the design basin volume occurs in the 1st 24 hours, with most of the water draining in 48 hours.

6.2 LOW IMPACT DEVELOPMENT

The Sacramento Hydrograph Management Plan (HMP) requires the use of Low Impact Development Measures, which will be utilized within this plan. With the development of the HMP, a credit system has been developed to determine the amount of LID that is necessary with any individual project. At the time of development, individual project will be required to perform the credit system calculations. Table 5.2.1 demonstrates the imperviousness adjustment applied for LID improvements within each land use type of the project.

To determine the credits to apply to land uses, a sample area for each land use type was calculated using the Residential and Commercial LID calculators. Sample LID was assumed here to meet the 100 criteria, however, at final development the engineer may choose a different set of LID practices which also meet the 100% criteria for each land use.

For Residential Low Density Land Use, the following LID was included:

1. Disconnected roof drains (assumed 80%)
2. Separated pavement areas (30% divided sidewalks)
3. Interceptor trees (1 evergreen, 1 deciduous per lot)
4. Alternative Driveways (50%)
5. Amended Soils (500 sf per lot)

For Residential Medium Density Land Use, the following LID was included:

1. Disconnected roof drains (assumed 80%)
2. Separated pavement areas (25% divided sidewalks)
3. Interceptor trees (1 evergreen, 1 deciduous per lot)
4. Alternative Driveways (50%)
5. Amended Soils (285 sf per lot)

For Residential High Density Land Use, the following LID was included:

1. Disconnected roof drains (assumed 80%)
2. Separated pavement areas (50% divided sidewalks includes onsite)
3. Interceptor trees (10 evergreen, 10 deciduous per acre)
4. Alternative Driveways (25% of some paving areas)
5. Amended Soils (144 sf per unit)

For PQP and School Land Use, the following LID was included:

1. Disconnected pavement (assumed 20%)
2. Disconnected roof drains (75%)
3. Interceptor trees (10 evergreen, 10 deciduous per acre)

JACKSON TOWNSHIP MASTER PLAN DRAINAGE STUDY
HYDRAULIC MODEL DEVELOPMENT

4. Alternative Pavement (25% of some paving areas)

For Roadway Land Use, the following LID was included:

1. Disconnected pavement (assumed 17%)
2. Interceptor trees (10 evergreen, 10 deciduous per acre)
3. Alternative Pavement (25% of some paving areas)
4. Amended Soils (385 sf per acre)

For Commercial Land Use, the following LID was included:

5. Disconnected pavement (assumed 20%)
6. Disconnected roof drains (75%)
7. Interceptor trees (10 evergreen, 10 deciduous per acre)
8. Amended Soils (335 sf per acre)

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HYDRAULIC MODEL DEVELOPMENT**

TABLE 6.2.1 - Impervious Area Reductions For LID by Land Use

Sacramento County Hydrologic Land Use Table			
Index	Description	Percent Impervious	LID Frac
1	Highways, Parking	95	0.48
2	Commercial, Offices	90	0.43
3	Intensive Industrial	85	0.43
4	Apartments, High Density Res.	80	0.24
5	Mobil Home Park	75	0.2
6	Condominiums, Medium Density Res.	70	0.157
7	Residential: 8-10 du/ac (20-25 du/ha), Ext. Indust.	60	0.12
8	Residential: 6-8 du/ac (15-20 du/ha), Low Dens. Res., School	50	0.077
9	Residential: 4-6 du/ac (10-15 du/ha)	40	0.07
10	Residential: 3-4 du/ac (7.5-10 du/ha)	30	0.065
11	Residential: 2-3 du/ac (5-7.5 du/ha)	25	0.06
12	Residential: 1-2 du/ac (2.5-5 du/ha)	20	0.055
13	Residential: 0.5-1 du/ac (1-2.5 du/ha)	15	0.05
14	Residential: 0.2-0.5 du/ac (0.5-1 du/ha), Ag Res	10	0.05
15	Residential: <0.2 du/ac (0.5 du/ha), Recreation	5	0

For the remaining Stormwater Quality and Hydrograph modification calculations performed in this plan, it was assumed the imperviousness changes shown in Table 5.2.1 were made for each type of development.

6.3 HYDROGRAPH MODIFICATION ATTENUATION SIZING

The SAHM program was used to perform continuous simulation analysis of the project drainage system and discharges to develop estimated Hydrograph Modification Attenuation sizing requirements for each discharge location within the project. Along the main creek areas of Elder Creek and Morrison Creek these will occur in the creek areas, regulated by outflow control devices as described here, and by the supplemental detention basins proposed for the Racetrack areas. For the remaining areas, detention basins could be built per the parameters described herein

**JACKSON TOWNSHIP MASTER PLAN DRAINAGE STUDY
HYDRAULIC MODEL DEVELOPMENT**

or other practices, such as additional LID or best management practices could be used to mitigate the impacts.

A pre-project watershed analysis was built from parameters used in the SACCALC model for the pre-project. For input to the SAHM analysis for post project conditions, each storm drain watershed was input using three input watersheds... One impervious shed for the Impervious area that would not be mitigated by LID, one Impervious shed for the area that would pass through LID measures, and one Non-impervious shed for the non-impervious areas. The impervious shed that would pass through LID was allowed to pass through the non-impervious shed to simulate the LID actions.

Models were built for each discharge location and attenuation mitigation volumes and control devises were computed as follows:

morrison 1 – No HMP features are required due to discharge to an existing quarry pit. (per county)

morrison 2 – No HMP Features are required (reduced area)

elder3 & elder 4 –Per table below:

The screenshot shows a software interface for configuring a facility. Key sections include:

- Facility Name:** POCVault128_130
- Downstream Connection:** Outlet 1, Outlet 2, Outlet 3 (all set to 0). Options for Auto Vault, Quick Vault, and Fixed Width For Auto Vault.
- Facility Dimensions:** Length (ft) 177.6701209, Width (ft) 177.6701209, Effective Depth (ft) 4.
- Infiltration:** YES. Measured Infiltration Rate (in/hr) 0.05, Reduction Factor (infiltr'factor) 1, Use Wetted Surface Area (sidewalls) NO. Total Volume Infiltrated (ac-ft) 518.951, Total Volume Through Riser (ac-ft) 827.764, Total Volume Through Facility(ac-ft) 1346.715, Percent Infiltrated 38.53.
- Outlet Structure Data:** Riser Height (ft) 3, Riser Diameter (in) 18, Riser Type Notched, Notch Type Rectangular, Notch Height (ft) 0.0734, Notch Width (ft) 1.5.
- Orifice Table:**

Orifice Number	Diameter (in)	Height (ft)
1	2	0
2	0	0
3	0	0
- Other:** Vault Volume at Riser Head (ac-ft) 2.190, Show Vault Table (Open Table), Initial Stage (ft).

TOTAL PROJECT SCENARIO for elder1 and elder2:

elder1 – Figure 6.3.1 shows the stage-storage and discharge relationships for the detention facility of the Total Project detention basin 1 location. Figure 6.3.2 graphically shows the discharge structure which includes a 10 inch low flow pipe, and 35 foot long overtopping weir at elevation 95.10.

Figure 6.3.1 – Total Project Detention 1 Stage-Storage-Discharge

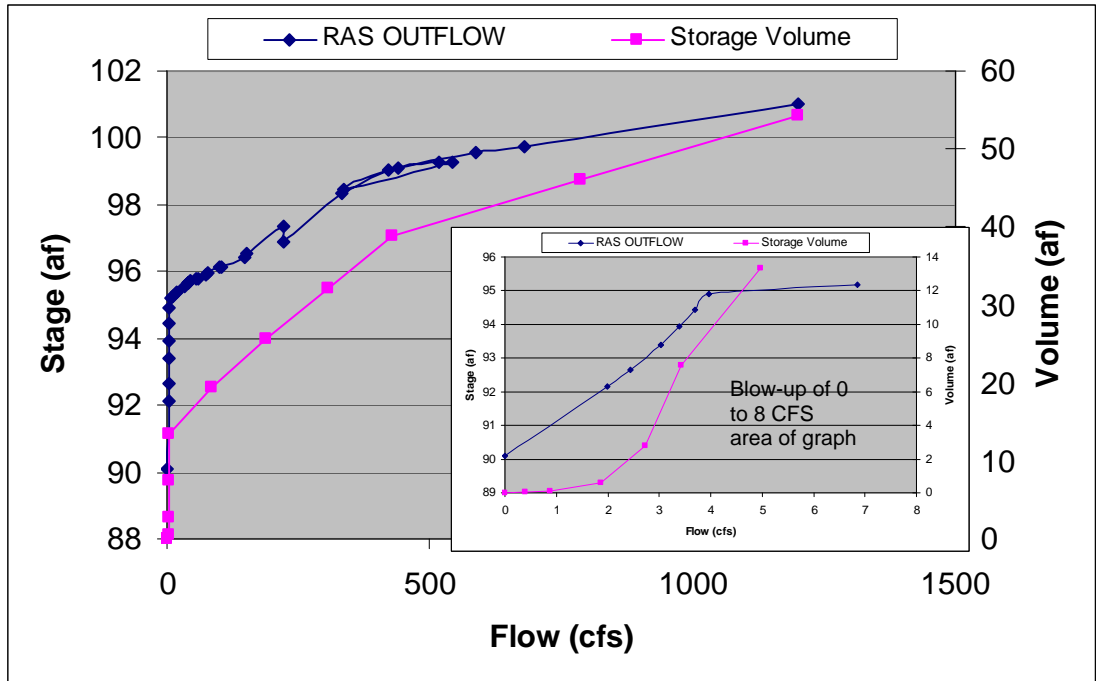
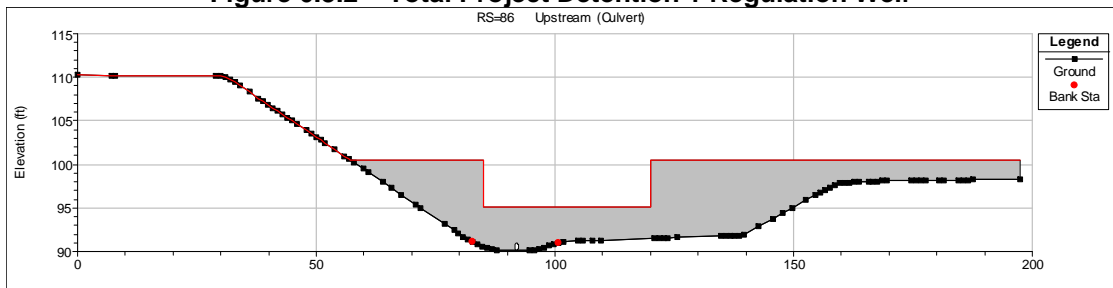


Figure 6.3.2 – Total Project Detention 1 Regulation Weir



elder2 – Figure 6.3.3 shows the stage-storage and discharge relationships for the detention facility of the Total Project detention basin 2 location. Figure 6.3.4 graphically shows the discharge structure which includes a 10 inch low flow pipe, V-notch weir(3.8'hx2'w Invert=91.2) and 15 foot long overtopping weir at elevation 95.10.

Figure 6.3.3 – Total Project Detention 2 Stage-Storage-Discharge

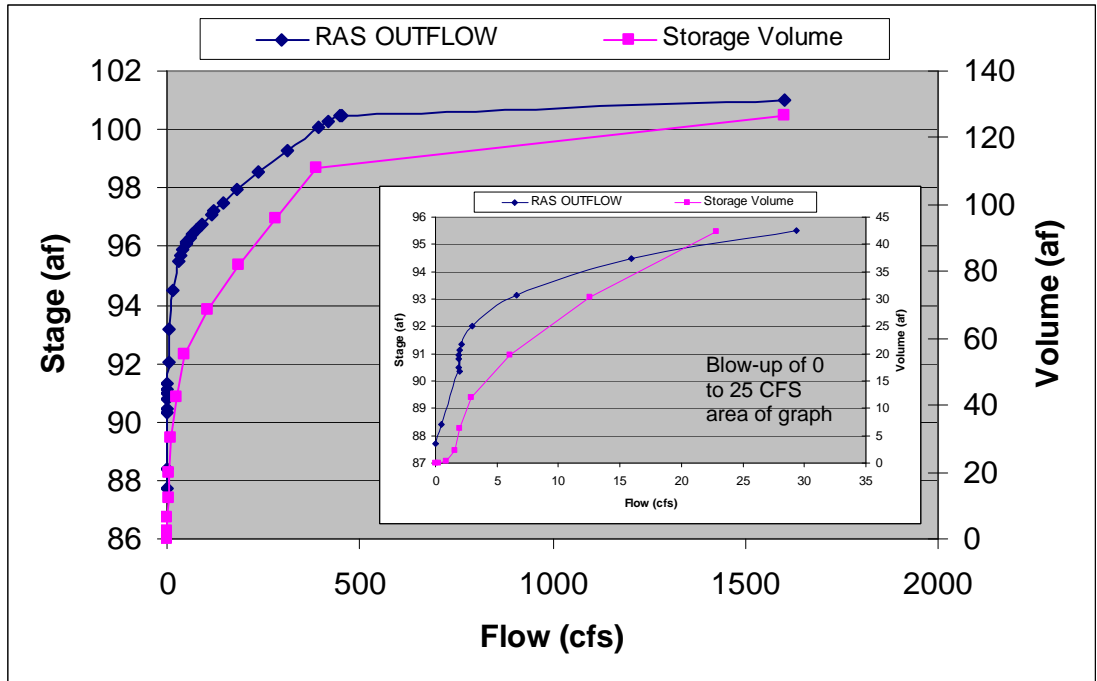
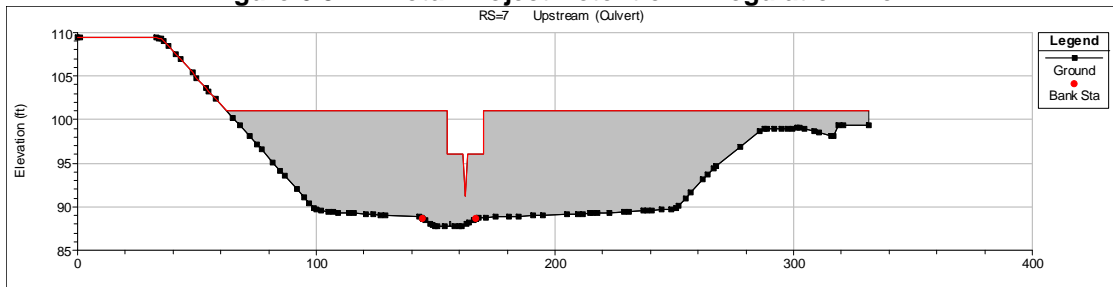


Figure 6.3.4 – Total Project Detention 2 Regulation Weir



ALTERNATIVE 1 PHASE 1 PROJECT SCENARIO for elder1:

elder1 – Figure 6.3.5 shows the stage-storage and discharge relationships for the detention facility of the Total Project detention basin 1 location. Figure 6.3.6 graphically shows the discharge structure which includes a 10 inch low flow pipe, V-notch weir (2.8'hx2'w) and 35 foot long overtopping weir at elevation 96.80.

Figure 6.3.5 – Total Project Detention 1 Stage-Storage-Discharge

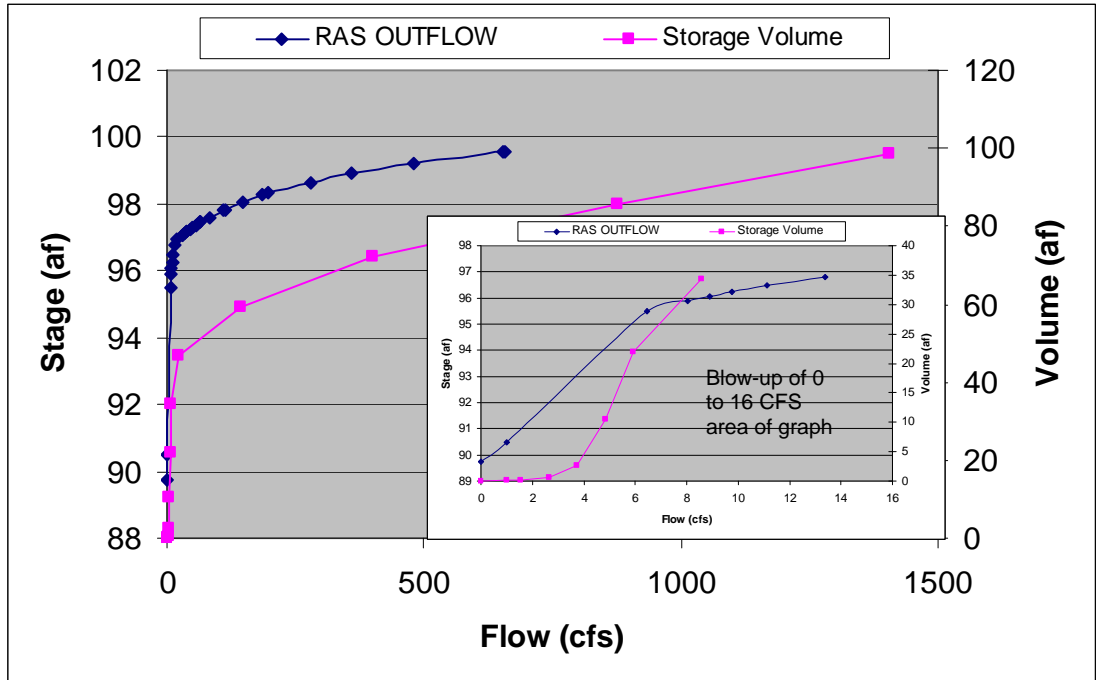
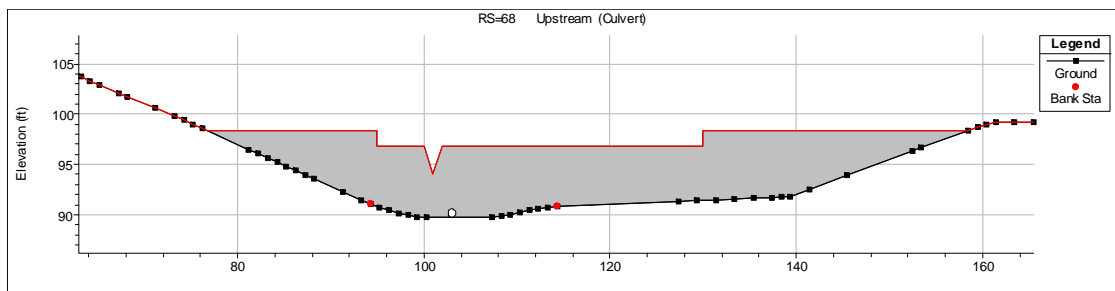


Figure 6.3.6 – Total Project Detention 1 Regulation Weir



ALTERNATIVE 1 PHASE 2 PROJECT SCENARIO for elder2:

elder2 – Figure 6.3.7 shows the stage-storage and discharge relationships for the detention facility of the Total Project detention basin 2 location. Figure 6.3.8 graphically shows the discharge structure which includes a 8 inch low flow pipe, V-notch weir(3.8'hx2'w Invert=91.2) and 15 foot long overtopping weir at elevation 96.00.

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HYDRAULIC MODEL DEVELOPMENT**

Figure 6.3.7 – Total Project Detention 2 Stage-Storage-Discharge

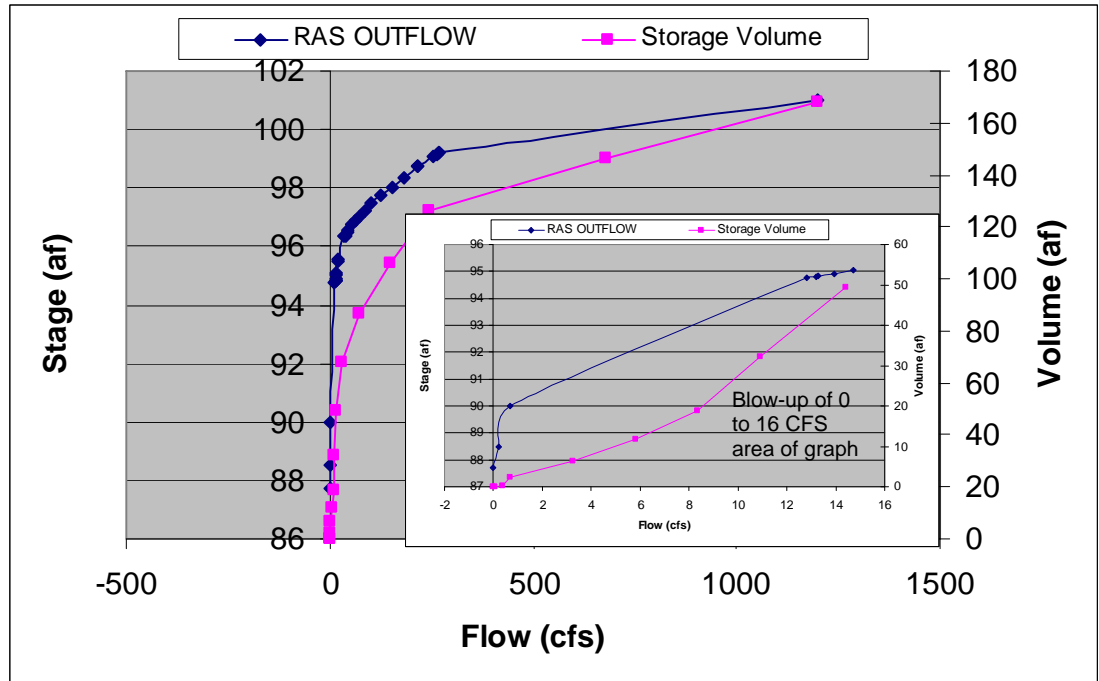
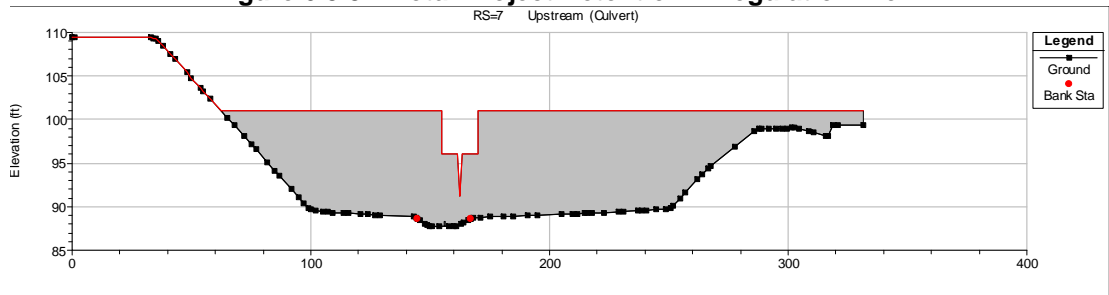


Figure 6.3.8 – Total Project Detention 2 Regulation Weir



7.0 Conclusion

The included master drainage study identifies improvements that the Jackson Township Master Plan will be required to install in order to collect, convey and discharge rain event's runoff per the County's requirements. The Total Project Plan and an Alternative for a Phased Plan are included. The project drainage improvements include:

- Drainage collection and pipe systems
- Drainage Corridors to convey runoff in open channels, and for detention of peak flow impact volumes.
- Drainage Corridors to perform treatment of stormwater quality prior to discharge.
- Drainage Corridors to perform hydrograph modification storage of runoff volumes, to mitigate potential impacts to the downstream geomorphology at all points of discharge.

Appendices

**APPENDIX A
SACCALC (HYDROLOGIC) MODELS**

Jackson Township
Existing Conditions
SacCalc Report

Sacramento Hydrologic Calculator Report

December 13, 2017 15:39

Project Title: Elder Gerber & Morrison Creek Trib - Jackson Township Pre-Project Method: Sacramento County HEC-1 method
 Comments: Elder Creek & Morrison Creek Watersheds Modified 6/2017 for Rev JT Date: 6/14/2017
 Prepared by: TSP

Watershed Hydrologic Summary Data

Watershed	Area (acres)	Mean Elevation (ft)	Lag Times		Basin "n"		Loss Rates		Percent Impervious	
			Method	Lag Time (min)	Method	Basin "n"	Method	Loss Rate (in/hr)	Method	Impervious Area (%)
EL301	91.3	146	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL304	98.8	140	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL306	32.9	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL308	63.2	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL310	51.6	116	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL311	67	116	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL313	103.2	134	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL317	50.2	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL319	92.7	136	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL322	51.2	122	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL323	22.4	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL326	59.4	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL300	67	108	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL325	10.4	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
W4001	48.7	96	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL401	102.8	140	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL404	49.04	137	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3AA	416.4	67	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3CB	149.8	54.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3D	129.5	66.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3AP	112.6	68	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4AA	45.9	63.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4AP	154.2	61.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4AB	177.8	53.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3P1	3.6	59	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3P2	13.9	59.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3P3	7	57.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3BA	59.8	60.9	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3BB	11.6	60	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3CA	20.2	60.5	Travel Time	-	-	-	Computed	-	Computed	-
E2	629	69.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3	157.5	74	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3B	19.7	68.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3C	88.4	65.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3A	36.4	70.9	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4B1	141.5	54.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B2	511.8	115	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C3	135.9	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2A	799.7	95.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3D	163.3	61.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3DB	50.2	59.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3A1	119.2	57	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3A2	18.2	54	Basin "n"	-	Computed	-	Computed	-	Computed	-
G4	104.4	58.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
G4A	128.5	57.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3DC	21.4	56.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
G5	197.1	49	Basin "n"	-	Computed	-	Computed	-	Computed	-
NV3	21	50	Basin "n"	-	Computed	-	Computed	-	Computed	-
E5	142.6	53.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
E6	207.7	45.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
E7A	143.4	42.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
E7B	157.1	41.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
E7C	181.5	39.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
E8	154.4	40.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
E9	280.7	34.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
E10	185.6	31.2	Basin "n"	-	Computed	-	Computed	-	Computed	-

E11	147.5	30.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E12	276.5	29.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
E13	100.2	27.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E14	891.8	20	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3E	64.7	58.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4B2	332.6	57	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4B3	141.5	55.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4A2	11.6	51.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
NV1	109	50.9	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BB	2.6	65.6	Travel Time	-	-	-	Computed	-	Computed	-
G2BA	119.78	75	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BC	4.9	79.7	Travel Time	-	-	-	Computed	-	Computed	-
G2BD	35.9	64.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BE	27.8	66.2	Travel Time	-	-	-	Computed	-	Computed	-
G2BF	33	64.8	Travel Time	-	-	-	Computed	-	Computed	-
G2BG	52.3	67.4	Travel Time	-	-	-	Computed	-	Computed	-
G2BH	17.4	69	Travel Time	-	-	-	Computed	-	Computed	-
G2BI	28.4	65.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BJ	77.7	62.9	Travel Time	-	-	-	Computed	-	Computed	-
G2A50	799.7	95.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C2	52.5	96.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B3	6.7	135	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B4	22.2	142	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B6	14.9	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B5	28.6	135	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B7	48.8	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C5	55.7	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C4	60	114	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C6	543.8	88	Basin "n"	-	Computed	-	Computed	-	Computed	-
W901	9.3	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
W107	28.2	104	Basin "n"	-	Computed	-	Computed	-	Computed	-
W105	28.6	105	Basin "n"	-	Computed	-	Computed	-	Computed	-
W106	72.9	98	Basin "n"	-	Computed	-	Computed	-	Computed	-
W101	60.5	111	Basin "n"	-	Computed	-	Computed	-	Computed	-
W208	6	130	Basin "n"	-	Computed	-	Computed	-	Computed	-
W207	27.7	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
W206	30.8	123	Basin "n"	-	Computed	-	Computed	-	Computed	-
W204	56.1	135	Basin "n"	-	Computed	-	Computed	-	Computed	-
W803	15.5	98	Basin "n"	-	Computed	-	Computed	-	Computed	-
W802	53.4	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
W801	19.1	109	Basin "n"	-	Computed	-	Computed	-	Computed	-
W800	16.1	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
W108	6.5	109	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1A	885.18	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C	860.69	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL329	24.1	116	Basin "n"	-	Computed	-	Computed	-	Computed	-
W202	97.8	135	Basin "n"	-	Computed	-	Computed	-	Computed	-

Basin "n" Method Data for Lag Time Computation

Watershed	Channel Length (ft)	Centroid Length (ft)	Slope (ft/ft)	Channelization	Land Use Impervious Area Percent (% or acres)																
					95	90	85	80	75	70	60	50	40	30	25	20	15	10	5	2	1
EL301	2876	1845	.0028	Undeveloped																	91.3
				Developed																	
EL304	2727	1376	.0039	Undeveloped													0	0			94.6
				Developed											2.3	1.9					
EL306	760	322	.0064	Undeveloped												0	0				24.6
				Developed											8	0.3					
EL308	1931	643	0.0029	Undeveloped												0	0				59.1
				Developed											0.1	4					
EL310	2583	784	0.0049	Undeveloped	0											0					44.1
				Developed	1.2											6.3					
EL311	1605	1172	0.0087	Undeveloped												0					66.3
				Developed												0.6					
EL313	2753	1205	.0010	Undeveloped																	103.2
				Developed																	
EL317	2234	1492	.0039	Undeveloped	0																48.9
				Developed	1.4																
EL319	1929	988	.0054	Undeveloped																	92.7
				Developed																	
EL322	2181	1065	.0129	Undeveloped	0																50.5
				Developed	0.7																
EL323	1655	643	.0156	Undeveloped	0						0										11.9
				Developed	2.2						8.3										
EL326	3291	1697	.0043	Undeveloped							0										59.1
				Developed							0.3										
EL300	2314	1179	.0116	Undeveloped	0											0					56.5
				Developed	0.6												9.9				
EL325	951	473	.0052	Undeveloped	0						0					0					3.6
				Developed	0.1						5.9						0.9				
W4001	1850	925	0.0062	Undeveloped	0						0					0					24.3
				Developed	2.2						10.4						11.7				
EL401	2209	1288	0.0025	Undeveloped	0											0	0				89.8
				Developed	0.4												6.8	5.9			
EL404	2549	1127	0.0013	Undeveloped	0											0	0				43.4
				Developed	0.8												3.5	1.3			
G3AA	8226	3782	.00236	Undeveloped	0	0		0		0		0	0		0	0	0		0	0	21.2
				Developed	25.7	1.6		3		6.9		35.5	115.2		175.7	0.1	11.4				20.1
G3CB	3200	1600	0.004	Undeveloped	0	0		0				0	0							0	20.2
				Developed	9.9	2.9		7.4				48.4	50.3								10.7
E3D	3951	2548	0.00276	Undeveloped	0	0				0		0			0	0	0	0	0	0	3.8
				Developed	7.1	2				14.1		68.2				30.8	0.1	1.5	0.3	1.5	0
G3AP	4812	2428	.00353	Undeveloped	0					0		0	0		0			0	0	0	40.8
				Developed	5.4					0.6		2.1	46.4		12.9				0.8	3.5	0
E4AA	1464	744	.0076	Undeveloped	0	0					0			0					0	0	0.2
				Developed	3.9	11.7						18.4				3.2					8.5
E4AP	3435	2161	.00359	Undeveloped	0	0		0			0	0		0		0		0	0	0	50.6
				Developed	12	13.1		12.3				27.8	26.8		6		0.2			5.3	0
E4AB	3948	1980	.00303	Undeveloped	0	0		0			0	0	0						0	0	25.5
				Developed	13.1	1.2		14.6				5.3	18.2	77.5						22.1	0
G3P1	634	326	0.0012	Undeveloped	0															0	

Jackson Township

Full Development Conditions

SacCalc Report

Sacramento Hydrologic Calculator Report

December 13, 2017 15:40

Project Title: Elder Gerber - Jackson Township Post-Project Method: Sacramento County HEC-1 method

Comments: Elder and Gerber Creek basins. Ultimate/Future Conditions with current Wildhawk Proposed conditions Revised sheds composited from several different models/studies. Includes preserves areas and subdivided shed E3. Includes Jackson Township portion of Morrison Creek. Also includes Vineyard Point as developed. Most routing removed as not required for RAS modeling. Date:

Prepared by: TSP

Watershed Hydrologic Summary Data

Watershed	Area (acres)	Mean Elevation (ft)	Lag Times		Basin "n"		Loss Rates		Percent Impervious	
			Method	Lag Time (min)	Method	Basin "n"	Method	Loss Rate (in/hr)	Method	Impervious Area (%)
N291	19.638	96	Basin "n"	-	Computed	-	Computed	-	Computed	-
N223	0.901	109	Basin "n"	-	Computed	-	Computed	-	Computed	-
N228	15.5	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N227	13.443	109	Basin "n"	-	Computed	-	Computed	-	Computed	-
N231	5.527	103.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
N233	0.54	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N221	15.507	110.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
N235	1.36	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
N239	0.83	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N240	1.28	123	Basin "n"	-	Computed	-	Computed	-	Computed	-
N238	2.05	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N248	2.63	115	Basin "n"	-	Computed	-	Computed	-	Computed	-
N241	0.936	122	Basin "n"	-	Computed	-	Computed	-	Computed	-
N242	1.13	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N243	0.8	114	Basin "n"	-	Computed	-	Computed	-	Computed	-
N249	11.63	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
N245	1.44	110	Basin "n"	-	Computed	-	Computed	-	Computed	-
N246	0.59	105	Basin "n"	-	Computed	-	Computed	-	Computed	-
N250	9.18	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
N247	1.156	107.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
N530	0.564	111.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
N255	0.571	117.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
N257	7.65	116.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
N256	6.846	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N254	4.094	121.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
N252	0.732	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N251	19.87	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N259	1.429	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N261	10.85	106	Basin "n"	-	Computed	-	Computed	-	Computed	-
N526	1.194	129	Basin "n"	-	Computed	-	Computed	-	Computed	-
N524	1.225	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N290	18.76	96	Basin "n"	-	Computed	-	Computed	-	Computed	-
N283	0.627	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
N286	0.521	100.13	Basin "n"	-	Computed	-	Computed	-	Computed	-
N285	10.02	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N281	0.339	91	Basin "n"	-	Computed	-	Computed	-	Computed	-
N282	0.492	94	Basin "n"	-	Computed	-	Computed	-	Computed	-
N280	8.515	96	Basin "n"	-	Computed	-	Computed	-	Computed	-
N284	5.037	98	Basin "n"	-	Computed	-	Computed	-	Computed	-
N517	0.373	89.54	Basin "n"	-	Computed	-	Computed	-	Computed	-
N279	6.84	98.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
N276	5.68	100.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
N274	0.384	101	Basin "n"	-	Computed	-	Computed	-	Computed	-
N273	4.99	104	Basin "n"	-	Computed	-	Computed	-	Computed	-
N272	0.363	103	Basin "n"	-	Computed	-	Computed	-	Computed	-
N268	8.95	110	Basin "n"	-	Computed	-	Computed	-	Computed	-
N270	11.33	106	Basin "n"	-	Computed	-	Computed	-	Computed	-
N271	1.536	103	Basin "n"	-	Computed	-	Computed	-	Computed	-
N266	0.218	106	Basin "n"	-	Computed	-	Computed	-	Computed	-
N265	6.757	108	Basin "n"	-	Computed	-	Computed	-	Computed	-
N262	7.257	110	Basin "n"	-	Computed	-	Computed	-	Computed	-
N344	10.4	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
N333	7.323	124	Basin "n"	-	Computed	-	Computed	-	Computed	-

N336	6.737	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N338	6.733	116	Basin "n"	-	Computed	-	Computed	-	Computed	-
N339	8.408	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
N222	1.358	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
N224	0.612	106	Basin "n"	-	Computed	-	Computed	-	Computed	-
N230	0.431	103.22	Basin "n"	-	Computed	-	Computed	-	Computed	-
N275	0.313	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3AA	416.4	67	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3CB	149.8	54.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3D	129.5	66.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3AP	112.6	68	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4AA	45.9	63.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4AP	154.2	61.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4AB	177.8	53.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3P1	3.6	59	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3P2	13.9	59.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3P3	7	57.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3BA	59.8	60.9	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3BB	11.6	60	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3CA	20.2	60.5	Travel Time	-	-	-	Computed	-	Computed	-
E2	629	69.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3	157.5	74	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3B	19.7	68.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3C	88.4	65.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3A	36.4	70.9	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4B1	141.5	54.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B2	511.8	115	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C3	134	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2A	799.7	95.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3D	163.3	61.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3DB	50.2	59.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3A1	119.2	57	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3A2	18.2	54	Basin "n"	-	Computed	-	Computed	-	Computed	-
G4	104.4	58.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
G4A	128.5	57.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3DC	21.4	56.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
G5	223.3	49	Basin "n"	-	Computed	-	Computed	-	Computed	-
E5	142.6	53.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
E6	207.7	45.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
E7A	143.4	42.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
E7B	157.1	41.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
E7C	181.5	39.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
E8	154.4	40.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
E9	280.7	34.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
E10	185.6	31.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
E11	147.5	30.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E12	276.5	29.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
E13	100.2	27.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E14	891.8	20	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3E	64.7	58.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4B2	332.6	57	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4B3	141.5	55.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4A2	11.6	51.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
NV1	109	50.9	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BB	2.6	65.6	Travel Time	-	-	-	Computed	-	Computed	-
G2BA	119.78	75	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BC	4.9	79.7	Travel Time	-	-	-	Computed	-	Computed	-
G2BD	35.9	64.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BE	27.8	66.2	Travel Time	-	-	-	Computed	-	Computed	-
G2BF	33	64.8	Travel Time	-	-	-	Computed	-	Computed	-
G2BG	52.3	67.4	Travel Time	-	-	-	Computed	-	Computed	-
G2BH	17.4	69	Travel Time	-	-	-	Computed	-	Computed	-
G2BI	28.4	65.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BJ	77.7	62.9	Travel Time	-	-	-	Computed	-	Computed	-
G2A50	799.7	95.7	Basin "n"	-	Computed	-	Computed	-	Computed	-

	39.6	142.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B3	6.7	136.55	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B4	22.3	141	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B6	14.9	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B5	28.5	135	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B7	48.8	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C5	55.7	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C4	58.5	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C6	542	87	Basin "n"	-	Computed	-	Computed	-	Computed	-
N500	1.896	93.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
N317	10.02	96	Basin "n"	-	Computed	-	Computed	-	Computed	-
N319	7.866	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
N318	0.708	93.65	Basin "n"	-	Computed	-	Computed	-	Computed	-
N320	0.322	95.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
N321	5.398	96.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
N325	0.525	96.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
N327	7.076	98	Basin "n"	-	Computed	-	Computed	-	Computed	-
N326	5.006	100.39	Basin "n"	-	Computed	-	Computed	-	Computed	-
N328	0.966	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
N329	8.081	104	Basin "n"	-	Computed	-	Computed	-	Computed	-
N332	7.726	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N330	0.438	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N315	1.373	106.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
N314	0.522	107	Basin "n"	-	Computed	-	Computed	-	Computed	-
N313	0.335	108	Basin "n"	-	Computed	-	Computed	-	Computed	-
N308	7.936	108	Basin "n"	-	Computed	-	Computed	-	Computed	-
N305	7.802	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
N297	7.793	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N300	7.796	116	Basin "n"	-	Computed	-	Computed	-	Computed	-
N345	0.981	129	Basin "n"	-	Computed	-	Computed	-	Computed	-
N349	8.479	129	Basin "n"	-	Computed	-	Computed	-	Computed	-
N350	9.002	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N353	12.067	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N352	8.603	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N358	0.84	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N357	0.838	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N356	0.825	129	Basin "n"	-	Computed	-	Computed	-	Computed	-
N361	70.085	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
N367	5.87	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
N366	24.436	136	Basin "n"	-	Computed	-	Computed	-	Computed	-
N312	10.68	116	Basin "n"	-	Computed	-	Computed	-	Computed	-
N309	9.581	119	Basin "n"	-	Computed	-	Computed	-	Computed	-
N296	8.023	122	Basin "n"	-	Computed	-	Computed	-	Computed	-
N293	7.988	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N304	7.947	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N301	16.682	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N457	5.739	122	Basin "n"	-	Computed	-	Computed	-	Computed	-
N454	6.411	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N451	6.206	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N448	6.894	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N446	5.469	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N443	5.431	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N444	8.893	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N440	5.709	122	Basin "n"	-	Computed	-	Computed	-	Computed	-
N441	8.523	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
N436	6.363	124.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
N437	9.941	123	Basin "n"	-	Computed	-	Computed	-	Computed	-
N434	6.183	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N430	6.36	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N425	7.4	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N423	9.3	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N420	14	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N418	7.792	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N416	9.699	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N412	9.955	125	Basin "n"	-	Computed	-	Computed	-	Computed	-

	9.301	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N497	16.117	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
N506	18.046	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
N504	21.484	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
N511	9.841	109	Basin "n"	-	Computed	-	Computed	-	Computed	-
N509	22	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N513	19.24	114	Basin "n"	-	Computed	-	Computed	-	Computed	-
N398	5.479	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N395	9.806	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N405	10.144	130	Basin "n"	-	Computed	-	Computed	-	Computed	-
N407	7.678	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N473	3.993	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N472	5.432	130	Basin "n"	-	Computed	-	Computed	-	Computed	-
N471	6.589	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
N467	5.6	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
N465	27.2	135	Basin "n"	-	Computed	-	Computed	-	Computed	-
N462	11.6	138	Basin "n"	-	Computed	-	Computed	-	Computed	-
N391	16.212	130.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
N390	11.59	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N386	13.481	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N387	7.709	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
N384	9.413	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
N383	11.641	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N490	18.7	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N492	10.3	130	Basin "n"	-	Computed	-	Computed	-	Computed	-
N478	6.16	133.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL303	28.2	134	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL304	30.9	140	Basin "n"	-	Computed	-	Computed	-	Computed	-
N376	39.822	136	Basin "n"	-	Computed	-	Computed	-	Computed	-
W61	2.4	101.62	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL329	23.2	119.82	Basin "n"	-	Computed	-	Computed	-	Computed	-
NV3	21	50	Basin "n"	-	Computed	-	Computed	-	Computed	-
N529	1.9	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
EC30	3.17	123	Basin "n"	-	Computed	-	Computed	-	Computed	-
EC20	10.2	114.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
EC10	18.1	95.55	Basin "n"	-	Computed	-	Computed	-	Computed	-
MC10	8.3	87.66	Basin "n"	-	Computed	-	Computed	-	Computed	-
MC20	4.7	91	Basin "n"	-	Computed	-	Computed	-	Computed	-
N491	0.73	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N527	1.94	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL402	35	143	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL403	28.2	138	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL404	22.1	137	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL405	19.25	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL301	32.3	141	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL302	30.8	140	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL305	22.5	132	Basin "n"	-	Computed	-	Computed	-	Computed	-

Basin "n" Method Data for Lag Time Computation

Watershed	Channel Length (ft)	Centroid Length (ft)	Slope (ft/ft)	Channelization	Land Use Impervious Area Percent (% or acres)																
					95	90	85	80	75	70	60	50	40	30	25	20	15	10	5	2	1
N291	835	359	0.0001	Undeveloped	0			0													
				Developed	3.06			16.58													
N223	394	175	0.014	Undeveloped	0														0.145		
				Developed	0.757																0
N228	892	403	0.0115	Undeveloped	0					0									0.57		
				Developed	1.368					13.558											0
N227	1059	450	0.0001	Undeveloped	0						0								0.701		
				Developed	0.037							12.705									0
N231	505	193	0.0122	Undeveloped	0													4.972			
				Developed	0.555															0	
N233	364	190	0.010	Undeveloped	0						0								0.014		
				Developed	0.526							0.001									0
N221	660	216	0.0132	Undeveloped	0														15.44		
				Developed	0.066																0
N235	549	203	0.0287	Undeveloped														0.322	1.034		
				Developed																0	0
N239	240	208	.0068	Undeveloped	0														0.019		
				Developed	0.813																0
N240	394	149	0.0072	Undeveloped	0														0.019		
				Developed	0.813																0
N238	785	328	0.0087	Undeveloped	0													0.007	0.069		
				Developed	1.971															0	0
N248	356	96	0.0222	Undeveloped															2.634		
				Developed																	0
N241	363	188	0.0146	Undeveloped	0																

Jackson Township

Phased Development Conditions Phase1

SacCalc Report

Sacramento Hydrologic Calculator Report

December 13, 2017 15:41

Project Title: Elder Gerber - Jackson Township Post-Project Method: Sacramento County HEC-1 method

Comments: Elder and Gerber Creek basins. Ultimate/Future Conditions with current Wildhawk Proposed conditions Revised sheds composited from several different models/studies. Includes preserves areas and subdivided shed E3. Includes Jackson Township portion of Morrison Creek. Also includes Vineyard Point as developed. Most routing removed as not required for RAS modeling. This version Alt1Ph1 for JT Development. Date:

Prepared by: jdh

Watershed Hydrologic Summary Data

Watershed	Area (acres)	Mean Elevation (ft)	Lag Times		Basin "n"		Loss Rates		Percent Impervious	
			Method	Lag Time (min)	Method	Basin "n"	Method	Loss Rate (in/hr)	Method	Impervious Area (%)
WS803	5.5	89	Basin "n"	-	Computed	-	Computed	-	Computed	-
WS802	22.3	99	Basin "n"	-	Computed	-	Computed	-	Computed	-
WS400	48.701	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
WS801	19.1	109	Basin "n"	-	Computed	-	Computed	-	Computed	-
WS800	16.1	111	Basin "n"	-	Computed	-	Computed	-	Computed	-
WS104	7.7	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL325	10	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL327	6.4	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL323	16.2	106	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL318	7.2	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL320	19.5	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL321	5.7	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL322	28.5	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N291	19.638	96	Basin "n"	-	Computed	-	Computed	-	Computed	-
N223	0.901	109	Basin "n"	-	Computed	-	Computed	-	Computed	-
N228	15.5	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N227	13.443	109	Basin "n"	-	Computed	-	Computed	-	Computed	-
N231	5.527	103.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
N233	0.54	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N221	15.507	110.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
N235	1.36	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N239	0.83	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N240	1.28	123	Basin "n"	-	Computed	-	Computed	-	Computed	-
N238	2.05	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N248	2.63	115	Basin "n"	-	Computed	-	Computed	-	Computed	-
N241	0.936	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
N242	1.13	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N243	0.8	114	Basin "n"	-	Computed	-	Computed	-	Computed	-
N249	11.63	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
N245	1.44	110	Basin "n"	-	Computed	-	Computed	-	Computed	-
N246	0.59	105	Basin "n"	-	Computed	-	Computed	-	Computed	-
N250	9.18	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
N247	1.156	107.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
N530	0.564	111.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
N255	0.571	117.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
N257	7.65	116.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
N256	6.49	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N254	3.87	121.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
N252	0.732	123	Basin "n"	-	Computed	-	Computed	-	Computed	-
N251	19.15	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N259	1.429	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N261	10.85	106	Basin "n"	-	Computed	-	Computed	-	Computed	-
N526	1.194	129	Basin "n"	-	Computed	-	Computed	-	Computed	-
N524	1.225	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N290	18.924	96	Basin "n"	-	Computed	-	Computed	-	Computed	-
N517	0.373	89.54	Basin "n"	-	Computed	-	Computed	-	Computed	-
N279	6.84	98.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
N276	5.68	100.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
N274	0.384	101	Basin "n"	-	Computed	-	Computed	-	Computed	-
N273	4.99	104	Basin "n"	-	Computed	-	Computed	-	Computed	-
N272	0.363	103	Basin "n"	-	Computed	-	Computed	-	Computed	-
N265	6.365	108	Basin "n"	-	Computed	-	Computed	-	Computed	-
N262	6.816	110	Basin "n"	-	Computed	-	Computed	-	Computed	-

N344	9.87	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
N222	1.358	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
N224	0.612	106	Basin "n"	-	Computed	-	Computed	-	Computed	-
N230	0.431	103.22	Basin "n"	-	Computed	-	Computed	-	Computed	-
N275	0.313	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3AA	416.4	67	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3CB	149.8	54.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3D	129.5	66.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3AP	112.6	68	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4AA	45.9	63.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4AP	154.2	61.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4AB	177.8	53.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3P1	3.6	59	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3P2	13.9	59.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3P3	7	57.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3BA	59.8	60.9	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3BB	11.6	60	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3CA	20.2	60.5	Travel Time	-	-	-	Computed	-	Computed	-
E2	629	69.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3	157.5	74	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3B	19.7	68.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3C	88.4	65.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3A	36.4	70.9	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4B1	141.5	54.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B2	511.8	115	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C3	134	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2A	799.7	95.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3D	163.3	61.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3DB	50.2	59.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3A1	119.2	57	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3A2	18.2	54	Basin "n"	-	Computed	-	Computed	-	Computed	-
G4	104.4	58.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
G4A	128.5	57.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3DC	21.4	56.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
G5	223.3	49	Basin "n"	-	Computed	-	Computed	-	Computed	-
E5	142.6	53.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
E6	207.7	45.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
E7A	143.4	42.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
E7B	157.1	41.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
E7C	181.5	39.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
E8	154.4	40.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
E9	280.7	34.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
E10	185.6	31.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
E11	147.5	30.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E12	276.5	29.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
E13	100.2	27.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E14	891.8	20	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3E	64.7	58.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4B2	332.6	57	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4B3	141.5	55.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4A2	11.6	51.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
NV1	109	50.9	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BB	2.6	65.6	Travel Time	-	-	-	Computed	-	Computed	-
G2BA	119.78	75	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BC	4.9	79.7	Travel Time	-	-	-	Computed	-	Computed	-
G2BD	35.9	64.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BE	27.8	66.2	Travel Time	-	-	-	Computed	-	Computed	-
G2BF	33	64.8	Travel Time	-	-	-	Computed	-	Computed	-
G2BG	52.3	67.4	Travel Time	-	-	-	Computed	-	Computed	-
G2BH	17.4	69	Travel Time	-	-	-	Computed	-	Computed	-
G2BI	28.4	65.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BJ	77.7	62.9	Travel Time	-	-	-	Computed	-	Computed	-
G2A50	799.7	95.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL401	39.6	140	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B3	6.7	136	Basin "n"	-	Computed	-	Computed	-	Computed	-

	22.3	141	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B6	14.9	130	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B5	28.5	135	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B7	48.8	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C5	55.7	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C4	58.5	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C6	542	87	Basin "n"	-	Computed	-	Computed	-	Computed	-
N345	0.482	129	Basin "n"	-	Computed	-	Computed	-	Computed	-
N358	0.32	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N357	0.353	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N356	0.374	129	Basin "n"	-	Computed	-	Computed	-	Computed	-
N361	70.085	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
N367	5.87	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
N366	24.436	136	Basin "n"	-	Computed	-	Computed	-	Computed	-
N312	10.68	116	Basin "n"	-	Computed	-	Computed	-	Computed	-
N309	9.581	119	Basin "n"	-	Computed	-	Computed	-	Computed	-
N296	8.023	122	Basin "n"	-	Computed	-	Computed	-	Computed	-
N293	7.988	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N304	7.947	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N301	16.682	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N457	5.739	122	Basin "n"	-	Computed	-	Computed	-	Computed	-
N454	6.411	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N451	6.206	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N448	6.894	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N446	5.469	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N443	5.431	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N444	8.893	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N440	5.709	122	Basin "n"	-	Computed	-	Computed	-	Computed	-
N441	8.523	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
N436	6.363	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N437	9.941	123	Basin "n"	-	Computed	-	Computed	-	Computed	-
N434	6.183	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N430	6.36	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N425	7.4	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N423	9.3	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N420	14	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N418	7.792	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N416	9.699	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N412	9.955	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N415	9.301	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N497	8.43	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
N509	22	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N513	19.24	114	Basin "n"	-	Computed	-	Computed	-	Computed	-
N398	5.479	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
N395	9.806	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N405	10.144	130	Basin "n"	-	Computed	-	Computed	-	Computed	-
N407	7.678	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N473	3.993	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N472	5.432	130	Basin "n"	-	Computed	-	Computed	-	Computed	-
N471	6.589	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
N467	5.6	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
N465	27.2	135	Basin "n"	-	Computed	-	Computed	-	Computed	-
N462	11.6	138	Basin "n"	-	Computed	-	Computed	-	Computed	-
N391	16.212	130.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
N390	11.59	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N386	13.481	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N387	7.709	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
N384	9.413	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
N383	11.641	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N490	18.7	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N492	10.3	130	Basin "n"	-	Computed	-	Computed	-	Computed	-
N478	6.16	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL303	28.2	134	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL304	30.9	140	Basin "n"	-	Computed	-	Computed	-	Computed	-
N376	39.822	136	Basin "n"	-	Computed	-	Computed	-	Computed	-

	2.4	101.62	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL329	23.2	119.82	Basin "n"	-	Computed	-	Computed	-	Computed	-
NV3	21	50	Basin "n"	-	Computed	-	Computed	-	Computed	-
N529	1.9	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
EC30	3.2	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
EC20	13.827	104	Basin "n"	-	Computed	-	Computed	-	Computed	-
EC10	20.289	95.55	Basin "n"	-	Computed	-	Computed	-	Computed	-
MC10	8.3	87.66	Basin "n"	-	Computed	-	Computed	-	Computed	-
MC20	4.7	91	Basin "n"	-	Computed	-	Computed	-	Computed	-
N491	0.73	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N527	1.94	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL402	35	143	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL403	28.2	138	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL404	22.1	137	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL405	19.25	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL301	32.3	146	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL302	30.8	140	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL305	22.5	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL300	40.368	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL312	2.27	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL328	4.371	100	Basin "n"	-	Computed	-	Computed	-	Computed	-

Basin "n" Method Data for Lag Time Computation

Watershed	Channel Length (ft)	Centroid Length (ft)	Slope (ft/ft)	Channelization	Land Use Impervious Area Percent (% or acres)																	
					95	90	85	80	75	70	60	50	40	30	25	20	15	10	5	2	1	1*
WS803	403	294	.0022	Undeveloped	0														5.3			
				Developed	0.2																0	
WS802	1148	456	.0088	Undeveloped	0						0			0						18.6		
				Developed	1.7						1.3			0.8								0
WS400	905	526	.0048	Undeveloped	0						0				0					22.566		
				Developed	3.973						10.425					11.733						0
WS801	1693	413	.0018	Undeveloped	0						0									17.8		
				Developed	1.2						0.1											0
WS800	580	306	.0010	Undeveloped																16.1		
				Developed																		0
WS104	506	118	.0364	Undeveloped																7.7		
				Developed																		0
EL325	725	531	.0056	Undeveloped	0						0				0					3.1		
				Developed	0.1						5.9					0.9						0
EL327	1093	559	.0092	Undeveloped							0									6.1		
				Developed							0.3											0
EL323	1718	928	.0090	Undeveloped	0						0									5.7		
				Developed	2.2						8.3											0
EL318	1175	451	.0093	Undeveloped	0															5.8		
				Developed	1.4																	0
EL320																						

Jackson Township

Phased Development Conditions Phase2

SacCalc Report

Sacramento Hydrologic Calculator Report

December 13, 2017 15:41

Project Title: Elder Gerber - Jackson Township Post-Project Method: Sacramento County HEC-1 method

Comments: Elder and Gerber Creek basins. Ultimate/Future Conditions with current Wildhawk Proposed conditions Revised sheds composited from several different models/studies. Includes preserves areas and subdivided shed E3. Includes Jackson Township portion of Morrison Creek. Also includes Vineyard Point as developed. Most routing removed as not required for RAS modeling. Date:

Prepared by: jdh

Watershed Hydrologic Summary Data

Watershed	Area (acres)	Mean Elevation (ft)	Lag Times		Basin "n"		Loss Rates		Percent Impervious	
			Method	Lag Time (min)	Method	Basin "n"	Method	Loss Rate (in/hr)	Method	Impervious Area (%)
N291	19.638	96	Basin "n"	-	Computed	-	Computed	-	Computed	-
N223	0.901	109	Basin "n"	-	Computed	-	Computed	-	Computed	-
N228	15.5	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N227	13.443	109	Basin "n"	-	Computed	-	Computed	-	Computed	-
N231	5.527	103.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
N233	0.54	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N221	15.507	110.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
N235	1.36	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N239	0.83	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N240	1.28	123	Basin "n"	-	Computed	-	Computed	-	Computed	-
N238	2.05	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N248	2.63	115	Basin "n"	-	Computed	-	Computed	-	Computed	-
N241	0.936	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
N242	1.13	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N243	0.8	114	Basin "n"	-	Computed	-	Computed	-	Computed	-
N249	11.63	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
N245	1.44	110	Basin "n"	-	Computed	-	Computed	-	Computed	-
N246	0.59	105	Basin "n"	-	Computed	-	Computed	-	Computed	-
N250	9.18	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
N247	1.156	107.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
N530	0.564	111.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
N255	0.571	117.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
N257	7.65	116.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
N256	6.846	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N254	4.094	121.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
N252	0.732	123	Basin "n"	-	Computed	-	Computed	-	Computed	-
N251	19.87	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N259	1.429	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N261	10.85	106	Basin "n"	-	Computed	-	Computed	-	Computed	-
N526	1.194	129	Basin "n"	-	Computed	-	Computed	-	Computed	-
N524	1.225	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N290	18.76	96	Basin "n"	-	Computed	-	Computed	-	Computed	-
N283	0.627	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
N286	0.521	100.13	Basin "n"	-	Computed	-	Computed	-	Computed	-
N285	10.02	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N281	0.339	91	Basin "n"	-	Computed	-	Computed	-	Computed	-
N282	0.492	94	Basin "n"	-	Computed	-	Computed	-	Computed	-
N280	8.515	96	Basin "n"	-	Computed	-	Computed	-	Computed	-
N284	5.037	98	Basin "n"	-	Computed	-	Computed	-	Computed	-
N517	0.373	89.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
N279	6.84	98.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
N276	5.68	100.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
N274	0.384	101	Basin "n"	-	Computed	-	Computed	-	Computed	-
N273	4.99	104	Basin "n"	-	Computed	-	Computed	-	Computed	-
N272	0.363	103	Basin "n"	-	Computed	-	Computed	-	Computed	-
N268	8.95	110	Basin "n"	-	Computed	-	Computed	-	Computed	-
N270	11.33	106	Basin "n"	-	Computed	-	Computed	-	Computed	-
N271	1.536	103	Basin "n"	-	Computed	-	Computed	-	Computed	-
N266	0.218	106	Basin "n"	-	Computed	-	Computed	-	Computed	-
N265	6.757	108	Basin "n"	-	Computed	-	Computed	-	Computed	-
N262	7.257	110	Basin "n"	-	Computed	-	Computed	-	Computed	-
N344	10.4	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
N333	7.323	124	Basin "n"	-	Computed	-	Computed	-	Computed	-

N336	6.737	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N338	6.733	116	Basin "n"	-	Computed	-	Computed	-	Computed	-
N339	8.408	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
N222	1.358	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
N224	0.612	106	Basin "n"	-	Computed	-	Computed	-	Computed	-
N230	0.431	103.22	Basin "n"	-	Computed	-	Computed	-	Computed	-
N275	0.313	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3AA	416.4	67	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3CB	149.8	54.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3D	129.5	66.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3AP	112.6	68	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4AA	45.9	63.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4AP	154.2	61.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4AB	177.8	53.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3P1	3.6	59	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3P2	13.9	59.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3P3	7	57.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3BA	59.8	60.9	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3BB	11.6	60	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3CA	20.2	60.5	Travel Time	-	-	-	Computed	-	Computed	-
E2	629	69.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3	157.5	74	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3B	19.7	68.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3C	88.4	65.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3A	36.4	70.9	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4B1	141.5	54.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B2	511.8	115	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C3	134	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2A	799.7	95.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3D	163.3	61.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3DB	50.2	59.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3A1	119.2	57	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3A2	18.2	54	Basin "n"	-	Computed	-	Computed	-	Computed	-
G4	104.4	58.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
G4A	128.5	57.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
G3DC	21.4	56.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
G5	223.3	49	Basin "n"	-	Computed	-	Computed	-	Computed	-
E5	142.6	53.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
E6	207.7	45.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
E7A	143.4	42.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
E7B	157.1	41.1	Basin "n"	-	Computed	-	Computed	-	Computed	-
E7C	181.5	39.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
E8	154.4	40.6	Basin "n"	-	Computed	-	Computed	-	Computed	-
E9	280.7	34.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
E10	185.6	31.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
E11	147.5	30.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E12	276.5	29.2	Basin "n"	-	Computed	-	Computed	-	Computed	-
E13	100.2	27.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E14	891.8	20	Basin "n"	-	Computed	-	Computed	-	Computed	-
E3E	64.7	58.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4B2	332.6	57	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4B3	141.5	55.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
E4A2	11.6	51.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
NV1	109	50.9	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BB	2.6	65.6	Travel Time	-	-	-	Computed	-	Computed	-
G2BA	119.78	75	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BC	4.9	79.7	Travel Time	-	-	-	Computed	-	Computed	-
G2BD	35.9	64.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BE	27.8	66.2	Travel Time	-	-	-	Computed	-	Computed	-
G2BF	33	64.8	Travel Time	-	-	-	Computed	-	Computed	-
G2BG	52.3	67.4	Travel Time	-	-	-	Computed	-	Computed	-
G2BH	17.4	69	Travel Time	-	-	-	Computed	-	Computed	-
G2BI	28.4	65.3	Basin "n"	-	Computed	-	Computed	-	Computed	-
G2BJ	77.7	62.9	Travel Time	-	-	-	Computed	-	Computed	-
G2A50	799.7	95.7	Basin "n"	-	Computed	-	Computed	-	Computed	-

	39.6	140	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B3	6.7	136	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B4	22.3	141	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B6	14.9	130	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B5	28.5	135	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1B7	48.8	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C5	55.7	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C4	58.5	113	Basin "n"	-	Computed	-	Computed	-	Computed	-
E1C6	542	87	Basin "n"	-	Computed	-	Computed	-	Computed	-
N500	1.896	93.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
N317	10.02	96	Basin "n"	-	Computed	-	Computed	-	Computed	-
N319	7.866	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
N318	0.708	93.65	Basin "n"	-	Computed	-	Computed	-	Computed	-
N320	0.322	95.5	Basin "n"	-	Computed	-	Computed	-	Computed	-
N321	5.398	96.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
N325	0.525	96.8	Basin "n"	-	Computed	-	Computed	-	Computed	-
N327	7.076	98	Basin "n"	-	Computed	-	Computed	-	Computed	-
N326	5.006	100.39	Basin "n"	-	Computed	-	Computed	-	Computed	-
N328	0.966	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
N329	8.081	104	Basin "n"	-	Computed	-	Computed	-	Computed	-
N332	7.726	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N330	0.438	102	Basin "n"	-	Computed	-	Computed	-	Computed	-
N315	1.373	106.7	Basin "n"	-	Computed	-	Computed	-	Computed	-
N314	0.522	107	Basin "n"	-	Computed	-	Computed	-	Computed	-
N313	0.335	108	Basin "n"	-	Computed	-	Computed	-	Computed	-
N308	7.936	108	Basin "n"	-	Computed	-	Computed	-	Computed	-
N305	7.802	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
N297	7.793	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N300	7.796	116	Basin "n"	-	Computed	-	Computed	-	Computed	-
N345	0.981	129	Basin "n"	-	Computed	-	Computed	-	Computed	-
N349	8.479	129	Basin "n"	-	Computed	-	Computed	-	Computed	-
N350	9.002	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N353	12.067	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N352	8.603	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N358	0.84	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N357	0.838	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N356	0.825	129	Basin "n"	-	Computed	-	Computed	-	Computed	-
N361	70.085	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
N367	5.87	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
N366	24.436	136	Basin "n"	-	Computed	-	Computed	-	Computed	-
N312	10.68	116	Basin "n"	-	Computed	-	Computed	-	Computed	-
N309	9.581	119	Basin "n"	-	Computed	-	Computed	-	Computed	-
N296	8.023	122	Basin "n"	-	Computed	-	Computed	-	Computed	-
N293	7.988	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N304	7.947	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N301	16.682	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N457	5.739	122	Basin "n"	-	Computed	-	Computed	-	Computed	-
N454	6.411	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N451	6.206	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N448	6.894	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N446	5.469	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N443	5.431	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N444	8.893	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N440	5.709	122	Basin "n"	-	Computed	-	Computed	-	Computed	-
N441	8.523	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
N436	6.363	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N437	9.941	123	Basin "n"	-	Computed	-	Computed	-	Computed	-
N434	6.183	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N430	6.36	128	Basin "n"	-	Computed	-	Computed	-	Computed	-
N425	7.4	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N423	9.3	120	Basin "n"	-	Computed	-	Computed	-	Computed	-
N420	14	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N418	7.792	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N416	9.699	125	Basin "n"	-	Computed	-	Computed	-	Computed	-
N412	9.955	125	Basin "n"	-	Computed	-	Computed	-	Computed	-

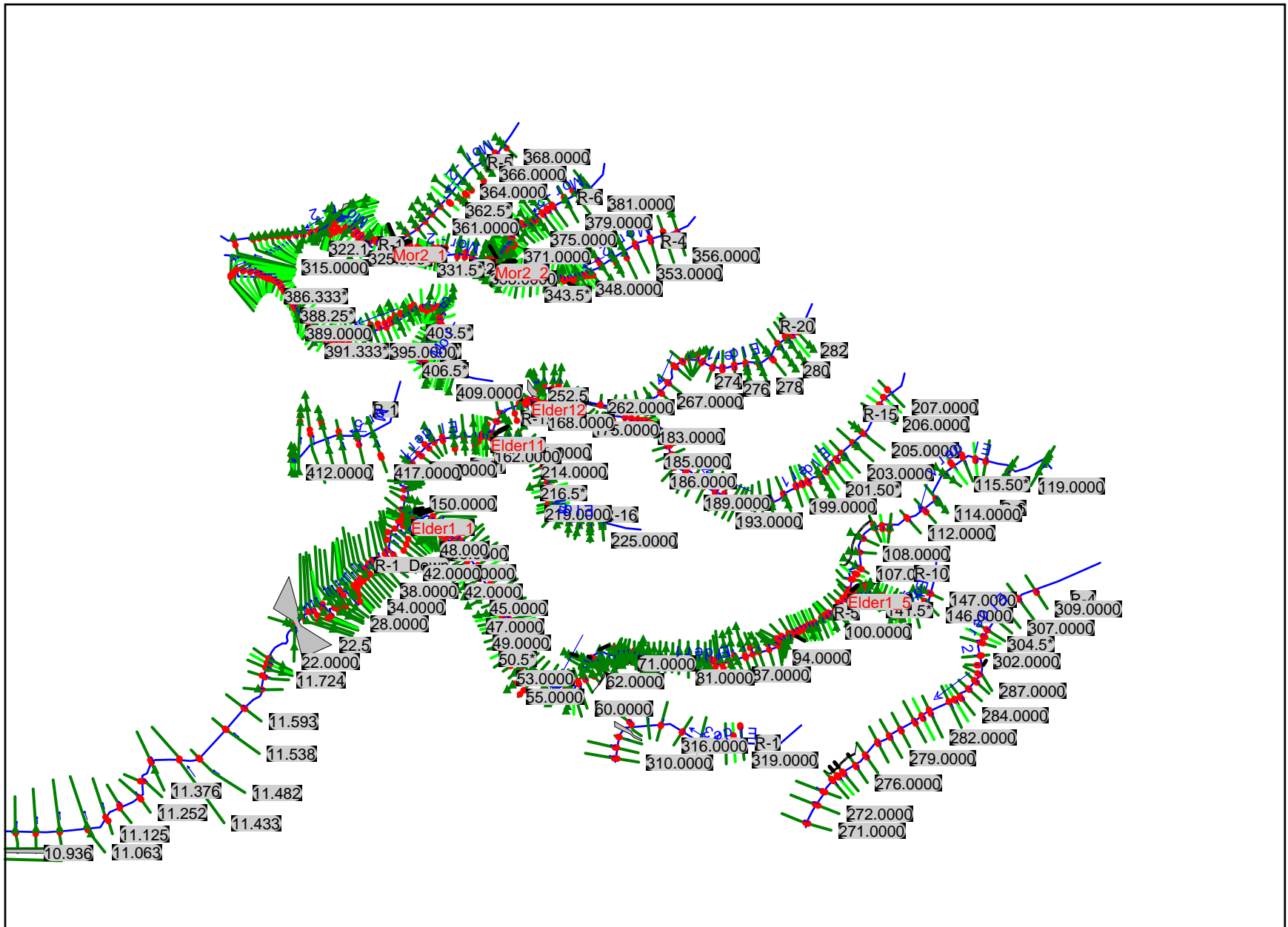
	9.301	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N497	8.43	112	Basin "n"	-	Computed	-	Computed	-	Computed	-
N506	18.046	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
N504	21.484	100	Basin "n"	-	Computed	-	Computed	-	Computed	-
N511	9.841	109	Basin "n"	-	Computed	-	Computed	-	Computed	-
N509	22	118	Basin "n"	-	Computed	-	Computed	-	Computed	-
N513	19.24	114	Basin "n"	-	Computed	-	Computed	-	Computed	-
N398	5.479	121	Basin "n"	-	Computed	-	Computed	-	Computed	-
N395	9.806	126	Basin "n"	-	Computed	-	Computed	-	Computed	-
N405	10.144	130	Basin "n"	-	Computed	-	Computed	-	Computed	-
N407	7.678	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N473	3.993	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N472	5.432	130	Basin "n"	-	Computed	-	Computed	-	Computed	-
N471	6.589	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
N467	5.6	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
N465	27.2	135	Basin "n"	-	Computed	-	Computed	-	Computed	-
N462	11.6	138	Basin "n"	-	Computed	-	Computed	-	Computed	-
N391	16.212	130.4	Basin "n"	-	Computed	-	Computed	-	Computed	-
N390	11.59	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N386	13.481	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N387	7.709	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
N384	9.413	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
N383	11.641	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
N490	18.7	124	Basin "n"	-	Computed	-	Computed	-	Computed	-
N492	10.3	130	Basin "n"	-	Computed	-	Computed	-	Computed	-
N478	6.16	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL303	28.2	134	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL304	30.9	140	Basin "n"	-	Computed	-	Computed	-	Computed	-
N376	39.822	136	Basin "n"	-	Computed	-	Computed	-	Computed	-
W61	2.4	101.62	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL329	23.2	119.82	Basin "n"	-	Computed	-	Computed	-	Computed	-
NV3	21	50	Basin "n"	-	Computed	-	Computed	-	Computed	-
N529	1.9	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
EC30	3.17	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
EC20	10.2	104	Basin "n"	-	Computed	-	Computed	-	Computed	-
EC10	18.1	95.55	Basin "n"	-	Computed	-	Computed	-	Computed	-
MC10	8.3	87.66	Basin "n"	-	Computed	-	Computed	-	Computed	-
MC20	4.7	91	Basin "n"	-	Computed	-	Computed	-	Computed	-
N491	0.73	127	Basin "n"	-	Computed	-	Computed	-	Computed	-
N527	1.94	131	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL402	35	143	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL403	28.2	138	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL404	22.1	137	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL405	19.25	133	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL301	32.3	146	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL302	30.8	140	Basin "n"	-	Computed	-	Computed	-	Computed	-
EL305	22.5	132	Basin "n"	-	Computed	-	Computed	-	Computed	-
EC10S	6.3	100	Basin "n"	-	Computed	-	Computed	-	Computed	-

Basin "n" Method Data for Lag Time Computation

Watershed	Channel Length (ft)	Centroid Length (ft)	Slope (ft/ft)	Channelization	Land Use Impervious Area Percent (% or acres)															
					95	90	85	80	75	70	60	50	40	30	25	20	15	10	5	2
N291	835	359	0.0001	Undeveloped	0			0												
				Developed	3.06			16.58												
N223	394	175	.014	Undeveloped	0															0.145
				Developed	0.757															
N228	892	403	0.0115	Undeveloped	0						0									0.57
				Developed	1.368						13.558									
N227	1059	450	0.0001	Undeveloped	0							0								0.701
				Developed	0.037								12.705							
N231	505	193	0.0122	Undeveloped	0														4.972	
				Developed	0.555															
N233	364	190	0.010	Undeveloped	0							0								0.014
				Developed	0.526								0.001							
N221	660	216	0.0132	Undeveloped	0															15.44
				Developed	0.066															
N235	549	203	0.0287	Undeveloped															0.322	1.034

**APPENDIX B
RAS (HYDRAULIC) MODELS**

Jackson Township
Existing Conditions
RAS Model Layout
and
10 & 100-Year Summary Results



River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Mor-2	R-1	327.0000	Max WS	102.42	86.52	88.54		88.59	0.010015	2.15	58.54	143.77	0.34
Mor-2	R-1	326.5*	Max WS	102.40	85.61	87.69		87.78	0.015491	2.70	45.97	74.14	0.42
Mor-2	R-1	326.0000	Max WS	102.39	84.70	87.06		87.10	0.005501	1.79	63.71	68.00	0.26
Mor-2	R-1	325.666*	Max WS	103.10	83.77	86.38		86.47	0.011800	2.34	44.20	36.75	0.37
Mor-2	R-1	325.333*	Max WS	103.80	82.83	85.46		85.55	0.013508	2.49	41.69	33.22	0.39
Mor-2	R-1	325.0000	Max WS	104.50	81.90	84.57		84.66	0.011171	2.44	42.81	30.34	0.36
Mor-2	R-1	324.666*	Max WS	105.23	81.37	83.72		83.79	0.011617	2.18	48.26	42.17	0.36
Mor-2	R-1	324.333*	Max WS	105.97	80.84	82.54		82.62	0.019332	2.30	45.98	54.42	0.44
Mor-2	R-1	324.0000	Max WS	106.69	80.31	81.30		81.34	0.014344	1.81	68.32	198.83	0.37
Mor-2	R-1	323.666*	Max WS	107.48	79.20	80.23		80.26	0.011809	1.62	77.33	197.87	0.34
Mor-2	R-1	323.333*	Max WS	108.27	78.08	79.04		79.08	0.016743	1.70	70.77	198.25	0.39
Mor-2	R-1	323.0000	Max WS	108.87	76.97	78.32		78.32	0.000934	0.55	193.49	304.89	0.10
Mor-2	R-1	322.7*	Max WS	110.26	76.18	78.23		78.24	0.001317	0.70	175.14	337.07	0.12
Mor-2	R-1	322.4*	Max WS	110.19	75.39	78.12		78.13	0.001681	0.83	180.62	421.47	0.14
Mor-2	R-1	322.1	Max WS	109.42	74.60	77.86		77.88	0.005127	1.38	109.92	472.74	0.23
Mor-2	R-1	322.0000	Max WS	107.09	74.60	77.78		77.81	0.008930	1.75	85.36	441.27	0.30
Mor-2	R-1	321.5	Culvert										
Mor-2	R-1	321.0000	Max WS	105.18	74.66	77.70		77.70	0.000061	0.27	508.19	594.05	0.03
Mor-2	R-1	320.9	Max WS	105.18	74.66	77.70		77.70	0.000061	0.27	507.91	593.79	0.03
Mor-2	R-1	320.5*	Max WS	105.13	74.86	77.70		77.70	0.000032	0.19	707.56	658.88	0.02
Mor-2	R-1	320.0000	Max WS	105.06	75.05	77.70		77.70	0.000031	0.19	695.39	621.81	0.02
Mor-2	R-1	319.5*	Max WS	105.00	74.90	77.69		77.69	0.000066	0.23	529.94	428.61	0.03
Mor-2	R-1	319.0000	Max WS	104.98	74.76	77.36		77.40	0.010384	1.96	76.65	143.37	0.33
Mor-2	R-1	318.5*	Max WS	104.97	74.23	76.09		76.16	0.017293	2.45	61.37	147.47	0.43
Mor-2	R-1	318.0000	Max WS	104.49	73.70	75.29		75.30	0.001133	0.79	186.08	238.17	0.12
Mor-2	R-1	317.666*	Max WS	104.39	73.68	75.21		75.21	0.001424	0.84	181.58	273.82	0.13
Mor-2	R-1	317.333*	Max WS	104.23	73.66	75.10		75.10	0.001824	0.88	173.79	313.16	0.14
Mor-2	R-1	317.0000	Max WS	104.05	73.64	74.96		74.96	0.002308	0.89	165.62	339.85	0.16
Mor-2	R-1	316.666*	Max WS	103.71	73.34	74.76		74.76	0.002389	0.89	168.66	352.63	0.16
Mor-2	R-1	316.333*	Max WS	103.40	73.03	74.56		74.57	0.002431	0.95	172.94	388.01	0.16
Mor-2	R-1	316.0000	Max WS	103.21	72.73	74.39		74.40	0.002000	0.91	183.61	427.63	0.15
Mor-2	R-1	315.0000	Max WS	16.00	72.97	74.00	73.35	74.00	0.000050	0.11	197.72	436.32	0.02
Elder1	R-1_Down	48.000	Max WS	443.35	95.15	97.40		97.43	0.005147	0.98	323.30	485.57	0.14
Elder1	R-1_Down	47.000	Max WS	443.09	94.47	96.99		97.02	0.003072	0.87	366.39	419.29	0.11
Elder1	R-1_Down	46.5*	Max WS	444.21	94.53	96.88		96.90	0.002200	0.80	453.46	426.07	0.10
Elder1	R-1_Down	46.0000	Max WS	445.24	94.59	96.71		96.75	0.004475	1.23	309.04	425.12	0.16
Elder1	R-1_Down	45.0000	Max WS	447.65	94.42	96.47		96.47	0.000843	0.65	617.26	382.80	0.08
Elder1	R-1_Down	44.0000	Max WS	450.02	94.14	96.38		96.39	0.000855	0.67	640.73	362.02	0.09
Elder1	R-1_Down	43.0000	Max WS	452.32	93.91	96.25		96.26	0.001977	1.02	445.68	249.02	0.13
Elder1	R-1_Down	42.0000	Max WS	455.42	92.98	95.84		95.93	0.003586	2.32	201.82	134.30	0.29
Elder1	R-1_Down	41.0000	Max WS	457.16	92.78	95.62		95.69	0.003108	2.41	225.50	151.63	0.28
Elder1	R-1_Down	40.000	Max WS	457.08	92.55	95.19		95.25	0.003344	2.00	232.90	159.07	0.27
Elder1	R-1_Down	39.000	Max WS	457.00	91.54	94.75		94.81	0.002668	2.12	257.30	182.29	0.26
Elder1	R-1_Down	38.0000	Max WS	456.96	91.27	94.59		94.64	0.002781	2.66	280.37	220.94	0.27
Elder1	R-1_Down	37.0000	Max WS	456.95	91.15	94.43		94.46	0.001133	1.50	372.98	265.55	0.17
Elder1	R-1_Down	36.0000	Max WS	456.88	90.67	94.01		94.15	0.007661	3.64	197.73	264.32	0.43
Elder1	R-1_Down	35.0000	Max WS	456.79	90.64	93.66		93.72	0.004026	2.48	265.13	287.26	0.31
Elder1	R-1_Down	34.0000	Max WS	456.68	90.63	93.45		93.49	0.002879	2.12	307.75	295.42	0.26
Elder1	R-1_Down	33.0000	Max WS	456.54	90.66	93.27		93.31	0.002722	1.82	328.11	323.00	0.25
Elder1	R-1_Down	32.5*	Max WS	456.38	90.73	93.09		93.12	0.002274	1.69	324.38	266.02	0.23
Elder1	R-1_Down	32.0000	Max WS	455.95	90.79	92.92		92.96	0.001984	1.61	336.58	324.61	0.21
Elder1	R-1_Down	31.0000	Max WS	450.11	89.65	92.45		92.48	0.001985	1.59	363.30	333.47	0.21
Elder1	R-1_Down	30.0000	Max WS	437.15	89.41	92.12		92.15	0.001643	1.58	392.01	379.01	0.20
Elder1	R-1_Down	29.0000	Max WS	434.83	89.21	92.05		92.07	0.000959	1.37	480.01	407.14	0.16
Elder1	R-1_Down	28.0000	Max WS	433.11	88.77	92.01		92.02	0.000561	0.97	579.78	431.46	0.12
Elder1	R-1_Down	27.0000	Max WS	431.57	88.01	91.95		91.95	0.000141	0.55	882.24	444.24	0.06
Elder1	R-1_Down	26.5*	Max WS	431.55	88.28	91.94		91.94	0.000155	0.57	895.54	476.96	0.06
Elder1	R-1_Down	26.0000	Max WS	431.51	88.54	91.93		91.93	0.000246	0.67	788.56	485.94	0.08
Elder1	R-1_Down	25.0000	Max WS	431.11	88.53	91.90		91.90	0.000135	0.51	1025.78	593.52	0.06
Elder1	R-1_Down	24.0000	Max WS	431.06	88.24	91.89		91.89	0.000082	0.43	1203.34	637.42	0.05
Elder1	R-1_Down	23.0000	Max WS	430.97	88.09	91.88		91.88	0.000150	0.62	1032.71	707.10	0.06
Elder1	R-1_Down	22.5	Culvert										
Elder1	R-1_Down	22.0000	Max WS	430.95	88.07	90.75		90.77	0.001496	1.38	409.62	391.27	0.18
Elder1	R-1_Down	21.0000	Max WS	430.81	86.60	89.15		89.22	0.004383	2.52	241.38	242.49	0.32
Elder1	R-1_Down	20.550*	Max WS	439.44	86.10	88.80		88.83	0.001663	1.63	339.39	245.27	0.20
Elder1	R-1_Down	20.1000	Max WS	439.43	85.60	88.72		88.74	0.001153	1.54	382.19	256.22	0.17
Elder1	R-1_Down	11.724	Max WS	439.33	85.65	88.46		88.50	0.002643	2.00	292.83	248.48	0.25
Elder1	R-1_Down	11.659	Max WS	439.17	84.72	87.60		87.64	0.002445	2.33	304.97	252.61	0.25
Elder1	R-1_Down	11.593	Max WS	453.06	83.92	86.84		86.87	0.002362	2.13	332.92	298.02	0.24
Elder1	R-1_Down	11.538	Max WS	464.44	82.92	86.34		86.37	0.001357	1.87	360.89	242.96	0.19
Elder1	R-1_Down	11.482	Max WS	477.24	82.27	85.43		85.49	0.004604	2.82	261.40	263.41	0.34
Elder1	R-1_Down	11.433	Max WS	488.35	81.55	84.80		84.81	0.000506	1.56	705.73	568.77	0.17
Elder1	R-1_Down	11.376	Max WS	560.67	80.86	84.65		84.67	0.000447	1.67	612.57	340.38	0.17
Elder1	R-1_Down	11.313	Max WS	574.40	80.70	84.47		84.50	0.000631	1.88	503.81	294.93	0.20
Elder1	R-1_Down	11.252	Max WS	587.66	80.24	84.11		84.18	0.001559	3.03	375.66	274.91	0.31
Elder1	R-1_Down	11.175	Max WS	602.27	79.60	83.45		83.56	0.002044	3.33	358.54	385.27	0.35
Elder1	R-1_Down	11.125	Max WS	602.03	79.27	83.10		83.15	0.000792	2.15	498.12	397.23	0.22
Elder1	R-1_Down	11.063	Max WS	624.76	78.95	82.89		82.92	0.000755	2.12	758.19	817.42	0.22
Elder1	R-1_Down	10.995	Max WS	735.98	78.76	82.44		82.48	0.001713	2.70	645.79	678.73	0.31
Elder1	R-1_Down	10.936	Max WS	728.13	76.97	81.91		81.97	0.001663	3.03	577.60	561.58	0.31
Elder1	R-1_Down	10.884	Max WS	727.82	76.68	81.68		81.69	0.000238	1.52	1034.31	505.44	0.13
Elder1	R-1_Down	10.834	Max WS	727.75	76.47	81.62		81.63	0.000230	1.53	995.62	455.26	0.13
Elder1	R-1_Down	10.775	Max WS	727.63	76.23	81.54		81.56	0.000257	1.65	957.54	559.09	0.13
Elder1	R-1_Down	10.7475*	Max WS	727.62	75.69	81.46		81.51	0.000534	2.44	680.02	411.82	0.19
Elder1	R-1_Down	10.720	Max WS	727.58	75.15	81.30		81.41	0.001220	3.70	508.37	407.60	0.29
Elder1	R-1_Down	10.705	Max WS	727.52	75.34	81.14		81.29	0.002034	4.09	462.24	568.45	0.36

HEC-RAS Plan: EGJTPRE100y24h88 Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Elder1	R-1_Down	10.704	Max WS	727.54	75.44	81.18		81.20	0.000474	1.68	888.26	612.38	0.17
Elder1	R-1_Down	10.689		727.54									
Elder1	R-1_Down	10.686	Max WS	727.55	75.07	81.16		81.17	0.000331	1.44	1065.41	635.80	0.14
Elder1	R-1_Down	10.681	Max WS	727.54	75.23	81.15		81.16	0.000232	1.46	1086.13	644.76	0.12
Elder1	R-1_Down	10.65	Max WS	727.52	74.93	81.09		81.13	0.000209	1.60	684.45	364.97	0.12
Elder1	R-1_Down	10.63		727.52									
Elder1	R-1_Down	10.619	Max WS	727.50	75.38	80.98		81.03	0.000825	2.11	509.55	297.24	0.22
Elder1	R-1_Down	10.613		727.47									
Elder1	R-1_Down	10.607	Max WS	727.47	75.04	78.33		79.35	0.011091	8.11	89.71	484.30	0.83
Elder1	R-1_Down	10.562	Max WS	727.43	74.78	77.84		77.91	0.001718	2.52	494.16	563.03	0.31
Elder1	R-1_Down	10.507	Max WS	727.41	74.62	77.09		77.27	0.004622	3.81	267.71	311.80	0.49
Elder1	R-1_Down	10.442	Max WS	732.53	74.36	76.05		76.09	0.002101	1.89	479.18	516.21	0.31
Elder1	R-1_Down	10.361	Max WS	738.44	72.88	75.41		75.43	0.001089	1.96	738.05	594.29	0.24
Elder1	R-1_Down	10.312	Max WS	743.27	71.78	74.95		75.01	0.002327	3.11	486.80	600.52	0.36
Elder1	R-1_Down	10.272	Max WS	746.66	71.03	74.36		74.47	0.002929	3.54	392.23	353.10	0.41
Elder1	R-1_Down	10.214	Max WS	829.57	69.83	73.69		73.76	0.001794	3.08	500.98	336.27	0.33
Elder1	R-1_Down	10.141	Max WS	931.49	68.54	72.98		73.07	0.002042	3.47	509.58	335.45	0.35
Elder1	R-1_Down	10.09	Max WS	935.76	68.60	72.38		72.52	0.002408	3.89	454.25	338.99	0.39
Elder1	R-1_Down	10.034	Max WS	940.66	68.74	71.77		71.82	0.002118	3.05	673.55	589.11	0.35
Elder1	R-1_Down	9.974	Max WS	945.65	67.83	71.33		71.36	0.000822	2.07	929.13	662.14	0.22
Elder1	R-1_Down	9.919	Max WS	950.44	67.56	71.13		71.15	0.000558	1.98	975.14	594.77	0.19
Elder1	R-1_Down	9.878	Max WS	953.63	67.52	70.78		70.90	0.002243	3.44	525.95	586.53	0.37
Elder1	R-1_Down	9.813	Max WS	958.23	67.00	70.06		70.14	0.001974	3.17	589.87	611.63	0.34
Elder1	R-1_Down	9.749	Max WS	962.73	66.60	69.53		69.60	0.001159	2.64	647.40	426.99	0.27
Elder1	R-1_Down	9.701	Max WS	966.55	64.81	69.34		69.38	0.000468	1.98	923.07	512.20	0.18
Elder1	R-1_Down	9.633	Max WS	971.95	64.72	69.13		69.17	0.000653	2.10	766.16	668.32	0.20
Elder1	R-1_Down	9.566	Max WS	976.71	63.42	67.84		68.28	0.005723	5.80	251.20	212.86	0.59
Elder1	R-1_Down	9.524	Max WS	979.38	62.22	67.14		67.21	0.002374	2.67	550.32	625.62	0.35
Elder1	R-1_Down	9.49		981.38									
Elder1	R-1_Down	9.486	Max WS	981.38	61.46	66.68		66.81	0.001860	3.57	507.68	540.80	0.34
Elder1	R-1_Down	9.438	Max WS	984.86	59.47	66.39		66.47	0.000952	2.71	626.60	578.86	0.25
Elder1	R-1_Down	9.387	Max WS	987.84	59.78	66.01		66.11	0.001741	3.15	519.25	454.54	0.32
Elder1	R-1_Down	9.329	Max WS	990.37	58.24	65.41		65.62	0.001634	3.83	376.17	401.10	0.33
Elder1	R-1_Down	9.282	Max WS	990.99	57.97	64.97		65.20	0.001829	4.03	394.34	444.67	0.35
Elder1	R-1_Down	9.228	Max WS	991.82	57.48	64.56		64.75	0.001204	3.65	392.18	460.80	0.29
Elder1	R-1_Down	9.185	Max WS	993.47	57.64	64.43		64.50	0.000653	2.58	776.14	606.17	0.21
Elder1	R-1_Down	9.143	Max WS	994.83	57.35	64.24		64.35	0.000853	2.95	721.70	775.96	0.24
Elder1	R-1_Down	9.091	Max WS	997.12	57.48	64.08		64.14	0.000534	2.38	916.40	859.37	0.19
Elder1	R-1_Down	9.039	Max WS	999.80	57.06	63.90		63.98	0.000660	2.63	759.51	673.24	0.21
Elder1	R-1_Down	8.975	Max WS	1003.54	57.39	63.69		63.76	0.000621	2.55	802.12	1084.91	0.21
Elder1	R-1_Down	8.969	Max WS	1003.91	57.00	63.69	59.83	63.73	0.000475	1.88	971.70	843.86	0.18
Elder1	R-1_Down	8.961		1003.81									
Elder1	R-1_Down	8.954	Max WS	1003.81	57.10	63.54		63.60	0.000447	2.31	941.84	865.86	0.18
Elder1	R-1_Down	8.89	Max WS	1005.74	57.04	62.85		63.18	0.003711	5.24	357.86	588.52	0.48
Elder1	R-1_Down	8.811	Max WS	1009.42	56.79	61.95		62.03	0.001460	3.13	609.81	1151.50	0.30
Elder1	R-1_Down	8.752	Max WS	1011.74	57.25	61.04		61.24	0.003867	4.52	448.96	1051.59	0.48
Elder1	R-1_Down	8.697	Max WS	1011.90	56.74	60.43		60.45	0.000760	1.80	1218.64	2511.24	0.21
Elder1	R-1_Down	8.598	Max WS	1013.19	55.92	60.06		60.07	0.000979	1.09	1227.39	1828.35	0.20
Elder1	R-1_Down	8.565	Max WS	1012.53	55.85	59.90		59.92	0.001343	1.34	1084.66	1797.17	0.24
Elder1	R-1_Down	8.466	Max WS	1013.22	55.58	59.59		59.60	0.000483	1.48	1662.50	2197.35	0.17
Elder1	R-1_Down	8.258	Max WS	1000.96	55.90	58.80		58.82	0.001212	1.53	1006.27	2252.87	0.24
Elder1	R-1_Down	8.195	Max WS	998.63	55.61	58.47		58.48	0.000585	0.94	1415.88	1369.85	0.16
Elder1	R-1_Down	8.105	Max WS	999.35	55.58	58.34		58.34	0.000293	0.77	1772.05	1724.67	0.12
Elder1	R-1_Down	7.93	Max WS	991.94	54.96	57.51		57.60	0.002225	2.49	471.36	1835.43	0.34
Elder1	R-1_Down	7.863	Max WS	987.15	53.97	57.16		57.16	0.000191	0.83	2286.46	2760.79	0.10
Elder1	R-1_Down	7.862		987.15									
Elder1	R-1_Down	7.783	Max WS	882.29	52.32	56.58		56.69	0.002829	3.02	392.71	1126.99	0.38
Elder1	R-1_Down	7.740	Max WS	750.79	52.21	56.22		56.25	0.001101	2.07	736.18	835.98	0.25
Elder1	R-1_Down	7.689	Max WS	610.81	51.89	56.08		56.08	0.000046	0.38	2755.21	1992.21	0.05
Elder1	R-1_Down	7.625	Max WS	571.75	50.92	56.01	54.09	56.09	0.001050	2.48	406.78	538.17	0.25
Elder1	R-1_Down	7.6225		571.75									
Elder1	R-1_Down	7.620	Max WS	571.80	51.00	56.02		56.06	0.000554	1.87	540.63	624.05	0.18
Elder1	R-1_Down	7.619		571.80									
Elder1	R-1_Down	7.543	Max WS	480.70	50.76	55.53		55.77	0.002506	3.89	123.44	39.12	0.39
Elder1	R-1_Down	7.516	Max WS	436.39	50.67	55.18		55.39	0.001668	3.72	122.82	192.56	0.33
Elder1	R-1_Down	7.317	Max WS	95.39	49.76	54.53		54.53	0.000010	0.26	949.61	842.69	0.02
Elder1	R-1_Down	7.259		942.09									
Elder1	R-1_Down	7.258	Max WS	942.09	49.57	54.22		54.30	0.001567	3.40	650.98	552.85	0.30
Elder1	R-1_Down	7.0770	Max WS	944.98	47.10	53.45	49.98	53.61	0.003098	3.50	337.23	112.45	0.25
Elder1	R-1_Down	7.05		944.95									
Elder1	R-1_Down	7.0130	Max WS	944.95	46.84	53.30		53.45	0.003012	3.53	393.39	175.11	0.24
Elder1	R-1_Down	6.98		977.51									
Elder1	R-1_Down	6.9650	Max WS	977.51	46.68	52.00	49.56	52.25	0.006412	4.53	271.99	88.59	0.35
Elder1	R-1_Down	6.94		977.37									
Elder1	R-1_Down	6.9350	Max WS	977.31	42.39	51.96		52.03	0.001678	2.36	481.28	116.63	0.14
Elder1	R-1_Down	6.9141	Max WS	976.87	42.35	51.85		51.96	0.001267	2.29	371.05	110.52	0.13
Elder1	R-1_Down	6.91405*	Max WS	976.65	42.35	51.82		51.94	0.001436	2.44	349.25	110.33	0.14
Elder1	R-1_Down	6.9140	Max WS	976.43	42.35	51.79		51.93	0.001644	2.60	326.91	110.10	0.15
Elder1	R-1_Down	6.9135		975.23									
Elder1	R-1_Down	6.9131	Max WS	975.23	41.36	51.52		51.65	0.001573	2.71	340.34	142.68	0.15
Elder1	R-1_Down	6.9130	Max WS	975.23	41.36	51.54		51.64	0.001253	2.42	380.47	142.97	0.13
Elder1	R-1_Down	6.9129		975.23									
Elder1	R-1_Down	6.9128		975.23									
Elder1	R-1_Down	6.89		1104.88									
Elder1	R-1_Down	6.8860	Max WS	1104.88	41.22	51.44		51.48	0.000661	1.75	769.64	144.63	0.10
Elder1	R-1_Down	6.8850	Max WS	1104.66	41.10	51.38		51.40	0.000520	1.58	861.86	156.79	0.09

HEC-RAS Plan: EGJTPRE100y24h88 Profile: Max WS (Continued)

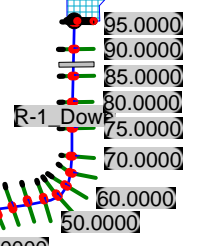
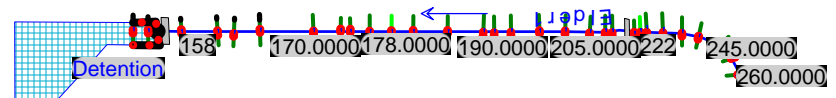
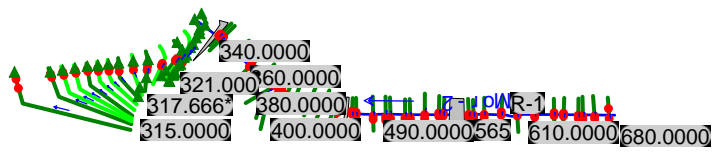
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Elder1	R-1_Down	6.8620	Max WS	1104.21	40.98	51.31		51.34	0.000501	1.55	855.95	153.23	0.09
Elder1	R-1_Down	6.8450	Max WS	1104.00	40.88	51.29		51.30	0.000213	1.02	1225.43	197.53	0.06
Elder1	R-1_Down	6.8330	Max WS	1104.02	40.82	51.28		51.29	0.000179	0.94	1143.01	225.52	0.05
Elder1	R-1_Down	6.8210	Max WS	1103.82	40.76	51.26		51.28	0.000226	1.06	968.62	236.65	0.06
Elder1	R-1_Down	6.82	Lat Struct										
Elder1	R-1_Down	6.8100	Max WS	1104.45	40.70	51.22		51.26	0.000448	1.48	682.08	159.42	0.08
Elder1	R-1_Down	6.791	Max WS	1103.74	40.66	51.00		51.18	0.002015	3.09	332.54	114.01	0.17
Elder1	R-1_Down	6.790	Culvert										
Elder1	R-1_Down	6.7890	Max WS	1102.22	40.64	50.73		50.91	0.002183	3.16	324.44	118.66	0.18
Elder1	R-1_Down	6.7730	Max WS	1102.01	40.60	50.70		50.76	0.001113	2.26	594.97	109.47	0.13
Elder1	R-1_Down	6.7610	Max WS	1100.76	40.54	50.61		50.68	0.001600	2.70	558.44	131.36	0.15
Elder1	R-1_Down	6.7480	Max WS	1100.51	40.48	50.58		50.60	0.000451	1.45	900.65	158.04	0.08
Elder1	R-1_Down	6.7410	Max WS	1100.52	40.44	50.56		50.58	0.000432	1.41	1029.37	221.75	0.08
Elder1	R-1_Down	6.7400	Max WS	1100.26	40.42	50.56		50.58	0.000345	1.26	1114.66	226.17	0.07
Elder1	R-1_Down	6.7190	Max WS	1099.70	40.30	50.52		50.54	0.000356	1.29	1168.97	266.55	0.07
Elder1	R-1_Down	6.7180	Max WS	1099.70	40.30	50.52		50.53	0.000371	1.32	1145.85	263.11	0.07
Elder1	R-1_Down	6.7110	Max WS	1099.42	40.26	50.50		50.52	0.000376	1.33	1109.36	257.25	0.07
Elder1	R-1_Down	6.7000	Max WS	1098.87	40.20	50.46		50.49	0.000632	1.72	855.66	225.59	0.10
Elder1	R-1_Down	6.6910	Max WS	1098.30	40.16	50.42		50.46	0.000793	1.93	709.70	168.52	0.11
Elder1	R-1_Down	6.6650	Max WS	1096.55	40.02	50.30		50.34	0.000936	2.10	737.58	277.85	0.12
Elder1	R-1_Down	6.6530	Max WS	1095.96	40.00	50.24		50.29	0.000844	1.99	764.64	316.46	0.11
Elder1	R-1_Down	6.6340	Max WS	1094.76	39.96	50.16		50.20	0.001020	2.18	811.57	373.41	0.12
Elder1	R-1_Down	6.6040	Max WS	1092.66	39.96	49.99		50.03	0.001045	2.18	755.11	326.38	0.12
Elder1	R-1_Down	6.59	Lat Struct										
Elder1	R-1_Down	6.5500	Max WS	1082.87	39.54	49.78		49.80	0.000609	1.70	1152.39	452.25	0.09
Elder1	R-1_Down	6.5290	Max WS	1081.66	39.40	49.70		49.73	0.000664	1.76	1017.35	441.10	0.10
Elder1	R-1_Down	6.5070	Max WS	1079.89	39.40	49.58		49.63	0.001228	2.39	862.92	436.42	0.13
Elder1	R-1_Down	6.4940	Max WS	1079.29	39.22	49.53		49.55	0.000776	1.91	1186.27	655.71	0.11
Elder1	R-1_Down	6.4750	Max WS	1078.14	39.16	49.44		49.47	0.000821	1.98	1060.59	664.63	0.11
Elder1	R-1_Down	6.4420	Max WS	1076.25	39.04	49.29		49.32	0.000882	2.02	1105.04	671.38	0.11
Elder1	R-1_Down	6.4020	Max WS	1074.24	38.84	49.09		49.12	0.001052	2.21	1046.59	637.06	0.12
Elder1	R-1_Down	6.3630	Max WS	1072.84	38.64	48.89		48.92	0.000860	2.01	1153.83	681.72	0.11
Elder1	R-1_Down	6.3330	Max WS	1072.22	38.48	48.78		48.80	0.000522	1.57	860.47	501.48	0.09
Elder1	R-1_Down	6.2980	Max WS	1071.67	38.34	48.69		48.71	0.000493	1.53	909.16	418.14	0.08
Elder1	R-1_Down	6.2750	Max WS	1071.34	38.26	48.61		48.64	0.000694	1.81	849.08	380.34	0.10
Elder1	R-1_Down	6.2560	Max WS	1071.18	38.16	48.54		48.57	0.000556	1.61	795.68	291.87	0.09
Elder1	R-1_Down	6.2340	Max WS	1071.58	38.04	48.47		48.49	0.000698	1.83	906.86	403.43	0.10
Elder1	R-1_Down	6.2070	Max WS	1071.82	37.90	48.38		48.40	0.000648	1.77	1218.46	582.68	0.10
Elder1	R-1_Down	6.1800	Max WS	1072.38	37.76	48.29		48.31	0.000576	1.67	1129.60	432.16	0.09
Elder1	R-1_Down	6.1590	Max WS	1072.87	37.66	48.24		48.26	0.000512	1.58	1129.81	560.97	0.09
Elder1	R-1_Down	6.1400	Max WS	1073.24	37.56	48.18		48.21	0.000463	1.51	854.60	481.01	0.08
Elder1	R-1_Down	6.1190	Max WS	1073.80	37.46	48.13		48.15	0.000706	1.87	1169.96	990.76	0.10
Elder1	R-1_Down	6.1010	Max WS	1074.16	37.36	48.09		48.10	0.000370	1.35	1481.54	931.50	0.07
Elder1	R-1_Down	6.0850	Max WS	1074.60	37.28	48.05		48.07	0.000412	1.44	1354.55	854.27	0.08
Elder1	R-1_Down	6.0690	Max WS	1074.05	37.22	47.86		48.00	0.002895	3.78	602.46	699.34	0.21
Elder1	R-1_Down	6.05	Culvert										
Elder1	R-1_Down	6.0400	Max WS	1070.21	37.00	47.53		47.70	0.003839	4.28	447.56	572.36	0.24
Elder1	R-1_Down	6.0150	Max WS	1068.16	36.92	47.37		47.39	0.000768	1.90	1040.41	585.38	0.11
Elder1	R-1_Down	5.9940	Max WS	1066.80	36.84	47.28		47.31	0.000961	2.12	1068.52	573.28	0.12
Elder1	R-1_Down	5.9800	Max WS	1065.43	36.76	47.21		47.24	0.000883	2.03	991.37	620.47	0.11
Elder1	R-1_Down	5.9340	Max WS	1063.30	36.62	47.03		47.05	0.000597	1.66	1097.42	561.49	0.09
Elder1	R-1_Down	5.8910	Max WS	1062.26	36.46	46.96		46.98	0.000392	1.36	1186.26	541.62	0.08
Elder1	R-1_Down	5.8530	Max WS	1062.01	36.46	46.93		46.95	0.000402	1.37	1174.04	531.80	0.08

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Mor-2	R-1	327.0000	Max WS	61.55	86.52	88.34		88.38	0.009558	1.87	38.87	120.77	0.32
Mor-2	R-1	326.5*	Max WS	61.54	85.61	87.43		87.52	0.018130	2.51	28.36	55.97	0.44
Mor-2	R-1	326.0000	Max WS	61.53	84.70	86.68		86.71	0.006573	1.62	41.18	53.18	0.27
Mor-2	R-1	325.666*	Max WS	61.91	83.77	85.95		86.02	0.012657	2.08	29.81	29.73	0.37
Mor-2	R-1	325.333*	Max WS	62.29	82.83	84.96		85.04	0.014312	2.30	27.06	25.28	0.39
Mor-2	R-1	325.0000	Max WS	62.66	81.90	84.09		84.16	0.009826	2.09	30.00	24.39	0.33
Mor-2	R-1	324.666*	Max WS	63.05	81.37	83.31		83.37	0.011011	1.91	33.00	33.75	0.34
Mor-2	R-1	324.333*	Max WS	63.45	80.84	82.30		82.36	0.015746	1.86	34.03	47.46	0.39
Mor-2	R-1	324.0000	Max WS	63.83	80.31	81.16		81.19	0.015100	1.60	44.74	172.34	0.37
Mor-2	R-1	323.666*	Max WS	64.25	79.20	80.10		80.12	0.010866	1.36	53.19	154.27	0.31
Mor-2	R-1	323.333*	Max WS	64.66	78.08	78.90		78.93	0.018457	1.53	46.96	153.62	0.39
Mor-2	R-1	323.0000	Max WS	64.89	76.97	78.13		78.14	0.000830	0.45	145.99	269.93	0.09
Mor-2	R-1	322.7*	Max WS	65.55	76.18	78.06		78.07	0.001136	0.58	127.26	246.51	0.11
Mor-2	R-1	322.4*	Max WS	65.51	75.39	77.96		77.97	0.001559	0.72	117.64	324.23	0.13
Mor-2	R-1	322.1	Max WS	65.21	74.60	77.75		77.77	0.003926	1.15	78.98	430.05	0.20
Mor-2	R-1	322.0000	Max WS	62.74	74.60	77.70		77.72	0.005511	1.32	63.72	404.06	0.24
Mor-2	R-1	321.5	Culvert										
Mor-2	R-1	321.0000	Max WS	60.87	74.66	77.39		77.39	0.000051	0.23	371.41	524.80	0.03
Mor-2	R-1	320.9	Max WS	60.67	74.66	77.39		77.39	0.000050	0.23	371.20	524.73	0.03
Mor-2	R-1	320.5*	Max WS	60.65	74.86	77.39		77.39	0.000025	0.16	514.34	583.47	0.02
Mor-2	R-1	320.0000	Max WS	60.62	75.05	77.39		77.39	0.000017	0.13	526.44	597.51	0.02
Mor-2	R-1	319.5*	Max WS	60.59	74.90	77.39		77.39	0.000054	0.19	399.77	419.19	0.03
Mor-2	R-1	319.0000	Max WS	60.57	74.76	77.08		77.11	0.009205	1.52	44.98	134.70	0.29
Mor-2	R-1	318.5*	Max WS	60.55	74.23	75.86		75.91	0.015710	1.97	37.11	127.24	0.39
Mor-2	R-1	318.0000	Max WS	60.40	73.70	75.07		75.08	0.000916	0.64	133.91	223.62	0.10
Mor-2	R-1	317.666*	Max WS	60.32	73.68	75.00		75.00	0.001176	0.68	126.26	254.08	0.11
Mor-2	R-1	317.333*	Max WS	60.27	73.66	74.91		74.91	0.001456	0.70	123.94	268.34	0.12
Mor-2	R-1	317.0000	Max WS	60.24	73.64	74.78		74.78	0.002454	0.81	111.84	293.41	0.16
Mor-2	R-1	316.666*	Max WS	60.18	73.34	74.58		74.59	0.002614	0.85	113.79	319.73	0.16
Mor-2	R-1	316.333*	Max WS	60.11	73.03	74.39		74.39	0.002635	0.90	111.72	347.48	0.16
Mor-2	R-1	316.0000	Max WS	60.08	72.73	74.23		74.23	0.001557	0.73	125.40	297.33	0.13
Mor-2	R-1	315.0000	Max WS	16.00	72.97	74.00	73.35	74.00	0.000050	0.11	197.72	436.32	0.02
Elder1	R-1_Down	48.000	Max WS	234.23	95.15	97.02		97.04	0.006617	0.92	206.23	457.41	0.15
Elder1	R-1_Down	47.000	Max WS	234.12	94.47	96.53		96.55	0.003127	0.74	244.53	366.45	0.10
Elder1	R-1_Down	46.5*	Max WS	234.64	94.53	96.40		96.41	0.002956	0.77	267.00	346.58	0.11
Elder1	R-1_Down	46.0000	Max WS	235.09	94.59	96.19		96.21	0.005996	1.14	186.47	322.59	0.18
Elder1	R-1_Down	45.0000	Max WS	236.05	94.42	95.85		95.85	0.001115	0.57	385.40	368.97	0.09
Elder1	R-1_Down	44.0000	Max WS	237.08	94.14	95.75		95.75	0.000970	0.55	415.80	346.19	0.09
Elder1	R-1_Down	43.0000	Max WS	238.10	93.91	95.60		95.61	0.002121	0.82	291.48	231.71	0.13
Elder1	R-1_Down	42.0000	Max WS	239.49	92.98	95.25		95.30	0.003073	1.76	136.03	93.47	0.26
Elder1	R-1_Down	41.0000	Max WS	240.27	92.78	95.05		95.10	0.002691	1.86	147.72	124.23	0.25
Elder1	R-1_Down	40.000	Max WS	240.22	92.55	94.65		94.69	0.003263	1.56	154.21	135.54	0.26
Elder1	R-1_Down	39.000	Max WS	240.17	91.54	94.25		94.29	0.002240	1.63	170.64	153.71	0.22
Elder1	R-1_Down	38.0000	Max WS	240.14	91.27	94.11		94.15	0.002410	2.19	179.53	193.51	0.25
Elder1	R-1_Down	37.0000	Max WS	240.12	91.15	93.98		94.00	0.000750	1.06	264.90	219.05	0.13
Elder1	R-1_Down	36.0000	Max WS	240.09	90.67	93.57		93.70	0.007670	3.14	96.99	200.14	0.42
Elder1	R-1_Down	35.0000	Max WS	240.07	90.64	93.23		93.28	0.003703	2.03	160.01	202.81	0.29
Elder1	R-1_Down	34.0000	Max WS	240.02	90.63	93.03		93.06	0.002984	1.85	188.73	266.92	0.26
Elder1	R-1_Down	33.0000	Max WS	239.97	90.66	92.84		92.87	0.002685	1.48	202.48	274.80	0.23
Elder1	R-1_Down	32.5*	Max WS	239.94	90.73	92.66		92.68	0.002228	1.38	213.39	249.10	0.21
Elder1	R-1_Down	32.0000	Max WS	239.88	90.79	92.51		92.53	0.001793	1.28	229.71	282.07	0.19
Elder1	R-1_Down	31.0000	Max WS	239.84	89.65	92.07		92.09	0.001894	1.31	240.30	313.60	0.20
Elder1	R-1_Down	30.0000	Max WS	239.13	89.41	91.55		91.59	0.003705	1.89	184.57	337.84	0.28
Elder1	R-1_Down	29.0000	Max WS	237.88	89.21	91.36		91.40	0.002799	1.87	214.16	360.51	0.25
Elder1	R-1_Down	28.0000	Max WS	236.06	88.77	91.22		91.24	0.001827	1.29	253.56	386.49	0.20
Elder1	R-1_Down	27.0000	Max WS	234.15	88.01	91.05		91.05	0.000219	0.52	513.98	400.95	0.07
Elder1	R-1_Down	26.5*	Max WS	233.94	88.28	91.03		91.04	0.000263	0.56	494.93	411.84	0.08
Elder1	R-1_Down	26.0000	Max WS	233.57	88.54	91.00		91.01	0.000700	0.80	368.28	412.33	0.12
Elder1	R-1_Down	25.0000	Max WS	233.09	88.53	90.92		90.92	0.000343	0.57	497.21	492.50	0.09
Elder1	R-1_Down	24.0000	Max WS	232.97	88.24	90.90		90.90	0.000167	0.45	619.20	530.14	0.06
Elder1	R-1_Down	23.0000	Max WS	232.96	88.09	90.85		90.86	0.000714	1.01	354.38	602.84	0.13
Elder1	R-1_Down	22.5	Culvert										
Elder1	R-1_Down	22.0000	Max WS	232.90	88.07	90.44		90.45	0.001136	1.05	294.39	374.68	0.16
Elder1	R-1_Down	21.0000	Max WS	232.81	86.60	88.73		88.79	0.005192	2.33	145.10	218.12	0.34
Elder1	R-1_Down	20.550*	Max WS	236.36	86.10	88.35		88.36	0.001475	1.30	231.77	219.99	0.18
Elder1	R-1_Down	20.1000	Max WS	236.35	85.60	88.27		88.29	0.000939	1.22	270.63	244.82	0.15
Elder1	R-1_Down	11.724	Max WS	236.29	85.65	88.01		88.04	0.002971	1.78	184.34	232.16	0.25
Elder1	R-1_Down	11.659	Max WS	236.18	84.72	87.14		87.17	0.002176	1.93	198.33	218.80	0.23
Elder1	R-1_Down	11.593	Max WS	243.06	83.92	86.33		86.37	0.002737	1.96	194.43	237.80	0.25
Elder1	R-1_Down	11.538	Max WS	248.73	82.92	85.82		85.84	0.001146	1.51	241.13	205.39	0.17
Elder1	R-1_Down	11.482	Max WS	254.98	82.27	84.89		84.95	0.005225	2.50	146.52	181.29	0.34
Elder1	R-1_Down	11.433	Max WS	260.33	81.55	84.18		84.19	0.000837	1.67	370.90	493.35	0.21
Elder1	R-1_Down	11.376	Max WS	295.43	80.86	83.98		84.00	0.000436	1.40	393.12	317.79	0.16
Elder1	R-1_Down	11.313	Max WS	301.76	80.70	83.83		83.85	0.000494	1.41	339.42	233.67	0.17
Elder1	R-1_Down	11.252	Max WS	307.85	80.24	83.51		83.57	0.001427	2.50	224.56	219.94	0.28
Elder1	R-1_Down	11.175	Max WS	314.41	79.60	82.94		83.03	0.001667	2.63	197.31	234.44	0.31
Elder1	R-1_Down	11.125	Max WS	308.03	79.27	82.69		82.72	0.000469	1.50	345.40	354.64	0.17
Elder1	R-1_Down	11.063	Max WS	319.32	78.95	82.54		82.56	0.000576	1.70	482.79	743.83	0.18
Elder1	R-1_Down	10.995	Max WS	390.84	78.76	82.12		82.15	0.001323	2.16	438.23	610.59	0.26
Elder1	R-1_Down	10.936	Max WS	416.40	76.97	81.42		81.48	0.001962	2.91	329.93	432.37	0.33
Elder1	R-1_Down	10.884	Max WS	415.23	76.68	81.15		81.16	0.000159	1.14	786.71	443.47	0.10
Elder1	R-1_Down	10.834	Max WS	415.13	76.47	81.11		81.12	0.000146	1.13	774.89	420.09	0.10
Elder1	R-1_Down	10.775	Max WS	415.04	76.23	81.06		81.07	0.000160	1.21	739.87	468.79	0.10
Elder1	R-1_Down	10.7475*	Max WS	415.01	75.69	81.01		81.04	0.000348	1.84	504.92	367.24	0.15
Elder1	R-1_Down	10.720	Max WS	414.99	75.15	80.90		80.98	0.000841	2.91	356.34	372.74	0.24
Elder1	R-1_Down	10.705	Max WS	355.53	75.34	80.77		80.89	0.001292	3.05	258.31	524.76	0.28

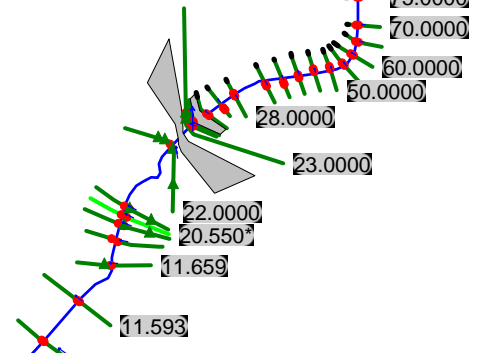
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Elder1	R-1_Down	10.704	Max WS	359.87	75.44	80.81		80.82	0.000253	1.13	672.84	554.52	0.12
Elder1	R-1_Down	10.689		359.87									
Elder1	R-1_Down	10.686	Max WS	359.87	75.07	80.78		80.78	0.000175	0.97	827.23	624.54	0.10
Elder1	R-1_Down	10.681	Max WS	359.32	75.23	80.78		80.78	0.000108	0.94	844.46	644.76	0.08
Elder1	R-1_Down	10.65	Max WS	341.30	74.93	80.75		80.77	0.000065	0.85	562.43	358.04	0.07
Elder1	R-1_Down	10.63		334.50									
Elder1	R-1_Down	10.619	Max WS	334.50	75.38	80.72		80.73	0.000268	1.13	433.21	289.43	0.12
Elder1	R-1_Down	10.613											
Elder1	R-1_Down	10.607	Max WS	414.94	75.04	77.78		78.28	0.007070	5.66	73.32	354.69	0.64
Elder1	R-1_Down	10.562	Max WS	414.91	74.78	77.39		77.45	0.001718	2.15	292.71	361.31	0.29
Elder1	R-1_Down	10.507	Max WS	414.89	74.62	76.69		76.82	0.004055	3.03	177.78	198.66	0.44
Elder1	R-1_Down	10.442	Max WS	417.17	74.36	75.68		75.72	0.002362	1.61	306.51	434.88	0.31
Elder1	R-1_Down	10.361	Max WS	419.77	72.88	74.97		74.99	0.001156	1.72	488.93	552.73	0.24
Elder1	R-1_Down	10.312	Max WS	421.38	71.78	74.52		74.57	0.002307	2.69	316.86	495.36	0.35
Elder1	R-1_Down	10.272	Max WS	422.85	71.03	73.84		73.96	0.003753	3.39	217.05	284.88	0.44
Elder1	R-1_Down	10.214	Max WS	450.51	69.83	73.05		73.11	0.001950	2.69	302.94	278.59	0.33
Elder1	R-1_Down	10.141	Max WS	484.73	68.54	72.33		72.41	0.001951	2.90	309.44	272.33	0.33
Elder1	R-1_Down	10.09	Max WS	486.47	68.60	71.83		71.93	0.001844	3.00	285.39	263.09	0.33
Elder1	R-1_Down	10.034	Max WS	488.46	68.74	71.24		71.28	0.002354	2.72	381.81	502.50	0.35
Elder1	R-1_Down	9.974	Max WS	490.34	67.83	70.72		70.74	0.000998	1.93	564.60	610.65	0.23
Elder1	R-1_Down	9.919	Max WS	492.27	67.56	70.51		70.53	0.000451	1.55	636.69	494.39	0.16
Elder1	R-1_Down	9.878	Max WS	493.61	67.52	70.16		70.28	0.002294	2.95	229.35	514.77	0.35
Elder1	R-1_Down	9.813	Max WS	495.91	67.00	69.35		69.44	0.002498	2.91	265.22	361.98	0.37
Elder1	R-1_Down	9.749	Max WS	497.92	66.60	68.69		68.76	0.001566	2.47	330.45	337.51	0.29
Elder1	R-1_Down	9.701	Max WS	499.44	64.81	68.46		68.49	0.000463	1.66	531.36	398.17	0.17
Elder1	R-1_Down	9.633	Max WS	501.67	64.72	68.23		68.27	0.000750	1.82	444.16	445.10	0.21
Elder1	R-1_Down	9.566	Max WS	503.78	63.42	67.20		67.48	0.004431	4.34	136.68	131.43	0.50
Elder1	R-1_Down	9.524	Max WS	505.24	62.22	66.48		66.55	0.003325	2.42	285.85	348.05	0.39
Elder1	R-1_Down	9.49											
Elder1	R-1_Down	9.486	Max WS	506.48	61.46	65.86		66.00	0.002301	3.29	231.84	305.68	0.36
Elder1	R-1_Down	9.438	Max WS	508.77	59.47	65.56		65.63	0.000660	2.26	318.71	327.12	0.20
Elder1	R-1_Down	9.387	Max WS	509.25	59.78	64.90		65.10	0.003488	3.72	182.23	238.79	0.44
Elder1	R-1_Down	9.329	Max WS	509.64	58.24	64.24		64.37	0.001208	2.93	173.95	64.99	0.27
Elder1	R-1_Down	9.282	Max WS	509.40	57.97	63.90		64.05	0.001387	3.10	165.70	121.51	0.29
Elder1	R-1_Down	9.228	Max WS	509.48	57.48	63.67		63.76	0.000632	2.41	211.69	328.57	0.20
Elder1	R-1_Down	9.185	Max WS	509.72	57.64	63.53		63.61	0.000681	2.35	295.52	442.72	0.21
Elder1	R-1_Down	9.143	Max WS	510.02	57.35	63.35		63.45	0.000762	2.52	203.07	475.49	0.22
Elder1	R-1_Down	9.091	Max WS	510.87	57.48	63.21		63.27	0.000477	2.05	323.51	312.54	0.18
Elder1	R-1_Down	9.039	Max WS	511.98	57.06	63.09		63.14	0.000474	2.00	361.11	341.80	0.18
Elder1	R-1_Down	8.975	Max WS	513.47	57.39	62.92		62.98	0.000480	2.05	390.03	526.00	0.18
Elder1	R-1_Down	8.969	Max WS	513.63	57.00	62.92	58.92	62.96	0.000466	1.62	454.50	563.20	0.17
Elder1	R-1_Down	8.961											
Elder1	R-1_Down	8.954	Max WS	513.59	57.10	62.80		62.85	0.000357	1.86	390.78	624.45	0.16
Elder1	R-1_Down	8.89	Max WS	514.20	57.04	62.01		62.33	0.003628	4.51	120.97	290.82	0.46
Elder1	R-1_Down	8.811	Max WS	514.79	56.79	61.24		61.29	0.001075	2.29	382.37	858.30	0.25
Elder1	R-1_Down	8.752	Max WS	515.66	57.25	60.52		60.66	0.002957	3.50	234.97	734.35	0.40
Elder1	R-1_Down	8.697	Max WS	515.87	56.74	60.03		60.04	0.000650	1.46	712.03	1730.76	0.19
Elder1	R-1_Down	8.598	Max WS	517.31	55.92	59.73		59.74	0.000704	0.89	729.18	1167.82	0.17
Elder1	R-1_Down	8.565	Max WS	517.08	55.85	59.56		59.57	0.001638	1.17	575.67	1268.66	0.25
Elder1	R-1_Down	8.466	Max WS	515.96	55.58	59.20		59.21	0.000469	1.30	1044.72	1722.04	0.16
Elder1	R-1_Down	8.258	Max WS	514.60	55.90	58.35		58.36	0.001369	1.37	595.41	1955.04	0.24
Elder1	R-1_Down	8.195	Max WS	515.01	55.61	57.95		57.96	0.000747	0.79	826.15	1028.62	0.17
Elder1	R-1_Down	8.105	Max WS	515.88	55.58	57.80		57.81	0.000273	0.58	1136.92	1262.14	0.11
Elder1	R-1_Down	7.93	Max WS	514.34	54.96	57.00		57.06	0.002215	1.95	296.91	1417.77	0.32
Elder1	R-1_Down	7.863	Max WS	511.86	53.97	56.63		56.63	0.000231	0.75	1217.66	1933.14	0.11
Elder1	R-1_Down	7.862											
Elder1	R-1_Down	7.783	Max WS	472.68	52.32	56.09		56.16	0.002562	2.37	243.28	835.26	0.35
Elder1	R-1_Down	7.740	Max WS	420.62	52.21	55.69		55.73	0.001389	2.01	376.50	565.53	0.27
Elder1	R-1_Down	7.689	Max WS	383.73	51.89	55.51		55.51	0.000076	0.38	1692.72	1780.43	0.06
Elder1	R-1_Down	7.625	Max WS	371.04	50.92	55.42	53.53	55.51	0.001257	2.36	189.61	228.54	0.27
Elder1	R-1_Down	7.6225											
Elder1	R-1_Down	7.620	Max WS	370.98	51.00	55.40		55.44	0.000763	1.92	341.64	399.44	0.21
Elder1	R-1_Down	7.619											
Elder1	R-1_Down	7.543	Max WS	338.22	50.76	54.93		55.10	0.002174	3.35	100.83	36.02	0.35
Elder1	R-1_Down	7.516	Max WS	324.38	50.67	54.57		54.73	0.001626	3.28	101.73	80.45	0.32
Elder1	R-1_Down	7.317	Max WS	116.40	49.76	53.91		53.91	0.000092	0.72	447.66	753.92	0.07
Elder1	R-1_Down	7.259											
Elder1	R-1_Down	7.258	Max WS	385.75	49.57	52.91		53.26	0.005013	4.75	88.86	72.39	0.52
Elder1	R-1_Down	7.0770	Max WS	388.74	47.10	51.97	48.75	52.03	0.001490	2.03	215.44	61.63	0.16
Elder1	R-1_Down	7.05											
Elder1	R-1_Down	7.0130	Max WS	388.50	46.84	51.28		51.36	0.002122	2.31	190.20	56.28	0.19
Elder1	R-1_Down	6.98											
Elder1	R-1_Down	6.9650	Max WS	432.48	46.68	50.15	48.42	50.30	0.006054	3.31	146.26	53.65	0.31
Elder1	R-1_Down	6.94											
Elder1	R-1_Down	6.9350	Max WS	431.09	42.39	48.71		48.77	0.002138	1.92	225.42	61.97	0.15
Elder1	R-1_Down	6.9141	Max WS	430.82	42.35	48.63		48.69	0.001115	1.61	236.10	74.85	0.12
Elder1	R-1_Down	6.91405*	Max WS	430.82	42.35	48.62		48.68	0.001256	1.71	222.70	74.77	0.12
Elder1	R-1_Down	6.9140	Max WS	430.73	42.35	48.59		48.66	0.001431	1.82	208.78	74.67	0.13
Elder1	R-1_Down	6.9135											
Elder1	R-1_Down	6.9131	Max WS	430.14	41.36	48.46		48.51	0.001188	1.84	226.88	82.01	0.12
Elder1	R-1_Down	6.9130	Max WS	430.14	41.36	48.46		48.50	0.000977	1.67	251.18	82.01	0.11
Elder1	R-1_Down	6.9129											
Elder1	R-1_Down	6.9128											
Elder1	R-1_Down	6.89											
Elder1	R-1_Down	6.8860	Max WS	580.62	41.22	48.33		48.36	0.000722	1.42	429.80	90.25	0.10
Elder1	R-1_Down	6.8850	Max WS	580.55	41.10	48.25		48.28	0.000559	1.28	490.34	102.28	0.09

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Elder1	R-1_Down	6.8620	Max WS	580.38	40.98	48.19		48.21	0.000520	1.24	492.60	98.24	0.08
Elder1	R-1_Down	6.8450	Max WS	580.40	40.88	48.16		48.17	0.000220	0.81	727.26	140.35	0.05
Elder1	R-1_Down	6.8330	Max WS	580.41	40.82	48.15		48.16	0.000247	0.87	704.93	160.98	0.06
Elder1	R-1_Down	6.8210	Max WS	580.34	40.76	48.13		48.14	0.000270	0.91	624.30	157.04	0.06
Elder1	R-1_Down	6.82	Lat Struct										
Elder1	R-1_Down	6.8100	Max WS	580.47	40.70	48.09		48.12	0.000503	1.23	447.68	107.77	0.08
Elder1	R-1_Down	6.791	Max WS	580.16	40.66	47.92		48.02	0.002071	2.45	224.63	70.92	0.16
Elder1	R-1_Down	6.790	Culvert										
Elder1	R-1_Down	6.7890	Max WS	579.98	40.64	47.83		47.94	0.002119	2.47	223.12	70.60	0.16
Elder1	R-1_Down	6.7730	Max WS	579.71	40.60	47.75		47.79	0.001234	1.88	341.36	73.39	0.13
Elder1	R-1_Down	6.7610	Max WS	579.63	40.54	47.65		47.71	0.001553	2.10	311.13	69.66	0.14
Elder1	R-1_Down	6.7480	Max WS	579.45	40.48	47.62		47.64	0.000430	1.12	537.72	106.49	0.07
Elder1	R-1_Down	6.7410	Max WS	579.46	40.44	47.61		47.62	0.000351	1.00	594.95	118.07	0.07
Elder1	R-1_Down	6.7400	Max WS	579.37	40.42	47.60		47.62	0.000309	0.94	634.42	126.97	0.06
Elder1	R-1_Down	6.7190	Max WS	579.36	40.30	47.56		47.57	0.000429	1.12	551.93	115.57	0.07
Elder1	R-1_Down	6.7180	Max WS	579.36	40.30	47.55		47.57	0.000433	1.12	551.86	115.02	0.07
Elder1	R-1_Down	6.7110	Max WS	579.27	40.26	47.54		47.55	0.000402	1.09	572.43	119.54	0.07
Elder1	R-1_Down	6.7000	Max WS	579.18	40.20	47.50		47.52	0.000687	1.42	448.51	97.06	0.09
Elder1	R-1_Down	6.6910	Max WS	579.09	40.16	47.45		47.49	0.000847	1.58	396.33	82.27	0.10
Elder1	R-1_Down	6.6650	Max WS	578.82	40.02	47.33		47.37	0.000838	1.58	396.60	82.11	0.10
Elder1	R-1_Down	6.6530	Max WS	578.72	40.00	47.28		47.32	0.000816	1.55	398.89	82.34	0.10
Elder1	R-1_Down	6.6340	Max WS	578.54	39.96	47.21		47.24	0.000819	1.55	404.82	83.63	0.10
Elder1	R-1_Down	6.6040	Max WS	578.25	39.96	47.07		47.10	0.000889	1.59	393.33	82.78	0.11
Elder1	R-1_Down	6.59	Lat Struct										
Elder1	R-1_Down	6.5500	Max WS	584.00	39.54	46.87		46.89	0.000645	1.39	463.89	123.25	0.09
Elder1	R-1_Down	6.5290	Max WS	583.81	39.40	46.78		46.81	0.000800	1.54	412.02	98.23	0.10
Elder1	R-1_Down	6.5070	Max WS	583.52	39.40	46.66		46.70	0.000996	1.71	343.99	89.63	0.11
Elder1	R-1_Down	6.4940	Max WS	583.32	39.22	46.61		46.64	0.000745	1.49	423.66	86.14	0.10
Elder1	R-1_Down	6.4750	Max WS	583.13	39.16	46.54		46.57	0.000650	1.41	438.32	86.92	0.09
Elder1	R-1_Down	6.4420	Max WS	582.84	39.04	46.42		46.45	0.000738	1.48	424.25	85.53	0.10
Elder1	R-1_Down	6.4020	Max WS	582.44	38.84	46.27		46.30	0.000718	1.47	425.69	88.06	0.10
Elder1	R-1_Down	6.3630	Max WS	582.14	38.64	46.12		46.15	0.000676	1.43	421.20	94.28	0.09
Elder1	R-1_Down	6.3330	Max WS	581.94	38.48	46.02		46.04	0.000648	1.42	462.98	131.67	0.09
Elder1	R-1_Down	6.2980	Max WS	581.65	38.34	45.90		45.92	0.000611	1.37	461.38	119.84	0.09
Elder1	R-1_Down	6.2750	Max WS	581.37	38.26	45.82		45.84	0.000611	1.37	451.53	97.41	0.09
Elder1	R-1_Down	6.2560	Max WS	581.28	38.16	45.76		45.78	0.000573	1.32	459.94	88.60	0.09
Elder1	R-1_Down	6.2340	Max WS	581.54	38.04	45.69		45.72	0.000547	1.31	477.25	102.20	0.08
Elder1	R-1_Down	6.2070	Max WS	581.92	37.90	45.64		45.65	0.000363	1.08	629.58	142.48	0.07
Elder1	R-1_Down	6.1800	Max WS	582.37	37.76	45.58		45.60	0.000458	1.22	511.65	105.13	0.08
Elder1	R-1_Down	6.1590	Max WS	582.69	37.66	45.53		45.55	0.000501	1.28	518.26	188.55	0.08
Elder1	R-1_Down	6.1400	Max WS	583.01	37.56	45.47		45.49	0.000574	1.37	499.29	133.16	0.09
Elder1	R-1_Down	6.1190	Max WS	583.29	37.46	45.41		45.43	0.000510	1.30	505.20	136.33	0.08
Elder1	R-1_Down	6.1010	Max WS	583.59	37.36	45.36		45.39	0.000481	1.26	495.50	158.71	0.08
Elder1	R-1_Down	6.0850	Max WS	583.93	37.28	45.33		45.35	0.000407	1.17	531.54	105.56	0.07
Elder1	R-1_Down	6.0690	Max WS	584.12	37.22	45.23		45.29	0.001020	1.85	290.01	78.85	0.12
Elder1	R-1_Down	6.05	Culvert										
Elder1	R-1_Down	6.0400	Max WS	583.44	37.00	44.86		44.93	0.001064	1.85	281.60	110.52	0.12
Elder1	R-1_Down	6.0150	Max WS	583.27	36.92	44.82		44.84	0.000551	1.32	466.82	109.53	0.08
Elder1	R-1_Down	5.9940	Max WS	583.10	36.84	44.76		44.78	0.000548	1.33	462.76	104.47	0.08
Elder1	R-1_Down	5.9800	Max WS	583.01	36.76	44.72		44.74	0.000567	1.35	459.74	103.48	0.09
Elder1	R-1_Down	5.9340	Max WS	582.56	36.62	44.58		44.61	0.000531	1.30	470.30	109.72	0.08
Elder1	R-1_Down	5.8910	Max WS	582.29	36.46	44.51		44.53	0.000503	1.28	486.12	135.61	0.08
Elder1	R-1_Down	5.8530	Max WS	582.10	36.46	44.47		44.49	0.000514	1.29	481.53	131.54	0.08

Jackson Township
Full Development Conditions
RAS Model Layout
and
10 & 100-Year Summary Results



R-1



River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Mor-2	R-1	680.0000	Max WS	25.30	98.71	101.58		101.58	0.000013	0.10	241.82	119.81	0.01
Mor-2	R-1	670.0000	Max WS	25.25	96.72	101.58		101.58	0.000001	0.05	447.86	138.01	0.00
Mor-2	R-1	660.0000	Max WS	25.54	96.54	101.58		101.58	0.000001	0.04	471.14	140.26	0.00
Mor-2	R-1	650.0000	Max WS	25.65	96.48	101.58		101.58	0.000001	0.04	478.36	140.59	0.00
Mor-2	R-1	640.0000	Max WS	26.00	96.26	101.58		101.58	0.000001	0.04	508.77	141.53	0.00
Mor-2	R-1	630.0000	Max WS	26.23	96.12	101.58		101.58	0.000001	0.04	526.77	143.20	0.00
Mor-2	R-1	620.0000	Max WS	83.75	95.84	101.58		101.58	0.000007	0.12	567.94	146.08	0.01
Mor-2	R-1	610.0000	Max WS	90.99	95.58	101.58		101.58	0.000007	0.12	619.26	160.01	0.01
Mor-2	R-1	600.0000	Max WS	91.35	95.34	101.58		101.58	0.000006	0.12	677.42	178.61	0.01
Mor-2	R-1	590.0000	Max WS	91.73	95.10	101.58		101.58	0.000005	0.11	725.85	175.91	0.01
Mor-2	R-1	580.0000	Max WS	127.42	94.94	101.58		101.58	0.000007	0.14	759.72	174.01	0.01
Mor-2	R-1	570.0000	Max WS	127.53	94.94	101.58		101.58	0.000008	0.14	759.66	174.01	0.01
Mor-2	R-1	565	Culvert										
Mor-2	R-1	560.0000	Max WS	82.44	84.60	93.56		93.56	0.000002	0.09	796.27	132.89	0.01
Mor-2	R-1	550.0000	Max WS	82.42	84.52	93.56		93.56	0.000002	0.08	844.27	134.76	0.00
Mor-2	R-1	540.0000	Max WS	87.26	84.24	93.56		93.56	0.000002	0.08	899.52	137.78	0.00
Mor-2	R-1	530.0000	Max WS	88.90	83.99	93.56		93.56	0.000001	0.08	952.70	140.24	0.00
Mor-2	R-1	520.0000	Max WS	88.89	83.90	93.56		93.56	0.000001	0.07	977.32	142.48	0.00
Mor-2	R-1	510.0000	Max WS	88.84	83.64	93.56		93.56	0.000001	0.07	1046.41	149.86	0.00
Mor-2	R-1	500.0000	Max WS	88.83	83.54	93.56		93.56	0.000001	0.07	1054.64	151.40	0.00
Mor-2	R-1	490.0000	Max WS	88.79	83.30	93.56		93.56	0.000005	0.15	1095.75	154.01	0.01
Mor-2	R-1	480.0000	Max WS	88.74	82.98	93.56		93.56	0.000001	0.06	1126.24	155.28	0.00
Mor-2	R-1	470.0000	Max WS	88.72	82.93	93.56		93.56	0.000001	0.07	1105.34	153.73	0.00
Mor-2	R-1	465	Culvert										
Mor-2	R-1	460.0000	Max WS	59.47	77.05	80.09		80.09	0.000217	0.43	127.76	68.66	0.05
Mor-2	R-1	450.0000	Max WS	59.46	77.05	80.07		80.08	0.000222	0.43	126.98	68.57	0.05
Mor-2	R-1	440.0000	Max WS	67.04	76.76	80.06		80.06	0.000172	0.41	156.19	78.36	0.04
Mor-2	R-1	430.0000	Max WS	66.94	76.54	80.05		80.05	0.000110	0.34	180.73	84.20	0.03
Mor-2	R-1	410.0000	Max WS	66.84	76.32	80.03		80.04	0.000097	0.33	184.32	79.82	0.03
Mor-2	R-1	400.0000	Max WS	66.79	76.16	80.03		80.03	0.000055	0.25	229.74	91.64	0.02
Mor-2	R-1	390.0000	Max WS	65.91	76.08	80.02		80.02	0.000038	0.22	257.15	97.72	0.02
Mor-2	R-1	380.0000	Max WS	65.82	75.96	80.02		80.02	0.000036	0.21	263.15	97.53	0.02
Mor-2	R-1	370.0000	Max WS	169.25	75.76	80.00		80.00	0.000190	0.51	276.81	96.67	0.05
Mor-2	R-1	360.0000	Max WS	169.22	75.54	79.98		79.99	0.000161	0.48	294.98	96.40	0.04
Mor-2	R-1	350.0000	Max WS	185.39	75.00	79.95		79.96	0.000185	0.55	295.40	93.71	0.05
Mor-2	R-1	340.0000	Max WS	185.28	74.40	79.93		79.94	0.000136	0.49	319.69	95.07	0.04
Mor-2	R-1	330.0000	Max WS	185.25	74.00	79.93		79.94	0.000127	0.48	331.24	97.41	0.04
Mor-2	R-1	321.5	Culvert										
Mor-2	R-1	321.0000	Max WS	183.11	74.66	77.96		77.96	0.000101	0.37	654.70	698.25	0.04
Mor-2	R-1	320.9	Max WS	182.77	74.66	77.96		77.96	0.000101	0.37	654.08	697.89	0.04
Mor-2	R-1	320.45*	Max WS	182.77	74.86	77.96		77.96	0.000050	0.26	888.96	715.04	0.03
Mor-2	R-1	320.0000	Max WS	182.76	75.05	77.96		77.96	0.000050	0.26	859.44	655.93	0.03
Mor-2	R-1	319.5*	Max WS	182.74	74.90	77.95		77.95	0.000108	0.32	642.42	437.40	0.04
Mor-2	R-1	319.0000	Max WS	182.75	74.76	77.59		77.64	0.010915	2.27	110.16	147.51	0.35
Mor-2	R-1	318.5*	Max WS	182.69	74.23	76.32		76.40	0.016076	2.71	96.91	159.91	0.43
Mor-2	R-1	318.0000	Max WS	182.15	73.70	75.57		75.58	0.001360	0.98	252.44	244.62	0.13
Mor-2	R-1	317.666*	Max WS	181.84	73.68	75.47		75.47	0.001595	1.00	254.06	283.93	0.14
Mor-2	R-1	317.333*	Max WS	181.39	73.66	75.34		75.35	0.001882	1.01	251.52	322.87	0.15
Mor-2	R-1	317.0000	Max WS	180.70	73.64	75.19		75.20	0.002327	1.03	242.94	356.02	0.16
Mor-2	R-1	316.666*	Max WS	179.48	73.34	75.00		75.01	0.002301	1.01	255.72	401.81	0.16
Mor-2	R-1	316.333*	Max WS	178.14	73.03	74.83		74.84	0.001895	0.94	276.85	424.98	0.15
Mor-2	R-1	316.0000	Max WS	177.56	72.73	74.71		74.71	0.001320	0.84	317.99	460.58	0.12
Mor-2	R-1	315.0000	Max WS	15.00	72.97	74.00	73.34	74.00	0.000044	0.10	197.72	436.32	0.02
Elder1	R-1_Down	95.0000	Max WS	319.04	90.16	99.92		99.92	0.000013	0.24	1060.24	145.66	0.01
Elder1	R-1_Down	90.0000	Max WS	318.39	90.00	99.91		99.92	0.000012	0.23	1084.50	146.14	0.01
Elder1	R-1_Down	86	Culvert										
Elder1	R-1_Down	85.0000	Max WS	318.39	89.81	99.90		99.90	0.000011	0.22	1114.86	146.43	0.01
Elder1	R-1_Down	80.0000	Max WS	318.37	89.63	99.90		99.90	0.000010	0.21	1146.67	146.89	0.01
Elder1	R-1_Down	77.5*	Max WS	323.89	89.56	99.90		99.90	0.000010	0.21	1160.78	147.09	0.01
Elder1	R-1_Down	75.0000	Max WS	323.87	89.47	99.90		99.90	0.000009	0.21	1174.72	147.17	0.01
Elder1	R-1_Down	70.0000	Max WS	323.83	89.28	99.90		99.90	0.000009	0.21	1201.28	148.51	0.01
Elder1	R-1_Down	65.0000	Max WS	334.87	89.16	99.90		99.90	0.000007	0.18	1413.52	177.42	0.01
Elder1	R-1_Down	60.0000	Max WS	334.85	89.06	99.90		99.90	0.000004	0.14	1753.88	212.87	0.01
Elder1	R-1_Down	55.0000	Max WS	334.81	88.94	99.89		99.90	0.000003	0.12	2032.31	238.96	0.01
Elder1	R-1_Down	50.0000	Max WS	334.78	88.81	99.89		99.90	0.000004	0.14	1825.65	214.40	0.01
Elder1	R-1_Down	45.0000	Max WS	334.74	88.69	99.89		99.89	0.000004	0.14	1776.15	208.36	0.01
Elder1	R-1_Down	40.0000	Max WS	334.69	88.54	99.89		99.89	0.000004	0.15	1725.79	202.82	0.01
Elder1	R-1_Down	35.0000	Max WS	334.65	88.41	99.89		99.89	0.000004	0.15	1745.32	204.01	0.01
Elder1	R-1_Down	30.0000	Max WS	334.62	88.25	99.89		99.89	0.000004	0.14	1753.61	198.21	0.01
Elder1	R-1_Down	28.0000	Max WS	334.55	87.97	99.89		99.89	0.000003	0.14	1816.22	197.10	0.01
Elder1	R-1_Down	27.0000	Max WS	334.51	87.84	99.89		99.89	0.000003	0.13	1860.34	200.38	0.01
Elder1	R-1_Down	26.0000	Max WS	334.48	87.72	99.89		99.89	0.000003	0.13	2007.26	223.80	0.01
Elder1	R-1_Down	25.5	Culvert										
Elder1	R-1_Down	25.0000	Max WS	334.39	87.53	92.14		92.15	0.000117	0.43	623.20	200.93	0.04
Elder1	R-1_Down	24.0000	Max WS	334.35	87.48	92.13		92.14	0.000162	0.50	561.18	190.13	0.04
Elder1	R-1_Down	23.0000	Max WS	132.18	87.40	91.24		91.28	0.002847	1.64	80.62	165.52	0.16
Elder1	R-1_Down	22.5	Culvert										
Elder1	R-1_Down	22.0000	Max WS	131.57	87.40	91.22		91.22	0.000044	0.30	601.52	414.30	0.03
Elder1	R-1_Down	21.0000	Max WS	333.67	86.60	88.84		88.92	0.007147	2.86	167.66	219.81	0.40
Elder1	R-1_Down	20.550*	Max WS	346.02	86.10	88.60		88.63	0.001663	1.53	291.08	241.09	0.20
Elder1	R-1_Down	20.1000	Max WS	345.99	85.60	88.52		88.54	0.001096	1.42	332.46	252.96	0.17
Elder1	R-1_Down	11.724	Max WS	345.94	85.65	88.26		88.30	0.002828	1.92	243.84	241.96	0.25
Elder1	R-1_Down	11.659	Max WS	345.92	84.72	87.42		87.45	0.002126	2.07	260.57	227.05	0.23
Elder1	R-1_Down	11.593	Max WS	368.52	83.92	86.67		86.71	0.002463	2.08	285.49	290.49	0.25
Elder1	R-1_Down	11.538	Max WS	387.82	82.92	86.17		86.20	0.001307	1.77	320.85	236.39	0.19
Elder1	R-1_Down	11.482	Max WS	410.86	82.27	85.36		85.42	0.003850	2.54	245.14	251.82	0.31

HEC-RAS Plan: Post100y24h Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Elder1	R-1_Down	11.433	Max WS	431.40	81.55	84.83		84.84	0.000369	1.34	723.87	574.62	0.15
Elder1	R-1_Down	11.376	Max WS	566.44	80.86	84.70		84.72	0.000419	1.63	630.63	341.86	0.16
Elder1	R-1_Down	11.313	Max WS	593.11	80.70	84.53		84.56	0.000616	1.88	521.17	298.40	0.19
Elder1	R-1_Down	11.252	Max WS	618.73	80.24	84.17		84.25	0.001542	3.06	392.81	278.45	0.31
Elder1	R-1_Down	11.175	Max WS	645.90	79.60	83.52		83.63	0.001996	3.35	387.11	388.15	0.35
Elder1	R-1_Down	11.125	Max WS	666.90	79.27	83.17		83.23	0.000860	2.27	527.17	424.45	0.23
Elder1	R-1_Down	11.063	Max WS	688.81	78.95	82.95		82.98	0.000778	2.18	807.14	823.59	0.22
Elder1	R-1_Down	10.995	Max WS	797.68	78.76	82.50		82.54	0.001675	2.72	688.50	687.93	0.31
Elder1	R-1_Down	10.936	Max WS	781.95	76.97	81.98		82.03	0.001631	3.04	613.21	579.88	0.31
Elder1	R-1_Down	10.884	Max WS	775.75	76.68	81.74		81.75	0.000248	1.57	1066.03	508.51	0.13
Elder1	R-1_Down	10.834	Max WS	774.56	76.47	81.67		81.69	0.000244	1.59	1022.91	463.02	0.13
Elder1	R-1_Down	10.775	Max WS	773.66	76.23	81.59		81.61	0.000271	1.71	984.54	573.97	0.14
Elder1	R-1_Down	10.7475*	Max WS	773.34	75.69	81.51		81.56	0.000562	2.52	701.21	423.94	0.20
Elder1	R-1_Down	10.720	Max WS	772.59	75.15	81.34		81.46	0.001270	3.80	526.19	410.53	0.30
Elder1	R-1_Down	10.705	Max WS	771.83	75.34	81.18		81.33	0.002041	4.13	487.86	569.62	0.36
Elder1	R-1_Down	10.704	Max WS	772.07	75.44	81.23		81.24	0.000490	1.73	915.49	618.64	0.17
Elder1	R-1_Down	10.689		Mult Open									
Elder1	R-1_Down	10.686	Max WS	772.07	75.07	81.20		81.21	0.000343	1.48	1093.51	636.52	0.14
Elder1	R-1_Down	10.681	Max WS	772.06	75.23	81.20		81.21	0.000244	1.51	1114.41	644.76	0.13
Elder1	R-1_Down	10.65	Max WS	771.96	74.93	81.13		81.17	0.000227	1.67	699.01	367.85	0.13
Elder1	R-1_Down	10.63		Lat Struct									
Elder1	R-1_Down	10.619	Max WS	771.87	75.38	81.01		81.06	0.000884	2.20	518.86	298.18	0.23
Elder1	R-1_Down	10.613		Culvert									
Elder1	R-1_Down	10.607	Max WS	748.30	75.04	78.35		79.42	0.011413	8.27	90.47	500.44	0.84
Elder1	R-1_Down	10.562	Max WS	772.15	74.78	77.90		77.97	0.001670	2.54	530.07	607.14	0.30
Elder1	R-1_Down	10.507	Max WS	772.00	74.62	77.15		77.33	0.004581	3.86	285.48	332.91	0.49
Elder1	R-1_Down	10.442	Max WS	778.21	74.36	76.09		76.14	0.002055	1.92	502.64	518.37	0.31
Elder1	R-1_Down	10.361	Max WS	785.75	72.88	75.46		75.48	0.001094	2.00	770.50	604.46	0.24
Elder1	R-1_Down	10.312	Max WS	790.54	71.78	75.00		75.07	0.002327	3.16	509.12	610.12	0.36
Elder1	R-1_Down	10.272	Max WS	793.50	71.03	74.41		74.53	0.002940	3.60	410.21	355.83	0.41
Elder1	R-1_Down	10.214	Max WS	871.47	69.83	73.74		73.81	0.001819	3.13	516.73	338.98	0.33
Elder1	R-1_Down	10.141	Max WS	969.60	68.54	73.02		73.12	0.002048	3.51	524.10	336.99	0.35
Elder1	R-1_Down	10.09	Max WS	973.95	68.60	72.42		72.56	0.002438	3.95	466.82	341.54	0.39
Elder1	R-1_Down	10.034	Max WS	977.35	68.74	71.81		71.86	0.002102	3.07	693.54	598.17	0.35
Elder1	R-1_Down	9.974	Max WS	981.37	67.83	71.37		71.39	0.000825	2.09	950.63	664.27	0.22
Elder1	R-1_Down	9.919	Max WS	986.19	67.56	71.16		71.19	0.000569	2.01	994.52	598.38	0.19
Elder1	R-1_Down	9.878	Max WS	988.89	67.52	70.81		70.93	0.002250	3.47	543.75	588.05	0.37
Elder1	R-1_Down	9.813	Max WS	987.73	67.00	70.09		70.17	0.001952	3.18	609.43	623.62	0.34
Elder1	R-1_Down	9.749	Max WS	988.53	65.60	69.57		69.64	0.001148	2.65	663.22	429.60	0.27
Elder1	R-1_Down	9.701	Max WS	991.54	64.81	69.38		69.41	0.000469	2.00	942.52	519.16	0.18
Elder1	R-1_Down	9.633	Max WS	996.90	64.72	69.17		69.21	0.000654	2.12	780.35	672.76	0.20
Elder1	R-1_Down	9.566	Max WS	1001.45	63.42	67.86		68.31	0.005767	5.85	256.80	214.96	0.59
Elder1	R-1_Down	9.524	Max WS	1002.53	62.22	67.16		67.24	0.002373	2.69	563.10	651.23	0.35
Elder1	R-1_Down	9.49		Lat Struct									
Elder1	R-1_Down	9.486	Max WS	1002.74	61.46	66.71		66.84	0.001861	3.58	516.53	544.61	0.34
Elder1	R-1_Down	9.438	Max WS	1004.95	59.47	66.41		66.50	0.000980	2.76	636.65	582.86	0.25
Elder1	R-1_Down	9.387	Max WS	1006.65	59.78	66.03		66.13	0.001744	3.16	526.28	462.01	0.32
Elder1	R-1_Down	9.329	Max WS	1007.24	58.24	65.43		65.64	0.001656	3.87	382.28	408.86	0.33
Elder1	R-1_Down	9.282	Max WS	1003.42	57.97	64.98		65.21	0.001853	4.06	397.93	446.44	0.35
Elder1	R-1_Down	9.228	Max WS	998.36	57.48	64.56		64.76	0.001218	3.67	392.88	461.00	0.29
Elder1	R-1_Down	9.185	Max WS	997.92	57.64	64.43		64.50	0.000659	2.59	776.40	606.30	0.21
Elder1	R-1_Down	9.143	Max WS	996.31	57.35	64.24		64.35	0.000857	2.96	721.22	775.42	0.24
Elder1	R-1_Down	9.091	Max WS	997.06	57.48	64.07		64.14	0.000535	2.38	915.63	859.26	0.19
Elder1	R-1_Down	9.039	Max WS	998.99	57.06	63.90		63.98	0.000660	2.63	758.93	673.11	0.21
Elder1	R-1_Down	8.975	Max WS	1002.76	57.39	63.69		63.76	0.000620	2.55	801.71	1084.57	0.21
Elder1	R-1_Down	8.969	Max WS	1003.16	57.00	63.69	59.84	63.73	0.000475	1.88	971.13	843.66	0.18
Elder1	R-1_Down	8.961		Bridge									
Elder1	R-1_Down	8.954	Max WS	1003.07	57.10	63.54		63.60	0.000447	2.30	941.26	865.76	0.18
Elder1	R-1_Down	8.89	Max WS	1003.56	57.04	62.85		63.18	0.003719	5.24	356.60	588.24	0.48
Elder1	R-1_Down	8.811	Max WS	1006.16	56.79	61.95		62.03	0.001456	3.12	607.67	1149.74	0.30
Elder1	R-1_Down	8.752	Max WS	1006.81	57.25	61.04		61.24	0.003880	4.52	446.08	1042.10	0.48
Elder1	R-1_Down	8.697	Max WS	1003.14	56.74	60.42		60.45	0.000760	1.79	1209.16	2490.11	0.21
Elder1	R-1_Down	8.598	Max WS	1001.80	55.92	60.05		60.07	0.000984	1.09	1214.43	1820.26	0.20
Elder1	R-1_Down	8.565	Max WS	1000.18	55.85	59.89		59.91	0.001356	1.34	1069.47	1782.46	0.24
Elder1	R-1_Down	8.466	Max WS	998.20	55.58	59.58		59.59	0.000483	1.48	1646.08	2185.42	0.17
Elder1	R-1_Down	8.258	Max WS	972.73	55.90	58.77		58.79	0.001229	1.52	984.12	2243.02	0.24
Elder1	R-1_Down	8.195	Max WS	967.37	55.61	58.44		58.45	0.000595	0.93	1377.44	1342.11	0.16
Elder1	R-1_Down	8.105	Max WS	967.99	55.58	58.31		58.31	0.000292	0.76	1733.07	1690.49	0.12
Elder1	R-1_Down	7.93	Max WS	954.62	54.96	57.48		57.56	0.002228	2.45	458.44	1827.27	0.34
Elder1	R-1_Down	7.863	Max WS	948.06	53.97	57.12		57.13	0.000195	0.83	2207.34	2748.14	0.10
Elder1	R-1_Down	7.862		Lat Struct									
Elder1	R-1_Down	7.783	Max WS	848.21	52.32	56.54		56.66	0.002814	2.98	380.95	1118.67	0.38
Elder1	R-1_Down	7.740	Max WS	722.81	52.21	56.18		56.21	0.001134	2.08	708.80	825.57	0.25
Elder1	R-1_Down	7.689	Max WS	592.57	51.89	56.03		56.03	0.000047	0.38	2670.62	1951.67	0.05
Elder1	R-1_Down	7.625	Max WS	555.81	50.92	55.96	54.05	56.04	0.001089	2.50	382.50	522.61	0.26
Elder1	R-1_Down	7.6225		Bridge									
Elder1	R-1_Down	7.620	Max WS	555.81	51.00	55.98		56.01	0.000562	1.86	526.66	587.33	0.18
Elder1	R-1_Down	7.619		Lat Struct									
Elder1	R-1_Down	7.543	Max WS	470.21	50.76	55.49		55.72	0.002488	3.86	121.81	38.90	0.38
Elder1	R-1_Down	7.516	Max WS	428.80	50.67	55.13		55.34	0.001675	3.69	121.22	188.72	0.33
Elder1	R-1_Down	7.317	Max WS	96.98	49.76	54.49		54.49	0.000011	0.28	909.48	838.15	0.03
Elder1	R-1_Down	7.259		Lat Struct									
Elder1	R-1_Down	7.258	Max WS	905.38	49.57	54.14		54.24	0.001694	3.50	611.89	550.26	0.32
Elder1	R-1_Down	7.0770	Max WS	908.28	47.10	53.37	49.91	53.53	0.003029	3.43	328.75	108.70	0.24
Elder1	R-1_Down	7.05		Int Struct									
Elder1	R-1_Down	7.0130	Max WS	908.25	46.84	53.22		53.37	0.002991	3.49	379.00	172.81	0.24

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude #	Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		
Elder1	R-1_Down	6.98		Lat Struct										
Elder1	R-1_Down	6.9650	Max WS	943.27	46.68	51.88	49.50	52.14	0.006619	4.53	261.75	87.92		0.35
Elder1	R-1_Down	6.94		Inl Struct										
Elder1	R-1_Down	6.9350	Max WS	943.00	42.39	51.84		51.91	0.001686	2.35	467.40	114.65		0.14
Elder1	R-1_Down	6.9141	Max WS	942.15	42.35	51.72		51.82	0.001237	2.24	365.68	109.63		0.13
Elder1	R-1_Down	6.91405*	Max WS	941.86	42.35	51.69		51.81	0.001404	2.39	344.07	109.42		0.14
Elder1	R-1_Down	6.9140	Max WS	941.56	42.35	51.65		51.79	0.001610	2.55	321.90	109.17		0.15
Elder1	R-1_Down	6.9135		Culvert										
Elder1	R-1_Down	6.9131	Max WS	939.33	41.36	51.40		51.53	0.001526	2.64	335.83	139.31		0.15
Elder1	R-1_Down	6.9130	Max WS	939.33	41.36	51.41		51.51	0.001217	2.36	375.32	139.63		0.13
Elder1	R-1_Down	6.9129		Lat Struct										
Elder1	R-1_Down	6.9128		Lat Struct										
Elder1	R-1_Down	6.89		Lat Struct										
Elder1	R-1_Down	6.8860	Max WS	1071.11	41.22	51.32		51.35	0.000653	1.72	751.99	141.88		0.10
Elder1	R-1_Down	6.8850	Max WS	1070.54	41.10	51.25		51.28	0.000510	1.55	842.99	152.56		0.09
Elder1	R-1_Down	6.8620	Max WS	1070.01	40.98	51.19		51.22	0.000494	1.53	837.64	149.74		0.08
Elder1	R-1_Down	6.8450	Max WS	1070.11	40.88	51.17		51.18	0.000208	1.00	1201.86	193.63		0.06
Elder1	R-1_Down	6.8330	Max WS	1070.17	40.82	51.16		51.17	0.000177	0.92	1126.20	221.23		0.05
Elder1	R-1_Down	6.8210	Max WS	1069.94	40.76	51.14		51.16	0.000222	1.04	955.45	234.23		0.06
Elder1	R-1_Down	6.82		Lat Struct										
Elder1	R-1_Down	6.8100	Max WS	1070.31	40.70	51.10		51.14	0.000439	1.45	673.19	150.18		0.08
Elder1	R-1_Down	6.791	Max WS	1069.07	40.66	50.89		51.06	0.001967	3.03	328.63	112.76		0.17
Elder1	R-1_Down	6.790		Culvert										
Elder1	R-1_Down	6.7890	Max WS	1066.98	40.64	50.64		50.81	0.002114	3.09	321.27	117.95		0.17
Elder1	R-1_Down	6.7730	Max WS	1066.75	40.60	50.61		50.66	0.001093	2.23	584.91	108.62		0.13
Elder1	R-1_Down	6.7610	Max WS	1065.84	40.54	50.51		50.59	0.001594	2.68	546.43	130.51		0.15
Elder1	R-1_Down	6.7480	Max WS	1065.59	40.48	50.49		50.51	0.000444	1.43	886.18	157.37		0.08
Elder1	R-1_Down	6.7410	Max WS	1065.63	40.44	50.47		50.49	0.000430	1.40	1009.05	221.53		0.08
Elder1	R-1_Down	6.7400	Max WS	1065.65	40.42	50.47		50.48	0.000344	1.25	1093.93	225.86		0.07
Elder1	R-1_Down	6.7190	Max WS	1065.32	40.30	50.43		50.44	0.000349	1.27	1145.01	259.89		0.07
Elder1	R-1_Down	6.7180	Max WS	1065.02	40.30	50.43		50.44	0.000364	1.29	1122.33	256.51		0.07
Elder1	R-1_Down	6.7110	Max WS	1065.02	40.26	50.41		50.43	0.000356	1.28	1086.54	246.21		0.07
Elder1	R-1_Down	6.7000	Max WS	1064.72	40.20	50.37		50.40	0.000606	1.68	836.57	207.00		0.09
Elder1	R-1_Down	6.6910	Max WS	1064.44	40.16	50.33		50.37	0.000775	1.90	696.02	162.02		0.11
Elder1	R-1_Down	6.6650	Max WS	1063.57	40.02	50.21		50.26	0.000927	2.08	714.37	256.89		0.12
Elder1	R-1_Down	6.6530	Max WS	1063.28	40.00	50.16		50.20	0.000834	1.96	738.72	281.67		0.11
Elder1	R-1_Down	6.6340	Max WS	1062.72	39.96	50.07		50.12	0.001005	2.15	780.50	352.07		0.12
Elder1	R-1_Down	6.6040	Max WS	1061.35	39.96	49.91		49.95	0.001011	2.13	729.62	306.69		0.12
Elder1	R-1_Down	6.59		Lat Struct										
Elder1	R-1_Down	6.5500	Max WS	1056.65	39.54	49.71		49.73	0.000572	1.64	1119.78	447.47		0.09
Elder1	R-1_Down	6.5290	Max WS	1055.53	39.40	49.63		49.66	0.000679	1.78	986.27	438.57		0.10
Elder1	R-1_Down	6.5070	Max WS	1053.76	39.40	49.51		49.55	0.001206	2.35	830.48	418.67		0.13
Elder1	R-1_Down	6.4940	Max WS	1052.82	39.22	49.45		49.47	0.000828	1.96	1135.12	650.30		0.11
Elder1	R-1_Down	6.4750	Max WS	1050.58	39.16	49.36		49.39	0.000847	2.00	1013.93	626.94		0.11
Elder1	R-1_Down	6.4420	Max WS	1033.63	39.04	49.20		49.23	0.000921	2.06	1048.41	625.64		0.12
Elder1	R-1_Down	6.4020	Max WS	1028.09	38.84	48.99		49.03	0.001087	2.24	986.81	621.74		0.13
Elder1	R-1_Down	6.3630	Max WS	1025.39	38.64	48.79		48.81	0.000920	2.06	1083.72	653.57		0.12
Elder1	R-1_Down	6.3330	Max WS	1024.46	38.48	48.67		48.70	0.000481	1.50	843.29	475.59		0.08
Elder1	R-1_Down	6.2980	Max WS	1024.19	38.34	48.58		48.61	0.000479	1.49	890.37	382.05		0.08
Elder1	R-1_Down	6.2750	Max WS	1023.96	38.26	48.51		48.54	0.000652	1.75	828.94	346.75		0.10
Elder1	R-1_Down	6.2560	Max WS	1023.76	38.16	48.45		48.47	0.000532	1.57	780.09	248.57		0.09
Elder1	R-1_Down	6.2340	Max WS	1024.31	38.04	48.38		48.41	0.000638	1.74	882.63	372.59		0.10
Elder1	R-1_Down	6.2070	Max WS	1025.03	37.90	48.30		48.32	0.000643	1.76	1174.07	564.81		0.10
Elder1	R-1_Down	6.1800	Max WS	1025.65	37.76	48.22		48.24	0.000549	1.62	1099.96	387.06		0.09
Elder1	R-1_Down	6.1590	Max WS	1026.18	37.66	48.17		48.19	0.000440	1.46	1098.65	528.00		0.08
Elder1	R-1_Down	6.1400	Max WS	1026.72	37.56	48.12		48.14	0.000437	1.46	838.24	445.96		0.08
Elder1	R-1_Down	6.1190	Max WS	1027.31	37.46	48.08		48.10	0.000397	1.40	1121.67	953.48		0.08
Elder1	R-1_Down	6.1010	Max WS	1027.82	37.36	48.04		48.05	0.000357	1.32	1439.77	907.04		0.07
Elder1	R-1_Down	6.0850	Max WS	1028.17	37.28	48.01		48.02	0.000396	1.41	1317.60	824.60		0.08
Elder1	R-1_Down	6.0690	Max WS	1028.36	37.22	47.82		47.96	0.002809	3.71	576.01	672.48		0.20
Elder1	R-1_Down	6.05		Culvert										
Elder1	R-1_Down	6.0400	Max WS	1026.51	37.00	47.44		47.62	0.003907	4.30	401.37	477.07		0.24
Elder1	R-1_Down	6.0150	Max WS	1025.39	36.92	47.29		47.32	0.000770	1.89	1002.94	527.91		0.11
Elder1	R-1_Down	5.9940	Max WS	1024.79	36.84	47.20		47.22	0.000936	2.09	1024.39	531.53		0.12
Elder1	R-1_Down	5.9800	Max WS	1023.97	36.76	47.13		47.16	0.000896	2.03	953.92	597.65		0.11
Elder1	R-1_Down	5.9340	Max WS	1022.07	36.62	46.95		46.97	0.000600	1.66	1067.41	532.80		0.09
Elder1	R-1_Down	5.8910	Max WS	1021.64	36.46	46.88		46.90	0.000386	1.34	1155.00	508.52		0.07
Elder1	R-1_Down	5.8530	Max WS	1021.22	36.46	46.85		46.87	0.000395	1.35	1143.40	499.84		0.08
Elder1	R-1	260.0000	Max WS	34.13	117.38	125.28		125.28	0.000001	0.06	513.83	97.79		0.00
Elder1	R-1	255.0000	Max WS	33.90	117.08	125.28		125.28	0.000001	0.05	556.90	100.40		0.00
Elder1	R-1	250.0000	Max WS	179.91	116.80	125.28		125.28	0.000023	0.29	563.71	101.00		0.02
Elder1	R-1	245.0000	Max WS	180.02	116.44	125.27		125.28	0.000019	0.27	585.87	96.36		0.02
Elder1	R-1	240.0000	Max WS	251.98	116.16	125.27		125.27	0.000033	0.36	603.39	97.71		0.02
Elder1	R-1	235.0000	Max WS	252.05	115.88	125.27		125.27	0.000029	0.35	637.31	100.91		0.02
Elder1	R-1	230.0000	Max WS	252.09	115.64	125.26		125.27	0.000024	0.32	680.50	104.24		0.02
Elder1	R-1	227.5*	Max WS	252.11	115.54	125.26		125.26	0.000025	0.33	672.97	104.71		0.02
Elder1	R-1	225.0000	Max WS	252.13	115.44	125.26		125.26	0.000025	0.33	671.23	102.92		0.02
Elder1	R-1	222		Culvert										
Elder1	R-1	220.0000	Max WS	215.35	111.88	116.79		116.81	0.000824	1.14	182.63	61.07		0.10
Elder1	R-1	219	Max WS	212.12	111.88	116.70		116.72	0.000891	1.16	177.28			

HEC-RAS Plan: Post100y24h Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Elder1	R-1	190.0000	Max WS	498.16	108.56	113.39		113.48	0.003360	2.32	201.85	68.01	0.19
Elder1	R-1	185.0000	Max WS	497.72	107.84	112.56		112.67	0.003737	2.40	194.98	66.27	0.20
Elder1	R-1	182.5*	Max WS	497.00	107.38	111.94		112.06	0.004629	2.61	182.17	65.55	0.22
Elder1	R-1	180.0000	Max WS	488.50	106.50	111.14		111.28	0.005970	2.85	165.41	62.99	0.25
Elder1	R-1	178.0000	Max WS	492.54	106.52	110.67		110.74	0.002155	1.94	233.80	71.32	0.16
Elder1	R-1	177.0000	Max WS	501.90	105.32	110.54		110.60	0.001949	1.89	243.05	74.25	0.15
Elder1	R-1	175.0000	Max WS	495.09	104.76	110.23		110.29	0.001517	1.71	269.36	79.77	0.13
Elder1	R-1	170.0000	Max WS	491.66	103.64	109.84		109.88	0.000781	1.35	339.09	90.24	0.10
Elder1	R-1	167.0000	Max WS	504.51	103.08	109.75		109.77	0.000388	1.00	444.43	104.61	0.07
Elder1	R-1	165.0000	Max WS	504.62	102.76	109.71		109.73	0.000410	1.04	450.06	103.71	0.07
Elder1	R-1	160.0000	Max WS	516.13	101.98	109.63		109.64	0.000306	0.96	517.55	120.77	0.06
Elder1	R-1	158	Culvert										
Elder1	R-1	155.0000	Max WS	282.66	92.97	99.93		99.94	0.000140	0.62	406.08	86.53	0.04
Elder1	R-1	150.0000	Max WS	280.16	92.75	99.91	94.76	99.92	0.000118	0.58	426.07	88.14	0.04

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Mor-2	R-1	680.0000	Max WS	18.30	98.71	99.91		99.91	0.000502	0.30	62.67	89.19	0.06
Mor-2	R-1	670.0000	Max WS	17.71	96.72	99.89		99.89	0.000006	0.07	223.49	126.36	0.01
Mor-2	R-1	660.0000	Max WS	17.84	96.54	99.89		99.89	0.000005	0.07	244.14	127.15	0.01
Mor-2	R-1	650.0000	Max WS	17.89	96.48	99.89		99.89	0.000004	0.06	250.79	127.48	0.01
Mor-2	R-1	640.0000	Max WS	18.05	96.26	99.89		99.89	0.000003	0.06	279.65	128.31	0.01
Mor-2	R-1	630.0000	Max WS	18.15	96.12	99.89		99.89	0.000003	0.05	295.13	129.61	0.01
Mor-2	R-1	620.0000	Max WS	59.22	95.84	99.88		99.88	0.000018	0.15	332.49	131.36	0.01
Mor-2	R-1	610.0000	Max WS	64.02	95.58	99.88		99.88	0.000016	0.15	370.29	137.87	0.01
Mor-2	R-1	600.0000	Max WS	64.15	95.34	99.88		99.88	0.000012	0.13	408.34	143.09	0.01
Mor-2	R-1	590.0000	Max WS	64.30	95.10	99.88		99.88	0.000010	0.12	442.38	146.99	0.01
Mor-2	R-1	580.0000	Max WS	89.50	94.94	99.88		99.88	0.000015	0.16	470.04	151.41	0.01
Mor-2	R-1	570.0000	Max WS	89.53	94.94	99.88		99.88	0.000015	0.16	469.97	151.41	0.01
Mor-2	R-1	565	Culvert										
Mor-2	R-1	560.0000	Max WS	54.75	84.60	90.09		90.09	0.000008	0.13	379.36	105.99	0.01
Mor-2	R-1	550.0000	Max WS	54.75	84.52	90.09		90.09	0.000006	0.11	417.66	111.23	0.01
Mor-2	R-1	540.0000	Max WS	57.51	84.24	90.09		90.09	0.000005	0.11	460.25	115.40	0.01
Mor-2	R-1	530.0000	Max WS	58.60	83.99	90.09		90.09	0.000004	0.10	503.88	118.46	0.01
Mor-2	R-1	520.0000	Max WS	58.59	83.90	90.09		90.09	0.000004	0.09	520.88	120.64	0.01
Mor-2	R-1	510.0000	Max WS	58.58	83.64	90.09		90.09	0.000003	0.08	566.82	126.52	0.01
Mor-2	R-1	500.0000	Max WS	58.58	83.54	90.09		90.09	0.000003	0.08	572.37	126.64	0.01
Mor-2	R-1	490.0000	Max WS	58.57	83.30	90.09		90.09	0.000013	0.18	604.86	128.85	0.01
Mor-2	R-1	480.0000	Max WS	58.55	82.98	90.09		90.09	0.000002	0.08	632.21	129.28	0.01
Mor-2	R-1	470.0000	Max WS	58.55	82.93	90.09		90.09	0.000002	0.08	616.42	128.09	0.01
Mor-2	R-1	465	Culvert										
Mor-2	R-1	460.0000	Max WS	48.27	77.05	79.22		79.23	0.000899	0.68	71.38	61.14	0.09
Mor-2	R-1	450.0000	Max WS	47.92	77.05	79.17		79.18	0.001009	0.71	68.50	60.71	0.09
Mor-2	R-1	440.0000	Max WS	52.53	76.76	79.10		79.11	0.000762	0.67	83.92	72.23	0.08
Mor-2	R-1	430.0000	Max WS	52.33	76.54	79.05		79.05	0.000455	0.54	99.62	78.08	0.06
Mor-2	R-1	410.0000	Max WS	51.74	76.32	79.00		79.00	0.000354	0.50	104.86	73.80	0.06
Mor-2	R-1	400.0000	Max WS	51.29	76.16	78.97		78.97	0.000171	0.35	136.53	84.89	0.04
Mor-2	R-1	390.0000	Max WS	50.72	76.08	78.96		78.96	0.000110	0.29	156.94	90.47	0.03
Mor-2	R-1	380.0000	Max WS	50.68	75.96	78.95		78.95	0.000100	0.28	162.47	90.78	0.03
Mor-2	R-1	370.0000	Max WS	120.75	75.76	78.91		78.92	0.000412	0.60	175.70	89.88	0.06
Mor-2	R-1	360.0000	Max WS	120.71	75.54	78.88		78.88	0.000313	0.55	192.86	88.67	0.06
Mor-2	R-1	350.0000	Max WS	131.25	75.00	78.83		78.84	0.000340	0.61	194.69	85.36	0.06
Mor-2	R-1	340.0000	Max WS	131.21	74.40	78.79		78.80	0.000220	0.53	217.17	84.83	0.05
Mor-2	R-1	330.0000	Max WS	131.20	74.00	78.79		78.79	0.000201	0.52	226.03	86.59	0.05
Mor-2	R-1	321.5	Culvert										
Mor-2	R-1	321.0000	Max WS	128.61	74.66	77.78		77.78	0.000076	0.31	544.81	617.82	0.03
Mor-2	R-1	320.9	Max WS	128.31	74.66	77.78		77.78	0.000076	0.31	544.45	617.65	0.03
Mor-2	R-1	320.45*	Max WS	128.30	74.86	77.78		77.78	0.000039	0.22	760.56	684.32	0.02
Mor-2	R-1	320.0000	Max WS	128.29	75.05	77.78		77.78	0.000038	0.21	744.95	636.46	0.02
Mor-2	R-1	319.5*	Max WS	128.26	74.90	77.77		77.77	0.000081	0.26	563.97	431.83	0.03
Mor-2	R-1	319.0000	Max WS	128.24	74.76	77.43		77.47	0.010778	2.08	87.01	144.56	0.34
Mor-2	R-1	318.5*	Max WS	128.23	74.23	76.16		76.23	0.017196	2.55	72.13	149.87	0.43
Mor-2	R-1	318.0000	Max WS	127.58	73.70	75.39		75.39	0.001202	0.85	208.14	240.02	0.12
Mor-2	R-1	317.666*	Max WS	127.32	73.68	75.29		75.30	0.001465	0.89	205.80	277.03	0.13
Mor-2	R-1	317.333*	Max WS	127.07	73.66	75.18		75.18	0.001871	0.93	198.44	319.62	0.15
Mor-2	R-1	317.0000	Max WS	126.77	73.64	75.03		75.04	0.002298	0.93	189.50	346.37	0.16
Mor-2	R-1	316.666*	Max WS	126.24	73.34	74.84		74.85	0.002279	0.91	196.10	373.32	0.16
Mor-2	R-1	316.333*	Max WS	125.49	73.03	74.66		74.66	0.002133	0.93	207.08	407.85	0.15
Mor-2	R-1	316.0000	Max WS	125.18	72.73	74.49		74.49	0.001838	0.91	223.07	449.10	0.14
Mor-2	R-1	315.0000	Max WS	15.00	72.97	74.00	73.34	74.00	0.000044	0.10	197.72	436.32	0.02
Elder1	R-1_Down	95.0000	Max WS	157.55	90.16	98.24		98.24	0.000007	0.15	822.51	137.61	0.01
Elder1	R-1_Down	90.0000	Max WS	157.52	90.00	98.24		98.24	0.000006	0.15	846.12	138.11	0.01
Elder1	R-1_Down	86	Culvert										
Elder1	R-1_Down	85.0000	Max WS	156.48	89.81	98.22		98.22	0.000005	0.14	875.04	138.72	0.01
Elder1	R-1_Down	80.0000	Max WS	156.47	89.63	98.22		98.22	0.000005	0.13	905.61	139.88	0.01
Elder1	R-1_Down	77.5*	Max WS	159.10	89.56	98.22		98.22	0.000005	0.13	919.47	140.08	0.01
Elder1	R-1_Down	75.0000	Max WS	159.41	89.47	98.22		98.22	0.000005	0.13	933.29	140.23	0.01
Elder1	R-1_Down	70.0000	Max WS	159.38	89.28	98.22		98.22	0.000004	0.13	958.03	141.15	0.01
Elder1	R-1_Down	65.0000	Max WS	165.92	89.16	98.22		98.22	0.000003	0.11	1124.02	167.45	0.01
Elder1	R-1_Down	60.0000	Max WS	165.91	89.06	98.22		98.22	0.000002	0.09	1405.07	202.62	0.01
Elder1	R-1_Down	55.0000	Max WS	165.88	88.94	98.22		98.22	0.000001	0.07	1639.32	229.20	0.00
Elder1	R-1_Down	50.0000	Max WS	165.65	88.81	98.22		98.22	0.000002	0.08	1473.55	205.09	0.00
Elder1	R-1_Down	45.0000	Max WS	165.64	88.69	98.22		98.22	0.000002	0.09	1434.15	199.20	0.01
Elder1	R-1_Down	40.0000	Max WS	165.64	88.54	98.22		98.22	0.000002	0.09	1394.55	191.99	0.01
Elder1	R-1_Down	35.0000	Max WS	165.75	88.41	98.22		98.22	0.000002	0.09	1412.17	193.09	0.01
Elder1	R-1_Down	30.0000	Max WS	165.72	88.25	98.21		98.22	0.000002	0.09	1428.61	189.30	0.00
Elder1	R-1_Down	28.0000	Max WS	165.63	87.97	98.21		98.21	0.000001	0.08	1493.18	188.13	0.00
Elder1	R-1_Down	27.0000	Max WS	165.62	87.84	98.21		98.21	0.000001	0.08	1531.94	191.28	0.00
Elder1	R-1_Down	26.0000	Max WS	165.61	87.72	98.21		98.21	0.000001	0.08	1640.76	211.72	0.00
Elder1	R-1_Down	25.5	Culvert										
Elder1	R-1_Down	25.0000	Max WS	163.58	87.53	91.48		91.48	0.000061	0.28	491.33	198.01	0.03
Elder1	R-1_Down	24.0000	Max WS	163.48	87.48	91.48		91.48	0.000085	0.32	438.75	183.74	0.03
Elder1	R-1_Down	23.0000	Max WS	161.30	87.40	91.26		91.33	0.004136	1.98	81.23	166.01	0.20
Elder1	R-1_Down	22.5	Culvert										
Elder1	R-1_Down	22.0000	Max WS	161.30	87.40	91.22		91.23	0.000065	0.37	605.45	414.68	0.04
Elder1	R-1_Down	21.0000	Max WS	200.97	86.60	88.54		88.63	0.009149	2.82	103.08	212.66	0.44
Elder1	R-1_Down	20.550*	Max WS	206.57	86.10	88.26		88.28	0.001475	1.26	212.67	218.56	0.18
Elder1	R-1_Down	20.1000	Max WS	206.00	85.60	88.19		88.20	0.000905	1.16	249.90	243.35	0.15
Elder1	R-1_Down	11.724	Max WS	204.94	85.65	87.93		87.96	0.003078	1.74	164.60	228.55	0.26
Elder1	R-1_Down	11.659	Max WS	202.91	84.72	87.06		87.08	0.002077	1.85	180.83	216.20	0.22
Elder1	R-1_Down	11.593	Max WS	211.49	83.92	86.24		86.27	0.002886	1.95	172.69	229.32	0.26
Elder1	R-1_Down	11.538	Max WS	218.88	82.92	85.72		85.74	0.001123	1.46	221.02	198.69	0.17
Elder1	R-1_Down	11.482	Max WS	228.50	82.27	84.82		84.87	0.004731	2.32	133.95	155.44	0.32

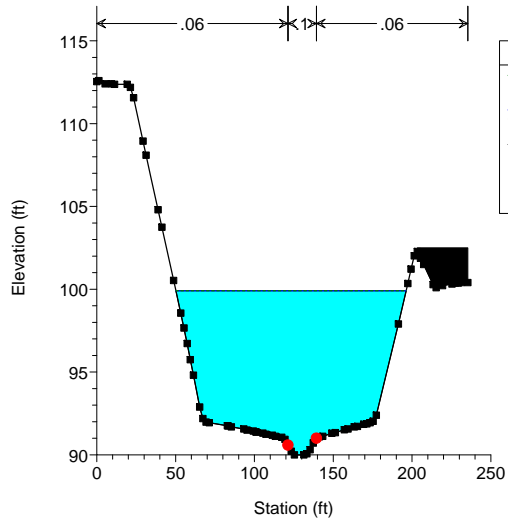
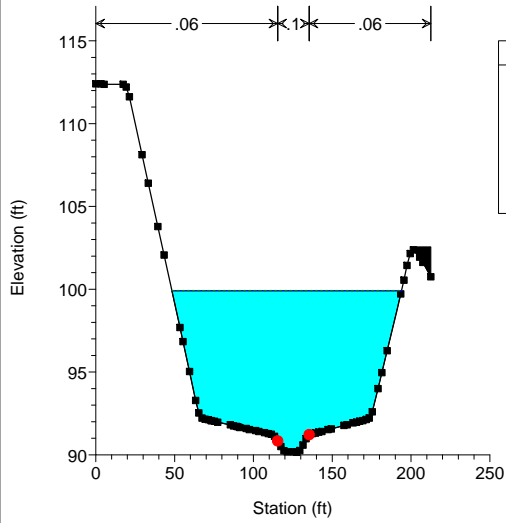
HEC-RAS Plan: Post10y24h Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Elder1	R-1_Down	11.433	Max WS	231.60	81.55	84.14		84.15	0.000770	1.58	350.07	472.12	0.20
Elder1	R-1_Down	11.376	Max WS	280.43	80.86	83.95		83.97	0.000421	1.37	383.43	316.69	0.16
Elder1	R-1_Down	11.313	Max WS	289.35	80.70	83.81		83.83	0.000476	1.37	333.60	231.29	0.16
Elder1	R-1_Down	11.252	Max WS	298.43	80.24	83.49		83.55	0.001400	2.47	220.60	217.89	0.28
Elder1	R-1_Down	11.175	Max WS	308.16	79.60	82.93		83.02	0.001630	2.60	195.63	234.14	0.30
Elder1	R-1_Down	11.125	Max WS	315.32	79.27	82.69		82.72	0.000495	1.54	344.22	354.36	0.17
Elder1	R-1_Down	11.063	Max WS	323.05	78.95	82.53		82.55	0.000609	1.75	475.82	743.08	0.19
Elder1	R-1_Down	10.995	Max WS	376.72	78.76	82.11		82.14	0.001284	2.12	431.18	607.87	0.26
Elder1	R-1_Down	10.936	Max WS	413.66	76.97	81.40		81.47	0.002029	2.94	322.87	426.66	0.33
Elder1	R-1_Down	10.884	Max WS	408.07	76.68	81.14		81.14	0.000158	1.14	779.38	442.71	0.10
Elder1	R-1_Down	10.834	Max WS	407.16	76.47	81.10		81.10	0.000144	1.12	768.21	419.65	0.10
Elder1	R-1_Down	10.775	Max WS	406.41	76.23	81.05		81.06	0.000157	1.20	733.30	466.93	0.10
Elder1	R-1_Down	10.7475*	Max WS	405.91	75.69	81.00		81.03	0.000340	1.82	499.84	366.30	0.15
Elder1	R-1_Down	10.720	Max WS	405.28	75.15	80.89		80.97	0.000820	2.87	352.33	371.75	0.23
Elder1	R-1_Down	10.705	Max WS	404.04	75.34	80.73		80.90	0.001866	3.64	236.59	500.75	0.34
Elder1	R-1_Down	10.704	Max WS	404.41	75.44	80.78		80.79	0.000340	1.30	658.83	553.94	0.14
Elder1	R-1_Down	10.689		Mult Open									
Elder1	R-1_Down	10.686	Max WS	404.23	75.07	80.75		80.75	0.000238	1.12	807.01	624.20	0.11
Elder1	R-1_Down	10.681	Max WS	404.22	75.23	80.74		80.75	0.000146	1.08	822.86	644.76	0.10
Elder1	R-1_Down	10.65	Max WS	404.03	74.93	80.71		80.73	0.000095	1.02	547.79	357.33	0.08
Elder1	R-1_Down	10.63		Lat Struct									
Elder1	R-1_Down	10.619	Max WS	404.01	75.38	80.65		80.68	0.000438	1.42	415.01	287.54	0.16
Elder1	R-1_Down	10.613		Culvert									
Elder1	R-1_Down	10.607	Max WS	403.95	75.04	77.76		78.24	0.006924	5.56	72.60	351.04	0.63
Elder1	R-1_Down	10.562	Max WS	403.88	74.78	77.37		77.43	0.001729	2.14	285.19	356.41	0.30
Elder1	R-1_Down	10.507	Max WS	403.85	74.62	76.68		76.80	0.004035	3.00	174.36	197.86	0.44
Elder1	R-1_Down	10.442	Max WS	406.83	74.36	75.67		75.71	0.002367	1.60	300.93	432.90	0.31
Elder1	R-1_Down	10.361	Max WS	410.12	72.88	74.96		74.97	0.001161	1.71	480.65	551.20	0.24
Elder1	R-1_Down	10.312	Max WS	412.29	71.78	74.50		74.55	0.002324	2.69	311.14	493.93	0.35
Elder1	R-1_Down	10.272	Max WS	414.12	71.03	73.82		73.95	0.003739	3.37	213.52	284.11	0.44
Elder1	R-1_Down	10.214	Max WS	445.02	69.83	73.04		73.10	0.001929	2.67	301.38	278.37	0.32
Elder1	R-1_Down	10.141	Max WS	483.05	68.54	72.33		72.41	0.001951	2.89	308.67	272.22	0.33
Elder1	R-1_Down	10.09	Max WS	485.10	68.60	71.83		71.93	0.001843	3.00	284.75	262.68	0.33
Elder1	R-1_Down	10.034	Max WS	486.25	68.74	71.23		71.28	0.002375	2.73	379.06	501.95	0.35
Elder1	R-1_Down	9.974	Max WS	486.33	67.83	70.72		70.74	0.001006	1.93	559.99	609.90	0.23
Elder1	R-1_Down	9.919	Max WS	488.08	67.56	70.50		70.52	0.000452	1.55	632.38	493.85	0.16
Elder1	R-1_Down	9.878	Max WS	489.19	67.52	70.15		70.27	0.002297	2.94	227.44	514.36	0.35
Elder1	R-1_Down	9.813	Max WS	490.74	67.00	69.34		69.43	0.002519	2.91	262.04	342.86	0.37
Elder1	R-1_Down	9.749	Max WS	489.89	65.60	68.67		68.74	0.001591	2.47	323.52	335.50	0.30
Elder1	R-1_Down	9.701	Max WS	490.53	64.81	68.44		68.46	0.000463	1.65	522.45	390.85	0.17
Elder1	R-1_Down	9.633	Max WS	492.71	64.72	68.21		68.24	0.000759	1.82	436.28	430.55	0.21
Elder1	R-1_Down	9.566	Max WS	495.05	63.42	67.18		67.46	0.004382	4.30	134.82	126.34	0.50
Elder1	R-1_Down	9.524	Max WS	496.47	62.22	66.46		66.53	0.003369	2.41	280.86	344.29	0.39
Elder1	R-1_Down	9.49		Lat Struct									
Elder1	R-1_Down	9.486	Max WS	497.68	61.46	65.84		65.98	0.002306	3.28	227.66	299.23	0.36
Elder1	R-1_Down	9.438	Max WS	500.09	59.47	65.54		65.61	0.000650	2.24	314.01	322.10	0.20
Elder1	R-1_Down	9.387	Max WS	499.36	59.78	64.85		65.06	0.003670	3.79	170.05	230.17	0.45
Elder1	R-1_Down	9.329	Max WS	498.30	58.24	64.17		64.30	0.001218	2.92	170.59	48.71	0.28
Elder1	R-1_Down	9.282	Max WS	495.61	57.97	63.83		63.97	0.001384	3.08	161.98	104.07	0.29
Elder1	R-1_Down	9.228	Max WS	493.00	57.48	63.60		63.69	0.000618	2.36	208.46	311.84	0.20
Elder1	R-1_Down	9.185	Max WS	492.04	57.64	63.46		63.54	0.000693	2.35	266.58	410.09	0.21
Elder1	R-1_Down	9.143	Max WS	491.34	57.35	63.28		63.38	0.000742	2.47	199.63	465.84	0.22
Elder1	R-1_Down	9.091	Max WS	491.58	57.48	63.15		63.21	0.000472	2.02	305.54	263.07	0.18
Elder1	R-1_Down	9.039	Max WS	492.23	57.06	63.02		63.08	0.000472	1.98	340.22	324.81	0.18
Elder1	R-1_Down	8.975	Max WS	493.73	57.39	62.86		62.92	0.000487	2.05	358.83	493.31	0.18
Elder1	R-1_Down	8.969	Max WS	493.89	57.00	62.86	58.88	62.90	0.000484	1.63	418.62	556.90	0.17
Elder1	R-1_Down	8.961		Bridge									
Elder1	R-1_Down	8.954	Max WS	493.81	57.10	62.75		62.80	0.000353	1.83	358.69	570.55	0.15
Elder1	R-1_Down	8.89	Max WS	494.15	57.04	61.96		62.26	0.003573	4.43	115.27	273.31	0.45
Elder1	R-1_Down	8.811	Max WS	493.82	56.79	61.19		61.24	0.001088	2.28	369.65	842.46	0.25
Elder1	R-1_Down	8.752	Max WS	493.99	57.25	60.48		60.62	0.002955	3.46	223.80	698.99	0.40
Elder1	R-1_Down	8.697	Max WS	493.40	56.74	60.00		60.02	0.000645	1.45	686.28	1700.33	0.18
Elder1	R-1_Down	8.598	Max WS	494.54	55.92	59.71		59.72	0.000675	0.88	707.32	1129.44	0.17
Elder1	R-1_Down	8.565	Max WS	493.81	55.85	59.54		59.55	0.001668	1.16	549.65	1244.23	0.25
Elder1	R-1_Down	8.466	Max WS	491.31	55.58	59.17		59.18	0.000476	1.30	1002.61	1698.50	0.16
Elder1	R-1_Down	8.258	Max WS	486.69	55.90	58.31		58.33	0.001370	1.35	569.61	1932.98	0.24
Elder1	R-1_Down	8.195	Max WS	486.34	55.61	57.92		57.93	0.000760	0.78	791.65	1018.07	0.17
Elder1	R-1_Down	8.105	Max WS	486.95	55.58	57.77		57.77	0.000270	0.56	1098.11	1255.65	0.11
Elder1	R-1_Down	7.93	Max WS	484.22	54.96	56.96		57.02	0.002223	1.91	284.25	1372.10	0.32
Elder1	R-1_Down	7.863	Max WS	481.63	53.97	56.58		56.59	0.000236	0.74	1141.41	1814.07	0.11
Elder1	R-1_Down	7.862		Lat Struct									
Elder1	R-1_Down	7.783	Max WS	445.87	52.32	56.05		56.12	0.002537	2.32	233.72	784.18	0.35
Elder1	R-1_Down	7.740	Max WS	398.11	52.21	55.65		55.69	0.001420	2.00	352.71	515.93	0.27
Elder1	R-1_Down	7.689	Max WS	366.45	51.89	55.46		55.46	0.000081	0.39	1607.80	1762.20	0.06
Elder1	R-1_Down	7.625	Max WS	355.43	50.92	55.37	53.48	55.46	0.001254	2.33	178.78	216.59	0.27
Elder1	R-1_Down	7.6225		Bridge									
Elder1	R-1_Down	7.620	Max WS	355.37	51.00	55.34		55.38	0.000799	1.94	323.08	360.48	0.21
Elder1	R-1_Down	7.619		Lat Struct									
Elder1	R-1_Down	7.543	Max WS	326.10	50.76	54.87		55.04	0.002144	3.30	98.71	35.72	0.35
Elder1	R-1_Down	7.516	Max WS	314.05	50.67	54.51		54.67	0.001617	3.24	99.78	72.19	0.31
Elder1	R-1_Down	7.317	Max WS	130.32	49.76	53.83		53.84	0.000145	0.89	388.61	715.77	0.09
Elder1	R-1_Down	7.259		Lat Struct									
Elder1	R-1_Down	7.258	Max WS	361.02	49.57	52.83		53.16	0.004981	4.63	82.76	65.75	0.52
Elder1	R-1_Down	7.0770	Max WS	364.01	47.10	51.89	48.68	51.95	0.001389	1.94	210.86	61.26	0.16
Elder1	R-1_Down	7.05		Int Struct									
Elder1	R-1_Down	7.0130	Max WS	363.75	46.84	51.18		51.25	0.002028	2.22	184.58	55.71	0.19

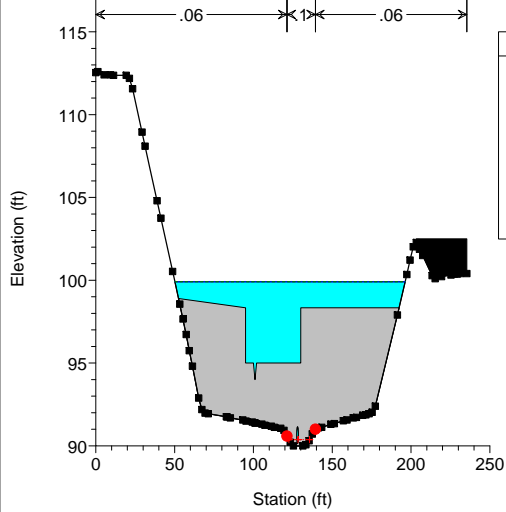
River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude #	Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)		
Elder1	R-1_Down	6.98		Lat Struct										
Elder1	R-1_Down	6.9650	Max WS	411.40	46.68	50.09	48.37	50.23	0.005874	3.22	142.80	53.21		0.31
Elder1	R-1_Down	6.94		Inl Struct										
Elder1	R-1_Down	6.9350	Max WS	410.10	42.39	48.58		48.64	0.002154	1.90	217.38	61.30		0.15
Elder1	R-1_Down	6.9141	Max WS	409.94	42.35	48.50		48.55	0.001093	1.57	230.54	74.27		0.11
Elder1	R-1_Down	6.91405*	Max WS	409.94	42.35	48.48		48.54	0.001232	1.67	217.42	74.18		0.12
Elder1	R-1_Down	6.9140	Max WS	409.85	42.35	48.46		48.52	0.001405	1.77	203.78	74.08		0.13
Elder1	R-1_Down	6.9135		Culvert										
Elder1	R-1_Down	6.9131	Max WS	409.40	41.36	48.33		48.38	0.001156	1.79	222.07	81.19		0.12
Elder1	R-1_Down	6.9130	Max WS	409.40	41.36	48.33		48.37	0.000952	1.63	245.70	81.19		0.11
Elder1	R-1_Down	6.9129		Lat Struct										
Elder1	R-1_Down	6.9128		Lat Struct										
Elder1	R-1_Down	6.89		Lat Struct										
Elder1	R-1_Down	6.8860	Max WS	559.98	41.22	48.20		48.22	0.000728	1.41	418.01	89.46		0.10
Elder1	R-1_Down	6.8850	Max WS	559.91	41.10	48.12		48.14	0.000565	1.27	476.89	101.51		0.09
Elder1	R-1_Down	6.8620	Max WS	559.75	40.98	48.05		48.08	0.000523	1.23	479.63	97.45		0.08
Elder1	R-1_Down	6.8450	Max WS	559.69	40.88	48.03		48.04	0.000222	0.81	708.65	139.56		0.05
Elder1	R-1_Down	6.8330	Max WS	559.70	40.82	48.01		48.02	0.000251	0.86	686.29	160.17		0.06
Elder1	R-1_Down	6.8210	Max WS	559.63	40.76	47.99		48.01	0.000272	0.90	609.65	156.24		0.06
Elder1	R-1_Down	6.82		Lat Struct										
Elder1	R-1_Down	6.8100	Max WS	559.85	40.70	47.96		47.98	0.000504	1.22	437.71	107.04		0.08
Elder1	R-1_Down	6.791	Max WS	559.55	40.66	47.79		47.89	0.002064	2.42	220.07	70.17		0.16
Elder1	R-1_Down	6.790		Culvert										
Elder1	R-1_Down	6.7890	Max WS	559.29	40.64	47.71		47.81	0.002108	2.43	218.67	69.94		0.16
Elder1	R-1_Down	6.7730	Max WS	559.14	40.60	47.62		47.66	0.001244	1.87	331.91	72.60		0.13
Elder1	R-1_Down	6.7610	Max WS	558.97	40.54	47.52		47.58	0.001570	2.08	302.11	68.84		0.14
Elder1	R-1_Down	6.7480	Max WS	558.89	40.48	47.49		47.51	0.000433	1.11	523.79	105.72		0.07
Elder1	R-1_Down	6.7410	Max WS	558.90	40.44	47.47		47.49	0.000353	0.99	579.49	117.26		0.07
Elder1	R-1_Down	6.7400	Max WS	558.81	40.42	47.47		47.48	0.000311	0.93	617.78	126.06		0.06
Elder1	R-1_Down	6.7190	Max WS	558.72	40.30	47.42		47.44	0.000432	1.11	536.88	113.53		0.07
Elder1	R-1_Down	6.7180	Max WS	558.72	40.30	47.42		47.44	0.000437	1.12	536.76	113.99		0.07
Elder1	R-1_Down	6.7110	Max WS	558.72	40.26	47.41		47.42	0.000405	1.08	556.72	118.53		0.07
Elder1	R-1_Down	6.7000	Max WS	558.63	40.20	47.36		47.39	0.000694	1.41	435.76	96.01		0.09
Elder1	R-1_Down	6.6910	Max WS	558.54	40.16	47.32		47.35	0.000854	1.56	385.49	81.46		0.10
Elder1	R-1_Down	6.6650	Max WS	558.20	40.02	47.20		47.23	0.000845	1.56	385.72	81.31		0.10
Elder1	R-1_Down	6.6530	Max WS	558.11	40.00	47.15		47.18	0.000823	1.53	387.94	81.54		0.10
Elder1	R-1_Down	6.6340	Max WS	557.93	39.96	47.07		47.10	0.000825	1.53	393.65	82.80		0.10
Elder1	R-1_Down	6.6040	Max WS	557.65	39.96	46.93		46.97	0.000898	1.58	382.17	81.94		0.11
Elder1	R-1_Down	6.59		Lat Struct										
Elder1	R-1_Down	6.5500	Max WS	563.39	39.54	46.73		46.76	0.000653	1.38	450.17	109.77		0.09
Elder1	R-1_Down	6.5290	Max WS	563.20	39.40	46.64		46.67	0.000805	1.52	400.49	88.21		0.10
Elder1	R-1_Down	6.5070	Max WS	562.81	39.40	46.52		46.57	0.001002	1.69	334.88	81.96		0.11
Elder1	R-1_Down	6.4940	Max WS	562.81	39.22	46.47		46.50	0.000753	1.47	411.73	85.27		0.10
Elder1	R-1_Down	6.4750	Max WS	562.52	39.16	46.40		46.43	0.000655	1.39	426.22	86.07		0.09
Elder1	R-1_Down	6.4420	Max WS	562.12	39.04	46.28		46.31	0.000746	1.46	412.24	84.67		0.10
Elder1	R-1_Down	6.4020	Max WS	561.71	38.84	46.12		46.15	0.000726	1.46	413.62	84.17		0.10
Elder1	R-1_Down	6.3630	Max WS	561.30	38.64	45.98		46.01	0.000684	1.42	409.68	91.87		0.09
Elder1	R-1_Down	6.3330	Max WS	560.88	38.48	45.87		45.90	0.000653	1.41	444.86	124.42		0.09
Elder1	R-1_Down	6.2980	Max WS	560.57	38.34	45.75		45.78	0.000617	1.36	444.95	113.83		0.09
Elder1	R-1_Down	6.2750	Max WS	560.37	38.26	45.68		45.70	0.000614	1.36	438.65	86.07		0.09
Elder1	R-1_Down	6.2560	Max WS	560.17	38.16	45.62		45.64	0.000576	1.31	447.50	87.75		0.09
Elder1	R-1_Down	6.2340	Max WS	560.53	38.04	45.55		45.57	0.000551	1.30	462.90	100.35		0.08
Elder1	R-1_Down	6.2070	Max WS	560.89	37.90	45.50		45.51	0.000369	1.07	609.39	140.52		0.07
Elder1	R-1_Down	6.1800	Max WS	561.34	37.76	45.43		45.45	0.000460	1.20	497.83	100.77		0.08
Elder1	R-1_Down	6.1590	Max WS	561.56	37.66	45.39		45.41	0.000472	1.22	497.78	178.25		0.08
Elder1	R-1_Down	6.1400	Max WS	561.88	37.56	45.33		45.35	0.000585	1.37	483.77	129.48		0.09
Elder1	R-1_Down	6.1190	Max WS	562.23	37.46	45.27		45.29	0.000515	1.29	490.77	133.12		0.08
Elder1	R-1_Down	6.1010	Max WS	562.52	37.36	45.22		45.24	0.000482	1.24	475.30	140.60		0.08
Elder1	R-1_Down	6.0850	Max WS	562.79	37.28	45.19		45.20	0.000407	1.16	517.81	101.99		0.07
Elder1	R-1_Down	6.0690	Max WS	562.96	37.22	45.09		45.15	0.001012	1.82	284.42	76.74		0.12
Elder1	R-1_Down	6.05		Culvert										
Elder1	R-1_Down	6.0400	Max WS	562.22	37.00	44.74		44.81	0.001043	1.81	277.05	107.00		0.12
Elder1	R-1_Down	6.0150	Max WS	562.14	36.92	44.70		44.73	0.000545	1.30	456.69	108.24		0.08
Elder1	R-1_Down	5.9940	Max WS	562.05	36.84	44.64		44.67	0.000542	1.31	452.80	103.33		0.08
Elder1	R-1_Down	5.9800	Max WS	561.87	36.76	44.60		44.63	0.000561	1.32	449.93	102.35		0.09
Elder1	R-1_Down	5.9340	Max WS	561.60	36.62	44.47		44.49	0.000525	1.28	459.93	107.59		0.08
Elder1	R-1_Down	5.8910	Max WS	561.35	36.46	44.39		44.42	0.000497	1.26	473.61	126.44		0.08
Elder1	R-1_Down	5.8530	Max WS	561.26	36.46	44.36		44.38	0.000508	1.27	469.40	123.04		0.08
Elder1	R-1	260.0000	Max WS	23.66	117.38	122.11		122.11	0.000005	0.09	238.77	75.66		0.01
Elder1	R-1	255.0000	Max WS	23.53	117.08	122.11		122.11	0.000004	0.08	270.42	80.44		0.01
Elder1	R-1	250.0000	Max WS	126.04	116.80	122.10		122.10	0.000094	0.42	275.25	79.15		0.03
Elder1	R-1	245.0000	Max WS	126.14	116.44	122.09		122.09	0.000060	0.35	308.90	77.47		0.03
Elder1	R-1	240.0000	Max WS	175.93	116.16	122.08		122.08	0.000101	0.47	322.36	78.27		0.03
Elder1	R-1	235.0000	Max WS	175.57	115.88	122.06		122.07	0.000084	0.44	346.42	80.84		0.03
Elder1	R-1	230.0000	Max WS	175.79	115.64	122.06		122.06	0.000066	0.40	378.32	84.18		0.03
Elder1	R-1	227.5*	Max WS	175.87	115.54	122.05		122.06	0.000069	0.42	371.54	83.65		0.03
Elder1	R-1	225.0000	Max WS	175.96	115.44	122.05		122.05	0.000066	0.41	373.45	82.64		0.03
Elder1	R-1	222		Culvert										
Elder1	R-1	220.0000	Max WS	163.55	111.88	116.04		116.06	0.001109	1.17	138.57	56.54		0.11
Elder1	R-1	219	Max WS	158.59	111.88	115.92		115.94	0.001238	1.20	131.79	55.78		0.11
Elder1	R-1	215.0000	Max WS	280.15	111.56	115.61								

HEC-RAS Plan: Post10y24h Profile: Max WS (Continued)

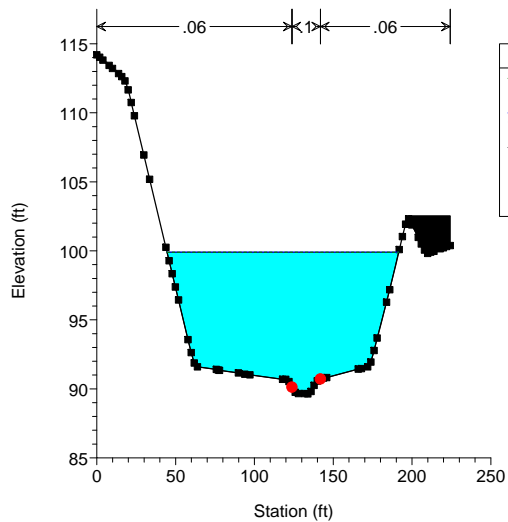
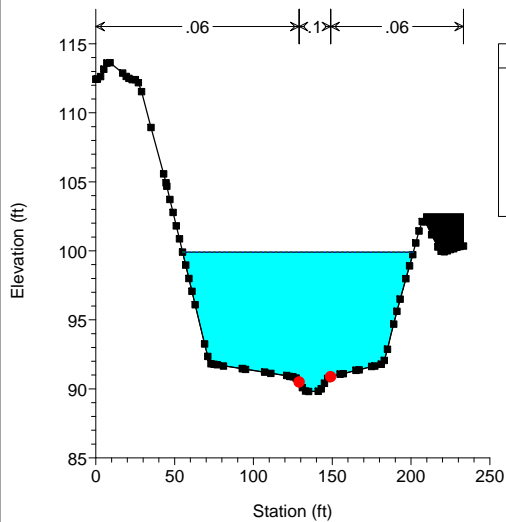
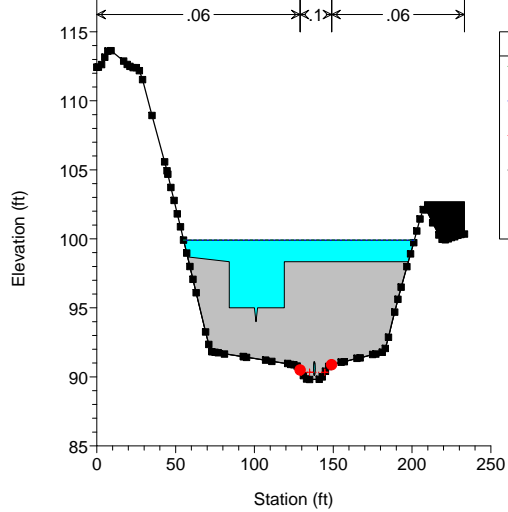
River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Elder1	R-1	190.0000	Max WS	313.65	108.56	112.60		112.67	0.003273	2.02	150.54	62.79	0.18
Elder1	R-1	185.0000	Max WS	313.83	107.84	111.81		111.89	0.003538	2.06	147.18	61.62	0.19
Elder1	R-1	182.5*	Max WS	313.94	107.38	111.22		111.30	0.004506	2.27	136.52	61.05	0.21
Elder1	R-1	180.0000	Max WS	313.85	106.50	110.26		110.38	0.008263	2.84	111.98	57.47	0.28
Elder1	R-1	178.0000	Max WS	320.74	105.52	109.58		109.64	0.002941	1.91	159.65	64.02	0.18
Elder1	R-1	177.0000	Max WS	327.48	105.32	109.38		109.45	0.002854	1.91	162.10	66.28	0.17
Elder1	R-1	175.0000	Max WS	324.75	104.76	108.89		108.95	0.002591	1.83	169.97	68.49	0.17
Elder1	R-1	170.0000	Max WS	321.39	103.64	108.18		108.22	0.001517	1.51	202.38	73.98	0.13
Elder1	R-1	167.0000	Max WS	327.86	103.08	108.00		108.02	0.00687	1.08	274.51	89.37	0.09
Elder1	R-1	165.0000	Max WS	327.60	102.76	107.93		107.95	0.000707	1.10	279.90	87.08	0.09
Elder1	R-1	160.0000	Max WS	334.07	101.98	107.79		107.81	0.000453	0.96	325.71	91.99	0.07
Elder1	R-1	158	Culvert										
Elder1	R-1	155.0000	Max WS	137.94	92.97	98.25		98.25	0.000114	0.46	269.55	75.97	0.04
Elder1	R-1	150.0000	Max WS	135.86	92.75	98.24	94.26	98.24	0.000091	0.42	286.89	77.85	0.03

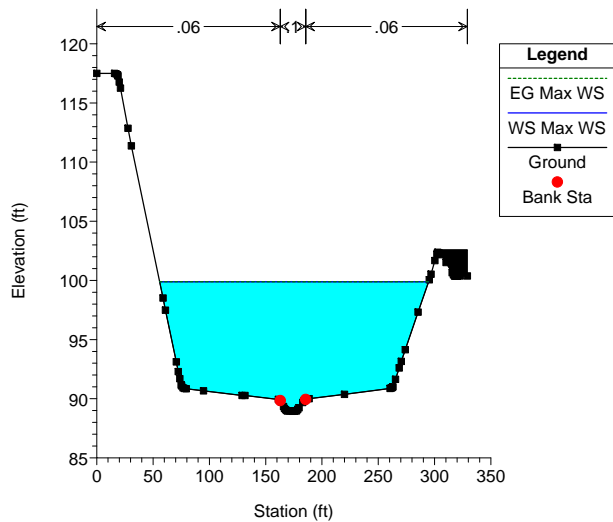
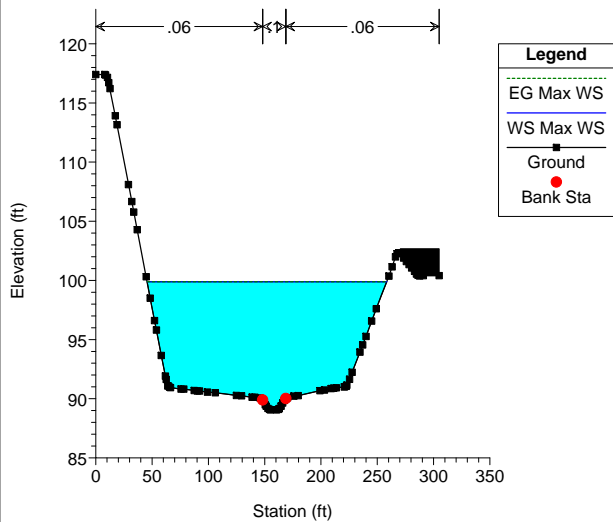
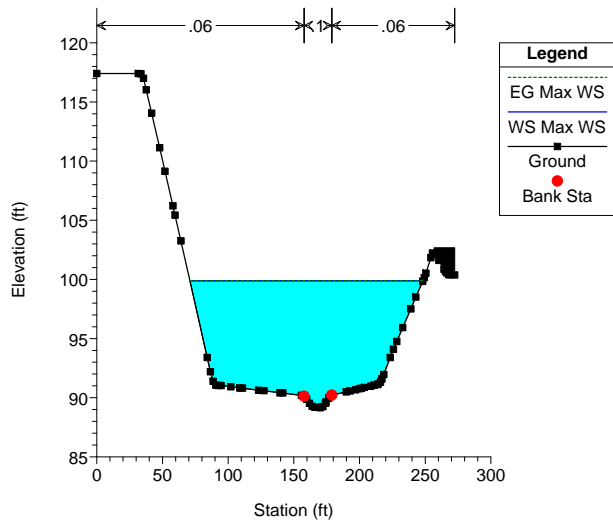
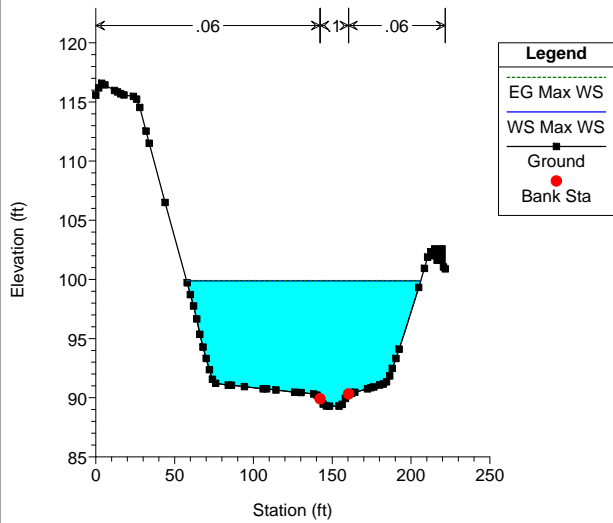
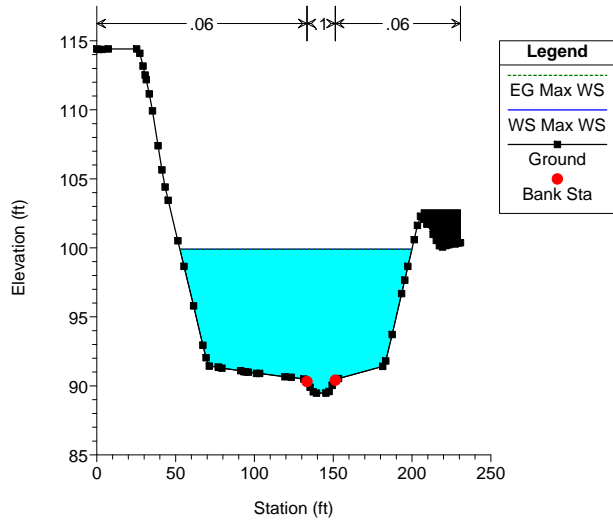
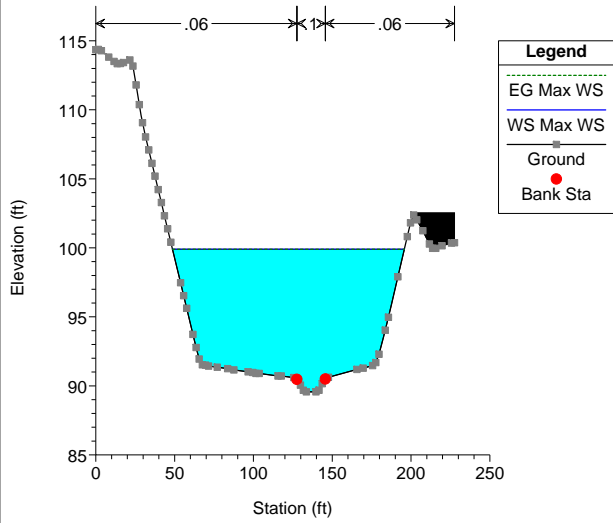


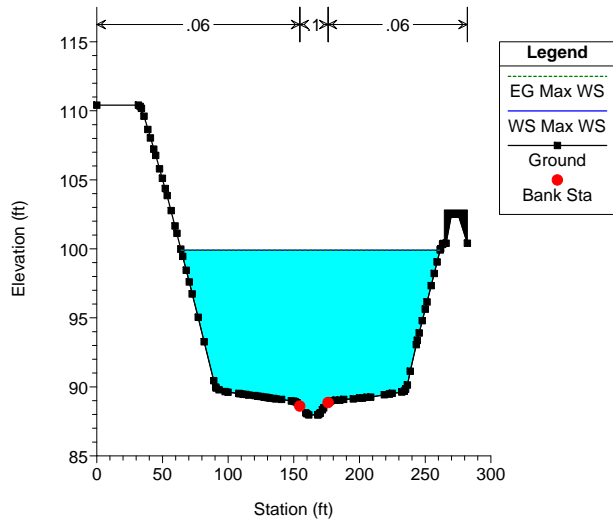
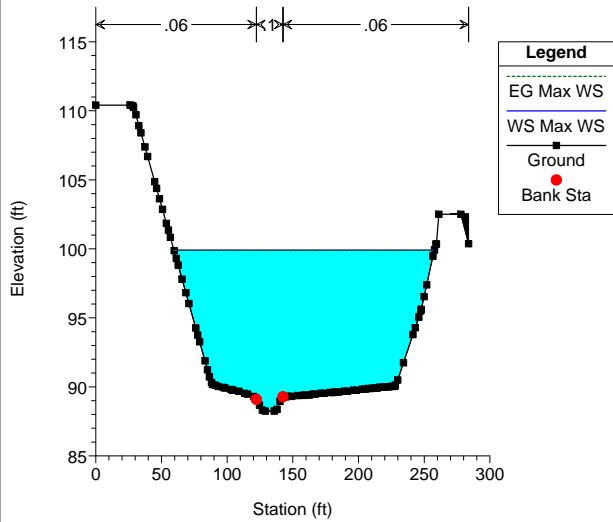
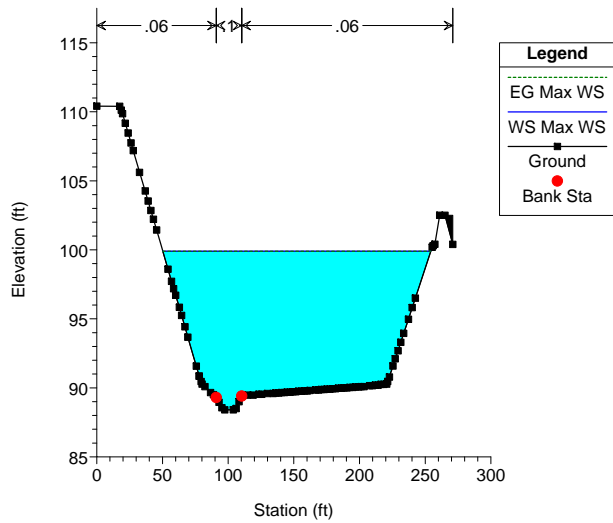
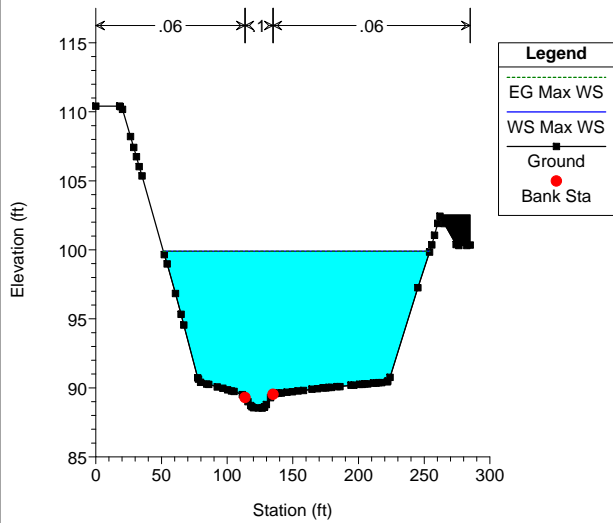
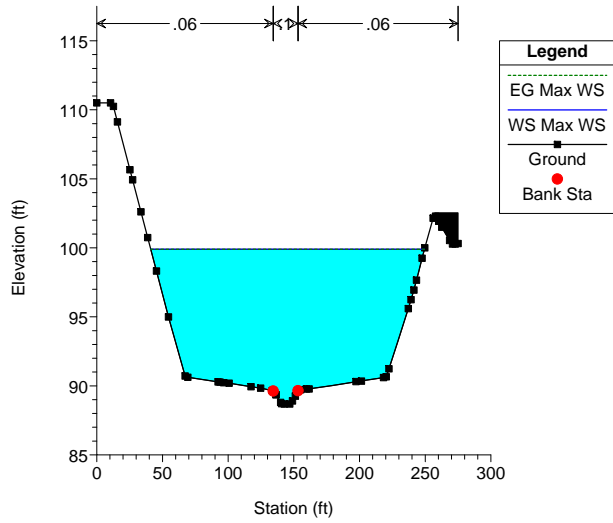
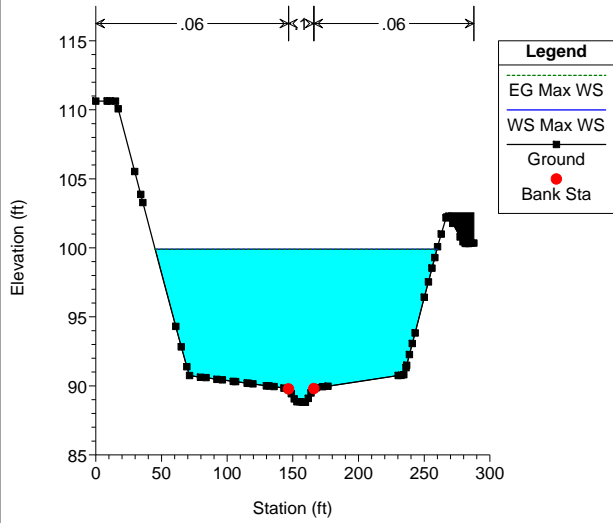
Simulates Hydromod SWQ control and overflow.

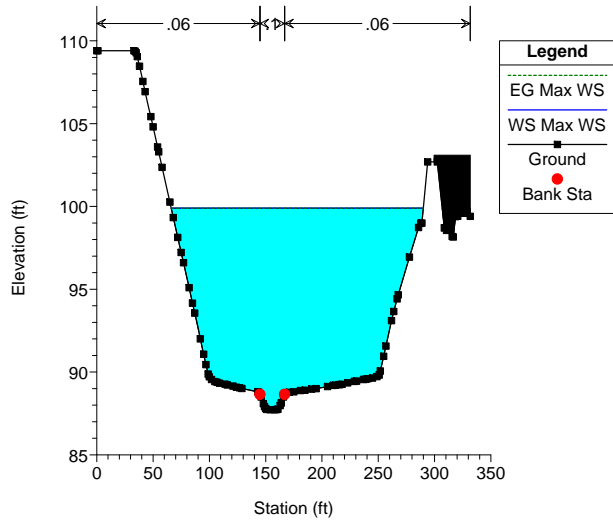
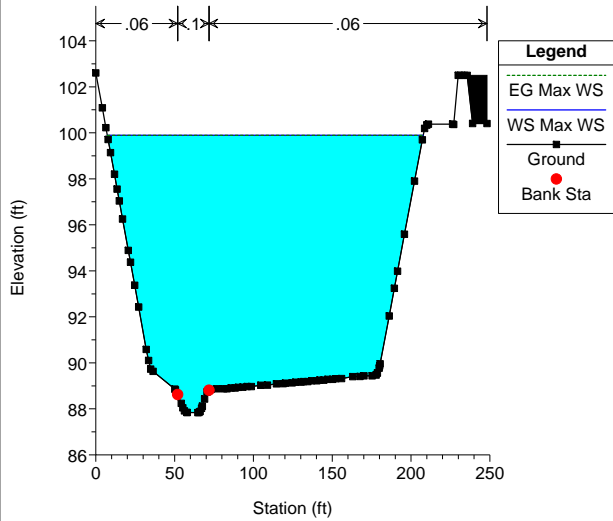


Simulates Hydromod SWQ control and overflow.

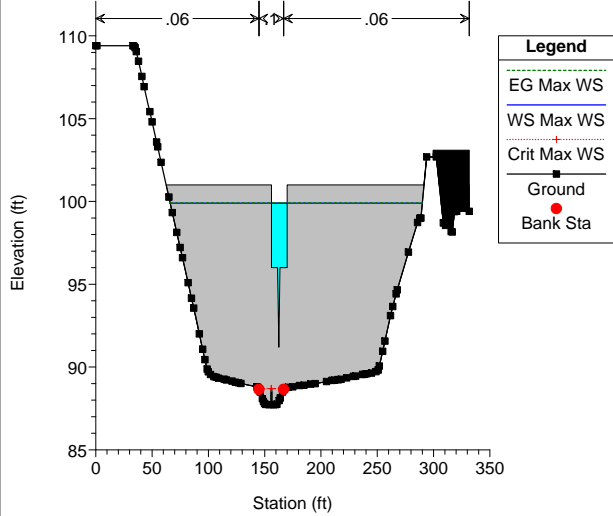




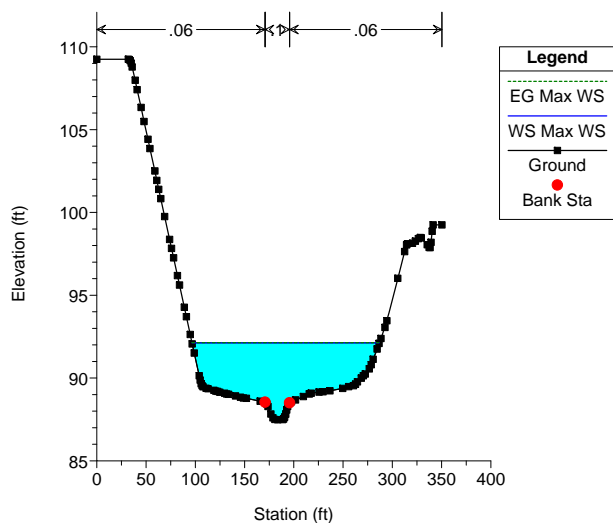
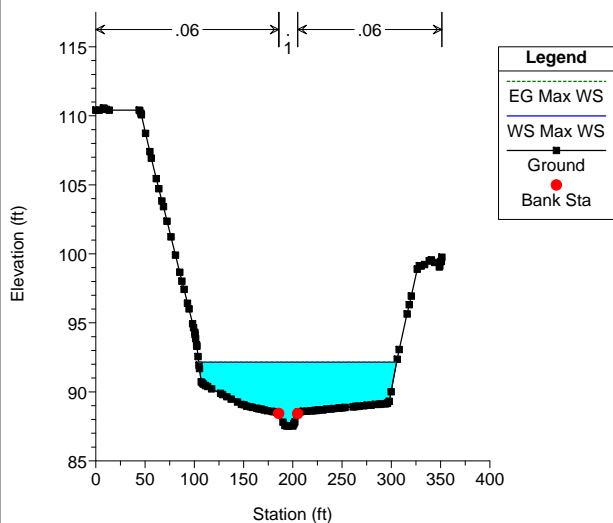
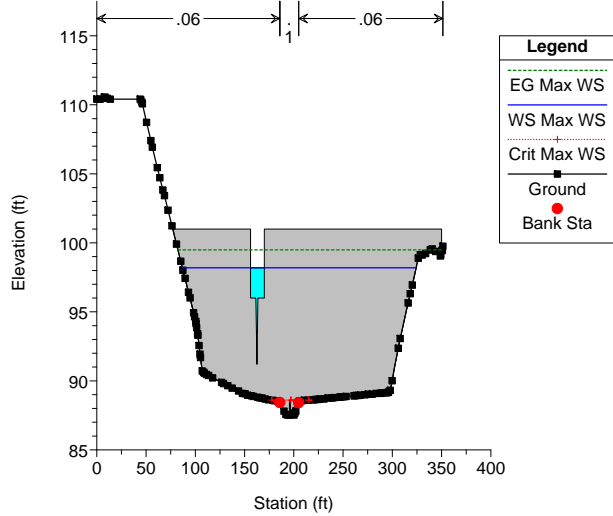


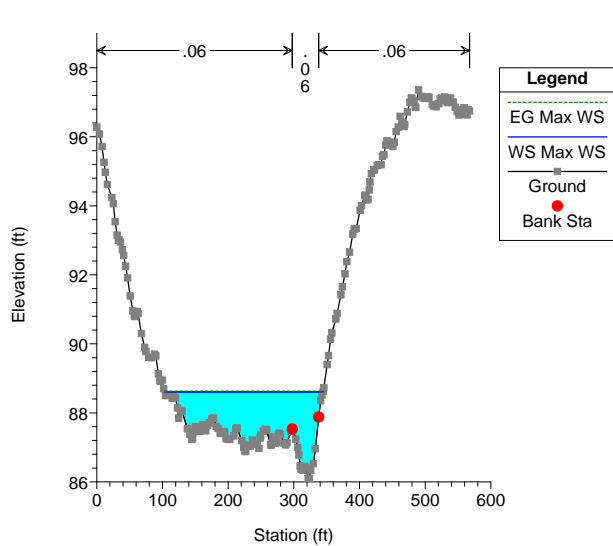
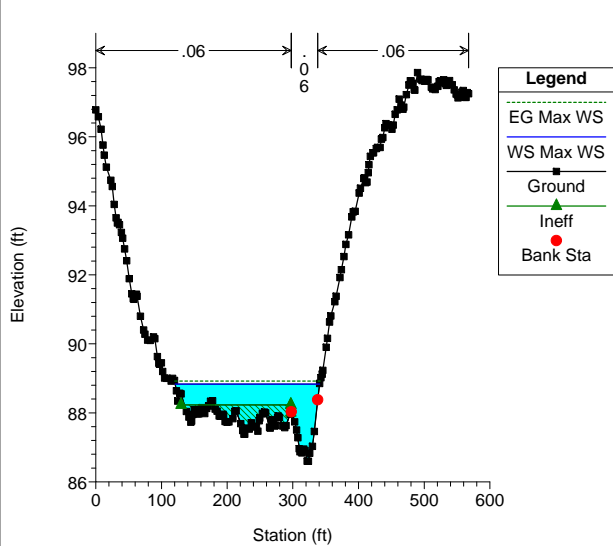
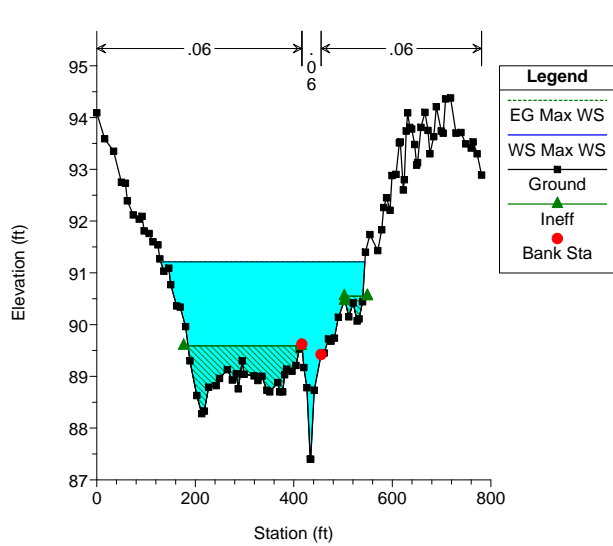
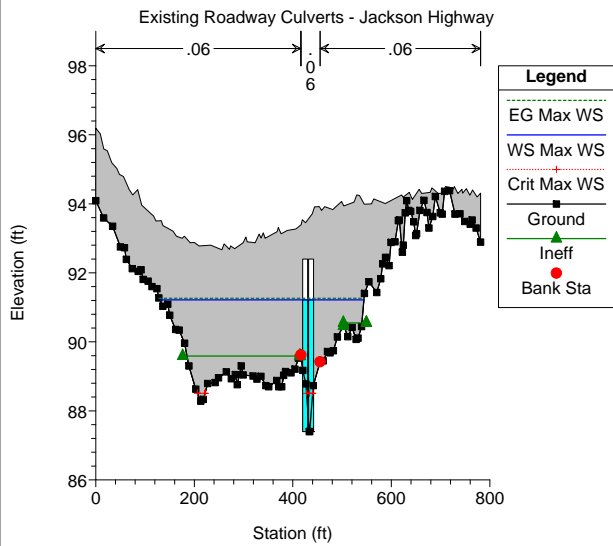
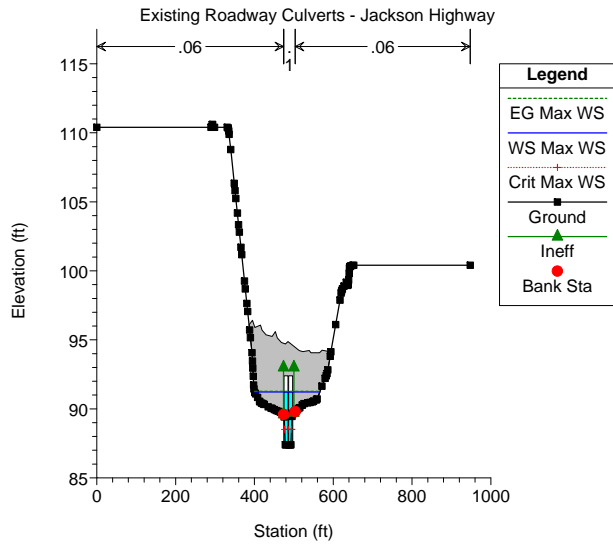
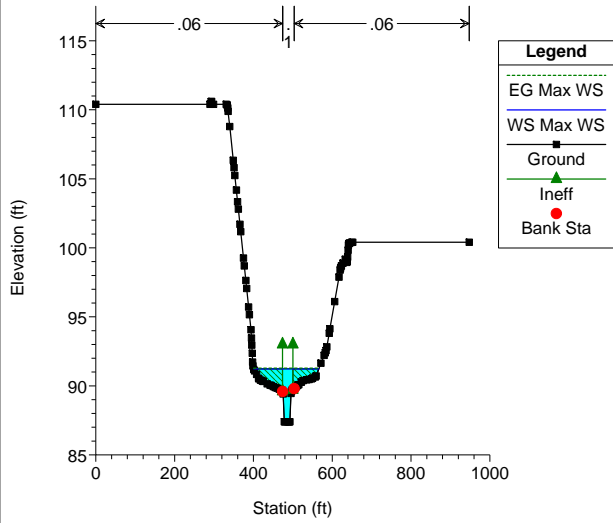


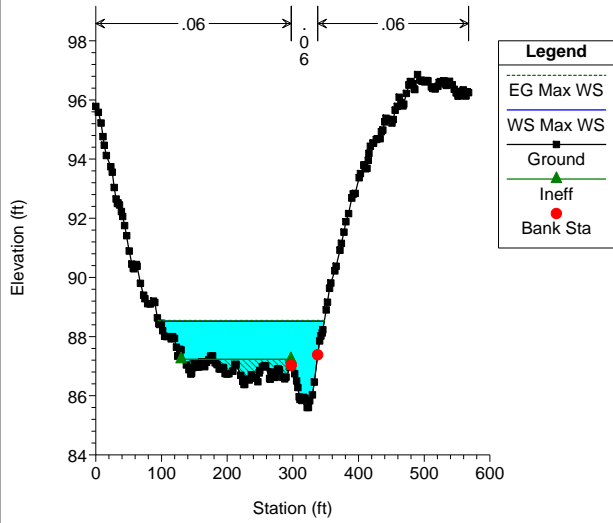
Simulates Hydromod Riser and overflow.



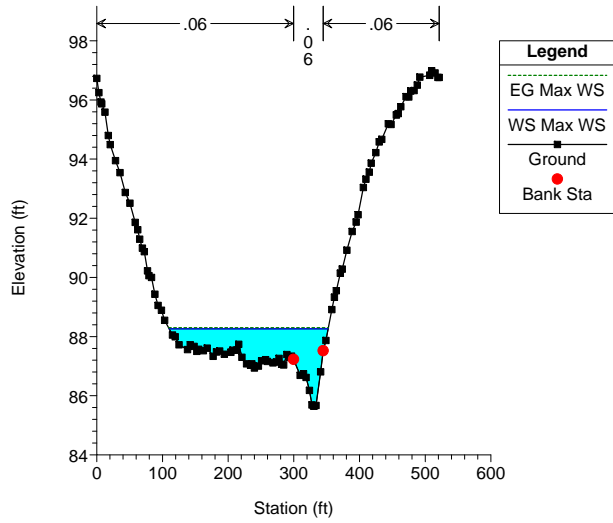
Simulates Hydromod Riser and overflow.



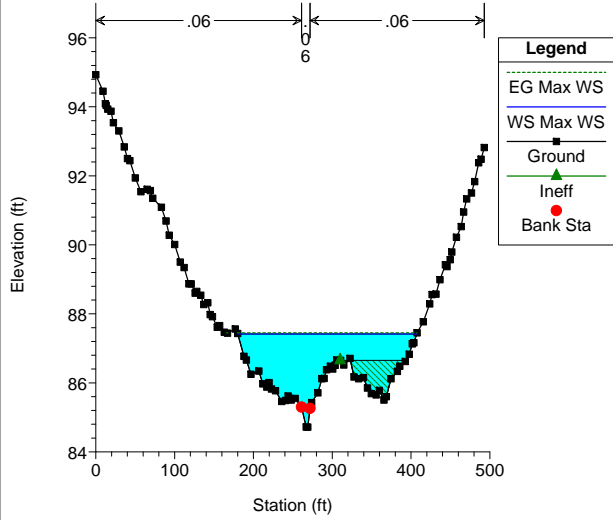




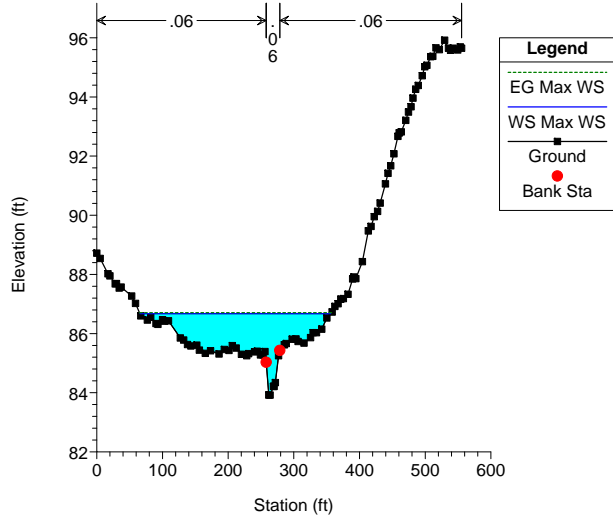
11.724 - CVFED LiDAR



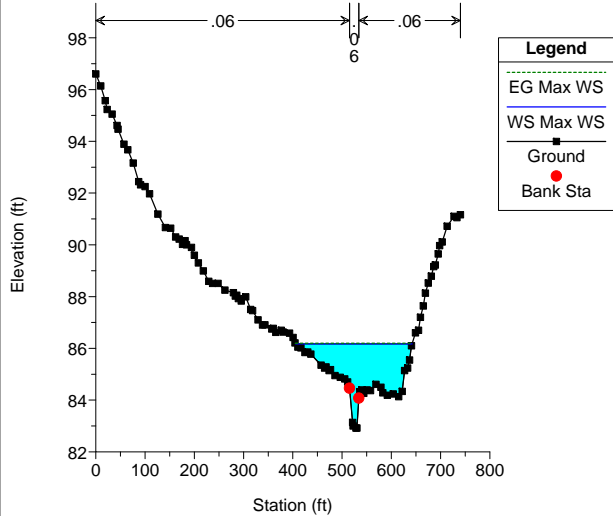
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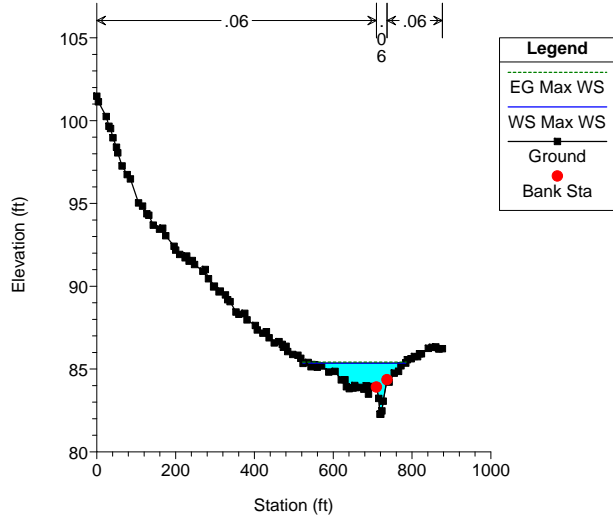
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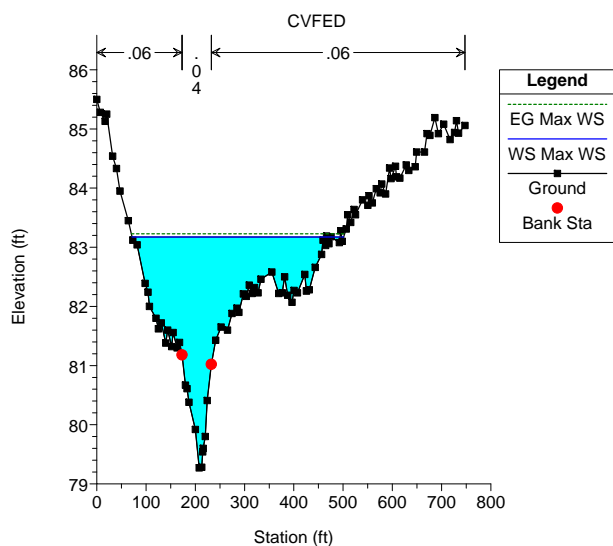
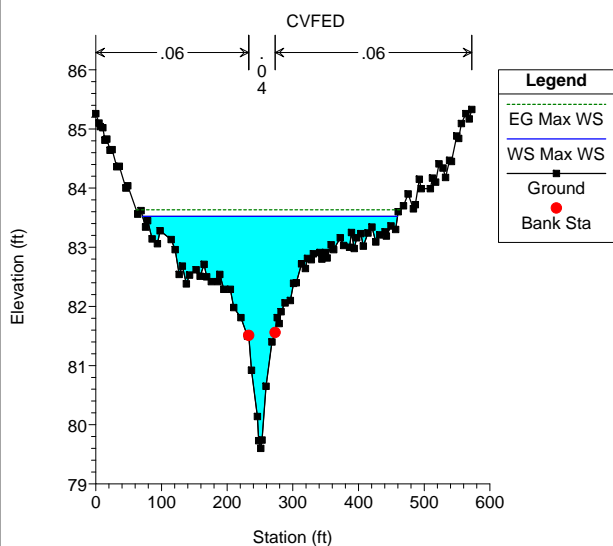
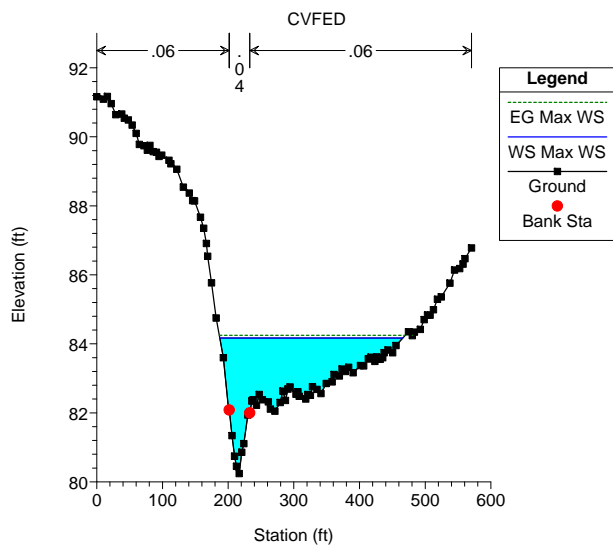
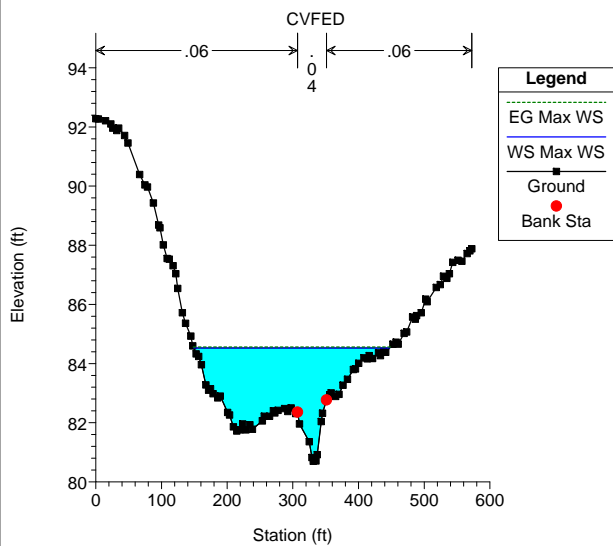
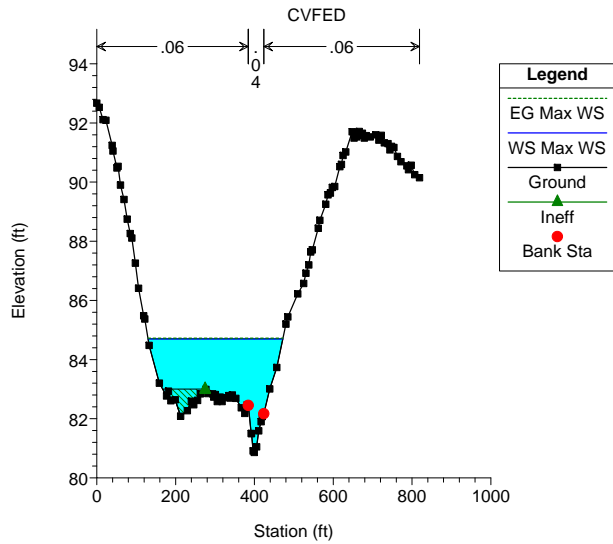
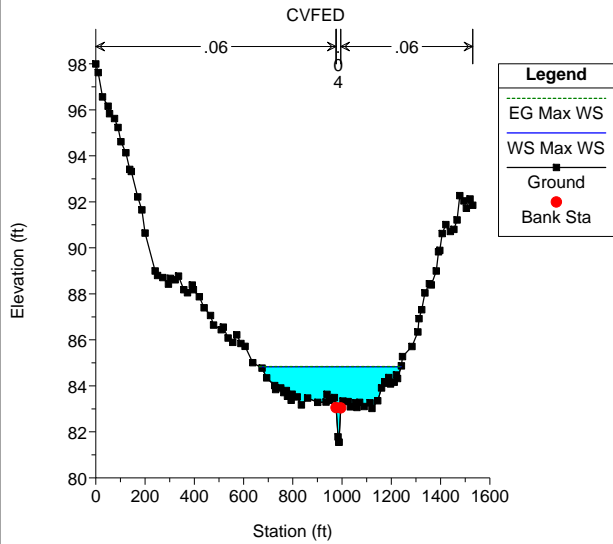


CVFED

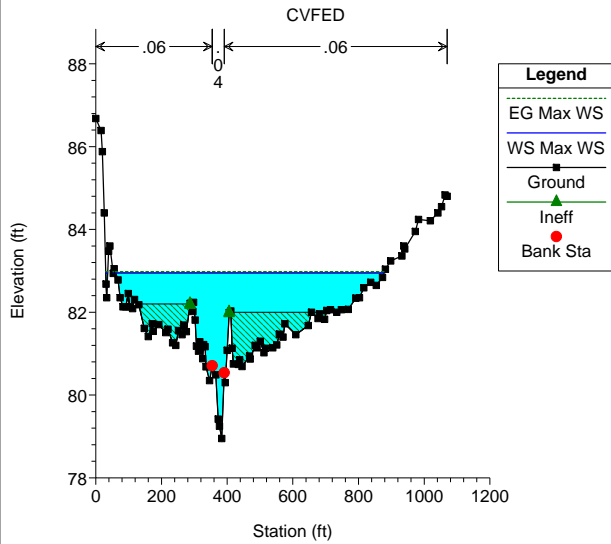


CVFED

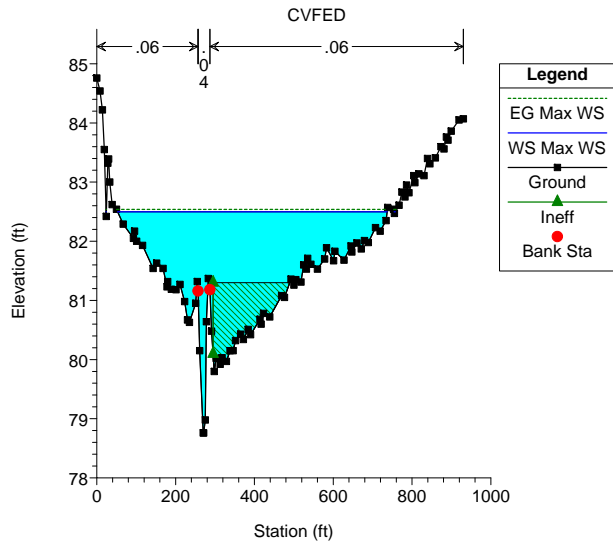




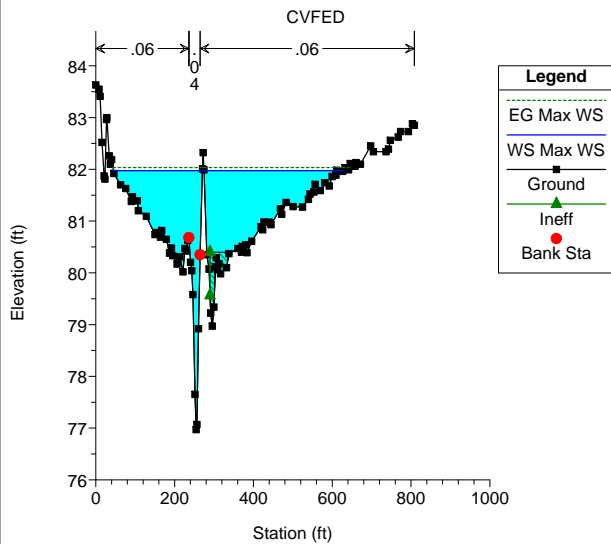
EG_JT_Comp_Model_RAS_5 Plan: EG ULT _JT Post_100y24h 12/7/2017



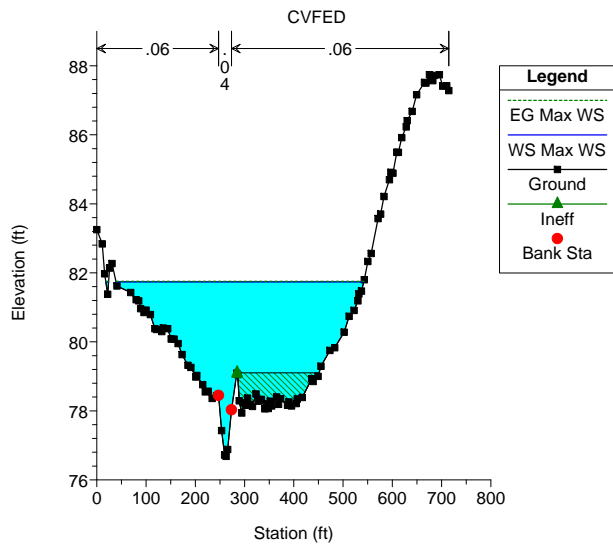
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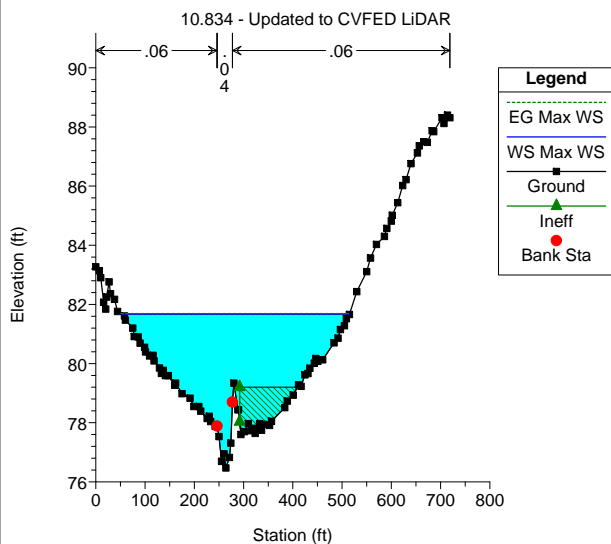
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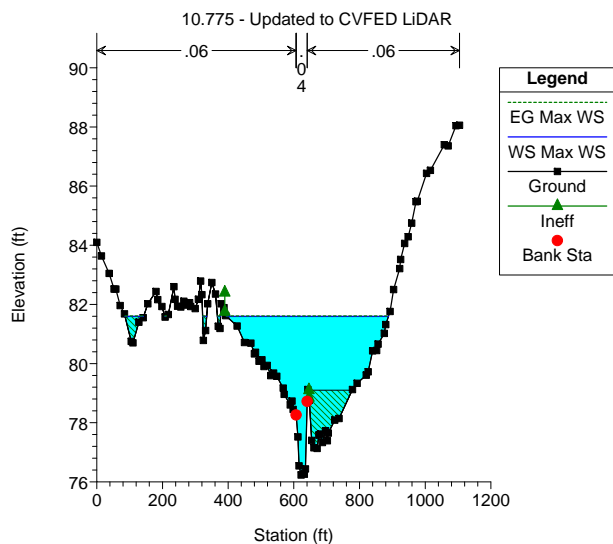
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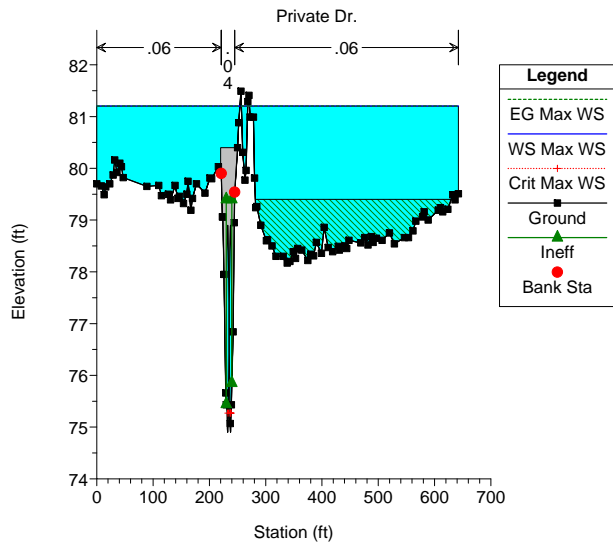
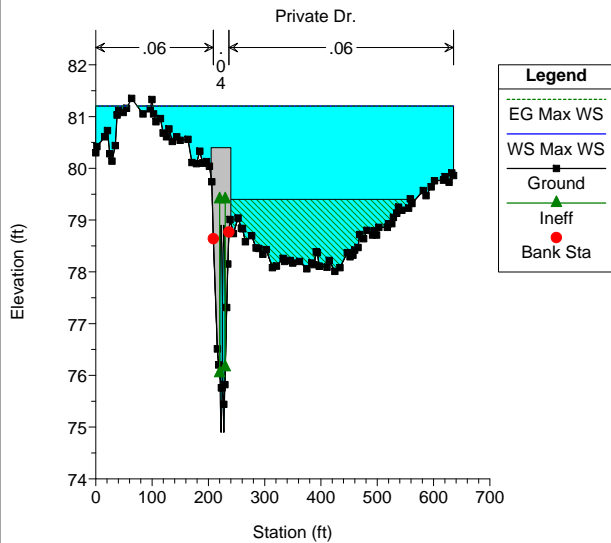
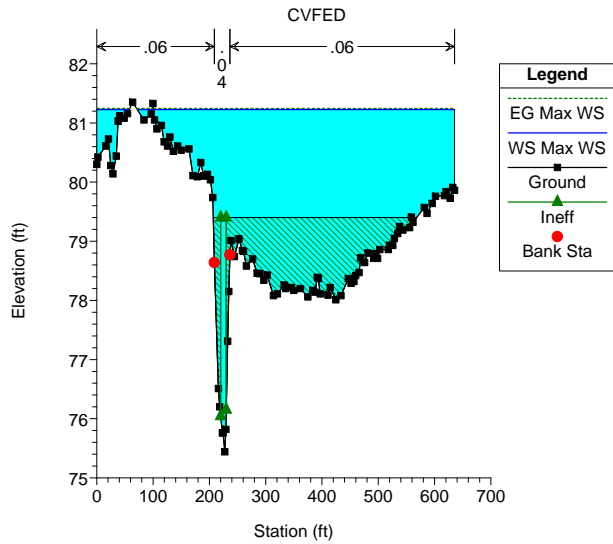
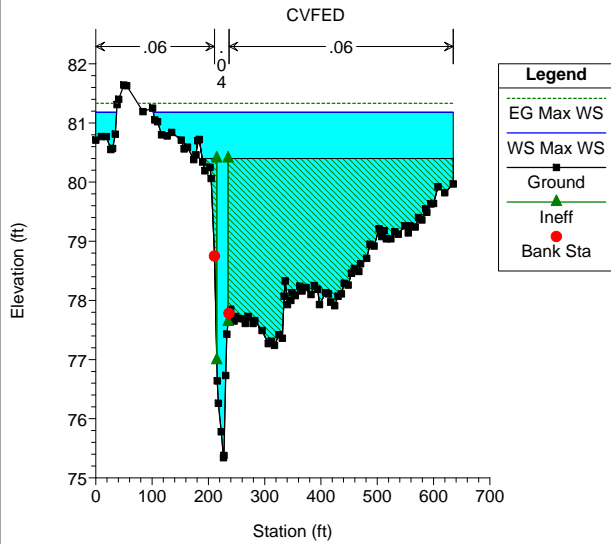
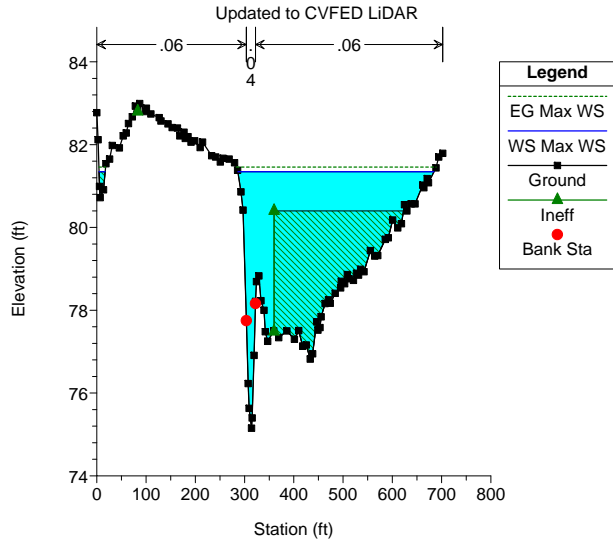
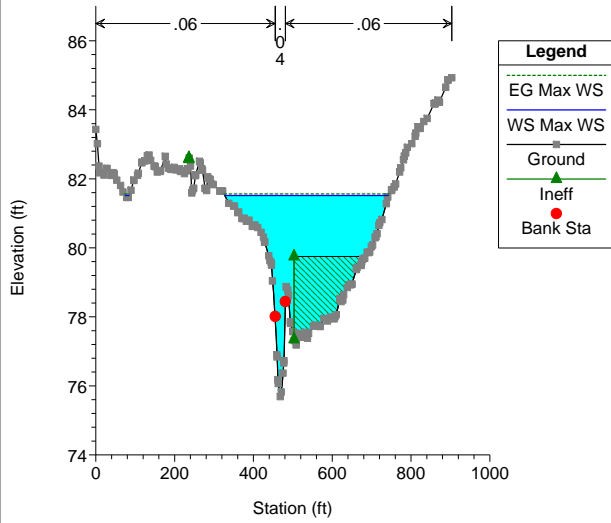


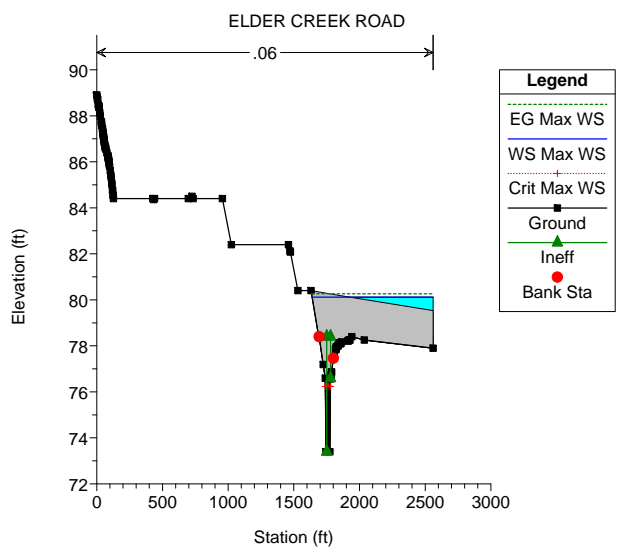
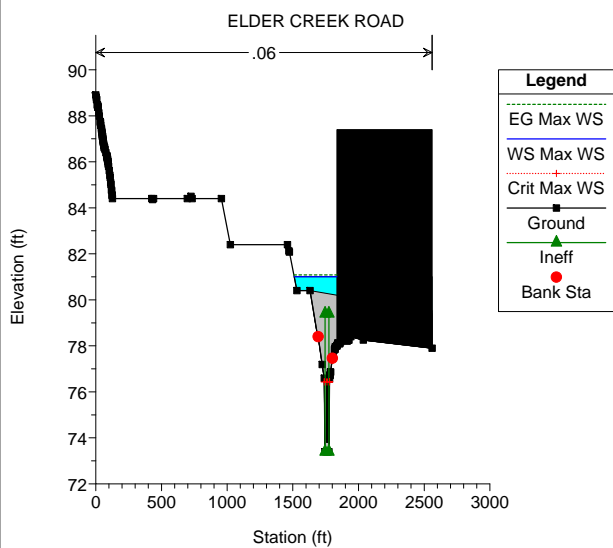
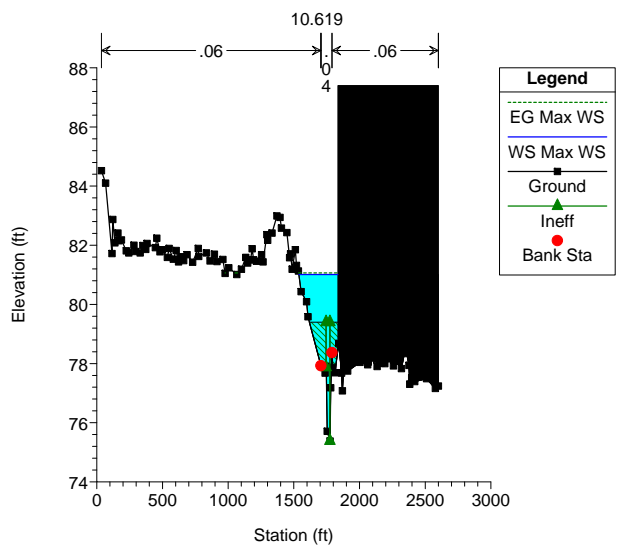
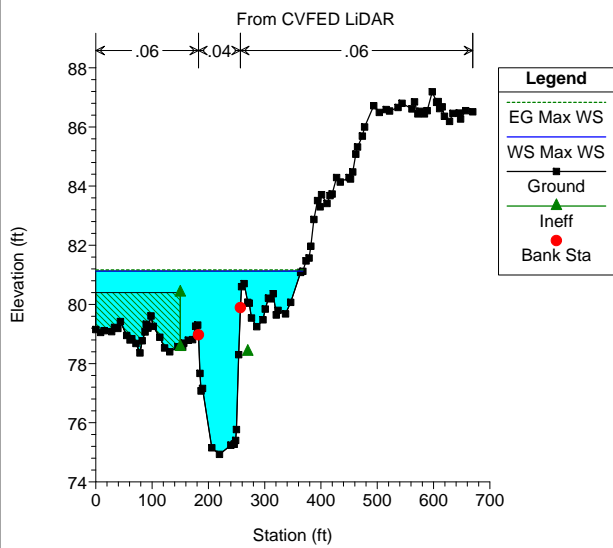
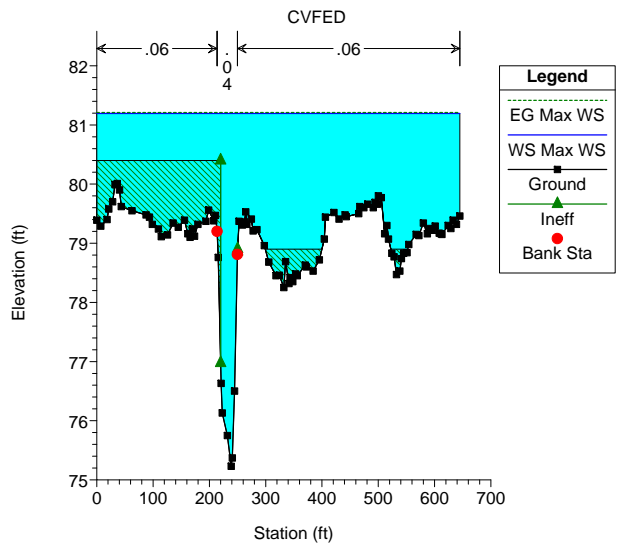
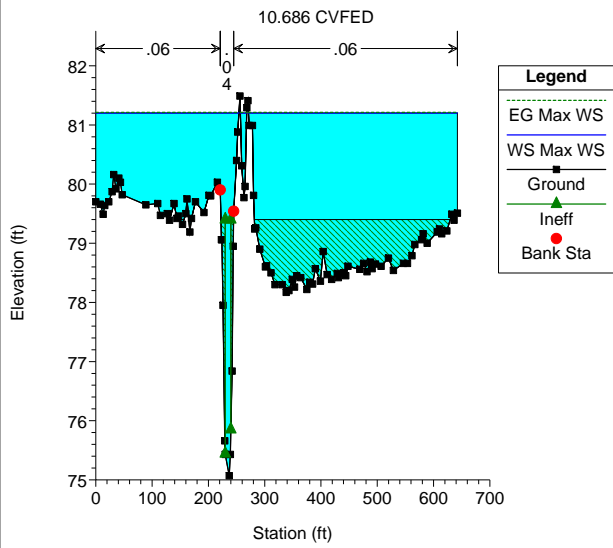
EG_JT_Comp_Model_RAS_5 Plan: EG ULT _JT Post_100y24h 12/7/2017



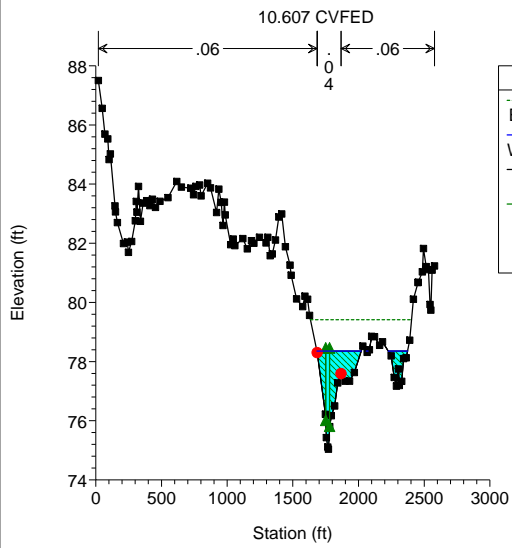
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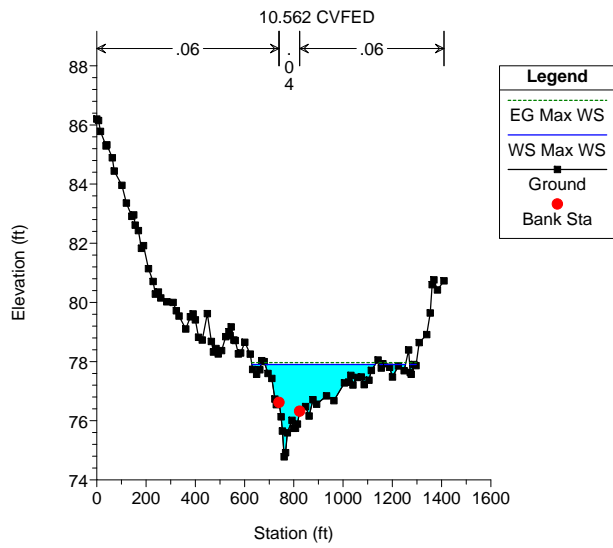




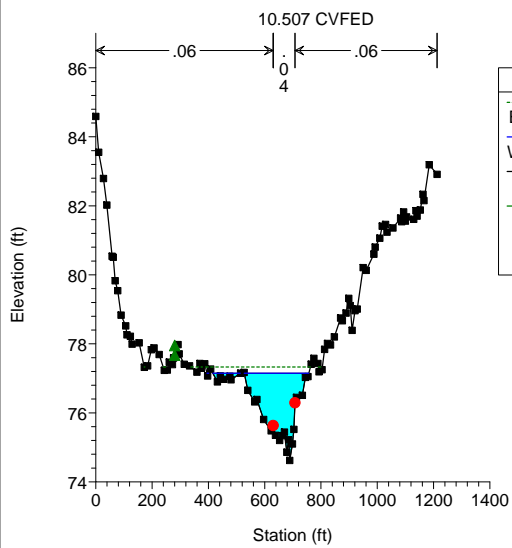
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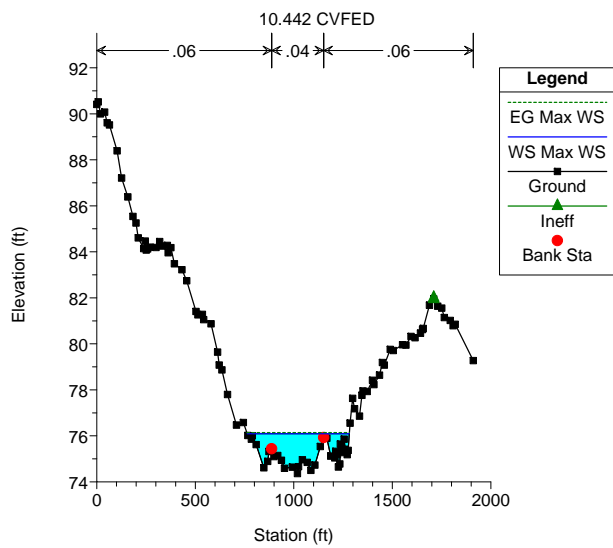
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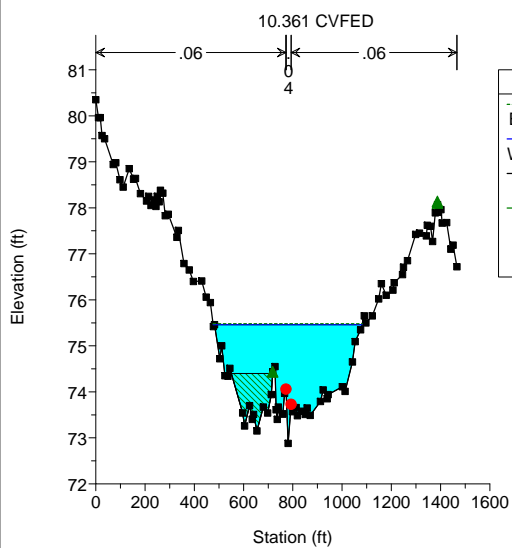
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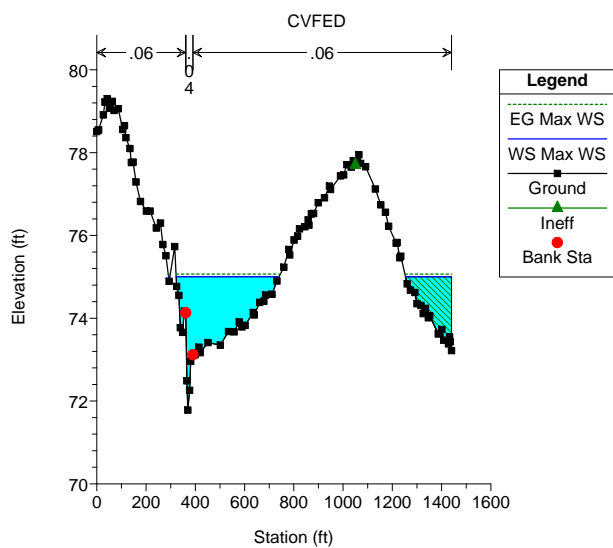
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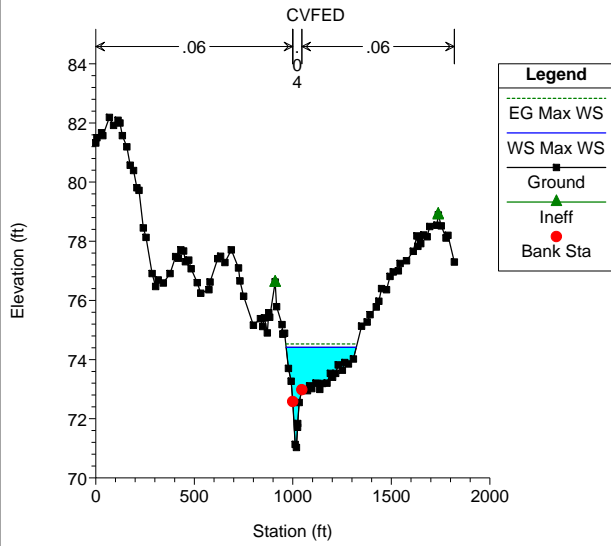
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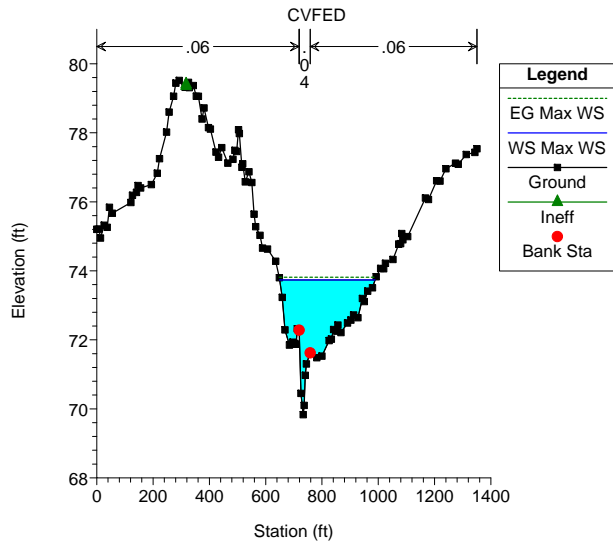
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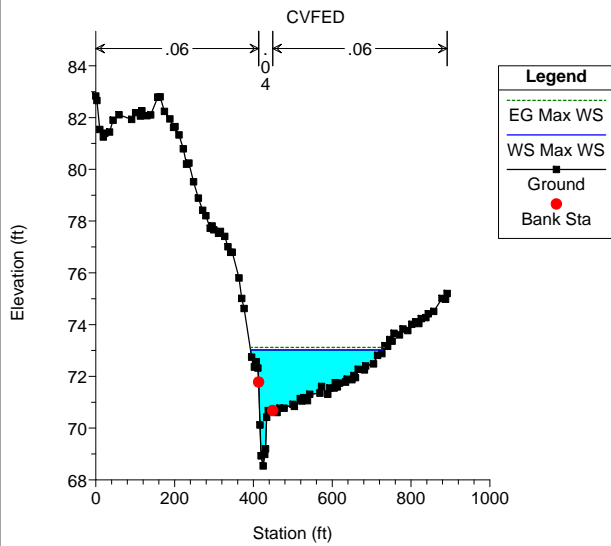
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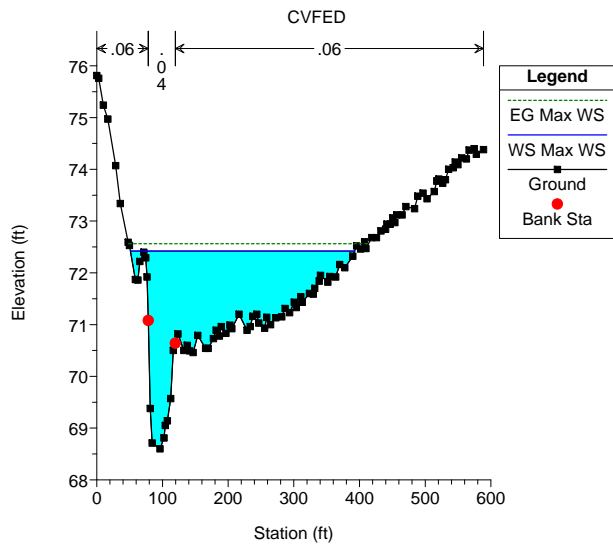
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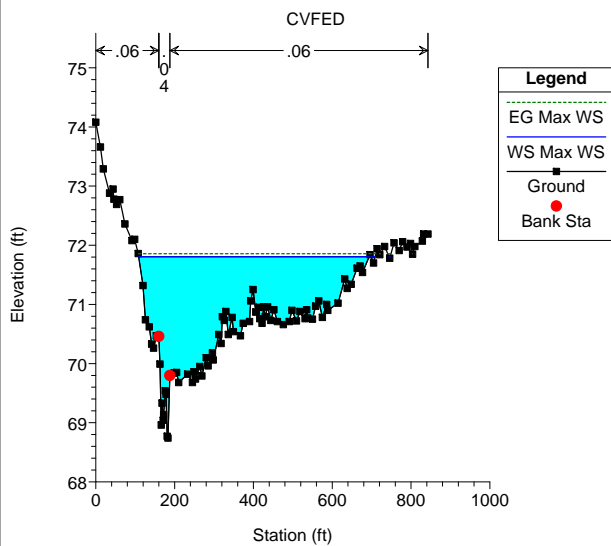
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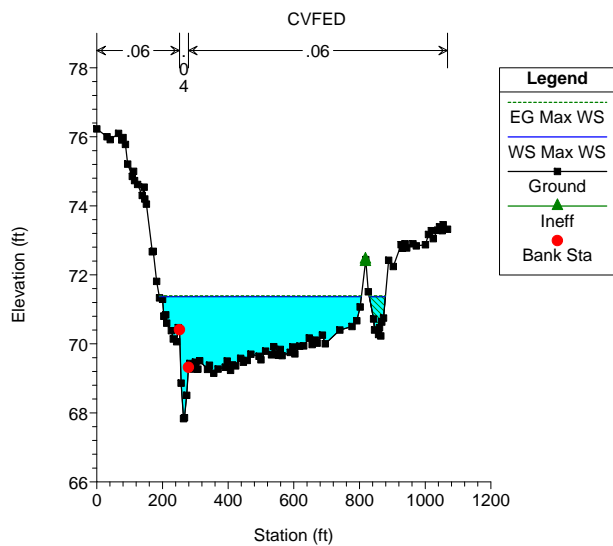
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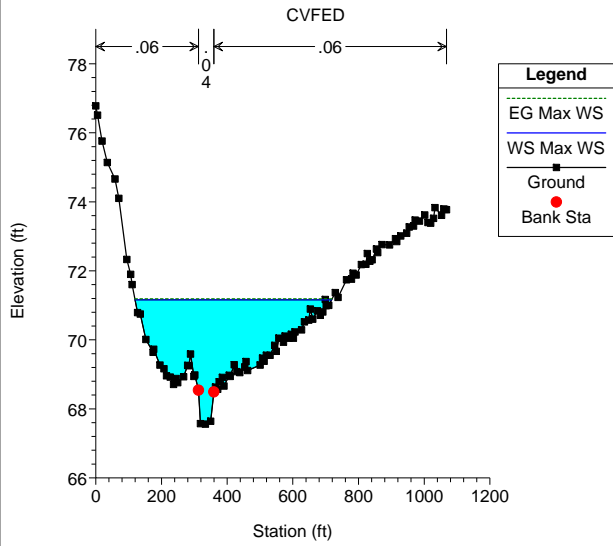
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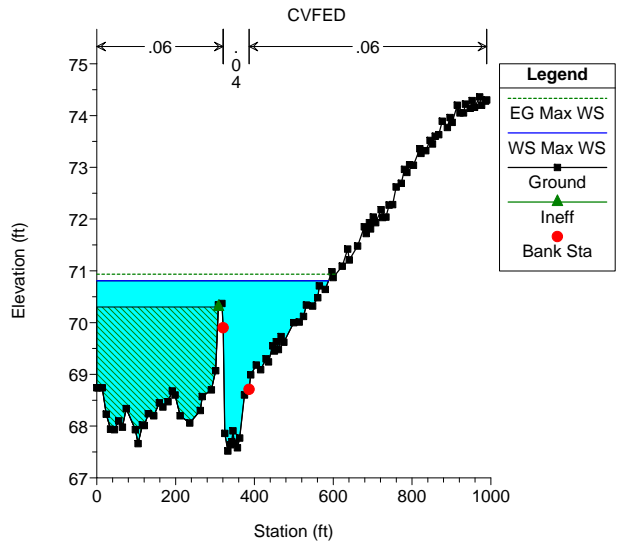
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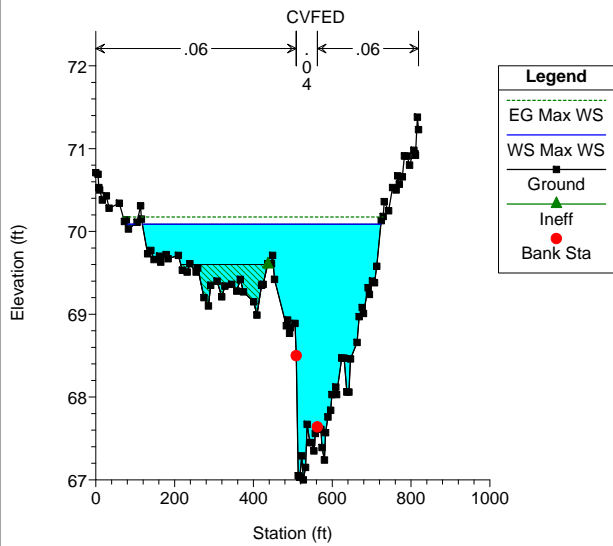
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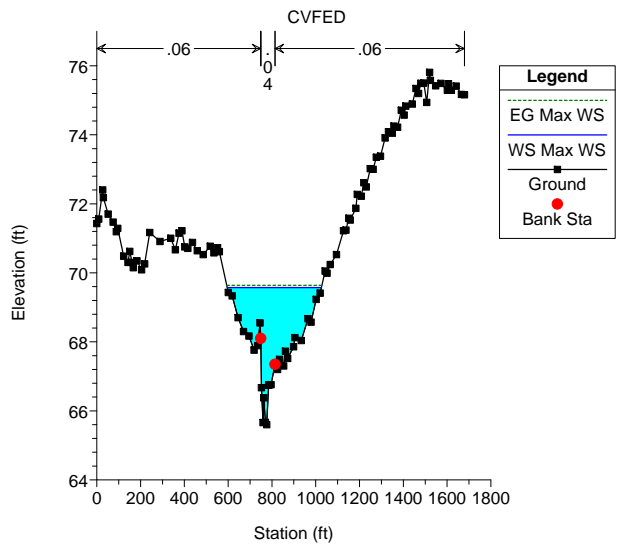
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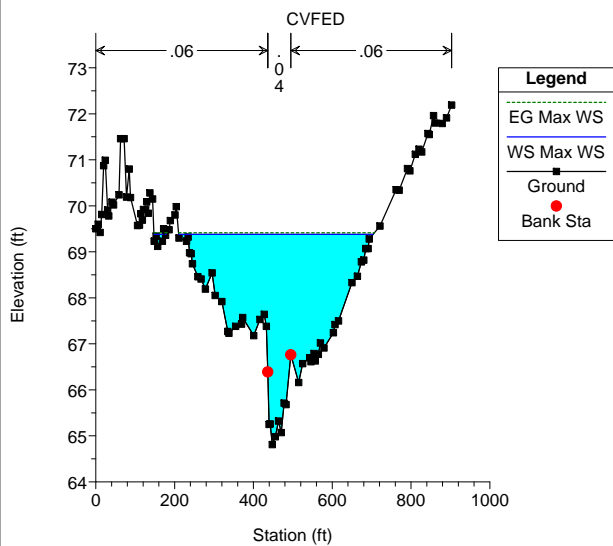
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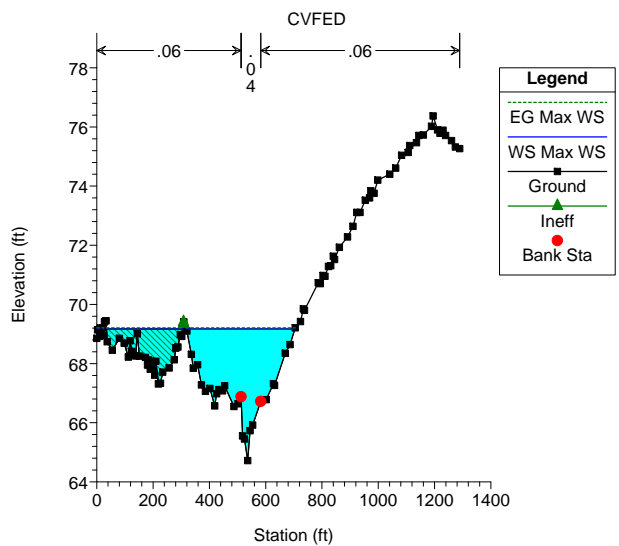
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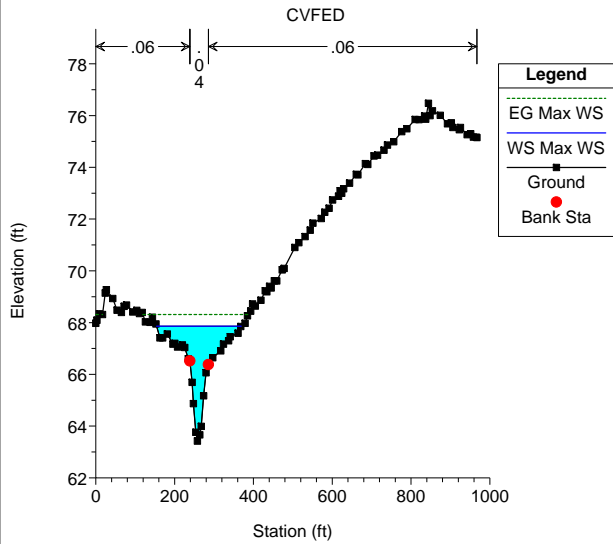
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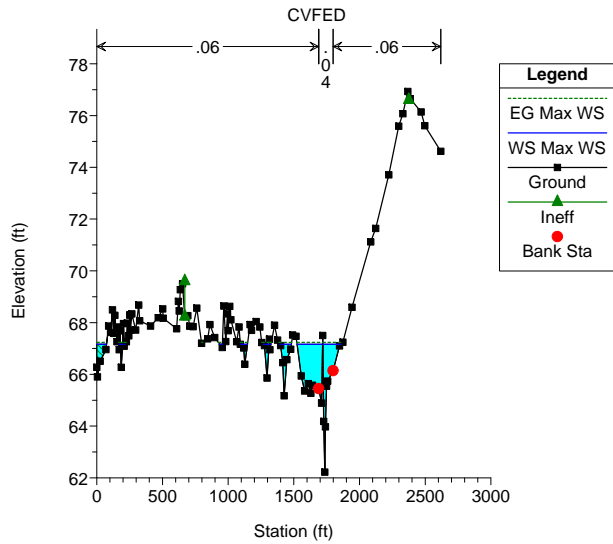
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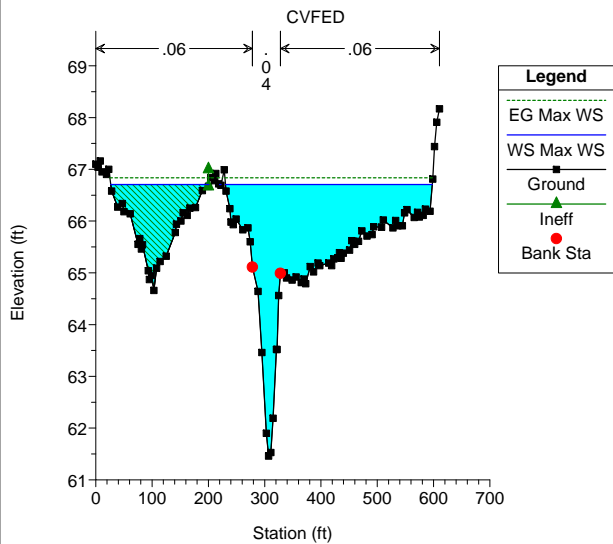
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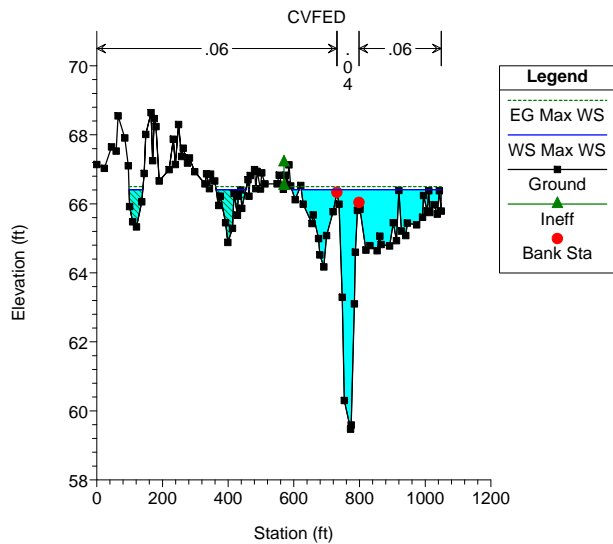
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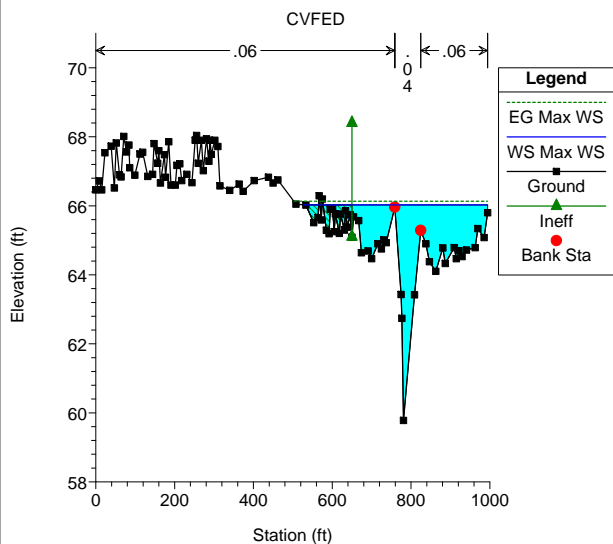
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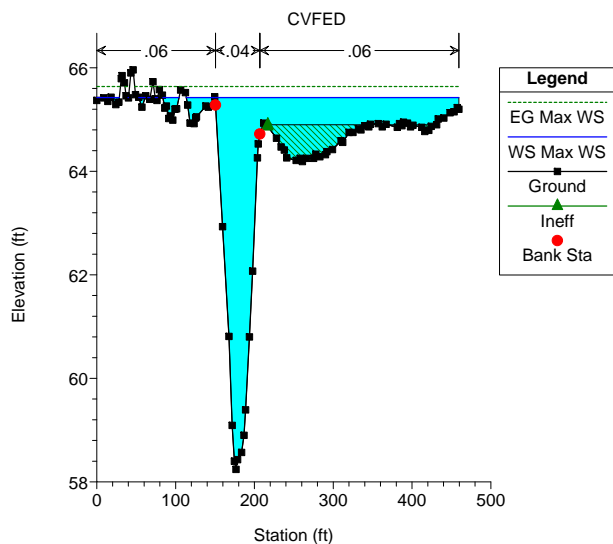
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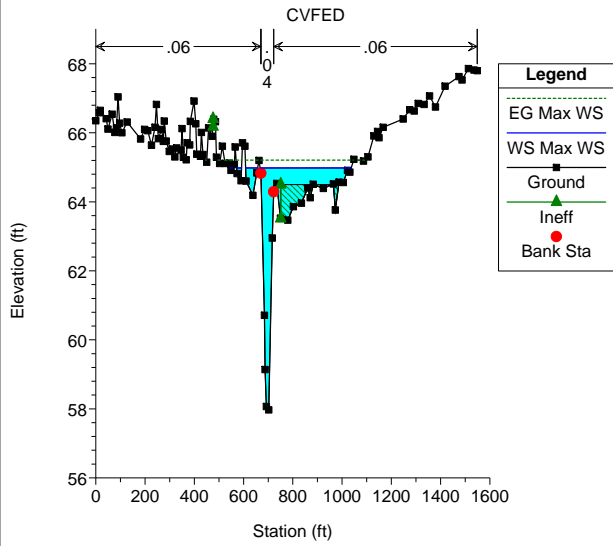
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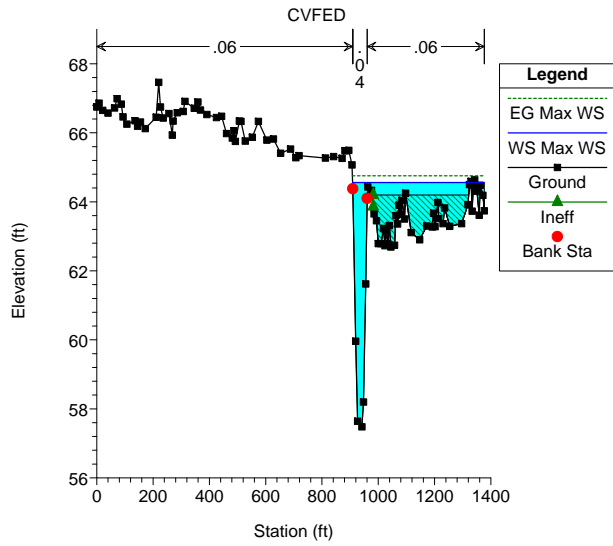
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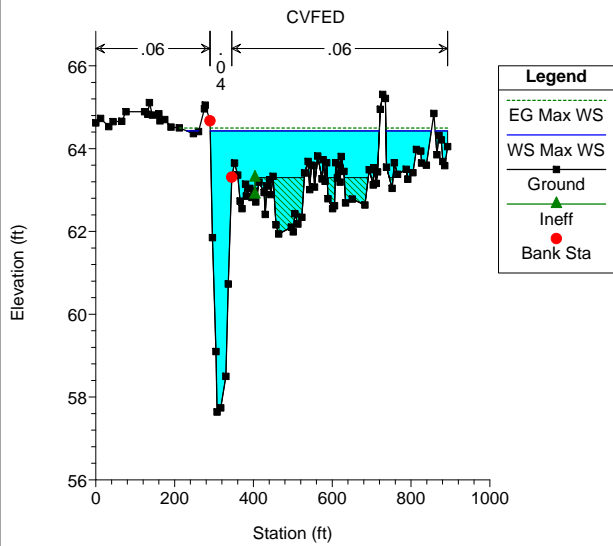
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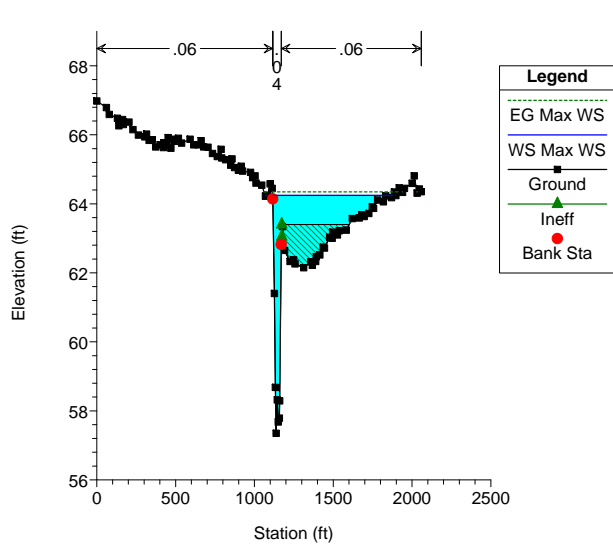
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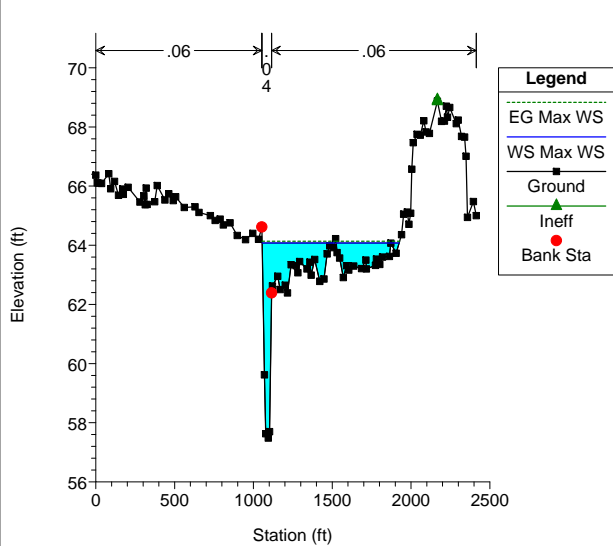
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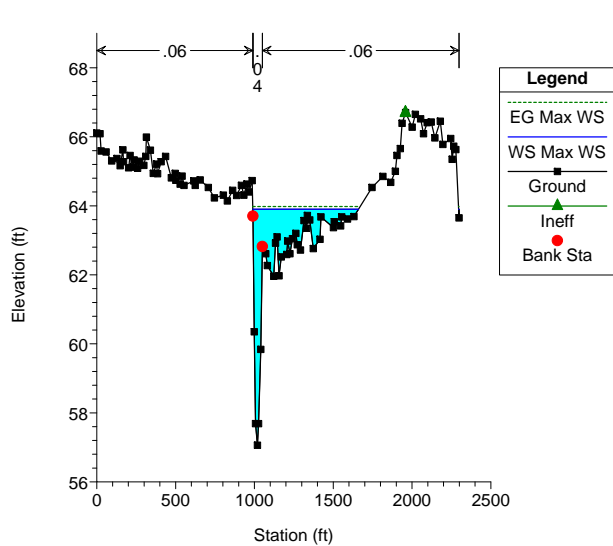
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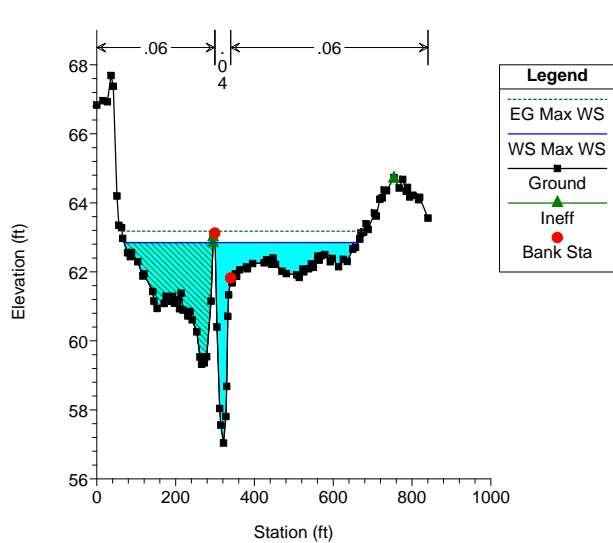
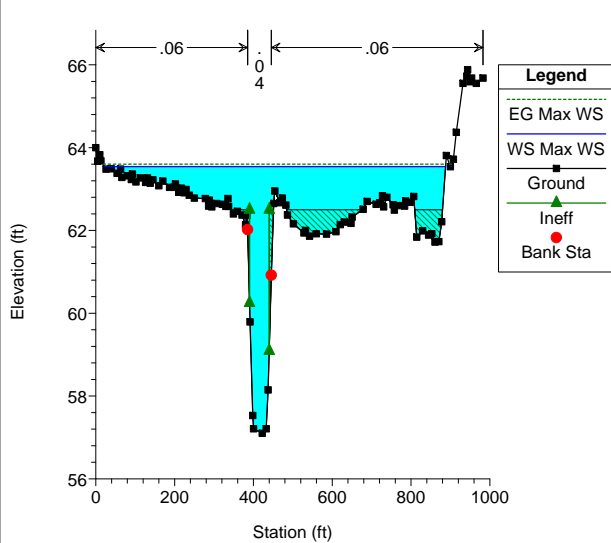
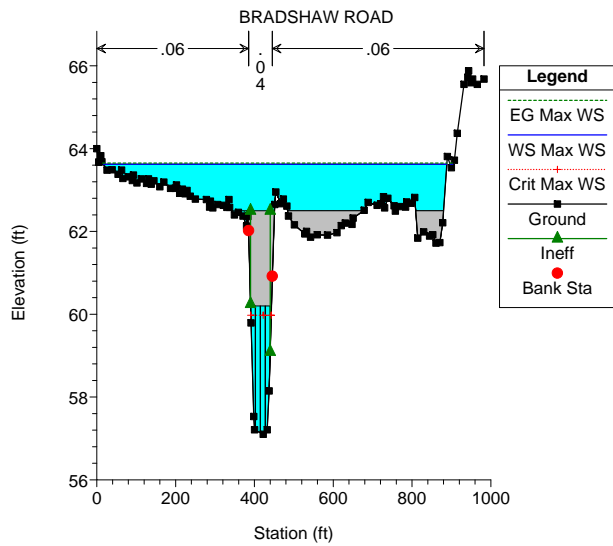
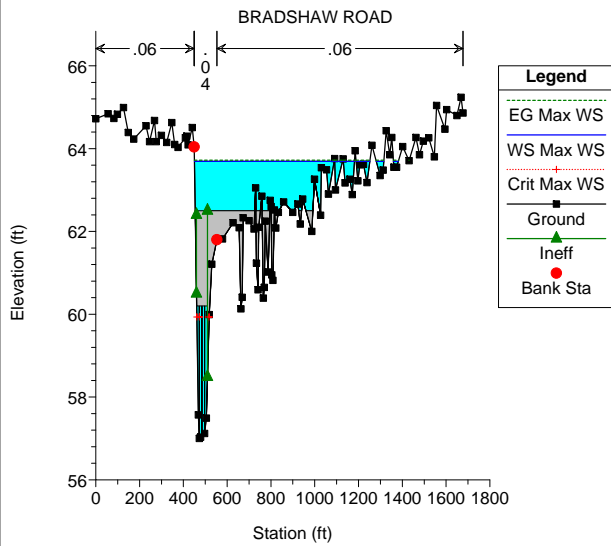
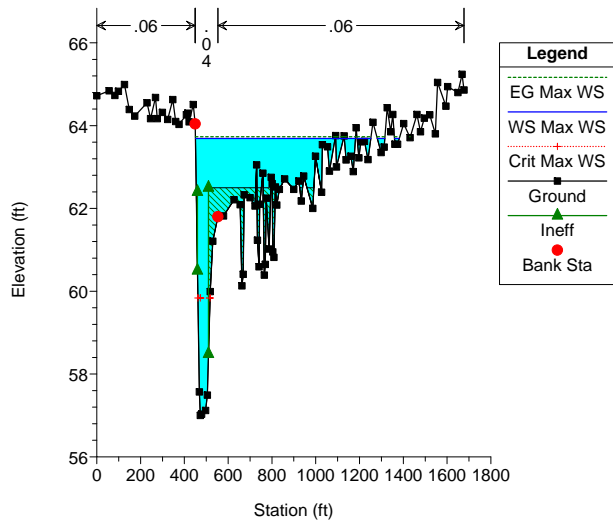
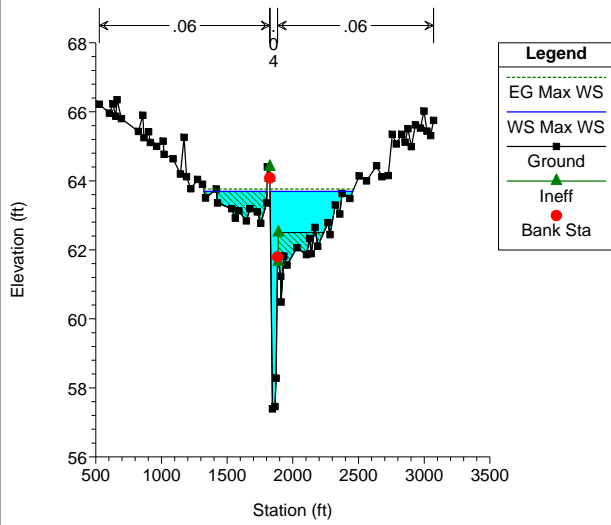


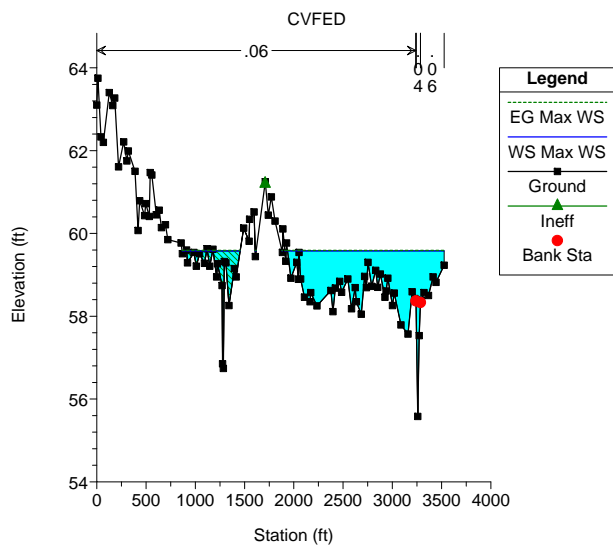
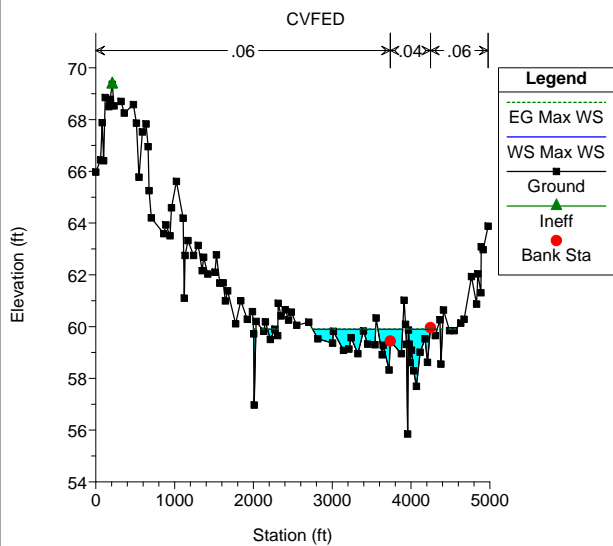
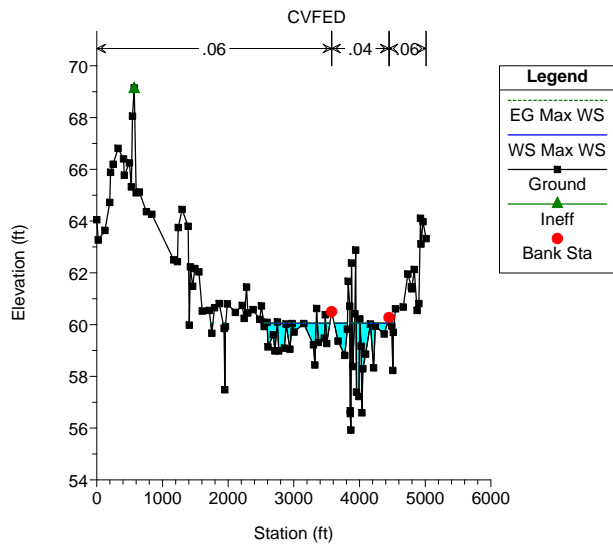
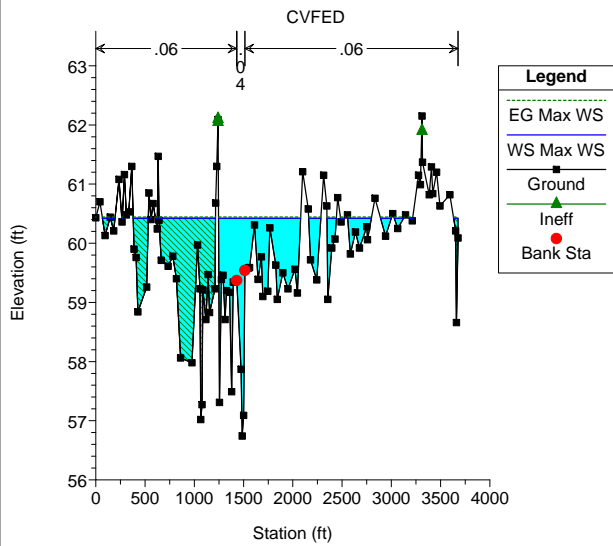
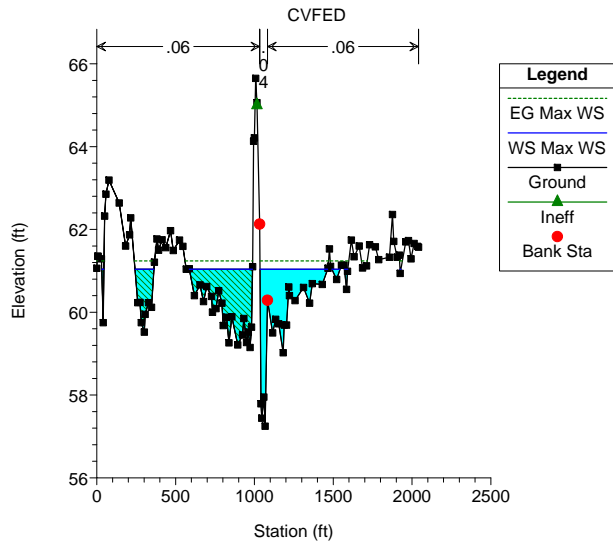
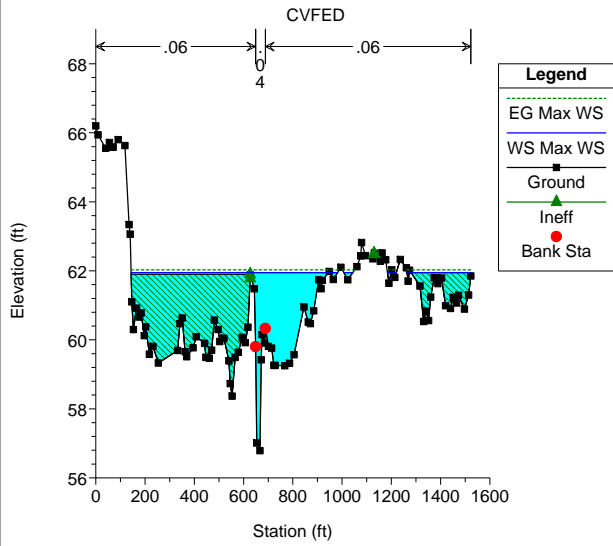
EG_JT_Comp_Model_RAS_5 Plan: EG ULT _JT Post_100y24h 12/7/2017

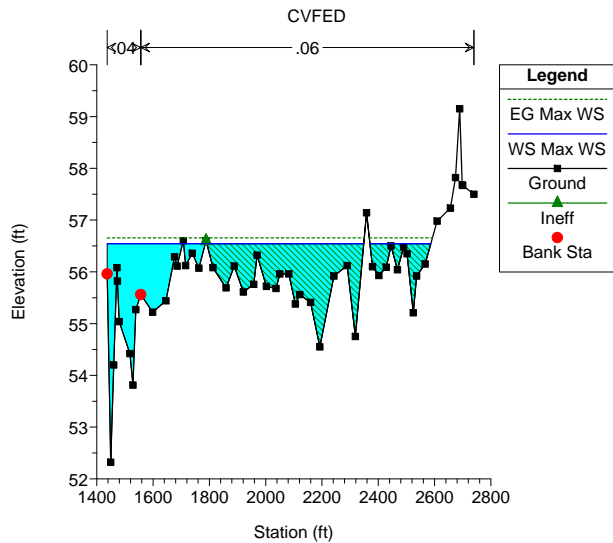
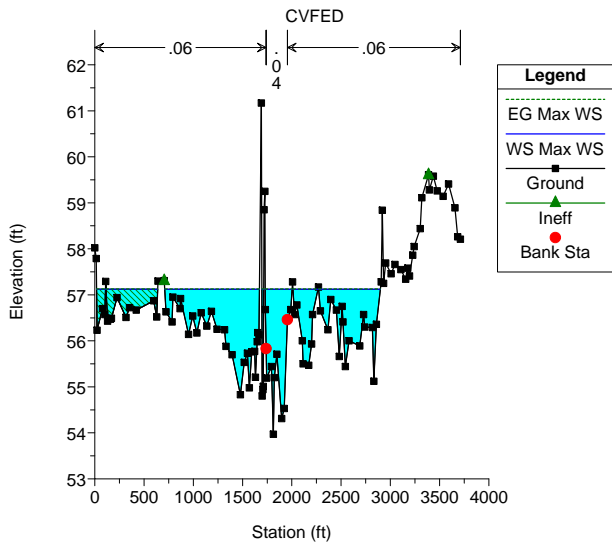
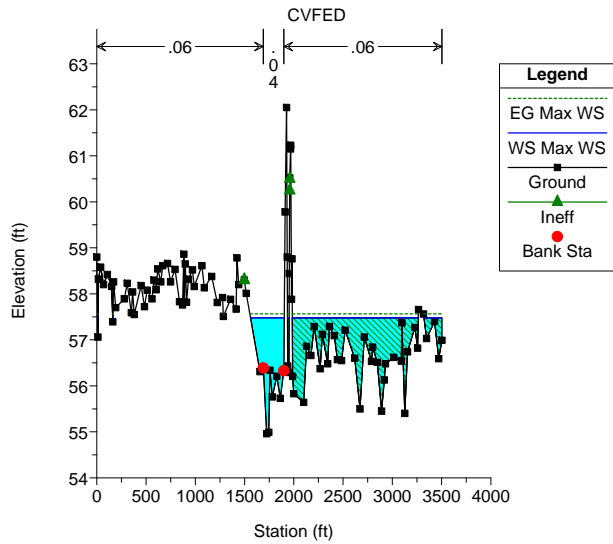
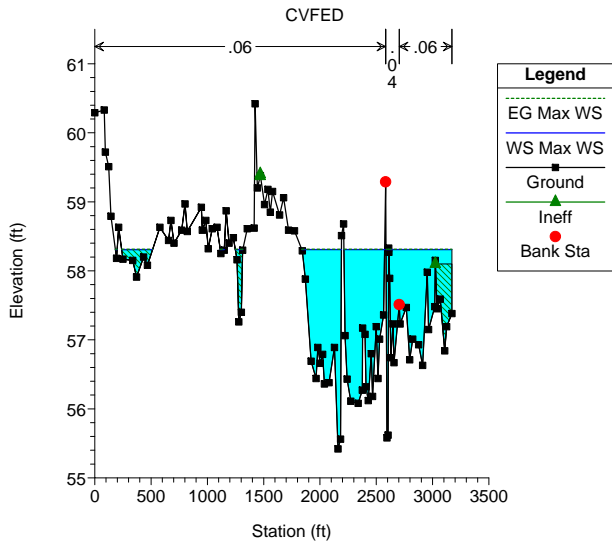
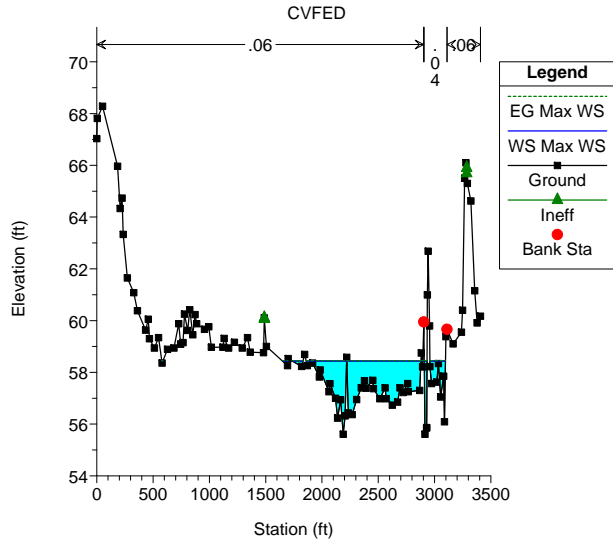
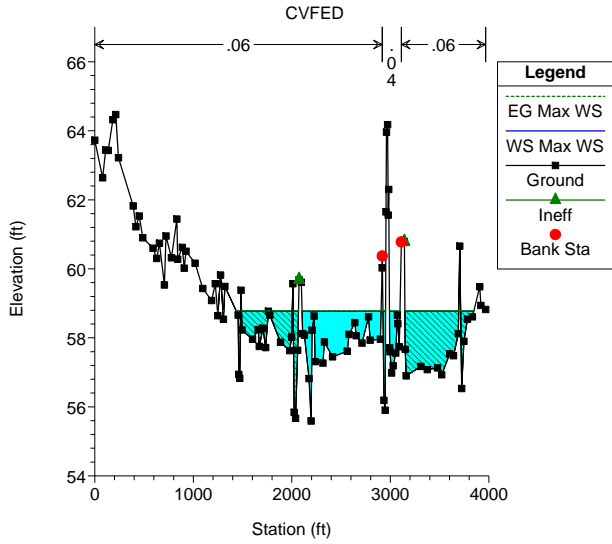


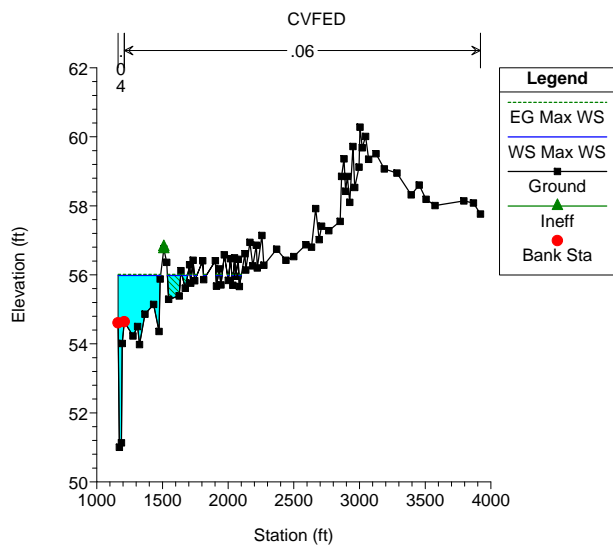
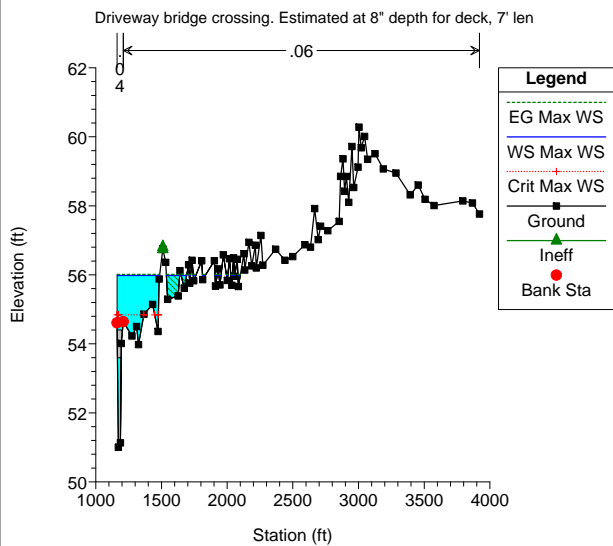
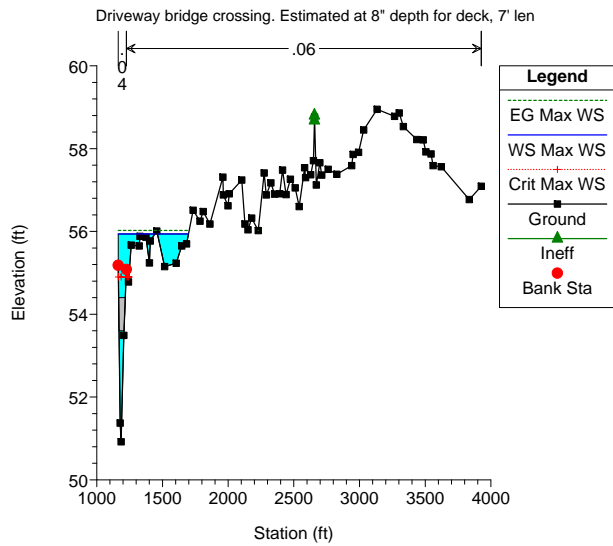
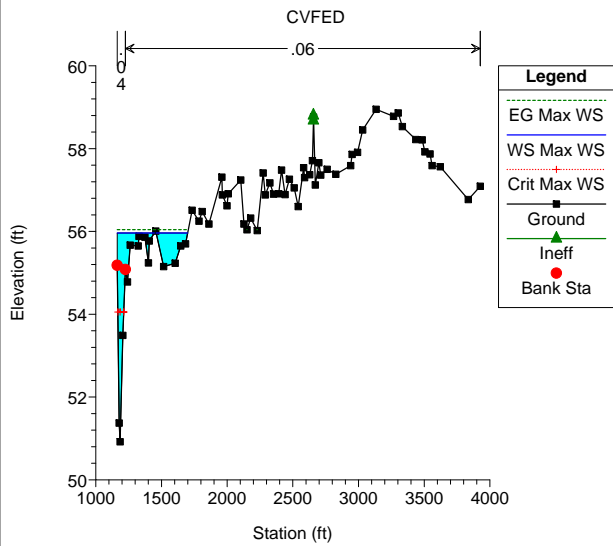
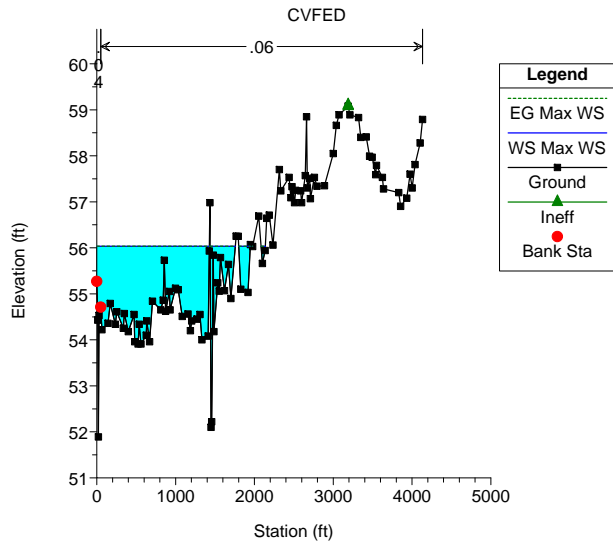
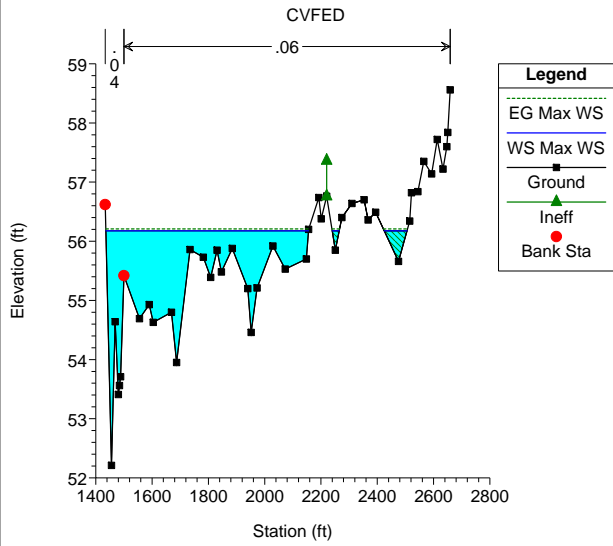
EG_JT_Comp_Model_RAS_5 Plan: EG ULT _JT Post_100y24h 12/7/2017

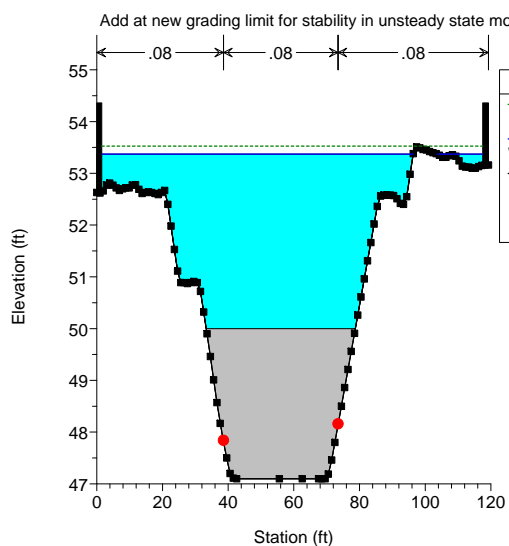
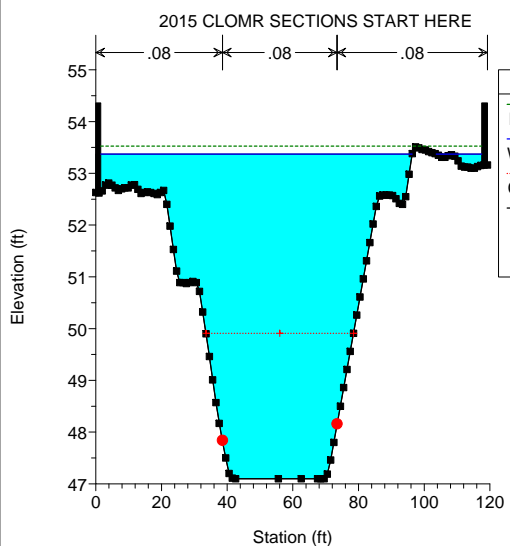
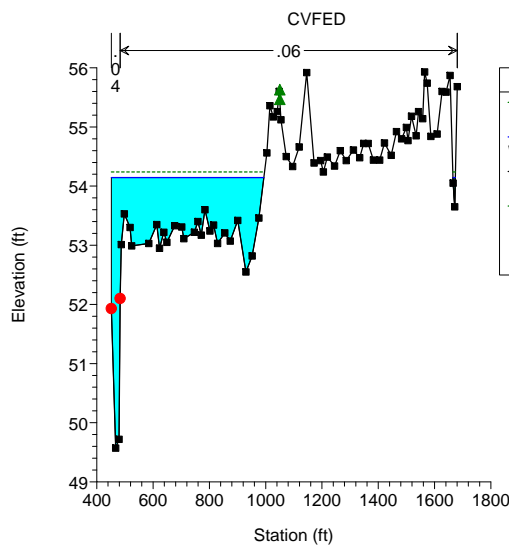
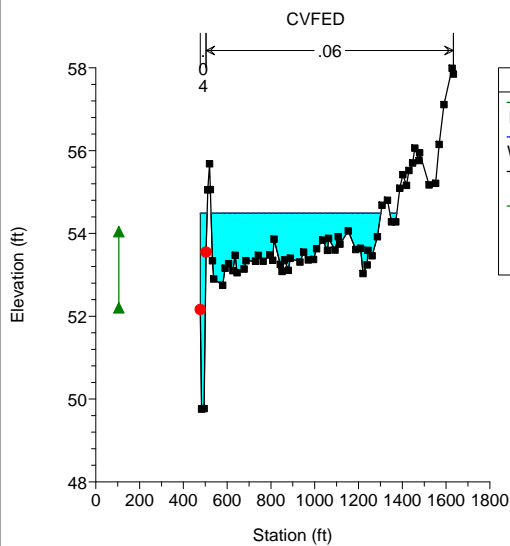
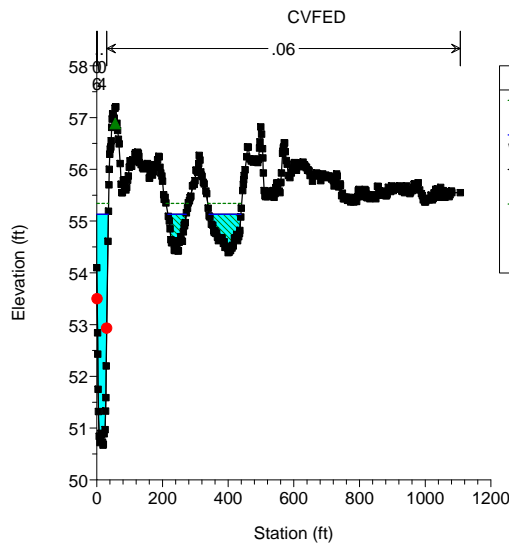
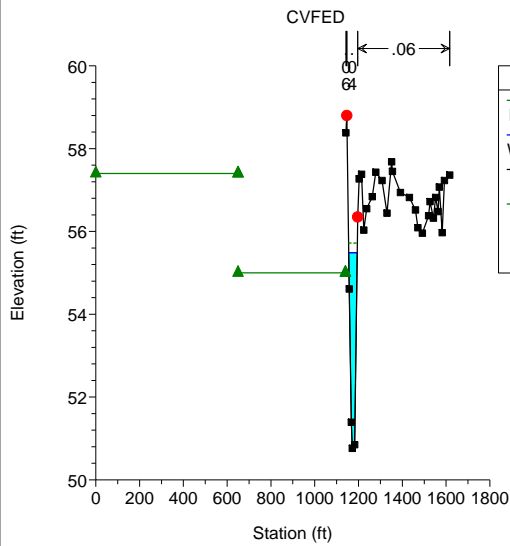


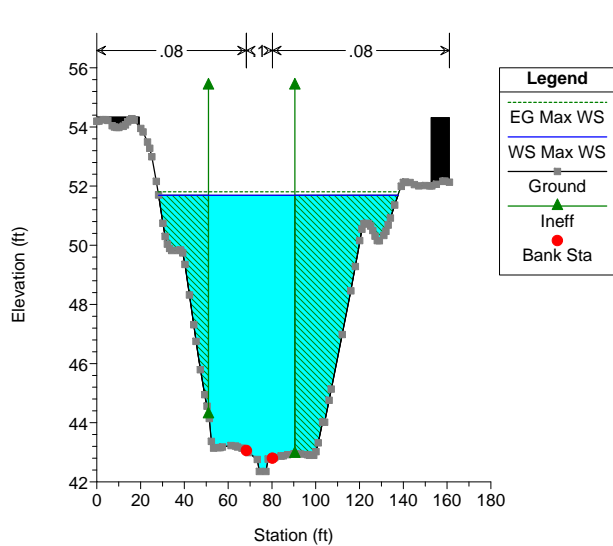
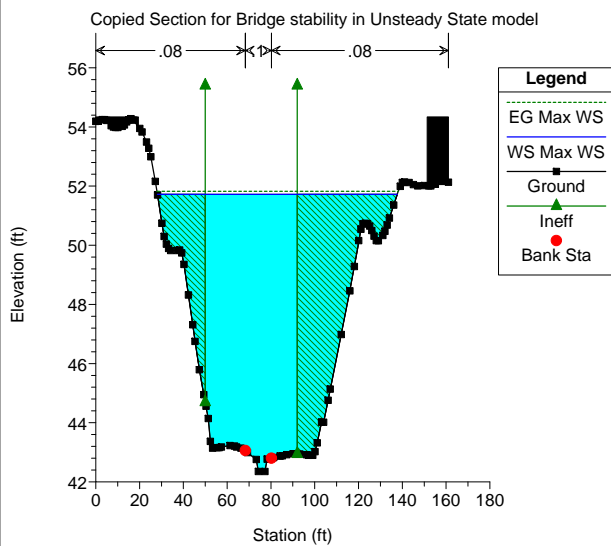
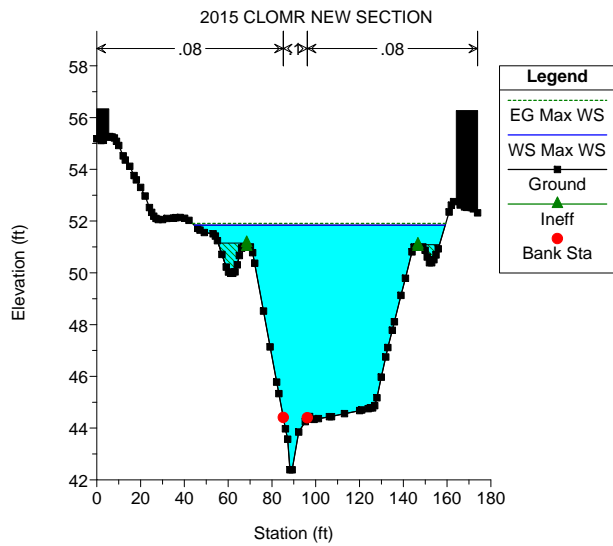
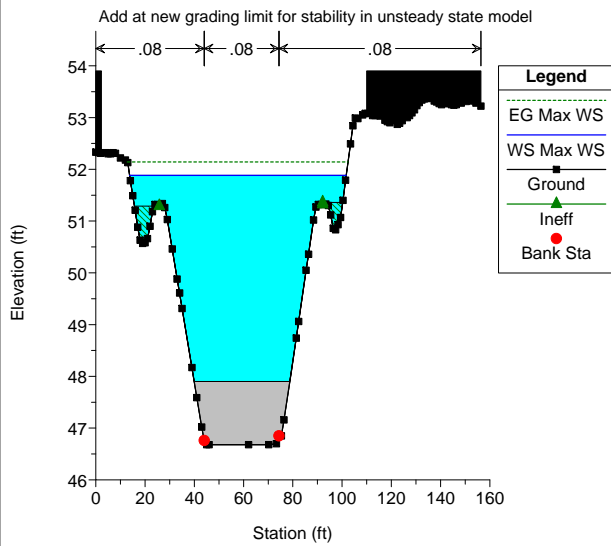
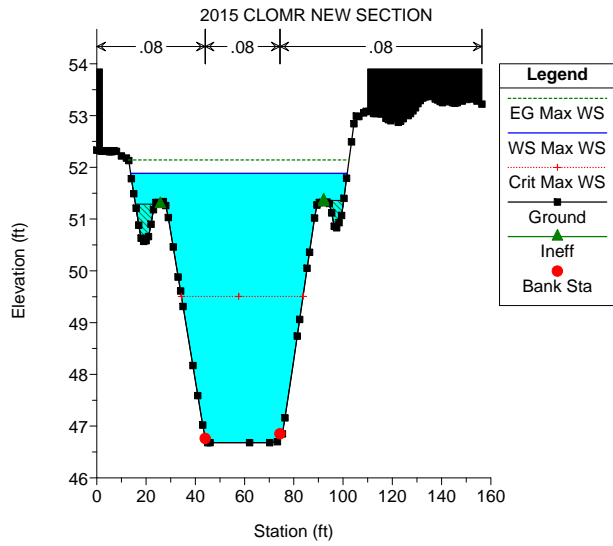
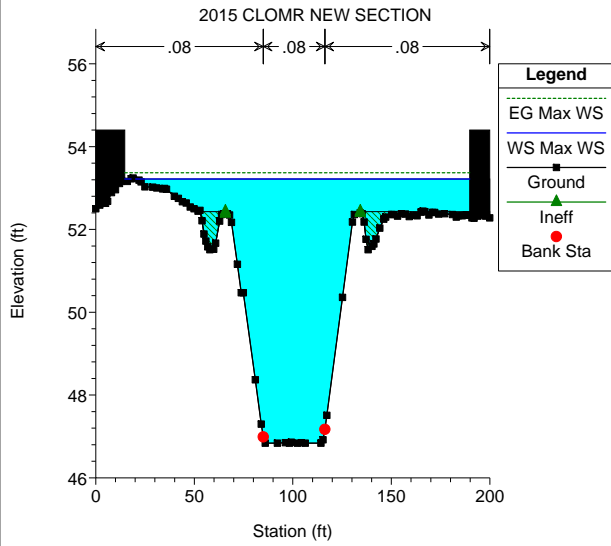


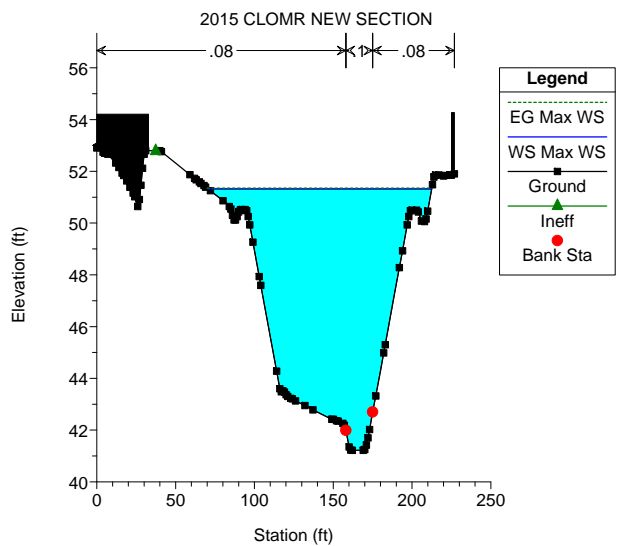
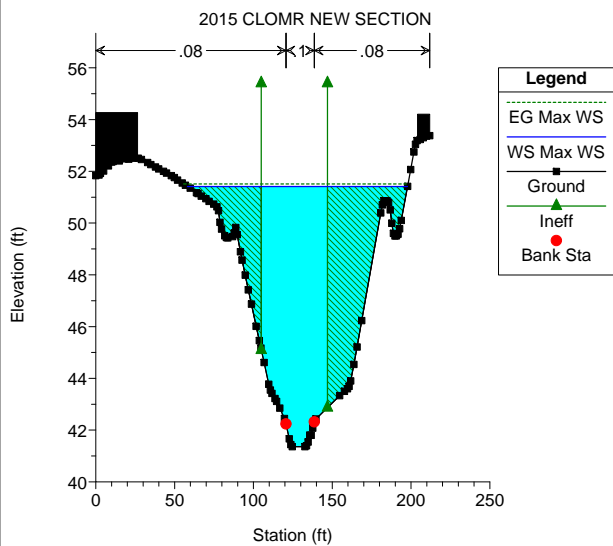
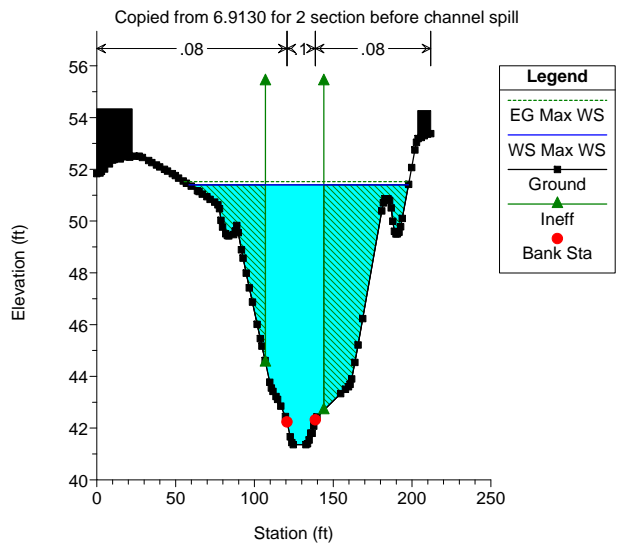
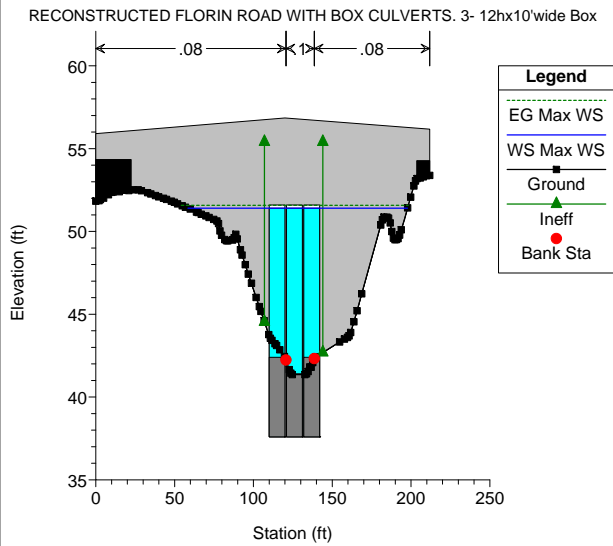
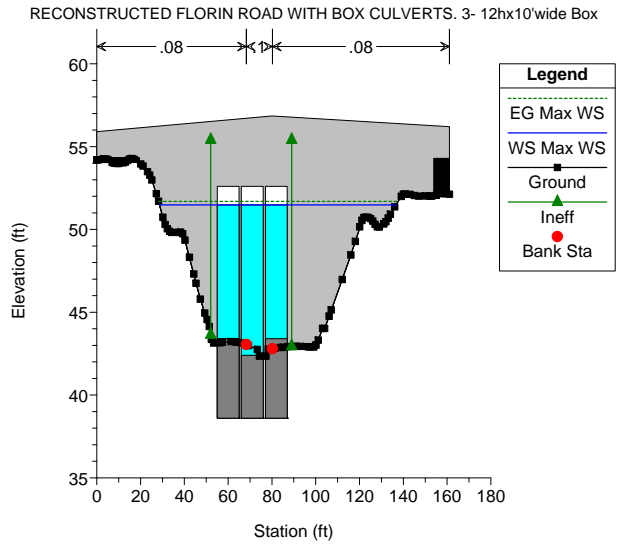
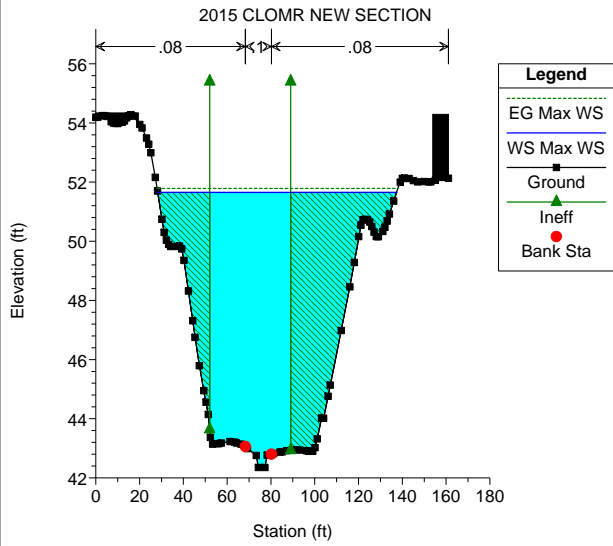


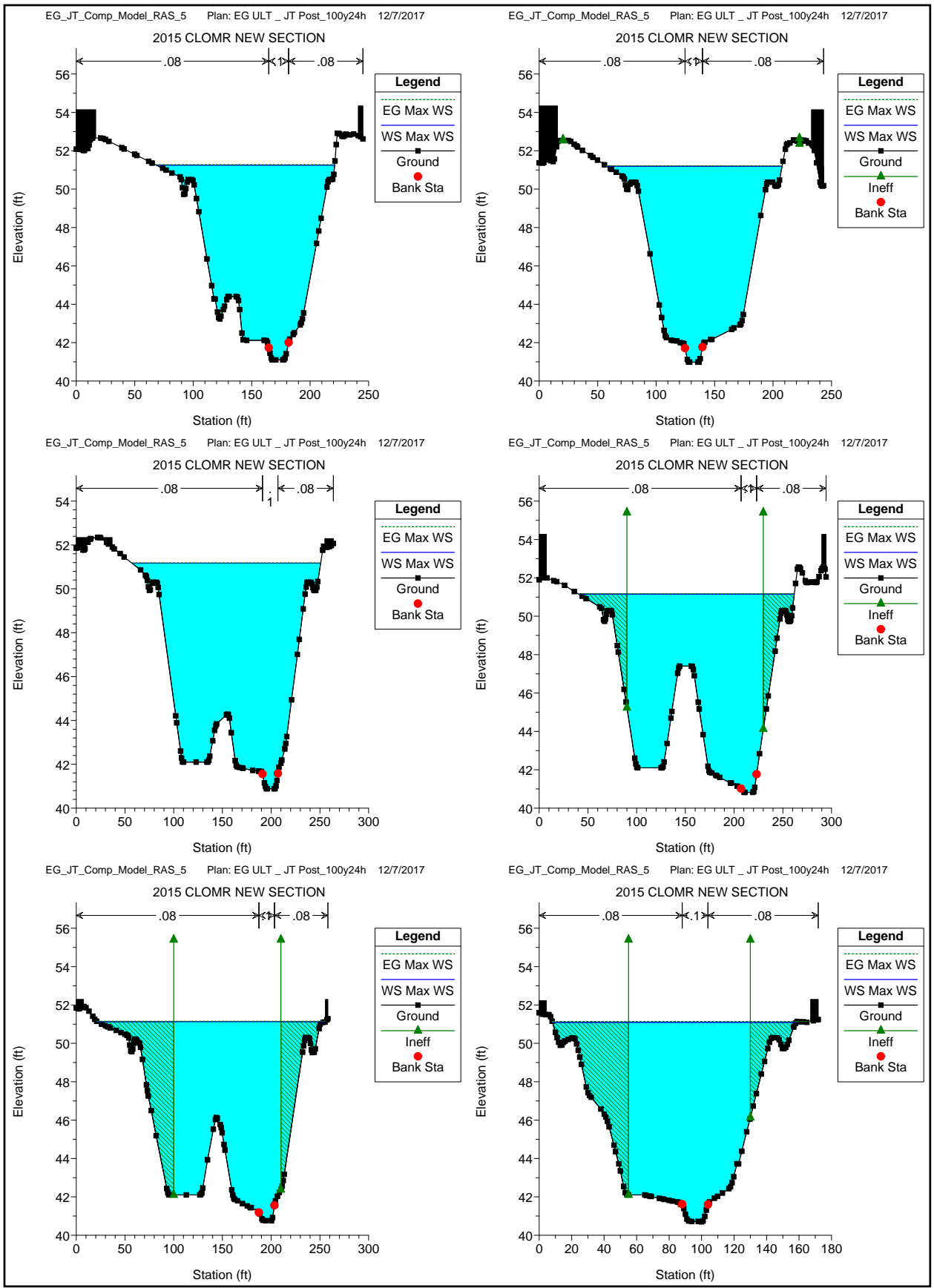


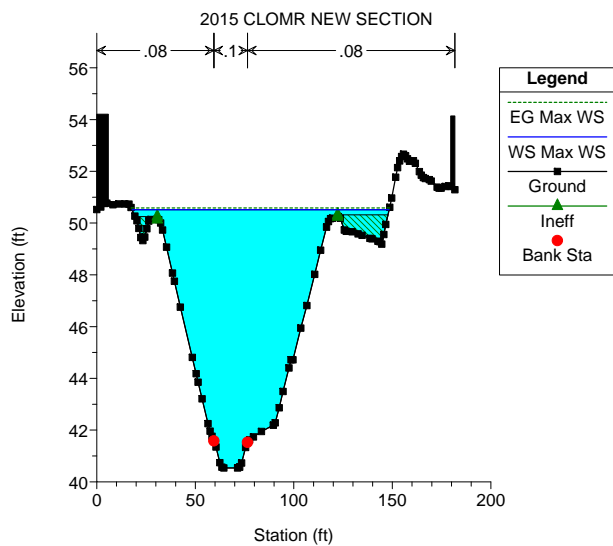
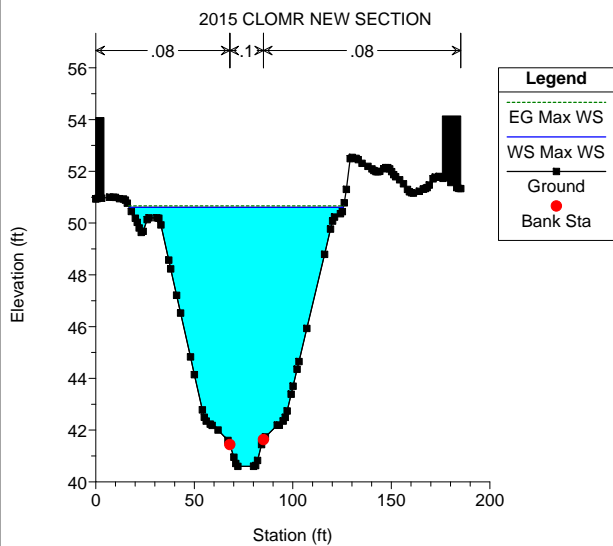
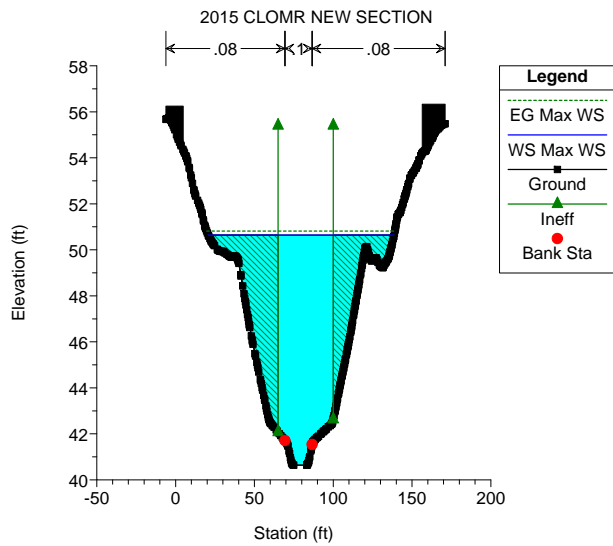
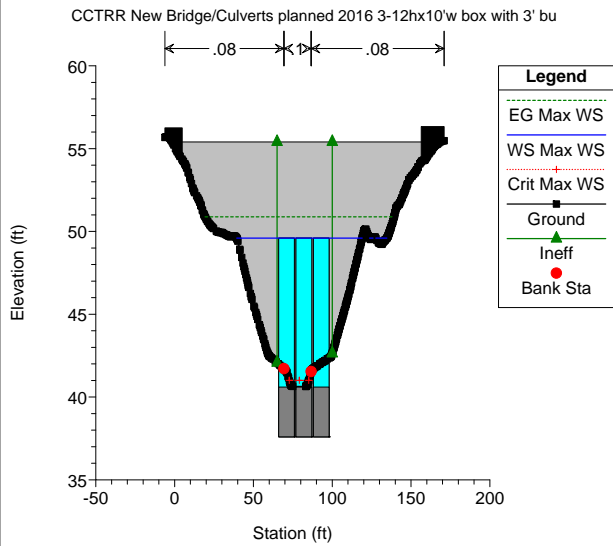
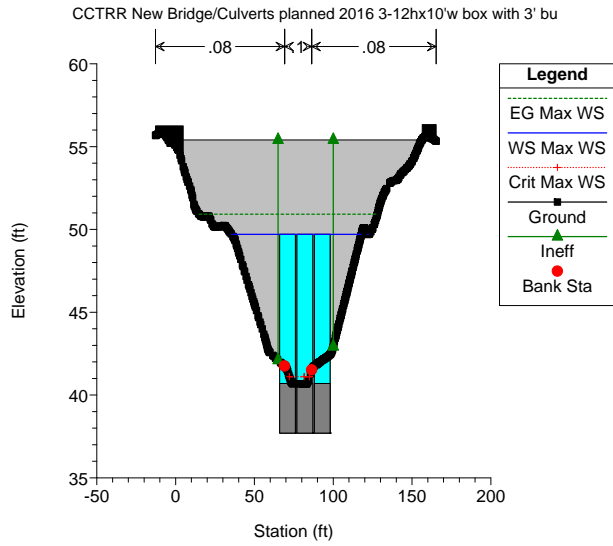
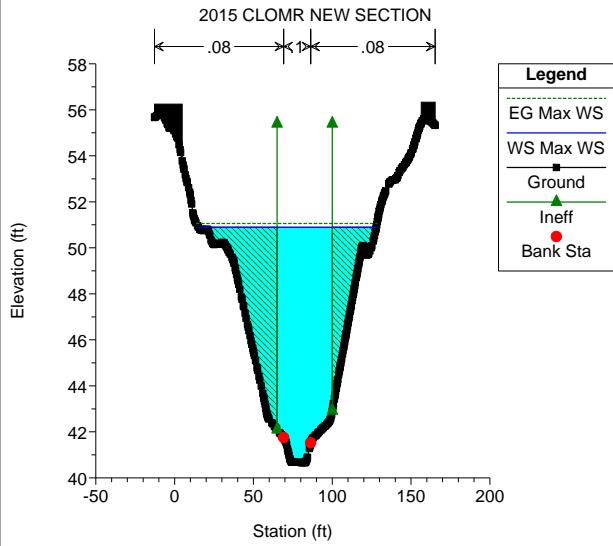




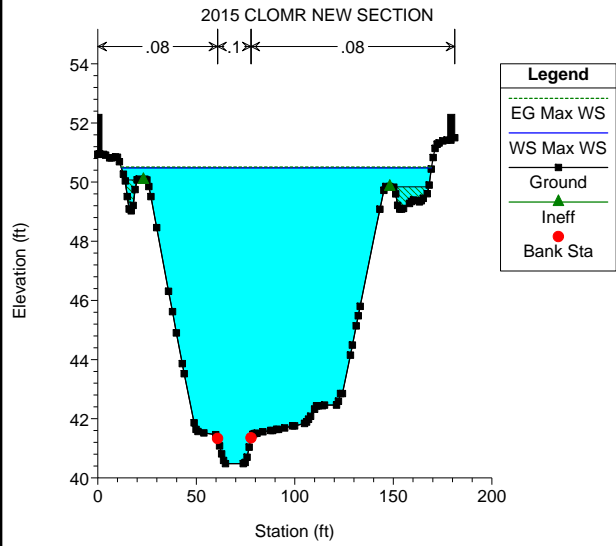




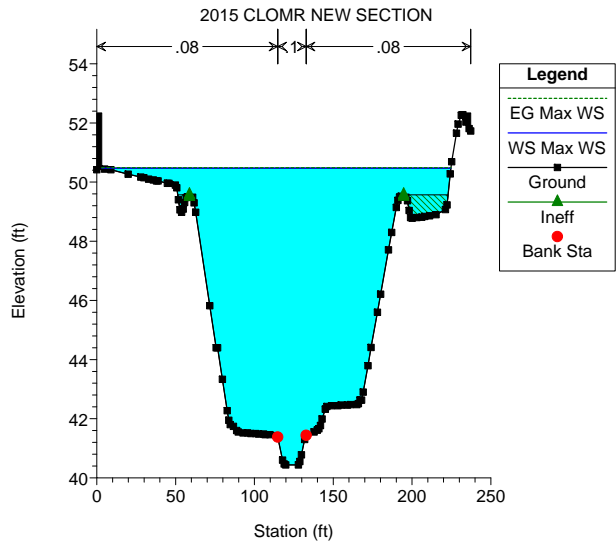




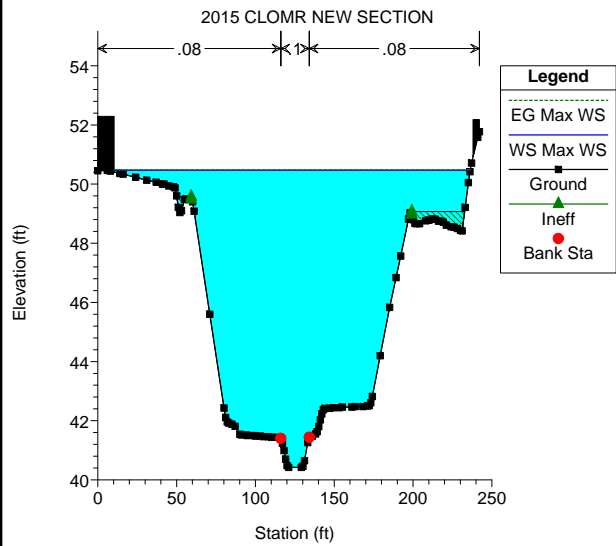
EG_JT_Comp_Model_RAS_5 Plan: EG ULT _JT Post_100y24h 12/7/2017



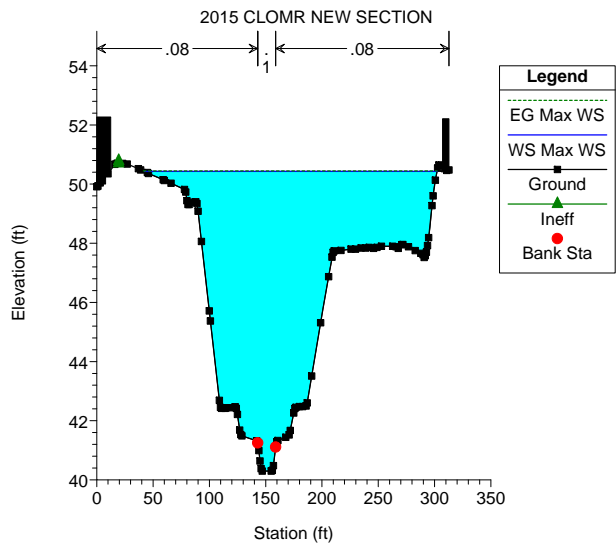
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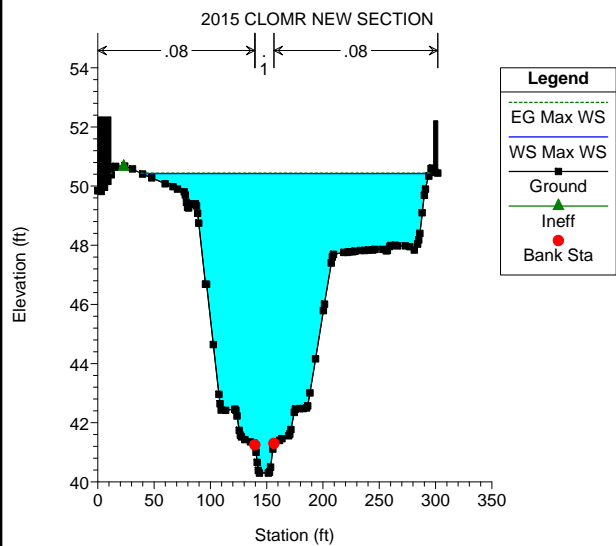
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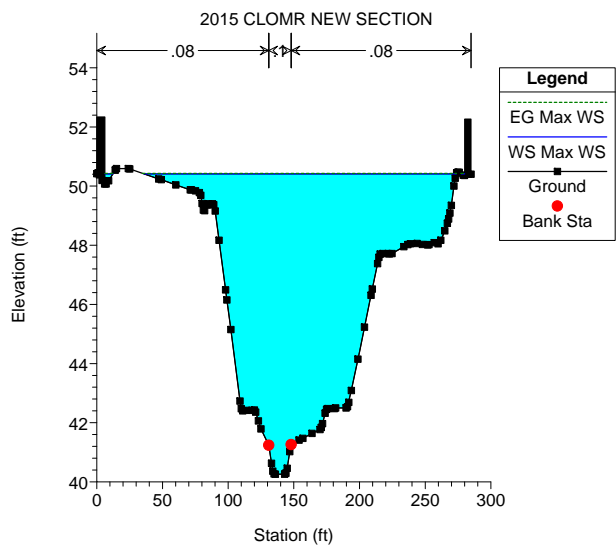
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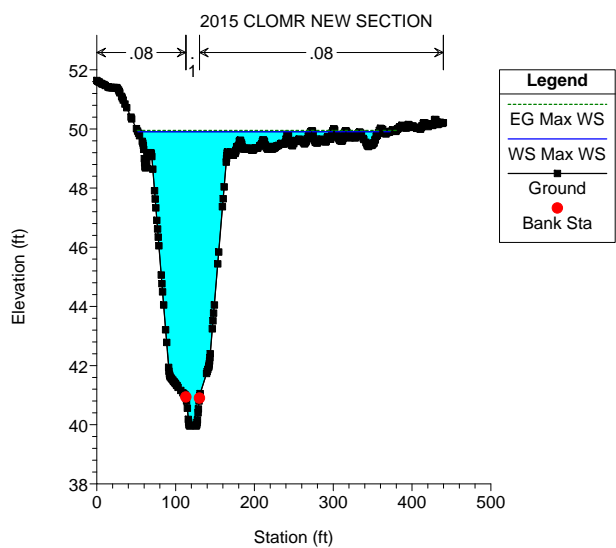
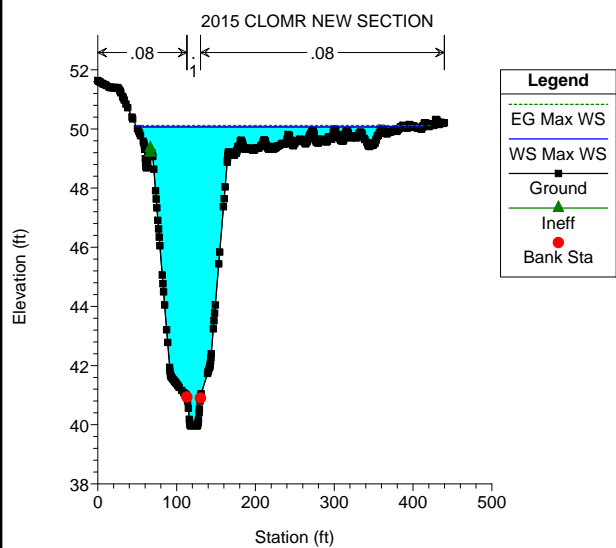
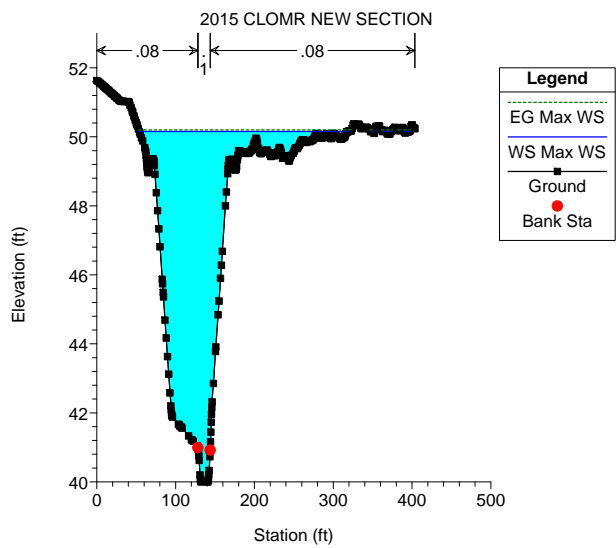
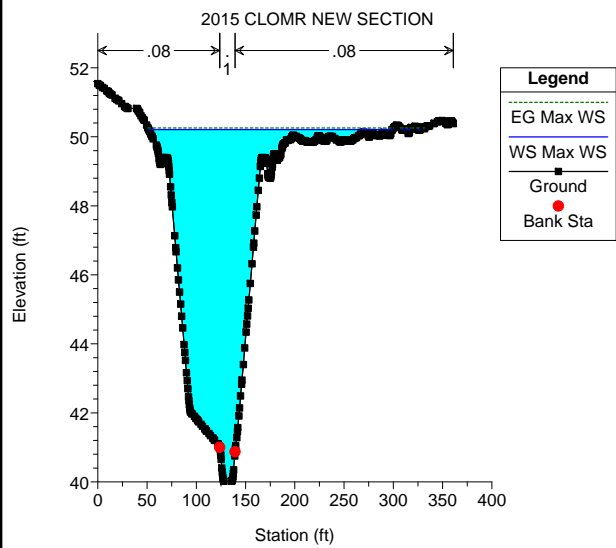
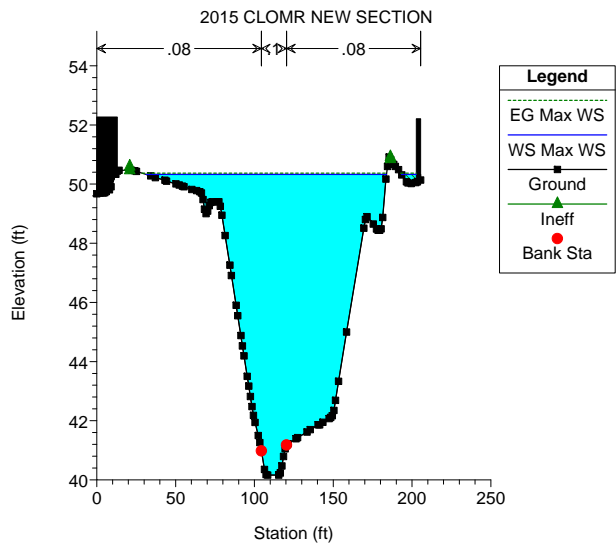
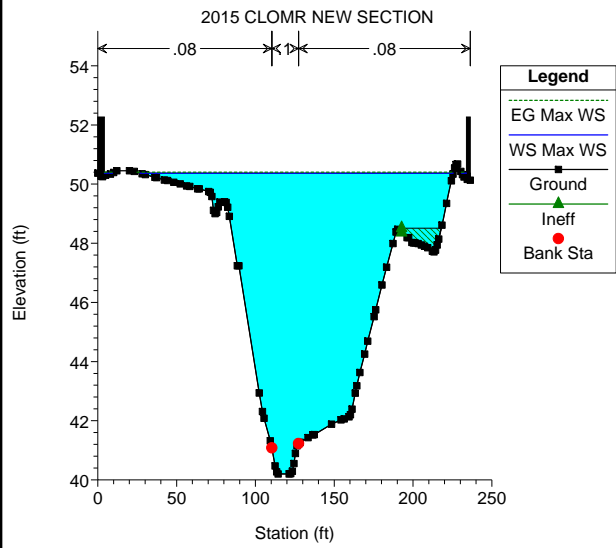


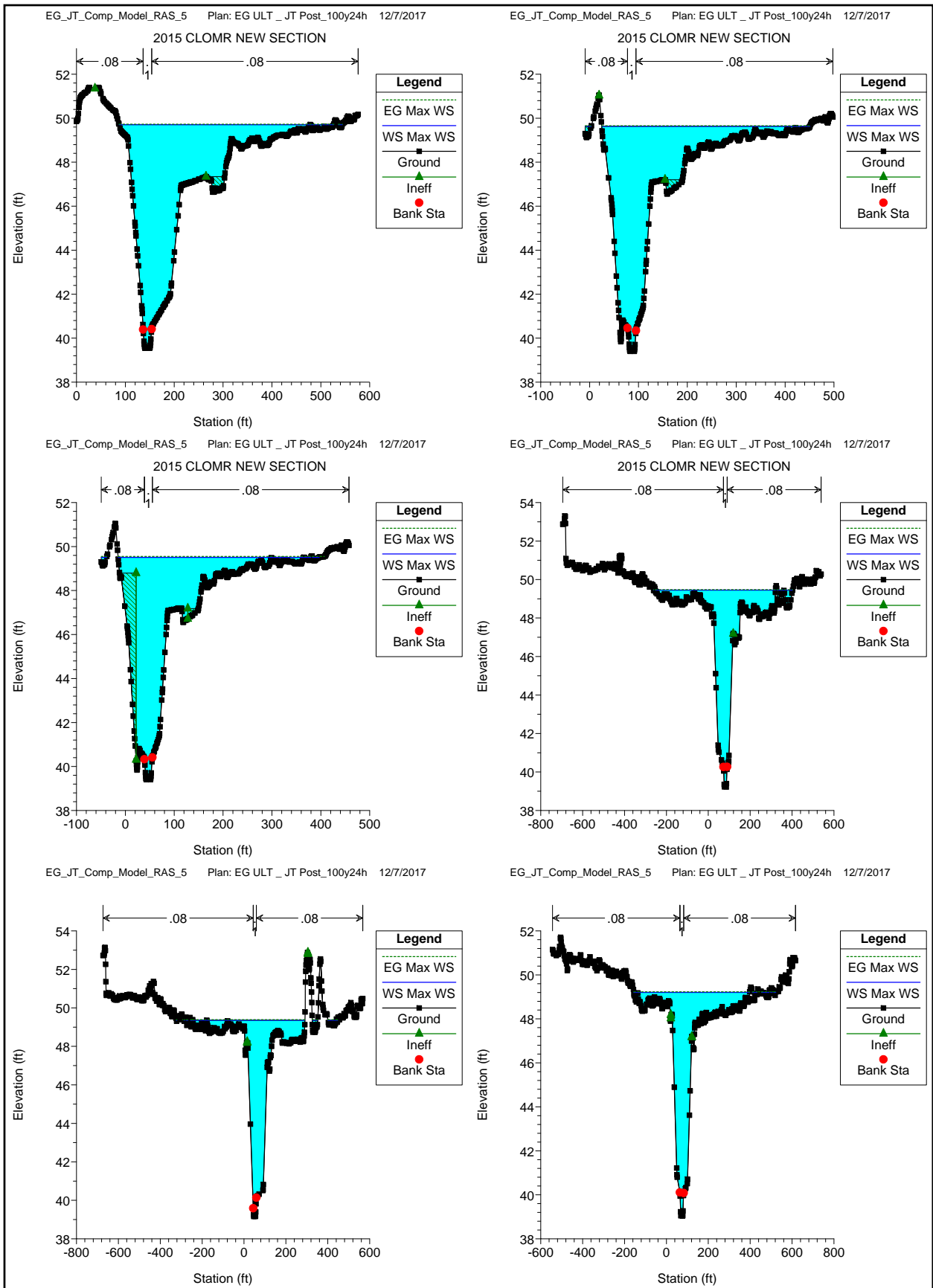
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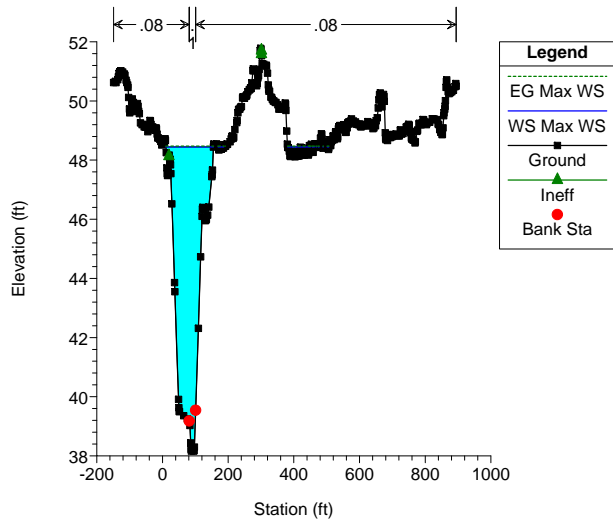
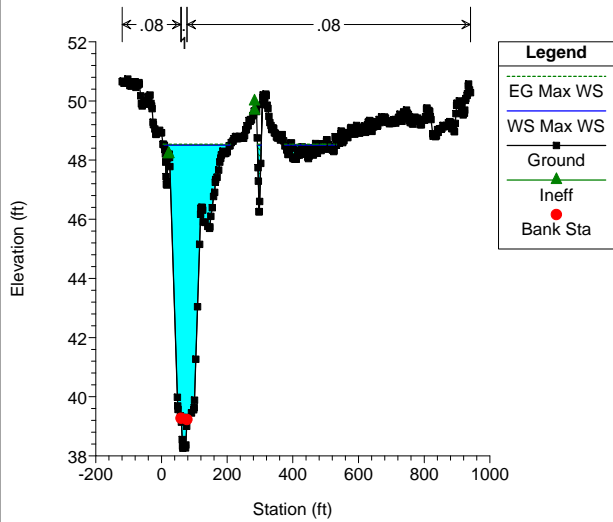
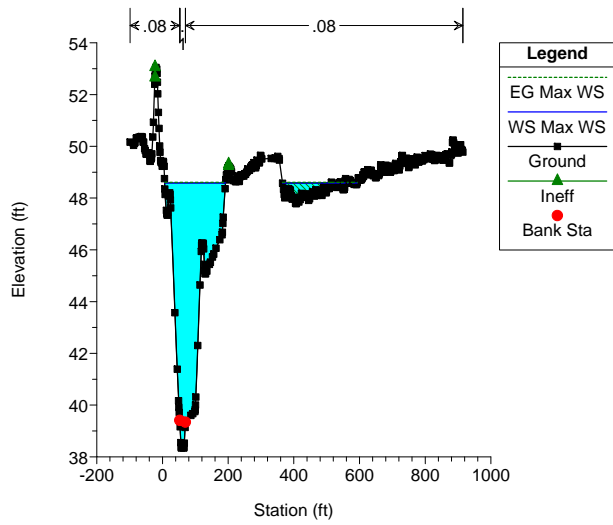
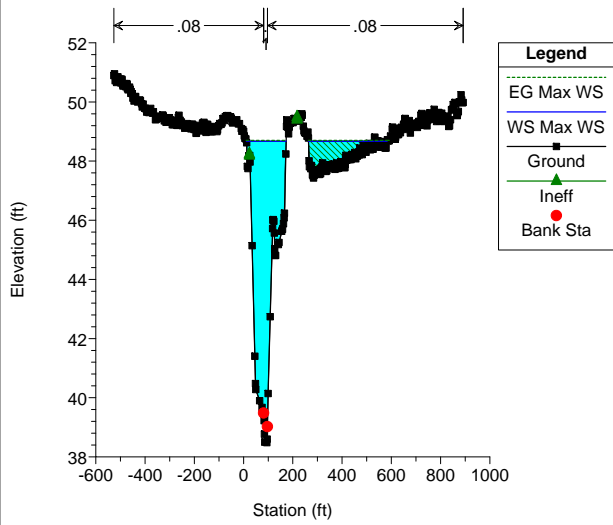
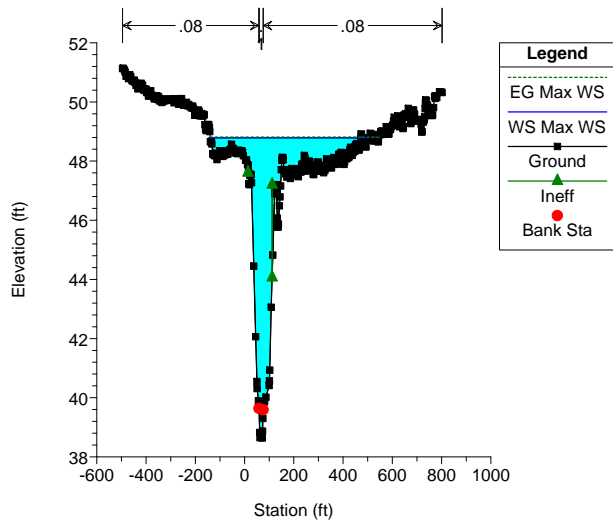
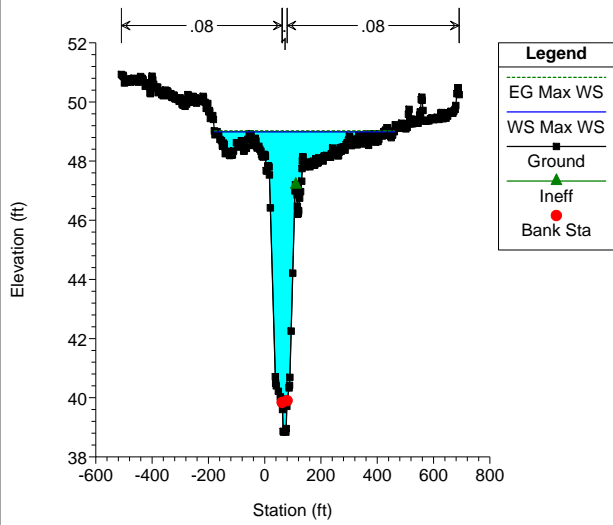


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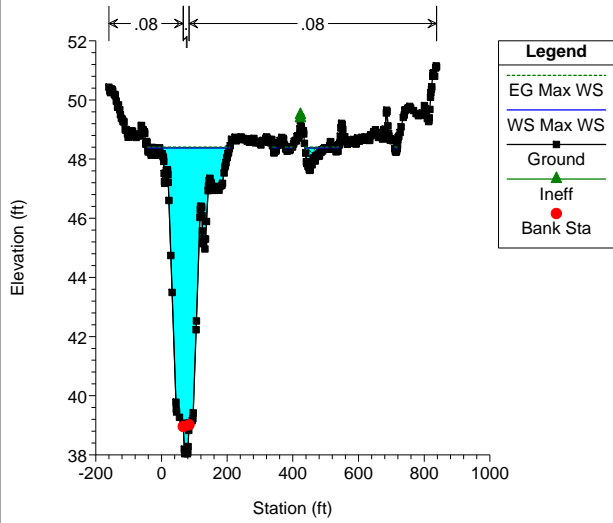




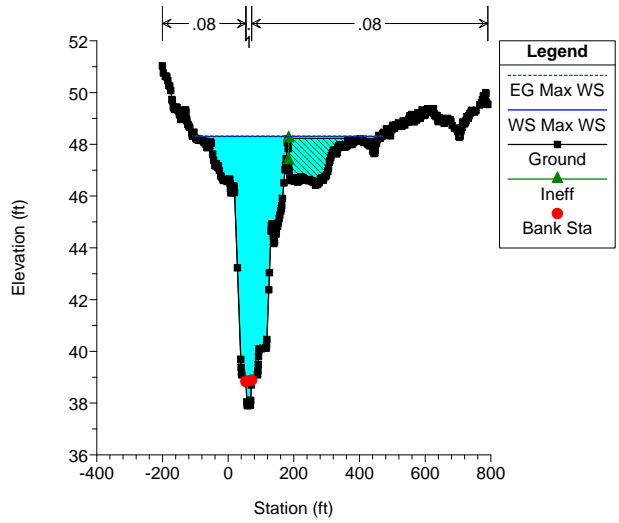




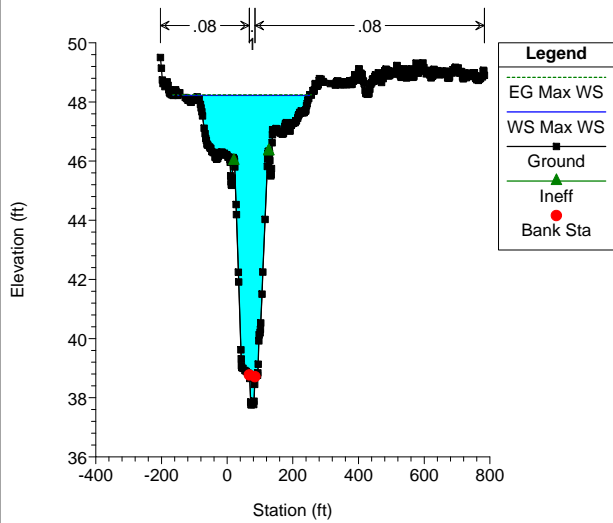
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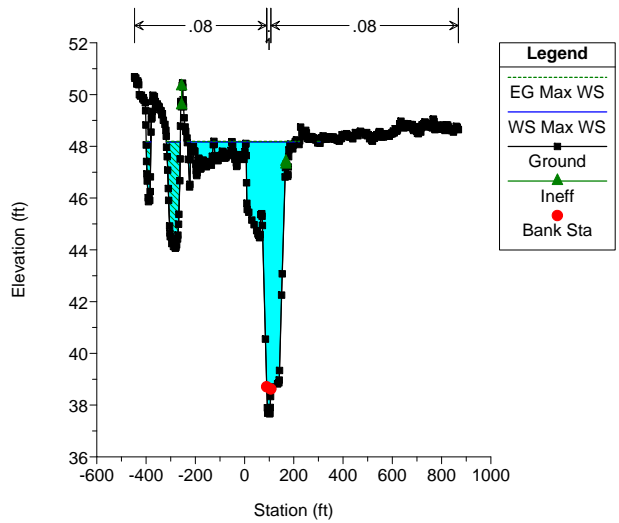
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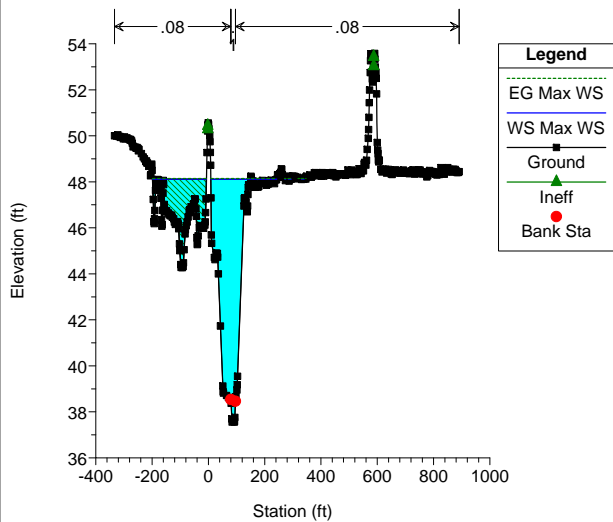
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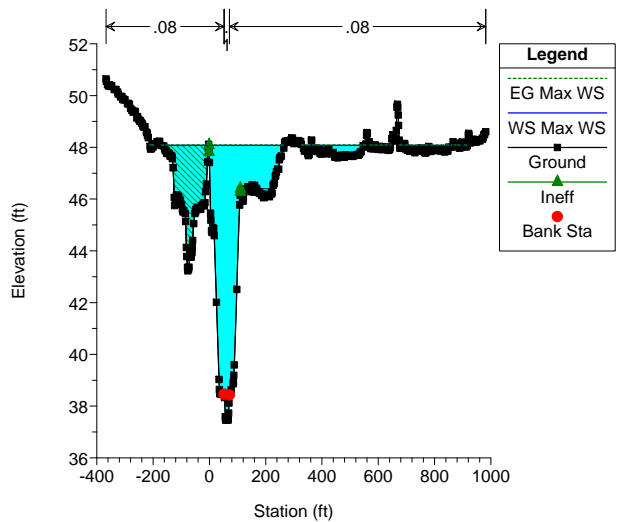
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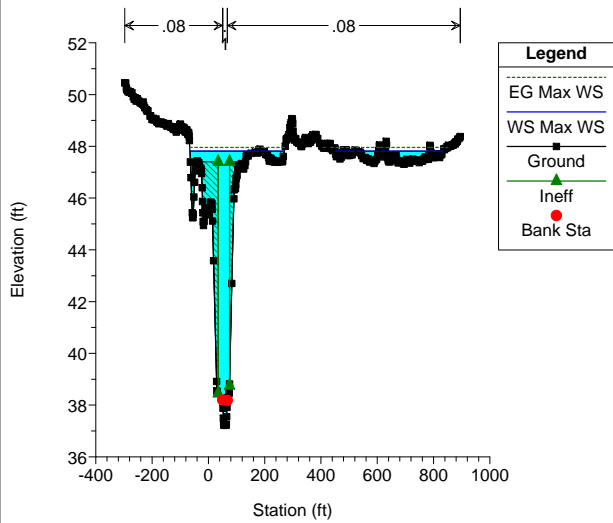
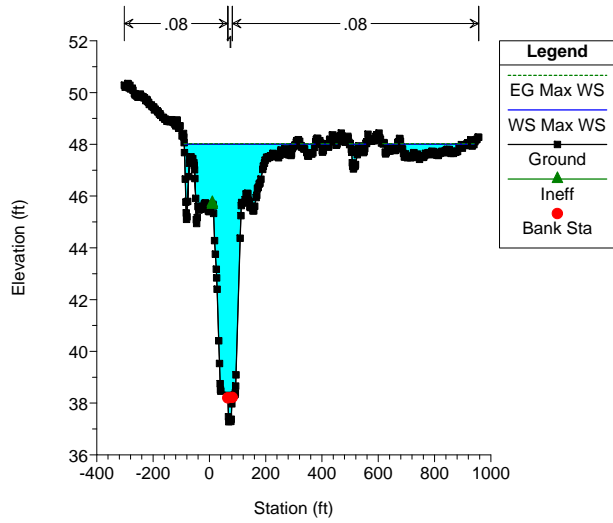
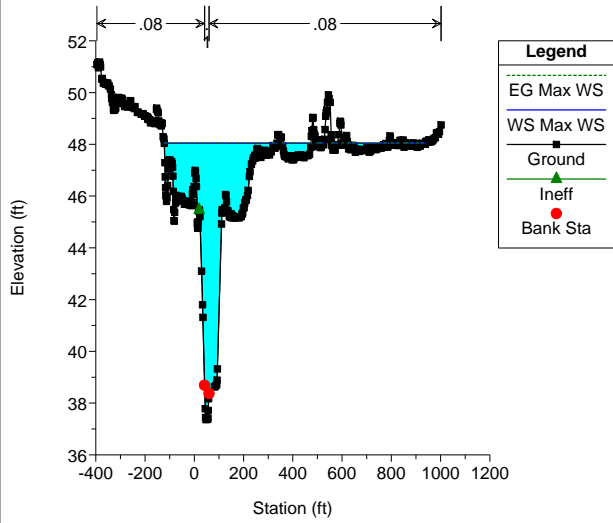


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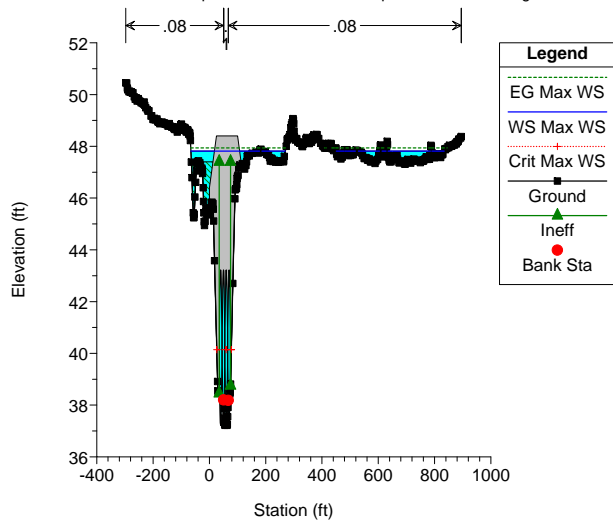


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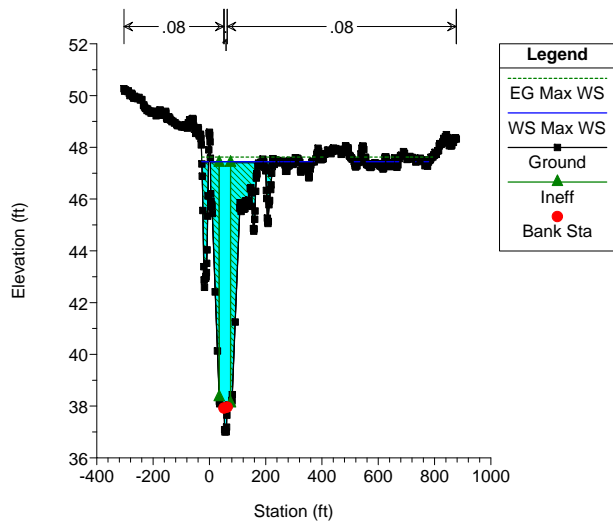
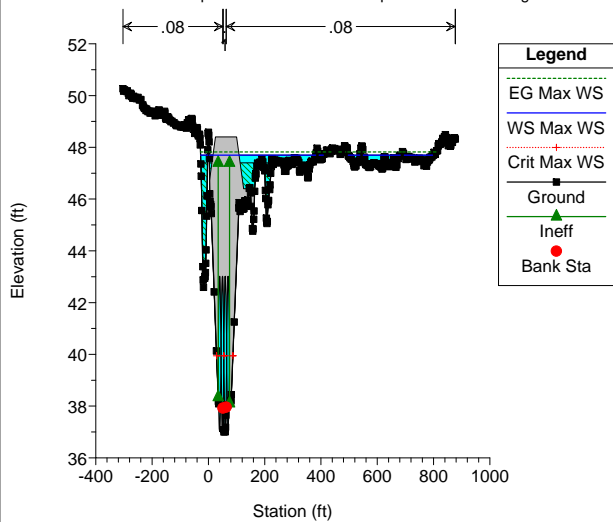




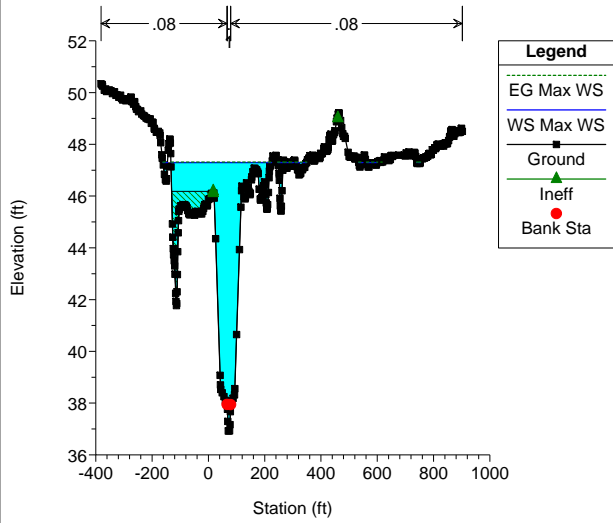
MCKOY AVE - Proposed Reconstruction - Pipes lowered and lengthen



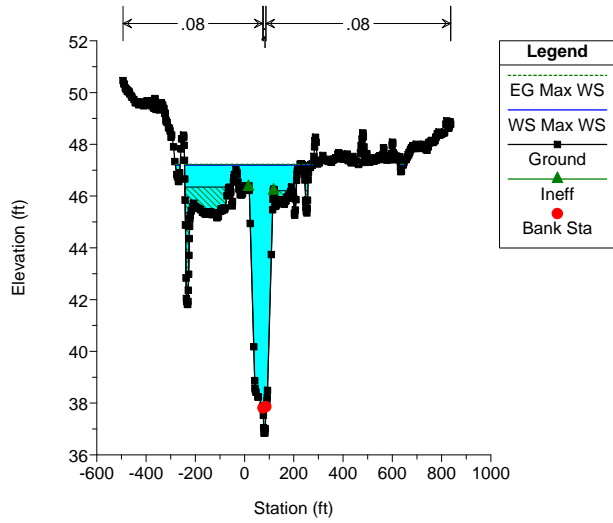
MCKOY AVE - Proposed Reconstruction - Pipes lowered and lengthen



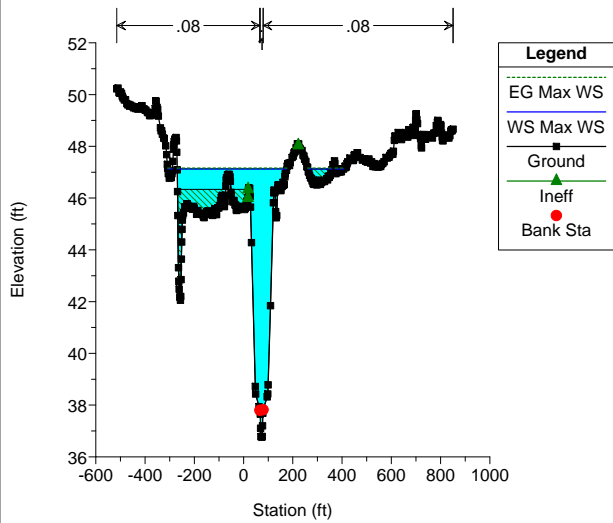
EG_JT_Comp_Model_RAS_5 Plan: EG ULT _JT Post_100y24h 12/7/2017



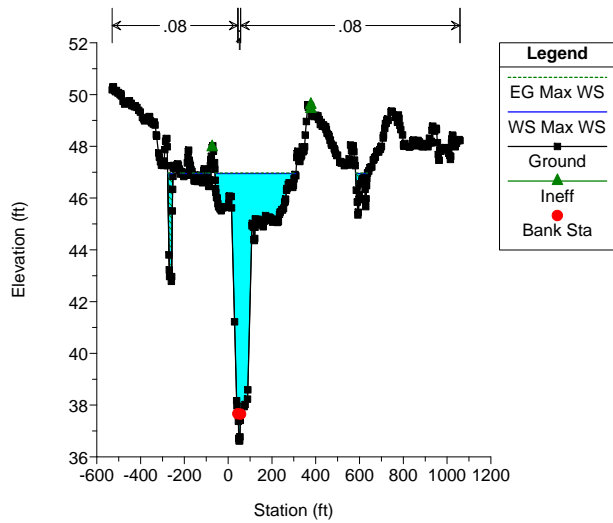
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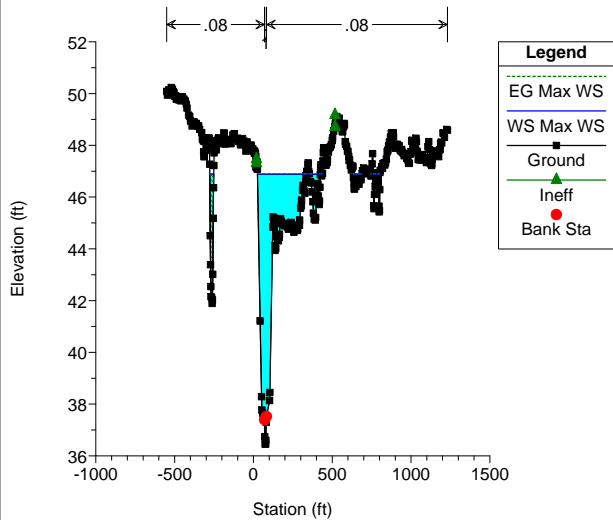
EG_JT_Comp_Model_RAS_5 Plan: EG ULT _JT Post_100y24h 12/7/2017



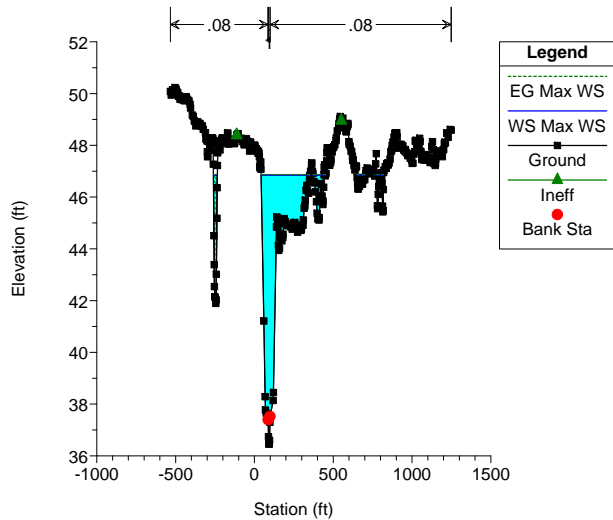
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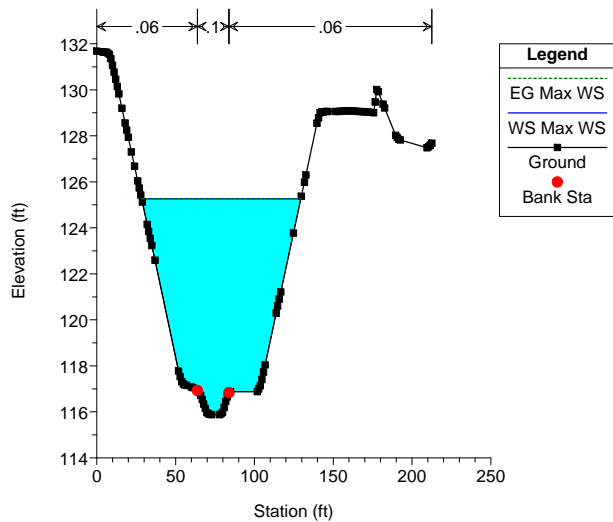
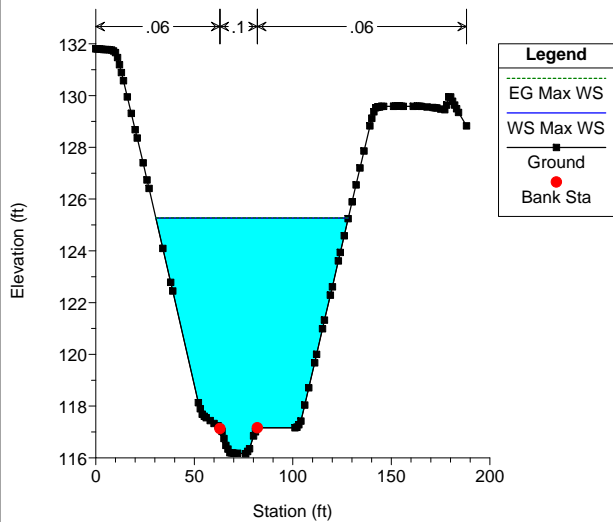
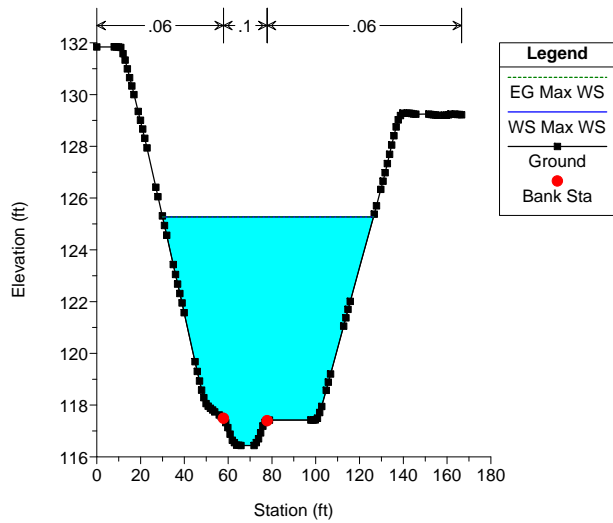
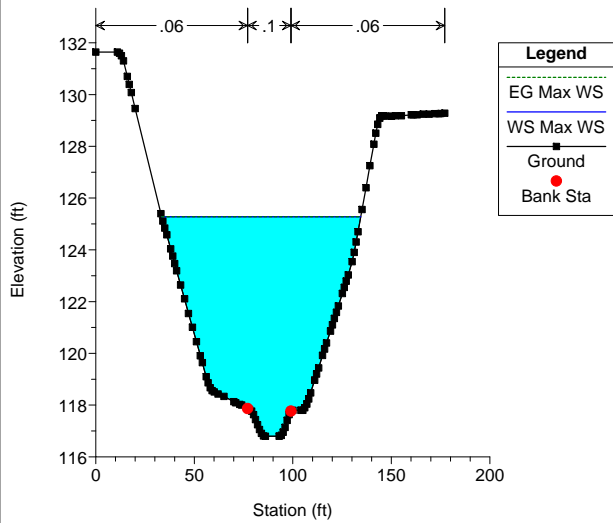
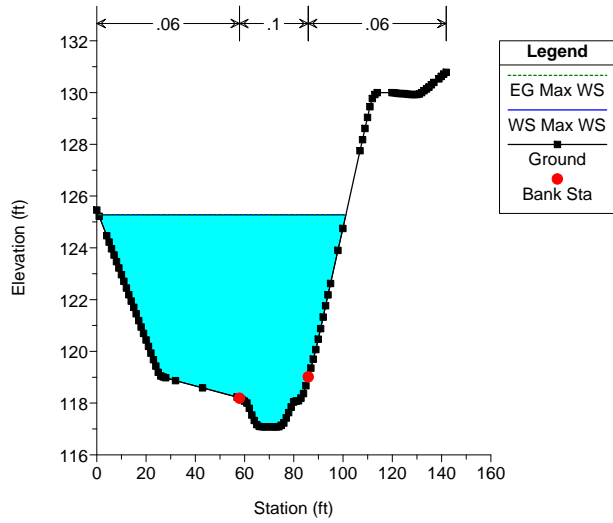
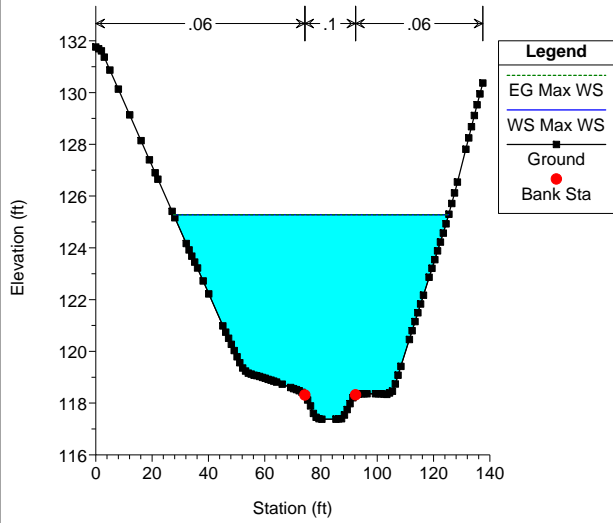


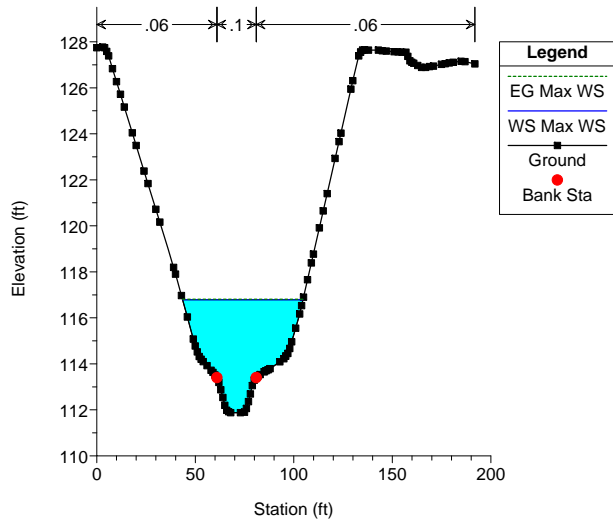
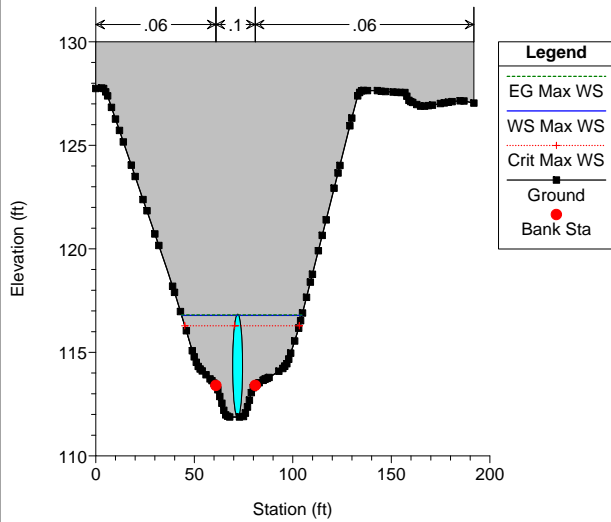
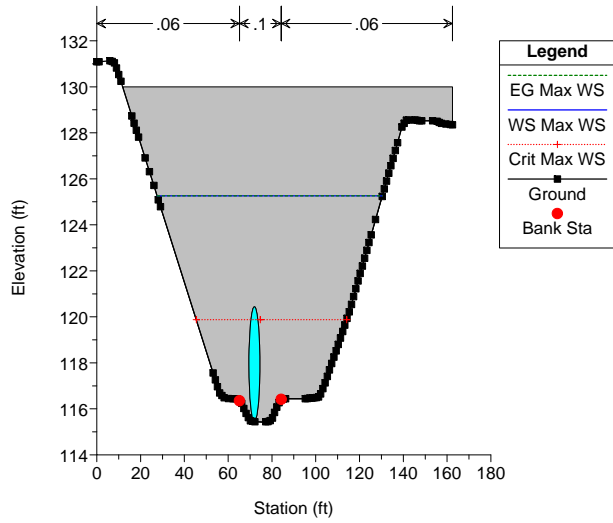
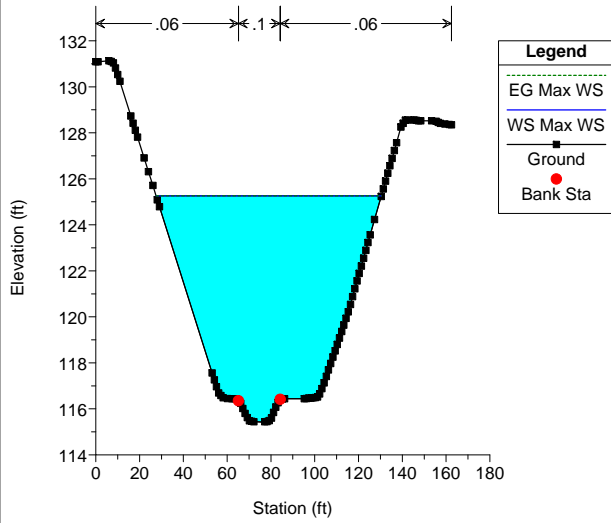
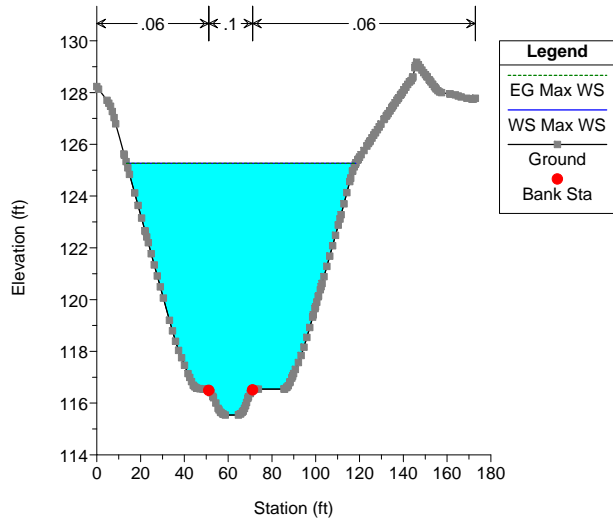
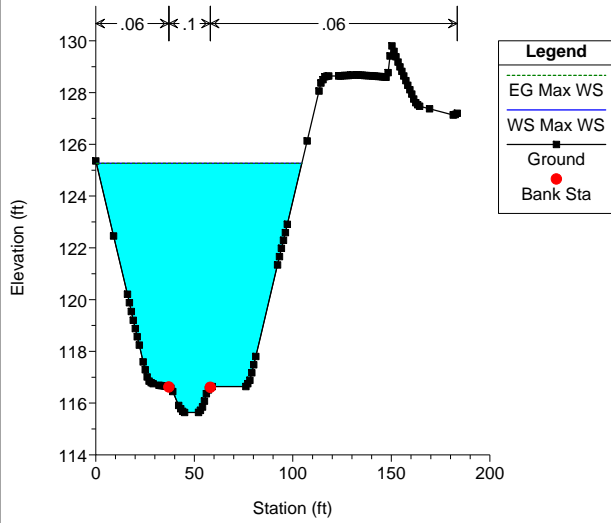
EG_JT_Comp_Model_RAS_5 Plan: EG ULT _JT Post_100y24h 12/7/2017

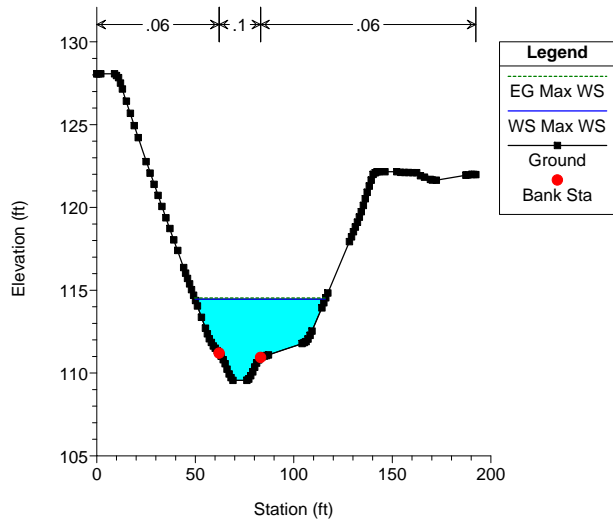
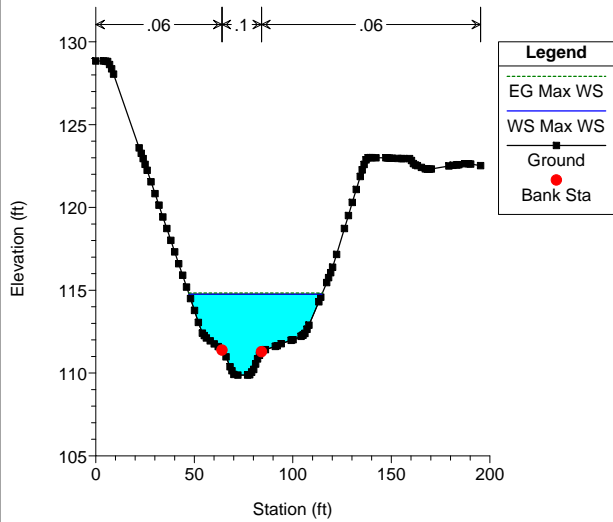
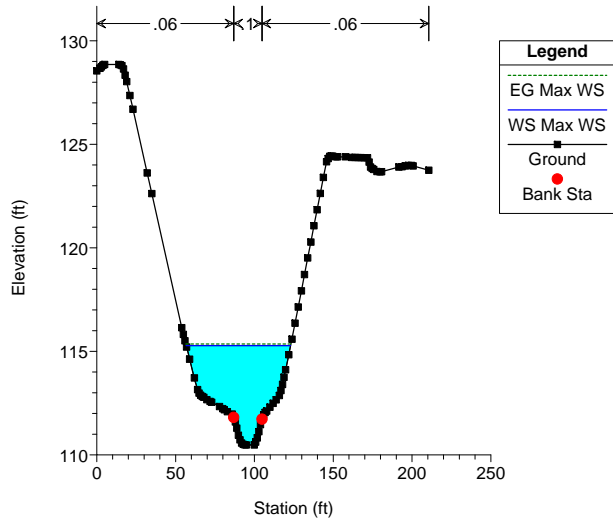
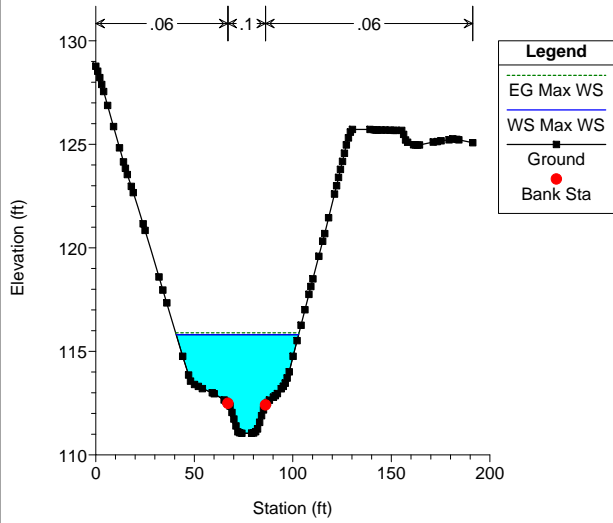
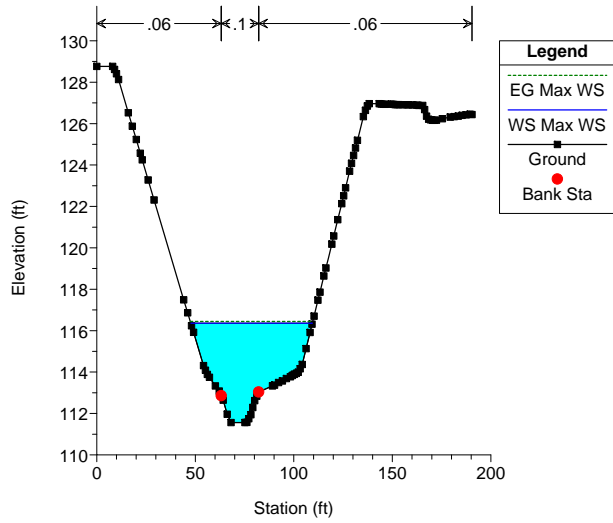
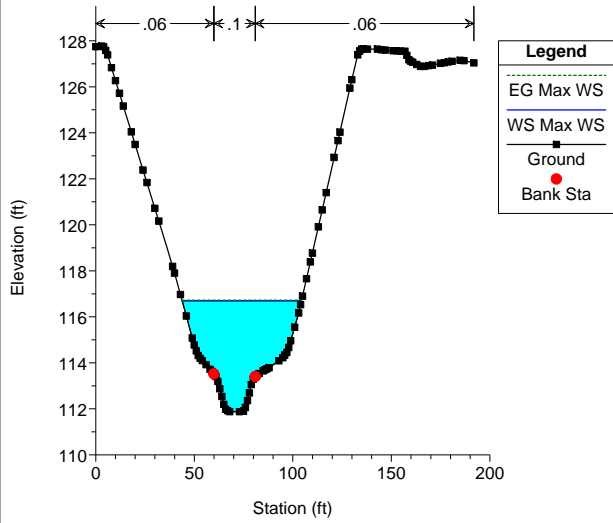


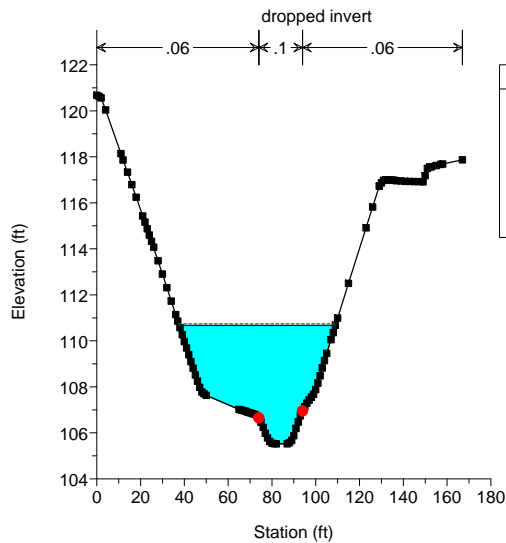
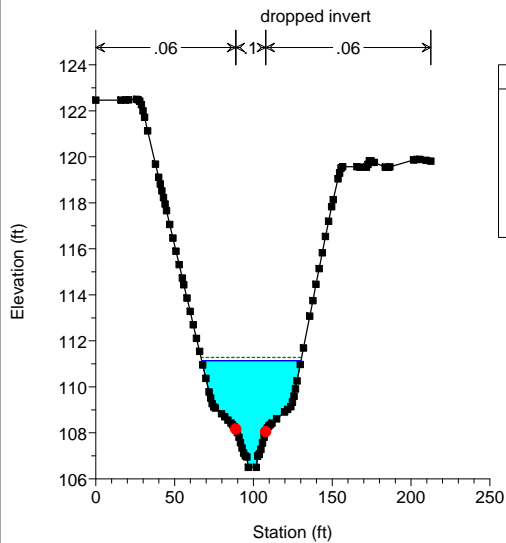
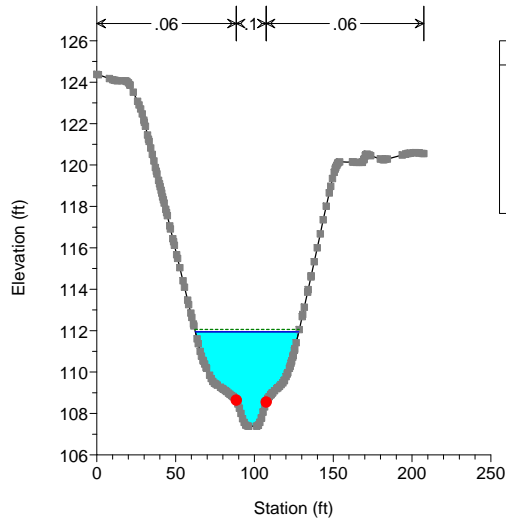
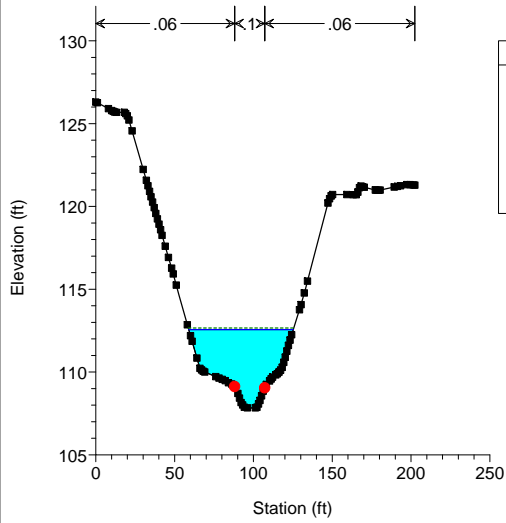
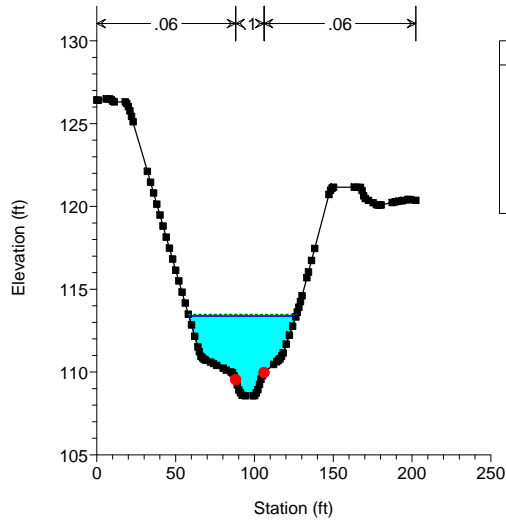
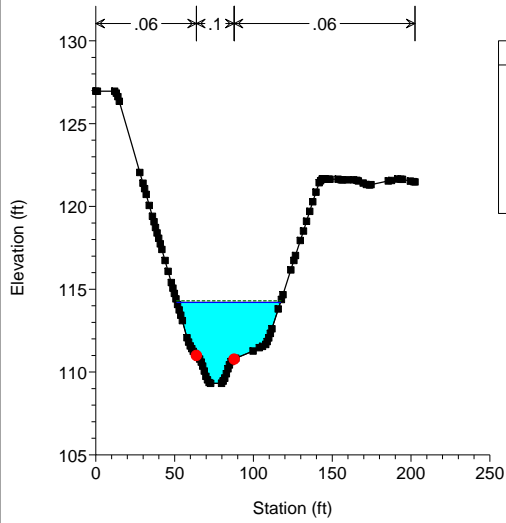
EG_JT_Comp_Model_RAS_5 Plan: EG ULT _JT Post_100y24h 12/7/2017

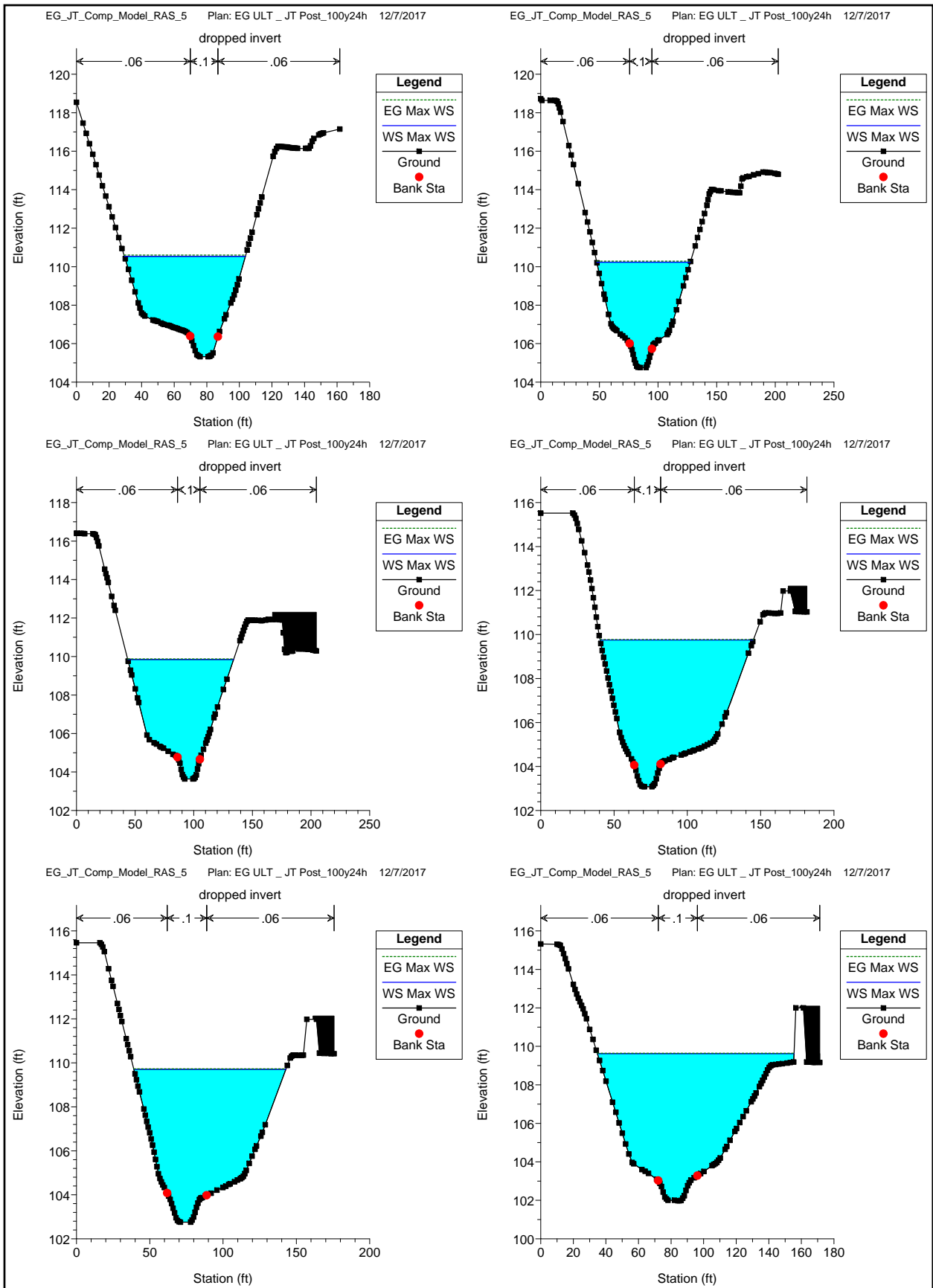


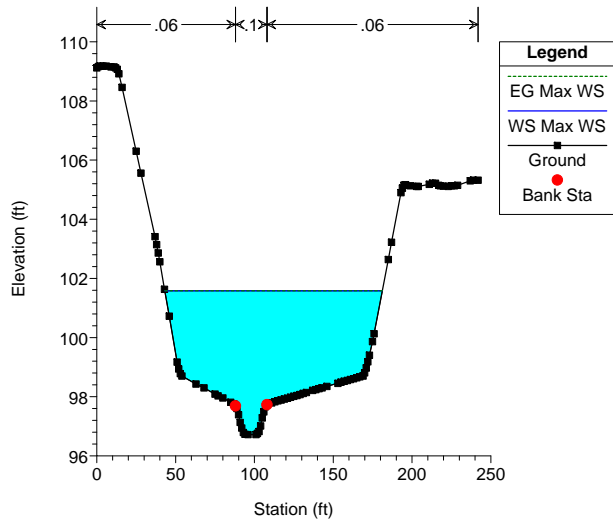
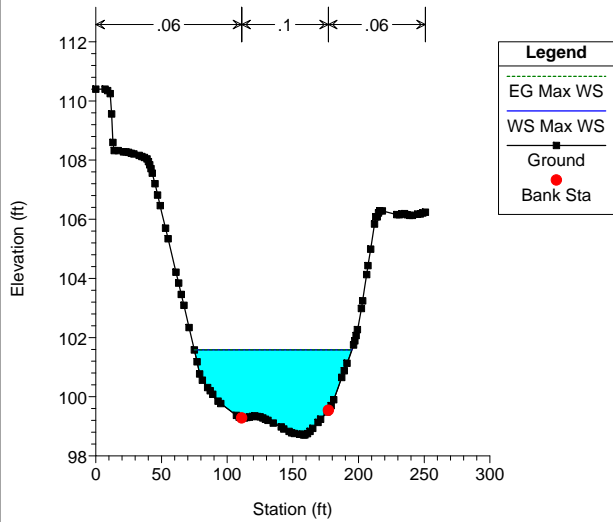
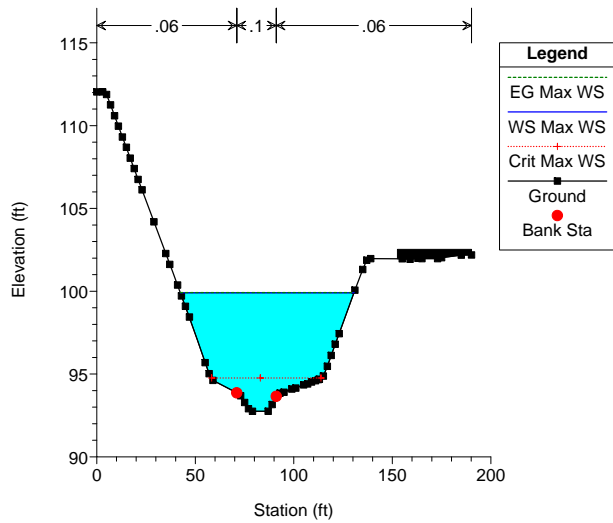
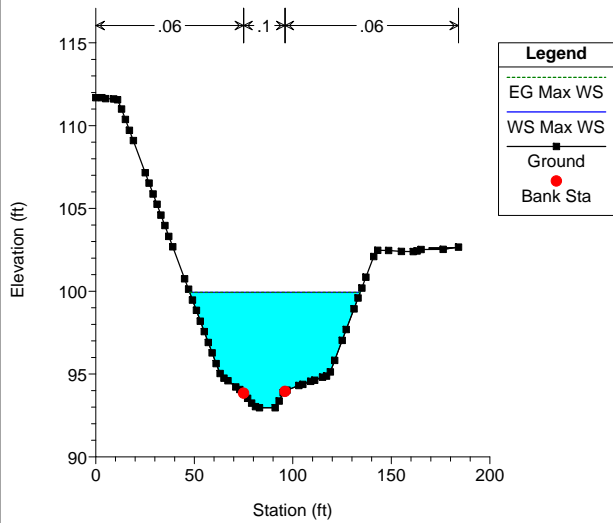
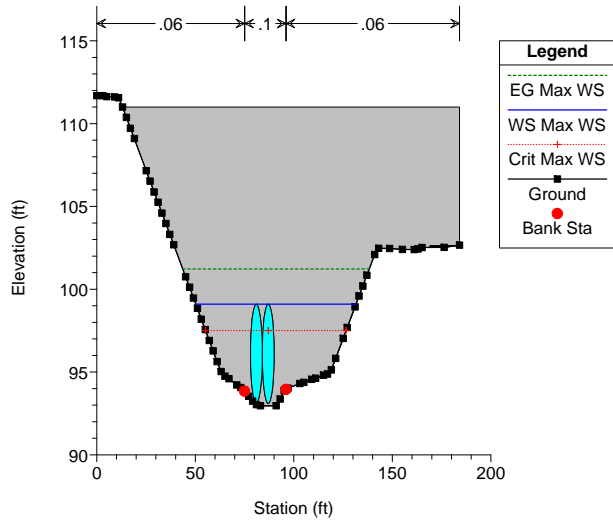
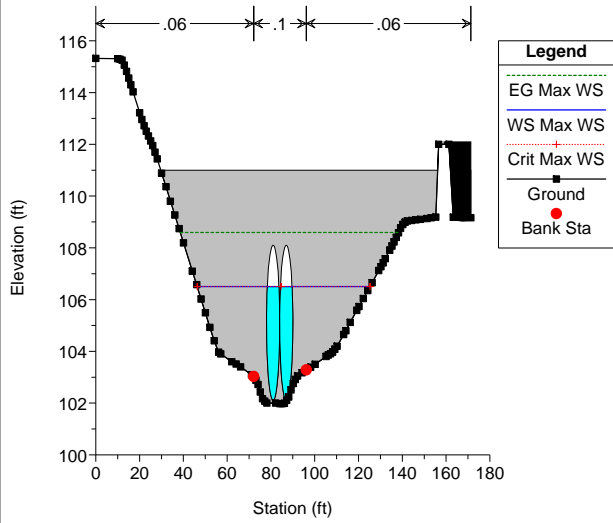


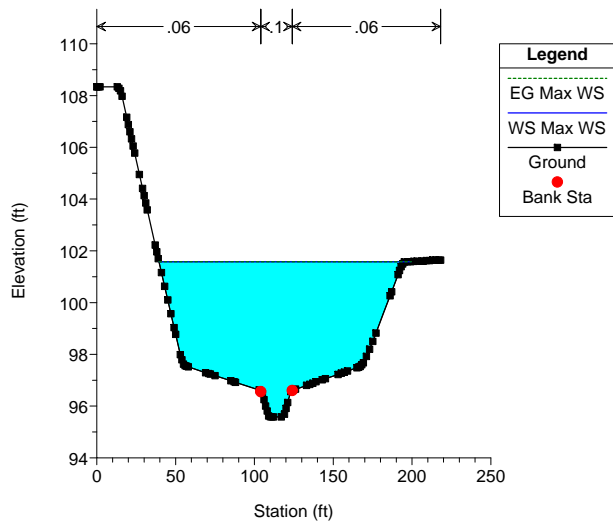
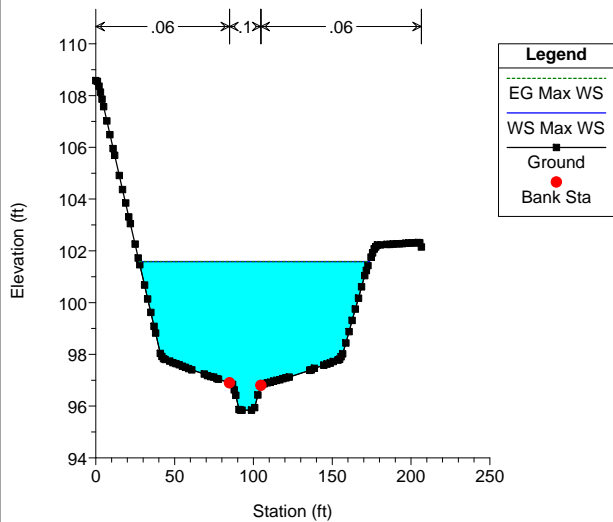
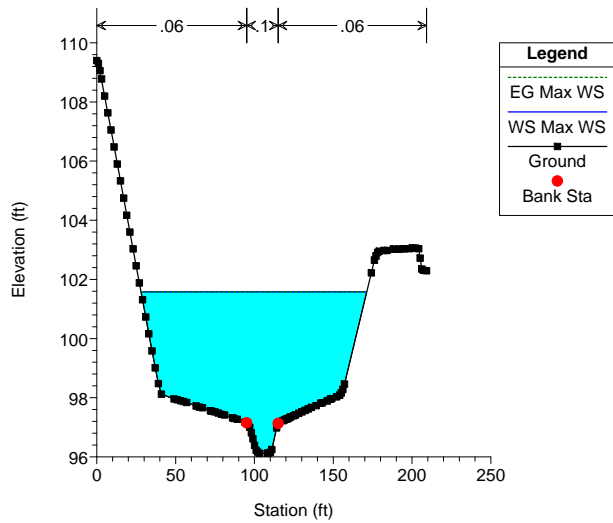
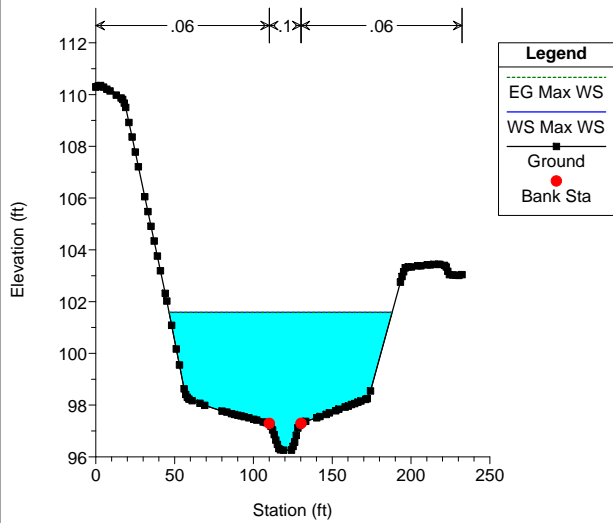
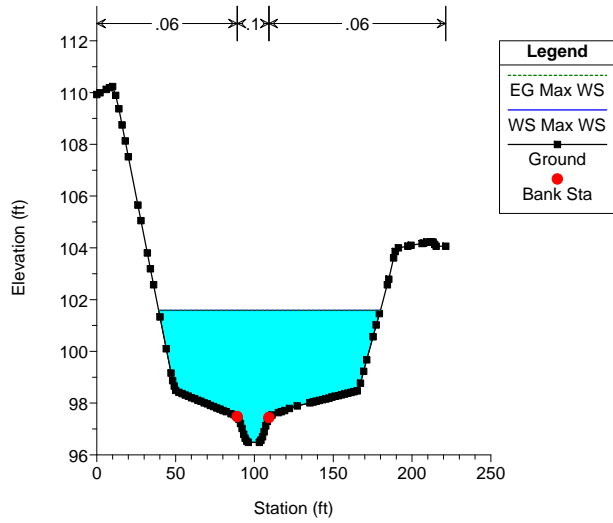
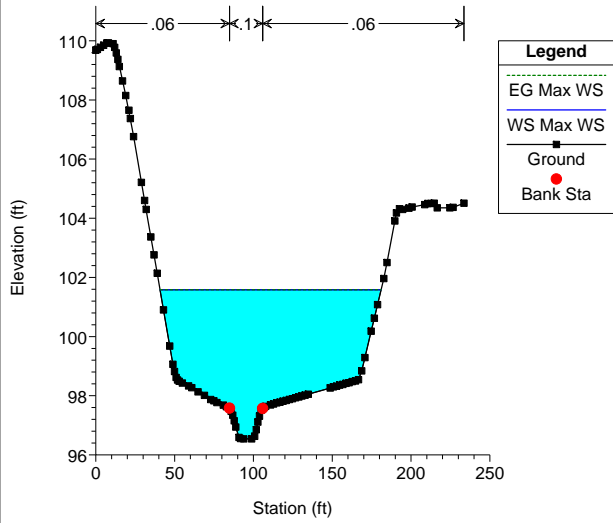


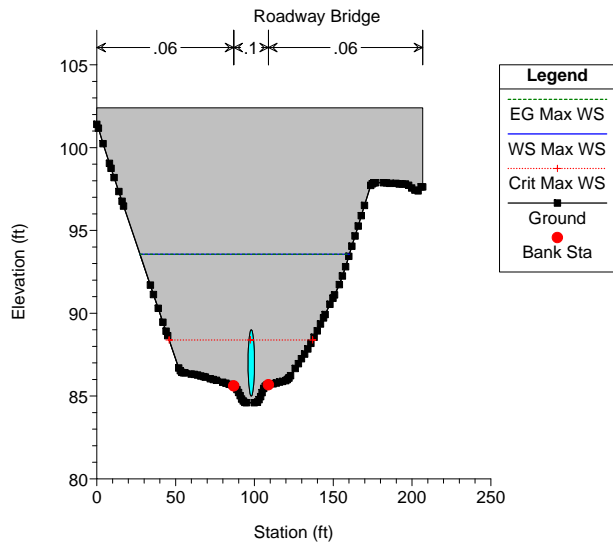
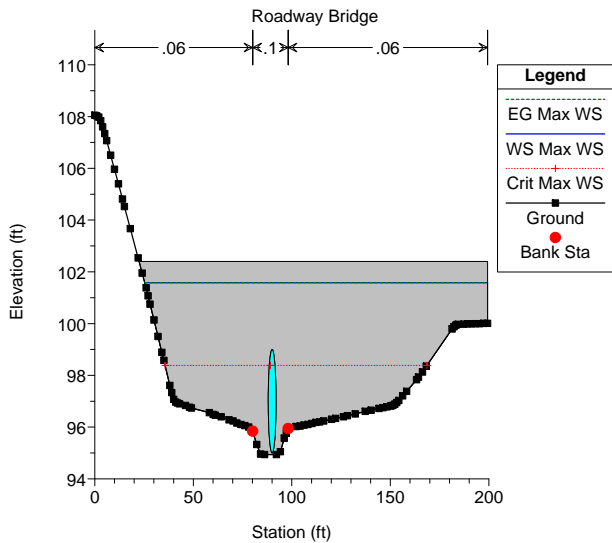
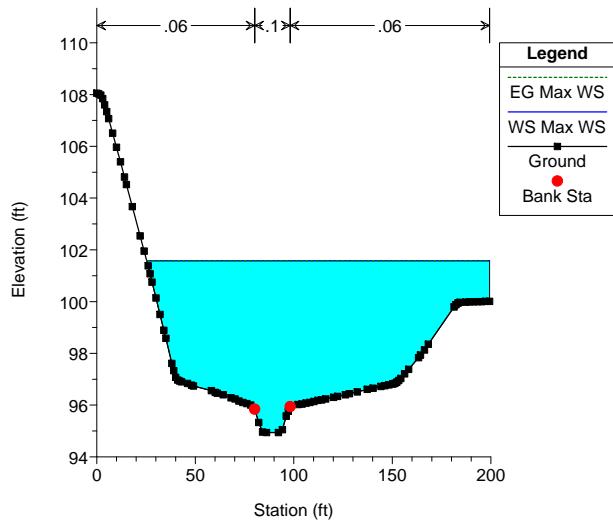
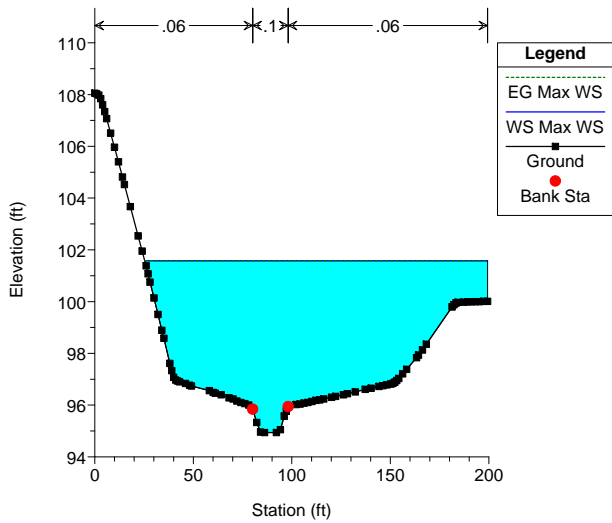
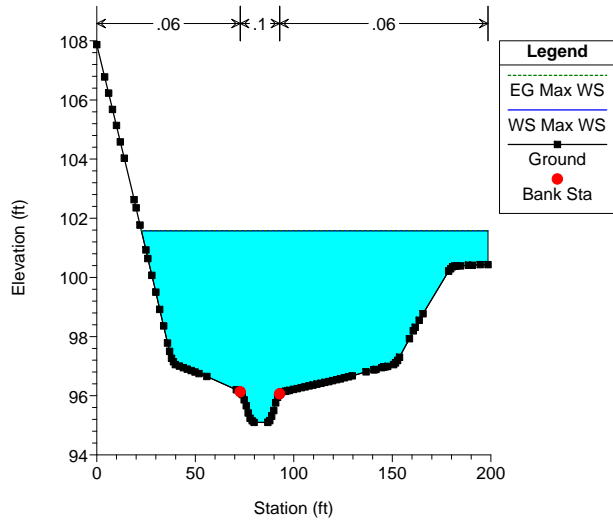
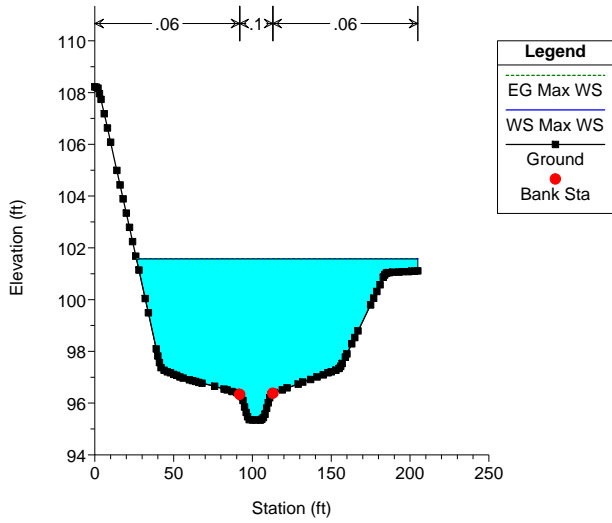


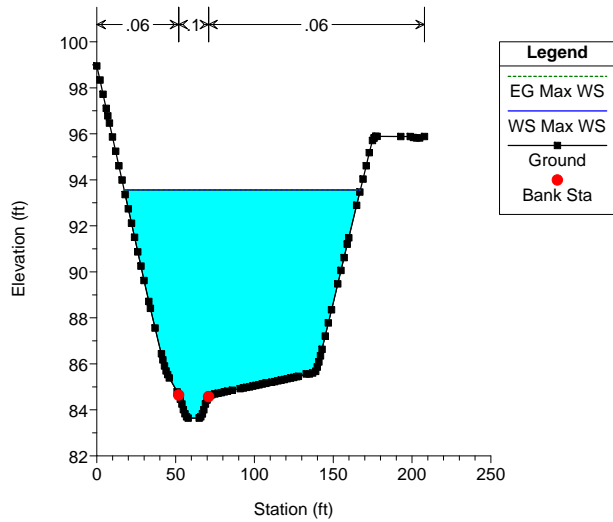
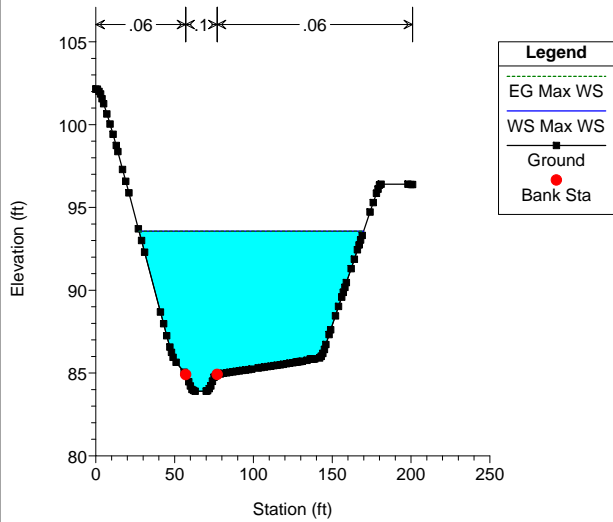
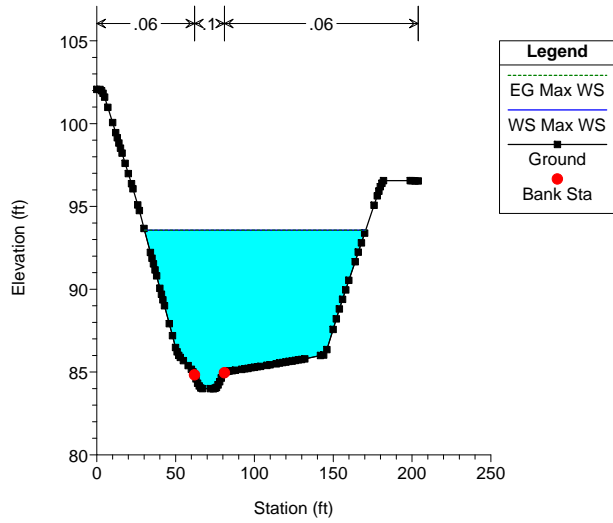
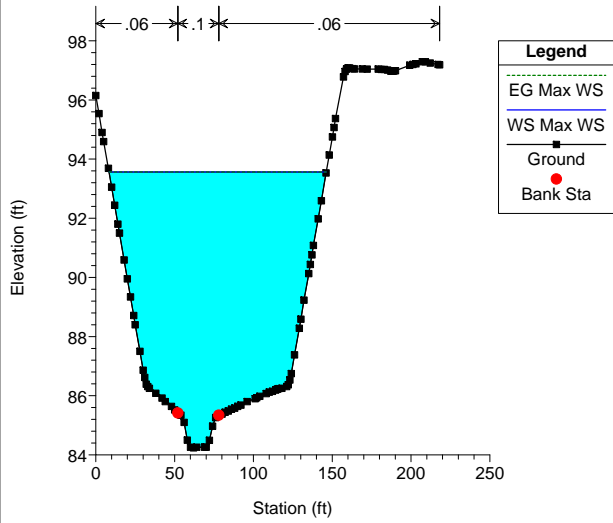
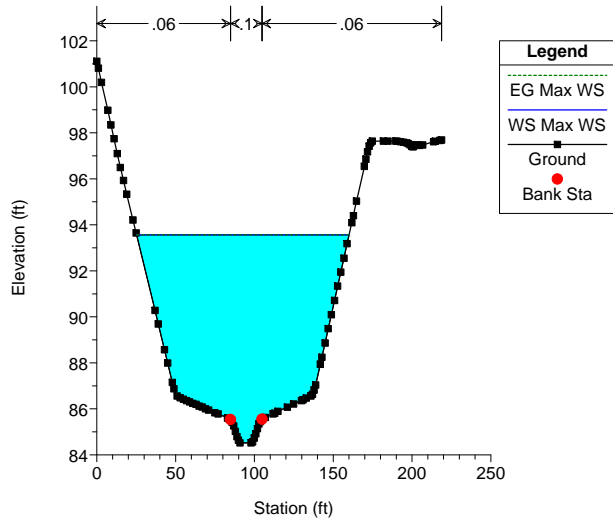
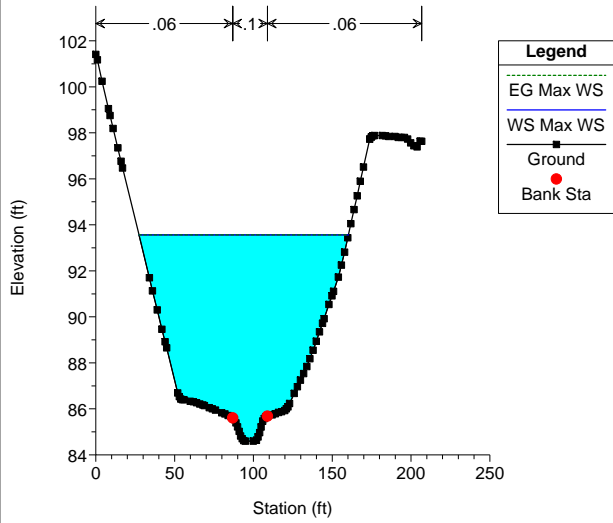


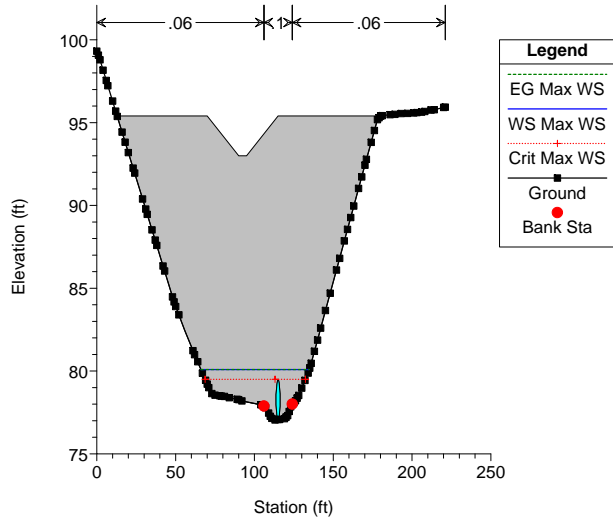
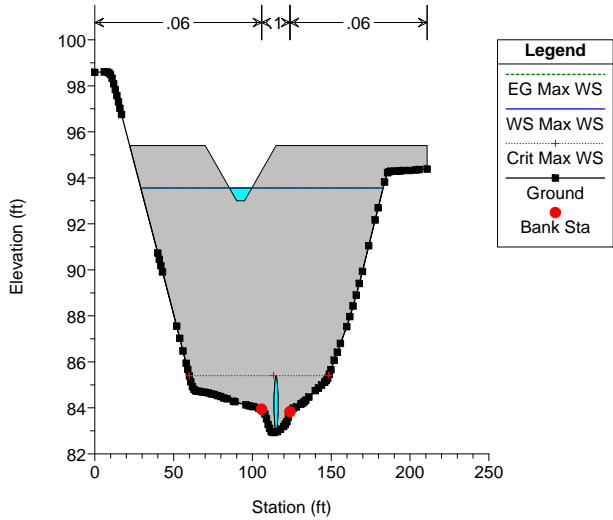
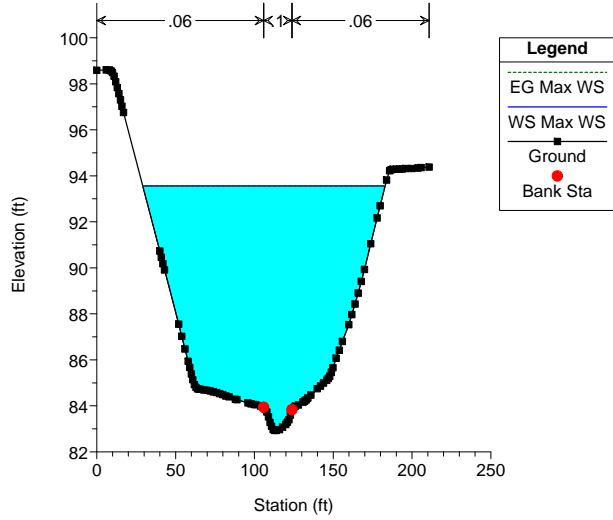
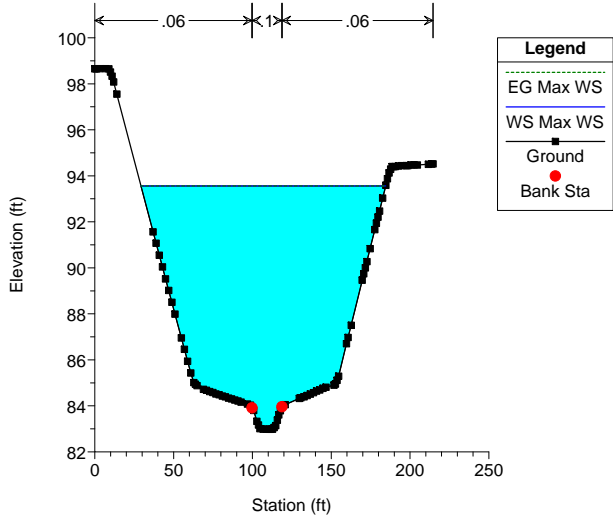
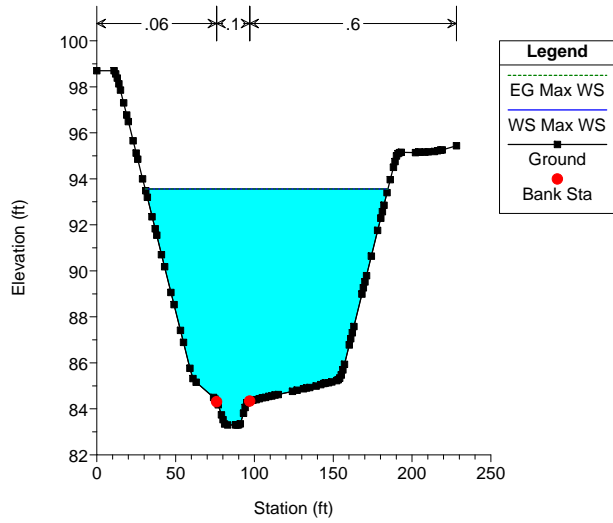
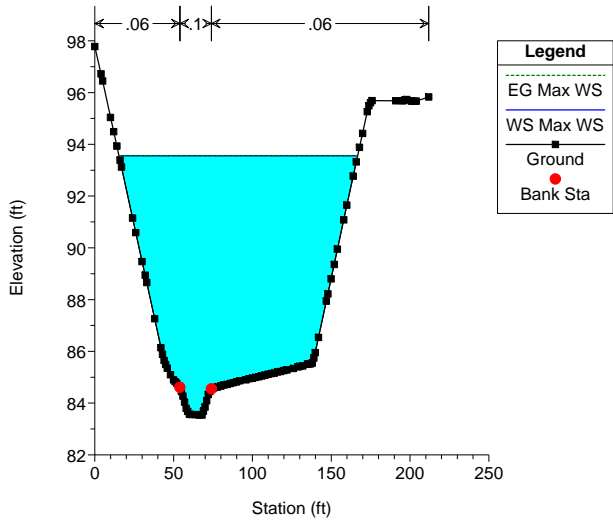


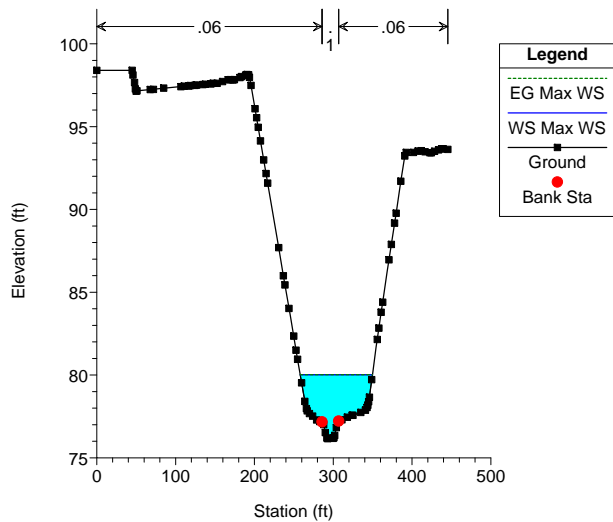
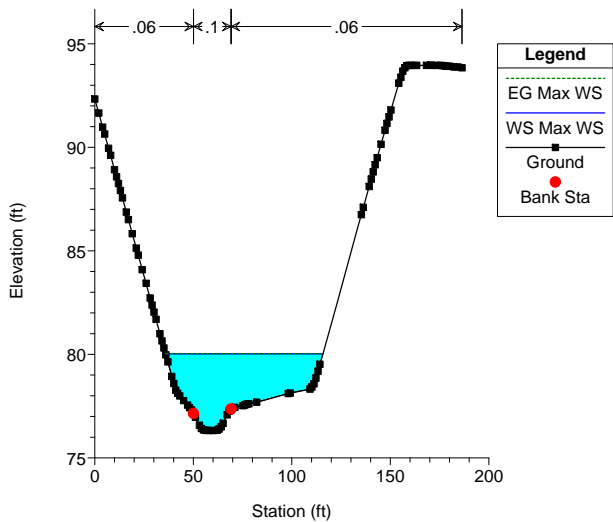
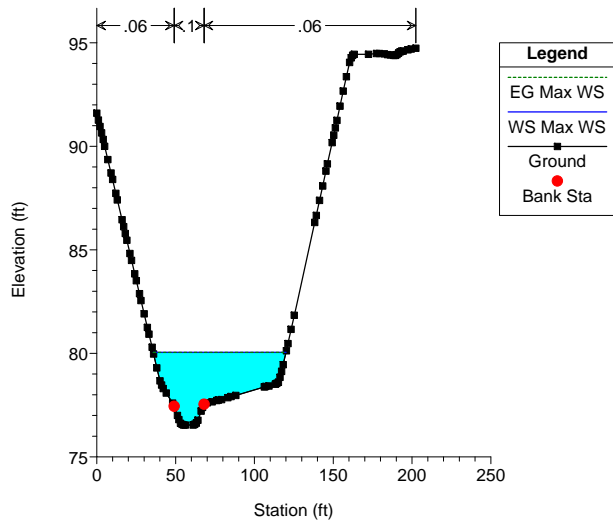
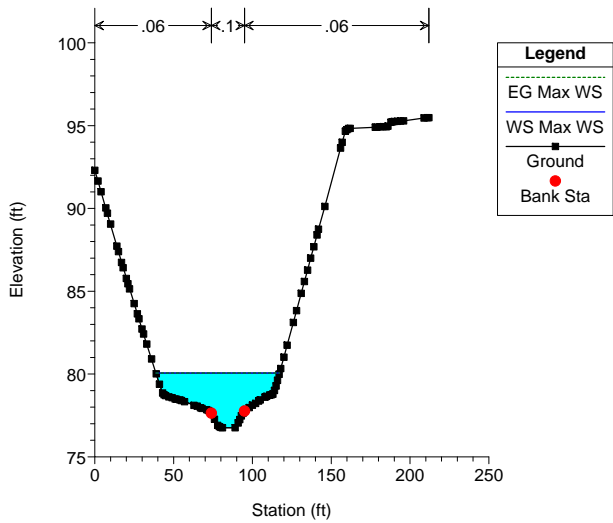
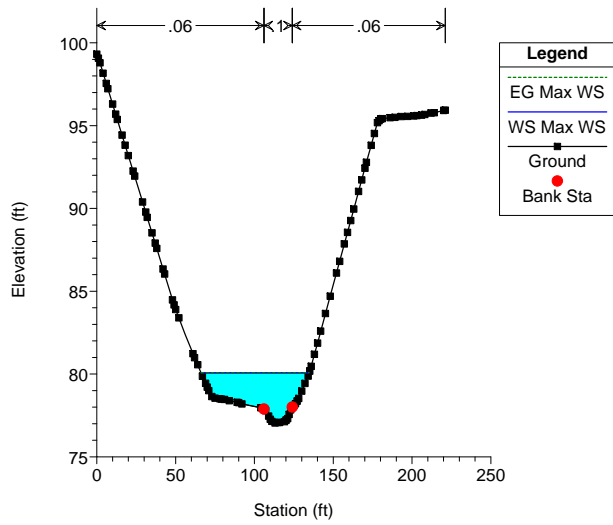
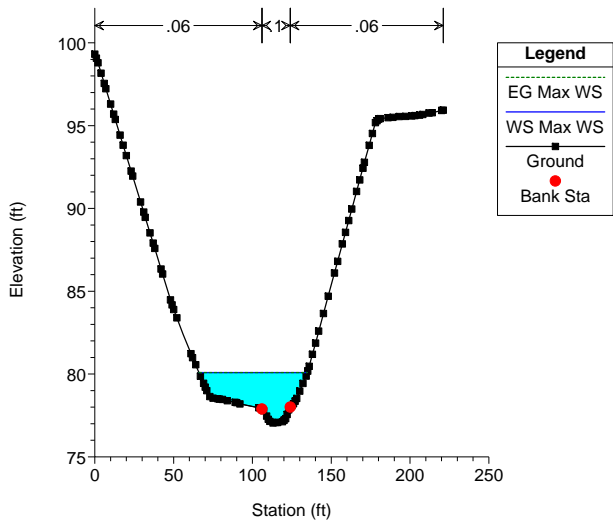


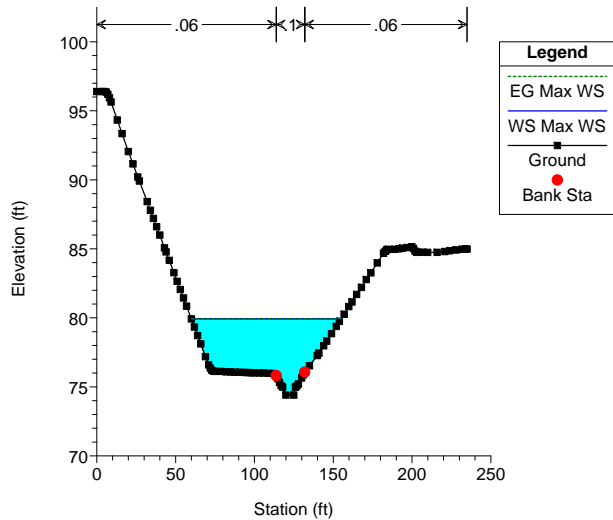
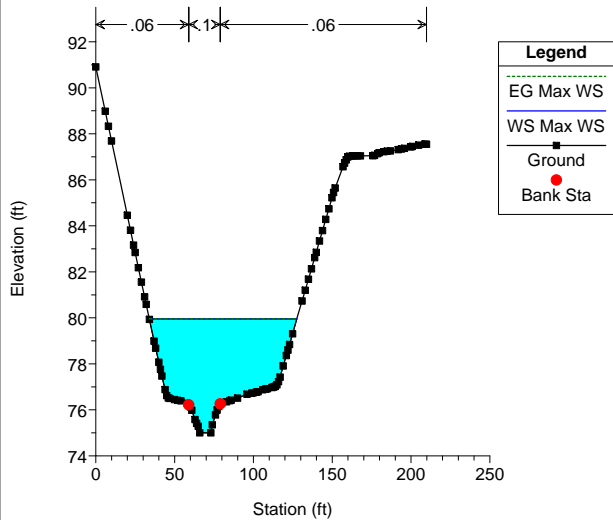
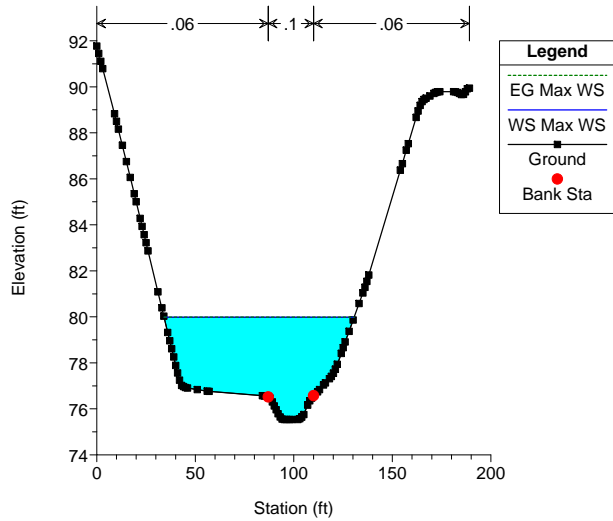
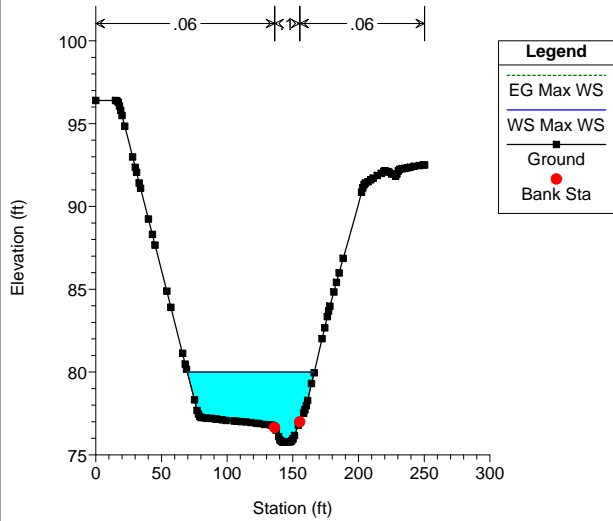
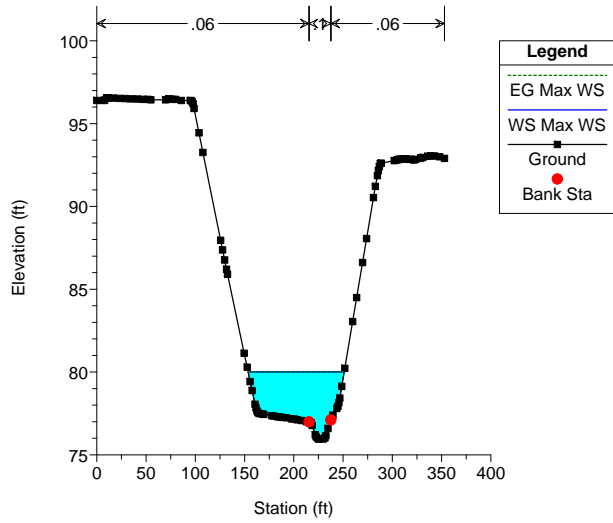
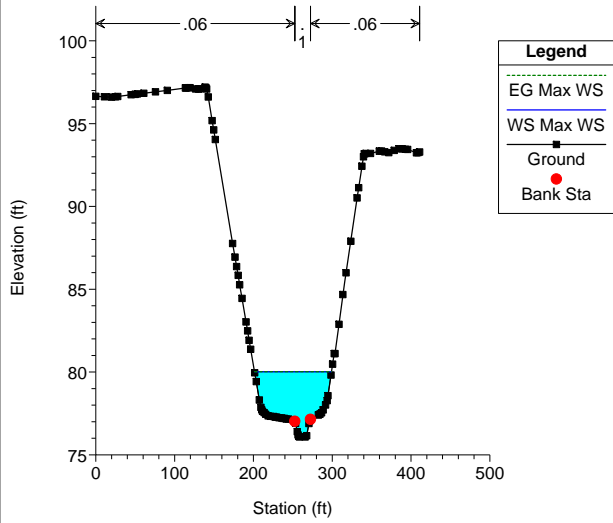


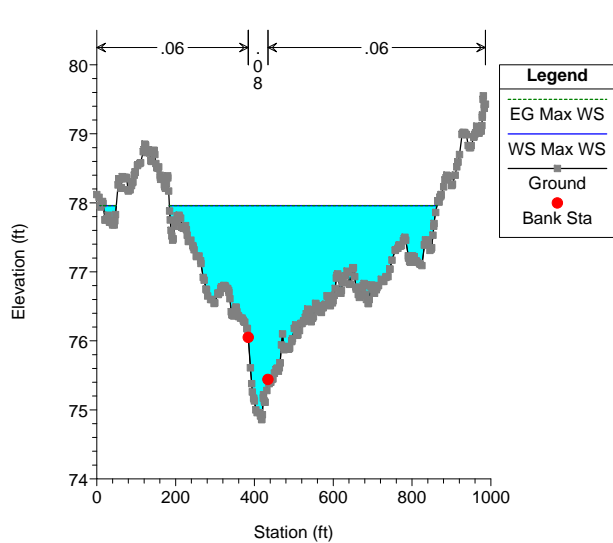
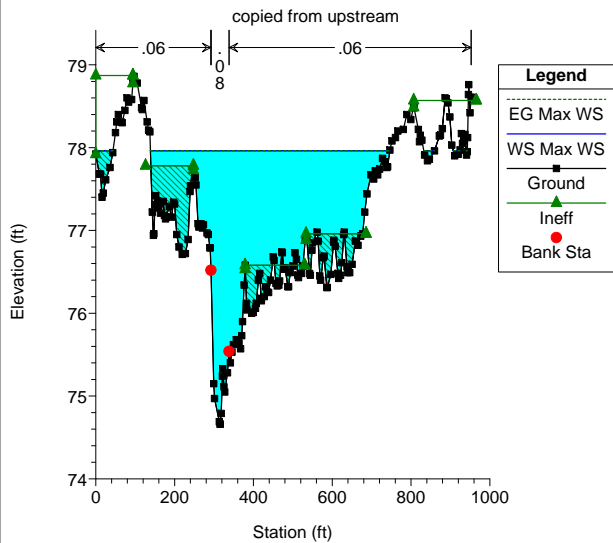
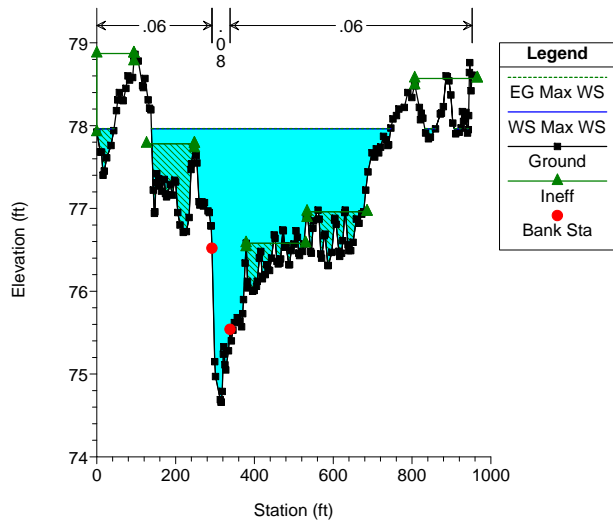
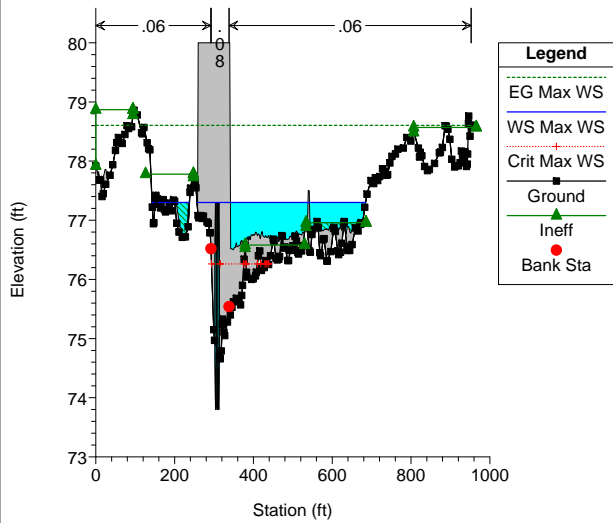
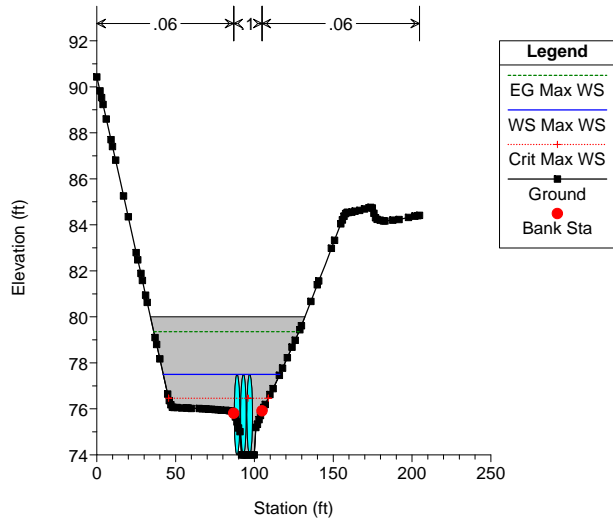
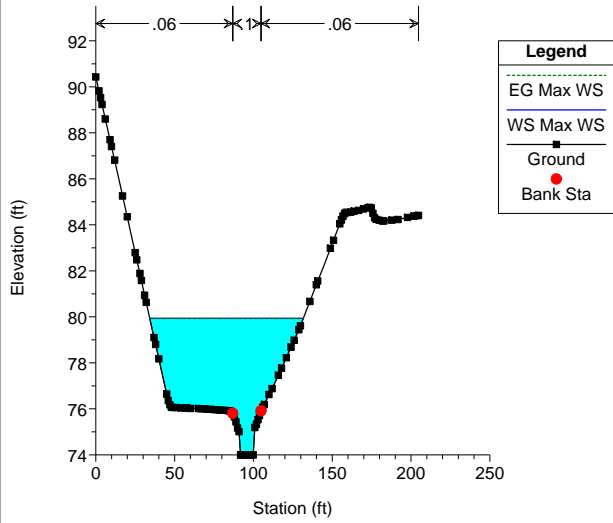




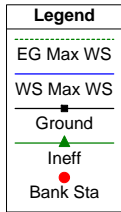
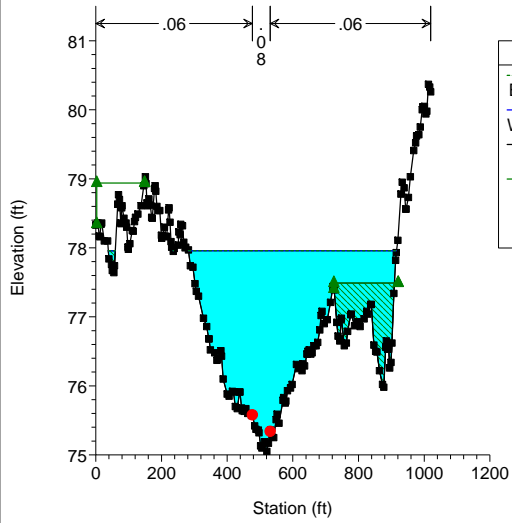




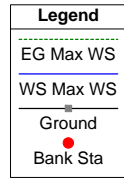
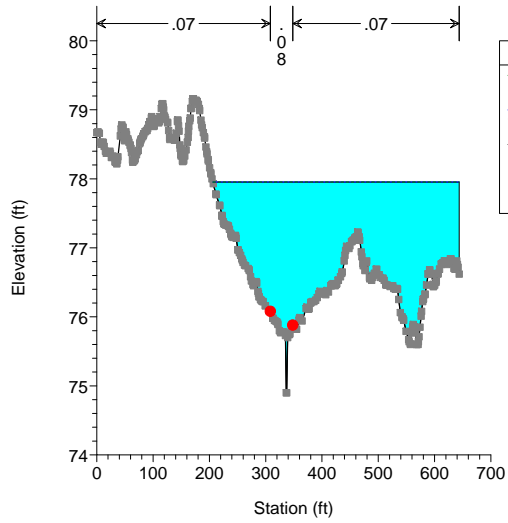




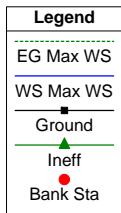
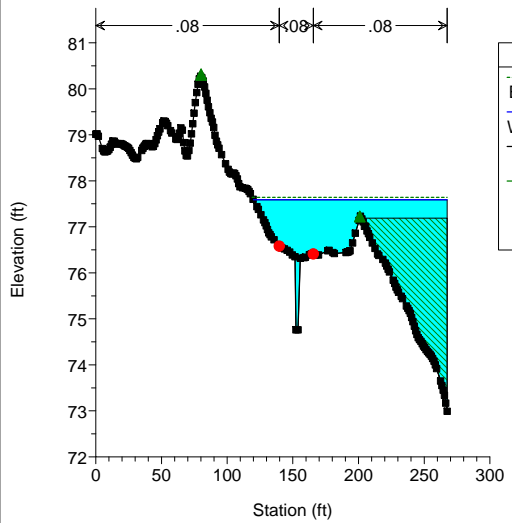
EG_JT_Comp_Model_RAS_5 Plan: EG ULT _JT Post_100y24h 12/7/2017



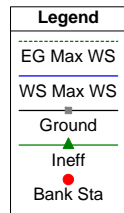
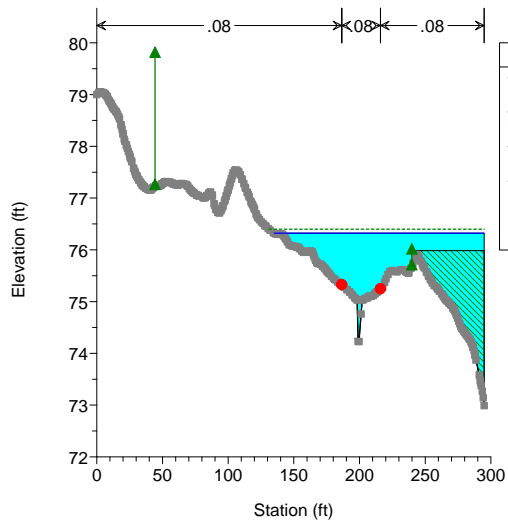
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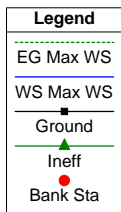
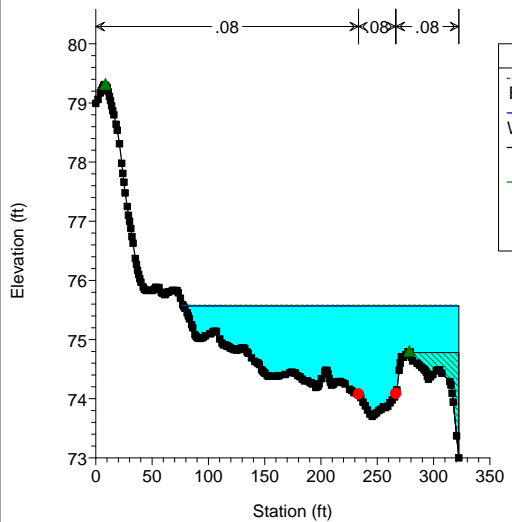
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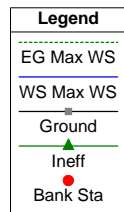
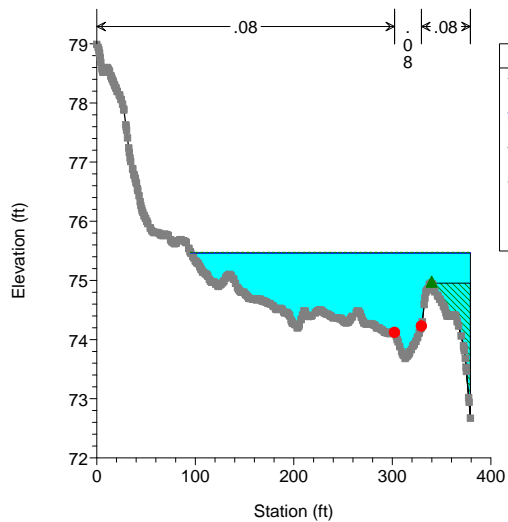
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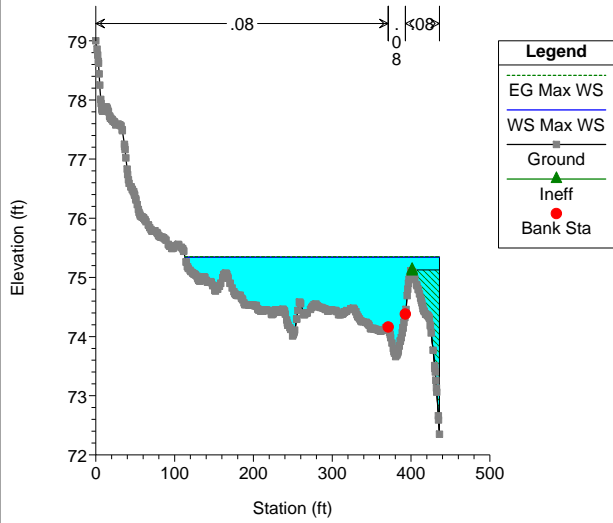
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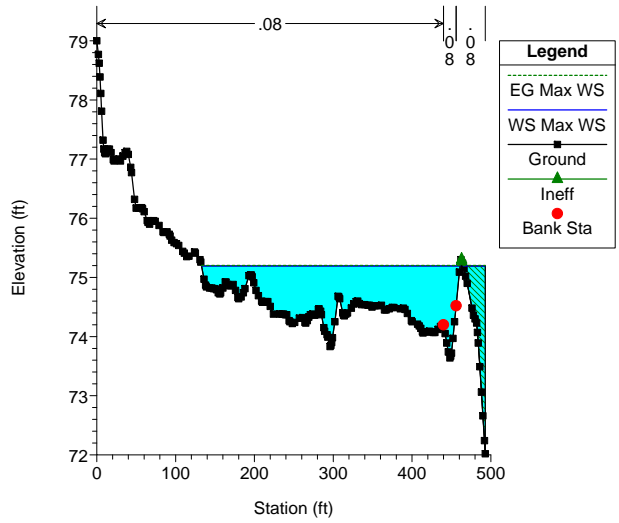
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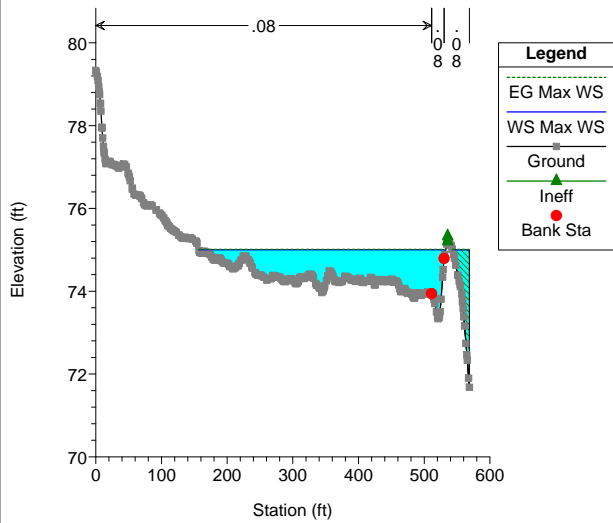
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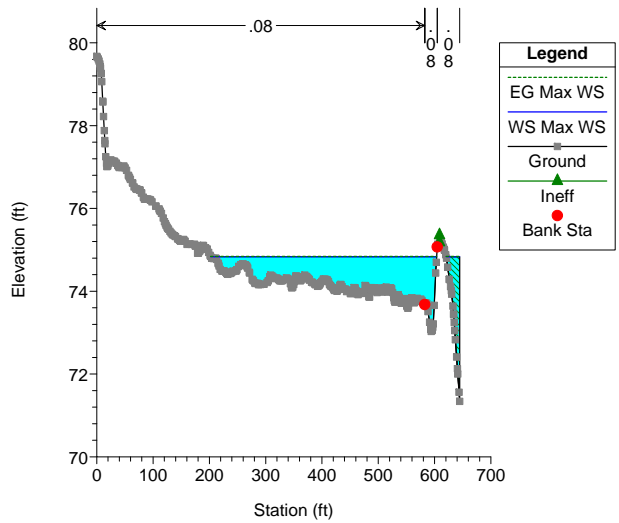
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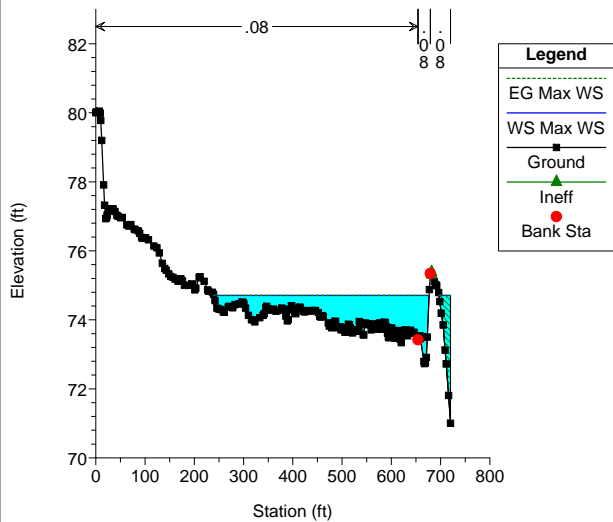
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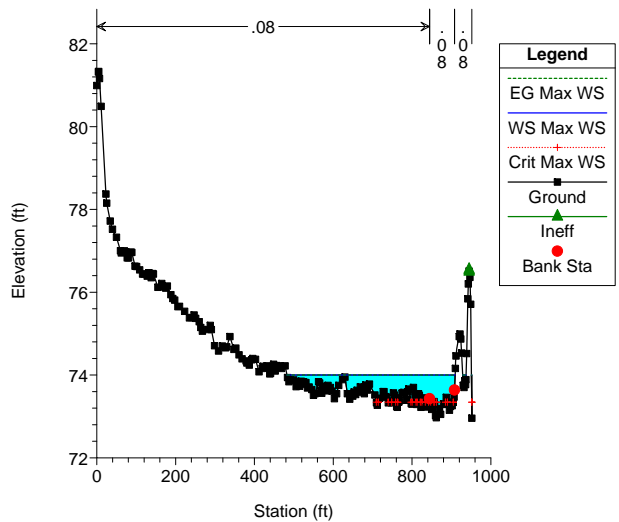
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EG_JT_Comp_Model_RAS_5 Plan: EG ULT _JT Post_100y24h 12/7/2017



EG_JT_Comp_Model_RAS_5 Plan: EG ULT _JT Post_100y24h 12/7/2017



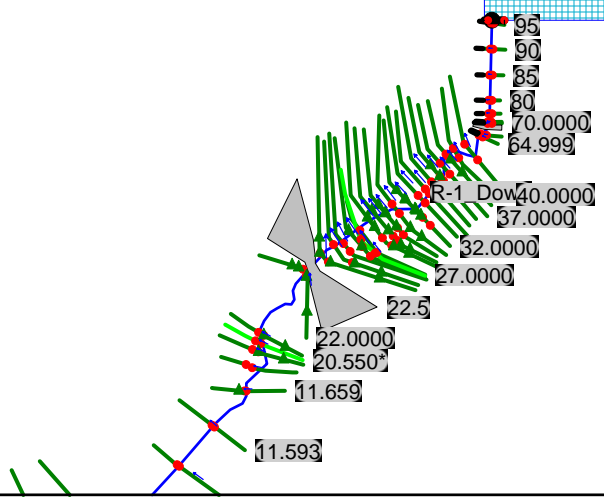
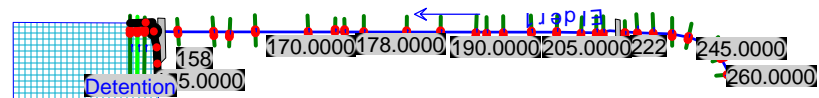
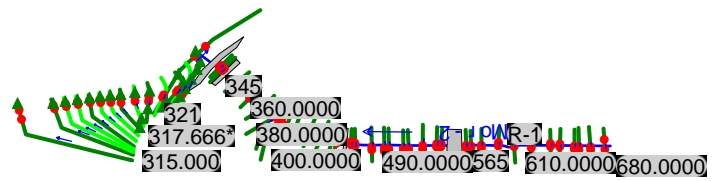
Jackson Township

**Phased Development Conditions
Phase1**

RAS Model Layout

and

10 & 100-Year Summary Results



River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Mor-2	R-1	680.0000	Max WS	7.17	98.71	100.70		100.70	0.000006	0.05	141.15	107.91	0.01
Mor-2	R-1	670.0000	Max WS	7.01	96.72	100.70		100.70	0.000000	0.02	328.75	131.94	0.00
Mor-2	R-1	660.0000	Max WS	7.24	96.54	100.70		100.70	0.000000	0.02	350.37	133.48	0.00
Mor-2	R-1	650.0000	Max WS	7.33	96.48	100.70		100.70	0.000000	0.02	357.31	133.78	0.00
Mor-2	R-1	640.0000	Max WS	7.63	96.26	100.70		100.70	0.000000	0.02	386.89	134.67	0.00
Mor-2	R-1	630.0000	Max WS	7.82	96.12	100.70		100.70	0.000000	0.02	403.52	136.14	0.00
Mor-2	R-1	620.0000	Max WS	63.08	95.84	100.70		100.70	0.000008	0.12	442.58	138.18	0.01
Mor-2	R-1	610.0000	Max WS	70.35	95.58	100.70		100.70	0.000008	0.12	486.38	146.02	0.01
Mor-2	R-1	600.0000	Max WS	70.63	95.34	100.70		100.70	0.000007	0.11	529.22	152.25	0.01
Mor-2	R-1	590.0000	Max WS	70.93	95.10	100.70		100.70	0.000006	0.11	571.88	172.79	0.01
Mor-2	R-1	580.0000	Max WS	111.24	94.94	100.70		100.70	0.000012	0.16	607.26	171.13	0.01
Mor-2	R-1	570.0000	Max WS	111.32	94.94	100.70		100.70	0.000012	0.16	607.19	171.13	0.01
Mor-2	R-1	565	Culvert										
Mor-2	R-1	560.0000	Max WS	76.26	86.60	91.61		91.61	0.000024	0.20	329.51	101.87	0.02
Mor-2	R-1	550.0000	Max WS	76.24	86.52	91.61		91.61	0.000018	0.18	365.03	107.98	0.01
Mor-2	R-1	540.0000	Max WS	77.25	86.24	91.61		91.61	0.000014	0.16	405.50	112.23	0.01
Mor-2	R-1	530.0000	Max WS	79.48	85.99	91.61		91.61	0.000010	0.15	447.53	115.44	0.01
Mor-2	R-1	520.0000	Max WS	79.48	85.90	91.61		91.61	0.000010	0.14	463.46	117.67	0.01
Mor-2	R-1	510.0000	Max WS	79.62	85.64	91.61		91.61	0.000007	0.13	506.56	123.32	0.01
Mor-2	R-1	500.0000	Max WS	79.60	85.54	91.61		91.61	0.000007	0.13	512.08	123.26	0.01
Mor-2	R-1	490.0000	Max WS	79.55	85.30	91.61		91.61	0.000032	0.28	543.37	125.39	0.02
Mor-2	R-1	480.0000	Max WS	79.48	84.98	91.61		91.61	0.000005	0.12	570.43	125.60	0.01
Mor-2	R-1	470.0000	Max WS	79.48	84.93	91.60		91.61	0.000006	0.12	555.17	124.45	0.01
Mor-2	R-1	465	Culvert										
Mor-2	R-1	460.0000	Max WS	70.45	77.05	83.41		83.42	0.000010	0.15	396.55	92.44	0.01
Mor-2	R-1	450.0000	Max WS	70.44	77.05	83.41		83.41	0.000010	0.15	396.51	92.44	0.01
Mor-2	R-1	440.0000	Max WS	71.93	76.76	83.41		83.41	0.000007	0.14	453.89	99.06	0.01
Mor-2	R-1	430.0000	Max WS	71.92	76.54	83.41		83.41	0.000005	0.12	498.31	104.48	0.01
Mor-2	R-1	410.0000	Max WS	71.89	76.32	83.41		83.41	0.000005	0.12	487.31	99.46	0.01
Mor-2	R-1	400.0000	Max WS	71.87	76.16	83.41		83.41	0.000004	0.10	577.09	113.65	0.01
Mor-2	R-1	390.0000	Max WS	71.85	76.08	83.41		83.41	0.000003	0.09	628.40	120.71	0.01
Mor-2	R-1	380.0000	Max WS	71.83	75.96	83.41		83.41	0.000003	0.09	630.77	119.16	0.01
Mor-2	R-1	370.0000	Max WS	75.05	75.76	83.41		83.41	0.000003	0.09	642.55	117.71	0.01
Mor-2	R-1	360.0000	Max WS	75.02	75.54	83.41		83.41	0.000003	0.09	665.82	119.20	0.01
Mor-2	R-1	350.0000	Max WS	78.21	75.24	83.41		83.41	0.000003	0.10	661.12	118.97	0.01
Mor-2	R-1	345	Culvert										
Mor-2	R-1	340.0000	Max WS	78.20	74.96	83.39		83.39	0.000002	0.09	698.37	126.07	0.01
Mor-2	R-1	339.999	Max WS	78.21	74.96	83.39		83.39	0.000002	0.09	698.37	126.07	0.01
Mor-2	R-1	330.001	Max WS	78.20	74.96	83.39		83.39	0.000002	0.09	712.44	128.14	0.01
Mor-2	R-1	330.0000	Max WS	78.20	74.96	83.39		83.39	0.000002	0.09	712.44	128.14	0.01
Mor-2	R-1	321.5	Culvert										
Mor-2	R-1	321	Max WS	78.11	75.08	77.35		77.35	0.000032	0.15	568.45	592.54	0.02
Mor-2	R-1	320.9	Max WS	78.10	74.66	77.35		77.35	0.000097	0.31	352.02	518.44	0.01
Mor-2	R-1	320.45*	Max WS	78.10	74.86	77.35		77.35	0.000047	0.21	489.00	567.42	0.03
Mor-2	R-1	320.0000	Max WS	78.10	75.05	77.34		77.34	0.000031	0.17	508.26	591.70	0.02
Mor-2	R-1	319.5*	Max WS	78.10	74.90	77.34		77.34	0.000104	0.25	381.34	417.04	0.04
Mor-2	R-1	319.0000	Max WS	78.09	74.76	77.07		77.12	0.015879	1.99	44.43	134.43	0.38
Mor-2	R-1	318.5*	Max WS	78.09	74.23	75.81		75.91	0.035398	2.82	33.33	124.66	0.58
Mor-2	R-1	318	Max WS	78.09	73.70	74.97		74.98	0.002504	0.99	112.19	211.13	0.17
Mor-2	R-1	317.666*	Max WS	78.09	73.68	74.91		74.92	0.003109	1.04	106.20	234.18	0.18
Mor-2	R-1	317.333*	Max WS	78.09	73.66	74.83		74.84	0.003881	1.08	106.26	257.88	0.20
Mor-2	R-1	317.0000	Max WS	78.09	73.64	74.71		74.72	0.007040	1.29	93.86	279.89	0.26
Mor-2	R-1	316.666*	Max WS	78.09	73.34	74.53		74.54	0.007182	1.36	96.82	308.69	0.27
Mor-2	R-1	316.333*	Max WS	78.09	73.03	74.38		74.39	0.004863	1.21	107.92	343.52	0.22
Mor-2	R-1	316.0000	Max WS	78.09	72.73	74.30		74.30	0.001958	0.85	146.13	362.52	0.15
Mor-2	R-1	315.0000	Max WS	15.00	72.97	74.00	73.34	74.00	0.000044	0.10	197.72	436.32	0.02
Elder1	R-1_Down	95	Max WS	345.72	90.20	99.57		99.58	0.000043	0.43	721.36	121.94	0.02
Elder1	R-1_Down	90	Max WS	345.69	90.10	99.57		99.57	0.000050	0.46	724.98	137.91	0.03
Elder1	R-1_Down	85	Max WS	347.44	90.00	99.56		99.56	0.000054	0.48	692.82	128.10	0.03
Elder1	R-1_Down	80	Max WS	348.27	89.92	99.55		99.55	0.000063	0.52	665.97	126.39	0.03
Elder1	R-1_Down	75.0000	Max WS	348.57	89.80	99.53		99.54	0.000078	0.58	611.33	119.05	0.03
Elder1	R-1_Down	73.3333*	Max WS	353.51	89.78	99.52		99.53	0.000080	0.59	600.20	113.24	0.03
Elder1	R-1_Down	71.6666*	Max WS	353.50	89.76	99.52		99.53	0.000082	0.59	587.17	107.38	0.03
Elder1	R-1_Down	70.0000	Max WS	353.49	89.74	99.51		99.52	0.000084	0.60	572.39	101.57	0.03
Elder1	R-1_Down	69.99	Max WS	363.15	89.74	99.50		99.51	0.000090	0.62	571.34	101.54	0.04
Elder1	R-1_Down	68	Culvert										
Elder1	R-1_Down	65.0000	Max WS	363.14	89.54	95.00		95.02	0.000574	1.06	300.31	83.25	0.08
Elder1	R-1_Down	64.999	Max WS	363.14	89.54	94.99		95.02	0.000576	1.06	300.07	83.23	0.08
Elder1	R-1_Down	40.0000	Max WS	363.13	89.45	94.88		94.93	0.002855	1.75	209.07	144.85	0.25
Elder1	R-1_Down	39.0000	Max WS	364.10	89.35	94.50		94.55	0.002451	1.94	222.41	173.18	0.24
Elder1	R-1_Down	38.0000	Max WS	364.49	89.30	94.34		94.40	0.002656	2.64	236.66	208.63	0.25
Elder1	R-1_Down	37.0000	Max WS	365.04	89.25	94.20		94.23	0.001004	1.35	324.19	239.26	0.16
Elder1	R-1_Down	36.0000	Max WS	365.53	89.20	93.75		93.91	0.008115	3.61	142.25	220.38	0.43
Elder1	R-1_Down	35.0000	Max WS	365.92	89.15	93.42		93.48	0.003689	2.38	215.11	245.86	0.30
Elder1	R-1_Down	34.0000	Max WS	366.30	89.10	93.23		93.28	0.002681	2.10	258.42	279.03	0.25
Elder1	R-1_Down	33.0000	Max WS	366.63	89.05	93.07		93.10	0.002467	1.71	279.08	289.63	0.23
Elder1	R-1_Down	32.0000	Max WS	367.29	88.95	92.75		92.77	0.001842	1.50	298.78	306.62	0.20
Elder1	R-1_Down	31.0000	Max WS	362.14	88.85	92.30		92.32	0.001874	1.48	318.16	324.91	0.20
Elder1	R-1_Down	30.0000	Max WS	354.43	88.75	92.01		92.03	0.001432	1.45	352.55	372.74	0.18
Elder1	R-1_Down	29.0000	Max WS	353.31	88.70	91.95		91.96	0.000805	1.24	440.53	400.93	0.14
Elder1	R-1_Down	28.0000	Max WS	352.92	88.65	91.91		91.92	0.000465	0.86	538.99	428.04	0.11
Elder1	R-1_Down	27.0000	Max WS	353.01	88.01	91.87		91.87	0.000107	0.47	854.77	440.49	0.05
Elder1	R-1_Down	26.5*	Max WS	353.02	88.28	91.86		91.86	0.000116	0.48	855.74	468.84	0.05
Elder1	R-1_Down	26.0000	Max WS	353.28	88.54	91.85		91.85	0.000192	0.58	750.38	482.68	0.07
Elder1	R-1_Down	25.0000	Max WS	353.74	88.53	91.82		91.83	0.000102	0.44	983.37	584.15	0.05
Elder1	R-1_Down	24.0000	Max WS	353.99	88.24	91.82		91.82	0.000062	0.37	1158.74	634.12	0.04

HEC-RAS Plan: JT100PH1 Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Elder1	R-1_Down	7.620	Max WS	559.09	51.00	55.99		56.02	0.000560	1.87	529.48	594.74	0.18
Elder1	R-1_Down	7.619	Lat Struct										
Elder1	R-1_Down	7.543	Max WS	472.44	50.76	55.50		55.73	0.002493	3.87	122.13	38.95	0.39
Elder1	R-1_Down	7.516	Max WS	430.41	50.67	55.14		55.35	0.001675	3.70	121.52	189.37	0.33
Elder1	R-1_Down	7.317	Max WS	96.75	49.76	54.49		54.49	0.000011	0.28	916.36	838.93	0.03
Elder1	R-1_Down	7.259	Lat Struct										
Elder1	R-1_Down	7.258	Max WS	911.72	49.57	54.16		54.25	0.001671	3.48	618.59	550.70	0.31
Elder1	R-1_Down	7.0770	Max WS	914.66	47.10	53.38	49.92	53.54	0.003042	3.44	330.15	109.23	0.24
Elder1	R-1_Down	7.05	Ini Struct										
Elder1	R-1_Down	7.0130	Max WS	914.63	46.84	53.23		53.38	0.002997	3.49	381.37	174.29	0.24
Elder1	R-1_Down	6.98	Lat Struct										
Elder1	R-1_Down	6.9650	Max WS	948.43	46.68	51.89	49.51	52.15	0.006651	4.55	262.34	87.96	0.35
Elder1	R-1_Down	6.94	Ini Struct										
Elder1	R-1_Down	6.9350	Max WS	947.51	42.39	51.85		51.92	0.001696	2.35	468.13	114.76	0.14
Elder1	R-1_Down	6.9141	Max WS	947.26	42.35	51.74		51.84	0.001242	2.25	366.42	109.76	0.13
Elder1	R-1_Down	6.91405*	Max WS	947.26	42.35	51.71		51.83	0.001408	2.39	344.93	109.57	0.14
Elder1	R-1_Down	6.9140	Max WS	947.00	42.35	51.68		51.82	0.001612	2.55	322.89	109.35	0.15
Elder1	R-1_Down	6.9135	Culvert										
Elder1	R-1_Down	6.9131	Max WS	945.22	41.36	51.43		51.55	0.001531	2.65	336.77	140.08	0.15
Elder1	R-1_Down	6.9130	Max WS	945.54	41.36	51.44		51.54	0.001221	2.37	376.39	140.41	0.13
Elder1	R-1_Down	6.9129	Lat Struct										
Elder1	R-1_Down	6.9128	Lat Struct										
Elder1	R-1_Down	6.89	Lat Struct										
Elder1	R-1_Down	6.8860	Max WS	1076.45	41.22	51.34		51.38	0.000653	1.72	756.66	142.51	0.10
Elder1	R-1_Down	6.8850	Max WS	1076.17	41.10	51.28		51.31	0.000511	1.55	846.94	153.45	0.09
Elder1	R-1_Down	6.8620	Max WS	1075.91	40.98	51.22		51.24	0.000495	1.53	841.50	150.49	0.08
Elder1	R-1_Down	6.8450	Max WS	1075.65	40.88	51.19		51.21	0.000208	1.00	1206.84	194.46	0.06
Elder1	R-1_Down	6.8330	Max WS	1075.67	40.82	51.18		51.19	0.000177	0.93	1129.78	222.14	0.05
Elder1	R-1_Down	6.8210	Max WS	1075.69	40.76	51.16		51.18	0.000222	1.04	958.27	234.95	0.06
Elder1	R-1_Down	6.82	Lat Struct										
Elder1	R-1_Down	6.8100	Max WS	1075.81	40.70	51.12		51.16	0.000440	1.45	675.10	156.87	0.08
Elder1	R-1_Down	6.791	Max WS	1075.18	40.66	50.92		51.08	0.001972	3.04	329.49	113.05	0.17
Elder1	R-1_Down	6.790	Culvert										
Elder1	R-1_Down	6.7890	Max WS	1073.99	40.64	50.66		50.84	0.002126	3.10	321.99	118.11	0.17
Elder1	R-1_Down	6.7730	Max WS	1073.76	40.60	50.63		50.69	0.001095	2.24	587.20	108.81	0.13
Elder1	R-1_Down	6.7610	Max WS	1073.27	40.54	50.54		50.61	0.001594	2.68	549.18	130.71	0.15
Elder1	R-1_Down	6.7480	Max WS	1073.02	40.48	50.51		50.53	0.000445	1.43	889.51	157.53	0.08
Elder1	R-1_Down	6.7410	Max WS	1072.78	40.44	50.49		50.51	0.000430	1.40	1013.73	221.58	0.08
Elder1	R-1_Down	6.7400	Max WS	1072.78	40.42	50.49		50.51	0.000343	1.25	1098.71	225.93	0.07
Elder1	R-1_Down	6.7190	Max WS	1072.52	40.30	50.45		50.47	0.000351	1.28	1150.49	261.39	0.07
Elder1	R-1_Down	6.7180	Max WS	1072.52	40.30	50.45		50.46	0.000365	1.30	1127.72	258.03	0.07
Elder1	R-1_Down	6.7110	Max WS	1072.52	40.26	50.43		50.45	0.000357	1.29	1091.71	248.61	0.07
Elder1	R-1_Down	6.7000	Max WS	1072.27	40.20	50.39		50.42	0.000608	1.68	840.88	209.41	0.09
Elder1	R-1_Down	6.6910	Max WS	1072.02	40.16	50.35		50.39	0.000779	1.90	699.15	163.53	0.11
Elder1	R-1_Down	6.6650	Max WS	1071.27	40.02	50.23		50.28	0.000930	2.08	719.60	261.46	0.12
Elder1	R-1_Down	6.6530	Max WS	1070.77	40.00	50.18		50.22	0.000838	1.97	744.49	291.82	0.11
Elder1	R-1_Down	6.6340	Max WS	1070.27	39.96	50.09		50.13	0.001004	2.15	787.55	357.12	0.12
Elder1	R-1_Down	6.6040	Max WS	1069.01	39.96	49.93		49.97	0.001013	2.14	735.43	311.77	0.12
Elder1	R-1_Down	6.59	Lat Struct										
Elder1	R-1_Down	6.5500	Max WS	1063.11	39.54	49.73		49.75	0.000622	1.71	1127.50	448.63	0.10
Elder1	R-1_Down	6.5290	Max WS	1061.70	39.40	49.65		49.68	0.000676	1.77	993.59	439.21	0.10
Elder1	R-1_Down	6.5070	Max WS	1058.53	39.40	49.52		49.57	0.001217	2.37	837.92	421.49	0.13
Elder1	R-1_Down	6.4940	Max WS	1055.14	39.22	49.47		49.49	0.000809	1.94	1147.19	651.59	0.11
Elder1	R-1_Down	6.4750	Max WS	1046.60	39.16	49.38		49.41	0.000834	1.99	1025.62	637.05	0.11
Elder1	R-1_Down	6.4420	Max WS	1042.83	39.04	49.23		49.26	0.000904	2.04	1064.19	636.09	0.11
Elder1	R-1_Down	6.4020	Max WS	1039.59	38.84	49.02		49.05	0.001085	2.24	1004.59	631.32	0.13
Elder1	R-1_Down	6.3630	Max WS	1037.38	38.64	48.82		48.85	0.000896	2.04	1105.28	663.81	0.11
Elder1	R-1_Down	6.3330	Max WS	1036.59	38.48	48.71		48.73	0.000486	1.51	848.72	486.35	0.08
Elder1	R-1_Down	6.2980	Max WS	1036.35	38.34	48.62		48.64	0.000481	1.50	896.48	398.38	0.08
Elder1	R-1_Down	6.2750	Max WS	1035.96	38.26	48.54		48.57	0.000669	1.77	835.52	361.41	0.10
Elder1	R-1_Down	6.2560	Max WS	1035.78	38.16	48.48		48.51	0.000536	1.58	785.18	259.90	0.09
Elder1	R-1_Down	6.2340	Max WS	1036.34	38.04	48.41		48.44	0.000680	1.80	890.69	388.96	0.10
Elder1	R-1_Down	6.2070	Max WS	1036.91	37.90	48.33		48.35	0.000638	1.75	1188.15	572.10	0.10
Elder1	R-1_Down	6.1800	Max WS	1037.50	37.76	48.24		48.26	0.000559	1.64	1108.88	401.77	0.09
Elder1	R-1_Down	6.1590	Max WS	1038.02	37.66	48.19		48.21	0.000495	1.55	1108.14	536.08	0.09
Elder1	R-1_Down	6.1400	Max WS	1038.54	37.56	48.14		48.16	0.000443	1.47	843.12	454.89	0.08
Elder1	R-1_Down	6.1190	Max WS	1039.01	37.46	48.09		48.11	0.000406	1.41	1136.56	964.15	0.08
Elder1	R-1_Down	6.1010	Max WS	1039.60	37.36	48.06		48.07	0.000359	1.33	1453.37	915.61	0.07
Elder1	R-1_Down	6.0850	Max WS	1039.83	37.28	48.02		48.04	0.000399	1.41	1329.76	836.11	0.08
Elder1	R-1_Down	6.0690	Max WS	1039.94	37.22	47.83		47.97	0.002810	3.71	585.96	680.93	0.20
Elder1	R-1_Down	6.05	Culvert										
Elder1	R-1_Down	6.0400	Max WS	1037.14	37.00	47.46		47.64	0.003916	4.31	409.41	501.23	0.24
Elder1	R-1_Down	6.0150	Max WS	1035.75	36.92	47.31		47.33	0.000774	1.90	1009.58	537.94	0.11
Elder1	R-1_Down	5.9940	Max WS	1034.50	36.84	47.21		47.24	0.000936	2.09	1031.71	538.65	0.12
Elder1	R-1_Down	5.9800	Max WS	1033.71	36.76	47.14		47.17	0.000899	2.04	960.11	599.50	0.11
Elder1	R-1_Down	5.9340	Max WS	1031.04	36.62	46.96		46.98	0.000602	1.66	1072.03	536.43	0.09
Elder1	R-1_Down	5.8910	Max WS	1030.22	36.46	46.89		46.91	0.000389	1.35	1159.61	512.55	0.07
Elder1	R-1_Down	5.8530	Max WS	1029.68	36.46	46.86		46.88	0.000398	1.36	1147.88	503.32	0.08
Elder1	R-1	260.0000	Max WS	21.29	117.38	127.16		127.16	0.000000	0.03	708.59	109.88	0.00
Elder1	R-1	255.0000	Max WS	21.25	117.08	127.16		127.16	0.000000	0.02	750.60	105.51	0.00
Elder1	R-1	250.0000	Max WS	150.36	116.80	127.16		127.16	0.000006	0.18	763.27	111.49	0.01
Elder1	R-1	245.0000	Max WS	150.69	116.44	127.15		127.16	0.000006	0.17	777.32	107.20	0.01
Elder1	R-1	240.0000	Max WS	189.36	116.16	127.15		127.15	0.000008	0.21	798.27	109.18	0.01
Elder1	R-1	235.0000	Max WS	189.63	115.88	127.15		127.15	0.000007	0.20	839.13	112.93	0.01
Elder1	R-1	230.0000	Max WS	189.86	115.64	127.15		127.15	0.000006	0.19	883.50	112.55	0.01
Elder1	R-1	225.0000	Max WS	190.04	115.44	127.15		127.15	0.000007	0.19	877.02	114.88	0.01

HEC-RAS Plan: JT100PH1 Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Elder1	R-1	222		Culvert									
Elder1	R-1	220.0000	Max WS	164.50	111.88	116.49		116.51	0.000658	0.97	164.88	59.32	0.08
Elder1	R-1	219	Max WS	163.73	111.88	116.42		116.44	0.000717	1.00	160.75	58.90	0.09
Elder1	R-1	215.0000	Max WS	378.11	111.56	116.09		116.17	0.003344	2.19	166.31	60.10	0.19
Elder1	R-1	210.0000	Max WS	378.47	111.04	115.52		115.60	0.003558	2.23	163.79	60.44	0.19
Elder1	R-1	205.0000	Max WS	378.13	110.48	114.97		115.04	0.003018	2.08	174.08	64.41	0.18
Elder1	R-1	200.0000	Max WS	378.36	109.88	114.40		114.47	0.002952	2.04	177.74	65.19	0.18
Elder1	R-1	197.0000	Max WS	378.49	109.56	114.05		114.13	0.003159	2.08	173.32	63.51	0.18
Elder1	R-1	195.0000	Max WS	378.75	109.32	113.82		113.89	0.003291	2.10	173.61	63.08	0.19
Elder1	R-1	190.0000	Max WS	399.92	108.56	113.03		113.11	0.003166	2.13	178.22	65.65	0.18
Elder1	R-1	185.0000	Max WS	399.18	107.84	112.30		112.38	0.003184	2.13	177.88	64.60	0.19
Elder1	R-1	180.0000	Max WS	394.86	106.93	111.40		111.47	0.003042	2.09	179.05	64.56	0.18
Elder1	R-1	178.0000	Max WS	398.18	106.52	111.02		111.09	0.002708	1.98	188.76	67.06	0.17
Elder1	R-1	177.0000	Max WS	395.51	106.32	110.86		110.93	0.002384	1.89	194.35	69.52	0.16
Elder1	R-1	175.0000	Max WS	387.04	105.76	110.48		110.53	0.001902	1.72	211.60	73.43	0.15
Elder1	R-1	170.0000	Max WS	381.80	104.64	109.99		110.03	0.000958	1.35	265.76	81.94	0.11
Elder1	R-1	167.0000	Max WS	391.28	104.08	109.88		109.90	0.000447	0.98	356.46	97.02	0.07
Elder1	R-1	165.0000	Max WS	391.76	103.76	109.83		109.85	0.000468	1.00	362.54	95.59	0.08
Elder1	R-1	160.0000	Max WS	392.74	102.98	109.74		109.76	0.000302	0.88	417.74	101.10	0.06
Elder1	R-1	158		Culvert									
Elder1	R-1	155.0000	Max WS	274.25	93.10	99.57		99.57	0.000013	0.16	1275.23	327.80	0.01
Elder1	R-1	152.5*	Max WS	274.24	93.08	99.57		99.57	0.000012	0.16	1319.54	333.68	0.01
Elder1	R-1	150.0000	Max WS	307.05	93.06	99.57	95.28	99.57	0.000014	0.18	1371.54	339.46	0.01

HEC-RAS Plan: JT10PH1 Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Elder1	R-1_Down	22.0000	Max WS	174.83	88.07	91.17		91.17	0.00090	0.39	576.26	412.84	0.05
Elder1	R-1_Down	21.0000	Max WS	247.66	86.60	88.65		88.74	0.008481	2.86	126.32	216.70	0.42
Elder1	R-1_Down	20.550*	Max WS	253.45	86.10	88.38		88.40	0.001519	1.34	240.07	220.79	0.18
Elder1	R-1_Down	20.1	Max WS	253.14	85.60	88.31		88.33	0.000976	1.26	279.62	245.39	0.15
Elder1	R-1_Down	11.724	Max WS	252.58	85.65	88.05		88.08	0.002976	1.81	193.33	235.05	0.26
Elder1	R-1_Down	11.659	Max WS	250.92	84.72	87.18		87.21	0.002150	1.95	207.98	220.97	0.23
Elder1	R-1_Down	11.593	Max WS	259.06	83.92	86.39		86.42	0.002596	1.95	207.52	245.35	0.25
Elder1	R-1_Down	11.538	Max WS	267.04	82.92	85.88		85.90	0.001150	1.55	254.96	216.86	0.17
Elder1	R-1_Down	11.482	Max WS	275.61	82.27	84.95		85.01	0.004950	2.50	158.21	185.37	0.33
Elder1	R-1_Down	11.433	Max WS	278.84	81.55	84.26		84.27	0.000747	1.62	411.03	507.11	0.20
Elder1	R-1_Down	11.376	Max WS	323.91	80.86	84.08		84.09	0.000426	1.42	423.39	321.19	0.16
Elder1	R-1_Down	11.313	Max WS	332.34	80.70	83.93		83.95	0.000500	1.46	361.71	237.14	0.17
Elder1	R-1_Down	11.252	Max WS	340.74	80.24	83.60		83.67	0.001420	2.56	245.56	240.16	0.29
Elder1	R-1_Down	11.175	Max WS	349.65	79.60	83.02		83.11	0.001716	2.73	215.85	251.80	0.31
Elder1	R-1_Down	11.125	Max WS	356.55	79.27	82.75		82.78	0.000553	1.65	366.98	359.70	0.18
Elder1	R-1_Down	11.063	Max WS	363.59	78.95	82.58		82.61	0.000646	1.82	513.86	747.14	0.20
Elder1	R-1_Down	10.995	Max WS	405.43	78.76	82.11		82.14	0.001465	2.27	433.56	608.79	0.28
Elder1	R-1_Down	10.936	Max WS	456.02	76.97	81.48		81.55	0.001964	2.96	359.33	449.58	0.33
Elder1	R-1_Down	10.884	Max WS	452.80	76.68	81.22		81.23	0.000172	1.20	815.96	450.19	0.11
Elder1	R-1_Down	10.834	Max WS	452.09	76.47	81.17		81.18	0.000158	1.18	801.18	422.89	0.10
Elder1	R-1_Down	10.775	Max WS	451.59	76.23	81.12		81.13	0.000174	1.27	765.75	476.08	0.11
Elder1	R-1_Down	10.7475*	Max WS	451.44	75.69	81.07		81.10	0.000377	1.94	525.18	374.22	0.16
Elder1	R-1_Down	10.720	Max WS	451.32	75.15	80.95		81.03	0.000905	3.04	373.36	375.85	0.25
Elder1	R-1_Down	10.705	Max WS	450.78	75.34	80.77		80.96	0.002081	3.87	257.79	515.49	0.36
Elder1	R-1_Down	10.704	Max WS	451.00	75.44	80.83		80.84	0.000379	1.39	684.28	554.99	0.15
Elder1	R-1_Down	10.689		Lat Struct									
Elder1	R-1_Down	10.686	Max WS	450.90	75.07	80.80		80.80	0.000285	1.19	836.68	624.70	0.12
Elder1	R-1_Down	10.681	Max WS	450.89	75.23	80.79		80.80	0.000166	1.16	853.09	644.76	0.10
Elder1	R-1_Down	10.65	Max WS	450.82	74.93	80.76		80.77	0.000114	1.12	562.70	358.06	0.09
Elder1	R-1_Down	10.63		Lat Struct									
Elder1	R-1_Down	10.619	Max WS	450.81	75.38	80.69		80.71	0.000516	1.55	423.93	288.47	0.17
Elder1	R-1_Down	10.613		Culvert									
Elder1	R-1_Down	10.607	Max WS	450.72	75.04	77.85		78.41	0.007584	5.97	75.45	365.48	0.66
Elder1	R-1_Down	10.562	Max WS	450.61	74.78	77.45		77.51	0.001726	2.21	314.03	376.50	0.30
Elder1	R-1_Down	10.507	Max WS	450.57	74.62	76.74		76.87	0.004151	3.14	188.00	201.02	0.45
Elder1	R-1_Down	10.442	Max WS	453.30	74.36	75.73		75.77	0.002315	1.65	327.21	442.16	0.31
Elder1	R-1_Down	10.361	Max WS	456.23	72.88	75.03		75.05	0.001135	1.75	522.44	557.36	0.24
Elder1	R-1_Down	10.312	Max WS	458.16	71.78	74.58		74.64	0.002379	2.80	340.82	527.46	0.35
Elder1	R-1_Down	10.272	Max WS	459.94	71.03	73.91		74.04	0.003756	3.48	238.02	316.32	0.45
Elder1	R-1_Down	10.214	Max WS	490.84	69.83	73.13		73.19	0.001912	2.73	324.92	283.51	0.32
Elder1	R-1_Down	10.141	Max WS	528.67	68.54	72.42		72.50	0.001932	2.95	332.83	282.82	0.33
Elder1	R-1_Down	10.09	Max WS	530.69	68.60	71.91		72.01	0.001866	3.07	305.73	278.15	0.33
Elder1	R-1_Down	10.034	Max WS	532.29	68.74	71.30		71.35	0.002542	2.90	415.49	512.50	0.37
Elder1	R-1_Down	9.974	Max WS	532.85	67.83	70.80		70.82	0.000942	1.91	608.42	616.54	0.23
Elder1	R-1_Down	9.919	Max WS	534.65	67.56	70.60		70.61	0.000455	1.59	678.49	510.00	0.17
Elder1	R-1_Down	9.878	Max WS	535.81	67.52	70.25		70.37	0.002284	3.01	246.53	518.37	0.36
Elder1	R-1_Down	9.813	Max WS	537.55	67.00	69.43		69.53	0.002498	2.99	285.30	419.13	0.37
Elder1	R-1_Down	9.749	Max WS	537.89	65.60	68.78		68.85	0.001486	2.47	361.07	344.66	0.29
Elder1	R-1_Down	9.701	Max WS	538.73	64.81	68.55		68.58	0.000470	1.71	570.15	412.28	0.17
Elder1	R-1_Down	9.633	Max WS	541.02	64.72	68.33		68.37	0.000717	1.83	477.95	474.19	0.20
Elder1	R-1_Down	9.566	Max WS	543.41	63.42	67.26		67.56	0.004663	4.53	145.07	140.37	0.51
Elder1	R-1_Down	9.524	Max WS	544.86	62.22	66.55		66.61	0.003152	2.44	308.14	366.75	0.38
Elder1	R-1_Down	9.49		Lat Struct									
Elder1	R-1_Down	9.486	Max WS	545.91	61.46	65.94		66.09	0.002300	3.36	253.46	355.41	0.37
Elder1	R-1_Down	9.438	Max WS	548.20	59.47	65.63		65.71	0.000700	2.34	341.88	349.11	0.21
Elder1	R-1_Down	9.387	Max WS	547.44	59.78	65.03		65.21	0.003237	3.64	212.52	257.64	0.42
Elder1	R-1_Down	9.329	Max WS	546.85	58.24	64.36		64.51	0.001268	3.03	180.21	102.65	0.28
Elder1	R-1_Down	9.282	Max WS	544.53	57.97	64.00		64.16	0.001465	3.21	171.61	149.76	0.30
Elder1	R-1_Down	9.228	Max WS	541.78	57.48	63.76		63.86	0.000674	2.51	216.22	349.97	0.21
Elder1	R-1_Down	9.185	Max WS	540.92	57.64	63.62		63.70	0.000672	2.37	339.06	484.00	0.21
Elder1	R-1_Down	9.143	Max WS	539.61	57.35	63.44		63.54	0.000797	2.61	224.51	486.08	0.23
Elder1	R-1_Down	9.091	Max WS	539.52	57.48	63.30		63.36	0.000484	2.08	357.63	486.62	0.18
Elder1	R-1_Down	9.039	Max WS	540.26	57.06	63.17		63.23	0.000478	2.03	390.76	362.25	0.18
Elder1	R-1_Down	8.975	Max WS	541.82	57.39	63.01		63.07	0.000471	2.05	431.58	587.51	0.18
Elder1	R-1_Down	8.969	Max WS	541.99	57.00	63.01	58.98	63.05	0.000445	1.61	503.21	576.50	0.16
Elder1	R-1_Down	8.961		Bridge									
Elder1	R-1_Down	8.954	Max WS	541.92	57.10	62.87		62.93	0.000362	1.89	435.92	642.47	0.16
Elder1	R-1_Down	8.89	Max WS	541.97	57.04	62.08		62.41	0.003715	4.62	129.54	319.90	0.47
Elder1	R-1_Down	8.811	Max WS	541.39	56.79	61.30		61.35	0.001062	2.32	398.00	871.58	0.25
Elder1	R-1_Down	8.752	Max WS	542.02	57.25	60.56		60.71	0.002970	3.54	248.10	770.16	0.41
Elder1	R-1_Down	8.697	Max WS	541.52	56.74	60.05		60.07	0.000659	1.49	739.46	1762.27	0.19
Elder1	R-1_Down	8.598	Max WS	542.50	55.92	59.75		59.76	0.000734	0.91	752.96	1208.31	0.17
Elder1	R-1_Down	8.565	Max WS	541.83	55.85	59.58		59.59	0.001617	1.18	601.80	1291.09	0.25
Elder1	R-1_Down	8.466	Max WS	539.45	55.58	59.22		59.23	0.000464	1.30	1083.26	1748.09	0.16
Elder1	R-1_Down	8.258	Max WS	535.36	55.90	58.37		58.38	0.001367	1.38	614.57	1971.19	0.24
Elder1	R-1_Down	8.195	Max WS	535.43	55.61	57.98		57.98	0.000736	0.80	851.40	1036.28	0.17
Elder1	R-1_Down	8.105	Max WS	536.30	55.58	57.83		57.83	0.000273	0.59	1165.36	1266.87	0.11
Elder1	R-1_Down	7.93	Max WS	533.31	54.96	57.03		57.08	0.002212	1.97	304.68	1444.14	0.32
Elder1	R-1_Down	7.863	Max WS	530.15	53.97	56.65		56.66	0.000244	0.78	1265.21	1990.14	0.11
Elder1	R-1_Down	7.862		Lat Struct									
Elder1	R-1_Down	7.783	Max WS	488.78	52.32	56.11		56.19	0.002573	2.40	248.89	861.04	0.35
Elder1	R-1_Down	7.740	Max WS	433.65	52.21	55.72		55.75	0.001376	2.02	390.05	586.50	0.27
Elder1	R-1_Down	7.689	Max WS	393.59	51.89	55.54		55.54	0.000074	0.38	1737.04	1789.87	0.06
Elder1	R-1_Down	7.625	Max WS	379.98	50.92	55.45	53.56	55.53	0.001263	2.38	195.33	234.61	0.27
Elder1	R-1_Down	7.6225		Bridge									
Elder1	R-1_Down	7.620	Max WS	379.94	51.00	55.43		55.47	0.000745	1.91	351.89	400.64	0.21

HEC-RAS Plan: JT10PH1 Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Elder1	R-1	220.0000	Max WS	122.75	111.88	115.73		115.74	0.000943	1.02	121.22	54.56	0.10
Elder1	R-1	219	Max WS	122.42	111.88	115.62		115.64	0.001107	1.07	115.57	53.90	0.10
Elder1	R-1	215.0000	Max WS	231.69	111.56	115.32		115.38	0.003295	1.89	121.91	55.76	0.18
Elder1	R-1	210.0000	Max WS	231.87	111.04	114.76		114.82	0.003557	1.94	119.44	56.06	0.19
Elder1	R-1	205.0000	Max WS	231.90	110.48	114.20		114.25	0.003063	1.83	126.39	59.74	0.18
Elder1	R-1	200.0000	Max WS	232.03	109.88	113.62		113.67	0.002998	1.78	128.99	60.25	0.17
Elder1	R-1	197.0000	Max WS	232.17	109.56	113.27		113.32	0.003221	1.82	125.62	58.44	0.18
Elder1	R-1	195.0000	Max WS	232.31	109.32	113.03		113.08	0.003350	1.82	126.02	58.06	0.18
Elder1	R-1	190.0000	Max WS	242.13	108.56	112.24		112.30	0.003185	1.86	128.49	60.41	0.18
Elder1	R-1	185.0000	Max WS	242.32	107.84	111.51		111.56	0.003228	1.86	128.42	59.77	0.18
Elder1	R-1	180.0000	Max WS	242.42	106.93	110.55		110.61	0.003350	1.88	126.65	59.31	0.18
Elder1	R-1	178.0000	Max WS	247.42	106.52	110.12		110.18	0.003227	1.83	131.13	61.01	0.18
Elder1	R-1	177.0000	Max WS	247.04	106.32	109.92		109.97	0.003087	1.82	131.79	63.11	0.18
Elder1	R-1	175.0000	Max WS	244.91	105.76	109.37		109.42	0.002962	1.77	135.06	63.96	0.17
Elder1	R-1	170.0000	Max WS	240.48	104.64	108.52		108.56	0.001863	1.49	155.71	67.56	0.14
Elder1	R-1	167.0000	Max WS	246.28	104.08	108.30		108.32	0.000827	1.06	213.82	83.18	0.09
Elder1	R-1	165.0000	Max WS	246.50	103.76	108.21		108.23	0.000832	1.07	219.79	80.49	0.09
Elder1	R-1	160.0000	Max WS	246.85	102.98	108.06		108.07	0.000476	0.89	260.89	84.59	0.07
Elder1	R-1	158	Culvert										
Elder1	R-1	155.0000	Max WS	165.65	93.10	100.75		100.75	0.000002	0.07	1666.92	336.57	0.00
Elder1	R-1	152.5*	Max WS	162.68	93.08	100.75		100.75	0.000002	0.07	1718.27	342.58	0.00
Elder1	R-1	150.0000	Max WS	180.32	93.06	96.72	94.93	96.72	0.000203	0.45	433.55	318.31	0.04

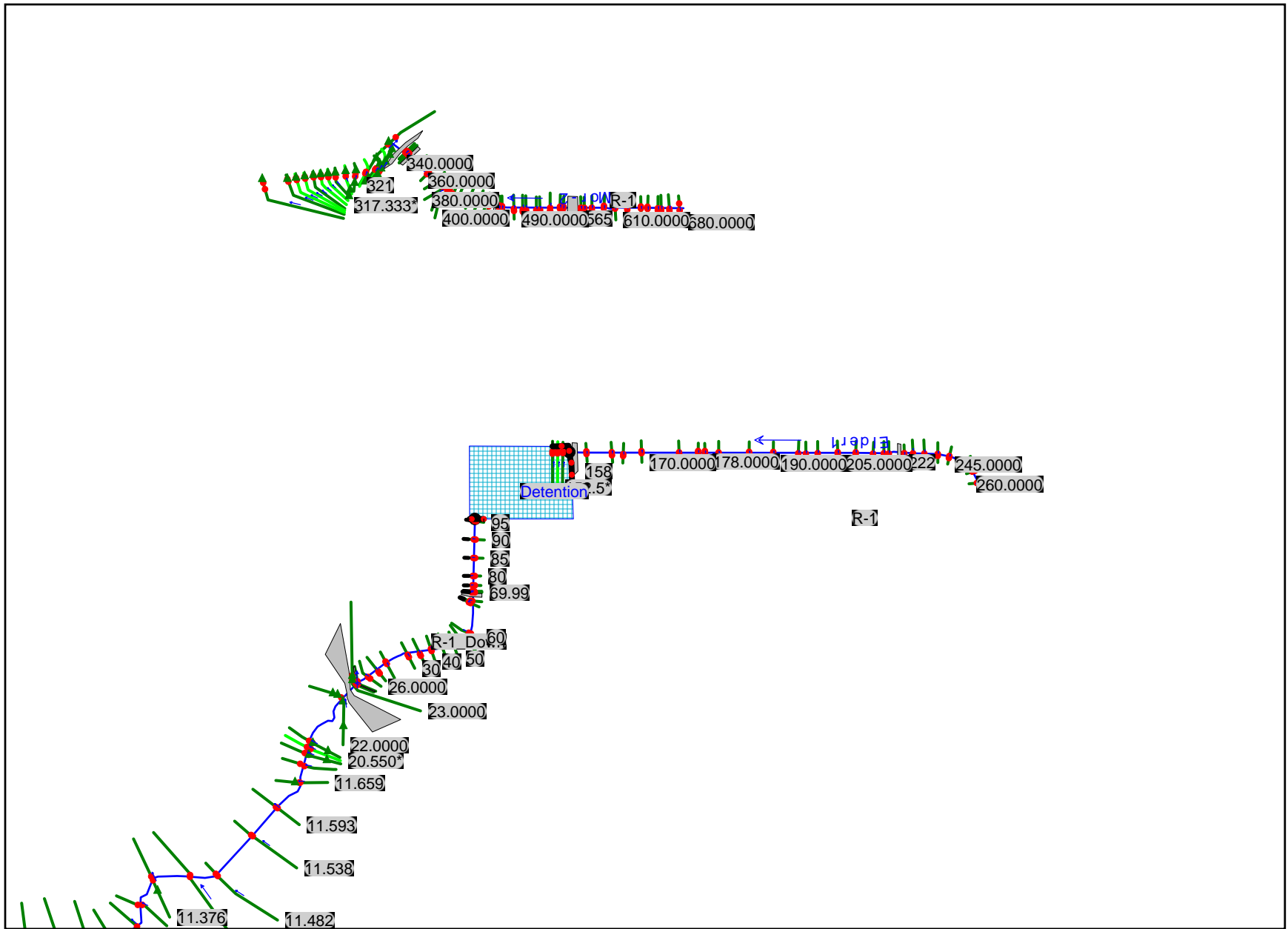
Jackson Township

**Phased Development Conditions
Phase2**

RAS Model Layout

and

10 & 100-Year Summary Results



River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Mor-2	R-1	680.0000	Max WS	24.35	98.71	101.46		101.46	0.000015	0.10	226.58	118.13	0.01
Mor-2	R-1	670.0000	Max WS	24.20	96.72	101.46		101.46	0.000001	0.05	430.24	137.13	0.00
Mor-2	R-1	660.0000	Max WS	24.44	96.54	101.46		101.46	0.000001	0.04	453.24	139.27	0.00
Mor-2	R-1	650.0000	Max WS	24.52	96.48	101.46		101.46	0.000001	0.04	460.41	139.60	0.00
Mor-2	R-1	640.0000	Max WS	24.81	96.26	101.46		101.46	0.000001	0.04	490.69	140.54	0.00
Mor-2	R-1	630.0000	Max WS	24.99	96.12	101.46		101.46	0.000001	0.04	508.48	142.17	0.00
Mor-2	R-1	620.0000	Max WS	79.12	95.84	101.45		101.45	0.000007	0.12	549.29	144.82	0.01
Mor-2	R-1	610.0000	Max WS	86.43	95.58	101.45		101.45	0.000007	0.12	599.42	153.79	0.01
Mor-2	R-1	600.0000	Max WS	86.69	95.34	101.45		101.45	0.000006	0.11	654.59	178.13	0.01
Mor-2	R-1	590.0000	Max WS	86.97	95.10	101.45		101.45	0.000005	0.11	703.33	175.45	0.01
Mor-2	R-1	580.0000	Max WS	125.09	94.94	101.45		101.45	0.000008	0.14	737.44	173.56	0.01
Mor-2	R-1	570.0000	Max WS	125.16	94.94	101.45		101.45	0.000008	0.14	737.40	173.56	0.01
Mor-2	R-1	565	Culvert										
Mor-2	R-1	560.0000	Max WS	90.88	86.60	93.43		93.43	0.000008	0.15	528.57	117.46	0.01
Mor-2	R-1	550.0000	Max WS	90.87	86.52	93.43		93.43	0.000006	0.13	572.18	120.22	0.01
Mor-2	R-1	540.0000	Max WS	95.93	86.24	93.43		93.43	0.000006	0.13	620.03	124.00	0.01
Mor-2	R-1	530.0000	Max WS	98.31	85.99	93.43		93.43	0.000005	0.12	667.58	126.81	0.01
Mor-2	R-1	520.0000	Max WS	98.30	85.90	93.43		93.43	0.000004	0.12	687.54	129.03	0.01
Mor-2	R-1	510.0000	Max WS	98.27	85.64	93.43		93.43	0.000004	0.11	741.74	135.48	0.01
Mor-2	R-1	500.0000	Max WS	98.26	85.54	93.43		93.43	0.000003	0.11	747.79	136.12	0.01
Mor-2	R-1	490.0000	Max WS	98.23	85.30	93.43		93.43	0.000016	0.24	783.33	138.48	0.01
Mor-2	R-1	480.0000	Max WS	98.19	84.98	93.42		93.42	0.000003	0.10	811.43	139.33	0.01
Mor-2	R-1	470.0000	Max WS	98.18	84.93	93.42		93.42	0.000003	0.10	793.84	137.84	0.01
Mor-2	R-1	465	Culvert										
Mor-2	R-1	460.0000	Max WS	80.77	77.05	85.28		85.28	0.000004	0.12	580.12	104.25	0.01
Mor-2	R-1	450.0000	Max WS	80.46	77.05	85.28		85.28	0.000004	0.12	580.08	104.25	0.01
Mor-2	R-1	440.0000	Max WS	84.86	76.76	85.28		85.28	0.000003	0.11	649.20	110.53	0.01
Mor-2	R-1	430.0000	Max WS	84.51	76.54	85.28		85.28	0.000003	0.10	703.37	115.64	0.01
Mor-2	R-1	410.0000	Max WS	73.26	76.32	85.27		85.27	0.000002	0.09	682.71	110.36	0.01
Mor-2	R-1	400.0000	Max WS	70.31	76.16	85.27		85.27	0.000001	0.07	800.22	126.13	0.00
Mor-2	R-1	390.0000	Max WS	87.63	76.08	85.27		85.27	0.000002	0.08	864.00	132.72	0.00
Mor-2	R-1	380.0000	Max WS	87.34	75.96	85.27		85.27	0.000002	0.08	863.45	130.97	0.00
Mor-2	R-1	370.0000	Max WS	147.24	75.76	85.27		85.27	0.000004	0.14	872.84	129.95	0.01
Mor-2	R-1	360.0000	Max WS	146.52	75.54	85.27		85.27	0.000004	0.13	898.52	130.98	0.01
Mor-2	R-1	350.0000	Max WS	153.98	75.24	85.27		85.27	0.000005	0.15	895.12	132.61	0.01
Mor-2	R-1	345	Culvert										
Mor-2	R-1	340.0000	Max WS	108.75	74.96	85.26		85.26	0.000002	0.10	967.07	192.47	0.01
Mor-2	R-1	339.999	Max WS	108.35	74.96	85.26		85.26	0.000002	0.10	967.04	192.47	0.01
Mor-2	R-1	330.001	Max WS	107.53	74.96	85.25		85.25	0.000002	0.10	1004.94	187.79	0.01
Mor-2	R-1	330.0000	Max WS	107.32	74.96	85.25		85.25	0.000002	0.10	1004.89	187.78	0.01
Mor-2	R-1	321.5	Culvert										
Mor-2	R-1	321	Max WS	138.57	75.08	77.67		77.67	0.000043	0.20	758.31	611.98	0.02
Mor-2	R-1	320.9	Max WS	138.62	74.66	77.66		77.66	0.000116	0.37	488.74	573.37	0.04
Mor-2	R-1	320.45*	Max WS	138.55	74.86	77.66		77.66	0.000062	0.27	680.70	645.92	0.03
Mor-2	R-1	320.0000	Max WS	138.54	75.05	77.66		77.66	0.000059	0.26	670.20	616.47	0.03
Mor-2	R-1	319.5*	Max WS	138.54	74.90	77.65		77.65	0.000128	0.32	512.37	426.96	0.04
Mor-2	R-1	319.0000	Max WS	138.53	74.76	77.37		77.44	0.016786	2.51	78.69	143.60	0.42
Mor-2	R-1	318.5*	Max WS	138.53	74.23	76.05		76.20	0.037352	3.50	55.53	141.60	0.62
Mor-2	R-1	318	Max WS	138.51	73.70	75.18		75.20	0.003162	1.25	159.49	235.98	0.19
Mor-2	R-1	317.666*	Max WS	138.48	73.68	75.10		75.12	0.003988	1.33	154.03	268.17	0.21
Mor-2	R-1	317.333*	Max WS	138.48	73.66	75.01		75.02	0.004429	1.30	149.69	295.85	0.22
Mor-2	R-1	317.0000	Max WS	138.44	73.64	74.88		74.90	0.006429	1.41	141.66	328.02	0.26
Mor-2	R-1	316.666*	Max WS	138.34	73.34	74.72		74.73	0.005392	1.31	155.70	345.94	0.24
Mor-2	R-1	316.333*	Max WS	138.25	73.03	74.60		74.61	0.003447	1.15	187.01	392.25	0.19
Mor-2	R-1	316.0000	Max WS	138.17	72.73	74.53		74.54	0.001877	0.94	242.73	455.82	0.15
Mor-2	R-1	315.0000	Max WS	15.00	72.97	74.00	73.34	74.00	0.000044	0.10	197.72	436.32	0.02
Elder1	R-1_Down	95	Max WS	372.86	90.16	99.77		99.78	0.000121	0.73	464.42	70.07	0.04
Elder1	R-1_Down	90	Max WS	372.85	90.00	99.74		99.76	0.000163	0.85	424.87	67.98	0.05
Elder1	R-1_Down	85	Max WS	375.02	89.81	99.72		99.73	0.000172	0.88	417.29	66.18	0.05
Elder1	R-1_Down	80	Max WS	375.00	89.62	99.69		99.70	0.000180	0.89	409.47	62.79	0.05
Elder1	R-1_Down	75.0000	Max WS	381.14	89.56	99.67		99.68	0.000189	0.91	407.75	60.79	0.05
Elder1	R-1_Down	70.0000	Max WS	381.12	89.47	99.64		99.65	0.000161	0.86	436.55	61.53	0.05
Elder1	R-1_Down	69.99	Max WS	395.40	89.45	99.64		99.65	0.000176	0.88	444.78	62.83	0.05
Elder1	R-1_Down	68	Culvert										
Elder1	R-1_Down	65.0000	Max WS	302.66	89.16	99.47		99.47	0.000032	0.39	668.96	94.24	0.02
Elder1	R-1_Down	64.999	Max WS	303.09	89.16	99.47		99.47	0.000032	0.39	668.93	94.24	0.02
Elder1	R-1_Down	60	Max WS	303.66	89.09	99.47		99.47	0.000013	0.25	1011.12	138.40	0.01
Elder1	R-1_Down	55	Max WS	304.33	88.97	99.47		99.47	0.000004	0.14	1661.78	212.08	0.01
Elder1	R-1_Down	50	Max WS	304.94	88.82	99.47		99.47	0.000004	0.14	1649.63	206.02	0.01
Elder1	R-1_Down	45	Max WS	304.64	88.69	99.47		99.47	0.000004	0.14	1642.23	201.02	0.01
Elder1	R-1_Down	40	Max WS	304.64	88.54	99.47		99.47	0.000004	0.14	1636.40	199.81	0.01
Elder1	R-1_Down	35	Max WS	304.64	88.41	99.47		99.47	0.000004	0.14	1679.01	203.57	0.01
Elder1	R-1_Down	30	Max WS	304.78	88.25	99.47		99.47	0.000004	0.14	1674.64	196.20	0.01
Elder1	R-1_Down	28.0000	Max WS	304.71	87.97	99.47		99.47	0.000003	0.13	1731.74	194.80	0.01
Elder1	R-1_Down	27.0000	Max WS	304.68	87.83	99.47		99.47	0.000003	0.13	1774.82	197.96	0.01
Elder1	R-1_Down	26.0000	Max WS	304.65	87.69	99.47		99.47	0.000003	0.12	1917.31	212.18	0.01
Elder1	R-1_Down	25.0000	Max WS	304.63	87.53	99.47		99.47	0.000002	0.10	2251.84	263.08	0.01
Elder1	R-1_Down	24.5	Culvert										
Elder1	R-1_Down	24.0000	Max WS	304.63	87.48	91.89		91.90	0.000176	0.50	515.79	187.83	0.04
Elder1	R-1_Down	23.0000	Max WS	254.41	87.40	91.33		91.48	0.009558	3.06	83.04	167.49	0.30
Elder1	R-1_Down	22.5	Culvert										
Elder1	R-1_Down	22.0000	Max WS	251.99	87.40	91.23		91.23	0.000157	0.58	607.50	414.87	0.06
Elder1	R-1_Down	21.0000	Max WS	335.22	86.60	88.83		88.92	0.007285	2.88	167.08	219.77	0.40
Elder1	R-1_Down	20.550*	Max WS	348.75	86.10	88.60		88.62	0.001725	1.55	289.08	240.79	0.20
Elder1	R-1_Down	20.1000	Max WS	346.69	85.60	88.51		88.53	0.001127	1.43	329.88	252.78	0.17
Elder1	R-1_Down	11.724	Max WS	341.70	85.65	88.24		88.28	0.002913	1.94	239.39	241.36	0.26

HEC-RAS Plan: JT100_PH2 Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Elder1	R-1_Down	7.258	Max WS	848.02	49.57	54.03		54.14	0.001925	3.66	550.64	546.01	0.34
Elder1	R-1_Down	7.0770	Max WS	850.99	47.10	53.25	49.80	53.39	0.002926	3.33	315.78	101.81	0.24
Elder1	R-1_Down	7.05		Inl Struct									
Elder1	R-1_Down	7.0130	Max WS	850.92	46.84	53.08		53.23	0.002979	3.43	356.46	165.76	0.24
Elder1	R-1_Down	6.98		Lat Struct									
Elder1	R-1_Down	6.9650	Max WS	888.75	46.68	51.65	49.41	51.93	0.007247	4.60	241.88	86.59	0.36
Elder1	R-1_Down	6.94		Inl Struct									
Elder1	R-1_Down	6.9350	Max WS	887.37	42.39	51.60		51.67	0.001747	2.34	439.87	110.05	0.15
Elder1	R-1_Down	6.9141	Max WS	886.78	42.35	51.49		51.59	0.001197	2.17	356.17	108.08	0.13
Elder1	R-1_Down	6.91405*	Max WS	886.78	42.35	51.47		51.58	0.001356	2.31	335.35	107.91	0.14
Elder1	R-1_Down	6.9140	Max WS	886.48	42.35	51.44		51.56	0.001551	2.46	313.98	107.70	0.15
Elder1	R-1_Down	6.9135		Culvert									
Elder1	R-1_Down	6.9131	Max WS	884.57	41.36	51.21		51.32	0.001456	2.55	328.55	134.09	0.14
Elder1	R-1_Down	6.9130	Max WS	884.90	41.36	51.22		51.31	0.001164	2.28	367.00	134.33	0.13
Elder1	R-1_Down	6.9129		Lat Struct									
Elder1	R-1_Down	6.9128		Lat Struct									
Elder1	R-1_Down	6.89		Lat Struct									
Elder1	R-1_Down	6.8860	Max WS	1018.29	41.22	51.12		51.15	0.000637	1.68	724.32	137.16	0.10
Elder1	R-1_Down	6.8850	Max WS	1017.76	41.10	51.06		51.08	0.000492	1.50	813.71	145.85	0.08
Elder1	R-1_Down	6.8620	Max WS	1017.56	40.98	51.00		51.02	0.000483	1.49	809.05	144.34	0.08
Elder1	R-1_Down	6.8450	Max WS	1017.34	40.88	50.98		50.99	0.000199	0.97	1164.94	187.37	0.05
Elder1	R-1_Down	6.8330	Max WS	1017.41	40.82	50.96		50.98	0.000173	0.90	1099.15	214.55	0.05
Elder1	R-1_Down	6.8210	Max WS	1017.47	40.76	50.94		50.96	0.000216	1.01	934.28	221.21	0.06
Elder1	R-1_Down	6.82		Lat Struct									
Elder1	R-1_Down	6.8100	Max WS	1017.47	40.70	50.91		50.94	0.000426	1.41	658.87	148.24	0.08
Elder1	R-1_Down	6.791	Max WS	1016.57	40.66	50.71		50.87	0.001898	2.94	322.30	105.86	0.17
Elder1	R-1_Down	6.790		Culvert									
Elder1	R-1_Down	6.7890	Max WS	1015.19	40.64	50.49		50.65	0.002023	2.99	316.02	116.37	0.17
Elder1	R-1_Down	6.7730	Max WS	1014.99	40.60	50.46		50.51	0.001070	2.18	568.40	107.22	0.12
Elder1	R-1_Down	6.7610	Max WS	1014.17	40.54	50.36		50.43	0.001599	2.65	526.53	129.12	0.15
Elder1	R-1_Down	6.7480	Max WS	1013.95	40.48	50.33		50.35	0.000436	1.40	862.08	156.33	0.08
Elder1	R-1_Down	6.7410	Max WS	1014.00	40.44	50.32		50.34	0.000407	1.35	976.15	207.85	0.08
Elder1	R-1_Down	6.7400	Max WS	1014.02	40.42	50.32		50.33	0.000332	1.22	1059.69	218.01	0.07
Elder1	R-1_Down	6.7190	Max WS	1013.73	40.30	50.28		50.29	0.000339	1.24	1106.17	250.40	0.07
Elder1	R-1_Down	6.7180	Max WS	1013.73	40.30	50.27		50.29	0.000352	1.26	1084.23	245.33	0.07
Elder1	R-1_Down	6.7110	Max WS	1013.72	40.26	50.26		50.28	0.000346	1.25	1050.47	231.00	0.07
Elder1	R-1_Down	6.7000	Max WS	1013.46	40.20	50.22		50.25	0.000593	1.64	806.90	188.97	0.09
Elder1	R-1_Down	6.6910	Max WS	1013.20	40.16	50.18		50.22	0.000751	1.85	673.99	151.12	0.10
Elder1	R-1_Down	6.6650	Max WS	1012.41	40.02	50.07		50.11	0.000889	2.01	679.63	226.99	0.11
Elder1	R-1_Down	6.6530	Max WS	1012.15	40.00	50.02		50.06	0.000799	1.90	702.26	242.02	0.11
Elder1	R-1_Down	6.6340	Max WS	1011.63	39.96	49.94		49.98	0.000915	2.03	735.82	315.45	0.11
Elder1	R-1_Down	6.6040	Max WS	1010.35	39.96	49.78		49.83	0.000948	2.05	693.73	276.50	0.12
Elder1	R-1_Down	6.59		Lat Struct									
Elder1	R-1_Down	6.5500	Max WS	1008.78	39.54	49.59		49.61	0.000583	1.64	1069.57	426.35	0.09
Elder1	R-1_Down	6.5290	Max WS	1008.03	39.40	49.52		49.55	0.000672	1.75	938.48	420.75	0.10
Elder1	R-1_Down	6.5070	Max WS	1007.05	39.40	49.40		49.44	0.001120	2.25	786.91	387.75	0.13
Elder1	R-1_Down	6.4940	Max WS	1006.32	39.22	49.34		49.37	0.000883	2.01	1064.47	637.51	0.11
Elder1	R-1_Down	6.4750	Max WS	1005.62	39.16	49.25		49.28	0.000863	2.00	952.77	596.76	0.11
Elder1	R-1_Down	6.4420	Max WS	1004.53	39.04	49.08		49.11	0.001019	2.15	974.88	575.58	0.12
Elder1	R-1_Down	6.4020	Max WS	1003.41	38.84	48.87		48.90	0.000896	2.01	913.36	564.07	0.11
Elder1	R-1_Down	6.3630	Max WS	1002.07	38.64	48.65		48.68	0.001081	2.21	998.24	617.43	0.12
Elder1	R-1_Down	6.3330	Max WS	1001.61	38.48	48.53		48.55	0.000495	1.51	819.97	435.22	0.08
Elder1	R-1_Down	6.2980	Max WS	1001.20	38.34	48.44		48.46	0.000502	1.51	862.88	335.95	0.09
Elder1	R-1_Down	6.2750	Max WS	1001.07	38.26	48.36		48.39	0.000668	1.75	799.30	283.64	0.10
Elder1	R-1_Down	6.2560	Max WS	1000.82	38.16	48.29		48.32	0.000550	1.58	757.28	193.34	0.09
Elder1	R-1_Down	6.2340	Max WS	1001.31	38.04	48.23		48.26	0.000588	1.66	845.02	274.63	0.09
Elder1	R-1_Down	6.2070	Max WS	1002.09	37.90	48.18		48.19	0.000292	1.17	1119.54	536.79	0.07
Elder1	R-1_Down	6.1800	Max WS	1002.86	37.76	48.12		48.13	0.000501	1.54	1060.31	367.02	0.09
Elder1	R-1_Down	6.1590	Max WS	1003.40	37.66	48.07		48.09	0.000360	1.31	1055.21	496.61	0.07
Elder1	R-1_Down	6.1400	Max WS	1003.87	37.56	48.02		48.05	0.000439	1.45	816.07	393.80	0.08
Elder1	R-1_Down	6.1190	Max WS	1004.48	37.46	47.98		48.00	0.000412	1.41	1054.42	836.81	0.08
Elder1	R-1_Down	6.1010	Max WS	1005.00	37.36	47.95		47.96	0.000377	1.35	1364.58	764.91	0.07
Elder1	R-1_Down	6.0850	Max WS	1005.26	37.28	47.92		47.93	0.000415	1.43	1244.84	757.39	0.08
Elder1	R-1_Down	6.0690	Max WS	1003.95	37.22	47.71		47.86	0.003026	3.82	507.32	573.69	0.21
Elder1	R-1_Down	6.05		Culvert									
Elder1	R-1_Down	6.0400	Max WS	1001.44	37.00	47.26		47.37	0.001175	2.33	377.56	274.07	0.13
Elder1	R-1_Down	6.0150	Max WS	1000.99	36.92	47.23		47.25	0.000787	1.90	973.58	470.51	0.11
Elder1	R-1_Down	5.9940	Max WS	1000.10	36.84	47.13		47.16	0.000974	2.12	989.75	516.84	0.12
Elder1	R-1_Down	5.9800	Max WS	999.42	36.76	47.06		47.09	0.000923	2.05	922.57	581.83	0.11
Elder1	R-1_Down	5.9340	Max WS	997.38	36.62	46.88		46.90	0.000608	1.66	1040.84	502.87	0.09
Elder1	R-1_Down	5.8910	Max WS	996.44	36.46	46.81		46.82	0.000389	1.34	1127.32	488.76	0.07
Elder1	R-1_Down	5.8530	Max WS	996.21	36.46	46.78		46.79	0.000399	1.36	1115.79	483.90	0.08
Elder1	R-1	260.0000	Max WS	21.84	117.38	127.24		127.24	0.000000	0.03	718.11	110.43	0.00
Elder1	R-1	255.0000	Max WS	21.77	117.08	127.24		127.24	0.000000	0.02	759.73	105.71	0.00
Elder1	R-1	250.0000	Max WS	148.84	116.80	127.24		127.24	0.000006	0.17	772.94	111.97	0.01
Elder1	R-1	245.0000	Max WS	149.14	116.44	127.24		127.24	0.000005	0.16	786.64	107.68	0.01
Elder1	R-1	240.0000	Max WS	190.33	116.16	127.24		127.24	0.000008	0.21	807.75	109.71	0.01
Elder1	R-1	235.0000	Max WS	190.58	115.88	127.24		127.24	0.000007	0.20	848.94	113.48	0.01
Elder1	R-1	230.0000	Max WS	190.78	115.64	127.24		127.24	0.000006	0.18	893.52	118.13	0.01
Elder1	R-1	225.0000	Max WS	190.95	115.44	127.24		127.24	0.000006	0.19	887.00	115.42	0.01
Elder1	R-1	222		Culvert									
Elder1	R-1	220.0000	Max WS	159.31	111.88	116.53		116.54	0.000596	0.93	166.78	59.51	0.08
Elder1	R-1	219	Max WS	158.36	111.88	116.46		116.48	0.000642	0.95	163.05	59.13	0.08
Elder1	R-1	215.0000	Max WS	381.61	111.56	116.14		116.22	0.003229	2.16	169.22	60.38	0.19
Elder1	R-1	210.0000	Max WS	383.73	111.04	115.59		115.67	0.003368	2.20	168.23	60.86	0.19
Elder1	R-1	205.0000	Max WS	383.90	110.48	115.08		115.15	0.002735	2.02	181.52	65.11	0.17

HEC-RAS Plan: JT100_PH2 Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Elder1	R-1	200.0000	Max WS	383.77	109.88	114.59		114.66	0.002462	1.92	190.30	66.41	0.16
Elder1	R-1	197.0000	Max WS	382.06	109.56	114.32		114.38	0.002415	1.90	190.28	65.19	0.16
Elder1	R-1	195.0000	Max WS	431.91	109.32	114.07		114.15	0.003242	2.17	190.04	64.74	0.19
Elder1	R-1	190.0000	Max WS	459.03	108.56	113.29		113.38	0.003135	2.21	195.69	67.40	0.19
Elder1	R-1	185.0000	Max WS	455.64	107.84	112.58		112.67	0.003071	2.19	196.23	66.39	0.18
Elder1	R-1	180.0000	Max WS	446.98	106.93	111.75		111.83	0.002674	2.07	202.51	66.79	0.17
Elder1	R-1	178.0000	Max WS	454.93	106.52	111.43		111.50	0.002313	1.94	216.81	69.75	0.16
Elder1	R-1	177.0000	Max WS	464.56	106.32	111.28		111.35	0.002120	1.90	224.58	72.48	0.15
Elder1	R-1	175.0000	Max WS	459.82	105.76	110.95		111.00	0.001691	1.74	247.05	77.41	0.14
Elder1	R-1	170.0000	Max WS	457.58	104.64	110.51		110.55	0.000880	1.38	309.63	86.98	0.10
Elder1	R-1	167.0000	Max WS	470.73	104.08	110.41		110.43	0.000432	1.02	408.88	101.67	0.07
Elder1	R-1	165.0000	Max WS	470.81	103.76	110.36		110.38	0.000455	1.05	414.41	100.45	0.08
Elder1	R-1	160.0000	Max WS	481.34	102.98	110.26		110.28	0.000380	1.04	475.28	135.22	0.07
Elder1	R-1	158	Culvert										
Elder1	R-1	155.0000	Max WS	321.50	93.10	99.77		99.77	0.000015	0.18	1339.53	329.26	0.01
Elder1	R-1	152.5'	Max WS	321.48	93.08	99.77		99.77	0.000014	0.18	1384.96	335.15	0.01
Elder1	R-1	150.0000	Max WS	357.97	93.06	99.77	95.28	99.77	0.000016	0.20	1437.11	340.88	0.01

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Mor-2	R-1	680.0000	Max WS	18.47	98.71	99.63		99.63	0.002265	0.48	39.07	79.01	0.11
Mor-2	R-1	670.0000	Max WS	14.97	96.72	99.55		99.55	0.000008	0.08	181.22	123.81	0.01
Mor-2	R-1	660.0000	Max WS	15.17	96.54	99.55		99.55	0.000006	0.07	201.59	124.53	0.01
Mor-2	R-1	650.0000	Max WS	15.24	96.48	99.55		99.55	0.000006	0.07	208.13	124.87	0.01
Mor-2	R-1	640.0000	Max WS	15.49	96.26	99.55		99.55	0.000004	0.06	236.69	125.68	0.01
Mor-2	R-1	630.0000	Max WS	15.65	96.12	99.55		99.55	0.000003	0.06	251.74	126.91	0.01
Mor-2	R-1	620.0000	Max WS	51.07	95.84	99.54		99.55	0.000021	0.15	288.51	128.51	0.01
Mor-2	R-1	610.0000	Max WS	55.82	95.58	99.54		99.54	0.000018	0.15	324.15	134.47	0.01
Mor-2	R-1	600.0000	Max WS	56.06	95.34	99.54		99.54	0.000014	0.13	360.49	139.17	0.01
Mor-2	R-1	590.0000	Max WS	56.33	95.10	99.54		99.54	0.000010	0.12	393.24	142.75	0.01
Mor-2	R-1	580.0000	Max WS	80.23	94.94	99.54		99.54	0.000017	0.16	419.42	147.09	0.01
Mor-2	R-1	570.0000	Max WS	80.30	94.94	99.54		99.54	0.000018	0.16	419.34	147.08	0.01
Mor-2	R-1	565	Culvert										
Mor-2	R-1	560.0000	Max WS	63.67	86.60	90.48		90.48	0.000059	0.26	219.27	91.88	0.02
Mor-2	R-1	550.0000	Max WS	63.66	86.52	90.47		90.47	0.000043	0.23	246.40	100.28	0.02
Mor-2	R-1	540.0000	Max WS	68.10	86.24	90.47		90.47	0.000035	0.21	281.60	104.90	0.02
Mor-2	R-1	530.0000	Max WS	69.99	85.99	90.47		90.47	0.000023	0.19	319.68	108.31	0.02
Mor-2	R-1	520.0000	Max WS	69.98	85.90	90.47		90.47	0.000021	0.18	333.02	110.45	0.02
Mor-2	R-1	510.0000	Max WS	69.94	85.64	90.46		90.47	0.000015	0.16	369.90	115.51	0.01
Mor-2	R-1	500.0000	Max WS	69.92	85.54	90.46		90.46	0.000015	0.16	375.69	115.07	0.01
Mor-2	R-1	490.0000	Max WS	69.89	85.30	90.46		90.46	0.000059	0.33	404.47	116.98	0.03
Mor-2	R-1	480.0000	Max WS	69.82	84.98	90.46		90.46	0.000009	0.14	431.19	117.02	0.01
Mor-2	R-1	470.0000	Max WS	69.82	84.93	90.46		90.46	0.000010	0.14	417.40	115.45	0.01
Mor-2	R-1	465	Culvert										
Mor-2	R-1	460.0000	Max WS	67.09	77.05	83.91		83.91	0.000006	0.13	443.02	95.78	0.01
Mor-2	R-1	450.0000	Max WS	67.08	77.05	83.91		83.91	0.000006	0.13	442.99	95.78	0.01
Mor-2	R-1	440.0000	Max WS	68.08	76.76	83.91		83.91	0.000005	0.12	503.59	102.07	0.01
Mor-2	R-1	430.0000	Max WS	68.07	76.54	83.91		83.91	0.000004	0.10	550.69	107.44	0.01
Mor-2	R-1	410.0000	Max WS	68.07	76.32	83.91		83.91	0.000004	0.11	537.23	102.41	0.01
Mor-2	R-1	400.0000	Max WS	68.06	76.16	83.91		83.91	0.000003	0.09	634.13	116.98	0.01
Mor-2	R-1	390.0000	Max WS	68.05	76.08	83.91		83.91	0.000002	0.08	688.90	123.83	0.01
Mor-2	R-1	380.0000	Max WS	68.05	75.96	83.91		83.91	0.000002	0.08	690.51	122.28	0.01
Mor-2	R-1	370.0000	Max WS	78.89	75.76	83.91		83.91	0.000002	0.09	701.58	120.92	0.01
Mor-2	R-1	360.0000	Max WS	78.88	75.54	83.91		83.91	0.000002	0.09	725.59	122.33	0.01
Mor-2	R-1	350.0000	Max WS	81.34	75.24	83.91		83.91	0.000002	0.10	720.92	122.65	0.01
Mor-2	R-1	345	Culvert										
Mor-2	R-1	340.0000	Max WS	81.33	74.96	83.89		83.89	0.000002	0.09	761.82	130.47	0.01
Mor-2	R-1	339.999	Max WS	81.34	74.96	83.89		83.89	0.000002	0.09	761.82	130.47	0.01
Mor-2	R-1	330.001	Max WS	81.33	74.96	83.89		83.89	0.000002	0.09	776.91	132.50	0.01
Mor-2	R-1	330.0000	Max WS	81.33	74.96	83.89		83.89	0.000002	0.09	776.90	132.50	0.01
Mor-2	R-1	321.5	Culvert										
Mor-2	R-1	321	Max WS	81.27	75.08	77.37		77.37	0.000033	0.16	580.55	594.72	0.02
Mor-2	R-1	320.9	Max WS	81.27	74.66	77.37		77.37	0.000098	0.31	360.73	520.98	0.04
Mor-2	R-1	320.45*	Max WS	81.26	74.86	77.37		77.37	0.000048	0.22	500.53	571.47	0.03
Mor-2	R-1	320.0000	Max WS	81.27	75.05	77.36		77.36	0.000033	0.17	516.59	594.89	0.02
Mor-2	R-1	319.5*	Max WS	81.27	74.90	77.36		77.36	0.000105	0.26	389.78	418.50	0.04
Mor-2	R-1	319.0000	Max WS	81.26	74.76	77.09		77.14	0.015782	2.01	45.71	135.06	0.38
Mor-2	R-1	318.5*	Max WS	81.26	74.23	75.82		75.93	0.035301	2.85	34.33	125.31	0.58
Mor-2	R-1	318	Max WS	81.26	73.70	74.98		74.99	0.002538	1.01	114.90	211.49	0.17
Mor-2	R-1	317.666*	Max WS	81.26	73.68	74.92		74.93	0.003167	1.06	108.41	236.34	0.18
Mor-2	R-1	317.333*	Max WS	81.26	73.66	74.84		74.85	0.003952	1.10	108.44	259.24	0.20
Mor-2	R-1	317.0000	Max WS	81.26	73.64	74.72		74.73	0.007103	1.30	96.04	280.92	0.26
Mor-2	R-1	316.666*	Max WS	81.26	73.34	74.54		74.55	0.007176	1.37	99.43	309.18	0.27
Mor-2	R-1	316.333*	Max WS	81.26	73.03	74.39		74.40	0.004832	1.22	111.58	347.34	0.22
Mor-2	R-1	316.0000	Max WS	81.26	72.73	74.31		74.31	0.001969	0.86	150.34	374.41	0.15
Mor-2	R-1	315.0000	Max WS	15.00	72.97	74.00	73.34	74.00	0.000044	0.10	197.72	436.32	0.02
Elder1	R-1_Down	95	Max WS	196.34	90.16	98.80		98.80	0.000053	0.45	398.22	66.14	0.03
Elder1	R-1_Down	90	Max WS	196.35	90.00	98.79		98.79	0.000071	0.52	362.02	63.21	0.03
Elder1	R-1_Down	85	Max WS	197.30	89.81	98.77		98.78	0.000074	0.54	357.05	61.54	0.03
Elder1	R-1_Down	80	Max WS	197.29	89.62	98.76		98.77	0.000076	0.54	353.21	58.83	0.03
Elder1	R-1_Down	75.0000	Max WS	200.19	89.56	98.75		98.76	0.000078	0.55	353.92	57.05	0.03
Elder1	R-1_Down	70.0000	Max WS	200.18	89.47	98.74		98.75	0.000065	0.51	382.92	58.23	0.03
Elder1	R-1_Down	69.99	Max WS	206.78	89.45	98.74		98.74	0.000071	0.53	389.98	59.51	0.03
Elder1	R-1_Down	68	Culvert										
Elder1	R-1_Down	65.0000	Max WS	159.43	89.16	98.04		98.04	0.000017	0.25	538.82	87.54	0.02
Elder1	R-1_Down	64.999	Max WS	159.45	89.16	98.04		98.04	0.000017	0.25	538.81	87.54	0.02
Elder1	R-1_Down	60	Max WS	159.59	89.09	98.04		98.04	0.000007	0.16	819.65	129.08	0.01
Elder1	R-1_Down	55	Max WS	159.76	88.97	98.04		98.04	0.000002	0.09	1365.27	202.02	0.01
Elder1	R-1_Down	50	Max WS	159.92	88.82	98.04		98.04	0.000002	0.09	1361.01	197.09	0.01
Elder1	R-1_Down	45	Max WS	159.90	88.69	98.04		98.04	0.000002	0.09	1360.18	193.09	0.01
Elder1	R-1_Down	40	Max WS	159.88	88.54	98.04		98.04	0.000002	0.09	1357.09	190.62	0.01
Elder1	R-1_Down	35	Max WS	159.87	88.41	98.04		98.04	0.000002	0.09	1394.53	193.99	0.00
Elder1	R-1_Down	30	Max WS	159.85	88.25	98.04		98.04	0.000002	0.09	1399.37	188.70	0.00
Elder1	R-1_Down	28.0000	Max WS	159.82	87.97	98.04		98.04	0.000002	0.08	1458.62	187.14	0.00
Elder1	R-1_Down	27.0000	Max WS	159.81	87.83	98.04		98.04	0.000001	0.08	1497.26	190.24	0.00
Elder1	R-1_Down	26.0000	Max WS	159.80	87.69	98.04		98.04	0.000001	0.07	1621.00	203.02	0.00
Elder1	R-1_Down	25.0000	Max WS	159.79	87.53	98.04		98.04	0.000001	0.06	1902.95	236.19	0.00
Elder1	R-1_Down	24.5	Culvert										
Elder1	R-1_Down	24.0000	Max WS	157.43	87.48	91.51		91.51	0.000075	0.31	445.36	184.10	0.03
Elder1	R-1_Down	23.0000	Max WS	156.28	87.40	91.35		91.40	0.003567	1.87	83.32	167.72	0.18
Elder1	R-1_Down	22.5	Culvert										
Elder1	R-1_Down	22.0000	Max WS	157.01	87.40	91.31		91.31	0.000052	0.34	639.93	417.27	0.04
Elder1	R-1_Down	21.0000	Max WS	201.30	86.60	88.53		88.63	0.009420	2.85	101.94	212.44	0.44
Elder1	R-1_Down	20.550*	Max WS	203.18	86.10	88.25		88.27	0.001475	1.25	210.42	218.39	0.18
Elder1	R-1_Down	20.1000	Max WS	202.48	85.60	88.18		88.19	0.000900	1.15	247.43	243.10	0.15
Elder1	R-1_Down	11.724	Max WS	201.21	85.65	87.92		87.95	0.003093	1.74	162.19	228.23	0.26

HEC-RAS Plan: PH2_10 Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Elder1	R-1_Down	7.258	Max WS	309.12	49.57	52.63		52.92	0.004846	4.34	72.03	42.41	0.51
Elder1	R-1_Down	7.0770	Max WS	312.12	47.10	51.73	48.53	51.77	0.001172	1.74	200.76	60.45	0.14
Elder1	R-1_Down	7.05		Inl Struct									
Elder1	R-1_Down	7.0130	Max WS	311.65	46.84	50.94		50.99	0.001857	2.04	170.98	54.32	0.18
Elder1	R-1_Down	6.98		Lat Struct									
Elder1	R-1_Down	6.9650	Max WS	361.36	46.68	49.93	48.24	50.05	0.005415	2.99	134.37	52.17	0.29
Elder1	R-1_Down	6.94		Inl Struct									
Elder1	R-1_Down	6.9350	Max WS	361.03	42.39	48.27		48.32	0.002189	1.83	198.43	59.70	0.15
Elder1	R-1_Down	6.9141	Max WS	360.97	42.35	48.20		48.24	0.001027	1.47	217.67	72.85	0.11
Elder1	R-1_Down	6.91405*	Max WS	360.95	42.35	48.18		48.23	0.001154	1.56	205.45	72.77	0.12
Elder1	R-1_Down	6.9140	Max WS	360.94	42.35	48.16		48.22	0.001313	1.66	192.72	72.68	0.12
Elder1	R-1_Down	6.9135		Culvert									
Elder1	R-1_Down	6.9131	Max WS	360.82	41.36	48.04		48.09	0.001056	1.66	211.59	79.40	0.12
Elder1	R-1_Down	6.9130	Max WS	360.82	41.36	48.04		48.08	0.000873	1.51	233.79	79.39	0.10
Elder1	R-1_Down	6.9129		Lat Struct									
Elder1	R-1_Down	6.9128		Lat Struct									
Elder1	R-1_Down	6.89		Lat Struct									
Elder1	R-1_Down	6.8860	Max WS	513.19	41.22	47.91		47.94	0.000734	1.38	392.93	87.75	0.10
Elder1	R-1_Down	6.8850	Max WS	513.14	41.10	47.84		47.86	0.000571	1.24	448.28	99.84	0.09
Elder1	R-1_Down	6.8620	Max WS	513.12	40.98	47.77		47.79	0.000523	1.19	452.16	95.75	0.08
Elder1	R-1_Down	6.8450	Max WS	513.11	40.88	47.74		47.75	0.000222	0.79	669.11	137.87	0.05
Elder1	R-1_Down	6.8330	Max WS	513.12	40.82	47.73		47.74	0.000258	0.85	646.35	158.43	0.06
Elder1	R-1_Down	6.8210	Max WS	513.13	40.76	47.71		47.72	0.000273	0.88	578.28	154.50	0.06
Elder1	R-1_Down	6.82		Lat Struct									
Elder1	R-1_Down	6.8100	Max WS	513.32	40.70	47.67		47.70	0.000500	1.18	416.40	105.44	0.08
Elder1	R-1_Down	6.791	Max WS	513.23	40.66	47.51		47.61	0.002019	2.33	210.38	68.56	0.16
Elder1	R-1_Down	6.790		Culvert									
Elder1	R-1_Down	6.7890	Max WS	513.17	40.64	47.44		47.53	0.002055	2.34	209.27	68.60	0.16
Elder1	R-1_Down	6.7730	Max WS	513.11	40.60	47.35		47.39	0.001245	1.82	312.39	70.94	0.13
Elder1	R-1_Down	6.7610	Max WS	513.05	40.54	47.25		47.30	0.001581	2.03	283.61	67.12	0.14
Elder1	R-1_Down	6.7480	Max WS	513.02	40.48	47.22		47.23	0.000431	1.07	495.06	104.13	0.07
Elder1	R-1_Down	6.7410	Max WS	513.03	40.44	47.20		47.21	0.000353	0.97	547.60	115.56	0.07
Elder1	R-1_Down	6.7400	Max WS	513.04	40.42	47.20		47.21	0.000311	0.91	583.49	124.14	0.06
Elder1	R-1_Down	6.7190	Max WS	513.00	40.30	47.15		47.17	0.000433	1.09	506.06	111.48	0.07
Elder1	R-1_Down	6.7180	Max WS	513.00	40.30	47.15		47.16	0.000439	1.09	505.80	112.00	0.07
Elder1	R-1_Down	6.7110	Max WS	513.00	40.26	47.13		47.15	0.000407	1.05	524.51	116.44	0.07
Elder1	R-1_Down	6.7000	Max WS	512.96	40.20	47.09		47.12	0.000691	1.37	409.93	92.81	0.09
Elder1	R-1_Down	6.6910	Max WS	512.93	40.16	47.05		47.08	0.000854	1.52	363.47	79.82	0.10
Elder1	R-1_Down	6.6650	Max WS	512.86	40.02	46.93		46.96	0.000845	1.52	363.73	79.65	0.10
Elder1	R-1_Down	6.6530	Max WS	512.83	40.00	46.88		46.91	0.000823	1.49	365.89	79.90	0.10
Elder1	R-1_Down	6.6340	Max WS	512.76	39.96	46.80		46.83	0.000826	1.49	371.26	81.12	0.10
Elder1	R-1_Down	6.6040	Max WS	512.70	39.96	46.66		46.69	0.000903	1.54	359.98	80.28	0.11
Elder1	R-1_Down	6.59		Lat Struct									
Elder1	R-1_Down	6.5500	Max WS	518.86	39.54	46.45		46.48	0.000661	1.35	423.16	96.76	0.09
Elder1	R-1_Down	6.5290	Max WS	518.79	39.40	46.36		46.39	0.000800	1.48	377.94	80.63	0.10
Elder1	R-1_Down	6.5070	Max WS	518.76	39.40	46.25		46.29	0.000999	1.64	317.72	79.67	0.11
Elder1	R-1_Down	6.4940	Max WS	518.72	39.22	46.20		46.23	0.000757	1.44	388.50	83.55	0.10
Elder1	R-1_Down	6.4750	Max WS	518.69	39.16	46.13		46.15	0.000657	1.36	402.72	84.40	0.09
Elder1	R-1_Down	6.4420	Max WS	518.59	39.04	46.00		46.03	0.000751	1.43	389.09	83.00	0.10
Elder1	R-1_Down	6.4020	Max WS	518.53	38.84	45.85		45.87	0.000731	1.42	390.52	82.51	0.10
Elder1	R-1_Down	6.3630	Max WS	518.47	38.64	45.70		45.73	0.000693	1.40	387.64	84.66	0.09
Elder1	R-1_Down	6.3330	Max WS	518.41	38.48	45.59		45.62	0.000668	1.38	411.25	113.56	0.09
Elder1	R-1_Down	6.2980	Max WS	518.38	38.34	45.47		45.50	0.000627	1.33	414.29	102.12	0.09
Elder1	R-1_Down	6.2750	Max WS	518.36	38.26	45.39		45.42	0.000619	1.33	414.44	84.36	0.09
Elder1	R-1_Down	6.2560	Max WS	518.36	38.16	45.33		45.35	0.000582	1.28	422.76	86.02	0.09
Elder1	R-1_Down	6.2340	Max WS	518.78	38.04	45.27		45.29	0.000557	1.27	434.85	94.82	0.08
Elder1	R-1_Down	6.2070	Max WS	519.33	37.90	45.21		45.22	0.000375	1.05	569.96	134.58	0.07
Elder1	R-1_Down	6.1800	Max WS	519.86	37.76	45.15		45.17	0.000464	1.18	470.46	94.32	0.08
Elder1	R-1_Down	6.1590	Max WS	520.27	37.66	45.10		45.12	0.000478	1.20	460.70	157.39	0.08
Elder1	R-1_Down	6.1400	Max WS	520.67	37.56	45.04		45.06	0.000589	1.34	452.91	119.93	0.09
Elder1	R-1_Down	6.1190	Max WS	521.11	37.46	44.98		45.00	0.000523	1.27	461.91	126.82	0.08
Elder1	R-1_Down	6.1010	Max WS	521.48	37.36	44.93		44.95	0.000485	1.21	448.08	90.45	0.08
Elder1	R-1_Down	6.0850	Max WS	521.82	37.28	44.90		44.92	0.000410	1.13	490.25	94.58	0.07
Elder1	R-1_Down	6.0690	Max WS	522.14	37.22	44.80		44.86	0.000998	1.76	273.01	72.12	0.11
Elder1	R-1_Down	6.05		Culvert									
Elder1	R-1_Down	6.0400	Max WS	522.14	37.00	44.51		44.57	0.001010	1.74	267.67	104.55	0.11
Elder1	R-1_Down	6.0150	Max WS	522.13	36.92	44.47		44.49	0.000537	1.27	436.03	105.67	0.08
Elder1	R-1_Down	5.9940	Max WS	522.12	36.84	44.41		44.43	0.000534	1.27	432.47	100.98	0.08
Elder1	R-1_Down	5.9800	Max WS	522.13	36.76	44.37		44.39	0.000552	1.29	429.84	100.02	0.08
Elder1	R-1_Down	5.9340	Max WS	522.09	36.62	44.24		44.26	0.000516	1.25	439.28	101.71	0.08
Elder1	R-1_Down	5.8910	Max WS	522.04	36.46	44.16		44.18	0.000490	1.23	450.40	113.06	0.08
Elder1	R-1_Down	5.8530	Max WS	522.07	36.46	44.12		44.15	0.000500	1.24	446.70	112.04	0.08
Elder1	R-1	260.0000	Max WS	21.33	117.38	122.58		122.58	0.000003	0.07	275.02	78.92	0.01
Elder1	R-1	255.0000	Max WS	21.30	117.08	122.58		122.58	0.000002	0.06	308.84	83.33	0.00
Elder1	R-1	250.0000	Max WS	99.25	116.80	122.58		122.58	0.000040	0.29	313.81	82.93	0.02
Elder1	R-1	245.0000	Max WS	99.47	116.44	122.57		122.57	0.000026	0.25	346.93	80.36	0.02
Elder1	R-1	240.0000	Max WS	133.30	116.16	122.57		122.57	0.000042	0.32	361.41	81.27	0.02
Elder1	R-1	235.0000	Max WS	133.47	115.88	122.56		122.56	0.000035	0.30	387.28	83.93	0.02
Elder1	R-1	230.0000	Max WS	133.62	115.64	122.56		122.56	0.000028	0.27	421.22	87.38	0.02
Elder1	R-1	225.0000	Max WS	133.74	115.44	122.56		122.56	0.000028	0.28	415.88	85.83	0.02
Elder1	R-1	222		Culvert									
Elder1	R-1	220.0000	Max WS	120.61	111.88	115.73		115.75	0.000904	1.00	121.46	54.59	0.10
Elder1	R-1	219	Max WS	118.96	111.88	115.63		115.65	0.001030	1.03	116.11	53.96	0.10
Elder1	R-1	215.0000	Max WS	232.28	111.56	115.34		115.39	0.003243	1.88	122.73	55.84	0.18
Elder1	R-1	210.0000	Max WS	233.52	111.04	114.78		114.84	0.003481	1.93	120.82	56.20	0.19
Elder1	R-1	205.0000	Max WS	233.58	110.48	114.24		114.29	0.002910	1.80	129.09	60.01	0.17

HEC-RAS Plan: PH2_10 Profile: Max WS (Continued)

River	Reach	River Sta	Profile	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
Elder1	R-1	200.0000	Max WS	233.65	109.88	113.72		113.76	0.002661	1.71	134.62	60.84	0.16
Elder1	R-1	197.0000	Max WS	233.12	109.56	113.42		113.46	0.002641	1.70	134.26	59.40	0.16
Elder1	R-1	195.0000	Max WS	256.87	109.32	113.18		113.24	0.003325	1.87	134.72	59.00	0.18
Elder1	R-1	190.0000	Max WS	269.33	108.56	112.39		112.45	0.003194	1.92	137.50	61.39	0.18
Elder1	R-1	185.0000	Max WS	268.85	107.84	111.65		111.71	0.003222	1.91	137.33	60.64	0.18
Elder1	R-1	180.0000	Max WS	268.35	106.93	110.72		110.78	0.003249	1.92	136.53	60.35	0.18
Elder1	R-1	178.0000	Max WS	274.08	106.52	110.30		110.36	0.003062	1.85	142.40	62.20	0.18
Elder1	R-1	177.0000	Max WS	279.11	106.32	110.10		110.16	0.003014	1.87	143.66	64.38	0.18
Elder1	R-1	175.0000	Max WS	273.64	105.76	109.58		109.63	0.002746	1.78	148.94	65.81	0.17
Elder1	R-1	170.0000	Max WS	268.09	104.64	108.83		108.87	0.001572	1.45	177.09	70.56	0.13
Elder1	R-1	167.0000	Max WS	273.88	104.08	108.65		108.67	0.000691	1.03	243.24	86.22	0.09
Elder1	R-1	165.0000	Max WS	273.96	103.76	108.57		108.59	0.000699	1.04	249.50	83.83	0.09
Elder1	R-1	160.0000	Max WS	279.09	102.98	108.44		108.45	0.000428	0.89	293.94	88.53	0.07
Elder1	R-1	158	Culvert										
Elder1	R-1	155.0000	Max WS	174.63	93.10	98.80		98.80	0.000011	0.13	1022.59	321.99	0.01
Elder1	R-1	152.5*	Max WS	173.95	93.08	98.80		98.80	0.000010	0.13	1062.36	327.86	0.01
Elder1	R-1	150.0000	Max WS	190.20	93.06	98.80	94.97	98.80	0.000011	0.14	1109.97	333.71	0.01

**APPENDIX C
XP SWMM MODELS
(SEE MODELS ON DISK)**

Jackson Township

Full Development Scenario

XP Swmm Output File Listing

Current Directory: C:\PROGRA~2\XPSOLU~1\XPSWMM~1
 Engine Name: C:\PROGRA~2\XPSOLU~1\XPSWMM~1\SWMMEN~2.EXE
 Input File : jects\2012.21\drainage\swmm\xp\JacksonTrunkNolte20160705_modf1.XP

```

*-----*
                xpswmm
      Storm and Wastewater Management Model
      Developed by XP Solutions Inc.
=====
Last Update      : June, 2014
Interface Version: 2012
Engine Version   : 12.0
Data File Version: 12.6
*-----*
  
```

Engine Name: C:\PROGRA~2\XPSOLU~1\XPSWMM~1\SWMMEN~2.EXE

```

*-----*
|      Input and Output file names by Layer      |
*-----*
  
```

Input File to Layer # 1 JOT.US
 Output File to Layer # 1 JOT.US

```

*-----*
                Configuration Parameters
Configuration Parameters, both those that are hardwired
and those added to the simulation are listed below.
Configuration Parameters that start with a $ are set in
the engine as defaults. The remaining in UPPERCASE
have been added to the simulation in the Configuration->
Configuration Parameters dialog or as Engine Defaults in
the SWMXP.INI file.

Consult the Help File for the specific meaning/purpose
of any particular parameter.

Note:
The second column denotes the value of the parameter.
*-----*
  
```

\$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
\$sexout	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
\$ncmid	0.0000	0	164
\$new_nl_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=10	10.0000	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
\$channel_geometry=1	0.0000	1	456

```

*=====
| 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)....	0
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).....	269
Number of Groundwater Subcatchments in Runoff (NGW)..	0
Number of Interface locations for all Blocks (NIE)..	269
Number of Pumps in Extran (NEP).....	0
Number of Orifices in Extran (NEO).....	0
Number of Tide Gates/Free Outfalls in Extran (NTG)..	30
Number of Extran Weirs (NEW).....	0
Number of scs hydrograph points.....	1
Number of Extran printout locations (NPO).....	0
Number of Tide elements in Extran (NTE).....	30
Number of Natural channels (NNC).....	0
Number of Storage junctions in Extran (NVSE).....	0
Number of Time history data points in Extran(NTVAL)..	2
Number of Variable storage elements in Extran (NVST)	0
Number of Input Hydrographs in Extran (NEH).....	268
Number of Particle sizes in Transport Block (NPS)...	0
Number of User defined conduits (NHW).....	269
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)..... 269
Number of Plugs in a Storage Treatment Unit..... 1

```

XXX End of Header Section XXX

```

#####
#   Entry made to the HYDRAULIC Layer of XP-SWMM   #
#   Last Updated in June, 2014 by XP Solutions     #

```

=====*

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..... 1995 Month..... 1
Day..... 1 Hour..... 0

```

Minute..... 0 Second..... 0

Control information for simulation

Integration cycles..... 360
Length of integration step is..... 60.00 seconds
Simulation length..... 6.00 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. 500.00 minutes
Summary printout intervals of..... 500 cycles
Summary printout time interval of.. 500.00 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.... 268
or user defined hydrographs....

=====

Flap Gate Conduit Information

Positive Flap Gate - Flow only allowed from the upstream to the downstream junction
Negative Flap Gate - Flow only allowed from the downstream to the upstream junction

=====

Conduit	Type of Flap Gate
L376	Positive Flap Gate

=====

Table E1 - Conduit Data

=====

Hazen
Inp
Williams

Conduit	Length	Conduit	Area	Manning	Max Width	Depth	Side
---------	--------	---------	------	---------	-----------	-------	------

Trapezoid

Num factor	Name	(ft)	Class	(ft^2)	Coef.	(ft)	(ft)	Slopes	c-
1	L210	70.0000	Circular	0.7854	0.0150	1.0000	1.0000		
2	L211	408.0000	Circular	0.7854	0.0150	1.0000	1.0000		
3	L212	541.0000	Circular	1.2272	0.0150	1.2500	1.2500		
4	L213	107.0000	Circular	0.7854	0.0150	1.0000	1.0000		
5	L214	93.0000	Circular	1.7671	0.0150	1.5000	1.5000		
6	L217	86.0000	Circular	0.7854	0.0150	1.0000	1.0000		
7	L220	320.0000	Circular	2.4053	0.0150	1.7500	1.7500		
8	L221	395.0000	Circular	3.1416	0.0150	2.0000	2.0000		
9	L222	182.0000	Circular	3.1416	0.0150	2.0000	2.0000		
10	L223	72.0000	Circular	0.7854	0.0150	1.0000	1.0000		
11	L224	291.0000	Circular	0.7854	0.0150	1.0000	1.0000		
12	L225	290.0000	Circular	0.7854	0.0150	1.0000	1.0000		
13	L226	413.0000	Circular	0.7854	0.0150	1.0000	1.0000		
14	L227	236.0000	Circular	0.7854	0.0150	1.0000	1.0000		
15	L228	407.0000	Circular	0.7854	0.0150	1.0000	1.0000		
16	L229	572.0000	Circular	1.2272	0.0150	1.2500	1.2500		
17	L230	397.0000	Circular	1.2272	0.0150	1.2500	1.2500		
18	L231	399.0000	Circular	1.2272	0.0150	1.2500	1.2500		
19	L232	307.0000	Circular	1.7671	0.0150	1.5000	1.5000		
20	L233	479.0000	Circular	1.7671	0.0150	1.5000	1.5000		
21	L234	430.0000	Circular	3.1416	0.0150	2.0000	2.0000		
22	L235	50.0000	Circular	0.7854	0.0150	1.0000	1.0000		
23	L236	105.0000	Circular	0.7854	0.0150	1.0000	1.0000		
24	L237	100.0000	Circular	0.7854	0.0150	1.0000	1.0000		
25	L238	55.0000	Circular	0.7854	0.0150	1.0000	1.0000		
26	L239	124.0000	Circular	0.7854	0.0150	1.0000	1.0000		
27	L240	86.0000	Circular	0.7854	0.0150	1.0000	1.0000		
28	L241	296.0000	Circular	1.2272	0.0150	1.2500	1.2500		
29	L242	62.0000	Circular	0.7854	0.0150	1.0000	1.0000		
30	L243	95.0000	Circular	0.7854	0.0150	1.0000	1.0000		
31	L246	414.0000	Circular	4.9087	0.0150	2.5000	2.5000		
32	L247	92.0000	Circular	4.9087	0.0150	2.5000	2.5000		
33	L248	47.0000	Circular	0.7854	0.0150	1.0000	1.0000		
34	L249	73.0000	Circular	0.7854	0.0150	1.0000	1.0000		
35	L250	78.0000	Circular	0.7854	0.0150	1.0000	1.0000		
36	L251	69.0000	Circular	0.7854	0.0150	1.0000	1.0000		
37	L252	396.0000	Circular	0.7854	0.0150	1.0000	1.0000		
38	L253	70.0000	Circular	0.7854	0.0150	1.0000	1.0000		
39	L254	391.0000	Circular	0.7854	0.0150	1.0000	1.0000		
40	L255	79.0000	Circular	1.2272	0.0150	1.2500	1.2500		
41	L256	294.0000	Circular	1.7671	0.0150	1.5000	1.5000		
42	L257	280.0000	Circular	1.7671	0.0150	1.5000	1.5000		
43	L258	100.0000	Circular	0.7854	0.0150	1.0000	1.0000		
44	L259	281.0000	Circular	2.4053	0.0150	1.7500	1.7500		
45	L260	64.0000	Circular	2.4053	0.0150	1.7500	1.7500		
46	L261	138.0000	Circular	0.7854	0.0150	1.0000	1.0000		
47	L262	76.0000	Circular	0.7854	0.0150	1.0000	1.0000		
48	L263	117.0000	Circular	0.7854	0.0150	1.0000	1.0000		
49	L264	79.0000	Circular	1.2272	0.0150	1.2500	1.2500		
50	L265	347.0000	Circular	7.0686	0.0150	3.0000	3.0000		
51	L266	202.0000	Circular	7.0686	0.0150	3.0000	3.0000		
52	L267	63.0000	Circular	0.7854	0.0150	1.0000	1.0000		
53	L268	79.0000	Circular	0.7854	0.0150	1.0000	1.0000		
54	L269	248.0000	Circular	0.7854	0.0150	1.0000	1.0000		
55	L270	401.0000	Circular	7.0686	0.0150	3.0000	3.0000		
56	L271	398.0000	Circular	9.6211	0.0150	3.5000	3.5000		

57	L272	34.0000	Circular	15.9043	0.0150	4.5000	4.5000
58	L273	117.0000	Circular	2.4053	0.0150	1.7500	1.7500
59	L274	123.0000	Circular	1.7671	0.0150	1.5000	1.5000
60	L275	107.0000	Circular	0.7854	0.0150	1.0000	1.0000
61	L277	117.0000	Circular	0.7854	0.0150	1.0000	1.0000
62	L278	48.0000	Circular	0.7854	0.0150	1.0000	1.0000
63	L279	165.0000	Circular	0.7854	0.0150	1.0000	1.0000
64	L280	50.0000	Circular	0.7854	0.0150	1.0000	1.0000
65	L281	107.0000	Circular	0.7854	0.0150	1.0000	1.0000
66	L282	48.0000	Circular	0.7854	0.0150	1.0000	1.0000
67	L283	114.0000	Circular	0.7854	0.0150	1.0000	1.0000
68	L284	52.0000	Circular	0.7854	0.0150	1.0000	1.0000
69	L285	140.0000	Circular	1.7671	0.0150	1.5000	1.5000
70	L286	50.0000	Circular	1.2272	0.0150	1.2500	1.2500
71	L287	109.0000	Circular	0.7854	0.0150	1.0000	1.0000
72	L289	120.0000	Circular	0.7854	0.0150	1.0000	1.0000
73	L290	368.0000	Circular	0.7854	0.0150	1.0000	1.0000
74	L291	373.0000	Circular	0.7854	0.0150	1.0000	1.0000
75	L292	105.0000	Circular	0.7854	0.0150	1.0000	1.0000
76	L294	82.0000	Circular	0.7854	0.0150	1.0000	1.0000
77	L300	233.0000	Circular	1.7671	0.0150	1.5000	1.5000
78	L301	56.0000	Circular	0.7854	0.0150	1.0000	1.0000
79	L302	542.0000	Circular	3.9761	0.0150	2.2500	2.2500
80	L303	83.0000	Circular	0.7854	0.0150	1.0000	1.0000
81	L304	68.0000	Circular	0.7854	0.0150	1.0000	1.0000
82	L305	143.0000	Circular	1.7671	0.0150	1.5000	1.5000
83	L306	58.0000	Circular	0.7854	0.0150	1.0000	1.0000
84	L307	95.0000	Circular	3.1416	0.0150	2.0000	2.0000
85	L308	101.0000	Circular	1.7671	0.0150	1.5000	1.5000
86	L309	58.0000	Circular	0.7854	0.0150	1.0000	1.0000
87	L310	61.0000	Circular	0.7854	0.0150	1.0000	1.0000
88	L311	399.0000	Circular	0.7854	0.0150	1.0000	1.0000
89	L312	61.0000	Circular	0.7854	0.0150	1.0000	1.0000
90	L313	585.0000	Circular	0.7854	0.0150	1.0000	1.0000
91	L314	92.0000	Circular	0.7854	0.0150	1.0000	1.0000
92	L315	71.0000	Circular	0.7854	0.0150	1.0000	1.0000
93	L316	292.0000	Circular	0.7854	0.0150	1.0000	1.0000
94	L317	302.0000	Circular	1.7671	0.0150	1.5000	1.5000
95	L318	304.0000	Circular	1.7671	0.0150	1.5000	1.5000
96	L319	65.0000	Circular	1.7671	0.0150	1.5000	1.5000
97	L320	67.0000	Circular	0.7854	0.0150	1.0000	1.0000
98	L321	440.0000	Circular	0.7854	0.0150	1.0000	1.0000
99	L324	122.0000	Circular	0.7854	0.0150	1.0000	1.0000
100	L325	62.0000	Circular	0.7854	0.0150	1.0000	1.0000
101	L326	119.0000	Circular	0.7854	0.0150	1.0000	1.0000
102	L327	118.0000	Circular	0.7854	0.0150	1.0000	1.0000
103	L328	348.0000	Circular	1.7671	0.0150	1.5000	1.5000
104	L329	98.0000	Circular	1.7671	0.0150	1.5000	1.5000
105	L334	402.0000	Circular	0.7854	0.0150	1.0000	1.0000
106	L335	371.0000	Circular	0.7854	0.0150	1.0000	1.0000
107	L336	125.0000	Circular	0.7854	0.0150	1.0000	1.0000
108	L337	119.0000	Circular	0.7854	0.0150	1.0000	1.0000
109	L338	84.0000	Circular	7.0686	0.0150	3.0000	3.0000
110	L339	260.0000	Circular	7.0686	0.0150	3.0000	3.0000
111	L340	244.0000	Circular	9.6211	0.0150	3.5000	3.5000
112	L341	103.0000	Circular	9.6211	0.0150	3.5000	3.5000
113	L342	78.0000	Circular	1.2272	0.0150	1.2500	1.2500
114	L343	94.0000	Circular	0.7854	0.0150	1.0000	1.0000
115	L344	51.0000	Circular	4.9087	0.0150	2.5000	2.5000
116	L346	50.0000	Circular	9.6211	0.0150	3.5000	3.5000

117	L347	395.0000	Circular	12.5664	0.0150	4.0000	4.0000
118	L348	404.0000	Circular	12.5664	0.0150	4.0000	4.0000
119	L349	400.0000	Circular	12.5664	0.0150	4.0000	4.0000
120	L350	132.0000	Circular	12.5664	0.0150	4.0000	4.0000
121	L351	35.0000	Circular	3.1416	0.0150	2.0000	2.0000
122	L352	147.0000	Circular	3.1416	0.0150	2.0000	2.0000
123	L354	94.0000	Circular	15.9043	0.0150	4.5000	4.5000
124	L361	47.0000	Circular	0.7854	0.0150	1.0000	1.0000
125	L362	66.0000	Circular	0.7854	0.0150	1.0000	1.0000
126	L363	411.0000	Circular	1.7671	0.0150	1.5000	1.5000
127	L364	48.0000	Circular	0.7854	0.0150	1.0000	1.0000
128	L365	63.0000	Circular	0.7854	0.0150	1.0000	1.0000
129	L366	394.0000	Circular	3.1416	0.0150	2.0000	2.0000
130	L367	364.0000	Circular	3.1416	0.0150	2.0000	2.0000
131	L368	124.0000	Circular	0.7854	0.0150	1.0000	1.0000
132	L369	99.0000	Circular	0.7854	0.0150	1.0000	1.0000
133	L370	206.0000	Circular	7.0686	0.0150	3.0000	3.0000
134	L373	98.0000	Circular	7.0686	0.0150	3.0000	3.0000
135	L374	160.0000	Circular	0.7854	0.0150	1.0000	1.0000
136	L375	403.0000	Circular	1.7671	0.0150	1.5000	1.5000
137	L376	164.0000	Circular	5.9396	0.0150	2.7500	2.7500
138	L386	341.0000	Circular	12.5664	0.0150	4.0000	4.0000
139	L387	355.0000	Circular	12.5664	0.0150	4.0000	4.0000
140	L388	113.0000	Circular	0.7854	0.0150	1.0000	1.0000
141	L389	385.0000	Circular	15.9043	0.0150	4.5000	4.5000
142	L390	106.0000	Circular	0.7854	0.0150	1.0000	1.0000
143	L391	499.0000	Circular	15.9043	0.0150	4.5000	4.5000
144	L392	380.0000	Circular	15.9043	0.0150	4.5000	4.5000
145	L393	461.0000	Circular	15.9043	0.0150	4.5000	4.5000
146	L395	50.0000	Circular	1.2272	0.0150	1.2500	1.2500
147	L396	402.0000	Circular	7.0686	0.0150	3.0000	3.0000
148	L397	57.0000	Circular	1.2272	0.0150	1.2500	1.2500
149	L398	48.0000	Circular	1.2272	0.0150	1.2500	1.2500
150	L399	302.0000	Circular	3.1416	0.0150	2.0000	2.0000
151	L402	86.0000	Circular	2.4053	0.0150	1.7500	1.7500
152	L403	398.0000	Circular	2.4053	0.0150	1.7500	1.7500
153	L404	371.0000	Circular	2.4053	0.0150	1.7500	1.7500
154	L405	71.0000	Circular	1.7671	0.0150	1.5000	1.5000
155	L406	364.0000	Circular	4.9087	0.0150	2.5000	2.5000
156	L407	71.0000	Circular	1.2272	0.0150	1.2500	1.2500
157	L408	367.0000	Circular	5.9396	0.0150	2.7500	2.7500
158	L410	395.0000	Circular	7.0686	0.0150	3.0000	3.0000
159	L411	301.0000	Circular	7.0686	0.0150	3.0000	3.0000
160	L413	401.0000	Circular	1.7671	0.0150	1.5000	1.5000
161	L415	49.0000	Circular	0.7854	0.0150	1.0000	1.0000
162	L417	68.0000	Circular	0.7854	0.0150	1.0000	1.0000
163	L418	72.0000	Circular	1.7671	0.0150	1.5000	1.5000
164	L419	259.0000	Circular	3.1416	0.0150	2.0000	2.0000
165	L420	402.0000	Circular	3.1416	0.0150	2.0000	2.0000
166	L421	68.0000	Circular	0.7854	0.0150	1.0000	1.0000
167	L422	76.0000	Circular	1.2272	0.0150	1.2500	1.2500
168	L423	397.0000	Circular	4.9087	0.0150	2.5000	2.5000
169	L424	299.0000	Circular	5.9396	0.0150	2.7500	2.7500
170	L425	70.0000	Circular	0.7854	0.0150	1.0000	1.0000
171	L426	73.0000	Circular	1.2272	0.0150	1.2500	1.2500
172	L427	486.0000	Circular	9.6211	0.0150	3.5000	3.5000
173	L428	88.0000	Circular	0.7854	0.0150	1.0000	1.0000
174	L429	394.0000	Circular	9.6211	0.0150	3.5000	3.5000
175	L430	91.0000	Circular	0.7854	0.0150	1.0000	1.0000
176	L431	430.0000	Circular	0.7854	0.0150	1.0000	1.0000

177	L432	91.0000	Circular	0.7854	0.0150	1.0000	1.0000	
178	L435	90.0000	Circular	0.7854	0.0150	1.0000	1.0000	
179	L436	315.0000	Circular	0.7854	0.0150	1.0000	1.0000	
180	L437	328.0000	Circular	1.2272	0.0150	1.2500	1.2500	
181	L438	88.0000	Circular	0.7854	0.0150	1.0000	1.0000	
182	L439	374.0000	Circular	1.2272	0.0150	1.2500	1.2500	
183	L440	396.0000	Circular	1.7671	0.0150	1.5000	1.5000	
184	L441	405.0000	Circular	9.6211	0.0150	3.5000	3.5000	
185	L442	459.0000	Circular	9.6211	0.0150	3.5000	3.5000	
186	L443	96.0000	Circular	9.6211	0.0150	3.5000	3.5000	
187	L446	61.0000	Circular	1.7671	0.0150	1.5000	1.5000	
188	L448	79.0000	Circular	0.7854	0.0150	1.0000	1.0000	
189	L449	452.0000	Circular	2.4053	0.0150	1.7500	1.7500	
190	L450	400.0000	Circular	3.1416	0.0150	2.0000	2.0000	
191	L451	90.0000	Circular	3.1416	0.0150	2.0000	2.0000	
192	L452	50.0000	Circular	0.7854	0.0150	1.0000	1.0000	
193	L453	61.0000	Circular	0.7854	0.0150	1.0000	1.0000	
194	L454	70.0000	Circular	0.7854	0.0150	1.0000	1.0000	
195	L466	90.0000	Circular	1.2272	0.0150	1.2500	1.2500	
196	L468	496.0000	Circular	3.1416	0.0150	2.0000	2.0000	
197	L470	177.0000	Circular	2.4053	0.0150	1.7500	1.7500	
198	L471	390.0000	Circular	0.7854	0.0150	1.0000	1.0000	
199	L472	52.0000	Circular	0.7854	0.0150	1.0000	1.0000	
200	L475	98.0000	Circular	1.2272	0.0150	1.2500	1.2500	
201	L478	480.0000	Circular	3.9761	0.0150	2.2500	2.2500	
202	L479	591.0000	Circular	4.9087	0.0150	2.5000	2.5000	
203	L487	164.0000	Circular	2.4053	0.0150	1.7500	1.7500	
204	L490	121.0000	Circular	2.4053	0.0150	1.7500	1.7500	
205	L493	467.0000	Circular	4.9087	0.0150	2.5000	2.5000	
206	L496	392.0000	Circular	0.7854	0.0150	1.0000	1.0000	
207	L497	394.0000	Circular	0.7854	0.0150	1.0000	1.0000	
208	L498	98.0000	Circular	0.7854	0.0150	1.0000	1.0000	
209	L499	390.0000	Circular	0.7854	0.0150	1.0000	1.0000	
210	L500	398.0000	Circular	1.2272	0.0150	1.2500	1.2500	
211	L501	375.0000	Circular	7.0686	0.0150	3.0000	3.0000	
212	L502	423.0000	Circular	9.6211	0.0150	3.5000	3.5000	
213	L503	437.0000	Circular	15.9043	0.0150	4.5000	4.5000	
214	L504	465.0000	Circular	15.9043	0.0150	4.5000	4.5000	
215	L505	395.0000	Circular	2.4053	0.0150	1.7500	1.7500	
216	L506	397.0000	Circular	2.4053	0.0150	1.7500	1.7500	
217	L507	147.0000	Circular	0.7854	0.0150	1.0000	1.0000	
218	L509	134.0000	Circular	1.2272	0.0150	1.2500	1.2500	
219	L510	111.0000	Circular	1.2272	0.0150	1.2500	1.2500	
220	L511	178.0000	Circular	1.7671	0.0150	1.5000	1.5000	
221	L512	111.0000	Circular	3.1416	0.0150	2.0000	2.0000	
222	L513	275.0000	Circular	4.9087	0.0150	2.5000	2.5000	
223	L514	399.0000	Circular	2.4053	0.0150	1.7500	1.7500	
224	L515	145.0000	Circular	7.0686	0.0150	3.0000	3.0000	
225	CH21	925.0000	Rectangle	275.0000	0.0600	100.0000	2.7500	
226	L474	127.0000	Circular	1.7671	0.0150	1.5000	1.5000	
227	L523	171.0000	Trapezoid	15.7500	0.0600	6.0000	1.5000	3.0000
228	L525	533.0000	Circular	7.0686	0.0150	3.0000	3.0000	
229	L527	434.0000	Circular	1.7671	0.0150	1.5000	1.5000	
230	L528	452.0000	Circular	1.2272	0.0150	1.2500	1.2500	
231	L529	284.0000	Circular	1.7671	0.0150	1.5000	1.5000	
232	L533	725.0000	Circular	1.7671	0.0150	1.5000	1.5000	
233	L537	453.0000	Circular	1.7671	0.0150	1.5000	1.5000	
234	L394	157.0000	Circular	15.9043	0.0150	4.5000	4.5000	
235	L276	51.0000	Circular	0.7854	0.0150	1.0000	1.0000	

236	L288	61.0000	Circular	1.2272	0.0150	1.2500	1.2500
237	L412	53.0000	Circular	0.7854	0.0150	1.0000	1.0000
238	L447	394.0000	Circular	1.7671	0.0150	1.5000	1.5000
239	L546	577.0000	Circular	1.7671	0.0150	1.5000	1.5000
Total length of all conduits				53789.0000	feet		

 | Table E2 - Conduit Factor Data |

Flow Routing	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	Sediment Depth
Standard - Dynamic Wave	L376	1.0000	0.0000	1.0000	0.0000	0.8500	1.0000	0.0000	0.0000

 | 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	Warning
L210	4.86	Warning ! (sqrt(wave celerity)*time step/conduit length)
L211	0.83	
L212	0.70	
L213	3.18	Warning ! (sqrt(wave celerity)*time step/conduit length)
L214	4.48	Warning ! (sqrt(wave celerity)*time step/conduit length)
L217	3.96	Warning ! (sqrt(wave celerity)*time step/conduit length)
L220	1.41	Warning ! (sqrt(wave celerity)*time step/conduit length)
L221	1.22	Warning ! (sqrt(wave celerity)*time step/conduit length)
L222	2.65	Warning ! (sqrt(wave celerity)*time step/conduit length)
L223	4.73	Warning ! (sqrt(wave celerity)*time step/conduit length)
L224	1.17	Warning ! (sqrt(wave celerity)*time step/conduit length)
L225	1.17	Warning ! (sqrt(wave celerity)*time step/conduit length)
L226	0.82	
L227	1.44	Warning ! (sqrt(wave celerity)*time step/conduit length)
L228	0.84	
L229	0.67	
L230	0.96	
L231	0.95	
L232	1.36	Warning ! (sqrt(wave celerity)*time step/conduit length)
L233	0.87	
L234	1.12	Warning ! (sqrt(wave celerity)*time step/conduit length)

L235	6.81	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L236	3.24	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L237	3.40	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L238	6.19	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L239	2.75	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L240	3.96	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L241	1.29	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L242	5.49	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L243	3.58	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L246	1.30	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L247	5.85	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L248	7.24	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L249	4.66	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L250	4.37	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L251	4.93	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L252	0.86						
L253	4.86	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L254	0.87						
L255	4.82	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L256	1.42	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L257	1.49	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L258	3.40	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L259	1.60	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L260	7.04	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L261	2.47	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L262	4.48	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L263	2.91	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L264	4.82	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L265	1.70	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L266	2.92	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L267	5.40	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L268	4.31	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L269	1.37	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L270	1.47	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L271	1.60	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L272	21.24	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L273	3.85	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L274	3.39	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L275	3.18	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L277	2.91	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L278	7.09	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L279	2.06	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L280	6.81	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L281	3.18	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L282	7.09	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L283	2.99	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L284	6.55	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L285	2.98	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L286	7.61	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L287	3.12	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L289	2.84	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L290	0.93						
L291	0.91						
L292	3.24	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L294	4.15	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L300	1.79	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L301	6.08	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L302	0.94						
L303	4.10	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L304	5.01	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)

L305	2.92	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L306	5.87	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L307	5.07	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L308	4.13	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L309	5.87	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L310	5.58	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L311	0.85						
L312	5.58	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L313	0.58						
L314	3.70	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L315	4.80	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L316	1.17	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L317	1.38	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L318	1.37	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L319	6.42	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L320	5.08	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L321	0.77						
L324	2.79	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L325	5.49	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L326	2.86	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L327	2.89	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L328	1.20	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L329	4.25	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L334	0.85						
L335	0.92						
L336	2.72	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L337	2.86	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L338	7.02	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L339	2.27	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L340	2.61	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L341	6.18	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L342	4.88	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L343	3.62	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L344	10.56	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L346	12.74	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L347	1.72	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L348	1.69	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L349	1.70	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L350	5.16	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L351	13.76	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L352	3.28	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L354	7.68	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L361	7.24	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L362	5.16	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L363	1.01	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L364	7.09	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L365	5.40	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L366	1.22	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L367	1.32	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L368	2.75	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L369	3.44	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L370	2.86	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L373	6.02	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L374	2.13	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L375	1.03	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L376	3.44	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L386	2.00	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L387	1.92	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L388	3.01	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)
L389	1.88	====>	Warning !	(sqrt(wave	celerity)*time	step/conduit	length)

L390 3.21 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L391 1.45 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L392 1.90 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L393 1.57 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L395 7.61 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L396 1.47 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L397 6.68 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L398 7.93 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L399 1.59 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L402 5.24 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L403 1.13 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L404 1.21 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L405 5.87 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L406 1.48 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L407 5.36 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L408 1.54 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L410 1.49 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L411 1.96 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L413 1.04 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L415 6.95 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L417 5.01 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L418 5.79 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L419 1.86 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L420 1.20 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L421 5.01 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L422 5.01 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L423 1.36 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L424 1.89 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L425 4.86 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L426 5.21 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L427 1.31 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L428 3.87 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L429 1.62 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L430 3.74 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L431 0.79
L432 3.74 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L435 3.78 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L436 1.08 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L437 1.16 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L438 3.87 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L439 1.02 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L440 1.05 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L441 1.57 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L442 1.39 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L443 6.64 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L446 6.84 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L448 4.31 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L449 1.00
L450 1.20 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L451 5.35 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L452 6.81 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L453 5.58 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L454 4.86 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L466 4.23 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L468 0.97
L470 2.54 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L471 0.87
L472 6.55 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L475 3.88 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L478 1.06 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)

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L479      0.91
L487      2.75 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L490      3.72 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L493      1.15 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L496      0.87
L497      0.86
L498      3.47 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L499      0.87
L500      0.96
L501      1.57 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L502      1.51 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L503      1.65 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L504      1.55 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L505      1.14 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L506      1.13 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L507      2.32 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L509      2.84 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L510      3.43 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L511      2.34 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L512      4.34 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L513      1.96 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L514      1.13 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L515      4.07 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
CH21      0.61
L474      3.28 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L523      2.04 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L525      1.11 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L527      0.96
L528      0.84
L529      1.47 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L533      0.58
L537      0.92
L394      4.60 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L276      6.68 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L288      6.24 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L412      6.42 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L447      1.06 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L546      0.72

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

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Full pipe or full open conduit volume
Input full depth volume..... 4.6145E+05 cubic feet

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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	N221	114.0300	106.8400	105.8400	0.0000	0.0000	100.0000
2	N222	112.0800	106.4400	104.4400	0.0000	0.0000	100.0000
3	N223	106.2600	103.0600	100.8100	0.0000	0.0000	100.0000
4	N224	106.3300	99.7200	96.9700	0.0000	0.0000	100.0000
5	N227	109.4000	99.3400	98.3400	0.0000	0.0000	100.0000
6	N228	102.4000	99.0300	97.5300	0.0000	0.0000	100.0000

7	N230	104.3900	100.3300	95.8300	0.0000	0.0000	100.0000
8	N231	104.4000	100.8400	99.8400	0.0000	0.0000	100.0000
9	N233	100.3500	96.9200	94.4200	0.0000	0.0000	100.0000
10	N234	100.0000	87.6000	85.6000	0.0000	0.0000	100.0000
11	N235	138.1500	120.6000	119.6000	0.0000	0.0000	100.0000
12	N236	126.2300	120.4100	118.6100	0.0000	0.0000	100.0000
13	N237	124.2900	118.8600	117.2600	0.0000	0.0000	100.0000
14	N238	122.3500	117.5100	115.1100	0.0000	0.0000	100.0000
15	N239	125.0800	118.6900	117.6900	0.0000	0.0000	100.0000
16	N240	122.0900	117.6200	116.6200	0.0000	0.0000	100.0000
17	N241	119.6000	115.0600	111.3600	0.0000	0.0000	100.0000
18	N242	115.6700	111.1300	108.6300	0.0000	0.0000	100.0000
19	N243	112.6900	109.1100	105.8600	0.0000	0.0000	100.0000
20	N244	109.7000	106.3500	103.8500	0.0000	0.0000	100.0000
21	N245	107.6800	104.8800	101.6800	0.0000	0.0000	100.0000
22	N246	104.7000	101.8100	99.5300	0.0000	0.0000	100.0000
23	N247	107.2000	100.3700	97.8700	0.0000	0.0000	100.0000
24	N248	116.0000	112.4800	111.4800	0.0000	0.0000	100.0000
25	N249	108.6300	105.6200	104.6200	0.0000	0.0000	100.0000
26	N250	113.4000	102.1400	101.1400	0.0000	0.0000	100.0000
27	N251	127.0200	116.3800	115.3800	0.0000	0.0000	100.0000
28	N252	121.2500	116.0600	113.0600	0.0000	0.0000	100.0000
29	N253	119.0300	113.3300	108.0800	0.0000	0.0000	100.0000
30	N254	120.4000	113.8300	112.8300	0.0000	0.0000	100.0000
31	N255	113.9100	108.0500	102.8000	0.0000	0.0000	100.0000
32	N256	119.8800	108.4100	107.4100	0.0000	0.0000	100.0000
33	N257	118.4000	108.6100	107.6100	0.0000	0.0000	100.0000
34	N259	102.6900	99.6600	97.1600	0.0000	0.0000	100.0000
35	N260	101.1000	99.5000	97.0000	0.0000	0.0000	100.0000
36	N261	106.3800	99.9300	98.9300	0.0000	0.0000	100.0000
37	N262	110.4000	105.8800	104.8800	0.0000	0.0000	100.0000
38	N263	109.4000	105.4600	104.4600	0.0000	0.0000	100.0000
39	N264	106.0000	97.6400	96.6400	0.0000	0.0000	100.0000
40	N265	108.4000	105.8600	104.8600	0.0000	0.0000	100.0000
41	N266	105.6100	101.3600	100.3600	0.0000	0.0000	100.0000
42	N267	104.2600	99.0500	97.5500	0.0000	0.0000	100.0000
43	N268	110.4200	101.7400	100.7400	0.0000	0.0000	100.0000
44	N269	110.0300	101.3300	100.3300	0.0000	0.0000	100.0000
45	N270	106.4000	100.3900	99.1400	0.0000	0.0000	100.0000
46	N271	102.3800	100.0500	98.5500	0.0000	0.0000	100.0000
47	N272	102.0600	98.1000	96.3500	0.0000	0.0000	100.0000
48	N273	104.4000	98.6800	97.6800	0.0000	0.0000	100.0000
49	N274	100.3100	97.3300	95.5800	0.0000	0.0000	100.0000
50	N275	101.7000	87.3500	85.6000	0.0000	0.0000	100.0000
51	N276	100.4000	95.2500	94.2500	0.0000	0.0000	100.0000
52	N277	99.4000	94.4400	93.4400	0.0000	0.0000	100.0000
53	N278	96.0000	79.0000	78.0000	0.0000	0.0000	100.0000
54	N279	98.4000	95.1200	94.1200	0.0000	0.0000	100.0000
55	N280	96.4000	86.5800	85.3300	0.0000	0.0000	100.0000
56	N281	91.9100	86.2400	83.2400	0.0000	0.0000	100.0000
57	N282	97.0800	85.7700	82.7700	0.0000	0.0000	100.0000
58	N283	100.0400	94.0000	82.5000	0.0000	0.0000	100.0000
59	N284	98.4000	86.1400	85.1400	0.0000	0.0000	100.0000
60	N285	102.4000	95.9100	94.9100	0.0000	0.0000	100.0000
61	N286	100.3900	95.4500	94.4500	0.0000	0.0000	100.0000
62	N287	96.9000	81.9600	78.4600	0.0000	0.0000	100.0000
63	N288	96.4000	81.5300	77.0300	0.0000	0.0000	100.0000
64	N289	96.4000	81.5000	77.0000	0.0000	0.0000	100.0000
65	N290	96.4000	79.8500	78.1000	0.0000	0.0000	100.0000
66	N291	96.2900	93.4200	91.9200	0.0000	0.0000	100.0000

67	N292	94.0000	78.1000	76.6000	0.0000	0.0000	100.0000
68	N293	126.4000	119.9200	118.9200	0.0000	0.0000	100.0000
69	N294	123.9600	119.3000	118.3000	0.0000	0.0000	100.0000
70	N296	122.4000	119.9800	118.9800	0.0000	0.0000	100.0000
71	N297	120.4000	114.2400	113.2400	0.0000	0.0000	100.0000
72	N298	118.4300	113.9600	112.9600	0.0000	0.0000	100.0000
73	N299	117.7600	107.3000	106.3000	0.0000	0.0000	100.0000
74	N300	116.4000	114.2500	113.2500	0.0000	0.0000	100.0000
75	N301	128.4000	123.9000	122.9000	0.0000	0.0000	100.0000
76	N302	128.3900	123.2800	122.2800	0.0000	0.0000	100.0000
77	N303	124.3000	111.6000	110.6000	0.0000	0.0000	100.0000
78	N304	126.4000	123.9500	122.9500	0.0000	0.0000	100.0000
79	N305	112.4000	106.5200	105.5200	0.0000	0.0000	100.0000
80	N306	110.3300	106.2200	104.7200	0.0000	0.0000	100.0000
81	N307	111.7000	105.7500	104.2500	0.0000	0.0000	100.0000
82	N308	108.4000	106.4400	105.1900	0.0000	0.0000	100.0000
83	N309	119.4000	114.1500	113.1500	0.0000	0.0000	100.0000
84	N310	116.6600	113.5100	112.2600	0.0000	0.0000	100.0000
85	N312	116.4000	114.2100	113.2100	0.0000	0.0000	100.0000
86	N313	107.7900	104.9300	103.9300	0.0000	0.0000	100.0000
87	N314	105.5100	102.7900	101.7900	0.0000	0.0000	100.0000
88	N315	103.3100	100.6100	99.6100	0.0000	0.0000	100.0000
89	N316	101.0000	95.1000	94.1000	0.0000	0.0000	100.0000
90	N317	96.4000	90.4200	89.1700	0.0000	0.0000	100.0000
91	N318	94.1000	89.9900	87.7400	0.0000	0.0000	100.0000
92	N319	100.4000	90.4700	89.4700	0.0000	0.0000	100.0000
93	N320	95.3200	90.7800	89.2800	0.0000	0.0000	100.0000
94	N321	96.4000	91.1100	90.1100	0.0000	0.0000	100.0000
95	N325	97.2700	91.2700	89.7700	0.0000	0.0000	100.0000
96	N326	100.4000	91.7500	90.7500	0.0000	0.0000	100.0000
97	N327	98.4000	91.6600	90.6600	0.0000	0.0000	100.0000
98	N328	100.2600	94.9400	93.4400	0.0000	0.0000	100.0000
99	N329	104.4000	95.0000	94.0000	0.0000	0.0000	100.0000
100	N330	101.6200	95.4400	93.4400	0.0000	0.0000	100.0000
101	N331	100.2600	94.2000	92.7000	0.0000	0.0000	100.0000
102	N332	101.4000	95.0000	94.0000	0.0000	0.0000	100.0000
103	N333	124.4600	109.8700	108.8700	0.0000	0.0000	100.0000
104	N334	121.3900	109.5100	108.5100	0.0000	0.0000	100.0000
105	N335	111.2600	107.1800	106.1800	0.0000	0.0000	100.0000
106	N336	120.3000	107.5400	106.5400	0.0000	0.0000	100.0000
107	N337	108.3300	103.7800	102.2800	0.0000	0.0000	100.0000
108	N338	116.4000	104.3100	103.3100	0.0000	0.0000	100.0000
109	N339	113.4000	105.8900	104.8900	0.0000	0.0000	100.0000
110	N340	110.4800	105.4700	104.4700	0.0000	0.0000	100.0000
111	N341	106.0600	102.7500	101.2500	0.0000	0.0000	100.0000
112	N342	106.8400	101.7200	100.2200	0.0000	0.0000	100.0000
113	N343	104.4000	101.5000	100.0000	0.0000	0.0000	100.0000
114	N344	112.0700	102.1100	101.1100	0.0000	0.0000	100.0000
115	N345	128.1400	119.8300	118.8300	0.0000	0.0000	100.0000
116	N347	126.9900	119.4500	118.4500	0.0000	0.0000	100.0000
117	N348	122.7000	117.6700	116.1700	0.0000	0.0000	100.0000
118	N349	129.4000	120.1600	119.1600	0.0000	0.0000	100.0000
119	N350	128.4000	118.8000	117.8000	0.0000	0.0000	100.0000
120	N351	124.8500	118.4400	117.1900	0.0000	0.0000	100.0000
121	N352	127.4000	118.3700	117.3700	0.0000	0.0000	100.0000
122	N353	125.4000	118.3600	117.3600	0.0000	0.0000	100.0000
123	N354	123.0000	117.1500	115.6500	0.0000	0.0000	100.0000
124	N355	121.1000	112.1000	110.6000	0.0000	0.0000	100.0000
125	N356	128.3900	126.3200	125.3200	0.0000	0.0000	100.0000
126	N357	126.5200	123.9800	122.9800	0.0000	0.0000	100.0000

127	N358	128.1900	121.8200	120.8200	0.0000	0.0000	100.0000
128	N359	126.7800	121.0900	120.0900	0.0000	0.0000	100.0000
129	N360	121.5000	113.8000	112.8000	0.0000	0.0000	100.0000
130	N361	133.4000	129.2400	126.2400	0.0000	0.0000	100.0000
131	N362	133.8500	129.1300	126.1300	0.0000	0.0000	100.0000
132	N363	135.6800	128.7800	125.2800	0.0000	0.0000	100.0000
133	N364	134.3100	128.5100	125.0100	0.0000	0.0000	100.0000
134	N365	129.0000	128.4000	117.4400	0.0000	0.0000	100.0000
135	N366	136.4000	129.1200	127.8700	0.0000	0.0000	100.0000
136	N367	131.4000	129.3300	128.3300	0.0000	0.0000	100.0000
137	N368	130.1000	126.7600	124.2600	0.0000	0.0000	100.0000
138	N369	130.1500	126.6700	123.6700	0.0000	0.0000	100.0000
139	N370	130.0300	125.7000	121.7000	0.0000	0.0000	100.0000
140	N371	130.3200	125.7600	122.2600	0.0000	0.0000	100.0000
141	N372	131.8100	125.3400	121.3400	0.0000	0.0000	100.0000
142	N373	131.3300	124.9700	120.9700	0.0000	0.0000	100.0000
143	N374	132.8200	124.6000	120.6000	0.0000	0.0000	100.0000
144	N375	132.2300	124.4800	119.9800	0.0000	0.0000	100.0000
145	N376	130.4700	124.9000	122.9000	0.0000	0.0000	100.0000
146	N377	130.5100	124.8200	122.8200	0.0000	0.0000	100.0000
147	N378	129.1900	123.7700	119.2700	0.0000	0.0000	100.0000
148	N379	128.2000	122.9000	118.4000	0.0000	0.0000	100.0000
149	N381	128.4700	126.2600	124.7600	0.0000	0.0000	100.0000
150	N382	128.0000	124.8600	122.8600	0.0000	0.0000	100.0000
151	N383	132.3000	126.5300	125.5300	0.0000	0.0000	100.0000
152	N384	131.1800	126.6400	125.6400	0.0000	0.0000	100.0000
153	N386	132.1700	125.1400	124.1400	0.0000	0.0000	100.0000
154	N387	132.9300	125.2300	124.2300	0.0000	0.0000	100.0000
155	N388	128.2100	123.9500	121.9500	0.0000	0.0000	100.0000
156	N389	128.3800	123.1100	120.1100	0.0000	0.0000	100.0000
157	N390	132.4000	123.8300	122.8300	0.0000	0.0000	100.0000
158	N391	131.4000	123.6900	122.6900	0.0000	0.0000	100.0000
159	N392	129.2100	122.8300	119.8300	0.0000	0.0000	100.0000
160	N394	130.0700	121.4000	118.4000	0.0000	0.0000	100.0000
161	N395	126.4000	119.6100	118.1100	0.0000	0.0000	100.0000
162	N396	124.6000	119.1800	117.6800	0.0000	0.0000	100.0000
163	N397	124.9400	118.8100	115.8100	0.0000	0.0000	100.0000
164	N398	128.0400	119.0600	116.3100	0.0000	0.0000	100.0000
165	N399	124.3000	118.6100	114.6000	0.0000	0.0000	100.0000
166	N403	125.5000	118.3000	114.3000	0.0000	0.0000	100.0000
167	N404	126.6900	117.9800	113.4800	0.0000	0.0000	100.0000
168	N405	131.2500	118.0000	117.0000	0.0000	0.0000	100.0000
169	N406	124.4900	117.6700	113.1700	0.0000	0.0000	100.0000
170	N407	132.5800	118.0000	117.0000	0.0000	0.0000	100.0000
171	N408	125.2200	117.2800	112.7800	0.0000	0.0000	100.0000
172	N409	123.3200	116.9800	112.4800	0.0000	0.0000	100.0000
173	N410	124.2200	116.6200	112.1200	0.0000	0.0000	100.0000
174	N412	125.2400	117.5500	116.3000	0.0000	0.0000	100.0000
175	N413	123.5000	118.8300	115.3300	0.0000	0.0000	100.0000
176	N414	122.0000	119.3700	115.8300	0.0000	0.0000	100.0000
177	N415	124.3800	117.5800	116.3300	0.0000	0.0000	100.0000
178	N416	125.2100	118.0800	116.8300	0.0000	0.0000	100.0000
179	N417	121.7600	119.5700	117.5700	0.0000	0.0000	100.0000
180	N418	124.4000	121.1500	119.9000	0.0000	0.0000	100.0000
181	N419	120.2000	112.6600	110.9100	0.0000	0.0000	100.0000
182	N420	123.9000	113.9900	112.2400	0.0000	0.0000	100.0000
183	N421	121.2100	113.7500	112.0000	0.0000	0.0000	100.0000
184	N422	118.3600	111.6300	109.1300	0.0000	0.0000	100.0000
185	N423	120.4000	111.8700	110.3700	0.0000	0.0000	100.0000
186	N424	118.5600	111.0100	108.2600	0.0000	0.0000	100.0000

187	N425	120.3900	111.3100	110.0600	0.0000	0.0000	100.0000
188	N426	117.2400	110.4500	107.4500	0.0000	0.0000	100.0000
189	N428	114.7900	109.9200	106.9200	0.0000	0.0000	100.0000
190	N429	116.1800	109.5200	106.0200	0.0000	0.0000	100.0000
191	N430	128.2200	120.0000	119.0000	0.0000	0.0000	100.0000
192	N431	123.0700	119.4000	116.6700	0.0000	0.0000	100.0000
193	N432	120.7300	119.5700	118.0700	0.0000	0.0000	100.0000
194	N434	126.2700	119.8000	118.8000	0.0000	0.0000	100.0000
195	N435	120.2500	112.1800	110.1800	0.0000	0.0000	100.0000
196	N436	125.4000	112.5700	111.5700	0.0000	0.0000	100.0000
197	N437	122.9000	112.4200	110.9200	0.0000	0.0000	100.0000
198	N438	119.8200	111.5800	109.5800	0.0000	0.0000	100.0000
199	N439	118.1400	110.6500	108.1500	0.0000	0.0000	100.0000
200	N440	122.4000	111.0500	110.0500	0.0000	0.0000	100.0000
201	N441	120.9000	110.9800	109.7300	0.0000	0.0000	100.0000
202	N442	116.2500	109.9700	107.2200	0.0000	0.0000	100.0000
203	N443	118.4000	110.3800	109.3800	0.0000	0.0000	100.0000
204	N444	118.4000	110.2800	109.0300	0.0000	0.0000	100.0000
205	N445	113.3000	108.9800	105.4800	0.0000	0.0000	100.0000
206	N446	118.4000	109.4900	108.4900	0.0000	0.0000	100.0000
207	N447	113.2000	108.5500	105.0500	0.0000	0.0000	100.0000
208	N448	125.6200	119.7700	118.7700	0.0000	0.0000	100.0000
209	N449	125.6000	119.2400	117.9900	0.0000	0.0000	100.0000
210	N450	125.2200	121.7400	120.7400	0.0000	0.0000	100.0000
211	N451	126.4000	122.2700	121.2700	0.0000	0.0000	100.0000
212	N453	119.8300	114.7600	113.7600	0.0000	0.0000	100.0000
213	N454	125.4000	115.2900	114.2900	0.0000	0.0000	100.0000
214	N455	118.2800	112.9300	111.6800	0.0000	0.0000	100.0000
215	N456	116.2800	111.5100	110.2600	0.0000	0.0000	100.0000
216	N457	122.4000	112.0200	111.0200	0.0000	0.0000	100.0000
217	N458	114.0000	109.8900	108.3900	0.0000	0.0000	100.0000
218	N459	110.2500	108.1100	104.6100	0.0000	0.0000	100.0000
219	N460	110.1000	107.6100	104.1100	0.0000	0.0000	100.0000
220	N461	110.1000	97.6000	94.1000	0.0000	0.0000	100.0000
221	N464	132.5200	126.8400	125.0900	0.0000	0.0000	100.0000
222	N465	135.1200	128.1500	126.6500	0.0000	0.0000	100.0000
223	N466	131.9700	127.9400	126.1900	0.0000	0.0000	100.0000
224	N467	130.9600	127.3000	126.3000	0.0000	0.0000	100.0000
225	N468	129.9500	125.5900	123.5900	0.0000	0.0000	100.0000
226	N469	128.6600	124.6600	118.6600	0.0000	0.0000	100.0000
227	N470	127.0000	120.4600	117.7100	0.0000	0.0000	100.0000
228	N471	133.3000	125.8800	124.8800	0.0000	0.0000	100.0000
229	N472	129.4500	125.9400	124.9400	0.0000	0.0000	100.0000
230	N473	126.2300	121.0700	120.0700	0.0000	0.0000	100.0000
231	N487	122.2200	120.5700	118.5700	0.0000	0.0000	100.0000
232	N489	124.6300	122.3300	118.4300	0.0000	0.0000	100.0000
233	N490	125.9100	123.6500	121.9000	0.0000	0.0000	100.0000
234	N491	127.1900	125.7700	124.1700	0.0000	0.0000	100.0000
235	N492	130.4000	127.3400	126.3400	0.0000	0.0000	100.0000
236	N493	129.9000	127.0400	126.0400	0.0000	0.0000	100.0000
237	N497	112.8000	109.3300	108.0800	0.0000	0.0000	100.0000
238	N499	111.0500	108.7500	91.2000	0.0000	0.0000	100.0000
239	N500	95.8800	88.9200	86.6700	0.0000	0.0000	100.0000
240	N501	94.9100	87.9700	85.4700	0.0000	0.0000	100.0000
241	N503	100.1000	91.5500	89.8000	0.0000	0.0000	100.0000
242	N504	100.4000	97.2900	95.5400	0.0000	0.0000	100.0000
243	N506	100.4000	93.1400	92.1400	0.0000	0.0000	100.0000
244	N509	117.9000	110.3800	108.8800	0.0000	0.0000	100.0000
245	N511	114.9500	103.4600	102.2100	0.0000	0.0000	100.0000
246	N513	117.8200	111.7600	110.0100	0.0000	0.0000	100.0000

247	N514	117.9000	111.6100	108.1100	0.0000	0.0000	100.0000
248	N516	111.0000	92.0000	90.0000	0.0000	0.0000	100.0000
249	N517	90.2800	86.4500	83.9500	0.0000	0.0000	100.0000
250	N518	89.2500	87.0600	84.3100	0.0000	0.0000	100.0000
251	N524	136.4600	134.4500	133.4500	0.0000	0.0000	100.0000
252	N525	136.2000	132.1700	131.1700	0.0000	0.0000	100.0000
253	N526	137.2000	134.4600	133.4600	0.0000	0.0000	100.0000
254	N527	136.0000	131.6000	130.6000	0.0000	0.0000	100.0000
255	N528	129.5000	126.1600	122.6600	0.0000	0.0000	100.0000
256	N529	134.2600	124.1400	119.6400	0.0000	0.0000	100.0000
257	N530	109.2400	103.4600	99.7100	0.0000	0.0000	100.0000
258	N689	123.2700	119.5000	118.0000	0.0000	0.0000	100.0000
259	N494	126.0000	123.1600	121.4100	0.0000	0.0000	100.0000
260	N541	120.0000	113.5900	112.0900	0.0000	0.0000	100.0000
261	EL329	118.0000	114.0200	112.5200	0.0000	0.0000	100.0000
262	N427	118.5000	111.1400	109.6400	0.0000	0.0000	100.0000
263	N411	128.9500	116.5000	112.0000	0.0000	0.0000	100.0000
264	N295	120.1000	108.9300	107.9300	0.0000	0.0000	100.0000
265	N311	114.3000	105.3500	104.1000	0.0000	0.0000	100.0000
266	N462	133.0000	129.2800	127.7800	0.0000	0.0000	100.0000
267	N554	94.5100	92.2800	90.6800	0.0000	0.0000	100.0000
268	N555	110.0000	91.0500	89.8000	0.0000	0.0000	100.0000
269	N322	101.6200	94.5000	92.5000	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	N221	0.0000	0.0000	No P	Normal		0	0.0000
2	N222	0.0000	0.0000	No P	Normal		0	0.0000
3	N223	0.0000	0.0000	No P	Normal		0	0.0000
4	N224	0.0000	0.0000	No P	Normal		0	0.0000
5	N227	0.0000	0.0000	No P	Normal		0	0.0000
6	N228	0.0000	0.0000	F	Normal		0	0.0000
7	N230	0.0000	0.0000	No P	Normal		0	0.0000
8	N231	0.0000	0.0000	No P	Normal		0	0.0000
9	N233	0.0000	0.0000	No P	Normal		0	0.0000
10	N234	0.0000	0.0000	No P	Normal		0	0.0000
11	N235	0.0000	0.0000	No P	Normal		0	0.0000
12	N236	0.0000	0.0000	No P	Normal		0	0.0000
13	N237	0.0000	0.0000	No P	Normal		0	0.0000
14	N238	0.0000	0.0000	No P	Normal		0	0.0000
15	N239	0.0000	0.0000	No P	Normal		0	0.0000
16	N240	0.0000	0.0000	No P	Normal		0	0.0000
17	N241	0.0000	0.0000	No P	Normal		0	0.0000
18	N242	0.0000	0.0000	No P	Normal		0	0.0000
19	N243	0.0000	0.0000	No P	Normal		0	0.0000
20	N244	0.0000	0.0000	No P	Normal		0	0.0000
21	N245	0.0000	0.0000	No P	Normal		0	0.0000
22	N246	0.0000	0.0000	No P	Normal		0	0.0000
23	N247	0.0000	0.0000	No P	Normal		0	0.0000
24	N248	0.0000	0.0000	F	Normal		0	0.0000
25	N249	0.0000	0.0000	F	Normal		0	0.0000
26	N250	0.0000	0.0000	No P	Normal		0	0.0000
27	N251	0.0000	0.0000	No P	Normal		0	0.0000
28	N252	0.0000	0.0000	No P	Normal		0	0.0000

29	N253	0.0000	0.0000	No P	Normal	0	0.0000
30	N254	0.0000	0.0000	No P	Normal	0	0.0000
31	N255	0.0000	0.0000	No P	Normal	0	0.0000
32	N256	0.0000	0.0000	No P	Normal	0	0.0000
33	N257	0.0000	0.0000	No P	Normal	0	0.0000
34	N259	0.0000	0.0000	No P	Normal	0	0.0000
35	N260	0.0000	0.0000	No P	Normal	0	0.0000
36	N261	0.0000	0.0000	No P	Normal	0	0.0000
37	N262	0.0000	0.0000	No P	Normal	0	0.0000
38	N263	0.0000	0.0000	No P	Normal	0	0.0000
39	N264	0.0000	0.0000	No P	Normal	0	0.0000
40	N265	0.0000	0.0000	No P	Normal	0	0.0000
41	N266	0.0000	0.0000	No P	Normal	0	0.0000
42	N267	0.0000	0.0000	No P	Normal	0	0.0000
43	N268	0.0000	0.0000	No P	Normal	0	0.0000
44	N269	0.0000	0.0000	No P	Normal	0	0.0000
45	N270	0.0000	0.0000	No P	Normal	0	0.0000
46	N271	0.0000	0.0000	No P	Normal	0	0.0000
47	N272	0.0000	0.0000	No P	Normal	0	0.0000
48	N273	0.0000	0.0000	No P	Normal	0	0.0000
49	N274	0.0000	0.0000	No P	Normal	0	0.0000
50	N275	0.0000	0.0000	No P	Normal	0	0.0000
51	N276	0.0000	0.0000	No P	Normal	0	0.0000
52	N277	0.0000	0.0000	No P	Normal	0	0.0000
53	N278	0.0000	0.0000	No P	Normal	0	0.0000
54	N279	0.0000	0.0000	No P	Normal	0	0.0000
55	N280	0.0000	0.0000	No P	Normal	0	0.0000
56	N281	0.0000	0.0000	No P	Normal	0	0.0000
57	N282	0.0000	0.0000	No P	Normal	0	0.0000
58	N283	0.0000	0.0000	No P	Normal	0	0.0000
59	N284	0.0000	0.0000	No P	Normal	0	0.0000
60	N285	0.0000	0.0000	No P	Normal	0	0.0000
61	N286	0.0000	0.0000	No P	Normal	0	0.0000
62	N287	0.0000	0.0000	No P	Normal	0	0.0000
63	N288	0.0000	0.0000	No P	Normal	0	0.0000
64	N289	0.0000	0.0000	No P	Normal	0	0.0000
65	N290	0.0000	0.0000	No P	Normal	0	0.0000
66	N291	0.0000	0.0000	No P	Normal	0	0.0000
67	N292	0.0000	0.0000	No P	Normal	0	0.0000
68	N293	0.0000	0.0000	No P	Normal	0	0.0000
69	N294	0.0000	0.0000	No P	Normal	0	0.0000
70	N296	0.0000	0.0000	No P	Normal	0	0.0000
71	N297	0.0000	0.0000	No P	Normal	0	0.0000
72	N298	0.0000	0.0000	No P	Normal	0	0.0000
73	N299	0.0000	0.0000	No P	Normal	0	0.0000
74	N300	0.0000	0.0000	No P	Normal	0	0.0000
75	N301	0.0000	0.0000	No P	Normal	0	0.0000
76	N302	0.0000	0.0000	No P	Normal	0	0.0000
77	N303	0.0000	0.0000	No P	Normal	0	0.0000
78	N304	0.0000	0.0000	No P	Normal	0	0.0000
79	N305	0.0000	0.0000	No P	Normal	0	0.0000
80	N306	0.0000	0.0000	No P	Normal	0	0.0000
81	N307	0.0000	0.0000	No P	Normal	0	0.0000
82	N308	0.0000	0.0000	No P	Normal	0	0.0000
83	N309	0.0000	0.0000	No P	Normal	0	0.0000
84	N310	0.0000	0.0000	No P	Normal	0	0.0000
85	N312	0.0000	0.0000	No P	Normal	0	0.0000
86	N313	0.0000	0.0000	No P	Normal	0	0.0000
87	N314	0.0000	0.0000	No P	Normal	0	0.0000
88	N315	0.0000	0.0000	No P	Normal	0	0.0000

89	N316	0.0000	0.0000	No	P	Normal	0	0.0000
90	N317	0.0000	0.0000		F	Normal	0	0.0000
91	N318	0.0000	0.0000		F	Normal	0	0.0000
92	N319	0.0000	0.0000		F	Normal	0	0.0000
93	N320	0.0000	0.0000		F	Normal	0	0.0000
94	N321	0.0000	0.0000		F	Normal	0	0.0000
95	N325	0.0000	0.0000		F	Normal	0	0.0000
96	N326	0.0000	0.0000		F	Normal	0	0.0000
97	N327	0.0000	0.0000		F	Normal	0	0.0000
98	N328	0.0000	0.0000		F	Normal	0	0.0000
99	N329	0.0000	0.0000		F	Normal	0	0.0000
100	N330	0.0000	0.0000		F	Normal	0	0.0000
101	N331	0.0000	0.0000		F	Normal	0	0.0000
102	N332	0.0000	0.0000		F	Normal	0	0.0000
103	N333	0.0000	0.0000	No	P	Normal	0	0.0000
104	N334	0.0000	0.0000	No	P	Normal	0	0.0000
105	N335	0.0000	0.0000	No	P	Normal	0	0.0000
106	N336	0.0000	0.0000	No	P	Normal	0	0.0000
107	N337	0.0000	0.0000	No	P	Normal	0	0.0000
108	N338	0.0000	0.0000	No	P	Normal	0	0.0000
109	N339	0.0000	0.0000	No	P	Normal	0	0.0000
110	N340	0.0000	0.0000	No	P	Normal	0	0.0000
111	N341	0.0000	0.0000	No	P	Normal	0	0.0000
112	N342	0.0000	0.0000	No	P	Normal	0	0.0000
113	N343	0.0000	0.0000	No	P	Normal	0	0.0000
114	N344	0.0000	0.0000	No	P	Normal	0	0.0000
115	N345	0.0000	0.0000	No	P	Normal	0	0.0000
116	N347	0.0000	0.0000	No	P	Normal	0	0.0000
117	N348	0.0000	0.0000	No	P	Normal	0	0.0000
118	N349	0.0000	0.0000	No	P	Normal	0	0.0000
119	N350	0.0000	0.0000	No	P	Normal	0	0.0000
120	N351	0.0000	0.0000	No	P	Normal	0	0.0000
121	N352	0.0000	0.0000	No	P	Normal	0	0.0000
122	N353	0.0000	0.0000	No	P	Normal	0	0.0000
123	N354	0.0000	0.0000	No	P	Normal	0	0.0000
124	N355	0.0000	0.0000	No	P	Normal	0	0.0000
125	N356	0.0000	0.0000	No	P	Normal	0	0.0000
126	N357	0.0000	0.0000	No	P	Normal	0	0.0000
127	N358	0.0000	0.0000	No	P	Normal	0	0.0000
128	N359	0.0000	0.0000	No	P	Normal	0	0.0000
129	N360	0.0000	0.0000	No	P	Normal	0	0.0000
130	N361	0.0000	0.0000	No	P	Normal	0	0.0000
131	N362	0.0000	0.0000	No	P	Normal	0	0.0000
132	N363	0.0000	0.0000	No	P	Normal	0	0.0000
133	N364	0.0000	0.0000	No	P	Normal	0	0.0000
134	N365	0.0000	0.0000	No	P	Normal	0	0.0000
135	N366	0.0000	0.0000	No	P	Normal	0	0.0000
136	N367	0.0000	0.0000	No	P	Normal	0	0.0000
137	N368	0.0000	0.0000	No	P	Normal	0	0.0000
138	N369	0.0000	0.0000	No	P	Normal	0	0.0000
139	N370	0.0000	0.0000	No	P	Normal	0	0.0000
140	N371	0.0000	0.0000	No	P	Normal	0	0.0000
141	N372	0.0000	0.0000	No	P	Normal	0	0.0000
142	N373	0.0000	0.0000	No	P	Normal	0	0.0000
143	N374	0.0000	0.0000	No	P	Normal	0	0.0000
144	N375	0.0000	0.0000	No	P	Normal	0	0.0000
145	N376	0.0000	0.0000	No	P	Normal	0	0.0000
146	N377	0.0000	0.0000	No	P	Normal	0	0.0000
147	N378	0.0000	0.0000	No	P	Normal	0	0.0000
148	N379	0.0000	0.0000	No	P	Normal	0	0.0000

209	N449	0.0000	0.0000	No P	Normal	0	0.0000
210	N450	0.0000	0.0000	No P	Normal	0	0.0000
211	N451	0.0000	0.0000	No P	Normal	0	0.0000
212	N453	0.0000	0.0000	F	Normal	0	0.0000
213	N454	0.0000	0.0000	No P	Normal	0	0.0000
214	N455	0.0000	0.0000	No P	Normal	0	0.0000
215	N456	0.0000	0.0000	No P	Normal	0	0.0000
216	N457	0.0000	0.0000	No P	Normal	0	0.0000
217	N458	0.0000	0.0000	No P	Normal	0	0.0000
218	N459	0.0000	0.0000	No P	Normal	0	0.0000
219	N460	0.0000	0.0000	No P	Normal	0	0.0000
220	N461	0.0000	0.0000	No P	Normal	0	0.0000
221	N464	0.0000	0.0000	No P	Normal	0	0.0000
222	N465	0.0000	0.0000	No P	Normal	0	0.0000
223	N466	0.0000	0.0000	No P	Normal	0	0.0000
224	N467	0.0000	0.0000	No P	Normal	0	0.0000
225	N468	0.0000	0.0000	No P	Normal	0	0.0000
226	N469	0.0000	0.0000	No P	Normal	0	0.0000
227	N470	0.0000	0.0000	No P	Normal	0	0.0000
228	N471	0.0000	0.0000	No P	Normal	0	0.0000
229	N472	0.0000	0.0000	No P	Normal	0	0.0000
230	N473	0.0000	0.0000	No P	Normal	0	0.0000
231	N487	0.0000	0.0000	No P	Normal	0	0.0000
232	N489	0.0000	0.0000	No P	Normal	0	0.0000
233	N490	0.0000	0.0000	No P	Normal	0	0.0000
234	N491	0.0000	0.0000	No P	Normal	0	0.0000
235	N492	0.0000	0.0000	No P	Normal	0	0.0000
236	N493	0.0000	0.0000	No P	Normal	0	0.0000
237	N497	0.0000	0.0000	No P	Normal	0	0.0000
238	N499	0.0000	0.0000	No P	Normal	0	0.0000
239	N500	0.0000	0.0000	No P	Normal	0	0.0000
240	N501	0.0000	0.0000	No P	Normal	0	0.0000
241	N503	0.0000	0.0000	No P	Normal	0	0.0000
242	N504	0.0000	0.0000	No P	Normal	0	0.0000
243	N506	0.0000	0.0000	No P	Normal	0	0.0000
244	N509	0.0000	0.0000	No P	Normal	0	0.0000
245	N511	0.0000	0.0000	No P	Normal	0	0.0000
246	N513	0.0000	0.0000	No P	Normal	0	0.0000
247	N514	0.0000	0.0000	No P	Normal	0	0.0000
248	N516	0.0000	0.0000	No P	Normal	0	0.0000
249	N517	0.0000	0.0000	No P	Normal	0	0.0000
250	N518	0.0000	0.0000	No P	Normal	0	0.0000
251	N524	0.0000	0.0000	No P	Normal	0	0.0000
252	N525	0.0000	0.0000	No P	Normal	0	0.0000
253	N526	0.0000	0.0000	No P	Normal	0	0.0000
254	N527	0.0000	0.0000	No P	Normal	0	0.0000
255	N528	0.0000	0.0000	No P	Normal	0	0.0000
256	N529	0.0000	0.0000	No P	Normal	0	0.0000
257	N530	0.0000	0.0000	No P	Normal	0	0.0000
258	N689	0.0000	0.0000	No P	Normal	0	0.0000
259	N494	0.0000	0.0000	No P	Normal	0	0.0000
260	N541	0.0000	0.0000	No P	Normal	0	0.0000
261	EL329	0.0000	0.0000	No P	Normal	0	0.0000
262	N427	0.0000	0.0000	No P	Normal	0	0.0000
263	N411	0.0000	0.0000	No P	Normal	0	0.0000
264	N295	0.0000	0.0000	No P	Normal	0	0.0000
265	N311	0.0000	0.0000	No P	Normal	0	0.0000
266	N462	0.0000	0.0000	No P	Normal	0	0.0000
267	N554	0.0000	0.0000	No P	Normal	0	0.0000
268	N555	0.0000	0.0000	No P	Normal	0	0.0000

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| Table E4 - Conduit Connectivity |

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Input Number	Conduit Name	Upstream Node	Downstream Node	Upstream Elevation	Downstream Elevation		
1	L210	N221	N222	105.8400	105.4400	No	Design
2	L211	N222	N223	104.4400	102.0600	No	Design
3	L212	N223	N224	100.8100	98.4700	No	Design
4	L213	N227	N224	98.3400	97.7200	No	Design
5	L214	N228	N224	97.5300	97.2200	No	Design
6	L217	N231	N230	99.8400	99.3300	No	Design
7	L220	N224	N230	96.9700	96.0800	No	Design
8	L221	N230	N233	95.8300	94.9200	No	Design
9	L222	N233	N234	94.4200	85.6000	No	Design
10	L223	N235	N236	119.6000	119.4100	No	Design
11	L224	N236	N237	118.6100	117.8600	No	Design
12	L225	N237	N238	117.2600	116.5100	No	Design
13	L226	N239	N240	117.6900	116.6200	No	Design
14	L227	N240	N238	116.6200	116.0100	No	Design
15	L228	N238	N241	115.1100	114.0600	No	Design
16	L229	N241	N242	111.3600	109.8800	No	Design
17	L230	N242	N243	108.6300	107.8600	No	Design
18	L231	N243	N244	105.8600	105.1000	No	Design
19	L232	N244	N245	103.8500	103.3800	No	Design
20	L233	N245	N246	101.9600	100.3100	No	Design
21	L234	N246	N247	99.5600	98.3700	No	Design
22	L235	N248	N241	111.4800	111.3600	No	Design
23	L236	N249	N244	104.6200	104.3500	No	Design
24	L237	N250	N246	101.1400	100.5600	No	Design
25	L238	N251	N252	115.3800	115.0600	No	Design
26	L239	N252	N253	113.0600	112.3300	No	Design
27	L240	N254	N253	112.8300	112.3300	No	Design
28	L241	N253	N255	108.0800	106.8000	No	Design
29	L242	N256	N255	107.4100	107.0500	No	Design
30	L243	N257	N255	107.6100	107.0500	No	Design
31	L246	N247	N259	97.8700	97.1600	No	Design
32	L247	N259	N260	97.1600	97.0000	No	Design
33	L248	N261	N259	98.9300	98.6600	No	Design
34	L249	N262	N263	104.8800	104.4600	No	Design
35	L250	N263	N264	104.4600	96.6400	No	Design
36	L251	N265	N263	104.8600	104.4600	No	Design
37	L252	N266	N267	100.3600	98.0500	No	Design
38	L253	N268	N269	100.7400	100.3300	No	Design
39	L254	N269	N267	100.3300	98.0500	No	Design
40	L255	N270	N271	99.1400	98.8000	No	Design
41	L256	N271	N267	98.5500	97.5500	No	Design
42	L257	N267	N272	97.5500	96.6000	No	Design
43	L258	N273	N272	97.6800	97.1000	No	Design
44	L259	N272	N274	96.3500	95.5800	No	Design
45	L260	N274	N275	95.5800	85.6000	No	Design
46	L261	N276	N277	94.2500	93.4400	No	Design
47	L262	N277	N278	93.4400	78.0000	No	Design
48	L263	N279	N277	94.1200	93.4400	No	Design
49	L264	N280	N281	85.3300	84.9900	No	Design
50	L265	N281	N282	83.2400	82.7700	No	Design

51	L266	N282	N283	82.7700	82.5000	No Design
52	L267	N284	N282	85.1400	84.7700	No Design
53	L268	N285	N286	94.9100	94.4500	No Design
54	L269	N286	N283	94.4500	93.0000	No Design
55	L270	N283	N287	82.5000	78.4600	No Design
56	L271	N287	N288	78.4600	77.0300	No Design
57	L272	N288	N289	77.0300	77.0000	No Design
58	L273	N290	N288	78.1000	77.7800	No Design
59	L274	N291	N292	91.9200	76.6000	No Design
60	L275	N293	N294	118.9200	118.3000	No Design
61	L277	N296	N294	118.9800	118.3000	No Design
62	L278	N297	N298	113.2400	112.9600	No Design
63	L279	N298	N299	112.9600	106.3000	No Design
64	L280	N300	N298	113.2500	112.9600	No Design
65	L281	N301	N302	122.9000	122.2800	No Design
66	L282	N302	N303	122.2800	110.6000	No Design
67	L283	N304	N302	122.9500	122.2800	No Design
68	L284	N305	N306	105.5200	105.2200	No Design
69	L285	N306	N307	104.7200	104.2500	No Design
70	L286	N308	N306	105.1900	104.9700	No Design
71	L287	N309	N310	113.1500	112.5100	No Design
72	L289	N312	N310	113.2100	112.5100	No Design
73	L290	N313	N314	103.9300	101.7900	No Design
74	L291	N314	N315	101.7900	99.6100	No Design
75	L292	N315	N316	99.6100	94.1000	No Design
76	L294	N319	N318	89.4700	88.9900	No Design
77	L300	N320	N318	89.2800	88.4900	No Design
78	L301	N321	N320	90.1100	89.7800	No Design
79	L302	N318	N500	87.7400	86.6700	No Design
80	L303	N326	N325	90.7500	90.2700	No Design
81	L304	N327	N325	90.6600	90.2700	No Design
82	L305	N325	N320	89.7700	89.2800	No Design
83	L306	N329	N330	94.0000	93.4400	No Design
84	L307	N330	N322	93.4400	92.5000	No Design
85	L308	N328	N331	93.4400	92.7000	No Design
86	L309	N332	N328	94.0000	93.4400	No Design
87	L310	N333	N334	108.8700	108.5100	No Design
88	L311	N334	N335	108.5100	106.1800	No Design
89	L312	N336	N335	106.5400	106.1800	No Design
90	L313	N335	N337	106.1800	102.7800	No Design
91	L314	N338	N337	103.3100	102.7800	No Design
92	L315	N339	N340	104.8900	104.4700	No Design
93	L316	N340	N337	104.4700	102.7800	No Design
94	L317	N337	N341	102.2800	101.2500	No Design
95	L318	N341	N342	101.2500	100.2200	No Design
96	L319	N342	N343	100.2200	100.0000	No Design
97	L320	N344	N342	101.1100	100.7200	No Design
98	L321	N345	N239	118.8300	117.6900	No Design
99	L324	N349	N347	119.1600	118.4500	No Design
100	L325	N350	N351	117.8000	117.4400	No Design
101	L326	N352	N348	117.3700	116.6700	No Design
102	L327	N353	N348	117.3600	116.6700	No Design
103	L328	N348	N354	116.1700	115.6500	No Design
104	L329	N354	N355	115.6500	110.6000	No Design
105	L334	N356	N357	125.3200	122.9800	No Design
106	L335	N357	N358	122.9800	120.8200	No Design
107	L336	N358	N359	120.8200	120.0900	No Design
108	L337	N359	N360	120.0900	112.8000	No Design
109	L338	N361	N362	126.2400	126.1300	No Design
110	L339	N362	N363	126.1300	125.7800	No Design

111	L340	N363	N364	125.2800	125.0100	No Design
112	L341	N364	N365	125.0100	124.9000	No Design
113	L342	N366	N363	127.8700	127.5300	No Design
114	L343	N367	N363	128.3300	127.7800	No Design
115	L344	N368	N369	124.2600	124.1700	No Design
116	L346	N371	N370	122.2600	122.2000	No Design
117	L347	N370	N372	121.7000	121.3400	No Design
118	L348	N372	N373	121.3400	120.9700	No Design
119	L349	N373	N374	120.9700	120.6000	No Design
120	L350	N374	N375	120.6000	120.4800	No Design
121	L351	N376	N377	122.9000	122.8200	No Design
122	L352	N377	N375	122.8200	122.4800	No Design
123	L354	N378	N379	119.2700	118.4000	No Design
124	L361	N383	N381	125.5300	125.2600	No Design
125	L362	N384	N381	125.6400	125.2600	No Design
126	L363	N381	N382	124.7600	123.3600	No Design
127	L364	N386	N382	124.1400	123.8600	No Design
128	L365	N387	N382	124.2300	123.8600	No Design
129	L366	N382	N388	122.8600	121.9500	No Design
130	L367	N388	N389	121.9500	121.1100	No Design
131	L368	N390	N389	122.8300	122.1100	No Design
132	L369	N391	N389	122.6900	122.1100	No Design
133	L370	N389	N392	120.1100	119.8300	No Design
134	L373	N392	N394	119.8300	118.4000	No Design
135	L374	N395	N396	118.6100	118.1800	No Design
136	L375	N396	N397	117.6800	117.3100	No Design
137	L376	N398	N397	116.3100	116.0600	No Design
138	L386	N399	N403	114.6100	114.3000	No Design
139	L387	N403	N404	114.3000	113.9800	No Design
140	L388	N405	N404	117.0000	116.7000	No Design
141	L389	N404	N406	113.4800	113.1700	No Design
142	L390	N407	N406	117.0000	116.6000	No Design
143	L391	N406	N408	113.1700	112.7800	No Design
144	L392	N408	N409	112.7800	112.4800	No Design
145	L393	N409	N410	112.4800	112.1200	No Design
146	L395	N412	N413	116.3000	115.3300	No Design
147	L396	N414	N413	116.3700	115.8300	No Design
148	L397	N415	N413	116.3300	115.3300	No Design
149	L398	N416	N414	116.8300	115.8700	No Design
150	L399	N417	N414	117.5700	116.8700	No Design
151	L402	N420	N421	112.2400	112.0000	No Design
152	L403	N421	N419	112.0000	110.9100	No Design
153	L404	N419	N422	110.9100	109.8800	No Design
154	L405	N423	N422	110.3700	110.1300	No Design
155	L406	N422	N424	109.1300	108.5100	No Design
156	L407	N425	N424	110.0600	109.7600	No Design
157	L408	N424	N426	108.2600	107.7000	No Design
158	L410	N426	N428	107.4500	106.9200	No Design
159	L411	N428	N429	106.9200	106.5200	No Design
160	L413	N432	N431	118.0700	116.6700	No Design
161	L415	N434	N432	118.8000	118.4800	No Design
162	L417	N436	N435	111.5700	111.1800	No Design
163	L418	N437	N435	110.9200	110.6800	No Design
164	L419	N435	N438	110.1800	109.5800	No Design
165	L420	N438	N439	109.5800	108.6500	No Design
166	L421	N440	N439	110.0500	109.6500	No Design
167	L422	N441	N439	109.7300	109.4000	No Design
168	L423	N439	N442	108.1500	107.4700	No Design
169	L424	N442	N429	107.2200	106.7700	No Design
170	L425	N443	N442	109.3800	108.9700	No Design

171	L426	N444	N442	109.0300	108.7200	No Design
172	L427	N429	N445	106.0200	105.4800	No Design
173	L428	N446	N445	108.4900	107.9800	No Design
174	L429	N445	N447	105.4800	105.0500	No Design
175	L430	N448	N449	118.7700	117.9900	No Design
176	L431	N450	N449	120.7400	118.2400	No Design
177	L432	N451	N450	121.2700	120.7400	No Design
178	L435	N454	N453	114.2900	113.7600	No Design
179	L436	N453	N455	113.7600	111.9300	No Design
180	L437	N455	N456	111.6800	110.2600	No Design
181	L438	N457	N456	111.0200	110.5100	No Design
182	L439	N456	N458	110.2600	108.6400	No Design
183	L440	N458	N447	108.3900	107.0500	No Design
184	L441	N447	N459	105.0500	104.6100	No Design
185	L442	N459	N460	104.6100	104.1100	No Design
186	L443	N460	N461	104.1100	94.1000	No Design
187	L446	N465	N466	126.6500	126.4400	No Design
188	L448	N467	N464	126.3000	125.8400	No Design
189	L449	N464	N468	125.0900	123.8400	No Design
190	L450	N468	N469	123.5900	122.6600	No Design
191	L451	N469	N470	118.6600	118.4600	No Design
192	L452	N471	N468	124.8800	124.5900	No Design
193	L453	N472	N468	124.9400	124.5900	No Design
194	L454	N473	N469	120.0700	119.6600	No Design
195	L466	N418	N487	119.9000	119.3200	No Design
196	L468	N487	N417	118.5700	117.5700	No Design
197	L470	N490	N494	121.9000	121.4100	No Design
198	L471	N491	N490	124.7700	121.9000	No Design
199	L472	N492	N493	126.3400	126.0400	No Design
200	L475	N317	N318	89.1700	88.7400	No Design
201	L478	N500	N501	86.6700	85.7200	No Design
202	L479	N501	N518	85.4700	84.5600	No Design
203	L487	N504	N503	95.5400	89.8000	No Design
204	L490	N513	N514	110.0100	109.8600	No Design
205	L493	N518	N517	84.3100	83.9500	No Design
206	L496	N524	N525	133.4500	131.1700	No Design
207	L497	N526	N525	133.4600	131.1700	No Design
208	L498	N525	N527	131.1700	130.6000	No Design
209	L499	N347	N351	118.4500	117.4400	No Design
210	L500	N351	N348	117.1900	116.4200	No Design
211	L501	N369	N528	123.6700	123.1600	No Design
212	L502	N528	N370	122.6600	122.2000	No Design
213	L503	N375	N529	119.9800	119.6400	No Design
214	L504	N529	N378	119.6400	119.2700	No Design
215	L505	N255	N530	102.8000	101.7100	No Design
216	L506	N530	N247	99.7100	98.6200	No Design
217	L507	N506	N554	92.1400	91.2800	No Design
218	L509	N497	N499	108.0800	107.5000	No Design
219	L510	N511	N555	102.2100	89.8000	No Design
220	L511	N509	N514	108.8800	108.6100	No Design
221	L512	N514	N516	108.1100	90.0000	No Design
222	L513	N517	N281	83.9500	83.7400	No Design
223	L514	N466	N464	126.1900	125.0900	No Design
224	L515	N397	N399	115.8100	115.6100	No Design
225	CH21	N470	N398	117.7100	116.3100	No Design
226	L474	N489	N689	118.4300	118.0000	No Design
227	L523	N494	N489	121.4100	120.8300	No Design
228	L525	N413	N399	115.8300	115.1100	No Design
229	L527	N431	N404	116.6700	115.2500	No Design
230	L528	N449	N408	117.9900	116.0300	No Design

231	L529	EL329	N541	112.5200	112.0900	No Design
232	L533	N541	N427	112.0900	109.6400	No Design
233	L537	N427	N426	109.6400	108.9500	No Design
234	L394	N410	N411	112.1200	112.0000	No Design
235	L276	N294	N295	118.3000	107.9300	No Design
236	L288	N310	N311	112.2600	104.1000	No Design
237	L412	N430	N431	119.0000	118.4000	No Design
238	L447	N462	N466	127.7800	126.4400	No Design
239	L546	N554	N500	90.7800	87.4200	No Design

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

Outfall at Junction....N234	has boundary condition number...	1
Outfall at Junction....N260	has boundary condition number...	2
Outfall at Junction....N264	has boundary condition number...	3
Outfall at Junction....N275	has boundary condition number...	4
Outfall at Junction....N278	has boundary condition number...	5
Outfall at Junction....N289	has boundary condition number...	6
Outfall at Junction....N292	has boundary condition number...	7
Outfall at Junction....N299	has boundary condition number...	8
Outfall at Junction....N303	has boundary condition number...	9
Outfall at Junction....N307	has boundary condition number...	10
Outfall at Junction....N316	has boundary condition number...	11
Outfall at Junction....N331	has boundary condition number...	12
Outfall at Junction....N343	has boundary condition number...	13
Outfall at Junction....N355	has boundary condition number...	14
Outfall at Junction....N360	has boundary condition number...	15
Outfall at Junction....N365	has boundary condition number...	16
Outfall at Junction....N379	has boundary condition number...	17
Outfall at Junction....N394	has boundary condition number...	18
Outfall at Junction....N461	has boundary condition number...	19
Outfall at Junction....N493	has boundary condition number...	20
Outfall at Junction....N499	has boundary condition number...	21
Outfall at Junction....N503	has boundary condition number...	22
Outfall at Junction....N516	has boundary condition number...	23
Outfall at Junction....N527	has boundary condition number...	24
Outfall at Junction....N689	has boundary condition number...	25
Outfall at Junction....N411	has boundary condition number...	26
Outfall at Junction....N295	has boundary condition number...	27
Outfall at Junction....N311	has boundary condition number...	28
Outfall at Junction....N555	has boundary condition number...	29
Outfall at Junction....N322	has boundary condition number...	30

| INTERNAL CONNECTIVITY INFORMATION |

CONDUIT	JUNCTION	JUNCTION
FREE # 1	N234	BOUNDARY
FREE # 2	N260	BOUNDARY
FREE # 3	N264	BOUNDARY
FREE # 4	N275	BOUNDARY
FREE # 5	N278	BOUNDARY
FREE # 6	N289	BOUNDARY

FREE # 7	N292	BOUNDARY
FREE # 8	N299	BOUNDARY
FREE # 9	N303	BOUNDARY
FREE #10	N307	BOUNDARY
FREE #11	N316	BOUNDARY
FREE #12	N331	BOUNDARY
FREE #13	N343	BOUNDARY
FREE #14	N355	BOUNDARY
FREE #15	N360	BOUNDARY
FREE #16	N365	BOUNDARY
FREE #17	N379	BOUNDARY
FREE #18	N394	BOUNDARY
FREE #19	N461	BOUNDARY
FREE #20	N493	BOUNDARY
FREE #21	N499	BOUNDARY
FREE #22	N503	BOUNDARY
FREE #23	N516	BOUNDARY
FREE #24	N527	BOUNDARY
FREE #25	N689	BOUNDARY
FREE #26	N411	BOUNDARY
FREE #27	N295	BOUNDARY
FREE #28	N311	BOUNDARY
FREE #29	N555	BOUNDARY
FREE #30	N322	BOUNDARY

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

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BC NUMBER..      20 has no control water surface.
BC NUMBER..      24 has no control water surface.
BC NUMBER..      25 has no control water surface.

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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
L210	2.3341	0.0057
L211	2.3583	0.0058
L212	3.6820	0.0043
L213	2.3504	0.0058
L214	5.2561	0.0033
L217	2.3778	0.0059
L220	7.2421	0.0028
L221	9.4105	0.0023
L222	43.1608	0.0485
L223	1.5862	0.0026
L224	1.5676	0.0026

L225	1.5703	0.0026
L226	1.5717	0.0026
L227	1.5698	0.0026
L228	1.5683	0.0026
L229	2.8478	0.0026
L230	2.4656	0.0019
L231	2.4434	0.0019
L232	3.5621	0.0015
L233	5.3431	0.0034
L234	10.3141	0.0028
L235	1.5127	0.0024
L236	1.5658	0.0026
L237	2.3516	0.0058
L238	2.3553	0.0058
L239	2.3692	0.0059
L240	2.3544	0.0058
L241	3.6815	0.0043
L242	2.3529	0.0058
L243	2.3707	0.0059
L246	14.7213	0.0017
L247	14.8246	0.0017
L248	2.3403	0.0057
L249	2.3421	0.0058
L250	9.7769	0.1003
L251	2.3510	0.0058
L252	2.3583	0.0058
L253	2.3631	0.0059
L254	2.3579	0.0058
L255	3.6728	0.0043
L256	5.3094	0.0034
L257	5.3028	0.0034
L258	2.3516	0.0058
L259	7.1885	0.0027
L260	54.2277	0.1559
L261	2.3656	0.0059
L262	13.9175	0.2032
L263	2.3540	0.0058
L264	3.6728	0.0043
L265	21.2741	0.0014
L266	21.1336	0.0013
L267	2.3663	0.0059
L268	2.3562	0.0058
L269	2.3610	0.0058
L270	58.0211	0.0101
L271	52.2659	0.0036
L272	50.6250	0.0009
L273	7.1817	0.0027
L274	32.1290	0.1246
L275	2.3504	0.0058
L277	2.3540	0.0058
L278	2.3583	0.0058
L279	6.2035	0.0404
L280	2.3516	0.0058
L281	2.3504	0.0058
L282	15.2316	0.2433
L283	2.3672	0.0059
L284	2.3453	0.0058
L285	5.2748	0.0034
L286	3.7136	0.0044
L287	2.3660	0.0059

L289	2.3583	0.0058
L290	2.3547	0.0058
L291	2.3606	0.0058
L292	7.0734	0.0525
L294	2.3624	0.0059
L300	5.3010	0.0034
L301	2.3703	0.0059
L302	11.9259	0.0020
L303	2.3481	0.0058
L304	2.3384	0.0057
L305	5.3291	0.0034
L306	3.0341	0.0097
L307	19.5026	0.0099
L308	7.7925	0.0073
L309	3.0341	0.0097
L310	2.3721	0.0059
L311	2.3596	0.0058
L312	2.3721	0.0059
L313	2.3540	0.0058
L314	2.3436	0.0058
L315	2.3749	0.0059
L316	2.3491	0.0058
L317	5.3166	0.0034
L318	5.2991	0.0034
L319	5.2963	0.0034
L320	2.3558	0.0058
L321	1.5717	0.0026
L324	2.3556	0.0058
L325	2.3529	0.0058
L326	2.3682	0.0059
L327	2.3612	0.0058
L328	3.5191	0.0015
L329	20.6659	0.0515
L334	2.3558	0.0058
L335	2.3560	0.0058
L336	2.3597	0.0058
L337	7.6425	0.0613
L338	20.9182	0.0013
L339	21.2087	0.0013
L340	29.0054	0.0011
L341	28.4951	0.0011
L342	3.6963	0.0044
L343	2.3619	0.0059
L344	14.9332	0.0018
L346	30.2053	0.0012
L347	37.5829	0.0009
L348	37.6745	0.0009
L349	37.8624	0.0009
L350	37.5354	0.0009
L351	9.3735	0.0023
L352	9.4291	0.0023
L354	163.9607	0.0093
L361	2.3403	0.0057
L362	2.3430	0.0058
L363	5.3133	0.0034
L364	2.3583	0.0058
L365	2.3663	0.0059
L366	9.4224	0.0023
L367	9.4185	0.0023
L368	2.3529	0.0058

L369	2.3634	0.0059
L370	21.3114	0.0014
L373	69.8268	0.0146
L374	1.6007	0.0027
L375	2.7585	0.0009
L376	17.8956	0.0015
L386	37.5354	0.0009
L387	37.3765	0.0009
L388	1.5910	0.0027
L389	48.3609	0.0008
L390	1.8968	0.0038
L391	47.6460	0.0008
L392	47.8865	0.0008
L393	47.6261	0.0008
L395	7.7978	0.0194
L396	21.1861	0.0013
L397	7.4154	0.0175
L398	7.9175	0.0200
L399	9.4392	0.0023
L402	7.2544	0.0028
L403	7.1865	0.0027
L404	7.2356	0.0028
L405	5.2929	0.0034
L406	14.6711	0.0017
L407	3.6392	0.0042
L408	17.9044	0.0015
L410	21.1742	0.0013
L411	21.0724	0.0013
L413	5.3791	0.0035
L415	2.4953	0.0065
L417	2.3384	0.0057
L418	5.2561	0.0033
L419	9.4366	0.0023
L420	9.4302	0.0023
L421	2.3682	0.0059
L422	3.6891	0.0043
L423	14.7122	0.0017
L424	17.7815	0.0015
L425	2.3631	0.0059
L426	3.6483	0.0042
L427	29.0650	0.0011
L428	2.3506	0.0058
L429	28.8057	0.0011
L430	2.8587	0.0086
L431	2.3544	0.0058
L432	2.3565	0.0058
L435	2.3695	0.0059
L436	2.3535	0.0058
L437	3.6836	0.0043
L438	2.3506	0.0058
L439	3.6846	0.0043
L440	5.2957	0.0034
L441	28.7403	0.0011
L442	28.7787	0.0011
L443	281.5617	0.1043
L446	5.3415	0.0034
L448	2.3562	0.0058
L449	7.2216	0.0028
L450	9.4537	0.0023
L451	9.2424	0.0022

L452	2.3516	0.0058
L453	2.3389	0.0057
L454	2.3631	0.0059
L466	4.4943	0.0064
L468	8.8034	0.0020
L470	7.2253	0.0028
L471	2.6488	0.0074
L472	2.3453	0.0058
L475	3.7084	0.0044
L478	11.9409	0.0020
L479	13.9490	0.0015
L487	25.6909	0.0350
L490	4.8350	0.0012
L493	9.8698	0.0008
L496	2.3549	0.0058
L497	2.3540	0.0058
L498	2.3549	0.0058
L499	1.5713	0.0026
L500	2.4625	0.0019
L501	21.3175	0.0014
L502	28.7542	0.0011
L503	47.5382	0.0008
L504	48.0749	0.0008
L505	7.2137	0.0028
L506	7.1955	0.0027
L507	2.3618	0.0059
L509	3.6833	0.0043
L510	18.7195	0.1118
L511	3.5456	0.0015
L512	79.1933	0.1632
L513	9.8234	0.0008
L514	7.2103	0.0028
L515	21.4683	0.0014
CH21	321.7664	0.0015
L474	5.2973	0.0034
L523	22.9743	0.0034
L525	21.2457	0.0014
L527	5.2074	0.0033
L528	3.6866	0.0043
L529	3.5424	0.0015
L533	5.2922	0.0034
L537	3.5530	0.0015
L394	47.1178	0.0008
L276	13.9235	0.2033
L288	20.4763	0.1338
L412	3.2854	0.0113
L447	5.3092	0.0034
L546	6.9471	0.0058

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*=====*
| Initial Model Condition |
| Initial Time = 0.02 hours |
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	Junction /	Depth /	Elevation	====>	"*" Junction is Surcharged.				
100.81	N221/	0.00 /	105.84		N222/	0.00 /	104.44	N223/	0.00 /
97.53	N224/	0.00 /	96.97		N227/	0.00 /	98.34	N228/	0.00 /
	N230/	0.00 /	95.83		N231/	0.00 /	99.84	N233/	0.00 /

94.42							
118.61	N234/	4.52 /	90.12	N235/	0.00 /	119.60	N236/ 0.00 /
117.69	N237/	0.00 /	117.26	N238/	0.00 /	115.11	N239/ 0.00 /
108.63	N240/	0.00 /	116.62	N241/	0.00 /	111.36	N242/ 0.00 /
101.68	N243/	0.00 /	105.86	N244/	0.00 /	103.85	N245/ 0.00 /
111.48	N246/	0.00 /	99.53	N247/	0.00 /	97.87	N248/ 0.00 /
115.38	N249/	0.00 /	104.62	N250/	0.00 /	101.14	N251/ 0.00 /
112.83	N252/	0.00 /	113.06	N253/	0.00 /	108.08	N254/ 0.00 /
107.61	N255/	0.00 /	102.80	N256/	0.00 /	107.41	N257/ 0.00 /
98.93	N259/	0.00 /	97.16	N260/	2.95 /	99.95	N261/ 0.00 /
99.95	N262/	0.00 /	104.88	N263/	0.00 /	104.46	N264/ 3.31 /
97.55	N265/	0.00 /	104.86	N266/	0.00 /	100.36	N267/ 0.00 /
99.14	N268/	0.00 /	100.74	N269/	0.00 /	100.33	N270/ 0.00 /
97.68	N271/	0.00 /	98.55	N272/	0.00 /	96.35	N273/ 0.00 /
94.25	N274/	0.00 /	95.58	N275/	4.52 /	90.12	N276/ 0.00 /
94.12	N277/	0.00 /	93.44	N278/	1.22 /	79.22	N279/ 0.00 /
82.77	N280/	0.00 /	85.33	N281/	0.00 /	83.24	N282/ 0.00 /
94.91	N283/	0.00 /	82.50	N284/	0.00 /	85.14	N285/ 0.00 /
77.03	N286/	0.00 /	94.45	N287/	0.00 /	78.46	N288/ 0.00 /
91.92	N289/	2.04 /	79.04	N290/	0.00 /	78.10	N291/ 0.00 /
118.30	N292/	2.36 /	78.96	N293/	0.00 /	118.92	N294/ 0.00 /
112.96	N296/	0.00 /	118.98	N297/	0.00 /	113.24	N298/ 0.00 /
122.90	N299/	3.21 /	109.51	N300/	0.00 /	113.25	N301/ 0.00 /
122.95	N302/	0.00 /	122.28	N303/	2.94 /	113.54	N304/ 0.00 /
108.28	N305/	0.00 /	105.52	N306/	0.00 /	104.72	N307/ 4.03 /
112.26	N308/	0.00 /	105.19	N309/	0.00 /	113.15	N310/ 0.00 /
101.79	N312/	0.00 /	113.21	N313/	0.00 /	103.93	N314/ 0.00 /
89.17	N315/	0.00 /	99.61	N316/	4.57 /	98.67	N317/ 0.00 /
89.28	N318/	0.00 /	87.74	N319/	0.00 /	89.47	N320/ 0.00 /
90.75	N321/	0.00 /	90.11	N325/	0.00 /	89.77	N326/ 0.00 /
	N327/	0.00 /	90.66	N328/	0.00 /	93.44	N329/ 0.00 /

94.00	N330/	0.00 /	93.44	N331/	5.94 /	98.64	N332/	0.00 /
94.00	N333/	0.00 /	108.87	N334/	0.00 /	108.51	N335/	0.00 /
106.18	N336/	0.00 /	106.54	N337/	0.00 /	102.28	N338/	0.00 /
103.31	N339/	0.00 /	104.89	N340/	0.00 /	104.47	N341/	0.00 /
101.25	N342/	0.00 /	100.22	N343/	0.00 /	100.00	N344/	0.00 /
101.11	N345/	0.00 /	118.83	N347/	0.00 /	118.45	N348/	0.00 /
116.17	N349/	0.00 /	119.16	N350/	0.00 /	117.80	N351/	0.00 /
117.19	N352/	0.00 /	117.37	N353/	0.00 /	117.36	N354/	0.00 /
115.65	N355/	3.18 /	113.78	N356/	0.00 /	125.32	N357/	0.00 /
122.98	N358/	0.00 /	120.82	N359/	0.00 /	120.09	N360/	3.32 /
116.12	N361/	0.00 /	126.24	N362/	0.00 /	126.13	N363/	0.00 /
125.28	N364/	0.00 /	125.01	N365/	4.62 /	122.06	N366/	0.00 /
127.87	N367/	0.00 /	128.33	N368/	0.00 /	124.26	N369/	0.00 /
123.67	N370/	0.00 /	121.70	N371/	0.00 /	122.26	N372/	0.00 /
121.34	N373/	0.00 /	120.97	N374/	0.00 /	120.60	N375/	0.00 /
119.98	N376/	0.00 /	122.90	N377/	0.00 /	122.82	N378/	0.00 /
119.27	N379/	3.70 /	122.10	N381/	0.00 /	124.76	N382/	0.00 /
122.86	N383/	0.00 /	125.53	N384/	0.00 /	125.64	N386/	0.00 /
124.14	N387/	0.00 /	124.23	N388/	0.00 /	121.95	N389/	0.00 /
120.11	N390/	0.00 /	122.83	N391/	0.00 /	122.69	N392/	0.00 /
119.83	N394/	3.11 /	121.51	N395/	0.00 /	118.11	N396/	0.00 /
117.68	N397/	0.00 /	115.81	N398/	0.00 /	116.31	N399/	0.00 /
114.60	N403/	0.00 /	114.30	N404/	0.00 /	113.48	N405/	0.00 /
117.00	N406/	0.00 /	113.17	N407/	0.00 /	117.00	N408/	0.00 /
112.78	N409/	0.00 /	112.48	N410/	0.00 /	112.12	N412/	0.00 /
116.30	N413/	0.00 /	115.33	N414/	0.00 /	115.83	N415/	0.00 /
116.33	N416/	0.00 /	116.83	N417/	0.00 /	117.57	N418/	0.00 /
119.90	N419/	0.00 /	110.91	N420/	0.00 /	112.24	N421/	0.00 /
112.00	N422/	0.00 /	109.13	N423/	0.00 /	110.37	N424/	0.00 /
108.26	N425/	0.00 /	110.06	N426/	0.00 /	107.45	N428/	0.00 /

106.92									
	N429/	0.00 /	106.02	N430/	0.00 /	119.00	N431/	0.00 /	
116.67	N432/	0.00 /	118.07	N434/	0.00 /	118.80	N435/	0.00 /	
110.18	N436/	0.00 /	111.57	N437/	0.00 /	110.92	N438/	0.00 /	
109.58	N439/	0.00 /	108.15	N440/	0.00 /	110.05	N441/	0.00 /	
109.73	N442/	0.00 /	107.22	N443/	0.00 /	109.38	N444/	0.00 /	
109.03	N445/	0.00 /	105.48	N446/	0.00 /	108.49	N447/	0.00 /	
105.05	N448/	0.00 /	118.77	N449/	0.00 /	117.99	N450/	0.00 /	
120.74	N451/	0.00 /	121.27	N453/	0.00 /	113.76	N454/	0.00 /	
114.29	N455/	0.00 /	111.68	N456/	0.00 /	110.26	N457/	0.00 /	
111.02	N458/	0.00 /	108.39	N459/	0.00 /	104.61	N460/	0.00 /	
104.11	N461/	4.57 /	98.67	N464/	0.00 /	125.09	N465/	0.00 /	
126.65	N466/	0.00 /	126.19	N467/	0.00 /	126.30	N468/	0.00 /	
123.59	N469/	0.00 /	118.66	N470/	0.00 /	117.71	N471/	0.00 /	
124.88	N472/	0.00 /	124.94	N473/	0.00 /	120.07	N487/	0.00 /	
118.57	N489/	0.00 /	118.43	N490/	0.00 /	121.90	N491/	0.00 /	
124.17	N492/	0.00 /	126.34	N493/	0.00 /	126.04	N497/	0.00 /	
108.08	N499/	7.44 /	98.64	N500/	0.00 /	86.67	N501/	0.00 /	
85.47	N503/	8.43 /	98.23	N504/	0.00 /	95.54	N506/	0.00 /	
92.14	N509/	0.00 /	108.88	N511/	0.00 /	102.21	N513/	0.00 /	
110.01	N514/	0.00 /	108.11	N516/	8.23 /	98.23	N517/	0.00 /	
83.95	N518/	0.00 /	84.31	N524/	0.00 /	133.45	N525/	0.00 /	
131.17	N526/	0.00 /	133.46	N527/	0.00 /	130.60	N528/	0.00 /	
122.66	N529/	0.00 /	119.64	N530/	0.00 /	99.71	N689/	0.00 /	
118.00	N494/	0.00 /	121.41	N541/	0.00 /	112.09	EL329/	0.00 /	
112.52	N427/	0.00 /	109.64	N411/	4.12 /	116.12	N295/	2.45 /	
110.38	N311/	4.24 /	108.34	N462/	0.00 /	127.78	N554/	0.00 /	
90.68	N555/	8.43 /	98.23	N322/	6.14 /	98.64			

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

L210/	0.00	L211/	0.00	L212/	0.00
L213/	0.00	L214/	0.00	L217/	0.00
L220/	0.00	L221/	0.00	L222/	0.00
L223/	0.00	L224/	0.00	L225/	0.00

L226/	0.00	L227/	0.00	L228/	0.00
L229/	0.00	L230/	0.00	L231/	0.00
L232/	0.00	L233/	0.00	L234/	0.00
L235/	0.00	L236/	0.00	L237/	0.00
L238/	0.00	L239/	0.00	L240/	0.00
L241/	0.00	L242/	0.00	L243/	0.00
L246/	0.00	L247/	0.00	L248/	0.00
L249/	0.00	L250/	0.00	L251/	0.00
L252/	0.00	L253/	0.00	L254/	0.00
L255/	0.00	L256/	0.00	L257/	0.00
L258/	0.00	L259/	0.00	L260/	0.00
L261/	0.00	L262/	0.00	L263/	0.00
L264/	0.00	L265/	0.00	L266/	0.00
L267/	0.00	L268/	0.00	L269/	0.00
L270/	0.00	L271/	0.00	L272/	0.00
L273/	0.00	L274/	0.00	L275/	0.00
L277/	0.00	L278/	0.00	L279/	0.00
L280/	0.00	L281/	0.00	L282/	0.00
L283/	0.00	L284/	0.00	L285/	0.00
L286/	0.00	L287/	0.00	L289/	0.00
L290/	0.00	L291/	0.00	L292/	0.00
L294/	0.00	L300/	0.00	L301/	0.00
L302/	0.00	L303/	0.00	L304/	0.00
L305/	0.00	L306/	0.00	L307/	0.00
L308/	0.00	L309/	0.00	L310/	0.00
L311/	0.00	L312/	0.00	L313/	0.00
L314/	0.00	L315/	0.00	L316/	0.00
L317/	0.00	L318/	0.00	L319/	0.00
L320/	0.00	L321/	0.00	L324/	0.00
L325/	0.00	L326/	0.00	L327/	0.00
L328/	0.00	L329/	0.00	L334/	0.00
L335/	0.00	L336/	0.00	L337/	0.00
L338/	0.00	L339/	0.00	L340/	0.00
L341/	0.00	L342/	0.00	L343/	0.00
L344/	0.00	L346/	0.00	L347/	0.00
L348/	0.00	L349/	0.00	L350/	0.00
L351/	0.00	L352/	0.00	L354/	0.00
L361/	0.00	L362/	0.00	L363/	0.00
L364/	0.00	L365/	0.00	L366/	0.00
L367/	0.00	L368/	0.00	L369/	0.00
L370/	0.00	L373/	0.00	L374/	0.00
L375/	0.00	L376/	0.00	L386/	0.00
L387/	0.00	L388/	0.00	L389/	0.00
L390/	0.00	L391/	0.00	L392/	0.00
L393/	0.00	L395/	0.00	L396/	0.00
L397/	0.00	L398/	0.00	L399/	0.00
L402/	0.00	L403/	0.00	L404/	0.00
L405/	0.00	L406/	0.00	L407/	0.00
L408/	0.00	L410/	0.00	L411/	0.00
L413/	0.00	L415/	0.00	L417/	0.00
L418/	0.00	L419/	0.00	L420/	0.00
L421/	0.00	L422/	0.00	L423/	0.00
L424/	0.00	L425/	0.00	L426/	0.00
L427/	0.00	L428/	0.00	L429/	0.00
L430/	0.00	L431/	0.00	L432/	0.00
L435/	0.00	L436/	0.00	L437/	0.00
L438/	0.00	L439/	0.00	L440/	0.00
L441/	0.00	L442/	0.00	L443/	0.00
L446/	0.00	L448/	0.00	L449/	0.00
L450/	0.00	L451/	0.00	L452/	0.00

L453/	0.00	L454/	0.00	L466/	0.00
L468/	0.00	L470/	0.00	L471/	0.00
L472/	0.00	L475/	0.00	L478/	0.00
L479/	0.00	L487/	0.00	L490/	0.00
L493/	0.00	L496/	0.00	L497/	0.00
L498/	0.00	L499/	0.00	L500/	0.00
L501/	0.00	L502/	0.00	L503/	0.00
L504/	0.00	L505/	0.00	L506/	0.00
L507/	0.00	L509/	0.00	L510/	0.00
L511/	0.00	L512/	0.00	L513/	0.00
L514/	0.00	L515/	0.00	CH21/	0.00
L474/	0.00	L523/	0.00	L525/	0.00
L527/	0.00	L528/	0.00	L529/	0.00
L533/	0.00	L537/	0.00	L394/	0.00
L276/	0.00	L288/	0.00	L412/	0.00
L447/	0.00	L546/	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
FREE #11/	0.00	FREE #12/	0.00	FREE #13/	0.00
FREE #14/	0.00	FREE #15/	0.00	FREE #16/	0.00
FREE #17/	0.00	FREE #18/	0.00	FREE #19/	0.00
FREE #20/	0.00	FREE #21/	0.00	FREE #22/	0.00
FREE #23/	0.00	FREE #24/	0.00	FREE #25/	0.00
FREE #26/	0.00	FREE #27/	0.00	FREE #28/	0.00
FREE #29/	0.00	FREE #30/	0.00		

Conduit/	Velocity				
L210/	0.00	L211/	0.00	L212/	0.00
L213/	0.00	L214/	0.00	L217/	0.00
L220/	0.00	L221/	0.00	L222/	0.00
L223/	0.00	L224/	0.00	L225/	0.00
L226/	0.00	L227/	0.00	L228/	0.00
L229/	0.00	L230/	0.00	L231/	0.00
L232/	0.00	L233/	0.00	L234/	0.00
L235/	0.00	L236/	0.00	L237/	0.00
L238/	0.00	L239/	0.00	L240/	0.00
L241/	0.00	L242/	0.00	L243/	0.00
L246/	0.00	L247/	0.00	L248/	0.00
L249/	0.00	L250/	0.00	L251/	0.00
L252/	0.00	L253/	0.00	L254/	0.00
L255/	0.00	L256/	0.00	L257/	0.00
L258/	0.00	L259/	0.00	L260/	0.00
L261/	0.00	L262/	0.00	L263/	0.00
L264/	0.00	L265/	0.00	L266/	0.00
L267/	0.00	L268/	0.00	L269/	0.00
L270/	0.00	L271/	0.00	L272/	0.00
L273/	0.00	L274/	0.00	L275/	0.00
L277/	0.00	L278/	0.00	L279/	0.00
L280/	0.00	L281/	0.00	L282/	0.00
L283/	0.00	L284/	0.00	L285/	0.00
L286/	0.00	L287/	0.00	L289/	0.00
L290/	0.00	L291/	0.00	L292/	0.00
L294/	0.00	L300/	0.00	L301/	0.00
L302/	0.00	L303/	0.00	L304/	0.00
L305/	0.00	L306/	0.00	L307/	0.00
L308/	0.00	L309/	0.00	L310/	0.00
L311/	0.00	L312/	0.00	L313/	0.00
L314/	0.00	L315/	0.00	L316/	0.00
L317/	0.00	L318/	0.00	L319/	0.00

L320/	0.00	L321/	0.00	L324/	0.00
L325/	0.00	L326/	0.00	L327/	0.00
L328/	0.00	L329/	0.00	L334/	0.00
L335/	0.00	L336/	0.00	L337/	0.00
L338/	0.00	L339/	0.00	L340/	0.00
L341/	0.00	L342/	0.00	L343/	0.00
L344/	0.00	L346/	0.00	L347/	0.00
L348/	0.00	L349/	0.00	L350/	0.00
L351/	0.00	L352/	0.00	L354/	0.00
L361/	0.00	L362/	0.00	L363/	0.00
L364/	0.00	L365/	0.00	L366/	0.00
L367/	0.00	L368/	0.00	L369/	0.00
L370/	0.00	L373/	0.00	L374/	0.00
L375/	0.00	L376/	0.00	L386/	0.00
L387/	0.00	L388/	0.00	L389/	0.00
L390/	0.00	L391/	0.00	L392/	0.00
L393/	0.00	L395/	0.00	L396/	0.00
L397/	0.00	L398/	0.00	L399/	0.00
L402/	0.00	L403/	0.00	L404/	0.00
L405/	0.00	L406/	0.00	L407/	0.00
L408/	0.00	L410/	0.00	L411/	0.00
L413/	0.00	L415/	0.00	L417/	0.00
L418/	0.00	L419/	0.00	L420/	0.00
L421/	0.00	L422/	0.00	L423/	0.00
L424/	0.00	L425/	0.00	L426/	0.00
L427/	0.00	L428/	0.00	L429/	0.00
L430/	0.00	L431/	0.00	L432/	0.00
L435/	0.00	L436/	0.00	L437/	0.00
L438/	0.00	L439/	0.00	L440/	0.00
L441/	0.00	L442/	0.00	L443/	0.00
L446/	0.00	L448/	0.00	L449/	0.00
L450/	0.00	L451/	0.00	L452/	0.00
L453/	0.00	L454/	0.00	L466/	0.00
L468/	0.00	L470/	0.00	L471/	0.00
L472/	0.00	L475/	0.00	L478/	0.00
L479/	0.00	L487/	0.00	L490/	0.00
L493/	0.00	L496/	0.00	L497/	0.00
L498/	0.00	L499/	0.00	L500/	0.00
L501/	0.00	L502/	0.00	L503/	0.00
L504/	0.00	L505/	0.00	L506/	0.00
L507/	0.00	L509/	0.00	L510/	0.00
L511/	0.00	L512/	0.00	L513/	0.00
L514/	0.00	L515/	0.00	CH21/	0.00
L474/	0.00	L523/	0.00	L525/	0.00
L527/	0.00	L528/	0.00	L529/	0.00
L533/	0.00	L537/	0.00	L394/	0.00
L276/	0.00	L288/	0.00	L412/	0.00
L447/	0.00	L546/	0.00		

Conduit/ Cross Sectional Area

L210/	0.00	L211/	0.00	L212/	0.00
L213/	0.00	L214/	0.00	L217/	0.00
L220/	0.00	L221/	0.00	L222/	0.32
L223/	0.00	L224/	0.00	L225/	0.00
L226/	0.00	L227/	0.00	L228/	0.00
L229/	0.00	L230/	0.00	L231/	0.00
L232/	0.00	L233/	0.00	L234/	0.00
L235/	0.00	L236/	0.00	L237/	0.00
L238/	0.00	L239/	0.00	L240/	0.00
L241/	0.00	L242/	0.00	L243/	0.00

L246/	0.00	L247/	0.51	L248/	0.00
L249/	0.00	L250/	0.08	L251/	0.00
L252/	0.00	L253/	0.00	L254/	0.00
L255/	0.00	L256/	0.00	L257/	0.00
L258/	0.00	L259/	0.00	L260/	0.24
L261/	0.00	L262/	0.08	L263/	0.00
L264/	0.00	L265/	0.00	L266/	0.00
L267/	0.00	L268/	0.00	L269/	0.00
L270/	0.00	L271/	0.00	L272/	0.70
L273/	0.00	L274/	0.18	L275/	0.00
L277/	0.00	L278/	0.00	L279/	0.08
L280/	0.00	L281/	0.00	L282/	0.08
L283/	0.00	L284/	0.00	L285/	0.18
L286/	0.00	L287/	0.00	L289/	0.00
L290/	0.00	L291/	0.00	L292/	0.08
L294/	0.00	L300/	0.00	L301/	0.00
L302/	0.00	L303/	0.00	L304/	0.00
L305/	0.00	L306/	0.00	L307/	0.32
L308/	0.18	L309/	0.00	L310/	0.00
L311/	0.00	L312/	0.00	L313/	0.00
L314/	0.00	L315/	0.00	L316/	0.00
L317/	0.00	L318/	0.00	L319/	0.00
L320/	0.00	L321/	0.00	L324/	0.00
L325/	0.00	L326/	0.00	L327/	0.00
L328/	0.00	L329/	0.18	L334/	0.00
L335/	0.00	L336/	0.00	L337/	0.08
L338/	0.00	L339/	0.00	L340/	0.00
L341/	0.00	L342/	0.00	L343/	0.00
L344/	0.00	L346/	0.00	L347/	0.00
L348/	0.00	L349/	0.00	L350/	0.00
L351/	0.00	L352/	0.00	L354/	1.40
L361/	0.00	L362/	0.00	L363/	0.00
L364/	0.00	L365/	0.00	L366/	0.00
L367/	0.00	L368/	0.00	L369/	0.00
L370/	0.00	L373/	0.72	L374/	0.00
L375/	0.00	L376/	0.00	L386/	0.00
L387/	0.00	L388/	0.00	L389/	0.00
L390/	0.00	L391/	0.00	L392/	0.00
L393/	0.00	L395/	0.00	L396/	0.00
L397/	0.00	L398/	0.00	L399/	0.00
L402/	0.00	L403/	0.00	L404/	0.00
L405/	0.00	L406/	0.00	L407/	0.00
L408/	0.00	L410/	0.00	L411/	0.00
L413/	0.00	L415/	0.00	L417/	0.00
L418/	0.00	L419/	0.00	L420/	0.00
L421/	0.00	L422/	0.00	L423/	0.00
L424/	0.00	L425/	0.00	L426/	0.00
L427/	0.00	L428/	0.00	L429/	0.00
L430/	0.00	L431/	0.00	L432/	0.00
L435/	0.00	L436/	0.00	L437/	0.00
L438/	0.00	L439/	0.00	L440/	0.00
L441/	0.00	L442/	0.00	L443/	0.96
L446/	0.00	L448/	0.00	L449/	0.00
L450/	0.00	L451/	0.00	L452/	0.00
L453/	0.00	L454/	0.00	L466/	0.00
L468/	0.00	L470/	0.00	L471/	0.00
L472/	0.00	L475/	0.00	L478/	0.00
L479/	0.00	L487/	0.25	L490/	0.00
L493/	0.00	L496/	0.00	L497/	0.00
L498/	0.00	L499/	0.00	L500/	0.00

L501/	0.00	L502/	0.00	L503/	0.00
L504/	0.00	L505/	0.00	L506/	0.00
L507/	0.00	L509/	0.00	L510/	0.13
L511/	0.00	L512/	0.32	L513/	0.00
L514/	0.00	L515/	0.00	CH21/	0.00
L474/	0.00	L523/	0.00	L525/	0.00
L527/	0.00	L528/	0.00	L529/	0.00
L533/	0.00	L537/	0.00	L394/	1.53
L276/	0.08	L288/	0.12	L412/	0.00
L447/	0.00	L546/	0.00		

Conduit/ Hydraulic Radius

L210/	0.00	L211/	0.00	L212/	0.00
L213/	0.00	L214/	0.00	L217/	0.00
L220/	0.00	L221/	0.00	L222/	0.05
L223/	0.00	L224/	0.00	L225/	0.00
L226/	0.00	L227/	0.00	L228/	0.00
L229/	0.00	L230/	0.00	L231/	0.00
L232/	0.00	L233/	0.00	L234/	0.00
L235/	0.00	L236/	0.00	L237/	0.00
L238/	0.00	L239/	0.00	L240/	0.00
L241/	0.00	L242/	0.00	L243/	0.00
L246/	0.00	L247/	0.07	L248/	0.00
L249/	0.00	L250/	0.03	L251/	0.00
L252/	0.00	L253/	0.00	L254/	0.00
L255/	0.00	L256/	0.00	L257/	0.00
L258/	0.00	L259/	0.00	L260/	0.05
L261/	0.00	L262/	0.03	L263/	0.00
L264/	0.00	L265/	0.00	L266/	0.00
L267/	0.00	L268/	0.00	L269/	0.00
L270/	0.00	L271/	0.00	L272/	0.12
L273/	0.00	L274/	0.04	L275/	0.00
L277/	0.00	L278/	0.00	L279/	0.03
L280/	0.00	L281/	0.00	L282/	0.03
L283/	0.00	L284/	0.00	L285/	0.04
L286/	0.00	L287/	0.00	L289/	0.00
L290/	0.00	L291/	0.00	L292/	0.03
L294/	0.00	L300/	0.00	L301/	0.00
L302/	0.00	L303/	0.00	L304/	0.00
L305/	0.00	L306/	0.00	L307/	0.05
L308/	0.04	L309/	0.00	L310/	0.00
L311/	0.00	L312/	0.00	L313/	0.00
L314/	0.00	L315/	0.00	L316/	0.00
L317/	0.00	L318/	0.00	L319/	0.00
L320/	0.00	L321/	0.00	L324/	0.00
L325/	0.00	L326/	0.00	L327/	0.00
L328/	0.00	L329/	0.04	L334/	0.00
L335/	0.00	L336/	0.00	L337/	0.03
L338/	0.00	L339/	0.00	L340/	0.00
L341/	0.00	L342/	0.00	L343/	0.00
L344/	0.00	L346/	0.00	L347/	0.00
L348/	0.00	L349/	0.00	L350/	0.00
L351/	0.00	L352/	0.00	L354/	0.15
L361/	0.00	L362/	0.00	L363/	0.00
L364/	0.00	L365/	0.00	L366/	0.00
L367/	0.00	L368/	0.00	L369/	0.00
L370/	0.00	L373/	0.08	L374/	0.00
L375/	0.00	L376/	0.00	L386/	0.00
L387/	0.00	L388/	0.00	L389/	0.00
L390/	0.00	L391/	0.00	L392/	0.00

L393/	0.00	L395/	0.00	L396/	0.00
L397/	0.00	L398/	0.00	L399/	0.00
L402/	0.00	L403/	0.00	L404/	0.00
L405/	0.00	L406/	0.00	L407/	0.00
L408/	0.00	L410/	0.00	L411/	0.00
L413/	0.00	L415/	0.00	L417/	0.00
L418/	0.00	L419/	0.00	L420/	0.00
L421/	0.00	L422/	0.00	L423/	0.00
L424/	0.00	L425/	0.00	L426/	0.00
L427/	0.00	L428/	0.00	L429/	0.00
L430/	0.00	L431/	0.00	L432/	0.00
L435/	0.00	L436/	0.00	L437/	0.00
L438/	0.00	L439/	0.00	L440/	0.00
L441/	0.00	L442/	0.00	L443/	0.10
L446/	0.00	L448/	0.00	L449/	0.00
L450/	0.00	L451/	0.00	L452/	0.00
L453/	0.00	L454/	0.00	L466/	0.00
L468/	0.00	L470/	0.00	L471/	0.00
L472/	0.00	L475/	0.00	L478/	0.00
L479/	0.00	L487/	0.05	L490/	0.00
L493/	0.00	L496/	0.00	L497/	0.00
L498/	0.00	L499/	0.00	L500/	0.00
L501/	0.00	L502/	0.00	L503/	0.00
L504/	0.00	L505/	0.00	L506/	0.00
L507/	0.00	L509/	0.00	L510/	0.03
L511/	0.00	L512/	0.05	L513/	0.00
L514/	0.00	L515/	0.00	CH21/	0.00
L474/	0.00	L523/	0.00	L525/	0.00
L527/	0.00	L528/	0.00	L529/	0.00
L533/	0.00	L537/	0.00	L394/	0.14
L276/	0.03	L288/	0.03	L412/	0.00
L447/	0.00	L546/	0.00		

Conduit/ Upstream/ Downstream Elevation

96.97	L210/	104.44/	104.44	L211/	100.81/	100.81	L212/	96.97/
95.83	L213/	96.97/	96.97	L214/	96.97/	96.97	L217/	95.83/
90.12	L220/	95.83/	95.83	L221/	94.42/	94.42	L222/	94.42/
115.11	L223/	118.61/	118.61	L224/	117.26/	117.26	L225/	115.11/
111.36	L226/	116.62/	116.62	L227/	115.11/	115.11	L228/	111.36/
103.85	L229/	108.63/	108.63	L230/	105.86/	105.86	L231/	103.85/
97.87	L232/	101.68/	101.68	L233/	99.53/	99.53	L234/	97.87/
99.53	L235/	111.36/	111.36	L236/	103.85/	103.85	L237/	99.53/
108.08	L238/	113.06/	113.06	L239/	108.08/	108.08	L240/	108.08/
102.80	L241/	102.80/	102.80	L242/	102.80/	102.80	L243/	102.80/
97.16	L246/	97.16/	97.16	L247/	97.16/	99.95	L248/	97.16/
104.46	L249/	104.46/	104.46	L250/	104.46/	99.95	L251/	104.46/
97.55	L252/	97.55/	97.55	L253/	100.33/	100.33	L254/	97.55/

96.35	L255/	98.55/	98.55	L256/	97.55/	97.55	L257/	96.35/
90.12	L258/	96.35/	96.35	L259/	95.58/	95.58	L260/	95.58/
93.44	L261/	93.44/	93.44	L262/	93.44/	79.22	L263/	93.44/
82.50	L264/	83.24/	83.24	L265/	82.77/	82.77	L266/	82.50/
82.50	L267/	82.77/	82.77	L268/	94.45/	94.45	L269/	82.50/
79.04	L270/	78.46/	78.46	L271/	77.03/	77.03	L272/	77.03/
118.30	L273/	77.03/	77.03	L274/	91.92/	78.96	L275/	118.30/
109.51	L277/	118.30/	118.30	L278/	112.96/	112.96	L279/	112.96/
113.54	L280/	112.96/	112.96	L281/	122.28/	122.28	L282/	122.28/
108.28	L283/	122.28/	122.28	L284/	104.72/	104.72	L285/	104.72/
112.26	L286/	104.72/	104.72	L287/	112.26/	112.26	L289/	112.26/
98.67	L290/	101.79/	101.79	L291/	99.61/	99.61	L292/	99.61/
89.28	L294/	87.74/	87.74	L300/	87.74/	87.74	L301/	89.28/
89.77	L302/	86.67/	86.67	L303/	89.77/	89.77	L304/	89.77/
98.64	L305/	89.28/	89.28	L306/	93.44/	93.44	L307/	93.44/
108.51	L308/	93.44/	98.64	L309/	93.44/	93.44	L310/	108.51/
102.28	L311/	106.18/	106.18	L312/	106.18/	106.18	L313/	102.28/
102.28	L314/	102.28/	102.28	L315/	104.47/	104.47	L316/	102.28/
100.00	L317/	101.25/	101.25	L318/	100.22/	100.22	L319/	100.00/
118.45	L320/	100.22/	100.22	L321/	117.69/	117.69	L324/	118.45/
116.17	L325/	117.19/	117.19	L326/	116.17/	116.17	L327/	116.17/
122.98	L328/	115.65/	115.65	L329/	115.65/	113.78	L334/	122.98/
116.12	L335/	120.82/	120.82	L336/	120.09/	120.09	L337/	120.09/
125.01	L338/	126.13/	126.13	L339/	125.28/	125.28	L340/	125.01/
125.28	L341/	122.06/	122.06	L342/	125.28/	125.28	L343/	125.28/
121.34	L344/	123.67/	123.67	L346/	121.70/	121.70	L347/	121.34/
119.98	L348/	120.97/	120.97	L349/	120.60/	120.60	L350/	119.98/
122.10	L351/	122.82/	122.82	L352/	119.98/	119.98	L354/	119.27/
122.86	L361/	124.76/	124.76	L362/	124.76/	124.76	L363/	122.86/
121.95	L364/	122.86/	122.86	L365/	122.86/	122.86	L366/	121.95/

120.11	L367/	120.11/	120.11	L368/	120.11/	120.11	L369/	120.11/
117.68	L370/	119.83/	119.83	L373/	119.83/	121.51	L374/	117.68/
114.30	L375/	115.81/	115.81	L376/	115.81/	115.81	L386/	114.30/
113.17	L387/	113.48/	113.48	L388/	113.48/	113.48	L389/	113.17/
112.48	L390/	113.17/	113.17	L391/	112.78/	112.78	L392/	112.48/
115.33	L393/	112.12/	112.12	L395/	115.33/	115.33	L396/	115.33/
115.83	L397/	115.33/	115.33	L398/	115.83/	115.83	L399/	115.83/
109.13	L402/	112.00/	112.00	L403/	110.91/	110.91	L404/	109.13/
108.26	L405/	109.13/	109.13	L406/	108.26/	108.26	L407/	108.26/
106.02	L408/	107.45/	107.45	L410/	106.92/	106.92	L411/	106.02/
110.18	L413/	116.67/	116.67	L415/	118.07/	118.07	L417/	110.18/
108.15	L418/	110.18/	110.18	L419/	109.58/	109.58	L420/	108.15/
107.22	L421/	108.15/	108.15	L422/	108.15/	108.15	L423/	107.22/
107.22	L424/	106.02/	106.02	L425/	107.22/	107.22	L426/	107.22/
105.05	L427/	105.48/	105.48	L428/	105.48/	105.48	L429/	105.05/
120.74	L430/	117.99/	117.99	L431/	117.99/	117.99	L432/	120.74/
110.26	L435/	113.76/	113.76	L436/	111.68/	111.68	L437/	110.26/
105.05	L438/	110.26/	110.26	L439/	108.39/	108.39	L440/	105.05/
98.67	L441/	104.61/	104.61	L442/	104.11/	104.11	L443/	104.11/
123.59	L446/	126.19/	126.19	L448/	125.09/	125.09	L449/	123.59/
123.59	L450/	118.66/	118.66	L451/	117.71/	117.71	L452/	123.59/
118.57	L453/	123.59/	123.59	L454/	118.66/	118.66	L466/	118.57/
121.90	L468/	117.57/	117.57	L470/	121.41/	121.41	L471/	121.90/
85.47	L472/	126.04/	126.04	L475/	87.74/	87.74	L478/	85.47/
108.11	L479/	84.31/	84.31	L487/	95.54/	98.23	L490/	108.11/
131.17	L493/	83.95/	83.95	L496/	131.17/	131.17	L497/	131.17/
116.17	L498/	130.60/	130.60	L499/	117.19/	117.19	L500/	116.17/
119.64	L501/	122.66/	122.66	L502/	121.70/	121.70	L503/	119.64/
97.87	L504/	119.27/	119.27	L505/	99.71/	99.71	L506/	97.87/
98.23	L507/	90.68/	90.68	L509/	98.64/	98.64	L510/	102.21/


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N345      / 0.00E+00 N347      / 0.00E+00 N348      / 0.00E+00 N349      / 0.00E+00 N350      /
0.00E+00 N351      / 0.00E+00
N352      / 0.00E+00 N353      / 0.00E+00 N354      / 0.00E+00 N355      / 0.00E+00 N356      /
0.00E+00 N357      / 0.00E+00
N358      / 0.00E+00 N359      / 0.00E+00 N360      / 0.00E+00 N361      / 0.00E+00 N362      /
0.00E+00 N363      / 0.00E+00
N364      / 0.00E+00 N365      / 0.00E+00 N366      / 0.00E+00 N367      / 0.00E+00 N368      /
0.00E+00 N369      / 0.00E+00
N370      / 0.00E+00 N371      / 0.00E+00 N372      / 0.00E+00 N373      / 0.00E+00 N374      /
0.00E+00 N375      / 0.00E+00
N376      / 0.00E+00 N377      / 0.00E+00 N378      / 0.00E+00 N379      / 0.00E+00 N381      /
0.00E+00 N382      / 0.00E+00
N383      / 0.00E+00 N384      / 0.00E+00 N386      / 0.00E+00 N387      / 0.00E+00 N388      /
0.00E+00 N389      / 0.00E+00
N390      / 0.00E+00 N391      / 0.00E+00 N392      / 0.00E+00 N394      / 0.00E+00 N395      /
0.00E+00 N396      / 0.00E+00
N397      / 0.00E+00 N398      / 0.00E+00 N399      / 0.00E+00 N403      / 0.00E+00 N404      /
0.00E+00 N405      / 0.00E+00
N406      / 0.00E+00 N407      / 0.00E+00 N408      / 0.00E+00 N409      / 0.00E+00 N410      /
0.00E+00 N412      / 0.00E+00
N413      / 0.00E+00 N414      / 0.00E+00 N415      / 0.00E+00 N416      / 0.00E+00 N417      /
0.00E+00 N418      / 0.00E+00
N419      / 0.00E+00 N420      / 0.00E+00 N421      / 0.00E+00 N422      / 0.00E+00 N423      /
0.00E+00 N424      / 0.00E+00
N425      / 0.00E+00 N426      / 0.00E+00 N428      / 0.00E+00 N429      / 0.00E+00 N430      /
0.00E+00 N431      / 0.00E+00
N432      / 0.00E+00 N434      / 0.00E+00 N435      / 0.00E+00 N436      / 0.00E+00 N437      /
0.00E+00 N438      / 0.00E+00
N439      / 0.00E+00 N440      / 0.00E+00 N441      / 0.00E+00 N442      / 0.00E+00 N443      /
0.00E+00 N444      / 0.00E+00
N445      / 0.00E+00 N446      / 0.00E+00 N447      / 0.00E+00 N448      / 0.00E+00 N449      /
0.00E+00 N450      / 0.00E+00
N451      / 0.00E+00 N453      / 0.00E+00 N454      / 0.00E+00 N455      / 0.00E+00 N456      /
0.00E+00 N457      / 0.00E+00
N458      / 0.00E+00 N459      / 0.00E+00 N460      / 0.00E+00 N461      / 0.00E+00 N464      /
0.00E+00 N465      / 0.00E+00
N466      / 0.00E+00 N467      / 0.00E+00 N468      / 0.00E+00 N469      / 0.00E+00 N470      /
0.00E+00 N471      / 0.00E+00
N472      / 0.00E+00 N473      / 0.00E+00 N487      / 0.00E+00 N489      / 0.00E+00 N490      /
0.00E+00 N491      / 0.00E+00
N492      / 0.00E+00 N493      / 0.00E+00 N497      / 0.00E+00 N499      / 0.00E+00 N500      /
0.00E+00 N501      / 0.00E+00
N503      / 0.00E+00 N504      / 0.00E+00 N506      / 0.00E+00 N509      / 0.00E+00 N511      /
0.00E+00 N513      / 0.00E+00
N514      / 0.00E+00 N516      / 0.00E+00 N517      / 0.00E+00 N518      / 0.00E+00 N524      /
0.00E+00 N525      / 0.00E+00
N526      / 0.00E+00 N527      / 0.00E+00 N528      / 0.00E+00 N529      / 0.00E+00 N530      /
0.00E+00 N689      / 0.00E+00
N494      / 0.00E+00 N541      / 0.00E+00 EL329      / 0.00E+00 N427      / 0.00E+00 N411      /
0.00E+00 N295      / 0.00E+00
N311      / 0.00E+00 N462      / 0.00E+00 N554      / 0.00E+00 N555      / 0.00E+00
#####
==> System inflows (data group K3) at      0.02 hours ( Junction / Inflow,cfs )

N221      / 2.40E-01 N222      / 2.03E-02 N223      / 1.35E-02 N224      / 1.02E-02 N227      /
2.07E-01 N228      / 4.46E-01
N230      / 8.21E-02 N231      / 7.89E-02 N233      / 1.48E-02 N234      / 0.00E+00 N235      /
1.91E-02 N236      / 0.00E+00
N237      / 0.00E+00 N238      / 5.59E-02 N239      / 3.49E-02 N240      / 5.44E-02 N241      /
8.30E-04 N242      / 4.26E-02

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N243 / 2.84E-02 N244 / 9.25E-03 N245 / 2.40E-02 N246 / 2.66E-04 N247 /
3.36E-01 N248 / 3.72E-02
N249 / 1.76E-01 N250 / 2.56E-01 N251 / 3.07E-01 N252 / 3.07E-02 N253 /
5.24E-03 N254 / 1.03E-01
N255 / 7.46E-02 N256 / 1.54E-01 N257 / 2.06E-01 N259 / 2.04E-01 N260 /
0.00E+00 N261 / 1.65E-01
N262 / 1.31E-01 N263 / 9.62E-03 N264 / 0.00E+00 N265 / 1.08E-01 N266 /
9.36E-03 N267 / 7.84E-03
N268 / 1.44E-01 N269 / 0.00E+00 N270 / 3.29E-01 N271 / 6.40E-02 N272 /
2.80E-02 N273 / 7.08E-02
N274 / 1.65E-02 N275 / 1.34E-02 N276 / 8.13E-02 N277 / 1.04E-02 N278 /
0.00E+00 N279 / 9.96E-02
N280 / 3.14E-01 N281 / 3.53E-02 N282 / 5.21E-03 N283 / 9.75E-02 N284 /
7.11E-02 N285 / 2.20E-01
N286 / 2.23E-02 N287 / 0.00E+00 N288 / 7.60E-02 N289 / 0.00E+00 N290 /
7.84E-01 N291 / 7.10E-01
N292 / 0.00E+00 N293 / 1.25E-01 N294 / 1.07E-02 N296 / 1.25E-01 N297 /
1.30E-01 N298 / 1.00E-02
N299 / 0.00E+00 N300 / 1.30E-01 N301 / 2.84E-01 N302 / 8.22E-03 N303 /
0.00E+00 N304 / 1.24E-01
N305 / 1.30E-01 N306 / 1.08E-02 N307 / 0.00E+00 N308 / 1.17E-01 N309 /
1.51E-01 N310 / 5.80E-03
N312 / 1.88E-01 N313 / 1.44E-02 N314 / 2.25E-02 N315 / 5.86E-02 N316 /
0.00E+00 N317 / 3.62E-01
N318 / 5.93E-02 N319 / 1.16E-01 N320 / 1.41E-02 N321 / 1.55E-01 N325 /
0.00E+00 N326 / 7.06E-02
N327 / 2.04E-01 N328 / 4.17E-02 N329 / 2.34E-01 N330 / 1.83E-02 N331 /
0.00E+00 N332 / 2.24E-01
N333 / 1.33E-01 N334 / 0.00E+00 N335 / 9.70E-03 N336 / 1.06E-01 N337 /
2.42E-02 N338 / 1.06E-01
N339 / 1.35E-01 N340 / 0.00E+00 N341 / 0.00E+00 N342 / 9.94E-03 N343 /
0.00E+00 N344 / 1.56E-01
N345 / 4.22E-02 N347 / 0.00E+00 N348 / 1.64E-02 N349 / 1.42E-01 N350 /
1.35E-01 N351 / 9.23E-03
N352 / 1.63E-01 N353 / 1.84E-01 N354 / 0.00E+00 N355 / 0.00E+00 N356 /
3.54E-02 N357 / 3.59E-02
N358 / 3.59E-02 N359 / 0.00E+00 N360 / 0.00E+00 N361 / 1.76E+00 N362 /
0.00E+00 N363 / 1.41E-01
N364 / 0.00E+00 N365 / 0.00E+00 N366 / 3.81E-01 N367 / 2.19E-01 N368 /
1.02E+00 N369 / 0.00E+00
N370 / 1.53E+00 N371 / 2.12E+00 N372 / 0.00E+00 N373 / 0.00E+00 N374 /
0.00E+00 N375 / 7.35E-01
N376 / 6.85E-01 N377 / 0.00E+00 N378 / 0.00E+00 N379 / 0.00E+00 N381 /
4.30E-03 N382 / 8.31E-02
N383 / 1.92E-01 N384 / 1.79E-01 N386 / 2.20E-01 N387 / 1.36E-01 N388 /
0.00E+00 N389 / 2.94E-01
N390 / 1.89E-01 N391 / 2.90E-01 N392 / 0.00E+00 N394 / 0.00E+00 N395 /
2.78E-01 N396 / 0.00E+00
N397 / 6.16E-03 N398 / 1.59E-01 N399 / 1.49E-01 N403 / 0.00E+00 N404 /
5.79E-01 N405 / 1.85E-01
N406 / 2.70E-01 N407 / 1.33E-01 N408 / 4.54E-01 N409 / 0.00E+00 N410 /
0.00E+00 N412 / 3.52E-01
N413 / 0.00E+00 N414 / 0.00E+00 N415 / 3.80E-01 N416 / 3.59E-01 N417 /
0.00E+00 N418 / 3.36E-01
N419 / 0.00E+00 N420 / 5.91E-01 N421 / 0.00E+00 N422 / 0.00E+00 N423 /
4.03E-01 N424 / 0.00E+00
N425 / 3.17E-01 N426 / 0.00E+00 N428 / 0.00E+00 N429 / 1.58E-01 N430 /
1.86E-01 N431 / 8.47E-04
N432 / 0.00E+00 N434 / 1.88E-01 N435 / 0.00E+00 N436 / 2.36E-01 N437 /
4.29E-01 N438 / 0.00E+00

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N439      / 1.37E-02 N440      / 1.38E-01 N441      / 3.16E-01 N442      / 0.00E+00 N443      /
7.73E-02 N444      / 3.29E-01
N445      / 7.87E-02 N446      / 7.80E-02 N447      / 1.58E-01 N448      / 2.03E-01 N449      /
1.49E-04 N450      / 0.00E+00
N451      / 1.89E-01 N453      / 0.00E+00 N454      / 2.38E-01 N455      / 0.00E+00 N456      /
8.38E-04 N457      / 1.39E-01
N458      / 0.00E+00 N459      / 0.00E+00 N460      / 0.00E+00 N461      / 0.00E+00 N464      /
4.10E-02 N465      / 4.91E-01
N466      / 0.00E+00 N467      / 8.06E-02 N468      / 1.38E-01 N469      / 5.39E-02 N470      /
0.00E+00 N471      / 1.07E-01
N472      / 7.74E-02 N473      / 5.63E-02 N487      / 0.00E+00 N489      / 0.00E+00 N490      /
7.55E-01 N491      / 3.17E-02
N492      / 3.70E-01 N493      / 0.00E+00 N497      / 4.72E-01 N499      / 0.00E+00 N500      /
2.05E-01 N501      / 0.00E+00
N503      / 0.00E+00 N504      / 8.94E-01 N506      / 3.15E-01 N509      / 9.16E-01 N511      /
4.25E-01 N513      / 5.57E-01
N514      / 1.26E-02 N516      / 0.00E+00 N517      / 1.07E-02 N518      / 0.00E+00 N524      /
5.03E-02 N525      / 0.00E+00
N526      / 4.97E-02 N527      / 2.73E-02 N528      / 0.00E+00 N529      / 6.81E-02 N530      /
2.50E-02 N689      / 0.00E+00
N494      / 0.00E+00 N541      / 0.00E+00 EL329      / 3.60E-01 N427      / 0.00E+00 N411      /
0.00E+00 N295      / 0.00E+00
N311      / 0.00E+00 N462      / 1.76E-01 N554      / 0.00E+00 N555      / 0.00E+00
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#####
====> System inflows (data group K3) at      0.08 hours ( Junction / Inflow,cfs )

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N221      / 2.89E+00 N222      / 2.44E-01 N223      / 1.62E-01 N224      / 1.23E-01 N227      /
2.49E+00 N228      / 5.37E+00
N230      / 9.89E-01 N231      / 9.50E-01 N233      / 1.78E-01 N234      / 0.00E+00 N235      /
2.31E-01 N236      / 0.00E+00
N237      / 0.00E+00 N238      / 6.74E-01 N239      / 4.21E-01 N240      / 6.55E-01 N241      /
1.00E-02 N242      / 5.13E-01
N243      / 3.42E-01 N244      / 1.12E-01 N245      / 2.90E-01 N246      / 3.20E-03 N247      /
4.05E+00 N248      / 4.48E-01
N249      / 2.13E+00 N250      / 3.08E+00 N251      / 3.69E+00 N252      / 3.70E-01 N253      /
6.31E-02 N254      / 1.24E+00
N255      / 8.98E-01 N256      / 1.85E+00 N257      / 2.48E+00 N259      / 2.46E+00 N260      /
0.00E+00 N261      / 1.98E+00
N262      / 1.58E+00 N263      / 1.16E-01 N264      / 0.00E+00 N265      / 1.30E+00 N266      /
1.13E-01 N267      / 9.44E-02
N268      / 1.74E+00 N269      / 0.00E+00 N270      / 3.96E+00 N271      / 7.71E-01 N272      /
3.37E-01 N273      / 8.53E-01
N274      / 1.99E-01 N275      / 1.61E-01 N276      / 9.79E-01 N277      / 1.25E-01 N278      /
0.00E+00 N279      / 1.20E+00
N280      / 3.79E+00 N281      / 4.26E-01 N282      / 6.28E-02 N283      / 1.17E+00 N284      /
8.57E-01 N285      / 2.66E+00
N286      / 2.69E-01 N287      / 0.00E+00 N288      / 9.16E-01 N289      / 0.00E+00 N290      /
9.45E+00 N291      / 8.56E+00
N292      / 0.00E+00 N293      / 1.51E+00 N294      / 1.29E-01 N296      / 1.51E+00 N297      /
1.56E+00 N298      / 1.20E-01
N299      / 0.00E+00 N300      / 1.57E+00 N301      / 3.42E+00 N302      / 9.90E-02 N303      /
0.00E+00 N304      / 1.50E+00
N305      / 1.57E+00 N306      / 1.31E-01 N307      / 0.00E+00 N308      / 1.41E+00 N309      /
1.82E+00 N310      / 6.99E-02
N312      / 2.26E+00 N313      / 1.73E-01 N314      / 2.71E-01 N315      / 7.07E-01 N316      /
0.00E+00 N317      / 4.36E+00
N318      / 7.15E-01 N319      / 1.40E+00 N320      / 1.70E-01 N321      / 1.87E+00 N325      /
0.00E+00 N326      / 8.51E-01
N327      / 2.46E+00 N328      / 5.03E-01 N329      / 2.82E+00 N330      / 2.21E-01 N331      /

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0.00E+00 N332      / 2.69E+00
N333      / 1.60E+00 N334      / 0.00E+00 N335      / 1.17E-01 N336      / 1.28E+00 N337      /
2.92E-01 N338      / 1.28E+00
N339      / 1.62E+00 N340      / 0.00E+00 N341      / 0.00E+00 N342      / 1.20E-01 N343      /
0.00E+00 N344      / 1.88E+00
N345      / 5.08E-01 N347      / 0.00E+00 N348      / 1.98E-01 N349      / 1.71E+00 N350      /
1.63E+00 N351      / 1.11E-01
N352      / 1.96E+00 N353      / 2.21E+00 N354      / 0.00E+00 N355      / 0.00E+00 N356      /
4.26E-01 N357      / 4.32E-01
N358      / 4.33E-01 N359      / 0.00E+00 N360      / 0.00E+00 N361      / 2.13E+01 N362      /
0.00E+00 N363      / 1.70E+00
N364      / 0.00E+00 N365      / 0.00E+00 N366      / 4.59E+00 N367      / 2.63E+00 N368      /
1.23E+01 N369      / 0.00E+00
N370      / 1.84E+01 N371      / 2.56E+01 N372      / 0.00E+00 N373      / 0.00E+00 N374      /
0.00E+00 N375      / 8.86E+00
N376      / 8.25E+00 N377      / 0.00E+00 N378      / 0.00E+00 N379      / 0.00E+00 N381      /
5.18E-02 N382      / 1.00E+00
N383      / 2.31E+00 N384      / 2.16E+00 N386      / 2.65E+00 N387      / 1.64E+00 N388      /
0.00E+00 N389      / 3.54E+00
N390      / 2.28E+00 N391      / 3.49E+00 N392      / 0.00E+00 N394      / 0.00E+00 N395      /
3.35E+00 N396      / 0.00E+00
N397      / 7.42E-02 N398      / 1.92E+00 N399      / 1.80E+00 N403      / 0.00E+00 N404      /
6.97E+00 N405      / 2.23E+00
N406      / 3.25E+00 N407      / 1.61E+00 N408      / 5.48E+00 N409      / 0.00E+00 N410      /
0.00E+00 N412      / 4.24E+00
N413      / 0.00E+00 N414      / 0.00E+00 N415      / 4.58E+00 N416      / 4.32E+00 N417      /
0.00E+00 N418      / 4.05E+00
N419      / 0.00E+00 N420      / 7.12E+00 N421      / 0.00E+00 N422      / 0.00E+00 N423      /
4.85E+00 N424      / 0.00E+00
N425      / 3.83E+00 N426      / 0.00E+00 N428      / 0.00E+00 N429      / 1.91E+00 N430      /
2.24E+00 N431      / 1.02E-02
N432      / 0.00E+00 N434      / 2.27E+00 N435      / 0.00E+00 N436      / 2.85E+00 N437      /
5.17E+00 N438      / 0.00E+00
N439      / 1.65E-01 N440      / 1.66E+00 N441      / 3.80E+00 N442      / 0.00E+00 N443      /
9.32E-01 N444      / 3.97E+00
N445      / 9.48E-01 N446      / 9.39E-01 N447      / 1.91E+00 N448      / 2.45E+00 N449      /
1.80E-03 N450      / 0.00E+00
N451      / 2.28E+00 N453      / 0.00E+00 N454      / 2.87E+00 N455      / 0.00E+00 N456      /
1.01E-02 N457      / 1.67E+00
N458      / 0.00E+00 N459      / 0.00E+00 N460      / 0.00E+00 N461      / 0.00E+00 N464      /
4.94E-01 N465      / 5.92E+00
N466      / 0.00E+00 N467      / 9.71E-01 N468      / 1.66E+00 N469      / 6.49E-01 N470      /
0.00E+00 N471      / 1.29E+00
N472      / 9.32E-01 N473      / 6.79E-01 N487      / 0.00E+00 N489      / 0.00E+00 N490      /
9.10E+00 N491      / 3.82E-01
N492      / 4.46E+00 N493      / 0.00E+00 N497      / 5.68E+00 N499      / 0.00E+00 N500      /
2.47E+00 N501      / 0.00E+00
N503      / 0.00E+00 N504      / 1.08E+01 N506      / 3.80E+00 N509      / 1.10E+01 N511      /
5.12E+00 N513      / 6.72E+00
N514      / 1.52E-01 N516      / 0.00E+00 N517      / 1.29E-01 N518      / 0.00E+00 N524      /
6.06E-01 N525      / 0.00E+00
N526      / 5.99E-01 N527      / 3.29E-01 N528      / 0.00E+00 N529      / 8.21E-01 N530      /
3.01E-01 N689      / 0.00E+00
N494      / 0.00E+00 N541      / 0.00E+00 EL329      / 4.34E+00 N427      / 0.00E+00 N411      /
0.00E+00 N295      / 0.00E+00
N311      / 0.00E+00 N462      / 2.13E+00 N554      / 0.00E+00 N555      / 0.00E+00

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==> System inflows (data group K3) at 1.00 hours ( Junction / Inflow,cfs )

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N221 / 2.89E+00 N222 / 2.44E-01 N223 / 1.62E-01 N224 / 1.23E-01 N227 /
2.49E+00 N228 / 5.37E+00
N230 / 9.89E-01 N231 / 9.50E-01 N233 / 1.78E-01 N234 / 0.00E+00 N235 /
2.31E-01 N236 / 0.00E+00 N238 / 6.74E-01 N239 / 4.21E-01 N240 / 6.55E-01 N241 /
1.00E-02 N242 / 5.13E-01
N243 / 3.42E-01 N244 / 1.12E-01 N245 / 2.90E-01 N246 / 3.20E-03 N247 /
4.05E+00 N248 / 4.48E-01
N249 / 2.13E+00 N250 / 3.08E+00 N251 / 3.69E+00 N252 / 3.70E-01 N253 /
6.31E-02 N254 / 1.24E+00
N255 / 8.98E-01 N256 / 1.85E+00 N257 / 2.48E+00 N259 / 2.46E+00 N260 /
0.00E+00 N261 / 1.98E+00
N262 / 1.58E+00 N263 / 1.16E-01 N264 / 0.00E+00 N265 / 1.30E+00 N266 /
1.13E-01 N267 / 9.44E-02
N268 / 1.74E+00 N269 / 0.00E+00 N270 / 3.96E+00 N271 / 7.71E-01 N272 /
3.37E-01 N273 / 8.53E-01
N274 / 1.99E-01 N275 / 1.61E-01 N276 / 9.79E-01 N277 / 1.25E-01 N278 /
0.00E+00 N279 / 1.20E+00
N280 / 3.79E+00 N281 / 4.26E-01 N282 / 6.28E-02 N283 / 1.17E+00 N284 /
8.57E-01 N285 / 2.66E+00
N286 / 2.69E-01 N287 / 0.00E+00 N288 / 9.16E-01 N289 / 0.00E+00 N290 /
9.45E+00 N291 / 8.56E+00
N292 / 0.00E+00 N293 / 1.51E+00 N294 / 1.29E-01 N296 / 1.51E+00 N297 /
1.56E+00 N298 / 1.20E-01
N299 / 0.00E+00 N300 / 1.57E+00 N301 / 3.42E+00 N302 / 9.90E-02 N303 /
0.00E+00 N304 / 1.50E+00
N305 / 1.57E+00 N306 / 1.31E-01 N307 / 0.00E+00 N308 / 1.41E+00 N309 /
1.82E+00 N310 / 6.99E-02
N312 / 2.26E+00 N313 / 1.73E-01 N314 / 2.71E-01 N315 / 7.07E-01 N316 /
0.00E+00 N317 / 4.36E+00
N318 / 7.15E-01 N319 / 1.40E+00 N320 / 1.70E-01 N321 / 1.87E+00 N325 /
0.00E+00 N326 / 8.51E-01
N327 / 2.46E+00 N328 / 5.03E-01 N329 / 2.82E+00 N330 / 2.21E-01 N331 /
0.00E+00 N332 / 2.69E+00
N333 / 1.60E+00 N334 / 0.00E+00 N335 / 1.17E-01 N336 / 1.28E+00 N337 /
2.92E-01 N338 / 1.28E+00
N339 / 1.62E+00 N340 / 0.00E+00 N341 / 0.00E+00 N342 / 1.20E-01 N343 /
0.00E+00 N344 / 1.88E+00
N345 / 5.08E-01 N347 / 0.00E+00 N348 / 1.98E-01 N349 / 1.71E+00 N350 /
1.63E+00 N351 / 1.11E-01
N352 / 1.96E+00 N353 / 2.21E+00 N354 / 0.00E+00 N355 / 0.00E+00 N356 /
4.26E-01 N357 / 4.32E-01
N358 / 4.33E-01 N359 / 0.00E+00 N360 / 0.00E+00 N361 / 2.13E+01 N362 /
0.00E+00 N363 / 1.70E+00
N364 / 0.00E+00 N365 / 0.00E+00 N366 / 4.59E+00 N367 / 2.63E+00 N368 /
1.23E+01 N369 / 0.00E+00
N370 / 1.84E+01 N371 / 2.56E+01 N372 / 0.00E+00 N373 / 0.00E+00 N374 /
0.00E+00 N375 / 8.86E+00
N376 / 8.25E+00 N377 / 0.00E+00 N378 / 0.00E+00 N379 / 0.00E+00 N381 /
5.18E-02 N382 / 1.00E+00
N383 / 2.31E+00 N384 / 2.16E+00 N386 / 2.65E+00 N387 / 1.64E+00 N388 /
0.00E+00 N389 / 3.54E+00
N390 / 2.28E+00 N391 / 3.49E+00 N392 / 0.00E+00 N394 / 0.00E+00 N395 /
3.35E+00 N396 / 0.00E+00
N397 / 7.42E-02 N398 / 1.92E+00 N399 / 1.80E+00 N403 / 0.00E+00 N404 /
6.97E+00 N405 / 2.23E+00
N406 / 3.25E+00 N407 / 1.61E+00 N408 / 5.48E+00 N409 / 0.00E+00 N410 /
0.00E+00 N412 / 4.24E+00
N413 / 0.00E+00 N414 / 0.00E+00 N415 / 4.58E+00 N416 / 4.32E+00 N417 /
0.00E+00 N418 / 4.05E+00


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N419      / 0.00E+00 N420      / 7.12E+00 N421      / 0.00E+00 N422      / 0.00E+00 N423      /
4.85E+00 N424      / 0.00E+00
N425      / 3.83E+00 N426      / 0.00E+00 N428      / 0.00E+00 N429      / 1.91E+00 N430      /
2.24E+00 N431      / 1.02E-02
N432      / 0.00E+00 N434      / 2.27E+00 N435      / 0.00E+00 N436      / 2.85E+00 N437      /
5.17E+00 N438      / 0.00E+00
N439      / 1.65E-01 N440      / 1.66E+00 N441      / 3.80E+00 N442      / 0.00E+00 N443      /
9.32E-01 N444      / 3.97E+00
N445      / 9.48E-01 N446      / 9.39E-01 N447      / 1.91E+00 N448      / 2.45E+00 N449      /
1.80E-03 N450      / 0.00E+00
N451      / 2.28E+00 N453      / 0.00E+00 N454      / 2.87E+00 N455      / 0.00E+00 N456      /
1.01E-02 N457      / 1.67E+00
N458      / 0.00E+00 N459      / 0.00E+00 N460      / 0.00E+00 N461      / 0.00E+00 N464      /
4.94E-01 N465      / 5.92E+00
N466      / 0.00E+00 N467      / 9.71E-01 N468      / 1.66E+00 N469      / 6.49E-01 N470      /
0.00E+00 N471      / 1.29E+00
N472      / 9.32E-01 N473      / 6.79E-01 N487      / 0.00E+00 N489      / 0.00E+00 N490      /
9.10E+00 N491      / 3.82E-01
N492      / 4.46E+00 N493      / 0.00E+00 N497      / 5.68E+00 N499      / 0.00E+00 N500      /
2.47E+00 N501      / 0.00E+00
N503      / 0.00E+00 N504      / 1.08E+01 N506      / 3.80E+00 N509      / 1.10E+01 N511      /
5.12E+00 N513      / 6.72E+00
N514      / 1.52E-01 N516      / 0.00E+00 N517      / 1.29E-01 N518      / 0.00E+00 N524      /
6.06E-01 N525      / 0.00E+00
N526      / 5.99E-01 N527      / 3.29E-01 N528      / 0.00E+00 N529      / 8.21E-01 N530      /
3.01E-01 N689      / 0.00E+00
N494      / 0.00E+00 N541      / 0.00E+00 EL329      / 4.34E+00 N427      / 0.00E+00 N411      /
0.00E+00 N295      / 0.00E+00
N311      / 0.00E+00 N462      / 2.13E+00 N554      / 0.00E+00 N555      / 0.00E+00
#####
#####
===> System inflows (data group K3) at      2.00 hours ( Junction / Inflow,cfs )

N221      / 2.89E+00 N222      / 2.44E-01 N223      / 1.62E-01 N224      / 1.23E-01 N227      /
2.49E+00 N228      / 5.37E+00
N230      / 9.89E-01 N231      / 9.50E-01 N233      / 1.78E-01 N234      / 0.00E+00 N235      /
2.31E-01 N236      / 0.00E+00
N237      / 0.00E+00 N238      / 6.74E-01 N239      / 4.21E-01 N240      / 6.55E-01 N241      /
1.00E-02 N242      / 5.13E-01
N243      / 3.42E-01 N244      / 1.12E-01 N245      / 2.90E-01 N246      / 3.20E-03 N247      /
4.05E+00 N248      / 4.48E-01
N249      / 2.13E+00 N250      / 3.08E+00 N251      / 3.69E+00 N252      / 3.70E-01 N253      /
6.31E-02 N254      / 1.24E+00
N255      / 8.98E-01 N256      / 1.85E+00 N257      / 2.48E+00 N259      / 2.46E+00 N260      /
0.00E+00 N261      / 1.98E+00
N262      / 1.58E+00 N263      / 1.16E-01 N264      / 0.00E+00 N265      / 1.30E+00 N266      /
1.13E-01 N267      / 9.44E-02
N268      / 1.74E+00 N269      / 0.00E+00 N270      / 3.96E+00 N271      / 7.71E-01 N272      /
3.37E-01 N273      / 8.53E-01
N274      / 1.99E-01 N275      / 1.61E-01 N276      / 9.79E-01 N277      / 1.25E-01 N278      /
0.00E+00 N279      / 1.20E+00
N280      / 3.79E+00 N281      / 4.26E-01 N282      / 6.28E-02 N283      / 1.17E+00 N284      /
8.57E-01 N285      / 2.66E+00
N286      / 2.69E-01 N287      / 0.00E+00 N288      / 9.16E-01 N289      / 0.00E+00 N290      /
9.45E+00 N291      / 8.56E+00
N292      / 0.00E+00 N293      / 1.51E+00 N294      / 1.29E-01 N296      / 1.51E+00 N297      /
1.56E+00 N298      / 1.20E-01
N299      / 0.00E+00 N300      / 1.57E+00 N301      / 3.42E+00 N302      / 9.90E-02 N303      /
0.00E+00 N304      / 1.50E+00
N305      / 1.57E+00 N306      / 1.31E-01 N307      / 0.00E+00 N308      / 1.41E+00 N309      /

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1.82E+00 N310 / 6.99E-02
N312 / 2.26E+00 N313 / 1.73E-01 N314 / 2.71E-01 N315 / 7.07E-01 N316 /
0.00E+00 N317 / 4.36E+00
N318 / 7.15E-01 N319 / 1.40E+00 N320 / 1.70E-01 N321 / 1.87E+00 N325 /
0.00E+00 N326 / 8.51E-01
N327 / 2.46E+00 N328 / 5.03E-01 N329 / 2.82E+00 N330 / 2.21E-01 N331 /
0.00E+00 N332 / 2.69E+00
N333 / 1.60E+00 N334 / 0.00E+00 N335 / 1.17E-01 N336 / 1.28E+00 N337 /
2.92E-01 N338 / 1.28E+00
N339 / 1.62E+00 N340 / 0.00E+00 N341 / 0.00E+00 N342 / 1.20E-01 N343 /
0.00E+00 N344 / 1.88E+00
N345 / 5.08E-01 N347 / 0.00E+00 N348 / 1.98E-01 N349 / 1.71E+00 N350 /
1.63E+00 N351 / 1.11E-01
N352 / 1.96E+00 N353 / 2.21E+00 N354 / 0.00E+00 N355 / 0.00E+00 N356 /
4.26E-01 N357 / 4.32E-01
N358 / 4.33E-01 N359 / 0.00E+00 N360 / 0.00E+00 N361 / 2.13E+01 N362 /
0.00E+00 N363 / 1.70E+00
N364 / 0.00E+00 N365 / 0.00E+00 N366 / 4.59E+00 N367 / 2.63E+00 N368 /
1.23E+01 N369 / 0.00E+00
N370 / 1.84E+01 N371 / 2.56E+01 N372 / 0.00E+00 N373 / 0.00E+00 N374 /
0.00E+00 N375 / 8.86E+00
N376 / 8.25E+00 N377 / 0.00E+00 N378 / 0.00E+00 N379 / 0.00E+00 N381 /
5.18E-02 N382 / 1.00E+00
N383 / 2.31E+00 N384 / 2.16E+00 N386 / 2.65E+00 N387 / 1.64E+00 N388 /
0.00E+00 N389 / 3.54E+00
N390 / 2.28E+00 N391 / 3.49E+00 N392 / 0.00E+00 N394 / 0.00E+00 N395 /
3.35E+00 N396 / 0.00E+00
N397 / 7.42E-02 N398 / 1.92E+00 N399 / 1.80E+00 N403 / 0.00E+00 N404 /
6.97E+00 N405 / 2.23E+00
N406 / 3.25E+00 N407 / 1.61E+00 N408 / 5.48E+00 N409 / 0.00E+00 N410 /
0.00E+00 N412 / 4.24E+00
N413 / 0.00E+00 N414 / 0.00E+00 N415 / 4.58E+00 N416 / 4.32E+00 N417 /
0.00E+00 N418 / 4.05E+00
N419 / 0.00E+00 N420 / 7.12E+00 N421 / 0.00E+00 N422 / 0.00E+00 N423 /
4.85E+00 N424 / 0.00E+00
N425 / 3.83E+00 N426 / 0.00E+00 N428 / 0.00E+00 N429 / 1.91E+00 N430 /
2.24E+00 N431 / 1.02E-02
N432 / 0.00E+00 N434 / 2.27E+00 N435 / 0.00E+00 N436 / 2.85E+00 N437 /
5.17E+00 N438 / 0.00E+00
N439 / 1.65E-01 N440 / 1.66E+00 N441 / 3.80E+00 N442 / 0.00E+00 N443 /
9.32E-01 N444 / 3.97E+00
N445 / 9.48E-01 N446 / 9.39E-01 N447 / 1.91E+00 N448 / 2.45E+00 N449 /
1.80E-03 N450 / 0.00E+00
N451 / 2.28E+00 N453 / 0.00E+00 N454 / 2.87E+00 N455 / 0.00E+00 N456 /
1.01E-02 N457 / 1.67E+00
N458 / 0.00E+00 N459 / 0.00E+00 N460 / 0.00E+00 N461 / 0.00E+00 N464 /
4.94E-01 N465 / 5.92E+00
N466 / 0.00E+00 N467 / 9.71E-01 N468 / 1.66E+00 N469 / 6.49E-01 N470 /
0.00E+00 N471 / 1.29E+00
N472 / 9.32E-01 N473 / 6.79E-01 N487 / 0.00E+00 N489 / 0.00E+00 N490 /
9.10E+00 N491 / 3.82E-01
N492 / 4.46E+00 N493 / 0.00E+00 N497 / 5.68E+00 N499 / 0.00E+00 N500 /
2.47E+00 N501 / 0.00E+00
N503 / 0.00E+00 N504 / 1.08E+01 N506 / 3.80E+00 N509 / 1.10E+01 N511 /
5.12E+00 N513 / 6.72E+00
N514 / 1.52E-01 N516 / 0.00E+00 N517 / 1.29E-01 N518 / 0.00E+00 N524 /
6.06E-01 N525 / 0.00E+00
N526 / 5.99E-01 N527 / 3.29E-01 N528 / 0.00E+00 N529 / 8.21E-01 N530 /
3.01E-01 N689 / 0.00E+00
N494 / 0.00E+00 N541 / 0.00E+00 EL329 / 4.34E+00 N427 / 0.00E+00 N411 /

N269	244.2417	600.0000	0.0000
N270	152.6241	381.5603	0.0000
N271	83.1877	207.9692	0.0000
N272	100.8395	252.0987	0.0000
N273	210.6236	526.5591	0.0000
N274	111.4131	278.5328	0.0000
N275	600.0000	600.0000	0.0000
N276	234.9990	587.4975	0.0000
N277	442.0940	600.0000	0.0000
N278	600.0000	600.0000	0.0000
N279	137.3005	343.2513	0.0000
N280	154.8166	387.0416	0.0000
N281	97.4407	243.6018	0.0000
N282	244.0467	600.0000	0.0000
N283	255.9469	600.0000	0.0000
N284	169.8662	424.6655	0.0000
N285	39.1332	97.8331	0.0000
N286	44.7207	111.8017	0.0000
N287	41.9661	104.9153	0.0000
N288	30.5525	76.3812	0.0000
N289	600.0000	600.0000	0.0000
N290	2.2664	5.6661	0.0000
N291	315.3231	600.0000	0.0000
N292	600.0000	600.0000	0.0000
N293	220.4121	551.0302	0.0000
N294	341.1898	600.0000	0.0000
N296	128.3143	320.7857	0.0000
N297	195.4708	488.6770	0.0000
N298	290.6164	600.0000	0.0000
N299	600.0000	600.0000	0.0000
N300	101.1241	252.8103	0.0000
N301	88.7709	221.9272	0.0000
N302	382.7287	600.0000	0.0000
N303	600.0000	600.0000	0.0000
N304	136.6436	341.6091	0.0000
N305	2.0656	5.1641	0.0000
N306	0.4445	1.1111	60.0000
N307	600.0000	600.0000	0.0000
N308	1.3224	3.3061	18660.0000
N309	195.4506	488.6266	0.0000
N310	314.0354	600.0000	0.0000
N312	139.7987	349.4968	0.0000
N313	600.0000	600.0000	0.0000
N314	455.4452	600.0000	0.0000
N315	539.0377	600.0000	0.0000
N316	600.0000	600.0000	0.0000
N317	19.7946	49.4865	0.0000
N318	28.1061	70.2652	0.0000
N319	18.0066	45.0164	0.0000
N320	15.0429	37.6072	0.0000
N321	14.2907	35.7268	0.0000
N325	25.3484	63.3709	0.0000
N326	8.7133	21.7832	0.0000
N327	12.4981	31.2453	0.0000
N328	11.9130	29.7826	0.0000
N329	1.3010	3.2525	60.0000
N330	3.3527	8.3818	0.0000
N331	600.0000	600.0000	0.0000
N332	9.4475	23.6187	0.0000
N333	54.4139	136.0348	0.0000

N334	38.0308	95.0769	0.0000
N335	23.7456	59.3640	0.0000
N336	22.6044	56.5109	0.0000
N337	107.1131	267.7828	0.0000
N338	76.2638	190.6595	0.0000
N339	182.7556	456.8889	0.0000
N340	214.4845	536.2114	0.0000
N341	164.4481	411.1203	0.0000
N342	253.8417	600.0000	0.0000
N343	600.0000	600.0000	0.0000
N344	130.8658	327.1644	0.0000
N345	383.5407	600.0000	0.0000
N347	16.8697	42.1743	0.0000
N348	41.2656	103.1641	0.0000
N349	15.9241	39.8102	0.0000
N350	18.4964	46.2409	60.0000
N351	20.0583	50.1459	0.0000
N352	32.2310	80.5774	0.0000
N353	30.2317	75.5793	60.0000
N354	303.2658	600.0000	0.0000
N355	600.0000	600.0000	0.0000
N356	372.6250	600.0000	0.0000
N357	327.1010	600.0000	0.0000
N358	250.6997	600.0000	0.0000
N359	347.0855	600.0000	0.0000
N360	600.0000	600.0000	0.0000
N361	95.3649	238.4121	0.0000
N362	98.4270	246.0675	0.0000
N363	41.4723	103.6808	0.0000
N364	155.3061	388.2653	0.0000
N365	600.0000	600.0000	0.0000
N366	95.0359	237.5897	0.0000
N367	124.2998	310.7495	0.0000
N368	37.7959	94.4898	0.0000
N369	66.0127	165.0318	0.0000
N370	17.0489	42.6223	0.0000
N371	11.5917	28.9792	0.0000
N372	65.6185	164.0462	0.0000
N373	37.6488	94.1220	0.0000
N374	27.1260	67.8150	0.0000
N375	39.3076	98.2691	0.0000
N376	147.5711	368.9278	0.0000
N377	65.4586	163.6465	0.0000
N378	85.7474	214.3684	0.0000
N379	600.0000	600.0000	0.0000
N381	124.5699	311.4247	0.0000
N382	77.4759	193.6896	0.0000
N383	96.8947	242.2367	0.0000
N384	125.3402	313.3505	0.0000
N386	108.2062	270.5156	0.0000
N387	137.1532	342.8831	0.0000
N388	135.5359	338.8397	0.0000
N389	32.7902	81.9756	0.0000
N390	140.8816	352.2040	0.0000
N391	46.5669	116.4173	0.0000
N392	31.5098	78.7745	0.0000
N394	600.0000	600.0000	0.0000
N395	11.2668	28.1669	0.0000
N396	128.3597	320.8991	0.0000
N397	18.9569	47.3922	300.0000

N398	253.9360	600.0000	0.0000
N399	28.1842	70.4604	0.0000
N403	34.9207	87.3018	180.0000
N404	8.5553	21.3883	120.0000
N405	121.6810	304.2024	0.0000
N406	17.5361	43.8402	0.0000
N407	144.5750	361.4376	0.0000
N408	16.2229	40.5574	0.0000
N409	20.0658	50.1645	0.0000
N410	6.0313	15.0783	0.0000
N412	94.9018	237.2545	0.0000
N413	23.8132	59.5330	0.0000
N414	23.7947	59.4866	0.0000
N415	53.7014	134.2535	1200.0000
N416	102.1814	255.4534	0.0000
N417	176.1792	440.4479	0.0000
N418	173.6102	434.0254	0.0000
N419	62.7373	156.8432	0.0000
N420	18.9914	47.4784	0.0000
N421	53.4545	133.6361	0.0000
N422	92.5128	231.2819	0.0000
N423	69.3797	173.4494	0.0000
N424	93.0222	232.5555	0.0000
N425	38.4723	96.1807	0.0000
N426	68.6249	171.5622	0.0000
N428	99.9744	249.9361	0.0000
N429	70.2650	175.6625	0.0000
N430	255.4107	600.0000	0.0000
N431	170.8947	427.2367	0.0000
N432	158.7983	396.9956	0.0000
N434	101.9121	254.7802	0.0000
N435	42.8079	107.0199	0.0000
N436	44.7051	111.7628	0.0000
N437	40.3202	100.8006	0.0000
N438	73.1261	182.8153	0.0000
N439	98.1267	245.3168	0.0000
N440	68.5044	171.2609	0.0000
N441	71.6145	179.0362	0.0000
N442	86.7740	216.9351	0.0000
N443	95.4545	238.6363	0.0000
N444	49.2535	123.1338	0.0000
N445	205.3946	513.4865	0.0000
N446	91.9473	229.8683	0.0000
N447	225.9455	564.8636	0.0000
N448	29.7683	74.4208	0.0000
N449	45.3955	113.4887	0.0000
N450	17.0118	42.5294	0.0000
N451	29.2773	73.1933	0.0000
N453	53.0705	132.6762	0.0000
N454	29.3414	73.3536	0.0000
N455	135.4961	338.7402	0.0000
N456	133.6644	334.1611	0.0000
N457	72.3562	180.8904	0.0000
N458	136.9001	342.2502	0.0000
N459	209.5542	523.8854	0.0000
N460	351.3442	600.0000	0.0000
N461	600.0000	600.0000	0.0000
N464	35.4417	88.6042	0.0000
N465	22.6365	56.5914	0.0000
N466	28.0026	70.0065	0.0000

N467	29.3617	73.4043	0.0000
N468	101.3662	253.4156	0.0000
N469	112.4060	281.0151	0.0000
N470	600.0000	600.0000	0.0000
N471	121.9625	304.9062	0.0000
N472	135.8138	339.5345	0.0000
N473	212.6372	531.5929	0.0000
N487	135.3633	338.4083	0.0000
N489	100.8508	252.1270	0.0000
N490	108.9029	272.2573	0.0000
N491	32.9818	82.4544	0.0000
N492	47.0319	117.5798	240.0000
N493	600.0000	600.0000	0.0000
N497	71.3428	178.3570	0.0000
N499	600.0000	600.0000	0.0000
N500	36.9616	92.4040	0.0000
N501	60.5916	151.4789	0.0000
N503	600.0000	600.0000	0.0000
N504	1.2618	3.1544	120.0000
N506	63.0949	157.7372	0.0000
N509	63.8394	159.5984	0.0000
N511	341.3318	600.0000	0.0000
N513	91.3064	228.2660	0.0000
N514	205.6908	514.2271	0.0000
N516	600.0000	600.0000	0.0000
N517	232.4254	581.0635	0.0000
N518	58.6265	146.5663	0.0000
N524	276.0380	600.0000	0.0000
N525	172.9788	432.4471	0.0000
N526	334.6337	600.0000	0.0000
N527	600.0000	600.0000	0.0000
N528	43.4215	108.5537	0.0000
N529	4.2342	10.5854	0.0000
N530	7.6967	19.2418	420.0000
N689	600.0000	600.0000	0.0000
N494	162.8212	407.0530	0.0000
N541	33.1590	82.8976	0.0000
EL329	30.7094	76.7735	0.0000
N427	54.0515	135.1288	0.0000
N411	600.0000	600.0000	0.0000
N295	600.0000	600.0000	0.0000
N311	600.0000	600.0000	0.0000
N462	29.1670	72.9174	0.0000
N554	52.4017	131.0042	0.0000
N555	600.0000	600.0000	0.0000
N322	600.0000	600.0000	0.0000

The junction requiring the smallest time step was...N308

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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
L210	6.2515	6.2515	18.7592	1.0000	0.0110	1.3556	Normal Soln
L211	31.1457	31.1457	101.2091	0.0000	0.0036	1.4139	Normal Soln
L212	52.2637	52.2637	164.6416	0.0000	0.0061	0.9304	Normal Soln
L213	8.6695	8.6695	33.1072	0.0000	0.0097	1.1843	Normal Soln
L214	7.1669	7.1669	30.8016	0.0000	0.0102	1.2109	Normal Soln
L217	12.9886	12.9886	30.4267	0.0000	0.0017	0.3996	Normal Soln
L220	21.3513	21.3513	68.8686	0.0000	0.0118	1.6019	Normal Soln
L221	30.7605	30.7605	94.9061	0.0000	0.0149	1.4231	Normal Soln
L222	8.4001	8.4001	18.9537	0.0000	0.0163	0.3144	Normal Soln
L223	16.5400	16.5400	50.1321	0.0000	0.0004	0.1454	Normal Soln
L224	67.1259	67.1259	218.6507	0.0000	0.0003	0.1471	Normal Soln
L225	44.3093	44.3093	212.4372	0.0000	0.0009	0.1800	Normal Soln
L226	49.1405	49.1405	218.6669	0.0000	0.0018	0.6783	Normal Soln
L227	25.8165	25.8165	103.1866	0.0000	0.0018	1.1188	Normal Soln
L228	33.4838	33.4838	125.9101	0.0000	0.0029	1.6577	Normal Soln
L229	65.7559	65.7559	220.5148	0.0000	0.0026	1.0348	Normal Soln
L230	38.4211	38.4211	138.6116	0.0000	0.0030	1.4605	Normal Soln
L231	30.8539	30.8539	129.8951	0.0000	0.0059	1.6469	Normal Soln
L232	22.6248	22.6248	90.4561	0.0000	0.0091	1.7661	Normal Soln
L233	32.8848	32.8848	135.0030	0.0000	0.0076	1.2575	Normal Soln
L234	29.7041	29.7041	144.3863	0.0000	0.0997	1.3159	Normal Soln
L235	7.5038	7.5038	45.9431	0.0000	0.0008	0.4470	Normal Soln
L236	8.4742	8.4742	39.0865	0.0000	0.0043	1.6882	Normal Soln
L237	7.0663	7.0663	25.8093	0.0000	0.0091	1.5234	Normal Soln
L238	4.9304	4.9304	11.5673	0.0000	0.0122	1.5697	Normal Soln
L239	9.0896	9.0896	23.9116	0.0000	0.0057	1.7378	Normal Soln
L240	12.0804	12.0804	28.5367	0.0000	0.0023	0.5257	Normal Soln
L241	22.4340	22.4340	66.7490	0.0000	0.0075	1.5011	Normal Soln
L242	7.7300	7.7300	18.2402	0.0000	0.0030	0.7871	Normal Soln
L243	10.7957	10.7957	26.3322	0.0000	0.0039	1.0474	Normal Soln
L246	24.1884	24.1884	83.8451	0.0000	-3.1015	3.7803	Normal Soln
L247	5.6535	5.6535	15.7806	0.0000	6.7858	7.4152	Normal Soln
L248	4.5606	4.5606	18.7177	0.0000	-1.5000	4.1062	Normal Soln
L249	9.4630	9.4630	22.3152	0.0000	0.0030	0.6747	Normal Soln
L250	4.0558	4.0558	8.7562	0.0000	0.0034	0.3070	Normal Soln
L251	9.4845	9.4845	22.3803	0.0000	0.0020	0.5553	Normal Soln
L252	57.2662	57.2662	436.7928	0.0000	0.0002	0.0479	Normal Soln
L253	8.8987	8.8987	21.3283	0.0000	0.0035	0.7383	Normal Soln
L254	42.7703	42.7703	126.2419	0.0000	0.0021	0.7372	Normal Soln

L255	8.3740	8.3740	21.5609	0.0000	0.0073	1.1081	Normal	Soln
L256	29.1236	29.1236	96.8065	0.0000	0.0068	0.9051	Normal	Soln
L257	25.4074	25.4074	76.1891	0.0000	0.0080	1.2772	Normal	Soln
L258	13.9876	13.9876	39.9961	0.0000	0.0016	0.3667	Normal	Soln
L259	25.9458	25.9458	70.7199	0.0000	0.0097	1.0940	Normal	Soln
L260	2.6985	2.6985	5.4923	0.0000	0.0123	0.1487	Normal	Soln
L261	20.6903	20.6903	51.3702	0.0000	0.0014	0.4139	Normal	Soln
L262	4.7749	4.7749	7.8766	0.0000	0.0027	0.1655	Normal	Soln
L263	16.4832	16.4832	40.3636	0.0000	0.0020	0.5097	Normal	Soln
L264	8.4259	8.4259	20.8396	0.0000	0.0066	1.0316	Normal	Soln
L265	27.7485	27.7485	87.6450	0.0000	0.0233	1.0544	Normal	Soln
L266	15.7403	15.7403	42.3876	0.0000	0.0244	1.1050	Normal	Soln
L267	9.7860	9.7860	22.8801	0.0000	0.0015	0.3623	Normal	Soln
L268	7.4193	7.4193	23.4623	0.0000	0.0076	1.2172	Normal	Soln
L269	22.9535	22.9535	65.3736	0.0000	0.0039	1.3016	Normal	Soln
L270	25.8683	25.8683	51.5533	0.0000	0.0317	0.4731	Normal	Soln
L271	29.5240	29.5240	76.2899	0.0000	0.1618	1.0663	Normal	Soln
L272	2.5336	2.5336	6.5940	2.0000	14.7681	3.9973	Normal	Soln
L273	10.3277	10.3277	27.9934	0.0000	0.3535	4.3102	Normal	Soln
L274	5.7658	5.7658	9.7500	0.0000	0.1262	0.2668	Normal	Soln
L275	14.0902	14.0902	34.1511	0.0000	0.0021	0.6406	Normal	Soln
L277	15.4072	15.4072	37.6495	0.0000	0.0026	0.6425	Normal	Soln
L278	6.3135	6.3135	14.8598	0.0000	0.0039	0.6638	Normal	Soln
L279	9.9209	9.9209	25.5230	0.0000	0.0039	0.5246	Normal	Soln
L280	6.5736	6.5736	15.4991	0.0000	0.0024	0.6674	Normal	Soln
L281	8.5693	8.5693	23.1348	0.0000	0.0095	1.5502	Normal	Soln
L282	1.9577	1.9577	3.2456	356.0000	0.0076	0.3394	Normal	Soln
L283	15.1101	15.1101	36.7067	0.0000	0.0024	0.6326	Normal	Soln
L284	3.4788	3.4788	8.7124	1.0000	-3.3058	10.4233	Normal	Soln
L285	9.2108	9.2108	36.7644	0.0000	0.6895	4.1655	Normal	Soln
L286	4.3969	4.3969	56.1137	0.0000	3.0483	6.8009	Normal	Soln
L287	13.6881	13.6881	32.8380	0.0000	0.0026	0.7713	Normal	Soln
L289	14.0922	14.0922	34.5708	0.0000	0.0039	0.9601	Normal	Soln
L290	78.6962	78.6962	230.1393	0.0000	0.0004	0.0737	Normal	Soln
L291	66.3719	66.3719	166.5362	0.0000	0.0010	0.1884	Normal	Soln
L292	6.6017	6.6017	27.8197	0.0000	0.0034	0.1628	Normal	Soln
L294	6.9134	6.9134	27.1866	0.0000	-0.0037	0.8291	Normal	Soln
L300	16.8061	16.8061	68.5998	0.0000	-0.0107	1.2373	Normal	Soln
L301	4.5009	4.5009	16.9989	0.0000	-0.0090	1.0209	Normal	Soln
L302	36.3234	36.3234	183.3575	0.0000	0.0151	1.0544	Normal	Soln
L303	7.7765	7.7765	31.0188	0.0000	-0.0097	0.6565	Normal	Soln
L304	5.3328	5.3328	18.6093	0.0000	-0.0087	1.5058	Normal	Soln
L305	11.2383	11.2383	54.4653	0.0000	0.0205	0.8743	Normal	Soln
L306	3.5227	3.5227	16.5844	0.0000	0.0647	7.1818	Normal	Soln
L307	6.3256	6.3256	99.2217	0.0000	0.1411	1.3576	Normal	Soln
L308	6.4705	6.4705	56.7637	0.0000	0.0981	4.3653	Normal	Soln
L309	3.5304	3.5304	17.3643	0.0000	0.0790	6.5653	Normal	Soln
L310	5.7726	5.7726	19.1733	0.0000	0.0034	0.8151	Normal	Soln
L311	31.4100	31.4100	137.1818	0.0000	0.0023	0.7612	Normal	Soln
L312	4.9627	4.9627	27.6946	0.0000	0.0030	0.6916	Normal	Soln
L313	40.4957	40.4957	155.4600	0.0000	-0.0032	1.3622	Normal	Soln
L314	10.6430	10.6430	33.8019	0.0000	0.0024	0.6997	Normal	Soln
L315	8.9796	8.9796	21.8679	0.0000	0.0031	0.6980	Normal	Soln
L316	30.4550	30.4550	94.8023	0.0000	0.0019	0.7485	Normal	Soln
L317	25.9998	25.9998	86.7174	0.0000	0.0075	1.2551	Normal	Soln
L318	28.2215	28.2215	90.3327	0.0000	0.0079	1.2260	Normal	Soln
L319	5.5975	5.5975	13.5686	0.0000	0.0090	1.5834	Normal	Soln
L320	8.0688	8.0688	22.0753	0.0000	0.0031	0.8379	Normal	Soln
L321	64.8006	64.8006	262.1752	0.0000	0.0010	0.3257	Normal	Soln
L324	8.8872	8.8872	42.8019	0.0000	0.0095	0.9265	Normal	Soln

L325	4.6170	4.6170	24.2957	0.0000	0.0028	0.7759	Normal	Soln
L326	9.2741	9.2741	44.6891	0.0000	0.0085	0.9476	Normal	Soln
L327	8.9762	8.9762	42.4629	0.0000	-0.0054	1.0583	Normal	Soln
L328	22.1097	22.1097	75.2755	0.0000	0.0093	2.2986	Normal	Soln
L329	5.3240	5.3240	11.8240	0.0000	0.0097	0.3865	Normal	Soln
L334	69.2836	69.2836	188.2975	0.0000	0.0010	0.1811	Normal	Soln
L335	53.5685	53.5685	140.9656	0.0000	0.0019	0.3647	Normal	Soln
L336	17.2315	17.2315	42.2257	0.0000	0.0020	0.5475	Normal	Soln
L337	7.5719	7.5719	22.1331	0.0000	0.0017	0.1691	Normal	Soln
L338	6.8569	6.8569	21.4681	0.0000	0.0781	1.0183	Normal	Soln
L339	21.1432	21.1432	64.2430	0.0000	0.0269	1.0020	Normal	Soln
L340	18.5450	18.5450	55.0650	0.0000	0.0382	1.0401	Normal	Soln
L341	7.6907	7.6907	19.5133	0.0000	0.0412	1.0587	Normal	Soln
L342	7.7612	7.7612	19.2025	0.0000	0.0093	1.2413	Normal	Soln
L343	10.4487	10.4487	25.7250	0.0000	0.0042	1.1146	Normal	Soln
L344	4.3042	4.3042	12.3379	0.0000	-0.0800	2.2235	Normal	Soln
L346	3.3938	3.3938	18.1423	0.0000	0.0771	6.7902	Normal	Soln
L347	22.9869	22.9869	88.3538	0.0000	0.1024	15.8413	Normal	Soln
L348	24.5491	24.5491	94.1258	0.0000	0.2296	4.0541	Normal	Soln
L349	24.9687	24.9687	90.8253	0.0000	-0.2616	2.2468	Normal	Soln
L350	8.4532	8.4532	28.6462	0.0000	-0.2429	2.3411	Normal	Soln
L351	3.4130	3.4130	10.0074	0.0000	0.0396	0.9478	Normal	Soln
L352	14.1738	14.1738	40.9922	0.0000	0.0106	0.9267	Normal	Soln
L354	5.3485	5.3485	14.1140	0.0000	16.5193	1.5500	Normal	Soln
L361	5.4554	5.4554	12.7955	0.0000	0.0035	0.9881	Normal	Soln
L362	7.8495	7.8495	18.7038	0.0000	0.0034	0.9219	Normal	Soln
L363	43.4745	43.4745	124.2088	0.0000	0.0050	0.8513	Normal	Soln
L364	5.3147	5.3147	12.4812	0.0000	0.0066	1.1239	Normal	Soln
L365	8.0772	8.0772	19.4487	0.0000	0.0026	0.6968	Normal	Soln
L366	36.3136	36.3136	112.4325	0.0000	0.0113	1.0412	Normal	Soln
L367	33.2557	33.2557	97.3313	0.0000	0.0143	1.0416	Normal	Soln
L368	14.5352	14.5352	35.7882	0.0000	0.0040	0.9684	Normal	Soln
L369	8.7136	8.7136	21.9892	0.0000	0.0058	1.4966	Normal	Soln
L370	17.2160	17.2160	49.2805	0.0000	0.2933	3.4037	Normal	Soln
L373	6.6709	6.6709	20.9241	0.0000	3.7037	1.6527	Normal	Soln
L374	12.0246	12.0246	37.1557	0.0000	0.0056	2.1623	Normal	Soln
L375	44.0929	44.0929	176.7072	0.0000	0.0035	1.3279	Normal	Soln
L376	14.2137	14.2137	78.3495	0.0000	0.0150	0.7140	Normal	Soln
L386	23.8328	23.8328	125.2899	0.0000	-0.2282	1.3977	Normal	Soln
L387	24.7069	24.7069	131.3000	0.0000	-0.5494	1.8097	Normal	Soln
L388	10.8488	10.8488	39.1305	0.0000	0.0040	1.5595	Normal	Soln
L389	25.1217	25.1217	129.5674	0.0000	-0.5405	1.9586	Normal	Soln
L390	12.5196	12.5196	37.5836	0.0000	0.0029	1.0141	Normal	Soln
L391	31.9441	31.9441	141.0504	0.0000	-0.5343	2.6760	Normal	Soln
L392	23.4862	23.4862	87.8080	0.0000	-0.6915	3.4971	Normal	Soln
L393	28.8519	28.8519	95.2627	0.0000	-20.2049	4.6121	Normal	Soln
L395	3.4431	3.4431	14.5362	0.0000	0.0376	0.7327	Normal	Soln
L396	34.8270	34.8270	218.5989	0.0000	0.0177	0.4823	Normal	Soln
L397	3.8526	3.8526	15.3445	0.0000	0.0097	0.7832	Normal	Soln
L398	3.4537	3.4537	13.3895	0.0000	0.0153	0.7060	Normal	Soln
L399	29.9877	29.9877	118.1631	0.0000	0.0046	0.5354	Normal	Soln
L402	7.1766	7.1766	24.8528	0.0000	0.0198	1.1661	Normal	Soln
L403	33.0824	33.0824	116.1692	0.0000	0.0091	1.1819	Normal	Soln
L404	30.6635	30.6635	104.5351	0.0000	-0.0090	1.2294	Normal	Soln
L405	6.2092	6.2092	18.3899	0.0000	0.0106	1.1298	Normal	Soln
L406	27.7072	27.7072	114.0696	0.0000	0.0173	0.9383	Normal	Soln
L407	6.0310	6.0310	18.5725	0.0000	0.0081	1.3120	Normal	Soln
L408	26.3866	26.3866	115.7992	0.0000	0.0201	0.9628	Normal	Soln
L410	27.1993	27.1993	133.6908	0.0000	0.0230	0.9839	Normal	Soln
L411	20.6552	20.6552	105.9398	0.0000	0.0242	0.9671	Normal	Soln

L413	38.3892	38.3892	160.1767	0.0000	0.0038	0.5376	Normal	Soln
L415	5.6453	5.6453	13.0492	0.0000	0.0034	1.0122	Normal	Soln
L417	5.8832	5.8832	17.8127	0.0000	0.0045	1.4368	Normal	Soln
L418	6.2687	6.2687	18.5320	0.0000	0.0113	1.1458	Normal	Soln
L419	21.0701	21.0701	77.2644	0.0000	0.0108	0.9819	Normal	Soln
L420	31.6178	31.6178	122.3524	0.0000	0.0088	1.0005	Normal	Soln
L421	6.4509	6.4509	20.6496	0.0000	0.0027	0.9385	Normal	Soln
L422	6.3270	6.3270	19.9830	0.0000	0.0078	1.2738	Normal	Soln
L423	28.6671	28.6671	125.6468	0.0000	0.0195	1.0529	Normal	Soln
L424	20.5528	20.5528	93.0287	0.0000	0.0193	1.1051	Normal	Soln
L425	7.1395	7.1395	25.4224	0.0000	-0.0021	0.5700	Normal	Soln
L426	5.8951	5.8951	19.2765	0.0000	-0.0376	1.3533	Normal	Soln
L427	29.2809	29.2809	115.7345	0.0000	0.0429	1.3979	Normal	Soln
L428	10.0652	10.0652	32.3323	0.0000	0.0017	0.5819	Normal	Soln
L429	24.5883	24.5883	91.6764	0.0000	0.0434	1.4769	Normal	Soln
L430	7.4295	7.4295	27.6811	0.0000	0.0066	1.0136	Normal	Soln
L431	37.1130	37.1130	132.6148	0.0000	0.0044	1.0740	Normal	Soln
L432	8.1140	8.1140	26.9138	0.0000	0.0027	1.2396	Normal	Soln
L435	7.5019	7.5019	24.7419	0.0000	0.0065	1.3866	Normal	Soln
L436	27.3473	27.3473	84.8191	0.0000	0.0036	1.3179	Normal	Soln
L437	32.3027	32.3027	111.3220	0.0000	0.0039	0.8676	Normal	Soln
L438	9.2879	9.2879	31.4810	0.0000	0.0028	0.8624	Normal	Soln
L439	32.2509	32.2509	98.9096	0.0000	0.0051	1.3235	Normal	Soln
L440	38.3201	38.3201	121.6139	0.0000	0.0051	0.9306	Normal	Soln
L441	25.2294	25.2294	81.9432	0.0000	0.0494	1.7028	Normal	Soln
L442	28.9437	28.9437	77.2274	0.0000	0.0532	1.7005	Normal	Soln
L443	3.3560	3.3560	5.8269	0.0000	0.0612	0.1738	Normal	Soln
L446	4.5793	4.5793	17.2406	0.0000	0.0135	1.2537	Normal	Soln
L448	8.0270	8.0270	32.1498	0.0000	0.0100	0.5692	Normal	Soln
L449	32.6426	32.6426	115.0008	0.0000	0.0115	1.4024	Normal	Soln
L450	30.6032	30.6032	93.8944	0.0000	0.0141	1.4346	Normal	Soln
L451	7.1048	7.1048	17.6776	0.0000	0.0156	1.6067	Normal	Soln
L452	5.9967	5.9967	18.0854	0.0000	0.0020	0.6437	Normal	Soln
L453	7.7414	7.7414	24.8767	0.0000	0.0016	0.4840	Normal	Soln
L454	10.3094	10.3094	30.3036	0.0000	0.0012	0.3101	Normal	Soln
L466	9.2963	9.2963	21.2436	0.0000	0.0081	0.9016	Normal	Soln
L468	51.8338	51.8338	182.0257	0.0000	0.0052	0.4889	Normal	Soln
L470	15.4248	15.4248	41.0688	0.0000	0.0134	1.3127	Normal	Soln
L471	43.8959	43.8959	227.0363	0.0000	0.0011	0.1441	Normal	Soln
L472	3.9352	3.9352	9.2028	0.0000	0.0326	2.2040	Normal	Soln
L475	6.8886	6.8886	26.1523	0.0000	0.0070	1.4187	Normal	Soln
L478	29.1107	29.1107	106.1190	0.0000	0.0184	1.5521	Normal	Soln
L479	41.4576	41.4576	161.4982	0.0000	0.0284	1.3371	Normal	Soln
L487	7.8412	7.8412	36.9414	0.0000	-0.0568	1.0605	Normal	Soln
L490	12.0033	12.0033	34.1207	0.0000	0.0092	1.3896	Normal	Soln
L493	33.9849	33.9849	126.5363	0.0000	0.0203	1.8404	Normal	Soln
L496	61.2675	61.2675	166.3291	0.0000	0.0014	0.2575	Normal	Soln
L497	61.6959	61.6959	168.0343	0.0000	0.0014	0.2545	Normal	Soln
L498	13.8903	13.8903	32.5163	0.0000	0.0017	0.5120	Normal	Soln
L499	28.4181	28.4181	182.8343	0.0000	0.0079	1.3394	Normal	Soln
L500	27.4291	27.4291	143.8998	0.0000	0.0077	1.4639	Normal	Soln
L501	30.0323	30.0323	140.7230	0.0000	-0.0177	4.8336	Normal	Soln
L502	31.7808	31.7808	320.8339	0.0000	0.0701	13.7509	Normal	Soln
L503	26.6733	26.6733	90.2873	0.0000	0.2617	2.4216	Normal	Soln
L504	28.4399	28.4399	85.7577	0.0000	-9.1191	3.3146	Normal	Soln
L505	24.2032	24.2032	90.4568	0.0000	0.0279	1.5256	Normal	Soln
L506	22.7717	22.7717	88.6595	0.0000	0.0849	1.9884	Normal	Soln
L507	11.1488	11.1488	30.2504	0.0000	0.0069	1.6385	Normal	Soln
L509	10.9754	10.9754	28.4949	0.0000	0.0089	1.5519	Normal	Soln
L510	4.4084	4.4084	12.7536	0.0000	0.0616	0.2736	Normal	Soln

L511	10.4981	10.4981	28.4512	0.0000	0.0151	3.1170	Normal	Soln
L512	3.4412	3.4412	6.9472	0.0000	0.0219	0.2261	Normal	Soln
L513	21.8602	21.8602	70.3512	0.0000	0.0200	1.8546	Normal	Soln
L514	29.2377	29.2377	119.9845	0.0000	-0.0255	1.2522	Normal	Soln
L515	11.8485	11.8485	65.2539	0.0000	-0.0813	0.8844	Normal	Soln
CH21	98.2353	98.2353	600.0000	0.0000	0.0174	0.0661	Normal	Soln
L474	8.9345	8.9345	23.7515	0.0000	-0.0334	1.9802	Normal	Soln
L523	28.8755	28.8755	140.7912	0.0000	0.0100	0.4128	Normal	Soln
L525	40.6422	40.6422	176.8007	0.0000	0.0876	1.0478	Normal	Soln
L527	35.2824	35.2824	164.4677	0.0000	0.0102	0.9447	Normal	Soln
L528	34.8526	34.8526	114.9064	0.0000	0.0048	1.3731	Normal	Soln
L529	25.2469	25.2469	104.9074	0.0000	0.0054	1.4778	Normal	Soln
L533	58.9742	58.9742	228.0878	0.0000	0.0050	1.0057	Normal	Soln
L537	36.8704	36.8704	178.8806	0.0000	0.0066	1.5119	Normal	Soln
L394	8.7540	8.7540	24.4676	0.0000	12.3766	6.4328	Normal	Soln
L276	2.5197	2.5197	4.4901	0.0000	0.0037	0.2260	Normal	Soln
L288	2.8270	2.8270	6.1658	0.0000	0.0052	0.2031	Normal	Soln
L412	5.7151	5.7151	11.7777	0.0000	0.0073	0.7063	Normal	Soln
L447	35.4182	35.4182	166.4408	0.0000	-0.0110	0.5866	Normal	Soln
L546	43.6321	43.6321	162.7051	0.0000	0.0056	0.6369	Normal	Soln

The conduit with the smallest time step limitation was..L282
The conduit with the largest wobble was.....L347
The conduit with the largest flow change in any
consecutive time step.....L393

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| 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 =      6.017 hours
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Junction / Depth	/ Elevation	====>	"*" Junction is	Surcharged.		
102.12/	N221/	1.76*/ 107.60/	N222/	2.55*/ 106.99/	N223/	1.31 /
100.61/	N224/	3.32*/ 100.29/	N227/	2.63*/ 100.97/	N228/	3.08 /
95.23/	N230/	2.34 / 98.17/	N231/	0.45 / 100.29/	N233/	0.81 /
118.89/	N234/	4.52 / 90.12/	N235/	0.26 / 119.86/	N236/	0.28 /
118.56/	N237/	0.40 / 117.66/	N238/	2.47*/ 117.58/	N239/	0.87 /
110.37/	N240/	1.58*/ 118.20/	N241/	1.16 / 112.52/	N242/	1.74 /
105.73/	N243/	3.02 / 108.88/	N244/	3.22*/ 107.07/	N245/	4.05*/
112.53/	N246/	3.92*/ 103.45/	N247/	4.61*/ 102.48/	N248/	1.05 /
116.65/	N249/	2.93 / 107.55/	N250/	3.28*/ 104.42/	N251/	1.27*/
113.35/	N252/	2.22 / 115.28/	N253/	2.38 / 110.46/	N254/	0.52 /
108.45/	N255/	4.44 / 107.24/	N256/	0.66 / 108.07/	N257/	0.84 /
100.74/	N259/	3.39*/ 100.55/	N260/	2.95 / 99.95/	N261/	1.81*/
99.95/	N262/	0.61 / 105.49/	N263/	0.39 / 104.85/	N264/	3.31 /

99.23/	N265/	0.55 /	105.41/	N266/	0.15 /	100.51/	N267/	1.68*/
100.28/	N268/	0.64 /	101.38/	N269/	0.66 /	100.99/	N270/	1.14 /
98.12/	N271/	1.39 /	99.94/	N272/	1.46 /	97.81/	N273/	0.44 /
94.74/	N274/	0.46 /	96.04/	N275/	4.52 /	90.12/	N276/	0.49 /
94.67/	N277/	0.28 /	93.72/	N278/	1.22 /	79.22/	N279/	0.55 /
84.79/	N280/	0.97 /	86.30/	N281/	2.27 /	85.51/	N282/	2.02 /
96.56/	N283/	1.46 /	83.96/	N284/	0.42 /	85.56/	N285/	1.65*/
79.15/	N286/	1.53*/	95.98/	N287/	1.85 /	80.31/	N288/	2.12 /
92.45/	N289/	2.04 /	79.04/	N290/	1.60 /	79.70/	N291/	0.53 /
118.62/	N292/	2.36 /	78.96/	N293/	0.62 /	119.54/	N294/	0.32 /
113.54/	N296/	0.63 /	119.61/	N297/	0.59 /	113.83/	N298/	0.58 /
124.82/	N299/	3.21 /	109.51/	N300/	0.60 /	113.85/	N301/	1.92*/
123.56/	N302/	0.40 /	122.68/	N303/	2.94 /	113.54/	N304/	0.61 /
108.28/	N305/	3.00*/	108.52/	N306/	3.67*/	108.39/	N307/	4.03 /
112.65/	N308/	3.21*/	108.40/	N309/	0.67 /	113.82/	N310/	0.39 /
102.08/	N312/	0.79 /	114.00/	N313/	0.18 /	104.11/	N314/	0.29 /
92.74/	N315/	0.35 /	99.96/	N316/	4.57 /	98.67/	N317/	3.57 /
92.95/	N318/	4.42 /	92.16/	N319/	2.85 /	92.32/	N320/	3.67 /
93.19/	N321/	3.03 /	93.14/	N325/	3.36 /	93.13/	N326/	2.44 /
99.12/	N327/	2.89 /	93.55/	N328/	5.32 /	98.76/	N329/	5.12 /
99.18/	N330/	5.22 /	98.66/	N331/	5.94 /	98.64/	N332/	5.18 /
109.72/	N333/	2.07*/	110.94/	N334/	2.27*/	110.78/	N335/	3.54*/
104.49/	N336/	3.29*/	109.83/	N337/	2.05*/	104.33/	N338/	1.18*/
102.95/	N339/	0.64 /	105.53/	N340/	0.75 /	105.22/	N341/	1.70*/
101.90/	N342/	1.45*/	101.67/	N343/	1.11 /	101.11/	N344/	0.79 /
120.01/	N345/	0.40 /	119.23/	N347/	4.17*/	122.62/	N348/	3.84*/
121.47/	N349/	3.82*/	122.98/	N350/	3.84*/	121.64/	N351/	4.28*/
116.38/	N352/	3.11*/	120.48/	N353/	3.24*/	120.60/	N354/	0.73 /
123.40/	N355/	3.18 /	113.78/	N356/	0.29 /	125.61/	N357/	0.42 /
116.12/	N358/	0.57 /	121.39/	N359/	0.28 /	120.37/	N360/	3.32 /

127.64/	N361/	2.17 /	128.41/	N362/	2.11 /	128.24/	N363/	2.36 /
128.98/	N364/	2.04 /	127.05/	N365/	4.62 /	122.06/	N366/	1.11 /
126.93/	N367/	0.89 /	129.22/	N368/	2.73*/	126.99/	N369/	3.26*/
125.92/	N370/	5.03*/	126.73/	N371/	4.51*/	126.77/	N372/	4.58*/
124.12/	N373/	4.19*/	125.16/	N374/	3.76 /	124.36/	N375/	4.14 /
122.17/	N376/	1.56 /	124.46/	N377/	1.57 /	124.39/	N378/	2.90 /
124.54/	N379/	3.70 /	122.10/	N381/	1.08 /	125.84/	N382/	1.68 /
124.98/	N383/	0.76 /	126.29/	N384/	0.74 /	126.38/	N386/	0.84 /
121.99/	N387/	0.63 /	124.86/	N388/	1.61 /	123.56/	N389/	1.88 /
121.40/	N390/	0.80 /	123.63/	N391/	1.46*/	124.15/	N392/	1.57 /
119.35/	N394/	3.11 /	121.51/	N395/	3.07*/	121.18/	N396/	1.67*/
118.73/	N397/	3.02*/	118.83/	N398/	2.71*/	119.02/	N399/	4.13*/
118.79/	N403/	4.17*/	118.47/	N404/	4.73*/	118.21/	N405/	1.79*/
117.44/	N406/	4.74*/	117.91/	N407/	1.19*/	118.19/	N408/	4.66*/
119.44/	N409/	4.45*/	116.93/	N410/	4.19 /	116.31/	N412/	3.14*/
119.53/	N413/	3.83*/	119.16/	N414/	3.40*/	119.23/	N415/	3.20*/
120.82/	N416/	2.68*/	119.51/	N417/	1.77 /	119.34/	N418/	0.92 /
114.53/	N419/	2.56*/	113.47/	N420/	2.52*/	114.76/	N421/	2.53*/
112.07/	N422/	3.35*/	112.48/	N423/	2.31*/	112.68/	N424/	3.81*/
111.16/	N425/	2.34*/	112.40/	N426/	4.18*/	111.63/	N428/	4.24*/
119.27/	N429/	4.77*/	110.79/	N430/	0.65 /	119.65/	N431/	2.60 /
112.96/	N432/	1.43 /	119.50/	N434/	0.94 /	119.74/	N435/	2.78*/
112.53/	N436/	1.96*/	113.53/	N437/	2.27*/	113.19/	N438/	2.95*/
112.21/	N439/	3.71*/	111.86/	N440/	2.01*/	112.06/	N441/	2.48*/
111.64/	N442/	4.06*/	111.28/	N443/	1.96*/	111.34/	N444/	2.61*/
108.88/	N445/	4.27*/	109.75/	N446/	1.34*/	109.83/	N447/	3.83*/
122.90/	N448/	2.39*/	121.16/	N449/	2.61*/	120.60/	N450/	2.16*/
116.46/	N451/	2.12*/	123.39/	N453/	1.94 /	115.70/	N454/	2.17*/
112.45/	N455/	1.34*/	113.02/	N456/	1.93*/	112.19/	N457/	1.43*/
105.10/	N458/	1.39 /	109.78/	N459/	3.05 /	107.66/	N460/	0.99 /

129.75/	N461/	4.57 /	98.67/	N464/	3.05*/	128.14/	N465/	3.10*/
126.00/	N466/	3.31*/	129.50/	N467/	1.92*/	128.22/	N468/	2.41*/
126.09/	N469/	1.78 /	120.44/	N470/	1.31 /	119.02/	N471/	1.21*/
119.74/	N472/	1.12*/	126.06/	N473/	0.46 /	120.53/	N487/	1.17 /
125.03/	N489/	2.44 /	120.87/	N490/	1.60 /	123.50/	N491/	0.86 /
109.83/	N492/	1.78*/	128.12/	N493/	1.00 /	127.04/	N497/	1.75*/
88.96/	N499/	7.44 /	98.64/	N500/	4.45*/	91.12/	N501/	3.49*/
94.29/	N503/	8.43 /	98.23/	N504/	3.67*/	99.21/	N506/	2.15*/
111.34/	N509/	3.56*/	112.44/	N511/	0.54 /	102.75/	N513/	1.33 /
86.28/	N514/	0.65 /	108.76/	N516/	8.23 /	98.23/	N517/	2.33 /
131.68/	N518/	3.14*/	87.45/	N524/	0.35 /	133.80/	N525/	0.51 /
126.76/	N526/	0.34 /	133.80/	N527/	0.51 /	131.11/	N528/	4.10*/
119.50/	N529/	3.71 /	123.35/	N530/	5.21*/	104.92/	N689/	1.50 /
114.93/	N494/	0.95 /	122.36/	N541/	2.20*/	114.29/	EL329/	2.41*/
110.38/	N427/	3.01*/	112.65/	N411/	4.12 /	116.12/	N295/	2.45 /
92.08/	N311/	4.24 /	108.34/	N462/	1.93*/	129.71/	N554/	1.40 /
	N555/	8.43 /	98.23/	N322/	6.14 /	98.64/		

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

L210/	2.89 /	L211/	3.14 /	L212/	3.30 /
L213/	2.49 /	L214/	5.37 /	L217/	0.95 /
L220/	11.28 /	L221/	13.22 /	L222/	13.39 /
L223/	0.23 /	L224/	0.23 /	L225/	0.23 /
L226/	0.93 /	L227/	1.58 /	L228/	2.49 /
L229/	2.95 /	L230/	3.46 /	L231/	3.80 /
L232/	6.04 /	L233/	6.33 /	L234/	9.41 /
L235/	0.45 /	L236/	2.13 /	L237/	3.08 /
L238/	3.69 /	L239/	4.06 /	L240/	1.24 /
L241/	5.36 /	L242/	1.85 /	L243/	2.48 /
L246/	24.36 /	L247/	28.80 /	L248/	1.98 /
L249/	1.58 /	L250/	3.00 /	L251/	1.30 /
L252/	0.11*/	L253/	1.74 /	L254/	1.74 /
L255/	3.96 /	L256/	4.73 /	L257/	6.67 /
L258/	0.85 /	L259/	7.86 /	L260/	8.06*/
L261/	0.98 /	L262/	2.30*/	L263/	1.20 /
L264/	3.79 /	L265/	22.43 /	L266/	23.35 /
L267/	0.86 /	L268/	2.66 /	L269/	2.92 /
L270/	27.45 /	L271/	27.45 /	L272/	37.82 /
L273/	9.45 /	L274/	8.56*/	L275/	1.51 /
L277/	1.51 /	L278/	1.56 /	L279/	3.25 /
L280/	1.57 /	L281/	3.42 /	L282/	5.02*/
L283/	1.50 /	L284/	1.57 /	L285/	2.56 /
L286/	0.86 /	L287/	1.82 /	L289/	2.26 /
L290/	0.17*/	L291/	0.44*/	L292/	1.15 /

L294/	1.40 /	L300/	5.35 /	L301/	1.87 /
L302/	11.83 /	L303/	0.85 /	L304/	2.46 /
L305/	3.31 /	L306/	2.82 /	L307/	3.04 /
L308/	3.20 /	L309/	2.69 /	L310/	1.60 /
L311/	1.60 /	L312/	1.28 /	L313/	3.00 /
L314/	1.28 /	L315/	1.62 /	L316/	1.62 /
L317/	6.20 /	L318/	6.20 /	L319/	8.20 /
L320/	1.88 /	L321/	0.51 /	L324/	1.71 /
L325/	1.63 /	L326/	1.96 /	L327/	2.21 /
L328/	7.82 /	L329/	7.82 /	L334/	0.43*/
L335/	0.86*/	L336/	1.29 /	L337/	1.29*/
L338/	21.25 /	L339/	21.25 /	L340/	30.17 /
L341/	30.17 /	L342/	4.59 /	L343/	2.63 /
L344/	12.34 /	L346/	25.60 /	L347/	56.34 /
L348/	56.31 /	L349/	56.34 /	L350/	56.33 /
L351/	8.25 /	L352/	8.25 /	L354/	74.27 /
L361/	2.31 /	L362/	2.16 /	L363/	4.52 /
L364/	2.65 /	L365/	1.64 /	L366/	9.81 /
L367/	9.81 /	L368/	2.28 /	L369/	3.49 /
L370/	19.12 /	L373/	19.12 /	L374/	3.35 /
L375/	3.35 /	L376/	12.39 /	L386/	34.73 /
L387/	34.71 /	L388/	2.23 /	L389/	48.42 /
L390/	1.61 /	L391/	53.26 /	L392/	63.44 /
L393/	63.43 /	L395/	4.24 /	L396/	8.34 /
L397/	4.58 /	L398/	4.32 /	L399/	4.03 /
L402/	7.12 /	L403/	7.12 /	L404/	7.12 /
L405/	4.85 /	L406/	11.97 /	L407/	3.83 /
L408/	15.80 /	L410/	20.14 /	L411/	20.14 /
L413/	2.27 /	L415/	2.27 /	L417/	2.85 /
L418/	5.17 /	L419/	8.02 /	L420/	8.02 /
L421/	1.66 /	L422/	3.80 /	L423/	13.65 /
L424/	18.55 /	L425/	0.93 /	L426/	3.97 /
L427/	40.59 /	L428/	0.94 /	L429/	42.48 /
L430/	2.45 /	L431/	2.28 /	L432/	2.28 /
L435/	2.87 /	L436/	2.87 /	L437/	2.87 /
L438/	1.67 /	L439/	4.55 /	L440/	4.55 /
L441/	48.94 /	L442/	48.94 /	L443/	48.94*/
L446/	5.92 /	L448/	0.97 /	L449/	9.51 /
L450/	13.39 /	L451/	14.72 /	L452/	1.29 /
L453/	0.93 /	L454/	0.68 /	L466/	4.05 /
L468/	4.04 /	L470/	9.48 /	L471/	0.38*/
L472/	4.46 /	L475/	4.36 /	L478/	18.09 /
L479/	18.09 /	L487/	10.77 /	L490/	6.72 /
L493/	18.09 /	L496/	0.61*/	L497/	0.60*/
L498/	1.21 /	L499/	1.71 /	L500/	3.45 /
L501/	12.37 /	L502/	12.23 /	L503/	73.45 /
L504/	74.27 /	L505/	10.60 /	L506/	10.90 /
L507/	3.80 /	L509/	5.68 /	L510/	5.12 /
L511/	11.04 /	L512/	17.90 /	L513/	18.22 /
L514/	8.04 /	L515/	15.80 /	CH21/	12.61 /
L474/	9.48 /	L523/	9.48 /	L525/	17.14 /
L527/	4.52 /	L528/	4.73 /	L529/	4.34 /
L533/	4.34 /	L537/	4.34 /	L394/	63.43 /
L276/	3.15*/	L288/	4.16 /	L412/	2.24 /
L447/	2.13 /	L546/	3.80 /	FREE # 1/	13.39 /
FREE # 2/	28.80 /	FREE # 3/	3.00 /	FREE # 4/	8.22 /
FREE # 5/	2.30 /	FREE # 6/	37.82 /	FREE # 7/	8.56 /
FREE # 8/	3.25 /	FREE # 9/	5.02 /	FREE #10/	2.56 /
FREE #11/	1.15 /	FREE #12/	3.20 /	FREE #13/	8.20 /
FREE #14/	7.82 /	FREE #15/	1.29 /	FREE #16/	30.17 /

FREE #17/	74.27 /	FREE #18/	19.12 /	FREE #19/	48.94 /
FREE #20/	4.46 /	FREE #21/	5.68 /	FREE #22/	10.77 /
FREE #23/	17.90 /	FREE #24/	1.53 /	FREE #25/	9.48 /
FREE #26/	63.43 /	FREE #27/	3.15 /	FREE #28/	4.16 /
FREE #29/	5.12 /	FREE #30/	3.04 /		

Conduit/	Velocity				
L210/	3.66 /	L211/	4.03 /	L212/	2.64 /
L213/	3.14 /	L214/	3.02 /	L217/	2.83 /
L220/	4.65 /	L221/	4.16 /	L222/	9.60 /
L223/	1.44 /	L224/	1.33 /	L225/	0.67 /
L226/	1.27 /	L227/	2.01 /	L228/	3.23 /
L229/	2.59 /	L230/	2.85 /	L231/	3.07 /
L232/	3.39 /	L233/	3.55 /	L234/	2.98 /
L235/	0.56 /	L236/	2.67 /	L237/	3.87 /
L238/	4.75 /	L239/	5.19 /	L240/	3.01 /
L241/	4.43 /	L242/	3.40 /	L243/	3.61 /
L246/	4.94 /	L247/	5.83 /	L248/	2.51 /
L249/	3.27 /	L250/	8.91 /	L251/	3.08 /
L252/	0.76 /	L253/	3.24 /	L254/	2.99 /
L255/	3.37 /	L256/	2.75 /	L257/	3.68 /
L258/	2.37 /	L259/	3.97 /	L260/	11.65 /
L261/	2.69 /	L262/	9.65 /	L263/	2.90 /
L264/	3.79 /	L265/	3.96 /	L266/	4.77 /
L267/	2.75 /	L268/	3.37 /	L269/	3.79 /
L270/	7.78 /	L271/	5.22 /	L272/	5.16 /
L273/	4.15 /	L274/	12.62 /	L275/	3.13 /
L277/	3.11 /	L278/	3.23 /	L279/	6.46 /
L280/	3.23 /	L281/	4.63 /	L282/	14.79 /
L283/	3.11 /	L284/	1.97 /	L285/	1.43 /
L286/	0.69 /	L287/	3.32 /	L289/	3.47 /
L290/	1.60 /	L291/	2.24 /	L292/	3.77 /
L294/	1.76 /	L300/	3.00 /	L301/	2.35 /
L302/	2.96 /	L303/	1.07 /	L304/	3.10 /
L305/	1.86 /	L306/	3.50 /	L307/	0.96 /
L308/	1.78 /	L309/	3.34 /	L310/	2.02 /
L311/	2.02 /	L312/	1.61 /	L313/	3.76 /
L314/	1.57 /	L315/	3.00 /	L316/	2.51 /
L317/	3.48 /	L318/	3.37 /	L319/	4.79 /
L320/	2.79 /	L321/	1.50 /	L324/	2.14 /
L325/	2.03 /	L326/	2.46 /	L327/	2.78 /
L328/	4.62 /	L329/	8.29 /	L334/	2.13 /
L335/	2.63 /	L336/	2.96 /	L337/	5.38 /
L338/	3.90 /	L339/	4.05 /	L340/	4.43 /
L341/	5.28 /	L342/	4.06 /	L343/	3.65 /
L344/	2.42 /	L346/	2.66 /	L347/	4.46 /
L348/	4.29 /	L349/	4.40 /	L350/	4.61 /
L351/	3.14 /	L352/	3.11 /	L354/	6.66 /
L361/	3.67 /	L362/	3.53 /	L363/	3.29 /
L364/	3.85 /	L365/	3.12 /	L366/	3.50 /
L367/	3.74 /	L368/	3.46 /	L369/	4.50 /
L370/	4.18 /	L373/	4.68 /	L374/	4.21 /
L375/	1.82 /	L376/	2.10 /	L386/	2.72 /
L387/	2.70 /	L388/	2.82 /	L389/	2.97 /
L390/	1.97 /	L391/	3.27 /	L392/	3.93 /
L393/	4.02 /	L395/	3.42 /	L396/	1.19 /
L397/	3.69 /	L398/	3.50 /	L399/	1.35 /
L402/	2.95 /	L403/	2.95 /	L404/	2.95 /
L405/	2.74 /	L406/	2.43 /	L407/	3.10 /
L408/	2.65 /	L410/	2.84 /	L411/	2.84 /

L413/	1.30 /	L415/	2.96 /	L417/	3.61 /
L418/	2.92 /	L419/	2.55 /	L420/	2.54 /
L421/	2.10 /	L422/	3.08 /	L423/	2.77 /
L424/	3.11 /	L425/	1.18 /	L426/	3.21 /
L427/	4.20 /	L428/	1.19 /	L429/	4.30 /
L430/	3.09 /	L431/	2.88 /	L432/	2.88 /
L435/	3.63 /	L436/	3.62 /	L437/	2.27 /
L438/	2.12 /	L439/	3.71 /	L440/	2.65 /
L441/	4.94 /	L442/	5.94 /	L443/	16.48 /
L446/	3.33 /	L448/	1.23 /	L449/	3.93 /
L450/	4.26 /	L451/	5.09 /	L452/	1.60 /
L453/	1.14 /	L454/	1.77 /	L466/	4.24 /
L468/	2.01 /	L470/	4.31 /	L471/	1.72 /
L472/	5.65 /	L475/	3.51 /	L478/	4.52 /
L479/	3.66 /	L487/	4.44 /	L490/	3.55 /
L493/	3.69 /	L496/	2.36 /	L497/	2.34 /
L498/	3.01 /	L499/	2.13 /	L500/	2.77 /
L501/	1.69 /	L502/	1.22 /	L503/	4.84 /
L504/	5.42 /	L505/	4.36 /	L506/	4.48 /
L507/	4.86 /	L509/	4.70 /	L510/	8.70 /
L511/	6.26 /	L512/	15.98 /	L513/	3.91 /
L514/	3.33 /	L515/	2.22 /	CH21/	0.09 /
L474/	5.35 /	L523/	1.21 /	L525/	2.32 /
L527/	2.55 /	L528/	3.81 /	L529/	2.45 /
L533/	2.45 /	L537/	2.44 /	L394/	4.12 /
L276/	11.36 /	L288/	9.89 /	L412/	3.99 /
L447/	1.20 /	L546/	2.31 /		

Conduit/	Width				
L210/	0.01 /	L211/	0.09 /	L212/	0.43 /
L213/	0.01 /	L214/	0.01 /	L217/	0.99 /
L220/	0.04 /	L221/	0.57 /	L222/	1.77 /
L223/	0.87 /	L224/	0.89 /	L225/	0.92 /
L226/	0.61 /	L227/	0.01 /	L228/	0.10 /
L229/	0.71 /	L230/	0.10 /	L231/	0.01 /
L232/	0.01 /	L233/	0.01 /	L234/	0.01 /
L235/	0.36 /	L236/	0.01 /	L237/	0.01 /
L238/	0.08 /	L239/	0.08 /	L240/	1.00 /
L241/	0.11 /	L242/	0.95 /	L243/	0.76 /
L246/	0.01 /	L247/	0.06 /	L248/	0.01 /
L249/	0.97 /	L250/	0.88 /	L251/	0.99 /
L252/	0.66 /	L253/	0.96 /	L254/	0.87 /
L255/	0.70 /	L256/	0.75 /	L257/	0.53 /
L258/	0.98 /	L259/	1.32 /	L260/	1.38 /
L261/	0.99 /	L262/	0.81 /	L263/	0.98 /
L264/	1.06 /	L265/	2.60 /	L266/	2.83 /
L267/	0.99 /	L268/	0.01 /	L269/	0.09 /
L270/	2.99 /	L271/	3.48 /	L272/	4.49 /
L273/	1.02 /	L274/	1.29 /	L275/	0.97 /
L277/	0.96 /	L278/	0.98 /	L279/	0.89 /
L280/	0.98 /	L281/	0.10 /	L282/	0.88 /
L283/	0.97 /	L284/	0.01 /	L285/	0.01 /
L286/	0.01 /	L287/	0.94 /	L289/	0.83 /
L290/	0.79 /	L291/	0.91 /	L292/	0.86 /
L294/	0.01 /	L300/	0.01 /	L301/	0.01 /
L302/	0.01 /	L303/	0.01 /	L304/	0.01 /
L305/	0.01 /	L306/	0.01 /	L307/	0.01 /
L308/	0.01 /	L309/	0.01 /	L310/	0.01 /
L311/	0.01 /	L312/	0.01 /	L313/	0.01 /
L314/	0.18 /	L315/	0.95 /	L316/	0.78 /

L317/	0.05 /	L318/	0.43 /	L319/	0.66 /
L320/	0.78 /	L321/	0.95 /	L324/	0.01 /
L325/	0.01 /	L326/	0.01 /	L327/	0.01 /
L328/	0.16 /	L329/	1.35 /	L334/	0.91 /
L335/	0.99 /	L336/	0.98 /	L337/	0.81 /
L338/	2.69 /	L339/	2.75 /	L340/	3.29 /
L341/	3.45 /	L342/	0.81 /	L343/	0.66 /
L344/	0.85 /	L346/	0.02 /	L347/	0.12 /
L348/	1.09 /	L349/	1.55 /	L350/	1.90 /
L351/	1.66 /	L352/	1.63 /	L354/	4.22 /
L361/	0.87 /	L362/	0.89 /	L363/	1.34 /
L364/	0.76 /	L365/	0.96 /	L366/	1.48 /
L367/	1.62 /	L368/	0.82 /	L369/	0.08 /
L370/	2.91 /	L373/	2.81 /	L374/	0.03 /
L375/	0.49 /	L376/	1.08 /	L386/	1.54 /
L387/	1.52 /	L388/	0.01 /	L389/	1.69 /
L390/	0.15 /	L391/	1.69 /	L392/	1.73 /
L393/	1.81 /	L395/	0.01 /	L396/	1.21 /
L397/	0.01 /	L398/	0.01 /	L399/	1.18 /
L402/	0.01 /	L403/	0.01 /	L404/	0.01 /
L405/	0.01 /	L406/	0.01 /	L407/	0.01 /
L408/	0.01 /	L410/	0.01 /	L411/	0.01 /
L413/	0.58 /	L415/	0.47 /	L417/	0.01 /
L418/	0.01 /	L419/	0.01 /	L420/	0.01 /
L421/	0.01 /	L422/	0.01 /	L423/	0.01 /
L424/	0.01 /	L425/	0.01 /	L426/	0.01 /
L427/	0.05 /	L428/	0.01 /	L429/	0.41 /
L430/	0.01 /	L431/	0.01 /	L432/	0.01 /
L435/	0.01 /	L436/	0.04 /	L437/	0.41 /
L438/	0.01 /	L439/	0.08 /	L440/	0.72 /
L441/	1.29 /	L442/	2.41 /	L443/	2.84 /
L446/	0.01 /	L448/	0.01 /	L449/	0.02 /
L450/	0.43 /	L451/	1.30 /	L452/	0.11 /
L453/	0.28 /	L454/	0.98 /	L466/	1.11 /
L468/	1.90 /	L470/	1.06 /	L471/	0.79 /
L472/	0.04 /	L475/	0.01 /	L478/	0.01 /
L479/	0.07 /	L487/	0.01 /	L490/	1.52 /
L493/	0.13 /	L496/	0.96 /	L497/	0.95 /
L498/	1.00 /	L499/	0.01 /	L500/	0.01 /
L501/	0.97 /	L502/	0.65 /	L503/	2.54 /
L504/	3.51 /	L505/	0.01 /	L506/	0.01 /
L507/	0.08 /	L509/	0.11 /	L510/	1.12 /
L511/	0.11 /	L512/	1.69 /	L513/	1.33 /
L514/	0.01 /	L515/	1.17 /	CH21/	100.00 /
L474/	0.07 /	L523/	11.35 /	L525/	0.90 /
L527/	0.01 /	L528/	0.04 /	L529/	0.01 /
L533/	0.01 /	L537/	0.01 /	L394/	2.27 /
L276/	0.84 /	L288/	1.04 /	L412/	0.92 /
L447/	0.01 /	L546/	0.92 /		

Junction/	EGL				
N221/	1.76 /	N222/	2.76 /	N223/	2.26 /
N224/	3.47 /	N227/	2.63 /	N228/	3.08 /
N230/	4.03 /	N231/	0.45 /	N233/	2.08 /
N234/	5.95 /	N235/	0.26 /	N236/	1.03 /
N237/	0.82 /	N238/	2.54 /	N239/	0.90 /
N240/	1.60 /	N241/	3.54 /	N242/	2.04 /
N243/	3.15 /	N244/	3.36 /	N245/	4.23 /
N246/	4.16 /	N247/	4.92 /	N248/	1.05 /
N249/	2.93 /	N250/	3.28 /	N251/	1.27 /

N252/	3.17 /	N253/	5.52 /	N254/	0.52 /
N255/	5.24 /	N256/	0.66 /	N257/	0.84 /
N259/	3.77 /	N260/	3.48 /	N261/	1.81 /
N262/	0.61 /	N263/	0.56 /	N264/	4.54 /
N265/	0.55 /	N266/	0.15 /	N267/	1.81 /
N268/	0.64 /	N269/	0.83 /	N270/	1.14 /
N271/	1.56 /	N272/	1.67 /	N273/	0.44 /
N274/	0.70 /	N275/	6.63 /	N276/	0.49 /
N277/	0.41 /	N278/	2.67 /	N279/	0.55 /
N280/	0.97 /	N281/	2.76 /	N282/	2.50 /
N283/	11.46 /	N284/	0.42 /	N285/	1.65 /
N286/	1.70 /	N287/	2.79 /	N288/	2.54 /
N289/	2.45 /	N290/	1.60 /	N291/	0.53 /
N292/	4.83 /	N293/	0.62 /	N294/	0.48 /
N296/	0.63 /	N297/	0.59 /	N298/	0.74 /
N299/	3.86 /	N300/	0.60 /	N301/	1.92 /
N302/	0.73 /	N303/	6.34 /	N304/	0.61 /
N305/	3.00 /	N306/	3.73 /	N307/	4.06 /
N308/	3.21 /	N309/	0.67 /	N310/	1.08 /
N312/	0.79 /	N313/	0.18 /	N314/	0.33 /
N315/	0.43 /	N316/	4.79 /	N317/	3.57 /
N318/	4.61 /	N319/	2.85 /	N320/	3.75 /
N321/	3.03 /	N325/	3.51 /	N326/	2.44 /
N327/	2.89 /	N328/	5.49 /	N329/	5.12 /
N330/	5.41 /	N331/	5.99 /	N332/	5.18 /
N333/	2.07 /	N334/	2.33 /	N335/	3.61 /
N336/	3.29 /	N337/	2.27 /	N338/	1.18 /
N339/	0.64 /	N340/	0.89 /	N341/	1.89 /
N342/	1.62 /	N343/	1.46 /	N344/	0.79 /
N345/	0.40 /	N347/	4.24 /	N348/	3.96 /
N349/	3.82 /	N350/	3.84 /	N351/	4.35 /
N352/	3.11 /	N353/	3.24 /	N354/	1.06 /
N355/	4.25 /	N356/	0.29 /	N357/	0.49 /
N358/	0.68 /	N359/	0.41 /	N360/	3.77 /
N361/	2.17 /	N362/	2.35 /	N363/	3.40 /
N364/	2.35 /	N365/	9.59 /	N366/	1.11 /
N367/	0.89 /	N368/	2.73 /	N369/	3.35 /
N370/	5.14 /	N371/	4.51 /	N372/	4.89 /
N373/	4.48 /	N374/	4.06 /	N375/	4.47 /
N376/	1.56 /	N377/	1.72 /	N378/	3.36 /
N379/	4.39 /	N381/	1.36 /	N382/	1.93 /
N383/	0.76 /	N384/	0.74 /	N386/	0.84 /
N387/	0.63 /	N388/	1.80 /	N389/	3.11 /
N390/	0.80 /	N391/	1.46 /	N392/	1.84 /
N394/	3.45 /	N395/	3.07 /	N396/	1.94 /
N397/	3.09 /	N398/	2.71 /	N399/	4.21 /
N403/	4.29 /	N404/	4.85 /	N405/	1.79 /
N406/	4.88 /	N407/	1.19 /	N408/	4.89 /
N409/	4.69 /	N410/	4.44 /	N412/	3.14 /
N413/	4.04 /	N414/	3.59 /	N415/	3.20 /
N416/	2.68 /	N417/	1.84 /	N418/	0.92 /
N419/	2.70 /	N420/	2.52 /	N421/	2.67 /
N422/	3.48 /	N423/	2.31 /	N424/	3.96 /
N425/	2.34 /	N426/	4.29 /	N428/	4.36 /
N429/	4.92 /	N430/	0.65 /	N431/	2.84 /
N432/	1.56 /	N434/	0.94 /	N435/	2.98 /
N436/	1.96 /	N437/	2.27 /	N438/	3.05 /
N439/	3.86 /	N440/	2.01 /	N441/	2.48 /
N442/	4.22 /	N443/	1.96 /	N444/	2.61 /
N445/	4.54 /	N446/	1.34 /	N447/	4.12 /

N448/	2.39 /	N449/	2.75 /	N450/	2.29 /
N451/	2.12 /	N453/	2.14 /	N454/	2.17 /
N455/	1.54 /	N456/	2.01 /	N457/	1.43 /
N458/	1.60 /	N459/	3.43 /	N460/	1.54 /
N461/	8.78 /	N464/	3.23 /	N465/	3.10 /
N466/	3.48 /	N467/	1.92 /	N468/	2.65 /
N469/	5.60 /	N470/	2.53 /	N471/	1.21 /
N472/	1.12 /	N473/	0.46 /	N487/	1.84 /
N489/	2.82 /	N490/	1.64 /	N491/	0.86 /
N492/	1.78 /	N493/	1.50 /	N497/	1.75 /
N499/	17.61 /	N500/	4.58 /	N501/	3.80 /
N503/	8.74 /	N504/	3.67 /	N506/	2.15 /
N509/	3.56 /	N511/	0.54 /	N513/	1.33 /
N514/	2.90 /	N516/	12.19 /	N517/	2.55 /
N518/	3.35 /	N524/	0.35 /	N525/	0.59 /
N526/	0.34 /	N527/	0.65 /	N528/	4.15 /
N529/	4.07 /	N530/	5.51 /	N689/	1.94 /
N494/	1.23 /	N541/	2.29 /	EL329/	2.41 /
N427/	3.10 /	N411/	4.38 /	N295/	4.45 /
N311/	5.76 /	N462/	1.93 /	N554/	1.80 /
N555/	9.61 /	N322/	6.15 /		

Junction/	Freeboard				
N221/	6.43 /	N222/	5.09 /	N223/	4.14 /
N224/	6.04 /	N227/	8.43 /	N228/	1.79 /
N230/	6.22 /	N231/	4.11 /	N233/	5.12 /
N234/	9.88 /	N235/	18.29 /	N236/	7.34 /
N237/	6.63 /	N238/	4.77 /	N239/	6.52 /
N240/	3.89 /	N241/	7.08 /	N242/	5.30 /
N243/	3.81 /	N244/	2.63 /	N245/	1.95 /
N246/	1.25 /	N247/	4.72 /	N248/	3.47 /
N249/	1.08 /	N250/	8.98 /	N251/	10.37 /
N252/	5.97 /	N253/	8.57 /	N254/	7.05 /
N255/	6.67 /	N256/	11.81 /	N257/	9.95 /
N259/	2.14 /	N260/	1.15 /	N261/	5.64 /
N262/	4.91 /	N263/	4.55 /	N264/	6.05 /
N265/	2.99 /	N266/	5.10 /	N267/	5.03 /
N268/	9.04 /	N269/	9.04 /	N270/	6.12 /
N271/	2.44 /	N272/	4.25 /	N273/	6.28 /
N274/	4.27 /	N275/	11.58 /	N276/	5.66 /
N277/	5.68 /	N278/	16.78 /	N279/	3.73 /
N280/	10.10 /	N281/	6.40 /	N282/	12.29 /
N283/	16.08 /	N284/	12.84 /	N285/	5.84 /
N286/	4.41 /	N287/	16.59 /	N288/	17.25 /
N289/	17.36 /	N290/	16.70 /	N291/	3.84 /
N292/	15.04 /	N293/	6.86 /	N294/	5.34 /
N296/	2.79 /	N297/	6.57 /	N298/	4.89 /
N299/	8.25 /	N300/	2.55 /	N301/	3.58 /
N302/	5.71 /	N303/	10.76 /	N304/	2.84 /
N305/	3.88 /	N306/	1.94 /	N307/	3.42 /
N308/	0.00 /	N309/	5.58 /	N310/	4.01 /
N312/	2.40 /	N313/	3.68 /	N314/	3.43 /
N315/	3.35 /	N316/	2.33 /	N317/	3.66 /
N318/	1.94 /	N319/	8.08 /	N320/	2.37 /
N321/	3.26 /	N325/	4.14 /	N326/	7.21 /
N327/	4.85 /	N328/	1.50 /	N329/	5.28 /
N330/	2.96 /	N331/	1.62 /	N332/	2.22 /
N333/	13.52 /	N334/	10.61 /	N335/	1.54 /
N336/	10.47 /	N337/	4.00 /	N338/	11.91 /
N339/	7.87 /	N340/	5.26 /	N341/	3.11 /

N342/	5.17 /	N343/	3.29 /	N344/	10.17 /
N345/	8.91 /	N347/	4.37 /	N348/	2.69 /
N349/	6.42 /	N350/	6.76 /	N351/	3.38 /
N352/	6.92 /	N353/	4.80 /	N354/	6.62 /
N355/	7.32 /	N356/	2.78 /	N357/	3.12 /
N358/	6.80 /	N359/	6.41 /	N360/	5.38 /
N361/	4.99 /	N362/	5.61 /	N363/	8.04 /
N364/	7.26 /	N365/	6.94 /	N366/	7.42 /
N367/	2.18 /	N368/	3.11 /	N369/	3.22 /
N370/	3.30 /	N371/	3.55 /	N372/	5.89 /
N373/	6.17 /	N374/	8.46 /	N375/	8.11 /
N376/	6.01 /	N377/	6.12 /	N378/	7.02 /
N379/	6.10 /	N381/	2.63 /	N382/	3.46 /
N383/	6.01 /	N384/	4.80 /	N386/	7.19 /
N387/	8.07 /	N388/	4.65 /	N389/	6.39 /
N390/	8.77 /	N391/	7.25 /	N392/	7.81 /
N394/	8.56 /	N395/	5.22 /	N396/	5.25 /
N397/	6.11 /	N398/	9.02 /	N399/	5.57 /
N403/	7.03 /	N404/	8.48 /	N405/	12.46 /
N406/	6.58 /	N407/	14.39 /	N408/	7.78 /
N409/	6.39 /	N410/	7.91 /	N412/	5.80 /
N413/	4.34 /	N414/	2.77 /	N415/	4.85 /
N416/	5.70 /	N417/	2.42 /	N418/	3.58 /
N419/	6.73 /	N420/	9.14 /	N421/	6.68 /
N422/	5.88 /	N423/	7.72 /	N424/	6.49 /
N425/	7.99 /	N426/	5.61 /	N428/	3.63 /
N429/	5.39 /	N430/	8.57 /	N431/	3.80 /
N432/	1.23 /	N434/	6.53 /	N435/	7.29 /
N436/	11.87 /	N437/	9.71 /	N438/	7.29 /
N439/	6.28 /	N440/	10.34 /	N441/	8.69 /
N442/	4.97 /	N443/	7.06 /	N444/	6.76 /
N445/	3.55 /	N446/	8.57 /	N447/	4.32 /
N448/	4.46 /	N449/	5.00 /	N450/	2.32 /
N451/	3.01 /	N453/	4.13 /	N454/	8.94 /
N455/	5.26 /	N456/	4.09 /	N457/	9.95 /
N458/	4.22 /	N459/	2.59 /	N460/	5.00 /
N461/	11.43 /	N464/	4.38 /	N465/	5.37 /
N466/	2.47 /	N467/	2.74 /	N468/	3.95 /
N469/	8.22 /	N470/	7.98 /	N471/	7.21 /
N472/	3.39 /	N473/	5.70 /	N487/	2.48 /
N489/	3.76 /	N490/	2.41 /	N491/	2.16 /
N492/	2.28 /	N493/	2.86 /	N497/	2.97 /
N499/	12.41 /	N500/	4.76 /	N501/	5.95 /
N503/	1.87 /	N504/	1.19 /	N506/	6.11 /
N509/	5.46 /	N511/	12.20 /	N513/	6.48 /
N514/	9.14 /	N516/	12.77 /	N517/	4.00 /
N518/	1.80 /	N524/	2.66 /	N525/	4.52 /
N526/	3.40 /	N527/	4.89 /	N528/	2.74 /
N529/	10.91 /	N530/	4.32 /	N689/	3.77 /
N494/	3.64 /	N541/	5.71 /	EL329/	3.07 /
N427/	5.85 /	N411/	12.83 /	N295/	9.72 /
N311/	5.96 /	N462/	3.29 /	N554/	2.43 /
N555/	11.77 /	N322/	2.98 /		

Junction/ Max Volume

N221/	22.15 /	N222/	32.09 /	N223/	16.41 /
N224/	41.73 /	N227/	33.07 /	N228/	38.70 /
N230/	29.40 /	N231/	5.62 /	N233/	10.21 /
N234/	56.80 /	N235/	3.32 /	N236/	3.52 /
N237/	5.02 /	N238/	31.07 /	N239/	10.91 /

N240/	19.85 /	N241/	14.56 /	N242/	21.86 /
N243/	37.94 /	N244/	40.40 /	N245/	50.89 /
N246/	49.32 /	N247/	57.88 /	N248/	13.17 /
N249/	36.84 /	N250/	41.27 /	N251/	15.99 /
N252/	27.91 /	N253/	29.95 /	N254/	6.58 /
N255/	55.78 /	N256/	8.34 /	N257/	10.52 /
N259/	42.56 /	N260/	37.07 /	N261/	22.73 /
N262/	7.71 /	N263/	4.93 /	N264/	41.59 /
N265/	6.86 /	N266/	1.87 /	N267/	21.06 /
N268/	8.09 /	N269/	8.35 /	N270/	14.36 /
N271/	17.43 /	N272/	18.35 /	N273/	5.55 /
N274/	5.73 /	N275/	56.80 /	N276/	6.19 /
N277/	3.46 /	N278/	15.33 /	N279/	6.88 /
N280/	12.17 /	N281/	28.50 /	N282/	25.40 /
N283/	18.34 /	N284/	5.30 /	N285/	20.69 /
N286/	19.18 /	N287/	23.28 /	N288/	28.39 /
N289/	25.63 /	N290/	20.11 /	N291/	6.64 /
N292/	29.66 /	N293/	7.77 /	N294/	4.06 /
N296/	7.85 /	N297/	7.46 /	N298/	7.27 /
N299/	40.34 /	N300/	7.49 /	N301/	24.12 /
N302/	4.96 /	N303/	36.94 /	N304/	7.69 /
N305/	53.58 /	N306/	54.55 /	N307/	50.64 /
N308/	40.34 /	N309/	8.42 /	N310/	4.92 /
N312/	9.93 /	N313/	2.31 /	N314/	3.70 /
N315/	4.46 /	N316/	57.43 /	N317/	44.81 /
N318/	55.49 /	N319/	35.82 /	N320/	46.06 /
N321/	38.14 /	N325/	42.25 /	N326/	30.71 /
N327/	36.37 /	N328/	71.10 /	N329/	70.08 /
N330/	84.32 /	N331/	74.64 /	N332/	71.12 /
N333/	25.99 /	N334/	28.48 /	N335/	44.54 /
N336/	41.30 /	N337/	25.81 /	N338/	14.81 /
N339/	8.05 /	N340/	9.40 /	N341/	21.41 /
N342/	18.16 /	N343/	13.93 /	N344/	9.91 /
N345/	5.05 /	N347/	52.43 /	N348/	48.23 /
N349/	48.03 /	N350/	48.24 /	N351/	53.83 /
N352/	39.02 /	N353/	40.68 /	N354/	9.15 /
N355/	39.96 /	N356/	3.62 /	N357/	5.25 /
N358/	7.20 /	N359/	3.50 /	N360/	41.72 /
N361/	27.21 /	N362/	26.56 /	N363/	29.72 /
N364/	25.69 /	N365/	58.05 /	N366/	13.99 /
N367/	11.14 /	N368/	34.31 /	N369/	41.01 /
N370/	63.22 /	N371/	56.74 /	N372/	57.77 /
N373/	52.66 /	N374/	47.29 /	N375/	52.00 /
N376/	19.56 /	N377/	19.73 /	N378/	36.83 /
N379/	46.49 /	N381/	13.56 /	N382/	21.10 /
N383/	9.53 /	N384/	9.29 /	N386/	10.50 /
N387/	7.89 /	N388/	20.26 /	N389/	23.65 /
N390/	10.02 /	N391/	18.36 /	N392/	23.24 /
N394/	39.08 /	N395/	38.60 /	N396/	20.92 /
N397/	37.98 /	N398/	33.99 /	N399/	51.86 /
N403/	52.41 /	N404/	59.40 /	N405/	22.50 /
N406/	59.57 /	N407/	14.95 /	N408/	58.60 /
N409/	55.87 /	N410/	52.69 /	N412/	39.44 /
N413/	48.11 /	N414/	42.75 /	N415/	40.23 /
N416/	33.71 /	N417/	22.29 /	N418/	11.57 /
N419/	32.17 /	N420/	31.71 /	N421/	31.84 /
N422/	42.08 /	N423/	29.02 /	N424/	47.85 /
N425/	29.35 /	N426/	52.58 /	N428/	53.25 /
N429/	59.99 /	N430/	8.21 /	N431/	32.62 /
N432/	17.92 /	N434/	11.76 /	N435/	34.95 /

N436/	24.68 /	N437/	28.54 /	N438/	37.07 /
N439/	46.65 /	N440/	25.21 /	N441/	31.14 /
N442/	51.03 /	N443/	24.67 /	N444/	32.83 /
N445/	53.66 /	N446/	16.85 /	N447/	48.17 /
N448/	30.00 /	N449/	32.75 /	N450/	27.13 /
N451/	26.60 /	N453/	24.33 /	N454/	27.32 /
N455/	16.84 /	N456/	24.25 /	N457/	17.91 /
N458/	17.45 /	N459/	38.36 /	N460/	12.41 /
N461/	57.43 /	N464/	38.38 /	N465/	38.99 /
N466/	41.57 /	N467/	24.14 /	N468/	30.29 /
N469/	22.40 /	N470/	16.50 /	N471/	15.18 /
N472/	14.02 /	N473/	5.78 /	N487/	14.67 /
N489/	30.69 /	N490/	20.04 /	N491/	10.76 /
N492/	22.34 /	N493/	12.57 /	N497/	21.99 /
N499/	93.49 /	N500/	55.87 /	N501/	43.82 /
N503/	105.93 /	N504/	46.23 /	N506/	27.05 /
N509/	44.74 /	N511/	6.83 /	N513/	16.66 /
N514/	8.19 /	N516/	103.42 /	N517/	29.34 /
N518/	39.42 /	N524/	4.35 /	N525/	6.37 /
N526/	4.32 /	N527/	6.37 /	N528/	51.85 /
N529/	46.60 /	N530/	65.52 /	N689/	18.85 /
N494/	11.88 /	N541/	27.60 /	EL329/	30.24 /
N427/	37.84 /	N411/	51.77 /	N295/	30.79 /
N311/	53.28 /	N462/	24.28 /	N554/	17.58 /
N555/	105.93 /	N322/	77.16 /		

Junction/Total Fldng

N221/	0.00 /	N222/	0.00 /	N223/	0.00 /
N224/	0.00 /	N227/	0.00 /	N228/	0.00 /
N230/	0.00 /	N231/	0.00 /	N233/	0.00 /
N234/	0.00 /	N235/	0.00 /	N236/	0.00 /
N237/	0.00 /	N238/	0.00 /	N239/	0.00 /
N240/	0.00 /	N241/	0.00 /	N242/	0.00 /
N243/	0.00 /	N244/	0.00 /	N245/	0.00 /
N246/	0.00 /	N247/	0.00 /	N248/	0.00 /
N249/	0.00 /	N250/	0.00 /	N251/	0.00 /
N252/	0.00 /	N253/	0.00 /	N254/	0.00 /
N255/	0.00 /	N256/	0.00 /	N257/	0.00 /
N259/	0.00 /	N260/	0.00 /	N261/	0.00 /
N262/	0.00 /	N263/	0.00 /	N264/	0.00 /
N265/	0.00 /	N266/	0.00 /	N267/	0.00 /
N268/	0.00 /	N269/	0.00 /	N270/	0.00 /
N271/	0.00 /	N272/	0.00 /	N273/	0.00 /
N274/	0.00 /	N275/	0.00 /	N276/	0.00 /
N277/	0.00 /	N278/	0.00 /	N279/	0.00 /
N280/	0.00 /	N281/	0.00 /	N282/	0.00 /
N283/	0.00 /	N284/	0.00 /	N285/	0.00 /
N286/	0.00 /	N287/	0.00 /	N288/	0.00 /
N289/	0.00 /	N290/	0.00 /	N291/	0.00 /
N292/	0.00 /	N293/	0.00 /	N294/	0.00 /
N296/	0.00 /	N297/	0.00 /	N298/	0.00 /
N299/	0.00 /	N300/	0.00 /	N301/	0.00 /
N302/	0.00 /	N303/	0.00 /	N304/	0.00 /
N305/	0.00 /	N306/	0.00 /	N307/	0.00 /
N308/	0.00 /	N309/	0.00 /	N310/	0.00 /
N312/	0.00 /	N313/	0.00 /	N314/	0.00 /
N315/	0.00 /	N316/	0.00 /	N317/	0.00 /
N318/	0.00 /	N319/	0.00 /	N320/	0.00 /
N321/	0.00 /	N325/	0.00 /	N326/	0.00 /
N327/	0.00 /	N328/	0.00 /	N329/	0.00 /

N330/	0.00 /	N331/	0.00 /	N332/	0.00 /
N333/	0.00 /	N334/	0.00 /	N335/	0.00 /
N336/	0.00 /	N337/	0.00 /	N338/	0.00 /
N339/	0.00 /	N340/	0.00 /	N341/	0.00 /
N342/	0.00 /	N343/	0.00 /	N344/	0.00 /
N345/	0.00 /	N347/	0.00 /	N348/	0.00 /
N349/	0.00 /	N350/	0.00 /	N351/	0.00 /
N352/	0.00 /	N353/	0.00 /	N354/	0.00 /
N355/	0.00 /	N356/	0.00 /	N357/	0.00 /
N358/	0.00 /	N359/	0.00 /	N360/	0.00 /
N361/	0.00 /	N362/	0.00 /	N363/	0.00 /
N364/	0.00 /	N365/	0.00 /	N366/	0.00 /
N367/	0.00 /	N368/	0.00 /	N369/	0.00 /
N370/	0.00 /	N371/	0.00 /	N372/	0.00 /
N373/	0.00 /	N374/	0.00 /	N375/	0.00 /
N376/	0.00 /	N377/	0.00 /	N378/	0.00 /
N379/	0.00 /	N381/	0.00 /	N382/	0.00 /
N383/	0.00 /	N384/	0.00 /	N386/	0.00 /
N387/	0.00 /	N388/	0.00 /	N389/	0.00 /
N390/	0.00 /	N391/	0.00 /	N392/	0.00 /
N394/	0.00 /	N395/	0.00 /	N396/	0.00 /
N397/	0.00 /	N398/	0.00 /	N399/	0.00 /
N403/	0.00 /	N404/	0.00 /	N405/	0.00 /
N406/	0.00 /	N407/	0.00 /	N408/	0.00 /
N409/	0.00 /	N410/	0.00 /	N412/	0.00 /
N413/	0.00 /	N414/	0.00 /	N415/	0.00 /
N416/	0.00 /	N417/	0.00 /	N418/	0.00 /
N419/	0.00 /	N420/	0.00 /	N421/	0.00 /
N422/	0.00 /	N423/	0.00 /	N424/	0.00 /
N425/	0.00 /	N426/	0.00 /	N428/	0.00 /
N429/	0.00 /	N430/	0.00 /	N431/	0.00 /
N432/	0.00 /	N434/	0.00 /	N435/	0.00 /
N436/	0.00 /	N437/	0.00 /	N438/	0.00 /
N439/	0.00 /	N440/	0.00 /	N441/	0.00 /
N442/	0.00 /	N443/	0.00 /	N444/	0.00 /
N445/	0.00 /	N446/	0.00 /	N447/	0.00 /
N448/	0.00 /	N449/	0.00 /	N450/	0.00 /
N451/	0.00 /	N453/	0.00 /	N454/	0.00 /
N455/	0.00 /	N456/	0.00 /	N457/	0.00 /
N458/	0.00 /	N459/	0.00 /	N460/	0.00 /
N461/	0.00 /	N464/	0.00 /	N465/	0.00 /
N466/	0.00 /	N467/	0.00 /	N468/	0.00 /
N469/	0.00 /	N470/	0.00 /	N471/	0.00 /
N472/	0.00 /	N473/	0.00 /	N487/	0.00 /
N489/	0.00 /	N490/	0.00 /	N491/	0.00 /
N492/	0.00 /	N493/	0.00 /	N497/	0.00 /
N499/	0.00 /	N500/	0.00 /	N501/	0.00 /
N503/	0.00 /	N504/	0.00 /	N506/	0.00 /
N509/	0.00 /	N511/	0.00 /	N513/	0.00 /
N514/	0.00 /	N516/	0.00 /	N517/	0.00 /
N518/	0.00 /	N524/	0.00 /	N525/	0.00 /
N526/	0.00 /	N527/	0.00 /	N528/	0.00 /
N529/	0.00 /	N530/	0.00 /	N689/	0.00 /
N494/	0.00 /	N541/	0.00 /	EL329/	0.00 /
N427/	0.00 /	N411/	0.00 /	N295/	0.00 /
N311/	0.00 /	N462/	0.00 /	N554/	0.00 /
N555/	0.00 /	N322/	0.00 /		

Conduit/ Cross Sectional Area
L210/ 0.79 /

L211/ 0.78 /

L212/ 1.25 /

L213/	0.79 /	L214/	1.78 /	L217/	0.34 /
L220/	2.43 /	L221/	3.18 /	L222/	1.39 /
L223/	0.16 /	L224/	0.17 /	L225/	0.34 /
L226/	0.73 /	L227/	0.79 /	L228/	0.77 /
L229/	1.14 /	L230/	1.21 /	L231/	1.24 /
L232/	1.78 /	L233/	1.78 /	L234/	3.16 /
L235/	0.81 /	L236/	0.79 /	L237/	0.80 /
L238/	0.78 /	L239/	0.78 /	L240/	0.41 /
L241/	1.21 /	L242/	0.54 /	L243/	0.69 /
L246/	4.93 /	L247/	4.94 /	L248/	0.79 /
L249/	0.48 /	L250/	0.34 /	L251/	0.42 /
L252/	0.15 /	L253/	0.54 /	L254/	0.58 /
L255/	1.18 /	L256/	1.72 /	L257/	1.82 /
L258/	0.36 /	L259/	1.98 /	L260/	0.69 /
L261/	0.36 /	L262/	0.24 /	L263/	0.41 /
L264/	1.00 /	L265/	5.67 /	L266/	4.90 /
L267/	0.31 /	L268/	0.79 /	L269/	0.77 /
L270/	3.53 /	L271/	5.26 /	L272/	7.33 /
L273/	2.28 /	L274/	0.68 /	L275/	0.48 /
L277/	0.49 /	L278/	0.48 /	L279/	0.50 /
L280/	0.49 /	L281/	0.74 /	L282/	0.34 /
L283/	0.48 /	L284/	0.80 /	L285/	1.78 /
L286/	1.24 /	L287/	0.55 /	L289/	0.65 /
L290/	0.11 /	L291/	0.20 /	L292/	0.31 /
L294/	0.79 /	L300/	1.78 /	L301/	0.80 /
L302/	4.00 /	L303/	0.79 /	L304/	0.79 /
L305/	1.78 /	L306/	0.81 /	L307/	3.17 /
L308/	1.80 /	L309/	0.81 /	L310/	0.79 /
L311/	0.79 /	L312/	0.80 /	L313/	0.80 /
L314/	0.82 /	L315/	0.54 /	L316/	0.65 /
L317/	1.78 /	L318/	1.84 /	L319/	1.71 /
L320/	0.67 /	L321/	0.34 /	L324/	0.80 /
L325/	0.80 /	L326/	0.80 /	L327/	0.80 /
L328/	1.69 /	L329/	0.94 /	L334/	0.20 /
L335/	0.33 /	L336/	0.44 /	L337/	0.24 /
L338/	5.45 /	L339/	5.25 /	L340/	6.81 /
L341/	5.72 /	L342/	1.13 /	L343/	0.72 /
L344/	5.11 /	L346/	9.64 /	L347/	12.65 /
L348/	13.14 /	L349/	12.79 /	L350/	12.23 /
L351/	2.62 /	L352/	2.66 /	L354/	11.15 /
L361/	0.63 /	L362/	0.61 /	L363/	1.37 /
L364/	0.69 /	L365/	0.52 /	L366/	2.81 /
L367/	2.62 /	L368/	0.66 /	L369/	0.78 /
L370/	4.57 /	L373/	4.08 /	L374/	0.80 /
L375/	1.84 /	L376/	5.91 /	L386/	12.76 /
L387/	12.83 /	L388/	0.79 /	L389/	16.29 /
L390/	0.81 /	L391/	16.30 /	L392/	16.15 /
L393/	15.80 /	L395/	1.24 /	L396/	6.99 /
L397/	1.24 /	L398/	1.24 /	L399/	2.98 /
L402/	2.41 /	L403/	2.41 /	L404/	2.41 /
L405/	1.77 /	L406/	4.92 /	L407/	1.23 /
L408/	5.95 /	L410/	7.09 /	L411/	7.09 /
L413/	1.74 /	L415/	0.77 /	L417/	0.79 /
L418/	1.77 /	L419/	3.15 /	L420/	3.15 /
L421/	0.79 /	L422/	1.23 /	L423/	4.92 /
L424/	5.96 /	L425/	0.79 /	L426/	1.24 /
L427/	9.67 /	L428/	0.79 /	L429/	9.88 /
L430/	0.79 /	L431/	0.79 /	L432/	0.79 /
L435/	0.79 /	L436/	0.79 /	L437/	1.26 /
L438/	0.79 /	L439/	1.23 /	L440/	1.72 /

L441/	9.90 /	L442/	8.23 /	L443/	2.97 /
L446/	1.78 /	L448/	0.79 /	L449/	2.42 /
L450/	3.14 /	L451/	2.89 /	L452/	0.81 /
L453/	0.82 /	L454/	0.38 /	L466/	0.96 /
L468/	2.01 /	L470/	2.20 /	L471/	0.22 /
L472/	0.79 /	L475/	1.24 /	L478/	4.00 /
L479/	4.94 /	L487/	2.43 /	L490/	1.89 /
L493/	4.90 /	L496/	0.26 /	L497/	0.26 /
L498/	0.40 /	L499/	0.80 /	L500/	1.25 /
L501/	7.34 /	L502/	10.02 /	L503/	15.18 /
L504/	13.70 /	L505/	2.43 /	L506/	2.43 /
L507/	0.78 /	L509/	1.21 /	L510/	0.59 /
L511/	1.76 /	L512/	1.12 /	L513/	4.66 /
L514/	2.42 /	L515/	7.11 /	CH21/	145.24 /
L474/	1.77 /	L523/	7.81 /	L525/	7.37 /
L527/	1.78 /	L528/	1.24 /	L529/	1.77 /
L533/	1.77 /	L537/	1.78 /	L394/	15.41 /
L276/	0.28 /	L288/	0.42 /	L412/	0.56 /
L447/	1.77 /	L546/	1.64 /		

Conduit/ Final Volume

L210/	55.24 /	L211/	317.33 /	L212/	677.02 /
L213/	84.91 /	L214/	165.45 /	L217/	28.91 /
L220/	776.67 /	L221/	1254.33 /	L222/	253.89 /
L223/	11.56 /	L224/	50.40 /	L225/	100.02 /
L226/	301.51 /	L227/	186.04 /	L228/	313.37 /
L229/	650.38 /	L230/	482.09 /	L231/	493.80 /
L232/	546.26 /	L233/	854.39 /	L234/	1359.12 /
L235/	40.27 /	L236/	83.47 /	L237/	79.66 /
L238/	42.73 /	L239/	97.17 /	L240/	35.32 /
L241/	358.05 /	L242/	33.77 /	L243/	65.39 /
L246/	2042.48 /	L247/	454.50 /	L248/	37.11 /
L249/	35.24 /	L250/	26.27 /	L251/	29.20 /
L252/	58.58 /	L253/	37.53 /	L254/	227.16 /
L255/	92.84 /	L256/	505.74 /	L257/	508.46 /
L258/	36.03 /	L259/	556.13 /	L260/	44.28 /
L261/	50.30 /	L262/	18.15 /	L263/	48.42 /
L264/	78.94 /	L265/	1966.06 /	L266/	989.83 /
L267/	19.61 /	L268/	62.30 /	L269/	191.18 /
L270/	1415.19 /	L271/	2094.24 /	L272/	249.36 /
L273/	266.37 /	L274/	83.42 /	L275/	51.40 /
L277/	56.93 /	L278/	23.25 /	L279/	83.04 /
L280/	24.31 /	L281/	79.16 /	L282/	16.29 /
L283/	54.95 /	L284/	41.36 /	L285/	249.72 /
L286/	61.98 /	L287/	59.93 /	L289/	78.28 /
L290/	39.93 /	L291/	74.08 /	L292/	32.03 /
L294/	65.17 /	L300/	415.53 /	L301/	44.56 /
L302/	2168.26 /	L303/	65.80 /	L304/	54.05 /
L305/	254.73 /	L306/	46.75 /	L307/	301.60 /
L308/	181.42 /	L309/	46.77 /	L310/	48.24 /
L311/	316.16 /	L312/	48.61 /	L313/	466.32 /
L314/	75.16 /	L315/	38.40 /	L316/	188.49 /
L317/	537.37 /	L318/	559.77 /	L319/	111.21 /
L320/	45.19 /	L321/	148.75 /	L324/	97.56 /
L325/	49.58 /	L326/	94.73 /	L327/	94.00 /
L328/	588.56 /	L329/	92.45 /	L334/	80.31 /
L335/	121.03 /	L336/	54.54 /	L337/	28.59 /
L338/	457.72 /	L339/	1365.17 /	L340/	1661.16 /
L341/	588.66 /	L342/	88.09 /	L343/	67.72 /
L344/	260.36 /	L346/	481.94 /	L347/	4995.00 /

L348/	5309.24 /	L349/	5117.57 /	L350/	1613.88 /
L351/	91.87 /	L352/	390.33 /	L354/	1048.27 /
L361/	29.58 /	L362/	40.39 /	L363/	564.82 /
L364/	33.07 /	L365/	33.03 /	L366/	1105.55 /
L367/	954.81 /	L368/	81.55 /	L369/	76.84 /
L370/	942.34 /	L373/	400.11 /	L374/	127.38 /
L375/	741.16 /	L376/	969.72 /	L386/	4349.50 /
L387/	4556.00 /	L388/	89.18 /	L389/	6271.88 /
L390/	86.33 /	L391/	8132.47 /	L392/	6137.53 /
L393/	7283.12 /	L395/	61.97 /	L396/	2810.71 /
L397/	70.67 /	L398/	59.36 /	L399/	899.24 /
L402/	207.44 /	L403/	960.04 /	L404/	895.00 /
L405/	125.90 /	L406/	1790.74 /	L407/	87.61 /
L408/	2185.23 /	L410/	2799.14 /	L411/	2133.25 /
L413/	696.91 /	L415/	37.56 /	L417/	53.73 /
L418/	127.65 /	L419/	815.74 /	L420/	1266.85 /
L421/	53.76 /	L422/	93.85 /	L423/	1954.83 /
L424/	1781.31 /	L425/	55.33 /	L426/	90.20 /
L427/	4697.69 /	L428/	69.28 /	L429/	3894.19 /
L430/	72.11 /	L431/	340.26 /	L432/	71.98 /
L435/	71.20 /	L436/	249.70 /	L437/	414.61 /
L438/	69.31 /	L439/	458.37 /	L440/	680.17 /
L441/	4010.22 /	L442/	3779.43 /	L443/	285.16 /
L446/	108.53 /	L448/	62.43 /	L449/	1093.49 /
L450/	1257.37 /	L451/	260.20 /	L452/	40.43 /
L453/	49.89 /	L454/	26.85 /	L466/	86.06 /
L468/	995.71 /	L470/	389.82 /	L471/	86.66 /
L472/	41.02 /	L475/	121.67 /	L478/	1919.72 /
L479/	2921.55 /	L487/	397.91 /	L490/	229.18 /
L493/	2289.08 /	L496/	100.86 /	L497/	100.64 /
L498/	39.19 /	L499/	312.46 /	L500/	495.79 /
L501/	2751.77 /	L502/	4237.47 /	L503/	6631.60 /
L504/	6369.27 /	L505/	958.96 /	L506/	966.46 /
L507/	114.89 /	L509/	161.99 /	L510/	65.26 /
L511/	313.97 /	L512/	124.38 /	L513/	1281.71 /
L514/	965.06 /	L515/	1030.30 /	CH21/	134349.35 /
L474/	225.24 /	L523/	1335.12 /	L525/	3930.54 /
L527/	770.63 /	L528/	560.78 /	L529/	503.76 /
L533/	1285.41 /	L537/	805.54 /	L394/	2418.68 /
L276/	14.13 /	L288/	25.64 /	L412/	29.76 /
L447/	697.87 /	L546/	946.88 /		

Conduit/ Hydraulic Radius

L210/	0.25 /	L211/	0.26 /	L212/	0.31 /
L213/	0.25 /	L214/	0.38 /	L217/	0.23 /
L220/	0.44 /	L221/	0.51 /	L222/	0.44 /
L223/	0.15 /	L224/	0.16 /	L225/	0.22 /
L226/	0.30 /	L227/	0.25 /	L228/	0.25 /
L229/	0.36 /	L230/	0.32 /	L231/	0.31 /
L232/	0.38 /	L233/	0.38 /	L234/	0.50 /
L235/	0.25 /	L236/	0.25 /	L237/	0.25 /
L238/	0.26 /	L239/	0.26 /	L240/	0.26 /
L241/	0.32 /	L242/	0.29 /	L243/	0.30 /
L246/	0.62 /	L247/	0.62 /	L248/	0.25 /
L249/	0.27 /	L250/	0.21 /	L251/	0.26 /
L252/	0.11 /	L253/	0.29 /	L254/	0.29 /
L255/	0.37 /	L256/	0.43 /	L257/	0.38 /
L258/	0.24 /	L259/	0.51 /	L260/	0.28 /
L261/	0.24 /	L262/	0.17 /	L263/	0.25 /
L264/	0.38 /	L265/	0.90 /	L266/	0.86 /

L267/	0.22 /	L268/	0.25 /	L269/	0.25 /
L270/	0.75 /	L271/	0.91 /	L272/	1.08 /
L273/	0.52 /	L274/	0.30 /	L275/	0.27 /
L277/	0.27 /	L278/	0.28 /	L279/	0.27 /
L280/	0.28 /	L281/	0.25 /	L282/	0.22 /
L283/	0.27 /	L284/	0.25 /	L285/	0.38 /
L286/	0.31 /	L287/	0.29 /	L289/	0.30 /
L290/	0.12 /	L291/	0.17 /	L292/	0.20 /
L294/	0.25 /	L300/	0.38 /	L301/	0.25 /
L302/	0.56 /	L303/	0.25 /	L304/	0.25 /
L305/	0.38 /	L306/	0.25 /	L307/	0.50 /
L308/	0.38 /	L309/	0.25 /	L310/	0.25 /
L311/	0.25 /	L312/	0.25 /	L313/	0.25 /
L314/	0.25 /	L315/	0.29 /	L316/	0.30 /
L317/	0.38 /	L318/	0.38 /	L319/	0.42 /
L320/	0.30 /	L321/	0.22 /	L324/	0.25 /
L325/	0.25 /	L326/	0.25 /	L327/	0.25 /
L328/	0.37 /	L329/	0.37 /	L334/	0.17 /
L335/	0.23 /	L336/	0.26 /	L337/	0.17 /
L338/	0.90 /	L339/	0.89 /	L340/	1.02 /
L341/	0.95 /	L342/	0.37 /	L343/	0.30 /
L344/	0.62 /	L346/	0.88 /	L347/	1.00 /
L348/	1.00 /	L349/	1.02 /	L350/	1.16 /
L351/	0.61 /	L352/	0.61 /	L354/	1.30 /
L361/	0.30 /	L362/	0.30 /	L363/	0.45 /
L364/	0.30 /	L365/	0.28 /	L366/	0.61 /
L367/	0.60 /	L368/	0.30 /	L369/	0.26 /
L370/	0.84 /	L373/	0.77 /	L374/	0.25 /
L375/	0.38 /	L376/	0.72 /	L386/	1.00 /
L387/	1.00 /	L388/	0.25 /	L389/	1.12 /
L390/	0.25 /	L391/	1.12 /	L392/	1.13 /
L393/	1.18 /	L395/	0.31 /	L396/	0.84 /
L397/	0.31 /	L398/	0.31 /	L399/	0.59 /
L402/	0.44 /	L403/	0.44 /	L404/	0.44 /
L405/	0.38 /	L406/	0.62 /	L407/	0.31 /
L408/	0.69 /	L410/	0.75 /	L411/	0.75 /
L413/	0.42 /	L415/	0.29 /	L417/	0.25 /
L418/	0.38 /	L419/	0.50 /	L420/	0.50 /
L421/	0.25 /	L422/	0.31 /	L423/	0.62 /
L424/	0.69 /	L425/	0.25 /	L426/	0.31 /
L427/	0.88 /	L428/	0.25 /	L429/	0.88 /
L430/	0.25 /	L431/	0.25 /	L432/	0.25 /
L435/	0.25 /	L436/	0.25 /	L437/	0.31 /
L438/	0.25 /	L439/	0.32 /	L440/	0.43 /
L441/	0.89 /	L442/	1.01 /	L443/	0.60 /
L446/	0.38 /	L448/	0.25 /	L449/	0.44 /
L450/	0.51 /	L451/	0.60 /	L452/	0.25 /
L453/	0.25 /	L454/	0.24 /	L466/	0.37 /
L468/	0.55 /	L470/	0.51 /	L471/	0.16 /
L472/	0.25 /	L475/	0.31 /	L478/	0.56 /
L479/	0.62 /	L487/	0.44 /	L490/	0.52 /
L493/	0.64 /	L496/	0.20 /	L497/	0.20 /
L498/	0.25 /	L499/	0.25 /	L500/	0.31 /
L501/	0.75 /	L502/	0.88 /	L503/	1.33 /
L504/	1.36 /	L505/	0.44 /	L506/	0.44 /
L507/	0.26 /	L509/	0.32 /	L510/	0.29 /
L511/	0.38 /	L512/	0.38 /	L513/	0.73 /
L514/	0.44 /	L515/	0.75 /	CH21/	1.29 /
L474/	0.38 /	L523/	0.66 /	L525/	0.75 /
L527/	0.38 /	L528/	0.31 /	L529/	0.38 /

L533/	0.38 /	L537/	0.38 /	L394/	1.31 /
L276/	0.19 /	L288/	0.23 /	L412/	0.29 /
L447/	0.38 /	L546/	0.44 /		

Conduit/ Upstream/ Downstream Elevation

100.29/	L210/	107.60/	106.99	L211/	106.99/	102.82	L212/	102.12/
99.74/	L213/	100.97/	100.29	L214/	100.61/	100.29	L217/	100.29/
90.12/	L220/	100.29/	98.17	L221/	98.17/	96.23	L222/	95.23/
117.58/	L223/	119.86/	119.61	L224/	118.89/	118.06	L225/	117.66/
114.74/	L226/	118.56/	118.20	L227/	118.20/	117.58	L228/	117.58/
107.07/	L229/	112.52/	110.57	L230/	110.37/	108.88	L231/	108.88/
102.48/	L232/	107.07/	105.73	L233/	105.73/	103.45	L234/	103.45/
103.45/	L235/	112.53/	112.52	L236/	107.55/	107.07	L237/	104.42/
112.80/	L238/	116.65/	115.88	L239/	115.28/	113.18	L240/	113.35/
107.72/	L241/	110.46/	107.74	L242/	108.07/	107.63	L243/	108.45/
100.55/	L246/	102.48/	100.55	L247/	100.55/	99.95	L248/	100.74/
104.85/	L249/	105.49/	104.85	L250/	104.85/	99.95	L251/	105.41/
99.23/	L252/	100.51/	99.23	L253/	101.38/	100.99	L254/	100.99/
97.81/	L255/	100.28/	99.94	L256/	99.94/	99.23	L257/	99.23/
90.12/	L258/	98.12/	97.81	L259/	97.81/	96.04	L260/	96.04/
93.72/	L261/	94.74/	93.72	L262/	93.72/	79.22	L263/	94.67/
83.96/	L264/	86.30/	85.78	L265/	85.51/	84.79	L266/	84.79/
93.73/	L267/	85.56/	85.16	L268/	96.56/	95.98	L269/	95.98/
79.04/	L270/	83.96/	80.31	L271/	80.31/	79.15	L272/	79.15/
118.62/	L273/	79.70/	79.15	L274/	92.45/	78.96	L275/	119.54/
109.51/	L277/	119.61/	118.62	L278/	113.83/	113.54	L279/	113.54/
113.54/	L280/	113.85/	113.54	L281/	124.82/	122.68	L282/	122.68/
108.28/	L283/	123.56/	122.68	L284/	108.52/	108.39	L285/	108.39/
113.15/	L286/	108.40/	108.39	L287/	113.82/	113.08	L289/	114.00/
98.67/	L290/	104.11/	102.08	L291/	102.08/	99.96	L292/	99.96/
92.95/	L294/	92.32/	92.16	L300/	92.95/	92.16	L301/	93.14/
93.13/	L302/	92.16/	91.12	L303/	93.19/	93.13	L304/	93.55/
	L305/	93.13/	92.95	L306/	99.12/	98.66	L307/	98.66/

98.64/								
	L308/	98.76/	98.64	L309/	99.18/	98.76	L310/	110.94/
110.78/	L311/	110.78/	109.72	L312/	109.83/	109.72	L313/	109.72/
104.33/	L314/	104.49/	104.33	L315/	105.53/	105.22	L316/	105.22/
104.33/	L317/	104.33/	102.95	L318/	102.95/	101.67	L319/	101.67/
101.11/	L320/	101.90/	101.67	L321/	119.23/	118.56	L324/	122.98/
122.62/	L325/	121.64/	121.47	L326/	120.48/	120.01	L327/	120.60/
120.01/	L328/	120.01/	116.38	L329/	116.38/	113.78	L334/	125.61/
123.40/	L335/	123.40/	121.39	L336/	121.39/	120.37	L337/	120.37/
116.12/	L338/	128.41/	128.24	L339/	128.24/	127.64	L340/	127.64/
127.05/	L341/	127.05/	126.60	L342/	128.98/	128.40	L343/	129.22/
128.48/	L344/	126.99/	126.93	L346/	126.77/	126.73	L347/	126.73/
125.92/	L348/	125.92/	125.16	L349/	125.16/	124.36	L350/	124.36/
124.12/	L351/	124.46/	124.39	L352/	124.39/	124.12	L354/	122.17/
122.10/	L361/	126.29/	125.91	L362/	126.38/	125.89	L363/	125.84/
124.54/	L364/	124.98/	124.56	L365/	124.86/	124.54	L366/	124.54/
123.56/	L367/	123.56/	122.23	L368/	123.63/	122.76	L369/	124.15/
122.91/	L370/	121.99/	121.40	L373/	121.40/	121.51	L374/	121.18/
119.35/	L375/	119.35/	118.83	L376/	119.02/	118.83	L386/	118.73/
118.47/	L387/	118.47/	118.21	L388/	118.79/	118.21	L389/	118.21/
117.91/	L390/	118.19/	117.91	L391/	117.91/	117.44	L392/	117.44/
116.93/	L393/	116.93/	116.31	L395/	119.44/	119.16	L396/	119.23/
119.16/	L397/	119.53/	119.16	L398/	119.51/	119.23	L399/	119.34/
119.23/	L402/	114.76/	114.53	L403/	114.53/	113.47	L404/	113.47/
112.48/	L405/	112.68/	112.48	L406/	112.48/	112.07	L407/	112.40/
112.07/	L408/	112.07/	111.63	L410/	111.63/	111.16	L411/	111.16/
110.79/	L413/	119.50/	119.27	L415/	119.74/	119.50	L417/	113.53/
112.96/	L418/	113.19/	112.96	L419/	112.96/	112.53	L420/	112.53/
111.86/	L421/	112.06/	111.86	L422/	112.21/	111.86	L423/	111.86/
111.28/	L424/	111.28/	110.79	L425/	111.34/	111.28	L426/	111.64/
111.28/	L427/	110.79/	109.75	L428/	109.83/	109.75	L429/	109.75/

108.88/	L430/	121.16/	120.60	L431/	122.90/	120.60	L432/	123.39/
122.90/	L435/	116.46/	115.70	L436/	115.70/	113.02	L437/	113.02/
112.19/	L438/	112.45/	112.19	L439/	112.19/	109.78	L440/	109.78/
108.88/	L441/	108.88/	107.66	L442/	107.66/	105.10	L443/	105.10/
98.67/	L446/	129.75/	129.50	L448/	128.22/	128.14	L449/	128.14/
126.00/	L450/	126.00/	123.98	L451/	120.44/	119.84	L452/	126.09/
126.00/	L453/	126.06/	126.00	L454/	120.53/	120.44	L466/	120.82/
120.13/	L468/	119.74/	119.34	L470/	123.50/	122.36	L471/	125.03/
123.50/	L472/	128.12/	127.04	L475/	92.74/	92.16	L478/	91.12/
88.96/	L479/	88.96/	87.45	L487/	99.21/	98.23	L490/	111.34/
110.82/	L493/	87.45/	86.28	L496/	133.80/	131.68	L497/	133.80/
131.68/	L498/	131.68/	131.11	L499/	122.62/	121.47	L500/	121.47/
120.01/	L501/	126.93/	126.76	L502/	126.76/	126.73	L503/	124.12/
123.35/	L504/	123.35/	122.17	L505/	107.24/	104.92	L506/	104.92/
102.48/	L507/	94.29/	92.11	L509/	109.83/	108.46	L510/	102.75/
98.23/	L511/	112.44/	109.88	L512/	108.76/	98.23	L513/	86.28/
85.51/	L514/	129.50/	128.14	L515/	118.83/	118.73	CH21/	119.02/
119.02/	L474/	120.87/	119.50	L523/	122.36/	121.23	L525/	119.16/
118.73/	L527/	119.27/	118.21	L528/	120.60/	117.44	L529/	114.93/
114.29/	L533/	114.29/	112.65	L537/	112.65/	111.63	L394/	116.31/
116.12/	L276/	118.62/	110.38	L288/	112.65/	108.34	L412/	119.65/
119.27/	L447/	129.71/	129.50	L546/	92.08/	91.12		

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| Table E7 - Iteration Summary |

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Total number of time steps simulated.....	360
Total number of passes in the simulation.....	12068
Total number of time steps during simulation....	10854
Ratio of actual # of time steps / NTCYC.....	30.150
Average number of iterations per time step.....	1.112
Average time step size(seconds).....	1.990
Smallest time step size(seconds).....	1.000
Largest time step size(seconds).....	15.000
Average minimum Conduit Courant time step (sec).	2.200
Average minimum implicit time step (sec).....	2.007

Average minimum junction time step (sec)..... 2.007
 Average Courant Factor Tf..... 2.007
 Number of times omega reduced..... 0

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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.          |
| Conv 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
N221	0	1.26	13624	0	10	1	0	0
N222	0	1.45	15757	0	6	0	0	0
N223	0	1.46	15804	0	5	0	0	0
N224	0	1.53	16657	0	377	2	1	1
N227	0	1.26	13637	0	10	1	0	0
N228	0	1.32	14313	0	11	1	0	0
N230	0	1.47	15913	0	11	1	0	0
N231	0	1.20	13029	0	7	0	0	0
N233	0	1.37	14831	0	6	0	0	0
N234	0	1.20	13072	0	5	0	0	0
N235	0	1.08	11671	0	3	0	0	0
N236	0	1.08	11737	0	3	0	0	0
N237	0	1.08	11723	0	3	0	0	0
N238	0	1.46	15852	0	7	0	0	0
N239	0	1.25	13522	0	4	0	0	0
N240	0	1.44	15644	0	5	0	0	0
N241	0	1.49	16139	0	5	0	0	0
N242	0	1.48	16101	0	5	0	0	0
N243	0	1.49	16162	0	5	0	0	0
N244	0	1.58	17190	0	7	0	0	0
N245	0	1.51	16397	0	8	0	0	0
N246	0	1.55	16830	0	23	12	0	0
N247	0	1.39	15082	0	37	4	1	0
N248	0	1.20	13062	0	4	0	0	0
N249	0	1.28	13862	0	10	1	0	0
N250	0	1.26	13719	0	11	1	0	0
N251	0	1.22	13229	0	10	1	0	0
N252	0	1.40	15249	0	5	0	0	0
N253	0	1.42	15365	0	9	0	0	0
N254	0	1.21	13115	0	5	0	0	0
N255	0	1.45	15786	0	14	1	0	0
N256	0	1.22	13201	0	11	1	0	0
N257	0	1.23	13381	0	10	1	0	0
N259	0	1.39	15035	0	28	9	1	0
N260	0	1.35	14682	0	21	2	0	0
N261	0	1.24	13440	0	18	5	0	0
N262	0	1.20	13012	0	9	0	0	0
N263	0	1.40	15167	0	10	1	0	0
N264	0	1.15	12517	0	5	0	0	0
N265	0	1.20	12986	0	4	0	0	0
N266	0	1.00	10897	0	3	0	0	0
N267	0	1.46	15869	0	7	0	0	0
N268	0	1.21	13177	0	9	0	0	0

N269	0	1.41	15320	0	5	0	0	0
N270	0	1.24	13490	0	9	0	0	0
N271	0	1.47	15997	0	5	0	0	0
N272	0	1.35	14703	0	9	0	0	0
N273	0	1.19	12922	0	4	0	0	0
N274	0	1.36	14773	0	6	0	0	0
N275	0	1.20	13021	0	4	0	0	0
N276	0	1.17	12730	0	8	0	0	0
N277	0	1.42	15415	0	9	0	0	0
N278	0	1.11	12090	0	3	0	0	0
N279	0	1.18	12845	0	6	0	0	0
N280	0	1.24	13410	0	9	0	0	0
N281	0	1.53	16565	0	6	0	0	0
N282	0	1.50	16286	0	8	0	0	0
N283	0	1.50	16282	0	6	0	0	0
N284	0	1.18	12805	0	5	0	0	0
N285	0	1.26	13705	0	11	1	0	0
N286	0	1.44	15666	0	5	0	0	0
N287	0	1.37	14906	0	22	3	0	0
N288	0	1.46	15813	0	30	21	4	0
N289	0	1.43	15495	0	28	5	2	0
N290	0	1.26	13639	0	14	1	0	0
N291	0	1.24	13442	0	10	1	0	0
N292	0	1.12	12160	0	5	0	0	0
N293	0	1.19	12961	0	8	0	0	0
N294	0	1.44	15635	0	11	1	0	0
N296	0	1.19	12963	0	10	1	0	0
N297	0	1.21	13121	0	9	0	0	0
N298	0	1.39	15137	0	10	1	0	0
N299	0	1.21	13146	0	5	0	0	0
N300	0	1.21	13109	0	11	1	0	0
N301	0	1.22	13235	0	9	0	0	0
N302	0	1.47	15978	0	11	1	0	0
N303	0	1.12	12163	0	4	0	0	0
N304	0	1.20	13015	0	10	1	0	0
N305	0	1.21	13150	0	43	6	2	1
N306	1	1.42	15391	0	501	21	3	3
N307	0	1.28	13928	0	21	5	0	0
N308	0	1.23	13330	0	111	17	2	2
N309	0	1.22	13240	0	7	0	0	0
N310	0	1.39	15067	0	9	0	0	0
N312	0	1.23	13357	0	10	1	0	0
N313	0	1.02	11040	0	3	0	0	0
N314	0	1.14	12371	0	5	0	0	0
N315	0	1.20	13020	0	8	0	0	0
N316	0	1.20	12984	0	5	0	0	0
N317	0	1.31	14265	0	10	1	0	0
N318	0	1.60	17377	0	9	0	0	0
N319	0	1.35	14636	0	7	0	0	0
N320	0	1.56	16958	0	10	1	0	0
N321	0	1.36	14741	0	11	1	0	0
N325	0	1.66	17982	0	409	2	1	1
N326	0	1.33	14477	0	7	0	0	0
N327	0	1.29	14041	0	11	1	0	0
N328	0	1.24	13495	0	97	13	3	3
N329	0	1.22	13291	0	100	7	3	3
N330	2	1.45	15718	0	501	19	3	3
N331	0	1.34	14512	0	34	8	1	0
N332	0	1.22	13287	0	55	6	2	2
N333	0	1.36	14781	0	9	0	0	0

N334	0	1.56	16881	0	6	0	0	0
N335	0	1.61	17428	0	9	0	0	0
N336	0	1.40	15221	0	7	0	0	0
N337	0	1.54	16698	0	10	1	0	0
N338	0	1.29	14021	0	5	0	0	0
N339	0	1.21	13137	0	9	0	0	0
N340	0	1.41	15336	0	5	0	0	0
N341	0	1.48	16075	0	5	0	0	0
N342	0	1.45	15713	0	10	1	0	0
N343	0	1.37	14904	0	5	0	0	0
N344	0	1.22	13253	0	11	1	0	0
N345	0	1.16	12546	0	4	0	0	0
N347	0	1.44	15614	0	9	0	0	0
N348	0	1.42	15362	0	10	1	0	0
N349	0	1.30	14127	0	9	0	0	0
N350	0	1.38	15020	0	8	0	0	0
N351	0	1.51	16389	0	8	0	0	0
N352	0	1.35	14610	0	10	1	0	0
N353	0	1.34	14521	0	10	1	0	0
N354	0	1.39	15139	0	5	0	0	0
N355	0	1.23	13382	0	31	1	1	0
N356	0	1.14	12401	0	6	0	0	0
N357	0	1.20	13068	0	6	0	0	0
N358	0	1.18	12854	0	5	0	0	0
N359	0	1.28	13895	0	4	0	0	0
N360	0	1.18	12853	0	30	1	1	0
N361	0	1.32	14372	0	13	2	0	0
N362	0	1.47	15999	0	17	1	0	0
N363	0	1.45	15759	0	15	1	0	0
N364	0	1.42	15440	0	6	0	0	0
N365	0	1.35	14650	0	5	0	0	0
N366	0	1.23	13393	0	12	1	0	0
N367	0	1.23	13400	0	11	1	0	0
N368	0	1.91	20709	0	10	1	0	0
N369	0	2.65	28808	0	459	2	1	1
N370	0	4.02	43605	0	19	1	0	0
N371	0	4.73	51294	0	53	2	1	1
N372	0	2.78	30128	0	23	4	0	0
N373	0	1.75	18980	0	21	1	0	0
N374	0	1.50	16276	0	24	2	0	0
N375	0	1.48	16098	0	18	4	0	0
N376	0	1.32	14337	0	11	2	0	0
N377	0	1.54	16737	0	431	3	1	1
N378	0	1.30	14067	0	30	5	1	0
N379	0	1.38	14989	0	19	3	0	0
N381	0	1.42	15393	0	13	1	0	0
N382	0	1.45	15784	0	14	1	0	0
N383	0	1.21	13179	0	11	1	0	0
N384	0	1.22	13233	0	11	1	0	0
N386	0	1.21	13167	0	10	1	0	0
N387	0	1.21	13135	0	11	1	0	0
N388	0	1.46	15810	0	12	1	0	0
N389	0	1.43	15573	0	22	8	0	0
N390	0	1.23	13361	0	10	1	0	0
N391	0	1.22	13258	0	11	1	0	0
N392	0	1.39	15121	0	37	14	3	0
N394	0	1.40	15144	0	37	7	2	0
N395	0	1.20	13072	0	5	0	0	0
N396	0	1.45	15764	0	5	0	0	0
N397	0	1.86	20195	0	16	2	0	0

N398	0	1.51	16426	0	8	0	0	0
N399	0	1.64	17808	0	30	5	1	0
N403	0	1.57	17055	0	109	8	2	1
N404	0	1.50	16236	0	26	6	1	0
N405	0	1.23	13304	0	10	1	0	0
N406	0	1.44	15584	0	23	4	0	0
N407	0	1.22	13194	0	5	0	0	0
N408	0	1.42	15461	0	32	8	1	0
N409	0	1.40	15166	0	22	4	0	0
N410	0	1.39	15101	0	49	5	1	1
N412	0	1.24	13414	0	12	1	0	0
N413	0	1.49	16178	0	17	5	0	0
N414	0	1.52	16476	0	11	1	0	0
N415	0	1.22	13253	0	10	1	0	0
N416	0	1.25	13581	0	11	1	0	0
N417	0	1.46	15810	0	5	0	0	0
N418	0	1.24	13414	0	10	1	0	0
N419	0	1.54	16757	0	6	0	0	0
N420	0	1.34	14550	0	8	0	0	0
N421	0	1.53	16650	0	11	1	0	0
N422	0	1.69	18313	0	12	2	0	0
N423	0	1.33	14412	0	11	1	0	0
N424	0	1.67	18168	0	36	2	1	0
N425	0	1.32	14352	0	11	1	0	0
N426	0	1.59	17217	0	8	0	0	0
N428	0	1.56	16937	0	69	8	4	4
N429	3	1.70	18498	0	501	4	3	3
N430	0	1.19	12907	0	9	0	0	0
N431	1	1.41	15348	0	501	1	1	1
N432	0	1.47	15992	0	11	1	0	0
N434	0	1.21	13178	0	11	1	0	0
N435	0	1.58	17171	0	14	1	0	0
N436	0	1.28	13908	0	11	1	0	0
N437	0	1.32	14280	0	11	1	0	0
N438	0	1.60	17378	0	6	0	0	0
N439	0	1.67	18092	0	19	4	0	0
N440	0	1.35	14682	0	9	0	0	0
N441	0	1.33	14420	0	11	1	0	0
N442	0	1.76	19097	0	458	2	1	1
N443	0	1.42	15447	0	5	0	0	0
N444	0	1.32	14322	0	11	1	0	0
N445	0	1.67	18114	0	8	0	0	0
N446	0	1.37	14916	0	5	0	0	0
N447	0	1.54	16716	0	6	0	0	0
N448	0	1.25	13596	0	11	1	0	0
N449	0	1.50	16237	0	6	0	0	0
N450	0	1.50	16287	0	9	0	0	0
N451	0	1.28	13859	0	11	1	0	0
N453	0	1.45	15716	0	11	1	0	0
N454	0	1.25	13540	0	12	1	0	0
N455	0	1.49	16207	0	5	0	0	0
N456	0	1.52	16479	0	9	0	0	0
N457	0	1.25	13620	0	10	1	0	0
N458	0	1.46	15823	0	5	0	0	0
N459	0	1.43	15513	0	6	0	0	0
N460	0	1.44	15601	0	5	0	0	0
N461	0	1.23	13355	0	41	1	1	1
N464	0	1.54	16765	0	10	1	0	0
N465	0	1.31	14263	0	9	0	0	0
N466	0	1.55	16860	0	9	0	0	0

N467	0	1.35	14623	0	9	0	0	0
N468	0	1.55	16783	0	13	1	0	0
N469	0	1.45	15699	0	10	1	0	0
N470	0	1.67	18114	0	22	1	0	0
N471	0	1.35	14622	0	5	0	0	0
N472	0	1.34	14554	0	5	0	0	0
N473	0	1.18	12758	0	4	0	0	0
N487	0	1.41	15270	0	7	0	0	0
N489	0	1.36	14756	0	5	0	0	0
N490	0	1.27	13825	0	15	2	0	0
N491	0	1.14	12327	0	4	0	0	0
N492	0	1.20	13005	0	9	0	0	0
N493	0	2.27	24647	0	500	24	23	23
N497	0	1.23	13330	0	11	1	0	0
N499	0	1.36	14786	0	6	0	0	0
N500	0	1.51	16441	0	11	1	0	0
N501	0	1.50	16324	0	34	6	3	0
N503	0	1.33	14447	0	21	5	0	0
N504	0	1.20	13039	0	93	6	2	1
N506	0	1.22	13230	0	10	1	0	0
N509	0	1.22	13253	0	13	1	0	0
N511	0	1.22	13295	0	22	1	0	0
N513	0	1.24	13499	0	6	0	0	0
N514	0	1.37	14913	0	11	2	0	0
N516	0	1.12	12150	0	5	0	0	0
N517	0	1.47	15991	0	6	0	0	0
N518	2	1.55	16812	0	501	3	2	2
N524	0	1.19	12862	0	7	0	0	0
N525	0	1.22	13193	0	6	0	0	0
N526	0	1.18	12857	0	4	0	0	0
N527	0	1.26	13639	0	5	0	0	0
N528	0	2.91	31620	0	6	0	0	0
N529	0	1.41	15355	0	33	4	2	0
N530	0	1.45	15697	0	375	3	1	1
N689	0	2.32	25172	0	498	24	24	24
N494	0	1.40	15248	0	10	1	0	0
N541	0	1.54	16707	0	10	1	0	0
EL329	0	1.30	14161	0	9	0	0	0
N427	0	1.53	16645	0	7	0	0	0
N411	0	1.42	15451	0	17	2	0	0
N295	0	1.11	12070	0	3	0	0	0
N311	0	1.12	12191	0	5	0	0	0
N462	0	1.31	14184	0	7	0	0	0
N554	0	1.45	15726	0	6	0	0	0
N555	0	1.22	13265	0	5	0	0	0
N322	0	1.34	14582	0	41	6	1	1

Total number of iterations for all junctions.. 4094620
Minimum number of possible iterations..... 2919726
Efficiency of the simulation..... 1.40

Good Efficiency

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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

 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 Gutter Width	Maximum Gutter Junction Velocity Name	Uppermost Ground Pipe Crown Elevation feet	Maximum Junction Elevation feet	Time of Occurrence Hr. Min.	Feet of Surchage at Max Elevation	Feet of Freeboard of node	Maximum Junction Area ft^2	Maximum Gutter Depth feet
0.0000	N221	114.0300	106.8400	2 47	0.7626	6.4274	12.5660	0.0000
0.0000	N222	112.0800	106.4400	2 47	0.5539	5.0861	12.5660	0.0000
0.0000	N223	106.2600	103.0600	4 27	0.0000	4.1441	12.5660	0.0000
0.0000	N224	106.3300	99.7200	4 26	0.5709	6.0391	12.5660	0.0000
0.0000	N227	109.4000	99.3400	4 27	1.6320	8.4280	12.5660	0.0000
0.0000	N228	102.4000	99.0300	4 23	1.5800	1.7900	12.5660	0.0000
0.0000	N230	104.3900	100.3300	4 24	0.0000	6.2206	12.5660	0.0000
0.0000	N231	104.4000	100.8400	1 2	0.0000	4.1128	12.5660	0.0000
0.0000	N233	100.3500	96.9200	4 16	0.0000	5.1176	12.5660	0.0000
0.0000	N234	100.0000	87.6000	0 0	2.5200	9.8800	12.5660	0.0000
0.0000	N235	138.1500	120.6000	2 1	0.0000	18.2858	12.5660	0.0000
0.0000	N236	126.2300	120.4100	5 0	0.0000	7.3397	12.5660	0.0000
0.0000	N237	124.2900	118.8600	6 0	0.0000	6.6304	12.5660	0.0000
0.0000	N238	122.3500	117.5100	6 0	0.0725	4.7675	12.5660	0.0000
0.0000	N239	125.0800	118.6900	6 0	0.0000	6.5222	12.5660	0.0000
0.0000	N240	122.0900	117.6200	6 0	0.5794	3.8906	12.5660	0.0000
0.0000	N241	119.6000	115.0600	6 0	0.0000	7.0816	12.5660	0.0000

0.0000	0.0000									
	N242	115.6700	111.1300	110.3694	6	0	0.0000	5.3006	12.5660	0.0000
0.0000	0.0000									
	N243	112.6900	109.1100	108.8794	6	0	0.0000	3.8106	12.5660	0.0000
0.0000	0.0000									
	N244	109.7000	106.3500	107.0654	6	0	0.7154	2.6346	12.5660	0.0000
0.0000	0.0000									
	N245	107.6800	104.8800	105.7300	6	0	0.8500	1.9500	12.5660	0.0000
0.0000	0.0000									
	N246	104.7000	101.8100	103.4547	6	0	1.6447	1.2453	12.5660	0.0000
0.0000	0.0000									
	N247	107.2000	100.3700	102.4757	6	0	2.1057	4.7243	12.5660	0.0000
0.0000	0.0000									
	N248	116.0000	112.4800	112.5280	6	0	0.0480	3.4720	12.5660	0.0000
0.0000	0.0000									
	N249	108.6300	105.6200	107.5518	6	0	1.9318	1.0782	12.5660	0.0000
0.0000	0.0000									
	N250	113.4000	102.1400	104.4244	6	0	2.2844	8.9756	12.5660	0.0000
0.0000	0.0000									
	N251	127.0200	116.3800	116.6527	1	0	0.2727	10.3673	12.5660	0.0000
0.0000	0.0000									
	N252	121.2500	116.0600	115.2810	1	0	0.0000	5.9690	12.5660	0.0000
0.0000	0.0000									
	N253	119.0300	113.3300	110.4633	1	1	0.0000	8.5667	12.5660	0.0000
0.0000	0.0000									
	N254	120.4000	113.8300	113.3534	1	1	0.0000	7.0466	12.5660	0.0000
0.0000	0.0000									
	N255	113.9100	108.0500	107.2387	6	0	0.0000	6.6713	12.5660	0.0000
0.0000	0.0000									
	N256	119.8800	108.4100	108.0734	1	0	0.0000	11.8066	12.5660	0.0000
0.0000	0.0000									
	N257	118.4000	108.6100	108.4472	1	2	0.0000	9.9528	12.5660	0.0000
0.0000	0.0000									
	N259	102.6900	99.6600	100.5470	6	0	0.8870	2.1430	12.5660	0.0000
0.0000	0.0000									
	N260	101.1000	99.5000	99.9500	0	0	0.4500	1.1500	12.5660	0.0000
0.0000	0.0000									
	N261	106.3800	99.9300	100.7386	6	0	0.8086	5.6414	12.5660	0.0000
0.0000	0.0000									
	N262	110.4000	105.8800	105.4932	1	0	0.0000	4.9068	12.5660	0.0000
0.0000	0.0000									
	N263	109.4000	105.4600	104.8520	1	0	0.0000	4.5480	12.5660	0.0000
0.0000	0.0000									
	N264	106.0000	97.6400	99.9500	0	0	2.3100	6.0500	12.5660	0.0000
0.0000	0.0000									
	N265	108.4000	105.8600	105.4059	1	0	0.0000	2.9941	12.5660	0.0000
0.0000	0.0000									
	N266	105.6100	101.3600	100.5085	3	43	0.0000	5.1015	12.5660	0.0000
0.0000	0.0000									
	N267	104.2600	99.0500	99.2256	5	28	0.1756	5.0344	12.5660	0.0000
0.0000	0.0000									
	N268	110.4200	101.7400	101.3835	5	3	0.0000	9.0365	12.5660	0.0000
0.0000	0.0000									
	N269	110.0300	101.3300	100.9948	5	15	0.0000	9.0352	12.5660	0.0000
0.0000	0.0000									
	N270	106.4000	100.3900	100.2825	5	31	0.0000	6.1175	12.5660	0.0000
0.0000	0.0000									
	N271	102.3800	100.0500	99.9370	5	27	0.0000	2.4430	12.5660	0.0000
0.0000	0.0000									
	N272	102.0600	98.1000	97.8101	5	22	0.0000	4.2499	12.5660	0.0000

0.0000	0.0000									
	N273	104.4000	98.6800	98.1213	5	6	0.0000	6.2787	12.5660	0.0000
0.0000	0.0000									
	N274	100.3100	97.3300	96.0359	5	25	0.0000	4.2741	12.5660	0.0000
0.0000	0.0000									
	N275	101.7000	87.3500	90.1200	0	0	2.7700	11.5800	12.5660	0.0000
0.0000	0.0000									
	N276	100.4000	95.2500	94.7428	1	2	0.0000	5.6572	12.5660	0.0000
0.0000	0.0000									
	N277	99.4000	94.4400	93.7152	1	1	0.0000	5.6848	12.5660	0.0000
0.0000	0.0000									
	N278	96.0000	79.0000	79.2200	0	0	0.2200	16.7800	12.5660	0.0000
0.0000	0.0000									
	N279	98.4000	95.1200	94.6677	1	0	0.0000	3.7323	12.5660	0.0000
0.0000	0.0000									
	N280	96.4000	86.5800	86.2988	1	0	0.0000	10.1012	12.5660	0.0000
0.0000	0.0000									
	N281	91.9100	86.2400	85.5082	5	51	0.0000	6.4018	12.5660	0.0000
0.0000	0.0000									
	N282	97.0800	85.7700	84.7914	5	52	0.0000	12.2886	12.5660	0.0000
0.0000	0.0000									
	N283	100.0400	94.0000	83.9594	5	53	0.0000	16.0806	12.5660	0.0000
0.0000	0.0000									
	N284	98.4000	86.1400	85.5616	1	0	0.0000	12.8384	12.5660	0.0000
0.0000	0.0000									
	N285	102.4000	95.9100	96.5563	3	59	0.6463	5.8437	12.5660	0.0000
0.0000	0.0000									
	N286	100.3900	95.4500	95.9765	2	58	0.5265	4.4135	12.5660	0.0000
0.0000	0.0000									
	N287	96.9000	81.9600	80.3124	5	55	0.0000	16.5876	12.5660	0.0000
0.0000	0.0000									
	N288	96.4000	81.5300	79.2896	0	0	0.0000	17.1104	12.5660	0.0000
0.0000	0.0000									
	N289	96.4000	81.5000	79.0400	0	0	0.0000	17.3600	12.5660	0.0000
0.0000	0.0000									
	N290	96.4000	79.8500	79.7003	5	20	0.0000	16.6997	12.5660	0.0000
0.0000	0.0000									
	N291	96.2900	93.4200	92.4485	1	0	0.0000	3.8415	12.5660	0.0000
0.0000	0.0000									
	N292	94.0000	78.1000	78.9600	0	0	0.8600	15.0400	12.5660	0.0000
0.0000	0.0000									
	N293	126.4000	119.9200	119.5381	1	0	0.0000	6.8619	12.5660	0.0000
0.0000	0.0000									
	N294	123.9600	119.3000	118.6232	1	0	0.0000	5.3368	12.5660	0.0000
0.0000	0.0000									
	N296	122.4000	119.9800	119.6051	1	0	0.0000	2.7949	12.5660	0.0000
0.0000	0.0000									
	N297	120.4000	114.2400	113.8340	1	0	0.0000	6.5660	12.5660	0.0000
0.0000	0.0000									
	N298	118.4300	113.9600	113.5385	1	0	0.0000	4.8915	12.5660	0.0000
0.0000	0.0000									
	N299	117.7600	107.3000	109.5100	0	0	2.2100	8.2500	12.5660	0.0000
0.0000	0.0000									
	N300	116.4000	114.2500	113.8460	1	0	0.0000	2.5540	12.5660	0.0000
0.0000	0.0000									
	N301	128.4000	123.9000	124.8193	1	29	0.9193	3.5807	12.5660	0.0000
0.0000	0.0000									
	N302	128.3900	123.2800	122.6751	1	27	0.0000	5.7149	12.5660	0.0000
0.0000	0.0000									
	N303	124.3000	111.6000	113.5400	0	0	1.9400	10.7600	12.5660	0.0000

0.0000	0.0000									
	N304	126.4000	123.9500	123.5620	1	0	0.0000	2.8380	12.5660	0.0000
0.0000	0.0000									
	N305	112.4000	106.5200	109.7843	0	1	3.2643	2.6157	12.5660	0.0000
0.0000	0.0000									
	N306	110.3300	106.2200	109.0611	0	1	2.8411	1.2689	12.5660	0.0000
0.0000	0.0000									
	N307	111.7000	105.7500	108.2800	0	0	2.5300	3.4200	12.5660	0.0000
0.0000	0.0000									
	N308	108.4000	106.4400	108.4000	0	1	1.9600	0.0000	12.5660	0.0000
0.0000	0.0000									
	N309	119.4000	114.1500	113.8197	1	3	0.0000	5.5803	12.5660	0.0000
0.0000	0.0000									
	N310	116.6600	113.5100	112.6514	1	37	0.0000	4.0086	12.5660	0.0000
0.0000	0.0000									
	N312	116.4000	114.2100	114.0002	1	37	0.0000	2.3998	12.5660	0.0000
0.0000	0.0000									
	N313	107.7900	104.9300	104.1135	3	4	0.0000	3.6765	12.5660	0.0000
0.0000	0.0000									
	N314	105.5100	102.7900	102.0841	3	16	0.0000	3.4259	12.5660	0.0000
0.0000	0.0000									
	N315	103.3100	100.6100	99.9648	3	17	0.0000	3.3452	12.5660	0.0000
0.0000	0.0000									
	N316	101.0000	95.1000	98.6700	0	0	3.5700	2.3300	12.5660	0.0000
0.0000	0.0000									
	N317	96.4000	90.4200	92.7363	6	59	2.3163	3.6637	12.5660	0.0000
0.0000	0.0000									
	N318	94.1000	89.9900	92.1556	6	0	2.1656	1.9444	12.5660	0.0000
0.0000	0.0000									
	N319	100.4000	90.4700	92.3207	6	59	1.8507	8.0793	12.5660	0.0000
0.0000	0.0000									
	N320	95.3200	90.7800	92.9456	6	59	2.1656	2.3744	12.5660	0.0000
0.0000	0.0000									
	N321	96.4000	91.1100	93.1449	6	0	2.0349	3.2551	12.5660	0.0000
0.0000	0.0000									
	N325	97.2700	91.2700	93.1319	6	59	1.8619	4.1381	12.5660	0.0000
0.0000	0.0000									
	N326	100.4000	91.7500	93.1937	6	59	1.4437	7.2063	12.5660	0.0000
0.0000	0.0000									
	N327	98.4000	91.6600	93.5541	6	0	1.8941	4.8459	12.5660	0.0000
0.0000	0.0000									
	N328	100.2600	94.9400	99.0983	0	1	4.1583	1.1617	12.5660	0.0000
0.0000	0.0000									
	N329	104.4000	95.0000	99.5812	0	1	4.5812	4.8188	12.5660	0.0000
0.0000	0.0000									
	N330	101.6200	95.4400	100.1728	0	0	4.7328	1.4472	12.5660	0.0000
0.0000	0.0000									
	N331	100.2600	94.2000	98.6400	0	0	4.4400	1.6200	12.5660	0.0000
0.0000	0.0000									
	N332	101.4000	95.0000	99.6635	0	1	4.6635	1.7365	12.5660	0.0000
0.0000	0.0000									
	N333	124.4600	109.8700	110.9382	6	0	1.0682	13.5218	12.5660	0.0000
0.0000	0.0000									
	N334	121.3900	109.5100	110.7767	6	0	1.2667	10.6133	12.5660	0.0000
0.0000	0.0000									
	N335	111.2600	107.1800	109.7243	6	0	2.5443	1.5357	12.5660	0.0000
0.0000	0.0000									
	N336	120.3000	107.5400	109.8263	6	0	2.2863	10.4737	12.5660	0.0000
0.0000	0.0000									
	N337	108.3300	103.7800	104.3342	6	0	0.5542	3.9958	12.5660	0.0000

0.0000	0.0000									
	N338	116.4000	104.3100	104.4885	6	0	0.1785	11.9115	12.5660	0.0000
0.0000	0.0000									
	N339	113.4000	105.8900	105.5303	6	0	0.0000	7.8697	12.5660	0.0000
0.0000	0.0000									
	N340	110.4800	105.4700	105.2177	6	0	0.0000	5.2623	12.5660	0.0000
0.0000	0.0000									
	N341	106.0600	102.7500	102.9537	6	0	0.2037	3.1063	12.5660	0.0000
0.0000	0.0000									
	N342	106.8400	101.7200	101.6653	6	0	0.0000	5.1747	12.5660	0.0000
0.0000	0.0000									
	N343	104.4000	101.5000	101.1083	6	0	0.0000	3.2917	12.5660	0.0000
0.0000	0.0000									
	N344	112.0700	102.1100	101.8986	6	0	0.0000	10.1714	12.5660	0.0000
0.0000	0.0000									
	N345	128.1400	119.8300	119.2319	6	0	0.0000	8.9081	12.5660	0.0000
0.0000	0.0000									
	N347	126.9900	119.4500	122.6221	3	58	3.1721	4.3679	12.5660	0.0000
0.0000	0.0000									
	N348	122.7000	117.6700	120.0079	4	59	2.3379	2.6921	12.5660	0.0000
0.0000	0.0000									
	N349	129.4000	120.1600	122.9823	4	59	2.8223	6.4177	12.5660	0.0000
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	N350	128.4000	118.8000	121.6390	4	0	2.8390	6.7610	12.5660	0.0000
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	N351	124.8500	118.4400	121.4735	4	1	3.0335	3.3765	12.5660	0.0000
0.0000	0.0000									
	N352	127.4000	118.3700	120.4752	4	1	2.1052	6.9248	12.5660	0.0000
0.0000	0.0000									
	N353	125.4000	118.3600	120.5972	4	0	2.2372	4.8028	12.5660	0.0000
0.0000	0.0000									
	N354	123.0000	117.1500	116.3779	3	54	0.0000	6.6221	12.5660	0.0000
0.0000	0.0000									
	N355	121.1000	112.1000	113.7800	0	0	1.6800	7.3200	12.5660	0.0000
0.0000	0.0000									
	N356	128.3900	126.3200	125.6081	2	35	0.0000	2.7819	12.5660	0.0000
0.0000	0.0000									
	N357	126.5200	123.9800	123.3977	2	43	0.0000	3.1223	12.5660	0.0000
0.0000	0.0000									
	N358	128.1900	121.8200	121.3926	2	48	0.0000	6.7974	12.5660	0.0000
0.0000	0.0000									
	N359	126.7800	121.0900	120.3681	2	50	0.0000	6.4119	12.5660	0.0000
0.0000	0.0000									
	N360	121.5000	113.8000	116.1200	0	0	2.3200	5.3800	12.5660	0.0000
0.0000	0.0000									
	N361	133.4000	129.2400	128.4056	2	24	0.0000	4.9944	12.5660	0.0000
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	N362	133.8500	129.1300	128.2437	2	21	0.0000	5.6063	12.5660	0.0000
0.0000	0.0000									
	N363	135.6800	128.7800	127.6447	2	22	0.0000	8.0353	12.5660	0.0000
0.0000	0.0000									
	N364	134.3100	128.5100	127.0548	2	22	0.0000	7.2552	12.5660	0.0000
0.0000	0.0000									
	N365	129.0000	128.4000	122.0600	0	0	0.0000	6.9400	12.5660	0.0000
0.0000	0.0000									
	N366	136.4000	129.1200	128.9836	1	0	0.0000	7.4164	12.5660	0.0000
0.0000	0.0000									
	N367	131.4000	129.3300	129.2163	1	32	0.0000	2.1837	12.5660	0.0000
0.0000	0.0000									
	N368	130.1000	126.7600	126.9900	1	32	0.2300	3.1100	12.5660	0.0000

0.0000	0.0000									
	N369	130.1500	126.6700	126.9334	1	29	0.2634	3.2166	12.5660	0.0000
0.0000	0.0000									
	N370	130.0300	125.7000	126.7311	1	21	1.0311	3.2989	12.5660	0.0000
0.0000	0.0000									
	N371	130.3200	125.7600	126.7751	1	24	1.0151	3.5449	12.5660	0.0000
0.0000	0.0000									
	N372	131.8100	125.3400	125.9377	1	22	0.5977	5.8723	12.5660	0.0000
0.0000	0.0000									
	N373	131.3300	124.9700	125.1608	1	27	0.1908	6.1692	12.5660	0.0000
0.0000	0.0000									
	N374	132.8200	124.6000	124.3629	1	28	0.0000	8.4571	12.5660	0.0000
0.0000	0.0000									
	N375	132.2300	124.4800	124.1182	1	29	0.0000	8.1118	12.5660	0.0000
0.0000	0.0000									
	N376	130.4700	124.9000	124.4568	1	29	0.0000	6.0132	12.5660	0.0000
0.0000	0.0000									
	N377	130.5100	124.8200	124.3901	1	29	0.0000	6.1199	12.5660	0.0000
0.0000	0.0000									
	N378	129.1900	123.7700	122.2006	0	1	0.0000	6.9894	12.5660	0.0000
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	N379	128.2000	122.9000	122.1000	0	0	0.0000	6.1000	12.5660	0.0000
0.0000	0.0000									
	N381	128.4700	126.2600	125.8395	3	57	0.0000	2.6305	12.5660	0.0000
0.0000	0.0000									
	N382	128.0000	124.8600	124.5395	4	4	0.0000	3.4605	12.5660	0.0000
0.0000	0.0000									
	N383	132.3000	126.5300	126.2887	1	0	0.0000	6.0113	12.5660	0.0000
0.0000	0.0000									
	N384	131.1800	126.6400	126.3795	1	0	0.0000	4.8005	12.5660	0.0000
0.0000	0.0000									
	N386	132.1700	125.1400	124.9753	1	0	0.0000	7.1947	12.5660	0.0000
0.0000	0.0000									
	N387	132.9300	125.2300	124.8582	4	1	0.0000	8.0718	12.5660	0.0000
0.0000	0.0000									
	N388	128.2100	123.9500	123.5625	4	5	0.0000	4.6475	12.5660	0.0000
0.0000	0.0000									
	N389	128.3800	123.1100	121.9924	4	6	0.0000	6.3876	12.5660	0.0000
0.0000	0.0000									
	N390	132.4000	123.8300	123.6271	1	37	0.0000	8.7729	12.5660	0.0000
0.0000	0.0000									
	N391	131.4000	123.6900	124.1512	1	24	0.4612	7.2488	12.5660	0.0000
0.0000	0.0000									
	N392	129.2100	122.8300	121.6798	0	2	0.0000	7.5302	12.5660	0.0000
0.0000	0.0000									
	N394	130.0700	121.4000	121.5100	0	0	0.1100	8.5600	12.5660	0.0000
0.0000	0.0000									
	N395	126.4000	119.6100	121.1817	6	0	1.5717	5.2183	12.5660	0.0000
0.0000	0.0000									
	N396	124.6000	119.1800	119.3452	6	0	0.1652	5.2548	12.5660	0.0000
0.0000	0.0000									
	N397	124.9400	118.8100	118.8323	6	0	0.0223	6.1077	12.5660	0.0000
0.0000	0.0000									
	N398	128.0400	119.0600	119.0154	6	0	0.0000	9.0246	12.5660	0.0000
0.0000	0.0000									
	N399	124.3000	118.6100	118.7270	6	0	0.1170	5.5730	12.5660	0.0000
0.0000	0.0000									
	N403	125.5000	118.3000	118.4705	6	0	0.1705	7.0295	12.5660	0.0000
0.0000	0.0000									
	N404	126.6900	117.9800	118.2069	6	0	0.2269	8.4831	12.5660	0.0000

0.0000	0.0000									
	N405	131.2500	118.0000	118.7910	6	0	0.7910	12.4590	12.5660	0.0000
0.0000	0.0000									
	N406	124.4900	117.6700	117.9109	6	0	0.2409	6.5791	12.5660	0.0000
0.0000	0.0000									
	N407	132.5800	118.0000	118.1897	6	0	0.1897	14.3903	12.5660	0.0000
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	N408	125.2200	117.2800	117.4431	6	0	0.1631	7.7769	12.5660	0.0000
0.0000	0.0000									
	N409	123.3200	116.9800	116.9260	6	0	0.0000	6.3940	12.5660	0.0000
0.0000	0.0000									
	N410	124.2200	116.6200	116.3132	6	0	0.0000	7.9068	12.5660	0.0000
0.0000	0.0000									
	N412	125.2400	117.5500	119.4386	6	0	1.8886	5.8014	12.5660	0.0000
0.0000	0.0000									
	N413	123.5000	118.8300	119.1584	6	0	0.3284	4.3416	12.5660	0.0000
0.0000	0.0000									
	N414	122.0000	119.3700	119.2321	6	0	0.0000	2.7679	12.5660	0.0000
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	N415	124.3800	117.5800	119.5312	6	0	1.9512	4.8488	12.5660	0.0000
0.0000	0.0000									
	N416	125.2100	118.0800	119.5129	6	0	1.4329	5.6971	12.5660	0.0000
0.0000	0.0000									
	N417	121.7600	119.5700	119.3435	6	0	0.0000	2.4165	12.5660	0.0000
0.0000	0.0000									
	N418	124.4000	121.1500	120.8207	1	0	0.0000	3.5793	12.5660	0.0000
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	N419	120.2000	112.6600	113.4701	6	0	0.8101	6.7299	12.5660	0.0000
0.0000	0.0000									
	N420	123.9000	113.9900	114.7633	6	0	0.7733	9.1367	12.5660	0.0000
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	N421	121.2100	113.7500	114.5335	6	0	0.7835	6.6765	12.5660	0.0000
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	N422	118.3600	111.6300	112.4791	6	0	0.8491	5.8809	12.5660	0.0000
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	N423	120.4000	111.8700	112.6795	6	0	0.8095	7.7205	12.5660	0.0000
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	N424	118.5600	111.0100	112.0680	6	0	1.0580	6.4920	12.5660	0.0000
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	N425	120.3900	111.3100	112.3959	6	0	1.0859	7.9941	12.5660	0.0000
0.0000	0.0000									
	N426	117.2400	110.4500	111.6343	6	0	1.1843	5.6057	12.5660	0.0000
0.0000	0.0000									
	N428	114.7900	109.9200	111.1574	6	0	1.2374	3.6326	12.5660	0.0000
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	N429	116.1800	109.5200	110.7941	6	0	1.2741	5.3859	12.5660	0.0000
0.0000	0.0000									
	N430	128.2200	120.0000	119.6536	6	0	0.0000	8.5664	12.5660	0.0000
0.0000	0.0000									
	N431	123.0700	119.4000	119.2660	6	0	0.0000	3.8040	12.5660	0.0000
0.0000	0.0000									
	N432	120.7300	119.5700	119.4963	6	0	0.0000	1.2337	12.5660	0.0000
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	N434	126.2700	119.8000	119.7362	6	0	0.0000	6.5338	12.5660	0.0000
0.0000	0.0000									
	N435	120.2500	112.1800	112.9610	6	0	0.7810	7.2890	12.5660	0.0000
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	N436	125.4000	112.5700	113.5338	6	0	0.9638	11.8662	12.5660	0.0000
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	N437	122.9000	112.4200	113.1916	6	0	0.7716	9.7084	12.5660	0.0000

0.0000	0.0000										
	N438	119.8200	111.5800	112.5301	6	0	0.9501	7.2899	12.5660	0.0000	
0.0000	0.0000										
	N439	118.1400	110.6500	111.8621	6	0	1.2121	6.2779	12.5660	0.0000	
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	N440	122.4000	111.0500	112.0562	6	0	1.0062	10.3438	12.5660	0.0000	
0.0000	0.0000										
	N441	120.9000	110.9800	112.2083	6	0	1.2283	8.6917	12.5660	0.0000	
0.0000	0.0000										
	N442	116.2500	109.9700	111.2807	6	0	1.3107	4.9693	12.5660	0.0000	
0.0000	0.0000										
	N443	118.4000	110.3800	111.3435	6	0	0.9635	7.0565	12.5660	0.0000	
0.0000	0.0000										
	N444	118.4000	110.2800	111.6425	6	0	1.3625	6.7575	12.5660	0.0000	
0.0000	0.0000										
	N445	113.3000	108.9800	109.7503	6	0	0.7703	3.5497	12.5660	0.0000	
0.0000	0.0000										
	N446	118.4000	109.4900	109.8312	6	0	0.3412	8.5688	12.5660	0.0000	
0.0000	0.0000										
	N447	113.2000	108.5500	108.8835	6	0	0.3335	4.3165	12.5660	0.0000	
0.0000	0.0000										
	N448	125.6200	119.7700	121.1578	6	0	1.3878	4.4622	12.5660	0.0000	
0.0000	0.0000										
	N449	125.6000	119.2400	120.5964	6	0	1.3564	5.0036	12.5660	0.0000	
0.0000	0.0000										
	N450	125.2200	121.7400	122.8992	6	0	1.1592	2.3208	12.5660	0.0000	
0.0000	0.0000										
	N451	126.4000	122.2700	123.3870	6	0	1.1170	3.0130	12.5660	0.0000	
0.0000	0.0000										
	N453	119.8300	114.7600	115.6961	6	0	0.9361	4.1339	12.5660	0.0000	
0.0000	0.0000										
	N454	125.4000	115.2900	116.4642	6	0	1.1742	8.9358	12.5660	0.0000	
0.0000	0.0000										
	N455	118.2800	112.9300	113.0201	6	0	0.0901	5.2599	12.5660	0.0000	
0.0000	0.0000										
	N456	116.2800	111.5100	112.1895	6	0	0.6795	4.0905	12.5660	0.0000	
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	N457	122.4000	112.0200	112.4454	6	0	0.4254	9.9546	12.5660	0.0000	
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	N458	114.0000	109.8900	109.7789	6	0	0.0000	4.2211	12.5660	0.0000	
0.0000	0.0000										
	N459	110.2500	108.1100	107.6629	6	0	0.0000	2.5871	12.5660	0.0000	
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	N460	110.1000	107.6100	105.0976	6	0	0.0000	5.0024	12.5660	0.0000	
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	N461	110.1000	97.6000	98.6700	0	0	1.0700	11.4300	12.5660	0.0000	
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	N464	132.5200	126.8400	128.1440	5	47	1.3040	4.3760	12.5660	0.0000	
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	N465	135.1200	128.1500	129.7527	5	48	1.6027	5.3673	12.5660	0.0000	
0.0000	0.0000										
	N466	131.9700	127.9400	129.4984	5	48	1.5584	2.4716	12.5660	0.0000	
0.0000	0.0000										
	N467	130.9600	127.3000	128.2210	5	42	0.9210	2.7390	12.5660	0.0000	
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	N468	129.9500	125.5900	126.0007	5	49	0.4107	3.9493	12.5660	0.0000	
0.0000	0.0000										
	N469	128.6600	124.6600	120.4426	5	53	0.0000	8.2174	12.5660	0.0000	
0.0000	0.0000										
	N470	127.0000	120.4600	119.0232	6	0	0.0000	7.9768	12.5660	0.0000	

0.0000	0.0000										
	N471	133.3000	125.8800	126.0884	5	50	0.2084	7.2116	12.5660	0.0000	
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	N472	129.4500	125.9400	126.0559	5	51	0.1159	3.3941	12.5660	0.0000	
0.0000	0.0000										
	N473	126.2300	121.0700	120.5302	5	53	0.0000	5.6998	12.5660	0.0000	
0.0000	0.0000										
	N487	122.2200	120.5700	119.7372	6	0	0.0000	2.4828	12.5660	0.0000	
0.0000	0.0000										
	N489	124.6300	122.3300	120.8720	2	38	0.0000	3.7580	12.5660	0.0000	
0.0000	0.0000										
	N490	125.9100	123.6500	123.4952	2	21	0.0000	2.4148	12.5660	0.0000	
0.0000	0.0000										
	N491	127.1900	125.7700	125.0264	2	2	0.0000	2.1636	12.5660	0.0000	
0.0000	0.0000										
	N492	130.4000	127.3400	128.1178	1	0	0.7778	2.2822	12.5660	0.0000	
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	N493	129.9000	127.0400	127.0400	0	34	0.0000	2.8600	12.5660	0.0000	
0.0000	0.0000										
	N497	112.8000	109.3300	109.8299	1	1	0.4999	2.9701	12.5660	0.0000	
0.0000	0.0000										
	N499	111.0500	108.7500	98.6400	0	0	0.0000	12.4100	12.5660	0.0000	
0.0000	0.0000										
	N500	95.8800	88.9200	91.1164	6	59	2.1964	4.7636	12.5660	0.0000	
0.0000	0.0000										
	N501	94.9100	87.9700	88.9568	6	59	0.9868	5.9532	12.5660	0.0000	
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	N503	100.1000	91.5500	98.2300	0	0	6.6800	1.8700	12.5660	0.0000	
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	N504	100.4000	97.2900	99.2193	1	0	1.9293	1.1807	12.5660	0.0000	
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	N506	100.4000	93.1400	94.2928	1	0	1.1528	6.1072	12.5660	0.0000	
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	N509	117.9000	110.3800	112.4402	1	0	2.0602	5.4598	12.5660	0.0000	
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	N511	114.9500	103.4600	102.7537	1	0	0.0000	12.1963	12.5660	0.0000	
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	N513	117.8200	111.7600	111.3361	1	0	0.0000	6.4839	12.5660	0.0000	
0.0000	0.0000										
	N514	117.9000	111.6100	108.7618	1	1	0.0000	9.1382	12.5660	0.0000	
0.0000	0.0000										
	N516	111.0000	92.0000	98.2300	0	0	6.2300	12.7700	12.5660	0.0000	
0.0000	0.0000										
	N517	90.2800	86.4500	86.2850	5	50	0.0000	3.9950	12.5660	0.0000	
0.0000	0.0000										
	N518	89.2500	87.0600	87.4472	6	0	0.3872	1.8028	12.5660	0.0000	
0.0000	0.0000										
	N524	136.4600	134.4500	133.7961	2	16	0.0000	2.6639	12.5660	0.0000	
0.0000	0.0000										
	N525	136.2000	132.1700	131.6772	2	32	0.0000	4.5228	12.5660	0.0000	
0.0000	0.0000										
	N526	137.2000	134.4600	133.8039	2	24	0.0000	3.3961	12.5660	0.0000	
0.0000	0.0000										
	N527	136.0000	131.6000	131.1070	2	32	0.0000	4.8930	12.5660	0.0000	
0.0000	0.0000										
	N528	129.5000	126.1600	126.7861	1	22	0.6261	2.7139	12.5660	0.0000	
0.0000	0.0000										
	N529	134.2600	124.1400	123.3488	1	32	0.0000	10.9112	12.5660	0.0000	
0.0000	0.0000										
	N530	109.2400	103.4600	104.9238	6	0	1.4638	4.3162	12.5660	0.0000	

0.0000	0.0000										
	N689	123.2700	119.5000	119.5000	0	39	0.0000	3.7700	12.5660	0.0000	
0.0000	0.0000										
	N494	126.0000	123.1600	122.3558	2	37	0.0000	3.6442	12.5660	0.0000	
0.0000	0.0000										
	N541	120.0000	113.5900	114.2861	6	0	0.6961	5.7139	12.5660	0.0000	
0.0000	0.0000										
	EL329	118.0000	114.0200	114.9266	6	0	0.9066	3.0734	12.5660	0.0000	
0.0000	0.0000										
	N427	118.5000	111.1400	112.6510	6	0	1.5110	5.8490	12.5660	0.0000	
0.0000	0.0000										
	N411	128.9500	116.5000	116.1200	0	0	0.0000	12.8300	12.5660	0.0000	
0.0000	0.0000										
	N295	120.1000	108.9300	110.3800	0	0	1.4500	9.7200	12.5660	0.0000	
0.0000	0.0000										
	N311	114.3000	105.3500	108.3400	0	0	2.9900	5.9600	12.5660	0.0000	
0.0000	0.0000										
	N462	133.0000	129.2800	129.7121	5	43	0.4321	3.2879	12.5660	0.0000	
0.0000	0.0000										
	N554	94.5100	92.2800	92.0791	6	0	0.0000	2.4309	12.5660	0.0000	
0.0000	0.0000										
	N555	110.0000	91.0500	98.2300	0	0	7.1800	11.7700	12.5660	0.0000	
0.0000	0.0000										
	N322	101.6200	94.5000	98.6400	0	0	4.1400	2.9800	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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Maximum Water Pipe Ends Dwnstrm (ft)	Ratio Design Flow (cfs)	Conduit Design Velocity (ft/s)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence Hr. Min.	Maximum Computed Velocity (ft/s)	Time of Occurrence Hr. Min.	Ratio of Max. to Design Flow	Elev at Upstream (ft)			
106.9939	L210 1.763 1.554	2.3341	2.9719	12.0000	2.8911	2	40	3.7445	0	56	1.2386	107.6026
102.8186	L211 2.554 0.759	2.3583	3.0027	12.0000	3.1354	2	46	4.0313	2	46	1.3295	106.9939
100.2909	L212 1.045 1.457	3.6820	3.0003	15.0000	3.2978	4	22	3.3046	0	56	0.8957	102.1159
100.2909	L213 2.632 2.571	2.3504	2.9927	12.0000	2.4916	1	18	3.2326	0	40	1.0601	100.9720
100.2909	L214 2.053 2.047	5.2561	2.9743	18.0000	5.3717	1	18	3.0198	1	18	1.0220	100.6100
99.7386	L217 0.447 0.409	2.3778	3.0275	12.0000	0.9501	1	2	2.8265	1	3	0.3996	100.2872
98.1694	L220 1.898 1.194	7.2421	3.0109	21.0000	11.2776	4	23	4.6465	4	27	1.5572	100.2909

96.2277	1.170	0.654	L221	9.4105	2.9955	24.0000	13.2165	4	25	4.1620	4	25	1.4044	98.1694
90.1200	0.406	2.260	L222	43.1608	13.7385	24.0000	13.3950	4	16	9.6023	4	19	0.3104	95.2324
119.6069	0.264	0.197	L223	1.5862	2.0196	12.0000	0.2305	2	1	1.4362	5	2	0.1453	119.8642
118.0569	0.280	0.197	L224	1.5676	1.9959	12.0000	0.2305	5	1	1.3309	5	1	0.1470	118.8903
117.5825	0.400	1.072	L225	1.5703	1.9993	12.0000	0.2305	6	0	1.3999	0	57	0.1468	117.6596
118.1994	0.868	1.579	L226	1.5717	2.0011	12.0000	0.9294	6	0	1.8893	0	58	0.5913	118.5578
117.5825	1.579	1.572	L227	1.5698	1.9988	12.0000	1.5845	6	0	2.2885	0	55	1.0093	118.1994
114.7356	2.472	0.676	L228	1.5683	1.9969	12.0000	2.4888	6	0	3.2325	6	0	1.5869	117.5825
110.5696	0.927	0.552	L229	2.8478	2.3206	15.0000	2.9466	6	0	2.5939	2	7	1.0347	112.5184
108.8794	1.392	0.816	L230	2.4656	2.0091	15.0000	3.4595	6	0	2.8641	1	34	1.4031	110.3694
107.0654	2.416	1.572	L231	2.4434	1.9910	15.0000	3.8015	6	0	3.0717	6	0	1.5558	108.8794
105.7300	2.144	1.567	L232	3.5621	2.0157	18.0000	6.0390	6	0	3.3939	6	0	1.6954	107.0654
103.4547	2.513	2.096	L233	5.3431	3.0236	18.0000	6.3287	6	0	3.5481	6	0	1.1845	105.7300
102.4757	1.947	2.053	L234	10.3141	3.2831	24.0000	9.4131	6	0	2.9781	6	0	0.9126	103.4547
112.5184	1.048	1.158	L235	1.5127	1.9260	12.0000	0.4478	6	59	1.0898	0	13	0.2960	112.5280
107.0654	2.932	2.715	L236	1.5658	1.9936	12.0000	2.1260	6	59	2.6925	1	6	1.3578	107.5518
103.4547	3.284	2.895	L237	2.3516	2.9941	12.0000	3.0812	6	59	3.8746	1	7	1.3103	104.4244
115.8783	1.273	0.818	L238	2.3553	2.9988	12.0000	3.6943	1	0	4.7555	1	0	1.5685	116.6527
113.1820	2.221	0.852	L239	2.3692	3.0165	12.0000	4.0636	1	0	5.1858	1	0	1.7152	115.2810
112.7991	0.523	0.469	L240	2.3544	2.9977	12.0000	1.2377	1	1	3.0137	1	1	0.5257	113.3534
107.7384	1.907	0.751	L241	3.6815	3.0000	15.0000	5.3649	1	1	4.4351	1	1	1.4572	110.4633
107.6293	0.663	0.579	L242	2.3529	2.9958	12.0000	1.8517	1	0	3.3991	1	1	0.7870	108.0734
107.7248	0.837	0.675	L243	2.3707	3.0185	12.0000	2.4831	1	2	3.6078	1	2	1.0474	108.4472
100.5470	1.842	1.355	L246	14.7213	2.9990	30.0000	24.3602	6	0	4.9377	6	0	1.6548	102.4757
99.9500	1.355	1.180	L247	14.8246	3.0200	30.0000	-34.7155	0	0	5.8299	6	0	-2.3417	100.5470
100.5470	1.809	1.887	L248	2.3403	2.9798	12.0000	1.9823	1	0	2.5119	1	0	0.8470	100.7386
104.8520	0.613	0.392	L249	2.3421	2.9821	12.0000	1.5796	1	0	3.2717	1	0	0.6744	105.4932
99.9500	0.392	3.310	L250	9.7769	12.4483	12.0000	3.0003	1	0	8.9085	1	0	0.3069	104.8520
104.8520	0.546	0.392	L251	2.3510	2.9934	12.0000	1.3050	1	0	3.0835	1	0	0.5551	105.4059
99.2256	0.149	1.176	L252	2.3583	3.0027	12.0000	0.1128	3	43	0.9086	0	17	0.0478	100.5085

100.9948	0.643	0.665	L253	2.3631	3.0088	12.0000	1.7370	1	0	3.2864	1	0	0.7350	101.3835
99.2256	0.665	1.176	L254	2.3579	3.0022	12.0000	1.7367	5	15	3.0989	0	58	0.7365	100.9948
99.9370	0.914	0.910	L255	3.6728	2.9929	15.0000	3.9589	5	31	3.6647	0	57	1.0779	100.2825
99.2256	0.925	1.117	L256	5.3094	3.0045	18.0000	4.7298	5	28	3.0373	0	53	0.8908	99.9370
97.8101	1.117	0.807	L257	5.3028	3.0008	18.0000	6.6737	5	28	3.6751	5	28	1.2585	99.2256
97.8101	0.441	0.710	L258	2.3516	2.9941	12.0000	0.8529	5	6	2.5005	0	48	0.3627	98.1213
96.0359	0.834	0.260	L259	7.1885	2.9886	21.0000	7.8638	5	26	3.9734	5	26	1.0939	97.8101
90.1200	0.260	2.583	L260	54.2277	22.5452	21.0000	8.0628	5	25	11.6526	5	25	0.1487	96.0359
93.7152	0.493	0.275	L261	2.3656	3.0120	12.0000	0.9792	1	2	2.6864	1	2	0.4139	94.7428
79.2200	0.275	1.220	L262	13.9175	17.7203	12.0000	2.3040	1	1	9.6489	1	1	0.1655	93.7152
93.7152	0.548	0.275	L263	2.3540	2.9972	12.0000	1.1997	1	0	2.8987	1	1	0.5097	94.6677
85.7764	0.775	0.629	L264	3.6728	2.9929	15.0000	3.7883	1	0	3.7909	1	1	1.0314	86.2988
84.7914	0.756	0.674	L265	21.2741	3.0097	36.0000	22.4321	5	51	3.9592	5	51	1.0544	85.5082
83.9594	0.674	0.486	L266	21.1336	2.9898	36.0000	23.3519	5	52	4.7655	5	52	1.1050	84.7914
85.1570	0.422	0.387	L267	2.3663	3.0129	12.0000	0.8570	1	1	2.7535	1	1	0.3622	85.5616
95.9765	1.646	1.526	L268	2.3562	3.0000	12.0000	2.6552	2	51	3.3671	2	51	1.1269	96.5563
93.7327	1.526	0.733	L269	2.3610	3.0062	12.0000	2.9244	2	58	3.7936	2	58	1.2386	95.9765
80.3124	0.486	0.617	L270	58.0211	8.2083	36.0000	27.4511	5	53	7.7784	5	53	0.4731	83.9594
79.2896	0.529	0.646	L271	52.2659	5.4324	42.0000	27.4511	5	55	5.2169	5	55	0.5252	80.3124
79.0400	0.502	0.453	L272	50.6250	3.1831	54.0000	-54.5779	0	0	5.1562	5	36	-1.0781	79.2896
79.2896	0.914	0.863	L273	7.1817	2.9858	21.0000	9.4566	1	0	4.1829	1	0	1.3168	79.7003
78.9600	0.352	1.573	L274	32.1290	18.1813	18.0000	8.5560	1	0	12.6154	1	0	0.2663	92.4485
118.6232	0.618	0.323	L275	2.3504	2.9927	12.0000	1.5054	1	0	3.1332	1	0	0.6405	119.5381
118.6232	0.625	0.323	L277	2.3540	2.9972	12.0000	1.5122	1	0	3.1076	1	1	0.6424	119.6051
113.5385	0.594	0.578	L278	2.3583	3.0027	12.0000	1.5649	1	0	3.2306	1	0	0.6636	113.8339
109.5100	0.578	3.210	L279	6.2035	7.8986	12.0000	3.2539	1	0	6.4649	1	0	0.5245	113.5385
113.5385	0.596	0.578	L280	2.3516	2.9941	12.0000	1.5689	1	0	3.2265	1	0	0.6672	113.8460
122.6751	1.919	0.395	L281	2.3504	2.9927	12.0000	3.4219	1	29	4.6251	1	29	1.4559	124.8193
113.5400	0.395	2.940	L282	15.2316	19.3934	12.0000	5.0178	1	25	14.7894	1	25	0.3294	122.6751
122.6751	0.612	0.395	L283	2.3672	3.0140	12.0000	1.4971	1	0	3.1057	1	1	0.6325	123.5620

109.0611	L284	2.3453	2.9862	12.0000	-4.7711	0	1	-5.2429	0	1	-2.0343	109.7843
108.2800	L285	5.2748	2.9849	18.0000	-8.1954	0	0	-3.7322	0	1	-1.5537	109.0611
109.0611	L286	3.7136	3.0261	15.0000	-5.7330	0	0	-3.2225	0	1	-1.5438	108.4000
113.0849	L287	2.3660	3.0125	12.0000	1.8249	1	3	3.3193	1	3	0.7713	113.8197
113.1535	L289	2.3583	3.0027	12.0000	2.2642	1	37	3.4711	1	37	0.9601	114.0002
102.0841	L290	2.3547	2.9980	12.0000	0.1735	3	4	1.5990	3	4	0.0737	104.1135
99.9648	L291	2.3606	3.0056	12.0000	0.4448	3	16	2.2398	3	16	0.1884	102.0841
98.6700	L292	7.0734	9.0061	12.0000	1.1514	3	16	3.7743	3	11	0.1628	99.9648
92.1556	L294	2.3624	3.0079	12.0000	1.4189	1	2	3.0312	0	52	0.6006	92.3207
92.1556	L300	5.3010	2.9997	18.0000	5.3497	5	56	3.3970	0	52	1.0092	92.9456
92.9456	L301	2.3703	3.0180	12.0000	1.8664	2	35	3.2949	0	54	0.7874	93.1449
91.1164	L302	11.9259	2.9994	27.0000	11.8253	5	57	2.9560	5	57	0.9916	92.1556
93.1319	L303	2.3481	2.9898	12.0000	0.8511	5	57	2.6776	0	54	0.3625	93.1937
93.1319	L304	2.3384	2.9774	12.0000	2.4624	1	1	3.6541	1	1	1.0530	93.5541
92.9456	L305	5.3291	3.0156	18.0000	3.3133	6	59	2.6256	0	53	0.6217	93.1319
100.1502	L306	3.0341	3.8631	12.0000	2.8212	1	0	3.5000	1	0	0.9299	99.5812
98.6400	L307	19.5026	6.2079	24.0000	-4.8658	0	1	-1.5293	0	1	-0.2495	100.1728
98.6400	L308	7.7925	4.4096	18.0000	-8.4952	0	0	1.7817	1	0	-1.0902	99.0983
99.0983	L309	3.0341	3.8631	12.0000	-4.4156	0	0	3.3434	1	0	-1.4554	99.6635
110.7767	L310	2.3721	3.0202	12.0000	1.6006	6	59	3.1818	0	56	0.6748	110.9382
109.7243	L311	2.3596	3.0043	12.0000	1.6006	6	0	2.9157	0	53	0.6783	110.7767
109.7243	L312	2.3721	3.0202	12.0000	1.2821	6	59	2.2026	0	35	0.5405	109.8263
104.3342	L313	2.3540	2.9972	12.0000	2.9996	6	0	3.7630	6	0	1.2743	109.7243
104.3342	L314	2.3436	2.9840	12.0000	1.2826	6	59	2.7220	0	45	0.5473	104.4885
105.2177	L315	2.3749	3.0238	12.0000	1.6227	6	59	3.2505	1	0	0.6833	105.5303
104.3342	L316	2.3491	2.9909	12.0000	1.6227	6	59	3.0816	0	58	0.6908	105.2177
102.9537	L317	5.3166	3.0086	18.0000	6.1968	6	0	3.4826	6	0	1.1656	104.3342
101.6653	L318	5.2991	2.9987	18.0000	6.1968	6	0	3.3653	6	0	1.1694	102.9537
101.1083	L319	5.2963	2.9971	18.0000	8.1961	6	0	4.7905	6	59	1.5475	101.6653
101.6653	L320	2.3558	2.9995	12.0000	1.8864	1	7	3.0354	0	47	0.8008	101.8986

124.5395	L365	2.3663	3.0129	12.0000	1.6367	4	1	3.2406	1	59	0.6917	124.8582
123.5625	L366	9.4224	2.9993	24.0000	9.8099	4	4	3.5046	1	1	1.0411	124.5395
122.2300	L367	9.4185	2.9980	24.0000	9.8099	4	5	3.7398	4	5	1.0416	123.5625
122.7556	L368	2.3529	2.9958	12.0000	2.2786	1	37	3.4648	1	37	0.9684	123.6271
122.9086	L369	2.3634	3.0092	12.0000	3.4945	1	24	4.5022	1	24	1.4786	124.1512
121.6798	L370	21.3114	3.0150	36.0000	19.1219	4	6	4.1802	4	6	0.8973	121.9924
121.5100	L373	69.8268	9.8785	36.0000	-22.9231	0	0	4.6836	4	0	-0.3283	121.6798
119.3451	L374	1.6007	2.0381	12.0000	3.3515	1	0	4.3063	1	0	2.0937	121.1817
118.8322	L375	2.7585	1.5610	18.0000	3.3514	2	3	2.2806	2	2	1.2149	119.3452
118.8323	L376	17.8956	3.0129	33.0000	12.3893	6	0	2.0953	6	0	0.6923	119.0153
118.4705	L386	37.5354	2.9870	48.0000	34.7255	6	0	2.7225	6	0	0.9251	118.7270
118.2069	L387	37.3765	2.9743	48.0000	34.7101	6	0	2.7046	6	0	0.9287	118.4705
118.2069	L388	1.5910	2.0257	12.0000	2.2297	1	24	2.8878	1	23	1.4014	118.7909
117.9109	L389	48.3609	3.0407	54.0000	48.4170	6	0	2.9721	6	0	1.0012	118.2069
117.9109	L390	1.8968	2.4151	12.0000	1.6081	1	22	2.8204	1	14	0.8478	118.1897
117.4431	L391	47.6460	2.9958	54.0000	53.2573	6	0	-3.5403	0	4	1.1178	117.9109
116.9259	L392	47.8865	3.0109	54.0000	63.4431	6	0	-4.5742	0	2	1.3249	117.4431
116.3132	L393	47.6261	2.9945	54.0000	-76.0532	0	1	-5.3400	0	1	-1.5969	116.9260
119.1584	L395	7.7978	6.3542	15.0000	4.2402	5	47	3.4399	1	0	0.5438	119.4386
119.1584	L396	21.1861	2.9972	36.0000	8.3421	5	48	1.8392	0	50	0.3938	119.2320
119.1584	L397	7.4154	6.0426	15.0000	4.5805	5	47	3.7152	1	0	0.6177	119.5311
119.2321	L398	7.9175	6.4517	15.0000	4.3231	1	20	3.5864	0	33	0.5460	119.5129
119.2321	L399	9.4392	3.0046	24.0000	4.0412	1	21	2.5558	0	48	0.4281	119.3434
114.5335	L402	7.2544	3.0160	21.0000	7.1190	1	29	3.4623	1	0	0.9813	114.7633
113.4701	L403	7.1865	2.9878	21.0000	7.1191	1	8	3.4260	1	8	0.9906	114.5335
112.4791	L404	7.2356	3.0082	21.0000	7.1285	1	6	3.5493	1	4	0.9852	113.4701
112.4791	L405	5.2929	2.9952	18.0000	4.8564	1	28	3.8609	1	0	0.9175	112.6795
112.0680	L406	14.6711	2.9888	30.0000	11.9729	6	59	3.1921	0	52	0.8161	112.4791
112.0680	L407	3.6392	2.9655	15.0000	3.8258	1	0	3.8229	1	0	1.0513	112.3959
111.6343	L408	17.9044	3.0144	33.0000	15.7980	6	59	3.1695	0	46	0.8824	112.0680

128.1440	L448	2.3562	3.0000	12.0000	0.9708	5	15	2.4582	0	34	0.4120	128.2210
126.0007	L449	7.2216	3.0024	21.0000	9.5085	5	39	3.9304	5	39	1.3167	128.1440
123.9765	L450	9.4537	3.0092	24.0000	13.3913	5	51	4.2601	5	51	1.4165	126.0007
119.8419	L451	9.2424	2.9419	24.0000	14.7194	5	53	5.0912	5	53	1.5926	120.4426
126.0007	L452	2.3516	2.9941	12.0000	1.2925	2	22	2.7688	0	40	0.5496	126.0884
126.0007	L453	2.3389	2.9780	12.0000	0.9323	5	14	2.4656	0	37	0.3986	126.0559
120.4426	L454	2.3631	3.0088	12.0000	0.6806	1	1	2.3129	0	39	0.2880	120.5302
120.1342	L466	4.4943	3.6623	15.0000	4.0513	1	1	4.2367	1	1	0.9014	120.8207
119.3435	L468	8.8034	2.8022	24.0000	4.0501	1	22	2.7254	1	1	0.4601	119.7372
122.3558	L470	7.2253	3.0039	21.0000	9.4830	2	21	4.3099	1	0	1.3125	123.4952
123.4952	L471	2.6488	3.3726	12.0000	0.3817	2	2	1.7178	1	17	0.1441	125.0264
127.0400	L472	2.3453	2.9862	12.0000	4.4590	1	0	5.6521	1	0	1.9012	128.1178
92.1556	L475	3.7084	3.0219	15.0000	4.3583	5	54	3.7519	0	53	1.1752	92.7363
88.9568	L478	11.9409	3.0032	27.0000	18.0903	6	59	4.5232	6	59	1.5150	91.1164
87.4472	L479	13.9490	2.8417	30.0000	18.0903	6	0	3.6595	6	0	1.2969	88.9568
98.2300	L487	25.6909	10.6810	21.0000	10.7813	1	0	4.4435	1	0	0.4197	99.2193
110.8168	L490	4.8350	2.0102	21.0000	6.7177	1	1	3.5464	1	1	1.3894	111.3361
86.2850	L493	9.8698	2.0107	30.0000	18.0903	6	0	3.6906	6	0	1.8329	87.4472
131.6772	L496	2.3549	2.9983	12.0000	0.6064	2	16	2.3568	2	16	0.2575	133.7961
131.6772	L497	2.3540	2.9973	12.0000	0.5989	2	24	2.3448	2	24	0.2544	133.8039
131.1070	L498	2.3549	2.9983	12.0000	1.2053	2	32	3.0139	2	32	0.5118	131.6772
121.4735	L499	1.5713	2.0007	12.0000	1.7090	3	58	2.1331	3	58	1.0876	122.6221
120.0079	L500	2.4625	2.0066	15.0000	3.4454	4	59	2.7658	4	59	1.3992	121.4735
126.7860	L501	21.3175	3.0158	36.0000	12.4043	1	21	2.6648	0	34	0.5819	126.9334
126.7311	L502	28.7542	2.9886	42.0000	12.6379	1	20	1.3186	0	21	0.4395	126.7860
123.3488	L503	47.5382	2.9890	54.0000	73.4516	1	29	4.8401	1	29	1.5451	124.1182
122.2006	L504	48.0749	3.0228	54.0000	74.2709	1	29	5.4223	1	30	1.5449	123.3488
104.9238	L505	7.2137	2.9991	21.0000	10.5969	6	0	4.3673	1	1	1.4690	107.2387
102.4757	L506	7.1955	2.9916	21.0000	10.8984	6	59	4.4788	1	7	1.5146	104.9238
92.1084	L507	2.3618	3.0071	12.0000	3.7981	1	0	4.8594	1	0	1.6082	94.2928

108.4649	L509	3.6833	3.0014	15.0000	5.6849	1	1	4.7026	1	1	1.5435	109.8299
1.400		0.772										
98.2300	L510	18.7195	15.2541	15.0000	5.1189	1	0	8.7052	1	0	0.2735	102.7537
0.435		6.744										
109.8810	L511	3.5456	2.0064	18.0000	11.0413	1	0	6.2595	1	0	3.1141	112.4402
2.373		0.847										
98.2300	L512	79.1933	25.2080	24.0000	17.9050	1	1	15.9778	1	1	0.2261	108.7618
0.326		4.115										
85.5082	L513	9.8234	2.0012	30.0000	18.2188	5	51	3.9090	5	51	1.8546	86.2850
0.934		0.707										
128.1440	L514	7.2103	2.9977	21.0000	8.0432	5	40	3.3254	5	40	1.1155	129.4984
1.891		1.745										
118.7269	L515	21.4683	3.0371	36.0000	15.8009	6	0	2.2237	6	0	0.7360	118.8323
1.007		1.039										
119.0154	CH21	321.7664	1.1701	33.0000	12.6097	6	59	0.3253	1	9	0.0392	119.0231
0.478		0.984										
119.5000	L474	5.2973	2.9976	18.0000	9.4830	2	39	5.3470	2	39	1.7902	120.8720
1.628		1.000										
121.2270	L523	22.9743	1.4587	18.0000	9.4830	2	38	1.2146	2	38	0.4128	122.3558
0.631		0.265										
118.7270	L525	21.2457	3.0056	36.0000	17.1496	5	47	3.0160	1	0	0.8072	119.1584
1.109		1.206										
118.2069	L527	5.2074	2.9468	18.0000	4.5196	5	48	2.6389	0	49	0.8679	119.2660
1.731		1.971										
117.4431	L528	3.6866	3.0041	15.0000	4.7391	1	26	3.9337	1	25	1.2855	120.5963
2.085		1.130										
114.2861	L529	3.5424	2.0046	18.0000	4.3384	6	59	2.7073	1	1	1.2247	114.9266
1.604		1.464										
112.6510	L533	5.2922	2.9948	18.0000	4.3384	6	59	3.1793	1	1	0.8198	114.2861
1.464		2.007										
111.6343	L537	3.5530	2.0106	18.0000	4.3384	6	59	2.5325	1	59	1.2210	112.6510
2.007		1.790										
116.1200	L394	47.1178	2.9626	54.0000	-110.683	0	0	-6.3518	0	1	-2.3491	116.3132
0.932		0.916										
110.3800	L276	13.9235	17.7279	12.0000	3.1463	1	0	11.3585	1	0	0.2260	118.6232
0.323		2.450										
108.3400	L288	20.4763	16.6856	15.0000	4.1590	1	38	9.8932	1	35	0.2031	112.6514
0.313		3.392										
119.2660	L412	3.2854	4.1830	12.0000	2.2439	1	0	4.5004	1	0	0.6830	119.6536
0.654		0.866										
129.4984	L447	5.3092	3.0044	18.0000	2.1264	5	16	2.3674	0	49	0.4005	129.7121
1.288		2.039										
91.1164	L546	6.9471	3.9312	18.0000	3.7980	6	59	3.5470	0	56	0.5467	92.0791
0.866		2.464										
	FREE # 1	Undefnd	Undefnd	Undefn	13.3950	4	19					
	FREE # 2	Undefnd	Undefnd	Undefn	-38.2470	0	0					
	FREE # 3	Undefnd	Undefnd	Undefn	3.0003	1	0					
	FREE # 4	Undefnd	Undefnd	Undefn	8.2240	5	25					
	FREE # 5	Undefnd	Undefnd	Undefn	2.3040	1	1					
	FREE # 6	Undefnd	Undefnd	Undefn	-45.3333	0	0					
	FREE # 7	Undefnd	Undefnd	Undefn	8.5560	1	0					
	FREE # 8	Undefnd	Undefnd	Undefn	3.2539	1	0					
	FREE # 9	Undefnd	Undefnd	Undefn	5.0178	1	25					
	FREE #10	Undefnd	Undefnd	Undefn	-8.4217	0	0					
	FREE #11	Undefnd	Undefnd	Undefn	1.1514	3	16					
	FREE #12	Undefnd	Undefnd	Undefn	-3.3487	0	0					
	FREE #13	Undefnd	Undefnd	Undefn	8.1961	6	0					
	FREE #14	Undefnd	Undefnd	Undefn	7.8187	3	42					
	FREE #15	Undefnd	Undefnd	Undefn	1.2917	2	47					
	FREE #16	Undefnd	Undefnd	Undefn	30.1672	2	22					

FREE #17	Undefnd	Undefnd	Undefn	-80.3250	0	0
FREE #18	Undefnd	Undefnd	Undefn	19.1219	4	2
FREE #19	Undefnd	Undefnd	Undefn	48.9390	5	58
FREE #20	Undefnd	Undefnd	Undefn	4.4590	1	0
FREE #21	Undefnd	Undefnd	Undefn	5.6849	1	1
FREE #22	Undefnd	Undefnd	Undefn	10.7813	1	0
FREE #23	Undefnd	Undefnd	Undefn	17.9050	1	1
FREE #24	Undefnd	Undefnd	Undefn	1.5346	2	32
FREE #25	Undefnd	Undefnd	Undefn	9.4830	2	39
FREE #26	Undefnd	Undefnd	Undefn	-135.270	0	0
FREE #27	Undefnd	Undefnd	Undefn	3.1463	1	0
FREE #28	Undefnd	Undefnd	Undefn	4.1590	1	38
FREE #29	Undefnd	Undefnd	Undefn	5.1189	1	0
FREE #30	Undefnd	Undefnd	Undefn	-5.0659	0	1

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)
L210	0.2500	303.3871	0.0000	56.3629	0.3028	0.8145	6.0754
L211	0.2500	0.0000	0.0000	359.7500	0.3022	0.7148	6.6769
L212	0.2500	305.5000	0.0000	54.2500	0.3735	1.2422	4.1200
L213	0.0000	324.0000	0.0000	36.0000	0.3019	0.8117	8.1584
L214	0.0000	344.7619	0.0000	15.2381	0.4557	1.8485	9.2805
L217	0.0000	0.0000	0.0000	360.0000	0.2305	0.3207	1.2094
L220	0.0000	337.0833	0.0000	22.9167	0.5305	2.4695	12.5695
L221	0.0000	0.0000	0.0000	360.0000	0.6008	2.7121	7.5895
L222	1.0167	358.9833	0.0000	0.0000	0.4398	2.1043	25.6018
L223	0.2500	0.0000	0.0000	359.7500	0.1501	0.1368	0.3311
L224	0.2500	0.0000	0.0000	359.7500	0.1573	0.1434	0.3175
L225	0.2500	303.8387	0.0000	55.9113	0.2176	0.5307	0.5207
L226	0.0000	360.0000	0.0000	0.0000	0.2988	0.7557	1.5578
L227	0.0000	306.6667	0.0000	53.3333	0.3034	0.8150	3.1677
L228	0.0000	0.0000	0.0000	360.0000	0.2990	0.6754	5.0881
L229	0.0000	0.0000	0.0000	360.0000	0.3741	0.9293	2.3945
L230	0.2500	274.9677	0.0000	84.7823	0.3733	1.1497	3.9298
L231	0.2500	294.2581	0.0000	65.4919	0.3732	1.2598	7.6559
L232	0.0000	302.5806	0.0000	57.4194	0.4485	1.8129	9.4443
L233	4.9375	320.8214	0.0000	34.2411	0.4482	1.8124	12.2670
L234	1.2167	358.0467	0.7367	0.0000	0.5976	3.2223	11.9131
L235	0.0000	360.0000	0.0000	0.0000	0.3034	0.8132	0.6133
L236	0.0000	321.6429	0.0000	38.3571	0.3035	0.8052	7.5514
L237	0.0000	316.9643	0.0000	43.0357	0.3042	0.8233	11.9500
L238	0.2500	0.0000	0.0000	359.7500	0.3030	0.7475	4.9700
L239	0.2500	0.0000	0.0000	359.7500	0.3026	0.7517	7.9672
L240	0.0000	0.0000	0.0000	360.0000	0.2552	0.3887	1.4956
L241	0.0000	0.0000	0.0000	360.0000	0.3770	1.1088	7.3641
L242	0.0000	0.0000	0.0000	360.0000	0.2886	0.5117	2.1118
L243	0.0000	0.0000	0.0000	360.0000	0.3027	0.6317	2.7274
L246	0.0000	360.0000	0.0000	0.0000	0.7464	5.1260	19.7326
L247	0.0000	360.0000	0.0000	0.0000	0.6377	5.1350	18.4721

L248	0.0000	359.5000	0.0000	0.5000	0.2987	0.8053	4.6391
L249	0.2500	359.7500	0.0000	0.0000	0.2734	0.3900	1.6438
L250	0.0000	360.0000	0.0000	0.0000	0.2148	0.5199	16.4884
L251	0.0000	360.0000	0.0000	0.0000	0.2582	0.3594	1.4455
L252	0.2500	344.1429	0.0000	15.6071	0.1097	0.3805	0.5048
L253	0.2500	359.7500	0.0000	0.0000	0.2871	0.5442	2.1191
L254	0.5000	327.5385	0.0000	31.9615	0.2866	0.6832	2.7508
L255	0.2500	312.1034	0.0000	47.6466	0.3797	1.1736	3.8393
L256	0.0000	360.0000	0.0000	0.0000	0.4523	1.7765	4.2104
L257	0.0000	329.8077	0.0000	30.1923	0.4540	1.6851	5.3026
L258	0.0000	321.5714	0.0000	38.4286	0.2366	0.4589	1.3629
L259	0.0000	360.0000	0.0000	0.0000	0.5051	1.2255	3.8066
L260	1.0167	358.9833	0.0000	0.0000	0.2827	1.3431	28.9910
L261	0.2500	359.7500	0.0000	0.0000	0.2386	0.2739	1.0315
L262	0.0000	360.0000	0.0000	0.0000	0.1681	0.4526	7.2135
L263	0.0000	360.0000	0.0000	0.0000	0.2535	0.2981	1.1926
L264	0.2500	0.0000	0.0000	359.7500	0.3765	0.9145	3.3267
L265	0.2500	359.7500	0.0000	0.0000	0.9034	5.3956	8.4915
L266	0.0000	360.0000	0.0000	0.0000	0.8629	4.2118	8.2940
L267	0.0000	0.0000	0.0000	360.0000	0.2210	0.2976	1.1132
L268	0.2500	359.7500	0.0000	0.0000	0.3041	0.8230	5.3415
L269	0.0000	0.0000	0.0000	360.0000	0.3023	0.7035	4.2852
L270	0.2500	359.7500	0.0000	0.0000	0.7470	3.9820	12.8804
L271	0.2500	359.7500	0.0000	0.0000	0.9318	5.6267	10.3639
L272	0.0000	360.0000	0.0000	0.0000	1.0787	7.4963	10.7268
L273	0.0000	360.0000	0.0000	0.0000	0.5319	2.1612	6.1654
L274	0.7500	359.2500	0.0000	0.0000	0.2999	1.1079	18.2196
L275	0.2500	359.7500	0.0000	0.0000	0.2714	0.3546	1.4744
L277	0.0000	360.0000	0.0000	0.0000	0.2727	0.3576	1.4733
L278	0.2500	359.7500	0.0000	0.0000	0.2756	0.4783	1.8931
L279	0.0000	360.0000	0.0000	0.0000	0.2699	0.6265	12.2455
L280	0.0000	360.0000	0.0000	0.0000	0.2761	0.4793	1.8940
L281	0.2500	359.7500	0.0000	0.0000	0.2916	0.5187	5.3520
L282	0.0000	360.0000	0.0000	0.0000	0.2160	0.5209	24.6618
L283	0.0000	360.0000	0.0000	0.0000	0.2733	0.3911	1.5637
L284	0.0000	360.0000	0.0000	0.0000	0.2500	0.8006	14.6526
L285	0.0000	360.0000	0.0000	0.0000	0.3789	1.7873	13.3829
L286	0.0000	360.0000	0.0000	0.0000	0.3143	1.2422	2.9499
L287	0.2500	0.0000	0.0000	359.7500	0.2895	0.5124	2.0656
L289	0.0000	0.0000	0.0000	360.0000	0.3021	0.5986	2.4883
L290	0.2500	359.7500	0.0000	0.0000	0.1172	0.1434	0.3818
L291	0.2500	359.7500	0.0000	0.0000	0.1707	0.2207	0.7267
L292	0.7500	359.2500	0.0000	0.0000	0.2010	0.5003	9.2939
L294	0.0000	308.8667	0.0000	51.1333	0.2988	0.8055	5.3089
L300	0.0000	315.5862	0.0000	44.4138	0.4554	1.8223	10.9959
L301	0.0000	311.3448	0.0000	48.6552	0.3022	0.8086	7.2725
L302	0.0000	360.0000	0.0000	0.0000	0.6798	4.1173	13.0980
L303	0.0000	308.5667	0.0000	51.4333	0.2987	0.8057	2.8478
L304	0.0000	299.0000	0.0000	61.0000	0.3039	0.8232	8.9152
L305	0.0000	360.0000	0.0000	0.0000	0.4482	1.8119	6.5356
L306	0.0000	360.0000	0.0000	0.0000	0.2500	0.8081	18.0869
L307	0.0000	360.0000	0.0000	0.0000	0.5000	3.1860	5.4394
L308	0.0000	360.0000	0.0000	0.0000	0.3750	1.7994	10.0177
L309	0.0000	360.0000	0.0000	0.0000	0.2500	0.8086	17.5341
L310	0.2500	359.7500	0.0000	0.0000	0.2993	0.8052	4.3868
L311	0.2500	359.7500	0.0000	0.0000	0.2988	0.8083	5.8691
L312	0.0000	360.0000	0.0000	0.0000	0.2988	0.8054	5.4943
L313	0.0000	308.0667	0.0000	51.9333	0.3021	0.8084	9.5927
L314	0.0000	325.0370	0.0000	34.9630	0.2988	0.8056	2.1452
L315	0.2500	359.7500	0.0000	0.0000	0.2876	0.5797	2.0820

L316	0.5000	321.3929	0.0000	38.1071	0.2961	0.7074	2.8932
L317	0.0000	360.0000	0.0000	0.0000	0.4564	1.8305	6.5434
L318	0.2500	359.7500	0.0000	0.0000	0.4563	1.7985	5.2986
L319	0.0000	360.0000	0.0000	0.0000	0.4540	1.5692	6.1164
L320	0.0000	325.3333	0.0000	34.6667	0.3022	0.7154	2.4158
L321	0.0000	360.0000	0.0000	0.0000	0.2236	0.4937	0.9547
L324	0.0000	360.0000	0.0000	0.0000	0.2987	0.8059	8.5424
L325	0.2500	339.0870	0.0000	20.6630	0.2988	0.8053	7.9996
L326	0.0000	341.1818	0.0000	18.8182	0.2988	0.8058	7.9385
L327	0.0000	340.0870	0.0000	19.9130	0.2988	0.8056	9.1351
L328	0.0000	360.0000	0.0000	0.0000	0.4368	1.2890	10.5539
L329	0.2500	359.7500	0.0000	0.0000	0.3683	1.2868	16.1948
L334	0.2500	359.7500	0.0000	0.0000	0.1708	0.2465	0.7534
L335	0.2500	359.7500	0.0000	0.0000	0.2259	0.3853	1.3031
L336	0.2500	359.7500	0.0000	0.0000	0.2596	0.3105	1.2592
L337	0.2500	359.7500	0.0000	0.0000	0.1694	0.4508	9.6728
L338	0.2500	359.7500	0.0000	0.0000	0.8954	5.3920	8.3443
L339	0.2500	338.3478	0.0000	21.4022	0.8854	4.9645	8.0507
L340	0.0000	360.0000	0.0000	0.0000	1.0177	6.3687	9.7696
L341	0.2500	0.0000	0.0000	359.7500	0.9474	5.2176	9.8735
L342	0.0000	0.0000	0.0000	360.0000	0.3782	1.0290	4.0239
L343	0.0000	0.0000	0.0000	360.0000	0.3027	0.6576	2.8892
L344	0.2500	315.0690	0.0000	44.6810	0.7606	5.1128	6.6386
L346	0.0000	350.6316	0.0000	9.3684	1.0648	10.0858	12.0169
L347	0.0000	360.0000	0.0000	0.0000	1.2166	13.0953	21.4424
L348	0.2500	359.7500	0.0000	0.0000	1.2165	13.0138	18.8504
L349	0.2500	359.7500	0.0000	0.0000	1.2163	12.5523	17.5126
L350	0.2500	358.1167	0.0000	1.6333	1.2167	12.1240	17.0515
L351	0.2500	359.7500	0.0000	0.0000	0.6067	2.6337	4.9164
L352	0.2500	311.6552	0.0000	48.0948	0.6073	2.6986	4.9864
L354	0.0000	360.0000	0.0000	0.0000	1.3607	12.4440	21.9808
L361	0.0000	0.0000	0.0000	360.0000	0.3009	0.5892	2.5874
L362	0.0000	0.0000	0.0000	360.0000	0.2987	0.5699	2.4123
L363	0.0000	324.5556	0.0000	35.4444	0.4485	1.4252	3.7172
L364	0.0000	0.0000	0.0000	360.0000	0.3031	0.6418	2.9467
L365	0.0000	304.2333	0.0000	55.7667	0.2845	0.5436	2.0414
L366	0.0000	360.0000	0.0000	0.0000	0.6082	2.7647	5.7545
L367	0.2500	13.1629	0.0000	346.5871	0.6010	2.2468	5.1094
L368	0.0000	0.0000	0.0000	360.0000	0.3024	0.6023	2.4993
L369	0.0000	0.0000	0.0000	360.0000	0.3027	0.7294	5.0871
L370	0.0000	360.0000	0.0000	0.0000	0.8420	4.4937	7.2105
L373	0.0000	360.0000	0.0000	0.0000	0.8338	5.8346	10.9537
L374	2.0625	163.7419	0.0000	194.1956	0.3002	0.8082	7.8638
L375	2.0625	237.1935	0.0000	120.7440	0.4536	1.8128	2.9008
L376	0.0000	349.8421	0.0000	10.1579	0.8363	5.9354	5.7386
L386	0.2500	359.3480	0.4020	0.0000	1.2168	12.7866	11.2811
L387	0.2500	355.8750	0.0000	3.8750	1.2166	12.8650	11.3557
L388	0.0000	276.0323	0.0000	83.9677	0.3006	0.8054	4.6575
L389	0.0000	360.0000	0.0000	0.0000	1.3689	16.2992	14.0695
L390	0.0000	285.3226	0.0000	74.6774	0.3032	0.8121	2.4675
L391	0.0000	360.0000	0.0000	0.0000	1.3686	16.2479	15.3652
L392	0.2500	359.7500	0.0000	0.0000	1.3688	16.0128	17.8902
L393	0.0000	360.0000	0.0000	0.0000	1.3656	15.6308	17.3434
L395	0.2500	359.7500	0.0000	0.0000	0.3735	1.2598	11.9171
L396	2.5417	357.4583	0.0000	0.0000	0.9068	7.1639	3.6911
L397	0.0000	360.0000	0.0000	0.0000	0.3735	1.2597	12.9855
L398	0.0000	358.8500	0.0000	1.1500	0.3735	1.2595	10.5665
L399	0.5000	331.7600	0.0000	27.7400	0.5976	3.1098	2.8484
L402	0.2500	359.7500	0.0000	0.0000	0.5324	2.5208	7.4621
L403	0.2500	359.7500	0.0000	0.0000	0.5323	2.5026	7.5161

L404	0.7500	300.2903	0.0000	58.9597	0.5324	2.4848	7.6120
L405	0.0000	295.5161	0.0000	64.4839	0.4563	1.8504	6.3763
L406	0.0000	343.2727	0.0000	16.7273	0.7586	5.0904	8.4049
L407	0.0000	295.4516	0.0000	64.5484	0.3800	1.2865	7.1978
L408	0.0000	342.2273	0.0000	17.7727	0.8358	6.1951	10.2710
L410	0.2500	359.7500	0.0000	0.0000	0.9120	7.3935	11.9652
L411	0.2500	345.3333	0.0000	14.4167	0.9121	7.3987	12.0915
L413	0.0000	360.0000	0.0000	0.0000	0.4482	1.7545	2.6922
L415	0.0000	203.3871	0.0000	156.6129	0.3040	0.7777	2.8904
L417	0.0000	286.3548	0.0000	73.6452	0.3028	0.8122	6.7524
L418	0.0000	302.6774	0.0000	57.3226	0.4564	1.8519	6.6363
L419	0.0000	360.0000	0.0000	0.0000	0.6072	3.2606	7.2952
L420	0.2500	327.1923	0.0000	32.5577	0.6037	3.2205	7.8395
L421	0.0000	299.3871	0.0000	60.6129	0.2991	0.8052	4.4324
L422	0.0000	299.5806	0.0000	60.4194	0.3801	1.2864	7.6052
L423	0.0000	345.8571	0.0000	14.1429	0.7598	5.1196	10.4245
L424	0.0000	333.6800	0.0000	26.3200	0.8365	6.2248	12.5843
L425	0.0000	305.9333	0.0000	54.0667	0.2988	0.8056	2.5192
L426	0.0000	303.0323	0.0000	56.9677	0.3798	1.2862	8.3064
L427	0.2500	359.7500	0.0000	0.0000	1.0648	10.0331	18.9897
L428	0.0000	307.2333	0.0000	52.7667	0.2988	0.8058	1.8560
L429	0.0000	360.0000	0.0000	0.0000	1.0646	9.9813	17.4138
L430	0.2500	359.7500	0.0000	0.0000	0.2988	0.8054	7.7132
L431	0.0000	333.8000	0.0000	26.2000	0.2988	0.8061	6.4963
L432	0.0000	360.0000	0.0000	0.0000	0.3041	0.8175	6.1548
L435	0.0000	360.0000	0.0000	0.0000	0.3042	0.8154	7.4598
L436	0.0000	294.1290	0.0000	65.8710	0.3022	0.8031	5.4816
L437	0.2500	359.7500	0.0000	0.0000	0.3735	1.2495	3.7139
L438	0.0000	336.0833	0.0000	23.9167	0.2988	0.8053	3.2924
L439	0.0000	289.0323	0.0000	70.9677	0.3768	1.2021	5.6985
L440	0.5000	310.0345	0.0000	49.4655	0.4493	1.7585	4.2702
L441	0.2500	359.7500	0.0000	0.0000	1.0616	9.4516	17.0179
L442	0.2500	359.7500	0.0000	0.0000	1.0125	5.1951	12.0073
L443	0.2500	359.7500	0.0000	0.0000	0.5991	5.5017	45.7809
L446	0.2500	331.4000	0.0000	28.3500	0.4563	1.8523	10.2448
L448	0.0000	326.7692	0.0000	33.2308	0.2988	0.8057	2.5953
L449	0.0000	342.5455	0.0000	17.4545	0.5323	2.4678	10.2478
L450	0.0000	0.0000	0.0000	360.0000	0.6008	2.7108	7.9391
L451	0.0000	0.0000	0.0000	360.0000	0.6047	2.6286	8.0557
L452	0.0000	320.9286	0.0000	39.0714	0.2990	0.8052	2.0930
L453	0.0000	323.9630	0.0000	36.0370	0.2988	0.8043	1.4401
L454	0.0000	321.6429	0.0000	38.3571	0.2432	0.4981	1.1073
L466	0.2500	0.0000	0.0000	359.7500	0.3737	0.9067	3.6749
L468	0.2500	359.7500	0.0000	0.0000	0.5521	2.4049	2.9615
L470	0.2500	359.7500	0.0000	0.0000	0.5225	1.7909	5.4703
L471	6.7647	353.2353	0.0000	0.0000	0.1597	0.4340	1.5903
L472	0.2500	359.7500	0.0000	0.0000	0.3042	0.8043	7.8446
L475	0.2500	306.8333	0.0000	52.9167	0.3795	1.2800	12.2543
L478	0.2500	337.2500	0.0000	22.5000	0.6815	4.0798	17.3765
L479	0.2500	339.7391	0.0000	20.0109	0.7603	5.0349	11.6628
L487	0.0000	360.0000	0.0000	0.0000	0.4375	2.4429	26.8667
L490	0.2500	0.0000	0.0000	359.7500	0.5222	1.6410	4.0475
L493	0.5000	359.5000	0.0000	0.0000	0.7581	4.8914	10.0979
L496	0.2500	359.7500	0.0000	0.0000	0.1977	0.3174	1.0056
L497	0.0000	360.0000	0.0000	0.0000	0.1968	0.3162	0.9979
L498	0.0000	360.0000	0.0000	0.0000	0.2520	0.3998	1.5284
L499	0.0000	341.0000	0.0000	19.0000	0.2988	0.8062	8.7516
L500	0.0000	352.6667	0.0000	7.3333	0.3766	1.2580	10.8854
L501	0.2500	336.7917	0.0000	22.9583	0.9092	7.3337	5.8088
L502	0.5000	356.4800	0.0000	3.0200	1.0615	9.9869	5.4163

L503	0.2500	359.7500	0.0000	0.0000	1.3675	14.6552	18.9899
L504	0.0000	360.0000	0.0000	0.0000	1.3609	12.3921	17.9194
L505	0.0000	310.5517	0.0000	49.4483	0.5260	2.4679	16.7015
L506	0.0000	358.8500	0.0000	1.1500	0.5229	2.4909	20.3014
L507	0.2500	0.0000	0.0000	359.7500	0.3025	0.7428	7.2435
L509	0.2500	0.0000	0.0000	359.7500	0.3776	1.1222	6.3834
L510	0.2500	359.7500	0.0000	0.0000	0.2872	0.8638	39.0501
L511	0.2500	0.0000	0.0000	359.7500	0.4500	1.6884	15.0957
L512	0.5000	359.5000	0.0000	0.0000	0.3789	1.9269	70.9545
L513	0.0000	323.3704	0.0000	36.6296	0.7549	4.2275	8.0195
L514	0.0000	360.0000	0.0000	0.0000	0.5319	2.5196	10.5788
L515	0.0000	351.4444	0.0000	8.5556	0.9124	7.1487	6.8259
CH21	0.5000	359.5000	0.0000	0.0000	1.2946	196.7780	0.2398
L474	0.7500	359.2500	0.0000	0.0000	0.4564	1.8097	10.5391
L523	0.5000	0.0000	0.0000	359.5000	0.6614	5.3660	0.8155
L525	2.0625	352.2222	0.0000	5.7153	0.9112	7.3555	8.0733
L527	0.0000	354.1875	0.0000	5.8125	0.4482	1.8121	7.0667
L528	0.2500	276.5484	0.0000	83.2016	0.3767	1.2605	7.6557
L529	0.0000	360.0000	0.0000	0.0000	0.4534	1.8389	5.6288
L533	0.0000	360.0000	0.0000	0.0000	0.4482	1.8145	6.3708
L537	0.5000	304.1667	0.0000	55.3333	0.4509	1.8451	6.9475
L394	0.0000	360.0000	0.0000	0.0000	1.3434	15.3388	25.3035
L276	0.0000	360.0000	0.0000	0.0000	0.1884	0.4766	15.7494
L288	0.0000	360.0000	0.0000	0.0000	0.2302	0.7381	22.9095
L412	0.2500	156.9032	0.0000	202.8468	0.2899	0.6309	3.0349
L447	0.0000	353.0000	0.0000	7.0000	0.4482	1.8148	2.9956
L546	1.9833	334.4000	0.0000	23.6167	0.4482	1.7038	5.7927

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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 Weightng	Mean Froude Number	Mean Hydraulic Radius	Mean Cross Area	Mean Conduit Roughness
L210	2.6464	57161.763	0.0000	0.9999	0.5513	0.2490	0.7417	0.0150
L211	2.8494	61547.381	0.0000	0.9999	0.8046	0.2517	0.7348	0.0150
L212	2.9718	64189.890	0.0000	0.9999	0.4543	0.3066	1.1411	0.0150
L213	2.2762	49166.344	0.0000	0.9999	0.3909	0.2469	0.7434	0.0150
L214	4.9138	106138.10	0.0000	0.9999	0.3330	0.3706	1.6734	0.0150
L217	0.8692	18775.404	0.0000	0.9999	0.7752	0.2209	0.3168	0.0150
L220	10.2335	221042.56	0.0001	0.9999	0.5751	0.4330	2.2988	0.0150
L221	11.9297	257682.13	0.0001	0.9999	0.6443	0.4999	2.9712	0.0150
L222	12.0898	261138.93	0.0001	0.9996	1.8174	0.4182	1.3168	0.0150
L223	0.2105	4547.4791	0.0000	0.9999	0.5680	0.1435	0.1513	0.0150
L224	0.2077	4486.7758	0.0000	0.9998	0.5378	0.1487	0.1614	0.0150
L225	0.2041	4408.6121	0.0000	0.9875	0.2494	0.1944	0.2949	0.0150
L226	0.8375	18089.892	0.0000	0.9999	0.2816	0.2794	0.6458	0.0150
L227	1.4239	30757.299	0.0000	0.9999	0.3223	0.2456	0.7266	0.0150
L228	2.2175	47897.117	0.0000	0.9999	0.6771	0.2489	0.7263	0.0150
L229	2.6010	56182.616	0.0000	0.9999	0.5880	0.3465	1.0372	0.0150
L230	3.0417	65701.194	0.0000	0.9999	0.5104	0.3099	1.1188	0.0150
L231	3.3229	71774.576	0.0000	0.9999	0.4123	0.3034	1.1425	0.0150
L232	5.3336	115205.62	0.0000	0.9999	0.4302	0.3676	1.6553	0.0150
L233	5.5606	120108.57	0.0000	0.9859	0.3748	0.3623	1.6412	0.0150
L234	8.3410	180164.74	0.0001	0.9984	0.2602	0.4951	3.0031	0.0150
L235	0.4088	8830.4229	0.0000	0.9999	0.1522	0.2464	0.7381	0.0150
L236	1.9433	41974.297	0.0000	0.9999	0.3291	0.2486	0.7481	0.0150
L237	2.8188	60886.204	0.0000	0.9999	0.4418	0.2480	0.7533	0.0150
L238	3.3828	73068.243	0.0000	0.9999	0.9065	0.2542	0.7411	0.0150

L239	3.7147	80236.849	0.0000	0.9999	0.9613	0.2531	0.7504	0.0150
L240	1.1325	24462.226	0.0000	0.9999	0.7716	0.2450	0.3870	0.0150
L241	4.8820	105451.85	0.0000	0.9999	0.8158	0.3148	1.1480	0.0150
L242	1.6952	36615.870	0.0000	0.9999	0.7833	0.2779	0.5136	0.0150
L243	2.2724	49084.664	0.0000	0.9999	0.7718	0.2931	0.6480	0.0150
L246	21.8033	470951.95	0.0007	0.9999	0.4407	0.6302	4.9221	0.0150
L247	25.8037	557360.38	0.0013	1.0000	0.5525	0.6249	4.9597	0.0150
L248	1.8152	39208.193	0.0002	0.9999	0.3115	0.2501	0.7902	0.0150
L249	1.4463	31240.202	0.0000	0.9999	0.9150	0.2634	0.4561	0.0150
L250	2.7463	59320.954	0.0000	0.9999	2.4394	0.2065	0.3213	0.0150
L251	1.1948	25807.152	0.0000	0.9999	0.8629	0.2483	0.3996	0.0150
L252	0.1021	2206.4061	0.0000	0.9999	0.3781	0.1024	0.1364	0.0150
L253	1.5907	34360.089	0.0000	0.9999	0.7301	0.2761	0.5043	0.0150
L254	1.5816	34163.257	0.0000	0.9998	0.6610	0.2743	0.5413	0.0150
L255	3.6244	78286.250	0.0000	0.9999	0.5790	0.3589	1.0964	0.0150
L256	4.3181	93271.970	0.0000	0.9999	0.4466	0.4195	1.5935	0.0150
L257	6.0550	130788.10	0.0000	0.9999	0.6246	0.3778	1.6959	0.0150
L258	0.7802	16851.812	0.0000	0.9999	0.6418	0.2253	0.3359	0.0150
L259	7.1241	153880.64	0.0000	0.9999	1.0255	0.4862	1.8542	0.0150
L260	7.3047	157782.48	0.0001	0.9996	2.9053	0.2706	0.6628	0.0150
L261	0.8960	19354.609	0.0000	0.9999	0.8959	0.2290	0.3439	0.0150
L262	2.1082	45536.778	0.0000	0.9999	3.1167	0.1619	0.2297	0.0150
L263	1.0981	23719.257	0.0000	0.9999	0.9670	0.2437	0.3908	0.0150
L264	3.4676	74900.432	0.0000	0.9999	0.7477	0.3642	0.9432	0.0150
L265	19.8627	429033.33	0.0001	0.9999	0.4878	0.8541	5.2110	0.0150
L266	20.6405	445834.78	0.0001	0.9999	0.6889	0.8137	4.5113	0.0150
L267	0.7844	16942.357	0.0000	0.9999	0.7756	0.2119	0.2935	0.0150
L268	2.4314	52518.099	0.0000	0.9999	0.5150	0.2483	0.7410	0.0150
L269	2.6647	57556.506	0.0000	0.9999	0.7752	0.2520	0.7266	0.0150
L270	24.3316	525563.10	0.0002	0.9999	1.1160	0.7018	3.2441	0.0150
L271	24.2619	524057.12	0.0003	0.9998	0.6426	0.8776	4.9620	0.0150
L272	33.6809	727507.16	0.0028	1.0000	0.5830	1.0747	7.2829	0.0150
L273	8.6512	186865.57	0.0002	0.9999	0.5970	0.5168	2.2069	0.0150
L274	7.8416	169378.04	0.0001	0.9998	2.9662	0.2892	0.6501	0.0150
L275	1.3780	29765.679	0.0000	0.9999	0.9624	0.2613	0.4537	0.0150
L277	1.3842	29899.258	0.0000	0.9999	0.9552	0.2626	0.4594	0.0150
L278	1.4333	30958.242	0.0000	0.9999	0.7516	0.2651	0.4566	0.0150
L279	2.9784	64333.138	0.0000	0.9999	1.4770	0.2593	0.4767	0.0150
L280	1.4368	31034.895	0.0000	0.9999	0.7506	0.2655	0.4584	0.0150
L281	3.1328	67668.665	0.0000	0.9999	1.2674	0.2449	0.7063	0.0150
L282	4.5931	99211.344	0.0000	0.9999	4.0190	0.2080	0.3243	0.0150
L283	1.3704	29601.653	0.0000	0.9999	0.8644	0.2630	0.4548	0.0150
L284	1.4324	30939.741	0.0005	0.9999	0.1886	0.2500	0.7953	0.0150
L285	2.3561	50891.441	0.0001	1.0000	0.1255	0.3750	1.7835	0.0150
L286	0.8131	17562.235	0.0005	0.9999	0.0671	0.3124	1.2393	0.0150
L287	1.6694	36060.059	0.0000	0.9999	0.7688	0.2785	0.5175	0.0150
L289	2.0712	44736.885	0.0000	0.9999	0.7608	0.2917	0.6137	0.0150
L290	0.1579	3410.0779	0.0000	0.9999	0.6533	0.1115	0.1018	0.0150
L291	0.4044	8734.7327	0.0000	0.9999	0.7217	0.1625	0.1861	0.0150
L292	1.0514	22709.704	0.0000	0.9998	1.0952	0.1920	0.2900	0.0150
L294	1.2817	27685.525	0.0000	0.9999	0.2641	0.2423	0.7204	0.0150
L300	4.8567	104905.02	0.0000	0.9999	0.3338	0.3694	1.6519	0.0150
L301	1.7073	36877.653	0.0000	0.9999	0.3140	0.2452	0.7286	0.0150
L302	10.7171	231489.66	0.0001	0.9999	0.2740	0.5538	3.7258	0.0150
L303	0.7766	16775.636	0.0000	0.9999	0.2137	0.2368	0.7021	0.0150
L304	2.2527	48658.533	0.0000	0.9999	0.3904	0.2484	0.7380	0.0150
L305	3.0194	65218.132	0.0000	0.9999	0.2321	0.3655	1.6238	0.0150
L306	2.5801	55730.547	0.0000	0.9999	0.2551	0.2500	0.8058	0.0150
L307	2.7841	60136.547	0.0001	1.0000	0.0691	0.5000	3.1745	0.0150
L308	2.9220	63116.191	0.0000	1.0000	0.1271	0.3750	1.7961	0.0150

L309	2.4637	53215.128	0.0000	0.9999	0.2430	0.2500	0.8061	0.0150
L310	1.4648	31639.868	0.0000	0.9999	0.3362	0.2443	0.7166	0.0150
L311	1.4559	31448.517	0.0000	0.9998	0.3103	0.2434	0.7212	0.0150
L312	1.1721	25317.541	0.0000	0.9999	0.2392	0.2435	0.7313	0.0150
L313	2.7062	58453.859	0.0000	0.9999	0.5869	0.2464	0.7467	0.0150
L314	1.1726	25328.485	0.0000	0.9999	0.3261	0.2427	0.7312	0.0150
L315	1.4862	32102.433	0.0000	0.9999	0.6873	0.2754	0.5045	0.0150
L316	1.4783	31930.816	0.0000	0.9998	0.5519	0.2815	0.5909	0.0150
L317	5.6055	121078.95	0.0000	0.9999	0.5125	0.3708	1.6565	0.0150
L318	5.5815	120560.54	0.0000	0.9998	0.4983	0.3743	1.7038	0.0150
L319	7.3993	159823.95	0.0001	0.9999	0.7936	0.4140	1.6039	0.0150
L320	1.7208	37170.065	0.0000	0.9999	0.5787	0.2901	0.6257	0.0150
L321	0.4625	9988.9904	0.0000	0.9999	0.4295	0.2118	0.3109	0.0150
L324	1.5622	33742.773	0.0000	0.9999	0.2723	0.2438	0.7401	0.0150
L325	1.4860	32096.557	0.0000	0.9999	0.2340	0.2438	0.7447	0.0150
L326	1.7934	38738.191	0.0000	0.9999	0.2908	0.2449	0.7454	0.0150
L327	2.0242	43723.340	0.0000	0.9999	0.3144	0.2456	0.7486	0.0150
L328	7.0778	152879.85	0.0001	0.9999	0.9328	0.3691	1.6199	0.0150
L329	7.0718	152751.34	0.0000	0.9998	1.6666	0.3506	0.8886	0.0150
L334	0.3888	8398.3438	0.0000	0.9999	0.6962	0.1629	0.1876	0.0150
L335	0.7813	16876.893	0.0000	0.9999	0.7128	0.2155	0.3060	0.0150
L336	1.1759	25400.368	0.0000	0.9999	0.9869	0.2486	0.4102	0.0150
L337	1.1754	25389.101	0.0000	0.9998	1.7202	0.1625	0.2303	0.0150
L338	19.4679	420507.07	0.0002	0.9999	0.4801	0.8644	5.1380	0.0150
L339	19.4087	419228.65	0.0001	0.9998	0.5249	0.8512	4.9387	0.0150
L340	27.5146	594315.56	0.0002	0.9999	0.5479	0.9788	6.4183	0.0150
L341	27.4520	592963.84	0.0002	0.9998	0.7227	0.9078	5.3806	0.0150
L342	4.2000	90719.601	0.0000	0.9999	0.7622	0.3637	1.0667	0.0150
L343	2.4093	52041.255	0.0000	0.9999	0.7702	0.2908	0.6783	0.0150
L344	11.2929	243926.46	0.0002	0.9999	0.3125	0.6089	4.6263	0.0150
L346	23.4513	506547.84	0.0010	0.9999	0.2406	0.8649	9.0342	0.0150
L347	51.1201	1104195.0	0.0030	0.9999	0.3717	0.9944	11.9727	0.0150
L348	50.8641	1098663.5	0.0009	0.9998	0.3793	0.9944	12.3198	0.0150
L349	50.6165	1093317.0	0.0005	0.9998	0.4059	1.0130	12.0171	0.0150
L350	50.4663	1090072.1	0.0005	0.9998	0.4453	1.1378	11.5321	0.0150
L351	7.5633	163366.73	0.0001	0.9999	0.4654	0.5828	2.4428	0.0150
L352	7.5445	162960.63	0.0001	0.9998	0.4636	0.5811	2.4593	0.0150
L354	66.2358	1430692.3	0.0033	1.0000	0.6380	1.2979	11.1629	0.0150
L361	2.1169	45725.575	0.0000	0.9999	0.7981	0.2909	0.5938	0.0150
L362	1.9772	42708.196	0.0000	0.9999	0.7812	0.2884	0.5770	0.0150
L363	4.1193	88976.698	0.0000	0.9999	0.5845	0.4299	1.2867	0.0150
L364	2.4266	52415.369	0.0000	0.9999	0.8067	0.2940	0.6503	0.0150
L365	1.4984	32366.193	0.0000	0.9999	0.7037	0.2730	0.4917	0.0150
L366	8.9298	192884.14	0.0001	0.9999	0.5082	0.5852	2.6247	0.0150
L367	8.8685	191559.32	0.0001	0.9998	0.6108	0.5767	2.4518	0.0150
L368	2.0842	45018.282	0.0000	0.9999	0.7582	0.2920	0.6186	0.0150
L369	3.1979	69074.656	0.0000	0.9999	0.8704	0.2537	0.7393	0.0150
L370	17.3631	375043.21	0.0004	0.9999	0.5544	0.8325	4.4667	0.0150
L373	17.3392	374527.54	0.0011	1.0000	0.6117	0.7696	4.1296	0.0150
L374	3.0622	66142.671	0.0000	0.9938	0.7792	0.2515	0.7542	0.0150
L375	3.0279	65403.455	0.0000	0.9936	0.3760	0.4132	1.5110	0.0150
L376	7.0918	153183.34	0.0001	0.9999	0.1860	0.7062	4.2397	0.0150
L386	26.9458	582029.11	0.0003	0.9998	0.2435	1.0916	11.0734	0.0150
L387	26.7188	577125.83	0.0005	0.9998	0.2476	1.0816	11.4131	0.0150
L388	2.0377	44013.732	0.0000	0.9999	0.4881	0.2501	0.7432	0.0150
L389	38.9629	841598.49	0.0006	0.9999	0.2277	1.2054	14.9935	0.0150
L390	1.4694	31737.996	0.0000	0.9999	0.4532	0.2659	0.6795	0.0150
L391	43.0605	930107.58	0.0008	0.9999	0.2486	1.2015	15.2754	0.0150
L392	52.0159	1123542.6	0.0009	0.9999	0.3028	1.2124	15.4681	0.0150
L393	51.6836	1116366.2	0.0040	0.9999	0.3087	1.2767	15.4457	0.0150

L395	3.8839	83893.067	0.0000	0.9999	0.3939	0.3083	1.1809	0.0150
L396	7.4938	161867.00	0.0001	0.9916	0.1742	0.8287	5.5704	0.0150
L397	4.1957	90626.440	0.0000	0.9999	0.4194	0.3083	1.1812	0.0150
L398	3.9603	85541.438	0.0000	0.9999	0.4622	0.3068	1.1580	0.0150
L399	3.6276	78355.921	0.0000	0.9997	0.3270	0.5361	2.1778	0.0150
L402	6.5188	140805.24	0.0001	0.9999	0.3784	0.4394	2.2185	0.0150
L403	6.4883	140147.07	0.0001	0.9998	0.3905	0.4376	2.2158	0.0150
L404	6.4284	138853.42	0.0001	0.9997	0.3954	0.4337	2.2058	0.0150
L405	4.4429	95965.676	0.0000	0.9999	0.3863	0.3721	1.6133	0.0150
L406	10.8019	233320.35	0.0001	0.9999	0.2915	0.6123	4.4640	0.0150
L407	3.5009	75618.808	0.0000	0.9999	0.4236	0.3116	1.1397	0.0150
L408	14.1919	306545.32	0.0001	0.9999	0.2988	0.6721	5.4361	0.0150
L410	17.9290	387266.42	0.0001	0.9998	0.3081	0.7310	6.4986	0.0150
L411	17.7983	384443.03	0.0001	0.9998	0.3038	0.7274	6.5126	0.0150
L413	2.0625	44550.435	0.0000	0.9999	0.3229	0.4053	1.3252	0.0150
L415	2.0786	44897.260	0.0000	0.9999	0.7245	0.2890	0.6162	0.0150
L417	2.6080	56333.548	0.0000	0.9999	0.5338	0.2511	0.7396	0.0150
L418	4.7312	102193.57	0.0000	0.9999	0.4054	0.3734	1.6196	0.0150
L419	7.3154	158011.71	0.0001	0.9999	0.3359	0.4949	2.8720	0.0150
L420	7.2498	156596.72	0.0001	0.9998	0.3290	0.4909	2.8723	0.0150
L421	1.5194	32819.668	0.0000	0.9999	0.3446	0.2449	0.7154	0.0150
L422	3.4792	75151.501	0.0000	0.9999	0.4081	0.3106	1.1424	0.0150
L423	12.3133	265967.64	0.0001	0.9999	0.3037	0.6128	4.5281	0.0150
L424	16.6861	360419.73	0.0001	0.9999	0.3175	0.6736	5.5070	0.0150
L425	0.8510	18381.830	0.0000	0.9999	0.2391	0.2385	0.7014	0.0150
L426	3.6317	78444.232	0.0000	0.9999	0.4117	0.3105	1.1483	0.0150
L427	36.0212	778057.36	0.0002	0.9999	0.3611	0.8583	9.0000	0.0150
L428	0.8579	18530.622	0.0000	0.9999	0.2700	0.2391	0.6945	0.0150
L429	37.5331	810715.98	0.0002	0.9999	0.3832	0.8577	9.1556	0.0150
L430	2.2409	48402.446	0.0000	0.9999	0.4426	0.2465	0.7378	0.0150
L431	2.0705	44723.525	0.0000	0.9999	0.4179	0.2459	0.7312	0.0150
L432	2.0844	45022.316	0.0000	0.9999	0.4358	0.2477	0.7324	0.0150
L435	2.6293	56791.926	0.0000	0.9999	0.5107	0.2487	0.7452	0.0150
L436	2.6120	56418.891	0.0000	0.9999	0.6552	0.2479	0.7431	0.0150
L437	2.6012	56186.768	0.0000	0.9998	0.3977	0.3084	1.1426	0.0150
L438	1.5281	33007.674	0.0000	0.9999	0.3698	0.2451	0.7213	0.0150
L439	4.1042	88651.163	0.0000	0.9999	0.6586	0.3132	1.1444	0.0150
L440	4.0758	88037.530	0.0000	0.9998	0.4566	0.4138	1.5486	0.0150
L441	43.1591	932237.64	0.0003	0.9999	0.5008	0.8747	9.1173	0.0150
L442	42.9809	928388.25	0.0003	0.9998	1.0423	0.9545	7.5477	0.0150
L443	42.9525	927774.63	0.0003	0.9998	2.7273	0.5620	2.7921	0.0150
L446	5.4178	117024.83	0.0000	0.9999	0.3801	0.3717	1.6596	0.0150
L448	0.8869	19156.016	0.0000	0.9999	0.2290	0.2396	0.7116	0.0150
L449	8.5897	185537.25	0.0001	0.9999	0.5012	0.4319	2.2699	0.0150
L450	12.0563	260416.71	0.0001	0.9999	0.6504	0.5006	2.9433	0.0150
L451	13.2578	286367.76	0.0001	0.9999	0.7539	0.5768	2.7056	0.0150
L452	1.1827	25546.933	0.0000	0.9999	0.3193	0.2427	0.7320	0.0150
L453	0.8524	18412.822	0.0000	0.9999	0.2590	0.2401	0.7311	0.0150
L454	0.6210	13413.686	0.0000	0.9999	0.4971	0.2289	0.3513	0.0150
L466	3.7085	80103.961	0.0000	0.9999	0.8251	0.3605	0.9006	0.0150
L468	3.6852	79599.538	0.0000	0.9998	0.4373	0.4932	1.6087	0.0150
L470	8.6783	187450.62	0.0001	0.9999	0.7881	0.4992	2.0811	0.0150
L471	0.3474	7504.7528	0.0000	0.9831	0.5722	0.1531	0.2116	0.0150
L472	4.0841	88215.739	0.0000	0.9999	0.9595	0.2488	0.7609	0.0150
L475	3.9872	86123.497	0.0000	0.9999	0.3892	0.3106	1.1616	0.0150
L478	16.2979	352033.98	0.0001	0.9999	0.4586	0.5547	3.7620	0.0150
L479	16.1684	349237.05	0.0001	0.9998	0.4176	0.6120	4.5818	0.0150
L487	9.8722	213240.00	0.0001	1.0000	0.3830	0.4375	2.4255	0.0150
L490	6.1449	132729.92	0.0000	0.9999	0.6293	0.5056	1.7927	0.0150
L493	16.0478	346632.58	0.0001	0.9998	0.4345	0.6190	4.5679	0.0150

L496	0.5532	11949.519	0.0000	0.9999	0.7084	0.1888	0.2418	0.0150
L497	0.5464	11801.478	0.0000	0.9999	0.7095	0.1879	0.2400	0.0150
L498	1.0973	23701.427	0.0000	0.9999	0.7680	0.2405	0.3750	0.0150
L499	1.5481	33438.572	0.0000	0.9999	0.2469	0.2449	0.7497	0.0150
L500	3.1149	67281.553	0.0000	0.9999	0.2765	0.3072	1.1791	0.0150
L501	11.2077	242086.71	0.0005	0.9998	0.2021	0.7269	6.6576	0.0150
L502	11.0439	238548.74	0.0020	0.9998	0.1560	0.8527	9.2135	0.0150
L503	65.9264	1424011.3	0.0007	0.9999	0.4257	1.3177	14.5024	0.0150
L504	66.3694	1433579.9	0.0021	0.9999	0.5297	1.3487	13.2766	0.0150
L505	9.6223	207841.41	0.0001	0.9999	0.4595	0.4325	2.2923	0.0150
L506	9.8627	213035.30	0.0001	0.9999	0.3956	0.4350	2.3433	0.0150
L507	3.4732	75020.575	0.0000	0.9999	0.9164	0.2534	0.7472	0.0150
L509	5.2005	112331.34	0.0000	0.9999	0.8248	0.3171	1.1528	0.0150
L510	4.6901	101305.22	0.0000	0.9999	2.0497	0.2753	0.5587	0.0150
L511	10.0945	218041.62	0.0001	0.9999	0.9348	0.3806	1.7098	0.0150
L512	16.3770	353742.98	0.0001	0.9998	3.3673	0.3644	1.0735	0.0150
L513	16.0665	347037.29	0.0001	0.9999	0.5285	0.6921	4.2739	0.0150
L514	7.3087	157868.61	0.0001	0.9999	0.3703	0.4327	2.2603	0.0150
L515	10.1266	218734.93	0.0001	0.9999	0.2338	0.8039	5.6075	0.0150
CH21	10.0954	218059.71	0.0001	0.9998	0.0396	0.7981	83.4113	0.0600
L474	8.6019	185802.10	0.0001	0.9997	0.7507	0.3691	1.6917	0.0150
L523	8.6098	185971.13	0.0001	0.9998	0.3429	0.6292	7.3404	0.0600
L525	15.3957	332546.64	0.0001	0.9937	0.2755	0.7877	6.3160	0.0150
L527	4.0905	88355.811	0.0000	0.9999	0.3313	0.3691	1.6503	0.0150
L528	4.2752	92345.064	0.0000	0.9998	0.6335	0.3106	1.1547	0.0150
L529	3.9619	85576.597	0.0000	0.9999	0.3389	0.3769	1.6496	0.0150
L533	3.9202	84676.945	0.0000	0.9999	0.3827	0.3698	1.6035	0.0150
L537	3.8700	83591.901	0.0000	0.9998	0.3105	0.3677	1.6405	0.0150
L394	51.4628	1111597.0	0.0028	1.0000	0.3120	1.3207	15.3181	0.0150
L276	2.8796	62199.768	0.0000	0.9999	3.3983	0.1814	0.2656	0.0150
L288	3.8042	82171.530	0.0000	0.9999	2.6947	0.2213	0.4025	0.0150
L412	2.0546	44379.536	0.0000	0.9999	0.9815	0.2712	0.4849	0.0150
L447	1.9321	41732.613	0.0000	0.9999	0.2121	0.3575	1.5792	0.0150
L546	3.4476	74468.454	0.0000	0.9941	0.4194	0.4185	1.4707	0.0150
FREE # 1	12.0893	261129.60						
FREE # 2	25.8159	557623.88						
FREE # 3	2.7462	59318.142						
FREE # 4	7.4522	160966.46						
FREE # 5	2.1081	45534.341						
FREE # 6	33.7061	728051.46						
FREE # 7	7.8416	169378.03						
FREE # 8	2.9783	64331.104						
FREE # 9	4.5929	99206.147						
FREE #10	2.3609	50994.837						
FREE #11	1.0514	22709.508						
FREE #12	2.9277	63237.299						
FREE #13	7.3991	159819.69						
FREE #14	7.0716	152746.82						
FREE #15	1.1754	25387.762						
FREE #16	27.4513	592947.75						
FREE #17	66.2785	1431614.8						
FREE #18	17.3530	374824.52						
FREE #19	42.9504	927729.10						
FREE #20	4.0840	88214.581						
FREE #21	5.2005	112331.24						
FREE #22	9.8706	213205.71						
FREE #23	16.3762	353724.94						
FREE #24	1.3992	30221.728						
FREE #25	8.6017	185796.09						
FREE #26	51.5008	1112417.6						

FREE #27 2.8795 62196.444
 FREE #28 3.8040 82167.219
 FREE #29 4.6901 101305.36
 FREE #30 2.7834 60120.391

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	
L210	2.8911	0.0000	0.6079	0.7287	1.0000	107.6026	106.9939	Max Flow
L211	3.1354	0.0000	4.1728	0.7586	1.0000	106.9939	102.8186	Max Flow
L212	3.2978	0.0000	2.2920	0.7315	0.9241	102.1159	100.2909	Max Flow
L213	2.4910	0.0000	0.6824	0.6759	0.8915	100.9511	100.2682	Max Flow
L214	5.3710	0.0000	0.3195	0.8928	1.2615	100.5880	100.2682	Max Flow
L217	0.9501	0.0000	0.4954	0.4086	0.4397	100.2872	99.7386	Max Flow
L220	11.2776	0.0000	2.1196	1.2514	1.7500	100.2909	98.1694	Max Flow
L221	13.2165	0.0000	1.7213	1.3077	2.0000	98.1694	96.2277	Max Flow
L222	13.3950	0.0000	5.1124	1.3167	0.7643	95.2324	90.1200	Max Flow
L223	0.2305	0.0000	0.1897	0.1969	0.2569	119.8642	119.6069	Max Flow
L224	0.2305	0.0000	0.6187	0.1969	0.2585	118.8903	118.0569	Max Flow
L225	0.2305	0.0000	0.6966	0.1969	0.2582	117.6596	117.5825	Max Flow
L226	0.9294	0.0000	0.9534	0.4040	0.5533	118.5578	118.1994	Max Flow
L227	1.5845	0.0000	0.6336	0.5338	0.8293	118.1994	117.5825	Max Flow
L228	2.4888	0.0000	2.6900	0.6756	1.0000	117.5825	114.7356	Max Flow
L229	2.9466	0.0000	1.5156	0.6896	1.0706	112.5184	110.5696	Max Flow
L230	3.4595	0.0000	1.5362	0.7504	1.2500	110.3694	108.8794	Max Flow
L231	3.8015	0.0000	1.8089	0.7879	1.2500	108.8794	107.0654	Max Flow
L232	6.0390	0.0000	1.3324	0.9490	1.5000	107.0654	105.7300	Max Flow
L233	6.3287	0.0000	2.2721	0.9722	1.5000	105.7300	103.4547	Max Flow
L234	9.4131	0.0000	0.9792	1.0955	1.5018	103.4547	102.4757	Max Flow
L235	0.4478	0.0000	0.1316	0.2768	0.3725	112.5280	112.5184	Max Flow
L236	2.1260	0.0000	0.4902	0.6226	1.0000	107.5518	107.0654	Max Flow
L237	3.0812	0.0000	0.9713	0.7520	1.0000	104.4244	103.4547	Max Flow
L238	3.6937	0.0000	0.7819	0.8182	1.0000	116.6523	115.8782	Max Flow
L239	4.0636	0.0000	2.0981	0.8520	1.0000	115.2808	113.1820	Max Flow
L240	1.2377	0.0000	0.4915	0.4691	0.5152	113.3534	112.7991	Max Flow
L241	5.3641	0.0000	2.7217	0.9383	1.2500	110.4620	107.7383	Max Flow
L242	1.8517	0.0000	0.3828	0.5793	0.6687	108.0733	107.6293	Max Flow
L243	2.4831	0.0000	0.6200	0.6748	0.8718	108.4472	107.7248	Max Flow
L246	24.3602	0.0000	1.9246	1.6806	2.5000	102.4757	100.5470	Max Flow
L247	28.8013	0.0000	0.5962	1.8288	2.5000	100.5470	99.9500	Max Flow
L248	1.9821	0.0000	0.1917	0.6006	0.7067	100.7386	100.5470	Max Flow
L249	1.5791	0.0000	0.4487	0.5329	0.6016	105.4930	104.8519	Max Flow
L250	2.9998	0.0000	4.9021	0.7420	0.3798	104.8520	99.9500	Max Flow
L251	1.3045	0.0000	0.4066	0.4824	0.5322	105.4057	104.8520	Max Flow
L252	0.1128	0.0000	1.9692	0.1356	0.1476	100.5085	99.2256	Max Flow
L253	1.7367	0.0000	0.4099	0.5604	0.6375	101.3835	100.9948	Max Flow
L254	1.7367	0.0000	2.2645	0.5604	0.6384	100.9948	99.2256	Max Flow
L255	3.9589	0.0000	0.3958	0.8048	1.2500	100.2825	99.9370	Max Flow
L256	4.7298	0.0000	0.9765	0.8353	1.1040	99.9370	99.2256	Max Flow
L257	6.6737	0.0000	1.3848	0.9991	1.5000	99.2256	97.8101	Max Flow
L258	0.8529	0.0000	0.5774	0.3860	0.4163	98.1213	97.8101	Max Flow
L259	7.8638	0.0000	1.1238	1.0393	1.7500	97.8101	96.0359	Max Flow
L260	8.0628	0.0000	4.7713	1.0532	0.4549	96.0359	90.1200	Max Flow
L261	0.9792	0.0000	0.6857	0.4149	0.4484	94.7428	93.7152	Max Flow

L262	2.3040	0.0000	7.7700	0.6492	0.2750	93.7152	79.2200	Max Flow
L263	1.1997	0.0000	0.6244	0.4615	0.5057	94.6677	93.7152	Max Flow
L264	3.7882	0.0000	0.4255	0.7864	1.0657	86.2987	85.7764	Max Flow
L265	22.4321	0.0000	0.6346	1.5228	2.6414	85.5082	84.7914	Max Flow
L266	23.3519	0.0000	0.5690	1.5560	3.0000	84.7914	83.9594	Max Flow
L267	0.8570	0.0000	0.3641	0.3870	0.4160	85.5616	85.1570	Max Flow
L268	2.6552	0.0000	0.5795	0.6980	1.0000	96.5563	95.9765	Max Flow
L269	2.9244	0.0000	2.2492	0.7327	1.0000	95.9765	93.7327	Max Flow
L270	27.4511	0.0000	3.6503	1.6932	1.4524	83.9594	80.3124	Max Flow
L271	27.4511	0.0000	1.2473	1.6138	1.8021	80.3124	79.1507	Max Flow
L272	37.8161	0.0000	0.0833	1.7668	2.9010	79.1507	79.0400	Max Flow
L273	9.4488	0.0000	0.4979	1.1432	1.7500	79.7003	79.1507	Max Flow
L274	8.5560	0.0000	9.9343	1.1323	0.5281	92.4485	78.9600	Max Flow
L275	1.5053	0.0000	0.6093	0.5200	0.5819	119.5380	118.6232	Max Flow
L277	1.5122	0.0000	0.6511	0.5212	0.5830	119.6050	118.6232	Max Flow
L278	1.5645	0.0000	0.2846	0.5304	0.5953	113.8338	113.5384	Max Flow
L279	3.2536	0.0000	4.0286	0.7719	0.5145	113.5384	109.5100	Max Flow
L280	1.5684	0.0000	0.2950	0.5310	0.5973	113.8459	113.5384	Max Flow
L281	3.4219	0.0000	1.5113	0.7905	1.0000	124.8193	122.6751	Max Flow
L282	5.0178	0.0000	8.2564	0.9172	0.3949	122.6751	113.5400	Max Flow
L283	1.4971	0.0000	0.6319	0.5185	0.5772	123.5619	122.6750	Max Flow
L284	1.5699	0.0000	1.1991	0.5313	0.5987	108.5194	108.3885	Max Flow
L285	2.5601	0.0000	0.7649	0.6059	0.7370	108.3889	108.2800	Max Flow
L286	1.1045	0.0000	0.0191	0.4131	0.4668	108.4000	108.3812	Max Flow
L287	1.8249	0.0000	0.6389	0.5749	0.6593	113.8197	113.0849	Max Flow
L289	2.2642	0.0000	0.7268	0.6435	0.7865	114.0002	113.1535	Max Flow
L290	0.1735	0.0000	1.7058	0.1697	0.1827	104.1135	102.0841	Max Flow
L291	0.4448	0.0000	2.1674	0.2758	0.2936	102.0841	99.9648	Max Flow
L292	1.1514	0.0000	1.2948	0.4517	0.2725	99.9648	98.6700	Max Flow
L294	1.4027	0.0000	0.4750	0.5008	0.5547	92.3207	92.1556	Max Flow
L300	5.3497	0.0000	0.8098	0.8909	1.2437	92.9456	92.1556	Max Flow
L301	1.8664	0.0000	0.3401	0.5817	0.6689	93.1449	92.9456	Max Flow
L302	11.8253	0.0000	1.0392	1.1904	1.8290	92.1556	91.1164	Max Flow
L303	0.8511	0.0000	0.4764	0.3856	0.4161	93.1937	93.1319	Max Flow
L304	2.4623	0.0000	0.4549	0.6718	0.8785	91.4767	90.9418	Max Flow
L305	3.3133	0.0000	0.4741	0.6930	0.8565	93.1319	92.9456	Max Flow
L306	2.8190	0.0000	0.4590	0.7198	0.7625	99.1211	98.6623	Max Flow
L307	3.0397	0.0000	0.0224	0.6073	0.5327	98.6623	98.6400	Max Flow
L308	3.1961	0.0000	0.1205	0.6801	0.6691	98.7602	98.6400	Max Flow
L309	2.6934	0.0000	0.4187	0.7031	0.7338	99.1786	98.7602	Max Flow
L310	1.6006	0.0000	0.3592	0.5367	0.6019	110.9382	110.7767	Max Flow
L311	1.6006	0.0000	2.2948	0.5367	0.6040	110.7767	109.7243	Max Flow
L312	1.2821	0.0000	0.3488	0.4781	0.5238	109.8263	109.7243	Max Flow
L313	2.9996	0.0000	5.3594	0.7420	1.0000	109.7243	104.3342	Max Flow
L314	1.2826	0.0000	0.5269	0.4782	0.5278	104.4885	104.3342	Max Flow
L315	1.6227	0.0000	0.4189	0.5405	0.6069	105.5303	105.2177	Max Flow
L316	1.6227	0.0000	1.6834	0.5405	0.6114	105.2177	104.3342	Max Flow
L317	6.1968	0.0000	1.3801	0.9620	1.5000	104.3342	102.9537	Max Flow
L318	6.1968	0.0000	1.2767	0.9620	1.5000	102.9537	101.6653	Max Flow
L319	8.1961	0.0000	0.4784	1.1083	1.5000	101.6653	101.1083	Max Flow
L320	1.8839	0.0000	0.3882	0.5845	0.6763	101.8613	101.5980	Max Flow
L321	0.5084	0.0000	1.1070	0.2951	0.3909	119.2319	118.5578	Max Flow
L324	1.7090	0.0000	0.6974	0.5556	0.6319	122.9823	122.6221	Max Flow
L325	1.6252	0.0000	0.3550	0.5410	0.6113	121.6390	121.4735	Max Flow
L326	1.9616	0.0000	0.6866	0.5973	0.6946	120.4752	120.0079	Max Flow
L327	2.2136	0.0000	0.6821	0.6360	0.7690	120.5972	120.0079	Max Flow
L328	7.8187	0.0000	2.8098	1.0831	1.5000	120.0079	116.3779	Max Flow
L329	7.8187	0.0000	2.5979	1.0831	0.6393	116.3779	113.7800	Max Flow
L334	0.4265	0.0000	2.1319	0.2696	0.2878	125.6081	123.3977	Max Flow
L335	0.8586	0.0000	1.9033	0.3874	0.4174	123.3977	121.3926	Max Flow

L336	1.2917	0.0000	0.6739	0.4800	0.5278	121.3926	120.3681	Max Flow
L337	1.2917	0.0000	3.7385	0.4800	0.2780	120.3681	116.1200	Max Flow
L338	21.2501	0.0000	0.1889	1.4803	2.5058	128.4056	128.2437	Max Flow
L339	21.2501	0.0000	0.5107	1.4803	2.4674	128.2437	127.6447	Max Flow
L340	30.1672	0.0000	0.4769	1.6963	3.0203	127.6447	127.0548	Max Flow
L341	30.1672	0.0000	0.3143	1.6963	3.1122	127.0548	126.5963	Max Flow
L342	4.5877	0.0000	0.4878	0.8677	1.2500	128.9836	128.3977	Max Flow
L343	2.6326	0.0000	0.6387	0.6950	1.0000	129.2163	128.4750	Max Flow
L344	12.3448	0.0000	0.1778	1.1787	1.7338	126.9885	126.9314	Max Flow
L346	25.6939	0.0000	0.1231	1.5597	2.4817	126.7339	126.6880	Max Flow
L347	56.6716	0.0000	0.8042	2.2641	4.0000	126.6751	125.9315	Max Flow
L348	56.4043	0.0000	0.7584	2.2586	4.0000	125.9323	125.1602	Max Flow
L349	56.3438	0.0000	0.7745	2.2574	4.0000	125.1604	124.3627	Max Flow
L350	56.3403	0.0000	0.2351	2.2573	4.0000	124.3628	124.1181	Max Flow
L351	8.2541	0.0000	0.1140	1.0228	1.4579	124.4568	124.3900	Max Flow
L352	8.2546	0.0000	0.4384	1.0228	1.4508	124.3900	124.1181	Max Flow
L354	74.2712	0.0000	0.2999	2.5159	2.1242	122.1708	122.1000	Max Flow
L361	2.3115	0.0000	0.3204	0.6503	0.8093	126.2886	125.9103	Max Flow
L362	2.1598	0.0000	0.4193	0.6278	0.7572	126.3794	125.8878	Max Flow
L363	4.5228	0.0000	1.3924	0.8156	1.0642	125.8395	124.5395	Max Flow
L364	2.6496	0.0000	0.3554	0.6973	1.0000	124.9752	124.5573	Max Flow
L365	1.6367	0.0000	0.3775	0.5430	0.6119	124.8582	124.5395	Max Flow
L366	9.8099	0.0000	0.9577	1.1200	1.7285	124.5395	123.5625	Max Flow
L367	9.8099	0.0000	1.0227	1.1200	1.7295	123.5625	122.2300	Max Flow
L368	2.2786	0.0000	0.7472	0.6456	0.7929	123.6271	122.7556	Max Flow
L369	3.4945	0.0000	1.2617	0.7986	1.0000	124.1512	122.9086	Max Flow
L370	19.1219	0.0000	0.4613	1.4008	2.2211	121.9924	121.3975	Max Flow
L373	19.1219	0.0000	0.3114	1.4008	1.0725	121.3975	121.5100	Max Flow
L374	3.3514	0.0000	1.8661	0.7827	1.0000	120.8308	118.9627	Max Flow
L375	3.3514	0.0000	0.6264	0.6972	1.5000	118.9042	118.0079	Max Flow
L376	12.3893	0.0680	0.1781	1.1464	1.6838	119.0153	118.8323	Max Flow
L386	34.7255	0.0000	0.2575	1.7529	3.0379	118.7270	118.4705	Max Flow
L387	34.7101	0.0000	0.2831	1.7525	3.0486	118.4705	118.2069	Max Flow
L388	2.2295	0.0000	0.5983	0.6385	1.0000	118.0355	117.3387	Max Flow
L389	48.4170	0.0000	0.2962	2.0107	3.6977	118.2069	117.9109	Max Flow
L390	1.6081	0.0000	0.4428	0.5380	0.7072	117.6979	117.1560	Max Flow
L391	53.2573	0.0000	0.4920	2.1131	4.5000	117.9109	117.4431	Max Flow
L392	63.4431	0.0000	0.5079	2.3162	4.5000	117.4431	116.9259	Max Flow
L393	63.4322	0.0000	0.7314	2.3160	4.5000	116.9260	116.3132	Max Flow
L395	4.2402	0.0000	0.6734	0.8335	0.6572	119.4190	119.1388	Max Flow
L396	8.3420	0.0000	0.4918	0.9090	1.3079	119.2126	119.1388	Max Flow
L397	4.5805	0.0000	0.5730	0.8670	0.7108	119.5102	119.1373	Max Flow
L398	4.3231	0.0000	0.8171	0.8420	0.6588	118.5053	118.2214	Max Flow
L399	4.0411	0.0000	0.6930	0.7043	0.9140	118.5975	118.2241	Max Flow
L402	7.1188	0.0000	0.2434	0.9866	1.4060	113.6518	113.4140	Max Flow
L403	7.1191	0.0000	1.1036	0.9866	1.4210	113.4140	112.2979	Max Flow
L404	7.1280	0.0000	1.1163	0.9872	1.4122	112.2983	111.0825	Max Flow
L405	4.8549	0.0000	0.3254	0.8468	1.1311	111.3924	110.9768	Max Flow
L406	11.9729	0.0000	0.6417	1.1597	1.7166	112.4791	112.0680	Max Flow
L407	3.8256	0.0000	0.3887	0.7905	1.0955	111.0297	110.5505	Max Flow
L408	15.7980	0.0000	0.5961	1.3024	2.0080	112.0680	111.6343	Max Flow
L410	20.1364	0.0000	0.5381	1.4401	2.3383	111.6343	111.1574	Max Flow
L411	20.1364	0.0000	0.4096	1.4401	2.3489	111.1574	110.7941	Max Flow
L413	2.2672	0.0000	1.3421	0.5682	0.6794	119.4822	119.2520	Max Flow
L415	2.2700	0.0000	0.3536	0.6444	0.7489	119.5278	119.1244	Max Flow
L417	2.8494	0.0000	0.5217	0.7235	1.0000	112.5021	111.9035	Max Flow
L418	5.1688	0.0000	0.3289	0.8748	1.2081	113.1916	112.9610	Max Flow
L419	8.0182	0.0000	0.6050	1.0071	1.4169	112.9610	112.5301	Max Flow
L420	8.0182	0.0000	0.9397	1.0071	1.4176	112.5301	111.8621	Max Flow
L421	1.6631	0.0000	0.4105	0.5476	0.6182	110.6689	110.2152	Max Flow

L422	3.8019	0.0000	0.4123	0.7879	1.0644	112.2083	111.8621	Max Flow
L423	13.6466	0.0000	0.6966	1.2419	1.9032	111.8621	111.2807	Max Flow
L424	18.5464	0.0000	0.5379	1.4164	2.3829	111.2807	110.7941	Max Flow
L425	0.9317	0.0000	0.4054	0.4045	0.4363	111.3435	111.2807	Max Flow
L426	3.9681	0.0000	0.3930	0.8057	1.2500	111.6425	111.2807	Max Flow
L427	40.5902	0.0000	1.0434	1.9812	3.5000	110.7941	109.7503	Max Flow
L428	0.9393	0.0000	0.4988	0.4062	0.4397	109.8312	109.7503	Max Flow
L429	42.4776	0.0000	0.8860	2.0284	3.5000	109.7503	108.8835	Max Flow
L430	2.4510	0.0000	0.7702	0.6702	0.7134	120.8238	120.2589	Max Flow
L431	2.2829	0.0000	2.4872	0.6462	0.7939	122.5716	120.2468	Max Flow
L432	2.2800	0.0000	0.5308	0.6458	0.7922	123.0519	122.5604	Max Flow
L435	2.8727	0.0000	0.7704	0.7264	1.0000	116.1803	115.4093	Max Flow
L436	2.8741	0.0000	2.7382	0.7266	1.0000	115.4093	112.6913	Max Flow
L437	2.8724	0.0000	1.3705	0.6804	0.8304	112.8384	112.0501	Max Flow
L438	1.6722	0.0000	0.5063	0.5492	0.6236	112.3084	112.0515	Max Flow
L439	4.5570	0.0000	2.5013	0.8648	1.2500	112.0515	109.5681	Max Flow
L440	4.5523	0.0000	1.3289	0.8185	1.0723	109.7789	108.8835	Max Flow
L441	48.9390	0.0000	1.1723	2.1842	3.5000	108.8835	107.6629	Max Flow
L442	48.9390	0.0000	1.6389	2.1842	3.5000	107.6629	105.0976	Max Flow
L443	48.9390	0.0000	5.2572	2.1842	0.9872	105.0976	98.6700	Max Flow
L446	5.9168	0.0000	0.2542	0.9388	1.5000	129.7527	129.4984	Max Flow
L448	0.9708	0.0000	0.4571	0.4131	0.4472	128.2210	128.1440	Max Flow
L449	9.5085	0.0000	2.1422	1.1469	1.7500	128.1440	126.0007	Max Flow
L450	13.3913	0.0000	1.8254	1.3165	2.0000	126.0007	123.9765	Max Flow
L451	14.7194	0.0000	0.4727	1.3819	2.0000	120.4426	119.8419	Max Flow
L452	1.2925	0.0000	0.2889	0.4802	0.5291	126.0884	126.0007	Max Flow
L453	0.9323	0.0000	0.3450	0.4046	0.4391	126.0559	126.0007	Max Flow
L454	0.6805	0.0000	0.4067	0.3432	0.3671	120.4709	120.2912	Max Flow
L466	4.0513	0.0000	0.6115	0.8142	0.9291	120.8206	120.1342	Max Flow
L468	4.0501	0.0000	0.9920	0.7051	0.9527	119.5312	118.5980	Max Flow
L470	9.4830	0.0000	0.8187	1.1453	1.7500	123.4952	122.3558	Max Flow
L471	0.3817	0.0000	1.3528	0.2545	0.2559	125.0264	123.4952	Max Flow
L472	4.4576	0.0000	1.0741	0.8830	1.0000	128.1166	127.0400	Max Flow
L475	4.3583	0.0000	0.5802	0.8456	1.2500	92.7363	92.1556	Max Flow
L478	18.0903	0.0000	2.1550	1.4859	2.2500	91.1164	88.9568	Max Flow
L479	18.0903	0.0000	1.5091	1.4395	2.5000	88.9568	87.4472	Max Flow
L487	10.7713	0.0000	0.9916	1.2224	0.7903	99.2136	98.2300	Max Flow
L490	6.7173	0.0000	0.3686	0.9567	1.7500	111.3361	110.8167	Max Flow
L493	18.0903	0.0000	1.1872	1.4395	2.5000	87.4472	86.2850	Max Flow
L496	0.6064	0.0000	2.1620	0.3236	0.3457	133.7961	131.6772	Max Flow
L497	0.5989	0.0000	2.1833	0.3217	0.3435	133.8039	131.6772	Max Flow
L498	1.2053	0.0000	0.5699	0.4626	0.5070	131.6772	131.1070	Max Flow
L499	1.7090	0.0000	1.1481	0.5556	1.0000	122.6221	121.4735	Max Flow
L500	3.4454	0.0000	1.4629	0.7488	1.2500	121.4735	120.0079	Max Flow
L501	12.3990	0.0000	0.5526	1.1168	1.6430	126.9276	126.7686	Max Flow
L502	12.6211	0.0000	0.2344	1.0767	1.6224	126.7735	126.6801	Max Flow
L503	73.4514	0.0000	0.7134	2.5009	4.5000	124.1182	123.3487	Max Flow
L504	74.2709	0.0000	0.9244	2.5159	4.5000	123.3488	122.1708	Max Flow
L505	10.5969	0.0000	2.3107	1.2124	1.7500	107.2387	104.9238	Max Flow
L506	10.8984	0.0000	2.4421	1.2297	1.7500	104.9238	102.4757	Max Flow
L507	3.7981	0.0000	2.1829	0.8284	1.0000	94.2928	92.1084	Max Flow
L509	5.6849	0.0000	1.3845	0.9649	1.2500	109.8299	108.4649	Max Flow
L510	5.1173	0.0000	4.5235	0.9167	0.4464	102.7535	98.2300	Max Flow
L511	11.0354	0.0000	2.5525	1.2707	1.5000	112.4350	109.8807	Max Flow
L512	17.9041	0.0000	10.5314	1.5241	0.6463	108.7618	98.2300	Max Flow
L513	18.2188	0.0000	0.6540	1.4448	2.5000	86.2850	85.5082	Max Flow
L514	8.0432	0.0000	1.3537	1.0519	1.7500	129.4984	128.1440	Max Flow
L515	15.8009	0.0000	0.1400	1.2675	1.9143	118.8323	118.7269	Max Flow
CH21	12.6092	0.0000	0.7628	0.0670	0.2925	119.0231	119.0154	Max Flow
L474	9.4830	0.0000	1.3681	1.1890	1.5000	120.8720	119.5000	Max Flow

L523	9.4830	0.0000	0.7137	0.3970	0.9455	122.3558	121.2270	Max Flow
L525	17.1495	0.0000	0.6006	1.3242	2.0427	119.1388	118.7076	Max Flow
L527	4.5196	0.0000	1.1340	0.8153	1.0804	119.2521	118.1927	Max Flow
L528	4.7390	0.0000	3.2766	0.8821	1.2500	120.2464	116.9384	Max Flow
L529	4.3384	0.0000	0.6401	0.7981	1.5000	114.9266	114.2861	Max Flow
L533	4.3384	0.0000	2.4128	0.7981	1.0336	114.2861	112.6510	Max Flow
L537	4.3384	0.0000	1.0160	0.7981	1.5000	112.6510	111.6343	Max Flow
L394	63.4308	0.0000	0.4493	2.3159	4.5000	116.3132	116.1200	Max Flow
L276	3.1462	0.0000	6.2093	0.7600	0.3231	118.6232	110.3800	Max Flow
L288	4.1590	0.0000	4.3114	0.8252	0.3816	112.6514	108.3400	Max Flow
L412	2.2432	0.0000	0.6001	0.6405	0.6067	119.6067	119.0067	Max Flow
L447	2.1264	0.0000	1.3135	0.5499	0.6604	129.7121	129.4984	Max Flow
L546	3.7980	0.0000	3.3199	0.7444	0.7912	92.0791	91.1164	Max Flow

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.

Inlet Configuration	Conduit Name	Mild Slope Critical D	Mild Slope TW Control	Steep Slope TW Insignf Entrance	Slug Flow Outlet/ Entrance	Mild Slope TW > D Outlet	Mild Slope TW <= D Outlet	Outlet	Inlet	
		Control	Control	Control	Control	Control	Control	Control	Control	Control
L210	0.0000	58.0000	0.0000	0.0000	0.0000	302.0000	0.0000	0.0000	0.0000	None
L211	20.0000	35.0000	0.0000	0.0000	0.0000	0.0000	0.0000	305.0000	0.0000	None
L212	19.0000	40.0000	0.0000	0.0000	0.0000	301.0000	0.0000	0.0000	0.0000	None
L213	0.0000	49.0000	0.0000	0.0000	0.0000	311.0000	0.0000	0.0000	0.0000	None
L214	0.0000	49.0000	0.0000	0.0000	0.0000	311.0000	0.0000	0.0000	0.0000	None
L217	290.0000	70.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L220	11.0000	47.0000	0.0000	0.0000	0.0000	302.0000	0.0000	0.0000	0.0000	None
L221	258.0000	102.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L222	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L223	246.0000	114.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L224	281.0000	79.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L225	38.0000	52.0000	3.0000	0.0000	0.0000	267.0000	0.0000	0.0000	0.0000	None
L226	0.0000	65.0000	0.0000	0.0000	0.0000	295.0000	0.0000	0.0000	0.0000	None
L227	37.0000	24.0000	0.0000	0.0000	0.0000	299.0000	0.0000	0.0000	0.0000	None
L228	20.0000	35.0000	0.0000	0.0000	0.0000	0.0000	0.0000	305.0000	0.0000	None
L229	318.0000	42.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L230	40.0000	320.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L231	28.0000	43.0000	0.0000	0.0000	0.0000	288.0000	0.0000	1.0000	0.0000	None
L232	21.0000	46.0000	0.0000	0.0000	0.0000	293.0000	0.0000	0.0000	0.0000	None
L233	13.0000	33.0000	4.0000	0.0000	0.0000	310.0000	0.0000	0.0000	0.0000	None
L234	0.0000	30.0000	1.0000	0.0000	0.0000	329.0000	0.0000	0.0000	0.0000	None
L235	11.0000	52.0000	0.0000	0.0000	0.0000	297.0000	0.0000	0.0000	0.0000	None
L236	4.0000	54.0000	0.0000	0.0000	0.0000	302.0000	0.0000	0.0000	0.0000	None
L237	0.0000	47.0000	0.0000	0.0000	0.0000	313.0000	0.0000	0.0000	0.0000	None
L238	8.0000	352.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L239	18.0000	32.0000	0.0000	0.0000	0.0000	0.0000	0.0000	310.0000	0.0000	None
L240	291.0000	69.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L241	20.0000	35.0000	0.0000	0.0000	0.0000	0.0000	0.0000	305.0000	0.0000	None

L312	8.0000	46.0000	0.0000	0.0000	306.0000	0.0000	0.0000	0.0000	None
L313	20.0000	38.0000	0.0000	0.0000	297.0000	0.0000	5.0000	0.0000	None
L314	1.0000	62.0000	0.0000	0.0000	297.0000	0.0000	0.0000	0.0000	None
L315	12.0000	348.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L316	23.0000	40.0000	0.0000	0.0000	297.0000	0.0000	0.0000	0.0000	None
L317	10.0000	57.0000	0.0000	0.0000	293.0000	0.0000	0.0000	0.0000	None
L318	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L319	276.0000	84.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L320	1.0000	359.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L321	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L324	9.0000	39.0000	0.0000	0.0000	312.0000	0.0000	0.0000	0.0000	None
L325	1.0000	43.0000	0.0000	0.0000	316.0000	0.0000	0.0000	0.0000	None
L326	1.0000	39.0000	0.0000	0.0000	320.0000	0.0000	0.0000	0.0000	None
L327	1.0000	39.0000	0.0000	0.0000	320.0000	0.0000	0.0000	0.0000	None
L328	48.0000	0.0000	0.0000	0.0000	0.0000	0.0000	312.0000	0.0000	None
L329	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L334	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L335	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L336	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L337	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L338	4.0000	356.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L339	11.0000	349.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L340	6.0000	354.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L341	87.0000	273.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L342	291.0000	69.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L343	285.0000	75.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L344	4.0000	61.0000	0.0000	0.0000	295.0000	0.0000	0.0000	0.0000	None
L346	0.0000	57.0000	0.0000	0.0000	303.0000	0.0000	0.0000	0.0000	None
L347	6.0000	54.0000	0.0000	0.0000	300.0000	0.0000	0.0000	0.0000	None
L348	3.0000	61.0000	0.0000	0.0000	296.0000	0.0000	0.0000	0.0000	None
L349	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L350	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L351	3.0000	357.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L352	32.0000	328.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L354	0.0000	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	None
L361	295.0000	65.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L362	80.0000	280.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L363	15.0000	345.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L364	291.0000	69.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L365	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L366	9.0000	351.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L367	143.0000	217.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L368	253.0000	107.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L369	289.0000	71.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L370	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L373	0.0000	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	None
L374	3.0000	42.0000	2.0000	0.0000	80.0000	0.0000	233.0000	0.0000	None
L375	63.0000	282.0000	2.0000	0.0000	13.0000	0.0000	0.0000	0.0000	None
L376	6.0000	286.0000	0.0000	55.0000	13.0000	0.0000	0.0000	0.0000	None
L386	4.0000	254.0000	0.0000	0.0000	102.0000	0.0000	0.0000	0.0000	None
L387	3.0000	213.0000	0.0000	0.0000	144.0000	0.0000	0.0000	0.0000	None
L388	16.0000	121.0000	0.0000	0.0000	223.0000	0.0000	0.0000	0.0000	None
L389	0.0000	196.0000	0.0000	0.0000	164.0000	0.0000	0.0000	0.0000	None
L390	10.0000	159.0000	0.0000	0.0000	191.0000	0.0000	0.0000	0.0000	None
L391	0.0000	217.0000	0.0000	0.0000	143.0000	0.0000	0.0000	0.0000	None
L392	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L393	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L395	0.0000	0.0000	10.0000	34.0000	0.0000	313.0000	3.0000	0.0000	None
L396	0.0000	211.0000	2.0000	0.0000	147.0000	0.0000	0.0000	0.0000	None
L397	0.0000	0.0000	10.0000	35.0000	0.0000	312.0000	3.0000	0.0000	None

L499	11.0000	33.0000	0.0000	0.0000	316.0000	0.0000	0.0000	0.0000	None
L500	6.0000	34.0000	0.0000	0.0000	320.0000	0.0000	0.0000	0.0000	None
L501	12.0000	48.0000	0.0000	0.0000	300.0000	0.0000	0.0000	0.0000	None
L502	1.0000	56.0000	0.0000	0.0000	303.0000	0.0000	0.0000	0.0000	None
L503	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L504	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L505	20.0000	35.0000	0.0000	0.0000	305.0000	0.0000	0.0000	0.0000	None
L506	1.0000	30.0000	0.0000	0.0000	329.0000	0.0000	0.0000	0.0000	None
L507	4.0000	47.0000	0.0000	0.0000	0.0000	0.0000	309.0000	0.0000	None
L509	297.0000	63.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L510	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L511	7.0000	37.0000	0.0000	0.0000	0.0000	0.0000	316.0000	0.0000	None
L512	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L513	20.0000	340.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L514	8.0000	48.0000	0.0000	0.0000	304.0000	0.0000	0.0000	0.0000	None
L515	4.0000	289.0000	0.0000	0.0000	67.0000	0.0000	0.0000	0.0000	None
CH21	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L474	0.0000	57.0000	0.0000	0.0000	303.0000	0.0000	0.0000	0.0000	None
L523	300.0000	60.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L525	4.0000	144.0000	2.0000	0.0000	210.0000	0.0000	0.0000	0.0000	None
L527	3.0000	43.0000	0.0000	0.0000	314.0000	0.0000	0.0000	0.0000	None
L528	41.0000	20.0000	0.0000	0.0000	143.0000	0.0000	156.0000	0.0000	None
L529	9.0000	75.0000	0.0000	0.0000	276.0000	0.0000	0.0000	0.0000	None
L533	12.0000	54.0000	0.0000	0.0000	294.0000	0.0000	0.0000	0.0000	None
L537	36.0000	31.0000	0.0000	0.0000	293.0000	0.0000	0.0000	0.0000	None
L394	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L276	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L288	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L412	0.0000	1.0000	58.0000	0.0000	0.0000	0.0000	301.0000	0.0000	None
L447	2.0000	56.0000	0.0000	0.0000	302.0000	0.0000	0.0000	0.0000	None
L546	14.0000	39.0000	1.0000	0.0000	306.0000	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
L210	0.0000	0.0000	0.0000	0.0000
L211	0.0000	0.0000	0.9833	0.0000
L212	0.5161	303.9355	2.9000	0.0000
L213	0.0000	17.6164	0.0000	0.0000
L214	0.1613	37.9102	0.0000	0.0000
L217	0.0000	0.0000	0.7500	0.0000
L220	0.0000	0.2500	1.0500	0.0000
L221	0.0000	0.2500	1.3542	0.0000
L222	41.0357	359.7500	347.4357	0.0000
L223	0.0000	0.0000	3.7500	0.0000
L224	0.0000	0.0000	0.5000	0.0000
L225	6.8065	302.6774	5.1694	0.0000
L226	34.4367	360.0000	3.3900	0.0000
L227	0.0323	302.8387	3.6400	0.0000
L228	0.0000	2.2708	2.2708	0.0000
L229	0.0000	0.2500	1.8192	0.0000
L230	0.0000	0.0000	0.0000	0.0000
L231	0.0000	0.0000	0.2500	0.0000
L232	0.0000	0.5000	1.4500	0.0000
L233	0.0000	21.2270	0.7500	0.0000

L234	0.9917	355.6792	0.0000	0.0000
L235	0.0000	346.0952	6.3529	0.0000
L236	0.0000	0.0000	0.0000	0.0000
L237	0.0690	3.2759	0.0000	0.0000
L238	0.0000	0.0000	0.0000	0.0000
L239	0.0000	0.0000	0.5000	0.0000
L240	0.0000	0.0000	0.7500	0.0000
L241	0.0000	0.5000	1.9167	0.0000
L242	0.0000	0.0000	0.0000	0.0000
L243	0.0000	0.0000	0.0000	0.0000
L246	0.2500	37.5268	0.0000	0.0000
L247	0.0000	32.1597	0.0000	0.0000
L248	0.0000	358.0608	0.0000	0.0000
L249	0.0000	0.0000	0.2500	0.0000
L250	47.9310	360.0000	355.1250	0.0000
L251	0.0000	0.0000	0.5000	0.0000
L252	343.2727	343.4091	4.0000	0.0000
L253	0.0000	302.4762	3.9375	0.0000
L254	21.4158	323.7037	1.3667	0.0000
L255	0.0000	0.0000	0.0000	0.0000
L256	0.0000	349.6316	3.9200	0.0000
L257	0.0000	0.7500	2.5208	0.0000
L258	0.0000	319.0357	1.0000	0.0000
L259	0.0000	0.2500	321.6173	0.0000
L260	359.7500	359.7500	350.5009	0.0000
L261	0.0000	0.0000	0.5000	0.0000
L262	360.0000	360.0000	354.6250	0.0000
L263	0.0000	0.0000	1.6667	0.0000
L264	0.0000	0.0000	0.0000	0.0000
L265	0.0000	5.5727	0.9000	0.0000
L266	2.7300	4.4375	1.0000	0.0000
L267	0.0000	0.0000	1.0000	0.0000
L268	0.0333	44.0333	2.4583	0.0000
L269	0.0000	0.0000	0.7500	0.0000
L270	52.4667	359.5000	341.7727	0.0000
L271	0.0000	355.7631	0.0000	0.0000
L272	0.0000	36.0971	0.0000	0.0000
L273	0.2500	38.4223	0.0000	0.0000
L274	359.7500	359.7500	356.8200	0.0000
L275	0.0000	0.0000	0.5000	0.0000
L277	0.0000	0.0000	0.7500	0.0000
L278	0.0000	0.0000	0.7500	0.0000
L279	23.1667	360.0000	353.0588	0.0000
L280	0.0000	0.0000	1.0000	0.0000
L281	0.0000	0.0000	352.4167	0.0000
L282	360.0000	360.0000	357.2292	0.0000
L283	0.0000	0.0000	0.5000	0.0000
L284	0.0000	357.8583	0.0000	0.0000
L285	0.0000	357.7000	0.0000	0.0000
L286	0.0000	357.6683	0.0000	0.0000
L287	0.0000	0.0000	0.0000	0.0000
L289	0.0000	0.0000	0.0000	0.0000
L290	355.6250	355.6250	0.0000	0.0000
L291	350.0836	354.3142	0.5000	0.0000
L292	18.0227	359.7500	343.5909	0.0000
L294	0.0000	307.5000	0.2500	0.0000
L300	0.0000	305.6333	1.2667	0.0000
L301	0.0000	304.2667	0.0000	0.0000
L302	2.2083	349.1935	0.2500	0.0000
L303	0.0000	305.4333	0.5000	0.0000

L304	0.2258	1.5806	0.0000	0.0000
L305	0.0000	353.2941	0.0000	0.0000
L306	0.0000	358.0100	0.0000	0.0000
L307	0.0000	357.5917	0.0000	0.0000
L308	0.0000	357.9692	0.0000	0.0000
L309	0.2500	358.0325	0.0000	0.0000
L310	0.0000	304.5000	2.4100	0.0000
L311	43.4895	350.1053	0.9000	0.0000
L312	0.1579	350.6316	4.8125	0.0000
L313	0.0000	0.2500	1.8125	0.0000
L314	0.0000	322.2593	0.7500	0.0000
L315	0.0000	317.0779	3.3800	0.0000
L316	14.6682	317.2143	1.3000	0.0000
L317	0.0000	1.1667	5.1250	0.0000
L318	10.6263	60.5081	0.2500	0.0000
L319	0.0000	0.0000	0.9000	0.0000
L320	0.0000	320.7500	0.0000	0.0000
L321	71.4074	353.2353	4.0000	0.0000
L324	5.8313	348.8000	4.5000	0.0000
L325	0.0000	337.3333	0.0000	0.0000
L326	0.0000	339.6957	0.0000	0.0000
L327	0.0000	338.3913	0.0000	0.0000
L328	0.0000	0.0000	2.4167	0.0000
L329	24.0833	359.7500	349.2105	0.0000
L334	357.0000	359.7500	0.0000	0.0000
L335	357.1042	359.7500	0.0000	0.0000
L336	0.0000	0.0000	3.0300	0.0000
L337	359.7500	359.7500	344.6190	0.0000
L338	0.0000	0.0000	1.6667	0.0000
L339	0.0000	0.0000	0.5000	0.0000
L340	0.0000	0.0000	2.0625	0.0000
L341	0.0000	0.0000	2.0000	0.0000
L342	0.0000	0.0000	0.0000	0.0000
L343	0.0000	0.0000	0.0000	0.0000
L344	0.0645	303.0645	0.0000	0.0000
L346	0.0455	342.8182	0.0000	0.0000
L347	0.0000	7.0317	0.0000	0.0000
L348	0.0000	14.3791	2.9900	0.0000
L349	0.8733	19.3716	1.9167	0.0000
L350	0.1167	19.6314	1.6333	0.0000
L351	0.0645	297.3226	1.5667	0.0000
L352	0.0323	298.2581	0.5000	0.0000
L354	0.0000	351.3333	0.0000	0.0000
L361	0.0000	0.0000	0.0000	0.0000
L362	0.0000	0.0000	0.0000	0.0000
L363	0.0000	307.6667	1.4333	0.0000
L364	0.0000	0.0000	0.0000	0.0000
L365	0.0000	300.3871	0.0000	0.0000
L366	0.0000	0.0000	4.1875	0.0000
L367	5.9234	9.0982	0.5000	0.0000
L368	0.0000	0.0000	0.0000	0.0000
L369	0.0000	0.0000	0.0000	0.0000
L370	0.0000	34.7460	0.0000	0.0000
L373	0.0000	355.0169	0.0000	0.0000
L374	0.0000	0.0000	0.0000	0.0000
L375	0.0000	0.0000	0.6008	0.0000
L376	0.3684	295.0606	0.0000	0.0000
L386	0.0000	347.8211	2.9500	0.0000
L387	0.4375	346.9137	3.8750	0.0000
L388	0.0000	0.0000	0.0000	0.0000

L389	0.2083	347.8964	0.5000	0.0000
L390	0.0000	136.1290	0.0000	0.0000
L391	1.6500	212.3829	0.2500	0.0000
L392	0.0000	69.8168	0.0000	0.0000
L393	0.0000	70.1490	0.0000	0.0000
L395	10.4974	359.5000	0.5500	0.0000
L396	0.0417	355.7083	0.0000	0.0000
L397	10.4000	359.5000	0.7500	0.0000
L398	8.3842	358.8167	1.7500	0.0000
L399	0.0000	320.3571	3.7500	0.0000
L402	0.0323	298.3871	1.8750	0.0000
L403	0.0323	287.5161	3.7500	0.0000
L404	0.0645	289.5161	2.2000	0.0000
L405	0.0323	289.8387	0.0000	0.0000
L406	0.0000	308.1833	1.5667	0.0000
L407	0.1613	3.9032	0.0000	0.0000
L408	0.0000	314.0862	1.8750	0.0000
L410	0.0000	326.3077	6.3684	0.0000
L411	0.0000	332.8000	8.6389	0.0000
L413	38.5113	354.0176	0.5000	0.0000
L415	0.0000	0.0000	0.0000	0.0000
L417	0.0000	0.0000	0.0000	0.0000
L418	0.0323	286.8387	0.0000	0.0000
L419	0.0000	308.2779	3.8750	0.0000
L420	0.0000	304.9667	2.3700	0.0000
L421	0.0323	298.1290	0.0000	0.0000
L422	0.0645	6.9677	0.0000	0.0000
L423	0.0000	316.7143	1.6333	0.0000
L424	0.0000	34.0772	1.6500	0.0000
L425	0.0000	305.2000	0.5000	0.0000
L426	0.5484	0.7097	0.0000	0.0000
L427	0.0000	11.9973	0.2500	0.0000
L428	0.0333	306.4333	0.5000	0.0000
L429	4.9375	19.7989	0.2500	0.0000
L430	10.8810	351.1667	5.2500	0.0000
L431	17.8436	328.5192	1.8000	0.0000
L432	0.0000	306.6015	4.2500	0.0000
L435	0.0000	27.1733	3.5200	0.0000
L436	0.0000	0.5000	1.2333	0.0000
L437	30.7169	356.5964	0.9333	0.0000
L438	0.0000	332.9600	0.5000	0.0000
L439	0.0000	0.5000	1.9583	0.0000
L440	0.0000	303.5806	5.0625	0.0000
L441	0.0000	0.0000	2.5000	0.0000
L442	0.0000	0.0000	316.9975	0.0000
L443	359.7500	359.7500	338.4783	0.0000
L446	0.0645	2.1935	0.0000	0.0000
L448	0.0000	325.2222	0.7500	0.0000
L449	0.0000	0.5000	2.0208	0.0000
L450	0.0000	0.5000	1.5500	0.0000
L451	0.0000	0.0000	2.3375	0.0000
L452	0.0000	319.2500	0.5000	0.0000
L453	0.0000	322.6667	0.5000	0.0000
L454	0.0000	320.3214	1.0000	0.0000
L466	0.0000	0.0000	0.0000	0.0000
L468	0.0000	300.3871	4.8125	0.0000
L470	0.0000	0.0000	6.2647	0.0000
L471	353.2353	353.2353	0.0000	0.0000
L472	0.1111	0.1111	0.0000	0.0000
L475	0.0000	0.0000	0.0000	0.0000

L478	0.0000	0.0000	0.0000	0.0000
L479	0.0000	0.0000	5.5000	0.0000
L487	0.0000	359.0625	0.0000	0.0000
L490	0.0000	0.0000	0.0000	0.0000
L493	2.2105	2.4737	0.0000	0.0000
L496	354.1287	354.5000	2.7500	0.0000
L497	354.1250	354.5000	3.0000	0.0000
L498	0.0000	0.0000	0.5208	0.0000
L499	0.0000	27.6973	1.6000	0.0000
L500	0.0000	36.0608	1.2833	0.0000
L501	0.0000	326.0385	0.9667	0.0000
L502	2.7341	356.4800	3.0200	0.0000
L503	0.0000	24.2564	0.0000	0.0000
L504	0.0000	24.2564	0.0000	0.0000
L505	0.0000	0.5000	1.5167	0.0000
L506	1.4482	38.1536	1.1500	0.0000
L507	0.0000	0.0000	0.0000	0.0000
L509	0.0000	0.0000	0.0000	0.0000
L510	19.7935	359.7500	356.0000	0.0000
L511	0.0000	0.0000	0.0000	0.0000
L512	56.8145	359.7500	355.5000	0.0000
L513	0.0000	0.0000	3.8125	0.0000
L514	0.0000	47.0492	0.2500	0.0000
L515	0.0000	348.9623	4.2500	0.0000
CH21	68.4355	359.5000	0.0000	0.0000
L474	0.4286	0.4286	0.0000	0.0000
L523	0.0000	0.2500	0.5000	0.0000
L525	0.0000	350.2460	0.1667	0.0000
L527	6.2912	354.0625	1.8333	0.0000
L528	0.0000	0.2500	1.3833	0.0000
L529	0.0000	0.0000	2.8542	0.0000
L533	29.0596	342.6364	6.8333	0.0000
L537	0.0000	0.0000	1.4225	0.0000
L394	0.0000	59.2458	0.0000	0.0000
L276	360.0000	360.0000	356.0000	0.0000
L288	52.3667	360.0000	354.2500	0.0000
L412	0.0000	145.7742	207.3026	0.0000
L447	29.7548	349.3684	0.0000	0.0000
L546	28.5200	333.2800	0.7917	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.
 *=====

Conduit Maximum Name Elevation (ft)	Maximum Flow (cfs)	Total Flow (ft^3)	Maximum Velocity (ft/s)	Maximum Volume (ft^3)	##	Junction Name	Invert Elevation (ft)
107.6026	L210	2.8911	57161.7632	3.7445	56.6595	##	N221 105.8400

106.9939	L211	3.1354	61547.3811	4.0313	92.9610	##	N222	104.4400
102.1159	L212	3.2978	64189.8900	3.3046	521.4422	##	N223	100.8100
100.2909	L213	2.4916	49166.3441	3.2326	86.7334	##	N224	96.9700
100.9720	L214	5.3717	106138.1047	3.0198	172.0425	##	N227	98.3400
100.6100	L217	0.9501	18775.4035	2.8265	22.0944	##	N228	97.5300
98.1694	L220	11.2776	221042.5623	4.6465	795.1439	##	N230	95.8300
100.2872	L221	13.2165	257682.1336	4.1620	1071.2640	##	N231	99.8400
95.2324	L222	13.3950	261138.9345	9.6023	251.5153	##	N233	94.4200
90.1200	L223	0.2305	4547.4791	1.4362	9.8486	##	N234	85.6000
119.8642	L224	0.2305	4486.7758	1.3309	10.9512	##	N235	119.6000
118.8903	L225	0.2305	4408.6121	1.3999	161.7749	##	N236	118.6100
117.6596	L226	0.9294	18089.8916	1.8893	319.3934	##	N237	117.2600
117.5825	L227	1.5845	30757.2988	2.2885	192.5823	##	N238	115.1100
118.5578	L228	2.4888	47897.1171	3.2325	176.8815	##	N239	117.6900
118.1994	L229	2.9466	56182.6160	2.5939	247.7024	##	N240	116.6200
112.5184	L230	3.4595	65701.1942	2.8641	456.4379	##	N241	111.3600
110.3694	L231	3.8015	71774.5760	3.0717	505.0382	##	N242	108.6300
108.8794	L232	6.0390	115205.6195	3.3939	562.4078	##	N243	105.8600
107.0654	L233	6.3287	120108.5724	3.5481	858.0662	##	N244	103.8500
105.7300	L234	9.4131	180164.7366	2.9781	1360.3081	##	N245	101.6800
103.4547	L235	0.4478	8830.4229	1.0898	41.1676	##	N246	99.5300
102.4757	L236	2.1260	41974.2970	2.6925	85.4426	##	N247	97.8700
112.5280	L237	3.0812	60886.2040	3.8746	82.3201	##	N248	111.4800
107.5518	L238	3.6943	73068.2433	4.7555	41.0993	##	N249	104.6200
104.4244	L239	4.0636	80236.8485	5.1858	93.2085	##	N250	101.1400
116.6527	L240	1.2377	24462.2264	3.0137	31.3633	##	N251	115.3800
115.2810	L241	5.3649	105451.8475	4.4351	240.5992	##	N252	113.0600
110.4633	L242	1.8517	36615.8697	3.3991	31.7246	##	N253	108.0800
113.3534	L243	2.4831	49084.6636	3.6078	60.0089	##	N254	112.8300
107.2387	L246	24.3602	470951.9472	4.9377	2119.6852	##	N255	102.8000

108.0734	L247	-34.7155	557360.3848	5.8299	471.4067	##	N256	107.4100
108.4472	L248	1.9823	39208.1931	2.5119	37.1222	##	N257	107.6100
100.5470	L249	1.5796	31240.2015	3.2717	26.5655	##	N259	97.1600
99.9500	L250	3.0003	59320.9541	8.9085	23.5480	##	N260	97.0000
100.7386	L251	1.3050	25807.1515	3.0835	24.2924	##	N261	98.9300
105.4932	L252	0.1128	2206.4061	0.9086	89.7870	##	N262	104.8800
104.8520	L253	1.7370	34360.0885	3.2864	38.0926	##	N263	104.4600
99.9500	L254	1.7367	34163.2569	3.0989	141.8718	##	N264	96.6400
105.4059	L255	3.9589	78286.2497	3.6647	92.7131	##	N265	104.8600
100.5085	L256	4.7298	93271.9697	3.0373	525.9915	##	N266	100.3600
99.2256	L257	6.6737	130788.1011	3.6751	471.8159	##	N267	97.5500
101.3835	L258	0.8529	16851.8117	2.5005	45.8911	##	N268	100.7400
100.9948	L259	7.8638	153880.6403	3.9734	203.8777	##	N269	100.3300
100.2825	L260	8.0628	157782.4836	11.6526	58.2297	##	N270	99.1400
99.9370	L261	0.9792	19354.6093	2.6864	12.8399	##	N271	98.5500
97.8101	L262	2.3040	45536.7783	9.6489	3.1004	##	N272	96.3500
98.1213	L263	1.1997	23719.2571	2.8987	14.1154	##	N273	97.6800
96.0359	L264	3.7883	74900.4315	3.7909	72.2439	##	N274	95.5800
90.1200	L265	22.4321	429033.3287	3.9592	1872.2701	##	N275	85.6000
94.7428	L266	23.3519	445834.7823	4.7655	850.7819	##	N276	94.2500
93.7152	L267	0.8570	16942.3567	2.7535	18.7475	##	N277	93.4400
79.2200	L268	2.6552	52518.0994	3.3671	64.9869	##	N278	78.0000
94.6677	L269	2.9244	57556.5056	3.7936	87.7935	##	N279	94.1200
86.2988	L270	27.4511	525563.1030	7.7784	732.1691	##	N280	85.3300
85.5082	L271	27.4511	524057.1204	5.2169	2239.4294	##	N281	83.2400
84.7914	L272	-54.5779	727507.1621	5.1562	247.0046	##	N282	82.7700
83.9594	L273	9.4566	186865.5691	4.1829	252.8567	##	N283	82.5000
85.5616	L274	8.5560	169378.0351	12.6154	25.5883	##	N284	85.1400
96.5563	L275	1.5054	29765.6791	3.1332	19.7745	##	N285	94.9100
95.9765	L277	1.5122	29899.2579	3.1076	19.8834	##	N286	94.4500

80.3124	L278	1.5649	30958.2421	3.2306	22.9563	##	N287	78.4600
79.2896	L279	3.2539	64333.1379	6.4649	59.1283	##	N288	77.0300
79.0400	L280	1.5689	31034.8953	3.2265	23.9637	##	N289	77.0000
79.7003	L281	3.4219	67668.6650	4.6251	35.3664	##	N290	78.1000
92.4485	L282	5.0178	99211.3442	14.7894	8.4798	##	N291	91.9200
78.9600	L283	1.4971	29601.6529	3.1057	26.2910	##	N292	76.6000
119.5381	L284	-4.7711	30939.7407	-5.2429	41.5951	##	N293	118.9200
118.6232	L285	-8.1954	50891.4412	-3.7322	250.0569	##	N294	118.3000
119.6051	L286	-5.7330	17562.2352	-3.2225	62.0571	##	N296	118.9800
113.8340	L287	1.8249	36060.0594	3.3193	50.1690	##	N297	113.2400
113.5385	L289	2.2642	44736.8850	3.4711	66.0334	##	N298	112.9600
109.5100	L290	0.1735	3410.0779	1.5990	7.2536	##	N299	106.3000
113.8460	L291	0.4448	8734.7327	2.2398	13.3986	##	N300	113.2500
124.8193	L292	1.1514	22709.7044	3.7743	64.1790	##	N301	122.9000
122.6751	L294	1.4189	27685.5254	3.0312	65.2906	##	N302	122.2800
113.5400	L300	5.3497	104905.0212	3.3970	425.6126	##	N303	110.6000
123.5620	L301	1.8664	36877.6527	3.2949	45.5562	##	N304	122.9500
109.7843	L302	11.8253	231489.6560	2.9560	2237.1827	##	N305	105.5200
109.0611	L303	0.8511	16775.6356	2.6776	65.9607	##	N306	104.7200
108.2800	L304	2.4624	48658.5333	3.6541	54.1180	##	N307	104.2500
108.4000	L305	3.3133	65218.1323	2.6256	255.0245	##	N308	105.1900
113.8197	L306	2.8212	55730.5468	3.5000	46.8016	##	N309	113.1500
112.6514	L307	-4.8658	60136.5472	-1.5293	302.3843	##	N310	112.2600
114.0002	L308	-8.4952	63116.1908	1.7817	181.8450	##	N312	113.2100
104.1135	L309	-4.4156	53215.1282	3.3434	46.8865	##	N313	103.9300
102.0841	L310	1.6006	31639.8684	3.1818	49.2602	##	N314	101.7900
99.9648	L311	1.6006	31448.5173	2.9157	318.4497	##	N315	99.6100
98.6700	L312	1.2821	25317.5407	2.2026	48.7150	##	N316	94.1000
92.7363	L313	2.9996	58453.8589	3.7630	211.6171	##	N317	89.1700
92.1556	L314	1.2826	25328.4845	2.7220	72.6327	##	N318	87.7400

92.3207	L315	1.6227	32102.4331	3.2505	41.1562	##	N319	89.4700
92.9456	L316	1.6227	31930.8163	3.0816	197.6990	##	N320	89.2800
93.1449	L317	6.1968	121078.9542	3.4826	552.3051	##	N321	90.1100
93.1319	L318	6.1968	120560.5367	3.3653	546.7480	##	N325	89.7700
93.1937	L319	8.1961	159823.9477	4.7905	101.9994	##	N326	90.7500
93.5541	L320	1.8864	37170.0652	3.0354	47.9324	##	N327	90.6600
99.0983	L321	0.5084	9988.9904	1.6783	165.3585	##	N328	93.4400
99.5812	L324	1.7090	33742.7728	2.8511	97.7536	##	N329	94.0000
100.1728	L325	1.6252	32096.5570	2.5539	49.6351	##	N330	93.4400
98.6400	L326	1.9616	38738.1912	2.6632	94.8534	##	N331	92.7000
99.6635	L327	2.2136	43723.3398	2.7790	94.0563	##	N332	94.0000
110.9382	L328	7.8187	152879.8456	4.6230	448.5793	##	N333	108.8700
110.7767	L329	7.8187	152751.3377	8.2882	95.4808	##	N334	108.5100
109.7243	L334	0.4265	8398.3438	2.1349	17.6904	##	N335	106.1800
109.8263	L335	0.8586	16876.8933	2.6318	37.8961	##	N336	106.5400
104.3342	L336	1.2917	25400.3677	2.9603	14.7868	##	N337	102.2800
104.4885	L337	1.2917	25389.1011	5.3766	37.5421	##	N338	103.3100
105.5303	L338	21.2501	420507.0722	3.9155	452.9297	##	N339	104.8900
105.2177	L339	21.2501	419228.6519	4.0471	1290.7590	##	N340	104.4700
102.9537	L340	30.1672	594315.5634	4.4311	1553.9508	##	N341	101.2500
101.6653	L341	30.1672	592963.8424	5.2785	537.4167	##	N342	100.2200
101.1083	L342	4.5877	90719.6008	4.0620	80.2602	##	N343	100.0000
101.8986	L343	2.6326	52041.2551	3.6540	61.8189	##	N344	101.1100
119.2319	L344	12.3476	243926.4572	4.1336	261.1990	##	N345	118.8300
122.6221	L346	25.6990	506547.8424	2.7981	504.2680	##	N347	118.4500
120.0079	L347	56.6992	1104194.986	4.4719	5203.5823	##	N348	116.1700
122.9823	L348	56.4072	1098663.505	4.2924	5224.4209	##	N349	119.1600
121.6390	L349	56.3445	1093317.041	4.4041	5020.8737	##	N350	117.8000
121.4735	L350	56.3404	1090072.079	4.6079	1600.3680	##	N351	117.1900
120.4752	L351	8.2541	163366.7348	3.4982	92.1785	##	N352	117.3700

120.5972	L352	8.2546	162960.6286	3.5866	396.6899	##	N353	117.3600
116.3779	L354	-79.6246	1430692.311	6.6600	1163.4959	##	N354	115.6500
113.7800	L361	2.3119	45725.5751	3.6734	27.6898	##	N355	110.6000
125.6081	L362	2.1598	42708.1963	3.5287	37.6122	##	N356	125.3200
123.3977	L363	4.5228	88976.6982	3.3090	493.4919	##	N357	122.9800
121.3926	L364	2.6500	52415.3691	3.8459	30.8006	##	N358	120.8200
120.3681	L365	1.6367	32366.1926	3.2406	34.2459	##	N359	120.0900
116.1200	L366	9.8099	192884.1364	3.5046	1089.2798	##	N360	112.8000
128.4056	L367	9.8099	191559.3166	3.7398	817.8196	##	N361	126.2400
128.2437	L368	2.2786	45018.2818	3.4648	66.9707	##	N362	126.1300
127.6447	L369	3.4945	69074.6563	4.5022	72.2000	##	N363	125.2800
127.0548	L370	19.1219	375043.2097	4.1802	920.6093	##	N364	125.0100
122.0600	L373	-22.9231	374527.5415	4.6836	575.4390	##	N365	117.4400
128.9836	L374	3.3515	66142.6707	4.3063	130.1607	##	N366	127.8700
129.2163	L375	3.3514	65403.4548	2.2806	729.7685	##	N367	128.3300
126.9900	L376	12.3893	153183.3387	2.0953	973.8117	##	N368	124.2600
126.9334	L386	34.7255	582029.1126	2.7225	4367.5993	##	N369	123.6700
126.7311	L387	34.7101	577125.8298	2.7046	4576.8792	##	N370	121.7000
126.7751	L388	2.2297	44013.7321	2.8878	92.0401	##	N371	122.2600
125.9377	L389	48.4170	841598.4878	2.9721	6278.3807	##	N372	121.3400
125.1608	L390	1.6081	31737.9957	2.8204	86.4538	##	N373	120.9700
124.3629	L391	53.2573	930107.5774	-3.5403	8094.7609	##	N374	120.6000
124.1182	L392	63.4431	1123542.596	-4.5742	6084.8681	##	N375	119.9800
124.4568	L393	-76.0532	1116366.157	-5.3400	7205.8208	##	N376	122.9000
124.3901	L395	4.2402	83893.0669	3.4399	62.1650	##	N377	122.8200
122.2006	L396	8.3421	161867.0031	1.8392	2933.1201	##	N378	119.2700
122.1000	L397	4.5805	90626.4400	3.7152	70.8681	##	N379	118.4000
125.8395	L398	4.3231	85541.4385	3.5864	59.5385	##	N381	124.7600
124.5395	L399	4.0412	78355.9207	2.5558	965.5074	##	N382	122.8600
126.2887	L402	7.1190	140805.2377	3.4623	216.2364	##	N383	125.5300

126.3795	L403	7.1191	140147.0680	3.4260	997.1218	##	N384	125.6400
124.9753	L404	7.1285	138853.4160	3.5493	924.1244	##	N386	124.1400
124.8582	L405	4.8564	95965.6763	3.8609	131.3024	##	N387	124.2300
123.5625	L406	11.9729	233320.3495	3.1921	1863.5545	##	N388	121.9500
121.9924	L407	3.8258	75618.8079	3.8229	91.3398	##	N389	120.1100
123.6271	L408	15.7980	306545.3241	3.1695	2280.8644	##	N390	122.8300
124.1512	L410	20.1364	387266.4163	2.9548	2924.8517	##	N391	122.6900
121.6798	L411	20.1364	384443.0323	2.8412	2230.4023	##	N392	119.8300
121.5100	L413	2.2672	44550.4345	2.5035	710.1067	##	N394	118.4000
121.1817	L415	2.2703	44897.2599	3.7552	38.1404	##	N395	118.1100
119.3452	L417	2.8494	56333.5477	3.8175	55.1826	##	N396	117.6800
118.8323	L418	5.1688	102193.5718	3.8864	132.9600	##	N397	115.8100
119.0154	L419	8.0182	158011.7069	3.3526	847.4542	##	N398	116.3100
118.7270	L420	8.0182	156596.7207	3.2859	1298.0895	##	N399	114.6000
118.4705	L421	1.6633	32819.6680	3.2979	54.7051	##	N403	114.3000
118.2069	L422	3.8019	75151.5007	3.8119	97.7420	##	N404	113.4800
118.7910	L423	13.6466	265967.6382	3.1600	2035.8794	##	N405	117.0000
117.9109	L424	18.5464	360419.7322	3.2142	1861.1108	##	N406	113.1700
118.1897	L425	0.9317	18381.8301	2.7607	55.4366	##	N407	117.0000
117.4431	L426	3.9681	78444.2320	3.7877	93.8612	##	N408	112.7800
116.9260	L427	40.5902	778057.3570	4.1993	4899.2947	##	N409	112.4800
116.3132	L428	0.9393	18530.6223	2.7410	69.4540	##	N410	112.1200
119.4386	L429	42.4776	810715.9812	4.2977	3938.7453	##	N412	116.3000
119.1584	L430	2.4512	48402.4462	3.2889	72.3268	##	N413	115.3300
119.2321	L431	2.2830	44723.5253	3.2432	320.9823	##	N414	115.8300
119.5312	L432	2.2800	45022.3160	3.3819	74.4859	##	N415	116.3300
119.5129	L435	2.8738	56791.9260	3.6388	73.2132	##	N416	116.8300
119.3435	L436	2.8765	56418.8910	3.7239	150.8933	##	N417	117.5700
120.8207	L437	2.8725	56186.7684	2.9465	407.0035	##	N418	119.9000
113.4701	L438	1.6723	33007.6740	2.7954	69.7582	##	N419	110.9100

114.7633	L439	4.5571	88651.1631	3.7816	316.0481	##	N420	112.2400
114.5335	L440	4.5523	88037.5301	3.2628	701.4473	##	N421	112.0000
112.4791	L441	48.9390	932237.6377	4.9424	3827.9167	##	N422	109.1300
112.6795	L442	48.9390	928388.2472	5.9435	2384.5663	##	N423	110.3700
112.0680	L443	48.9390	927774.6269	16.4752	283.5946	##	N424	108.2600
112.3959	L446	5.9168	117024.8269	3.5392	112.8564	##	N425	110.0600
111.6343	L448	0.9708	19156.0158	2.4582	62.5615	##	N426	107.4500
111.1574	L449	9.5085	185537.2491	3.9304	1120.3942	##	N428	106.9200
110.7941	L450	13.3913	260416.7052	4.2601	1084.2373	##	N429	106.0200
119.6536	L451	14.7194	286367.7567	5.0912	236.5739	##	N430	119.0000
119.2660	L452	1.2925	25546.9331	2.7688	40.5604	##	N431	116.6700
119.4963	L453	0.9323	18412.8221	2.4656	48.6501	##	N432	118.0700
119.7362	L454	0.6806	13413.6862	2.3129	34.8690	##	N434	118.8000
112.9610	L466	4.0513	80103.9606	4.2367	81.5992	##	N435	110.1800
113.5338	L468	4.0501	79599.5380	2.7254	1192.8417	##	N436	111.5700
113.1916	L470	9.4830	187450.6196	4.3099	316.9864	##	N437	110.9200
112.5301	L471	0.3817	7504.7528	1.7178	122.7373	##	N438	109.5800
111.8621	L472	4.4590	88215.7391	5.6521	41.8187	##	N439	108.1500
112.0562	L475	4.3583	86123.4967	3.7519	125.3651	##	N440	110.0500
112.2083	L478	18.0903	352033.9802	4.5232	1973.4295	##	N441	109.7300
111.2807	L479	18.0903	349237.0471	3.6595	3002.2681	##	N442	107.2200
111.3435	L487	10.7813	213239.9963	4.4435	404.0520	##	N443	109.3800
111.6425	L490	6.7177	132729.9162	3.5464	198.5550	##	N444	109.0300
109.7503	L493	18.0903	346632.5810	3.6906	2284.1980	##	N445	105.4800
109.8312	L496	0.6064	11949.5192	2.3568	27.6784	##	N446	108.4900
108.8835	L497	0.5989	11801.4784	2.3448	27.5982	##	N447	105.0500
121.1578	L498	1.2053	23701.4267	3.0139	34.8508	##	N448	118.7700
120.5964	L499	1.7090	33438.5715	2.1331	312.2206	##	N449	117.9900
122.8992	L500	3.4454	67281.5526	2.7658	500.0689	##	N450	120.7400
123.3870	L501	12.4043	242086.7123	2.6648	2774.4497	##	N451	121.2700

115.6961	L502	12.6379	238548.7366	1.3186	4266.1071	##	N453	113.7600
116.4642	L503	73.4516	1424011.276	4.8401	6404.3018	##	N454	114.2900
113.0201	L504	74.2709	1433579.943	5.4223	5762.3444	##	N455	111.6800
112.1895	L505	10.5969	207841.4054	4.3673	967.8132	##	N456	110.2600
112.4454	L506	10.8984	213035.3032	4.4788	989.1676	##	N457	111.0200
109.7789	L507	3.7981	75020.5745	4.8594	105.1742	##	N458	108.3900
107.6629	L509	5.6849	112331.3423	4.7026	150.3473	##	N459	104.6100
105.0976	L510	5.1189	101305.2245	8.7052	91.3497	##	N460	104.1100
98.6700	L511	11.0413	218041.6170	6.2595	300.5165	##	N461	94.1000
128.1440	L512	17.9050	353742.9776	15.9778	145.9617	##	N464	125.0900
129.7527	L513	18.2188	347037.2900	3.9090	1162.5624	##	N465	126.6500
129.4984	L514	8.0432	157868.6124	3.3254	1004.0997	##	N466	126.1900
128.2210	L515	15.8009	218734.9347	2.2237	1041.1432	##	N467	126.3000
126.0007	CH21	12.6097	218059.7141	0.3253	182019.6676	##	N468	123.5900
120.4426	L474	9.4830	185802.0985	5.3470	229.7963	##	N469	118.6600
119.0232	L523	9.4830	185971.1319	1.2146	628.1273	##	N470	117.7100
126.0884	L525	17.1496	332546.6425	3.0160	3935.8490	##	N471	124.8800
126.0559	L527	4.5196	88355.8108	2.6389	778.5880	##	N472	124.9400
120.5302	L528	4.7391	92345.0643	3.9337	411.7227	##	N473	120.0700
119.7372	L529	4.3384	85576.5968	2.7073	522.0518	##	N487	118.5700
120.8720	L533	4.3384	84676.9449	3.1793	1301.3712	##	N489	118.4300
123.4952	L537	4.3384	83591.9014	2.5325	834.5850	##	N490	121.9000
125.0264	L394	-110.6832	1111597.024	-6.3518	2408.1901	##	N491	124.1700
128.1178	L276	3.1463	62199.7682	11.3585	7.9962	##	N492	126.3400
127.0400	L288	4.1590	82171.5305	9.8932	34.7449	##	N493	126.0400
109.8299	L412	2.2439	44379.5357	4.5004	33.4361	##	N497	108.0800
98.6400	L447	2.1264	41732.6126	2.3674	700.8605	##	N499	91.2000
91.1164	L546	3.7980	74468.4536	3.5470	1013.1984	##	N500	86.6700
88.9568	FREE # 1	13.3950	261129.6035	0.0000	0.0000	##	N501	85.4700
98.2300	FREE # 2	-38.2470	557623.8822	0.0000	0.0000	##	N503	89.8000

99.2193	FREE # 3	3.0003	59318.1425	0.0000	0.0000	##	N504	95.5400
94.2928	FREE # 4	8.2240	160966.4609	0.0000	0.0000	##	N506	92.1400
112.4402	FREE # 5	2.3040	45534.3415	0.0000	0.0000	##	N509	108.8800
102.7537	FREE # 6	-45.3333	728051.4609	0.0000	0.0000	##	N511	102.2100
111.3361	FREE # 7	8.5560	169378.0306	0.0000	0.0000	##	N513	110.0100
108.7618	FREE # 8	3.2539	64331.1039	0.0000	0.0000	##	N514	108.1100
98.2300	FREE # 9	5.0178	99206.1473	0.0000	0.0000	##	N516	90.0000
86.2850	FREE #10	-8.4217	50994.8372	0.0000	0.0000	##	N517	83.9500
87.4472	FREE #11	1.1514	22709.5083	0.0000	0.0000	##	N518	84.3100
133.7961	FREE #12	-3.3487	63237.2989	0.0000	0.0000	##	N524	133.4500
131.6772	FREE #13	8.1961	159819.6919	0.0000	0.0000	##	N525	131.1700
133.8039	FREE #14	7.8187	152746.8163	0.0000	0.0000	##	N526	133.4600
131.1070	FREE #15	1.2917	25387.7619	0.0000	0.0000	##	N527	130.6000
126.7861	FREE #16	30.1672	592947.7546	0.0000	0.0000	##	N528	122.6600
123.3488	FREE #17	-80.3250	1431614.829	0.0000	0.0000	##	N529	119.6400
104.9238	FREE #18	19.1219	374824.5248	0.0000	0.0000	##	N530	99.7100
119.5000	FREE #19	48.9390	927729.0965	0.0000	0.0000	##	N689	118.0000
122.3558	FREE #20	4.4590	88214.5805	0.0000	0.0000	##	N494	121.4100
114.2861	FREE #21	5.6849	112331.2413	0.0000	0.0000	##	N541	112.0900
114.9266	FREE #22	10.7813	213205.7136	0.0000	0.0000	##	EL329	112.5200
112.6510	FREE #23	17.9050	353724.9431	0.0000	0.0000	##	N427	109.6400
116.1200	FREE #24	1.5346	30221.7281	0.0000	0.0000	##	N411	112.0000
110.3800	FREE #25	9.4830	185796.0887	0.0000	0.0000	##	N295	107.9300
108.3400	FREE #26	-135.2702	1112417.575	0.0000	0.0000	##	N311	104.1000
129.7121	FREE #27	3.1463	62196.4441	0.0000	0.0000	##	N462	127.7800
92.0791	FREE #28	4.1590	82167.2187	0.0000	0.0000	##	N554	90.6800
98.2300	FREE #29	5.1189	101305.3592	0.0000	0.0000	##	N555	89.8000
98.6400	FREE #30	-5.0659	60120.3914	0.0000	0.0000	##	N322	92.5000

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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.

Upstream Node	Downstream Node	Maximum Flow (cfs)	Total Flow (ft ³)
N221	N222	2.8911	57161.7632
N222	N223	3.1354	61547.3811
N223	N224	3.2978	64189.8900
N227	N224	2.4916	49166.3441
N228	N224	5.3717	106138.105
N231	N230	0.9501	18775.4035
N224	N230	11.2776	221042.562
N230	N233	13.2165	257682.134
N233	N234	13.3950	261138.935
N235	N236	0.2305	4547.4791
N236	N237	0.2305	4486.7758
N237	N238	0.2305	4408.6121
N239	N240	0.9294	18089.8916
N240	N238	1.5845	30757.2988
N238	N241	2.4888	47897.1171
N241	N242	2.9466	56182.6160
N242	N243	3.4595	65701.1942
N243	N244	3.8015	71774.5760
N244	N245	6.0390	115205.619
N245	N246	6.3287	120108.572
N246	N247	9.4131	180164.737
N248	N241	0.4478	8830.4229
N249	N244	2.1260	41974.2970
N250	N246	3.0812	60886.2040
N251	N252	3.6943	73068.2433
N252	N253	4.0636	80236.8485
N254	N253	1.2377	24462.2264
N253	N255	5.3649	105451.848
N256	N255	1.8517	36615.8697
N257	N255	2.4831	49084.6636
N247	N259	24.3602	470951.947
N259	N260	-34.7155	557360.385
N261	N259	1.9823	39208.1931
N262	N263	1.5796	31240.2015
N263	N264	3.0003	59320.9541
N265	N263	1.3050	25807.1515
N266	N267	0.1128	2206.4061
N268	N269	1.7370	34360.0885
N269	N267	1.7367	34163.2569
N270	N271	3.9589	78286.2497
N271	N267	4.7298	93271.9697
N267	N272	6.6737	130788.101
N273	N272	0.8529	16851.8117
N272	N274	7.8638	153880.640
N274	N275	8.0628	157782.484
N276	N277	0.9792	19354.6093
N277	N278	2.3040	45536.7783
N279	N277	1.1997	23719.2571
N280	N281	3.7883	74900.4315
N281	N282	22.4321	429033.329
N282	N283	23.3519	445834.782
N284	N282	0.8570	16942.3567

N285	N286	2.6552	52518.0994
N286	N283	2.9244	57556.5056
N283	N287	27.4511	525563.103
N287	N288	27.4511	524057.120
N288	N289	-54.5779	727507.162
N290	N288	9.4566	186865.569
N291	N292	8.5560	169378.035
N293	N294	1.5054	29765.6791
N296	N294	1.5122	29899.2579
N297	N298	1.5649	30958.2421
N298	N299	3.2539	64333.1379
N300	N298	1.5689	31034.8953
N301	N302	3.4219	67668.6650
N302	N303	5.0178	99211.3442
N304	N302	1.4971	29601.6529
N305	N306	-4.7711	30939.7407
N306	N307	-8.1954	50891.4412
N308	N306	-5.7330	17562.2352
N309	N310	1.8249	36060.0594
N312	N310	2.2642	44736.8850
N313	N314	0.1735	3410.0779
N314	N315	0.4448	8734.7327
N315	N316	1.1514	22709.7044
N319	N318	1.4189	27685.5254
N320	N318	5.3497	104905.021
N321	N320	1.8664	36877.6527
N318	N500	11.8253	231489.656
N326	N325	0.8511	16775.6356
N327	N325	2.4624	48658.5333
N325	N320	3.3133	65218.1323
N329	N330	2.8212	55730.5468
N330	N322	-4.8658	60136.5472
N328	N331	-8.4952	63116.1908
N332	N328	-4.4156	53215.1282
N333	N334	1.6006	31639.8684
N334	N335	1.6006	31448.5173
N336	N335	1.2821	25317.5407
N335	N337	2.9996	58453.8589
N338	N337	1.2826	25328.4845
N339	N340	1.6227	32102.4331
N340	N337	1.6227	31930.8163
N337	N341	6.1968	121078.954
N341	N342	6.1968	120560.537
N342	N343	8.1961	159823.948
N344	N342	1.8864	37170.0652
N345	N239	0.5084	9988.9904
N349	N347	1.7090	33742.7728
N350	N351	1.6252	32096.5570
N352	N348	1.9616	38738.1912
N353	N348	2.2136	43723.3398
N348	N354	7.8187	152879.846
N354	N355	7.8187	152751.338
N356	N357	0.4265	8398.3438
N357	N358	0.8586	16876.8933
N358	N359	1.2917	25400.3677
N359	N360	1.2917	25389.1011
N361	N362	21.2501	420507.072
N362	N363	21.2501	419228.652
N363	N364	30.1672	594315.563
N364	N365	30.1672	592963.842

N366	N363	4.5877	90719.6008
N367	N363	2.6326	52041.2551
N368	N369	12.3476	243926.457
N371	N370	25.6990	506547.842
N370	N372	56.6992	1104194.99
N372	N373	56.4072	1098663.50
N373	N374	56.3445	1093317.04
N374	N375	56.3404	1090072.08
N376	N377	8.2541	163366.735
N377	N375	8.2546	162960.629
N378	N379	-79.6246	1430692.31
N383	N381	2.3119	45725.5751
N384	N381	2.1598	42708.1963
N381	N382	4.5228	88976.6982
N386	N382	2.6500	52415.3691
N387	N382	1.6367	32366.1926
N382	N388	9.8099	192884.136
N388	N389	9.8099	191559.317
N390	N389	2.2786	45018.2818
N391	N389	3.4945	69074.6563
N389	N392	19.1219	375043.210
N392	N394	-22.9231	374527.541
N395	N396	3.3515	66142.6707
N396	N397	3.3514	65403.4548
N398	N397	12.3893	153183.339
N399	N403	34.7255	582029.113
N403	N404	34.7101	577125.830
N405	N404	2.2297	44013.7321
N404	N406	48.4170	841598.488
N407	N406	1.6081	31737.9957
N406	N408	53.2573	930107.577
N408	N409	63.4431	1123542.60
N409	N410	-76.0532	1116366.16
N412	N413	4.2402	83893.0669
N414	N413	8.3421	161867.003
N415	N413	4.5805	90626.4400
N416	N414	4.3231	85541.4385
N417	N414	4.0412	78355.9207
N420	N421	7.1190	140805.238
N421	N419	7.1191	140147.068
N419	N422	7.1285	138853.416
N423	N422	4.8564	95965.6763
N422	N424	11.9729	233320.349
N425	N424	3.8258	75618.8079
N424	N426	15.7980	306545.324
N426	N428	20.1364	387266.416
N428	N429	20.1364	384443.032
N432	N431	2.2672	44550.4345
N434	N432	2.2703	44897.2599
N436	N435	2.8494	56333.5477
N437	N435	5.1688	102193.572
N435	N438	8.0182	158011.707
N438	N439	8.0182	156596.721
N440	N439	1.6633	32819.6680
N441	N439	3.8019	75151.5007
N439	N442	13.6466	265967.638
N442	N429	18.5464	360419.732
N443	N442	0.9317	18381.8301
N444	N442	3.9681	78444.2320
N429	N445	40.5902	778057.357

N446	N445	0.9393	18530.6223
N445	N447	42.4776	810715.981
N448	N449	2.4512	48402.4462
N450	N449	2.2830	44723.5253
N451	N450	2.2800	45022.3160
N454	N453	2.8738	56791.9260
N453	N455	2.8765	56418.8910
N455	N456	2.8725	56186.7684
N457	N456	1.6723	33007.6740
N456	N458	4.5571	88651.1631
N458	N447	4.5523	88037.5301
N447	N459	48.9390	932237.638
N459	N460	48.9390	928388.247
N460	N461	48.9390	927774.627
N465	N466	5.9168	117024.827
N467	N464	0.9708	19156.0158
N464	N468	9.5085	185537.249
N468	N469	13.3913	260416.705
N469	N470	14.7194	286367.757
N471	N468	1.2925	25546.9331
N472	N468	0.9323	18412.8221
N473	N469	0.6806	13413.6862
N418	N487	4.0513	80103.9606
N487	N417	4.0501	79599.5380
N490	N494	9.4830	187450.620
N491	N490	0.3817	7504.7528
N492	N493	4.4590	88215.7391
N317	N318	4.3583	86123.4967
N500	N501	18.0903	352033.980
N501	N518	18.0903	349237.047
N504	N503	10.7813	213239.996
N513	N514	6.7177	132729.916
N518	N517	18.0903	346632.581
N524	N525	0.6064	11949.5192
N526	N525	0.5989	11801.4784
N525	N527	1.2053	23701.4267
N347	N351	1.7090	33438.5715
N351	N348	3.4454	67281.5526
N369	N528	12.4043	242086.712
N528	N370	12.6379	238548.737
N375	N529	73.4516	1424011.28
N529	N378	74.2709	1433579.94
N255	N530	10.5969	207841.405
N530	N247	10.8984	213035.303
N506	N554	3.7981	75020.5745
N497	N499	5.6849	112331.342
N511	N555	5.1189	101305.224
N509	N514	11.0413	218041.617
N514	N516	17.9050	353742.978
N517	N281	18.2188	347037.290
N466	N464	8.0432	157868.612
N397	N399	15.8009	218734.935
N470	N398	12.6097	218059.714
N489	N689	9.4830	185802.099
N494	N489	9.4830	185971.132
N413	N399	17.1496	332546.642
N431	N404	4.5196	88355.8108
N449	N408	4.7391	92345.0643
EL329	N541	4.3384	85576.5968
N541	N427	4.3384	84676.9449

N427	N426	4.3384	83591.9014
N410	N411	-110.6832	1111597.02
N294	N295	3.1463	62199.7682
N310	N311	4.1590	82171.5305
N430	N431	2.2439	44379.5357
N462	N466	2.1264	41732.6126
N554	N500	3.7980	74468.4536

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
L210	N221	N222	105.8400	105.4400	107.6026	106.9939	Circular
L211	N222	N223	104.4400	102.0600	106.9939	102.8186	Circular
L212	N223	N224	100.8100	98.4700	102.1159	100.2909	Circular
L213	N227	N224	98.3400	97.7200	100.9720	100.2909	Circular
L214	N228	N224	97.5300	97.2200	100.6100	100.2909	Circular
L217	N231	N230	99.8400	99.3300	100.2872	99.7386	Circular
L220	N224	N230	96.9700	96.0800	100.2909	98.1694	Circular
L221	N230	N233	95.8300	94.9200	98.1694	96.2277	Circular
L222	N233	N234	94.4200	85.6000	95.2324	90.1200	Circular
L223	N235	N236	119.6000	119.4100	119.8642	119.6069	Circular
L224	N236	N237	118.6100	117.8600	118.8903	118.0569	Circular
L225	N237	N238	117.2600	116.5100	117.6596	117.5825	Circular
L226	N239	N240	117.6900	116.6200	118.5578	118.1994	Circular
L227	N240	N238	116.6200	116.0100	118.1994	117.5825	Circular
L228	N238	N241	115.1100	114.0600	117.5825	114.7356	Circular
L229	N241	N242	111.3600	109.8800	112.5184	110.5696	Circular
L230	N242	N243	108.6300	107.8600	110.3694	108.8794	Circular
L231	N243	N244	105.8600	105.1000	108.8794	107.0654	Circular
L232	N244	N245	103.8500	103.3800	107.0654	105.7300	Circular
L233	N245	N246	101.9600	100.3100	105.7300	103.4547	Circular
L234	N246	N247	99.5600	98.3700	103.4547	102.4757	Circular
L235	N248	N241	111.4800	111.3600	112.5280	112.5184	Circular
L236	N249	N244	104.6200	104.3500	107.5518	107.0654	Circular
L237	N250	N246	101.1400	100.5600	104.4244	103.4547	Circular
L238	N251	N252	115.3800	115.0600	116.6527	115.8783	Circular
L239	N252	N253	113.0600	112.3300	115.2810	113.1820	Circular
L240	N254	N253	112.8300	112.3300	113.3534	112.7991	Circular
L241	N253	N255	108.0800	106.8000	110.4633	107.7384	Circular
L242	N256	N255	107.4100	107.0500	108.0734	107.6293	Circular
L243	N257	N255	107.6100	107.0500	108.4472	107.7248	Circular
L246	N247	N259	97.8700	97.1600	102.4757	100.5470	Circular
L247	N259	N260	97.1600	97.0000	100.5470	99.9500	Circular
L248	N261	N259	98.9300	98.6600	100.7386	100.5470	Circular
L249	N262	N263	104.8800	104.4600	105.4932	104.8520	Circular
L250	N263	N264	104.4600	96.6400	104.8520	99.9500	Circular
L251	N265	N263	104.8600	104.4600	105.4059	104.8520	Circular
L252	N266	N267	100.3600	98.0500	100.5085	99.2256	Circular
L253	N268	N269	100.7400	100.3300	101.3835	100.9948	Circular
L254	N269	N267	100.3300	98.0500	100.9948	99.2256	Circular
L255	N270	N271	99.1400	98.8000	100.2825	99.9370	Circular
L256	N271	N267	98.5500	97.5500	99.9370	99.2256	Circular
L257	N267	N272	97.5500	96.6000	99.2256	97.8101	Circular

L258	N273	N272	97.6800	97.1000	98.1213	97.8101	Circular
L259	N272	N274	96.3500	95.5800	97.8101	96.0359	Circular
L260	N274	N275	95.5800	85.6000	96.0359	90.1200	Circular
L261	N276	N277	94.2500	93.4400	94.7428	93.7152	Circular
L262	N277	N278	93.4400	78.0000	93.7152	79.2200	Circular
L263	N279	N277	94.1200	93.4400	94.6677	93.7152	Circular
L264	N280	N281	85.3300	84.9900	86.2988	85.7764	Circular
L265	N281	N282	83.2400	82.7700	85.5082	84.7914	Circular
L266	N282	N283	82.7700	82.5000	84.7914	83.9594	Circular
L267	N284	N282	85.1400	84.7700	85.5616	85.1570	Circular
L268	N285	N286	94.9100	94.4500	96.5563	95.9765	Circular
L269	N286	N283	94.4500	93.0000	95.9765	93.7327	Circular
L270	N283	N287	82.5000	78.4600	83.9594	80.3124	Circular
L271	N287	N288	78.4600	77.0300	80.3124	79.2896	Circular
L272	N288	N289	77.0300	77.0000	79.2896	79.0400	Circular
L273	N290	N288	78.1000	77.7800	79.7003	79.2896	Circular
L274	N291	N292	91.9200	76.6000	92.4485	78.9600	Circular
L275	N293	N294	118.9200	118.3000	119.5381	118.6232	Circular
L277	N296	N294	118.9800	118.3000	119.6051	118.6232	Circular
L278	N297	N298	113.2400	112.9600	113.8339	113.5385	Circular
L279	N298	N299	112.9600	106.3000	113.5385	109.5100	Circular
L280	N300	N298	113.2500	112.9600	113.8460	113.5385	Circular
L281	N301	N302	122.9000	122.2800	124.8193	122.6751	Circular
L282	N302	N303	122.2800	110.6000	122.6751	113.5400	Circular
L283	N304	N302	122.9500	122.2800	123.5620	122.6751	Circular
L284	N305	N306	105.5200	105.2200	109.7843	109.0611	Circular
L285	N306	N307	104.7200	104.2500	109.0611	108.2800	Circular
L286	N308	N306	105.1900	104.9700	108.4000	109.0611	Circular
L287	N309	N310	113.1500	112.5100	113.8197	113.0849	Circular
L289	N312	N310	113.2100	112.5100	114.0002	113.1535	Circular
L290	N313	N314	103.9300	101.7900	104.1135	102.0841	Circular
L291	N314	N315	101.7900	99.6100	102.0841	99.9648	Circular
L292	N315	N316	99.6100	94.1000	99.9648	98.6700	Circular
L294	N319	N318	89.4700	88.9900	92.3207	92.1556	Circular
L300	N320	N318	89.2800	88.4900	92.9456	92.1556	Circular
L301	N321	N320	90.1100	89.7800	93.1449	92.9456	Circular
L302	N318	N500	87.7400	86.6700	92.1556	91.1164	Circular
L303	N326	N325	90.7500	90.2700	93.1937	93.1319	Circular
L304	N327	N325	90.6600	90.2700	93.5541	93.1319	Circular
L305	N325	N320	89.7700	89.2800	93.1319	92.9456	Circular
L306	N329	N330	94.0000	93.4400	99.5812	100.1502	Circular
L307	N330	N322	93.4400	92.5000	100.1728	98.6400	Circular
L308	N328	N331	93.4400	92.7000	99.0983	98.6400	Circular
L309	N332	N328	94.0000	93.4400	99.6635	99.0983	Circular
L310	N333	N334	108.8700	108.5100	110.9382	110.7767	Circular
L311	N334	N335	108.5100	106.1800	110.7767	109.7243	Circular
L312	N336	N335	106.5400	106.1800	109.8263	109.7243	Circular
L313	N335	N337	106.1800	102.7800	109.7243	104.3342	Circular
L314	N338	N337	103.3100	102.7800	104.4885	104.3342	Circular
L315	N339	N340	104.8900	104.4700	105.5303	105.2177	Circular
L316	N340	N337	104.4700	102.7800	105.2177	104.3342	Circular
L317	N337	N341	102.2800	101.2500	104.3342	102.9537	Circular
L318	N341	N342	101.2500	100.2200	102.9537	101.6653	Circular
L319	N342	N343	100.2200	100.0000	101.6653	101.1083	Circular
L320	N344	N342	101.1100	100.7200	101.8986	101.6653	Circular
L321	N345	N239	118.8300	117.6900	119.2319	118.5578	Circular
L324	N349	N347	119.1600	118.4500	122.9823	122.6221	Circular
L325	N350	N351	117.8000	117.4400	121.6390	121.4735	Circular
L326	N352	N348	117.3700	116.6700	120.4752	120.0079	Circular
L327	N353	N348	117.3600	116.6700	120.5972	120.0079	Circular

L328	N348	N354	116.1700	115.6500	120.0079	116.3779	Circular
L329	N354	N355	115.6500	110.6000	116.3779	113.7800	Circular
L334	N356	N357	125.3200	122.9800	125.6081	123.3977	Circular
L335	N357	N358	122.9800	120.8200	123.3977	121.3926	Circular
L336	N358	N359	120.8200	120.0900	121.3926	120.3681	Circular
L337	N359	N360	120.0900	112.8000	120.3681	116.1200	Circular
L338	N361	N362	126.2400	126.1300	128.4056	128.2437	Circular
L339	N362	N363	126.1300	125.7800	128.2437	127.6447	Circular
L340	N363	N364	125.2800	125.0100	127.6447	127.0548	Circular
L341	N364	N365	125.0100	124.9000	127.0548	126.5963	Circular
L342	N366	N363	127.8700	127.5300	128.9836	128.3977	Circular
L343	N367	N363	128.3300	127.7800	129.2163	128.4750	Circular
L344	N368	N369	124.2600	124.1700	126.9900	126.9334	Circular
L346	N371	N370	122.2600	122.2000	126.7751	126.7311	Circular
L347	N370	N372	121.7000	121.3400	126.7311	125.9377	Circular
L348	N372	N373	121.3400	120.9700	125.9377	125.1607	Circular
L349	N373	N374	120.9700	120.6000	125.1608	124.3629	Circular
L350	N374	N375	120.6000	120.4800	124.3629	124.1182	Circular
L351	N376	N377	122.9000	122.8200	124.4568	124.3901	Circular
L352	N377	N375	122.8200	122.4800	124.3901	124.1182	Circular
L354	N378	N379	119.2700	118.4000	122.2006	122.1000	Circular
L361	N383	N381	125.5300	125.2600	126.2887	125.9103	Circular
L362	N384	N381	125.6400	125.2600	126.3795	125.8878	Circular
L363	N381	N382	124.7600	123.3600	125.8395	124.5395	Circular
L364	N386	N382	124.1400	123.8600	124.9753	124.5573	Circular
L365	N387	N382	124.2300	123.8600	124.8582	124.5395	Circular
L366	N382	N388	122.8600	121.9500	124.5395	123.5625	Circular
L367	N388	N389	121.9500	121.1100	123.5625	122.2300	Circular
L368	N390	N389	122.8300	122.1100	123.6271	122.7556	Circular
L369	N391	N389	122.6900	122.1100	124.1512	122.9086	Circular
L370	N389	N392	120.1100	119.8300	121.9924	121.6798	Circular
L373	N392	N394	119.8300	118.4000	121.6798	121.5100	Circular
L374	N395	N396	118.6100	118.1800	121.1817	119.3451	Circular
L375	N396	N397	117.6800	117.3100	119.3452	118.8322	Circular
L376	N398	N397	116.3100	116.0600	119.0153	118.8323	Circular
L386	N399	N403	114.6100	114.3000	118.7270	118.4705	Circular
L387	N403	N404	114.3000	113.9800	118.4705	118.2069	Circular
L388	N405	N404	117.0000	116.7000	118.7909	118.2069	Circular
L389	N404	N406	113.4800	113.1700	118.2069	117.9109	Circular
L390	N407	N406	117.0000	116.6000	118.1897	117.9109	Circular
L391	N406	N408	113.1700	112.7800	117.9109	117.4431	Circular
L392	N408	N409	112.7800	112.4800	117.4431	116.9259	Circular
L393	N409	N410	112.4800	112.1200	116.9260	116.3132	Circular
L395	N412	N413	116.3000	115.3300	119.4386	119.1584	Circular
L396	N414	N413	116.3700	115.8300	119.2320	119.1584	Circular
L397	N415	N413	116.3300	115.3300	119.5311	119.1584	Circular
L398	N416	N414	116.8300	115.8700	119.5129	119.2321	Circular
L399	N417	N414	117.5700	116.8700	119.3434	119.2321	Circular
L402	N420	N421	112.2400	112.0000	114.7633	114.5335	Circular
L403	N421	N419	112.0000	110.9100	114.5335	113.4701	Circular
L404	N419	N422	110.9100	109.8800	113.4701	112.4791	Circular
L405	N423	N422	110.3700	110.1300	112.6795	112.4791	Circular
L406	N422	N424	109.1300	108.5100	112.4791	112.0680	Circular
L407	N425	N424	110.0600	109.7600	112.3959	112.0680	Circular
L408	N424	N426	108.2600	107.7000	112.0680	111.6343	Circular
L410	N426	N428	107.4500	106.9200	111.6343	111.1574	Circular
L411	N428	N429	106.9200	106.5200	111.1574	110.7941	Circular
L413	N432	N431	118.0700	116.6700	119.4963	119.2660	Circular
L415	N434	N432	118.8000	118.4800	119.7362	119.4963	Circular
L417	N436	N435	111.5700	111.1800	113.5338	112.9610	Circular

L418	N437	N435	110.9200	110.6800	113.1916	112.9610	Circular
L419	N435	N438	110.1800	109.5800	112.9610	112.5301	Circular
L420	N438	N439	109.5800	108.6500	112.5301	111.8621	Circular
L421	N440	N439	110.0500	109.6500	112.0562	111.8621	Circular
L422	N441	N439	109.7300	109.4000	112.2083	111.8621	Circular
L423	N439	N442	108.1500	107.4700	111.8621	111.2807	Circular
L424	N442	N429	107.2200	106.7700	111.2807	110.7941	Circular
L425	N443	N442	109.3800	108.9700	111.3435	111.2807	Circular
L426	N444	N442	109.0300	108.7200	111.6425	111.2807	Circular
L427	N429	N445	106.0200	105.4800	110.7941	109.7503	Circular
L428	N446	N445	108.4900	107.9800	109.8312	109.7503	Circular
L429	N445	N447	105.4800	105.0500	109.7503	108.8835	Circular
L430	N448	N449	118.7700	117.9900	121.1578	120.5963	Circular
L431	N450	N449	120.7400	118.2400	122.8992	120.5964	Circular
L432	N451	N450	121.2700	120.7400	123.3870	122.8992	Circular
L435	N454	N453	114.2900	113.7600	116.4642	115.6961	Circular
L436	N453	N455	113.7600	111.9300	115.6961	113.0201	Circular
L437	N455	N456	111.6800	110.2600	113.0201	112.1895	Circular
L438	N457	N456	111.0200	110.5100	112.4454	112.1895	Circular
L439	N456	N458	110.2600	108.6400	112.1895	109.7789	Circular
L440	N458	N447	108.3900	107.0500	109.7789	108.8835	Circular
L441	N447	N459	105.0500	104.6100	108.8835	107.6629	Circular
L442	N459	N460	104.6100	104.1100	107.6629	105.0976	Circular
L443	N460	N461	104.1100	94.1000	105.0976	98.6700	Circular
L446	N465	N466	126.6500	126.4400	129.7527	129.4984	Circular
L448	N467	N464	126.3000	125.8400	128.2210	128.1440	Circular
L449	N464	N468	125.0900	123.8400	128.1440	126.0007	Circular
L450	N468	N469	123.5900	122.6600	126.0007	123.9765	Circular
L451	N469	N470	118.6600	118.4600	120.4426	119.8419	Circular
L452	N471	N468	124.8800	124.5900	126.0884	126.0007	Circular
L453	N472	N468	124.9400	124.5900	126.0559	126.0007	Circular
L454	N473	N469	120.0700	119.6600	120.5302	120.4426	Circular
L466	N418	N487	119.9000	119.3200	120.8207	120.1342	Circular
L468	N487	N417	118.5700	117.5700	119.7372	119.3435	Circular
L470	N490	N494	121.9000	121.4100	123.4952	122.3558	Circular
L471	N491	N490	124.7700	121.9000	125.0264	123.4952	Circular
L472	N492	N493	126.3400	126.0400	128.1178	127.0400	Circular
L475	N317	N318	89.1700	88.7400	92.7363	92.1556	Circular
L478	N500	N501	86.6700	85.7200	91.1164	88.9568	Circular
L479	N501	N518	85.4700	84.5600	88.9568	87.4472	Circular
L487	N504	N503	95.5400	89.8000	99.2193	98.2300	Circular
L490	N513	N514	110.0100	109.8600	111.3361	110.8168	Circular
L493	N518	N517	84.3100	83.9500	87.4472	86.2850	Circular
L496	N524	N525	133.4500	131.1700	133.7961	131.6772	Circular
L497	N526	N525	133.4600	131.1700	133.8039	131.6772	Circular
L498	N525	N527	131.1700	130.6000	131.6772	131.1070	Circular
L499	N347	N351	118.4500	117.4400	122.6221	121.4735	Circular
L500	N351	N348	117.1900	116.4200	121.4735	120.0079	Circular
L501	N369	N528	123.6700	123.1600	126.9334	126.7860	Circular
L502	N528	N370	122.6600	122.2000	126.7860	126.7311	Circular
L503	N375	N529	119.9800	119.6400	124.1182	123.3488	Circular
L504	N529	N378	119.6400	119.2700	123.3488	122.2006	Circular
L505	N255	N530	102.8000	101.7100	107.2387	104.9238	Circular
L506	N530	N247	99.7100	98.6200	104.9238	102.4757	Circular
L507	N506	N554	92.1400	91.2800	94.2928	92.1084	Circular
L509	N497	N499	108.0800	107.5000	109.8299	108.4649	Circular
L510	N511	N555	102.2100	89.8000	102.7537	98.2300	Circular
L511	N509	N514	108.8800	108.6100	112.4402	109.8810	Circular
L512	N514	N516	108.1100	90.0000	108.7618	98.2300	Circular
L513	N517	N281	83.9500	83.7400	86.2850	85.5082	Circular

L514	N466	N464	126.1900	125.0900	129.4984	128.1440	Circular
L515	N397	N399	115.8100	115.6100	118.8323	118.7269	Circular
CH21	N470	N398	117.7100	116.3100	119.0231	119.0154	Rectangle
L474	N489	N689	118.4300	118.0000	120.8720	119.5000	Circular
L523	N494	N489	121.4100	120.8300	122.3558	121.2270	Trapezoid
L525	N413	N399	115.8300	115.1100	119.1584	118.7270	Circular
L527	N431	N404	116.6700	115.2500	119.2660	118.2069	Circular
L528	N449	N408	117.9900	116.0300	120.5963	117.4431	Circular
L529	EL329	N541	112.5200	112.0900	114.9266	114.2861	Circular
L533	N541	N427	112.0900	109.6400	114.2861	112.6510	Circular
L537	N427	N426	109.6400	108.9500	112.6510	111.6343	Circular
L394	N410	N411	112.1200	112.0000	116.3132	116.1200	Circular
L276	N294	N295	118.3000	107.9300	118.6232	110.3800	Circular
L288	N310	N311	112.2600	104.1000	112.6514	108.3400	Circular
L412	N430	N431	119.0000	118.4000	119.6536	119.2660	Circular
L447	N462	N466	127.7800	126.4400	129.7121	129.4984	Circular
L546	N554	N500	90.7800	87.4200	92.0791	91.1164	Circular

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

Failed to Converge	Junction	<-----Continuity Error ----->			Remaining	Beginning	Net Flow	Total Flow
	Name	Volume	% of Node	% of Inflow	Volume	Volume	Thru Node	Thru Node
0	N221	33.6782	0.0294	0.0004	49.7524	0.0000	83.4306	114409.3199
0	N222	245.1540	0.1983	0.0028	205.5175	0.0000	450.6715	123546.6035
0	N223	71.8999	0.0556	0.0008	498.2510	0.0000	570.1509	128953.0033
0	N224	-18.3484	-0.0041	0.0002	896.4054	0.0000	878.0569	442970.4817
0	N227	33.3496	0.0339	0.0004	75.5204	0.0000	108.8700	98443.8759
0	N228	33.7704	0.0159	0.0004	121.4250	0.0000	155.1954	212437.4586
0	N230	731.8539	0.1414	0.0083	972.3050	0.0000	1704.1589	517079.6313
0	N231	17.7703	0.0473	0.0002	19.4099	0.0000	37.1803	37588.6248
0	N233	-669.3021	-0.1280	0.0076	737.3276	0.0000	68.0254	522355.6014
0	N234	-191.3154	-0.0366	0.0022	248.2852	56.7983	0.1714	522268.5380

N235	8.3823	0.0920	0.0001	8.2446	0.0000	16.6269	9111.6803
N236	31.3933	0.3469	0.0004	29.3053	0.0000	60.6987	9034.2549
N237	-24.6501	-0.2755	0.0003	102.8335	0.0000	78.1834	8895.3879
N238	270.4968	0.2801	0.0031	338.4895	0.0000	608.9863	96405.1483
N239	-40.4148	-0.1106	0.0005	275.5647	0.0000	235.1499	36415.2320
N240	34.5971	0.0558	0.0004	268.9154	0.0000	303.5125	61819.0263
N241	302.6663	0.2671	0.0034	438.1298	0.0000	740.7960	113108.1690
N242	118.5430	0.0896	0.0014	515.8702	0.0000	634.4132	132039.9003
N243	182.9352	0.1266	0.0021	512.5326	0.0000	695.4678	144247.8170
N244	146.1878	0.0632	0.0017	601.2226	0.0000	747.4104	231162.3382
N245	77.5971	0.0321	0.0009	750.3734	0.0000	827.9705	241050.6304
N246	-309.3346	-0.0855	0.0035	1195.6007	0.0000	886.2661	361222.8772
N247	168.5702	0.0178	0.0019	2239.8831	0.0000	2408.4533	944321.5365
N248	2.3533	0.0133	0.0000	33.4991	0.0000	35.8524	17697.4480
N249	42.7806	0.0509	0.0005	78.5533	0.0000	121.3339	84071.8747
N250	41.9961	0.0344	0.0005	81.0646	0.0000	123.0607	121897.9904
N251	33.1132	0.0226	0.0004	36.2440	0.0000	69.3572	146208.3290
N252	54.1170	0.0337	0.0006	94.7626	0.0000	148.8796	160623.6547
N253	235.6241	0.1114	0.0027	257.3503	0.0000	492.9744	211400.3849
N254	21.7116	0.0443	0.0002	23.2899	0.0000	45.0015	48970.3033
N255	345.4423	0.0828	0.0039	744.3749	0.0000	1089.8172	416779.3198
N256	20.7638	0.0283	0.0002	24.1963	0.0000	44.9602	73277.9878
N257	41.6652	0.0424	0.0005	40.5244	0.0000	82.1896	98253.2872
N259	264.5778	0.0237	0.0030	1312.0892	0.0000	1576.6670	1116211.938
N260	-229.6513	-0.0205	0.0026	268.0615	37.0697	1.3405	1118295.501
N261	0.7037	0.0009	0.0000	41.2830	0.0000	41.9866	78456.3622
N262	5.2153	0.0083	0.0001	21.9368	0.0000	27.1521	62508.4441
N263	-29.9045	-0.0252	0.0003	51.8290	0.0000	21.9245	118663.2786
N264	-20.2771	-0.0171	0.0002	61.8687	41.5935	-0.0019	118639.0966
N265	3.6607	0.0071	0.0000	19.2533	0.0000	22.9140	51637.9568

N266	-49.7575	-1.1110	0.0006	77.0371	0.0000	27.2796	4439.9935
N267	-10.6398	-0.0041	0.0001	726.8455	0.0000	716.2057	262298.9771
N268	0.6711	0.0010	0.0000	27.1324	0.0000	27.8035	68749.0174
N269	35.7213	0.0521	0.0004	160.9617	0.0000	196.6829	68523.3454
N270	41.4701	0.0265	0.0005	60.7133	0.0000	102.1834	156677.6425
N271	-47.9833	-0.0257	0.0005	324.9358	0.0000	276.9525	186823.0465
N272	-17.7510	-0.0058	0.0002	449.3857	0.0000	431.6348	308197.5536
N273	7.6739	0.0227	0.0001	28.4907	0.0000	36.1646	33740.3460
N274	-192.1599	-0.0609	0.0022	220.8916	0.0000	28.7317	315603.5838
N275	-42.7501	-0.0133	0.0005	99.7774	56.7983	0.2290	321940.9151
N276	9.2068	0.0238	0.0001	25.0887	0.0000	34.2955	38744.0486
N277	-40.3299	-0.0443	0.0005	56.9933	0.0000	16.6634	91089.7683
N278	-17.1803	-0.0189	0.0002	32.5298	15.3305	0.0190	91071.1198
N279	9.4384	0.0199	0.0001	24.3216	0.0000	33.7600	47472.9044
N280	49.8891	0.0333	0.0006	48.2906	0.0000	98.1797	149901.8400
N281	-267.8114	-0.0311	0.0031	1582.0368	0.0000	1314.2253	859398.4862
N282	-29.2593	-0.0033	0.0003	1396.3005	0.0000	1367.0412	893053.9898
N283	-245.4176	-0.0233	0.0028	1328.9968	0.0000	1083.5792	1052216.966
N284	12.1302	0.0358	0.0001	14.6706	0.0000	26.8008	33912.0764
N285	4.4458	0.0042	0.0001	51.8264	0.0000	56.2722	105094.5291
N286	153.5701	0.1330	0.0018	137.1868	0.0000	290.7569	115405.1167
N287	-422.8087	-0.0402	0.0048	1941.3929	0.0000	1518.5842	1049620.223
N288	283.5502	0.0195	0.0032	1394.9948	0.0000	1678.5450	1456571.809
N289	-121.3752	-0.0083	0.0014	147.8373	25.6346	0.8274	1457274.459
N290	15.1893	0.0041	0.0002	146.5379	0.0000	161.7272	373964.1533
N291	-42.2388	-0.0125	0.0005	74.7746	0.0000	32.5358	338798.0136
N292	-68.1269	-0.0201	0.0008	97.7896	29.6558	0.0069	338756.0657
N293	9.7307	0.0163	0.0001	26.7325	0.0000	36.4632	59568.6250
N294	-41.9277	-0.0337	0.0005	56.0968	0.0000	14.1691	124413.1333
N296	10.7325	0.0179	0.0001	28.7709	0.0000	39.5034	59838.8333

N297	0.9717	0.0016	0.0000	18.9395	0.0000	19.9112	61937.3871
N298	-35.9116	-0.0279	0.0004	82.4118	0.0000	46.5002	128712.3327
N299	-51.6855	-0.0402	0.0006	92.0210	40.3369	-0.0014	128664.2419
N300	1.0119	0.0016	0.0000	19.4693	0.0000	20.4812	62091.2640
N301	36.1919	0.0267	0.0004	51.8690	0.0000	88.0609	135426.7563
N302	-47.5818	-0.0240	0.0005	67.5118	0.0000	19.9300	198441.9914
N303	-12.4671	-0.0063	0.0001	49.4464	36.9440	0.0352	198417.4914
N304	8.0804	0.0136	0.0001	29.9827	0.0000	38.0631	59242.2291
N305	-25.0705	-0.0404	0.0003	58.3806	0.0000	33.3101	62015.9108
N306	-144.0559	-0.1411	0.0016	222.7250	0.0000	78.6692	101977.4877
N307	-124.8683	-0.1219	0.0014	175.5745	50.6410	0.0652	102336.6977
N308	27.3423	0.0601	0.0003	71.3390	0.0000	10332.4932	45493.9586
N309	37.7247	0.0522	0.0004	36.3423	0.0000	74.0670	72195.4642
N310	-81.2153	-0.0494	0.0009	91.2721	0.0000	10.0567	164352.5861
N312	49.7725	0.0556	0.0006	45.8436	0.0000	95.6161	89571.0039
N313	-3.1144	-0.0454	0.0000	28.6989	0.0000	25.5845	6845.6046
N314	-23.8036	-0.1356	0.0003	71.2492	0.0000	47.4456	17516.9051
N315	-55.6712	-0.1224	0.0006	71.8837	0.0000	16.2125	45436.0403
N316	-26.2547	-0.0577	0.0003	83.6909	57.4266	0.0096	45419.2128
N317	66.7863	0.0387	0.0008	105.6320	0.0000	172.4183	172423.5311
N318	-78.8627	-0.0170	0.0009	1440.8494	0.0000	1361.9866	464353.7129
N319	19.4518	0.0351	0.0002	68.4348	0.0000	87.8866	55460.8179
N320	145.5717	0.0691	0.0017	403.5429	0.0000	549.1146	210367.0283
N321	16.4715	0.0223	0.0002	60.4213	0.0000	76.8928	73834.8109
N325	-18.2676	-0.0140	0.0002	229.6363	0.0000	211.3687	130652.3012
N326	12.1379	0.0361	0.0001	63.6445	0.0000	75.7824	33628.5276
N327	30.1310	0.0309	0.0003	63.3906	0.0000	93.5216	97413.3109
N328	-108.3526	-0.0857	0.0012	181.0520	0.0000	72.6994	126285.4359
N329	-25.6981	-0.0230	0.0003	87.7312	0.0000	62.0331	111544.4893
N330	8.5197	0.0071	0.0001	239.9787	0.0000	248.4984	120235.2622

N331	-90.7872	-0.0718	0.0010	165.4472	74.6420	0.0180	126411.0674
N332	-31.0821	-0.0292	0.0004	88.4675	0.0000	57.3854	106547.9668
N333	2.2991	0.0036	0.0000	50.1222	0.0000	52.4213	63333.8400
N334	-20.7264	-0.0328	0.0002	211.2035	0.0000	190.4770	63088.3857
N335	163.4503	0.1388	0.0019	459.4405	0.0000	622.8908	117534.6896
N336	1.7936	0.0035	0.0000	65.6184	0.0000	67.4119	50704.7952
N337	-262.1897	-0.1079	0.0030	671.6183	0.0000	409.4286	242572.1154
N338	15.4943	0.0305	0.0002	51.7981	0.0000	67.2924	50725.6406
N339	-0.4329	-0.0007	0.0000	28.6240	0.0000	28.1910	64234.0130
N340	38.1540	0.0595	0.0004	133.2611	0.0000	171.4151	64033.2494
N341	-55.1818	-0.0228	0.0006	568.3193	0.0000	513.1375	241639.4909
N342	-95.4553	-0.0298	0.0011	366.5012	0.0000	271.0458	319924.7660
N343	-64.7083	-0.0202	0.0007	64.9264	0.0000	0.2181	319643.6396
N344	13.2044	0.0177	0.0002	33.8762	0.0000	47.0806	74388.6013
N345	-35.7953	-0.1780	0.0004	113.6572	0.0000	77.8619	20055.9746
N347	44.6632	0.0664	0.0005	257.4278	0.0000	302.0910	67181.3443
N348	165.7165	0.0540	0.0019	614.4719	0.0000	780.1884	306545.5680
N349	-1.2684	-0.0019	0.0000	96.8545	0.0000	95.5861	67583.2056
N350	8.4138	0.0131	0.0001	73.0439	0.0000	81.4578	64277.6410
N351	-31.8590	-0.0236	0.0004	482.3569	0.0000	450.4980	135018.5864
N352	15.7105	0.0202	0.0002	86.4114	0.0000	102.1220	77580.4344
N353	19.0115	0.0217	0.0002	87.6921	0.0000	106.7036	87555.5122
N354	-170.2399	-0.0557	0.0019	296.4904	0.0000	126.2505	305631.1833
N355	-63.0019	-0.0206	0.0007	103.0135	39.9599	0.0517	305498.1540
N356	-6.3172	-0.0374	0.0001	53.1746	0.0000	46.8574	16843.6010
N357	-48.6594	-0.1436	0.0006	126.2818	0.0000	77.6224	33831.3816
N358	-45.7837	-0.0899	0.0005	98.0782	0.0000	52.2945	50853.2068
N359	-37.6234	-0.0740	0.0004	49.7228	0.0000	12.0994	50789.4688
N360	-26.7910	-0.0527	0.0003	68.5426	41.7191	0.0324	50776.8630
N361	-2.0023	-0.0002	0.0000	253.6779	0.0000	251.6756	841286.8188

N362	364.7505	0.0434	0.0042	898.4054	0.0000	1263.1559	839735.7242
N363	-265.7566	-0.0223	0.0030	1523.1074	0.0000	1257.3507	1189913.829
N364	253.8355	0.0214	0.0029	1071.3786	0.0000	1325.2142	1187279.406
N365	-268.5482	-0.0226	0.0031	326.7633	58.0549	0.1601	1185911.597
N366	55.4970	0.0306	0.0006	54.1198	0.0000	109.6168	181552.1548
N367	43.7331	0.0420	0.0005	42.0471	0.0000	85.7801	104170.1750
N368	59.7097	0.0122	0.0007	164.6509	0.0000	224.3606	488094.3792
N369	277.2948	0.0570	0.0032	1546.0435	0.0000	1823.3384	486013.1695
N370	237.6684	0.0107	0.0027	4930.7590	0.0000	5168.4274	2213669.265
N371	37.4486	0.0037	0.0004	297.6529	0.0000	335.1015	1013475.153
N372	256.1550	0.0116	0.0029	5229.9556	0.0000	5486.1106	2202858.491
N373	105.0754	0.0048	0.0012	5191.7651	0.0000	5296.8405	2191980.546
N374	-171.2556	-0.0078	0.0020	3357.8049	0.0000	3186.5493	2183389.120
N375	170.4472	0.0060	0.0019	4252.5904	0.0000	4423.0375	2852509.300
N376	-1.5148	-0.0005	0.0000	65.6488	0.0000	64.1340	326806.7188
N377	135.3370	0.0415	0.0015	264.1470	0.0000	399.4840	326327.3634
N378	-147.9893	-0.0052	0.0017	3499.3535	0.0000	3351.3643	2864272.254
N379	-580.4801	-0.0202	0.0066	628.2411	46.4942	1.2668	2873517.792
N381	142.0976	0.0796	0.0016	339.0946	0.0000	481.1922	178436.1773
N382	-204.1059	-0.0528	0.0023	891.1472	0.0000	687.0412	386461.5239
N383	18.1903	0.0199	0.0002	23.3768	0.0000	41.5671	91494.3146
N384	25.1052	0.0294	0.0003	28.0965	0.0000	53.2017	85471.0982
N386	20.4753	0.0195	0.0002	25.8948	0.0000	46.3702	104878.9316
N387	16.4795	0.0254	0.0002	25.0169	0.0000	41.4964	64774.9907
N388	342.0889	0.0889	0.0039	973.8122	0.0000	1315.9011	384443.4529
N389	-312.3086	-0.0416	0.0036	937.9497	0.0000	625.6411	750770.3085
N390	51.9831	0.0577	0.0006	47.3614	0.0000	99.3445	90137.5391
N391	64.1897	0.0464	0.0007	54.4614	0.0000	118.6511	138270.3228
N392	-41.8237	-0.0056	0.0005	714.8885	0.0000	673.0649	749570.7512
N394	-262.7943	-0.0350	0.0030	302.3313	39.0803	0.4568	750728.3110

N395	111.9244	0.0844	0.0013	103.2146	0.0000	215.1390	132502.7894
N396	287.1075	0.2179	0.0033	450.8227	0.0000	737.9302	131546.1256
N397	-92.9942	-0.0212	0.0011	1408.2436	0.0000	1315.2493	438790.9852
N398	11315.0253	2.4869	0.1290	91532.4592	0.0000	102847.4845	409216.0181
N399	93.9219	0.0080	0.0011	4707.8174	0.0000	4801.7393	1168883.738
N403	354.0739	0.0305	0.0040	4516.0574	0.0000	4870.1313	1159154.942
N404	20.6033	0.0012	0.0002	5910.6318	0.0000	5931.2351	1689178.272
N405	64.6568	0.0733	0.0007	67.0637	0.0000	131.7205	88160.7459
N406	234.3777	0.0125	0.0027	7293.5326	0.0000	7527.9103	1867800.287
N407	40.0662	0.0630	0.0005	57.4648	0.0000	97.5310	63574.5356
N408	-160.4583	-0.0071	0.0018	7439.7679	0.0000	7279.3096	2254411.351
N409	275.8985	0.0123	0.0031	6701.2166	0.0000	6977.1151	2239908.753
N410	299.8625	0.0134	0.0034	4859.6985	0.0000	5159.5610	2227963.181
N412	0.1162	0.0001	0.0000	70.4677	0.0000	70.5840	167860.5081
N413	321.0089	0.0479	0.0037	3512.0317	0.0000	3833.0406	668933.1526
N414	43.5482	0.0133	0.0005	1982.0093	0.0000	2025.5575	325764.3623
N415	0.0732	0.0000	0.0000	75.6042	0.0000	75.6775	181332.2642
N416	0.9463	0.0006	0.0000	63.4318	0.0000	64.3781	171150.4067
N417	152.7717	0.0964	0.0017	1088.2973	0.0000	1241.0690	157955.4587
N418	52.1042	0.0325	0.0006	52.3634	0.0000	104.4676	160315.0923
N419	326.3228	0.1168	0.0037	959.7352	0.0000	1286.0580	279000.4840
N420	12.1884	0.0043	0.0001	135.4281	0.0000	147.6165	281764.7982
N421	37.7166	0.0134	0.0004	615.5949	0.0000	653.3115	280952.3057
N422	37.9983	0.0081	0.0004	1448.1246	0.0000	1486.1229	468139.4418
N423	57.3102	0.0298	0.0007	91.9756	0.0000	149.2857	192085.1791
N424	294.9565	0.0478	0.0034	2079.9550	0.0000	2374.9115	615484.4815
N425	46.4043	0.0307	0.0005	73.1559	0.0000	119.5602	151360.7849
N426	-101.2068	-0.0130	0.0012	2947.5001	0.0000	2846.2932	777403.6418
N428	279.3611	0.0361	0.0032	2519.5357	0.0000	2798.8968	771709.4486
N429	143.5063	0.0092	0.0016	4388.0226	0.0000	4531.5289	1560689.133

N430	13.0029	0.0146	0.0001	24.9317	0.0000	37.9345	88797.8272
N431	-13.8198	-0.0078	0.0002	786.6717	0.0000	772.8519	177487.7544
N432	-41.3014	-0.0461	0.0005	388.7593	0.0000	347.4578	89447.6944
N434	17.5629	0.0195	0.0002	30.8173	0.0000	48.3802	89844.2461
N435	-23.1731	-0.0073	0.0003	533.5823	0.0000	510.4092	316538.8264
N436	34.5030	0.0306	0.0004	51.5288	0.0000	86.0317	112755.3901
N437	58.7939	0.0287	0.0007	92.3718	0.0000	151.1657	204542.5642
N438	326.7629	0.1037	0.0037	1078.6616	0.0000	1405.4246	314608.4276
N439	125.4397	0.0235	0.0014	1731.6084	0.0000	1857.0482	533806.7035
N440	22.2779	0.0339	0.0003	52.1023	0.0000	74.3801	65715.5787
N441	49.4820	0.0329	0.0006	78.0646	0.0000	127.5466	150434.0885
N442	361.2520	0.0499	0.0041	1991.9490	0.0000	2353.2011	723213.4325
N443	13.2830	0.0360	0.0002	52.3617	0.0000	65.6447	36830.7074
N444	47.6278	0.0303	0.0005	77.9259	0.0000	125.5537	157017.7958
N445	187.9197	0.0115	0.0021	4417.4842	0.0000	4605.4040	1626077.579
N446	15.9645	0.0430	0.0002	51.5331	0.0000	67.4976	37129.9895
N447	8.1535	0.0004	0.0001	4268.7001	0.0000	4276.8536	1868793.823
N448	3.1936	0.0033	0.0000	66.0811	0.0000	69.2746	96876.0446
N449	289.4478	0.1558	0.0033	523.9240	0.0000	813.3717	185506.6782
N450	64.7353	0.0720	0.0007	233.3403	0.0000	298.0757	89745.8413
N451	4.8803	0.0054	0.0001	62.5974	0.0000	67.4776	90113.8519
N453	185.6009	0.1638	0.0021	186.3968	0.0000	371.9977	113210.8170
N454	6.7233	0.0059	0.0001	62.9015	0.0000	69.6248	113655.3377
N455	-118.1105	-0.1047	0.0013	348.2477	0.0000	230.1372	112605.6594
N456	250.9230	0.1407	0.0029	488.6306	0.0000	739.5535	178045.5986
N457	16.0984	0.0244	0.0002	52.5901	0.0000	68.6885	66085.7574
N458	19.1057	0.0108	0.0002	590.4156	0.0000	609.5212	176688.6932
N459	678.0333	0.0364	0.0077	3144.6047	0.0000	3822.6380	1860625.885
N460	-844.9568	-0.0455	0.0096	1468.7752	0.0000	623.8184	1856162.874
N461	-261.9044	-0.0141	0.0030	321.5090	57.4266	2.1780	1855503.723

N464	168.7059	0.0452	0.0019	1100.9924	0.0000	1269.6983	372353.6233
N465	35.5721	0.0152	0.0004	93.2476	0.0000	128.8197	234185.1966
N466	-44.5762	-0.0141	0.0005	927.7826	0.0000	883.2064	316626.0519
N467	10.3156	0.0269	0.0001	55.3824	0.0000	65.6979	38379.1242
N468	734.2285	0.1403	0.0084	1164.5122	0.0000	1898.7407	522744.2757
N469	-391.2352	-0.0682	0.0045	698.8100	0.0000	307.5748	573055.1363
N470	-22837.1075	-4.1522	0.2603	91146.5497	0.0000	68309.4422	504427.4708
N471	9.5112	0.0186	0.0001	35.1650	0.0000	44.6761	51140.1227
N472	8.1096	0.0220	0.0001	38.5521	0.0000	46.6617	36873.5802
N473	3.8073	0.0142	0.0000	23.2172	0.0000	27.0245	26854.8130
N487	-148.6711	-0.0929	0.0017	651.8909	0.0000	503.2198	159703.4986
N489	-444.8098	-0.1195	0.0051	601.9206	0.0000	157.1109	371773.2304
N490	2.7892	0.0007	0.0000	263.1712	0.0000	265.9604	375173.0035
N491	-42.0683	-0.2784	0.0005	95.3948	0.0000	53.3265	15062.9115
N492	3.4956	0.0020	0.0000	42.7957	0.0000	46.2913	176482.0433
N493	-33.0059	-0.0187	0.0004	33.0368	0.0000	0.0309	176430.3196
N497	135.9855	0.0605	0.0015	97.1302	0.0000	233.1156	224899.7903
N499	-75.1401	-0.0334	0.0009	168.6318	93.4910	0.0007	224662.5837
N500	166.5799	0.0235	0.0019	2590.1416	0.0000	2756.7215	706841.9129
N501	291.4717	0.0415	0.0033	2489.4166	0.0000	2780.8882	701271.0273
N503	-200.3069	-0.0469	0.0023	306.2486	105.9314	0.0103	426511.4703
N504	-195.6956	-0.0459	0.0022	246.4787	0.0000	50.7832	426525.8093
N506	100.6358	0.0670	0.0011	81.6435	0.0000	182.2793	150225.9366
N509	271.7853	0.0622	0.0031	194.9305	0.0000	466.7158	436556.9545
N511	-34.2348	-0.0169	0.0004	54.7630	0.0000	20.5283	202634.4504
N513	148.2358	0.0558	0.0017	115.9288	0.0000	264.1646	265729.3515
N514	-344.5056	-0.0487	0.0039	364.6591	0.0000	20.1535	707518.3690
N516	-107.3114	-0.0152	0.0012	210.3618	103.4182	-0.3678	707467.9207
N517	383.5931	0.0550	0.0044	1741.0733	0.0000	2124.6664	696214.3388
N518	-68.9129	-0.0099	0.0008	2656.9181	0.0000	2588.0052	695869.6281

N524	-8.7045	-0.0363	0.0001	66.5561	0.0000	57.8516	23957.0315
N525	-101.0437	-0.2126	0.0012	150.4706	0.0000	49.4269	47452.4244
N526	-9.2576	-0.0391	0.0001	66.6201	0.0000	57.3625	23660.4809
N527	-25.9285	-0.0429	0.0003	25.9620	0.0000	0.0335	60443.7250
N528	10.4261	0.0022	0.0001	3509.2596	0.0000	3519.6857	480635.4490
N529	480.8057	0.0167	0.0055	6129.8652	0.0000	6610.6709	2873838.190
N530	-260.0800	-0.0609	0.0030	1026.4328	0.0000	766.3528	426846.8026
N689	-131.1714	-0.0353	0.0015	131.2870	0.0000	0.1156	371598.1872
N494	845.9069	0.2263	0.0096	629.1738	0.0000	1475.0807	373421.7515
N541	-24.1699	-0.0142	0.0003	922.9751	0.0000	898.8052	170253.5417
EL329	43.9302	0.0256	0.0005	282.0300	0.0000	325.9602	171482.5846
N427	-4.0460	-0.0024	0.0000	1083.9746	0.0000	1079.9286	168268.8463
N411	-1192.2002	-0.0529	0.0136	1255.8670	51.7719	11.8949	2252406.428
N295	-12.1282	-0.0097	0.0001	42.9384	30.7867	0.0235	124396.2123
N311	-22.5588	-0.0137	0.0003	75.7934	53.2798	-0.0453	164338.7492
N462	-3.1794	-0.0038	0.0000	373.8773	0.0000	370.6979	83838.1104
N554	-12.6804	-0.0085	0.0001	563.7184	0.0000	551.0380	149489.0281
N555	-47.9825	-0.0237	0.0005	153.8649	105.9314	-0.0489	202610.5836
N322	-150.9675	-0.1253	0.0017	228.1294	77.1552	0.0066	120302.3094

The total continuity error was -6579.5 cubic feet
The remaining total volume was 3.78341E+05 cubic feet
Your mean node continuity error was Excellent
Your worst node continuity error was Excellent

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	Inflow	from
Outflow	Evaporation	to Node	Basin	to Node	through	to Node	2D
Layer	Name	from Node	to Node	Infil.	to Node	to Node	
	from Node	from Node					
0.0000	N221	0.0000	57330.5125	0.0000	0.0000	0.0000	
	0.0000	0.0000	0.0000	0.0000			
	N222	0.0000	4844.4690	0.0000	0.0000	0.0000	

0.0000	0.0000	0.0000	0.0000				
	N223	0.0000	3220.3920	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N224	0.0000	2437.1070	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N227	0.0000	49348.9384	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N228	0.0000	106453.3892	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N230	0.0000	19607.9040	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N231	0.0000	18840.4830	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N233	0.0000	3539.6550	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N234	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	261129.6035	0.0000	0.0000				
	N235	0.0000	4570.8150	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N238	0.0000	13361.4540	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N239	0.0000	8348.4300	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N240	0.0000	12990.6330	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N241	0.0000	198.3000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N242	0.0000	10170.8070	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N243	0.0000	6781.8600	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N244	0.0000	2211.0450	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N245	0.0000	5744.7510	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N246	0.0000	63.4560	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N247	0.0000	80285.7208	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N248	0.0000	8879.8740	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N249	0.0000	42158.5800	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N250	0.0000	61100.1967	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N251	0.0000	73246.0708	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N252	0.0000	7329.1680	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N253	0.0000	1251.2730	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N254	0.0000	24543.5908	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N255	0.0000	17811.3060	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N256	0.0000	36715.2441	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N257	0.0000	49239.8725	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N259	0.0000	48761.9700	0.0000	0.0000	0.0000	0.0000

0.0000	0.0000	0.0000	0.0000				
	N260	0.0000	0.0000	0.0000	0.0000	3311.2343	0.0000
0.0000	560935.1166	0.0000	0.0000				
	N261	0.0000	39305.0425	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N262	0.0000	31313.5525	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N263	0.0000	2298.2970	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N264	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	59318.1425	0.0000	0.0000				
	N265	0.0000	25868.2359	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N266	0.0000	2236.8240	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N267	0.0000	1871.9520	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N268	0.0000	34438.7608	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N270	0.0000	78504.9875	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N271	0.0000	15286.9470	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N272	0.0000	6686.6760	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N273	0.0000	16913.0070	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N274	0.0000	3946.1700	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N275	0.0000	3196.5960	0.0000	0.0000	-4.6254	0.0000
0.0000	160966.4609	0.0000	0.0000				
	N276	0.0000	19417.5360	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N277	0.0000	2482.7160	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N278	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	45534.3415	0.0000	0.0000				
	N279	0.0000	23788.0680	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N280	0.0000	75110.0908	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N281	0.0000	8439.6480	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N282	0.0000	1245.3240	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N283	0.0000	23296.2840	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N284	0.0000	16994.3100	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N285	0.0000	52652.6167	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N286	0.0000	5338.2360	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N288	0.0000	18168.2460	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N289	0.0000	0.0000	0.0000	0.0000	1715.8365	0.0000
0.0000	729767.2974	0.0000	0.0000				
	N290	0.0000	187369.7033	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N291	0.0000	169665.4800	0.0000	0.0000	0.0000	0.0000

0.0000	0.0000	0.0000	0.0000				
	N292	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	169378.0306	0.0000	0.0000				
	N293	0.0000	29846.1325	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N294	0.0000	2552.1210	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N296	0.0000	29982.9600	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N297	0.0000	31024.0359	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N298	0.0000	2389.5150	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N299	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	64331.1039	0.0000	0.0000				
	N300	0.0000	31101.3716	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N301	0.0000	67856.2775	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N302	0.0000	1963.1700	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N303	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	99206.1473	0.0000	0.0000				
	N304	0.0000	29683.5275	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N305	0.0000	31121.2016	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N306	0.0000	2587.8150	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N307	0.0000	0.0000	0.0000	0.0000	450.4194	0.0000
0.0000	51445.2565	0.0000	0.0000				
	N308	0.0000	27972.1984	0.0000	0.0000	0.0000	0.0000
0.0000	10233.8119	0.0000	0.0000				
	N309	0.0000	36187.7675	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N310	0.0000	1386.1170	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N312	0.0000	44899.0867	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N313	0.0000	3440.5050	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N314	0.0000	5379.8790	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N315	0.0000	14011.8780	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N316	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	22709.5083	0.0000	0.0000				
	N317	0.0000	86425.0892	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N318	0.0000	14170.5180	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N319	0.0000	27815.5408	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N320	0.0000	3371.1000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N321	0.0000	37010.7116	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N326	0.0000	16877.3130	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N327	0.0000	48825.4267	0.0000	0.0000	0.0000	0.0000

0.0000	0.0000	0.0000	0.0000				
	N328	0.0000	9968.5410	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N329	0.0000	55894.8208	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N330	0.0000	4374.4980	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N331	0.0000	0.0000	0.0000	0.0000	57.5777	0.0000
0.0000	63294.8766	0.0000	0.0000				
	N332	0.0000	53410.1216	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N333	0.0000	31739.8984	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N335	0.0000	2318.1270	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N336	0.0000	25424.0425	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N337	0.0000	5788.3770	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N338	0.0000	25433.9584	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N339	0.0000	32178.1408	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N342	0.0000	2373.6510	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	159819.6919	0.0000	0.0000				
	N344	0.0000	37272.4684	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N345	0.0000	10081.5720	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N348	0.0000	3928.3230	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N349	0.0000	33889.4700	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N350	0.0000	32227.7167	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N351	0.0000	2205.0960	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N352	0.0000	38898.5284	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N353	0.0000	43895.6884	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N355	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	152746.8163	0.0000	0.0000				
	N356	0.0000	8457.4950	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N357	0.0000	8568.5430	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N358	0.0000	8588.3730	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	25387.7619	0.0000	0.0000				
	N361	0.0000	421389.4861	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N363	0.0000	33657.4592	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N365	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	592947.7546	0.0000	0.0000				
	N366	0.0000	90964.1767	0.0000	0.0000	0.0000	0.0000

0.0000	0.0000	0.0000	0.0000				
	N367	0.0000	52204.4584	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N368	0.0000	244521.7385	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N370	0.0000	364905.7090	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N371	0.0000	507661.8844	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N375	0.0000	175719.5792	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N376	0.0000	163676.8200	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N379	0.0000	0.0000	0.0000	0.0000	11210.6517	0.0000
0.0000	1.4428E+06	0.0000	0.0000				
	N381	0.0000	1027.1940	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N382	0.0000	19847.8470	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N383	0.0000	45835.0616	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N384	0.0000	42824.8684	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N386	0.0000	52539.5859	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N387	0.0000	32455.7608	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N389	0.0000	70176.3875	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N390	0.0000	45184.6384	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N391	0.0000	69295.9359	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N394	0.0000	0.0000	0.0000	0.0000	1376.2448	0.0000
0.0000	376200.7695	0.0000	0.0000				
	N395	0.0000	66456.2792	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N397	0.0000	1471.3860	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N398	0.0000	38027.9908	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N399	0.0000	35624.5959	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N404	0.0000	138284.5059	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N405	0.0000	44210.9859	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N406	0.0000	64449.4825	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N407	0.0000	31882.6733	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N408	0.0000	108573.2167	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N412	0.0000	84089.1159	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N415	0.0000	90837.2633	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N416	0.0000	85733.0216	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N418	0.0000	80327.3633	0.0000	0.0000	0.0000	0.0000

0.0000	0.0000	0.0000	0.0000				
	N420	0.0000	141163.8208	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N423	0.0000	96258.7867	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N425	0.0000	75851.7325	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N429	0.0000	37823.7416	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N430	0.0000	44482.6567	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N431	0.0000	202.2660	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N434	0.0000	45012.1175	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N436	0.0000	56503.6016	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N437	0.0000	102497.3033	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N439	0.0000	3275.9160	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N440	0.0000	32943.5792	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N441	0.0000	75391.6775	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N443	0.0000	18475.6110	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N444	0.0000	78687.4225	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N445	0.0000	18800.8230	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N446	0.0000	18626.3190	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N447	0.0000	37857.4525	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N448	0.0000	48543.8400	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N449	0.0000	35.6940	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N451	0.0000	45156.8767	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N454	0.0000	56945.8108	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N456	0.0000	200.2830	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N457	0.0000	33126.0159	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N461	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	927729.0965	0.0000	0.0000				
	N464	0.0000	9805.9350	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N465	0.0000	117330.1433	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N467	0.0000	19250.9640	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N468	0.0000	32878.1400	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N469	0.0000	12875.6190	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N471	0.0000	25630.2759	0.0000	0.0000	0.0000	0.0000

0.0000	101305.3592	0.0000	0.0000				
	N322	0.0000	0.0000	0.0000	0.0000	45.3707	0.0000
0.0000	60165.7622	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.                                         |
*-----*

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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
N221	302.2581	0.0000	0.0000	22.1483	0.0000
N222	301.7097	0.0000	0.0000	32.0928	0.0000
N223	0.0000	0.0000	0.0000	16.4104	0.0000
N224	300.9032	0.0000	0.0000	41.7304	0.0000
N227	308.1667	0.0000	0.0000	33.0732	0.0000
N228	309.3000	0.0000	0.0000	38.7033	0.0000
N230	0.0000	0.0000	0.0000	29.3965	0.0000
N231	0.0000	0.0000	0.0000	5.6195	0.0000
N233	0.0000	0.0000	0.0000	10.2087	0.0000
N234	360.0000	0.0000	0.0000	56.7983	0.0000
N235	0.0000	0.0000	0.0000	3.3203	0.0000
N236	0.0000	0.0000	0.0000	3.5222	0.0000
N237	0.0000	0.0000	0.0000	5.0215	0.0000
N238	266.1290	0.0000	0.0000	31.0693	0.0000
N239	0.0000	0.0000	0.0000	10.9053	0.0000
N240	294.8710	0.0000	0.0000	19.8467	0.0000
N241	0.0000	0.0000	0.0000	14.5562	0.0000
N242	0.0000	0.0000	0.0000	21.8576	0.0000
N243	0.0000	0.0000	0.0000	37.9415	0.0000
N244	287.6129	0.0000	0.0000	40.4049	0.0000
N245	292.4839	0.0000	0.0000	50.8927	0.0000
N246	309.8667	0.0000	0.0000	49.3183	0.0000
N247	328.6154	0.0000	0.0000	57.8752	0.0000
N248	273.2258	0.0000	0.0000	13.1695	0.0000
N249	304.3000	0.0000	0.0000	36.8412	0.0000
N250	312.1379	0.0000	0.0000	41.2723	0.0000
N251	309.7000	0.0000	0.0000	15.9927	0.0000
N252	0.0000	0.0000	0.0000	27.9086	0.0000
N253	0.0000	0.0000	0.0000	29.9482	0.0000
N254	0.0000	0.0000	0.0000	6.5772	0.0000
N255	0.0000	0.0000	0.0000	55.7771	0.0000
N256	0.0000	0.0000	0.0000	8.3358	0.0000
N257	0.0000	0.0000	0.0000	10.5200	0.0000
N259	359.2500	0.0000	0.0000	42.5608	0.0000
N260	360.0000	0.0000	0.0000	37.0697	0.0000
N261	357.5758	0.0000	0.0000	22.7265	0.0000
N262	0.0000	0.0000	0.0000	7.7060	0.0000

N263	0.0000	0.0000	0.0000	4.9260	0.0000
N264	360.0000	0.0000	0.0000	41.5935	0.0000
N265	0.0000	0.0000	0.0000	6.8603	0.0000
N266	0.0000	0.0000	0.0000	1.8664	0.0000
N267	299.7419	0.0000	0.0000	21.0555	0.0000
N268	0.0000	0.0000	0.0000	8.0862	0.0000
N269	0.0000	0.0000	0.0000	8.3545	0.0000
N270	0.0000	0.0000	0.0000	14.3567	0.0000
N271	0.0000	0.0000	0.0000	17.4288	0.0000
N272	0.0000	0.0000	0.0000	18.3481	0.0000
N273	0.0000	0.0000	0.0000	5.5452	0.0000
N274	0.0000	0.0000	0.0000	5.7284	0.0000
N275	360.0000	0.0000	0.0000	56.7983	0.0000
N276	0.0000	0.0000	0.0000	6.1923	0.0000
N277	0.0000	0.0000	0.0000	3.4581	0.0000
N278	360.0000	0.0000	0.0000	15.3305	0.0000
N279	0.0000	0.0000	0.0000	6.8826	0.0000
N280	0.0000	0.0000	0.0000	12.1737	0.0000
N281	0.0000	0.0000	0.0000	28.5016	0.0000
N282	0.0000	0.0000	0.0000	25.4010	0.0000
N283	0.0000	0.0000	0.0000	18.3390	0.0000
N284	0.0000	0.0000	0.0000	5.2973	0.0000
N285	304.5000	0.0000	0.0000	20.6874	0.0000
N286	304.5667	0.0000	0.0000	19.1815	0.0000
N287	0.0000	0.0000	0.0000	23.2776	0.0000
N288	0.0000	0.0000	0.0000	28.3940	0.0000
N289	0.0000	0.0000	0.0000	25.6346	0.0000
N290	0.0000	0.0000	0.0000	20.1095	0.0000
N291	0.0000	0.0000	0.0000	6.6408	0.0000
N292	360.0000	0.0000	0.0000	29.6558	0.0000
N293	0.0000	0.0000	0.0000	7.7667	0.0000
N294	0.0000	0.0000	0.0000	4.0611	0.0000
N296	0.0000	0.0000	0.0000	7.8549	0.0000
N297	0.0000	0.0000	0.0000	7.4636	0.0000
N298	0.0000	0.0000	0.0000	7.2688	0.0000
N299	360.0000	0.0000	0.0000	40.3369	0.0000
N300	0.0000	0.0000	0.0000	7.4898	0.0000
N301	312.6897	0.0000	0.0000	24.1177	0.0000
N302	0.0000	0.0000	0.0000	4.9644	0.0000
N303	360.0000	0.0000	0.0000	36.9440	0.0000
N304	0.0000	0.0000	0.0000	7.6902	0.0000
N305	359.5000	0.0000	0.0000	53.5847	0.0000
N306	359.7500	0.0000	0.0000	54.5498	0.0000
N307	360.0000	0.0000	0.0000	50.6410	0.0000
N308	359.5000	314.0417	10233.8119	40.3369	0.0000
N309	0.0000	0.0000	0.0000	8.4156	0.0000
N310	0.0000	0.0000	0.0000	4.9177	0.0000
N312	0.0000	0.0000	0.0000	9.9295	0.0000
N313	0.0000	0.0000	0.0000	2.3058	0.0000
N314	0.0000	0.0000	0.0000	3.6953	0.0000
N315	0.0000	0.0000	0.0000	4.4586	0.0000
N316	360.0000	0.0000	0.0000	57.4266	0.0000
N317	301.6452	0.0000	0.0000	44.8137	0.0000
N318	301.0968	0.0000	0.0000	55.4868	0.0000
N319	298.3871	0.0000	0.0000	35.8218	0.0000
N320	299.1935	0.0000	0.0000	46.0622	0.0000
N321	298.0645	0.0000	0.0000	38.1362	0.0000
N325	297.1935	0.0000	0.0000	42.2457	0.0000
N326	295.9355	0.0000	0.0000	30.7076	0.0000
N327	297.0000	0.0000	0.0000	36.3678	0.0000

N328	360.0000	0.0000	0.0000	71.1021	0.0000
N329	360.0000	0.0000	0.0000	70.0752	0.0000
N330	360.0000	0.0000	0.0000	84.3209	0.0000
N331	360.0000	0.0000	0.0000	74.6420	0.0000
N332	359.7500	0.0000	0.0000	71.1229	0.0000
N333	292.6774	0.0000	0.0000	25.9895	0.0000
N334	295.2581	0.0000	0.0000	28.4835	0.0000
N335	306.0000	0.0000	0.0000	44.5372	0.0000
N336	302.5161	0.0000	0.0000	41.2954	0.0000
N337	296.5161	0.0000	0.0000	25.8126	0.0000
N338	287.6774	0.0000	0.0000	14.8095	0.0000
N339	0.0000	0.0000	0.0000	8.0459	0.0000
N340	0.0000	0.0000	0.0000	9.3962	0.0000
N341	292.7742	0.0000	0.0000	21.4082	0.0000
N342	0.0000	0.0000	0.0000	18.1613	0.0000
N343	0.0000	0.0000	0.0000	13.9267	0.0000
N344	0.0000	0.0000	0.0000	9.9100	0.0000
N345	0.0000	0.0000	0.0000	5.0497	0.0000
N347	311.5862	0.0000	0.0000	52.4265	0.0000
N348	319.5000	0.0000	0.0000	48.2269	0.0000
N349	309.7667	0.0000	0.0000	48.0311	0.0000
N350	313.3103	0.0000	0.0000	48.2415	0.0000
N351	315.5517	0.0000	0.0000	53.8267	0.0000
N352	313.4483	0.0000	0.0000	39.0194	0.0000
N353	313.9655	0.0000	0.0000	40.6788	0.0000
N354	0.0000	0.0000	0.0000	9.1472	0.0000
N355	360.0000	0.0000	0.0000	39.9599	0.0000
N356	0.0000	0.0000	0.0000	3.6202	0.0000
N357	0.0000	0.0000	0.0000	5.2486	0.0000
N358	0.0000	0.0000	0.0000	7.1951	0.0000
N359	0.0000	0.0000	0.0000	3.4952	0.0000
N360	360.0000	0.0000	0.0000	41.7191	0.0000
N361	0.0000	0.0000	0.0000	27.2130	0.0000
N362	0.0000	0.0000	0.0000	26.5610	0.0000
N363	0.0000	0.0000	0.0000	29.7151	0.0000
N364	0.0000	0.0000	0.0000	25.6949	0.0000
N365	0.0000	0.0000	0.0000	58.0549	0.0000
N366	0.0000	0.0000	0.0000	13.9941	0.0000
N367	0.0000	0.0000	0.0000	11.1376	0.0000
N368	294.6129	0.0000	0.0000	34.3062	0.0000
N369	295.0000	0.0000	0.0000	41.0080	0.0000
N370	302.7097	0.0000	0.0000	63.2212	0.0000
N371	302.5484	0.0000	0.0000	56.7366	0.0000
N372	299.9677	0.0000	0.0000	57.7748	0.0000
N373	295.5806	0.0000	0.0000	52.6609	0.0000
N374	0.0000	0.0000	0.0000	47.2851	0.0000
N375	0.0000	0.0000	0.0000	52.0005	0.0000
N376	0.0000	0.0000	0.0000	19.5633	0.0000
N377	0.0000	0.0000	0.0000	19.7299	0.0000
N378	0.0000	0.0000	0.0000	36.8265	0.0000
N379	0.0000	0.0000	0.0000	46.4942	0.0000
N381	0.0000	0.0000	0.0000	13.5646	0.0000
N382	0.0000	0.0000	0.0000	21.1043	0.0000
N383	0.0000	0.0000	0.0000	9.5340	0.0000
N384	0.0000	0.0000	0.0000	9.2920	0.0000
N386	0.0000	0.0000	0.0000	10.4968	0.0000
N387	0.0000	0.0000	0.0000	7.8940	0.0000
N388	0.0000	0.0000	0.0000	20.2625	0.0000
N389	0.0000	0.0000	0.0000	23.6541	0.0000
N390	0.0000	0.0000	0.0000	10.0162	0.0000

N391	310.7586	0.0000	0.0000	18.3614	0.0000
N392	0.0000	0.0000	0.0000	23.2450	0.0000
N394	360.0000	0.0000	0.0000	39.0803	0.0000
N395	322.2963	0.0000	0.0000	38.5978	0.0000
N396	79.9677	0.0000	0.0000	20.9237	0.0000
N397	12.4194	0.0000	0.0000	37.9771	0.0000
N398	0.0000	0.0000	0.0000	33.9950	0.0000
N399	66.9355	0.0000	0.0000	51.8590	0.0000
N403	101.8387	0.0000	0.0000	52.4060	0.0000
N404	143.6452	0.0000	0.0000	59.3981	0.0000
N405	300.3226	0.0000	0.0000	22.5048	0.0000
N406	163.7097	0.0000	0.0000	59.5738	0.0000
N407	136.1613	0.0000	0.0000	14.9493	0.0000
N408	142.7097	0.0000	0.0000	58.5960	0.0000
N409	0.0000	0.0000	0.0000	55.8676	0.0000
N410	0.0000	0.0000	0.0000	52.6918	0.0000
N412	318.3571	0.0000	0.0000	39.4385	0.0000
N413	146.2903	0.0000	0.0000	48.1073	0.0000
N414	0.0000	0.0000	0.0000	42.7497	0.0000
N415	318.7857	0.0000	0.0000	40.2254	0.0000
N416	307.6667	0.0000	0.0000	33.7128	0.0000
N417	0.0000	0.0000	0.0000	22.2851	0.0000
N418	0.0000	0.0000	0.0000	11.5693	0.0000
N419	278.9677	0.0000	0.0000	32.1704	0.0000
N420	276.1290	0.0000	0.0000	31.7081	0.0000
N421	276.2903	0.0000	0.0000	31.8363	0.0000
N422	283.0000	0.0000	0.0000	42.0842	0.0000
N423	282.1935	0.0000	0.0000	29.0211	0.0000
N424	288.4516	0.0000	0.0000	47.8518	0.0000
N425	288.6774	0.0000	0.0000	29.3530	0.0000
N426	292.1935	0.0000	0.0000	52.5794	0.0000
N428	295.2258	0.0000	0.0000	53.2469	0.0000
N429	297.7419	0.0000	0.0000	59.9908	0.0000
N430	0.0000	0.0000	0.0000	8.2131	0.0000
N431	0.0000	0.0000	0.0000	32.6212	0.0000
N432	0.0000	0.0000	0.0000	17.9224	0.0000
N434	0.0000	0.0000	0.0000	11.7639	0.0000
N435	282.9032	0.0000	0.0000	34.9464	0.0000
N436	284.3871	0.0000	0.0000	24.6769	0.0000
N437	282.7097	0.0000	0.0000	28.5450	0.0000
N438	285.7419	0.0000	0.0000	37.0714	0.0000
N439	293.0645	0.0000	0.0000	46.6460	0.0000
N440	289.0323	0.0000	0.0000	25.2102	0.0000
N441	293.0645	0.0000	0.0000	31.1418	0.0000
N442	296.6129	0.0000	0.0000	51.0267	0.0000
N443	290.4194	0.0000	0.0000	24.6738	0.0000
N444	296.9677	0.0000	0.0000	32.8288	0.0000
N445	293.9355	0.0000	0.0000	53.6601	0.0000
N446	282.8710	0.0000	0.0000	16.8533	0.0000
N447	286.1290	0.0000	0.0000	48.1715	0.0000
N448	303.9032	0.0000	0.0000	30.0045	0.0000
N449	305.3000	0.0000	0.0000	32.7513	0.0000
N450	298.5806	0.0000	0.0000	27.1327	0.0000
N451	297.6774	0.0000	0.0000	26.6025	0.0000
N453	303.9355	0.0000	0.0000	24.3294	0.0000
N454	305.1333	0.0000	0.0000	27.3212	0.0000
N455	267.0000	0.0000	0.0000	16.8395	0.0000
N456	300.4194	0.0000	0.0000	24.2455	0.0000
N457	294.7097	0.0000	0.0000	17.9111	0.0000
N458	0.0000	0.0000	0.0000	17.4524	0.0000

N459	0.0000	0.0000	0.0000	38.3632	0.0000
N460	0.0000	0.0000	0.0000	12.4097	0.0000
N461	360.0000	0.0000	0.0000	57.4266	0.0000
N464	303.0323	0.0000	0.0000	38.3762	0.0000
N465	301.4839	0.0000	0.0000	38.9881	0.0000
N466	301.2903	0.0000	0.0000	41.5731	0.0000
N467	298.3548	0.0000	0.0000	24.1394	0.0000
N468	298.9032	0.0000	0.0000	30.2926	0.0000
N469	0.0000	0.0000	0.0000	22.4006	0.0000
N470	0.0000	0.0000	0.0000	16.5010	0.0000
N471	294.2258	0.0000	0.0000	15.1844	0.0000
N472	291.7097	0.0000	0.0000	14.0223	0.0000
N473	0.0000	0.0000	0.0000	5.7827	0.0000
N487	0.0000	0.0000	0.0000	14.6670	0.0000
N489	0.0000	0.0000	0.0000	30.6866	0.0000
N490	0.0000	0.0000	0.0000	20.0447	0.0000
N491	0.0000	0.0000	0.0000	10.7615	0.0000
N492	324.8148	0.0000	0.0000	22.3397	0.0000
N493	0.0000	0.0000	0.0000	12.5660	0.0000
N497	310.9310	0.0000	0.0000	21.9897	0.0000
N499	0.0000	0.0000	0.0000	93.4910	0.0000
N500	305.3667	0.0000	0.0000	55.8736	0.0000
N501	296.8065	0.0000	0.0000	43.8156	0.0000
N503	360.0000	0.0000	0.0000	105.9314	0.0000
N504	360.0000	0.0000	0.0000	46.2344	0.0000
N506	316.2857	0.0000	0.0000	27.0525	0.0000
N509	328.1923	0.0000	0.0000	44.7382	0.0000
N511	0.0000	0.0000	0.0000	6.8324	0.0000
N513	0.0000	0.0000	0.0000	16.6640	0.0000
N514	0.0000	0.0000	0.0000	8.1905	0.0000
N516	360.0000	0.0000	0.0000	103.4182	0.0000
N517	0.0000	0.0000	0.0000	29.3412	0.0000
N518	293.7419	0.0000	0.0000	39.4220	0.0000
N524	0.0000	0.0000	0.0000	4.3492	0.0000
N525	0.0000	0.0000	0.0000	6.3739	0.0000
N526	0.0000	0.0000	0.0000	4.3215	0.0000
N527	0.0000	0.0000	0.0000	6.3708	0.0000
N528	299.2903	0.0000	0.0000	51.8480	0.0000
N529	0.0000	0.0000	0.0000	46.6043	0.0000
N530	304.3667	0.0000	0.0000	65.5172	0.0000
N689	0.0000	0.0000	0.0000	18.8490	0.0000
N494	0.0000	0.0000	0.0000	11.8845	0.0000
N541	275.8065	0.0000	0.0000	27.5966	0.0000
EL329	278.9032	0.0000	0.0000	30.2418	0.0000
N427	293.1613	0.0000	0.0000	37.8364	0.0000
N411	0.0000	0.0000	0.0000	51.7719	0.0000
N295	360.0000	0.0000	0.0000	30.7867	0.0000
N311	360.0000	0.0000	0.0000	53.2798	0.0000
N462	293.6129	0.0000	0.0000	24.2794	0.0000
N554	0.0000	0.0000	0.0000	17.5805	0.0000
N555	360.0000	0.0000	0.0000	105.9314	0.0000
N322	360.0000	0.0000	0.0000	77.1552	0.0000

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| Simulation Specific Information |

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Number of Input Conduits.....	239	Number of Simulated Conduits.....	269
Number of Natural Channels.....	0	Number of Junctions.....	269
Number of Storage Junctions.....	0	Number of Weirs.....	0
Number of Orifices.....	0	Number of Pumps.....	0

Number of Free Outfalls..... 30 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..FREE #26 with 0.007 percent
 The Junction with the largest average change was.N371 with 0.509 percent
 The Conduit with the largest sinuosity was.....L347 with 15.841

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

Inflow Junction	Inflow Volume,ft^3	Average Inflow, cfs
N221	57247.5567	2.6503
N222	4837.4592	0.2240
N223	3215.7322	0.1489
N224	2433.5806	0.1127
N227	49277.5317	2.2814
N228	106299.3539	4.9213
N230	19579.5319	0.9065
N231	18813.2213	0.8710
N233	3534.5332	0.1636
N235	4564.2012	0.2113
N238	13342.1203	0.6177
N239	8336.3500	0.3859
N240	12971.8359	0.6005
N241	198.0131	0.0092
N242	10156.0901	0.4702
N243	6772.0468	0.3135
N244	2207.8457	0.1022
N245	5736.4385	0.2656
N246	63.3642	0.0029
N247	80169.5495	3.7116
N248	8867.0251	0.4105
N249	42097.5776	1.9490
N250	61011.7863	2.8246
N251	73140.0857	3.3861
N252	7318.5629	0.3388
N253	1249.4624	0.0578
N254	24508.0769	1.1346
N255	17785.5335	0.8234
N256	36662.1181	1.6973
N257	49168.6237	2.2763
N259	48691.4127	2.2542
N260	3311.2343	0.1533
N261	39248.1691	1.8170
N262	31268.2426	1.4476
N263	2294.9714	0.1062
N265	25830.8052	1.1959
N266	2233.5874	0.1034

N267	1869.2433	0.0865
N268	34388.9288	1.5921
N270	78391.3929	3.6292
N271	15264.8272	0.7067
N272	6677.0006	0.3091
N273	16888.5343	0.7819
N274	3940.4600	0.1824
N275	3191.9706	0.1478
N276	19389.4393	0.8977
N277	2479.1236	0.1148
N279	23753.6473	1.0997
N280	75001.4085	3.4723
N281	8427.4361	0.3902
N282	1243.5220	0.0576
N283	23262.5749	1.0770
N284	16969.7197	0.7856
N285	52576.4298	2.4341
N286	5330.5117	0.2468
N288	18141.9570	0.8399
N289	1715.8365	0.0794
N290	187098.5842	8.6620
N291	169419.9785	7.8435
N293	29802.9459	1.3798
N294	2548.4281	0.1180
N296	29939.5754	1.3861
N297	30979.1449	1.4342
N298	2386.0574	0.1105
N300	31056.3688	1.4378
N301	67758.0913	3.1369
N302	1960.3293	0.0908
N304	29640.5763	1.3722
N305	31076.1701	1.4387
N306	2584.0705	0.1196
N307	450.4194	0.0209
N308	27931.7233	1.2931
N309	36135.4048	1.6729
N310	1384.1113	0.0641
N312	44834.1189	2.0757
N313	3435.5267	0.1591
N314	5372.0945	0.2487
N315	13991.6032	0.6478
N317	86300.0344	3.9954
N318	14150.0136	0.6551
N319	27775.2925	1.2859
N320	3366.2221	0.1558
N321	36957.1581	1.7110
N326	16852.8920	0.7802
N327	48754.7776	2.2572
N328	9954.1168	0.4608
N329	55813.9425	2.5840
N330	4368.1682	0.2022
N331	57.5777	0.0027
N332	53332.8386	2.4691
N333	31693.9716	1.4673
N335	2314.7727	0.1072
N336	25387.2545	1.1753
N337	5780.0014	0.2676
N338	25397.1561	1.1758
N339	32131.5799	1.4876
N342	2370.2164	0.1097

N344	37218.5361	1.7231
N345	10066.9842	0.4661
N348	3922.6388	0.1816
N349	33840.4328	1.5667
N350	32181.0841	1.4899
N351	2201.9053	0.1019
N352	38842.2432	1.7983
N353	43832.1725	2.0293
N356	8445.2572	0.3910
N357	8556.1445	0.3961
N358	8575.9459	0.3970
N361	420779.7466	19.4805
N363	33608.7577	1.5560
N366	90832.5540	4.2052
N367	52128.9199	2.4134
N368	244167.9220	11.3041
N370	364377.7001	16.8693
N371	506927.3110	23.4689
N375	175465.3176	8.1234
N376	163439.9839	7.5667
N379	11210.6517	0.5190
N381	1025.7077	0.0475
N382	19819.1277	0.9176
N383	45768.7395	2.1189
N384	42762.9019	1.9798
N386	52463.5625	2.4289
N387	32408.7982	1.5004
N389	70074.8442	3.2442
N390	45119.2574	2.0889
N391	69195.6665	3.2035
N394	1376.2448	0.0637
N395	66360.1187	3.0722
N397	1469.2569	0.0680
N398	37972.9653	1.7580
N399	35573.0480	1.6469
N404	138084.4119	6.3928
N405	44147.0138	2.0438
N406	64356.2258	2.9795
N407	31836.5399	1.4739
N408	108416.1141	5.0193
N412	83967.4412	3.8874
N415	90705.8241	4.1993
N416	85608.9682	3.9634
N418	80211.1317	3.7135
N420	140959.5605	6.5259
N423	96119.5028	4.4500
N425	75741.9770	3.5066
N429	37769.0117	1.7486
N430	44418.2915	2.0564
N431	201.9733	0.0094
N434	44946.9862	2.0809
N436	56421.8424	2.6121
N437	102348.9924	4.7384
N439	3271.1758	0.1514
N440	32895.9107	1.5230
N441	75282.5878	3.4853
N443	18448.8773	0.8541
N444	78573.5638	3.6377
N445	18773.6187	0.8691
N446	18599.3672	0.8611

N447	37802.6737	1.7501
N448	48473.5983	2.2441
N449	35.6424	0.0017
N451	45091.5359	2.0876
N454	56863.4117	2.6326
N456	199.9932	0.0093
N457	33078.0834	1.5314
N464	9791.7461	0.4533
N465	117160.3696	5.4241
N467	19223.1084	0.8900
N468	32830.5662	1.5199
N469	12856.9883	0.5952
N471	25593.1896	1.1849
N472	18460.7581	0.8547
N473	13441.1269	0.6223
N490	180217.6311	8.3434
N491	7558.1587	0.3499
N492	88266.3043	4.0864
N497	112568.4479	5.2115
N500	48849.8232	2.2616
N503	65.7605	0.0030
N504	213285.8130	9.8743
N506	75205.3621	3.4817
N509	218515.3375	10.1165
N511	101329.2260	4.6912
N513	132999.4353	6.1574
N514	3003.8582	0.1391
N517	2544.4679	0.1178
N524	12007.5123	0.5559
N526	11859.0025	0.5490
N527	6520.5702	0.3019
N529	16246.9720	0.7522
N530	5970.0939	0.2764
EL329	85905.9878	3.9771
N411	28391.8290	1.3144
N462	42105.4978	1.9493
N322	45.3707	0.0021
N234	-261129.6035	-12.0893
N260	-560935.1166	-25.9692
N264	-59318.1425	-2.7462
N275	-160966.4609	-7.4522
N278	-45534.3415	-2.1081
N289	-729767.2974	-33.7855
N292	-169378.0306	-7.8416
N299	-64331.1039	-2.9783
N303	-99206.1473	-4.5929
N307	-51445.2565	-2.3817
N308	-10233.8119	-0.4738
N316	-22709.5083	-1.0514
N331	-63294.8766	-2.9303
N343	-159819.6919	-7.3991
N355	-152746.8163	-7.0716
N360	-25387.7619	-1.1754
N365	-592947.7546	-27.4513
N379	-1.443E+06	-66.7975
N394	-376200.7695	-17.4167
N461	-927729.0965	-42.9504
N493	-88214.5805	-4.0840
N499	-112331.2413	-5.2005
N503	-213271.4741	-9.8737

N516	-353724.9431	-16.3762
N527	-30221.7281	-1.3992
N689	-185796.0887	-8.6017
N411	-1.141E+06	-52.8153
N295	-62196.4441	-2.8795
N311	-82167.2187	-3.8040
N555	-101305.3592	-4.6901
N322	-60165.7622	-2.7855

Outflow Junction	Outflow Volume,ft^3	Average Outflow, cfs
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N234	261129.6035	12.0893
N260	560935.1166	25.9692
N264	59318.1425	2.7462
N275	160966.4609	7.4522
N278	45534.3415	2.1081
N289	729767.2974	33.7855
N292	169378.0306	7.8416
N299	64331.1039	2.9783
N303	99206.1473	4.5929
N307	51445.2565	2.3817
N308	10233.8119	0.4738
N316	22709.5083	1.0514
N331	63294.8766	2.9303
N343	159819.6919	7.3991
N355	152746.8163	7.0716
N360	25387.7619	1.1754
N365	592947.7546	27.4513
N379	1.44283E+06	66.7975
N394	376200.7695	17.4167
N461	927729.0965	42.9504
N493	88214.5805	4.0840
N499	112331.2413	5.2005
N503	213271.4741	9.8737
N516	353724.9431	16.3762
N527	30221.7281	1.3992
N689	185796.0887	8.6017
N411	1.14081E+06	52.8153
N295	62196.4441	2.8795
N311	82167.2187	3.8040
N555	101305.3592	4.6901
N322	60165.7622	2.7855

```

*=====
| Initial system volume      =      1427.3719 Cu Ft |
| Total system inflow volume =  8.787023E+06 Cu Ft |
| Inflow + Initial volume   =  8.788450E+06 Cu Ft |

```

```

*=====
| Total system outflow      =  8.406111E+06 Cu Ft |
| Volume left (Final volume) =  378341.4725 Cu Ft |
| Evaporation               =           0.0000 Cu Ft |
| Basin Infiltration        =           0.0000 Cu Ft |
| Outflow + Final Volume    =  8.784453E+06 Cu Ft |

```

```

*=====
| Total Model Continuity Error = |
| Error in Continuity, Percent =      0.0455 |

```

```

| Error in Continuity, ft^3      =      3997.229 |
| + Error means a continuity loss, - a gain      |
*=====*
```

```

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

```

Overall error was (minimum of Table E18 & E21)          0.0455 percent
Worst nodal error was in node N470                    with      -4.5273 percent
Of the total inflow this loss was                      0.2599 percent
Your overall continuity error was                       Excellent
Efficiency of the simulation                            Excellent Efficiency
Most Number of Non Convergences at one Node           1.40
Total Number Non Convergences at all Nodes            3.
Total Number of Nodes with Non Convergences           9.
Total Number of Nodes with Non Convergences           5.
```

```

#####
# 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	Depth (ft)	Width (ft)	Barrels	Max.Flow (ft^3/s)

```

==> Hydraulic model simulation ended normally.
==> XP-SWMM Simulation ended normally.
==> Your input file was named   : P:\projects\2012.21\drainage\swmm\xp\JacksonTrunkNolte20160705
modf1.DAT
==> Your output file was named  : P:\projects\2012.21\drainage\swmm\xp\JacksonTrunkNolte20160705
modf1.out
```

```

*=====*
|           SWMM Simulation Date and Time Summary           |
*=====*
| Starting Date... July      6, 2017  Time...  14:12:56:81  |
| Ending Date...  July      6, 2017  Time...  14:13:15:74  |
| Elapsed Time...   0.31550 minutes or   18.93000 seconds  |
*=====*
```

Jackson Township

Phased Development Scenario Phase 1

XP Swmm Output File Listing

Current Directory: C:\PROGRA~2\XPSOLU~1\XPSWMM~1
 Engine Name: C:\PROGRA~2\XPSOLU~1\XPSWMM~1\SWMMEN~2.EXE
 Input File : projects\2012.21\drainage\swmm\xp\JacksonTrunkNolteA1Ph1_modf1.XP

```

*=====*
|                                     |
|           xpswmm                    |
|   Storm and Wastewater Management Model |
|   Developed by XP Solutions Inc.      |
|=====|
| Last Update       : June, 2014      |
| Interface Version : 2012             |
| Engine Version    : 12.0            |
| Data File Version : 12.6           |
|=====|
*=====*
  
```

Engine Name: C:\PROGRA~2\XPSOLU~1\XPSWMM~1\SWMMEN~2.EXE

```

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

Input File to Layer # 1 JOT.US
 Output File to Layer # 1 JOT.US

```

*=====*
| Configuration Parameters             |
| Configuration Parameters, both those that are hardwired |
| and those added to the simulation are listed below.    |
| Configuration Parameters that start with a $ are set in |
| the engine as defaults. The remaining in UPPERCASE    |
| have been added to the simulation in the Configuration->|
| Configuration Parameters dialog or as Engine Defaults in |
| the SWMXP.INI file.                                  |
|                                                       |
| Consult the Help File for the specific meaning/purpose   |
| of any particular parameter.                         |
|                                                       |
| Note:                                                  |
| The second column denotes the value of the parameter. |
*=====*
  
```

\$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
\$sexout	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

\$ncmid	0.0000	0	164
\$new_nl_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=10	10.0000	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
\$channel_geometry=1	0.0000	1	456

```

*====*
| 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)....	0
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).....	207
Number of Groundwater Subcatchments in Runoff (NGW).	0
Number of Interface locations for all Blocks (NIE)..	207
Number of Pumps in Extran (NEP).....	0
Number of Orifices in Extran (NEO).....	0
Number of Tide Gates/Free Outfalls in Extran (NTG)..	24
Number of Extran Weirs (NEW).....	0
Number of scs hydrograph points.....	1
Number of Extran printout locations (NPO).....	0
Number of Tide elements in Extran (NTE).....	24
Number of Natural channels (NNC).....	0
Number of Storage junctions in Extran (NVSE).....	0
Number of Time history data points in Extran(NTVAL).	2
Number of Variable storage elements in Extran (NVST)	0
Number of Input Hydrographs in Extran (NEH).....	207
Number of Particle sizes in Transport Block (NPS)...	0
Number of User defined conduits (NHW).....	207
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).....	207
Number of Plugs in a Storage Treatment Unit.....	1

XXX End of Header Section XXX

```

#####
# Entry made to the HYDRAULIC Layer of XP-SWMM #
# Last Updated in June, 2014 by XP Solutions #

```

```

*====*
| 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..... 1995 Month..... 1
 Day..... 1 Hour..... 0
 Minute..... 0 Second..... 0

Control information for simulation

Integration cycles..... 360
 Length of integration step is..... 60.00 seconds
 Simulation length..... 6.00 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. 500.00 minutes
 Summary printout intervals of..... 500 cycles
 Summary printout time interval of.. 500.00 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.... 207
or user defined hydrographs....

```

```

*====*
|                                     |
|           Flap Gate Conduit Information           |
|-----|
| Positive Flap Gate - Flow only allowed from the upstream |
|               to the downstream junction               |
| Negative Flap Gate - Flow only allowed from the         |
|               downstream to the upstream junction         |
|-----|
*====*

```

```

Conduit   Type of Flap Gate
-----
L376      Positive Flap Gate

```

```

*====*
|           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	Hazen Williams c-factor
1	L210	70.0000	Circular	0.7854	0.0150	1.0000	1.0000		
2	L211	408.0000	Circular	0.7854	0.0150	1.0000	1.0000		
3	L212	541.0000	Circular	1.2272	0.0150	1.2500	1.2500		
4	L213	107.0000	Circular	0.7854	0.0150	1.0000	1.0000		
5	L214	93.0000	Circular	1.7671	0.0150	1.5000	1.5000		
6	L217	86.0000	Circular	0.7854	0.0150	1.0000	1.0000		
7	L220	320.0000	Circular	2.4053	0.0150	1.7500	1.7500		
8	L221	395.0000	Circular	3.1416	0.0150	2.0000	2.0000		
9	L222	182.0000	Circular	3.1416	0.0150	2.0000	2.0000		
10	L223	72.0000	Circular	0.7854	0.0150	1.0000	1.0000		
11	L224	291.0000	Circular	0.7854	0.0150	1.0000	1.0000		
12	L225	290.0000	Circular	0.7854	0.0150	1.0000	1.0000		
13	L226	413.0000	Circular	0.7854	0.0150	1.0000	1.0000		
14	L227	236.0000	Circular	0.7854	0.0150	1.0000	1.0000		
15	L228	407.0000	Circular	0.7854	0.0150	1.0000	1.0000		
16	L229	572.0000	Circular	1.2272	0.0150	1.2500	1.2500		
17	L230	397.0000	Circular	1.2272	0.0150	1.2500	1.2500		
18	L231	399.0000	Circular	1.2272	0.0150	1.2500	1.2500		
19	L232	307.0000	Circular	1.7671	0.0150	1.5000	1.5000		
20	L233	479.0000	Circular	1.7671	0.0150	1.5000	1.5000		
21	L234	430.0000	Circular	3.1416	0.0150	2.0000	2.0000		
22	L235	50.0000	Circular	0.7854	0.0150	1.0000	1.0000		
23	L236	105.0000	Circular	0.7854	0.0150	1.0000	1.0000		
24	L237	100.0000	Circular	0.7854	0.0150	1.0000	1.0000		
25	L238	55.0000	Circular	0.7854	0.0150	1.0000	1.0000		
26	L239	124.0000	Circular	0.7854	0.0150	1.0000	1.0000		
27	L240	86.0000	Circular	0.7854	0.0150	1.0000	1.0000		
28	L241	296.0000	Circular	1.2272	0.0150	1.2500	1.2500		
29	L242	62.0000	Circular	0.7854	0.0150	1.0000	1.0000		
30	L243	95.0000	Circular	0.7854	0.0150	1.0000	1.0000		
31	L246	414.0000	Circular	4.9087	0.0150	2.5000	2.5000		
32	L247	92.0000	Circular	4.9087	0.0150	2.5000	2.5000		
33	L248	47.0000	Circular	0.7854	0.0150	1.0000	1.0000		
34	L249	73.0000	Circular	0.7854	0.0150	1.0000	1.0000		
35	L250	78.0000	Circular	0.7854	0.0150	1.0000	1.0000		
36	L251	69.0000	Circular	0.7854	0.0150	1.0000	1.0000		

37	L254	709.3100	Circular	1.7671	0.0150	1.5000	1.5000
38	L255	451.0000	Circular	3.1416	0.0150	2.0000	2.0000
39	L258	100.0000	Circular	0.7854	0.0150	1.0000	1.0000
40	L259	281.0000	Circular	2.4053	0.0150	1.7500	1.7500
41	L260	64.0000	Circular	2.4053	0.0150	1.7500	1.7500
42	L261	138.0000	Circular	0.7854	0.0150	1.0000	1.0000
43	L262	76.0000	Circular	0.7854	0.0150	1.0000	1.0000
44	L263	117.0000	Circular	0.7854	0.0150	1.0000	1.0000
45	L272	34.0000	Circular	15.9043	0.0150	4.5000	4.5000
46	L273	117.0000	Circular	2.4053	0.0150	1.7500	1.7500
47	L274	123.0000	Circular	1.7671	0.0150	1.5000	1.5000
48	L275	107.0000	Circular	0.7854	0.0150	1.0000	1.0000
49	L277	117.0000	Circular	0.7854	0.0150	1.0000	1.0000
50	L281	107.0000	Circular	0.7854	0.0150	1.0000	1.0000
51	L282	48.0000	Circular	0.7854	0.0150	1.0000	1.0000
52	L283	114.0000	Circular	0.7854	0.0150	1.0000	1.0000
53	L287	109.0000	Circular	0.7854	0.0150	1.0000	1.0000
54	L289	120.0000	Circular	0.7854	0.0150	1.0000	1.0000
55	L308	101.0000	Circular	9.6211	0.0150	3.5000	3.5000
56	L317	1107.0000	Circular	1.2272	0.0150	1.2500	1.2500
57	L319	65.0000	Circular	1.7671	0.0150	1.5000	1.5000
58	L320	67.0000	Circular	0.7854	0.0150	1.0000	1.0000
59	L334	402.0000	Circular	0.7854	0.0150	1.0000	1.0000
60	L335	371.0000	Circular	0.7854	0.0150	1.0000	1.0000
61	L336	125.0000	Circular	0.7854	0.0150	1.0000	1.0000
62	L337	119.0000	Circular	0.7854	0.0150	1.0000	1.0000
63	L338	84.0000	Circular	7.0686	0.0150	3.0000	3.0000
64	L339	260.0000	Circular	7.0686	0.0150	3.0000	3.0000
65	L340	244.0000	Circular	9.6211	0.0150	3.5000	3.5000
66	L341	103.0000	Circular	9.6211	0.0150	3.5000	3.5000
67	L342	78.0000	Circular	1.2272	0.0150	1.2500	1.2500
68	L343	94.0000	Circular	0.7854	0.0150	1.0000	1.0000
69	L344	51.0000	Circular	4.9087	0.0150	2.5000	2.5000
70	L346	50.0000	Circular	9.6211	0.0150	3.5000	3.5000
71	L347	395.0000	Circular	12.5664	0.0150	4.0000	4.0000
72	L348	404.0000	Circular	12.5664	0.0150	4.0000	4.0000
73	L349	400.0000	Circular	12.5664	0.0150	4.0000	4.0000
74	L350	132.0000	Circular	12.5664	0.0150	4.0000	4.0000
75	L351	35.0000	Circular	3.1416	0.0150	2.0000	2.0000
76	L352	147.0000	Circular	3.1416	0.0150	2.0000	2.0000
77	L354	94.0000	Circular	15.9043	0.0150	4.5000	4.5000
78	L361	47.0000	Circular	0.7854	0.0150	1.0000	1.0000
79	L362	66.0000	Circular	0.7854	0.0150	1.0000	1.0000
80	L363	411.0000	Circular	1.7671	0.0150	1.5000	1.5000
81	L364	48.0000	Circular	0.7854	0.0150	1.0000	1.0000
82	L365	63.0000	Circular	0.7854	0.0150	1.0000	1.0000
83	L366	394.0000	Circular	3.1416	0.0150	2.0000	2.0000
84	L367	364.0000	Circular	3.1416	0.0150	2.0000	2.0000
85	L368	124.0000	Circular	0.7854	0.0150	1.0000	1.0000
86	L369	99.0000	Circular	0.7854	0.0150	1.0000	1.0000
87	L370	206.0000	Circular	7.0686	0.0150	3.0000	3.0000
88	L373	98.0000	Circular	7.0686	0.0150	3.0000	3.0000
89	L374	160.0000	Circular	0.7854	0.0150	1.0000	1.0000
90	L375	403.0000	Circular	1.7671	0.0150	1.5000	1.5000
91	L376	164.0000	Circular	5.9396	0.0150	2.7500	2.7500
92	L386	341.0000	Circular	12.5664	0.0150	4.0000	4.0000
93	L387	355.0000	Circular	12.5664	0.0150	4.0000	4.0000
94	L388	113.0000	Circular	0.7854	0.0150	1.0000	1.0000
95	L389	385.0000	Circular	15.9043	0.0150	4.5000	4.5000
96	L390	106.0000	Circular	0.7854	0.0150	1.0000	1.0000
97	L391	499.0000	Circular	15.9043	0.0150	4.5000	4.5000
98	L392	380.0000	Circular	15.9043	0.0150	4.5000	4.5000
99	L393	461.0000	Circular	15.9043	0.0150	4.5000	4.5000
100	L395	50.0000	Circular	1.2272	0.0150	1.2500	1.2500
101	L396	402.0000	Circular	7.0686	0.0150	3.0000	3.0000
102	L397	57.0000	Circular	1.2272	0.0150	1.2500	1.2500
103	L398	48.0000	Circular	1.2272	0.0150	1.2500	1.2500
104	L399	302.0000	Circular	3.1416	0.0150	2.0000	2.0000
105	L402	86.0000	Circular	2.4053	0.0150	1.7500	1.7500

106	L403	398.0000	Circular	2.4053	0.0150	1.7500	1.7500		
107	L404	371.0000	Circular	2.4053	0.0150	1.7500	1.7500		
108	L405	71.0000	Circular	1.7671	0.0150	1.5000	1.5000		
109	L406	364.0000	Circular	4.9087	0.0150	2.5000	2.5000		
110	L407	71.0000	Circular	1.2272	0.0150	1.2500	1.2500		
111	L408	367.0000	Circular	5.9396	0.0150	2.7500	2.7500		
112	L410	395.0000	Circular	7.0686	0.0150	3.0000	3.0000		
113	L411	301.0000	Circular	7.0686	0.0150	3.0000	3.0000		
114	L413	401.0000	Circular	1.7671	0.0150	1.5000	1.5000		
115	L415	49.0000	Circular	0.7854	0.0150	1.0000	1.0000		
116	L417	68.0000	Circular	0.7854	0.0150	1.0000	1.0000		
117	L418	72.0000	Circular	1.7671	0.0150	1.5000	1.5000		
118	L419	259.0000	Circular	3.1416	0.0150	2.0000	2.0000		
119	L420	402.0000	Circular	3.1416	0.0150	2.0000	2.0000		
120	L421	68.0000	Circular	0.7854	0.0150	1.0000	1.0000		
121	L422	76.0000	Circular	1.2272	0.0150	1.2500	1.2500		
122	L423	397.0000	Circular	4.9087	0.0150	2.5000	2.5000		
123	L424	299.0000	Circular	5.9396	0.0150	2.7500	2.7500		
124	L425	70.0000	Circular	0.7854	0.0150	1.0000	1.0000		
125	L426	73.0000	Circular	1.2272	0.0150	1.2500	1.2500		
126	L427	486.0000	Circular	9.6211	0.0150	3.5000	3.5000		
127	L428	88.0000	Circular	0.7854	0.0150	1.0000	1.0000		
128	L429	394.0000	Circular	9.6211	0.0150	3.5000	3.5000		
129	L430	91.0000	Circular	0.7854	0.0150	1.0000	1.0000		
130	L431	430.0000	Circular	0.7854	0.0150	1.0000	1.0000		
131	L432	91.0000	Circular	0.7854	0.0150	1.0000	1.0000		
132	L435	90.0000	Circular	0.7854	0.0150	1.0000	1.0000		
133	L436	315.0000	Circular	0.7854	0.0150	1.0000	1.0000		
134	L437	328.0000	Circular	1.2272	0.0150	1.2500	1.2500		
135	L438	88.0000	Circular	0.7854	0.0150	1.0000	1.0000		
136	L439	374.0000	Circular	1.2272	0.0150	1.2500	1.2500		
137	L440	396.0000	Circular	1.7671	0.0150	1.5000	1.5000		
138	L441	405.0000	Circular	9.6211	0.0150	3.5000	3.5000		
139	L442	459.0000	Circular	9.6211	0.0150	3.5000	3.5000		
140	L443	96.0000	Circular	9.6211	0.0150	3.5000	3.5000		
141	L446	61.0000	Circular	1.7671	0.0150	1.5000	1.5000		
142	L448	79.0000	Circular	0.7854	0.0150	1.0000	1.0000		
143	L449	452.0000	Circular	2.4053	0.0150	1.7500	1.7500		
144	L450	400.0000	Circular	3.1416	0.0150	2.0000	2.0000		
145	L451	90.0000	Circular	3.1416	0.0150	2.0000	2.0000		
146	L452	50.0000	Circular	0.7854	0.0150	1.0000	1.0000		
147	L453	61.0000	Circular	0.7854	0.0150	1.0000	1.0000		
148	L454	70.0000	Circular	0.7854	0.0150	1.0000	1.0000		
149	L466	90.0000	Circular	1.2272	0.0150	1.2500	1.2500		
150	L468	496.0000	Circular	3.1416	0.0150	2.0000	2.0000		
151	L470	177.0000	Circular	2.4053	0.0150	1.7500	1.7500		
152	L471	390.0000	Circular	0.7854	0.0150	1.0000	1.0000		
153	L472	52.0000	Circular	0.7854	0.0150	1.0000	1.0000		
154	L490	121.0000	Circular	2.4053	0.0150	1.7500	1.7500		
155	L496	392.0000	Circular	0.7854	0.0150	1.0000	1.0000		
156	L497	394.0000	Circular	0.7854	0.0150	1.0000	1.0000		
157	L498	98.0000	Circular	0.7854	0.0150	1.0000	1.0000		
158	L501	375.0000	Circular	7.0686	0.0150	3.0000	3.0000		
159	L502	423.0000	Circular	9.6211	0.0150	3.5000	3.5000		
160	L503	437.0000	Circular	15.9043	0.0150	4.5000	4.5000		
161	L504	465.0000	Circular	15.9043	0.0150	4.5000	4.5000		
162	L505	395.0000	Circular	2.4053	0.0150	1.7500	1.7500		
163	L506	397.0000	Circular	2.4053	0.0150	1.7500	1.7500		
164	L509	134.0000	Circular	0.7854	0.0150	1.0000	1.0000		
165	L511	178.0000	Circular	1.7671	0.0150	1.5000	1.5000		
166	L512	111.0000	Circular	3.1416	0.0150	2.0000	2.0000		
167	L514	399.0000	Circular	2.4053	0.0150	1.7500	1.7500		
168	L515	145.0000	Circular	7.0686	0.0150	3.0000	3.0000		
169	CH21	925.0000	Rectangle	275.0000	0.0600	100.0000	2.7500		
170	L474	127.0000	Circular	1.7671	0.0150	1.5000	1.5000		
171	L523	171.0000	Trapezoid	15.7500	0.0600	6.0000	1.5000	3.0000	3.0000
172	L525	533.0000	Circular	7.0686	0.0150	3.0000	3.0000		
173	L527	434.0000	Circular	1.7671	0.0150	1.5000	1.5000		
174	L528	452.0000	Circular	1.2272	0.0150	1.2500	1.2500		

175	L529	284.0000	Circular	1.7671	0.0150	1.5000	1.5000
176	L533	725.0000	Circular	1.7671	0.0150	1.5000	1.5000
177	L537	453.0000	Circular	1.7671	0.0150	1.5000	1.5000
178	L394	157.0000	Circular	15.9043	0.0150	4.5000	4.5000
179	L276	51.0000	Circular	0.7854	0.0150	1.0000	1.0000
180	L288	61.0000	Circular	1.2272	0.0150	1.2500	1.2500
181	L412	53.0000	Circular	0.7854	0.0150	1.0000	1.0000
182	L447	394.0000	Circular	1.7671	0.0150	1.5000	1.5000
183	L321	440.0000	Circular	0.7854	0.0150	1.0000	1.0000
Total length of all conduits				43228.3100 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	Sediment Depth	Flow Routing
L376	1.0000	0.0000	1.0000	0.0000	0.8500	1.0000	0.0000	0.0000	Standard -

 If there are messages about $(\sqrt{g*d}) * dt/dx$, or the $\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length}$ 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	
L210	4.86	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L211	0.83	
L212	0.70	
L213	3.18	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L214	4.48	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L217	3.96	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L220	1.41	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L221	1.22	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L222	2.65	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L223	4.73	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L224	1.17	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L225	1.17	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L226	0.82	
L227	1.44	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L228	0.84	
L229	0.67	
L230	0.96	
L231	0.95	
L232	1.36	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L233	0.87	
L234	1.12	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L235	6.81	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L236	3.24	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L237	3.40	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L238	6.19	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L239	2.75	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L240	3.96	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$
L241	1.29	===> Warning ! $(\sqrt{\text{wave celerity}} * \text{time step} / \text{conduit length})$

L242 5.49 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L243 3.58 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L246 1.30 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L247 5.85 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L248 7.24 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L249 4.66 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L250 4.37 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L251 4.93 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L254 0.59
L255 1.07 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L258 3.40 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L259 1.60 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L260 7.04 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L261 2.47 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L262 4.48 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L263 2.91 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L272 21.24 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L273 3.85 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L274 3.39 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L275 3.18 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L277 2.91 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L281 3.18 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L282 7.09 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L283 2.99 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L287 3.12 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L289 2.84 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L308 6.31 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L317 0.34
L319 6.42 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L320 5.08 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L334 0.85
L335 0.92
L336 2.72 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L337 2.86 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L338 7.02 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L339 2.27 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L340 2.61 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L341 6.18 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L342 4.88 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L343 3.62 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L344 10.56 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L346 12.74 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L347 1.72 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L348 1.69 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L349 1.70 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L350 5.16 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L351 13.76 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L352 3.28 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L354 7.68 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L361 7.24 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L362 5.16 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L363 1.01 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L364 7.09 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L365 5.40 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L366 1.22 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L367 1.32 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L368 2.75 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L369 3.44 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L370 2.86 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L373 6.02 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L374 2.13 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L375 1.03 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L376 3.44 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L386 2.00 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L387 1.92 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L388 3.01 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L389 1.88 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L390 3.21 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L391 1.45 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)

L392 1.90 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L393 1.57 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L395 7.61 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L396 1.47 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L397 6.68 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L398 7.93 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L399 1.59 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L402 5.24 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L403 1.13 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L404 1.21 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L405 5.87 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L406 1.48 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L407 5.36 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L408 1.54 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L410 1.49 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L411 1.96 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L413 1.04 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L415 6.95 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L417 5.01 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L418 5.79 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L419 1.86 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L420 1.20 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L421 5.01 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L422 5.01 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L423 1.36 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L424 1.89 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L425 4.86 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L426 5.21 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L427 1.31 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L428 3.87 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L429 1.62 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L430 3.74 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L431 0.79
L432 3.74 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L435 3.78 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L436 1.08 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L437 1.16 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L438 3.87 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L439 1.02 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L440 1.05 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L441 1.57 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L442 1.39 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L443 6.64 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L446 6.84 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L448 4.31 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L449 1.00
L450 1.20 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L451 5.35 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L452 6.81 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L453 5.58 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L454 4.86 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L466 4.23 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L468 0.97
L470 2.54 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L471 0.87
L472 6.55 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L490 3.72 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L496 0.87
L497 0.86
L498 3.47 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L501 1.57 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L502 1.51 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L503 1.65 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L504 1.55 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L505 1.14 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L506 1.13 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L509 2.54 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L511 2.34 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L512 4.34 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)

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L514      1.13  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L515      4.07  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
CH21      0.61
L474      3.28  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L523      2.04  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L525      1.11  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L527      0.96
L528      0.84
L529      1.47  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L533      0.58
L537      0.92
L394      4.60  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L276      6.68  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L288      6.24  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L412      6.42  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L447      1.06  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L321      0.77

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

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Full pipe or full open conduit volume
Input full depth volume..... 4.3437E+05 cubic feet

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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	N221	114.0300	106.8400	105.8400	0.0000	0.0000	100.0000
2	N222	112.0800	106.4400	104.4400	0.0000	0.0000	100.0000
3	N223	106.2600	103.0600	100.8100	0.0000	0.0000	100.0000
4	N224	106.3300	99.7200	96.9700	0.0000	0.0000	100.0000
5	N227	109.4000	99.3400	98.3400	0.0000	0.0000	100.0000
6	N228	102.4000	99.0300	97.5300	0.0000	0.0000	100.0000
7	N230	104.3900	100.3300	95.8300	0.0000	0.0000	100.0000
8	N231	104.4000	100.8400	99.8400	0.0000	0.0000	100.0000
9	N233	100.3500	96.9200	94.4200	0.0000	0.0000	100.0000
10	N234	100.0000	89.6000	87.6000	0.0000	0.0000	100.0000
11	N235	138.1500	120.6000	119.6000	0.0000	0.0000	100.0000
12	N236	126.2300	120.4100	118.6100	0.0000	0.0000	100.0000
13	N237	124.2900	118.8600	117.2600	0.0000	0.0000	100.0000
14	N238	122.3500	117.5100	115.1100	0.0000	0.0000	100.0000
15	N239	125.0800	118.6900	117.6900	0.0000	0.0000	100.0000
16	N240	122.0900	117.6200	116.6200	0.0000	0.0000	100.0000
17	N241	119.6000	115.0600	111.3600	0.0000	0.0000	100.0000
18	N242	115.6700	111.1300	108.6300	0.0000	0.0000	100.0000
19	N243	112.6900	109.1100	105.8600	0.0000	0.0000	100.0000
20	N244	109.7000	106.3500	103.8500	0.0000	0.0000	100.0000
21	N245	107.6800	104.8800	101.6800	0.0000	0.0000	100.0000
22	N246	104.7000	101.8100	99.5600	0.0000	0.0000	100.0000
23	N247	107.2000	100.3700	97.8700	0.0000	0.0000	100.0000
24	N248	116.0000	112.4800	111.4800	0.0000	0.0000	100.0000
25	N249	108.6300	105.6200	104.6200	0.0000	0.0000	100.0000
26	N250	113.4000	102.1400	101.1400	0.0000	0.0000	100.0000
27	N251	127.0200	116.3800	115.3800	0.0000	0.0000	100.0000
28	N252	121.2500	116.0600	113.0600	0.0000	0.0000	100.0000
29	N253	119.0300	113.3300	108.0800	0.0000	0.0000	100.0000
30	N254	120.4000	113.8300	112.8300	0.0000	0.0000	100.0000
31	N255	113.9100	108.0500	102.8000	0.0000	0.0000	100.0000
32	N256	119.8800	108.4100	107.4100	0.0000	0.0000	100.0000
33	N257	118.4000	108.6100	107.6100	0.0000	0.0000	100.0000
34	N259	102.6900	99.6600	97.1600	0.0000	0.0000	100.0000
35	N260	101.1000	99.5000	97.0000	0.0000	0.0000	100.0000
36	N261	106.3800	99.9300	98.9300	0.0000	0.0000	100.0000

37	N262	110.4000	105.8800	104.8800	0.0000	0.0000	100.0000
38	N263	109.4000	105.4600	104.4600	0.0000	0.0000	100.0000
39	N264	106.0000	97.6400	96.6400	0.0000	0.0000	100.0000
40	N265	108.4000	105.8600	104.8600	0.0000	0.0000	100.0000
41	W800	110.0300	104.0100	102.5100	0.0000	0.0000	100.0000
42	W801	106.4000	103.4500	101.4500	0.0000	0.0000	100.0000
43	OUT802	103.0000	103.0000	101.0000	0.0000	0.0000	100.0000
44	N272	102.0600	98.1000	96.3500	0.0000	0.0000	100.0000
45	N273	104.4000	98.6800	97.6800	0.0000	0.0000	100.0000
46	N274	100.3100	97.3300	95.5800	0.0000	0.0000	100.0000
47	N275	101.7000	89.3500	87.6000	0.0000	0.0000	100.0000
48	N276	100.4000	95.2500	94.2500	0.0000	0.0000	100.0000
49	N277	99.4000	94.4400	93.4400	0.0000	0.0000	100.0000
50	N278	96.0000	79.0000	78.0000	0.0000	0.0000	100.0000
51	N279	98.4000	95.1200	94.1200	0.0000	0.0000	100.0000
52	N288	96.4000	81.5300	77.0300	0.0000	0.0000	100.0000
53	N289	96.4000	81.5000	77.0000	0.0000	0.0000	100.0000
54	N290	96.4000	79.8500	78.1000	0.0000	0.0000	100.0000
55	N291	96.2900	93.4200	91.9200	0.0000	0.0000	100.0000
56	N292	94.0000	78.1000	76.6000	0.0000	0.0000	100.0000
57	N293	126.4000	119.9200	118.9200	0.0000	0.0000	100.0000
58	N294	123.9600	119.3000	118.3000	0.0000	0.0000	100.0000
59	N296	122.4000	119.9800	118.9800	0.0000	0.0000	100.0000
60	N301	128.4000	123.9000	122.9000	0.0000	0.0000	100.0000
61	N302	128.3900	123.2800	122.2800	0.0000	0.0000	100.0000
62	N303	124.3000	111.6000	110.6000	0.0000	0.0000	100.0000
63	N304	126.4000	123.9500	122.9500	0.0000	0.0000	100.0000
64	N309	119.4000	114.1500	113.1500	0.0000	0.0000	100.0000
65	N310	116.6600	113.5100	112.2600	0.0000	0.0000	100.0000
66	N312	116.4000	114.2100	113.2100	0.0000	0.0000	100.0000
67	YEL327	101.0000	99.5000	96.0000	0.0000	0.0000	100.0000
68	N331	101.0000	96.2000	92.7000	0.0000	0.0000	100.0000
69	W104	108.3300	106.6400	105.3900	0.0000	0.0000	100.0000
70	N342	106.8400	101.7200	100.2200	0.0000	0.0000	100.0000
71	N343	104.4000	101.5000	100.0000	0.0000	0.0000	100.0000
72	N344	112.0700	102.1100	101.1100	0.0000	0.0000	100.0000
73	N345	128.1400	119.8300	118.8300	0.0000	0.0000	100.0000
74	N356	128.3900	126.3200	125.3200	0.0000	0.0000	100.0000
75	N357	126.5200	123.9800	122.9800	0.0000	0.0000	100.0000
76	N358	128.1900	121.8200	120.8200	0.0000	0.0000	100.0000
77	N359	126.7800	121.0900	120.0900	0.0000	0.0000	100.0000
78	N360	121.5000	113.8000	112.8000	0.0000	0.0000	100.0000
79	N361	133.4000	129.2400	126.2400	0.0000	0.0000	100.0000
80	N362	133.8500	129.1300	126.1300	0.0000	0.0000	100.0000
81	N363	135.6800	128.7800	125.2800	0.0000	0.0000	100.0000
82	N364	134.3100	128.5100	125.0100	0.0000	0.0000	100.0000
83	N365	129.0000	120.9000	117.4000	0.0000	0.0000	100.0000
84	N366	136.4000	129.1200	127.8700	0.0000	0.0000	100.0000
85	N367	131.4000	129.3300	128.3300	0.0000	0.0000	100.0000
86	N368	130.1000	126.7600	124.2600	0.0000	0.0000	100.0000
87	N369	130.1500	126.6700	123.6700	0.0000	0.0000	100.0000
88	N370	130.0300	125.7000	121.7000	0.0000	0.0000	100.0000
89	N371	130.3200	125.7600	122.2600	0.0000	0.0000	100.0000
90	N372	131.8100	125.3400	121.3400	0.0000	0.0000	100.0000
91	N373	131.3300	124.9700	120.9700	0.0000	0.0000	100.0000
92	N374	132.8200	124.6000	120.6000	0.0000	0.0000	100.0000
93	N375	132.2300	124.4800	119.9800	0.0000	0.0000	100.0000
94	N376	130.4700	124.9000	122.9000	0.0000	0.0000	100.0000
95	N377	130.5100	124.8200	122.8200	0.0000	0.0000	100.0000
96	N378	129.1900	123.7700	119.2700	0.0000	0.0000	100.0000
97	N379	128.2000	122.9000	118.4000	0.0000	0.0000	100.0000
98	N381	128.4700	126.2600	124.7600	0.0000	0.0000	100.0000
99	N382	128.0000	124.8600	122.8600	0.0000	0.0000	100.0000
100	N383	132.3000	126.5300	125.5300	0.0000	0.0000	100.0000
101	N384	131.1800	126.6400	125.6400	0.0000	0.0000	100.0000
102	N386	132.1700	125.1400	124.1400	0.0000	0.0000	100.0000
103	N387	132.9300	125.2300	124.2300	0.0000	0.0000	100.0000
104	N388	128.2100	123.9500	121.9500	0.0000	0.0000	100.0000
105	N389	128.3800	123.1100	120.1100	0.0000	0.0000	100.0000

106	N390	132.4000	123.8300	122.8300	0.0000	0.0000	100.0000
107	N391	131.4000	123.6900	122.6900	0.0000	0.0000	100.0000
108	N392	129.2100	122.8300	119.8300	0.0000	0.0000	100.0000
109	N394	130.0700	121.4000	118.4000	0.0000	0.0000	100.0000
110	N395	126.4000	119.6100	118.1100	0.0000	0.0000	100.0000
111	N396	124.6000	119.1800	117.6800	0.0000	0.0000	100.0000
112	N397	124.9400	118.8100	115.8100	0.0000	0.0000	100.0000
113	N398	128.0400	119.0600	116.3100	0.0000	0.0000	100.0000
114	N399	124.3000	118.6100	114.6000	0.0000	0.0000	100.0000
115	N403	125.5000	118.3000	114.3000	0.0000	0.0000	100.0000
116	N404	126.6900	117.9800	113.4800	0.0000	0.0000	100.0000
117	N405	131.2500	117.6300	116.6300	0.0000	0.0000	100.0000
118	N406	124.4900	117.6700	113.1700	0.0000	0.0000	100.0000
119	N407	132.5800	118.0000	117.0000	0.0000	0.0000	100.0000
120	N408	125.2200	117.2800	112.7800	0.0000	0.0000	100.0000
121	N409	123.3200	116.9800	112.4800	0.0000	0.0000	100.0000
122	N410	124.2200	116.6200	112.1200	0.0000	0.0000	100.0000
123	N412	125.2400	117.5500	116.3000	0.0000	0.0000	100.0000
124	N413	123.5000	118.8300	115.3300	0.0000	0.0000	100.0000
125	N414	122.0000	119.3700	113.6200	0.0000	0.0000	100.0000
126	N415	124.3800	117.5800	116.3300	0.0000	0.0000	100.0000
127	N416	125.2100	118.0800	116.8300	0.0000	0.0000	100.0000
128	N417	121.7600	119.5700	117.5700	0.0000	0.0000	100.0000
129	N418	124.4000	121.1500	119.9000	0.0000	0.0000	100.0000
130	N419	120.2000	112.6600	110.9100	0.0000	0.0000	100.0000
131	N420	123.9000	113.9900	112.2400	0.0000	0.0000	100.0000
132	N421	121.2100	113.7500	112.0000	0.0000	0.0000	100.0000
133	N422	118.3600	111.6300	109.1300	0.0000	0.0000	100.0000
134	N423	120.4000	111.8700	110.3700	0.0000	0.0000	100.0000
135	N424	118.5600	111.0100	108.2600	0.0000	0.0000	100.0000
136	N425	120.3900	111.3100	110.0600	0.0000	0.0000	100.0000
137	N426	117.2400	110.4500	107.4500	0.0000	0.0000	100.0000
138	N428	114.7900	109.9200	106.9200	0.0000	0.0000	100.0000
139	N429	116.1800	109.5200	106.0200	0.0000	0.0000	100.0000
140	N430	128.2200	120.0000	119.0000	0.0000	0.0000	100.0000
141	N431	123.0700	119.4000	116.6700	0.0000	0.0000	100.0000
142	N432	120.7300	119.5700	118.0700	0.0000	0.0000	100.0000
143	N434	126.2700	119.8000	118.8000	0.0000	0.0000	100.0000
144	N435	120.2500	112.1800	110.1800	0.0000	0.0000	100.0000
145	N436	125.4000	112.5700	111.5700	0.0000	0.0000	100.0000
146	N437	122.9000	112.4200	110.9200	0.0000	0.0000	100.0000
147	N438	119.8200	111.5800	109.5800	0.0000	0.0000	100.0000
148	N439	118.1400	110.6500	108.1500	0.0000	0.0000	100.0000
149	N440	122.4000	111.0500	110.0500	0.0000	0.0000	100.0000
150	N441	120.9000	110.9800	109.7300	0.0000	0.0000	100.0000
151	N442	116.2500	109.9700	107.2200	0.0000	0.0000	100.0000
152	N443	118.4000	110.3800	109.3800	0.0000	0.0000	100.0000
153	N444	118.4000	110.2800	109.0300	0.0000	0.0000	100.0000
154	N445	113.3000	108.9800	105.4800	0.0000	0.0000	100.0000
155	N446	118.4000	109.4900	108.4900	0.0000	0.0000	100.0000
156	N447	113.2000	108.5500	105.0500	0.0000	0.0000	100.0000
157	N448	125.6200	119.7700	118.7700	0.0000	0.0000	100.0000
158	N449	125.6000	119.2400	117.9900	0.0000	0.0000	100.0000
159	N450	125.2200	121.7400	120.7400	0.0000	0.0000	100.0000
160	N451	126.4000	122.2700	121.2700	0.0000	0.0000	100.0000
161	N453	119.8300	114.7600	113.7600	0.0000	0.0000	100.0000
162	N454	125.4000	115.2900	114.2900	0.0000	0.0000	100.0000
163	N455	118.2800	112.9300	111.6800	0.0000	0.0000	100.0000
164	N456	116.2800	111.5100	110.2600	0.0000	0.0000	100.0000
165	N457	122.4000	112.0200	111.0200	0.0000	0.0000	100.0000
166	N458	114.0000	109.8900	108.3900	0.0000	0.0000	100.0000
167	N459	110.2500	108.1100	104.6100	0.0000	0.0000	100.0000
168	N460	110.1000	107.6100	104.1100	0.0000	0.0000	100.0000
169	N461	110.1000	97.6000	94.1000	0.0000	0.0000	100.0000
170	N464	132.5200	126.8400	125.0900	0.0000	0.0000	100.0000
171	N465	135.1200	128.1500	126.6500	0.0000	0.0000	100.0000
172	N466	131.9700	127.9400	126.1900	0.0000	0.0000	100.0000
173	N467	130.9600	127.3000	126.3000	0.0000	0.0000	100.0000
174	N468	129.9500	125.5900	123.5900	0.0000	0.0000	100.0000

175	N469	128.6600	124.6600	118.6600	0.0000	0.0000	100.0000
176	N470	127.0000	120.4600	117.7100	0.0000	0.0000	100.0000
177	N471	133.3000	125.8800	124.8800	0.0000	0.0000	100.0000
178	N472	129.4500	125.9400	124.9400	0.0000	0.0000	100.0000
179	N473	126.2300	121.0700	120.0700	0.0000	0.0000	100.0000
180	N487	122.2200	120.5700	118.5700	0.0000	0.0000	100.0000
181	N489	124.6300	122.3300	118.4300	0.0000	0.0000	100.0000
182	N490	125.9100	123.6500	121.9000	0.0000	0.0000	100.0000
183	N491	127.1900	125.7700	124.1700	0.0000	0.0000	100.0000
184	N492	130.4000	127.3400	126.3400	0.0000	0.0000	100.0000
185	N493	129.9000	127.0400	126.0400	0.0000	0.0000	100.0000
186	N497	112.8000	108.8500	107.8500	0.0000	0.0000	100.0000
187	N499	111.0500	92.2000	91.2000	0.0000	0.0000	100.0000
188	N509	117.9000	110.3800	108.8800	0.0000	0.0000	100.0000
189	N513	117.8200	111.7600	110.0100	0.0000	0.0000	100.0000
190	N514	117.9000	111.6100	108.1100	0.0000	0.0000	100.0000
191	N516	111.0000	92.0000	90.0000	0.0000	0.0000	100.0000
192	N524	136.4600	134.4500	133.4500	0.0000	0.0000	100.0000
193	N525	136.2000	132.1700	131.1700	0.0000	0.0000	100.0000
194	N526	137.2000	134.4600	133.4600	0.0000	0.0000	100.0000
195	N527	136.0000	131.6000	130.6000	0.0000	0.0000	100.0000
196	N528	129.5000	126.1600	122.6600	0.0000	0.0000	100.0000
197	N529	134.2600	124.1400	119.6400	0.0000	0.0000	100.0000
198	N530	109.2400	103.4600	99.7100	0.0000	0.0000	100.0000
199	N689	123.2700	119.5000	118.0000	0.0000	0.0000	100.0000
200	N494	126.0000	123.1600	121.4100	0.0000	0.0000	100.0000
201	N541	120.0000	113.5900	112.0900	0.0000	0.0000	100.0000
202	EL329	118.0000	114.0200	112.5200	0.0000	0.0000	100.0000
203	N427	118.5000	111.1400	109.6400	0.0000	0.0000	100.0000
204	N411	128.9500	116.5000	112.0000	0.0000	0.0000	100.0000
205	N295	120.1000	107.9300	106.9300	0.0000	0.0000	100.0000
206	N311	114.3000	105.3500	104.1000	0.0000	0.0000	100.0000
207	N462	133.0000	129.2800	127.7800	0.0000	0.0000	100.0000

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| Table E3b - Junction Data |

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Inp Num	Junction Name	X Coord.	Y Coord.	Type of Manhole	Type of Inlet	Maximum Capacity	Pavement Shape	Slope
1	N221	0.0000	0.0000	No P	Normal		0	0.0000
2	N222	0.0000	0.0000	No P	Normal		0	0.0000
3	N223	0.0000	0.0000	No P	Normal		0	0.0000
4	N224	0.0000	0.0000	No P	Normal		0	0.0000
5	N227	0.0000	0.0000	No P	Normal		0	0.0000
6	N228	0.0000	0.0000	F	Normal		0	0.0000
7	N230	0.0000	0.0000	No P	Normal		0	0.0000
8	N231	0.0000	0.0000	No P	Normal		0	0.0000
9	N233	0.0000	0.0000	No P	Normal		0	0.0000
10	N234	0.0000	0.0000	No P	Normal		0	0.0000
11	N235	0.0000	0.0000	No P	Normal		0	0.0000
12	N236	0.0000	0.0000	No P	Normal		0	0.0000
13	N237	0.0000	0.0000	No P	Normal		0	0.0000
14	N238	0.0000	0.0000	No P	Normal		0	0.0000
15	N239	0.0000	0.0000	No P	Normal		0	0.0000
16	N240	0.0000	0.0000	No P	Normal		0	0.0000
17	N241	0.0000	0.0000	No P	Normal		0	0.0000
18	N242	0.0000	0.0000	No P	Normal		0	0.0000
19	N243	0.0000	0.0000	No P	Normal		0	0.0000
20	N244	0.0000	0.0000	No P	Normal		0	0.0000
21	N245	0.0000	0.0000	No P	Normal		0	0.0000
22	N246	0.0000	0.0000	No P	Normal		0	0.0000
23	N247	0.0000	0.0000	No P	Normal		0	0.0000
24	N248	0.0000	0.0000	F	Normal		0	0.0000
25	N249	0.0000	0.0000	F	Normal		0	0.0000
26	N250	0.0000	0.0000	No P	Normal		0	0.0000
27	N251	0.0000	0.0000	No P	Normal		0	0.0000

28	N252	0.0000	0.0000	No P	Normal	0	0.0000
29	N253	0.0000	0.0000	No P	Normal	0	0.0000
30	N254	0.0000	0.0000	No P	Normal	0	0.0000
31	N255	0.0000	0.0000	No P	Normal	0	0.0000
32	N256	0.0000	0.0000	No P	Normal	0	0.0000
33	N257	0.0000	0.0000	No P	Normal	0	0.0000
34	N259	0.0000	0.0000	No P	Normal	0	0.0000
35	N260	0.0000	0.0000	No P	Normal	0	0.0000
36	N261	0.0000	0.0000	No P	Normal	0	0.0000
37	N262	0.0000	0.0000	No P	Normal	0	0.0000
38	N263	0.0000	0.0000	No P	Normal	0	0.0000
39	N264	0.0000	0.0000	No P	Normal	0	0.0000
40	N265	0.0000	0.0000	No P	Normal	0	0.0000
41	W800	0.0000	0.0000	No P	Normal	0	0.0000
42	W801	0.0000	0.0000	No P	Normal	0	0.0000
43	OUT802	0.0000	0.0000	No P	Normal	0	0.0000
44	N272	0.0000	0.0000	No P	Normal	0	0.0000
45	N273	0.0000	0.0000	No P	Normal	0	0.0000
46	N274	0.0000	0.0000	No P	Normal	0	0.0000
47	N275	0.0000	0.0000	No P	Normal	0	0.0000
48	N276	0.0000	0.0000	No P	Normal	0	0.0000
49	N277	0.0000	0.0000	No P	Normal	0	0.0000
50	N278	0.0000	0.0000	No P	Normal	0	0.0000
51	N279	0.0000	0.0000	No P	Normal	0	0.0000
52	N288	0.0000	0.0000	No P	Normal	0	0.0000
53	N289	0.0000	0.0000	No P	Normal	0	0.0000
54	N290	0.0000	0.0000	No P	Normal	0	0.0000
55	N291	0.0000	0.0000	No P	Normal	0	0.0000
56	N292	0.0000	0.0000	No P	Normal	0	0.0000
57	N293	0.0000	0.0000	No P	Normal	0	0.0000
58	N294	0.0000	0.0000	No P	Normal	0	0.0000
59	N296	0.0000	0.0000	No P	Normal	0	0.0000
60	N301	0.0000	0.0000	No P	Normal	0	0.0000
61	N302	0.0000	0.0000	No P	Normal	0	0.0000
62	N303	0.0000	0.0000	No P	Normal	0	0.0000
63	N304	0.0000	0.0000	No P	Normal	0	0.0000
64	N309	0.0000	0.0000	No P	Normal	0	0.0000
65	N310	0.0000	0.0000	No P	Normal	0	0.0000
66	N312	0.0000	0.0000	No P	Normal	0	0.0000
67	YEL327	0.0000	0.0000	F	Normal	0	0.0000
68	N331	0.0000	0.0000	F	Normal	0	0.0000
69	W104	0.0000	0.0000	No P	Normal	0	0.0000
70	N342	0.0000	0.0000	No P	Normal	0	0.0000
71	N343	0.0000	0.0000	No P	Normal	0	0.0000
72	N344	0.0000	0.0000	No P	Normal	0	0.0000
73	N345	0.0000	0.0000	No P	Normal	0	0.0000
74	N356	0.0000	0.0000	No P	Normal	0	0.0000
75	N357	0.0000	0.0000	No P	Normal	0	0.0000
76	N358	0.0000	0.0000	No P	Normal	0	0.0000
77	N359	0.0000	0.0000	No P	Normal	0	0.0000
78	N360	0.0000	0.0000	No P	Normal	0	0.0000
79	N361	0.0000	0.0000	No P	Normal	0	0.0000
80	N362	0.0000	0.0000	No P	Normal	0	0.0000
81	N363	0.0000	0.0000	No P	Normal	0	0.0000
82	N364	0.0000	0.0000	No P	Normal	0	0.0000
83	N365	0.0000	0.0000	No P	Normal	0	0.0000
84	N366	0.0000	0.0000	No P	Normal	0	0.0000
85	N367	0.0000	0.0000	No P	Normal	0	0.0000
86	N368	0.0000	0.0000	No P	Normal	0	0.0000
87	N369	0.0000	0.0000	No P	Normal	0	0.0000
88	N370	0.0000	0.0000	No P	Normal	0	0.0000
89	N371	0.0000	0.0000	No P	Normal	0	0.0000
90	N372	0.0000	0.0000	No P	Normal	0	0.0000
91	N373	0.0000	0.0000	No P	Normal	0	0.0000
92	N374	0.0000	0.0000	No P	Normal	0	0.0000
93	N375	0.0000	0.0000	No P	Normal	0	0.0000
94	N376	0.0000	0.0000	No P	Normal	0	0.0000
95	N377	0.0000	0.0000	No P	Normal	0	0.0000
96	N378	0.0000	0.0000	No P	Normal	0	0.0000

166	N458	0.0000	0.0000	No P	Normal	0	0.0000
167	N459	0.0000	0.0000	No P	Normal	0	0.0000
168	N460	0.0000	0.0000	No P	Normal	0	0.0000
169	N461	0.0000	0.0000	No P	Normal	0	0.0000
170	N464	0.0000	0.0000	No P	Normal	0	0.0000
171	N465	0.0000	0.0000	No P	Normal	0	0.0000
172	N466	0.0000	0.0000	No P	Normal	0	0.0000
173	N467	0.0000	0.0000	No P	Normal	0	0.0000
174	N468	0.0000	0.0000	No P	Normal	0	0.0000
175	N469	0.0000	0.0000	No P	Normal	0	0.0000
176	N470	0.0000	0.0000	No P	Normal	0	0.0000
177	N471	0.0000	0.0000	No P	Normal	0	0.0000
178	N472	0.0000	0.0000	No P	Normal	0	0.0000
179	N473	0.0000	0.0000	No P	Normal	0	0.0000
180	N487	0.0000	0.0000	No P	Normal	0	0.0000
181	N489	0.0000	0.0000	No P	Normal	0	0.0000
182	N490	0.0000	0.0000	No P	Normal	0	0.0000
183	N491	0.0000	0.0000	No P	Normal	0	0.0000
184	N492	0.0000	0.0000	No P	Normal	0	0.0000
185	N493	0.0000	0.0000	No P	Normal	0	0.0000
186	N497	0.0000	0.0000	No P	Normal	0	0.0000
187	N499	0.0000	0.0000	No P	Normal	0	0.0000
188	N509	0.0000	0.0000	No P	Normal	0	0.0000
189	N513	0.0000	0.0000	No P	Normal	0	0.0000
190	N514	0.0000	0.0000	No P	Normal	0	0.0000
191	N516	0.0000	0.0000	No P	Normal	0	0.0000
192	N524	0.0000	0.0000	No P	Normal	0	0.0000
193	N525	0.0000	0.0000	No P	Normal	0	0.0000
194	N526	0.0000	0.0000	No P	Normal	0	0.0000
195	N527	0.0000	0.0000	No P	Normal	0	0.0000
196	N528	0.0000	0.0000	No P	Normal	0	0.0000
197	N529	0.0000	0.0000	No P	Normal	0	0.0000
198	N530	0.0000	0.0000	No P	Normal	0	0.0000
199	N689	0.0000	0.0000	No P	Normal	0	0.0000
200	N494	0.0000	0.0000	No P	Normal	0	0.0000
201	N541	0.0000	0.0000	No P	Normal	0	0.0000
202	EL329	0.0000	0.0000	No P	Normal	0	0.0000
203	N427	0.0000	0.0000	No P	Normal	0	0.0000
204	N411	0.0000	0.0000	No P	Normal	0	0.0000
205	N295	0.0000	0.0000	No P	Normal	0	0.0000
206	N311	0.0000	0.0000	No P	Normal	0	0.0000
207	N462	0.0000	0.0000	No P	Normal	0	0.0000

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| Table E4 - Conduit Connectivity |

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Input Number	Conduit Name	Upstream Node	Downstream Node	Upstream Elevation	Downstream Elevation		
1	L210	N221	N222	105.8400	105.4400	No	Design
2	L211	N222	N223	104.4400	102.0600	No	Design
3	L212	N223	N224	100.8100	98.4700	No	Design
4	L213	N227	N224	98.3400	97.7200	No	Design
5	L214	N228	N224	97.5300	97.2200	No	Design
6	L217	N231	N230	99.8400	99.3300	No	Design
7	L220	N224	N230	96.9700	96.0800	No	Design
8	L221	N230	N233	95.8300	94.9200	No	Design
9	L222	N233	N234	94.4200	87.6000	No	Design
10	L223	N235	N236	119.6000	119.4100	No	Design
11	L224	N236	N237	118.6100	117.8600	No	Design
12	L225	N237	N238	117.2600	116.5100	No	Design
13	L226	N239	N240	117.6900	116.6200	No	Design
14	L227	N240	N238	116.6200	116.0100	No	Design
15	L228	N238	N241	115.1100	114.0600	No	Design
16	L229	N241	N242	111.3600	109.8800	No	Design
17	L230	N242	N243	108.6300	107.8600	No	Design
18	L231	N243	N244	105.8600	105.1000	No	Design

19	L232	N244	N245	103.8500	103.3800	No	Design
20	L233	N245	N246	101.9300	100.3100	No	Design
21	L234	N246	N247	99.5600	98.3700	No	Design
22	L235	N248	N241	111.4800	111.3600	No	Design
23	L236	N249	N244	104.6200	104.3500	No	Design
24	L237	N250	N246	101.1400	100.5600	No	Design
25	L238	N251	N252	115.3800	115.0600	No	Design
26	L239	N252	N253	113.0600	112.3300	No	Design
27	L240	N254	N253	112.8300	112.3300	No	Design
28	L241	N253	N255	108.0800	106.8000	No	Design
29	L242	N256	N255	107.4100	107.0500	No	Design
30	L243	N257	N255	107.6100	107.0500	No	Design
31	L246	N247	N259	97.8700	97.1600	No	Design
32	L247	N259	N260	97.1600	97.0000	No	Design
33	L248	N261	N259	98.9300	98.6600	No	Design
34	L249	N262	N263	104.8800	104.4600	No	Design
35	L250	N263	N264	104.4600	96.6400	No	Design
36	L251	N265	N263	104.8600	104.4600	No	Design
37	L254	W800	W801	102.5100	101.4500	No	Design
38	L255	W801	OUT802	101.4500	101.0000	No	Design
39	L258	N273	N272	97.6800	97.1000	No	Design
40	L259	N272	N274	96.3500	95.5800	No	Design
41	L260	N274	N275	95.5800	87.6000	No	Design
42	L261	N276	N277	94.2500	93.4400	No	Design
43	L262	N277	N278	93.4400	78.0000	No	Design
44	L263	N279	N277	94.1200	93.4400	No	Design
45	L272	N288	N289	77.0300	77.0000	No	Design
46	L273	N290	N288	78.1000	77.7800	No	Design
47	L274	N291	N292	91.9200	76.6000	No	Design
48	L275	N293	N294	118.9200	118.3000	No	Design
49	L277	N296	N294	118.9800	118.3000	No	Design
50	L281	N301	N302	122.9000	122.2800	No	Design
51	L282	N302	N303	122.2800	110.6000	No	Design
52	L283	N304	N302	122.9500	122.2800	No	Design
53	L287	N309	N310	113.1500	112.5100	No	Design
54	L289	N312	N310	113.2100	112.5100	No	Design
55	L308	YEL327	N331	96.0000	92.7000	No	Design
56	L317	W104	W800	105.3900	102.5100	No	Design
57	L319	N342	N343	100.2200	100.0000	No	Design
58	L320	N344	N342	101.1100	100.7200	No	Design
59	L334	N356	N357	125.3200	122.9800	No	Design
60	L335	N357	N358	122.9800	120.8200	No	Design
61	L336	N358	N359	120.8200	120.0900	No	Design
62	L337	N359	N360	120.0900	112.8000	No	Design
63	L338	N361	N362	126.2400	126.1300	No	Design
64	L339	N362	N363	126.1300	125.7800	No	Design
65	L340	N363	N364	125.2800	125.0100	No	Design
66	L341	N364	N365	125.0100	117.4000	No	Design
67	L342	N366	N363	127.8700	127.5300	No	Design
68	L343	N367	N363	128.3300	127.7800	No	Design
69	L344	N368	N369	124.2600	124.1700	No	Design
70	L346	N371	N370	122.2600	122.2000	No	Design
71	L347	N370	N372	121.7000	121.3400	No	Design
72	L348	N372	N373	121.3400	120.9700	No	Design
73	L349	N373	N374	120.9700	120.6000	No	Design
74	L350	N374	N375	120.6000	120.4800	No	Design
75	L351	N376	N377	122.9000	122.8200	No	Design
76	L352	N377	N375	122.8200	122.4800	No	Design
77	L354	N378	N379	119.2700	118.4000	No	Design
78	L361	N383	N381	125.5300	125.2600	No	Design
79	L362	N384	N381	125.6400	125.2600	No	Design
80	L363	N381	N382	124.7600	123.3600	No	Design
81	L364	N386	N382	124.1400	123.8600	No	Design
82	L365	N387	N382	124.2300	123.8600	No	Design
83	L366	N382	N388	122.8600	121.9500	No	Design
84	L367	N388	N389	121.9500	121.1100	No	Design
85	L368	N390	N389	122.8300	122.1100	No	Design
86	L369	N391	N389	122.6900	122.1100	No	Design
87	L370	N389	N392	120.1100	119.8300	No	Design

88	L373	N392	N394	119.8300	118.4000	No	Design
89	L374	N395	N396	118.6100	118.1800	No	Design
90	L375	N396	N397	117.6800	117.3100	No	Design
91	L376	N398	N397	116.3100	116.0600	No	Design
92	L386	N399	N403	114.6100	114.3000	No	Design
93	L387	N403	N404	114.3000	113.9800	No	Design
94	L388	N405	N404	116.6300	115.6000	No	Design
95	L389	N404	N406	113.4800	113.1700	No	Design
96	L390	N407	N406	117.0000	116.6000	No	Design
97	L391	N406	N408	113.1700	112.7800	No	Design
98	L392	N408	N409	112.7800	112.4800	No	Design
99	L393	N409	N410	112.4800	112.1200	No	Design
100	L395	N412	N413	116.3000	115.3300	No	Design
101	L396	N414	N413	116.3700	115.8300	No	Design
102	L397	N415	N413	116.3300	115.3300	No	Design
103	L398	N416	N414	116.8300	113.6200	No	Design
104	L399	N417	N414	117.5700	116.8700	No	Design
105	L402	N420	N421	112.2400	112.0000	No	Design
106	L403	N421	N419	112.0000	110.9100	No	Design
107	L404	N419	N422	110.9100	109.8800	No	Design
108	L405	N423	N422	110.3700	110.1300	No	Design
109	L406	N422	N424	109.1300	108.5100	No	Design
110	L407	N425	N424	110.0600	109.7600	No	Design
111	L408	N424	N426	108.2600	107.7000	No	Design
112	L410	N426	N428	107.4500	106.9200	No	Design
113	L411	N428	N429	106.9200	106.5200	No	Design
114	L413	N432	N431	118.0700	116.6700	No	Design
115	L415	N434	N432	118.8000	118.4800	No	Design
116	L417	N436	N435	111.5700	111.1800	No	Design
117	L418	N437	N435	110.9200	110.6800	No	Design
118	L419	N435	N438	110.1800	109.5800	No	Design
119	L420	N438	N439	109.5800	108.6500	No	Design
120	L421	N440	N439	110.0500	109.6500	No	Design
121	L422	N441	N439	109.7300	109.4000	No	Design
122	L423	N439	N442	108.1500	107.4700	No	Design
123	L424	N442	N429	107.2200	106.7700	No	Design
124	L425	N443	N442	109.3800	108.9700	No	Design
125	L426	N444	N442	109.0300	108.7200	No	Design
126	L427	N429	N445	106.0200	105.4800	No	Design
127	L428	N446	N445	108.4900	107.9800	No	Design
128	L429	N445	N447	105.4800	105.0500	No	Design
129	L430	N448	N449	118.7700	117.9900	No	Design
130	L431	N450	N449	120.7400	118.2400	No	Design
131	L432	N451	N450	121.2700	120.7400	No	Design
132	L435	N454	N453	114.2900	113.7600	No	Design
133	L436	N453	N455	113.7600	111.9300	No	Design
134	L437	N455	N456	111.6800	110.2600	No	Design
135	L438	N457	N456	111.0200	110.5100	No	Design
136	L439	N456	N458	110.2600	108.6400	No	Design
137	L440	N458	N447	108.3900	107.0500	No	Design
138	L441	N447	N459	105.0500	104.6100	No	Design
139	L442	N459	N460	104.6100	104.1100	No	Design
140	L443	N460	N461	104.1100	94.1000	No	Design
141	L446	N465	N466	126.6500	126.4400	No	Design
142	L448	N467	N464	126.3000	125.8400	No	Design
143	L449	N464	N468	125.0900	123.8400	No	Design
144	L450	N468	N469	123.5900	122.6600	No	Design
145	L451	N469	N470	118.6600	118.4600	No	Design
146	L452	N471	N468	124.8800	124.5900	No	Design
147	L453	N472	N468	124.9400	124.5900	No	Design
148	L454	N473	N469	120.0700	119.6600	No	Design
149	L466	N418	N487	119.9000	119.3200	No	Design
150	L468	N487	N417	118.5700	117.5700	No	Design
151	L470	N490	N494	121.9000	121.4100	No	Design
152	L471	N491	N490	124.7700	121.9000	No	Design
153	L472	N492	N493	126.3400	126.0400	No	Design
154	L490	N513	N514	110.0100	109.8600	No	Design
155	L496	N524	N525	133.4500	131.1700	No	Design
156	L497	N526	N525	133.4600	131.1700	No	Design

157	L498	N525	N527	131.1700	130.6000	No	Design
158	L501	N369	N528	123.6700	123.1600	No	Design
159	L502	N528	N370	122.6600	122.2000	No	Design
160	L503	N375	N529	119.9800	119.6400	No	Design
161	L504	N529	N378	119.6400	119.2700	No	Design
162	L505	N255	N530	102.8000	101.7100	No	Design
163	L506	N530	N247	99.7100	98.6200	No	Design
164	L509	N497	N499	107.8500	91.2000	No	Design
165	L511	N509	N514	108.8800	108.6100	No	Design
166	L512	N514	N516	108.1100	90.0000	No	Design
167	L514	N466	N464	126.1900	125.0900	No	Design
168	L515	N397	N399	115.8100	115.6100	No	Design
169	CH21	N470	N398	117.7100	116.3100	No	Design
170	L474	N489	N689	118.4300	118.0000	No	Design
171	L523	N494	N489	121.4100	120.8300	No	Design
172	L525	N413	N399	115.8300	115.1100	No	Design
173	L527	N431	N404	116.6700	115.2500	No	Design
174	L528	N449	N408	117.9900	116.0300	No	Design
175	L529	EL329	N541	112.5200	112.0900	No	Design
176	L533	N541	N427	112.0900	109.6400	No	Design
177	L537	N427	N426	109.6400	108.9500	No	Design
178	L394	N410	N411	112.1200	112.0000	No	Design
179	L276	N294	N295	118.3000	106.9300	No	Design
180	L288	N310	N311	112.2600	104.1000	No	Design
181	L412	N430	N431	119.0000	118.4000	No	Design
182	L447	N462	N466	127.7800	126.4400	No	Design
183	L321	N345	N239	118.8300	117.6900	No	Design

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*=====
|           FREE OUTFALL DATA (DATA GROUP I1)           |
| BOUNDARY CONDITION ON DATA GROUP J1                   |
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Outfall at Junction....N234	has boundary condition number...	1
Outfall at Junction....N260	has boundary condition number...	2
Outfall at Junction....N264	has boundary condition number...	3
Outfall at Junction....OUT802	has boundary condition number...	4
Outfall at Junction....N275	has boundary condition number...	5
Outfall at Junction....N278	has boundary condition number...	6
Outfall at Junction....N289	has boundary condition number...	7
Outfall at Junction....N292	has boundary condition number...	8
Outfall at Junction....N303	has boundary condition number...	9
Outfall at Junction....N331	has boundary condition number...	10
Outfall at Junction....N343	has boundary condition number...	11
Outfall at Junction....N360	has boundary condition number...	12
Outfall at Junction....N365	has boundary condition number...	13
Outfall at Junction....N379	has boundary condition number...	14
Outfall at Junction....N394	has boundary condition number...	15
Outfall at Junction....N461	has boundary condition number...	16
Outfall at Junction....N493	has boundary condition number...	17
Outfall at Junction....N499	has boundary condition number...	18
Outfall at Junction....N516	has boundary condition number...	19
Outfall at Junction....N527	has boundary condition number...	20
Outfall at Junction....N689	has boundary condition number...	21
Outfall at Junction....N411	has boundary condition number...	22
Outfall at Junction....N295	has boundary condition number...	23
Outfall at Junction....N311	has boundary condition number...	24

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*=====
|           INTERNAL CONNECTIVITY INFORMATION           |
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CONDUIT	JUNCTION	JUNCTION
FREE # 1	N234	BOUNDARY
FREE # 2	N260	BOUNDARY
FREE # 3	N264	BOUNDARY

FREE # 4	OUT802	BOUNDARY
FREE # 5	N275	BOUNDARY
FREE # 6	N278	BOUNDARY
FREE # 7	N289	BOUNDARY
FREE # 8	N292	BOUNDARY
FREE # 9	N303	BOUNDARY
FREE #10	N331	BOUNDARY
FREE #11	N343	BOUNDARY
FREE #12	N360	BOUNDARY
FREE #13	N365	BOUNDARY
FREE #14	N379	BOUNDARY
FREE #15	N394	BOUNDARY
FREE #16	N461	BOUNDARY
FREE #17	N493	BOUNDARY
FREE #18	N499	BOUNDARY
FREE #19	N516	BOUNDARY
FREE #20	N527	BOUNDARY
FREE #21	N689	BOUNDARY
FREE #22	N411	BOUNDARY
FREE #23	N295	BOUNDARY
FREE #24	N311	BOUNDARY

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

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BC NUMBER..      4 has no control water surface.
BC NUMBER..     17 has no control water surface.
BC NUMBER..     20 has no control water surface.
BC NUMBER..     21 has no control water surface.

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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
L210	2.3341	0.0057
L211	2.3583	0.0058
L212	3.6820	0.0043
L213	2.3504	0.0058
L214	5.2561	0.0033
L217	2.3778	0.0059
L220	7.2421	0.0028
L221	9.4105	0.0023
L222	37.9531	0.0375
L223	1.5862	0.0026
L224	1.5676	0.0026
L225	1.5703	0.0026
L226	1.5717	0.0026
L227	1.5698	0.0026
L228	1.5683	0.0026
L229	2.8478	0.0026
L230	2.4656	0.0019
L231	2.4434	0.0019
L232	3.5621	0.0015
L233	5.2943	0.0034
L234	10.3141	0.0028
L235	1.5127	0.0024

L236	1.5658	0.0026
L237	2.3516	0.0058
L238	2.3553	0.0058
L239	2.3692	0.0059
L240	2.3544	0.0058
L241	3.6815	0.0043
L242	2.3529	0.0058
L243	2.3707	0.0059
L246	14.7213	0.0017
L247	14.8246	0.0017
L248	2.3403	0.0057
L249	2.3421	0.0058
L250	9.7769	0.1003
L251	2.3510	0.0058
L254	3.5193	0.0015
L255	6.1931	0.0010
L258	2.3516	0.0058
L259	7.1885	0.0027
L260	48.4905	0.1247
L261	2.3656	0.0059
L262	13.9175	0.2032
L263	2.3540	0.0058
L272	50.6250	0.0009
L273	7.1817	0.0027
L274	32.1290	0.1246
L275	2.3504	0.0058
L277	2.3540	0.0058
L281	2.3504	0.0058
L282	15.2316	0.2433
L283	2.3672	0.0059
L287	2.3660	0.0059
L289	2.3583	0.0058
L308	157.6117	0.0327
L317	2.8556	0.0026
L319	5.2963	0.0034
L320	2.3558	0.0058
L334	2.3558	0.0058
L335	2.3560	0.0058
L336	2.3597	0.0058
L337	7.6425	0.0613
L338	20.9182	0.0013
L339	21.2087	0.0013
L340	29.0054	0.0011
L341	237.0096	0.0739
L342	3.6963	0.0044
L343	2.3619	0.0059
L344	14.9332	0.0018
L346	30.2053	0.0012
L347	37.5829	0.0009
L348	37.6745	0.0009
L349	37.8624	0.0009
L350	37.5354	0.0009
L351	9.3735	0.0023
L352	9.4291	0.0023
L354	163.9607	0.0093
L361	2.3403	0.0057
L362	2.3430	0.0058
L363	5.3133	0.0034
L364	2.3583	0.0058
L365	2.3663	0.0059
L366	9.4224	0.0023
L367	9.4185	0.0023
L368	2.3529	0.0058
L369	2.3634	0.0059
L370	21.3114	0.0014
L373	69.8268	0.0146
L374	1.6007	0.0027
L375	2.7585	0.0009
L376	17.8956	0.0015

L386	37.5354	0.0009
L387	37.3765	0.0009
L388	2.9480	0.0091
L389	48.3609	0.0008
L390	1.8968	0.0038
L391	47.6460	0.0008
L392	47.8865	0.0008
L393	47.6261	0.0008
L395	7.7978	0.0194
L396	21.1861	0.0013
L397	7.4154	0.0175
L398	14.4778	0.0669
L399	9.4392	0.0023
L402	7.2544	0.0028
L403	7.1865	0.0027
L404	7.2356	0.0028
L405	5.2929	0.0034
L406	14.6711	0.0017
L407	3.6392	0.0042
L408	17.9044	0.0015
L410	21.1742	0.0013
L411	21.0724	0.0013
L413	5.3791	0.0035
L415	2.4953	0.0065
L417	2.3384	0.0057
L418	5.2561	0.0033
L419	9.4366	0.0023
L420	9.4302	0.0023
L421	2.3682	0.0059
L422	3.6891	0.0043
L423	14.7122	0.0017
L424	17.7815	0.0015
L425	2.3631	0.0059
L426	3.6483	0.0042
L427	29.0650	0.0011
L428	2.3506	0.0058
L429	28.8057	0.0011
L430	2.8587	0.0086
L431	2.3544	0.0058
L432	2.3565	0.0058
L435	2.3695	0.0059
L436	2.3535	0.0058
L437	3.6836	0.0043
L438	2.3506	0.0058
L439	3.6846	0.0043
L440	5.2957	0.0034
L441	28.7403	0.0011
L442	28.7787	0.0011
L443	281.5617	0.1043
L446	5.3415	0.0034
L448	2.3562	0.0058
L449	7.2216	0.0028
L450	9.4537	0.0023
L451	9.2424	0.0022
L452	2.3516	0.0058
L453	2.3389	0.0057
L454	2.3631	0.0059
L466	4.4943	0.0064
L468	8.8034	0.0020
L470	7.2253	0.0028
L471	2.6488	0.0074
L472	2.3453	0.0058
L490	4.8350	0.0012
L496	2.3549	0.0058
L497	2.3540	0.0058
L498	2.3549	0.0058
L501	21.3175	0.0014
L502	28.7542	0.0011
L503	47.5382	0.0008

L504	48.0749	0.0008
L505	7.2137	0.0028
L506	7.1955	0.0027
L509	10.8843	0.1243
L511	3.5456	0.0015
L512	79.1933	0.1632
L514	7.2103	0.0028
L515	21.4683	0.0014
CH21	321.7664	0.0015
L474	5.2973	0.0034
L523	22.9743	0.0034
L525	21.2457	0.0014
L527	5.2074	0.0033
L528	3.6866	0.0043
L529	3.5424	0.0015
L533	5.2922	0.0034
L537	3.5530	0.0015
L394	47.1178	0.0008
L276	14.5794	0.2229
L288	20.4763	0.1338
L412	3.2854	0.0113
L447	5.3092	0.0034
L321	1.5717	0.0026

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*=====
| Initial Model Condition |
| Initial Time = 0.02 hours |
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Junction / Depth / Elevation    ==>  "*" Junction is Surcharged.
N221/ 0.00 / 105.84             N222/ 0.00 / 104.44             N223/ 0.00 / 100.81
N224/ 0.00 / 96.97              N227/ 0.00 / 98.34             N228/ 0.00 / 97.53
N230/ 0.00 / 95.83              N231/ 0.00 / 99.84             N233/ 0.00 / 94.42
N234/ 1.81 / 89.41              N235/ 0.00 / 119.60           N236/ 0.00 / 118.61
N237/ 0.00 / 117.26            N238/ 0.00 / 115.11           N239/ 0.00 / 117.69
N240/ 0.00 / 116.62            N241/ 0.00 / 111.36           N242/ 0.00 / 108.63
N243/ 0.00 / 105.86            N244/ 0.00 / 103.85           N245/ 0.00 / 101.68
N246/ 0.00 / 99.56             N247/ 0.00 / 97.87            N248/ 0.00 / 111.48
N249/ 0.00 / 104.62            N250/ 0.00 / 101.14           N251/ 0.00 / 115.38
N252/ 0.00 / 113.06            N253/ 0.00 / 108.08           N254/ 0.00 / 112.83
N255/ 0.00 / 102.80            N256/ 0.00 / 107.41           N257/ 0.00 / 107.61
N259/ 0.00 / 97.16            N260/ 2.10 / 99.10            N261/ 0.00 / 98.93
N262/ 0.00 / 104.88            N263/ 0.00 / 104.46           N264/ 2.45 / 99.09
N265/ 0.00 / 104.86            W800/ 0.00 / 102.51           W801/ 0.00 / 101.45
OUT802/ 0.00 / 101.00          N272/ 0.00 / 96.35            N273/ 0.00 / 97.68
N274/ 0.00 / 95.58            N275/ 1.82 / 89.42            N276/ 0.00 / 94.25
N277/ 0.00 / 93.44            N278/ 3.48 / 81.48            N279/ 0.00 / 94.12
N288/ 0.00 / 77.03            N289/ 4.47 / 81.47            N290/ 0.00 / 78.10
N291/ 0.00 / 91.92            N292/ 4.87 / 81.47            N293/ 0.00 / 118.92
N294/ 0.00 / 118.30            N296/ 0.00 / 118.98           N301/ 0.00 / 122.90
N302/ 0.00 / 122.28            N303/ 2.67 / 113.27           N304/ 0.00 / 122.95
N309/ 0.00 / 113.15            N310/ 0.00 / 112.26           N312/ 0.00 / 113.21
YEL327/ 0.00 / 96.00           N331/ 5.71 / 98.41            W104/ 0.00 / 105.39
N342/ 0.00 / 100.22            N343/ 0.00 / 100.00           N344/ 0.00 / 101.11
N345/ 0.00 / 118.83            N356/ 0.00 / 125.32           N357/ 0.00 / 122.98
N358/ 0.00 / 120.82            N359/ 0.00 / 120.09           N360/ 2.52 / 115.32
N361/ 0.00 / 126.24            N362/ 0.00 / 126.13           N363/ 0.00 / 125.28
N364/ 0.00 / 125.01            N365/ 5.12 / 122.52           N366/ 0.00 / 127.87
N367/ 0.00 / 128.33            N368/ 0.00 / 124.26           N369/ 0.00 / 123.67
N370/ 0.00 / 121.70            N371/ 0.00 / 122.26           N372/ 0.00 / 121.34
N373/ 0.00 / 120.97            N374/ 0.00 / 120.60           N375/ 0.00 / 119.98
N376/ 0.00 / 122.90            N377/ 0.00 / 122.82           N378/ 0.00 / 119.27
N379/ 4.13 / 122.53            N381/ 0.00 / 124.76           N382/ 0.00 / 122.86
N383/ 0.00 / 125.53            N384/ 0.00 / 125.64           N386/ 0.00 / 124.14
N387/ 0.00 / 124.23            N388/ 0.00 / 121.95           N389/ 0.00 / 120.11
N390/ 0.00 / 122.83            N391/ 0.00 / 122.69           N392/ 0.00 / 119.83
N394/ 4.13 / 122.53            N395/ 0.00 / 118.11           N396/ 0.00 / 117.68
N397/ 0.00 / 115.81            N398/ 0.00 / 116.31           N399/ 0.00 / 114.60
N403/ 0.00 / 114.30            N404/ 0.00 / 113.48           N405/ 0.00 / 116.63

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N406/	0.00 /	113.17	N407/	0.00 /	117.00	N408/	0.00 /	112.78
N409/	0.00 /	112.48	N410/	0.00 /	112.12	N412/	0.00 /	116.30
N413/	0.00 /	115.33	N414/	0.00 /	113.62	N415/	0.00 /	116.33
N416/	0.00 /	116.83	N417/	0.00 /	117.57	N418/	0.00 /	119.90
N419/	0.00 /	110.91	N420/	0.00 /	112.24	N421/	0.00 /	112.00
N422/	0.00 /	109.13	N423/	0.00 /	110.37	N424/	0.00 /	108.26
N425/	0.00 /	110.06	N426/	0.00 /	107.45	N428/	0.00 /	106.92
N429/	0.00 /	106.02	N430/	0.00 /	119.00	N431/	0.00 /	116.67
N432/	0.00 /	118.07	N434/	0.00 /	118.80	N435/	0.00 /	110.18
N436/	0.00 /	111.57	N437/	0.00 /	110.92	N438/	0.00 /	109.58
N439/	0.00 /	108.15	N440/	0.00 /	110.05	N441/	0.00 /	109.73
N442/	0.00 /	107.22	N443/	0.00 /	109.38	N444/	0.00 /	109.03
N445/	0.00 /	105.48	N446/	0.00 /	108.49	N447/	0.00 /	105.05
N448/	0.00 /	118.77	N449/	0.00 /	117.99	N450/	0.00 /	120.74
N451/	0.00 /	121.27	N453/	0.00 /	113.76	N454/	0.00 /	114.29
N455/	0.00 /	111.68	N456/	0.00 /	110.26	N457/	0.00 /	111.02
N458/	0.00 /	108.39	N459/	0.00 /	104.61	N460/	0.00 /	104.11
N461/	4.31 /	98.41	N464/	0.00 /	125.09	N465/	0.00 /	126.65
N466/	0.00 /	126.19	N467/	0.00 /	126.30	N468/	0.00 /	123.59
N469/	0.00 /	118.66	N470/	0.00 /	117.71	N471/	0.00 /	124.88
N472/	0.00 /	124.94	N473/	0.00 /	120.07	N487/	0.00 /	118.57
N489/	0.00 /	118.43	N490/	0.00 /	121.90	N491/	0.00 /	124.17
N492/	0.00 /	126.34	N493/	0.00 /	126.04	N497/	0.00 /	107.85
N499/	7.21 /	98.41	N509/	0.00 /	108.88	N513/	0.00 /	110.01
N514/	0.00 /	108.11	N516/	4.53 /	94.53	N524/	0.00 /	133.45
N525/	0.00 /	131.17	N526/	0.00 /	133.46	N527/	0.00 /	130.60
N528/	0.00 /	122.66	N529/	0.00 /	119.64	N530/	0.00 /	99.71
N689/	0.00 /	118.00	N494/	0.00 /	121.41	N541/	0.00 /	112.09
EL329/	0.00 /	112.52	N427/	0.00 /	109.64	N411/	3.62 /	115.62
N295/	3.62 /	110.55	N311/	4.42 /	108.52	N462/	0.00 /	127.78

Conduit/	FLOW	====>	"*"	Conduit	uses	the normal	flow option.
L210/	0.00			L211/	0.00		L212/ 0.00
L213/	0.00			L214/	0.00		L217/ 0.00
L220/	0.00			L221/	0.00		L222/ 0.00
L223/	0.00			L224/	0.00		L225/ 0.00
L226/	0.00			L227/	0.00		L228/ 0.00
L229/	0.00			L230/	0.00		L231/ 0.00
L232/	0.00			L233/	0.00		L234/ 0.00
L235/	0.00			L236/	0.00		L237/ 0.00
L238/	0.00			L239/	0.00		L240/ 0.00
L241/	0.00			L242/	0.00		L243/ 0.00
L246/	0.00			L247/	0.00		L248/ 0.00
L249/	0.00			L250/	0.00		L251/ 0.00
L254/	0.00			L255/	0.00		L258/ 0.00
L259/	0.00			L260/	0.00		L261/ 0.00
L262/	0.00			L263/	0.00		L272/ 0.00
L273/	0.00			L274/	0.00		L275/ 0.00
L277/	0.00			L281/	0.00		L282/ 0.00
L283/	0.00			L287/	0.00		L289/ 0.00
L308/	0.00			L317/	0.00		L319/ 0.00
L320/	0.00			L334/	0.00		L335/ 0.00
L336/	0.00			L337/	0.00		L338/ 0.00
L339/	0.00			L340/	0.00		L341/ 0.00
L342/	0.00			L343/	0.00		L344/ 0.00
L346/	0.00			L347/	0.00		L348/ 0.00
L349/	0.00			L350/	0.00		L351/ 0.00
L352/	0.00			L354/	0.00		L361/ 0.00
L362/	0.00			L363/	0.00		L364/ 0.00
L365/	0.00			L366/	0.00		L367/ 0.00
L368/	0.00			L369/	0.00		L370/ 0.00
L373/	0.00			L374/	0.00		L375/ 0.00
L376/	0.00			L386/	0.00		L387/ 0.00
L388/	0.00			L389/	0.00		L390/ 0.00
L391/	0.00			L392/	0.00		L393/ 0.00
L395/	0.00			L396/	0.00		L397/ 0.00
L398/	0.00			L399/	0.00		L402/ 0.00
L403/	0.00			L404/	0.00		L405/ 0.00
L406/	0.00			L407/	0.00		L408/ 0.00

L410/	0.00	L411/	0.00	L413/	0.00
L415/	0.00	L417/	0.00	L418/	0.00
L419/	0.00	L420/	0.00	L421/	0.00
L422/	0.00	L423/	0.00	L424/	0.00
L425/	0.00	L426/	0.00	L427/	0.00
L428/	0.00	L429/	0.00	L430/	0.00
L431/	0.00	L432/	0.00	L435/	0.00
L436/	0.00	L437/	0.00	L438/	0.00
L439/	0.00	L440/	0.00	L441/	0.00
L442/	0.00	L443/	0.00	L446/	0.00
L448/	0.00	L449/	0.00	L450/	0.00
L451/	0.00	L452/	0.00	L453/	0.00
L454/	0.00	L466/	0.00	L468/	0.00
L470/	0.00	L471/	0.00	L472/	0.00
L490/	0.00	L496/	0.00	L497/	0.00
L498/	0.00	L501/	0.00	L502/	0.00
L503/	0.00	L504/	0.00	L505/	0.00
L506/	0.00	L509/	0.00	L511/	0.00
L512/	0.00	L514/	0.00	L515/	0.00
CH21/	0.00	L474/	0.00	L523/	0.00
L525/	0.00	L527/	0.00	L528/	0.00
L529/	0.00	L533/	0.00	L537/	0.00
L394/	0.00	L276/	0.00	L288/	0.00
L412/	0.00	L447/	0.00	L321/	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	FREE #11/	0.00	FREE #12/	0.00
FREE #13/	0.00	FREE #14/	0.00	FREE #15/	0.00
FREE #16/	0.00	FREE #17/	0.00	FREE #18/	0.00
FREE #19/	0.00	FREE #20/	0.00	FREE #21/	0.00
FREE #22/	0.00	FREE #23/	0.00	FREE #24/	0.00

Conduit/	Velocity				
L210/	0.00	L211/	0.00	L212/	0.00
L213/	0.00	L214/	0.00	L217/	0.00
L220/	0.00	L221/	0.00	L222/	0.00
L223/	0.00	L224/	0.00	L225/	0.00
L226/	0.00	L227/	0.00	L228/	0.00
L229/	0.00	L230/	0.00	L231/	0.00
L232/	0.00	L233/	0.00	L234/	0.00
L235/	0.00	L236/	0.00	L237/	0.00
L238/	0.00	L239/	0.00	L240/	0.00
L241/	0.00	L242/	0.00	L243/	0.00
L246/	0.00	L247/	0.00	L248/	0.00
L249/	0.00	L250/	0.00	L251/	0.00
L254/	0.00	L255/	0.00	L258/	0.00
L259/	0.00	L260/	0.00	L261/	0.00
L262/	0.00	L263/	0.00	L272/	0.00
L273/	0.00	L274/	0.00	L275/	0.00
L277/	0.00	L281/	0.00	L282/	0.00
L283/	0.00	L287/	0.00	L289/	0.00
L308/	0.00	L317/	0.00	L319/	0.00
L320/	0.00	L334/	0.00	L335/	0.00
L336/	0.00	L337/	0.00	L338/	0.00
L339/	0.00	L340/	0.00	L341/	0.00
L342/	0.00	L343/	0.00	L344/	0.00
L346/	0.00	L347/	0.00	L348/	0.00
L349/	0.00	L350/	0.00	L351/	0.00
L352/	0.00	L354/	0.00	L361/	0.00
L362/	0.00	L363/	0.00	L364/	0.00
L365/	0.00	L366/	0.00	L367/	0.00
L368/	0.00	L369/	0.00	L370/	0.00
L373/	0.00	L374/	0.00	L375/	0.00
L376/	0.00	L386/	0.00	L387/	0.00
L388/	0.00	L389/	0.00	L390/	0.00
L391/	0.00	L392/	0.00	L393/	0.00
L395/	0.00	L396/	0.00	L397/	0.00
L398/	0.00	L399/	0.00	L402/	0.00

L403/	0.00	L404/	0.00	L405/	0.00
L406/	0.00	L407/	0.00	L408/	0.00
L410/	0.00	L411/	0.00	L413/	0.00
L415/	0.00	L417/	0.00	L418/	0.00
L419/	0.00	L420/	0.00	L421/	0.00
L422/	0.00	L423/	0.00	L424/	0.00
L425/	0.00	L426/	0.00	L427/	0.00
L428/	0.00	L429/	0.00	L430/	0.00
L431/	0.00	L432/	0.00	L435/	0.00
L436/	0.00	L437/	0.00	L438/	0.00
L439/	0.00	L440/	0.00	L441/	0.00
L442/	0.00	L443/	0.00	L446/	0.00
L448/	0.00	L449/	0.00	L450/	0.00
L451/	0.00	L452/	0.00	L453/	0.00
L454/	0.00	L466/	0.00	L468/	0.00
L470/	0.00	L471/	0.00	L472/	0.00
L490/	0.00	L496/	0.00	L497/	0.00
L498/	0.00	L501/	0.00	L502/	0.00
L503/	0.00	L504/	0.00	L505/	0.00
L506/	0.00	L509/	0.00	L511/	0.00
L512/	0.00	L514/	0.00	L515/	0.00
CH21/	0.00	L474/	0.00	L523/	0.00
L525/	0.00	L527/	0.00	L528/	0.00
L529/	0.00	L533/	0.00	L537/	0.00
L394/	0.00	L276/	0.00	L288/	0.00
L412/	0.00	L447/	0.00	L321/	0.00

Conduit/ Cross Sectional Area

L210/	0.00	L211/	0.00	L212/	0.00
L213/	0.00	L214/	0.00	L217/	0.00
L220/	0.00	L221/	0.00	L222/	0.30
L223/	0.00	L224/	0.00	L225/	0.00
L226/	0.00	L227/	0.00	L228/	0.00
L229/	0.00	L230/	0.00	L231/	0.00
L232/	0.00	L233/	0.00	L234/	0.00
L235/	0.00	L236/	0.00	L237/	0.00
L238/	0.00	L239/	0.00	L240/	0.00
L241/	0.00	L242/	0.00	L243/	0.00
L246/	0.00	L247/	0.44	L248/	0.00
L249/	0.00	L250/	0.08	L251/	0.00
L254/	0.00	L255/	0.00	L258/	0.00
L259/	0.00	L260/	0.25	L261/	0.00
L262/	0.08	L263/	0.00	L272/	1.59
L273/	0.00	L274/	0.18	L275/	0.00
L277/	0.00	L281/	0.00	L282/	0.08
L283/	0.00	L287/	0.00	L289/	0.00
L308/	0.97	L317/	0.00	L319/	0.00
L320/	0.00	L334/	0.00	L335/	0.00
L336/	0.00	L337/	0.08	L338/	0.00
L339/	0.00	L340/	0.00	L341/	0.96
L342/	0.00	L343/	0.00	L344/	0.00
L346/	0.00	L347/	0.00	L348/	0.00
L349/	0.00	L350/	0.00	L351/	0.00
L352/	0.00	L354/	1.53	L361/	0.00
L362/	0.00	L363/	0.00	L364/	0.00
L365/	0.00	L366/	0.00	L367/	0.00
L368/	0.00	L369/	0.00	L370/	0.00
L373/	0.71	L374/	0.00	L375/	0.00
L376/	0.00	L386/	0.00	L387/	0.00
L388/	0.00	L389/	0.00	L390/	0.00
L391/	0.00	L392/	0.00	L393/	0.00
L395/	0.00	L396/	0.00	L397/	0.00
L398/	0.00	L399/	0.00	L402/	0.00
L403/	0.00	L404/	0.00	L405/	0.00
L406/	0.00	L407/	0.00	L408/	0.00
L410/	0.00	L411/	0.00	L413/	0.00
L415/	0.00	L417/	0.00	L418/	0.00
L419/	0.00	L420/	0.00	L421/	0.00
L422/	0.00	L423/	0.00	L424/	0.00

L425/	0.00	L426/	0.00	L427/	0.00
L428/	0.00	L429/	0.00	L430/	0.00
L431/	0.00	L432/	0.00	L435/	0.00
L436/	0.00	L437/	0.00	L438/	0.00
L439/	0.00	L440/	0.00	L441/	0.00
L442/	0.00	L443/	0.98	L446/	0.00
L448/	0.00	L449/	0.00	L450/	0.00
L451/	0.00	L452/	0.00	L453/	0.00
L454/	0.00	L466/	0.00	L468/	0.00
L470/	0.00	L471/	0.00	L472/	0.00
L490/	0.00	L496/	0.00	L497/	0.00
L498/	0.00	L501/	0.00	L502/	0.00
L503/	0.00	L504/	0.00	L505/	0.00
L506/	0.00	L509/	0.08	L511/	0.00
L512/	0.32	L514/	0.00	L515/	0.00
CH21/	0.00	L474/	0.00	L523/	0.00
L525/	0.00	L527/	0.00	L528/	0.00
L529/	0.00	L533/	0.00	L537/	0.00
L394/	1.37	L276/	0.08	L288/	0.12
L412/	0.00	L447/	0.00	L321/	0.00

Conduit/ Hydraulic Radius

L210/	0.00	L211/	0.00	L212/	0.00
L213/	0.00	L214/	0.00	L217/	0.00
L220/	0.00	L221/	0.00	L222/	0.06
L223/	0.00	L224/	0.00	L225/	0.00
L226/	0.00	L227/	0.00	L228/	0.00
L229/	0.00	L230/	0.00	L231/	0.00
L232/	0.00	L233/	0.00	L234/	0.00
L235/	0.00	L236/	0.00	L237/	0.00
L238/	0.00	L239/	0.00	L240/	0.00
L241/	0.00	L242/	0.00	L243/	0.00
L246/	0.00	L247/	0.08	L248/	0.00
L249/	0.00	L250/	0.03	L251/	0.00
L254/	0.00	L255/	0.00	L258/	0.00
L259/	0.00	L260/	0.05	L261/	0.00
L262/	0.03	L263/	0.00	L272/	0.13
L273/	0.00	L274/	0.04	L275/	0.00
L277/	0.00	L281/	0.00	L282/	0.03
L283/	0.00	L287/	0.00	L289/	0.00
L308/	0.10	L317/	0.00	L319/	0.00
L320/	0.00	L334/	0.00	L335/	0.00
L336/	0.00	L337/	0.03	L338/	0.00
L339/	0.00	L340/	0.00	L341/	0.10
L342/	0.00	L343/	0.00	L344/	0.00
L346/	0.00	L347/	0.00	L348/	0.00
L349/	0.00	L350/	0.00	L351/	0.00
L352/	0.00	L354/	0.14	L361/	0.00
L362/	0.00	L363/	0.00	L364/	0.00
L365/	0.00	L366/	0.00	L367/	0.00
L368/	0.00	L369/	0.00	L370/	0.00
L373/	0.08	L374/	0.00	L375/	0.00
L376/	0.00	L386/	0.00	L387/	0.00
L388/	0.00	L389/	0.00	L390/	0.00
L391/	0.00	L392/	0.00	L393/	0.00
L395/	0.00	L396/	0.00	L397/	0.00
L398/	0.00	L399/	0.00	L402/	0.00
L403/	0.00	L404/	0.00	L405/	0.00
L406/	0.00	L407/	0.00	L408/	0.00
L410/	0.00	L411/	0.00	L413/	0.00
L415/	0.00	L417/	0.00	L418/	0.00
L419/	0.00	L420/	0.00	L421/	0.00
L422/	0.00	L423/	0.00	L424/	0.00
L425/	0.00	L426/	0.00	L427/	0.00
L428/	0.00	L429/	0.00	L430/	0.00
L431/	0.00	L432/	0.00	L435/	0.00
L436/	0.00	L437/	0.00	L438/	0.00
L439/	0.00	L440/	0.00	L441/	0.00
L442/	0.00	L443/	0.10	L446/	0.00

L448/	0.00	L449/	0.00	L450/	0.00
L451/	0.00	L452/	0.00	L453/	0.00
L454/	0.00	L466/	0.00	L468/	0.00
L470/	0.00	L471/	0.00	L472/	0.00
L490/	0.00	L496/	0.00	L497/	0.00
L498/	0.00	L501/	0.00	L502/	0.00
L503/	0.00	L504/	0.00	L505/	0.00
L506/	0.00	L509/	0.03	L511/	0.00
L512/	0.05	L514/	0.00	L515/	0.00
CH21/	0.00	L474/	0.00	L523/	0.00
L525/	0.00	L527/	0.00	L528/	0.00
L529/	0.00	L533/	0.00	L537/	0.00
L394/	0.15	L276/	0.03	L288/	0.03
L412/	0.00	L447/	0.00	L321/	0.00

Conduit/ Upstream/ Downstream Elevation

L210/	104.44/	104.44	L211/	100.81/	100.81	L212/	96.97/	96.97
L213/	96.97/	96.97	L214/	96.97/	96.97	L217/	95.83/	95.83
L220/	95.83/	95.83	L221/	94.42/	94.42	L222/	94.42/	89.41
L223/	118.61/	118.61	L224/	117.26/	117.26	L225/	115.11/	115.11
L226/	116.62/	116.62	L227/	115.11/	115.11	L228/	111.36/	111.36
L229/	108.63/	108.63	L230/	105.86/	105.86	L231/	103.85/	103.85
L232/	101.68/	101.68	L233/	99.56/	99.56	L234/	97.87/	97.87
L235/	111.36/	111.36	L236/	103.85/	103.85	L237/	99.56/	99.56
L238/	113.06/	113.06	L239/	108.08/	108.08	L240/	108.08/	108.08
L241/	102.80/	102.80	L242/	102.80/	102.80	L243/	102.80/	102.80
L246/	97.16/	97.16	L247/	97.16/	99.10	L248/	97.16/	97.16
L249/	104.46/	104.46	L250/	104.46/	99.09	L251/	104.46/	104.46
L254/	101.45/	101.45	L255/	101.00/	101.00	L258/	96.35/	96.35
L259/	95.58/	95.58	L260/	95.58/	89.42	L261/	93.44/	93.44
L262/	93.44/	81.48	L263/	93.44/	93.44	L272/	77.03/	81.47
L273/	77.03/	77.03	L274/	91.92/	81.47	L275/	118.30/	118.30
L277/	118.30/	118.30	L281/	122.28/	122.28	L282/	122.28/	113.27
L283/	122.28/	122.28	L287/	112.26/	112.26	L289/	112.26/	112.26
L308/	96.00/	98.41	L317/	102.51/	102.51	L319/	100.00/	100.00
L320/	100.22/	100.22	L334/	122.98/	122.98	L335/	120.82/	120.82
L336/	120.09/	120.09	L337/	120.09/	115.32	L338/	126.13/	126.13
L339/	125.28/	125.28	L340/	125.01/	125.01	L341/	125.01/	122.52
L342/	125.28/	125.28	L343/	125.28/	125.28	L344/	123.67/	123.67
L346/	121.70/	121.70	L347/	121.34/	121.34	L348/	120.97/	120.97
L349/	120.60/	120.60	L350/	119.98/	119.98	L351/	122.82/	122.82
L352/	119.98/	119.98	L354/	119.27/	122.53	L361/	124.76/	124.76
L362/	124.76/	124.76	L363/	122.86/	122.86	L364/	122.86/	122.86
L365/	122.86/	122.86	L366/	121.95/	121.95	L367/	120.11/	120.11
L368/	120.11/	120.11	L369/	120.11/	120.11	L370/	119.83/	119.83
L373/	119.83/	122.53	L374/	117.68/	117.68	L375/	115.81/	115.81
L376/	115.81/	115.81	L386/	114.30/	114.30	L387/	113.48/	113.48
L388/	113.48/	113.48	L389/	113.17/	113.17	L390/	113.17/	113.17
L391/	112.78/	112.78	L392/	112.48/	112.48	L393/	112.12/	112.12
L395/	115.33/	115.33	L396/	115.33/	115.33	L397/	115.33/	115.33
L398/	113.62/	113.62	L399/	113.62/	113.62	L402/	112.00/	112.00
L403/	110.91/	110.91	L404/	109.13/	109.13	L405/	109.13/	109.13
L406/	108.26/	108.26	L407/	108.26/	108.26	L408/	107.45/	107.45
L410/	106.92/	106.92	L411/	106.02/	106.02	L413/	116.67/	116.67
L415/	118.07/	118.07	L417/	110.18/	110.18	L418/	110.18/	110.18
L419/	109.58/	109.58	L420/	108.15/	108.15	L421/	108.15/	108.15
L422/	108.15/	108.15	L423/	107.22/	107.22	L424/	106.02/	106.02
L425/	107.22/	107.22	L426/	107.22/	107.22	L427/	105.48/	105.48
L428/	105.48/	105.48	L429/	105.05/	105.05	L430/	117.99/	117.99
L431/	117.99/	117.99	L432/	120.74/	120.74	L435/	113.76/	113.76
L436/	111.68/	111.68	L437/	110.26/	110.26	L438/	110.26/	110.26
L439/	108.39/	108.39	L440/	105.05/	105.05	L441/	104.61/	104.61
L442/	104.11/	104.11	L443/	104.11/	98.41	L446/	126.19/	126.19
L448/	125.09/	125.09	L449/	123.59/	123.59	L450/	118.66/	118.66
L451/	117.71/	117.71	L452/	123.59/	123.59	L453/	123.59/	123.59
L454/	118.66/	118.66	L466/	118.57/	118.57	L468/	117.57/	117.57
L470/	121.41/	121.41	L471/	121.90/	121.90	L472/	126.04/	126.04
L490/	108.11/	108.11	L496/	131.17/	131.17	L497/	131.17/	131.17
L498/	130.60/	130.60	L501/	122.66/	122.66	L502/	121.70/	121.70


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N448 / 0.00E+00 N449 / 0.00E+00 N450 / 0.00E+00 N451 / 0.00E+00 N453 / 0.00E+00 N454
/ 0.00E+00
N455 / 0.00E+00 N456 / 0.00E+00 N457 / 0.00E+00 N458 / 0.00E+00 N459 / 0.00E+00 N460
/ 0.00E+00
N461 / 0.00E+00 N464 / 0.00E+00 N465 / 0.00E+00 N466 / 0.00E+00 N467 / 0.00E+00 N468
/ 0.00E+00
N469 / 0.00E+00 N470 / 0.00E+00 N471 / 0.00E+00 N472 / 0.00E+00 N473 / 0.00E+00 N487
/ 0.00E+00
N489 / 0.00E+00 N490 / 0.00E+00 N491 / 0.00E+00 N492 / 0.00E+00 N493 / 0.00E+00 N497
/ 0.00E+00
N499 / 0.00E+00 N509 / 0.00E+00 N513 / 0.00E+00 N514 / 0.00E+00 N516 / 0.00E+00 N524
/ 0.00E+00
N525 / 0.00E+00 N526 / 0.00E+00 N527 / 0.00E+00 N528 / 0.00E+00 N529 / 0.00E+00 N530
/ 0.00E+00
N689 / 0.00E+00 N494 / 0.00E+00 N541 / 0.00E+00 EL329 / 0.00E+00 N427 / 0.00E+00 N411
/ 0.00E+00
N295 / 0.00E+00 N311 / 0.00E+00 N462 / 0.00E+00
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==> System inflows (data group K3) at 0.02 hours ( Junction / Inflow,cfs )

N221 / 2.40E-01 N222 / 2.03E-02 N223 / 1.35E-02 N224 / 1.02E-02 N227 / 2.07E-01 N228
/ 4.46E-01
N230 / 8.21E-02 N231 / 7.89E-02 N233 / 1.48E-02 N234 / 0.00E+00 N235 / 1.91E-02 N236
/ 0.00E+00
N237 / 0.00E+00 N238 / 5.59E-02 N239 / 3.49E-02 N240 / 5.44E-02 N241 / 8.30E-04 N242
/ 4.26E-02
N243 / 2.84E-02 N244 / 9.25E-03 N245 / 2.40E-02 N246 / 2.66E-04 N247 / 3.36E-01 N248
/ 3.72E-02
N249 / 1.76E-01 N250 / 2.56E-01 N251 / 3.07E-01 N252 / 3.07E-02 N253 / 5.24E-03 N254
/ 1.03E-01
N255 / 7.46E-02 N256 / 1.54E-01 N257 / 2.06E-01 N259 / 2.04E-01 N260 / 0.00E+00 N261
/ 1.65E-01
N262 / 1.31E-01 N263 / 9.62E-03 N264 / 0.00E+00 N265 / 1.08E-01 W800 / 2.57E-01 W801
/ 3.81E-01
OUT802 / 3.32E-02 N272 / 1.62E-02 N273 / 7.08E-02 N274 / 1.71E-02 N275 / 1.38E-02 N276
/ 8.13E-02
N277 / 1.04E-02 N278 / 0.00E+00 N279 / 9.96E-02 N288 / 0.00E+00 N289 / 0.00E+00 N290
/ 7.84E-01
N291 / 7.10E-01 N292 / 0.00E+00 N293 / 1.25E-01 N294 / 1.07E-02 N296 / 1.25E-01 N301
/ 2.84E-01
N302 / 8.22E-03 N303 / 0.00E+00 N304 / 1.24E-01 N309 / 1.51E-01 N310 / 5.80E-03 N312
/ 1.88E-01
YEL327 / 2.20E+00 N331 / 0.00E+00 W104 / 1.13E-01 N342 / 0.00E+00 N343 / 0.00E+00 N344
/ 1.56E-01
N345 / 4.22E-02 N356 / 3.54E-02 N357 / 3.59E-02 N358 / 3.59E-02 N359 / 0.00E+00 N360
/ 0.00E+00
N361 / 1.76E+00 N362 / 0.00E+00 N363 / 1.41E-01 N364 / 0.00E+00 N365 / 0.00E+00 N366
/ 3.81E-01
N367 / 2.19E-01 N368 / 1.02E+00 N369 / 0.00E+00 N370 / 1.53E+00 N371 / 2.12E+00 N372
/ 0.00E+00
N373 / 0.00E+00 N374 / 0.00E+00 N375 / 7.35E-01 N376 / 6.85E-01 N377 / 0.00E+00 N378
/ 0.00E+00
N379 / 0.00E+00 N381 / 4.30E-03 N382 / 8.31E-02 N383 / 1.92E-01 N384 / 1.79E-01 N386
/ 2.20E-01
N387 / 1.36E-01 N388 / 0.00E+00 N389 / 2.94E-01 N390 / 1.89E-01 N391 / 2.90E-01 N392
/ 0.00E+00
N394 / 0.00E+00 N395 / 2.78E-01 N396 / 0.00E+00 N397 / 6.16E-03 N398 / 1.59E-01 N399
/ 1.49E-01
N403 / 0.00E+00 N404 / 5.79E-01 N405 / 1.85E-01 N406 / 2.70E-01 N407 / 1.33E-01 N408
/ 4.54E-01
N409 / 0.00E+00 N410 / 0.00E+00 N412 / 3.52E-01 N413 / 0.00E+00 N414 / 0.00E+00 N415
/ 3.80E-01
N416 / 3.59E-01 N417 / 0.00E+00 N418 / 3.36E-01 N419 / 0.00E+00 N420 / 5.91E-01 N421
/ 0.00E+00
N422 / 0.00E+00 N423 / 4.03E-01 N424 / 0.00E+00 N425 / 3.17E-01 N426 / 0.00E+00 N428
/ 0.00E+00
N429 / 1.58E-01 N430 / 1.86E-01 N431 / 8.47E-04 N432 / 0.00E+00 N434 / 1.88E-01 N435
/ 0.00E+00
N436 / 2.36E-01 N437 / 4.29E-01 N438 / 0.00E+00 N439 / 1.37E-02 N440 / 1.38E-01 N441

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/ 3.16E-01
N442 / 0.00E+00 N443 / 7.73E-02 N444 / 3.29E-01 N445 / 7.87E-02 N446 / 7.80E-02 N447
/ 1.58E-01
N448 / 2.03E-01 N449 / 1.49E-04 N450 / 0.00E+00 N451 / 1.89E-01 N453 / 0.00E+00 N454
/ 2.38E-01
N455 / 0.00E+00 N456 / 8.38E-04 N457 / 1.39E-01 N458 / 0.00E+00 N459 / 0.00E+00 N460
/ 0.00E+00
N461 / 0.00E+00 N464 / 4.10E-02 N465 / 4.91E-01 N466 / 0.00E+00 N467 / 8.06E-02 N468
/ 1.38E-01
N469 / 5.39E-02 N470 / 0.00E+00 N471 / 1.07E-01 N472 / 7.74E-02 N473 / 5.63E-02 N487
/ 0.00E+00
N489 / 0.00E+00 N490 / 7.55E-01 N491 / 3.17E-02 N492 / 3.70E-01 N493 / 0.00E+00 N497
/ 2.48E-01
N499 / 0.00E+00 N509 / 9.16E-01 N513 / 5.57E-01 N514 / 1.26E-02 N516 / 0.00E+00 N524
/ 5.03E-02
N525 / 0.00E+00 N526 / 4.97E-02 N527 / 2.73E-02 N528 / 0.00E+00 N529 / 0.00E+00 N530
/ 2.50E-02
N689 / 0.00E+00 N494 / 0.00E+00 N541 / 0.00E+00 EL329 / 3.60E-01 N427 / 0.00E+00 N411
/ 0.00E+00
N295 / 0.00E+00 N311 / 0.00E+00 N462 / 1.76E-01
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#####
==> System inflows (data group K3) at 0.08 hours ( Junction / Inflow,cfs )

N221 / 2.89E+00 N222 / 2.44E-01 N223 / 1.62E-01 N224 / 1.23E-01 N227 / 2.49E+00 N228
/ 5.37E+00
N230 / 9.89E-01 N231 / 9.50E-01 N233 / 1.78E-01 N234 / 0.00E+00 N235 / 2.31E-01 N236
/ 0.00E+00
N237 / 0.00E+00 N238 / 6.74E-01 N239 / 4.21E-01 N240 / 6.55E-01 N241 / 1.00E-02 N242
/ 5.13E-01
N243 / 3.42E-01 N244 / 1.12E-01 N245 / 2.90E-01 N246 / 3.20E-03 N247 / 4.05E+00 N248
/ 4.48E-01
N249 / 2.13E+00 N250 / 3.08E+00 N251 / 3.69E+00 N252 / 3.70E-01 N253 / 6.31E-02 N254
/ 1.24E+00
N255 / 8.98E-01 N256 / 1.85E+00 N257 / 2.48E+00 N259 / 2.46E+00 N260 / 0.00E+00 N261
/ 1.98E+00
N262 / 1.58E+00 N263 / 1.16E-01 N264 / 0.00E+00 N265 / 1.30E+00 W800 / 3.10E+00 W801
/ 4.59E+00
OUT802 / 3.99E-01 N272 / 1.95E-01 N273 / 8.53E-01 N274 / 2.06E-01 N275 / 1.66E-01 N276
/ 9.79E-01
N277 / 1.25E-01 N278 / 0.00E+00 N279 / 1.20E+00 N288 / 0.00E+00 N289 / 0.00E+00 N290
/ 9.45E+00
N291 / 8.56E+00 N292 / 0.00E+00 N293 / 1.51E+00 N294 / 1.29E-01 N296 / 1.51E+00 N301
/ 3.42E+00
N302 / 9.90E-02 N303 / 0.00E+00 N304 / 1.50E+00 N309 / 1.82E+00 N310 / 6.99E-02 N312
/ 2.26E+00
YEL327 / 2.65E+01 N331 / 0.00E+00 W104 / 1.36E+00 N342 / 0.00E+00 N343 / 0.00E+00 N344
/ 1.88E+00
N345 / 5.08E-01 N356 / 4.26E-01 N357 / 4.32E-01 N358 / 4.33E-01 N359 / 0.00E+00 N360
/ 0.00E+00
N361 / 2.13E+01 N362 / 0.00E+00 N363 / 1.70E+00 N364 / 0.00E+00 N365 / 0.00E+00 N366
/ 4.59E+00
N367 / 2.63E+00 N368 / 1.23E+01 N369 / 0.00E+00 N370 / 1.84E+01 N371 / 2.56E+01 N372
/ 0.00E+00
N373 / 0.00E+00 N374 / 0.00E+00 N375 / 8.86E+00 N376 / 8.25E+00 N377 / 0.00E+00 N378
/ 0.00E+00
N379 / 0.00E+00 N381 / 5.18E-02 N382 / 1.00E+00 N383 / 2.31E+00 N384 / 2.16E+00 N386
/ 2.65E+00
N387 / 1.64E+00 N388 / 0.00E+00 N389 / 3.54E+00 N390 / 2.28E+00 N391 / 3.49E+00 N392
/ 0.00E+00
N394 / 0.00E+00 N395 / 3.35E+00 N396 / 0.00E+00 N397 / 7.42E-02 N398 / 1.92E+00 N399
/ 1.80E+00
N403 / 0.00E+00 N404 / 6.97E+00 N405 / 2.23E+00 N406 / 3.25E+00 N407 / 1.61E+00 N408
/ 5.48E+00
N409 / 0.00E+00 N410 / 0.00E+00 N412 / 4.24E+00 N413 / 0.00E+00 N414 / 0.00E+00 N415
/ 4.58E+00
N416 / 4.32E+00 N417 / 0.00E+00 N418 / 4.05E+00 N419 / 0.00E+00 N420 / 7.12E+00 N421
/ 0.00E+00
N422 / 0.00E+00 N423 / 4.85E+00 N424 / 0.00E+00 N425 / 3.83E+00 N426 / 0.00E+00 N428

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/ 0.00E+00
N429 / 1.91E+00 N430 / 2.24E+00 N431 / 1.02E-02 N432 / 0.00E+00 N434 / 2.27E+00 N435
/ 0.00E+00
N436 / 2.85E+00 N437 / 5.17E+00 N438 / 0.00E+00 N439 / 1.65E-01 N440 / 1.66E+00 N441
/ 3.80E+00
N442 / 0.00E+00 N443 / 9.32E-01 N444 / 3.97E+00 N445 / 9.48E-01 N446 / 9.39E-01 N447
/ 1.91E+00
N448 / 2.45E+00 N449 / 1.80E-03 N450 / 0.00E+00 N451 / 2.28E+00 N453 / 0.00E+00 N454
/ 2.87E+00
N455 / 0.00E+00 N456 / 1.01E-02 N457 / 1.67E+00 N458 / 0.00E+00 N459 / 0.00E+00 N460
/ 0.00E+00
N461 / 0.00E+00 N464 / 4.94E-01 N465 / 5.92E+00 N466 / 0.00E+00 N467 / 9.71E-01 N468
/ 1.66E+00
N469 / 6.49E-01 N470 / 0.00E+00 N471 / 1.29E+00 N472 / 9.32E-01 N473 / 6.79E-01 N487
/ 0.00E+00
N489 / 0.00E+00 N490 / 9.10E+00 N491 / 3.82E-01 N492 / 4.46E+00 N493 / 0.00E+00 N497
/ 2.99E+00
N499 / 0.00E+00 N509 / 1.10E+01 N513 / 6.72E+00 N514 / 1.52E-01 N516 / 0.00E+00 N524
/ 6.06E-01
N525 / 0.00E+00 N526 / 5.99E-01 N527 / 3.29E-01 N528 / 0.00E+00 N529 / 0.00E+00 N530
/ 3.01E-01
N689 / 0.00E+00 N494 / 0.00E+00 N541 / 0.00E+00 EL329 / 4.34E+00 N427 / 0.00E+00 N411
/ 0.00E+00
N295 / 0.00E+00 N311 / 0.00E+00 N462 / 2.13E+00
#####
#####
===> System inflows (data group K3) at 1.00 hours ( Junction / Inflow,cfs )

N221 / 2.89E+00 N222 / 2.44E-01 N223 / 1.62E-01 N224 / 1.23E-01 N227 / 2.49E+00 N228
/ 5.37E+00
N230 / 9.89E-01 N231 / 9.50E-01 N233 / 1.78E-01 N234 / 0.00E+00 N235 / 2.31E-01 N236
/ 0.00E+00
N237 / 0.00E+00 N238 / 6.74E-01 N239 / 4.21E-01 N240 / 6.55E-01 N241 / 1.00E-02 N242
/ 5.13E-01
N243 / 3.42E-01 N244 / 1.12E-01 N245 / 2.90E-01 N246 / 3.20E-03 N247 / 4.05E+00 N248
/ 4.48E-01
N249 / 2.13E+00 N250 / 3.08E+00 N251 / 3.69E+00 N252 / 3.70E-01 N253 / 6.31E-02 N254
/ 1.24E+00
N255 / 8.98E-01 N256 / 1.85E+00 N257 / 2.48E+00 N259 / 2.46E+00 N260 / 0.00E+00 N261
/ 1.98E+00
N262 / 1.58E+00 N263 / 1.16E-01 N264 / 0.00E+00 N265 / 1.30E+00 W800 / 3.10E+00 W801
/ 4.59E+00
OUT802 / 3.99E-01 N272 / 1.95E-01 N273 / 8.53E-01 N274 / 2.06E-01 N275 / 1.66E-01 N276
/ 9.79E-01
N277 / 1.25E-01 N278 / 0.00E+00 N279 / 1.20E+00 N288 / 0.00E+00 N289 / 0.00E+00 N290
/ 9.45E+00
N291 / 8.56E+00 N292 / 0.00E+00 N293 / 1.51E+00 N294 / 1.29E-01 N296 / 1.51E+00 N301
/ 3.42E+00
N302 / 9.90E-02 N303 / 0.00E+00 N304 / 1.50E+00 N309 / 1.82E+00 N310 / 6.99E-02 N312
/ 2.26E+00
YEL327 / 2.65E+01 N331 / 0.00E+00 W104 / 1.36E+00 N342 / 0.00E+00 N343 / 0.00E+00 N344
/ 1.88E+00
N345 / 5.08E-01 N356 / 4.26E-01 N357 / 4.32E-01 N358 / 4.33E-01 N359 / 0.00E+00 N360
/ 0.00E+00
N361 / 2.13E+01 N362 / 0.00E+00 N363 / 1.70E+00 N364 / 0.00E+00 N365 / 0.00E+00 N366
/ 4.59E+00
N367 / 2.63E+00 N368 / 1.23E+01 N369 / 0.00E+00 N370 / 1.84E+01 N371 / 2.56E+01 N372
/ 0.00E+00
N373 / 0.00E+00 N374 / 0.00E+00 N375 / 8.86E+00 N376 / 8.25E+00 N377 / 0.00E+00 N378
/ 0.00E+00
N379 / 0.00E+00 N381 / 5.18E-02 N382 / 1.00E+00 N383 / 2.31E+00 N384 / 2.16E+00 N386
/ 2.65E+00
N387 / 1.64E+00 N388 / 0.00E+00 N389 / 3.54E+00 N390 / 2.28E+00 N391 / 3.49E+00 N392
/ 0.00E+00
N394 / 0.00E+00 N395 / 3.35E+00 N396 / 0.00E+00 N397 / 7.42E-02 N398 / 1.92E+00 N399
/ 1.80E+00
N403 / 0.00E+00 N404 / 6.97E+00 N405 / 2.23E+00 N406 / 3.25E+00 N407 / 1.61E+00 N408
/ 5.48E+00
N409 / 0.00E+00 N410 / 0.00E+00 N412 / 4.24E+00 N413 / 0.00E+00 N414 / 0.00E+00 N415

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/ 4.58E+00
N416 / 4.32E+00 N417 / 0.00E+00 N418 / 4.05E+00 N419 / 0.00E+00 N420 / 7.12E+00 N421
/ 0.00E+00
N422 / 0.00E+00 N423 / 4.85E+00 N424 / 0.00E+00 N425 / 3.83E+00 N426 / 0.00E+00 N428
/ 0.00E+00
N429 / 1.91E+00 N430 / 2.24E+00 N431 / 1.02E-02 N432 / 0.00E+00 N434 / 2.27E+00 N435
/ 0.00E+00
N436 / 2.85E+00 N437 / 5.17E+00 N438 / 0.00E+00 N439 / 1.65E-01 N440 / 1.66E+00 N441
/ 3.80E+00
N442 / 0.00E+00 N443 / 9.32E-01 N444 / 3.97E+00 N445 / 9.48E-01 N446 / 9.39E-01 N447
/ 1.91E+00
N448 / 2.45E+00 N449 / 1.80E-03 N450 / 0.00E+00 N451 / 2.28E+00 N453 / 0.00E+00 N454
/ 2.87E+00
N455 / 0.00E+00 N456 / 1.01E-02 N457 / 1.67E+00 N458 / 0.00E+00 N459 / 0.00E+00 N460
/ 0.00E+00
N461 / 0.00E+00 N464 / 4.94E-01 N465 / 5.92E+00 N466 / 0.00E+00 N467 / 9.71E-01 N468
/ 1.66E+00
N469 / 6.49E-01 N470 / 0.00E+00 N471 / 1.29E+00 N472 / 9.32E-01 N473 / 6.79E-01 N487
/ 0.00E+00
N489 / 0.00E+00 N490 / 9.10E+00 N491 / 3.82E-01 N492 / 4.46E+00 N493 / 0.00E+00 N497
/ 2.99E+00
N499 / 0.00E+00 N509 / 1.10E+01 N513 / 6.72E+00 N514 / 1.52E-01 N516 / 0.00E+00 N524
/ 6.06E-01
N525 / 0.00E+00 N526 / 5.99E-01 N527 / 3.29E-01 N528 / 0.00E+00 N529 / 0.00E+00 N530
/ 3.01E-01
N689 / 0.00E+00 N494 / 0.00E+00 N541 / 0.00E+00 EL329 / 4.34E+00 N427 / 0.00E+00 N411
/ 0.00E+00
N295 / 0.00E+00 N311 / 0.00E+00 N462 / 2.13E+00
#####
#####
==> System inflows (data group K3) at 2.00 hours ( Junction / Inflow,cfs )

N221 / 2.89E+00 N222 / 2.44E-01 N223 / 1.62E-01 N224 / 1.23E-01 N227 / 2.49E+00 N228
/ 5.37E+00
N230 / 9.89E-01 N231 / 9.50E-01 N233 / 1.78E-01 N234 / 0.00E+00 N235 / 2.31E-01 N236
/ 0.00E+00
N237 / 0.00E+00 N238 / 6.74E-01 N239 / 4.21E-01 N240 / 6.55E-01 N241 / 1.00E-02 N242
/ 5.13E-01
N243 / 3.42E-01 N244 / 1.12E-01 N245 / 2.90E-01 N246 / 3.20E-03 N247 / 4.05E+00 N248
/ 4.48E-01
N249 / 2.13E+00 N250 / 3.08E+00 N251 / 3.69E+00 N252 / 3.70E-01 N253 / 6.31E-02 N254
/ 1.24E+00
N255 / 8.98E-01 N256 / 1.85E+00 N257 / 2.48E+00 N259 / 2.46E+00 N260 / 0.00E+00 N261
/ 1.98E+00
N262 / 1.58E+00 N263 / 1.16E-01 N264 / 0.00E+00 N265 / 1.30E+00 W800 / 3.10E+00 W801
/ 4.59E+00
OUT802 / 3.99E-01 N272 / 1.95E-01 N273 / 8.53E-01 N274 / 2.06E-01 N275 / 1.66E-01 N276
/ 9.79E-01
N277 / 1.25E-01 N278 / 0.00E+00 N279 / 1.20E+00 N288 / 0.00E+00 N289 / 0.00E+00 N290
/ 9.45E+00
N291 / 8.56E+00 N292 / 0.00E+00 N293 / 1.51E+00 N294 / 1.29E-01 N296 / 1.51E+00 N301
/ 3.42E+00
N302 / 9.90E-02 N303 / 0.00E+00 N304 / 1.50E+00 N309 / 1.82E+00 N310 / 6.99E-02 N312
/ 2.26E+00
YEL327 / 2.65E+01 N331 / 0.00E+00 W104 / 1.36E+00 N342 / 0.00E+00 N343 / 0.00E+00 N344
/ 1.88E+00
N345 / 5.08E-01 N356 / 4.26E-01 N357 / 4.32E-01 N358 / 4.33E-01 N359 / 0.00E+00 N360
/ 0.00E+00
N361 / 2.13E+01 N362 / 0.00E+00 N363 / 1.70E+00 N364 / 0.00E+00 N365 / 0.00E+00 N366
/ 4.59E+00
N367 / 2.63E+00 N368 / 1.23E+01 N369 / 0.00E+00 N370 / 1.84E+01 N371 / 2.56E+01 N372
/ 0.00E+00
N373 / 0.00E+00 N374 / 0.00E+00 N375 / 8.86E+00 N376 / 8.25E+00 N377 / 0.00E+00 N378
/ 0.00E+00
N379 / 0.00E+00 N381 / 5.18E-02 N382 / 1.00E+00 N383 / 2.31E+00 N384 / 2.16E+00 N386
/ 2.65E+00
N387 / 1.64E+00 N388 / 0.00E+00 N389 / 3.54E+00 N390 / 2.28E+00 N391 / 3.49E+00 N392
/ 0.00E+00
N394 / 0.00E+00 N395 / 3.35E+00 N396 / 0.00E+00 N397 / 7.42E-02 N398 / 1.92E+00 N399

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/ 1.80E+00
N403 / 0.00E+00 N404 / 6.97E+00 N405 / 2.23E+00 N406 / 3.25E+00 N407 / 1.61E+00 N408
/ 5.48E+00
N409 / 0.00E+00 N410 / 0.00E+00 N412 / 4.24E+00 N413 / 0.00E+00 N414 / 0.00E+00 N415
/ 4.58E+00
N416 / 4.32E+00 N417 / 0.00E+00 N418 / 4.05E+00 N419 / 0.00E+00 N420 / 7.12E+00 N421
/ 0.00E+00
N422 / 0.00E+00 N423 / 4.85E+00 N424 / 0.00E+00 N425 / 3.83E+00 N426 / 0.00E+00 N428
/ 0.00E+00
N429 / 1.91E+00 N430 / 2.24E+00 N431 / 1.02E-02 N432 / 0.00E+00 N434 / 2.27E+00 N435
/ 0.00E+00
N436 / 2.85E+00 N437 / 5.17E+00 N438 / 0.00E+00 N439 / 1.65E-01 N440 / 1.66E+00 N441
/ 3.80E+00
N442 / 0.00E+00 N443 / 9.32E-01 N444 / 3.97E+00 N445 / 9.48E-01 N446 / 9.39E-01 N447
/ 1.91E+00
N448 / 2.45E+00 N449 / 1.80E-03 N450 / 0.00E+00 N451 / 2.28E+00 N453 / 0.00E+00 N454
/ 2.87E+00
N455 / 0.00E+00 N456 / 1.01E-02 N457 / 1.67E+00 N458 / 0.00E+00 N459 / 0.00E+00 N460
/ 0.00E+00
N461 / 0.00E+00 N464 / 4.94E-01 N465 / 5.92E+00 N466 / 0.00E+00 N467 / 9.71E-01 N468
/ 1.66E+00
N469 / 6.49E-01 N470 / 0.00E+00 N471 / 1.29E+00 N472 / 9.32E-01 N473 / 6.79E-01 N487
/ 0.00E+00
N489 / 0.00E+00 N490 / 9.10E+00 N491 / 3.82E-01 N492 / 4.46E+00 N493 / 0.00E+00 N497
/ 2.99E+00
N499 / 0.00E+00 N509 / 1.10E+01 N513 / 6.72E+00 N514 / 1.52E-01 N516 / 0.00E+00 N524
/ 6.06E-01
N525 / 0.00E+00 N526 / 5.99E-01 N527 / 3.29E-01 N528 / 0.00E+00 N529 / 0.00E+00 N530
/ 3.01E-01
N689 / 0.00E+00 N494 / 0.00E+00 N541 / 0.00E+00 EL329 / 4.34E+00 N427 / 0.00E+00 N411
/ 0.00E+00
N295 / 0.00E+00 N311 / 0.00E+00 N462 / 2.13E+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. |
*====*

```

Junction	Time(.10)	Time(.25)	Time(sec)
N221	29.8871	74.7178	60.0000
N222	27.3807	68.4518	60.0000
N223	117.2156	293.0390	0.0000
N224	33.2832	83.2080	0.0000
N227	23.6233	59.0582	120.0000
N228	24.6707	61.6767	60.0000
N230	136.6497	341.6242	0.0000
N231	184.0000	459.9999	0.0000
N233	440.6243	600.0000	0.0000
N234	600.0000	600.0000	0.0000
N235	558.3591	600.0000	0.0000
N236	600.0000	600.0000	0.0000
N237	576.5857	600.0000	0.0000
N238	72.4761	181.1902	0.0000
N239	483.7708	600.0000	0.0000
N240	130.5823	326.4558	0.0000
N241	250.4628	600.0000	0.0000
N242	127.4052	318.5131	0.0000
N243	65.1671	162.9177	0.0000
N244	128.8464	322.1159	0.0000
N245	3.1803	7.9508	60.0000
N246	85.7199	214.2997	0.0000

N247	52.7596	131.8990	0.0000
N248	182.5610	456.4026	0.0000
N249	63.8854	159.7135	0.0000
N250	25.3020	63.2550	60.0000
N251	112.4045	281.0113	0.0000
N252	61.6362	154.0905	0.0000
N253	69.6497	174.1242	0.0000
N254	165.1372	412.8430	0.0000
N255	21.1318	52.8295	60.0000
N256	127.9753	319.9383	0.0000
N257	125.3537	313.3843	0.0000
N259	11.7790	29.4476	0.0000
N260	600.0000	600.0000	0.0000
N261	19.7290	49.3226	0.0000
N262	495.3023	600.0000	0.0000
N263	295.7554	600.0000	0.0000
N264	600.0000	600.0000	0.0000
N265	129.4687	323.6717	0.0000
W800	44.5723	111.4308	60.0000
W801	22.5308	56.3270	60.0000
OUT802	600.0000	600.0000	0.0000
N272	380.6251	600.0000	0.0000
N273	214.9180	537.2950	0.0000
N274	95.2440	238.1099	0.0000
N275	600.0000	600.0000	0.0000
N276	600.0000	600.0000	0.0000
N277	533.8937	600.0000	0.0000
N278	600.0000	600.0000	0.0000
N279	139.0689	347.6723	0.0000
N288	13.8738	34.6844	0.0000
N289	600.0000	600.0000	0.0000
N290	8.6185	21.5464	0.0000
N291	600.0000	600.0000	0.0000
N292	600.0000	600.0000	0.0000
N293	457.8170	600.0000	0.0000
N294	349.5038	600.0000	0.0000
N296	126.9892	317.4731	0.0000
N301	62.1115	155.2788	0.0000
N302	356.7393	600.0000	0.0000
N303	600.0000	600.0000	0.0000
N304	135.0623	337.6558	0.0000
N309	591.9949	600.0000	0.0000
N310	415.7383	600.0000	0.0000
N312	138.0054	345.0134	0.0000
YEL327	6.2757	15.6892	300.0000
N331	600.0000	600.0000	0.0000
W104	175.1554	437.8884	0.0000
N342	306.9060	600.0000	0.0000
N343	600.0000	600.0000	0.0000
N344	128.8088	322.0219	0.0000
N345	325.3963	600.0000	0.0000
N356	600.0000	600.0000	0.0000
N357	600.0000	600.0000	0.0000
N358	361.4035	600.0000	0.0000
N359	600.0000	600.0000	0.0000
N360	600.0000	600.0000	0.0000
N361	203.5271	508.8177	0.0000
N362	246.9250	600.0000	0.0000
N363	191.6071	479.0176	0.0000
N364	279.7003	600.0000	0.0000
N365	600.0000	600.0000	0.0000
N366	97.9577	244.8943	0.0000
N367	122.5979	306.4949	0.0000
N368	43.0280	107.5700	0.0000
N369	66.5286	166.3216	0.0000
N370	45.2534	113.1335	0.0000
N371	28.4043	71.0109	60.0000
N372	46.7304	116.8260	0.0000
N373	34.6941	86.7354	60.0000

N374	15.5375	38.8438	0.0000
N375	28.6683	71.6708	0.0000
N376	158.2631	395.6578	0.0000
N377	65.7530	164.3825	0.0000
N378	185.1715	462.9288	0.0000
N379	600.0000	600.0000	0.0000
N381	300.6269	600.0000	0.0000
N382	248.2971	600.0000	0.0000
N383	96.8947	242.2367	0.0000
N384	123.2481	308.1201	0.0000
N386	108.2062	270.5156	0.0000
N387	134.7707	336.9268	0.0000
N388	46.1642	115.4104	0.0000
N389	18.4058	46.0145	0.0000
N390	15.6076	39.0189	0.0000
N391	8.4846	21.2114	60.0000
N392	22.3383	55.8456	0.0000
N394	600.0000	600.0000	0.0000
N395	11.3056	28.2640	0.0000
N396	285.8146	600.0000	0.0000
N397	219.6439	549.1098	0.0000
N398	267.2543	600.0000	0.0000
N399	70.8767	177.1917	0.0000
N403	58.0577	145.1443	0.0000
N404	46.7351	116.8378	0.0000
N405	153.2891	383.2227	0.0000
N406	35.6450	89.1125	0.0000
N407	144.3234	360.8084	0.0000
N408	20.9332	52.3330	0.0000
N409	24.9226	62.3066	0.0000
N410	7.3619	18.4047	0.0000
N412	124.1282	310.3204	0.0000
N413	23.7281	59.3203	0.0000
N414	4.5818	11.4545	120.0000
N415	68.5804	171.4510	0.0000
N416	85.7274	214.3186	0.0000
N417	175.7252	439.3131	0.0000
N418	268.2522	600.0000	0.0000
N419	62.8111	157.0278	0.0000
N420	19.0900	47.7250	60.0000
N421	53.5350	133.8375	180.0000
N422	127.1122	317.7805	0.0000
N423	69.4340	173.5849	0.0000
N424	92.1615	230.4037	0.0000
N425	37.4104	93.5260	60.0000
N426	90.6635	226.6587	0.0000
N428	98.9203	247.3007	0.0000
N429	107.5349	268.8373	0.0000
N430	276.0515	600.0000	0.0000
N431	169.7947	424.4867	0.0000
N432	136.4164	341.0409	0.0000
N434	101.9121	254.7802	0.0000
N435	42.8005	107.0012	240.0000
N436	44.7475	111.8688	120.0000
N437	40.2826	100.7066	60.0000
N438	73.6897	184.2242	0.0000
N439	98.1023	245.2558	0.0000
N440	68.4417	171.1042	0.0000
N441	71.5661	178.9153	0.0000
N442	86.7597	216.8992	0.0000
N443	95.4333	238.5833	0.0000
N444	49.2398	123.0994	0.0000
N445	205.3849	513.4623	0.0000
N446	91.9563	229.8908	0.0000
N447	225.9862	564.9655	0.0000
N448	31.4348	78.5871	0.0000
N449	33.7892	84.4730	0.0000
N450	17.0193	42.5482	60.0000
N451	29.2756	73.1891	0.0000

N453	52.5768	131.4420	0.0000
N454	30.4388	76.0970	0.0000
N455	210.0896	525.2240	0.0000
N456	133.6514	334.1286	0.0000
N457	72.3683	180.9208	0.0000
N458	137.1451	342.8627	0.0000
N459	209.7563	524.3907	0.0000
N460	353.7412	600.0000	0.0000
N461	600.0000	600.0000	0.0000
N464	35.5232	88.8081	60.0000
N465	22.6623	56.6557	660.0000
N466	27.9805	69.9513	0.0000
N467	29.5565	73.8913	0.0000
N468	132.0822	330.2054	0.0000
N469	187.6101	469.0252	0.0000
N470	600.0000	600.0000	0.0000
N471	122.0769	305.1924	0.0000
N472	135.2155	338.0388	0.0000
N473	214.7793	536.9483	0.0000
N487	103.8356	259.5889	0.0000
N489	18.2818	45.7044	480.0000
N490	125.9231	314.8078	0.0000
N491	32.9652	82.4130	0.0000
N492	44.4904	111.2261	180.0000
N493	600.0000	600.0000	0.0000
N497	302.7076	600.0000	0.0000
N499	600.0000	600.0000	0.0000
N509	54.9671	137.4177	180.0000
N513	303.2352	600.0000	0.0000
N514	550.9135	600.0000	0.0000
N516	600.0000	600.0000	0.0000
N524	600.0000	600.0000	0.0000
N525	357.1253	600.0000	0.0000
N526	288.9184	600.0000	0.0000
N527	600.0000	600.0000	0.0000
N528	36.5825	91.4562	1380.0000
N529	3.4871	8.7179	60.0000
N530	17.3062	43.2655	300.0000
N689	600.0000	600.0000	0.0000
N494	162.7519	406.8797	0.0000
N541	33.4345	83.5862	60.0000
EL329	30.6798	76.6994	16200.0000
N427	54.2565	135.6412	0.0000
N411	600.0000	600.0000	0.0000
N295	600.0000	600.0000	0.0000
N311	600.0000	600.0000	0.0000
N462	29.1659	72.9147	60.0000

The junction requiring the smallest time step was...EL329

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.

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Conduit	Time(exp)	Expl*Cmin	Time(imp)	Time(min)	Max Qchange	Wobble	Type of Soln
L210	6.2515	6.2515	18.7592	1.0000	0.0108	1.3579	Normal Soln
L211	31.1457	31.1457	101.2091	0.0000	-0.0037	1.4137	Normal Soln
L212	52.2637	52.2637	164.6460	0.0000	0.0061	0.9312	Normal Soln
L213	8.6695	8.6695	33.1191	0.0000	0.0098	1.1826	Normal Soln
L214	7.1669	7.1669	30.8016	0.0000	0.0107	1.2183	Normal Soln
L217	12.9886	12.9886	30.4267	0.0000	0.0013	0.3996	Normal Soln
L220	21.3513	21.3513	68.8686	0.0000	0.0122	1.6020	Normal Soln
L221	30.7605	30.7605	94.9061	0.0000	0.0154	1.4231	Normal Soln
L222	10.5451	10.5451	18.9093	0.0000	0.0184	0.3570	Normal Soln
L223	16.5400	16.5400	50.1321	0.0000	0.0003	0.1454	Normal Soln
L224	67.1259	67.1259	218.6507	0.0000	0.0003	0.1471	Normal Soln
L225	44.3093	44.3093	212.4416	0.0000	0.0009	0.1802	Normal Soln
L226	49.1405	49.1405	218.6733	0.0000	0.0017	0.6783	Normal Soln
L227	25.8165	25.8165	103.1912	0.0000	0.0018	1.1178	Normal Soln
L228	33.4838	33.4838	125.9101	0.0000	0.0030	1.6571	Normal Soln
L229	65.7559	65.7559	220.5148	0.0000	0.0027	1.0348	Normal Soln
L230	37.6846	37.6846	135.9271	0.0000	0.0031	1.4589	Normal Soln
L231	34.6097	34.6097	128.9433	0.0000	0.0037	1.6096	Normal Soln
L232	25.0955	25.0955	90.3160	0.0000	0.0050	1.7338	Normal Soln
L233	35.7512	35.7512	134.5668	0.0000	-0.0695	1.3305	Normal Soln
L234	32.3766	32.3766	144.0166	0.0000	0.0078	0.9321	Normal Soln
L235	7.5038	7.5038	45.8571	0.0000	0.0007	0.4495	Normal Soln
L236	9.5470	9.5470	38.9802	0.0000	0.0043	1.5667	Normal Soln
L237	7.7923	7.7923	25.7007	0.0000	0.0074	1.5218	Normal Soln
L238	4.9304	4.9304	11.5673	0.0000	0.0122	1.5708	Normal Soln
L239	9.0896	9.0896	23.9116	0.0000	0.0057	1.7386	Normal Soln
L240	12.0804	12.0804	28.5367	0.0000	0.0017	0.5257	Normal Soln
L241	22.4339	22.4339	66.7490	0.0000	0.0077	1.5018	Normal Soln
L242	7.7301	7.7301	18.2402	0.0000	0.0018	0.7871	Normal Soln
L243	10.7957	10.7957	26.3322	0.0000	0.0024	1.0474	Normal Soln
L246	25.8903	25.8903	83.7907	0.0000	-2.2947	3.3498	Normal Soln
L247	6.1520	6.1520	15.7210	0.0000	3.0158	5.4799	Normal Soln
L248	5.5901	5.5901	15.9561	0.0000	0.0717	1.6335	Normal Soln
L249	9.4527	9.4527	22.2510	0.0000	0.0030	0.6747	Normal Soln
L250	4.3132	4.3132	8.4764	0.0000	0.0049	0.3070	Normal Soln
L251	9.4761	9.4761	22.3540	0.0000	0.0012	0.5553	Normal Soln
L254	56.7417	56.7417	283.1354	0.0000	0.0067	1.3551	Normal Soln
L255	38.2259	38.2259	157.9013	0.0000	-0.0271	1.6032	Normal Soln
L258	15.5933	15.5933	36.8643	0.0000	0.0009	0.3628	Normal Soln
L259	46.7710	46.7710	140.8812	0.0000	0.0015	0.1459	Normal Soln
L260	5.8258	5.8258	19.2175	0.0000	0.0018	0.0259	Normal Soln
L261	20.6903	20.6903	51.3702	0.0000	0.0013	0.4139	Normal Soln
L262	3.7500	3.7500	7.8505	0.0000	0.0026	0.1655	Normal Soln
L263	16.4832	16.4832	40.3636	0.0000	0.0019	0.5097	Normal Soln
L272	2.6997	2.6997	56.9898	17.0000	-0.0604	2.6814	Normal Soln
L273	7.7321	7.7321	30.0158	0.0000	0.0175	5.5073	Normal Soln
L274	4.8998	4.8998	9.7771	0.0000	0.1573	0.2688	Normal Soln
L275	14.0770	14.0770	34.0301	0.0000	0.0021	0.6408	Normal Soln
L277	15.3960	15.3960	37.5630	0.0000	0.0014	0.6426	Normal Soln
L281	8.5693	8.5693	23.1348	0.0000	0.0095	1.5471	Normal Soln
L282	1.9944	1.9944	3.2443	341.0000	0.0063	0.3393	Normal Soln
L283	15.1101	15.1101	36.7067	0.0000	0.0014	0.6326	Normal Soln
L287	13.6881	13.6881	32.8380	0.0000	0.0024	0.7713	Normal Soln
L289	14.0922	14.0922	34.5708	0.0000	0.0022	0.9601	Normal Soln
L308	4.6790	4.6790	12.5836	0.0000	-24.9873	7.2722	Normal Soln
L317	97.8285	97.8285	600.0000	0.0000	0.0022	0.5505	Normal Soln

L319	8.9283	8.9283	22.7492	0.0000	0.0023	0.3552	Normal Soln
L320	8.3189	8.3189	19.6848	0.0000	0.0018	0.7980	Normal Soln
L334	69.2836	69.2836	188.2975	0.0000	0.0008	0.1810	Normal Soln
L335	53.5685	53.5685	140.9656	0.0000	0.0016	0.3644	Normal Soln
L336	17.2315	17.2315	42.2257	0.0000	0.0016	0.5475	Normal Soln
L337	8.2676	8.2676	22.0963	0.0000	0.0014	0.1691	Normal Soln
L338	6.8487	6.8487	20.5776	0.0000	0.0781	1.0182	Normal Soln
L339	20.9702	20.9702	59.5605	0.0000	0.0199	1.0022	Normal Soln
L340	17.7788	17.7788	42.8265	0.0000	0.0297	1.0405	Normal Soln
L341	4.1917	4.1917	8.7792	0.0000	0.0367	0.1273	Normal Soln
L342	7.7612	7.7612	19.2025	0.0000	0.0093	1.2413	Normal Soln
L343	10.4487	10.4487	25.7250	0.0000	0.0025	1.1146	Normal Soln
L344	4.2125	4.2125	12.4528	0.0000	0.0338	0.9077	Normal Soln
L346	3.3565	3.3565	18.8233	0.0000	0.0771	2.3641	Normal Soln
L347	22.7833	22.7833	88.6386	0.0000	0.1654	1.7162	Normal Soln
L348	24.2859	24.2859	93.9787	0.0000	-0.2263	1.9206	Normal Soln
L349	24.7559	24.7559	92.1754	0.0000	-0.5184	2.2571	Normal Soln
L350	8.3743	8.3743	29.2229	0.0000	-0.7342	2.5483	Normal Soln
L351	3.3911	3.3911	10.3593	0.0000	0.0396	0.9443	Normal Soln
L352	14.0012	14.0012	43.0134	0.0000	0.0078	0.8901	Normal Soln
L354	5.4442	5.4442	16.3928	0.0000	17.9757	1.7352	Normal Soln
L361	5.4554	5.4554	12.7955	0.0000	0.0022	0.9881	Normal Soln
L362	7.8495	7.8495	18.7038	0.0000	0.0021	0.9219	Normal Soln
L363	43.1617	43.1617	125.0654	0.0000	0.0048	0.8513	Normal Soln
L364	5.3147	5.3147	12.4812	0.0000	0.0066	1.1271	Normal Soln
L365	8.0234	8.0234	19.5479	0.0000	0.0016	0.6988	Normal Soln
L366	36.2881	36.2881	115.0275	0.0000	0.0091	1.0412	Normal Soln
L367	33.5379	33.5379	105.6670	0.0000	0.2244	2.5380	Normal Soln
L368	14.5533	14.5533	35.8072	0.0000	-0.0288	1.3519	Normal Soln
L369	8.7136	8.7136	21.9892	0.0000	-0.0329	2.2949	Normal Soln
L370	16.2662	16.2662	57.3359	0.0000	-1.7814	4.3849	Normal Soln
L373	6.4801	6.4801	27.2880	0.0000	4.2704	1.7090	Normal Soln
L374	12.5321	12.5321	37.1557	0.0000	0.0046	2.1155	Normal Soln
L375	47.0845	47.0845	176.7072	0.0000	0.0033	1.2287	Normal Soln
L376	14.4638	14.4638	61.9445	0.0000	0.0076	0.8557	Normal Soln
L386	24.3939	24.3939	112.4202	0.0000	-0.1153	1.2100	Normal Soln
L387	25.3027	25.3027	118.1428	0.0000	-0.2042	1.4831	Normal Soln
L388	10.1299	10.1299	31.4233	0.0000	0.0020	0.9028	Normal Soln
L389	25.6948	25.6948	119.3507	0.0000	-0.3451	1.6601	Normal Soln
L390	13.7152	13.7152	37.5836	0.0000	0.0016	0.8809	Normal Soln
L391	32.6366	32.6366	141.2866	0.0000	-0.7478	2.2807	Normal Soln
L392	23.9038	23.9038	89.7753	0.0000	-1.8585	3.0348	Normal Soln
L393	29.2369	29.2369	100.8886	0.0000	-16.1844	4.0436	Normal Soln
L395	3.6100	3.6100	14.5292	0.0000	0.0376	0.6680	Normal Soln
L396	36.6436	36.6436	207.4784	0.0000	0.0079	0.4521	Normal Soln
L397	4.0355	4.0355	15.3369	0.0000	0.0055	0.7318	Normal Soln
L398	2.9287	2.9287	12.6763	0.0000	0.0105	0.3571	Normal Soln
L399	31.6156	31.6156	115.7619	0.0000	0.0042	0.4838	Normal Soln
L402	7.1766	7.1766	24.8523	0.0000	0.0198	1.1665	Normal Soln
L403	33.0824	33.0824	116.1692	0.0000	0.0069	1.1822	Normal Soln
L404	30.6635	30.6635	104.5349	0.0000	-0.0090	1.2297	Normal Soln
L405	6.2092	6.2092	18.3899	0.0000	0.0106	1.1294	Normal Soln
L406	27.7072	27.7072	114.0724	0.0000	0.0156	0.9384	Normal Soln
L407	6.0310	6.0310	18.5725	0.0000	0.0081	1.3127	Normal Soln
L408	26.3866	26.3866	115.7941	0.0000	0.0191	0.9632	Normal Soln
L410	27.1993	27.1993	133.6818	0.0000	0.0220	0.9839	Normal Soln
L411	20.6552	20.6552	105.9398	0.0000	0.0243	0.9672	Normal Soln
L413	40.1269	40.1269	155.4724	0.0000	0.0026	0.4892	Normal Soln
L415	5.7002	5.7002	13.0492	0.0000	0.0021	0.9101	Normal Soln
L417	5.8832	5.8832	17.8127	0.0000	0.0036	1.4369	Normal Soln
L418	6.2687	6.2687	18.5319	0.0000	0.0113	1.1468	Normal Soln
L419	21.0701	21.0701	77.2644	0.0000	0.0079	0.9820	Normal Soln
L420	31.6178	31.6178	122.3516	0.0000	0.0076	1.0005	Normal Soln
L421	6.4509	6.4509	20.6494	0.0000	-0.0022	0.9387	Normal Soln
L422	6.3270	6.3270	19.9830	0.0000	0.0078	1.2738	Normal Soln
L423	28.6671	28.6671	125.6460	0.0000	0.0186	1.0524	Normal Soln
L424	20.5528	20.5528	93.0241	0.0000	0.0192	1.1043	Normal Soln
L425	7.1395	7.1395	25.4213	0.0000	-0.0021	0.5720	Normal Soln
L426	5.8951	5.8951	19.2716	0.0000	-0.0376	1.3553	Normal Soln

L427	29.2809	29.2809	115.7345	0.0000	0.0430	1.3980	Normal Soln
L428	10.0652	10.0652	32.3319	0.0000	0.0014	0.5830	Normal Soln
L429	24.5883	24.5883	91.6764	0.0000	0.0434	1.4769	Normal Soln
L430	7.7857	7.7857	27.6811	0.0000	0.0066	0.9635	Normal Soln
L431	39.1114	39.1114	132.6150	0.0000	0.0044	1.0567	Normal Soln
L432	8.5732	8.5732	26.9138	0.0000	0.0024	1.1798	Normal Soln
L435	7.5019	7.5019	24.7419	0.0000	0.0065	1.3857	Normal Soln
L436	27.3473	27.3473	84.8190	0.0000	0.0037	1.3185	Normal Soln
L437	32.3027	32.3027	111.3216	0.0000	0.0032	0.8676	Normal Soln
L438	9.2879	9.2879	31.4810	0.0000	-0.0019	0.8634	Normal Soln
L439	32.2509	32.2509	98.9095	0.0000	0.0045	1.3236	Normal Soln
L440	38.3201	38.3201	121.5965	0.0000	0.0048	0.9307	Normal Soln
L441	25.2294	25.2294	81.9432	0.0000	0.0502	1.7028	Normal Soln
L442	28.9437	28.9437	77.2274	0.0000	0.0551	1.7005	Normal Soln
L443	3.4077	3.4077	5.8568	0.0000	0.0632	0.1738	Normal Soln
L446	4.5793	4.5793	17.2379	0.0000	0.0135	1.2594	Normal Soln
L448	8.0270	8.0270	32.1501	0.0000	0.0100	0.5677	Normal Soln
L449	32.6426	32.6426	115.0008	0.0000	0.0114	1.4022	Normal Soln
L450	30.6032	30.6032	93.8944	0.0000	0.0134	1.4346	Normal Soln
L451	7.1048	7.1048	17.6776	0.0000	0.0149	1.6067	Normal Soln
L452	5.9967	5.9967	18.0835	0.0000	0.0012	0.6430	Normal Soln
L453	7.7414	7.7414	24.8889	0.0000	0.0010	0.4833	Normal Soln
L454	10.3094	10.3094	30.3090	0.0000	0.0007	0.3101	Normal Soln
L466	9.2963	9.2963	21.2435	0.0000	0.0081	0.9016	Normal Soln
L468	54.8987	54.8987	181.0641	0.0000	0.0042	0.4681	Normal Soln
L470	15.4248	15.4248	41.0688	0.0000	0.0134	1.3127	Normal Soln
L471	43.8959	43.8959	227.0363	0.0000	0.0006	0.1441	Normal Soln
L472	3.9352	3.9352	9.2028	0.0000	0.0295	2.1984	Normal Soln
L490	12.0034	12.0034	34.1207	0.0000	0.0082	1.3896	Normal Soln
L496	61.2675	61.2675	166.3291	0.0000	0.0011	0.2575	Normal Soln
L497	61.6959	61.6959	168.0343	0.0000	0.0009	0.2545	Normal Soln
L498	13.8903	13.8903	32.5163	0.0000	0.0016	0.5120	Normal Soln
L501	29.5308	29.5308	142.8781	0.0000	0.0181	0.6445	Normal Soln
L502	31.3479	31.3479	337.3975	0.0000	0.0604	0.5862	Normal Soln
L503	26.5096	26.5096	92.3769	0.0000	-1.0459	2.7496	Normal Soln
L504	28.5394	28.5394	91.1454	0.0000	-9.9946	3.7386	Normal Soln
L505	25.9499	25.9499	90.1831	0.0000	0.0206	1.5316	Normal Soln
L506	24.1900	24.1900	88.3661	0.0000	0.0196	1.5990	Normal Soln
L509	5.4463	5.4463	14.3057	0.0000	0.0267	0.2749	Normal Soln
L511	10.4981	10.4981	28.4512	0.0000	0.0132	3.1173	Normal Soln
L512	3.9309	3.9309	6.8687	0.0000	0.0323	0.2261	Normal Soln
L514	29.2377	29.2377	119.9845	0.0000	-0.0256	1.2521	Normal Soln
L515	12.0939	12.0939	53.2221	0.0000	0.0178	0.8411	Normal Soln
CH21	104.9473	104.9473	600.0000	0.0000	0.0150	0.0615	Normal Soln
L474	8.9345	8.9345	23.7515	0.0000	-0.0307	1.9620	Normal Soln
L523	28.8755	28.8755	140.7912	0.0000	0.0091	0.4128	Normal Soln
L525	42.4704	42.4704	165.4289	0.0000	0.0237	0.8848	Normal Soln
L527	37.6353	37.6353	149.2903	0.0000	0.0045	0.9595	Normal Soln
L528	36.0936	36.0936	114.9956	0.0000	0.0046	1.3585	Normal Soln
L529	25.2469	25.2469	104.9071	0.0000	0.0042	1.4789	Normal Soln
L533	58.9742	58.9742	228.0876	0.0000	0.0045	1.0066	Normal Soln
L537	36.8704	36.8704	178.8803	0.0000	0.0066	1.5119	Normal Soln
L394	9.2847	9.2847	25.6828	0.0000	8.3343	5.4578	Normal Soln
L276	2.2768	2.2768	4.3954	1.0000	0.0033	0.2159	Normal Soln
L288	2.8128	2.8128	6.2520	0.0000	0.0042	0.2031	Normal Soln
L412	5.9417	5.9417	11.7777	0.0000	0.0073	0.6832	Normal Soln
L447	35.4182	35.4182	166.4260	0.0000	-0.0110	0.5843	Normal Soln
L321	64.8006	64.8006	262.1747	0.0000	0.0008	0.3257	Normal Soln

The conduit with the smallest time step limitation was..L282

The conduit with the largest wobble was.....L308

The conduit with the largest flow change in any consecutive time step.....L308

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| 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 =      6.017 hours
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Junction	Depth	Elevation	====>	"*"	Junction is	Surcharged.			
N221/	1.76*	107.60/		N222/	2.55*	106.99/	N223/	1.31 /	102.12/
N224/	3.32*	100.29/		N227/	2.63*/	100.97/	N228/	3.08 /	100.61/
N230/	2.34 /	98.17/		N231/	0.45 /	100.29/	N233/	0.82 /	95.24/
N234/	1.81 /	89.41/		N235/	0.26 /	119.86/	N236/	0.28 /	118.89/
N237/	0.40 /	117.66/		N238/	2.47*/	117.58/	N239/	0.87 /	118.56/
N240/	1.58*	118.20/		N241/	1.16 /	112.52/	N242/	1.80 /	110.43/
N243/	2.21 /	108.07/		N244/	2.42*/	106.27/	N245/	3.26*/	104.94/
N246/	3.09*	102.65/		N247/	3.79*/	101.66/	N248/	1.05 /	112.53/
N249/	2.14 /	106.76/		N250/	2.49*/	103.63/	N251/	1.27*/	116.65/
N252/	2.22 /	115.28/		N253/	2.38 /	110.46/	N254/	0.52 /	113.35/
N255/	3.65 /	106.45/		N256/	0.66 /	108.07/	N257/	0.84 /	108.45/
N259/	2.57*/	99.73/		N260/	2.10 /	99.10/	N261/	0.98*/	99.91/
N262/	0.61 /	105.49/		N263/	0.38 /	104.84/	N264/	2.45 /	99.09/
N265/	0.55 /	105.41/		W800/	3.10*/	105.61/	W801/	2.48*/	103.93/
OUT802/	2.00 /	103.00/		N272/	0.50 /	96.85/	N273/	0.43 /	98.11/
N274/	0.19 /	95.77/		N275/	1.82 /	89.42/	N276/	0.49 /	94.74/
N277/	0.28 /	93.72/		N278/	3.48 /	81.48/	N279/	0.55 /	94.67/
N288/	4.44*	81.47/		N289/	4.47 /	81.47/	N290/	3.92*/	82.02/
N291/	0.53 /	92.45/		N292/	4.87 /	81.47/	N293/	0.62 /	119.54/
N294/	0.32 /	118.62/		N296/	0.62 /	119.60/	N301/	1.92*/	124.82/
N302/	0.40 /	122.68/		N303/	2.67 /	113.27/	N304/	0.61 /	123.56/
N309/	0.67 /	113.82/		N310/	0.40 /	112.66/	N312/	0.79 /	114.00/
YEL327/	2.16 /	98.16/		N331/	5.71 /	98.41/	W104/	0.95 /	106.34/
N342/	0.61 /	100.83/		N343/	0.52 /	100.52/	N344/	0.67 /	101.78/
N345/	0.40 /	119.23/		N356/	0.29 /	125.61/	N357/	0.42 /	123.40/
N358/	0.57 /	121.39/		N359/	0.28 /	120.37/	N360/	2.52 /	115.32/
N361/	2.08 /	128.32/		N362/	2.00 /	128.13/	N363/	2.00 /	127.28/
N364/	0.84 /	125.85/		N365/	5.12 /	122.52/	N366/	1.11 /	128.98/
N367/	0.89 /	129.22/		N368/	2.89*/	127.15/	N369/	3.43*/	127.10/
N370/	5.15*	126.85/		N371/	4.64*/	126.90/	N372/	4.73*/	126.07/
N373/	4.34*/	125.31/		N374/	3.93*/	124.53/	N375/	4.29 /	124.27/
N376/	1.66 /	124.56/		N377/	1.69 /	124.51/	N378/	3.31 /	122.58/
N379/	4.13 /	122.53/		N381/	1.09 /	125.85/	N382/	1.72 /	124.58/
N383/	0.76 /	126.29/		N384/	0.74 /	126.38/	N386/	0.84 /	124.98/
N387/	0.64 /	124.87/		N388/	1.70 /	123.65/	N389/	2.68 /	122.79/
N390/	0.79 /	123.62/		N391/	1.46*/	124.15/	N392/	2.77 /	122.60/
N394/	4.13 /	122.53/		N395/	2.73*/	120.84/	N396/	1.29 /	118.97/
N397/	2.59 /	118.40/		N398/	2.35 /	118.66/	N399/	3.68 /	118.28/
N403/	3.72 /	118.02/		N404/	4.28 /	117.76/	N405/	1.71*/	118.34/
N406/	4.29 /	117.46/		N407/	0.77 /	117.77/	N408/	4.23 /	117.01/
N409/	4.03 /	116.51/		N410/	3.74 /	115.86/	N412/	2.69*/	118.99/
N413/	3.37*/	118.70/		N414/	5.16 /	118.78/	N415/	2.75*/	119.08/
N416/	2.23*/	119.06/		N417/	1.36 /	118.93/	N418/	0.92 /	120.82/
N419/	2.56*/	113.47/		N420/	2.52*/	114.76/	N421/	2.53*/	114.53/
N422/	3.35*/	112.48/		N423/	2.31*/	112.68/	N424/	3.81*/	112.07/
N425/	2.34*/	112.40/		N426/	4.18*/	111.63/	N428/	4.24*/	111.16/
N429/	4.77*/	110.79/		N430/	0.61 /	119.61/	N431/	2.15 /	118.82/
N432/	1.04 /	119.11/		N434/	0.73 /	119.53/	N435/	2.78*/	112.96/
N436/	1.96*/	113.53/		N437/	2.27*/	113.19/	N438/	2.95*/	112.53/
N439/	3.71*/	111.86/		N440/	2.01*/	112.06/	N441/	2.48*/	112.21/
N442/	4.06*/	111.28/		N443/	1.96*/	111.34/	N444/	2.61*/	111.64/
N445/	4.27*/	109.75/		N446/	1.34*/	109.83/	N447/	3.83*/	108.88/
N448/	2.01*/	120.78/		N449/	2.23*/	120.22/	N450/	1.79*/	122.53/
N451/	1.75*/	123.02/		N453/	1.94 /	115.70/	N454/	2.17*/	116.46/
N455/	1.34*/	113.02/		N456/	1.93*/	112.19/	N457/	1.43*/	112.45/
N458/	1.39 /	109.78/		N459/	3.05 /	107.66/	N460/	0.99 /	105.10/
N461/	4.31 /	98.41/		N464/	3.05*/	128.14/	N465/	3.10*/	129.75/
N466/	3.31*/	129.50/		N467/	1.92*/	128.22/	N468/	2.41*/	126.00/
N469/	1.78 /	120.44/		N470/	0.97 /	118.68/	N471/	1.21*/	126.09/
N472/	1.12*/	126.06/		N473/	0.46 /	120.53/	N487/	1.02 /	119.59/
N489/	2.44 /	120.87/		N490/	1.60 /	123.50/	N491/	0.86 /	125.03/
N492/	1.78*/	128.12/		N493/	1.00 /	127.04/	N497/	0.37 /	108.22/
N499/	7.21 /	98.41/		N509/	3.56*/	112.44/	N513/	1.33 /	111.34/
N514/	0.65 /	108.76/		N516/	4.53 /	94.53/	N524/	0.35 /	133.80/
N525/	0.51 /	131.68/		N526/	0.34 /	133.80/	N527/	0.51 /	131.11/
N528/	4.28*/	126.94/		N529/	3.89 /	123.53/	N530/	4.41*/	104.12/

N689/	1.50 /	119.50/	N494/	0.95 /	122.36/	N541/	2.20*/	114.29/
EL329/	2.41*/	114.93/	N427/	3.01*/	112.65/	N411/	3.62 /	115.62/
N295/	3.62 /	110.55/	N311/	4.42 /	108.52/	N462/	1.93*/	129.71/

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

L210/	2.89 /	L211/	3.14 /	L212/	3.30 /
L213/	2.49 /	L214/	5.37 /	L217/	0.95 /
L220/	11.28 /	L221/	13.22 /	L222/	13.39*/
L223/	0.23 /	L224/	0.23 /	L225/	0.23 /
L226/	0.93 /	L227/	1.58 /	L228/	2.49 /
L229/	2.95 /	L230/	3.46 /	L231/	3.80 /
L232/	6.04 /	L233/	6.33 /	L234/	9.41 /
L235/	0.45 /	L236/	2.13 /	L237/	3.08 /
L238/	3.69 /	L239/	4.06 /	L240/	1.24 /
L241/	5.36 /	L242/	1.85 /	L243/	2.48 /
L246/	24.36 /	L247/	28.80 /	L248/	1.98 /
L249/	1.58 /	L250/	3.00*/	L251/	1.30 /
L254/	4.46 /	L255/	9.05 /	L258/	0.85 /
L259/	1.05 /	L260/	1.25*/	L261/	0.98 /
L262/	2.30*/	L263/	1.20 /	L272/	9.45 /
L273/	9.45 /	L274/	8.56*/	L275/	1.51 /
L277/	1.51 /	L281/	3.42 /	L282/	5.02*/
L283/	1.50 /	L287/	1.82 /	L289/	2.26 /
L308/	26.49 /	L317/	1.36 /	L319/	1.88 /
L320/	1.88 /	L334/	0.43*/	L335/	0.86*/
L336/	1.29 /	L337/	1.29*/	L338/	21.25 /
L339/	21.25 /	L340/	30.17 /	L341/	30.17*/
L342/	4.59 /	L343/	2.63 /	L344/	12.33 /
L346/	25.60 /	L347/	56.33 /	L348/	56.33 /
L349/	56.33 /	L350/	56.33 /	L351/	8.25 /
L352/	8.25 /	L354/	73.45 /	L361/	2.31 /
L362/	2.16 /	L363/	4.52 /	L364/	2.65 /
L365/	1.64 /	L366/	9.81 /	L367/	9.81 /
L368/	2.28 /	L369/	3.49 /	L370/	19.12 /
L373/	19.12 /	L374/	3.35 /	L375/	3.35 /
L376/	14.29 /	L386/	36.63 /	L387/	36.62 /
L388/	2.23 /	L389/	50.33 /	L390/	1.61 /
L391/	55.18 /	L392/	65.37 /	L393/	65.37 /
L395/	4.24 /	L396/	8.35 /	L397/	4.58 /
L398/	4.32 /	L399/	4.04 /	L402/	7.12 /
L403/	7.12 /	L404/	7.12 /	L405/	4.85 /
L406/	11.97 /	L407/	3.83 /	L408/	15.80 /
L410/	20.14 /	L411/	20.14 /	L413/	2.27 /
L415/	2.27 /	L417/	2.85 /	L418/	5.17 /
L419/	8.02 /	L420/	8.02 /	L421/	1.66 /
L422/	3.80 /	L423/	13.65 /	L424/	18.55 /
L425/	0.93 /	L426/	3.97 /	L427/	40.59 /
L428/	0.94 /	L429/	42.48 /	L430/	2.45 /
L431/	2.28 /	L432/	2.28 /	L435/	2.87 /
L436/	2.87 /	L437/	2.87 /	L438/	1.67 /
L439/	4.55 /	L440/	4.55 /	L441/	48.94 /
L442/	48.94 /	L443/	48.94*/	L446/	5.92 /
L448/	0.97 /	L449/	9.51 /	L450/	13.39 /
L451/	14.72 /	L452/	1.29 /	L453/	0.93 /
L454/	0.68 /	L466/	4.05 /	L468/	4.05 /
L470/	9.48 /	L471/	0.38*/	L472/	4.46 /
L490/	6.72 /	L496/	0.61*/	L497/	0.60*/
L498/	1.21 /	L501/	12.33 /	L502/	12.33 /
L503/	73.45 /	L504/	73.45 /	L505/	10.60 /
L506/	10.90 /	L509/	2.99 /	L511/	11.04 /
L512/	17.90*/	L514/	8.04 /	L515/	17.70 /
CH21/	13.57 /	L474/	9.48 /	L523/	9.48 /
L525/	17.16 /	L527/	4.52 /	L528/	4.73 /
L529/	4.34 /	L533/	4.34 /	L537/	4.34 /
L394/	65.36 /	L276/	3.15*/	L288/	4.16 /
L412/	2.24 /	L447/	2.13 /	L321/	0.51 /
FREE # 1/	13.39 /	FREE # 2/	28.80 /	FREE # 3/	3.00 /
FREE # 4/	9.45 /	FREE # 5/	1.42 /	FREE # 6/	2.30 /
FREE # 7/	9.45 /	FREE # 8/	8.56 /	FREE # 9/	5.02 /

FREE #10/	26.49 /	FREE #11/	1.88 /	FREE #12/	1.29 /
FREE #13/	30.17 /	FREE #14/	73.45 /	FREE #15/	19.12 /
FREE #16/	48.94 /	FREE #17/	4.46 /	FREE #18/	2.99 /
FREE #19/	17.90 /	FREE #20/	1.53 /	FREE #21/	9.48 /
FREE #22/	65.36 /	FREE #23/	3.15 /	FREE #24/	4.16 /

Conduit/	Velocity				
L210/	3.66 /	L211/	4.03 /	L212/	2.64 /
L213/	3.14 /	L214/	3.02 /	L217/	2.83 /
L220/	4.65 /	L221/	4.16 /	L222/	9.62 /
L223/	1.44 /	L224/	1.33 /	L225/	0.67 /
L226/	1.27 /	L227/	2.01 /	L228/	3.23 /
L229/	2.59 /	L230/	2.92 /	L231/	3.09 /
L232/	3.40 /	L233/	3.56 /	L234/	2.99 /
L235/	0.56 /	L236/	2.69 /	L237/	3.89 /
L238/	4.75 /	L239/	5.19 /	L240/	3.01 /
L241/	4.43 /	L242/	3.40 /	L243/	3.61 /
L246/	4.94 /	L247/	5.85 /	L248/	2.53 /
L249/	3.28 /	L250/	9.20 /	L251/	3.09 /
L254/	2.51 /	L255/	2.86 /	L258/	2.71 /
L259/	1.99 /	L260/	3.33 /	L261/	2.69 /
L262/	9.68 /	L263/	2.90 /	L272/	0.60 /
L273/	3.90 /	L274/	12.58 /	L275/	3.14 /
L277/	3.11 /	L281/	4.63 /	L282/	14.80 /
L283/	3.11 /	L287/	3.32 /	L289/	3.47 /
L308/	4.03 /	L317/	1.32 /	L319/	2.86 /
L320/	3.40 /	L334/	2.13 /	L335/	2.63 /
L336/	2.96 /	L337/	5.39 /	L338/	4.08 /
L339/	4.37 /	L340/	5.70 /	L341/	11.73 /
L342/	4.06 /	L343/	3.65 /	L344/	2.40 /
L346/	2.66 /	L347/	4.46 /	L348/	4.30 /
L349/	4.34 /	L350/	4.52 /	L351/	2.95 /
L352/	2.91 /	L354/	5.73 /	L361/	3.67 /
L362/	3.53 /	L363/	3.26 /	L364/	3.82 /
L365/	3.05 /	L366/	3.42 /	L367/	3.44 /
L368/	3.46 /	L369/	4.50 /	L370/	2.86 /
L373/	2.80 /	L374/	4.30 /	L375/	2.10 /
L376/	2.65 /	L386/	3.03 /	L387/	3.01 /
L388/	2.82 /	L389/	3.23 /	L390/	2.46 /
L391/	3.53 /	L392/	4.23 /	L393/	4.38 /
L395/	3.43 /	L396/	1.35 /	L397/	3.70 /
L398/	3.50 /	L399/	1.71 /	L402/	2.95 /
L403/	2.95 /	L404/	2.95 /	L405/	2.74 /
L406/	2.43 /	L407/	3.10 /	L408/	2.65 /
L410/	2.84 /	L411/	2.84 /	L413/	1.67 /
L415/	3.75 /	L417/	3.61 /	L418/	2.92 /
L419/	2.55 /	L420/	2.54 /	L421/	2.10 /
L422/	3.08 /	L423/	2.77 /	L424/	3.11 /
L425/	1.18 /	L426/	3.21 /	L427/	4.20 /
L428/	1.19 /	L429/	4.30 /	L430/	3.10 /
L431/	2.88 /	L432/	2.89 /	L435/	3.63 /
L436/	3.62 /	L437/	2.27 /	L438/	2.12 /
L439/	3.71 /	L440/	2.65 /	L441/	4.94 /
L442/	5.94 /	L443/	16.39 /	L446/	3.33 /
L448/	1.23 /	L449/	3.93 /	L450/	4.26 /
L451/	5.09 /	L452/	1.60 /	L453/	1.14 /
L454/	1.77 /	L466/	4.24 /	L468/	2.41 /
L470/	4.31 /	L471/	1.72 /	L472/	5.65 /
L490/	3.55 /	L496/	2.36 /	L497/	2.34 /
L498/	3.01 /	L501/	1.67 /	L502/	1.25 /
L503/	4.73 /	L504/	5.10 /	L505/	4.38 /
L506/	4.49 /	L509/	9.37 /	L511/	6.26 /
L512/	16.16 /	L514/	3.33 /	L515/	2.73 /
CH21/	0.12 /	L474/	5.35 /	L523/	1.21 /
L525/	2.45 /	L527/	2.55 /	L528/	3.90 /
L529/	2.45 /	L533/	2.45 /	L537/	2.44 /
L394/	4.64 /	L276/	11.60 /	L288/	9.76 /
L412/	4.50 /	L447/	1.20 /	L321/	1.50 /

Conduit/	Width				
L210/	0.01 /	L211/	0.09 /	L212/	0.43 /
L213/	0.01 /	L214/	0.01 /	L217/	0.99 /
L220/	0.04 /	L221/	0.57 /	L222/	1.89 /
L223/	0.87 /	L224/	0.89 /	L225/	0.92 /
L226/	0.61 /	L227/	0.01 /	L228/	0.10 /
L229/	0.71 /	L230/	0.13 /	L231/	0.06 /
L232/	0.06 /	L233/	0.01 /	L234/	0.01 /
L235/	0.36 /	L236/	0.01 /	L237/	0.01 /
L238/	0.08 /	L239/	0.08 /	L240/	1.00 /
L241/	0.11 /	L242/	0.95 /	L243/	0.76 /
L246/	0.11 /	L247/	1.05 /	L248/	0.39 /
L249/	0.97 /	L250/	0.87 /	L251/	0.99 /
L254/	0.01 /	L255/	0.13 /	L258/	0.99 /
L259/	1.53 /	L260/	1.05 /	L261/	0.99 /
L262/	0.80 /	L263/	0.98 /	L272/	1.76 /
L273/	0.01 /	L274/	1.29 /	L275/	0.97 /
L277/	0.96 /	L281/	0.10 /	L282/	0.88 /
L283/	0.97 /	L287/	0.94 /	L289/	0.83 /
L308/	3.06 /	L317/	0.96 /	L319/	1.47 /
L320/	0.94 /	L334/	0.91 /	L335/	0.99 /
L336/	0.98 /	L337/	0.81 /	L338/	2.77 /
L339/	2.84 /	L340/	3.41 /	L341/	2.70 /
L342/	0.81 /	L343/	0.66 /	L344/	0.59 /
L346/	0.02 /	L347/	0.09 /	L348/	0.82 /
L349/	1.41 /	L350/	1.59 /	L351/	1.49 /
L352/	1.43 /	L354/	3.81 /	L361/	0.87 /
L362/	0.89 /	L363/	1.32 /	L364/	0.75 /
L365/	0.95 /	L366/	1.39 /	L367/	1.42 /
L368/	0.82 /	L369/	0.08 /	L370/	1.82 /
L373/	1.45 /	L374/	0.09 /	L375/	1.06 /
L376/	1.94 /	L386/	2.19 /	L387/	1.99 /
L388/	0.01 /	L389/	1.92 /	L390/	0.83 /
L391/	1.89 /	L392/	2.18 /	L393/	2.81 /
L395/	0.01 /	L396/	2.26 /	L397/	0.01 /
L398/	0.01 /	L399/	1.76 /	L402/	0.01 /
L403/	0.01 /	L404/	0.01 /	L405/	0.01 /
L406/	0.01 /	L407/	0.01 /	L408/	0.01 /
L410/	0.01 /	L411/	0.01 /	L413/	1.24 /
L415/	0.90 /	L417/	0.01 /	L418/	0.01 /
L419/	0.01 /	L420/	0.01 /	L421/	0.01 /
L422/	0.01 /	L423/	0.01 /	L424/	0.01 /
L425/	0.01 /	L426/	0.01 /	L427/	0.05 /
L428/	0.01 /	L429/	0.41 /	L430/	0.01 /
L431/	0.01 /	L432/	0.01 /	L435/	0.01 /
L436/	0.04 /	L437/	0.41 /	L438/	0.01 /
L439/	0.08 /	L440/	0.72 /	L441/	1.29 /
L442/	2.41 /	L443/	2.86 /	L446/	0.01 /
L448/	0.01 /	L449/	0.02 /	L450/	0.43 /
L451/	1.30 /	L452/	0.11 /	L453/	0.28 /
L454/	0.98 /	L466/	1.11 /	L468/	1.98 /
L470/	1.06 /	L471/	0.79 /	L472/	0.04 /
L490/	1.52 /	L496/	0.96 /	L497/	0.95 /
L498/	1.00 /	L501/	0.72 /	L502/	0.28 /
L503/	1.99 /	L504/	3.16 /	L505/	0.01 /
L506/	0.01 /	L509/	0.87 /	L511/	0.11 /
L512/	1.68 /	L514/	0.01 /	L515/	2.04 /
CH21/	100.00 /	L474/	0.07 /	L523/	11.35 /
L525/	1.19 /	L527/	0.01 /	L528/	0.11 /
L529/	0.01 /	L533/	0.01 /	L537/	0.01 /
L394/	3.38 /	L276/	0.84 /	L288/	1.05 /
L412/	0.98 /	L447/	0.01 /	L321/	0.95 /
Junction/	EGL				
N221/	1.76 /	N222/	2.76 /	N223/	2.26 /
N224/	3.47 /	N227/	2.63 /	N228/	3.08 /
N230/	4.03 /	N231/	0.45 /	N233/	2.08 /
N234/	3.25 /	N235/	0.26 /	N236/	1.03 /
N237/	0.82 /	N238/	2.54 /	N239/	0.90 /

N240/	1.60 /	N241/	3.54 /	N242/	2.04 /
N243/	2.88 /	N244/	2.57 /	N245/	3.44 /
N246/	3.32 /	N247/	4.10 /	N248/	1.05 /
N249/	2.14 /	N250/	2.49 /	N251/	1.27 /
N252/	3.17 /	N253/	5.52 /	N254/	0.52 /
N255/	5.24 /	N256/	0.66 /	N257/	0.84 /
N259/	2.95 /	N260/	2.63 /	N261/	0.98 /
N262/	0.61 /	N263/	0.55 /	N264/	3.76 /
N265/	0.55 /	W800/	3.13 /	W801/	2.58 /
OUT802/	2.13 /	N272/	1.25 /	N273/	0.43 /
N274/	0.25 /	N275/	1.99 /	N276/	0.49 /
N277/	0.41 /	N278/	4.94 /	N279/	0.55 /
N288/	4.68 /	N289/	4.48 /	N290/	3.92 /
N291/	0.53 /	N292/	7.33 /	N293/	0.62 /
N294/	0.47 /	N296/	0.62 /	N301/	1.92 /
N302/	0.73 /	N303/	6.07 /	N304/	0.61 /
N309/	0.67 /	N310/	1.08 /	N312/	0.79 /
YEL327/	2.16 /	N331/	5.96 /	W104/	0.95 /
N342/	1.26 /	N343/	0.64 /	N344/	0.67 /
N345/	0.40 /	N356/	0.29 /	N357/	0.49 /
N358/	0.68 /	N359/	0.41 /	N360/	2.97 /
N361/	2.08 /	N362/	2.26 /	N363/	3.40 /
N364/	1.35 /	N365/	7.26 /	N366/	1.11 /
N367/	0.89 /	N368/	2.89 /	N369/	3.52 /
N370/	5.26 /	N371/	4.64 /	N372/	5.03 /
N373/	4.62 /	N374/	4.22 /	N375/	4.61 /
N376/	1.66 /	N377/	1.82 /	N378/	3.71 /
N379/	4.64 /	N381/	1.36 /	N382/	1.94 /
N383/	0.76 /	N384/	0.74 /	N386/	0.84 /
N387/	0.64 /	N388/	1.89 /	N389/	3.11 /
N390/	0.79 /	N391/	1.46 /	N392/	2.89 /
N394/	4.25 /	N395/	2.73 /	N396/	1.58 /
N397/	2.70 /	N398/	2.35 /	N399/	3.79 /
N403/	3.86 /	N404/	4.42 /	N405/	1.71 /
N406/	4.46 /	N407/	0.77 /	N408/	4.46 /
N409/	4.30 /	N410/	4.04 /	N412/	2.69 /
N413/	3.59 /	N414/	5.35 /	N415/	2.75 /
N416/	2.23 /	N417/	1.45 /	N418/	0.92 /
N419/	2.70 /	N420/	2.52 /	N421/	2.67 /
N422/	3.48 /	N423/	2.31 /	N424/	3.96 /
N425/	2.34 /	N426/	4.29 /	N428/	4.36 /
N429/	4.92 /	N430/	0.61 /	N431/	2.65 /
N432/	1.27 /	N434/	0.73 /	N435/	2.98 /
N436/	1.96 /	N437/	2.27 /	N438/	3.05 /
N439/	3.86 /	N440/	2.01 /	N441/	2.48 /
N442/	4.22 /	N443/	1.96 /	N444/	2.61 /
N445/	4.54 /	N446/	1.34 /	N447/	4.12 /
N448/	2.01 /	N449/	2.37 /	N450/	1.92 /
N451/	1.75 /	N453/	2.14 /	N454/	2.17 /
N455/	1.54 /	N456/	2.01 /	N457/	1.43 /
N458/	1.60 /	N459/	3.43 /	N460/	1.54 /
N461/	8.48 /	N464/	3.23 /	N465/	3.10 /
N466/	3.48 /	N467/	1.92 /	N468/	2.65 /
N469/	5.60 /	N470/	2.53 /	N471/	1.21 /
N472/	1.12 /	N473/	0.46 /	N487/	1.84 /
N489/	2.82 /	N490/	1.64 /	N491/	0.86 /
N492/	1.78 /	N493/	1.50 /	N497/	0.37 /
N499/	8.57 /	N509/	3.56 /	N513/	1.33 /
N514/	2.90 /	N516/	8.59 /	N524/	0.35 /
N525/	0.59 /	N526/	0.34 /	N527/	0.65 /
N528/	4.32 /	N529/	4.24 /	N530/	4.71 /
N689/	1.94 /	N494/	1.23 /	N541/	2.29 /
EL329/	2.41 /	N427/	3.10 /	N411/	3.95 /
N295/	5.71 /	N311/	5.90 /	N462/	1.93 /

Junction/ Freeboard

N221/	6.43 /	N222/	5.09 /	N223/	4.14 /
N224/	6.04 /	N227/	8.43 /	N228/	1.79 /
N230/	6.22 /	N231/	4.11 /	N233/	5.11 /

N234/	10.59 /	N235/	18.29 /	N236/	7.34 /
N237/	6.63 /	N238/	4.77 /	N239/	6.52 /
N240/	3.89 /	N241/	7.08 /	N242/	5.24 /
N243/	4.62 /	N244/	3.43 /	N245/	2.74 /
N246/	2.05 /	N247/	5.54 /	N248/	3.47 /
N249/	1.87 /	N250/	9.77 /	N251/	10.37 /
N252/	5.97 /	N253/	8.57 /	N254/	7.05 /
N255/	7.46 /	N256/	11.81 /	N257/	9.95 /
N259/	2.96 /	N260/	2.00 /	N261/	6.47 /
N262/	4.91 /	N263/	4.56 /	N264/	6.91 /
N265/	2.99 /	W800/	4.42 /	W801/	2.47 /
OUT802/	0.00 /	N272/	5.21 /	N273/	6.29 /
N274/	4.54 /	N275/	12.28 /	N276/	5.66 /
N277/	5.68 /	N278/	14.52 /	N279/	3.73 /
N288/	14.93 /	N289/	14.93 /	N290/	14.38 /
N291/	3.84 /	N292/	12.53 /	N293/	6.86 /
N294/	5.34 /	N296/	2.80 /	N301/	3.58 /
N302/	5.71 /	N303/	11.03 /	N304/	2.84 /
N309/	5.58 /	N310/	4.00 /	N312/	2.40 /
YEL327/	2.84 /	N331/	2.59 /	W104/	1.99 /
N342/	6.01 /	N343/	3.88 /	N344/	10.29 /
N345/	8.91 /	N356/	2.78 /	N357/	3.12 /
N358/	6.80 /	N359/	6.41 /	N360/	6.18 /
N361/	5.08 /	N362/	5.72 /	N363/	8.40 /
N364/	8.46 /	N365/	6.48 /	N366/	7.42 /
N367/	2.18 /	N368/	2.95 /	N369/	3.05 /
N370/	3.18 /	N371/	3.42 /	N372/	5.74 /
N373/	6.02 /	N374/	8.29 /	N375/	7.96 /
N376/	5.91 /	N377/	6.00 /	N378/	6.61 /
N379/	5.67 /	N381/	2.62 /	N382/	3.42 /
N383/	6.01 /	N384/	4.80 /	N386/	7.19 /
N387/	8.06 /	N388/	4.56 /	N389/	5.59 /
N390/	8.78 /	N391/	7.25 /	N392/	6.61 /
N394/	7.54 /	N395/	5.56 /	N396/	5.63 /
N397/	6.54 /	N398/	9.38 /	N399/	6.02 /
N403/	7.48 /	N404/	8.93 /	N405/	12.91 /
N406/	7.03 /	N407/	14.81 /	N408/	8.21 /
N409/	6.81 /	N410/	8.36 /	N412/	6.25 /
N413/	4.80 /	N414/	3.22 /	N415/	5.30 /
N416/	6.15 /	N417/	2.83 /	N418/	3.58 /
N419/	6.73 /	N420/	9.14 /	N421/	6.68 /
N422/	5.88 /	N423/	7.72 /	N424/	6.49 /
N425/	7.99 /	N426/	5.61 /	N428/	3.63 /
N429/	5.39 /	N430/	8.61 /	N431/	4.25 /
N432/	1.62 /	N434/	6.74 /	N435/	7.29 /
N436/	11.87 /	N437/	9.71 /	N438/	7.29 /
N439/	6.28 /	N440/	10.34 /	N441/	8.69 /
N442/	4.97 /	N443/	7.06 /	N444/	6.76 /
N445/	3.55 /	N446/	8.57 /	N447/	4.32 /
N448/	4.84 /	N449/	5.38 /	N450/	2.69 /
N451/	3.38 /	N453/	4.13 /	N454/	8.94 /
N455/	5.26 /	N456/	4.09 /	N457/	9.95 /
N458/	4.22 /	N459/	2.59 /	N460/	5.00 /
N461/	11.69 /	N464/	4.38 /	N465/	5.37 /
N466/	2.47 /	N467/	2.74 /	N468/	3.95 /
N469/	8.22 /	N470/	8.32 /	N471/	7.21 /
N472/	3.39 /	N473/	5.70 /	N487/	2.63 /
N489/	3.76 /	N490/	2.41 /	N491/	2.16 /
N492/	2.28 /	N493/	2.86 /	N497/	4.58 /
N499/	12.64 /	N509/	5.46 /	N513/	6.48 /
N514/	9.14 /	N516/	16.47 /	N524/	2.66 /
N525/	4.52 /	N526/	3.40 /	N527/	4.89 /
N528/	2.56 /	N529/	10.73 /	N530/	5.12 /
N689/	3.77 /	N494/	3.64 /	N541/	5.71 /
EL329/	3.07 /	N427/	5.85 /	N411/	13.33 /
N295/	9.55 /	N311/	5.78 /	N462/	3.29 /

Junction/	Max Volume				
N221/	22.15 /	N222/	32.09 /	N223/	16.41 /

N224/	41.73 /	N227/	33.07 /	N228/	38.70 /
N230/	29.40 /	N231/	5.62 /	N233/	10.31 /
N234/	22.74 /	N235/	3.32 /	N236/	3.52 /
N237/	5.02 /	N238/	31.07 /	N239/	10.91 /
N240/	19.85 /	N241/	14.56 /	N242/	22.62 /
N243/	27.77 /	N244/	30.46 /	N245/	40.92 /
N246/	38.78 /	N247/	47.65 /	N248/	13.17 /
N249/	26.95 /	N250/	31.23 /	N251/	15.99 /
N252/	27.91 /	N253/	29.95 /	N254/	6.58 /
N255/	45.89 /	N256/	8.34 /	N257/	10.52 /
N259/	32.33 /	N260/	26.39 /	N261/	12.33 /
N262/	7.70 /	N263/	4.78 /	N264/	30.79 /
N265/	6.87 /	W800/	38.99 /	W801/	31.20 /
OUT802/	25.13 /	N272/	6.29 /	N273/	5.34 /
N274/	2.43 /	N275/	22.87 /	N276/	6.19 /
N277/	3.46 /	N278/	43.73 /	N279/	6.88 /
N288/	115.38 /	N289/	56.17 /	N290/	49.27 /
N291/	6.64 /	N292/	61.20 /	N293/	7.75 /
N294/	3.96 /	N296/	7.85 /	N301/	24.12 /
N302/	4.96 /	N303/	33.55 /	N304/	7.69 /
N309/	8.42 /	N310/	4.99 /	N312/	9.93 /
YEL327/	1159.95 /	N331/	71.75 /	W104/	11.99 /
N342/	7.63 /	N343/	6.48 /	N344/	8.44 /
N345/	5.05 /	N356/	3.62 /	N357/	5.25 /
N358/	7.20 /	N359/	3.50 /	N360/	31.67 /
N361/	26.15 /	N362/	25.19 /	N363/	25.15 /
N364/	10.60 /	N365/	64.34 /	N366/	13.99 /
N367/	11.14 /	N368/	36.36 /	N369/	43.07 /
N370/	64.75 /	N371/	58.26 /	N372/	59.39 /
N373/	54.51 /	N374/	49.35 /	N375/	53.92 /
N376/	20.92 /	N377/	21.20 /	N378/	41.90 /
N379/	51.90 /	N381/	13.64 /	N382/	21.57 /
N383/	9.53 /	N384/	9.29 /	N386/	10.56 /
N387/	8.03 /	N388/	21.42 /	N389/	36.94 /
N390/	9.98 /	N391/	18.36 /	N392/	36.82 /
N394/	51.90 /	N395/	34.25 /	N396/	16.24 /
N397/	32.51 /	N398/	29.49 /	N399/	46.20 /
N403/	46.77 /	N404/	53.73 /	N405/	21.47 /
N406/	53.96 /	N407/	9.66 /	N408/	53.10 /
N409/	50.60 /	N410/	47.06 /	N412/	33.74 /
N413/	42.40 /	N414/	64.85 /	N415/	34.54 /
N416/	28.01 /	N417/	17.13 /	N418/	11.57 /
N419/	32.17 /	N420/	31.71 /	N421/	31.84 /
N422/	42.08 /	N423/	29.02 /	N424/	47.85 /
N425/	29.35 /	N426/	52.58 /	N428/	53.25 /
N429/	59.99 /	N430/	7.63 /	N431/	27.01 /
N432/	13.07 /	N434/	9.15 /	N435/	34.95 /
N436/	24.68 /	N437/	28.54 /	N438/	37.07 /
N439/	46.65 /	N440/	25.21 /	N441/	31.14 /
N442/	51.03 /	N443/	24.67 /	N444/	32.83 /
N445/	53.66 /	N446/	16.85 /	N447/	48.17 /
N448/	26.10 /	N449/	28.81 /	N450/	23.32 /
N451/	22.81 /	N453/	24.33 /	N454/	27.32 /
N455/	16.84 /	N456/	24.25 /	N457/	17.91 /
N458/	17.45 /	N459/	38.36 /	N460/	12.41 /
N461/	54.16 /	N464/	38.38 /	N465/	38.99 /
N466/	41.57 /	N467/	24.14 /	N468/	30.29 /
N469/	22.40 /	N470/	12.15 /	N471/	15.18 /
N472/	14.02 /	N473/	5.78 /	N487/	12.83 /
N489/	30.69 /	N490/	20.04 /	N491/	10.76 /
N492/	22.34 /	N493/	12.57 /	N497/	4.65 /
N499/	90.60 /	N509/	44.74 /	N513/	16.66 /
N514/	8.12 /	N516/	56.92 /	N524/	4.35 /
N525/	6.37 /	N526/	4.32 /	N527/	6.37 /
N528/	53.74 /	N529/	48.88 /	N530/	55.47 /
N689/	18.85 /	N494/	11.88 /	N541/	27.60 /
EL329/	30.24 /	N427/	37.84 /	N411/	45.49 /
N295/	45.49 /	N311/	55.54 /	N462/	24.28 /

Junction/Total Fldng

N221/	0.00 /	N222/	0.00 /	N223/	0.00 /
N224/	0.00 /	N227/	0.00 /	N228/	0.00 /
N230/	0.00 /	N231/	0.00 /	N233/	0.00 /
N234/	0.00 /	N235/	0.00 /	N236/	0.00 /
N237/	0.00 /	N238/	0.00 /	N239/	0.00 /
N240/	0.00 /	N241/	0.00 /	N242/	0.00 /
N243/	0.00 /	N244/	0.00 /	N245/	0.00 /
N246/	0.00 /	N247/	0.00 /	N248/	0.00 /
N249/	0.00 /	N250/	0.00 /	N251/	0.00 /
N252/	0.00 /	N253/	0.00 /	N254/	0.00 /
N255/	0.00 /	N256/	0.00 /	N257/	0.00 /
N259/	0.00 /	N260/	0.00 /	N261/	0.00 /
N262/	0.00 /	N263/	0.00 /	N264/	0.00 /
N265/	0.00 /	W800/	0.00 /	W801/	0.00 /
OUT802/	0.00 /	N272/	0.00 /	N273/	0.00 /
N274/	0.00 /	N275/	0.00 /	N276/	0.00 /
N277/	0.00 /	N278/	0.00 /	N279/	0.00 /
N288/	0.00 /	N289/	0.00 /	N290/	0.00 /
N291/	0.00 /	N292/	0.00 /	N293/	0.00 /
N294/	0.00 /	N296/	0.00 /	N301/	0.00 /
N302/	0.00 /	N303/	0.00 /	N304/	0.00 /
N309/	0.00 /	N310/	0.00 /	N312/	0.00 /
YEL327/	125.62 /	N331/	0.00 /	W104/	0.00 /
N342/	0.00 /	N343/	0.00 /	N344/	0.00 /
N345/	0.00 /	N356/	0.00 /	N357/	0.00 /
N358/	0.00 /	N359/	0.00 /	N360/	0.00 /
N361/	0.00 /	N362/	0.00 /	N363/	0.00 /
N364/	0.00 /	N365/	0.00 /	N366/	0.00 /
N367/	0.00 /	N368/	0.00 /	N369/	0.00 /
N370/	0.00 /	N371/	0.00 /	N372/	0.00 /
N373/	0.00 /	N374/	0.00 /	N375/	0.00 /
N376/	0.00 /	N377/	0.00 /	N378/	0.00 /
N379/	0.00 /	N381/	0.00 /	N382/	0.00 /
N383/	0.00 /	N384/	0.00 /	N386/	0.00 /
N387/	0.00 /	N388/	0.00 /	N389/	0.00 /
N390/	0.00 /	N391/	0.00 /	N392/	0.00 /
N394/	0.00 /	N395/	0.00 /	N396/	0.00 /
N397/	0.00 /	N398/	0.00 /	N399/	0.00 /
N403/	0.00 /	N404/	0.00 /	N405/	0.00 /
N406/	0.00 /	N407/	0.00 /	N408/	0.00 /
N409/	0.00 /	N410/	0.00 /	N412/	0.00 /
N413/	0.00 /	N414/	0.00 /	N415/	0.00 /
N416/	0.00 /	N417/	0.00 /	N418/	0.00 /
N419/	0.00 /	N420/	0.00 /	N421/	0.00 /
N422/	0.00 /	N423/	0.00 /	N424/	0.00 /
N425/	0.00 /	N426/	0.00 /	N428/	0.00 /
N429/	0.00 /	N430/	0.00 /	N431/	0.00 /
N432/	0.00 /	N434/	0.00 /	N435/	0.00 /
N436/	0.00 /	N437/	0.00 /	N438/	0.00 /
N439/	0.00 /	N440/	0.00 /	N441/	0.00 /
N442/	0.00 /	N443/	0.00 /	N444/	0.00 /
N445/	0.00 /	N446/	0.00 /	N447/	0.00 /
N448/	0.00 /	N449/	0.00 /	N450/	0.00 /
N451/	0.00 /	N453/	0.00 /	N454/	0.00 /
N455/	0.00 /	N456/	0.00 /	N457/	0.00 /
N458/	0.00 /	N459/	0.00 /	N460/	0.00 /
N461/	0.00 /	N464/	0.00 /	N465/	0.00 /
N466/	0.00 /	N467/	0.00 /	N468/	0.00 /
N469/	0.00 /	N470/	0.00 /	N471/	0.00 /
N472/	0.00 /	N473/	0.00 /	N487/	0.00 /
N489/	0.00 /	N490/	0.00 /	N491/	0.00 /
N492/	0.00 /	N493/	0.00 /	N497/	0.00 /
N499/	0.00 /	N509/	0.00 /	N513/	0.00 /
N514/	0.00 /	N516/	0.00 /	N524/	0.00 /
N525/	0.00 /	N526/	0.00 /	N527/	0.00 /
N528/	0.00 /	N529/	0.00 /	N530/	0.00 /
N689/	0.00 /	N494/	0.00 /	N541/	0.00 /
EL329/	0.00 /	N427/	0.00 /	N411/	0.00 /

N295/	0.00 /	N311/	0.00 /	N462/	0.00 /
Conduit/	Cross Sectional Area				
L210/	0.79 /	L211/	0.78 /	L212/	1.25 /
L213/	0.79 /	L214/	1.78 /	L217/	0.34 /
L220/	2.43 /	L221/	3.18 /	L222/	1.39 /
L223/	0.16 /	L224/	0.17 /	L225/	0.34 /
L226/	0.73 /	L227/	0.79 /	L228/	0.77 /
L229/	1.14 /	L230/	1.18 /	L231/	1.23 /
L232/	1.78 /	L233/	1.78 /	L234/	3.15 /
L235/	0.81 /	L236/	0.79 /	L237/	0.79 /
L238/	0.78 /	L239/	0.78 /	L240/	0.41 /
L241/	1.21 /	L242/	0.54 /	L243/	0.69 /
L246/	4.93 /	L247/	4.92 /	L248/	0.78 /
L249/	0.48 /	L250/	0.33 /	L251/	0.42 /
L254/	1.78 /	L255/	3.17 /	L258/	0.31 /
L259/	0.53 /	L260/	0.38 /	L261/	0.36 /
L262/	0.24 /	L263/	0.41 /	L272/	15.84 /
L273/	2.42 /	L274/	0.68 /	L275/	0.48 /
L277/	0.49 /	L281/	0.74 /	L282/	0.34 /
L283/	0.48 /	L287/	0.55 /	L289/	0.65 /
L308/	6.57 /	L317/	1.03 /	L319/	0.66 /
L320/	0.55 /	L334/	0.20 /	L335/	0.33 /
L336/	0.44 /	L337/	0.24 /	L338/	5.21 /
L339/	4.87 /	L340/	5.30 /	L341/	2.57 /
L342/	1.13 /	L343/	0.72 /	L344/	5.14 /
L346/	9.64 /	L347/	12.64 /	L348/	13.10 /
L349/	12.98 /	L350/	12.47 /	L351/	2.80 /
L352/	2.84 /	L354/	12.81 /	L361/	0.63 /
L362/	0.61 /	L363/	1.39 /	L364/	0.69 /
L365/	0.54 /	L366/	2.87 /	L367/	2.85 /
L368/	0.66 /	L369/	0.78 /	L370/	6.68 /
L373/	6.84 /	L374/	0.78 /	L375/	1.59 /
L376/	5.39 /	L386/	12.08 /	L387/	12.19 /
L388/	0.79 /	L389/	15.60 /	L390/	0.65 /
L391/	15.62 /	L392/	15.44 /	L393/	14.92 /
L395/	1.24 /	L396/	6.17 /	L397/	1.24 /
L398/	1.24 /	L399/	2.36 /	L402/	2.41 /
L403/	2.41 /	L404/	2.41 /	L405/	1.77 /
L406/	4.92 /	L407/	1.23 /	L408/	5.95 /
L410/	7.09 /	L411/	7.09 /	L413/	1.35 /
L415/	0.60 /	L417/	0.79 /	L418/	1.77 /
L419/	3.15 /	L420/	3.15 /	L421/	0.79 /
L422/	1.23 /	L423/	4.92 /	L424/	5.96 /
L425/	0.79 /	L426/	1.24 /	L427/	9.67 /
L428/	0.79 /	L429/	9.88 /	L430/	0.79 /
L431/	0.79 /	L432/	0.79 /	L435/	0.79 /
L436/	0.79 /	L437/	1.26 /	L438/	0.79 /
L439/	1.23 /	L440/	1.72 /	L441/	9.90 /
L442/	8.23 /	L443/	2.99 /	L446/	1.78 /
L448/	0.79 /	L449/	2.42 /	L450/	3.14 /
L451/	2.89 /	L452/	0.81 /	L453/	0.82 /
L454/	0.38 /	L466/	0.96 /	L468/	1.68 /
L470/	2.20 /	L471/	0.22 /	L472/	0.79 /
L490/	1.89 /	L496/	0.26 /	L497/	0.26 /
L498/	0.40 /	L501/	7.38 /	L502/	9.84 /
L503/	15.53 /	L504/	14.40 /	L505/	2.42 /
L506/	2.43 /	L509/	0.32 /	L511/	1.76 /
L512/	1.11 /	L514/	2.42 /	L515/	6.49 /
CH21/	110.51 /	L474/	1.77 /	L523/	7.81 /
L525/	6.99 /	L527/	1.77 /	L528/	1.21 /
L529/	1.77 /	L533/	1.77 /	L537/	1.78 /
L394/	14.10 /	L276/	0.27 /	L288/	0.43 /
L412/	0.50 /	L447/	1.77 /	L321/	0.34 /
Conduit/	Final Volume				
L210/	55.24 /	L211/	317.33 /	L212/	677.02 /
L213/	84.91 /	L214/	165.45 /	L217/	28.91 /
L220/	776.67 /	L221/	1254.33 /	L222/	253.29 /

L223/	11.56 /	L224/	50.40 /	L225/	100.02 /
L226/	301.51 /	L227/	186.04 /	L228/	313.37 /
L229/	650.38 /	L230/	470.24 /	L231/	490.53 /
L232/	545.42 /	L233/	851.63 /	L234/	1355.64 /
L235/	40.27 /	L236/	83.06 /	L237/	79.26 /
L238/	42.73 /	L239/	97.17 /	L240/	35.32 /
L241/	358.05 /	L242/	33.77 /	L243/	65.39 /
L246/	2041.16 /	L247/	452.79 /	L248/	36.83 /
L249/	35.14 /	L250/	25.43 /	L251/	29.16 /
L254/	1261.65 /	L255/	1428.82 /	L258/	31.44 /
L259/	147.67 /	L260/	24.09 /	L261/	50.30 /
L262/	18.09 /	L263/	48.42 /	L272/	538.49 /
L273/	283.61 /	L274/	83.65 /	L275/	51.22 /
L277/	56.80 /	L281/	79.16 /	L282/	16.28 /
L283/	54.95 /	L287/	59.93 /	L289/	78.28 /
L308/	663.24 /	L317/	1138.07 /	L319/	42.76 /
L320/	37.00 /	L334/	80.31 /	L335/	121.03 /
L336/	54.54 /	L337/	28.54 /	L338/	437.51 /
L339/	1265.70 /	L340/	1292.03 /	L341/	264.86 /
L342/	88.09 /	L343/	67.72 /	L344/	262.26 /
L346/	482.05 /	L347/	4993.46 /	L348/	5294.20 /
L349/	5192.57 /	L350/	1646.23 /	L351/	97.89 /
L352/	417.54 /	L354/	1204.03 /	L361/	29.58 /
L362/	40.39 /	L363/	569.74 /	L364/	33.33 /
L365/	33.83 /	L366/	1129.39 /	L367/	1036.58 /
L368/	81.61 /	L369/	76.84 /	L370/	1375.12 /
L373/	670.22 /	L374/	124.65 /	L375/	642.15 /
L376/	884.77 /	L386/	4117.92 /	L387/	4325.72 /
L388/	89.18 /	L389/	6006.52 /	L390/	69.40 /
L391/	7795.16 /	L392/	5868.14 /	L393/	6876.37 /
L395/	61.83 /	L396/	2482.13 /	L397/	70.51 /
L398/	59.29 /	L399/	713.15 /	L402/	207.44 /
L403/	960.04 /	L404/	895.00 /	L405/	125.90 /
L406/	1790.74 /	L407/	87.61 /	L408/	2185.23 /
L410/	2799.14 /	L411/	2133.25 /	L413/	542.98 /
L415/	29.62 /	L417/	53.73 /	L418/	127.65 /
L419/	815.74 /	L420/	1266.85 /	L421/	53.76 /
L422/	93.85 /	L423/	1954.83 /	L424/	1781.31 /
L425/	55.33 /	L426/	90.20 /	L427/	4697.69 /
L428/	69.28 /	L429/	3894.19 /	L430/	71.94 /
L431/	339.46 /	L432/	71.81 /	L435/	71.20 /
L436/	249.70 /	L437/	414.61 /	L438/	69.31 /
L439/	458.37 /	L440/	680.17 /	L441/	4010.22 /
L442/	3779.43 /	L443/	286.63 /	L446/	108.53 /
L448/	62.43 /	L449/	1093.49 /	L450/	1257.37 /
L451/	260.20 /	L452/	40.43 /	L453/	49.89 /
L454/	26.85 /	L466/	86.06 /	L468/	832.89 /
L470/	389.82 /	L471/	86.66 /	L472/	41.02 /
L490/	229.18 /	L496/	100.86 /	L497/	100.64 /
L498/	39.19 /	L501/	2766.38 /	L502/	4161.05 /
L503/	6784.97 /	L504/	6694.52 /	L505/	956.23 /
L506/	963.67 /	L509/	42.78 /	L511/	313.97 /
L512/	122.98 /	L514/	965.06 /	L515/	941.68 /
CH21/	102224.18 /	L474/	225.24 /	L523/	1335.12 /
L525/	3727.94 /	L527/	769.17 /	L528/	548.13 /
L529/	503.76 /	L533/	1285.41 /	L537/	805.54 /
L394/	2213.17 /	L276/	13.83 /	L288/	26.00 /
L412/	26.42 /	L447/	697.87 /	L321/	148.75 /

Conduit/ Hydraulic Radius

L210/	0.25 /	L211/	0.26 /	L212/	0.31 /
L213/	0.25 /	L214/	0.38 /	L217/	0.23 /
L220/	0.44 /	L221/	0.51 /	L222/	0.45 /
L223/	0.15 /	L224/	0.16 /	L225/	0.22 /
L226/	0.30 /	L227/	0.25 /	L228/	0.25 /
L229/	0.36 /	L230/	0.32 /	L231/	0.32 /
L232/	0.38 /	L233/	0.38 /	L234/	0.50 /
L235/	0.25 /	L236/	0.25 /	L237/	0.25 /
L238/	0.26 /	L239/	0.26 /	L240/	0.26 /

L241/	0.32 /	L242/	0.29 /	L243/	0.30 /
L246/	0.62 /	L247/	0.64 /	L248/	0.26 /
L249/	0.27 /	L250/	0.21 /	L251/	0.26 /
L254/	0.38 /	L255/	0.50 /	L258/	0.22 /
L259/	0.27 /	L260/	0.15 /	L261/	0.24 /
L262/	0.17 /	L263/	0.25 /	L272/	1.17 /
L273/	0.44 /	L274/	0.30 /	L275/	0.27 /
L277/	0.27 /	L281/	0.25 /	L282/	0.22 /
L283/	0.27 /	L287/	0.29 /	L289/	0.30 /
L308/	0.97 /	L317/	0.37 /	L319/	0.32 /
L320/	0.29 /	L334/	0.17 /	L335/	0.23 /
L336/	0.26 /	L337/	0.17 /	L338/	0.88 /
L339/	0.86 /	L340/	0.90 /	L341/	0.53 /
L342/	0.37 /	L343/	0.30 /	L344/	0.62 /
L346/	0.88 /	L347/	1.00 /	L348/	1.00 /
L349/	1.01 /	L350/	1.07 /	L351/	0.61 /
L352/	0.61 /	L354/	1.35 /	L361/	0.30 /
L362/	0.30 /	L363/	0.45 /	L364/	0.30 /
L365/	0.29 /	L366/	0.60 /	L367/	0.61 /
L368/	0.30 /	L369/	0.26 /	L370/	0.89 /
L373/	0.87 /	L374/	0.26 /	L375/	0.45 /
L376/	0.83 /	L386/	1.18 /	L387/	1.16 /
L388/	0.25 /	L389/	1.29 /	L390/	0.30 /
L391/	1.28 /	L392/	1.30 /	L393/	1.35 /
L395/	0.31 /	L396/	0.91 /	L397/	0.31 /
L398/	0.31 /	L399/	0.59 /	L402/	0.44 /
L403/	0.44 /	L404/	0.44 /	L405/	0.38 /
L406/	0.62 /	L407/	0.31 /	L408/	0.69 /
L410/	0.75 /	L411/	0.75 /	L413/	0.44 /
L415/	0.30 /	L417/	0.25 /	L418/	0.38 /
L419/	0.50 /	L420/	0.50 /	L421/	0.25 /
L422/	0.31 /	L423/	0.62 /	L424/	0.69 /
L425/	0.25 /	L426/	0.31 /	L427/	0.88 /
L428/	0.25 /	L429/	0.88 /	L430/	0.25 /
L431/	0.25 /	L432/	0.25 /	L435/	0.25 /
L436/	0.25 /	L437/	0.31 /	L438/	0.25 /
L439/	0.32 /	L440/	0.43 /	L441/	0.89 /
L442/	1.01 /	L443/	0.60 /	L446/	0.38 /
L448/	0.25 /	L449/	0.44 /	L450/	0.51 /
L451/	0.60 /	L452/	0.25 /	L453/	0.25 /
L454/	0.24 /	L466/	0.37 /	L468/	0.51 /
L470/	0.51 /	L471/	0.16 /	L472/	0.25 /
L490/	0.52 /	L496/	0.20 /	L497/	0.20 /
L498/	0.25 /	L501/	0.75 /	L502/	0.88 /
L503/	1.29 /	L504/	1.36 /	L505/	0.44 /
L506/	0.44 /	L509/	0.21 /	L511/	0.38 /
L512/	0.38 /	L514/	0.44 /	L515/	0.91 /
CH21/	1.08 /	L474/	0.38 /	L523/	0.66 /
L525/	0.84 /	L527/	0.38 /	L528/	0.32 /
L529/	0.38 /	L533/	0.38 /	L537/	0.38 /
L394/	1.37 /	L276/	0.19 /	L288/	0.23 /
L412/	0.28 /	L447/	0.38 /	L321/	0.22 /

Conduit/ Upstream/ Downstream Elevation

L210/	107.60/	106.99	L211/	106.99/	102.82	L212/	102.12/	100.29/
L213/	100.97/	100.29	L214/	100.61/	100.29	L217/	100.29/	99.74/
L220/	100.29/	98.17	L221/	98.17/	96.23	L222/	95.24/	89.41/
L223/	119.86/	119.61	L224/	118.89/	118.06	L225/	117.66/	117.58/
L226/	118.56/	118.20	L227/	118.20/	117.58	L228/	117.58/	114.74/
L229/	112.52/	110.57	L230/	110.43/	108.61	L231/	108.07/	106.27/
L232/	106.27/	104.94	L233/	104.94/	102.65	L234/	102.65/	101.66/
L235/	112.53/	112.52	L236/	106.76/	106.27	L237/	103.63/	102.65/
L238/	116.65/	115.88	L239/	115.28/	113.18	L240/	113.35/	112.80/
L241/	110.46/	107.74	L242/	108.07/	107.63	L243/	108.45/	107.72/
L246/	101.66/	99.73	L247/	99.73/	99.10	L248/	99.91/	99.73/
L249/	105.49/	104.84	L250/	104.84/	99.09	L251/	105.41/	104.84/
L254/	105.61/	103.93	L255/	103.93/	103.00	L258/	98.11/	97.49/
L259/	96.85/	95.77	L260/	95.77/	89.42	L261/	94.74/	93.72/
L262/	93.72/	81.48	L263/	94.67/	93.72	L272/	81.47/	81.47/

L273/	82.02/	81.47	L274/	92.45/	81.47	L275/	119.54/	118.62/
L277/	119.60/	118.62	L281/	124.82/	122.68	L282/	122.68/	113.27/
L283/	123.56/	122.68	L287/	113.82/	113.08	L289/	114.00/	113.15/
L308/	98.16/	98.41	L317/	106.34/	105.61	L319/	100.83/	100.52/
L320/	101.78/	101.30	L334/	125.61/	123.40	L335/	123.40/	121.39/
L336/	121.39/	120.37	L337/	120.37/	115.32	L338/	128.32/	128.13/
L339/	128.13/	127.28	L340/	127.28/	125.85	L341/	125.85/	122.52/
L342/	128.98/	128.40	L343/	129.22/	128.48	L344/	127.15/	127.10/
L346/	126.90/	126.85	L347/	126.85/	126.07	L348/	126.07/	125.31/
L349/	125.31/	124.53	L350/	124.53/	124.27	L351/	124.56/	124.51/
L352/	124.51/	124.27	L354/	122.58/	122.53	L361/	126.29/	125.91/
L362/	126.38/	125.89	L363/	125.85/	124.58	L364/	124.98/	124.58/
L365/	124.87/	124.58	L366/	124.58/	123.65	L367/	123.65/	122.79/
L368/	123.62/	122.79	L369/	124.15/	122.91	L370/	122.79/	122.60/
L373/	122.60/	122.53	L374/	120.84/	118.97	L375/	118.97/	118.40/
L376/	118.66/	118.40	L386/	118.28/	118.02	L387/	118.02/	117.76/
L388/	118.34/	117.76	L389/	117.76/	117.46	L390/	117.77/	117.46/
L391/	117.46/	117.01	L392/	117.01/	116.51	L393/	116.51/	115.86/
L395/	118.99/	118.70	L396/	118.78/	118.70	L397/	119.08/	118.70/
L398/	119.06/	118.78	L399/	118.93/	118.78	L402/	114.76/	114.53/
L403/	114.53/	113.47	L404/	113.47/	112.48	L405/	112.68/	112.48/
L406/	112.48/	112.07	L407/	112.40/	112.07	L408/	112.07/	111.63/
L410/	111.63/	111.16	L411/	111.16/	110.79	L413/	119.11/	118.82/
L415/	119.53/	119.12	L417/	113.53/	112.96	L418/	113.19/	112.96/
L419/	112.96/	112.53	L420/	112.53/	111.86	L421/	112.06/	111.86/
L422/	112.21/	111.86	L423/	111.86/	111.28	L424/	111.28/	110.79/
L425/	111.34/	111.28	L426/	111.64/	111.28	L427/	110.79/	109.75/
L428/	109.83/	109.75	L429/	109.75/	108.88	L430/	120.78/	120.22/
L431/	122.53/	120.22	L432/	123.02/	122.53	L435/	116.46/	115.70/
L436/	115.70/	113.02	L437/	113.02/	112.19	L438/	112.45/	112.19/
L439/	112.19/	109.78	L440/	109.78/	108.88	L441/	108.88/	107.66/
L442/	107.66/	105.10	L443/	105.10/	98.41	L446/	129.75/	129.50/
L448/	128.22/	128.14	L449/	128.14/	126.00	L450/	126.00/	123.98/
L451/	120.44/	119.84	L452/	126.09/	126.00	L453/	126.06/	126.00/
L454/	120.53/	120.44	L466/	120.82/	120.13	L468/	119.59/	118.93/
L470/	123.50/	122.36	L471/	125.03/	123.50	L472/	128.12/	127.04/
L490/	111.34/	110.82	L496/	133.80/	131.68	L497/	133.80/	131.68/
L498/	131.68/	131.11	L501/	127.10/	126.94	L502/	126.94/	126.85/
L503/	124.27/	123.53	L504/	123.53/	122.58	L505/	106.45/	104.12/
L506/	104.12/	101.66	L509/	108.22/	98.41	L511/	112.44/	109.88/
L512/	108.76/	94.53	L514/	129.50/	128.14	L515/	118.40/	118.28/
CH21/	118.68/	118.66	L474/	120.87/	119.50	L523/	122.36/	121.23/
L525/	118.70/	118.28	L527/	118.82/	117.76	L528/	120.22/	117.01/
L529/	114.93/	114.29	L533/	114.29/	112.65	L537/	112.65/	111.63/
L394/	115.86/	115.62	L276/	118.62/	110.55	L288/	112.66/	108.52/
L412/	119.61/	119.01	L447/	129.71/	129.50	L321/	119.23/	118.56/

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| Table E7 - Iteration Summary |

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Total number of time steps simulated.....	360
Total number of passes in the simulation.....	11352
Total number of time steps during simulation....	10798
Ratio of actual # of time steps / NTCYC.....	29.994
Average number of iterations per time step.....	1.051
Average time step size(seconds).....	2.000
Smallest time step size(seconds).....	1.935
Largest time step size(seconds).....	15.000
Average minimum Conduit Courant time step (sec).	2.233
Average minimum implicit time step (sec).....	2.054
Average minimum junction time step (sec).....	2.054
Average Courant Factor Tf.....	2.054
Number of times omega reduced.....	0

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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
N221	0	1.25	13505	0	10	1	0	0
N222	0	1.46	15736	0	6	0	0	0
N223	0	1.46	15793	0	5	0	0	0
N224	0	1.50	16233	0	14	1	0	0
N227	0	1.26	13567	0	10	1	0	0
N228	0	1.31	14160	0	11	1	0	0
N230	0	1.47	15926	0	11	1	0	0
N231	0	1.21	13044	0	7	0	0	0
N233	0	1.44	15550	0	5	0	0	0
N234	0	1.15	12374	0	4	0	0	0
N235	0	1.08	11687	0	3	0	0	0
N236	0	1.08	11683	0	3	0	0	0
N237	0	1.08	11684	0	3	0	0	0
N238	0	1.46	15786	0	7	0	0	0
N239	0	1.24	13406	0	4	0	0	0
N240	0	1.44	15587	0	5	0	0	0
N241	0	1.49	16052	0	5	0	0	0
N242	0	1.48	15992	0	5	0	0	0
N243	0	1.49	16055	0	5	0	0	0
N244	0	1.53	16489	0	7	0	0	0
N245	0	1.50	16214	0	10	1	0	0
N246	0	1.56	16796	0	11	1	0	0
N247	0	1.45	15687	0	21	6	0	0
N248	0	1.20	13011	0	4	0	0	0
N249	0	1.23	13320	0	10	1	0	0
N250	0	1.26	13633	0	11	1	0	0
N251	0	1.21	13097	0	10	1	0	0
N252	0	1.41	15204	0	5	0	0	0
N253	0	1.42	15366	0	9	0	0	0
N254	0	1.21	13046	0	5	0	0	0
N255	0	1.46	15782	0	14	1	0	0
N256	0	1.21	13071	0	11	1	0	0
N257	0	1.23	13289	0	10	1	0	0
N259	0	1.40	15112	0	23	10	0	0
N260	0	1.35	14534	0	20	6	0	0
N261	0	1.25	13455	0	11	2	0	0
N262	0	1.19	12895	0	9	0	0	0
N263	0	1.42	15346	0	10	1	0	0
N264	0	1.12	12041	0	3	0	0	0
N265	0	1.20	12924	0	4	0	0	0
W800	0	1.46	15808	0	9	0	0	0
W801	0	1.42	15365	0	13	1	0	0
OUT802	0	2.51	27050	0	498	28	28	28
N272	0	1.22	13185	0	8	0	0	0
N273	0	1.19	12842	0	6	0	0	0
N274	0	1.33	14364	0	4	0	0	0
N275	0	1.20	12990	0	4	0	0	0
N276	0	1.18	12713	0	8	0	0	0
N277	0	1.42	15313	0	9	0	0	0
N278	0	1.11	12020	0	3	0	0	0
N279	0	1.19	12798	0	6	0	0	0
N288	2	1.37	14803	0	501	14	5	2
N289	0	1.36	14682	0	31	4	2	0
N290	0	1.18	12712	0	87	7	2	1
N291	0	1.19	12823	0	10	1	0	0
N292	0	1.10	11839	0	5	0	0	0
N293	0	1.19	12865	0	8	0	0	0
N294	0	1.42	15326	0	11	1	0	0
N296	0	1.19	12863	0	10	1	0	0

N301	0	1.21	13035	0	9	0	0	0
N302	0	1.46	15774	0	11	1	0	0
N303	0	1.11	12034	0	4	0	0	0
N304	0	1.20	12918	0	10	1	0	0
N309	0	1.22	13123	0	7	0	0	0
N310	0	1.37	14818	0	9	0	0	0
N312	0	1.23	13265	0	10	1	0	0
YEL327	0	1.31	14100	0	294	55	16	5
N331	0	1.38	14853	0	47	23	8	1
W104	0	1.25	13470	0	5	0	0	0
N342	0	1.38	14944	0	9	0	0	0
N343	0	1.31	14194	0	5	0	0	0
N344	0	1.21	13092	0	11	1	0	0
N345	0	1.16	12531	0	4	0	0	0
N356	0	1.15	12370	0	6	0	0	0
N357	0	1.21	13036	0	6	0	0	0
N358	0	1.19	12856	0	5	0	0	0
N359	0	1.30	13998	0	4	0	0	0
N360	0	1.18	12777	0	31	1	1	0
N361	0	1.31	14159	0	13	2	0	0
N362	0	1.46	15795	0	17	1	0	0
N363	0	1.36	14683	0	15	1	0	0
N364	0	1.39	15013	0	6	0	0	0
N365	0	1.17	12677	0	38	1	1	0
N366	0	1.23	13233	0	12	1	0	0
N367	0	1.23	13309	0	11	1	0	0
N368	0	1.34	14486	0	10	1	0	0
N369	0	1.59	17153	0	14	1	0	0
N370	0	2.29	24767	0	19	2	0	0
N371	0	1.63	17565	0	12	1	0	0
N372	0	1.48	15967	0	10	1	0	0
N373	0	1.47	15885	0	24	6	0	0
N374	0	1.48	16019	0	23	3	0	0
N375	0	1.45	15651	0	20	9	0	0
N376	0	1.33	14363	0	11	2	0	0
N377	0	1.51	16310	0	13	1	0	0
N378	0	1.24	13373	0	46	5	2	1
N379	0	1.35	14627	0	19	3	0	0
N381	0	1.43	15424	0	13	1	0	0
N382	0	1.48	15983	0	14	1	0	0
N383	0	1.21	13025	0	11	1	0	0
N384	0	1.21	13107	0	11	1	0	0
N386	0	1.21	13047	0	10	1	0	0
N387	0	1.21	13030	0	11	1	0	0
N388	0	1.47	15844	0	26	1	1	0
N389	0	1.37	14835	0	31	15	3	0
N390	0	1.22	13227	0	10	1	0	0
N391	0	1.24	13420	0	13	3	0	0
N392	0	1.38	14924	0	44	12	2	1
N394	0	1.35	14615	0	24	5	0	0
N395	0	1.20	13006	0	5	0	0	0
N396	0	1.45	15686	0	6	0	0	0
N397	0	1.89	20418	0	8	0	0	0
N398	0	1.74	18781	0	8	0	0	0
N399	0	1.66	17947	0	23	3	0	0
N403	0	1.57	16926	0	21	4	0	0
N404	0	1.56	16793	0	26	6	2	0
N405	0	1.23	13264	0	10	1	0	0
N406	0	1.47	15905	0	13	2	0	0
N407	0	1.21	13055	0	5	0	0	0
N408	0	1.44	15518	0	25	7	1	0
N409	0	1.40	15118	0	29	9	1	0
N410	0	1.39	15004	0	45	6	1	1
N412	0	1.23	13288	0	12	1	0	0
N413	1	1.54	16642	0	501	2	1	1
N414	0	2.90	31367	0	387	133	111	99
N415	0	1.22	13188	0	10	1	0	0
N416	0	2.71	29262	0	344	143	120	108
N417	0	1.46	15795	0	5	0	0	0

N418	0	1.23	13281	0	10	1	0	0
N419	0	1.55	16743	0	6	0	0	0
N420	0	1.35	14557	0	8	0	0	0
N421	0	1.54	16634	0	11	1	0	0
N422	0	1.69	18230	0	12	1	0	0
N423	0	1.32	14278	0	11	1	0	0
N424	0	1.68	18134	0	37	2	1	0
N425	0	1.32	14249	0	11	1	0	0
N426	0	1.59	17187	0	8	0	0	0
N428	1	1.59	17182	0	501	6	2	2
N429	1	1.63	17554	0	501	2	1	1
N430	0	1.18	12754	0	9	0	0	0
N431	0	1.35	14568	0	6	0	0	0
N432	0	1.46	15762	0	11	1	0	0
N434	0	1.21	13035	0	11	1	0	0
N435	0	1.58	17098	0	14	1	0	0
N436	0	1.28	13817	0	11	1	0	0
N437	0	1.31	14129	0	11	1	0	0
N438	0	1.61	17409	0	6	0	0	0
N439	1	1.72	18529	0	501	3	1	1
N440	0	1.35	14562	0	9	0	0	0
N441	0	1.33	14321	0	11	1	0	0
N442	0	1.77	19076	0	434	3	1	1
N443	0	1.43	15402	0	5	0	0	0
N444	0	1.31	14171	0	11	1	0	0
N445	0	1.68	18133	0	8	0	0	0
N446	0	1.38	14873	0	5	0	0	0
N447	0	1.55	16732	0	6	0	0	0
N448	0	1.25	13491	0	11	1	0	0
N449	0	1.50	16199	0	6	0	0	0
N450	0	1.50	16231	0	9	0	0	0
N451	0	1.27	13711	0	11	1	0	0
N453	0	1.45	15695	0	11	1	0	0
N454	0	1.24	13374	0	12	1	0	0
N455	0	1.50	16196	0	5	0	0	0
N456	0	1.53	16482	0	9	0	0	0
N457	0	1.25	13476	0	10	1	0	0
N458	0	1.46	15791	0	5	0	0	0
N459	0	1.43	15488	0	6	0	0	0
N460	0	1.44	15518	0	5	0	0	0
N461	0	1.23	13284	0	41	1	1	1
N464	0	1.55	16783	0	10	1	0	0
N465	0	1.30	14062	0	9	0	0	0
N466	0	1.55	16775	0	9	0	0	0
N467	0	1.35	14601	0	9	0	0	0
N468	0	1.56	16813	0	13	1	0	0
N469	0	1.46	15758	0	10	1	0	0
N470	0	1.52	16409	0	22	1	0	0
N471	0	1.34	14522	0	5	0	0	0
N472	0	1.35	14562	0	5	0	0	0
N473	0	1.18	12762	0	4	0	0	0
N487	0	1.41	15261	0	7	0	0	0
N489	0	1.37	14788	0	5	0	0	0
N490	0	1.29	13876	0	11	1	0	0
N491	0	1.14	12281	0	14	1	0	0
N492	0	1.19	12805	0	9	0	0	0
N493	0	2.27	24560	0	500	24	24	24
N497	0	1.21	13066	0	11	1	0	0
N499	0	1.14	12340	0	5	0	0	0
N509	0	1.21	13050	0	13	1	0	0
N513	0	1.23	13325	0	6	0	0	0
N514	0	1.37	14786	0	8	0	0	0
N516	0	1.10	11907	0	4	0	0	0
N524	0	1.19	12873	0	7	0	0	0
N525	0	1.21	13079	0	6	0	0	0
N526	0	1.19	12867	0	4	0	0	0
N527	0	1.26	13580	0	5	0	0	0
N528	0	1.58	17105	0	15	3	0	0
N529	0	1.34	14515	0	41	6	1	1

N530	0	1.43	15413	0	6	0	0	0
N689	0	2.23	24095	0	498	22	22	22
N494	0	1.41	15219	0	11	1	0	0
N541	0	1.54	16665	0	14	1	0	0
EL329	0	1.32	14218	0	9	0	0	0
N427	0	1.54	16599	0	7	0	0	0
N411	0	1.43	15424	0	16	3	0	0
N295	0	1.11	12002	0	3	0	0	0
N311	0	1.13	12183	0	5	0	0	0
N462	0	1.32	14211	0	7	0	0	0

Total number of iterations for all junctions.. 3098636
 Minimum number of possible iterations..... 2235186
 Efficiency of the simulation..... 1.39
 Good 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 Gutter Velocity ft/s	Junction Name	Uppermost Ground Elevation feet	PipeCrown Elevation feet	Maximum Junction Elevation feet	Time of Occurrence Hr. Min.	Feet of Surcharge at Max Elevation	Freeboard of node feet	Maximum Junction Area ft^2	Maximum Gutter Depth feet	Maximum Gutter Width feet
0.0000	N221	114.0300	106.8400	107.6026	2 47	0.7626	6.4274	12.5660	0.0000	0.0000
0.0000	N222	112.0800	106.4400	106.9939	2 47	0.5539	5.0861	12.5660	0.0000	0.0000
0.0000	N223	106.2600	103.0600	102.1159	4 27	0.0000	4.1441	12.5660	0.0000	0.0000
0.0000	N224	106.3300	99.7200	100.2909	4 26	0.5709	6.0391	12.5660	0.0000	0.0000
0.0000	N227	109.4000	99.3400	100.9720	4 27	1.6320	8.4280	12.5660	0.0000	0.0000
0.0000	N228	102.4000	99.0300	100.6100	4 23	1.5800	1.7900	12.5660	0.0000	0.0000
0.0000	N230	104.3900	100.3300	98.1694	4 24	0.0000	6.2206	12.5660	0.0000	0.0000
0.0000	N231	104.4000	100.8400	100.2872	1 2	0.0000	4.1128	12.5660	0.0000	0.0000
0.0000	N233	100.3500	96.9200	95.2407	4 25	0.0000	5.1093	12.5660	0.0000	0.0000

0.0000	N234	100.0000	89.6000	89.4100	0	0	0.0000	10.5900	12.5660	0.0000	0.0000
0.0000	N235	138.1500	120.6000	119.8642	2	1	0.0000	18.2858	12.5660	0.0000	0.0000
0.0000	N236	126.2300	120.4100	118.8903	5	0	0.0000	7.3397	12.5660	0.0000	0.0000
0.0000	N237	124.2900	118.8600	117.6596	6	0	0.0000	6.6304	12.5660	0.0000	0.0000
0.0000	N238	122.3500	117.5100	117.5825	6	0	0.0725	4.7675	12.5660	0.0000	0.0000
0.0000	N239	125.0800	118.6900	118.5578	6	0	0.0000	6.5222	12.5660	0.0000	0.0000
0.0000	N240	122.0900	117.6200	118.1994	6	0	0.5794	3.8906	12.5660	0.0000	0.0000
0.0000	N241	119.6000	115.0600	112.5184	6	0	0.0000	7.0816	12.5660	0.0000	0.0000
0.0000	N242	115.6700	111.1300	110.4305	6	0	0.0000	5.2395	12.5660	0.0000	0.0000
0.0000	N243	112.6900	109.1100	108.0703	6	0	0.0000	4.6197	12.5660	0.0000	0.0000
0.0000	N244	109.7000	106.3500	106.2736	6	0	0.0000	3.4264	12.5660	0.0000	0.0000
0.0000	N245	107.6800	104.8800	104.9361	6	0	0.0561	2.7439	12.5660	0.0000	0.0000
0.0000	N246	104.7000	101.8100	102.6459	6	0	0.8359	2.0541	12.5660	0.0000	0.0000
0.0000	N247	107.2000	100.3700	101.6618	6	0	1.2918	5.5382	12.5660	0.0000	0.0000
0.0000	N248	116.0000	112.4800	112.5280	6	0	0.0480	3.4720	12.5660	0.0000	0.0000
0.0000	N249	108.6300	105.6200	106.7649	6	0	1.1449	1.8651	12.5660	0.0000	0.0000
0.0000	N250	113.4000	102.1400	103.6254	6	0	1.4854	9.7746	12.5660	0.0000	0.0000
0.0000	N251	127.0200	116.3800	116.6527	1	0	0.2727	10.3673	12.5660	0.0000	0.0000
0.0000	N252	121.2500	116.0600	115.2810	1	0	0.0000	5.9690	12.5660	0.0000	0.0000
0.0000	N253	119.0300	113.3300	110.4633	1	1	0.0000	8.5667	12.5660	0.0000	0.0000
0.0000	N254	120.4000	113.8300	113.3534	1	1	0.0000	7.0466	12.5660	0.0000	0.0000
0.0000	N255	113.9100	108.0500	106.4521	6	0	0.0000	7.4579	12.5660	0.0000	0.0000
0.0000	N256	119.8800	108.4100	108.0734	1	0	0.0000	11.8066	12.5660	0.0000	0.0000
0.0000	N257	118.4000	108.6100	108.4472	1	2	0.0000	9.9528	12.5660	0.0000	0.0000
0.0000	N259	102.6900	99.6600	99.7331	6	0	0.0731	2.9569	12.5660	0.0000	0.0000
0.0000	N260	101.1000	99.5000	99.1000	0	0	0.0000	2.0000	12.5660	0.0000	0.0000
0.0000	N261	106.3800	99.9300	99.9112	6	0	0.0000	6.4688	12.5660	0.0000	0.0000
0.0000	N262	110.4000	105.8800	105.4930	1	0	0.0000	4.9070	12.5660	0.0000	0.0000
0.0000	N263	109.4000	105.4600	104.8401	1	0	0.0000	4.5599	12.5660	0.0000	0.0000
0.0000	N264	106.0000	97.6400	99.0900	0	0	1.4500	6.9100	12.5660	0.0000	0.0000
0.0000	N265	108.4000	105.8600	105.4066	1	0	0.0000	2.9934	12.5660	0.0000	0.0000
0.0000	W800	110.0300	104.0100	105.6128	6	0	1.6028	4.4172	12.5660	0.0000	0.0000
0.0000	W801	106.4000	103.4500	103.9333	6	0	0.4833	2.4667	12.5660	0.0000	0.0000
0.0000	OUT802	103.0000	103.0000	103.0000	0	50	0.0000	0.0000	12.5660	0.0000	0.0000
0.0000	N272	102.0600	98.1000	96.8502	2	19	0.0000	5.2098	12.5660	0.0000	0.0000

0.0000											
0.0000	N273	104.4000	98.6800	98.1052	1	37	0.0000	6.2948	12.5660	0.0000	0.0000
0.0000	N274	100.3100	97.3300	95.7732	2	19	0.0000	4.5368	12.5660	0.0000	0.0000
0.0000	N275	101.7000	89.3500	89.4200	0	0	0.0700	12.2800	12.5660	0.0000	0.0000
0.0000	N276	100.4000	95.2500	94.7428	1	2	0.0000	5.6572	12.5660	0.0000	0.0000
0.0000	N277	99.4000	94.4400	93.7152	1	1	0.0000	5.6848	12.5660	0.0000	0.0000
0.0000	N278	96.0000	79.0000	81.4800	0	0	2.4800	14.5200	12.5660	0.0000	0.0000
0.0000	N279	98.4000	95.1200	94.6677	1	0	0.0000	3.7323	12.5660	0.0000	0.0000
0.0000	N288	96.4000	81.5300	86.2668	0	0	4.7368	10.1332	12.5660	0.0000	0.0000
0.0000	N289	96.4000	81.5000	81.4700	0	0	0.0000	14.9300	12.5660	0.0000	0.0000
0.0000	N290	96.4000	79.8500	82.0645	0	1	2.2145	14.3355	12.5660	0.0000	0.0000
0.0000	N291	96.2900	93.4200	92.4485	1	0	0.0000	3.8415	12.5660	0.0000	0.0000
0.0000	N292	94.0000	78.1000	81.4700	0	0	3.3700	12.5300	12.5660	0.0000	0.0000
0.0000	N293	126.4000	119.9200	119.5370	1	0	0.0000	6.8630	12.5660	0.0000	0.0000
0.0000	N294	123.9600	119.3000	118.6155	1	0	0.0000	5.3445	12.5660	0.0000	0.0000
0.0000	N296	122.4000	119.9800	119.6047	1	0	0.0000	2.7953	12.5660	0.0000	0.0000
0.0000	N301	128.4000	123.9000	124.8193	1	29	0.9193	3.5807	12.5660	0.0000	0.0000
0.0000	N302	128.3900	123.2800	122.6751	1	27	0.0000	5.7149	12.5660	0.0000	0.0000
0.0000	N303	124.3000	111.6000	113.2700	0	0	1.6700	11.0300	12.5660	0.0000	0.0000
0.0000	N304	126.4000	123.9500	123.5620	1	0	0.0000	2.8380	12.5660	0.0000	0.0000
0.0000	N309	119.4000	114.1500	113.8197	1	3	0.0000	5.5803	12.5660	0.0000	0.0000
0.0000	N310	116.6600	113.5100	112.6569	1	38	0.0000	4.0031	12.5660	0.0000	0.0000
0.0000	N312	116.4000	114.2100	114.0002	1	37	0.0000	2.3998	12.5660	0.0000	0.0000
0.0000	YEL327	101.0000	99.5000	101.1992	0	5	1.6992	0.0000	6097.1203	0.0000	0.0000
0.0000	N331	101.0000	96.2000	98.4100	0	0	2.2100	2.5900	12.5660	0.0000	0.0000
0.0000	W104	108.3300	106.6400	106.3439	6	0	0.0000	1.9861	12.5660	0.0000	0.0000
0.0000	N342	106.8400	101.7200	100.8276	1	0	0.0000	6.0124	12.5660	0.0000	0.0000
0.0000	N343	104.4000	101.5000	100.5155	1	1	0.0000	3.8845	12.5660	0.0000	0.0000
0.0000	N344	112.0700	102.1100	101.7816	1	0	0.0000	10.2884	12.5660	0.0000	0.0000
0.0000	N345	128.1400	119.8300	119.2319	6	0	0.0000	8.9081	12.5660	0.0000	0.0000
0.0000	N356	128.3900	126.3200	125.6081	2	35	0.0000	2.7819	12.5660	0.0000	0.0000
0.0000	N357	126.5200	123.9800	123.3977	2	43	0.0000	3.1223	12.5660	0.0000	0.0000
0.0000	N358	128.1900	121.8200	121.3926	2	48	0.0000	6.7974	12.5660	0.0000	0.0000
0.0000	N359	126.7800	121.0900	120.3681	2	50	0.0000	6.4119	12.5660	0.0000	0.0000
0.0000	N360	121.5000	113.8000	115.3200	0	0	1.5200	6.1800	12.5660	0.0000	0.0000

0.0000	N361	133.4000	129.2400	128.3208	1	1	0.0000	5.0792	12.5660	0.0000	0.0000
0.0000	N362	133.8500	129.1300	128.1343	1	1	0.0000	5.7157	12.5660	0.0000	0.0000
0.0000	N363	135.6800	128.7800	127.2811	1	1	0.0000	8.3989	12.5660	0.0000	0.0000
0.0000	N364	134.3100	128.5100	125.8533	1	2	0.0000	8.4567	12.5660	0.0000	0.0000
0.0000	N365	129.0000	120.9000	122.5200	0	0	1.6200	6.4800	12.5660	0.0000	0.0000
0.0000	N366	136.4000	129.1200	128.9836	1	0	0.0000	7.4164	12.5660	0.0000	0.0000
0.0000	N367	131.4000	129.3300	129.2163	1	32	0.0000	2.1837	12.5660	0.0000	0.0000
0.0000	N368	130.1000	126.7600	127.1537	2	32	0.3937	2.9463	12.5660	0.0000	0.0000
0.0000	N369	130.1500	126.6700	127.0975	2	32	0.4275	3.0525	12.5660	0.0000	0.0000
0.0000	N370	130.0300	125.7000	126.8529	3	39	1.1529	3.1771	12.5660	0.0000	0.0000
0.0000	N371	130.3200	125.7600	126.8961	2	53	1.1361	3.4239	12.5660	0.0000	0.0000
0.0000	N372	131.8100	125.3400	126.0663	2	36	0.7263	5.7437	12.5660	0.0000	0.0000
0.0000	N373	131.3300	124.9700	125.3076	2	31	0.3376	6.0224	12.5660	0.0000	0.0000
0.0000	N374	132.8200	124.6000	124.5274	2	32	0.0000	8.2926	12.5660	0.0000	0.0000
0.0000	N375	132.2300	124.4800	124.2706	2	32	0.0000	7.9594	12.5660	0.0000	0.0000
0.0000	N376	130.4700	124.9000	124.5647	2	32	0.0000	5.9053	12.5660	0.0000	0.0000
0.0000	N377	130.5100	124.8200	124.5069	2	32	0.0000	6.0031	12.5660	0.0000	0.0000
0.0000	N378	129.1900	123.7700	122.6047	0	1	0.0000	6.5853	12.5660	0.0000	0.0000
0.0000	N379	128.2000	122.9000	122.5300	0	0	0.0000	5.6700	12.5660	0.0000	0.0000
0.0000	N381	128.4700	126.2600	125.8458	4	1	0.0000	2.6242	12.5660	0.0000	0.0000
0.0000	N382	128.0000	124.8600	124.5769	4	10	0.0000	3.4231	12.5660	0.0000	0.0000
0.0000	N383	132.3000	126.5300	126.2887	1	0	0.0000	6.0113	12.5660	0.0000	0.0000
0.0000	N384	131.1800	126.6400	126.3795	1	0	0.0000	4.8005	12.5660	0.0000	0.0000
0.0000	N386	132.1700	125.1400	124.9805	4	12	0.0000	7.1895	12.5660	0.0000	0.0000
0.0000	N387	132.9300	125.2300	124.8690	4	6	0.0000	8.0610	12.5660	0.0000	0.0000
0.0000	N388	128.2100	123.9500	123.6546	4	4	0.0000	4.5554	12.5660	0.0000	0.0000
0.0000	N389	128.3800	123.1100	123.0494	0	1	0.0000	5.3306	12.5660	0.0000	0.0000
0.0000	N390	132.4000	123.8300	123.6245	1	0	0.0000	8.7755	12.5660	0.0000	0.0000
0.0000	N391	131.4000	123.6900	124.1512	1	25	0.4612	7.2488	12.5660	0.0000	0.0000
0.0000	N392	129.2100	122.8300	122.7598	0	1	0.0000	6.4502	12.5660	0.0000	0.0000
0.0000	N394	130.0700	121.4000	122.5300	0	0	1.1300	7.5400	12.5660	0.0000	0.0000
0.0000	N395	126.4000	119.6100	120.8359	6	0	1.2259	5.5641	12.5660	0.0000	0.0000
0.0000	N396	124.6000	119.1800	118.9722	6	0	0.0000	5.6278	12.5660	0.0000	0.0000
0.0000	N397	124.9400	118.8100	118.3974	6	0	0.0000	6.5426	12.5660	0.0000	0.0000
0.0000	N398	128.0400	119.0600	118.6571	6	0	0.0000	9.3829	12.5660	0.0000	0.0000

0.0000	N399	124.3000	118.6100	118.2769	6	0	0.0000	6.0231	12.5660	0.0000	0.0000
0.0000	N403	125.5000	118.3000	118.0217	6	0	0.0000	7.4783	12.5660	0.0000	0.0000
0.0000	N404	126.6900	117.9800	117.7558	6	0	0.0000	8.9342	12.5660	0.0000	0.0000
0.0000	N405	131.2500	117.6300	118.3387	6	0	0.7087	12.9113	12.5660	0.0000	0.0000
0.0000	N406	124.4900	117.6700	117.4640	6	0	0.0000	7.0260	12.5660	0.0000	0.0000
0.0000	N407	132.5800	118.0000	117.7684	6	0	0.0000	14.8116	12.5660	0.0000	0.0000
0.0000	N408	125.2200	117.2800	117.0058	6	0	0.0000	8.2142	12.5660	0.0000	0.0000
0.0000	N409	123.3200	116.9800	116.5065	6	0	0.0000	6.8135	12.5660	0.0000	0.0000
0.0000	N410	124.2200	116.6200	115.8648	6	0	0.0000	8.3552	12.5660	0.0000	0.0000
0.0000	N412	125.2400	117.5500	118.9854	6	0	1.4354	6.2546	12.5660	0.0000	0.0000
0.0000	N413	123.5000	118.8300	118.7039	6	0	0.0000	4.7961	12.5660	0.0000	0.0000
0.0000	N414	122.0000	119.3700	118.7807	6	0	0.0000	3.2193	12.5660	0.0000	0.0000
0.0000	N415	124.3800	117.5800	119.0784	6	0	1.4984	5.3016	12.5660	0.0000	0.0000
0.0000	N416	125.2100	118.0800	119.0589	6	0	0.9789	6.1511	12.5660	0.0000	0.0000
0.0000	N417	121.7600	119.5700	118.9330	6	0	0.0000	2.8270	12.5660	0.0000	0.0000
0.0000	N418	124.4000	121.1500	120.8207	1	0	0.0000	3.5793	12.5660	0.0000	0.0000
0.0000	N419	120.2000	112.6600	113.4701	6	0	0.8101	6.7299	12.5660	0.0000	0.0000
0.0000	N420	123.9000	113.9900	114.7633	6	0	0.7733	9.1367	12.5660	0.0000	0.0000
0.0000	N421	121.2100	113.7500	114.5335	6	0	0.7835	6.6765	12.5660	0.0000	0.0000
0.0000	N422	118.3600	111.6300	112.4791	6	0	0.8491	5.8809	12.5660	0.0000	0.0000
0.0000	N423	120.4000	111.8700	112.6795	6	0	0.8095	7.7205	12.5660	0.0000	0.0000
0.0000	N424	118.5600	111.0100	112.0680	6	0	1.0580	6.4920	12.5660	0.0000	0.0000
0.0000	N425	120.3900	111.3100	112.3959	6	0	1.0859	7.9941	12.5660	0.0000	0.0000
0.0000	N426	117.2400	110.4500	111.6343	6	0	1.1843	5.6057	12.5660	0.0000	0.0000
0.0000	N428	114.7900	109.9200	111.1574	6	0	1.2374	3.6326	12.5660	0.0000	0.0000
0.0000	N429	116.1800	109.5200	110.7941	6	0	1.2741	5.3859	12.5660	0.0000	0.0000
0.0000	N430	128.2200	120.0000	119.6069	1	0	0.0000	8.6131	12.5660	0.0000	0.0000
0.0000	N431	123.0700	119.4000	118.8193	6	0	0.0000	4.2507	12.5660	0.0000	0.0000
0.0000	N432	120.7300	119.5700	119.1104	6	0	0.0000	1.6196	12.5660	0.0000	0.0000
0.0000	N434	126.2700	119.8000	119.5280	1	0	0.0000	6.7420	12.5660	0.0000	0.0000
0.0000	N435	120.2500	112.1800	112.9610	6	0	0.7810	7.2890	12.5660	0.0000	0.0000
0.0000	N436	125.4000	112.5700	113.5338	6	0	0.9638	11.8662	12.5660	0.0000	0.0000
0.0000	N437	122.9000	112.4200	113.1916	6	0	0.7716	9.7084	12.5660	0.0000	0.0000
0.0000	N438	119.8200	111.5800	112.5301	6	0	0.9501	7.2899	12.5660	0.0000	0.0000

0.0000	N439	118.1400	110.6500	111.8621	6	0	1.2121	6.2779	12.5660	0.0000	0.0000
0.0000	N440	122.4000	111.0500	112.0562	6	0	1.0062	10.3438	12.5660	0.0000	0.0000
0.0000	N441	120.9000	110.9800	112.2083	6	0	1.2283	8.6917	12.5660	0.0000	0.0000
0.0000	N442	116.2500	109.9700	111.2807	6	0	1.3107	4.9693	12.5660	0.0000	0.0000
0.0000	N443	118.4000	110.3800	111.3435	6	0	0.9635	7.0565	12.5660	0.0000	0.0000
0.0000	N444	118.4000	110.2800	111.6425	6	0	1.3625	6.7575	12.5660	0.0000	0.0000
0.0000	N445	113.3000	108.9800	109.7503	6	0	0.7703	3.5497	12.5660	0.0000	0.0000
0.0000	N446	118.4000	109.4900	109.8312	6	0	0.3412	8.5688	12.5660	0.0000	0.0000
0.0000	N447	113.2000	108.5500	108.8835	6	0	0.3335	4.3165	12.5660	0.0000	0.0000
0.0000	N448	125.6200	119.7700	120.8468	3	38	1.0768	4.7732	12.5660	0.0000	0.0000
0.0000	N449	125.6000	119.2400	120.2831	3	39	1.0431	5.3169	12.5660	0.0000	0.0000
0.0000	N450	125.2200	121.7400	122.5957	3	39	0.8557	2.6243	12.5660	0.0000	0.0000
0.0000	N451	126.4000	122.2700	123.0855	3	39	0.8155	3.3145	12.5660	0.0000	0.0000
0.0000	N453	119.8300	114.7600	115.6961	6	0	0.9361	4.1339	12.5660	0.0000	0.0000
0.0000	N454	125.4000	115.2900	116.4642	6	0	1.1742	8.9358	12.5660	0.0000	0.0000
0.0000	N455	118.2800	112.9300	113.0201	6	0	0.0901	5.2599	12.5660	0.0000	0.0000
0.0000	N456	116.2800	111.5100	112.1895	6	0	0.6795	4.0905	12.5660	0.0000	0.0000
0.0000	N457	122.4000	112.0200	112.4454	6	0	0.4254	9.9546	12.5660	0.0000	0.0000
0.0000	N458	114.0000	109.8900	109.7789	6	0	0.0000	4.2211	12.5660	0.0000	0.0000
0.0000	N459	110.2500	108.1100	107.6629	6	0	0.0000	2.5871	12.5660	0.0000	0.0000
0.0000	N460	110.1000	107.6100	105.0976	6	0	0.0000	5.0024	12.5660	0.0000	0.0000
0.0000	N461	110.1000	97.6000	98.4100	0	0	0.8100	11.6900	12.5660	0.0000	0.0000
0.0000	N464	132.5200	126.8400	128.1440	5	52	1.3040	4.3760	12.5660	0.0000	0.0000
0.0000	N465	135.1200	128.1500	129.7527	6	59	1.6027	5.3673	12.5660	0.0000	0.0000
0.0000	N466	131.9700	127.9400	129.4984	6	59	1.5584	2.4716	12.5660	0.0000	0.0000
0.0000	N467	130.9600	127.3000	128.2210	5	47	0.9210	2.7390	12.5660	0.0000	0.0000
0.0000	N468	129.9500	125.5900	126.0007	5	57	0.4107	3.9493	12.5660	0.0000	0.0000
0.0000	N469	128.6600	124.6600	120.4426	5	29	0.0000	8.2174	12.5660	0.0000	0.0000
0.0000	N470	127.0000	120.4600	118.6771	6	0	0.0000	8.3229	12.5660	0.0000	0.0000
0.0000	N471	133.3000	125.8800	126.0884	5	42	0.2084	7.2116	12.5660	0.0000	0.0000
0.0000	N472	129.4500	125.9400	126.0559	5	42	0.1159	3.3941	12.5660	0.0000	0.0000
0.0000	N473	126.2300	121.0700	120.5302	5	34	0.0000	5.6998	12.5660	0.0000	0.0000
0.0000	N487	122.2200	120.5700	119.5908	6	0	0.0000	2.6292	12.5660	0.0000	0.0000
0.0000	N489	124.6300	122.3300	120.8720	2	38	0.0000	3.7580	12.5660	0.0000	0.0000
0.0000	N490	125.9100	123.6500	123.4952	2	21	0.0000	2.4148	12.5660	0.0000	0.0000

0.0000	N491	127.1900	125.7700	125.0264	2	2	0.0000	2.1636	12.5660	0.0000	0.0000
0.0000	N492	130.4000	127.3400	128.1178	1	0	0.7778	2.2822	12.5660	0.0000	0.0000
0.0000	N493	129.9000	127.0400	127.0400	0	35	0.0000	2.8600	12.5660	0.0000	0.0000
0.0000	N497	112.8000	108.8500	108.2197	1	0	0.0000	4.5803	12.5660	0.0000	0.0000
0.0000	N499	111.0500	92.2000	98.4100	0	0	6.2100	12.6400	12.5660	0.0000	0.0000
0.0000	N509	117.9000	110.3800	112.4401	1	0	2.0601	5.4599	12.5660	0.0000	0.0000
0.0000	N513	117.8200	111.7600	111.3361	1	0	0.0000	6.4839	12.5660	0.0000	0.0000
0.0000	N514	117.9000	111.6100	108.7565	1	1	0.0000	9.1435	12.5660	0.0000	0.0000
0.0000	N516	111.0000	92.0000	94.5300	0	0	2.5300	16.4700	12.5660	0.0000	0.0000
0.0000	N524	136.4600	134.4500	133.7961	2	16	0.0000	2.6639	12.5660	0.0000	0.0000
0.0000	N525	136.2000	132.1700	131.6772	2	32	0.0000	4.5228	12.5660	0.0000	0.0000
0.0000	N526	137.2000	134.4600	133.8039	2	24	0.0000	3.3961	12.5660	0.0000	0.0000
0.0000	N527	136.0000	131.6000	131.1070	2	32	0.0000	4.8930	12.5660	0.0000	0.0000
0.0000	N528	129.5000	126.1600	126.9363	4	15	0.7763	2.5637	12.5660	0.0000	0.0000
0.0000	N529	134.2600	124.1400	123.5298	2	33	0.0000	10.7302	12.5660	0.0000	0.0000
0.0000	N530	109.2400	103.4600	104.1241	6	0	0.6641	5.1159	12.5660	0.0000	0.0000
0.0000	N689	123.2700	119.5000	119.5000	0	39	0.0000	3.7700	12.5660	0.0000	0.0000
0.0000	N494	126.0000	123.1600	122.3558	2	37	0.0000	3.6442	12.5660	0.0000	0.0000
0.0000	N541	120.0000	113.5900	114.2861	6	0	0.6961	5.7139	12.5660	0.0000	0.0000
0.0000	EL329	118.0000	114.0200	114.9266	6	0	0.9066	3.0734	12.5660	0.0000	0.0000
0.0000	N427	118.5000	111.1400	112.6510	6	0	1.5110	5.8490	12.5660	0.0000	0.0000
0.0000	N411	128.9500	116.5000	115.6200	0	0	0.0000	13.3300	12.5660	0.0000	0.0000
0.0000	N295	120.1000	107.9300	110.5500	0	0	2.6200	9.5500	12.5660	0.0000	0.0000
0.0000	N311	114.3000	105.3500	108.5200	0	0	3.1700	5.7800	12.5660	0.0000	0.0000
0.0000	N462	133.0000	129.2800	129.7121	5	58	0.4321	3.2879	12.5660	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	Design	Flow Velocity	Conduit	Maximum	Vertical	Depth	Maximum	Computed	Time	of	Maximum	Computed	Time	of	Ratio of	Maximum	Water
d/D	Name	(cfs)	(ft/s)	(in)	(cfs)	(in)	(ft)	(cfs)	(ft)	Hr.	Min.	(ft/s)	(ft)	Hr.	Min.	Max. to	Elev at	Pipe Ends
US DS																Design	Upstream	Dwnstrm
																Flow	(ft)	(ft)

1.157	1.171	L344	14.9332	3.0422	30.0000	12.3311	3	34	4.0977	0	43	0.8257	127.1537	127.0975
1.325	1.329	L346	30.2053	3.1395	42.0000	25.6125	1	5	2.6688	0	8	0.8479	126.8961	126.8529
1.288	1.182	L347	37.5829	2.9908	48.0000	56.3355	3	33	4.4563	3	33	1.4990	126.8529	126.0663
1.182	1.084	L348	37.6745	2.9980	48.0000	56.3340	1	42	4.2989	1	42	1.4953	126.0663	125.3076
1.084	0.982	L349	37.8624	3.0130	48.0000	56.3337	2	54	4.3396	2	54	1.4879	125.3076	124.5274
0.982	0.948	L350	37.5354	2.9870	48.0000	56.3336	2	32	4.5170	1	43	1.5008	124.5274	124.2706
0.832	0.843	L351	9.3735	2.9837	24.0000	8.2540	2	55	3.3794	0	50	0.8806	124.5647	124.5069
0.843	0.895	L352	9.4291	3.0014	24.0000	8.2541	2	55	3.4177	0	46	0.8754	124.5069	124.2706
0.741	0.918	L354	163.9607	10.3092	54.0000	-97.0481	0	0	5.7342	2	34	-0.5919	122.6047	122.5300
0.759	0.650	L361	2.3403	2.9798	12.0000	2.3119	1	0	3.6734	1	0	0.9878	126.2887	125.9103
0.739	0.628	L362	2.3430	2.9831	12.0000	2.1598	1	0	3.5287	1	1	0.9218	126.3795	125.8878
0.724	0.811	L363	5.3133	3.0067	18.0000	4.5228	4	1	3.2872	1	59	0.8512	125.8458	124.5769
0.841	0.717	L364	2.3583	3.0027	12.0000	2.6500	1	0	3.8459	1	0	1.1237	124.9805	124.5769
0.639	0.717	L365	2.3663	3.0129	12.0000	1.6367	4	6	3.2231	0	58	0.6917	124.8690	124.5769
0.858	0.852	L366	9.4224	2.9993	24.0000	9.8099	4	10	3.4253	1	3	1.0411	124.5769	123.6546
0.852	0.970	L367	9.4185	2.9980	24.0000	9.8099	4	4	3.4448	4	2	1.0416	123.6546	123.0494
0.794	0.939	L368	2.3529	2.9958	12.0000	2.2792	1	0	3.4630	1	1	0.9687	123.6245	123.0494
1.461	0.939	L369	2.3634	3.0092	12.0000	3.4945	1	25	4.5022	1	25	1.4786	124.1512	123.0494
0.980	0.977	L370	21.3114	3.0150	36.0000	-22.3121	0	1	-3.5620	0	1	-1.0470	123.0494	122.7598
0.977	1.377	L373	69.8268	9.8785	36.0000	-32.2544	0	0	-3.4582	0	1	-0.4619	122.7598	122.5300
2.226	0.792	L374	1.6007	2.0381	12.0000	3.3515	1	0	4.3063	1	0	2.0937	120.8359	118.9722
0.861	0.725	L375	2.7585	1.5610	18.0000	3.3513	2	42	2.2806	2	42	1.2149	118.9722	118.3973
0.853	0.850	L376	17.8956	3.0129	33.0000	14.2870	6	0	2.6483	6	0	0.7984	118.6571	118.3974
0.917	0.930	L386	37.5354	2.9870	48.0000	36.6327	6	0	3.0335	6	59	0.9760	118.2769	118.0216
0.930	0.944	L387	37.3765	2.9743	48.0000	36.6198	6	0	3.0053	6	0	0.9798	118.0217	117.7558
1.709	2.156	L388	2.9480	3.7535	12.0000	2.2293	6	59	3.5961	0	42	0.7562	118.3387	117.7558
0.950	0.954	L389	48.3609	3.0407	54.0000	50.3323	6	0	3.2261	6	0	1.0408	117.7558	117.4640
0.768	0.864	L390	1.8968	2.4151	12.0000	1.6079	2	10	2.8204	1	36	0.8477	117.7684	117.4640
0.954	0.939	L391	47.6460	2.9958	54.0000	55.1790	6	0	3.5322	6	0	1.1581	117.4640	117.0057
0.939	0.895	L392	47.8865	3.0109	54.0000	65.3719	6	0	4.2332	6	0	1.3651	117.0058	116.5064
0.895	0.832	L393	47.6261	2.9945	54.0000	65.3657	6	0	-4.8430	0	1	1.3725	116.5065	115.8648
2.148	2.699	L395	7.7978	6.3542	15.0000	4.2403	6	59	3.4421	1	0	0.5438	118.9854	118.7039
0.804	0.958	L396	21.1861	2.9972	36.0000	8.3482	6	59	1.9376	0	50	0.3940	118.7806	118.7039
2.199	2.699	L397	7.4154	6.0426	15.0000	4.5806	6	59	3.7177	1	0	0.6177	119.0784	118.7039
		L398	14.4778	11.7976	15.0000	4.3232	6	59	3.7891	0	32	0.2986	119.0589	118.7807

1.095	0.872	L441	28.7403	2.9872	42.0000	48.9390	6	0	4.9424	6	59	1.7028	108.8835	107.6629
0.872	0.282	L442	28.7787	2.9912	42.0000	48.9390	6	0	5.9435	6	59	1.7005	107.6629	105.0976
0.282	1.231	L443	281.5617	29.2649	42.0000	48.9390	6	59	16.3911	6	59	0.1738	105.0976	98.4100
2.068	2.039	L446	5.3415	3.0227	18.0000	5.9168	2	23	3.5392	0	47	1.1077	129.7527	129.4984
1.921	2.304	L448	2.3562	3.0000	12.0000	0.9708	5	57	2.4582	0	34	0.4120	128.2210	128.1440
1.745	1.235	L449	7.2216	3.0024	21.0000	9.5085	5	34	3.9304	5	52	1.3167	128.1440	126.0007
1.205	0.658	L450	9.4537	3.0092	24.0000	13.3913	5	41	4.2601	5	41	1.4165	126.0007	123.9765
0.891	0.691	L451	9.2424	2.9419	24.0000	14.7194	5	30	5.0912	5	30	1.5926	120.4426	119.8419
1.208	1.411	L452	2.3516	2.9941	12.0000	1.2925	2	22	2.7687	0	40	0.5496	126.0884	126.0007
1.116	1.411	L453	2.3389	2.9780	12.0000	0.9323	5	21	2.4656	0	37	0.3986	126.0559	126.0007
0.460	0.783	L454	2.3631	3.0088	12.0000	0.6806	1	1	2.3129	0	39	0.2880	120.5302	120.4426
0.737	0.651	L466	4.4943	3.6623	15.0000	4.0513	1	1	4.2367	1	1	0.9014	120.8207	120.1342
0.510	0.682	L468	8.8034	2.8022	24.0000	4.0500	1	2	2.7411	1	2	0.4601	119.5908	118.9330
0.912	0.540	L470	7.2253	3.0039	21.0000	9.4830	2	21	4.3099	1	0	1.3125	123.4952	122.3558
0.256	1.595	L471	2.6488	3.3726	12.0000	0.3817	2	2	1.7178	1	17	0.1441	125.0264	123.4952
1.778	1.000	L472	2.3453	2.9862	12.0000	4.4590	1	0	5.6522	1	0	1.9012	128.1178	127.0400
0.758	0.547	L490	4.8350	2.0102	21.0000	6.7176	1	1	3.5464	1	1	1.3894	111.3361	110.8167
0.346	0.507	L496	2.3549	2.9983	12.0000	0.6064	2	16	2.3568	2	16	0.2575	133.7961	131.6772
0.344	0.507	L497	2.3540	2.9973	12.0000	0.5989	2	24	2.3448	2	24	0.2544	133.8039	131.6772
0.507	0.507	L498	2.3549	2.9983	12.0000	1.2053	2	32	3.0139	2	32	0.5118	131.6772	131.1070
1.143	1.259	L501	21.3175	3.0158	36.0000	12.3318	2	53	2.6258	0	32	0.5785	127.0975	126.9363
1.222	1.329	L502	28.7542	2.9886	42.0000	12.3332	3	39	1.2538	3	39	0.4289	126.9363	126.8529
0.953	0.864	L503	47.5382	2.9890	54.0000	73.4488	2	32	4.7306	2	32	1.5450	124.2706	123.5298
0.864	0.741	L504	48.0749	3.0228	54.0000	73.4488	2	33	5.1017	2	34	1.5278	123.5298	122.6047
2.087	1.379	L505	7.2137	2.9991	21.0000	10.5983	1	7	4.3800	1	6	1.4692	106.4521	104.1241
2.522	1.738	L506	7.1955	2.9916	21.0000	10.9003	1	7	4.4927	1	7	1.5149	104.1241	101.6618
0.370	7.210	L509	10.8843	13.8583	12.0000	2.9905	1	0	9.3675	1	0	0.2748	108.2197	98.4100
2.373	0.847	L511	3.5456	2.0064	18.0000	11.0412	1	0	6.2595	1	0	3.1140	112.4401	109.8810
0.323	2.265	L512	79.1933	25.2080	24.0000	17.9049	1	1	16.1606	1	1	0.2261	108.7565	94.5300
1.891	1.745	L514	7.2103	2.9977	21.0000	8.0432	6	0	3.3254	6	0	1.1155	129.4984	128.1440
0.862	0.889	L515	21.4683	3.0371	36.0000	17.6973	6	0	2.7250	6	0	0.8243	118.3974	118.2769
0.352	0.854	CH21	321.7664	1.1701	33.0000	13.5744	6	59	0.3276	1	9	0.0422	118.6771	118.6571
1.628	1.000	L474	5.2973	2.9976	18.0000	9.4830	2	39	5.3470	2	39	1.7902	120.8720	119.5000
0.631	0.265	L523	22.9743	1.4587	18.0000	9.4830	2	38	1.2146	2	38	0.4128	122.3558	121.2270
		L525	21.2457	3.0056	36.0000	17.1561	6	59	3.2221	1	2	0.8075	118.7039	118.2769

0.958	1.056	L527	5.2074	2.9468	18.0000	4.5202	6	59	2.9072	0	48	0.8680	118.8193	117.7558
1.433	1.671	L528	3.6866	3.0041	15.0000	4.7289	3	47	3.9306	3	41	1.2827	120.2831	117.0058
1.834	0.781	L529	3.5424	2.0046	18.0000	4.3384	5	58	2.7073	1	1	1.2247	114.9266	114.2861
1.604	1.464	L533	5.2922	2.9948	18.0000	4.3384	6	59	3.1793	1	1	0.8198	114.2861	112.6510
1.464	2.007	L537	3.5530	2.0106	18.0000	4.3384	6	59	2.5325	1	59	1.2210	112.6510	111.6343
2.007	1.790	L394	47.1178	2.9626	54.0000	-91.1787	0	0	-5.9313	0	1	-1.9351	115.8648	115.6200
0.832	0.804	L276	14.5794	18.5631	12.0000	3.1466	1	0	11.6035	1	0	0.2158	118.6155	110.5500
0.316	3.620	L288	20.4763	16.6856	15.0000	4.1590	1	38	9.7569	1	37	0.2031	112.6569	108.5200
0.318	3.536	L412	3.2854	4.1830	12.0000	2.2439	1	0	4.5004	1	0	0.6830	119.6069	119.0068
0.607	0.607	L447	5.3092	3.0044	18.0000	2.1264	6	59	2.3674	0	49	0.4005	129.7121	129.4984
1.288	2.039	L321	1.5717	2.0012	12.0000	0.5084	1	20	1.6783	1	1	0.3235	119.2319	118.5578
0.402	0.868	FREE # 1	Undefnd	Undefnd	Undefn	13.3950	4	16						
		FREE # 2	Undefnd	Undefnd	Undefn	28.8013	6	0						
		FREE # 3	Undefnd	Undefnd	Undefn	3.0002	1	0						
		FREE # 4	Undefnd	Undefnd	Undefn	9.4482	6	0						
		FREE # 5	Undefnd	Undefnd	Undefn	1.4198	2	0						
		FREE # 6	Undefnd	Undefnd	Undefn	2.3040	1	1						
		FREE # 7	Undefnd	Undefnd	Undefn	-66.8328	0	1						
		FREE # 8	Undefnd	Undefnd	Undefn	8.5560	1	0						
		FREE # 9	Undefnd	Undefnd	Undefn	5.0178	1	26						
		FREE #10	Undefnd	Undefnd	Undefn	110.4395	0	5						
		FREE #11	Undefnd	Undefnd	Undefn	1.8801	1	1						
		FREE #12	Undefnd	Undefnd	Undefn	1.2917	2	47						
		FREE #13	Undefnd	Undefnd	Undefn	30.1726	1	2						
		FREE #14	Undefnd	Undefnd	Undefn	-91.6054	0	0						
		FREE #15	Undefnd	Undefnd	Undefn	-32.2765	0	0						
		FREE #16	Undefnd	Undefnd	Undefn	48.9390	6	59						
		FREE #17	Undefnd	Undefnd	Undefn	4.4590	1	0						
		FREE #18	Undefnd	Undefnd	Undefn	2.9905	1	0						
		FREE #19	Undefnd	Undefnd	Undefn	17.9049	1	1						
		FREE #20	Undefnd	Undefnd	Undefn	1.5346	2	32						
		FREE #21	Undefnd	Undefnd	Undefn	9.4830	2	39						
		FREE #22	Undefnd	Undefnd	Undefn	-111.966	0	0						
		FREE #23	Undefnd	Undefnd	Undefn	3.1465	1	0						
		FREE #24	Undefnd	Undefnd	Undefn	4.1590	1	38						

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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)
L210	0.2500	303.4000	0.0000	56.3500	0.3028	0.8145	6.0754
L211	0.2500	0.0000	0.0000	359.7500	0.3022	0.7148	6.6769
L212	0.2500	305.5000	0.0000	54.2500	0.3735	1.2422	4.1200
L213	0.0000	324.0000	0.0000	36.0000	0.3019	0.8117	8.1584
L214	0.0000	344.7727	0.0000	15.2273	0.4557	1.8485	9.2805
L217	0.0000	0.0000	0.0000	360.0000	0.2305	0.3207	1.2094
L220	0.0000	337.1304	0.0000	22.8696	0.5305	2.4695	12.5695
L221	0.0000	0.0000	0.0000	360.0000	0.6008	2.7121	7.5895

L222	1.0556	358.9444	0.0000	0.0000	0.4520	2.0357	12.6599
L223	0.2500	0.0000	0.0000	359.7500	0.1501	0.1368	0.3311
L224	0.2500	0.0000	0.0000	359.7500	0.1573	0.1434	0.3175
L225	0.2500	303.8667	0.0000	55.8833	0.2176	0.5307	0.5207
L226	0.0000	360.0000	0.0000	0.0000	0.2988	0.7557	1.5578
L227	0.0000	306.6667	0.0000	53.3333	0.3034	0.8150	3.1677
L228	0.0000	0.0000	0.0000	360.0000	0.2990	0.6754	5.0881
L229	0.0000	0.0000	0.0000	360.0000	0.3741	0.9293	2.3945
L230	0.2500	0.0000	0.0000	359.7500	0.3733	0.9914	3.7251
L231	0.2500	279.6774	0.0000	80.0726	0.3732	1.2142	5.2319
L232	0.0000	291.5161	0.0000	68.4839	0.4485	1.7867	6.7640
L233	4.7727	306.2000	0.0000	49.0273	0.4556	1.8332	9.5076
L234	0.0000	358.7778	0.0000	1.2222	0.5976	3.2215	9.5211
L235	0.0000	360.0000	0.0000	0.0000	0.3034	0.8132	0.6133
L236	0.0000	321.6296	0.0000	38.3704	0.3035	0.8052	5.4675
L237	0.0000	303.8333	0.0000	56.1667	0.3026	0.8056	8.8850
L238	0.2500	0.0000	0.0000	359.7500	0.3030	0.7475	4.9700
L239	0.2500	0.0000	0.0000	359.7500	0.3026	0.7517	7.9671
L240	0.0000	0.0000	0.0000	360.0000	0.2552	0.3887	1.4956
L241	0.0000	0.0000	0.0000	360.0000	0.3770	1.1088	7.3642
L242	0.0000	0.0000	0.0000	360.0000	0.2886	0.5117	2.1118
L243	0.0000	0.0000	0.0000	360.0000	0.3027	0.6317	2.7274
L246	0.0000	360.0000	0.0000	0.0000	0.7603	4.9690	15.7240
L247	0.0000	360.0000	0.0000	0.0000	0.7605	4.6875	13.6735
L248	0.0000	359.5000	0.0000	0.5000	0.3036	0.7960	2.5982
L249	0.2500	359.7500	0.0000	0.0000	0.2728	0.3835	1.6287
L250	0.0000	360.0000	0.0000	0.0000	0.2105	0.5110	13.0214
L251	0.0000	360.0000	0.0000	0.0000	0.2579	0.3535	1.4300
L254	0.0000	360.0000	0.0000	0.0000	0.4482	1.8244	6.9971
L255	0.2500	359.7500	0.0000	0.0000	0.6085	3.2172	6.4026
L258	0.0000	0.0000	0.0000	360.0000	0.2223	0.2989	1.1004
L259	0.0000	360.0000	0.0000	0.0000	0.2707	0.3338	0.6915
L260	1.0556	358.9444	0.0000	0.0000	0.1534	1.0653	3.3522
L261	0.2500	359.7500	0.0000	0.0000	0.2386	0.2739	1.0315
L262	0.0000	360.0000	0.0000	0.0000	0.1681	0.4494	18.1768
L263	0.0000	360.0000	0.0000	0.0000	0.2535	0.2981	1.1926
L272	0.0000	360.0000	0.0000	0.0000	1.3278	16.1898	2.6581
L273	0.0000	360.0000	0.0000	0.0000	0.4375	2.4251	14.8285
L274	0.7500	359.2500	0.0000	0.0000	0.2999	1.1159	33.9576
L275	0.2500	359.7500	0.0000	0.0000	0.2708	0.3499	1.4658
L277	0.0000	360.0000	0.0000	0.0000	0.2723	0.3532	1.4641
L281	0.2500	359.7500	0.0000	0.0000	0.2916	0.5187	5.3520
L282	0.0000	360.0000	0.0000	0.0000	0.2160	0.5203	22.6742
L283	0.0000	360.0000	0.0000	0.0000	0.2733	0.3911	1.5637
L287	0.2500	0.0000	0.0000	359.7500	0.2895	0.5124	2.0656
L289	0.0000	0.0000	0.0000	360.0000	0.3021	0.5986	2.4883
L308	0.0000	360.0000	0.0000	0.0000	1.0457	9.8694	43.2730
L317	0.0000	360.0000	0.0000	0.0000	0.3717	1.1197	2.6779
L319	0.0000	360.0000	0.0000	0.0000	0.3203	0.6035	1.6044
L320	0.0000	0.0000	0.0000	360.0000	0.2901	0.5178	2.1366
L334	0.2500	359.7500	0.0000	0.0000	0.1708	0.2465	0.7534
L335	0.2500	359.7500	0.0000	0.0000	0.2259	0.3853	1.3031
L336	0.2500	359.7500	0.0000	0.0000	0.2596	0.3105	1.2592
L337	0.2500	359.7500	0.0000	0.0000	0.1694	0.4492	7.5347
L338	0.2500	359.7500	0.0000	0.0000	0.8844	5.1232	8.3328
L339	0.2500	305.3000	0.0000	54.4500	0.8614	4.2556	7.6506
L340	0.0000	360.0000	0.0000	0.0000	0.9016	3.5524	8.1022
L341	0.2500	359.7500	0.0000	0.0000	0.5350	5.1951	34.9813
L342	0.0000	0.0000	0.0000	360.0000	0.3782	1.0290	4.0239
L343	0.0000	0.0000	0.0000	360.0000	0.3027	0.6576	2.8892
L344	0.2500	316.1429	0.0000	43.6071	0.7606	5.1452	6.9792
L346	0.0000	351.7273	0.0000	8.2727	1.0648	10.0858	12.3364
L347	0.0000	360.0000	0.0000	0.0000	1.2167	13.1020	22.0118
L348	0.2500	359.7500	0.0000	0.0000	1.2167	13.0741	19.4820
L349	0.2500	359.7500	0.0000	0.0000	1.2166	12.7620	17.9332
L350	0.2500	358.3333	0.0000	1.4167	1.2168	12.3973	17.4310
L351	0.2500	359.7500	0.0000	0.0000	0.6085	2.8101	4.9455
L352	0.2500	319.2222	0.0000	40.5278	0.6083	2.8954	5.0526
L354	0.0000	360.0000	0.0000	0.0000	1.3479	13.9362	21.3307

L361	0.0000	0.0000	0.0000	360.0000	0.3009	0.5892	2.5874
L362	0.0000	0.0000	0.0000	360.0000	0.2987	0.5699	2.4123
L363	0.0000	325.8077	0.0000	34.1923	0.4491	1.4515	3.7564
L364	0.0000	296.7419	0.0000	63.2581	0.3032	0.6529	2.9711
L365	0.0000	305.4667	0.0000	54.5333	0.2870	0.5658	2.0660
L366	0.0000	360.0000	0.0000	0.0000	0.6085	2.8597	5.8546
L367	0.2500	359.5000	0.0000	0.2500	0.6084	2.8342	5.8298
L368	0.0000	358.8889	0.0000	1.1111	0.3029	0.6178	2.5507
L369	0.0000	18.2980	0.0000	341.7020	0.3027	0.7294	5.0871
L370	0.0000	360.0000	0.0000	0.0000	0.9109	7.0170	7.7991
L373	0.0000	360.0000	0.0000	0.0000	0.8870	7.0493	12.0050
L374	2.0455	22.0000	0.0000	335.9545	0.3002	0.7284	6.4911
L375	2.0455	197.1613	0.0000	160.7933	0.4535	1.4932	2.5005
L376	0.0000	347.7727	0.0000	12.2273	0.8367	5.3875	6.2028
L386	0.2500	359.5227	0.2273	0.0000	1.2169	12.1199	11.2067
L387	0.2500	355.4545	0.0000	4.2955	1.2168	12.2259	11.2660
L388	0.0000	336.6400	0.0000	23.3600	0.2988	0.8058	5.4584
L389	0.0000	360.0000	0.0000	0.0000	1.3690	15.6167	13.8237
L390	0.0000	230.6129	0.0000	129.3871	0.3028	0.6838	2.0039
L391	0.0000	360.0000	0.0000	0.0000	1.3690	15.5636	15.0468
L392	0.2500	359.7500	0.0000	0.0000	1.3691	15.2463	17.4668
L393	0.0000	360.0000	0.0000	0.0000	1.3691	14.5690	17.0275
L395	0.2500	359.7500	0.0000	0.0000	0.3735	1.2597	10.3886
L396	4.7273	355.2727	0.0000	0.0000	0.9069	6.5210	3.6440
L397	0.0000	360.0000	0.0000	0.0000	0.3735	1.2597	11.3359
L398	0.0000	360.0000	0.0000	0.0000	0.3735	1.2665	12.9323
L399	0.5000	330.4000	0.0000	29.1000	0.5855	2.6753	2.8495
L402	0.2500	359.7500	0.0000	0.0000	0.5324	2.5208	7.4621
L403	0.2500	359.7500	0.0000	0.0000	0.5323	2.5027	7.5161
L404	0.7500	300.2667	0.0000	58.9833	0.5324	2.4848	7.6120
L405	0.0000	295.5161	0.0000	64.4839	0.4563	1.8504	6.3763
L406	0.0000	343.2727	0.0000	16.7273	0.7586	5.0904	8.4049
L407	0.0000	295.4516	0.0000	64.5484	0.3800	1.2865	7.1978
L408	0.0000	342.2727	0.0000	17.7273	0.8358	6.1951	10.2710
L410	0.2500	359.7500	0.0000	0.0000	0.9121	7.3935	11.9652
L411	0.2500	345.3636	0.0000	14.3864	0.9121	7.3987	12.0915
L413	0.0000	360.0000	0.0000	0.0000	0.4360	1.5339	2.7024
L415	0.0000	0.0000	0.0000	360.0000	0.2981	0.5732	2.5763
L417	0.0000	286.3548	0.0000	73.6452	0.3028	0.8122	6.7524
L418	0.0000	302.6333	0.0000	57.3667	0.4564	1.8519	6.6363
L419	0.0000	360.0000	0.0000	0.0000	0.6072	3.2606	7.2952
L420	0.2500	327.1923	0.0000	32.5577	0.6037	3.2205	7.8395
L421	0.0000	299.3871	0.0000	60.6129	0.2991	0.8052	4.4324
L422	0.0000	299.5484	0.0000	60.4516	0.3801	1.2864	7.6052
L423	0.0000	345.7727	0.0000	14.2273	0.7598	5.1196	10.4245
L424	0.0000	333.6667	0.0000	26.3333	0.8366	6.2248	12.5843
L425	0.0000	305.9333	0.0000	54.0667	0.2988	0.8056	2.5192
L426	0.0000	303.0333	0.0000	56.9667	0.3798	1.2862	8.3064
L427	0.2500	359.7500	0.0000	0.0000	1.0648	10.0331	18.9897
L428	0.0000	307.2414	0.0000	52.7586	0.2988	0.8058	1.8560
L429	0.0000	360.0000	0.0000	0.0000	1.0646	9.9813	17.4138
L430	0.2500	359.7500	0.0000	0.0000	0.2988	0.8054	6.7629
L431	0.0000	333.7500	0.0000	26.2500	0.2988	0.8061	5.6208
L432	0.0000	360.0000	0.0000	0.0000	0.3042	0.8175	5.2946
L435	0.0000	360.0000	0.0000	0.0000	0.3042	0.8154	7.4598
L436	0.0000	294.1290	0.0000	65.8710	0.3022	0.8031	5.4816
L437	0.2500	359.7500	0.0000	0.0000	0.3735	1.2495	3.7139
L438	0.0000	336.0870	0.0000	23.9130	0.2988	0.8053	3.2924
L439	0.0000	289.0323	0.0000	70.9677	0.3768	1.2021	5.6985
L440	0.5000	310.0345	0.0000	49.4655	0.4493	1.7585	4.2702
L441	0.2500	359.7500	0.0000	0.0000	1.0616	9.4516	17.0179
L442	0.2500	359.7500	0.0000	0.0000	1.0125	5.1951	12.0073
L443	0.2500	359.7500	0.0000	0.0000	0.5991	5.5647	43.4165
L446	0.2500	331.4000	0.0000	28.3500	0.4563	1.8523	10.2448
L448	0.0000	326.7692	0.0000	33.2308	0.2988	0.8057	2.5953
L449	0.0000	342.5455	0.0000	17.4545	0.5323	2.4678	10.2478
L450	0.0000	0.0000	0.0000	360.0000	0.6008	2.7108	7.9391
L451	0.0000	0.0000	0.0000	360.0000	0.6047	2.6286	8.0557
L452	0.0000	320.9630	0.0000	39.0370	0.2990	0.8052	2.0930

L453	0.0000	323.9259	0.0000	36.0741	0.2988	0.8043	1.4401
L454	0.0000	321.6296	0.0000	38.3704	0.2432	0.4981	1.1073
L466	0.2500	0.0000	0.0000	359.7500	0.3737	0.9067	3.6749
L468	0.2500	359.7500	0.0000	0.0000	0.5141	1.9368	2.8739
L470	0.2500	359.7500	0.0000	0.0000	0.5225	1.7909	5.4703
L471	6.8182	353.1818	0.0000	0.0000	0.1597	0.4340	1.5903
L472	0.2500	359.7500	0.0000	0.0000	0.3042	0.8043	7.8446
L490	0.2500	0.0000	0.0000	359.7500	0.5222	1.6409	4.0474
L496	0.2500	359.7500	0.0000	0.0000	0.1977	0.3174	1.0056
L497	0.0000	360.0000	0.0000	0.0000	0.1968	0.3162	0.9979
L498	0.0000	360.0000	0.0000	0.0000	0.2520	0.3998	1.5284
L501	0.2500	338.6522	0.0000	21.0978	0.9091	7.3285	6.0209
L502	0.5000	356.5000	0.0000	3.0000	1.0614	9.9867	5.5969
L503	0.2500	359.7500	0.0000	0.0000	1.3685	15.1134	19.3490
L504	0.0000	360.0000	0.0000	0.0000	1.3669	13.5557	18.3651
L505	0.0000	302.4667	0.0000	57.5333	0.5260	2.4696	13.2770
L506	0.0000	358.5556	0.0000	1.4444	0.5323	2.4709	16.7375
L509	0.7500	359.2500	0.0000	0.0000	0.2066	0.5149	35.4989
L511	0.2500	0.0000	0.0000	359.7500	0.4500	1.6884	15.0957
L512	0.7500	359.2500	0.0000	0.0000	0.3768	1.9049	41.8268
L514	0.0000	360.0000	0.0000	0.0000	0.5319	2.5196	10.5788
L515	0.0000	350.0455	0.0000	9.9545	0.9126	6.5573	7.1591
CH21	0.5000	359.5000	0.0000	0.0000	1.0781	160.6945	0.2438
L474	0.7500	359.2500	0.0000	0.0000	0.4564	1.8097	10.5391
L523	0.5000	0.0000	0.0000	359.5000	0.6614	5.3660	0.8155
L525	2.0455	351.0455	0.0000	6.9091	0.9113	7.1097	7.4087
L527	0.0000	352.9091	0.0000	7.0909	0.4482	1.8121	5.9365
L528	0.2500	140.0968	0.0000	219.6532	0.3767	1.1287	6.2386
L529	0.0000	360.0000	0.0000	0.0000	0.4534	1.8389	5.6288
L533	0.0000	360.0000	0.0000	0.0000	0.4482	1.8145	6.3708
L537	0.5000	304.1667	0.0000	55.3333	0.4510	1.8451	6.9475
L394	0.0000	360.0000	0.0000	0.0000	1.3691	13.9236	20.8824
L276	0.0000	360.0000	0.0000	0.0000	0.1852	0.4744	22.8322
L288	0.0000	360.0000	0.0000	0.0000	0.2326	0.7428	23.4991
L412	0.2500	0.0000	0.0000	359.7500	0.2790	0.4986	2.7301
L447	0.0000	352.9545	0.0000	7.0455	0.4482	1.8148	2.9956
L321	0.0000	360.0000	0.0000	0.0000	0.2236	0.4937	0.9547

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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 Weightng	Mean Froude Number	Mean Hydraulic Radius	Mean Cross Area	Mean Conduit Roughness
L210	2.6464	57161.701	0.0000	0.9999	0.5509	0.2499	0.7447	0.0150
L211	2.8494	61547.711	0.0000	0.9999	0.8043	0.2528	0.7377	0.0150
L212	2.9718	64190.154	0.0000	0.9999	0.4487	0.3077	1.1458	0.0150
L213	2.2762	49166.343	0.0000	0.9999	0.3900	0.2478	0.7464	0.0150
L214	4.9138	106137.72	0.0000	0.9999	0.3324	0.3719	1.6799	0.0150
L217	0.8692	18775.485	0.0000	0.9999	0.7757	0.2218	0.3181	0.0150
L220	10.2335	221043.08	0.0001	0.9999	0.5736	0.4348	2.3078	0.0150
L221	11.9298	257683.04	0.0001	0.9999	0.6406	0.5019	2.9828	0.0150
L222	12.0867	261073.50	0.0001	0.9996	1.8075	0.4328	1.3207	0.0150
L223	0.2105	4547.4950	0.0000	0.9999	0.5668	0.1441	0.1519	0.0150
L224	0.2077	4486.4903	0.0000	0.9998	0.5356	0.1492	0.1620	0.0150
L225	0.2041	4408.5282	0.0000	0.9940	0.2542	0.1951	0.2962	0.0150
L226	0.8375	18089.291	0.0000	0.9999	0.2810	0.2805	0.6487	0.0150
L227	1.4239	30756.618	0.0000	0.9999	0.3204	0.2465	0.7296	0.0150
L228	2.2174	47896.248	0.0000	0.9999	0.6757	0.2499	0.7290	0.0150
L229	2.6010	56181.792	0.0000	0.9999	0.5823	0.3478	1.0413	0.0150
L230	3.0412	65690.133	0.0000	0.9999	0.5789	0.3084	1.1016	0.0150
L231	3.3238	71794.942	0.0000	0.9999	0.5133	0.3085	1.1371	0.0150
L232	5.3344	115223.40	0.0000	0.9999	0.5062	0.3697	1.6573	0.0150
L233	5.5572	120036.03	0.0000	0.9923	0.4347	0.3652	1.6344	0.0150
L234	8.3356	180049.66	0.0001	0.9999	0.3336	0.4881	2.9171	0.0150
L235	0.4088	8830.4486	0.0000	0.9999	0.1360	0.2473	0.7411	0.0150
L236	1.9438	41985.202	0.0000	0.9999	0.3776	0.2495	0.7480	0.0150
L237	2.8187	60882.846	0.0000	0.9999	0.5163	0.2499	0.7510	0.0150

L238	3.3828	73068.206	0.0000	0.9999	0.9077	0.2551	0.7439	0.0150
L239	3.7147	80236.890	0.0000	0.9999	0.9628	0.2541	0.7535	0.0150
L240	1.1325	24462.285	0.0000	0.9999	0.7723	0.2459	0.3885	0.0150
L241	4.8820	105452.18	0.0000	0.9999	0.8115	0.3162	1.1526	0.0150
L242	1.6952	36615.862	0.0000	0.9999	0.7841	0.2790	0.5156	0.0150
L243	2.2724	49084.641	0.0000	0.9999	0.7725	0.2942	0.6506	0.0150
L246	21.7994	470866.46	0.0006	0.9999	0.5107	0.6355	4.7931	0.0150
L247	25.8082	557457.15	0.0008	1.0000	0.6612	0.6544	4.8466	0.0150
L248	1.8154	39213.635	0.0000	0.9999	0.4737	0.2625	0.7301	0.0150
L249	1.4463	31240.225	0.0000	0.9999	0.9304	0.2639	0.4567	0.0150
L250	2.7464	59322.128	0.0000	0.9999	2.5579	0.2034	0.3128	0.0150
L251	1.1948	25807.113	0.0000	0.9999	0.8762	0.2490	0.4008	0.0150
L254	4.0212	86858.142	0.0000	0.9999	0.2852	0.3702	1.6826	0.0150
L255	8.1691	176453.17	0.0001	0.9999	0.3510	0.4949	2.9942	0.0150
L258	0.7800	16848.326	0.0000	0.9999	0.7657	0.2138	0.2974	0.0150
L259	0.9550	20626.941	0.0000	0.9999	0.8007	0.2594	0.4964	0.0150
L260	1.1428	24684.588	0.0000	0.9996	1.2721	0.1486	0.3691	0.0150
L261	0.8960	19354.664	0.0000	0.9999	0.8956	0.2299	0.3453	0.0150
L262	2.1084	45541.685	0.0000	0.9999	3.1415	0.1625	0.2295	0.0150
L263	1.0981	23719.279	0.0000	0.9999	0.9659	0.2447	0.3924	0.0150
L272	8.6327	186465.77	0.0001	1.0000	0.0467	1.1713	15.8342	0.0150
L273	8.6521	186885.30	0.0001	0.9999	0.3355	0.4375	2.4234	0.0150
L274	7.8422	169392.06	0.0001	0.9998	2.9684	0.2901	0.6538	0.0150
L275	1.3780	29765.822	0.0000	0.9999	0.9780	0.2618	0.4541	0.0150
L277	1.3842	29899.349	0.0000	0.9999	0.9695	0.2632	0.4603	0.0150
L281	3.1328	67668.659	0.0000	0.9999	1.2692	0.2457	0.7090	0.0150
L282	4.5931	99211.413	0.0000	0.9999	4.0371	0.2087	0.3252	0.0150
L283	1.3704	29601.640	0.0000	0.9999	0.8655	0.2640	0.4567	0.0150
L287	1.6694	36060.113	0.0000	0.9999	0.7696	0.2796	0.5197	0.0150
L289	2.0712	44736.852	0.0000	0.9999	0.7615	0.2928	0.6162	0.0150
L308	24.4375	527849.23	0.0107	1.0000	0.4540	0.9732	6.6342	0.0150
L317	1.2217	26387.658	0.0000	0.9999	0.2624	0.3503	0.9375	0.0150
L319	1.7194	37138.652	0.0000	0.9999	0.7091	0.3083	0.6233	0.0150
L320	1.7208	37168.646	0.0000	0.9999	0.7822	0.2804	0.5226	0.0150
L334	0.3888	8398.3567	0.0000	0.9999	0.6968	0.1635	0.1884	0.0150
L335	0.7813	16876.910	0.0000	0.9999	0.7133	0.2164	0.3073	0.0150
L336	1.1759	25400.447	0.0000	0.9999	0.9829	0.2497	0.4119	0.0150
L337	1.1754	25389.171	0.0000	0.9998	1.7305	0.1631	0.2305	0.0150
L338	19.4685	420519.55	0.0001	0.9999	0.5086	0.8571	4.9406	0.0150
L339	19.3989	419015.55	0.0001	0.9998	0.6217	0.8325	4.6115	0.0150
L340	27.5296	594638.38	0.0002	0.9999	1.0753	0.8714	5.0310	0.0150
L341	27.5137	594296.14	0.0002	0.9998	2.1629	0.5158	2.4813	0.0150
L342	4.2000	90719.401	0.0000	0.9999	0.7631	0.3649	1.0709	0.0150
L343	2.4093	52041.235	0.0000	0.9999	0.7710	0.2919	0.6811	0.0150
L344	11.2927	243923.34	0.0001	0.9999	0.3019	0.6105	4.6891	0.0150
L346	23.4510	506541.28	0.0004	0.9999	0.2324	0.8695	9.0964	0.0150
L347	51.1159	1104102.6	0.0004	0.9999	0.3612	1.0006	12.0199	0.0150
L348	50.8583	1098539.6	0.0004	0.9998	0.3623	1.0039	12.4191	0.0150
L349	50.6072	1093116.3	0.0005	0.9998	0.3817	1.0166	12.3433	0.0150
L350	50.4536	1089797.1	0.0006	0.9998	0.4038	1.0765	11.9340	0.0150
L351	7.5630	163361.48	0.0001	0.9999	0.4253	0.5862	2.6040	0.0150
L352	7.5442	162953.68	0.0001	0.9998	0.4226	0.5832	2.6347	0.0150
L354	65.4419	1413546.1	0.0036	1.0000	0.5157	1.3469	12.8289	0.0150
L361	2.1169	45725.585	0.0000	0.9999	0.7989	0.2919	0.5962	0.0150
L362	1.9772	42708.186	0.0000	0.9999	0.7821	0.2894	0.5793	0.0150
L363	4.1195	88980.182	0.0000	0.9999	0.5757	0.4323	1.3022	0.0150
L364	2.4266	52415.164	0.0000	0.9999	0.7928	0.2951	0.6575	0.0150
L365	1.4984	32365.917	0.0000	0.9999	0.6847	0.2762	0.5048	0.0150
L366	8.9277	192838.38	0.0001	0.9999	0.4653	0.5860	2.6931	0.0150
L367	8.8797	191801.90	0.0001	0.9998	0.4559	0.5951	2.7193	0.0150
L368	2.0862	45061.204	0.0000	0.9999	0.7372	0.2943	0.6232	0.0150
L369	3.1988	69093.396	0.0000	0.9999	0.8691	0.2553	0.7437	0.0150
L370	17.3416	374577.74	0.0008	0.9999	0.2894	0.8961	6.6331	0.0150
L373	17.2990	373657.98	0.0013	1.0000	0.2771	0.8689	6.8310	0.0150
L374	3.0624	66147.808	0.0000	0.9979	0.8266	0.2541	0.7522	0.0150
L375	3.0318	65485.881	0.0000	0.9978	0.4326	0.4332	1.4173	0.0150
L376	8.8000	190080.72	0.0001	0.9999	0.2874	0.7144	3.9095	0.0150
L386	28.7206	620365.60	0.0003	0.9998	0.2817	1.1526	10.3724	0.0150
L387	28.5109	615836.29	0.0003	0.9998	0.2759	1.1592	10.6878	0.0150

L388	2.0399	44061.109	0.0000	0.9999	0.4801	0.2479	0.7269	0.0150
L389	40.7753	880745.99	0.0005	0.9999	0.2604	1.3110	14.2267	0.0150
L390	1.4702	31755.306	0.0000	0.9999	0.5928	0.2870	0.5672	0.0150
L391	44.8896	969614.66	0.0007	0.9999	0.2822	1.3160	14.5098	0.0150
L392	53.8619	1163416.0	0.0010	0.9999	0.3414	1.3311	14.6355	0.0150
L393	53.5470	1156614.6	0.0034	0.9999	0.3571	1.3549	14.3923	0.0150
L395	3.8842	83899.023	0.0000	0.9999	0.4205	0.3083	1.1780	0.0150
L396	7.5235	162508.50	0.0001	0.9924	0.2010	0.8367	5.0222	0.0150
L397	4.1960	90632.662	0.0000	0.9999	0.4455	0.3086	1.1792	0.0150
L398	3.9610	85557.586	0.0000	0.9999	0.4905	0.3070	1.1601	0.0150
L399	3.6457	78746.618	0.0000	0.9997	0.3731	0.5206	1.8498	0.0150
L402	6.5188	140805.82	0.0001	0.9999	0.3738	0.4408	2.2276	0.0150
L403	6.4883	140147.71	0.0000	0.9998	0.3793	0.4395	2.2254	0.0150
L404	6.4284	138854.33	0.0001	0.9997	0.3841	0.4354	2.2150	0.0150
L405	4.4428	95965.462	0.0000	0.9999	0.3855	0.3734	1.6202	0.0150
L406	10.8019	233321.63	0.0001	0.9999	0.2865	0.6147	4.4830	0.0150
L407	3.5009	75618.659	0.0000	0.9999	0.4228	0.3126	1.1444	0.0150
L408	14.1920	306547.75	0.0001	0.9999	0.2925	0.6747	5.4587	0.0150
L410	17.9292	387269.78	0.0001	0.9998	0.2970	0.7334	6.5247	0.0150
L411	17.7984	384445.62	0.0001	0.9998	0.2938	0.7297	6.5380	0.0150
L413	2.0662	44628.958	0.0000	0.9999	0.4039	0.3905	1.0881	0.0150
L415	2.0789	44904.348	0.0000	0.9999	0.8217	0.2887	0.5723	0.0150
L417	2.6080	56333.543	0.0000	0.9999	0.5333	0.2519	0.7425	0.0150
L418	4.7312	102193.34	0.0000	0.9999	0.4047	0.3746	1.6264	0.0150
L419	7.3154	158011.63	0.0001	0.9999	0.3245	0.4970	2.8848	0.0150
L420	7.2499	156596.96	0.0001	0.9998	0.3164	0.4928	2.8846	0.0150
L421	1.5194	32819.655	0.0000	0.9999	0.3431	0.2458	0.7186	0.0150
L422	3.4792	75151.368	0.0000	0.9999	0.4072	0.3116	1.1472	0.0150
L423	12.3133	265967.81	0.0001	0.9999	0.2986	0.6151	4.5469	0.0150
L424	16.6861	360419.39	0.0001	0.9999	0.3123	0.6762	5.5293	0.0150
L425	0.8510	18381.889	0.0000	0.9999	0.2369	0.2395	0.7046	0.0150
L426	3.6317	78444.100	0.0000	0.9999	0.4108	0.3115	1.1530	0.0150
L427	36.0213	778060.00	0.0002	0.9999	0.3605	0.8611	9.0342	0.0150
L428	0.8579	18530.703	0.0000	0.9999	0.2680	0.2401	0.6977	0.0150
L429	37.5333	810718.82	0.0002	0.9999	0.3836	0.8605	9.1905	0.0150
L430	2.2411	48408.163	0.0000	0.9999	0.4426	0.2473	0.7400	0.0150
L431	2.0711	44734.869	0.0000	0.9999	0.4272	0.2469	0.7336	0.0150
L432	2.0846	45027.728	0.0000	0.9999	0.4395	0.2486	0.7347	0.0150
L435	2.6293	56791.944	0.0000	0.9999	0.5028	0.2495	0.7481	0.0150
L436	2.6120	56418.959	0.0000	0.9999	0.6536	0.2490	0.7461	0.0150
L437	2.6012	56186.947	0.0000	0.9998	0.3942	0.3097	1.1475	0.0150
L438	1.5281	33007.660	0.0000	0.9999	0.3687	0.2460	0.7245	0.0150
L439	4.1042	88651.595	0.0000	0.9999	0.6520	0.3144	1.1489	0.0150
L440	4.0758	88037.918	0.0000	0.9998	0.4511	0.4154	1.5549	0.0150
L441	43.1593	932240.77	0.0003	0.9999	0.4983	0.8775	9.1522	0.0150
L442	42.9811	928391.26	0.0003	0.9998	1.0371	0.9578	7.5765	0.0150
L443	42.9525	927774.78	0.0003	0.9998	2.7225	0.5637	2.8144	0.0150
L446	5.4178	117024.51	0.0000	0.9999	0.3794	0.3730	1.6664	0.0150
L448	0.8869	19156.122	0.0000	0.9999	0.2270	0.2405	0.7148	0.0150
L449	8.5897	185538.47	0.0001	0.9999	0.4952	0.4337	2.2787	0.0150
L450	12.0564	260419.29	0.0001	0.9999	0.6483	0.5025	2.9547	0.0150
L451	13.2579	286370.69	0.0001	0.9999	0.7527	0.5791	2.7162	0.0150
L452	1.1827	25546.947	0.0000	0.9999	0.3179	0.2436	0.7353	0.0150
L453	0.8525	18412.934	0.0000	0.9999	0.2572	0.2410	0.7345	0.0150
L454	0.6210	13413.757	0.0000	0.9999	0.4962	0.2298	0.3529	0.0150
L466	3.7085	80103.711	0.0000	0.9999	0.8259	0.3618	0.9042	0.0150
L468	3.6891	79684.337	0.0000	0.9998	0.4711	0.4788	1.4856	0.0150
L470	8.6783	187451.87	0.0001	0.9999	0.7849	0.5010	2.0894	0.0150
L471	0.3474	7504.5435	0.0000	0.9881	0.5745	0.1537	0.2125	0.0150
L472	4.0841	88215.552	0.0000	0.9999	0.9610	0.2496	0.7636	0.0150
L490	6.1449	132728.92	0.0000	0.9999	0.6305	0.5076	1.8000	0.0150
L496	0.5532	11949.543	0.0000	0.9999	0.7059	0.1895	0.2428	0.0150
L497	0.5464	11801.494	0.0000	0.9999	0.7062	0.1887	0.2410	0.0150
L498	1.0973	23701.064	0.0000	0.9999	0.7638	0.2415	0.3765	0.0150
L501	11.2069	242069.38	0.0001	0.9998	0.1932	0.7298	6.7367	0.0150
L502	11.0420	238507.91	0.0001	0.9998	0.1283	0.8581	9.1343	0.0150
L503	65.9066	1423581.8	0.0008	0.9999	0.4031	1.2932	15.0210	0.0150
L504	65.5862	1416661.2	0.0024	0.9999	0.4653	1.3551	14.0986	0.0150
L505	9.6167	207721.45	0.0001	0.9999	0.5189	0.4345	2.2942	0.0150

L506	9.8586	212946.83	0.0001	0.9999	0.4601	0.4330	2.3024	0.0150
L509	2.7405	59194.417	0.0000	0.9998	2.6552	0.1994	0.3060	0.0150
L511	10.0944	218038.63	0.0001	0.9999	0.9372	0.3821	1.7166	0.0150
L512	16.3767	353736.10	0.0001	0.9998	3.4334	0.3639	1.0651	0.0150
L514	7.3087	157868.80	0.0001	0.9999	0.3676	0.4346	2.2698	0.0150
L515	11.8479	255915.46	0.0001	0.9999	0.3083	0.8195	5.0576	0.0150
CH21	10.9226	235927.90	0.0001	0.9998	0.0476	0.6838	69.7760	0.0600
L474	8.6020	185803.59	0.0001	0.9997	0.7471	0.3706	1.6980	0.0150
L523	8.6098	185972.41	0.0001	0.9998	0.3421	0.6317	7.3696	0.0600
L525	15.4367	333432.88	0.0001	0.9978	0.3115	0.8457	5.9485	0.0150
L527	4.0944	88438.421	0.0000	0.9999	0.3617	0.3742	1.6410	0.0150
L528	4.2763	92368.855	0.0000	0.9998	0.7199	0.3148	1.1384	0.0150
L529	3.9619	85577.171	0.0000	0.9999	0.3325	0.3783	1.6566	0.0150
L533	3.9203	84677.458	0.0000	0.9999	0.3752	0.3713	1.6104	0.0150
L537	3.8700	83592.582	0.0000	0.9998	0.3071	0.3689	1.6469	0.0150
L394	53.3420	1152188.1	0.0021	1.0000	0.3744	1.3676	13.9342	0.0150
L276	2.8797	62200.605	0.0000	0.9999	3.5263	0.1790	0.2609	0.0150
L288	3.8042	82171.338	0.0000	0.9999	2.6547	0.2241	0.4089	0.0150
L412	2.0547	44381.508	0.0000	0.9999	1.0194	0.2692	0.4714	0.0150
L447	1.9321	41732.936	0.0000	0.9999	0.2098	0.3590	1.5864	0.0150
L321	0.4625	9988.9972	0.0000	0.9999	0.4295	0.2127	0.3121	0.0150
FREE # 1	12.0861	261060.66						
FREE # 2	25.8163	557633.16						
FREE # 3	2.7463	59319.002						
FREE # 4	8.5350	184355.63						
FREE # 5	1.2949	27970.292						
FREE # 6	2.1083	45539.264						
FREE # 7	8.6422	186671.05						
FREE # 8	7.8422	169392.28						
FREE # 9	4.5929	99206.173						
FREE #10	24.4630	528400.77						
FREE #11	1.7193	37137.614						
FREE #12	1.1754	25387.863						
FREE #13	27.5123	594265.65						
FREE #14	65.4955	1414702.6						
FREE #15	17.3182	374072.51						
FREE #16	42.9504	927728.56						
FREE #17	4.0840	88214.537						
FREE #18	2.7405	59194.459						
FREE #19	16.3758	353717.74						
FREE #20	1.3991	30221.469						
FREE #21	8.6018	185797.83						
FREE #22	53.3728	1152852.0						
FREE #23	2.8795	62197.283						
FREE #24	3.8040	82167.219						

*=====
 | 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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Conduit Name	Maximum Flow	Head Loss	Friction Loss	Critical Depth	Normal Depth	HW Elevat	TW Elevat	
L210	2.8911	0.0000	0.6079	0.7287	1.0000	107.6026	106.9939	Max Flow
L211	3.1354	0.0000	4.1728	0.7586	1.0000	106.9939	102.8186	Max Flow
L212	3.2978	0.0000	2.2919	0.7315	0.9241	102.1159	100.2909	Max Flow
L213	2.4910	0.0000	0.6824	0.6759	0.8915	100.9511	100.2682	Max Flow
L214	5.3710	0.0000	0.3195	0.8928	1.2615	100.5880	100.2682	Max Flow
L217	0.9501	0.0000	0.4954	0.4086	0.4397	100.2872	99.7386	Max Flow
L220	11.2776	0.0000	2.1196	1.2514	1.7500	100.2909	98.1694	Max Flow
L221	13.2165	0.0000	1.7213	1.3077	2.0000	98.1694	96.2277	Max Flow
L222	13.3950	0.0000	4.9526	1.3167	0.8202	95.2407	89.4100	Max Flow
L223	0.2305	0.0000	0.1897	0.1969	0.2569	119.8642	119.6069	Max Flow
L224	0.2305	0.0000	0.6187	0.1969	0.2585	118.8903	118.0569	Max Flow
L225	0.2305	0.0000	0.6965	0.1969	0.2582	117.6596	117.5825	Max Flow
L226	0.9294	0.0000	0.9489	0.4040	0.5533	118.5578	118.1994	Max Flow
L227	1.5845	0.0000	0.6335	0.5338	0.8293	118.1994	117.5825	Max Flow

L228	2.4888	0.0000	2.6900	0.6756	1.0000	117.5825	114.7356	Max Flow
L229	2.9466	0.0000	1.5156	0.6896	1.0706	112.5184	110.5696	Max Flow
L230	3.4595	0.0000	1.6036	0.7504	1.2500	110.4305	108.6104	Max Flow
L231	3.8015	0.0000	1.7963	0.7879	1.2500	108.0703	106.2736	Max Flow
L232	6.0390	0.0000	1.3366	0.9490	1.5000	106.2736	104.9361	Max Flow
L233	6.3287	0.0000	2.2868	0.9722	1.5000	104.9361	102.6459	Max Flow
L234	9.4131	0.0000	0.9842	1.0955	1.5018	102.6459	101.6618	Max Flow
L235	0.4478	0.0000	0.1332	0.2768	0.3725	112.5280	112.5184	Max Flow
L236	2.1260	0.0000	0.4908	0.6226	1.0000	106.7649	106.2736	Max Flow
L237	3.0812	0.0000	0.9795	0.7520	1.0000	103.6254	102.6459	Max Flow
L238	3.6937	0.0000	0.7819	0.8182	1.0000	116.6523	115.8782	Max Flow
L239	4.0636	0.0000	2.0981	0.8520	1.0000	115.2807	113.1820	Max Flow
L240	1.2377	0.0000	0.4915	0.4691	0.5152	113.3534	112.7991	Max Flow
L241	5.3641	0.0000	2.7217	0.9383	1.2500	110.4620	107.7383	Max Flow
L242	1.8517	0.0000	0.3828	0.5793	0.6687	108.0733	107.6293	Max Flow
L243	2.4831	0.0000	0.6200	0.6748	0.8718	108.4472	107.7248	Max Flow
L246	24.3602	0.0000	1.9271	1.6806	2.5000	101.6618	99.7331	Max Flow
L247	28.8013	0.0000	0.5840	1.8288	2.5000	99.7331	99.1000	Max Flow
L248	1.9821	0.0000	0.2263	0.6006	0.7067	99.9112	99.7331	Max Flow
L249	1.5791	0.0000	0.4525	0.5329	0.6016	105.4928	104.8401	Max Flow
L250	2.9997	0.0000	5.3766	0.7420	0.3798	104.8401	99.0900	Max Flow
L251	1.3045	0.0000	0.4082	0.4824	0.5322	105.4065	104.8401	Max Flow
L254	4.4560	0.0000	1.6773	0.8093	1.5000	105.6128	103.9333	Max Flow
L255	9.0488	0.0000	0.9447	1.0730	2.0000	103.9333	103.0000	Max Flow
L258	0.8529	0.0000	0.5569	0.3860	0.4163	98.1052	97.4860	Max Flow
L259	1.0482	0.0000	0.6505	0.3649	0.4504	96.8502	95.7732	Max Flow
L260	1.2538	0.0000	0.8809	0.3999	0.1912	95.7732	89.4200	Max Flow
L261	0.9792	0.0000	0.6857	0.4149	0.4484	94.7428	93.7152	Max Flow
L262	2.3040	0.0000	7.8217	0.6492	0.2750	93.7152	81.4800	Max Flow
L263	1.1997	0.0000	0.6244	0.4615	0.5057	94.6677	93.7152	Max Flow
L272	9.4488	0.0000	0.0010	0.8634	1.3150	81.4710	81.4700	Max Flow
L273	9.4488	0.0000	0.5454	1.1432	1.7500	82.0168	81.4710	Max Flow
L274	8.5560	0.0000	9.8793	1.1323	0.5281	92.4485	81.4700	Max Flow
L275	1.5053	0.0000	0.6153	0.5200	0.5819	119.5369	118.6155	Max Flow
L277	1.5122	0.0000	0.6555	0.5212	0.5830	119.6046	118.6155	Max Flow
L281	3.4219	0.0000	1.5113	0.7905	1.0000	124.8193	122.6751	Max Flow
L282	5.0178	0.0000	8.2629	0.9172	0.3949	122.6751	113.2700	Max Flow
L283	1.4971	0.0000	0.6319	0.5185	0.5772	123.5619	122.6750	Max Flow
L287	1.8249	0.0000	0.6389	0.5749	0.6593	113.8197	113.0849	Max Flow
L289	2.2642	0.0000	0.7268	0.6435	0.7865	114.0002	113.1535	Max Flow
L308	77.4521	0.0000	0.7922	2.7505	1.7323	101.0728	98.4100	Max Flow
L317	1.3573	0.0000	2.0739	0.4598	0.6068	106.3439	105.6128	Max Flow
L319	1.8801	0.0000	0.2467	0.5155	0.6171	100.8275	100.5155	Max Flow
L320	1.8798	0.0000	0.4119	0.5839	0.6753	101.7816	101.3039	Max Flow
L334	0.4265	0.0000	2.1313	0.2696	0.2878	125.6081	123.3977	Max Flow
L335	0.8586	0.0000	1.9033	0.3874	0.4174	123.3977	121.3926	Max Flow
L336	1.2917	0.0000	0.6739	0.4800	0.5278	121.3926	120.3681	Max Flow
L337	1.2917	0.0000	3.7510	0.4800	0.2780	120.3681	115.3200	Max Flow
L338	21.2514	0.0000	0.1869	1.4803	2.5060	128.3207	128.1342	Max Flow
L339	21.2523	0.0000	0.6160	1.4803	2.4676	128.1342	127.2811	Max Flow
L340	30.1715	0.0000	0.9265	1.6964	3.0209	127.2811	125.8532	Max Flow
L341	30.1708	0.0000	3.3261	1.6964	0.8431	125.8533	122.5200	Max Flow
L342	4.5877	0.0000	0.4878	0.8677	1.2500	128.9836	128.3977	Max Flow
L343	2.6326	0.0000	0.6387	0.6950	1.0000	129.2163	128.4750	Max Flow
L344	12.3311	0.0000	0.1761	1.1780	1.7323	127.1536	127.0974	Max Flow
L346	25.6088	0.0000	0.1209	1.5571	2.4753	126.8959	126.8526	Max Flow
L347	56.3351	0.0000	0.7993	2.2572	4.0000	126.8524	126.0662	Max Flow
L348	56.3340	0.0000	0.7607	2.2572	4.0000	126.0662	125.3076	Max Flow
L349	56.3336	0.0000	0.7614	2.2572	4.0000	125.3076	124.5274	Max Flow
L350	56.3336	0.0000	0.2512	2.2572	4.0000	124.5274	124.2706	Max Flow
L351	8.2540	0.0000	0.1151	1.0227	1.4579	124.5647	124.5069	Max Flow
L352	8.2540	0.0000	0.4199	1.0228	1.4508	124.5069	124.2705	Max Flow
L354	73.4488	0.0000	0.2115	2.5008	2.1105	122.5798	122.5300	Max Flow
L361	2.3115	0.0000	0.3204	0.6503	0.8093	126.2886	125.9103	Max Flow
L362	2.1598	0.0000	0.4193	0.6278	0.7572	126.3794	125.8878	Max Flow
L363	4.5228	0.0000	1.3918	0.8156	1.0642	125.8458	124.5769	Max Flow
L364	2.6496	0.0000	0.3554	0.6973	1.0000	124.9752	124.5573	Max Flow
L365	1.6367	0.0000	0.3765	0.5430	0.6119	124.8690	124.5769	Max Flow
L366	9.8099	0.0000	0.9193	1.1200	1.7285	124.5769	123.6546	Max Flow

L367	9.8099	0.0000	0.8585	1.1200	1.7295	123.6546	122.7901	Max Flow
L368	2.2791	0.0000	0.7451	0.6457	0.7931	123.6243	122.7826	Max Flow
L369	3.4945	0.0000	1.2617	0.7986	1.0000	124.1512	122.9086	Max Flow
L370	19.1219	0.0000	0.3121	1.4008	2.2211	122.7901	122.5952	Max Flow
L373	19.1219	0.0000	0.1838	1.4008	1.0725	122.5952	122.5300	Max Flow
L374	3.3514	0.0000	1.8661	0.7827	1.0000	120.8308	118.9627	Max Flow
L375	3.3513	0.0000	0.6264	0.6972	1.5000	118.9042	118.0076	Max Flow
L376	14.2870	0.1090	0.2270	1.2355	1.8577	118.6571	118.3974	Max Flow
L386	36.6327	0.0000	0.2568	1.8016	3.1950	118.2769	118.0216	Max Flow
L387	36.6198	0.0000	0.2667	1.8013	3.2081	118.0217	117.7558	Max Flow
L388	2.2293	0.0000	1.0232	0.6384	0.6502	118.3379	117.7550	Max Flow
L389	50.3323	0.0000	0.2921	2.0512	3.8871	117.7558	117.4640	Max Flow
L390	1.6079	0.0000	0.4428	0.5379	0.7071	117.6983	117.1430	Max Flow
L391	55.1790	0.0000	0.4551	2.1537	4.5000	117.4640	117.0057	Max Flow
L392	65.3719	0.0000	0.4866	2.3530	4.5000	117.0058	116.5064	Max Flow
L393	65.3657	0.0000	0.6674	2.3529	4.5000	116.5065	115.8648	Max Flow
L395	4.2403	0.0000	0.6734	0.8335	0.6572	118.9854	118.7039	Max Flow
L396	8.3482	0.0000	0.4743	0.9094	1.3085	118.7806	118.7039	Max Flow
L397	4.5806	0.0000	0.5730	0.8670	0.7108	119.0774	118.7029	Max Flow
L398	4.3232	0.0000	0.4977	0.8420	0.4678	119.0579	118.7796	Max Flow
L399	4.0372	0.0000	0.6932	0.7039	0.9135	118.9306	118.7777	Max Flow
L402	7.1188	0.0000	0.2434	0.9866	1.4060	113.6518	113.4140	Max Flow
L403	7.1191	0.0000	1.1036	0.9866	1.4210	113.4140	112.2979	Max Flow
L404	7.1280	0.0000	1.1163	0.9872	1.4122	112.2983	111.0825	Max Flow
L405	4.8549	0.0000	0.3254	0.8468	1.1311	111.3924	110.9768	Max Flow
L406	11.9729	0.0000	0.6417	1.1597	1.7166	112.4791	112.0680	Max Flow
L407	3.8256	0.0000	0.3887	0.7905	1.0955	111.0297	110.5505	Max Flow
L408	15.7980	0.0000	0.5961	1.3024	2.0080	112.0680	111.6343	Max Flow
L410	20.1364	0.0000	0.5381	1.4401	2.3383	111.6343	111.1574	Max Flow
L411	20.1364	0.0000	0.4098	1.4401	2.3489	111.1574	110.7941	Max Flow
L413	2.2679	0.0000	1.3402	0.5683	0.6796	119.1099	118.8186	Max Flow
L415	2.2700	0.0000	0.3536	0.6444	0.7489	119.5278	119.1244	Max Flow
L417	2.8494	0.0000	0.5217	0.7235	1.0000	112.5021	111.9035	Max Flow
L418	5.1688	0.0000	0.3289	0.8748	1.2081	113.1916	112.9610	Max Flow
L419	8.0182	0.0000	0.6050	1.0071	1.4169	112.9610	112.5301	Max Flow
L420	8.0182	0.0000	0.9397	1.0071	1.4176	112.5301	111.8621	Max Flow
L421	1.6631	0.0000	0.4105	0.5476	0.6182	110.6689	110.2151	Max Flow
L422	3.8019	0.0000	0.4123	0.7879	1.0644	112.2083	111.8621	Max Flow
L423	13.6466	0.0000	0.6966	1.2419	1.9032	111.8621	111.2807	Max Flow
L424	18.5464	0.0000	0.5378	1.4164	2.3829	111.2807	110.7941	Max Flow
L425	0.9317	0.0000	0.4054	0.4045	0.4363	111.3435	111.2807	Max Flow
L426	3.9681	0.0000	0.3932	0.8057	1.2500	111.6425	111.2807	Max Flow
L427	40.5902	0.0000	1.0434	1.9812	3.5000	110.7941	109.7503	Max Flow
L428	0.9393	0.0000	0.4988	0.4062	0.4397	109.8312	109.7503	Max Flow
L429	42.4776	0.0000	0.8860	2.0284	3.5000	109.7503	108.8835	Max Flow
L430	2.4485	0.0000	0.7700	0.6698	0.7129	120.8359	120.2718	Max Flow
L431	2.2781	0.0000	2.4871	0.6455	0.7923	122.5849	120.2699	Max Flow
L432	2.2777	0.0000	0.5306	0.6454	0.7915	123.0749	122.5848	Max Flow
L435	2.8727	0.0000	0.7704	0.7264	1.0000	116.1803	115.4093	Max Flow
L436	2.8741	0.0000	2.7381	0.7266	1.0000	115.4093	112.6913	Max Flow
L437	2.8724	0.0000	1.3707	0.6804	0.8304	112.8384	112.0501	Max Flow
L438	1.6722	0.0000	0.5063	0.5492	0.6236	112.3084	112.0515	Max Flow
L439	4.5570	0.0000	2.5013	0.8648	1.2500	112.0515	109.5681	Max Flow
L440	4.5523	0.0000	1.3289	0.8185	1.0723	109.7789	108.8835	Max Flow
L441	48.9390	0.0000	1.1723	2.1842	3.5000	108.8835	107.6629	Max Flow
L442	48.9390	0.0000	1.6389	2.1842	3.5000	107.6629	105.0976	Max Flow
L443	48.9390	0.0000	5.2037	2.1842	0.9872	105.0976	98.4100	Max Flow
L446	5.9168	0.0000	0.2542	0.9388	1.5000	129.7527	129.4984	Max Flow
L448	0.9708	0.0000	0.4570	0.4131	0.4472	128.2210	128.1440	Max Flow
L449	9.5085	0.0000	2.1422	1.1469	1.7500	128.1440	126.0007	Max Flow
L450	13.3913	0.0000	1.8254	1.3165	2.0000	126.0007	123.9765	Max Flow
L451	14.7194	0.0000	0.4727	1.3819	2.0000	120.4426	119.8419	Max Flow
L452	1.2925	0.0000	0.2887	0.4802	0.5291	126.0884	126.0007	Max Flow
L453	0.9323	0.0000	0.3450	0.4046	0.4391	126.0559	126.0007	Max Flow
L454	0.6805	0.0000	0.4065	0.3432	0.3671	120.4709	120.2912	Max Flow
L466	4.0513	0.0000	0.6115	0.8142	0.9291	120.8206	120.1342	Max Flow
L468	4.0491	0.0000	0.9972	0.7050	0.9525	119.5232	118.5300	Max Flow
L470	9.4830	0.0000	0.8187	1.1453	1.7500	123.4952	122.3558	Max Flow
L471	0.3817	0.0000	1.3528	0.2545	0.2559	125.0264	123.4952	Max Flow

L472	4.4576	0.0000	1.0741	0.8830	1.0000	128.1166	127.0400	Max Flow
L490	6.7172	0.0000	0.3686	0.9567	1.7500	111.3361	110.8167	Max Flow
L496	0.6064	0.0000	2.1679	0.3236	0.3457	133.7961	131.6772	Max Flow
L497	0.5989	0.0000	2.1741	0.3217	0.3435	133.8039	131.6772	Max Flow
L498	1.2053	0.0000	0.5699	0.4626	0.5070	131.6772	131.1070	Max Flow
L501	12.3318	0.0000	0.5470	1.1137	1.6376	127.0975	126.9361	Max Flow
L502	12.3328	0.0000	0.2258	1.0636	1.6011	126.9362	126.8521	Max Flow
L503	73.4488	0.0000	0.7099	2.5008	4.5000	124.2706	123.5298	Max Flow
L504	73.4488	0.0000	0.8202	2.5008	4.5000	123.5298	122.5798	Max Flow
L505	10.5983	0.0000	2.3248	1.2124	1.7500	106.3229	103.9920	Max Flow
L506	10.9003	0.0000	2.4583	1.2298	1.7500	103.9920	101.5264	Max Flow
L509	2.9902	0.0000	9.8096	0.7408	0.3581	108.2196	98.4100	Max Flow
L511	11.0354	0.0000	2.5525	1.2707	1.5000	112.4350	109.8807	Max Flow
L512	17.9040	0.0000	10.8538	1.5241	0.6463	108.7565	94.5300	Max Flow
L514	8.0432	0.0000	1.3537	1.0519	1.7500	129.4984	128.1440	Max Flow
L515	17.6973	0.0000	0.2070	1.3454	2.0760	118.3974	118.2769	Max Flow
CH21	13.5742	0.0000	0.7772	0.0721	0.3068	118.6771	118.6571	Max Flow
L474	9.4830	0.0000	1.3681	1.1890	1.5000	120.8720	119.5000	Max Flow
L523	9.4830	0.0000	0.7137	0.3970	0.9455	122.3558	121.2270	Max Flow
L525	17.1560	0.0000	0.7331	1.3244	2.0433	118.7039	118.2769	Max Flow
L527	4.5202	0.0000	1.3812	0.8154	1.0805	118.8193	117.7558	Max Flow
L528	4.7289	0.0000	3.2734	0.8811	1.2500	120.2700	116.9188	Max Flow
L529	4.3384	0.0000	0.6401	0.7981	1.5000	114.9266	114.2861	Max Flow
L533	4.3384	0.0000	2.4126	0.7981	1.0336	114.2861	112.6510	Max Flow
L537	4.3384	0.0000	1.0160	0.7981	1.5000	112.6510	111.6343	Max Flow
L394	65.3640	0.0000	0.3944	2.3529	4.5000	115.8648	115.6200	Max Flow
L276	3.1464	0.0000	6.6274	0.7600	0.3153	118.6155	110.5500	Max Flow
L288	4.1590	0.0000	4.1369	0.8252	0.3816	112.6569	108.5200	Max Flow
L412	2.2432	0.0000	0.6001	0.6405	0.6067	119.6067	119.0067	Max Flow
L447	2.1264	0.0000	1.3136	0.5499	0.6604	129.7121	129.4984	Max Flow
L321	0.5084	0.0000	1.1075	0.2951	0.3909	119.2319	118.5578	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 Outlet Control	Mild Slope TW Control Outlet 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
L210	0.0000	58.0000	0.0000	0.0000	302.0000	0.0000	0.0000	0.0000	None
L211	17.0000	38.0000	0.0000	0.0000	0.0000	0.0000	305.0000	0.0000	None
L212	18.0000	41.0000	0.0000	0.0000	301.0000	0.0000	0.0000	0.0000	None
L213	0.0000	49.0000	0.0000	0.0000	311.0000	0.0000	0.0000	0.0000	None
L214	0.0000	49.0000	0.0000	0.0000	311.0000	0.0000	0.0000	0.0000	None
L217	294.0000	66.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L220	2.0000	56.0000	0.0000	0.0000	302.0000	0.0000	0.0000	0.0000	None
L221	255.0000	105.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L222	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L223	241.0000	119.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L224	280.0000	80.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L225	32.0000	58.0000	3.0000	0.0000	267.0000	0.0000	0.0000	0.0000	None
L226	0.0000	65.0000	0.0000	0.0000	295.0000	0.0000	0.0000	0.0000	None
L227	33.0000	28.0000	0.0000	0.0000	299.0000	0.0000	0.0000	0.0000	None
L228	17.0000	38.0000	0.0000	0.0000	0.0000	0.0000	305.0000	0.0000	None
L229	316.0000	44.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L230	314.0000	46.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L231	39.0000	37.0000	0.0000	0.0000	0.0000	0.0000	284.0000	0.0000	None
L232	20.0000	76.0000	0.0000	0.0000	253.0000	0.0000	11.0000	0.0000	None
L233	19.0000	38.0000	4.0000	0.0000	299.0000	0.0000	0.0000	0.0000	None
L234	1.0000	49.0000	0.0000	0.0000	310.0000	0.0000	0.0000	0.0000	None
L235	11.0000	52.0000	0.0000	0.0000	297.0000	0.0000	0.0000	0.0000	None

L504	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L505	18.0000	42.0000	0.0000	0.0000	299.0000	0.0000	1.0000	0.0000	None
L506	1.0000	49.0000	0.0000	0.0000	310.0000	0.0000	0.0000	0.0000	None
L509	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L511	7.0000	37.0000	0.0000	0.0000	0.0000	0.0000	316.0000	0.0000	None
L512	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L514	8.0000	48.0000	0.0000	0.0000	304.0000	0.0000	0.0000	0.0000	None
L515	6.0000	354.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
CH21	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L474	0.0000	57.0000	0.0000	0.0000	303.0000	0.0000	0.0000	0.0000	None
L523	307.0000	53.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L525	6.0000	236.0000	2.0000	0.0000	116.0000	0.0000	0.0000	0.0000	None
L527	7.0000	50.0000	0.0000	0.0000	303.0000	0.0000	0.0000	0.0000	None
L528	43.0000	18.0000	0.0000	0.0000	0.0000	0.0000	299.0000	0.0000	None
L529	9.0000	75.0000	0.0000	0.0000	276.0000	0.0000	0.0000	0.0000	None
L533	12.0000	54.0000	0.0000	0.0000	294.0000	0.0000	0.0000	0.0000	None
L537	33.0000	34.0000	0.0000	0.0000	293.0000	0.0000	0.0000	0.0000	None
L394	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L276	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L288	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L412	0.0000	1.0000	58.0000	0.0000	0.0000	0.0000	301.0000	0.0000	None
L447	0.0000	58.0000	0.0000	0.0000	302.0000	0.0000	0.0000	0.0000	None
L321	0.0000	360.0000	0.0000	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
L210	0.0000	0.0000	0.0000	0.0000
L211	0.0000	0.0000	0.9167	0.0000
L212	0.5000	303.9333	2.9091	0.0000
L213	0.0000	17.6000	0.0000	0.0000
L214	0.1968	37.9156	0.0000	0.0000
L217	0.0000	0.0000	0.7500	0.0000
L220	0.0000	0.2500	1.0278	0.0000
L221	0.0000	0.2500	1.2399	0.0000
L222	359.7500	359.7500	346.9621	0.0000
L223	0.0000	0.0000	3.9773	0.0000
L224	0.0000	0.0000	0.0000	0.0000
L225	6.8237	302.7000	5.2727	0.0000
L226	34.4655	360.0000	3.3864	0.0000
L227	0.0333	302.8333	3.6364	0.0000
L228	0.0000	1.8333	1.8333	0.0000
L229	0.0000	0.2500	1.9773	0.0000
L230	0.0000	0.0000	0.0000	0.0000
L231	0.0000	0.0000	0.2500	0.0000
L232	0.0000	0.5000	1.3889	0.0000
L233	0.0667	6.3011	0.0000	0.0000
L234	16.6869	359.2778	1.2222	0.0000
L235	0.0000	346.0909	6.4091	0.0000
L236	0.0000	0.0000	0.0000	0.0000
L237	0.0000	0.0000	0.0000	0.0000
L238	0.0000	0.0000	0.0000	0.0000
L239	0.0000	0.0000	0.5000	0.0000
L240	0.0000	0.0000	0.7500	0.0000
L241	0.0000	0.5000	1.8864	0.0000
L242	0.0000	0.0000	0.0000	0.0000
L243	0.0000	0.0000	0.0000	0.0000
L246	0.2500	39.3701	0.0000	0.0000
L247	0.0000	32.9007	0.0000	0.0000
L248	0.0909	358.2652	0.0000	0.0000
L249	0.0000	0.0000	0.2500	0.0000
L250	360.0000	360.0000	355.1364	0.0000
L251	0.0000	0.0000	0.5000	0.0000
L254	10.0455	51.4138	0.2500	0.0000

L255	0.9655	1.0690	0.0000	0.0000
L258	0.0000	0.0000	1.0000	0.0000
L259	0.0000	0.7753	0.8056	0.0000
L260	359.7500	359.7500	324.0463	0.0000
L261	0.0000	0.0000	0.5000	0.0000
L262	360.0000	360.0000	354.7273	0.0000
L263	0.0000	0.0000	0.7500	0.0000
L272	0.0000	358.3889	0.0000	0.0000
L273	0.0000	44.3651	0.0000	0.0000
L274	359.7500	359.7500	356.9091	0.0000
L275	0.0000	0.0000	0.5000	0.0000
L277	0.0000	0.0000	0.7500	0.0000
L281	0.0000	0.0000	352.2955	0.0000
L282	360.0000	360.0000	357.2273	0.0000
L283	0.0000	0.0000	0.5000	0.0000
L287	0.0000	0.0000	0.0000	0.0000
L289	0.0000	0.0000	0.0000	0.0000
L308	0.5202	356.4621	0.7222	0.0000
L317	46.7107	358.2778	0.5000	0.0000
L319	0.0000	0.0000	0.7778	0.0000
L320	0.0000	0.0000	0.5000	0.0000
L334	356.5909	359.7500	0.0000	0.0000
L335	358.1667	359.7500	0.0000	0.0000
L336	0.0000	0.0000	2.9773	0.0000
L337	359.7500	359.7500	344.6818	0.0000
L338	0.0000	0.0000	1.6389	0.0000
L339	0.0000	0.0000	0.5000	0.0000
L340	0.0000	0.0000	326.9406	0.0000
L341	359.7500	359.7500	348.5909	0.0000
L342	0.0000	0.0000	0.0000	0.0000
L343	0.0000	0.0000	0.0000	0.0000
L344	0.0667	304.4333	0.0000	0.0000
L346	0.0455	350.5000	0.0000	0.0000
L347	0.0000	19.4242	0.0000	0.0000
L348	0.0000	25.5175	2.5227	0.0000
L349	0.8485	28.5758	1.6389	0.0000
L350	0.1111	28.1027	1.4167	0.0000
L351	0.0000	302.4667	1.5278	0.0000
L352	0.0000	304.7333	0.5000	0.0000
L354	0.0000	350.0909	0.0000	0.0000
L361	0.0000	0.0000	0.0000	0.0000
L362	0.0000	0.0000	0.0000	0.0000
L363	0.0000	309.7759	1.3611	0.0000
L364	0.0000	0.0000	0.0000	0.0000
L365	0.0000	301.8333	0.0000	0.0000
L366	5.4141	57.6444	1.1111	0.0000
L367	0.5000	59.2977	0.2500	0.0000
L368	13.6263	27.2230	0.0000	0.0000
L369	2.6414	14.0101	0.0000	0.0000
L370	0.0000	356.0909	0.0000	0.0000
L373	0.0000	355.9091	0.0000	0.0000
L374	0.0000	0.0000	0.0000	0.0000
L375	0.0000	0.0000	0.5455	0.0000
L376	0.5909	347.1364	0.0000	0.0000
L386	0.0000	348.6364	2.8409	0.0000
L387	0.5000	347.3182	4.2955	0.0000
L388	7.0909	336.5600	0.0000	0.0000
L389	0.0000	348.1818	0.5000	0.0000
L390	0.0000	0.0000	0.0000	0.0000
L391	1.7778	348.9798	0.2500	0.0000
L392	0.0000	48.2449	0.0000	0.0000
L393	0.0000	47.9707	0.0000	0.0000
L395	10.6364	359.5000	0.5000	0.0000
L396	0.2727	355.2727	0.0000	0.0000
L397	10.5581	359.5000	0.7500	0.0000
L398	5.7045	359.2500	3.5000	0.0000
L399	0.0000	317.3929	3.5000	0.0000
L402	0.0323	298.3871	1.8409	0.0000
L403	0.0323	287.5161	3.7045	0.0000

L404	0.0645	289.5161	2.1818	0.0000
L405	0.0323	289.8387	0.0000	0.0000
L406	0.0000	308.1810	1.5278	0.0000
L407	0.1613	3.9032	0.0000	0.0000
L408	0.0000	314.0714	1.8409	0.0000
L410	0.0000	326.3077	5.7727	0.0000
L411	0.0000	332.8000	8.6136	0.0000
L413	39.9104	353.4242	0.5000	0.0000
L415	0.0000	0.0000	0.0000	0.0000
L417	0.0000	0.0000	0.0000	0.0000
L418	0.0323	286.8387	0.0000	0.0000
L419	0.0000	308.2183	3.8081	0.0000
L420	0.0000	304.9667	2.3409	0.0000
L421	0.0323	298.1290	0.0000	0.0000
L422	0.0645	6.9677	0.0000	0.0000
L423	0.0000	316.7143	1.5833	0.0000
L424	0.0000	34.0772	1.6389	0.0000
L425	0.0000	305.2000	0.5000	0.0000
L426	0.5484	0.7097	0.0000	0.0000
L427	0.0000	11.9863	0.2500	0.0000
L428	0.0333	306.4333	0.5000	0.0000
L429	4.8636	19.7726	0.2500	0.0000
L430	10.8775	351.1818	5.2500	0.0000
L431	17.8740	328.5300	1.7778	0.0000
L432	0.0000	306.6200	4.1818	0.0000
L435	0.0000	27.1250	3.4545	0.0000
L436	0.0000	0.5000	1.2500	0.0000
L437	30.7189	356.5682	0.9167	0.0000
L438	0.0000	332.9600	0.5000	0.0000
L439	0.0000	0.5000	1.9091	0.0000
L440	0.0000	303.5667	5.0682	0.0000
L441	0.0000	0.0000	1.4444	0.0000
L442	0.0000	0.0000	316.9945	0.0000
L443	359.7500	359.7500	338.3913	0.0000
L446	0.1000	2.2000	0.0000	0.0000
L448	0.0000	325.2308	0.7500	0.0000
L449	0.0000	0.5000	1.9545	0.0000
L450	0.0000	0.5000	1.5000	0.0000
L451	0.0000	0.0000	1.9444	0.0000
L452	0.0000	319.2593	0.5000	0.0000
L453	0.0000	322.6667	0.5000	0.0000
L454	0.0000	320.3333	1.0000	0.0000
L466	0.0000	0.0000	0.0000	0.0000
L468	0.0000	297.8710	4.7727	0.0000
L470	0.0000	0.0000	6.2273	0.0000
L471	353.1818	353.1818	0.0000	0.0000
L472	0.0000	0.0000	0.0000	0.0000
L490	0.0000	0.0000	0.0000	0.0000
L496	354.1364	354.5000	2.7955	0.0000
L497	354.1818	354.5000	3.0909	0.0000
L498	0.0000	0.0000	1.5682	0.0000
L501	0.0000	327.7308	0.9167	0.0000
L502	2.7727	355.7273	3.0000	0.0000
L503	0.0000	28.6254	0.0000	0.0000
L504	0.0000	29.2475	0.0000	0.0000
L505	0.0000	0.5000	1.4444	0.0000
L506	8.6818	12.7273	1.4444	0.0000
L509	48.5776	359.7500	356.3636	0.0000
L511	0.0000	0.0000	0.0000	0.0000
L512	359.7500	359.7500	355.7273	0.0000
L514	0.0000	47.0513	0.2500	0.0000
L515	0.0000	343.7957	4.2500	0.0000
CH21	68.9516	359.5000	0.0000	0.0000
L474	0.4074	0.4074	1.4798	0.0000
L523	0.0000	0.2500	0.5000	0.0000
L525	0.0000	323.3655	0.2727	0.0000
L527	11.6660	352.6364	1.7778	0.0000
L528	0.0000	0.2500	1.3889	0.0000
L529	0.0000	0.0000	2.8182	0.0000

L533	29.0522	342.6364	6.7727	0.0000
L537	0.0000	0.0000	1.3636	0.0000
L394	0.0000	47.2424	0.0000	0.0000
L276	360.0000	360.0000	356.0455	0.0000
L288	48.2414	360.0000	354.2273	0.0000
L412	0.0000	0.0000	352.9091	0.0000
L447	29.6104	349.3182	0.0000	0.0000
L321	71.0499	353.0000	4.0909	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.

Maximum Elevation	Conduit Name	Maximum Flow (cfs)	Total Flow (ft^3)	Maximum Velocity (ft/s)	Maximum Volume (ft^3)	## ## ##	Junction Name	Invert Elevation (ft)	(ft)
107.6026	L210	2.8911	57161.7010	3.7435	56.6616	##	N221	105.8400	
106.9939	L211	3.1354	61547.7106	4.0313	92.9610	##	N222	104.4400	
102.1159	L212	3.2978	64190.1540	3.3046	521.4422	##	N223	100.8100	
100.2909	L213	2.4916	49166.3432	3.2327	86.7972	##	N224	96.9700	
100.9720	L214	5.3717	106137.7153	3.0198	172.0434	##	N227	98.3400	
100.6100	L217	0.9501	18775.4847	2.8265	22.0944	##	N228	97.5300	
98.1694	L220	11.2776	221043.0844	4.6465	795.1444	##	N230	95.8300	
100.2872	L221	13.2165	257683.0352	4.1620	1071.2640	##	N231	99.8400	
95.2407	L222	13.3950	261073.4994	9.6249	98.3306	##	N233	94.4200	
89.4100	L223	0.2305	4547.4950	1.4362	9.8486	##	N234	87.6000	
119.8642	L224	0.2305	4486.4903	1.3309	10.9512	##	N235	119.6000	
118.8903	L225	0.2305	4408.5282	1.3999	161.7749	##	N236	118.6100	
117.6596	L226	0.9294	18089.2908	1.8892	319.3934	##	N237	117.2600	
117.5825	L227	1.5845	30756.6183	2.2884	192.5795	##	N238	115.1100	
118.5578	L228	2.4888	47896.2477	3.2325	176.8815	##	N239	117.6900	
118.1994	L229	2.9466	56181.7920	2.5939	247.7024	##	N240	116.6200	
112.5184	L230	3.4595	65690.1332	2.9207	383.3851	##	N241	111.3600	
110.4305	L231	3.8015	71794.9423	3.0945	484.4460	##	N242	108.6300	
108.0703	L232	6.0390	115223.4020	3.3992	548.9910	##	N243	105.8600	
106.2736	L233	6.3287	120036.0313	3.5596	876.1916	##	N244	103.8500	
104.9361	L234	9.4131	180049.6598	2.9858	1363.1989	##	N245	101.6800	
	L235	0.4478	8830.4486	1.0903	41.1676	##	N246	99.5600	

119.5370	L319	1.8801	37138.6521	2.8574	39.2257	##	N293	118.9200
118.6155	L320	1.8798	37168.6464	3.4037	34.6954	##	N294	118.3000
119.6047	L334	0.4265	8398.3567	2.1349	17.6904	##	N296	118.9800
124.8193	L335	0.8586	16876.9096	2.6318	37.8961	##	N301	122.9000
122.6751	L336	1.2917	25400.4475	2.9603	14.7868	##	N302	122.2800
113.2700	L337	1.2917	25389.1714	5.3855	27.0080	##	N303	110.6000
123.5620	L338	21.2523	420519.5452	4.0864	430.3357	##	N304	122.9500
113.8197	L339	21.2525	419015.5464	4.3654	1106.4396	##	N309	113.1500
112.6569	L340	30.1728	594638.3770	5.6976	866.7708	##	N310	112.2600
114.0002	L341	30.1726	594296.1446	11.7326	457.6768	##	N312	113.2100
101.1992	L342	4.5877	90719.4011	4.0620	80.2602	##	YEL327	96.0000
98.4100	L343	2.6326	52041.2349	3.6540	61.8189	##	N331	92.7000
106.3439	L344	12.3311	243923.3427	4.0977	262.4414	##	W104	105.3900
100.8276	L346	25.6125	506541.2768	2.6688	504.1000	##	N342	100.2200
100.5155	L347	56.3355	1104102.584	4.4563	5203.5002	##	N343	100.0000
101.7816	L348	56.3340	1098539.600	4.2989	5267.9079	##	N344	101.1100
119.2319	L349	56.3337	1093116.335	4.3396	5104.8101	##	N345	118.8300
125.6081	L350	56.3336	1089797.080	4.5170	1636.4369	##	N356	125.3200
123.3977	L351	8.2540	163361.4838	3.3794	98.3522	##	N357	122.9800
121.3926	L352	8.2541	162953.6843	3.4177	425.6190	##	N358	120.8200
120.3681	L354	-97.0481	1413546.086	5.7342	1308.4132	##	N359	120.0900
115.3200	L361	2.3119	45725.5850	3.6734	27.6898	##	N360	112.8000
128.3208	L362	2.1598	42708.1865	3.5287	37.6122	##	N361	126.2400
128.1343	L363	4.5228	88980.1822	3.2872	518.5394	##	N362	126.1300
127.2811	L364	2.6500	52415.1640	3.8459	31.3393	##	N363	125.2800
125.8533	L365	1.6367	32365.9173	3.2231	35.6429	##	N364	125.0100
122.5200	L366	9.8099	192838.3818	3.4253	1126.7036	##	N365	117.4000
128.9836	L367	9.8099	191801.8991	3.4448	1031.6377	##	N366	127.8700
129.2163	L368	2.2792	45061.2044	3.4630	72.3603	##	N367	128.3300
127.1537	L369	3.4945	69093.3964	4.5022	72.2000	##	N368	124.2600
127.0975	L370	-22.3121	374577.7437	-3.5620	1444.5633	##	N369	123.6700
126.8529	L373	-32.2544	373657.9827	-3.4582	693.5950	##	N370	121.7000
126.8961	L374	3.3515	66147.8083	4.3063	116.5452	##	N371	122.2600
126.0663	L375	3.3513	65485.8807	2.2806	601.7656	##	N372	121.3400
	L376	14.2870	190080.7207	2.6483	883.5434	##	N373	120.9700

119.0784	L427	40.5902	778059.9975	4.1993	4899.2917	##	N415	116.3300
119.0589	L428	0.9393	18530.7027	2.7410	69.4540	##	N416	116.8300
118.9330	L429	42.4776	810718.8170	4.2977	3938.7453	##	N417	117.5700
120.8207	L430	2.4485	48408.1633	3.2889	72.3416	##	N418	119.9000
113.4701	L431	2.2781	44734.8686	3.2432	277.7449	##	N419	110.9100
114.7633	L432	2.2777	45027.7284	3.3819	74.4859	##	N420	112.2400
114.5335	L435	2.8738	56791.9436	3.6388	73.2253	##	N421	112.0000
112.4791	L436	2.8765	56418.9592	3.7239	150.8933	##	N422	109.1300
112.6795	L437	2.8725	56186.9467	2.9465	407.0035	##	N423	110.3700
112.0680	L438	1.6723	33007.6602	2.7954	69.7582	##	N424	108.2600
112.3959	L439	4.5571	88651.5955	3.7816	316.0481	##	N425	110.0600
111.6343	L440	4.5523	88037.9181	3.2628	701.4473	##	N426	107.4500
111.1574	L441	48.9390	932240.7706	4.9424	3827.9167	##	N428	106.9200
110.7941	L442	48.9390	928391.2638	5.9435	2384.5663	##	N429	106.0200
119.6069	L443	48.9390	927774.7751	16.3911	262.8542	##	N430	119.0000
118.8193	L446	5.9168	117024.5139	3.5392	112.8531	##	N431	116.6700
119.1104	L448	0.9708	19156.1218	2.4582	62.5615	##	N432	118.0700
119.5280	L449	9.5085	185538.4665	3.9304	1120.3944	##	N434	118.8000
112.9610	L450	13.3913	260419.2938	4.2601	1084.2372	##	N435	110.1800
113.5338	L451	14.7194	286370.6869	5.0912	236.5739	##	N436	111.5700
113.1916	L452	1.2925	25546.9470	2.7687	40.5604	##	N437	110.9200
112.5301	L453	0.9323	18412.9338	2.4656	48.6502	##	N438	109.5800
111.8621	L454	0.6806	13413.7574	2.3129	34.8690	##	N439	108.1500
112.0562	L466	4.0513	80103.7108	4.2367	81.5992	##	N440	110.0500
112.2083	L468	4.0500	79684.3373	2.7411	960.6425	##	N441	109.7300
111.2807	L470	9.4830	187451.8740	4.3099	316.9864	##	N442	107.2200
111.3435	L471	0.3817	7504.5435	1.7178	122.7373	##	N443	109.3800
111.6425	L472	4.4590	88215.5523	5.6522	41.8187	##	N444	109.0300
109.7503	L490	6.7176	132728.9241	3.5464	198.5521	##	N445	105.4800
109.8312	L496	0.6064	11949.5434	2.3568	27.6784	##	N446	108.4900
108.8835	L497	0.5989	11801.4944	2.3448	27.5982	##	N447	105.0500
120.8468	L498	1.2053	23701.0639	3.0139	34.8508	##	N448	118.7700
120.2831	L501	12.3318	242069.3821	2.6258	2770.6186	##	N449	117.9900
122.5957	L502	12.3332	238507.9110	1.2538	4264.6857	##	N450	120.7400
	L503	73.4488	1423581.799	4.7306	6604.5471	##	N451	121.2700

131.1070	FREE #12	1.2917	25387.8631	0.0000	0.0000	##	N527	130.6000
126.9363	FREE #13	30.1726	594265.6471	0.0000	0.0000	##	N528	122.6600
123.5298	FREE #14	-91.6054	1414702.555	0.0000	0.0000	##	N529	119.6400
104.1241	FREE #15	-32.2765	374072.5077	0.0000	0.0000	##	N530	99.7100
119.5000	FREE #16	48.9390	927728.5573	0.0000	0.0000	##	N689	118.0000
122.3558	FREE #17	4.4590	88214.5370	0.0000	0.0000	##	N494	121.4100
114.2861	FREE #18	2.9905	59194.4593	0.0000	0.0000	##	N541	112.0900
114.9266	FREE #19	17.9049	353717.7357	0.0000	0.0000	##	EL329	112.5200
112.6510	FREE #20	1.5346	30221.4690	0.0000	0.0000	##	N427	109.6400
115.6200	FREE #21	9.4830	185797.8286	0.0000	0.0000	##	N411	112.0000
110.5500	FREE #22	-111.9662	1152851.994	0.0000	0.0000	##	N295	106.9300
108.5200	FREE #23	3.1465	62197.2830	0.0000	0.0000	##	N311	104.1000
129.7121	FREE #24	4.1590	82167.2186	0.0000	0.0000	##	N462	127.7800

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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.

=====

Upstream Node	Downstream Node	Maximum Flow (cfs)	Total Flow (ft^3)
N221	N222	2.8911	57161.7010
N222	N223	3.1354	61547.7106
N223	N224	3.2978	64190.1540
N227	N224	2.4916	49166.3432
N228	N224	5.3717	106137.715
N231	N230	0.9501	18775.4847
N224	N230	11.2776	221043.084
N230	N233	13.2165	257683.035
N233	N234	13.3950	261073.499
N235	N236	0.2305	4547.4950
N236	N237	0.2305	4486.4903
N237	N238	0.2305	4408.5282
N239	N240	0.9294	18089.2908
N240	N238	1.5845	30756.6183
N238	N241	2.4888	47896.2477
N241	N242	2.9466	56181.7920
N242	N243	3.4595	65690.1332
N243	N244	3.8015	71794.9423
N244	N245	6.0390	115223.402
N245	N246	6.3287	120036.031
N246	N247	9.4131	180049.660
N248	N241	0.4478	8830.4486
N249	N244	2.1260	41985.2025
N250	N246	3.0846	60882.8456
N251	N252	3.6943	73068.2058
N252	N253	4.0636	80236.8897
N254	N253	1.2377	24462.2854
N253	N255	5.3649	105452.181
N256	N255	1.8517	36615.8616
N257	N255	2.4831	49084.6406
N247	N259	24.3602	470866.457

N259	N260	28.8013	557457.153
N261	N259	1.9845	39213.6354
N262	N263	1.5797	31240.2251
N263	N264	3.0002	59322.1285
N265	N263	1.3049	25807.1130
W800	W801	4.4560	86858.1419
W801	OUT802	9.0488	176453.170
N273	N272	0.8529	16848.3256
N272	N274	1.0482	20626.9406
N274	N275	1.2538	24684.5880
N276	N277	0.9792	19354.6637
N277	N278	2.3040	45541.6852
N279	N277	1.1997	23719.2786
N288	N289	-38.0431	186465.769
N290	N288	-12.9886	186885.300
N291	N292	8.5560	169392.055
N293	N294	1.5056	29765.8220
N296	N294	1.5123	29899.3491
N301	N302	3.4219	67668.6591
N302	N303	5.0178	99211.4133
N304	N302	1.4971	29601.6403
N309	N310	1.8249	36060.1131
N312	N310	2.2642	44736.8519
YEL327	N331	101.7922	527849.230
W104	W800	1.3573	26387.6576
N342	N343	1.8801	37138.6521
N344	N342	1.8798	37168.6464
N356	N357	0.4265	8398.3567
N357	N358	0.8586	16876.9096
N358	N359	1.2917	25400.4475
N359	N360	1.2917	25389.1714
N361	N362	21.2523	420519.545
N362	N363	21.2525	419015.546
N363	N364	30.1728	594638.377
N364	N365	30.1726	594296.145
N366	N363	4.5877	90719.4011
N367	N363	2.6326	52041.2349
N368	N369	12.3311	243923.343
N371	N370	25.6125	506541.277
N370	N372	56.3355	1104102.58
N372	N373	56.3340	1098539.60
N373	N374	56.3337	1093116.33
N374	N375	56.3336	1089797.08
N376	N377	8.2540	163361.484
N377	N375	8.2541	162953.684
N378	N379	-97.0481	1413546.09
N383	N381	2.3119	45725.5850
N384	N381	2.1598	42708.1865
N381	N382	4.5228	88980.1822
N386	N382	2.6500	52415.1640
N387	N382	1.6367	32365.9173
N382	N388	9.8099	192838.382
N388	N389	9.8099	191801.899
N390	N389	2.2792	45061.2044
N391	N389	3.4945	69093.3964
N389	N392	-22.3121	374577.744
N392	N394	-32.2544	373657.983
N395	N396	3.3515	66147.8083
N396	N397	3.3513	65485.8807
N398	N397	14.2870	190080.721
N399	N403	36.6327	620365.599
N403	N404	36.6198	615836.286
N405	N404	2.2293	44061.1091
N404	N406	50.3323	880745.990
N407	N406	1.6079	31755.3057
N406	N408	55.1790	969614.659
N408	N409	65.3719	1163416.02
N409	N410	65.3657	1156614.60
N412	N413	4.2403	83899.0228

N414	N413	8.3482	162508.498
N415	N413	4.5806	90632.6616
N416	N414	4.3232	85557.5862
N417	N414	4.0372	78746.6176
N420	N421	7.1191	140805.817
N421	N419	7.1191	140147.710
N419	N422	7.1286	138854.335
N423	N422	4.8565	95965.4618
N422	N424	11.9729	233321.634
N425	N424	3.8258	75618.6594
N424	N426	15.7980	306547.748
N426	N428	20.1364	387269.783
N428	N429	20.1364	384445.619
N432	N431	2.2679	44628.9577
N434	N432	2.2703	44904.3480
N436	N435	2.8494	56333.5426
N437	N435	5.1688	102193.345
N435	N438	8.0182	158011.633
N438	N439	8.0182	156596.961
N440	N439	1.6633	32819.6552
N441	N439	3.8019	75151.3679
N439	N442	13.6466	265967.811
N442	N429	18.5464	360419.389
N443	N442	0.9317	18381.8886
N444	N442	3.9681	78444.0999
N429	N445	40.5902	778059.998
N446	N445	0.9393	18530.7027
N445	N447	42.4776	810718.817
N448	N449	2.4485	48408.1633
N450	N449	2.2781	44734.8686
N451	N450	2.2777	45027.7284
N454	N453	2.8738	56791.9436
N453	N455	2.8765	56418.9592
N455	N456	2.8725	56186.9467
N457	N456	1.6723	33007.6602
N456	N458	4.5571	88651.5955
N458	N447	4.5523	88037.9181
N447	N459	48.9390	932240.771
N459	N460	48.9390	928391.264
N460	N461	48.9390	927774.775
N465	N466	5.9168	117024.514
N467	N464	0.9708	19156.1218
N464	N468	9.5085	185538.466
N468	N469	13.3913	260419.294
N469	N470	14.7194	286370.687
N471	N468	1.2925	25546.9470
N472	N468	0.9323	18412.9338
N473	N469	0.6806	13413.7574
N418	N487	4.0513	80103.7108
N487	N417	4.0500	79684.3373
N490	N494	9.4830	187451.874
N491	N490	0.3817	7504.5435
N492	N493	4.4590	88215.5523
N513	N514	6.7176	132728.924
N524	N525	0.6064	11949.5434
N526	N525	0.5989	11801.4944
N525	N527	1.2053	23701.0639
N369	N528	12.3318	242069.382
N528	N370	12.3332	238507.911
N375	N529	73.4488	1423581.80
N529	N378	73.4488	1416661.18
N255	N530	10.5983	207721.451
N530	N247	10.9003	212946.829
N497	N499	2.9905	59194.4169
N509	N514	11.0412	218038.630
N514	N516	17.9049	353736.096
N466	N464	8.0432	157868.801
N397	N399	17.6973	255915.458
N470	N398	13.5744	235927.900

N489	N689	9.4830	185803.592
N494	N489	9.4830	185972.415
N413	N399	17.1561	333432.883
N431	N404	4.5202	88438.4210
N449	N408	4.7289	92368.8548
EL329	N541	4.3384	85577.1710
N541	N427	4.3384	84677.4578
N427	N426	4.3384	83592.5821
N410	N411	-91.1787	1152188.07
N294	N295	3.1466	62200.6048
N310	N311	4.1590	82171.3381
N430	N431	2.2439	44381.5075
N462	N466	2.1264	41732.9358
N345	N239	0.5084	9988.9972

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#####
# 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
L210	N221	N222	105.8400	105.4400	107.6026	106.9939	Circular
L211	N222	N223	104.4400	102.0600	106.9939	102.8186	Circular
L212	N223	N224	100.8100	98.4700	102.1159	100.2909	Circular
L213	N227	N224	98.3400	97.7200	100.9720	100.2909	Circular
L214	N228	N224	97.5300	97.2200	100.6100	100.2909	Circular
L217	N231	N230	99.8400	99.3300	100.2872	99.7386	Circular
L220	N224	N230	96.9700	96.0800	100.2909	98.1694	Circular
L221	N230	N233	95.8300	94.9200	98.1694	96.2277	Circular
L222	N233	N234	94.4200	87.6000	95.2407	89.4100	Circular
L223	N235	N236	119.6000	119.4100	119.8642	119.6069	Circular
L224	N236	N237	118.6100	117.8600	118.8903	118.0569	Circular
L225	N237	N238	117.2600	116.5100	117.6596	117.5825	Circular
L226	N239	N240	117.6900	116.6200	118.5578	118.1994	Circular
L227	N240	N238	116.6200	116.0100	118.1994	117.5825	Circular
L228	N238	N241	115.1100	114.0600	117.5825	114.7356	Circular
L229	N241	N242	111.3600	109.8800	112.5184	110.5696	Circular
L230	N242	N243	108.6300	107.8600	110.4305	108.6104	Circular
L231	N243	N244	105.8600	105.1000	108.0703	106.2736	Circular
L232	N244	N245	103.8500	103.3800	106.2736	104.9361	Circular
L233	N245	N246	101.9300	100.3100	104.9361	102.6459	Circular
L234	N246	N247	99.5600	98.3700	102.6459	101.6618	Circular
L235	N248	N241	111.4800	111.3600	112.5280	112.5184	Circular
L236	N249	N244	104.6200	104.3500	106.7649	106.2736	Circular
L237	N250	N246	101.1400	100.5600	103.6254	102.6459	Circular
L238	N251	N252	115.3800	115.0600	116.6527	115.8783	Circular
L239	N252	N253	113.0600	112.3300	115.2810	113.1820	Circular
L240	N254	N253	112.8300	112.3300	113.3534	112.7991	Circular
L241	N253	N255	108.0800	106.8000	110.4633	107.7384	Circular
L242	N256	N255	107.4100	107.0500	108.0734	107.6293	Circular
L243	N257	N255	107.6100	107.0500	108.4472	107.7248	Circular
L246	N247	N259	97.8700	97.1600	101.6618	99.7331	Circular
L247	N259	N260	97.1600	97.0000	99.7331	99.1000	Circular
L248	N261	N259	98.9300	98.6600	99.9112	99.7331	Circular
L249	N262	N263	104.8800	104.4600	105.4930	104.8401	Circular
L250	N263	N264	104.4600	96.6400	104.8401	99.0900	Circular
L251	N265	N263	104.8600	104.4600	105.4066	104.8401	Circular
L254	W800	W801	102.5100	101.4500	105.6128	103.9333	Circular
L255	W801	OUT802	101.4500	101.0000	103.9333	103.0000	Circular
L258	N273	N272	97.6800	97.1000	98.1052	97.4860	Circular
L259	N272	N274	96.3500	95.5800	96.8502	95.7732	Circular
L260	N274	N275	95.5800	87.6000	95.7732	89.4200	Circular
L261	N276	N277	94.2500	93.4400	94.7428	93.7152	Circular
L262	N277	N278	93.4400	78.0000	93.7152	81.4800	Circular
L263	N279	N277	94.1200	93.4400	94.6677	93.7152	Circular
L272	N288	N289	77.0300	77.0000	86.2117	81.4700	Circular
L273	N290	N288	78.1000	77.7800	82.0645	86.2117	Circular

L274	N291	N292	91.9200	76.6000	92.4485	81.4700	Circular
L275	N293	N294	118.9200	118.3000	119.5370	118.6155	Circular
L277	N296	N294	118.9800	118.3000	119.6047	118.6155	Circular
L281	N301	N302	122.9000	122.2800	124.8193	122.6751	Circular
L282	N302	N303	122.2800	110.6000	122.6751	113.2700	Circular
L283	N304	N302	122.9500	122.2800	123.5620	122.6751	Circular
L287	N309	N310	113.1500	112.5100	113.8197	113.0849	Circular
L289	N312	N310	113.2100	112.5100	114.0002	113.1535	Circular
L308	YEL327	N331	96.0000	92.7000	101.1992	98.4100	Circular
L317	W104	W800	105.3900	102.5100	106.3439	105.6128	Circular
L319	N342	N343	100.2200	100.0000	100.8276	100.5155	Circular
L320	N344	N342	101.1100	100.7200	101.7816	101.3039	Circular
L334	N356	N357	125.3200	122.9800	125.6081	123.3977	Circular
L335	N357	N358	122.9800	120.8200	123.3977	121.3926	Circular
L336	N358	N359	120.8200	120.0900	121.3926	120.3681	Circular
L337	N359	N360	120.0900	112.8000	120.3681	115.3200	Circular
L338	N361	N362	126.2400	126.1300	128.3208	128.1343	Circular
L339	N362	N363	126.1300	125.7800	128.1343	127.2811	Circular
L340	N363	N364	125.2800	125.0100	127.2811	125.8533	Circular
L341	N364	N365	125.0100	117.4000	125.8533	122.5200	Circular
L342	N366	N363	127.8700	127.5300	128.9836	128.3977	Circular
L343	N367	N363	128.3300	127.7800	129.2163	128.4750	Circular
L344	N368	N369	124.2600	124.1700	127.1537	127.0975	Circular
L346	N371	N370	122.2600	122.2000	126.8961	126.8529	Circular
L347	N370	N372	121.7000	121.3400	126.8529	126.0663	Circular
L348	N372	N373	121.3400	120.9700	126.0663	125.3076	Circular
L349	N373	N374	120.9700	120.6000	125.3076	124.5274	Circular
L350	N374	N375	120.6000	120.4800	124.5274	124.2706	Circular
L351	N376	N377	122.9000	122.8200	124.5647	124.5069	Circular
L352	N377	N375	122.8200	122.4800	124.5069	124.2706	Circular
L354	N378	N379	119.2700	118.4000	122.6047	122.5300	Circular
L361	N383	N381	125.5300	125.2600	126.2887	125.9103	Circular
L362	N384	N381	125.6400	125.2600	126.3795	125.8878	Circular
L363	N381	N382	124.7600	123.3600	125.8458	124.5769	Circular
L364	N386	N382	124.1400	123.8600	124.9805	124.5769	Circular
L365	N387	N382	124.2300	123.8600	124.8690	124.5769	Circular
L366	N382	N388	122.8600	121.9500	124.5769	123.6546	Circular
L367	N388	N389	121.9500	121.1100	123.6546	123.0494	Circular
L368	N390	N389	122.8300	122.1100	123.6245	123.0494	Circular
L369	N391	N389	122.6900	122.1100	124.1512	123.0494	Circular
L370	N389	N392	120.1100	119.8300	123.0494	122.7598	Circular
L373	N392	N394	119.8300	118.4000	122.7598	122.5300	Circular
L374	N395	N396	118.6100	118.1800	120.8359	118.9722	Circular
L375	N396	N397	117.6800	117.3100	118.9722	118.3973	Circular
L376	N398	N397	116.3100	116.0600	118.6571	118.3974	Circular
L386	N399	N403	114.6100	114.3000	118.2769	118.0216	Circular
L387	N403	N404	114.3000	113.9800	118.0217	117.7558	Circular
L388	N405	N404	116.6300	115.6000	118.3387	117.7558	Circular
L389	N404	N406	113.4800	113.1700	117.7558	117.4640	Circular
L390	N407	N406	117.0000	116.6000	117.7684	117.4640	Circular
L391	N406	N408	113.1700	112.7800	117.4640	117.0057	Circular
L392	N408	N409	112.7800	112.4800	117.0058	116.5064	Circular
L393	N409	N410	112.4800	112.1200	116.5065	115.8648	Circular
L395	N412	N413	116.3000	115.3300	118.9854	118.7039	Circular
L396	N414	N413	116.3700	115.8300	118.7806	118.7039	Circular
L397	N415	N413	116.3300	115.3300	119.0784	118.7039	Circular
L398	N416	N414	116.8300	113.6200	119.0589	118.7807	Circular
L399	N417	N414	117.5700	116.8700	118.9330	118.7807	Circular
L402	N420	N421	112.2400	112.0000	114.7633	114.5335	Circular
L403	N421	N419	112.0000	110.9100	114.5335	113.4701	Circular
L404	N419	N422	110.9100	109.8800	113.4701	112.4791	Circular
L405	N423	N422	110.3700	110.1300	112.6795	112.4791	Circular
L406	N422	N424	109.1300	108.5100	112.4791	112.0680	Circular
L407	N425	N424	110.0600	109.7600	112.3959	112.0680	Circular
L408	N424	N426	108.2600	107.7000	112.0680	111.6343	Circular
L410	N426	N428	107.4500	106.9200	111.6343	111.1574	Circular
L411	N428	N429	106.9200	106.5200	111.1574	110.7941	Circular
L413	N432	N431	118.0700	116.6700	119.1104	118.8193	Circular
L415	N434	N432	118.8000	118.4800	119.5280	119.1244	Circular

L417	N436	N435	111.5700	111.1800	113.5338	112.9610	Circular
L418	N437	N435	110.9200	110.6800	113.1916	112.9610	Circular
L419	N435	N438	110.1800	109.5800	112.9610	112.5301	Circular
L420	N438	N439	109.5800	108.6500	112.5301	111.8621	Circular
L421	N440	N439	110.0500	109.6500	112.0562	111.8621	Circular
L422	N441	N439	109.7300	109.4000	112.2083	111.8621	Circular
L423	N439	N442	108.1500	107.4700	111.8621	111.2807	Circular
L424	N442	N429	107.2200	106.7700	111.2807	110.7941	Circular
L425	N443	N442	109.3800	108.9700	111.3435	111.2807	Circular
L426	N444	N442	109.0300	108.7200	111.6425	111.2807	Circular
L427	N429	N445	106.0200	105.4800	110.7941	109.7503	Circular
L428	N446	N445	108.4900	107.9800	109.8312	109.7503	Circular
L429	N445	N447	105.4800	105.0500	109.7503	108.8835	Circular
L430	N448	N449	118.7700	117.9900	120.8468	120.2831	Circular
L431	N450	N449	120.7400	118.2400	122.5957	120.2831	Circular
L432	N451	N450	121.2700	120.7400	123.0855	122.5957	Circular
L435	N454	N453	114.2900	113.7600	116.4642	115.6961	Circular
L436	N453	N455	113.7600	111.9300	115.6961	113.0201	Circular
L437	N455	N456	111.6800	110.2600	113.0201	112.1895	Circular
L438	N457	N456	111.0200	110.5100	112.4454	112.1895	Circular
L439	N456	N458	110.2600	108.6400	112.1895	109.7789	Circular
L440	N458	N447	108.3900	107.0500	109.7789	108.8835	Circular
L441	N447	N459	105.0500	104.6100	108.8835	107.6629	Circular
L442	N459	N460	104.6100	104.1100	107.6629	105.0976	Circular
L443	N460	N461	104.1100	94.1000	105.0976	98.4100	Circular
L446	N465	N466	126.6500	126.4400	129.7527	129.4984	Circular
L448	N467	N464	126.3000	125.8400	128.2210	128.1440	Circular
L449	N464	N468	125.0900	123.8400	128.1440	126.0007	Circular
L450	N468	N469	123.5900	122.6600	126.0007	123.9765	Circular
L451	N469	N470	118.6600	118.4600	120.4426	119.8419	Circular
L452	N471	N468	124.8800	124.5900	126.0884	126.0007	Circular
L453	N472	N468	124.9400	124.5900	126.0559	126.0007	Circular
L454	N473	N469	120.0700	119.6600	120.5302	120.4426	Circular
L466	N418	N487	119.9000	119.3200	120.8207	120.1342	Circular
L468	N487	N417	118.5700	117.5700	119.5908	118.9330	Circular
L470	N490	N494	121.9000	121.4100	123.4952	122.3558	Circular
L471	N491	N490	124.7700	121.9000	125.0264	123.4952	Circular
L472	N492	N493	126.3400	126.0400	128.1178	127.0400	Circular
L490	N513	N514	110.0100	109.8600	111.3361	110.8167	Circular
L496	N524	N525	133.4500	131.1700	133.7961	131.6772	Circular
L497	N526	N525	133.4600	131.1700	133.8039	131.6772	Circular
L498	N525	N527	131.1700	130.6000	131.6772	131.1070	Circular
L501	N369	N528	123.6700	123.1600	127.0975	126.9363	Circular
L502	N528	N370	122.6600	122.2000	126.9363	126.8529	Circular
L503	N375	N529	119.9800	119.6400	124.2706	123.5298	Circular
L504	N529	N378	119.6400	119.2700	123.5298	122.6047	Circular
L505	N255	N530	102.8000	101.7100	106.4521	104.1241	Circular
L506	N530	N247	99.7100	98.6200	104.1241	101.6618	Circular
L509	N497	N499	107.8500	91.2000	108.2197	98.4100	Circular
L511	N509	N514	108.8800	108.6100	112.4401	109.8810	Circular
L512	N514	N516	108.1100	90.0000	108.7565	94.5300	Circular
L514	N466	N464	126.1900	125.0900	129.4984	128.1440	Circular
L515	N397	N399	115.8100	115.6100	118.3974	118.2769	Circular
CH21	N470	N398	117.7100	116.3100	118.6771	118.6571	Rectangle
L474	N489	N689	118.4300	118.0000	120.8720	119.5000	Circular
L523	N494	N489	121.4100	120.8300	122.3558	121.2270	Trapezoid
L525	N413	N399	115.8300	115.1100	118.7039	118.2769	Circular
L527	N431	N404	116.6700	115.2500	118.8193	117.7558	Circular
L528	N449	N408	117.9900	116.0300	120.2831	117.0058	Circular
L529	EL329	N541	112.5200	112.0900	114.9266	114.2861	Circular
L533	N541	N427	112.0900	109.6400	114.2861	112.6510	Circular
L537	N427	N426	109.6400	108.9500	112.6510	111.6343	Circular
L394	N410	N411	112.1200	112.0000	115.8648	115.6200	Circular
L276	N294	N295	118.3000	106.9300	118.6155	110.5500	Circular
L288	N310	N311	112.2600	104.1000	112.6569	108.5200	Circular
L412	N430	N431	119.0000	118.4000	119.6069	119.0068	Circular
L447	N462	N466	127.7800	126.4400	129.7121	129.4984	Circular
L321	N345	N239	118.8300	117.6900	119.2319	118.5578	Circular

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

Junction Name	<-----Continuity Error ----->			Remaining Volume	Beginning Volume	Net Flow Thru Node	Total Flow Thru Node	Failed to Converge
	Volume	% of Node	% of Inflow					
N221	33.7358	0.0295	0.0004	49.7524	0.0000	83.4882	114409.2623	0
N222	244.7589	0.1979	0.0031	205.5175	0.0000	450.2764	123546.8711	0
N223	72.0093	0.0557	0.0009	498.2510	0.0000	570.2603	128953.5970	0
N224	-18.8035	-0.0042	0.0002	896.4054	0.0000	877.6019	442970.8776	0
N227	33.3464	0.0339	0.0004	75.5204	0.0000	108.8668	98443.8789	0
N228	34.0981	0.0160	0.0004	121.4250	0.0000	155.5231	212437.0777	0
N230	731.7439	0.1414	0.0093	972.3050	0.0000	1704.0488	517081.1377	0
N231	17.6891	0.0470	0.0002	19.4099	0.0000	37.0991	37588.7076	0
N233	-595.6982	-0.1140	0.0076	731.1970	0.0000	135.4988	522291.0680	0
N234	-184.9890	-0.0354	0.0024	207.9972	22.7445	0.2637	522134.1570	0
N235	8.3659	0.0918	0.0001	8.2446	0.0000	16.6106	9111.6965	0
N236	31.6865	0.3502	0.0004	29.3053	0.0000	60.9918	9033.9852	0
N237	-24.8470	-0.2777	0.0003	102.8335	0.0000	77.9864	8895.0185	0
N238	270.6034	0.2802	0.0034	338.4895	0.0000	609.0929	96403.5155	0
N239	-39.8190	-0.1089	0.0005	275.5647	0.0000	235.7457	36414.6388	0
N240	34.7244	0.0561	0.0004	268.9154	0.0000	303.6398	61817.7460	0
N241	302.6340	0.2670	0.0039	438.1298	0.0000	740.7638	113106.5013	0
N242	159.5095	0.1206	0.0020	485.1159	0.0000	644.6254	132028.0161	0
N243	197.2421	0.1365	0.0025	466.6955	0.0000	663.9376	144257.1229	0
N244	172.5172	0.0745	0.0022	588.4463	0.0000	760.9635	231211.3927	0
N245	178.0314	0.0738	0.0023	740.5142	0.0000	918.5457	240995.8723	0
N246	-256.2722	-0.0709	0.0033	1181.7014	0.0000	925.4292	361031.9009	0
N247	40.1569	0.0042	0.0005	2231.6129	0.0000	2271.7698	944032.5015	0
N248	2.3120	0.0131	0.0000	33.4991	0.0000	35.8112	17697.4743	0
N249	42.2978	0.0503	0.0005	68.4577	0.0000	110.7555	84082.7835	0
N250	55.7996	0.0458	0.0007	70.8227	0.0000	126.6222	121894.6368	0
N251	33.1517	0.0227	0.0004	36.2440	0.0000	69.3957	146208.2974	0
N252	54.1288	0.0337	0.0007	94.7626	0.0000	148.8914	160623.6590	0
N253	235.5070	0.1113	0.0030	257.3503	0.0000	492.8573	211400.8188	0
N254	21.6607	0.0442	0.0003	23.2899	0.0000	44.9506	48970.3643	0
N255	477.1449	0.1144	0.0061	733.1198	0.0000	1210.2647	416659.6694	0
N256	20.7788	0.0284	0.0003	24.1963	0.0000	44.9751	73277.9827	0
N257	41.6993	0.0424	0.0005	40.5244	0.0000	82.2237	98253.2682	0
N259	110.9686	0.0099	0.0014	1291.7493	0.0000	1402.7179	1116228.662	0
N260	-215.0532	-0.0193	0.0027	242.0155	26.3886	0.5738	1116944.414	0
N261	1.8859	0.0024	0.0000	31.0361	0.0000	32.9220	78461.8076	0
N262	5.4439	0.0087	0.0001	21.6953	0.0000	27.1391	62508.4702	0
N263	-30.0775	-0.0253	0.0004	50.8914	0.0000	20.8139	118664.4382	0
N264	-19.9063	-0.0168	0.0003	50.7143	30.7867	0.0213	118641.1309	0
N265	3.8842	0.0075	0.0000	19.0592	0.0000	22.9434	51637.9203	0
W800	-404.0145	-0.2305	0.0051	1288.8926	0.0000	884.8781	174604.1127	0
W801	-35.1982	-0.0099	0.0004	1373.1194	0.0000	1337.9211	354254.7588	0
OUT802	-736.6732	-0.1996	0.0094	736.8806	0.0000	0.2074	368717.4441	0
N272	20.0608	0.0485	0.0003	68.1246	0.0000	88.1855	41342.4616	0
N273	19.4007	0.0575	0.0002	20.2868	0.0000	39.6875	33736.8613	0
N274	-82.4118	-0.1667	0.0011	83.4133	0.0000	1.0015	49382.6775	0
N275	-34.0673	-0.0609	0.0004	56.9606	22.8701	0.0233	55941.8975	0
N276	9.1580	0.0236	0.0001	25.0887	0.0000	34.2467	38744.1046	0
N277	-45.0736	-0.0495	0.0006	56.8698	0.0000	11.7962	91094.7513	0
N278	-17.0592	-0.0187	0.0002	60.8055	43.7297	0.0166	91080.9496	0

N279	9.4158	0.0198	0.0001	24.3216	0.0000	33.7374	47472.9278	0
N288	375.6464	0.1006	0.0048	467.0432	0.0000	842.6896	373351.0689	2
N289	-269.4368	-0.0721	0.0034	325.6474	56.1700	0.0406	373535.6576	0
N290	-169.6397	-0.0453	0.0022	190.9795	0.0000	21.3397	373983.8994	0
N291	-56.5823	-0.0167	0.0007	75.2684	0.0000	18.6861	338812.0475	0
N292	-68.8425	-0.0203	0.0009	129.8240	61.1964	-0.2149	338784.3401	0
N293	9.8761	0.0166	0.0001	26.4682	0.0000	36.3443	59568.7703	0
N294	-41.8881	-0.0337	0.0005	55.4359	0.0000	13.5478	124414.2042	0
N296	10.9205	0.0182	0.0001	28.5072	0.0000	39.4277	59838.9269	0
N301	36.2036	0.0267	0.0005	51.8690	0.0000	88.0727	135426.7558	0
N302	-47.5600	-0.0240	0.0006	67.4978	0.0000	19.9378	198442.0422	0
N303	-12.4529	-0.0063	0.0002	46.0395	33.5512	0.0354	198417.5863	0
N304	8.0970	0.0137	0.0001	29.9827	0.0000	38.0797	59242.2190	0
N309	37.6904	0.0522	0.0005	36.3423	0.0000	74.0327	72195.5208	0
N310	-81.2916	-0.0494	0.0010	91.4848	0.0000	10.1932	164352.4146	0
N312	49.8252	0.0556	0.0006	45.8436	0.0000	95.6688	89570.9745	0
YEL327	-3914.3473	-0.3719	0.0499	424.9898	0.0000	-3489.3574	1052304.696	0
N331	-397.4177	-0.0376	0.0051	469.6263	71.7519	0.4567	1056288.515	0
W104	-143.9337	-0.2686	0.0018	631.7232	0.0000	487.7895	53263.9732	0
N342	-15.0755	-0.0203	0.0002	44.5889	0.0000	29.5134	74307.2985	0
N343	-26.0633	-0.0351	0.0003	26.0859	0.0000	0.0226	74276.2660	0
N344	22.8156	0.0307	0.0003	25.7857	0.0000	48.6013	74387.1855	0
N345	-35.8028	-0.1780	0.0005	113.6572	0.0000	77.8543	20055.9823	0
N356	-6.3290	-0.0375	0.0001	53.1746	0.0000	46.8455	16843.6146	0
N357	-48.6658	-0.1436	0.0006	126.2818	0.0000	77.6160	33831.4115	0
N358	-45.8404	-0.0901	0.0006	98.0782	0.0000	52.2378	50853.3036	0
N359	-37.5539	-0.0739	0.0005	49.6247	0.0000	12.0708	50789.6189	0
N360	-26.6932	-0.0525	0.0003	58.3916	31.6663	0.0321	50777.0345	0
N361	-1.1933	-0.0001	0.0000	241.2897	0.0000	240.0964	841299.3255	0
N362	696.5590	0.0829	0.0089	793.4663	0.0000	1490.0253	839535.0917	0
N363	-351.7804	-0.0295	0.0045	1082.6576	0.0000	730.8772	1190023.320	0
N364	-364.7916	-0.0307	0.0046	711.4746	0.0000	346.6831	1188934.522	0
N365	-267.2042	-0.0225	0.0034	331.8764	64.3379	0.3343	1188561.792	0
N366	55.7294	0.0307	0.0007	54.1198	0.0000	109.8492	181551.9623	0
N367	43.7695	0.0420	0.0006	42.0471	0.0000	85.8166	104170.1590	0
N368	60.0428	0.0123	0.0008	167.3997	0.0000	227.4425	488091.2843	0
N369	299.9730	0.0616	0.0038	1532.4470	0.0000	1832.4200	485992.7248	0
N370	327.1120	0.0148	0.0042	4905.7055	0.0000	5232.8174	2213529.501	0
N371	33.8188	0.0033	0.0004	299.2746	0.0000	333.0934	1013468.628	0
N372	275.2642	0.0125	0.0035	5238.1890	0.0000	5513.4532	2202642.183	0
N373	127.9696	0.0058	0.0016	5247.8625	0.0000	5375.8321	2191655.935	0
N374	-156.8424	-0.0072	0.0020	3419.9722	0.0000	3263.1298	2182913.415	0
N375	180.7028	0.0063	0.0023	4387.2123	0.0000	4567.9151	2851797.896	0
N376	-1.6870	-0.0005	0.0000	70.0942	0.0000	68.4072	326801.4809	0
N377	117.8118	0.0361	0.0015	283.1819	0.0000	400.9937	326315.1681	0
N378	23.7930	0.0008	0.0003	3845.9202	0.0000	3869.7132	2830207.262	0
N379	-651.1891	-0.0229	0.0083	704.5186	51.8976	1.4319	2842886.168	0
N381	133.1998	0.0746	0.0017	344.5829	0.0000	477.7828	178439.6614	0
N382	-181.1019	-0.0468	0.0023	916.7061	0.0000	735.6042	386418.7746	0
N383	18.1864	0.0199	0.0002	23.3768	0.0000	41.5632	91494.3282	0
N384	25.1229	0.0294	0.0003	28.0965	0.0000	53.2194	85471.0918	0
N386	20.3523	0.0194	0.0003	26.2315	0.0000	46.5839	104878.7307	0
N387	15.9257	0.0246	0.0002	25.8510	0.0000	41.7767	64774.7181	0
N388	-72.0301	-0.0187	0.0009	1100.5905	0.0000	1028.5604	384640.2809	0
N389	-5.6294	-0.0007	0.0001	1317.6799	0.0000	1312.0506	750609.0935	0
N390	8.5131	0.0094	0.0001	48.2714	0.0000	56.7845	90180.4654	0
N391	45.7799	0.0331	0.0006	54.4614	0.0000	100.2413	138289.0685	0
N392	17.7623	0.0024	0.0002	1068.9839	0.0000	1086.7462	748235.7265	0
N394	-340.1851	-0.0453	0.0043	392.3535	51.8976	0.2709	750147.0659	0
N395	117.4650	0.0886	0.0015	92.5264	0.0000	209.9913	132507.9323	0
N396	285.0980	0.2163	0.0036	375.3978	0.0000	660.4958	131633.6890	0
N397	-136.4001	-0.0266	0.0017	1250.5827	0.0000	1114.1826	512951.3160	0
N398	9024.3613	1.7999	0.1150	74793.5765	0.0000	83817.9378	463981.5888	0
N399	49.4875	0.0040	0.0006	4482.8104	0.0000	4532.2979	1245286.991	0
N403	219.7671	0.0177	0.0028	4283.3128	0.0000	4503.0799	1236201.885	0
N404	-20.4177	-0.0012	0.0003	5659.5126	0.0000	5639.0949	1767166.229	0
N405	18.5568	0.0210	0.0002	66.1096	0.0000	84.6664	88208.1264	0
N406	222.0106	0.0114	0.0028	6979.5527	0.0000	7201.5633	1946472.185	0
N407	34.1788	0.0537	0.0004	45.8984	0.0000	80.0772	63591.8482	0

N408	-154.4283	-0.0066	0.0020	7088.1127	0.0000	6933.6844	2333815.656	0
N409	316.4400	0.0136	0.0040	6305.5340	0.0000	6621.9739	2320030.624	0
N410	240.0781	0.0104	0.0031	4498.2072	0.0000	4738.2853	2308802.676	0
N412	-0.2418	-0.0001	0.0000	64.7022	0.0000	64.4604	167866.4707	0
N413	283.6005	0.0422	0.0036	3314.1227	0.0000	3597.7232	670473.0656	1
N414	-19.4549	-0.0059	0.0002	1809.3578	0.0000	1789.9029	326812.7015	0
N415	-0.5180	-0.0003	0.0000	69.8342	0.0000	69.3162	181338.4930	0
N416	-10.0232	-0.0059	0.0001	57.8271	0.0000	47.8039	171166.5612	0
N417	33.4416	0.0210	0.0004	901.4229	0.0000	934.8645	158430.9549	0
N418	52.3549	0.0327	0.0007	52.3634	0.0000	104.7182	160314.8489	0
N419	326.1656	0.1167	0.0042	959.7352	0.0000	1285.9008	279002.0454	0
N420	11.6122	0.0041	0.0001	135.4281	0.0000	147.0403	281765.3888	0
N421	37.6883	0.0134	0.0005	615.5949	0.0000	653.2832	280953.5274	0
N422	37.7000	0.0080	0.0005	1448.1246	0.0000	1485.8247	468141.4308	0
N423	57.5127	0.0299	0.0007	91.9756	0.0000	149.4883	192084.9723	0
N424	293.8698	0.0477	0.0037	2079.9550	0.0000	2373.8248	615488.0418	0
N425	46.5550	0.0308	0.0006	73.1559	0.0000	119.7109	151360.6425	0
N426	-101.5866	-0.0130	0.0013	2947.5001	0.0000	2845.9135	777410.1135	0
N428	279.8516	0.0362	0.0036	2519.5357	0.0000	2799.3873	771715.4016	1
N429	142.7695	0.0091	0.0018	4388.0226	0.0000	4530.7921	1560694.020	1
N430	15.0688	0.0170	0.0002	20.8336	0.0000	35.9024	88799.8026	0
N431	38.8139	0.0218	0.0005	732.5939	0.0000	771.4077	177650.8595	0
N432	-58.8559	-0.0656	0.0007	334.6737	0.0000	275.8178	89533.3056	0
N434	17.9267	0.0199	0.0002	23.1879	0.0000	41.1146	89851.3378	0
N435	-23.1167	-0.0073	0.0003	533.5823	0.0000	510.4656	316538.5208	0
N436	34.5126	0.0306	0.0004	51.5288	0.0000	86.0414	112755.3895	0
N437	59.0317	0.0289	0.0008	92.3718	0.0000	151.4035	204542.3455	0
N438	326.5939	0.1036	0.0042	1078.6616	0.0000	1405.2556	314608.5944	0
N439	125.5922	0.0235	0.0016	1731.6084	0.0000	1857.2007	533806.9713	1
N440	22.2975	0.0339	0.0003	52.1023	0.0000	74.3998	65715.5685	0
N441	49.6105	0.0330	0.0006	78.0646	0.0000	127.6751	150433.9617	0
N442	361.9098	0.0500	0.0046	1991.9490	0.0000	2353.8588	723213.1885	0
N443	13.2062	0.0358	0.0002	52.3617	0.0000	65.5679	36830.7673	0
N444	47.7899	0.0304	0.0006	77.9259	0.0000	125.7158	157017.6700	0
N445	187.3006	0.0115	0.0024	4417.4842	0.0000	4604.7849	1626083.137	0
N446	15.8875	0.0428	0.0002	51.5331	0.0000	67.4206	37130.0714	0
N447	7.6395	0.0004	0.0001	4268.7001	0.0000	4276.3396	1868800.182	0
N448	2.1435	0.0022	0.0000	61.2415	0.0000	63.3850	96881.7655	0
N449	317.6132	0.1710	0.0040	488.8575	0.0000	806.4707	185547.5291	0
N450	63.8565	0.0710	0.0008	228.2103	0.0000	292.0668	89762.5971	0
N451	4.0176	0.0045	0.0001	57.9003	0.0000	61.9178	90119.2680	0
N453	185.6900	0.1639	0.0024	186.3968	0.0000	372.0868	113210.9028	0
N454	6.6925	0.0059	0.0001	62.9015	0.0000	69.5940	113655.3599	0
N455	-118.1555	-0.1048	0.0015	348.2477	0.0000	230.0922	112605.9059	0
N456	250.7300	0.1406	0.0032	488.6306	0.0000	739.3606	178046.1956	0
N457	16.1176	0.0244	0.0002	52.5901	0.0000	68.7077	66085.7463	0
N458	19.1768	0.0108	0.0002	590.4156	0.0000	609.5924	176689.5136	0
N459	677.6968	0.0364	0.0086	3144.6047	0.0000	3822.3016	1860632.034	0
N460	-845.2162	-0.0455	0.0108	1471.7968	0.0000	626.5807	1856166.039	0
N461	-264.9249	-0.0143	0.0034	321.2635	54.1595	2.1791	1855503.332	0
N464	167.8856	0.0450	0.0021	1100.9924	0.0000	1268.8780	372355.1359	0
N465	35.7906	0.0153	0.0005	93.2476	0.0000	129.0382	234184.8929	0
N466	-44.5562	-0.0141	0.0006	927.7826	0.0000	883.2264	316626.2505	0
N467	10.2049	0.0266	0.0001	55.3824	0.0000	65.5873	38379.2317	0
N468	733.1175	0.1401	0.0093	1164.5122	0.0000	1897.6297	522748.2100	0
N469	-391.3347	-0.0682	0.0050	698.8100	0.0000	307.4753	573060.7274	0
N470	-24007.5538	-4.2907	0.3059	74452.7472	0.0000	50445.1935	522298.5866	0
N471	9.4883	0.0185	0.0001	35.1650	0.0000	44.6532	51140.1386	0
N472	7.9931	0.0217	0.0001	38.5521	0.0000	46.5453	36873.6934	0
N473	3.7364	0.0139	0.0000	23.2172	0.0000	26.9536	26854.8853	0
N487	-115.7708	-0.0723	0.0015	533.9464	0.0000	418.1757	159788.0481	0
N489	-444.8226	-0.1196	0.0057	601.9206	0.0000	157.0981	371776.0070	0
N490	1.3687	0.0004	0.0000	263.1712	0.0000	264.5400	375174.0630	0
N491	-41.8599	-0.2770	0.0005	95.3948	0.0000	53.5349	15062.7028	0
N492	3.6318	0.0021	0.0000	42.7957	0.0000	46.4275	176481.8636	0
N493	-33.0100	-0.0187	0.0004	33.0368	0.0000	0.0268	176430.0893	0
N497	-27.2501	-0.0230	0.0003	39.1429	0.0000	11.8929	118404.2891	0
N499	-34.5079	-0.0291	0.0004	125.0988	90.6009	-0.0100	118388.8761	0
N509	274.9677	0.0630	0.0035	194.9305	0.0000	469.8982	436553.9847	0

N513	149.3180	0.0562	0.0019	115.9288	0.0000	265.2468	265728.3700	0
N514	-344.9163	-0.0487	0.0044	363.3691	0.0000	18.4528	707507.5085	0
N516	-106.1944	-0.0150	0.0014	162.6436	56.9240	-0.4748	707453.8321	0
N524	-8.7340	-0.0364	0.0001	66.5561	0.0000	57.8221	23957.0567	0
N525	-100.6669	-0.2118	0.0013	150.4706	0.0000	49.8036	47452.1018	0
N526	-9.2803	-0.0392	0.0001	66.6201	0.0000	57.3398	23660.4978	0
N527	-25.9321	-0.0429	0.0003	25.9620	0.0000	0.0299	60443.1037	0
N528	65.4820	0.0136	0.0008	3474.1603	0.0000	3539.6423	480577.2931	0
N529	452.1946	0.0159	0.0058	6502.8582	0.0000	6955.0528	2840242.976	0
N530	-277.6199	-0.0650	0.0035	1013.6109	0.0000	735.9910	426638.3749	0
N689	-131.1753	-0.0353	0.0017	131.2870	0.0000	0.1117	371601.4209	0
N494	845.9375	0.2263	0.0108	629.1738	0.0000	1475.1113	373424.2887	0
N541	-23.9799	-0.0140	0.0003	922.9751	0.0000	898.9953	170254.6288	0
EL329	43.4040	0.0253	0.0006	282.0300	0.0000	325.4341	171483.1657	0
N427	-4.2054	-0.0025	0.0001	1083.9746	0.0000	1079.7692	168270.0399	0
N411	-1080.4393	-0.0464	0.0138	1138.4926	45.4889	12.5644	2327625.312	0
N295	-12.0753	-0.0097	0.0002	57.5845	45.4889	0.0203	124397.8878	0
N311	-22.7150	-0.0138	0.0003	78.1978	55.5417	-0.0589	164338.5567	0
N462	-3.4662	-0.0041	0.0000	373.8773	0.0000	370.4111	83838.4370	0

The total continuity error was -15016. cubic feet
The remaining total volume was 3.18015E+05 cubic feet
Your mean node continuity error was Excellent
Your worst node continuity error was Excellent

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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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Outflow Node	Junction Evaporation from Node	Constant Inflow to Node	User Inflow to Node	Interface Inflow to Node	DWF Inflow to Node	Inflow through Outfall	RNF Layer Inflow to Node	Inflow from 2D Layer	Inflow from
0.0000	N221	0.0000	57330.5125	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N222	0.0000	4844.4690	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N223	0.0000	3220.3920	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N224	0.0000	2437.1070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N227	0.0000	49348.9384	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N228	0.0000	106453.3892	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N230	0.0000	19607.9040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N231	0.0000	18840.4830	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N233	0.0000	3539.6550	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
261060.6576	N234	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N235	0.0000	4570.8150	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N238	0.0000	13361.4540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N239	0.0000	8348.4300	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N240	0.0000	12990.6330	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N241	0.0000	198.3000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N242	0.0000	10170.8070	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000		0.0000	0.0000						

0.0000	N243	0.0000	6781.8600	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N244	0.0000	2211.0450	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N245	0.0000	5744.7510	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N246	0.0000	63.4560	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N247	0.0000	80285.7208	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N248	0.0000	8879.8740	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N249	0.0000	42158.5800	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N250	0.0000	61100.1967	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N251	0.0000	73246.0708	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N252	0.0000	7329.1680	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N253	0.0000	1251.2730	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N254	0.0000	24543.5908	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N255	0.0000	17811.3060	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N256	0.0000	36715.2441	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N257	0.0000	49239.8725	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N259	0.0000	48761.9700	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
559487.2606	N260	0.0000	0.0000	0.0000	0.0000	1854.1023	0.0000	0.0000
	0.0000	0.0000						
0.0000	N261	0.0000	39305.0425	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N262	0.0000	31313.5525	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N263	0.0000	2298.2970	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
59319.0024	N264	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N265	0.0000	25868.2359	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	W800	0.0000	61447.2208	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	W801	0.0000	91075.2233	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
184356.2052	OUT802	0.0000	7920.1020	0.0000	0.0000	-11.4595	0.0000	0.0000
	0.0000	0.0000						
0.0000	N272	0.0000	3872.7990	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N273	0.0000	16913.0070	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N274	0.0000	4077.0480	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
27970.2924	N275	0.0000	3291.7800	0.0000	0.0000	-4.7629	0.0000	0.0000
	0.0000	0.0000						
0.0000	N276	0.0000	19417.5360	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N277	0.0000	2482.7160	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
45539.2643	N278	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
0.0000	N279	0.0000	23788.0680	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000						
187069.8890	N289	0.0000	0.0000	0.0000	0.0000	398.8433	0.0000	0.0000
	0.0000	0.0000						
	N290	0.0000	187369.7033	0.0000	0.0000	0.0000	0.0000	0.0000

0.0000	0.0000	0.0000						
	N291	0.0000	169665.4800	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N292	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
169392.2847	0.0000	0.0000	0.0000					
	N293	0.0000	29846.1325	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N294	0.0000	2552.1210	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N296	0.0000	29982.9600	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N301	0.0000	67856.2775	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N302	0.0000	1963.1700	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N303	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
99206.1730	0.0000	0.0000	0.0000					
	N304	0.0000	29683.5275	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N309	0.0000	36187.7675	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N310	0.0000	1386.1170	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N312	0.0000	44899.0867	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	YEL327	0.0000	525215.3975	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N331	0.0000	0.0000	0.0000	0.0000	38.5160	0.0000	0.0000
528439.2855	0.0000	0.0000	0.0000					
	W104	0.0000	26915.2592	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N343	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
37137.6140	0.0000	0.0000	0.0000					
	N344	0.0000	37272.4684	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N345	0.0000	10081.5720	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N356	0.0000	8457.4950	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N357	0.0000	8568.5430	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N358	0.0000	8588.3730	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25387.8631	0.0000	0.0000	0.0000					
	N361	0.0000	421389.4861	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N363	0.0000	33657.4592	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N365	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
594265.6471	0.0000	0.0000	0.0000					
	N366	0.0000	90964.1767	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N367	0.0000	52204.4584	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N368	0.0000	244521.7385	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N370	0.0000	364905.7090	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N371	0.0000	507661.8844	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N375	0.0000	175719.5792	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N376	0.0000	163676.8200	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N379	0.0000	0.0000	0.0000	0.0000	14637.5268	0.0000	0.0000
1.4293E+06	0.0000	0.0000	0.0000					
	N381	0.0000	1027.1940	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						

0.0000	N382	0.0000	19847.8470	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N383	0.0000	45835.0616	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N384	0.0000	42824.8684	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N386	0.0000	52539.5859	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N387	0.0000	32455.7608	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N389	0.0000	70176.3875	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N390	0.0000	45184.6384	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N391	0.0000	69295.9359	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
376489.0832	N394	0.0000	0.0000	0.0000	0.0000	2416.5755	0.0000	0.0000
	0.0000		0.0000					
0.0000	N395	0.0000	66456.2792	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N397	0.0000	1471.3860	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N398	0.0000	38027.9908	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N399	0.0000	35624.5959	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N404	0.0000	138284.5059	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N405	0.0000	44210.9859	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N406	0.0000	64449.4825	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N407	0.0000	31882.6733	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N408	0.0000	108573.2167	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N412	0.0000	84089.1159	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N415	0.0000	90837.2633	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N416	0.0000	85733.0216	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N418	0.0000	80327.3633	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N420	0.0000	141163.8208	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N423	0.0000	96258.7867	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N425	0.0000	75851.7325	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N429	0.0000	37823.7416	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N430	0.0000	44482.6567	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N431	0.0000	202.2660	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N434	0.0000	45012.1175	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N436	0.0000	56503.6016	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N437	0.0000	102497.3033	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N439	0.0000	3275.9160	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N440	0.0000	32943.5792	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N441	0.0000	75391.6775	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000		0.0000					
0.0000	N443	0.0000	18475.6110	0.0000	0.0000	0.0000	0.0000	0.0000

0.0000	0.0000	0.0000						
	N444	0.0000	78687.4225	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N445	0.0000	18800.8230	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N446	0.0000	18626.3190	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N447	0.0000	37857.4525	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N448	0.0000	48543.8400	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N449	0.0000	35.6940	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N451	0.0000	45156.8767	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N454	0.0000	56945.8108	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N456	0.0000	200.2830	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N457	0.0000	33126.0159	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N461	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
927728.5573	0.0000	0.0000						
	N464	0.0000	9805.9350	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N465	0.0000	117330.1433	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N467	0.0000	19250.9640	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N468	0.0000	32878.1400	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N469	0.0000	12875.6190	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N471	0.0000	25630.2759	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N472	0.0000	18487.5090	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N473	0.0000	13460.6040	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N490	0.0000	180478.7792	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N491	0.0000	7569.1110	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N492	0.0000	88394.2084	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N493	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
88214.5370	0.0000	0.0000						
	N497	0.0000	59295.6667	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N499	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
59194.4593	0.0000	0.0000						
	N509	0.0000	218831.9816	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N513	0.0000	133192.1608	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N514	0.0000	3008.2110	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N516	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
353717.7357	0.0000	0.0000						
	N524	0.0000	12024.9120	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N526	0.0000	11876.1870	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N527	0.0000	6530.0190	0.0000	0.0000	-9.4482	0.0000	0.0000
30221.4690	0.0000	0.0000						
	N530	0.0000	5978.7450	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
	N689	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
185797.8286	0.0000	0.0000						

0.0000	EL329	0.0000	86030.4716	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						
1.1754E+06	N411	0.0000	0.0000	0.0000	0.0000	22585.2472	0.0000	0.0000
62197.2830	N295	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
82167.2186	N311	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N462	0.0000	42166.5116	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000						

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*=====
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.
*=====

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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
N221	302.3000	0.0000	0.0000	22.1483	0.0000
N222	301.7333	0.0000	0.0000	32.0928	0.0000
N223	0.0000	0.0000	0.0000	16.4104	0.0000
N224	300.9000	0.0000	0.0000	41.7304	0.0000
N227	308.1724	0.0000	0.0000	33.0732	0.0000
N228	309.2759	0.0000	0.0000	38.7033	0.0000
N230	0.0000	0.0000	0.0000	29.3965	0.0000
N231	0.0000	0.0000	0.0000	5.6195	0.0000
N233	0.0000	0.0000	0.0000	10.3123	0.0000
N234	0.0000	0.0000	0.0000	22.7445	0.0000
N235	0.0000	0.0000	0.0000	3.3203	0.0000
N236	0.0000	0.0000	0.0000	3.5222	0.0000
N237	0.0000	0.0000	0.0000	5.0215	0.0000
N238	266.1290	0.0000	0.0000	31.0693	0.0000
N239	0.0000	0.0000	0.0000	10.9053	0.0000
N240	294.8710	0.0000	0.0000	19.8467	0.0000
N241	0.0000	0.0000	0.0000	14.5562	0.0000
N242	0.0000	0.0000	0.0000	22.6247	0.0000
N243	0.0000	0.0000	0.0000	27.7748	0.0000
N244	0.0000	0.0000	0.0000	30.4555	0.0000
N245	252.7419	0.0000	0.0000	40.9166	0.0000
N246	298.4194	0.0000	0.0000	38.7770	0.0000
N247	309.1724	0.0000	0.0000	47.6476	0.0000
N248	273.2581	0.0000	0.0000	13.1695	0.0000
N249	304.3000	0.0000	0.0000	26.9528	0.0000
N250	304.5333	0.0000	0.0000	31.2314	0.0000
N251	309.6897	0.0000	0.0000	15.9924	0.0000
N252	0.0000	0.0000	0.0000	27.9085	0.0000
N253	0.0000	0.0000	0.0000	29.9483	0.0000
N254	0.0000	0.0000	0.0000	6.5772	0.0000
N255	0.0000	0.0000	0.0000	45.8927	0.0000
N256	0.0000	0.0000	0.0000	8.3358	0.0000
N257	0.0000	0.0000	0.0000	10.5200	0.0000
N259	297.3871	0.0000	0.0000	32.3331	0.0000
N260	0.0000	0.0000	0.0000	26.3886	0.0000
N261	0.0000	0.0000	0.0000	12.3303	0.0000
N262	0.0000	0.0000	0.0000	7.7026	0.0000
N263	0.0000	0.0000	0.0000	4.7769	0.0000
N264	360.0000	0.0000	0.0000	30.7867	0.0000

N265	0.0000	0.0000	0.0000	6.8691	0.0000
W800	310.7586	0.0000	0.0000	38.9896	0.0000
W801	308.3793	0.0000	0.0000	31.2045	0.0000
OUT802	0.0000	0.0000	0.0000	25.1320	0.0000
N272	0.0000	0.0000	0.0000	6.2859	0.0000
N273	0.0000	0.0000	0.0000	5.3435	0.0000
N274	0.0000	0.0000	0.0000	2.4273	0.0000
N275	360.0000	0.0000	0.0000	22.8701	0.0000
N276	0.0000	0.0000	0.0000	6.1923	0.0000
N277	0.0000	0.0000	0.0000	3.4581	0.0000
N278	360.0000	0.0000	0.0000	43.7297	0.0000
N279	0.0000	0.0000	0.0000	6.8826	0.0000
N288	0.4167	0.0000	0.0000	115.3777	0.0000
N289	0.0000	0.0000	0.0000	56.1700	0.0000
N290	359.7500	0.0000	0.0000	49.2736	0.0000
N291	0.0000	0.0000	0.0000	6.6409	0.0000
N292	360.0000	0.0000	0.0000	61.1964	0.0000
N293	0.0000	0.0000	0.0000	7.7535	0.0000
N294	0.0000	0.0000	0.0000	3.9648	0.0000
N296	0.0000	0.0000	0.0000	7.8495	0.0000
N301	312.6897	0.0000	0.0000	24.1177	0.0000
N302	0.0000	0.0000	0.0000	4.9644	0.0000
N303	360.0000	0.0000	0.0000	33.5512	0.0000
N304	0.0000	0.0000	0.0000	7.6903	0.0000
N309	0.0000	0.0000	0.0000	8.4156	0.0000
N310	0.0000	0.0000	0.0000	4.9879	0.0000
N312	0.0000	0.0000	0.0000	9.9295	0.0000
YEL327	3.2298	2.5480	0.0000	1159.9503	125.6173
N331	360.0000	0.0000	0.0000	71.7519	0.0000
W104	0.0000	0.0000	0.0000	11.9864	0.0000
N342	0.0000	0.0000	0.0000	7.6348	0.0000
N343	0.0000	0.0000	0.0000	6.4778	0.0000
N344	0.0000	0.0000	0.0000	8.4396	0.0000
N345	0.0000	0.0000	0.0000	5.0497	0.0000
N356	0.0000	0.0000	0.0000	3.6202	0.0000
N357	0.0000	0.0000	0.0000	5.2486	0.0000
N358	0.0000	0.0000	0.0000	7.1951	0.0000
N359	0.0000	0.0000	0.0000	3.4952	0.0000
N360	360.0000	0.0000	0.0000	31.6663	0.0000
N361	0.0000	0.0000	0.0000	26.1470	0.0000
N362	0.0000	0.0000	0.0000	25.1859	0.0000
N363	0.0000	0.0000	0.0000	25.1455	0.0000
N364	0.0000	0.0000	0.0000	10.5970	0.0000
N365	360.0000	0.0000	0.0000	64.3379	0.0000
N366	0.0000	0.0000	0.0000	13.9940	0.0000
N367	0.0000	0.0000	0.0000	11.1376	0.0000
N368	297.2581	0.0000	0.0000	36.3621	0.0000
N369	297.4839	0.0000	0.0000	43.0700	0.0000
N370	303.8333	0.0000	0.0000	64.7513	0.0000
N371	303.6667	0.0000	0.0000	58.2573	0.0000
N372	301.4000	0.0000	0.0000	59.3902	0.0000
N373	298.3871	0.0000	0.0000	54.5063	0.0000
N374	0.0000	0.0000	0.0000	49.3516	0.0000
N375	0.0000	0.0000	0.0000	53.9151	0.0000
N376	0.0000	0.0000	0.0000	20.9184	0.0000
N377	0.0000	0.0000	0.0000	21.1974	0.0000
N378	0.0000	0.0000	0.0000	41.9037	0.0000
N379	0.0000	0.0000	0.0000	51.8976	0.0000
N381	0.0000	0.0000	0.0000	13.6438	0.0000
N382	0.0000	0.0000	0.0000	21.5741	0.0000
N383	0.0000	0.0000	0.0000	9.5341	0.0000
N384	0.0000	0.0000	0.0000	9.2920	0.0000
N386	0.0000	0.0000	0.0000	10.5619	0.0000
N387	0.0000	0.0000	0.0000	8.0295	0.0000
N388	0.0000	0.0000	0.0000	21.4198	0.0000
N389	0.0000	0.0000	0.0000	36.9369	0.0000
N390	0.0000	0.0000	0.0000	9.9831	0.0000
N391	310.7586	0.0000	0.0000	18.3614	0.0000
N392	0.0000	0.0000	0.0000	36.8159	0.0000

N394	360.0000	0.0000	0.0000	51.8976	0.0000
N395	322.2963	0.0000	0.0000	34.2532	0.0000
N396	0.0000	0.0000	0.0000	16.2373	0.0000
N397	0.0000	0.0000	0.0000	32.5126	0.0000
N398	0.0000	0.0000	0.0000	29.4936	0.0000
N399	0.0000	0.0000	0.0000	46.2041	0.0000
N403	0.0000	0.0000	0.0000	46.7659	0.0000
N404	0.0000	0.0000	0.0000	53.7297	0.0000
N405	282.4839	0.0000	0.0000	21.4710	0.0000
N406	0.0000	0.0000	0.0000	53.9579	0.0000
N407	0.0000	0.0000	0.0000	9.6560	0.0000
N408	0.0000	0.0000	0.0000	53.1008	0.0000
N409	0.0000	0.0000	0.0000	50.5963	0.0000
N410	0.0000	0.0000	0.0000	47.0568	0.0000
N412	316.2143	0.0000	0.0000	33.7441	0.0000
N413	0.0000	0.0000	0.0000	42.3962	0.0000
N414	0.0000	0.0000	0.0000	64.8486	0.0000
N415	316.7857	0.0000	0.0000	34.5364	0.0000
N416	305.8333	0.0000	0.0000	28.0079	0.0000
N417	0.0000	0.0000	0.0000	17.1277	0.0000
N418	0.0000	0.0000	0.0000	11.5693	0.0000
N419	278.9677	0.0000	0.0000	32.1704	0.0000
N420	276.1290	0.0000	0.0000	31.7081	0.0000
N421	276.2903	0.0000	0.0000	31.8363	0.0000
N422	283.0000	0.0000	0.0000	42.0842	0.0000
N423	282.1935	0.0000	0.0000	29.0211	0.0000
N424	288.4516	0.0000	0.0000	47.8518	0.0000
N425	288.6774	0.0000	0.0000	29.3530	0.0000
N426	292.1935	0.0000	0.0000	52.5794	0.0000
N428	295.2258	0.0000	0.0000	53.2469	0.0000
N429	297.7419	0.0000	0.0000	59.9908	0.0000
N430	0.0000	0.0000	0.0000	7.6266	0.0000
N431	0.0000	0.0000	0.0000	27.0084	0.0000
N432	0.0000	0.0000	0.0000	13.0734	0.0000
N434	0.0000	0.0000	0.0000	9.1481	0.0000
N435	282.9032	0.0000	0.0000	34.9464	0.0000
N436	284.3871	0.0000	0.0000	24.6769	0.0000
N437	282.7097	0.0000	0.0000	28.5450	0.0000
N438	285.7419	0.0000	0.0000	37.0714	0.0000
N439	293.0645	0.0000	0.0000	46.6460	0.0000
N440	289.0323	0.0000	0.0000	25.2102	0.0000
N441	293.0645	0.0000	0.0000	31.1418	0.0000
N442	296.6129	0.0000	0.0000	51.0267	0.0000
N443	290.4194	0.0000	0.0000	24.6738	0.0000
N444	296.9677	0.0000	0.0000	32.8288	0.0000
N445	293.9355	0.0000	0.0000	53.6601	0.0000
N446	282.8710	0.0000	0.0000	16.8533	0.0000
N447	286.1290	0.0000	0.0000	48.1715	0.0000
N448	303.9000	0.0000	0.0000	26.0969	0.0000
N449	305.3000	0.0000	0.0000	28.8145	0.0000
N450	298.5806	0.0000	0.0000	23.3190	0.0000
N451	297.6774	0.0000	0.0000	22.8134	0.0000
N453	303.9333	0.0000	0.0000	24.3294	0.0000
N454	305.1333	0.0000	0.0000	27.3212	0.0000
N455	267.0000	0.0000	0.0000	16.8395	0.0000
N456	300.4333	0.0000	0.0000	24.2455	0.0000
N457	294.7097	0.0000	0.0000	17.9111	0.0000
N458	0.0000	0.0000	0.0000	17.4524	0.0000
N459	0.0000	0.0000	0.0000	38.3632	0.0000
N460	0.0000	0.0000	0.0000	12.4097	0.0000
N461	360.0000	0.0000	0.0000	54.1595	0.0000
N464	303.0333	0.0000	0.0000	38.3762	0.0000
N465	301.4667	0.0000	0.0000	38.9881	0.0000
N466	301.2667	0.0000	0.0000	41.5731	0.0000
N467	298.3548	0.0000	0.0000	24.1394	0.0000
N468	298.9032	0.0000	0.0000	30.2926	0.0000
N469	0.0000	0.0000	0.0000	22.4006	0.0000
N470	0.0000	0.0000	0.0000	12.1525	0.0000
N471	294.2258	0.0000	0.0000	15.1844	0.0000

N472	291.7097	0.0000	0.0000	14.0223	0.0000
N473	0.0000	0.0000	0.0000	5.7827	0.0000
N487	0.0000	0.0000	0.0000	12.8271	0.0000
N489	0.0000	0.0000	0.0000	30.6866	0.0000
N490	0.0000	0.0000	0.0000	20.0447	0.0000
N491	0.0000	0.0000	0.0000	10.7615	0.0000
N492	324.8077	0.0000	0.0000	22.3400	0.0000
N493	0.0000	0.0000	0.0000	12.5660	0.0000
N497	0.0000	0.0000	0.0000	4.6455	0.0000
N499	360.0000	0.0000	0.0000	90.6009	0.0000
N509	328.2000	0.0000	0.0000	44.7373	0.0000
N513	0.0000	0.0000	0.0000	16.6638	0.0000
N514	0.0000	0.0000	0.0000	8.1244	0.0000
N516	360.0000	0.0000	0.0000	56.9240	0.0000
N524	0.0000	0.0000	0.0000	4.3492	0.0000
N525	0.0000	0.0000	0.0000	6.3739	0.0000
N526	0.0000	0.0000	0.0000	4.3215	0.0000
N527	0.0000	0.0000	0.0000	6.3708	0.0000
N528	300.5000	0.0000	0.0000	53.7360	0.0000
N529	0.0000	0.0000	0.0000	48.8790	0.0000
N530	298.7419	0.0000	0.0000	55.4674	0.0000
N689	0.0000	0.0000	0.0000	18.8490	0.0000
N494	0.0000	0.0000	0.0000	11.8845	0.0000
N541	275.8065	0.0000	0.0000	27.5966	0.0000
EL329	278.9032	0.0000	0.0000	30.2418	0.0000
N427	293.1613	0.0000	0.0000	37.8364	0.0000
N411	0.0000	0.0000	0.0000	45.4889	0.0000
N295	360.0000	0.0000	0.0000	45.4889	0.0000
N311	360.0000	0.0000	0.0000	55.5417	0.0000
N462	293.6129	0.0000	0.0000	24.2794	0.0000

 | Simulation Specific Information |

Number of Input Conduits.....	183	Number of Simulated Conduits.....	207
Number of Natural Channels.....	0	Number of Junctions.....	207
Number of Storage Junctions.....	0	Number of Weirs.....	0
Number of Orifices.....	0	Number of Pumps.....	0
Number of Free Outfalls.....	24	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..FREE #10 with 0.011 percent
 The Junction with the largest average change was.YEL327 with 0.256 percent
 The Conduit with the largest sinuosity was.....L308 with 7.272

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

Inflow Junction	Inflow Volume,ft^3	Average Inflow, cfs
N221	57247.5613	2.6504
N222	4837.4596	0.2240
N223	3215.7324	0.1489
N224	2433.5808	0.1127
N227	49277.5357	2.2814
N228	106299.3624	4.9213
N230	19579.5334	0.9065
N231	18813.2228	0.8710

N233	3534.5335	0.1636
N235	4564.2015	0.2113
N238	13342.1214	0.6177
N239	8336.3507	0.3859
N240	12971.8369	0.6005
N241	198.0131	0.0092
N242	10156.0909	0.4702
N243	6772.0474	0.3135
N244	2207.8459	0.1022
N245	5736.4390	0.2656
N246	63.3642	0.0029
N247	80169.5559	3.7116
N248	8867.0258	0.4105
N249	42097.5810	1.9490
N250	61011.7912	2.8246
N251	73140.0915	3.3861
N252	7318.5635	0.3388
N253	1249.4625	0.0578
N254	24508.0789	1.1346
N255	17785.5349	0.8234
N256	36662.1210	1.6973
N257	49168.6276	2.2763
N259	48691.4166	2.2542
N260	1854.1023	0.0858
N261	39248.1722	1.8170
N262	31268.2451	1.4476
N263	2294.9716	0.1062
N265	25830.8073	1.1959
W800	61358.3132	2.8407
W801	90943.4471	4.2103
OUT802	7908.6425	0.3661
N272	3867.1955	0.1790
N273	16888.5357	0.7819
N274	4071.1489	0.1885
N275	3287.0171	0.1522
N276	19389.4409	0.8977
N277	2479.1238	0.1148
N279	23753.6492	1.0997
N289	398.8433	0.0185
N290	187098.5992	8.6620
N291	169419.9921	7.8435
N293	29802.9483	1.3798
N294	2548.4284	0.1180
N296	29939.5778	1.3861
N301	67758.0967	3.1369
N302	1960.3295	0.0908
N304	29640.5786	1.3722
N309	36135.4077	1.6729
N310	1384.1114	0.0641
N312	44834.1225	2.0757
YEL327	524455.4667	24.2803
N331	38.5160	0.0018
W104	26876.3157	1.2443
N344	37218.5391	1.7231
N345	10066.9850	0.4661
N356	8445.2579	0.3910
N357	8556.1452	0.3961
N358	8575.9465	0.3970
N361	420779.7803	19.4805
N363	33608.7604	1.5560
N366	90832.5612	4.2052
N367	52128.9241	2.4134
N368	244167.9416	11.3041
N370	364377.7293	16.8693
N371	506927.3517	23.4689
N375	175465.3316	8.1234
N376	163439.9970	7.5667
N379	14637.5268	0.6777
N381	1025.7078	0.0475

N382	19819.1293	0.9176
N383	45768.7432	2.1189
N384	42762.9053	1.9798
N386	52463.5667	2.4289
N387	32408.8008	1.5004
N389	70074.8498	3.2442
N390	45119.2610	2.0889
N391	69195.6721	3.2035
N394	2416.5755	0.1119
N395	66360.1240	3.0722
N397	1469.2571	0.0680
N398	37972.9684	1.7580
N399	35573.0509	1.6469
N404	138084.4229	6.3928
N405	44147.0173	2.0438
N406	64356.2309	2.9795
N407	31836.5424	1.4739
N408	108416.1228	5.0193
N412	83967.4479	3.8874
N415	90705.8314	4.1993
N416	85608.9751	3.9634
N418	80211.1381	3.7135
N420	140959.5718	6.5259
N423	96119.5105	4.4500
N425	75741.9831	3.5066
N429	37769.0147	1.7486
N430	44418.2950	2.0564
N431	201.9733	0.0094
N434	44946.9898	2.0809
N436	56421.8469	2.6121
N437	102349.0006	4.7384
N439	3271.1761	0.1514
N440	32895.9133	1.5230
N441	75282.5938	3.4853
N443	18448.8788	0.8541
N444	78573.5701	3.6377
N445	18773.6202	0.8691
N446	18599.3687	0.8611
N447	37802.6768	1.7501
N448	48473.6022	2.2441
N449	35.6424	0.0017
N451	45091.5395	2.0876
N454	56863.4163	2.6326
N456	199.9932	0.0093
N457	33078.0861	1.5314
N464	9791.7469	0.4533
N465	117160.3790	5.4241
N467	19223.1099	0.8900
N468	32830.5688	1.5199
N469	12856.9893	0.5952
N471	25593.1916	1.1849
N472	18460.7595	0.8547
N473	13441.1279	0.6223
N490	180217.6456	8.3434
N491	7558.1593	0.3499
N492	88266.3113	4.0864
N497	59209.8722	2.7412
N509	218515.3550	10.1165
N513	132999.4459	6.1574
N514	3003.8584	0.1391
N524	12007.5132	0.5559
N526	11859.0034	0.5490
N527	6520.5708	0.3019
N530	5970.0944	0.2764
EL329	85905.9947	3.9771
N411	22585.2472	1.0456
N462	42105.5012	1.9493
N234	-261060.6576	-12.0861
N260	-559487.2606	-25.9022

N264	-59319.0024	-2.7463
OUT802	-184356.2052	-8.5350
N275	-27970.2924	-1.2949
N278	-45539.2643	-2.1083
N289	-187069.8890	-8.6606
N292	-169392.2847	-7.8422
N303	-99206.1730	-4.5929
N331	-528439.2855	-24.4648
N343	-37137.6140	-1.7193
N360	-25387.8631	-1.1754
N365	-594265.6471	-27.5123
N379	-1.429E+06	-66.1732
N394	-376489.0832	-17.4301
N461	-927728.5573	-42.9504
N493	-88214.5370	-4.0840
N499	-59194.4593	-2.7405
N516	-353717.7357	-16.3758
N527	-30221.4690	-1.3991
N689	-185797.8286	-8.6018
N411	-1.175E+06	-54.4184
N295	-62197.2830	-2.8795
N311	-82167.2186	-3.8040

Outflow Junction	Outflow Volume,ft^3	Average Outflow, cfs
N234	261060.6576	12.0861
N260	559487.2606	25.9022
N264	59319.0024	2.7463
OUT802	184356.2052	8.5350
N275	27970.2924	1.2949
N278	45539.2643	2.1083
N289	187069.8890	8.6606
N292	169392.2847	7.8422
N303	99206.1730	4.5929
N331	528439.2855	24.4648
N343	37137.6140	1.7193
N360	25387.8631	1.1754
N365	594265.6471	27.5123
N379	1.42934E+06	66.1732
N394	376489.0832	17.4301
N461	927728.5573	42.9504
N493	88214.5370	4.0840
N499	59194.4593	2.7405
N516	353717.7357	16.3758
N527	30221.4690	1.3991
N689	185797.8286	8.6018
N411	1.17544E+06	54.4184
N295	62197.2830	2.8795
N311	82167.2186	3.8040

```

*=====
| Initial system volume      =      917.1923 Cu Ft |
| Total system inflow volume = 7.859696E+06 Cu Ft |
| Inflow + Initial volume   = 7.860613E+06 Cu Ft |
*=====
| Total system outflow      = 7.549137E+06 Cu Ft |
| Volume left (Final volume) = 318015.3077 Cu Ft |
| Evaporation               =      0.0000 Cu Ft |
| Basin Infiltration        =      0.0000 Cu Ft |
| Outflow + Final Volume    = 7.867152E+06 Cu Ft |
*=====

```

```

*=====
| Total Model Continuity Error |
| Error in Continuity, Percent = -0.0832 |
| Error in Continuity, ft^3    = -6538.917 |
| + Error means a continuity loss, - a gain |

```


=====

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

Overall error was (minimum of Table E18 & E21) -0.0832 percent
Worst nodal error was in node N470 with -4.5965 percent
Of the total inflow this loss was 0.3055 percent
Your overall continuity error was Excellent
Efficiency of the simulation Excellent Efficiency
Most Number of Non Convergences at one Node 1.39
Total Number Non Convergences at all Nodes 2.
Total Number of Nodes with Non Convergences 6.
5.

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	Depth (ft)	Width (ft)	Barrels	Max.Flow (ft^3/s)
------------	------	--------------	---------	------------	------------	---------	-------------------

==> Hydraulic model simulation ended normally.
==> XP-SWMM Simulation ended normally.
==> Your input file was named : P:\projects\2012.21\drainage\swmm\xp\JacksonTrunkNolteA1Ph1_modf1.DAT
==> Your output file was named : P:\projects\2012.21\drainage\swmm\xp\JacksonTrunkNolteA1Ph1_modf1.out

=====

SWMM Simulation Date and Time Summary			
Starting Date...	July 6, 2017	Time...	10: 7:40:29
Ending Date...	July 6, 2017	Time...	10: 7:54:95
Elapsed Time...	0.24433 minutes or		14.66000 seconds

=====

Jackson Township

Phased Development Scenario Phase 2

XP Swmm Output File Listing

Current Directory: C:\PROGRA~2\XPSOLU~1\XPSWMM~1
 Engine Name: C:\PROGRA~2\XPSOLU~1\XPSWMM~1\SWMMEN~2.EXE
 Input File : projects\2012.21\drainage\swmm\xp\JacksonTrunkNolteA1Ph2_modf1.XP

```

*-----*
                xpswmm
      Storm and Wastewater Management Model
      Developed by XP Solutions Inc.
=====
Last Update      : June, 2014
Interface Version: 2012
Engine Version   : 12.0
Data File Version: 12.6
*-----*
  
```

Engine Name: C:\PROGRA~2\XPSOLU~1\XPSWMM~1\SWMMEN~2.EXE

```

*-----*
|      Input and Output file names by Layer      |
*-----*
  
```

Input File to Layer # 1 JOT.US
 Output File to Layer # 1 JOT.US

```

*-----*
                Configuration Parameters
Configuration Parameters, both those that are hardwired
and those added to the simulation are listed below.
Configuration Parameters that start with a $ are set in
the engine as defaults. The remaining in UPPERCASE
have been added to the simulation in the Configuration->
Configuration Parameters dialog or as Engine Defaults in
the SWMXP.INI file.

Consult the Help File for the specific meaning/purpose
of any particular parameter.

Note:
The second column denotes the value of the parameter.
*-----*
  
```

\$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
\$sexout	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
\$ncmid	0.0000	0	164
\$new_nl_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=10	10.0000	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
\$channel_geometry=1	0.0000	1	456

| 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)....	0
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).....	268
Number of Groundwater Subcatchments in Runoff (NGW)..	0
Number of Interface locations for all Blocks (NIE)..	268
Number of Pumps in Extran (NEP).....	0
Number of Orifices in Extran (NEO).....	0
Number of Tide Gates/Free Outfalls in Extran (NTG)..	30
Number of Extran Weirs (NEW).....	0
Number of scs hydrograph points.....	1
Number of Extran printout locations (NPO).....	0
Number of Tide elements in Extran (NTE).....	30
Number of Natural channels (NNC).....	0
Number of Storage junctions in Extran (NVSE).....	0
Number of Time history data points in Extran(NTVAL)..	2
Number of Variable storage elements in Extran (NVST)	0
Number of Input Hydrographs in Extran (NEH).....	268
Number of Particle sizes in Transport Block (NPS)...	0
Number of User defined conduits (NHW).....	269
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).....	268
Number of Plugs in a Storage Treatment Unit.....	1

XXX End of Header Section XXX

```
#####
#   Entry made to the HYDRAULIC Layer of XP-SWMM   #
#   Last Updated in June, 2014 by XP Solutions     #
#####
```

=====*

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.....	1995	Month.....	1
Day.....	1	Hour.....	0

Minute..... 0 Second..... 0

Control information for simulation

Integration cycles..... 360
Length of integration step is..... 60.00 seconds
Simulation length..... 6.00 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. 500.00 minutes
Summary printout intervals of..... 500 cycles
Summary printout time interval of.. 500.00 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.... 268
or user defined hydrographs....

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Flap Gate Conduit Information

Positive Flap Gate - Flow only allowed from the upstream to the downstream junction
Negative Flap Gate - Flow only allowed from the downstream to the upstream junction

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Conduit	Type of Flap Gate
-----	-----
L376	Positive Flap Gate

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Table E1 - Conduit Data

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Hazen
Inp
Williams

Conduit	Length	Conduit	Area	Manning	Max Width	Depth	Side
---------	--------	---------	------	---------	-----------	-------	------

Trapezoid

Num factor	Name	(ft)	Class	(ft^2)	Coef.	(ft)	(ft)	Slopes	c-
1	L210	70.0000	Circular	0.7854	0.0150	1.0000	1.0000		
2	L211	408.0000	Circular	0.7854	0.0150	1.0000	1.0000		
3	L212	541.0000	Circular	1.2272	0.0150	1.2500	1.2500		
4	L213	107.0000	Circular	0.7854	0.0150	1.0000	1.0000		
5	L214	93.0000	Circular	1.7671	0.0150	1.5000	1.5000		
6	L217	86.0000	Circular	0.7854	0.0150	1.0000	1.0000		
7	L220	320.0000	Circular	2.4053	0.0150	1.7500	1.7500		
8	L221	395.0000	Circular	3.1416	0.0150	2.0000	2.0000		
9	L222	182.0000	Circular	3.1416	0.0150	2.0000	2.0000		
10	L223	72.0000	Circular	0.7854	0.0150	1.0000	1.0000		
11	L224	291.0000	Circular	0.7854	0.0150	1.0000	1.0000		
12	L225	290.0000	Circular	0.7854	0.0150	1.0000	1.0000		
13	L226	413.0000	Circular	0.7854	0.0150	1.0000	1.0000		
14	L227	236.0000	Circular	0.7854	0.0150	1.0000	1.0000		
15	L228	407.0000	Circular	0.7854	0.0150	1.0000	1.0000		
16	L229	572.0000	Circular	1.2272	0.0150	1.2500	1.2500		
17	L230	397.0000	Circular	1.2272	0.0150	1.2500	1.2500		
18	L231	399.0000	Circular	1.2272	0.0150	1.2500	1.2500		
19	L232	307.0000	Circular	1.7671	0.0150	1.5000	1.5000		
20	L233	479.0000	Circular	1.7671	0.0150	1.5000	1.5000		
21	L234	430.0000	Circular	3.1416	0.0150	2.0000	2.0000		
22	L235	50.0000	Circular	0.7854	0.0150	1.0000	1.0000		
23	L236	105.0000	Circular	0.7854	0.0150	1.0000	1.0000		
24	L237	100.0000	Circular	0.7854	0.0150	1.0000	1.0000		
25	L238	55.0000	Circular	0.7854	0.0150	1.0000	1.0000		
26	L239	124.0000	Circular	0.7854	0.0150	1.0000	1.0000		
27	L240	86.0000	Circular	0.7854	0.0150	1.0000	1.0000		
28	L241	296.0000	Circular	1.2272	0.0150	1.2500	1.2500		
29	L242	62.0000	Circular	0.7854	0.0150	1.0000	1.0000		
30	L243	95.0000	Circular	0.7854	0.0150	1.0000	1.0000		
31	L246	414.0000	Circular	4.9087	0.0150	2.5000	2.5000		
32	L247	92.0000	Circular	4.9087	0.0150	2.5000	2.5000		
33	L248	47.0000	Circular	0.7854	0.0150	1.0000	1.0000		
34	L249	73.0000	Circular	0.7854	0.0150	1.0000	1.0000		
35	L250	78.0000	Circular	0.7854	0.0150	1.0000	1.0000		
36	L251	69.0000	Circular	0.7854	0.0150	1.0000	1.0000		
37	L259	281.0000	Circular	2.4053	0.0150	1.7500	1.7500		
38	L260	64.0000	Circular	2.4053	0.0150	1.7500	1.7500		
39	L261	138.0000	Circular	0.7854	0.0150	1.0000	1.0000		
40	L262	76.0000	Circular	0.7854	0.0150	1.0000	1.0000		
41	L263	117.0000	Circular	0.7854	0.0150	1.0000	1.0000		
42	L272	34.0000	Circular	15.9043	0.0150	4.5000	4.5000		
43	L273	117.0000	Circular	2.4053	0.0150	1.7500	1.7500		
44	L274	123.0000	Circular	1.7671	0.0150	1.5000	1.5000		
45	L275	107.0000	Circular	0.7854	0.0150	1.0000	1.0000		
46	L277	117.0000	Circular	0.7854	0.0150	1.0000	1.0000		
47	L281	107.0000	Circular	0.7854	0.0150	1.0000	1.0000		
48	L282	48.0000	Circular	0.7854	0.0150	1.0000	1.0000		
49	L283	114.0000	Circular	0.7854	0.0150	1.0000	1.0000		
50	L287	109.0000	Circular	0.7854	0.0150	1.0000	1.0000		
51	L289	120.0000	Circular	0.7854	0.0150	1.0000	1.0000		
52	L319	65.0000	Circular	1.7671	0.0150	1.5000	1.5000		
53	L320	67.0000	Circular	0.7854	0.0150	1.0000	1.0000		
54	L338	84.0000	Circular	7.0686	0.0150	3.0000	3.0000		
55	L339	260.0000	Circular	7.0686	0.0150	3.0000	3.0000		
56	L340	244.0000	Circular	9.6211	0.0150	3.5000	3.5000		

57	L341	103.0000	Circular	9.6211	0.0150	3.5000	3.5000
58	L342	78.0000	Circular	1.2272	0.0150	1.2500	1.2500
59	L343	94.0000	Circular	0.7854	0.0150	1.0000	1.0000
60	L344	51.0000	Circular	4.9087	0.0150	2.5000	2.5000
61	L346	50.0000	Circular	9.6211	0.0150	3.5000	3.5000
62	L347	395.0000	Circular	12.5664	0.0150	4.0000	4.0000
63	L348	404.0000	Circular	12.5664	0.0150	4.0000	4.0000
64	L349	400.0000	Circular	12.5664	0.0150	4.0000	4.0000
65	L350	132.0000	Circular	12.5664	0.0150	4.0000	4.0000
66	L351	35.0000	Circular	3.1416	0.0150	2.0000	2.0000
67	L352	147.0000	Circular	3.1416	0.0150	2.0000	2.0000
68	L354	94.0000	Circular	15.9043	0.0150	4.5000	4.5000
69	L361	47.0000	Circular	0.7854	0.0150	1.0000	1.0000
70	L362	66.0000	Circular	0.7854	0.0150	1.0000	1.0000
71	L363	411.0000	Circular	1.7671	0.0150	1.5000	1.5000
72	L364	48.0000	Circular	0.7854	0.0150	1.0000	1.0000
73	L365	63.0000	Circular	0.7854	0.0150	1.0000	1.0000
74	L366	394.0000	Circular	3.1416	0.0150	2.0000	2.0000
75	L367	364.0000	Circular	3.1416	0.0150	2.0000	2.0000
76	L368	124.0000	Circular	0.7854	0.0150	1.0000	1.0000
77	L369	99.0000	Circular	0.7854	0.0150	1.0000	1.0000
78	L370	206.0000	Circular	7.0686	0.0150	3.0000	3.0000
79	L373	98.0000	Circular	7.0686	0.0150	3.0000	3.0000
80	L374	160.0000	Circular	0.7854	0.0150	1.0000	1.0000
81	L375	403.0000	Circular	1.7671	0.0150	1.5000	1.5000
82	L376	164.0000	Circular	5.9396	0.0150	2.7500	2.7500
83	L386	341.0000	Circular	12.5664	0.0150	4.0000	4.0000
84	L387	355.0000	Circular	12.5664	0.0150	4.0000	4.0000
85	L388	113.0000	Circular	0.7854	0.0150	1.0000	1.0000
86	L389	385.0000	Circular	15.9043	0.0150	4.5000	4.5000
87	L390	106.0000	Circular	0.7854	0.0150	1.0000	1.0000
88	L391	499.0000	Circular	15.9043	0.0150	4.5000	4.5000
89	L392	380.0000	Circular	15.9043	0.0150	4.5000	4.5000
90	L393	461.0000	Circular	15.9043	0.0150	4.5000	4.5000
91	L395	50.0000	Circular	1.2272	0.0150	1.2500	1.2500
92	L396	402.0000	Circular	7.0686	0.0150	3.0000	3.0000
93	L397	57.0000	Circular	1.2272	0.0150	1.2500	1.2500
94	L398	48.0000	Circular	1.2272	0.0150	1.2500	1.2500
95	L399	302.0000	Circular	3.1416	0.0150	2.0000	2.0000
96	L402	86.0000	Circular	2.4053	0.0150	1.7500	1.7500
97	L403	398.0000	Circular	2.4053	0.0150	1.7500	1.7500
98	L404	371.0000	Circular	2.4053	0.0150	1.7500	1.7500
99	L405	71.0000	Circular	1.7671	0.0150	1.5000	1.5000
100	L406	364.0000	Circular	4.9087	0.0150	2.5000	2.5000
101	L407	71.0000	Circular	1.2272	0.0150	1.2500	1.2500
102	L408	367.0000	Circular	5.9396	0.0150	2.7500	2.7500
103	L410	395.0000	Circular	7.0686	0.0150	3.0000	3.0000
104	L411	301.0000	Circular	7.0686	0.0150	3.0000	3.0000
105	L413	401.0000	Circular	1.7671	0.0150	1.5000	1.5000
106	L415	49.0000	Circular	0.7854	0.0150	1.0000	1.0000
107	L417	68.0000	Circular	0.7854	0.0150	1.0000	1.0000
108	L418	72.0000	Circular	1.7671	0.0150	1.5000	1.5000
109	L419	259.0000	Circular	3.1416	0.0150	2.0000	2.0000
110	L420	402.0000	Circular	3.1416	0.0150	2.0000	2.0000
111	L421	68.0000	Circular	0.7854	0.0150	1.0000	1.0000
112	L422	76.0000	Circular	1.2272	0.0150	1.2500	1.2500
113	L423	397.0000	Circular	4.9087	0.0150	2.5000	2.5000
114	L424	299.0000	Circular	5.9396	0.0150	2.7500	2.7500
115	L425	70.0000	Circular	0.7854	0.0150	1.0000	1.0000
116	L426	73.0000	Circular	1.2272	0.0150	1.2500	1.2500

117	L427	486.0000	Circular	9.6211	0.0150	3.5000	3.5000	
118	L428	88.0000	Circular	0.7854	0.0150	1.0000	1.0000	
119	L429	394.0000	Circular	9.6211	0.0150	3.5000	3.5000	
120	L430	91.0000	Circular	0.7854	0.0150	1.0000	1.0000	
121	L431	430.0000	Circular	0.7854	0.0150	1.0000	1.0000	
122	L432	91.0000	Circular	0.7854	0.0150	1.0000	1.0000	
123	L435	90.0000	Circular	0.7854	0.0150	1.0000	1.0000	
124	L436	315.0000	Circular	0.7854	0.0150	1.0000	1.0000	
125	L437	328.0000	Circular	1.2272	0.0150	1.2500	1.2500	
126	L438	88.0000	Circular	0.7854	0.0150	1.0000	1.0000	
127	L439	374.0000	Circular	1.2272	0.0150	1.2500	1.2500	
128	L440	396.0000	Circular	1.7671	0.0150	1.5000	1.5000	
129	L441	405.0000	Circular	9.6211	0.0150	3.5000	3.5000	
130	L442	459.0000	Circular	9.6211	0.0150	3.5000	3.5000	
131	L443	96.0000	Circular	9.6211	0.0150	3.5000	3.5000	
132	L446	61.0000	Circular	1.7671	0.0150	1.5000	1.5000	
133	L448	79.0000	Circular	0.7854	0.0150	1.0000	1.0000	
134	L449	452.0000	Circular	2.4053	0.0150	1.7500	1.7500	
135	L450	400.0000	Circular	3.1416	0.0150	2.0000	2.0000	
136	L451	90.0000	Circular	3.1416	0.0150	2.0000	2.0000	
137	L452	50.0000	Circular	0.7854	0.0150	1.0000	1.0000	
138	L453	61.0000	Circular	0.7854	0.0150	1.0000	1.0000	
139	L454	70.0000	Circular	0.7854	0.0150	1.0000	1.0000	
140	L466	90.0000	Circular	1.2272	0.0150	1.2500	1.2500	
141	L468	496.0000	Circular	3.1416	0.0150	2.0000	2.0000	
142	L470	177.0000	Circular	2.4053	0.0150	1.7500	1.7500	
143	L471	390.0000	Circular	0.7854	0.0150	1.0000	1.0000	
144	L472	52.0000	Circular	0.7854	0.0150	1.0000	1.0000	
145	L490	121.0000	Circular	2.4053	0.0150	1.7500	1.7500	
146	L496	392.0000	Circular	0.7854	0.0150	1.0000	1.0000	
147	L497	394.0000	Circular	0.7854	0.0150	1.0000	1.0000	
148	L498	98.0000	Circular	0.7854	0.0150	1.0000	1.0000	
149	L501	375.0000	Circular	7.0686	0.0150	3.0000	3.0000	
150	L502	423.0000	Circular	9.6211	0.0150	3.5000	3.5000	
151	L503	437.0000	Circular	15.9043	0.0150	4.5000	4.5000	
152	L504	465.0000	Circular	15.9043	0.0150	4.5000	4.5000	
153	L505	395.0000	Circular	2.4053	0.0150	1.7500	1.7500	
154	L506	397.0000	Circular	2.4053	0.0150	1.7500	1.7500	
155	L509	134.0000	Circular	0.7854	0.0150	1.0000	1.0000	
156	L511	178.0000	Circular	1.7671	0.0150	1.5000	1.5000	
157	L512	111.0000	Circular	3.1416	0.0150	2.0000	2.0000	
158	L514	399.0000	Circular	2.4053	0.0150	1.7500	1.7500	
159	L515	145.0000	Circular	7.0686	0.0150	3.0000	3.0000	
160	CH21	925.0000	Rectangle	275.0000	0.0600	100.0000	2.7500	
161	L474	127.0000	Circular	1.7671	0.0150	1.5000	1.5000	
162	L523	171.0000	Trapezoid	15.7500	0.0600	6.0000	1.5000	3.0000
3.0000								
163	L525	533.0000	Circular	7.0686	0.0150	3.0000	3.0000	
164	L527	434.0000	Circular	1.7671	0.0150	1.5000	1.5000	
165	L528	452.0000	Circular	1.2272	0.0150	1.2500	1.2500	
166	L529	284.0000	Circular	1.7671	0.0150	1.5000	1.5000	
167	L533	725.0000	Circular	1.7671	0.0150	1.5000	1.5000	
168	L537	453.0000	Circular	1.7671	0.0150	1.5000	1.5000	
169	L394	157.0000	Circular	15.9043	0.0150	4.5000	4.5000	
170	L276	51.0000	Circular	0.7854	0.0150	1.0000	1.0000	
171	L288	61.0000	Circular	1.2272	0.0150	1.2500	1.2500	
172	L412	53.0000	Circular	0.7854	0.0150	1.0000	1.0000	
173	L447	394.0000	Circular	1.7671	0.0150	1.5000	1.5000	
174	L252	396.0000	Circular	0.7854	0.0150	1.0000	1.0000	
175	L253	70.0000	Circular	0.7854	0.0150	1.0000	1.0000	

176	L254	391.0000	Circular	0.7854	0.0150	1.0000	1.0000
177	L255	79.0000	Circular	1.2272	0.0150	1.2500	1.2500
178	L256	294.0000	Circular	1.7671	0.0150	1.5000	1.5000
179	L257	280.0000	Circular	1.7671	0.0150	1.5000	1.5000
180	L264	79.0000	Circular	1.2272	0.0150	1.2500	1.2500
181	L265	347.0000	Circular	7.0686	0.0150	3.0000	3.0000
182	L266	202.0000	Circular	7.0686	0.0150	3.0000	3.0000
183	L267	63.0000	Circular	0.7854	0.0150	1.0000	1.0000
184	L268	79.0000	Circular	0.7854	0.0150	1.0000	1.0000
185	L269	248.0000	Circular	0.7854	0.0150	1.0000	1.0000
186	L270	401.0000	Circular	7.0686	0.0150	3.0000	3.0000
187	L271	398.0000	Circular	9.6211	0.0150	3.5000	3.5000
188	L278	48.0000	Circular	0.7854	0.0150	1.0000	1.0000
189	L279	165.0000	Circular	0.7854	0.0150	1.0000	1.0000
190	L280	50.0000	Circular	0.7854	0.0150	1.0000	1.0000
191	L284	52.0000	Circular	0.7854	0.0150	1.0000	1.0000
192	L285	140.0000	Circular	1.7671	0.0150	1.5000	1.5000
193	L286	50.0000	Circular	1.2272	0.0150	1.2500	1.2500
194	L290	368.0000	Circular	0.7854	0.0150	1.0000	1.0000
195	L291	373.0000	Circular	0.7854	0.0150	1.0000	1.0000
196	L292	105.0000	Circular	0.7854	0.0150	1.0000	1.0000
197	L294	82.0000	Circular	0.7854	0.0150	1.0000	1.0000
198	L300	233.0000	Circular	1.7671	0.0150	1.5000	1.5000
199	L301	56.0000	Circular	0.7854	0.0150	1.0000	1.0000
200	L302	542.0000	Circular	3.9761	0.0150	2.2500	2.2500
201	L303	83.0000	Circular	0.7854	0.0150	1.0000	1.0000
202	L304	68.0000	Circular	0.7854	0.0150	1.0000	1.0000
203	L305	143.0000	Circular	1.7671	0.0150	1.5000	1.5000
204	L306	58.0000	Circular	0.7854	0.0150	1.0000	1.0000
205	L307	95.0000	Circular	3.1416	0.0150	2.0000	2.0000
206	L308	101.0000	Circular	1.7671	0.0150	1.5000	1.5000
207	L309	58.0000	Circular	0.7854	0.0150	1.0000	1.0000
208	L310	61.0000	Circular	0.7854	0.0150	1.0000	1.0000
209	L311	399.0000	Circular	0.7854	0.0150	1.0000	1.0000
210	L312	61.0000	Circular	0.7854	0.0150	1.0000	1.0000
211	L313	585.0000	Circular	0.7854	0.0150	1.0000	1.0000
212	L314	92.0000	Circular	0.7854	0.0150	1.0000	1.0000
213	L315	71.0000	Circular	0.7854	0.0150	1.0000	1.0000
214	L316	292.0000	Circular	0.7854	0.0150	1.0000	1.0000
215	L317	302.0000	Circular	1.7671	0.0150	1.5000	1.5000
216	L318	304.0000	Circular	1.7671	0.0150	1.5000	1.5000
217	L321	440.0000	Circular	0.7854	0.0150	1.0000	1.0000
218	L324	122.0000	Circular	0.7854	0.0150	1.0000	1.0000
219	L325	62.0000	Circular	0.7854	0.0150	1.0000	1.0000
220	L326	119.0000	Circular	0.7854	0.0150	1.0000	1.0000
221	L327	118.0000	Circular	0.7854	0.0150	1.0000	1.0000
222	L328	348.0000	Circular	1.7671	0.0150	1.5000	1.5000
223	L329	98.0000	Circular	1.7671	0.0150	1.5000	1.5000
224	L334	402.0000	Circular	0.7854	0.0150	1.0000	1.0000
225	L335	371.0000	Circular	0.7854	0.0150	1.0000	1.0000
226	L336	125.0000	Circular	0.7854	0.0150	1.0000	1.0000
227	L337	119.0000	Circular	0.7854	0.0150	1.0000	1.0000
228	L475	98.0000	Circular	1.2272	0.0150	1.2500	1.2500
229	L478	480.0000	Circular	3.9761	0.0150	2.2500	2.2500
230	L479	591.0000	Circular	4.9087	0.0150	2.5000	2.5000
231	L487	164.0000	Circular	2.4053	0.0150	1.7500	1.7500
232	L493	467.0000	Circular	4.9087	0.0150	2.5000	2.5000
233	L499	390.0000	Circular	0.7854	0.0150	1.0000	1.0000
234	L500	398.0000	Circular	1.2272	0.0150	1.2500	1.2500
235	L507	147.0000	Circular	0.7854	0.0150	1.0000	1.0000

236	L513	275.0000	Circular	4.9087	0.0150	2.5000	2.5000
237	L546	577.0000	Circular	1.7671	0.0150	1.5000	1.5000
238	L510	111.0000	Circular	1.2272	0.0150	1.2500	1.2500
Total length of all conduits				53689.0000	feet		

```

*=====
| Table E2 - Conduit Factor Data |
*=====

```

Flow	Conduit	Number	Entrance	Exit	Exp/Contc	Time Weighting	Low Flow Roughness	Depth at Which	Sediment
Routing	Name of Barrels	Loss Coef	Loss Coef	Loss Coef	Coefficnt	Parameter	Factor n	Changes	Depth
Standard - Dynamic Wave	L376	1.0000	0.0000	1.0000	0.0000	0.8500	1.0000	0.0000	0.0000

```

*=====
| 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	
L210	4.86	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L211	0.83	
L212	0.70	
L213	3.18	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L214	4.48	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L217	3.96	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L220	1.41	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L221	1.22	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L222	2.65	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L223	4.73	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L224	1.17	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L225	1.17	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L226	0.82	
L227	1.44	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L228	0.84	
L229	0.67	
L230	0.96	
L231	0.95	
L232	1.36	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L233	0.87	
L234	1.12	====> Warning ! (sqrt(wave celerity)*time step/conduit length)
L235	6.81	====> Warning ! (sqrt(wave celerity)*time step/conduit length)

L236 3.24 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L237 3.40 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L238 6.19 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L239 2.75 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L240 3.96 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L241 1.29 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L242 5.49 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L243 3.58 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L246 1.30 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L247 5.85 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L248 7.24 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L249 4.66 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L250 4.37 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L251 4.93 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L259 1.60 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L260 7.04 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L261 2.47 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L262 4.48 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L263 2.91 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L272 21.24 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L273 3.85 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L274 3.39 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L275 3.18 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L277 2.91 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L281 3.18 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L282 7.09 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L283 2.99 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L287 3.12 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L289 2.84 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L319 6.42 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L320 5.08 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L338 7.02 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L339 2.27 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L340 2.61 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L341 6.18 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L342 4.88 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L343 3.62 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L344 10.56 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L346 12.74 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L347 1.72 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L348 1.69 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L349 1.70 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L350 5.16 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L351 13.76 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L352 3.28 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L354 7.68 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L361 7.24 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L362 5.16 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L363 1.01 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L364 7.09 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L365 5.40 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L366 1.22 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L367 1.32 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L368 2.75 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L369 3.44 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L370 2.86 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L373 6.02 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L374 2.13 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L375 1.03 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L376 3.44 ==> Warning ! (sqrt(wave celerity)*time step/conduit length)

L386	2.00	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L387	1.92	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L388	3.01	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L389	1.88	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L390	3.21	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L391	1.45	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L392	1.90	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L393	1.57	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L395	7.61	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L396	1.47	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L397	6.68	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L398	7.93	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L399	1.59	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L402	5.24	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L403	1.13	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L404	1.21	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L405	5.87	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L406	1.48	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L407	5.36	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L408	1.54	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L410	1.49	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L411	1.96	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L413	1.04	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L415	6.95	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L417	5.01	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L418	5.79	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L419	1.86	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L420	1.20	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L421	5.01	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L422	5.01	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L423	1.36	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L424	1.89	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L425	4.86	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L426	5.21	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L427	1.31	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L428	3.87	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L429	1.62	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L430	3.74	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L431	0.79							
L432	3.74	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L435	3.78	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L436	1.08	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L437	1.16	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L438	3.87	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L439	1.02	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L440	1.05	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L441	1.57	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L442	1.39	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L443	6.64	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L446	6.84	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L448	4.31	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L449	1.00							
L450	1.20	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L451	5.35	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L452	6.81	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L453	5.58	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L454	4.86	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L466	4.23	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)
L468	0.97							
L470	2.54	====>	Warning	!	(sqrt(wave	celerity)*time	step/conduit	length)

```

L471      0.87
L472      6.55  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L490      3.72  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L496      0.87
L497      0.86
L498      3.47  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L501      1.57  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L502      1.51  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L503      1.65  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L504      1.55  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L505      1.14  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L506      1.13  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L509      2.54  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L511      2.34  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L512      4.34  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L514      1.13  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L515      4.07  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
CH21      0.61
L474      3.28  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L523      2.04  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L525      1.11  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L527      0.96
L528      0.84
L529      1.47  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L533      0.58
L537      0.92
L394      4.60  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L276      6.68  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L288      6.24  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L412      6.42  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L447      1.06  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L252      0.86
L253      4.86  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L254      0.87
L255      4.82  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L256      1.42  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L257      1.49  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L264      4.82  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L265      1.70  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L266      2.92  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L267      5.40  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L268      4.31  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L269      1.37  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L270      1.47  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L271      1.60  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L278      7.09  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L279      2.06  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L280      6.81  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L284      6.55  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L285      2.98  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L286      7.61  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L290      0.93
L291      0.91
L292      3.24  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L294      4.15  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L300      1.79  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L301      6.08  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L302      0.94
L303      4.10  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L304      5.01  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)

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L305      2.92  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L306      5.87  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L307      5.07  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L308      4.13  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L309      5.87  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L310      5.58  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L311      0.85
L312      5.58  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L313      0.58
L314      3.70  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L315      4.80  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L316      1.17  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L317      1.38  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L318      1.37  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L321      0.77
L324      2.79  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L325      5.49  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L326      2.86  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L327      2.89  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L328      1.20  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L329      4.25  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L334      0.85
L335      0.92
L336      2.72  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L337      2.86  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L475      3.88  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L478      1.06  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L479      0.91
L487      2.75  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L493      1.15  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L499      0.87
L500      0.96
L507      2.32  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L513      1.96  ==> Warning ! (sqrt(wave celerity)*time step/conduit length)
L546      0.72
L510      3.43  ==> 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..... 4.6131E+05 cubic feet

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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	N221	114.0300	106.8400	105.8400	0.0000	0.0000	100.0000
2	N222	112.0800	106.4400	104.4400	0.0000	0.0000	100.0000
3	N223	106.2600	103.0600	100.8100	0.0000	0.0000	100.0000
4	N224	106.3300	99.7200	96.9700	0.0000	0.0000	100.0000
5	N227	109.4000	99.3400	98.3400	0.0000	0.0000	100.0000
6	N228	102.4000	99.0300	97.5300	0.0000	0.0000	100.0000
7	N230	104.3900	100.3300	95.8300	0.0000	0.0000	100.0000
8	N231	104.4000	100.8400	99.8400	0.0000	0.0000	100.0000

9	N233	100.3500	96.9200	94.4200	0.0000	0.0000	100.0000
10	N234	100.0000	89.6000	85.6000	0.0000	0.0000	100.0000
11	N235	138.1500	120.6000	119.6000	0.0000	0.0000	100.0000
12	N236	126.2300	120.4100	118.6100	0.0000	0.0000	100.0000
13	N237	124.2900	118.8600	117.2600	0.0000	0.0000	100.0000
14	N238	122.3500	117.5100	115.1100	0.0000	0.0000	100.0000
15	N239	125.0800	118.6900	117.6900	0.0000	0.0000	100.0000
16	N240	122.0900	117.6200	116.6200	0.0000	0.0000	100.0000
17	N241	119.6000	115.0600	111.3600	0.0000	0.0000	100.0000
18	N242	115.6700	111.1300	108.6300	0.0000	0.0000	100.0000
19	N243	112.6900	109.1100	105.8600	0.0000	0.0000	100.0000
20	N244	109.7000	106.3500	103.8500	0.0000	0.0000	100.0000
21	N245	107.6800	104.8800	101.6800	0.0000	0.0000	100.0000
22	N246	104.7000	101.8100	99.5300	0.0000	0.0000	100.0000
23	N247	107.2000	100.3700	97.8700	0.0000	0.0000	100.0000
24	N248	116.0000	112.4800	111.4800	0.0000	0.0000	100.0000
25	N249	108.6300	105.6200	104.6200	0.0000	0.0000	100.0000
26	N250	113.4000	102.1400	101.1400	0.0000	0.0000	100.0000
27	N251	127.0200	116.3800	115.3800	0.0000	0.0000	100.0000
28	N252	121.2500	116.0600	113.0600	0.0000	0.0000	100.0000
29	N253	119.0300	113.3300	108.0800	0.0000	0.0000	100.0000
30	N254	120.4000	113.8300	112.8300	0.0000	0.0000	100.0000
31	N255	113.9100	108.0500	102.8000	0.0000	0.0000	100.0000
32	N256	119.8800	108.4100	107.4100	0.0000	0.0000	100.0000
33	N257	118.4000	108.6100	107.6100	0.0000	0.0000	100.0000
34	N259	102.6900	99.6600	97.1600	0.0000	0.0000	100.0000
35	N260	101.1000	99.5000	97.0000	0.0000	0.0000	100.0000
36	N261	106.3800	99.9300	98.9300	0.0000	0.0000	100.0000
37	N262	110.4000	105.8800	104.8800	0.0000	0.0000	100.0000
38	N263	109.4000	105.4600	104.4600	0.0000	0.0000	100.0000
39	N264	106.0000	97.6400	96.6400	0.0000	0.0000	100.0000
40	N265	108.4000	105.8600	104.8600	0.0000	0.0000	100.0000
41	N272	102.0600	98.1000	96.3500	0.0000	0.0000	100.0000
42	N273	104.4000	97.6800	97.6800	0.0000	0.0000	100.0000
43	N274	100.3100	97.3300	95.5800	0.0000	0.0000	100.0000
44	N275	101.7000	89.3500	87.6000	0.0000	0.0000	100.0000
45	N276	100.4000	95.2500	94.2500	0.0000	0.0000	100.0000
46	N277	99.4000	94.4400	93.4400	0.0000	0.0000	100.0000
47	N278	96.0000	79.0000	78.0000	0.0000	0.0000	100.0000
48	N279	98.4000	95.1200	94.1200	0.0000	0.0000	100.0000
49	N288	96.4000	81.5300	77.0300	0.0000	0.0000	100.0000
50	N289	96.4000	81.5000	77.0000	0.0000	0.0000	100.0000
51	N290	96.4000	79.8500	78.1000	0.0000	0.0000	100.0000
52	N291	96.2900	93.4200	91.9200	0.0000	0.0000	100.0000
53	N292	94.0000	78.1000	76.6000	0.0000	0.0000	100.0000
54	N293	126.4000	119.9200	118.9200	0.0000	0.0000	100.0000
55	N294	123.9600	119.3000	118.3000	0.0000	0.0000	100.0000
56	N296	122.4000	119.9800	118.9800	0.0000	0.0000	100.0000
57	N301	128.4000	123.9000	122.9000	0.0000	0.0000	100.0000
58	N302	128.3900	123.2800	122.2800	0.0000	0.0000	100.0000
59	N303	124.3000	111.6000	110.6000	0.0000	0.0000	100.0000
60	N304	126.4000	123.9500	122.9500	0.0000	0.0000	100.0000
61	N309	119.4000	114.1500	113.1500	0.0000	0.0000	100.0000
62	N310	116.6600	113.5100	112.2600	0.0000	0.0000	100.0000
63	N312	116.4000	114.2100	113.2100	0.0000	0.0000	100.0000
64	N342	106.8400	101.7200	100.2200	0.0000	0.0000	100.0000
65	N343	104.4000	101.5000	100.0000	0.0000	0.0000	100.0000
66	N344	112.0700	102.1100	101.1100	0.0000	0.0000	100.0000
67	N345	128.1400	119.8300	118.8300	0.0000	0.0000	100.0000
68	N361	133.4000	129.2400	126.2400	0.0000	0.0000	100.0000

69	N362	133.8500	129.1300	126.1300	0.0000	0.0000	100.0000
70	N363	135.6800	128.7800	125.2800	0.0000	0.0000	100.0000
71	N364	134.3100	128.5100	125.0100	0.0000	0.0000	100.0000
72	N365	129.0000	128.4000	117.4000	0.0000	0.0000	100.0000
73	N366	136.4000	129.1200	127.8700	0.0000	0.0000	100.0000
74	N367	131.4000	129.3300	128.3300	0.0000	0.0000	100.0000
75	N368	130.1000	126.7600	124.2600	0.0000	0.0000	100.0000
76	N369	130.1500	126.6700	123.6700	0.0000	0.0000	100.0000
77	N370	130.0300	125.7000	121.7000	0.0000	0.0000	100.0000
78	N371	130.3200	125.7600	122.2600	0.0000	0.0000	100.0000
79	N372	131.8100	125.3400	121.3400	0.0000	0.0000	100.0000
80	N373	131.3300	124.9700	120.9700	0.0000	0.0000	100.0000
81	N374	132.8200	124.6000	120.6000	0.0000	0.0000	100.0000
82	N375	132.2300	124.4800	119.9800	0.0000	0.0000	100.0000
83	N376	130.4700	124.9000	122.9000	0.0000	0.0000	100.0000
84	N377	130.5100	124.8200	122.8200	0.0000	0.0000	100.0000
85	N378	129.1900	123.7700	119.2700	0.0000	0.0000	100.0000
86	N379	128.2000	122.9000	118.4000	0.0000	0.0000	100.0000
87	N381	128.4700	126.2600	124.7600	0.0000	0.0000	100.0000
88	N382	128.0000	124.8600	122.8600	0.0000	0.0000	100.0000
89	N383	132.3000	126.5300	125.5300	0.0000	0.0000	100.0000
90	N384	131.1800	126.6400	125.6400	0.0000	0.0000	100.0000
91	N386	132.1700	125.1400	124.1400	0.0000	0.0000	100.0000
92	N387	132.9300	125.2300	124.2300	0.0000	0.0000	100.0000
93	N388	128.2100	123.9500	121.9500	0.0000	0.0000	100.0000
94	N389	128.3800	123.1100	120.1100	0.0000	0.0000	100.0000
95	N390	132.4000	123.8300	122.8300	0.0000	0.0000	100.0000
96	N391	131.4000	123.6900	122.6900	0.0000	0.0000	100.0000
97	N392	129.2100	122.8300	119.8300	0.0000	0.0000	100.0000
98	N394	130.0700	121.4000	118.4000	0.0000	0.0000	100.0000
99	N395	126.4000	119.6100	118.1100	0.0000	0.0000	100.0000
100	N396	124.6000	119.1800	117.6800	0.0000	0.0000	100.0000
101	N397	124.9400	118.8100	115.8100	0.0000	0.0000	100.0000
102	N398	128.0400	119.0600	116.3100	0.0000	0.0000	100.0000
103	N399	124.3000	118.6100	114.6000	0.0000	0.0000	100.0000
104	N403	125.5000	118.3000	114.3000	0.0000	0.0000	100.0000
105	N404	126.6900	117.9800	113.4800	0.0000	0.0000	100.0000
106	N405	131.2500	118.0000	117.0000	0.0000	0.0000	100.0000
107	N406	124.4900	117.6700	113.1700	0.0000	0.0000	100.0000
108	N407	132.5800	118.0000	117.0000	0.0000	0.0000	100.0000
109	N408	125.2200	117.2800	112.7800	0.0000	0.0000	100.0000
110	N409	123.3200	116.9800	112.4800	0.0000	0.0000	100.0000
111	N410	124.2200	116.6200	112.1200	0.0000	0.0000	100.0000
112	N412	125.2400	117.5500	116.3000	0.0000	0.0000	100.0000
113	N413	123.5000	118.8300	115.3300	0.0000	0.0000	100.0000
114	N414	122.0000	119.3700	115.8300	0.0000	0.0000	100.0000
115	N415	124.3800	117.5800	116.3300	0.0000	0.0000	100.0000
116	N416	125.2100	118.0800	116.8300	0.0000	0.0000	100.0000
117	N417	121.7600	119.5700	117.5700	0.0000	0.0000	100.0000
118	N418	124.4000	121.1500	119.9000	0.0000	0.0000	100.0000
119	N419	120.2000	112.6600	110.9100	0.0000	0.0000	100.0000
120	N420	123.9000	113.9900	112.2400	0.0000	0.0000	100.0000
121	N421	121.2100	113.7500	112.0000	0.0000	0.0000	100.0000
122	N422	118.3600	111.6300	109.1300	0.0000	0.0000	100.0000
123	N423	120.4000	111.8700	110.3700	0.0000	0.0000	100.0000
124	N424	118.5600	111.0100	108.2600	0.0000	0.0000	100.0000
125	N425	120.3900	111.3100	110.0600	0.0000	0.0000	100.0000
126	N426	117.2400	110.4500	107.4500	0.0000	0.0000	100.0000
127	N428	114.7900	109.9200	106.9200	0.0000	0.0000	100.0000
128	N429	116.1800	109.5200	106.0200	0.0000	0.0000	100.0000

129	N430	128.2200	120.0000	119.0000	0.0000	0.0000	100.0000
130	N431	123.0700	119.4000	116.6700	0.0000	0.0000	100.0000
131	N432	120.7300	119.5700	118.0700	0.0000	0.0000	100.0000
132	N434	126.2700	119.8000	118.8000	0.0000	0.0000	100.0000
133	N435	120.2500	112.1800	110.1800	0.0000	0.0000	100.0000
134	N436	125.4000	112.5700	111.5700	0.0000	0.0000	100.0000
135	N437	122.9000	112.4200	110.9200	0.0000	0.0000	100.0000
136	N438	119.8200	111.5800	109.5800	0.0000	0.0000	100.0000
137	N439	118.1400	110.6500	108.1500	0.0000	0.0000	100.0000
138	N440	122.4000	111.0500	110.0500	0.0000	0.0000	100.0000
139	N441	120.9000	110.9800	109.7300	0.0000	0.0000	100.0000
140	N442	116.2500	109.9700	107.2200	0.0000	0.0000	100.0000
141	N443	118.4000	110.3800	109.3800	0.0000	0.0000	100.0000
142	N444	118.4000	110.2800	109.0300	0.0000	0.0000	100.0000
143	N445	113.3000	108.9800	105.4800	0.0000	0.0000	100.0000
144	N446	118.4000	109.4900	108.4900	0.0000	0.0000	100.0000
145	N447	113.2000	108.5500	105.0500	0.0000	0.0000	100.0000
146	N448	125.6200	119.7700	118.7700	0.0000	0.0000	100.0000
147	N449	125.6000	119.2400	117.9900	0.0000	0.0000	100.0000
148	N450	125.2200	121.7400	120.7400	0.0000	0.0000	100.0000
149	N451	126.4000	122.2700	121.2700	0.0000	0.0000	100.0000
150	N453	119.8300	114.7600	113.7600	0.0000	0.0000	100.0000
151	N454	125.4000	115.2900	114.2900	0.0000	0.0000	100.0000
152	N455	118.2800	112.9300	111.6800	0.0000	0.0000	100.0000
153	N456	116.2800	111.5100	110.2600	0.0000	0.0000	100.0000
154	N457	122.4000	112.0200	111.0200	0.0000	0.0000	100.0000
155	N458	114.0000	109.8900	108.3900	0.0000	0.0000	100.0000
156	N459	110.2500	108.1100	104.6100	0.0000	0.0000	100.0000
157	N460	110.1000	107.6100	104.1100	0.0000	0.0000	100.0000
158	N461	110.1000	97.6000	94.1000	0.0000	0.0000	100.0000
159	N464	132.5200	126.8400	125.0900	0.0000	0.0000	100.0000
160	N465	135.1200	128.1500	126.6500	0.0000	0.0000	100.0000
161	N466	131.9700	127.9400	126.1900	0.0000	0.0000	100.0000
162	N467	130.9600	127.3000	126.3000	0.0000	0.0000	100.0000
163	N468	129.9500	125.5900	123.5900	0.0000	0.0000	100.0000
164	N469	128.6600	124.6600	118.6600	0.0000	0.0000	100.0000
165	N470	127.0000	120.4600	117.7100	0.0000	0.0000	100.0000
166	N471	133.3000	125.8800	124.8800	0.0000	0.0000	100.0000
167	N472	129.4500	125.9400	124.9400	0.0000	0.0000	100.0000
168	N473	126.2300	121.0700	120.0700	0.0000	0.0000	100.0000
169	N487	122.2200	120.5700	118.5700	0.0000	0.0000	100.0000
170	N489	124.6300	122.3300	118.4300	0.0000	0.0000	100.0000
171	N490	125.9100	123.6500	121.9000	0.0000	0.0000	100.0000
172	N491	127.1900	125.7700	124.1700	0.0000	0.0000	100.0000
173	N492	130.4000	127.3400	126.3400	0.0000	0.0000	100.0000
174	N493	129.9000	127.0400	126.0400	0.0000	0.0000	100.0000
175	N497	112.8000	108.8500	107.8500	0.0000	0.0000	100.0000
176	N499	111.0500	92.2000	91.2000	0.0000	0.0000	100.0000
177	N509	117.9000	110.3800	108.8800	0.0000	0.0000	100.0000
178	N513	117.8200	111.7600	110.0100	0.0000	0.0000	100.0000
179	N514	117.9000	111.6100	108.1100	0.0000	0.0000	100.0000
180	N516	111.0000	92.0000	90.0000	0.0000	0.0000	100.0000
181	N524	136.4600	134.4500	133.4500	0.0000	0.0000	100.0000
182	N525	136.2000	132.1700	131.1700	0.0000	0.0000	100.0000
183	N526	137.2000	134.4600	133.4600	0.0000	0.0000	100.0000
184	N527	136.0000	131.6000	130.6000	0.0000	0.0000	100.0000
185	N528	129.5000	126.1600	122.6600	0.0000	0.0000	100.0000
186	N529	134.2600	124.1400	119.6400	0.0000	0.0000	100.0000
187	N530	109.2400	103.4600	99.7100	0.0000	0.0000	100.0000
188	N689	123.2700	119.5000	118.0000	0.0000	0.0000	100.0000

189	N494	126.0000	123.1600	121.4100	0.0000	0.0000	100.0000
190	N541	120.0000	113.5900	112.0900	0.0000	0.0000	100.0000
191	EL329	118.0000	114.0200	112.5200	0.0000	0.0000	100.0000
192	N427	118.5000	111.1400	109.6400	0.0000	0.0000	100.0000
193	N411	128.9500	116.5000	112.0000	0.0000	0.0000	100.0000
194	N295	120.1000	119.0000	106.9300	0.0000	0.0000	100.0000
195	N311	114.3000	105.3500	104.1000	0.0000	0.0000	100.0000
196	N462	133.0000	129.2800	127.7800	0.0000	0.0000	100.0000
197	N266	105.6100	101.3600	100.3600	0.0000	0.0000	100.0000
198	N267	104.2600	99.0500	97.5500	0.0000	0.0000	100.0000
199	N268	110.4200	101.7400	100.7400	0.0000	0.0000	100.0000
200	N269	110.0300	101.3300	100.3300	0.0000	0.0000	100.0000
201	N270	106.4000	100.3900	99.1400	0.0000	0.0000	100.0000
202	N271	102.3800	100.0500	98.5500	0.0000	0.0000	100.0000
203	N280	96.4000	86.5800	85.3300	0.0000	0.0000	100.0000
204	N281	91.9100	86.2400	83.2400	0.0000	0.0000	100.0000
205	N282	97.0800	85.7700	82.7700	0.0000	0.0000	100.0000
206	N283	100.0400	94.0000	82.5000	0.0000	0.0000	100.0000
207	N284	98.4000	86.1400	85.1400	0.0000	0.0000	100.0000
208	N285	102.4000	95.9100	94.9100	0.0000	0.0000	100.0000
209	N286	100.3900	95.4500	94.4500	0.0000	0.0000	100.0000
210	N287	96.9000	84.9600	78.4600	0.0000	0.0000	100.0000
211	N297	120.4000	114.2400	113.2400	0.0000	0.0000	100.0000
212	N298	118.4300	113.9600	112.9600	0.0000	0.0000	100.0000
213	N299	117.7600	113.0000	107.3200	0.0000	0.0000	100.0000
214	N300	116.4000	114.2500	113.2500	0.0000	0.0000	100.0000
215	N305	112.4000	106.5200	105.5200	0.0000	0.0000	100.0000
216	N306	110.3300	106.2200	104.7200	0.0000	0.0000	100.0000
217	N307	111.7000	105.7500	104.2500	0.0000	0.0000	100.0000
218	N308	108.4000	106.4400	105.1900	0.0000	0.0000	100.0000
219	N313	107.7900	104.9300	103.9300	0.0000	0.0000	100.0000
220	N314	105.5100	102.7900	101.7900	0.0000	0.0000	100.0000
221	N315	103.3100	100.6100	99.6100	0.0000	0.0000	100.0000
222	N316	101.0000	95.1000	94.1000	0.0000	0.0000	100.0000
223	N317	96.4000	90.4200	89.1700	0.0000	0.0000	100.0000
224	N318	94.1000	89.9900	87.7400	0.0000	0.0000	100.0000
225	N319	100.4000	90.4700	89.4700	0.0000	0.0000	100.0000
226	N320	95.3200	90.7800	89.2800	0.0000	0.0000	100.0000
227	N321	96.4000	91.1100	90.1100	0.0000	0.0000	100.0000
228	N325	97.2700	91.2700	89.7700	0.0000	0.0000	100.0000
229	N326	100.4000	91.7500	90.7500	0.0000	0.0000	100.0000
230	N327	98.4000	91.6600	90.6600	0.0000	0.0000	100.0000
231	N328	100.2600	94.9400	93.4400	0.0000	0.0000	100.0000
232	N329	104.4000	95.0000	94.0000	0.0000	0.0000	100.0000
233	N330	101.6200	95.4400	93.4400	0.0000	0.0000	100.0000
234	N331	100.2600	94.2000	92.7000	0.0000	0.0000	100.0000
235	N332	101.4000	95.0000	94.0000	0.0000	0.0000	100.0000
236	N333	124.4600	109.8700	108.8700	0.0000	0.0000	100.0000
237	N334	121.3900	109.5100	108.5100	0.0000	0.0000	100.0000
238	N335	111.2600	107.1800	106.1800	0.0000	0.0000	100.0000
239	N336	120.3000	107.5400	106.5400	0.0000	0.0000	100.0000
240	N337	108.3300	103.7800	102.2800	0.0000	0.0000	100.0000
241	N338	116.4000	104.3100	103.3100	0.0000	0.0000	100.0000
242	N339	113.4000	105.8900	104.8900	0.0000	0.0000	100.0000
243	N340	110.4800	105.4700	104.4700	0.0000	0.0000	100.0000
244	N341	106.0600	102.7500	101.2500	0.0000	0.0000	100.0000
245	N347	126.9900	119.4500	118.4500	0.0000	0.0000	100.0000
246	N348	122.7000	117.6700	116.1700	0.0000	0.0000	100.0000
247	N349	129.4000	120.1600	119.1600	0.0000	0.0000	100.0000
248	N350	128.4000	118.8000	117.8000	0.0000	0.0000	100.0000

249	N351	124.8500	118.4400	117.1900	0.0000	0.0000	100.0000
250	N352	127.4000	118.3700	117.3700	0.0000	0.0000	100.0000
251	N353	125.4000	118.3600	117.3600	0.0000	0.0000	100.0000
252	N354	123.0000	117.1500	115.6500	0.0000	0.0000	100.0000
253	N355	121.1000	112.1000	110.6000	0.0000	0.0000	100.0000
254	N356	128.3900	126.3200	125.3200	0.0000	0.0000	100.0000
255	N357	126.5200	123.9800	122.9800	0.0000	0.0000	100.0000
256	N358	128.1900	121.8200	120.8200	0.0000	0.0000	100.0000
257	N359	126.7800	121.0900	120.0900	0.0000	0.0000	100.0000
258	N360	121.5000	113.8000	112.6000	0.0000	0.0000	100.0000
259	N500	95.8800	88.9200	86.6700	0.0000	0.0000	100.0000
260	N501	94.9100	87.9700	85.4700	0.0000	0.0000	100.0000
261	N503	100.1000	91.5500	89.8000	0.0000	0.0000	100.0000
262	N504	100.4000	97.2900	95.5400	0.0000	0.0000	100.0000
263	N506	100.4000	93.1400	92.1400	0.0000	0.0000	100.0000
264	N517	90.2800	86.4500	83.9500	0.0000	0.0000	100.0000
265	N518	89.2500	87.0600	84.3100	0.0000	0.0000	100.0000
266	N554	94.5100	92.2800	90.6800	0.0000	0.0000	100.0000
267	N322	101.6200	94.5000	92.5000	0.0000	0.0000	100.0000
268	N511	114.9500	103.4600	102.2100	0.0000	0.0000	100.0000
269	N555	110.0000	91.0500	89.8000	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	N221	0.0000	0.0000	No P	Normal		0	0.0000
2	N222	0.0000	0.0000	No P	Normal		0	0.0000
3	N223	0.0000	0.0000	No P	Normal		0	0.0000
4	N224	0.0000	0.0000	No P	Normal		0	0.0000
5	N227	0.0000	0.0000	No P	Normal		0	0.0000
6	N228	0.0000	0.0000	F	Normal		0	0.0000
7	N230	0.0000	0.0000	No P	Normal		0	0.0000
8	N231	0.0000	0.0000	No P	Normal		0	0.0000
9	N233	0.0000	0.0000	No P	Normal		0	0.0000
10	N234	0.0000	0.0000	No P	Normal		0	0.0000
11	N235	0.0000	0.0000	No P	Normal		0	0.0000
12	N236	0.0000	0.0000	No P	Normal		0	0.0000
13	N237	0.0000	0.0000	No P	Normal		0	0.0000
14	N238	0.0000	0.0000	No P	Normal		0	0.0000
15	N239	0.0000	0.0000	No P	Normal		0	0.0000
16	N240	0.0000	0.0000	No P	Normal		0	0.0000
17	N241	0.0000	0.0000	No P	Normal		0	0.0000
18	N242	0.0000	0.0000	No P	Normal		0	0.0000
19	N243	0.0000	0.0000	No P	Normal		0	0.0000
20	N244	0.0000	0.0000	No P	Normal		0	0.0000
21	N245	0.0000	0.0000	No P	Normal		0	0.0000
22	N246	0.0000	0.0000	No P	Normal		0	0.0000
23	N247	0.0000	0.0000	No P	Normal		0	0.0000
24	N248	0.0000	0.0000	F	Normal		0	0.0000
25	N249	0.0000	0.0000	F	Normal		0	0.0000
26	N250	0.0000	0.0000	No P	Normal		0	0.0000
27	N251	0.0000	0.0000	No P	Normal		0	0.0000
28	N252	0.0000	0.0000	No P	Normal		0	0.0000
29	N253	0.0000	0.0000	No P	Normal		0	0.0000
30	N254	0.0000	0.0000	No P	Normal		0	0.0000

31	N255	0.0000	0.0000	No P	Normal	0	0.0000
32	N256	0.0000	0.0000	No P	Normal	0	0.0000
33	N257	0.0000	0.0000	No P	Normal	0	0.0000
34	N259	0.0000	0.0000	No P	Normal	0	0.0000
35	N260	0.0000	0.0000	No P	Normal	0	0.0000
36	N261	0.0000	0.0000	No P	Normal	0	0.0000
37	N262	0.0000	0.0000	No P	Normal	0	0.0000
38	N263	0.0000	0.0000	No P	Normal	0	0.0000
39	N264	0.0000	0.0000	No P	Normal	0	0.0000
40	N265	0.0000	0.0000	No P	Normal	0	0.0000
41	N272	0.0000	0.0000	No P	Normal	0	0.0000
42	N273	0.0000	0.0000	No P	Normal	0	0.0000
43	N274	0.0000	0.0000	No P	Normal	0	0.0000
44	N275	0.0000	0.0000	No P	Normal	0	0.0000
45	N276	0.0000	0.0000	No P	Normal	0	0.0000
46	N277	0.0000	0.0000	No P	Normal	0	0.0000
47	N278	0.0000	0.0000	No P	Normal	0	0.0000
48	N279	0.0000	0.0000	No P	Normal	0	0.0000
49	N288	0.0000	0.0000	No P	Normal	0	0.0000
50	N289	0.0000	0.0000	No P	Normal	0	0.0000
51	N290	0.0000	0.0000	No P	Normal	0	0.0000
52	N291	0.0000	0.0000	No P	Normal	0	0.0000
53	N292	0.0000	0.0000	No P	Normal	0	0.0000
54	N293	0.0000	0.0000	No P	Normal	0	0.0000
55	N294	0.0000	0.0000	No P	Normal	0	0.0000
56	N296	0.0000	0.0000	No P	Normal	0	0.0000
57	N301	0.0000	0.0000	No P	Normal	0	0.0000
58	N302	0.0000	0.0000	No P	Normal	0	0.0000
59	N303	0.0000	0.0000	No P	Normal	0	0.0000
60	N304	0.0000	0.0000	No P	Normal	0	0.0000
61	N309	0.0000	0.0000	No P	Normal	0	0.0000
62	N310	0.0000	0.0000	No P	Normal	0	0.0000
63	N312	0.0000	0.0000	No P	Normal	0	0.0000
64	N342	0.0000	0.0000	No P	Normal	0	0.0000
65	N343	0.0000	0.0000	No P	Normal	0	0.0000
66	N344	0.0000	0.0000	No P	Normal	0	0.0000
67	N345	0.0000	0.0000	No P	Normal	0	0.0000
68	N361	0.0000	0.0000	No P	Normal	0	0.0000
69	N362	0.0000	0.0000	No P	Normal	0	0.0000
70	N363	0.0000	0.0000	No P	Normal	0	0.0000
71	N364	0.0000	0.0000	No P	Normal	0	0.0000
72	N365	0.0000	0.0000	No P	Normal	0	0.0000
73	N366	0.0000	0.0000	No P	Normal	0	0.0000
74	N367	0.0000	0.0000	No P	Normal	0	0.0000
75	N368	0.0000	0.0000	No P	Normal	0	0.0000
76	N369	0.0000	0.0000	No P	Normal	0	0.0000
77	N370	0.0000	0.0000	No P	Normal	0	0.0000
78	N371	0.0000	0.0000	No P	Normal	0	0.0000
79	N372	0.0000	0.0000	No P	Normal	0	0.0000
80	N373	0.0000	0.0000	No P	Normal	0	0.0000
81	N374	0.0000	0.0000	No P	Normal	0	0.0000
82	N375	0.0000	0.0000	No P	Normal	0	0.0000
83	N376	0.0000	0.0000	No P	Normal	0	0.0000
84	N377	0.0000	0.0000	No P	Normal	0	0.0000
85	N378	0.0000	0.0000	No P	Normal	0	0.0000
86	N379	0.0000	0.0000	No P	Normal	0	0.0000
87	N381	0.0000	0.0000	No P	Normal	0	0.0000
88	N382	0.0000	0.0000	No P	Normal	0	0.0000
89	N383	0.0000	0.0000	No P	Normal	0	0.0000
90	N384	0.0000	0.0000	No P	Normal	0	0.0000

91	N386	0.0000	0.0000	No P	Normal	0	0.0000
92	N387	0.0000	0.0000	No P	Normal	0	0.0000
93	N388	0.0000	0.0000	No P	Normal	0	0.0000
94	N389	0.0000	0.0000	No P	Normal	0	0.0000
95	N390	0.0000	0.0000	No P	Normal	0	0.0000
96	N391	0.0000	0.0000	No P	Normal	0	0.0000
97	N392	0.0000	0.0000	No P	Normal	0	0.0000
98	N394	0.0000	0.0000	No P	Normal	0	0.0000
99	N395	0.0000	0.0000	No P	Normal	0	0.0000
100	N396	0.0000	0.0000	No P	Normal	0	0.0000
101	N397	0.0000	0.0000	No P	Normal	0	0.0000
102	N398	0.0000	0.0000	No P	Normal	0	0.0000
103	N399	0.0000	0.0000	No P	Normal	0	0.0000
104	N403	0.0000	0.0000	No P	Normal	0	0.0000
105	N404	0.0000	0.0000	No P	Normal	0	0.0000
106	N405	0.0000	0.0000	No P	Normal	0	0.0000
107	N406	0.0000	0.0000	No P	Normal	0	0.0000
108	N407	0.0000	0.0000	No P	Normal	0	0.0000
109	N408	0.0000	0.0000	No P	Normal	0	0.0000
110	N409	0.0000	0.0000	No P	Normal	0	0.0000
111	N410	0.0000	0.0000	No P	Normal	0	0.0000
112	N412	0.0000	0.0000	No P	Normal	0	0.0000
113	N413	0.0000	0.0000	No P	Normal	0	0.0000
114	N414	0.0000	0.0000	No P	Normal	0	0.0000
115	N415	0.0000	0.0000	No P	Normal	0	0.0000
116	N416	0.0000	0.0000	No P	Normal	0	0.0000
117	N417	0.0000	0.0000	No P	Normal	0	0.0000
118	N418	0.0000	0.0000	No P	Normal	0	0.0000
119	N419	0.0000	0.0000	No P	Normal	0	0.0000
120	N420	0.0000	0.0000	No P	Normal	0	0.0000
121	N421	0.0000	0.0000	No P	Normal	0	0.0000
122	N422	0.0000	0.0000	No P	Normal	0	0.0000
123	N423	0.0000	0.0000	No P	Normal	0	0.0000
124	N424	0.0000	0.0000	No P	Normal	0	0.0000
125	N425	0.0000	0.0000	No P	Normal	0	0.0000
126	N426	0.0000	0.0000	No P	Normal	0	0.0000
127	N428	0.0000	0.0000	No P	Normal	0	0.0000
128	N429	0.0000	0.0000	No P	Normal	0	0.0000
129	N430	0.0000	0.0000	No P	Normal	0	0.0000
130	N431	0.0000	0.0000	No P	Normal	0	0.0000
131	N432	0.0000	0.0000	No P	Normal	0	0.0000
132	N434	0.0000	0.0000	No P	Normal	0	0.0000
133	N435	0.0000	0.0000	No P	Normal	0	0.0000
134	N436	0.0000	0.0000	No P	Normal	0	0.0000
135	N437	0.0000	0.0000	No P	Normal	0	0.0000
136	N438	0.0000	0.0000	No P	Normal	0	0.0000
137	N439	0.0000	0.0000	No P	Normal	0	0.0000
138	N440	0.0000	0.0000	No P	Normal	0	0.0000
139	N441	0.0000	0.0000	No P	Normal	0	0.0000
140	N442	0.0000	0.0000	No P	Normal	0	0.0000
141	N443	0.0000	0.0000	No P	Normal	0	0.0000
142	N444	0.0000	0.0000	No P	Normal	0	0.0000
143	N445	0.0000	0.0000	No P	Normal	0	0.0000
144	N446	0.0000	0.0000	No P	Normal	0	0.0000
145	N447	0.0000	0.0000	No P	Normal	0	0.0000
146	N448	0.0000	0.0000	No P	Normal	0	0.0000
147	N449	0.0000	0.0000	No P	Normal	0	0.0000
148	N450	0.0000	0.0000	No P	Normal	0	0.0000
149	N451	0.0000	0.0000	No P	Normal	0	0.0000
150	N453	0.0000	0.0000	F	Normal	0	0.0000

151	N454	0.0000	0.0000	No P	Normal	0	0.0000
152	N455	0.0000	0.0000	No P	Normal	0	0.0000
153	N456	0.0000	0.0000	No P	Normal	0	0.0000
154	N457	0.0000	0.0000	No P	Normal	0	0.0000
155	N458	0.0000	0.0000	No P	Normal	0	0.0000
156	N459	0.0000	0.0000	No P	Normal	0	0.0000
157	N460	0.0000	0.0000	No P	Normal	0	0.0000
158	N461	0.0000	0.0000	No P	Normal	0	0.0000
159	N464	0.0000	0.0000	No P	Normal	0	0.0000
160	N465	0.0000	0.0000	No P	Normal	0	0.0000
161	N466	0.0000	0.0000	No P	Normal	0	0.0000
162	N467	0.0000	0.0000	No P	Normal	0	0.0000
163	N468	0.0000	0.0000	No P	Normal	0	0.0000
164	N469	0.0000	0.0000	No P	Normal	0	0.0000
165	N470	0.0000	0.0000	No P	Normal	0	0.0000
166	N471	0.0000	0.0000	No P	Normal	0	0.0000
167	N472	0.0000	0.0000	No P	Normal	0	0.0000
168	N473	0.0000	0.0000	No P	Normal	0	0.0000
169	N487	0.0000	0.0000	No P	Normal	0	0.0000
170	N489	0.0000	0.0000	No P	Normal	0	0.0000
171	N490	0.0000	0.0000	No P	Normal	0	0.0000
172	N491	0.0000	0.0000	No P	Normal	0	0.0000
173	N492	0.0000	0.0000	No P	Normal	0	0.0000
174	N493	0.0000	0.0000	No P	Normal	0	0.0000
175	N497	0.0000	0.0000	No P	Normal	0	0.0000
176	N499	0.0000	0.0000	No P	Normal	0	0.0000
177	N509	0.0000	0.0000	No P	Normal	0	0.0000
178	N513	0.0000	0.0000	No P	Normal	0	0.0000
179	N514	0.0000	0.0000	No P	Normal	0	0.0000
180	N516	0.0000	0.0000	No P	Normal	0	0.0000
181	N524	0.0000	0.0000	No P	Normal	0	0.0000
182	N525	0.0000	0.0000	No P	Normal	0	0.0000
183	N526	0.0000	0.0000	No P	Normal	0	0.0000
184	N527	0.0000	0.0000	No P	Normal	0	0.0000
185	N528	0.0000	0.0000	No P	Normal	0	0.0000
186	N529	0.0000	0.0000	No P	Normal	0	0.0000
187	N530	0.0000	0.0000	No P	Normal	0	0.0000
188	N689	0.0000	0.0000	No P	Normal	0	0.0000
189	N494	0.0000	0.0000	No P	Normal	0	0.0000
190	N541	0.0000	0.0000	No P	Normal	0	0.0000
191	EL329	0.0000	0.0000	No P	Normal	0	0.0000
192	N427	0.0000	0.0000	No P	Normal	0	0.0000
193	N411	0.0000	0.0000	No P	Normal	0	0.0000
194	N295	0.0000	0.0000	No P	Normal	0	0.0000
195	N311	0.0000	0.0000	No P	Normal	0	0.0000
196	N462	0.0000	0.0000	No P	Normal	0	0.0000
197	N266	0.0000	0.0000	No P	Normal	0	0.0000
198	N267	0.0000	0.0000	No P	Normal	0	0.0000
199	N268	0.0000	0.0000	No P	Normal	0	0.0000
200	N269	0.0000	0.0000	No P	Normal	0	0.0000
201	N270	0.0000	0.0000	No P	Normal	0	0.0000
202	N271	0.0000	0.0000	No P	Normal	0	0.0000
203	N280	0.0000	0.0000	No P	Normal	0	0.0000
204	N281	0.0000	0.0000	No P	Normal	0	0.0000
205	N282	0.0000	0.0000	No P	Normal	0	0.0000
206	N283	0.0000	0.0000	No P	Normal	0	0.0000
207	N284	0.0000	0.0000	No P	Normal	0	0.0000
208	N285	0.0000	0.0000	No P	Normal	0	0.0000
209	N286	0.0000	0.0000	No P	Normal	0	0.0000
210	N287	0.0000	0.0000	No P	Normal	0	0.0000

211	N297	0.0000	0.0000	No P	Normal	0	0.0000
212	N298	0.0000	0.0000	No P	Normal	0	0.0000
213	N299	0.0000	0.0000	No P	Normal	0	0.0000
214	N300	0.0000	0.0000	No P	Normal	0	0.0000
215	N305	0.0000	0.0000	No P	Normal	0	0.0000
216	N306	0.0000	0.0000	No P	Normal	0	0.0000
217	N307	0.0000	0.0000	No P	Normal	0	0.0000
218	N308	0.0000	0.0000	F	Normal	0	0.0000
219	N313	0.0000	0.0000	No P	Normal	0	0.0000
220	N314	0.0000	0.0000	No P	Normal	0	0.0000
221	N315	0.0000	0.0000	No P	Normal	0	0.0000
222	N316	0.0000	0.0000	No P	Normal	0	0.0000
223	N317	0.0000	0.0000	F	Normal	0	0.0000
224	N318	0.0000	0.0000	F	Normal	0	0.0000
225	N319	0.0000	0.0000	F	Normal	0	0.0000
226	N320	0.0000	0.0000	F	Normal	0	0.0000
227	N321	0.0000	0.0000	F	Normal	0	0.0000
228	N325	0.0000	0.0000	F	Normal	0	0.0000
229	N326	0.0000	0.0000	F	Normal	0	0.0000
230	N327	0.0000	0.0000	F	Normal	0	0.0000
231	N328	0.0000	0.0000	F	Normal	0	0.0000
232	N329	0.0000	0.0000	F	Normal	0	0.0000
233	N330	0.0000	0.0000	F	Normal	0	0.0000
234	N331	0.0000	0.0000	F	Normal	0	0.0000
235	N332	0.0000	0.0000	F	Normal	0	0.0000
236	N333	0.0000	0.0000	No P	Normal	0	0.0000
237	N334	0.0000	0.0000	No P	Normal	0	0.0000
238	N335	0.0000	0.0000	No P	Normal	0	0.0000
239	N336	0.0000	0.0000	No P	Normal	0	0.0000
240	N337	0.0000	0.0000	No P	Normal	0	0.0000
241	N338	0.0000	0.0000	No P	Normal	0	0.0000
242	N339	0.0000	0.0000	No P	Normal	0	0.0000
243	N340	0.0000	0.0000	No P	Normal	0	0.0000
244	N341	0.0000	0.0000	No P	Normal	0	0.0000
245	N347	0.0000	0.0000	No P	Normal	0	0.0000
246	N348	0.0000	0.0000	No P	Normal	0	0.0000
247	N349	0.0000	0.0000	No P	Normal	0	0.0000
248	N350	0.0000	0.0000	No P	Normal	0	0.0000
249	N351	0.0000	0.0000	No P	Normal	0	0.0000
250	N352	0.0000	0.0000	No P	Normal	0	0.0000
251	N353	0.0000	0.0000	No P	Normal	0	0.0000
252	N354	0.0000	0.0000	No P	Normal	0	0.0000
253	N355	0.0000	0.0000	No P	Normal	0	0.0000
254	N356	0.0000	0.0000	No P	Normal	0	0.0000
255	N357	0.0000	0.0000	No P	Normal	0	0.0000
256	N358	0.0000	0.0000	No P	Normal	0	0.0000
257	N359	0.0000	0.0000	No P	Normal	0	0.0000
258	N360	0.0000	0.0000	No P	Normal	0	0.0000
259	N500	0.0000	0.0000	No P	Normal	0	0.0000
260	N501	0.0000	0.0000	No P	Normal	0	0.0000
261	N503	0.0000	0.0000	No P	Normal	0	0.0000
262	N504	0.0000	0.0000	No P	Normal	0	0.0000
263	N506	0.0000	0.0000	No P	Normal	0	0.0000
264	N517	0.0000	0.0000	No P	Normal	0	0.0000
265	N518	0.0000	0.0000	No P	Normal	0	0.0000
266	N554	0.0000	0.0000	No P	Normal	0	0.0000
267	N322	0.0000	0.0000	No P	Normal	0	0.0000
268	N511	0.0000	0.0000	No P	Normal	0	0.0000
269	N555	0.0000	0.0000	No P	Normal	0	0.0000

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| Table E4 - Conduit Connectivity |

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Input Number	Conduit Name	Upstream Node	Downstream Node	Upstream Elevation	Downstream Elevation		
1	L210	N221	N222	105.8400	105.4400	No	Design
2	L211	N222	N223	104.4400	102.0600	No	Design
3	L212	N223	N224	100.8100	98.4700	No	Design
4	L213	N227	N224	98.3400	97.7200	No	Design
5	L214	N228	N224	97.5300	97.2200	No	Design
6	L217	N231	N230	99.8400	99.3300	No	Design
7	L220	N224	N230	96.9700	96.0800	No	Design
8	L221	N230	N233	95.8300	94.9200	No	Design
9	L222	N233	N234	94.4200	87.6000	No	Design
10	L223	N235	N236	119.6000	119.4100	No	Design
11	L224	N236	N237	118.6100	117.8600	No	Design
12	L225	N237	N238	117.2600	116.5100	No	Design
13	L226	N239	N240	117.6900	116.6200	No	Design
14	L227	N240	N238	116.6200	116.0100	No	Design
15	L228	N238	N241	115.1100	114.0600	No	Design
16	L229	N241	N242	111.3600	109.8800	No	Design
17	L230	N242	N243	108.6300	107.8600	No	Design
18	L231	N243	N244	105.8600	105.1000	No	Design
19	L232	N244	N245	103.8500	103.3800	No	Design
20	L233	N245	N246	101.9300	100.3100	No	Design
21	L234	N246	N247	99.5600	98.3700	No	Design
22	L235	N248	N241	111.4800	111.3600	No	Design
23	L236	N249	N244	104.6200	104.3500	No	Design
24	L237	N250	N246	101.1400	100.5600	No	Design
25	L238	N251	N252	115.3800	115.0600	No	Design
26	L239	N252	N253	113.0600	112.3300	No	Design
27	L240	N254	N253	112.8300	112.3300	No	Design
28	L241	N253	N255	108.0800	106.8000	No	Design
29	L242	N256	N255	107.4100	107.0500	No	Design
30	L243	N257	N255	107.6100	107.0500	No	Design
31	L246	N247	N259	97.8700	97.1600	No	Design
32	L247	N259	N260	97.1600	97.0000	No	Design
33	L248	N261	N259	98.9300	98.6600	No	Design
34	L249	N262	N263	104.8800	104.4600	No	Design
35	L250	N263	N264	104.4600	96.6400	No	Design
36	L251	N265	N263	104.8600	104.4600	No	Design
37	L259	N272	N274	96.3500	95.5800	No	Design
38	L260	N274	N275	95.5800	87.6000	No	Design
39	L261	N276	N277	94.2500	93.4400	No	Design
40	L262	N277	N278	93.4400	78.0000	No	Design
41	L263	N279	N277	94.1200	93.4400	No	Design
42	L272	N288	N289	77.0300	77.0000	No	Design
43	L273	N290	N288	78.1000	77.7800	No	Design
44	L274	N291	N292	91.9200	76.6000	No	Design
45	L275	N293	N294	118.9200	118.3000	No	Design
46	L277	N296	N294	118.9800	118.3000	No	Design
47	L281	N301	N302	122.9000	122.2800	No	Design
48	L282	N302	N303	122.2800	110.6000	No	Design
49	L283	N304	N302	122.9500	122.2800	No	Design
50	L287	N309	N310	113.1500	112.5100	No	Design
51	L289	N312	N310	113.2100	112.5100	No	Design
52	L319	N342	N343	100.2200	100.0000	No	Design

53	L320	N344	N342	101.1100	100.7200	No Design
54	L338	N361	N362	126.2400	126.1300	No Design
55	L339	N362	N363	126.1300	125.7800	No Design
56	L340	N363	N364	125.2800	125.0100	No Design
57	L341	N364	N365	125.0100	124.9000	No Design
58	L342	N366	N363	127.8700	127.5300	No Design
59	L343	N367	N363	128.3300	127.7800	No Design
60	L344	N368	N369	124.2600	124.1700	No Design
61	L346	N371	N370	122.2600	122.2000	No Design
62	L347	N370	N372	121.7000	121.3400	No Design
63	L348	N372	N373	121.3400	120.9700	No Design
64	L349	N373	N374	120.9700	120.6000	No Design
65	L350	N374	N375	120.6000	120.4800	No Design
66	L351	N376	N377	122.9000	122.8200	No Design
67	L352	N377	N375	122.8200	122.4800	No Design
68	L354	N378	N379	119.2700	118.4000	No Design
69	L361	N383	N381	125.5300	125.2600	No Design
70	L362	N384	N381	125.6400	125.2600	No Design
71	L363	N381	N382	124.7600	123.3600	No Design
72	L364	N386	N382	124.1400	123.8600	No Design
73	L365	N387	N382	124.2300	123.8600	No Design
74	L366	N382	N388	122.8600	121.9500	No Design
75	L367	N388	N389	121.9500	121.1100	No Design
76	L368	N390	N389	122.8300	122.1100	No Design
77	L369	N391	N389	122.6900	122.1100	No Design
78	L370	N389	N392	120.1100	119.8300	No Design
79	L373	N392	N394	119.8300	118.4000	No Design
80	L374	N395	N396	118.6100	118.1800	No Design
81	L375	N396	N397	117.6800	117.3100	No Design
82	L376	N398	N397	116.3100	116.0600	No Design
83	L386	N399	N403	114.6100	114.3000	No Design
84	L387	N403	N404	114.3000	113.9800	No Design
85	L388	N405	N404	117.0000	116.7000	No Design
86	L389	N404	N406	113.4800	113.1700	No Design
87	L390	N407	N406	117.0000	116.6000	No Design
88	L391	N406	N408	113.1700	112.7800	No Design
89	L392	N408	N409	112.7800	112.4800	No Design
90	L393	N409	N410	112.4800	112.1200	No Design
91	L395	N412	N413	116.3000	115.3300	No Design
92	L396	N414	N413	116.3700	115.8300	No Design
93	L397	N415	N413	116.3300	115.3300	No Design
94	L398	N416	N414	116.8300	115.8700	No Design
95	L399	N417	N414	117.5700	116.8700	No Design
96	L402	N420	N421	112.2400	112.0000	No Design
97	L403	N421	N419	112.0000	110.9100	No Design
98	L404	N419	N422	110.9100	109.8800	No Design
99	L405	N423	N422	110.3700	110.1300	No Design
100	L406	N422	N424	109.1300	108.5100	No Design
101	L407	N425	N424	110.0600	109.7600	No Design
102	L408	N424	N426	108.2600	107.7000	No Design
103	L410	N426	N428	107.4500	106.9200	No Design
104	L411	N428	N429	106.9200	106.5200	No Design
105	L413	N432	N431	118.0700	116.6700	No Design
106	L415	N434	N432	118.8000	118.4800	No Design
107	L417	N436	N435	111.5700	111.1800	No Design
108	L418	N437	N435	110.9200	110.6800	No Design
109	L419	N435	N438	110.1800	109.5800	No Design
110	L420	N438	N439	109.5800	108.6500	No Design
111	L421	N440	N439	110.0500	109.6500	No Design
112	L422	N441	N439	109.7300	109.4000	No Design

113	L423	N439	N442	108.1500	107.4700	No	Design
114	L424	N442	N429	107.2200	106.7700	No	Design
115	L425	N443	N442	109.3800	108.9700	No	Design
116	L426	N444	N442	109.0300	108.7200	No	Design
117	L427	N429	N445	106.0200	105.4800	No	Design
118	L428	N446	N445	108.4900	107.9800	No	Design
119	L429	N445	N447	105.4800	105.0500	No	Design
120	L430	N448	N449	118.7700	117.9900	No	Design
121	L431	N450	N449	120.7400	118.2400	No	Design
122	L432	N451	N450	121.2700	120.7400	No	Design
123	L435	N454	N453	114.2900	113.7600	No	Design
124	L436	N453	N455	113.7600	111.9300	No	Design
125	L437	N455	N456	111.6800	110.2600	No	Design
126	L438	N457	N456	111.0200	110.5100	No	Design
127	L439	N456	N458	110.2600	108.6400	No	Design
128	L440	N458	N447	108.3900	107.0500	No	Design
129	L441	N447	N459	105.0500	104.6100	No	Design
130	L442	N459	N460	104.6100	104.1100	No	Design
131	L443	N460	N461	104.1100	94.1000	No	Design
132	L446	N465	N466	126.6500	126.4400	No	Design
133	L448	N467	N464	126.3000	125.8400	No	Design
134	L449	N464	N468	125.0900	123.8400	No	Design
135	L450	N468	N469	123.5900	122.6600	No	Design
136	L451	N469	N470	118.6600	118.4600	No	Design
137	L452	N471	N468	124.8800	124.5900	No	Design
138	L453	N472	N468	124.9400	124.5900	No	Design
139	L454	N473	N469	120.0700	119.6600	No	Design
140	L466	N418	N487	119.9000	119.3200	No	Design
141	L468	N487	N417	118.5700	117.5700	No	Design
142	L470	N490	N494	121.9000	121.4100	No	Design
143	L471	N491	N490	124.7700	121.9000	No	Design
144	L472	N492	N493	126.3400	126.0400	No	Design
145	L490	N513	N514	110.0100	109.8600	No	Design
146	L496	N524	N525	133.4500	131.1700	No	Design
147	L497	N526	N525	133.4600	131.1700	No	Design
148	L498	N525	N527	131.1700	130.6000	No	Design
149	L501	N369	N528	123.6700	123.1600	No	Design
150	L502	N528	N370	122.6600	122.2000	No	Design
151	L503	N375	N529	119.9800	119.6400	No	Design
152	L504	N529	N378	119.6400	119.2700	No	Design
153	L505	N255	N530	102.8000	101.7100	No	Design
154	L506	N530	N247	99.7100	98.6200	No	Design
155	L509	N497	N499	107.8500	91.2000	No	Design
156	L511	N509	N514	108.8800	108.6100	No	Design
157	L512	N514	N516	108.1100	90.0000	No	Design
158	L514	N466	N464	126.1900	125.0900	No	Design
159	L515	N397	N399	115.8100	115.6100	No	Design
160	CH21	N470	N398	117.7100	116.3100	No	Design
161	L474	N489	N689	118.4300	118.0000	No	Design
162	L523	N494	N489	121.4100	120.8300	No	Design
163	L525	N413	N399	115.8300	115.1100	No	Design
164	L527	N431	N404	116.6700	115.2500	No	Design
165	L528	N449	N408	117.9900	116.0300	No	Design
166	L529	EL329	N541	112.5200	112.0900	No	Design
167	L533	N541	N427	112.0900	109.6400	No	Design
168	L537	N427	N426	109.6400	108.9500	No	Design
169	L394	N410	N411	112.1200	112.0000	No	Design
170	L276	N294	N295	118.3000	118.0000	No	Design
171	L288	N310	N311	112.2600	104.1000	No	Design
172	L412	N430	N431	119.0000	118.4000	No	Design

173	L447	N462	N466	127.7800	126.4400	No Design
174	L252	N266	N267	100.3600	98.0500	No Design
175	L253	N268	N269	100.7400	100.3300	No Design
176	L254	N269	N267	100.3300	98.0500	No Design
177	L255	N270	N271	99.1400	98.8000	No Design
178	L256	N271	N267	98.5500	97.5500	No Design
179	L257	N267	N272	97.5500	96.6000	No Design
180	L264	N280	N281	85.3300	84.9900	No Design
181	L265	N281	N282	83.2400	82.7700	No Design
182	L266	N282	N283	82.7700	82.5000	No Design
183	L267	N284	N282	85.1400	84.7700	No Design
184	L268	N285	N286	94.9100	94.4500	No Design
185	L269	N286	N283	94.4500	93.0000	No Design
186	L270	N283	N287	82.5000	81.9600	No Design
187	L271	N287	N288	78.4600	77.0300	No Design
188	L278	N297	N298	113.2400	112.9600	No Design
189	L279	N298	N299	112.9600	112.0000	No Design
190	L280	N300	N298	113.2500	112.9600	No Design
191	L284	N305	N306	105.5200	105.2200	No Design
192	L285	N306	N307	104.7200	104.2500	No Design
193	L286	N308	N306	105.1900	104.9700	No Design
194	L290	N313	N314	103.9300	101.7900	No Design
195	L291	N314	N315	101.7900	99.6100	No Design
196	L292	N315	N316	99.6100	94.1000	No Design
197	L294	N319	N318	89.4700	88.9900	No Design
198	L300	N320	N318	89.2800	88.4900	No Design
199	L301	N321	N320	90.1100	89.7800	No Design
200	L302	N318	N500	87.7400	86.6700	No Design
201	L303	N326	N325	90.7500	90.2700	No Design
202	L304	N327	N325	90.6600	90.2700	No Design
203	L305	N325	N320	89.7700	89.2800	No Design
204	L306	N329	N330	94.0000	93.4400	No Design
205	L307	N330	N322	93.4400	92.5000	No Design
206	L308	N328	N331	93.4400	92.7000	No Design
207	L309	N332	N328	94.0000	93.4400	No Design
208	L310	N333	N334	108.8700	108.5100	No Design
209	L311	N334	N335	108.5100	106.1800	No Design
210	L312	N336	N335	106.5400	106.1800	No Design
211	L313	N335	N337	106.1800	102.7800	No Design
212	L314	N338	N337	103.3100	102.7800	No Design
213	L315	N339	N340	104.8900	104.4700	No Design
214	L316	N340	N337	104.4700	102.7800	No Design
215	L317	N337	N341	102.2800	101.2500	No Design
216	L318	N341	N342	101.2500	100.2200	No Design
217	L321	N345	N239	118.8300	117.6900	No Design
218	L324	N349	N347	119.1600	118.4500	No Design
219	L325	N350	N351	117.8000	117.4400	No Design
220	L326	N352	N348	117.3700	116.6700	No Design
221	L327	N353	N348	117.3600	116.6700	No Design
222	L328	N348	N354	116.1700	115.6500	No Design
223	L329	N354	N355	115.6500	110.6000	No Design
224	L334	N356	N357	125.3200	122.9800	No Design
225	L335	N357	N358	122.9800	120.8200	No Design
226	L336	N358	N359	120.8200	120.0900	No Design
227	L337	N359	N360	120.0900	112.8000	No Design
228	L475	N317	N318	89.1700	88.7400	No Design
229	L478	N500	N501	86.6700	85.7200	No Design
230	L479	N501	N518	85.4700	84.5600	No Design
231	L487	N504	N503	95.5400	89.8000	No Design
232	L493	N518	N517	84.3100	83.9500	No Design

233	L499	N347	N351	118.4500	117.4400	No Design
234	L500	N351	N348	117.1900	116.4200	No Design
235	L507	N506	N554	92.1400	91.2800	No Design
236	L513	N517	N281	83.9500	83.7400	No Design
237	L546	N554	N500	90.7800	87.4200	No Design
238	L510	N511	N555	102.2100	89.8000	No Design

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*=====
|           FREE OUTFALL DATA (DATA GROUP I1)           |
|           BOUNDARY CONDITION ON DATA GROUP J1         |
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Outfall at Junction....N234	has boundary condition number...	1
Outfall at Junction....N260	has boundary condition number...	2
Outfall at Junction....N264	has boundary condition number...	3
Outfall at Junction....N275	has boundary condition number...	4
Outfall at Junction....N278	has boundary condition number...	5
Outfall at Junction....N289	has boundary condition number...	6
Outfall at Junction....N292	has boundary condition number...	7
Outfall at Junction....N303	has boundary condition number...	8
Outfall at Junction....N343	has boundary condition number...	9
Outfall at Junction....N365	has boundary condition number...	10
Outfall at Junction....N379	has boundary condition number...	11
Outfall at Junction....N394	has boundary condition number...	12
Outfall at Junction....N461	has boundary condition number...	13
Outfall at Junction....N493	has boundary condition number...	14
Outfall at Junction....N499	has boundary condition number...	15
Outfall at Junction....N516	has boundary condition number...	16
Outfall at Junction....N527	has boundary condition number...	17
Outfall at Junction....N689	has boundary condition number...	18
Outfall at Junction....N411	has boundary condition number...	19
Outfall at Junction....N295	has boundary condition number...	20
Outfall at Junction....N311	has boundary condition number...	21
Outfall at Junction....N299	has boundary condition number...	22
Outfall at Junction....N307	has boundary condition number...	23
Outfall at Junction....N316	has boundary condition number...	24
Outfall at Junction....N331	has boundary condition number...	25
Outfall at Junction....N355	has boundary condition number...	26
Outfall at Junction....N360	has boundary condition number...	27
Outfall at Junction....N503	has boundary condition number...	28
Outfall at Junction....N322	has boundary condition number...	29
Outfall at Junction....N555	has boundary condition number...	30

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*=====
|           INTERNAL CONNECTIVITY INFORMATION           |
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CONDUIT	JUNCTION	JUNCTION
FREE # 1	N234	BOUNDARY
FREE # 2	N260	BOUNDARY
FREE # 3	N264	BOUNDARY
FREE # 4	N275	BOUNDARY
FREE # 5	N278	BOUNDARY
FREE # 6	N289	BOUNDARY
FREE # 7	N292	BOUNDARY
FREE # 8	N303	BOUNDARY
FREE # 9	N343	BOUNDARY

FREE #10	N365	BOUNDARY
FREE #11	N379	BOUNDARY
FREE #12	N394	BOUNDARY
FREE #13	N461	BOUNDARY
FREE #14	N493	BOUNDARY
FREE #15	N499	BOUNDARY
FREE #16	N516	BOUNDARY
FREE #17	N527	BOUNDARY
FREE #18	N689	BOUNDARY
FREE #19	N411	BOUNDARY
FREE #20	N295	BOUNDARY
FREE #21	N311	BOUNDARY
FREE #22	N299	BOUNDARY
FREE #23	N307	BOUNDARY
FREE #24	N316	BOUNDARY
FREE #25	N331	BOUNDARY
FREE #26	N355	BOUNDARY
FREE #27	N360	BOUNDARY
FREE #28	N503	BOUNDARY
FREE #29	N322	BOUNDARY
FREE #30	N555	BOUNDARY

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

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BC NUMBER..      14 has no control water surface.
BC NUMBER..      17 has no control water surface.
BC NUMBER..      18 has no control water surface.

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==> WARNING ! Junction N273 is not associated with any conduit.

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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
L210	2.3341	0.0057
L211	2.3583	0.0058
L212	3.6820	0.0043
L213	2.3504	0.0058
L214	5.2561	0.0033
L217	2.3778	0.0059
L220	7.2421	0.0028
L221	9.4105	0.0023
L222	37.9531	0.0375
L223	1.5862	0.0026
L224	1.5676	0.0026
L225	1.5703	0.0026

L226	1.5717	0.0026
L227	1.5698	0.0026
L228	1.5683	0.0026
L229	2.8478	0.0026
L230	2.4656	0.0019
L231	2.4434	0.0019
L232	3.5621	0.0015
L233	5.2943	0.0034
L234	10.3141	0.0028
L235	1.5127	0.0024
L236	1.5658	0.0026
L237	2.3516	0.0058
L238	2.3553	0.0058
L239	2.3692	0.0059
L240	2.3544	0.0058
L241	3.6815	0.0043
L242	2.3529	0.0058
L243	2.3707	0.0059
L246	14.7213	0.0017
L247	14.8246	0.0017
L248	2.3403	0.0057
L249	2.3421	0.0058
L250	9.7769	0.1003
L251	2.3510	0.0058
L259	7.1885	0.0027
L260	48.4905	0.1247
L261	2.3656	0.0059
L262	13.9175	0.2032
L263	2.3540	0.0058
L272	50.6250	0.0009
L273	7.1817	0.0027
L274	32.1290	0.1246
L275	2.3504	0.0058
L277	2.3540	0.0058
L281	2.3504	0.0058
L282	15.2316	0.2433
L283	2.3672	0.0059
L287	2.3660	0.0059
L289	2.3583	0.0058
L319	5.2963	0.0034
L320	2.3558	0.0058
L338	20.9182	0.0013
L339	21.2087	0.0013
L340	29.0054	0.0011
L341	28.4951	0.0011
L342	3.6963	0.0044
L343	2.3619	0.0059
L344	14.9332	0.0018
L346	30.2053	0.0012
L347	37.5829	0.0009
L348	37.6745	0.0009
L349	37.8624	0.0009
L350	37.5354	0.0009
L351	9.3735	0.0023
L352	9.4291	0.0023
L354	163.9607	0.0093
L361	2.3403	0.0057
L362	2.3430	0.0058
L363	5.3133	0.0034
L364	2.3583	0.0058

L365	2.3663	0.0059
L366	9.4224	0.0023
L367	9.4185	0.0023
L368	2.3529	0.0058
L369	2.3634	0.0059
L370	21.3114	0.0014
L373	69.8268	0.0146
L374	1.6007	0.0027
L375	2.7585	0.0009
L376	17.8956	0.0015
L386	37.5354	0.0009
L387	37.3765	0.0009
L388	1.5910	0.0027
L389	48.3609	0.0008
L390	1.8968	0.0038
L391	47.6460	0.0008
L392	47.8865	0.0008
L393	47.6261	0.0008
L395	7.7978	0.0194
L396	21.1861	0.0013
L397	7.4154	0.0175
L398	7.9175	0.0200
L399	9.4392	0.0023
L402	7.2544	0.0028
L403	7.1865	0.0027
L404	7.2356	0.0028
L405	5.2929	0.0034
L406	14.6711	0.0017
L407	3.6392	0.0042
L408	17.9044	0.0015
L410	21.1742	0.0013
L411	21.0724	0.0013
L413	5.3791	0.0035
L415	2.4953	0.0065
L417	2.3384	0.0057
L418	5.2561	0.0033
L419	9.4366	0.0023
L420	9.4302	0.0023
L421	2.3682	0.0059
L422	3.6891	0.0043
L423	14.7122	0.0017
L424	17.7815	0.0015
L425	2.3631	0.0059
L426	3.6483	0.0042
L427	29.0650	0.0011
L428	2.3506	0.0058
L429	28.8057	0.0011
L430	2.8587	0.0086
L431	2.3544	0.0058
L432	2.3565	0.0058
L435	2.3695	0.0059
L436	2.3535	0.0058
L437	3.6836	0.0043
L438	2.3506	0.0058
L439	3.6846	0.0043
L440	5.2957	0.0034
L441	28.7403	0.0011
L442	28.7787	0.0011
L443	281.5617	0.1043
L446	5.3415	0.0034

L448	2.3562	0.0058
L449	7.2216	0.0028
L450	9.4537	0.0023
L451	9.2424	0.0022
L452	2.3516	0.0058
L453	2.3389	0.0057
L454	2.3631	0.0059
L466	4.4943	0.0064
L468	8.8034	0.0020
L470	7.2253	0.0028
L471	2.6488	0.0074
L472	2.3453	0.0058
L490	4.8350	0.0012
L496	2.3549	0.0058
L497	2.3540	0.0058
L498	2.3549	0.0058
L501	21.3175	0.0014
L502	28.7542	0.0011
L503	47.5382	0.0008
L504	48.0749	0.0008
L505	7.2137	0.0028
L506	7.1955	0.0027
L509	10.8843	0.1243
L511	3.5456	0.0015
L512	79.1933	0.1632
L514	7.2103	0.0028
L515	21.4683	0.0014
CH21	321.7664	0.0015
L474	5.2973	0.0034
L523	22.9743	0.0034
L525	21.2457	0.0014
L527	5.2074	0.0033
L528	3.6866	0.0043
L529	3.5424	0.0015
L533	5.2922	0.0034
L537	3.5530	0.0015
L394	47.1178	0.0008
L276	2.3682	0.0059
L288	20.4763	0.1338
L412	3.2854	0.0113
L447	5.3092	0.0034
L252	2.3583	0.0058
L253	2.3631	0.0059
L254	2.3579	0.0058
L255	3.6728	0.0043
L256	5.3094	0.0034
L257	5.3028	0.0034
L264	3.6728	0.0043
L265	21.2741	0.0014
L266	21.1336	0.0013
L267	2.3663	0.0059
L268	2.3562	0.0058
L269	2.3610	0.0058
L270	21.2125	0.0013
L271	52.2659	0.0036
L278	2.3583	0.0058
L279	2.3553	0.0058
L280	2.3516	0.0058
L284	2.3453	0.0058
L285	5.2748	0.0034

L286	3.7136	0.0044
L290	2.3547	0.0058
L291	2.3606	0.0058
L292	7.0734	0.0525
L294	2.3624	0.0059
L300	5.3010	0.0034
L301	2.3703	0.0059
L302	11.9259	0.0020
L303	2.3481	0.0058
L304	2.3384	0.0057
L305	5.3291	0.0034
L306	3.0341	0.0097
L307	19.5026	0.0099
L308	7.7925	0.0073
L309	3.0341	0.0097
L310	2.3721	0.0059
L311	2.3596	0.0058
L312	2.3721	0.0059
L313	2.3540	0.0058
L314	2.3436	0.0058
L315	2.3749	0.0059
L316	2.3491	0.0058
L317	5.3166	0.0034
L318	5.2991	0.0034
L321	1.5717	0.0026
L324	2.3556	0.0058
L325	2.3529	0.0058
L326	2.3682	0.0059
L327	2.3612	0.0058
L328	3.5191	0.0015
L329	20.6659	0.0515
L334	2.3558	0.0058
L335	2.3560	0.0058
L336	2.3597	0.0058
L337	7.6425	0.0613
L475	3.7084	0.0044
L478	11.9409	0.0020
L479	13.9490	0.0015
L487	25.6909	0.0350
L493	9.8698	0.0008
L499	1.5713	0.0026
L500	2.4625	0.0019
L507	2.3618	0.0059
L513	9.8234	0.0008
L546	6.9471	0.0058
L510	18.7195	0.1118

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*=====*
| Initial Model Condition |
| Initial Time = 0.02 hours |
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	Junction /	Depth /	Elevation	====>	"*" Junction is Surcharged.		
100.81	N221/	0.00 /	105.84		N222/ 0.00 / 104.44	N223/	0.00 /
97.53	N224/	0.00 /	96.97		N227/ 0.00 / 98.34	N228/	0.00 /
94.42	N230/	0.00 /	95.83		N231/ 0.00 / 99.84	N233/	0.00 /
	N234/	4.87 /	90.47		N235/ 0.00 / 119.60	N236/	0.00 /

118.61	N237/	0.00 /	117.26	N238/	0.00 /	115.11	N239/	0.00 /
117.69	N240/	0.00 /	116.62	N241/	0.00 /	111.36	N242/	0.00 /
108.63	N243/	0.00 /	105.86	N244/	0.00 /	103.85	N245/	0.00 /
101.68	N246/	0.00 /	99.53	N247/	0.00 /	97.87	N248/	0.00 /
111.48	N249/	0.00 /	104.62	N250/	0.00 /	101.14	N251/	0.00 /
115.38	N252/	0.00 /	113.06	N253/	0.00 /	108.08	N254/	0.00 /
112.83	N255/	0.00 /	102.80	N256/	0.00 /	107.41	N257/	0.00 /
107.61	N259/	0.00 /	97.16	N260/	2.55 /	99.55	N261/	0.00 /
98.93	N262/	0.00 /	104.88	N263/	0.00 /	104.46	N264/	2.90 /
99.54	N265/	0.00 /	104.86	N272/	0.00 /	96.35	N273/	0.00 /
97.68	N274/	0.00 /	95.58	N275/	2.88 /	90.48	N276/	0.00 /
94.25	N277/	0.00 /	93.44	N278/	5.91 /	83.91	N279/	0.00 /
94.12	N288/	0.00 /	77.03	N289/	6.90 /	83.90	N290/	0.00 /
78.10	N291/	0.00 /	91.92	N292/	7.30 /	83.90	N293/	0.00 /
118.92	N294/	0.00 /	118.30	N296/	0.00 /	118.98	N301/	0.00 /
122.90	N302/	0.00 /	122.28	N303/	2.82 /	113.42	N304/	0.00 /
122.95	N309/	0.00 /	113.15	N310/	0.00 /	112.26	N312/	0.00 /
113.21	N342/	0.00 /	100.22	N343/	0.00 /	100.00	N344/	0.00 /
101.11	N345/	0.00 /	118.83	N361/	0.00 /	126.24	N362/	0.00 /
126.13	N363/	0.00 /	125.28	N364/	0.00 /	125.01	N365/	5.17 /
122.57	N366/	0.00 /	127.87	N367/	0.00 /	128.33	N368/	0.00 /
124.26	N369/	0.00 /	123.67	N370/	0.00 /	121.70	N371/	0.00 /
122.26	N372/	0.00 /	121.34	N373/	0.00 /	120.97	N374/	0.00 /
120.60	N375/	0.00 /	119.98	N376/	0.00 /	122.90	N377/	0.00 /
122.82	N378/	0.00 /	119.27	N379/	4.18 /	122.58	N381/	0.00 /
124.76	N382/	0.00 /	122.86	N383/	0.00 /	125.53	N384/	0.00 /
125.64	N386/	0.00 /	124.14	N387/	0.00 /	124.23	N388/	0.00 /
121.95	N389/	0.00 /	120.11	N390/	0.00 /	122.83	N391/	0.00 /
122.69	N392/	0.00 /	119.83	N394/	4.18 /	122.58	N395/	0.00 /
118.11	N396/	0.00 /	117.68	N397/	0.00 /	115.81	N398/	0.00 /

116.31							
	N399/	0.00 /	114.60	N403/	0.00 /	114.30	N404/ 0.00 /
113.48							
	N405/	0.00 /	117.00	N406/	0.00 /	113.17	N407/ 0.00 /
117.00							
	N408/	0.00 /	112.78	N409/	0.00 /	112.48	N410/ 0.00 /
112.12							
	N412/	0.00 /	116.30	N413/	0.00 /	115.33	N414/ 0.00 /
115.83							
	N415/	0.00 /	116.33	N416/	0.00 /	116.83	N417/ 0.00 /
117.57							
	N418/	0.00 /	119.90	N419/	0.00 /	110.91	N420/ 0.00 /
112.24							
	N421/	0.00 /	112.00	N422/	0.00 /	109.13	N423/ 0.00 /
110.37							
	N424/	0.00 /	108.26	N425/	0.00 /	110.06	N426/ 0.00 /
107.45							
	N428/	0.00 /	106.92	N429/	0.00 /	106.02	N430/ 0.00 /
119.00							
	N431/	0.00 /	116.67	N432/	0.00 /	118.07	N434/ 0.00 /
118.80							
	N435/	0.00 /	110.18	N436/	0.00 /	111.57	N437/ 0.00 /
110.92							
	N438/	0.00 /	109.58	N439/	0.00 /	108.15	N440/ 0.00 /
110.05							
	N441/	0.00 /	109.73	N442/	0.00 /	107.22	N443/ 0.00 /
109.38							
	N444/	0.00 /	109.03	N445/	0.00 /	105.48	N446/ 0.00 /
108.49							
	N447/	0.00 /	105.05	N448/	0.00 /	118.77	N449/ 0.00 /
117.99							
	N450/	0.00 /	120.74	N451/	0.00 /	121.27	N453/ 0.00 /
113.76							
	N454/	0.00 /	114.29	N455/	0.00 /	111.68	N456/ 0.00 /
110.26							
	N457/	0.00 /	111.02	N458/	0.00 /	108.39	N459/ 0.00 /
104.61							
	N460/	0.00 /	104.11	N461/	5.47 /	99.57	N464/ 0.00 /
125.09							
	N465/	0.00 /	126.65	N466/	0.00 /	126.19	N467/ 0.00 /
126.30							
	N468/	0.00 /	123.59	N469/	0.00 /	118.66	N470/ 0.00 /
117.71							
	N471/	0.00 /	124.88	N472/	0.00 /	124.94	N473/ 0.00 /
120.07							
	N487/	0.00 /	118.57	N489/	0.00 /	118.43	N490/ 0.00 /
121.90							
	N491/	0.00 /	124.17	N492/	0.00 /	126.34	N493/ 0.00 /
126.04							
	N497/	0.00 /	107.85	N499/	6.44 /	97.64	N509/ 0.00 /
108.88							
	N513/	0.00 /	110.01	N514/	0.00 /	108.11	N516/ 7.42 /
97.42							
	N524/	0.00 /	133.45	N525/	0.00 /	131.17	N526/ 0.00 /
133.46							
	N527/	0.00 /	130.60	N528/	0.00 /	122.66	N529/ 0.00 /
119.64							
	N530/	0.00 /	99.71	N689/	0.00 /	118.00	N494/ 0.00 /
121.41							
	N541/	0.00 /	112.09	EL329/	0.00 /	112.52	N427/ 0.00 /

109.64	N411/	3.63 /	115.63	N295/	3.79 /	110.72	N311/	4.73 /
108.83	N462/	0.00 /	127.78	N266/	0.00 /	100.36	N267/	0.00 /
97.55	N268/	0.00 /	100.74	N269/	0.00 /	100.33	N270/	0.00 /
99.14	N271/	0.00 /	98.55	N280/	0.00 /	85.33	N281/	0.00 /
83.24	N282/	0.00 /	82.77	N283/	0.00 /	82.50	N284/	0.00 /
85.14	N285/	0.00 /	94.91	N286/	0.00 /	94.45	N287/	0.00 /
78.46	N297/	0.00 /	113.24	N298/	0.00 /	112.96	N299/	2.78 /
110.10	N300/	0.00 /	113.25	N305/	0.00 /	105.52	N306/	0.00 /
104.72	N307/	4.39 /	108.64	N308/	0.00 /	105.19	N313/	0.00 /
103.93	N314/	0.00 /	101.79	N315/	0.00 /	99.61	N316/	5.47 /
99.57	N317/	0.00 /	89.17	N318/	0.00 /	87.74	N319/	0.00 /
89.47	N320/	0.00 /	89.28	N321/	0.00 /	90.11	N325/	0.00 /
89.77	N326/	0.00 /	90.75	N327/	0.00 /	90.66	N328/	0.00 /
93.44	N329/	0.00 /	94.00	N330/	0.00 /	93.44	N331/	4.94 /
97.64	N332/	0.00 /	94.00	N333/	0.00 /	108.87	N334/	0.00 /
108.51	N335/	0.00 /	106.18	N336/	0.00 /	106.54	N337/	0.00 /
102.28	N338/	0.00 /	103.31	N339/	0.00 /	104.89	N340/	0.00 /
104.47	N341/	0.00 /	101.25	N347/	0.00 /	118.45	N348/	0.00 /
116.17	N349/	0.00 /	119.16	N350/	0.00 /	117.80	N351/	0.00 /
117.19	N352/	0.00 /	117.37	N353/	0.00 /	117.36	N354/	0.00 /
115.65	N355/	2.82 /	113.42	N356/	0.00 /	125.32	N357/	0.00 /
122.98	N358/	0.00 /	120.82	N359/	0.00 /	120.09	N360/	2.74 /
115.34	N500/	0.00 /	86.67	N501/	0.00 /	85.47	N503/	7.62 /
97.42	N504/	0.00 /	95.54	N506/	0.00 /	92.14	N517/	0.00 /
83.95	N518/	0.00 /	84.31	N554/	0.00 /	90.68	N322/	5.14 /
97.64	N511/	0.00 /	102.21	N555/	7.62 /	97.42		

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

L210/	0.00	L211/	0.00	L212/	0.00
L213/	0.00	L214/	0.00	L217/	0.00
L220/	0.00	L221/	0.00	L222/	0.00
L223/	0.00	L224/	0.00	L225/	0.00
L226/	0.00	L227/	0.00	L228/	0.00
L229/	0.00	L230/	0.00	L231/	0.00

L232/	0.00	L233/	0.00	L234/	0.00
L235/	0.00	L236/	0.00	L237/	0.00
L238/	0.00	L239/	0.00	L240/	0.00
L241/	0.00	L242/	0.00	L243/	0.00
L246/	0.00	L247/	0.00	L248/	0.00
L249/	0.00	L250/	0.00	L251/	0.00
L259/	0.00	L260/	0.00	L261/	0.00
L262/	0.00	L263/	0.00	L272/	0.00
L273/	0.00	L274/	0.00	L275/	0.00
L277/	0.00	L281/	0.00	L282/	0.00
L283/	0.00	L287/	0.00	L289/	0.00
L319/	0.00	L320/	0.00	L338/	0.00
L339/	0.00	L340/	0.00	L341/	0.00
L342/	0.00	L343/	0.00	L344/	0.00
L346/	0.00	L347/	0.00	L348/	0.00
L349/	0.00	L350/	0.00	L351/	0.00
L352/	0.00	L354/	0.00	L361/	0.00
L362/	0.00	L363/	0.00	L364/	0.00
L365/	0.00	L366/	0.00	L367/	0.00
L368/	0.00	L369/	0.00	L370/	0.00
L373/	0.00	L374/	0.00	L375/	0.00
L376/	0.00	L386/	0.00	L387/	0.00
L388/	0.00	L389/	0.00	L390/	0.00
L391/	0.00	L392/	0.00	L393/	0.00
L395/	0.00	L396/	0.00	L397/	0.00
L398/	0.00	L399/	0.00	L402/	0.00
L403/	0.00	L404/	0.00	L405/	0.00
L406/	0.00	L407/	0.00	L408/	0.00
L410/	0.00	L411/	0.00	L413/	0.00
L415/	0.00	L417/	0.00	L418/	0.00
L419/	0.00	L420/	0.00	L421/	0.00
L422/	0.00	L423/	0.00	L424/	0.00
L425/	0.00	L426/	0.00	L427/	0.00
L428/	0.00	L429/	0.00	L430/	0.00
L431/	0.00	L432/	0.00	L435/	0.00
L436/	0.00	L437/	0.00	L438/	0.00
L439/	0.00	L440/	0.00	L441/	0.00
L442/	0.00	L443/	0.00	L446/	0.00
L448/	0.00	L449/	0.00	L450/	0.00
L451/	0.00	L452/	0.00	L453/	0.00
L454/	0.00	L466/	0.00	L468/	0.00
L470/	0.00	L471/	0.00	L472/	0.00
L490/	0.00	L496/	0.00	L497/	0.00
L498/	0.00	L501/	0.00	L502/	0.00
L503/	0.00	L504/	0.00	L505/	0.00
L506/	0.00	L509/	0.00	L511/	0.00
L512/	0.00	L514/	0.00	L515/	0.00
CH21/	0.00	L474/	0.00	L523/	0.00
L525/	0.00	L527/	0.00	L528/	0.00
L529/	0.00	L533/	0.00	L537/	0.00
L394/	0.00	L276/	0.00	L288/	0.00
L412/	0.00	L447/	0.00	L252/	0.00
L253/	0.00	L254/	0.00	L255/	0.00
L256/	0.00	L257/	0.00	L264/	0.00
L265/	0.00	L266/	0.00	L267/	0.00
L268/	0.00	L269/	0.00	L270/	0.00
L271/	0.00	L278/	0.00	L279/	0.00
L280/	0.00	L284/	0.00	L285/	0.00
L286/	0.00	L290/	0.00	L291/	0.00
L292/	0.00	L294/	0.00	L300/	0.00

L301/	0.00	L302/	0.00	L303/	0.00
L304/	0.00	L305/	0.00	L306/	0.00
L307/	0.00	L308/	0.00	L309/	0.00
L310/	0.00	L311/	0.00	L312/	0.00
L313/	0.00	L314/	0.00	L315/	0.00
L316/	0.00	L317/	0.00	L318/	0.00
L321/	0.00	L324/	0.00	L325/	0.00
L326/	0.00	L327/	0.00	L328/	0.00
L329/	0.00	L334/	0.00	L335/	0.00
L336/	0.00	L337/	0.00	L475/	0.00
L478/	0.00	L479/	0.00	L487/	0.00
L493/	0.00	L499/	0.00	L500/	0.00
L507/	0.00	L513/	0.00	L546/	0.00
L510/	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	FREE #11/	0.00
FREE #12/	0.00	FREE #13/	0.00	FREE #14/	0.00
FREE #15/	0.00	FREE #16/	0.00	FREE #17/	0.00
FREE #18/	0.00	FREE #19/	0.00	FREE #20/	0.00
FREE #21/	0.00	FREE #22/	0.00	FREE #23/	0.00
FREE #24/	0.00	FREE #25/	0.00	FREE #26/	0.00
FREE #27/	0.00	FREE #28/	0.00	FREE #29/	0.00
FREE #30/	0.00				

Conduit/	Velocity				
L210/	0.00	L211/	0.00	L212/	0.00
L213/	0.00	L214/	0.00	L217/	0.00
L220/	0.00	L221/	0.00	L222/	0.00
L223/	0.00	L224/	0.00	L225/	0.00
L226/	0.00	L227/	0.00	L228/	0.00
L229/	0.00	L230/	0.00	L231/	0.00
L232/	0.00	L233/	0.00	L234/	0.00
L235/	0.00	L236/	0.00	L237/	0.00
L238/	0.00	L239/	0.00	L240/	0.00
L241/	0.00	L242/	0.00	L243/	0.00
L246/	0.00	L247/	0.00	L248/	0.00
L249/	0.00	L250/	0.00	L251/	0.00
L259/	0.00	L260/	0.00	L261/	0.00
L262/	0.00	L263/	0.00	L272/	0.00
L273/	0.00	L274/	0.00	L275/	0.00
L277/	0.00	L281/	0.00	L282/	0.00
L283/	0.00	L287/	0.00	L289/	0.00
L319/	0.00	L320/	0.00	L338/	0.00
L339/	0.00	L340/	0.00	L341/	0.00
L342/	0.00	L343/	0.00	L344/	0.00
L346/	0.00	L347/	0.00	L348/	0.00
L349/	0.00	L350/	0.00	L351/	0.00
L352/	0.00	L354/	0.00	L361/	0.00
L362/	0.00	L363/	0.00	L364/	0.00
L365/	0.00	L366/	0.00	L367/	0.00
L368/	0.00	L369/	0.00	L370/	0.00
L373/	0.00	L374/	0.00	L375/	0.00
L376/	0.00	L386/	0.00	L387/	0.00
L388/	0.00	L389/	0.00	L390/	0.00
L391/	0.00	L392/	0.00	L393/	0.00
L395/	0.00	L396/	0.00	L397/	0.00
L398/	0.00	L399/	0.00	L402/	0.00
L403/	0.00	L404/	0.00	L405/	0.00
L406/	0.00	L407/	0.00	L408/	0.00

L410/	0.00	L411/	0.00	L413/	0.00
L415/	0.00	L417/	0.00	L418/	0.00
L419/	0.00	L420/	0.00	L421/	0.00
L422/	0.00	L423/	0.00	L424/	0.00
L425/	0.00	L426/	0.00	L427/	0.00
L428/	0.00	L429/	0.00	L430/	0.00
L431/	0.00	L432/	0.00	L435/	0.00
L436/	0.00	L437/	0.00	L438/	0.00
L439/	0.00	L440/	0.00	L441/	0.00
L442/	0.00	L443/	0.00	L446/	0.00
L448/	0.00	L449/	0.00	L450/	0.00
L451/	0.00	L452/	0.00	L453/	0.00
L454/	0.00	L466/	0.00	L468/	0.00
L470/	0.00	L471/	0.00	L472/	0.00
L490/	0.00	L496/	0.00	L497/	0.00
L498/	0.00	L501/	0.00	L502/	0.00
L503/	0.00	L504/	0.00	L505/	0.00
L506/	0.00	L509/	0.00	L511/	0.00
L512/	0.00	L514/	0.00	L515/	0.00
CH21/	0.00	L474/	0.00	L523/	0.00
L525/	0.00	L527/	0.00	L528/	0.00
L529/	0.00	L533/	0.00	L537/	0.00
L394/	0.00	L276/	0.00	L288/	0.00
L412/	0.00	L447/	0.00	L252/	0.00
L253/	0.00	L254/	0.00	L255/	0.00
L256/	0.00	L257/	0.00	L264/	0.00
L265/	0.00	L266/	0.00	L267/	0.00
L268/	0.00	L269/	0.00	L270/	0.00
L271/	0.00	L278/	0.00	L279/	0.00
L280/	0.00	L284/	0.00	L285/	0.00
L286/	0.00	L290/	0.00	L291/	0.00
L292/	0.00	L294/	0.00	L300/	0.00
L301/	0.00	L302/	0.00	L303/	0.00
L304/	0.00	L305/	0.00	L306/	0.00
L307/	0.00	L308/	0.00	L309/	0.00
L310/	0.00	L311/	0.00	L312/	0.00
L313/	0.00	L314/	0.00	L315/	0.00
L316/	0.00	L317/	0.00	L318/	0.00
L321/	0.00	L324/	0.00	L325/	0.00
L326/	0.00	L327/	0.00	L328/	0.00
L329/	0.00	L334/	0.00	L335/	0.00
L336/	0.00	L337/	0.00	L475/	0.00
L478/	0.00	L479/	0.00	L487/	0.00
L493/	0.00	L499/	0.00	L500/	0.00
L507/	0.00	L513/	0.00	L546/	0.00
L510/	0.00				

Conduit/ Cross Sectional Area

L210/	0.00	L211/	0.00	L212/	0.00
L213/	0.00	L214/	0.00	L217/	0.00
L220/	0.00	L221/	0.00	L222/	0.32
L223/	0.00	L224/	0.00	L225/	0.00
L226/	0.00	L227/	0.00	L228/	0.00
L229/	0.00	L230/	0.00	L231/	0.00
L232/	0.00	L233/	0.00	L234/	0.00
L235/	0.00	L236/	0.00	L237/	0.00
L238/	0.00	L239/	0.00	L240/	0.00
L241/	0.00	L242/	0.00	L243/	0.00
L246/	0.00	L247/	0.50	L248/	0.00
L249/	0.00	L250/	0.08	L251/	0.00

L259/	0.00	L260/	0.24	L261/	0.00
L262/	0.08	L263/	0.00	L272/	1.60
L273/	0.00	L274/	0.18	L275/	0.00
L277/	0.00	L281/	0.00	L282/	0.08
L283/	0.00	L287/	0.00	L289/	0.00
L319/	0.00	L320/	0.00	L338/	0.00
L339/	0.00	L340/	0.00	L341/	0.00
L342/	0.00	L343/	0.00	L344/	0.00
L346/	0.00	L347/	0.00	L348/	0.00
L349/	0.00	L350/	0.00	L351/	0.00
L352/	0.00	L354/	1.54	L361/	0.00
L362/	0.00	L363/	0.00	L364/	0.00
L365/	0.00	L366/	0.00	L367/	0.00
L368/	0.00	L369/	0.00	L370/	0.00
L373/	0.71	L374/	0.00	L375/	0.00
L376/	0.00	L386/	0.00	L387/	0.00
L388/	0.00	L389/	0.00	L390/	0.00
L391/	0.00	L392/	0.00	L393/	0.00
L395/	0.00	L396/	0.00	L397/	0.00
L398/	0.00	L399/	0.00	L402/	0.00
L403/	0.00	L404/	0.00	L405/	0.00
L406/	0.00	L407/	0.00	L408/	0.00
L410/	0.00	L411/	0.00	L413/	0.00
L415/	0.00	L417/	0.00	L418/	0.00
L419/	0.00	L420/	0.00	L421/	0.00
L422/	0.00	L423/	0.00	L424/	0.00
L425/	0.00	L426/	0.00	L427/	0.00
L428/	0.00	L429/	0.00	L430/	0.00
L431/	0.00	L432/	0.00	L435/	0.00
L436/	0.00	L437/	0.00	L438/	0.00
L439/	0.00	L440/	0.00	L441/	0.00
L442/	0.00	L443/	0.97	L446/	0.00
L448/	0.00	L449/	0.00	L450/	0.00
L451/	0.00	L452/	0.00	L453/	0.00
L454/	0.00	L466/	0.00	L468/	0.00
L470/	0.00	L471/	0.00	L472/	0.00
L490/	0.00	L496/	0.00	L497/	0.00
L498/	0.00	L501/	0.00	L502/	0.00
L503/	0.00	L504/	0.00	L505/	0.00
L506/	0.00	L509/	0.08	L511/	0.00
L512/	0.32	L514/	0.00	L515/	0.00
CH21/	0.00	L474/	0.00	L523/	0.00
L525/	0.00	L527/	0.00	L528/	0.00
L529/	0.00	L533/	0.00	L537/	0.00
L394/	1.37	L276/	0.00	L288/	0.12
L412/	0.00	L447/	0.00	L252/	0.00
L253/	0.00	L254/	0.00	L255/	0.00
L256/	0.00	L257/	0.00	L264/	0.00
L265/	0.00	L266/	0.00	L267/	0.00
L268/	0.00	L269/	0.00	L270/	0.00
L271/	0.00	L278/	0.00	L279/	0.00
L280/	0.00	L284/	0.00	L285/	0.18
L286/	0.00	L290/	0.00	L291/	0.00
L292/	0.08	L294/	0.00	L300/	0.00
L301/	0.00	L302/	0.00	L303/	0.00
L304/	0.00	L305/	0.00	L306/	0.00
L307/	0.32	L308/	0.18	L309/	0.00
L310/	0.00	L311/	0.00	L312/	0.00
L313/	0.00	L314/	0.00	L315/	0.00
L316/	0.00	L317/	0.00	L318/	0.00

L321/	0.00	L324/	0.00	L325/	0.00
L326/	0.00	L327/	0.00	L328/	0.00
L329/	0.18	L334/	0.00	L335/	0.00
L336/	0.00	L337/	0.08	L475/	0.00
L478/	0.00	L479/	0.00	L487/	0.25
L493/	0.00	L499/	0.00	L500/	0.00
L507/	0.00	L513/	0.00	L546/	0.00
L510/	0.13				

Conduit/ Hydraulic Radius

L210/	0.00	L211/	0.00	L212/	0.00
L213/	0.00	L214/	0.00	L217/	0.00
L220/	0.00	L221/	0.00	L222/	0.05
L223/	0.00	L224/	0.00	L225/	0.00
L226/	0.00	L227/	0.00	L228/	0.00
L229/	0.00	L230/	0.00	L231/	0.00
L232/	0.00	L233/	0.00	L234/	0.00
L235/	0.00	L236/	0.00	L237/	0.00
L238/	0.00	L239/	0.00	L240/	0.00
L241/	0.00	L242/	0.00	L243/	0.00
L246/	0.00	L247/	0.07	L248/	0.00
L249/	0.00	L250/	0.03	L251/	0.00
L259/	0.00	L260/	0.05	L261/	0.00
L262/	0.03	L263/	0.00	L272/	0.12
L273/	0.00	L274/	0.04	L275/	0.00
L277/	0.00	L281/	0.00	L282/	0.03
L283/	0.00	L287/	0.00	L289/	0.00
L319/	0.00	L320/	0.00	L338/	0.00
L339/	0.00	L340/	0.00	L341/	0.00
L342/	0.00	L343/	0.00	L344/	0.00
L346/	0.00	L347/	0.00	L348/	0.00
L349/	0.00	L350/	0.00	L351/	0.00
L352/	0.00	L354/	0.14	L361/	0.00
L362/	0.00	L363/	0.00	L364/	0.00
L365/	0.00	L366/	0.00	L367/	0.00
L368/	0.00	L369/	0.00	L370/	0.00
L373/	0.08	L374/	0.00	L375/	0.00
L376/	0.00	L386/	0.00	L387/	0.00
L388/	0.00	L389/	0.00	L390/	0.00
L391/	0.00	L392/	0.00	L393/	0.00
L395/	0.00	L396/	0.00	L397/	0.00
L398/	0.00	L399/	0.00	L402/	0.00
L403/	0.00	L404/	0.00	L405/	0.00
L406/	0.00	L407/	0.00	L408/	0.00
L410/	0.00	L411/	0.00	L413/	0.00
L415/	0.00	L417/	0.00	L418/	0.00
L419/	0.00	L420/	0.00	L421/	0.00
L422/	0.00	L423/	0.00	L424/	0.00
L425/	0.00	L426/	0.00	L427/	0.00
L428/	0.00	L429/	0.00	L430/	0.00
L431/	0.00	L432/	0.00	L435/	0.00
L436/	0.00	L437/	0.00	L438/	0.00
L439/	0.00	L440/	0.00	L441/	0.00
L442/	0.00	L443/	0.10	L446/	0.00
L448/	0.00	L449/	0.00	L450/	0.00
L451/	0.00	L452/	0.00	L453/	0.00
L454/	0.00	L466/	0.00	L468/	0.00
L470/	0.00	L471/	0.00	L472/	0.00
L490/	0.00	L496/	0.00	L497/	0.00
L498/	0.00	L501/	0.00	L502/	0.00

L503/	0.00	L504/	0.00	L505/	0.00
L506/	0.00	L509/	0.03	L511/	0.00
L512/	0.05	L514/	0.00	L515/	0.00
CH21/	0.00	L474/	0.00	L523/	0.00
L525/	0.00	L527/	0.00	L528/	0.00
L529/	0.00	L533/	0.00	L537/	0.00
L394/	0.15	L276/	0.00	L288/	0.03
L412/	0.00	L447/	0.00	L252/	0.00
L253/	0.00	L254/	0.00	L255/	0.00
L256/	0.00	L257/	0.00	L264/	0.00
L265/	0.00	L266/	0.00	L267/	0.00
L268/	0.00	L269/	0.00	L270/	0.00
L271/	0.00	L278/	0.00	L279/	0.00
L280/	0.00	L284/	0.00	L285/	0.04
L286/	0.00	L290/	0.00	L291/	0.00
L292/	0.03	L294/	0.00	L300/	0.00
L301/	0.00	L302/	0.00	L303/	0.00
L304/	0.00	L305/	0.00	L306/	0.00
L307/	0.05	L308/	0.04	L309/	0.00
L310/	0.00	L311/	0.00	L312/	0.00
L313/	0.00	L314/	0.00	L315/	0.00
L316/	0.00	L317/	0.00	L318/	0.00
L321/	0.00	L324/	0.00	L325/	0.00
L326/	0.00	L327/	0.00	L328/	0.00
L329/	0.04	L334/	0.00	L335/	0.00
L336/	0.00	L337/	0.03	L475/	0.00
L478/	0.00	L479/	0.00	L487/	0.05
L493/	0.00	L499/	0.00	L500/	0.00
L507/	0.00	L513/	0.00	L546/	0.00
L510/	0.03				

Conduit/ Upstream/ Downstream Elevation

96.97	L210/	104.44/	104.44	L211/	100.81/	100.81	L212/	96.97/
95.83	L213/	96.97/	96.97	L214/	96.97/	96.97	L217/	95.83/
90.47	L220/	95.83/	95.83	L221/	94.42/	94.42	L222/	94.42/
115.11	L223/	118.61/	118.61	L224/	117.26/	117.26	L225/	115.11/
111.36	L226/	116.62/	116.62	L227/	115.11/	115.11	L228/	111.36/
103.85	L229/	108.63/	108.63	L230/	105.86/	105.86	L231/	103.85/
97.87	L232/	101.68/	101.68	L233/	99.53/	99.53	L234/	97.87/
99.53	L235/	111.36/	111.36	L236/	103.85/	103.85	L237/	99.53/
108.08	L238/	113.06/	113.06	L239/	108.08/	108.08	L240/	108.08/
102.80	L241/	102.80/	102.80	L242/	102.80/	102.80	L243/	102.80/
97.16	L246/	97.16/	97.16	L247/	97.16/	99.55	L248/	97.16/
104.46	L249/	104.46/	104.46	L250/	104.46/	99.54	L251/	104.46/
93.44	L259/	95.58/	95.58	L260/	95.58/	90.48	L261/	93.44/
83.90	L262/	93.44/	83.91	L263/	93.44/	93.44	L272/	77.03/

118.30	L273/	77.03/	77.03	L274/	91.92/	83.90	L275/	118.30/
113.42	L277/	118.30/	118.30	L281/	122.28/	122.28	L282/	122.28/
112.26	L283/	122.28/	122.28	L287/	112.26/	112.26	L289/	112.26/
126.13	L319/	100.00/	100.00	L320/	100.22/	100.22	L338/	126.13/
122.57	L339/	125.28/	125.28	L340/	125.01/	125.01	L341/	122.57/
123.67	L342/	125.28/	125.28	L343/	125.28/	125.28	L344/	123.67/
120.97	L346/	121.70/	121.70	L347/	121.34/	121.34	L348/	120.97/
122.82	L349/	120.60/	120.60	L350/	119.98/	119.98	L351/	122.82/
124.76	L352/	119.98/	119.98	L354/	119.27/	122.58	L361/	124.76/
122.86	L362/	124.76/	124.76	L363/	122.86/	122.86	L364/	122.86/
120.11	L365/	122.86/	122.86	L366/	121.95/	121.95	L367/	120.11/
119.83	L368/	120.11/	120.11	L369/	120.11/	120.11	L370/	119.83/
115.81	L373/	119.83/	122.58	L374/	117.68/	117.68	L375/	115.81/
113.48	L376/	115.81/	115.81	L386/	114.30/	114.30	L387/	113.48/
113.17	L388/	113.48/	113.48	L389/	113.17/	113.17	L390/	113.17/
112.12	L391/	112.78/	112.78	L392/	112.48/	112.48	L393/	112.12/
115.33	L395/	115.33/	115.33	L396/	115.33/	115.33	L397/	115.33/
112.00	L398/	115.83/	115.83	L399/	115.83/	115.83	L402/	112.00/
109.13	L403/	110.91/	110.91	L404/	109.13/	109.13	L405/	109.13/
107.45	L406/	108.26/	108.26	L407/	108.26/	108.26	L408/	107.45/
116.67	L410/	106.92/	106.92	L411/	106.02/	106.02	L413/	116.67/
110.18	L415/	118.07/	118.07	L417/	110.18/	110.18	L418/	110.18/
108.15	L419/	109.58/	109.58	L420/	108.15/	108.15	L421/	108.15/
106.02	L422/	108.15/	108.15	L423/	107.22/	107.22	L424/	106.02/
105.48	L425/	107.22/	107.22	L426/	107.22/	107.22	L427/	105.48/
117.99	L428/	105.48/	105.48	L429/	105.05/	105.05	L430/	117.99/
113.76	L431/	117.99/	117.99	L432/	120.74/	120.74	L435/	113.76/
110.26	L436/	111.68/	111.68	L437/	110.26/	110.26	L438/	110.26/
104.61	L439/	108.39/	108.39	L440/	105.05/	105.05	L441/	104.61/
126.19	L442/	104.11/	104.11	L443/	104.11/	99.57	L446/	126.19/

118.66	L448/	125.09/	125.09	L449/	123.59/	123.59	L450/	118.66/
123.59	L451/	117.71/	117.71	L452/	123.59/	123.59	L453/	123.59/
117.57	L454/	118.66/	118.66	L466/	118.57/	118.57	L468/	117.57/
126.04	L470/	121.41/	121.41	L471/	121.90/	121.90	L472/	126.04/
131.17	L490/	108.11/	108.11	L496/	131.17/	131.17	L497/	131.17/
121.70	L498/	130.60/	130.60	L501/	122.66/	122.66	L502/	121.70/
99.71	L503/	119.64/	119.64	L504/	119.27/	119.27	L505/	99.71/
108.11	L506/	97.87/	97.87	L509/	107.85/	97.64	L511/	108.11/
114.60	L512/	108.11/	97.42	L514/	125.09/	125.09	L515/	114.60/
118.43	CH21/	116.31/	116.31	L474/	118.00/	118.00	L523/	118.43/
112.78	L525/	114.60/	114.60	L527/	113.48/	113.48	L528/	112.78/
107.45	L529/	112.09/	112.09	L533/	109.64/	109.64	L537/	107.45/
108.83	L394/	112.12/	115.63	L276/	110.72/	110.72	L288/	112.26/
97.55	L412/	116.67/	116.67	L447/	126.19/	126.19	L252/	97.55/
98.55	L253/	100.33/	100.33	L254/	97.55/	97.55	L255/	98.55/
83.24	L256/	97.55/	97.55	L257/	96.35/	96.35	L264/	83.24/
82.77	L265/	82.77/	82.77	L266/	82.50/	82.50	L267/	82.77/
78.46	L268/	94.45/	94.45	L269/	82.50/	82.50	L270/	78.46/
110.10	L271/	77.03/	77.03	L278/	112.96/	112.96	L279/	110.10/
108.64	L280/	112.96/	112.96	L284/	104.72/	104.72	L285/	104.72/
99.61	L286/	104.72/	104.72	L290/	101.79/	101.79	L291/	99.61/
87.74	L292/	99.61/	99.57	L294/	87.74/	87.74	L300/	87.74/
89.77	L301/	89.28/	89.28	L302/	86.67/	86.67	L303/	89.77/
93.44	L304/	89.77/	89.77	L305/	89.28/	89.28	L306/	93.44/
93.44	L307/	93.44/	97.64	L308/	93.44/	97.64	L309/	93.44/
106.18	L310/	108.51/	108.51	L311/	106.18/	106.18	L312/	106.18/
104.47	L313/	102.28/	102.28	L314/	102.28/	102.28	L315/	104.47/
100.22	L316/	102.28/	102.28	L317/	101.25/	101.25	L318/	100.22/
117.19	L321/	117.69/	117.69	L324/	118.45/	118.45	L325/	117.19/
115.65	L326/	116.17/	116.17	L327/	116.17/	116.17	L328/	115.65/

120.82	L329/	115.65/	113.42	L334/	122.98/	122.98	L335/	120.82/
87.74	L336/	120.09/	120.09	L337/	120.09/	115.34	L475/	87.74/
97.42	L478/	85.47/	85.47	L479/	84.31/	84.31	L487/	95.54/
116.17	L493/	83.95/	83.95	L499/	117.19/	117.19	L500/	116.17/
86.67	L507/	90.68/	90.68	L513/	83.24/	83.24	L546/	86.67/
	L510/	102.21/	97.42					

Important Information #####
Start time of user hydrographs was... 0.0000000000000000E+000
Start time of the simulation was..... 0.0000000000000000E+000
Found a match between user hydrograph and simulation start time.

=====
==> System inflows (data group K3) at 0.00 hours (Junction / Inflow,cfs)

N221	/ 0.00E+00	N222	/ 0.00E+00	N223	/ 0.00E+00	N224	/ 0.00E+00	N227	/
0.00E+00	N228	/ 0.00E+00							
N230	/ 0.00E+00	N231	/ 0.00E+00	N233	/ 0.00E+00	N234	/ 0.00E+00	N235	/
0.00E+00	N236	/ 0.00E+00							
N237	/ 0.00E+00	N238	/ 0.00E+00	N239	/ 0.00E+00	N240	/ 0.00E+00	N241	/
0.00E+00	N242	/ 0.00E+00							
N243	/ 0.00E+00	N244	/ 0.00E+00	N245	/ 0.00E+00	N246	/ 0.00E+00	N247	/
0.00E+00	N248	/ 0.00E+00							
N249	/ 0.00E+00	N250	/ 0.00E+00	N251	/ 0.00E+00	N252	/ 0.00E+00	N253	/
0.00E+00	N254	/ 0.00E+00							
N255	/ 0.00E+00	N256	/ 0.00E+00	N257	/ 0.00E+00	N259	/ 0.00E+00	N260	/
0.00E+00	N261	/ 0.00E+00							
N262	/ 0.00E+00	N263	/ 0.00E+00	N264	/ 0.00E+00	N265	/ 0.00E+00	N272	/
0.00E+00	N273	/ 0.00E+00							
N274	/ 0.00E+00	N275	/ 0.00E+00	N276	/ 0.00E+00	N277	/ 0.00E+00	N278	/
0.00E+00	N279	/ 0.00E+00							
N288	/ 0.00E+00	N289	/ 0.00E+00	N290	/ 0.00E+00	N291	/ 0.00E+00	N292	/
0.00E+00	N293	/ 0.00E+00							
N294	/ 0.00E+00	N296	/ 0.00E+00	N301	/ 0.00E+00	N302	/ 0.00E+00	N303	/
0.00E+00	N304	/ 0.00E+00							
N309	/ 0.00E+00	N310	/ 0.00E+00	N312	/ 0.00E+00	N342	/ 0.00E+00	N343	/
0.00E+00	N344	/ 0.00E+00							
N345	/ 0.00E+00	N361	/ 0.00E+00	N362	/ 0.00E+00	N363	/ 0.00E+00	N364	/
0.00E+00	N365	/ 0.00E+00							
N366	/ 0.00E+00	N367	/ 0.00E+00	N368	/ 0.00E+00	N369	/ 0.00E+00	N370	/
0.00E+00	N371	/ 0.00E+00							
N372	/ 0.00E+00	N373	/ 0.00E+00	N374	/ 0.00E+00	N375	/ 0.00E+00	N376	/
0.00E+00	N377	/ 0.00E+00							
N378	/ 0.00E+00	N379	/ 0.00E+00	N381	/ 0.00E+00	N382	/ 0.00E+00	N383	/
0.00E+00	N384	/ 0.00E+00							
N386	/ 0.00E+00	N387	/ 0.00E+00	N388	/ 0.00E+00	N389	/ 0.00E+00	N390	/
0.00E+00	N391	/ 0.00E+00							
N392	/ 0.00E+00	N394	/ 0.00E+00	N395	/ 0.00E+00	N396	/ 0.00E+00	N397	/
0.00E+00	N398	/ 0.00E+00							
N399	/ 0.00E+00	N403	/ 0.00E+00	N404	/ 0.00E+00	N405	/ 0.00E+00	N406	/
0.00E+00	N407	/ 0.00E+00							
N408	/ 0.00E+00	N409	/ 0.00E+00	N410	/ 0.00E+00	N412	/ 0.00E+00	N413	/
0.00E+00	N414	/ 0.00E+00							
N415	/ 0.00E+00	N416	/ 0.00E+00	N417	/ 0.00E+00	N418	/ 0.00E+00	N419	/
0.00E+00	N420	/ 0.00E+00							

N421 / 0.00E+00 N422 / 0.00E+00 N423 / 0.00E+00 N424 / 0.00E+00 N425 /
 0.00E+00 N426 / 0.00E+00
 N428 / 0.00E+00 N429 / 0.00E+00 N430 / 0.00E+00 N431 / 0.00E+00 N432 /
 0.00E+00 N434 / 0.00E+00
 N435 / 0.00E+00 N436 / 0.00E+00 N437 / 0.00E+00 N438 / 0.00E+00 N439 /
 0.00E+00 N440 / 0.00E+00
 N441 / 0.00E+00 N442 / 0.00E+00 N443 / 0.00E+00 N444 / 0.00E+00 N445 /
 0.00E+00 N446 / 0.00E+00
 N447 / 0.00E+00 N448 / 0.00E+00 N449 / 0.00E+00 N450 / 0.00E+00 N451 /
 0.00E+00 N453 / 0.00E+00
 N454 / 0.00E+00 N455 / 0.00E+00 N456 / 0.00E+00 N457 / 0.00E+00 N458 /
 0.00E+00 N459 / 0.00E+00
 N460 / 0.00E+00 N461 / 0.00E+00 N464 / 0.00E+00 N465 / 0.00E+00 N466 /
 0.00E+00 N467 / 0.00E+00
 N468 / 0.00E+00 N469 / 0.00E+00 N470 / 0.00E+00 N471 / 0.00E+00 N472 /
 0.00E+00 N473 / 0.00E+00
 N487 / 0.00E+00 N489 / 0.00E+00 N490 / 0.00E+00 N491 / 0.00E+00 N492 /
 0.00E+00 N493 / 0.00E+00
 N497 / 0.00E+00 N499 / 0.00E+00 N509 / 0.00E+00 N513 / 0.00E+00 N514 /
 0.00E+00 N516 / 0.00E+00
 N524 / 0.00E+00 N525 / 0.00E+00 N526 / 0.00E+00 N527 / 0.00E+00 N528 /
 0.00E+00 N529 / 0.00E+00
 N530 / 0.00E+00 N689 / 0.00E+00 N494 / 0.00E+00 N541 / 0.00E+00 EL329 /
 0.00E+00 N427 / 0.00E+00
 N411 / 0.00E+00 N295 / 0.00E+00 N311 / 0.00E+00 N462 / 0.00E+00 N266 /
 0.00E+00 N267 / 0.00E+00
 N268 / 0.00E+00 N269 / 0.00E+00 N270 / 0.00E+00 N271 / 0.00E+00 N280 /
 0.00E+00 N281 / 0.00E+00
 N282 / 0.00E+00 N283 / 0.00E+00 N284 / 0.00E+00 N285 / 0.00E+00 N286 /
 0.00E+00 N287 / 0.00E+00
 N297 / 0.00E+00 N298 / 0.00E+00 N299 / 0.00E+00 N300 / 0.00E+00 N305 /
 0.00E+00 N306 / 0.00E+00
 N307 / 0.00E+00 N308 / 0.00E+00 N313 / 0.00E+00 N314 / 0.00E+00 N315 /
 0.00E+00 N316 / 0.00E+00
 N317 / 0.00E+00 N318 / 0.00E+00 N319 / 0.00E+00 N320 / 0.00E+00 N321 /
 0.00E+00 N325 / 0.00E+00
 N326 / 0.00E+00 N327 / 0.00E+00 N328 / 0.00E+00 N329 / 0.00E+00 N330 /
 0.00E+00 N331 / 0.00E+00
 N332 / 0.00E+00 N333 / 0.00E+00 N334 / 0.00E+00 N335 / 0.00E+00 N336 /
 0.00E+00 N337 / 0.00E+00
 N338 / 0.00E+00 N339 / 0.00E+00 N340 / 0.00E+00 N341 / 0.00E+00 N347 /
 0.00E+00 N348 / 0.00E+00
 N349 / 0.00E+00 N350 / 0.00E+00 N351 / 0.00E+00 N352 / 0.00E+00 N353 /
 0.00E+00 N354 / 0.00E+00
 N355 / 0.00E+00 N356 / 0.00E+00 N357 / 0.00E+00 N358 / 0.00E+00 N359 /
 0.00E+00 N360 / 0.00E+00
 N500 / 0.00E+00 N501 / 0.00E+00 N503 / 0.00E+00 N504 / 0.00E+00 N506 /
 0.00E+00 N517 / 0.00E+00
 N518 / 0.00E+00 N554 / 0.00E+00 N511 / 0.00E+00 N555 / 0.00E+00

 ==> System inflows (data group K3) at 0.02 hours (Junction / Inflow,cfs)

N221 / 2.40E-01 N222 / 2.03E-02 N223 / 1.35E-02 N224 / 1.02E-02 N227 /
 2.07E-01 N228 / 4.46E-01
 N230 / 8.21E-02 N231 / 7.89E-02 N233 / 1.48E-02 N234 / 0.00E+00 N235 /
 1.91E-02 N236 / 0.00E+00
 N237 / 0.00E+00 N238 / 5.59E-02 N239 / 3.49E-02 N240 / 5.44E-02 N241 /
 8.30E-04 N242 / 4.26E-02
 N243 / 2.84E-02 N244 / 9.25E-03 N245 / 2.40E-02 N246 / 2.66E-04 N247 /
 3.36E-01 N248 / 3.72E-02

N249 / 1.76E-01 N250 / 2.56E-01 N251 / 3.07E-01 N252 / 3.07E-02 N253 /
5.24E-03 N254 / 1.03E-01
N255 / 7.46E-02 N256 / 1.54E-01 N257 / 2.06E-01 N259 / 2.04E-01 N260 /
0.00E+00 N261 / 1.65E-01
N262 / 1.31E-01 N263 / 9.62E-03 N264 / 0.00E+00 N265 / 1.08E-01 N272 /
1.53E-02 N273 / 7.08E-02
N274 / 1.62E-02 N275 / 1.31E-02 N276 / 8.13E-02 N277 / 1.04E-02 N278 /
0.00E+00 N279 / 9.96E-02
N288 / 7.60E-02 N289 / 0.00E+00 N290 / 7.84E-01 N291 / 7.10E-01 N292 /
0.00E+00 N293 / 1.25E-01
N294 / 1.07E-02 N296 / 1.25E-01 N301 / 2.84E-01 N302 / 8.22E-03 N303 /
0.00E+00 N304 / 1.24E-01
N309 / 1.51E-01 N310 / 5.80E-03 N312 / 1.88E-01 N342 / 9.94E-03 N343 /
0.00E+00 N344 / 1.56E-01
N345 / 4.22E-02 N361 / 1.76E+00 N362 / 0.00E+00 N363 / 1.41E-01 N364 /
0.00E+00 N365 / 0.00E+00
N366 / 3.81E-01 N367 / 2.19E-01 N368 / 1.02E+00 N369 / 0.00E+00 N370 /
1.53E+00 N371 / 2.12E+00
N372 / 0.00E+00 N373 / 0.00E+00 N374 / 0.00E+00 N375 / 7.35E-01 N376 /
6.85E-01 N377 / 0.00E+00
N378 / 0.00E+00 N379 / 0.00E+00 N381 / 4.30E-03 N382 / 8.31E-02 N383 /
1.92E-01 N384 / 1.79E-01
N386 / 2.20E-01 N387 / 1.36E-01 N388 / 0.00E+00 N389 / 2.94E-01 N390 /
1.89E-01 N391 / 2.90E-01
N392 / 0.00E+00 N394 / 0.00E+00 N395 / 2.78E-01 N396 / 0.00E+00 N397 /
6.16E-03 N398 / 1.59E-01
N399 / 1.49E-01 N403 / 0.00E+00 N404 / 5.79E-01 N405 / 1.85E-01 N406 /
2.70E-01 N407 / 1.33E-01
N408 / 4.54E-01 N409 / 0.00E+00 N410 / 0.00E+00 N412 / 3.52E-01 N413 /
0.00E+00 N414 / 0.00E+00
N415 / 3.80E-01 N416 / 3.59E-01 N417 / 0.00E+00 N418 / 3.36E-01 N419 /
0.00E+00 N420 / 5.91E-01
N421 / 0.00E+00 N422 / 0.00E+00 N423 / 4.03E-01 N424 / 0.00E+00 N425 /
3.17E-01 N426 / 0.00E+00
N428 / 0.00E+00 N429 / 1.58E-01 N430 / 1.86E-01 N431 / 8.47E-04 N432 /
0.00E+00 N434 / 1.88E-01
N435 / 0.00E+00 N436 / 2.36E-01 N437 / 4.29E-01 N438 / 0.00E+00 N439 /
1.37E-02 N440 / 1.38E-01
N441 / 3.16E-01 N442 / 0.00E+00 N443 / 7.73E-02 N444 / 3.29E-01 N445 /
7.87E-02 N446 / 7.80E-02
N447 / 1.58E-01 N448 / 2.03E-01 N449 / 1.49E-04 N450 / 0.00E+00 N451 /
1.89E-01 N453 / 0.00E+00
N454 / 2.38E-01 N455 / 0.00E+00 N456 / 8.38E-04 N457 / 1.39E-01 N458 /
0.00E+00 N459 / 0.00E+00
N460 / 0.00E+00 N461 / 0.00E+00 N464 / 4.10E-02 N465 / 4.91E-01 N466 /
0.00E+00 N467 / 8.06E-02
N468 / 1.38E-01 N469 / 5.39E-02 N470 / 0.00E+00 N471 / 1.07E-01 N472 /
7.74E-02 N473 / 5.63E-02
N487 / 0.00E+00 N489 / 0.00E+00 N490 / 7.55E-01 N491 / 3.17E-02 N492 /
3.70E-01 N493 / 0.00E+00
N497 / 2.48E-01 N499 / 0.00E+00 N509 / 9.16E-01 N513 / 5.57E-01 N514 /
1.26E-02 N516 / 0.00E+00
N524 / 5.03E-02 N525 / 0.00E+00 N526 / 4.97E-02 N527 / 2.73E-02 N528 /
0.00E+00 N529 / 0.00E+00
N530 / 2.50E-02 N689 / 0.00E+00 N494 / 0.00E+00 N541 / 0.00E+00 EL329 /
3.60E-01 N427 / 0.00E+00
N411 / 0.00E+00 N295 / 0.00E+00 N311 / 0.00E+00 N462 / 1.76E-01 N266 /
9.36E-03 N267 / 7.84E-03
N268 / 1.44E-01 N269 / 0.00E+00 N270 / 3.29E-01 N271 / 6.40E-02 N280 /
3.14E-01 N281 / 3.53E-02


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N282      / 5.21E-03 N283      / 9.75E-02 N284      / 7.11E-02 N285      / 2.20E-01 N286      /
2.23E-02 N287      / 0.00E+00
N297      / 1.30E-01 N298      / 1.00E-02 N299      / 0.00E+00 N300      / 1.30E-01 N305      /
1.30E-01 N306      / 1.08E-02
N307      / 0.00E+00 N308      / 1.17E-01 N313      / 1.44E-02 N314      / 2.25E-02 N315      /
5.86E-02 N316      / 0.00E+00
N317      / 3.62E-01 N318      / 5.93E-02 N319      / 1.16E-01 N320      / 1.41E-02 N321      /
1.55E-01 N325      / 0.00E+00
N326      / 7.06E-02 N327      / 2.04E-01 N328      / 4.17E-02 N329      / 2.34E-01 N330      /
1.83E-02 N331      / 0.00E+00
N332      / 2.24E-01 N333      / 1.33E-01 N334      / 0.00E+00 N335      / 9.70E-03 N336      /
1.06E-01 N337      / 2.42E-02
N338      / 1.06E-01 N339      / 1.35E-01 N340      / 0.00E+00 N341      / 0.00E+00 N347      /
0.00E+00 N348      / 1.64E-02
N349      / 1.42E-01 N350      / 1.35E-01 N351      / 9.23E-03 N352      / 1.63E-01 N353      /
1.84E-01 N354      / 0.00E+00
N355      / 0.00E+00 N356      / 3.54E-02 N357      / 3.59E-02 N358      / 3.59E-02 N359      /
0.00E+00 N360      / 0.00E+00
N500      / 2.05E-01 N501      / 0.00E+00 N503      / 0.00E+00 N504      / 8.94E-01 N506      /
3.15E-01 N517      / 1.07E-02
N518      / 0.00E+00 N554      / 0.00E+00 N511      / 4.25E-01 N555      / 0.00E+00
#####
#####
==> System inflows (data group K3) at      0.08 hours ( Junction / Inflow,cfs )

N221      / 2.89E+00 N222      / 2.44E-01 N223      / 1.62E-01 N224      / 1.23E-01 N227      /
2.49E+00 N228      / 5.37E+00
N230      / 9.89E-01 N231      / 9.50E-01 N233      / 1.78E-01 N234      / 0.00E+00 N235      /
2.31E-01 N236      / 0.00E+00
N237      / 0.00E+00 N238      / 6.74E-01 N239      / 4.21E-01 N240      / 6.55E-01 N241      /
1.00E-02 N242      / 5.13E-01
N243      / 3.42E-01 N244      / 1.12E-01 N245      / 2.90E-01 N246      / 3.20E-03 N247      /
4.05E+00 N248      / 4.48E-01
N249      / 2.13E+00 N250      / 3.08E+00 N251      / 3.69E+00 N252      / 3.70E-01 N253      /
6.31E-02 N254      / 1.24E+00
N255      / 8.98E-01 N256      / 1.85E+00 N257      / 2.48E+00 N259      / 2.46E+00 N260      /
0.00E+00 N261      / 1.98E+00
N262      / 1.58E+00 N263      / 1.16E-01 N264      / 0.00E+00 N265      / 1.30E+00 N272      /
1.84E-01 N273      / 8.53E-01
N274      / 1.95E-01 N275      / 1.58E-01 N276      / 9.79E-01 N277      / 1.25E-01 N278      /
0.00E+00 N279      / 1.20E+00
N288      / 9.16E-01 N289      / 0.00E+00 N290      / 9.45E+00 N291      / 8.56E+00 N292      /
0.00E+00 N293      / 1.51E+00
N294      / 1.29E-01 N296      / 1.51E+00 N301      / 3.42E+00 N302      / 9.90E-02 N303      /
0.00E+00 N304      / 1.50E+00
N309      / 1.82E+00 N310      / 6.99E-02 N312      / 2.26E+00 N342      / 1.20E-01 N343      /
0.00E+00 N344      / 1.88E+00
N345      / 5.08E-01 N361      / 2.13E+01 N362      / 0.00E+00 N363      / 1.70E+00 N364      /
0.00E+00 N365      / 0.00E+00
N366      / 4.59E+00 N367      / 2.63E+00 N368      / 1.23E+01 N369      / 0.00E+00 N370      /
1.84E+01 N371      / 2.56E+01
N372      / 0.00E+00 N373      / 0.00E+00 N374      / 0.00E+00 N375      / 8.86E+00 N376      /
8.25E+00 N377      / 0.00E+00
N378      / 0.00E+00 N379      / 0.00E+00 N381      / 5.18E-02 N382      / 1.00E+00 N383      /
2.31E+00 N384      / 2.16E+00
N386      / 2.65E+00 N387      / 1.64E+00 N388      / 0.00E+00 N389      / 3.54E+00 N390      /
2.28E+00 N391      / 3.49E+00
N392      / 0.00E+00 N394      / 0.00E+00 N395      / 3.35E+00 N396      / 0.00E+00 N397      /
7.42E-02 N398      / 1.92E+00
N399      / 1.80E+00 N403      / 0.00E+00 N404      / 6.97E+00 N405      / 2.23E+00 N406      /

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3.25E+00 N407      / 1.61E+00
N408      / 5.48E+00 N409      / 0.00E+00 N410      / 0.00E+00 N412      / 4.24E+00 N413      /
0.00E+00 N414      / 0.00E+00
N415      / 4.58E+00 N416      / 4.32E+00 N417      / 0.00E+00 N418      / 4.05E+00 N419      /
0.00E+00 N420      / 7.12E+00
N421      / 0.00E+00 N422      / 0.00E+00 N423      / 4.85E+00 N424      / 0.00E+00 N425      /
3.83E+00 N426      / 0.00E+00
N428      / 0.00E+00 N429      / 1.91E+00 N430      / 2.24E+00 N431      / 1.02E-02 N432      /
0.00E+00 N434      / 2.27E+00
N435      / 0.00E+00 N436      / 2.85E+00 N437      / 5.17E+00 N438      / 0.00E+00 N439      /
1.65E-01 N440      / 1.66E+00
N441      / 3.80E+00 N442      / 0.00E+00 N443      / 9.32E-01 N444      / 3.97E+00 N445      /
9.48E-01 N446      / 9.39E-01
N447      / 1.91E+00 N448      / 2.45E+00 N449      / 1.80E-03 N450      / 0.00E+00 N451      /
2.28E+00 N453      / 0.00E+00
N454      / 2.87E+00 N455      / 0.00E+00 N456      / 1.01E-02 N457      / 1.67E+00 N458      /
0.00E+00 N459      / 0.00E+00
N460      / 0.00E+00 N461      / 0.00E+00 N464      / 4.94E-01 N465      / 5.92E+00 N466      /
0.00E+00 N467      / 9.71E-01
N468      / 1.66E+00 N469      / 6.49E-01 N470      / 0.00E+00 N471      / 1.29E+00 N472      /
9.32E-01 N473      / 6.79E-01
N487      / 0.00E+00 N489      / 0.00E+00 N490      / 9.10E+00 N491      / 3.82E-01 N492      /
4.46E+00 N493      / 0.00E+00
N497      / 2.99E+00 N499      / 0.00E+00 N509      / 1.10E+01 N513      / 6.72E+00 N514      /
1.52E-01 N516      / 0.00E+00
N524      / 6.06E-01 N525      / 0.00E+00 N526      / 5.99E-01 N527      / 3.29E-01 N528      /
0.00E+00 N529      / 0.00E+00
N530      / 3.01E-01 N689      / 0.00E+00 N494      / 0.00E+00 N541      / 0.00E+00 EL329      /
4.34E+00 N427      / 0.00E+00
N411      / 0.00E+00 N295      / 0.00E+00 N311      / 0.00E+00 N462      / 2.13E+00 N266      /
1.13E-01 N267      / 9.44E-02
N268      / 1.74E+00 N269      / 0.00E+00 N270      / 3.96E+00 N271      / 7.71E-01 N280      /
3.79E+00 N281      / 4.26E-01
N282      / 6.28E-02 N283      / 1.17E+00 N284      / 8.57E-01 N285      / 2.66E+00 N286      /
2.69E-01 N287      / 0.00E+00
N297      / 1.56E+00 N298      / 1.20E-01 N299      / 0.00E+00 N300      / 1.57E+00 N305      /
1.57E+00 N306      / 1.31E-01
N307      / 0.00E+00 N308      / 1.41E+00 N313      / 1.73E-01 N314      / 2.71E-01 N315      /
7.07E-01 N316      / 0.00E+00
N317      / 4.36E+00 N318      / 7.15E-01 N319      / 1.40E+00 N320      / 1.70E-01 N321      /
1.87E+00 N325      / 0.00E+00
N326      / 8.51E-01 N327      / 2.46E+00 N328      / 5.03E-01 N329      / 2.82E+00 N330      /
2.21E-01 N331      / 0.00E+00
N332      / 2.69E+00 N333      / 1.60E+00 N334      / 0.00E+00 N335      / 1.17E-01 N336      /
1.28E+00 N337      / 2.92E-01
N338      / 1.28E+00 N339      / 1.62E+00 N340      / 0.00E+00 N341      / 0.00E+00 N347      /
0.00E+00 N348      / 1.98E-01
N349      / 1.71E+00 N350      / 1.63E+00 N351      / 1.11E-01 N352      / 1.96E+00 N353      /
2.21E+00 N354      / 0.00E+00
N355      / 0.00E+00 N356      / 4.26E-01 N357      / 4.32E-01 N358      / 4.33E-01 N359      /
0.00E+00 N360      / 0.00E+00
N500      / 2.47E+00 N501      / 0.00E+00 N503      / 0.00E+00 N504      / 1.08E+01 N506      /
3.80E+00 N517      / 1.29E-01
N518      / 0.00E+00 N554      / 0.00E+00 N511      / 5.12E+00 N555      / 0.00E+00
#####
#####
====> System inflows (data group K3) at      1.02 hours ( Junction / Inflow,cfs )

N221      / 2.89E+00 N222      / 2.44E-01 N223      / 1.62E-01 N224      / 1.23E-01 N227      /
2.49E+00 N228      / 5.37E+00

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N230 / 9.89E-01 N231 / 9.50E-01 N233 / 1.78E-01 N234 / 0.00E+00 N235 /
2.31E-01 N236 / 0.00E+00
N237 / 0.00E+00 N238 / 6.74E-01 N239 / 4.21E-01 N240 / 6.55E-01 N241 /
1.00E-02 N242 / 5.13E-01
N243 / 3.42E-01 N244 / 1.12E-01 N245 / 2.90E-01 N246 / 3.20E-03 N247 /
4.05E+00 N248 / 4.48E-01
N249 / 2.13E+00 N250 / 3.08E+00 N251 / 3.69E+00 N252 / 3.70E-01 N253 /
6.31E-02 N254 / 1.24E+00
N255 / 8.98E-01 N256 / 1.85E+00 N257 / 2.48E+00 N259 / 2.46E+00 N260 /
0.00E+00 N261 / 1.98E+00
N262 / 1.58E+00 N263 / 1.16E-01 N264 / 0.00E+00 N265 / 1.30E+00 N272 /
1.84E-01 N273 / 8.53E-01
N274 / 1.95E-01 N275 / 1.58E-01 N276 / 9.79E-01 N277 / 1.25E-01 N278 /
0.00E+00 N279 / 1.20E+00
N288 / 9.16E-01 N289 / 0.00E+00 N290 / 9.45E+00 N291 / 8.56E+00 N292 /
0.00E+00 N293 / 1.51E+00
N294 / 1.29E-01 N296 / 1.51E+00 N301 / 3.42E+00 N302 / 9.90E-02 N303 /
0.00E+00 N304 / 1.50E+00
N309 / 1.82E+00 N310 / 6.99E-02 N312 / 2.26E+00 N342 / 1.20E-01 N343 /
0.00E+00 N344 / 1.88E+00
N345 / 5.08E-01 N361 / 2.13E+01 N362 / 0.00E+00 N363 / 1.70E+00 N364 /
0.00E+00 N365 / 0.00E+00
N366 / 4.59E+00 N367 / 2.63E+00 N368 / 1.23E+01 N369 / 0.00E+00 N370 /
1.84E+01 N371 / 2.56E+01
N372 / 0.00E+00 N373 / 0.00E+00 N374 / 0.00E+00 N375 / 8.86E+00 N376 /
8.25E+00 N377 / 0.00E+00
N378 / 0.00E+00 N379 / 0.00E+00 N381 / 5.18E-02 N382 / 1.00E+00 N383 /
2.31E+00 N384 / 2.16E+00
N386 / 2.65E+00 N387 / 1.64E+00 N388 / 0.00E+00 N389 / 3.54E+00 N390 /
2.28E+00 N391 / 3.49E+00
N392 / 0.00E+00 N394 / 0.00E+00 N395 / 3.35E+00 N396 / 0.00E+00 N397 /
7.42E-02 N398 / 1.92E+00
N399 / 1.80E+00 N403 / 0.00E+00 N404 / 6.97E+00 N405 / 2.23E+00 N406 /
3.25E+00 N407 / 1.61E+00
N408 / 5.48E+00 N409 / 0.00E+00 N410 / 0.00E+00 N412 / 4.24E+00 N413 /
0.00E+00 N414 / 0.00E+00
N415 / 4.58E+00 N416 / 4.32E+00 N417 / 0.00E+00 N418 / 4.05E+00 N419 /
0.00E+00 N420 / 7.12E+00
N421 / 0.00E+00 N422 / 0.00E+00 N423 / 4.85E+00 N424 / 0.00E+00 N425 /
3.83E+00 N426 / 0.00E+00
N428 / 0.00E+00 N429 / 1.91E+00 N430 / 2.24E+00 N431 / 1.02E-02 N432 /
0.00E+00 N434 / 2.27E+00
N435 / 0.00E+00 N436 / 2.85E+00 N437 / 5.17E+00 N438 / 0.00E+00 N439 /
1.65E-01 N440 / 1.66E+00
N441 / 3.80E+00 N442 / 0.00E+00 N443 / 9.32E-01 N444 / 3.97E+00 N445 /
9.48E-01 N446 / 9.39E-01
N447 / 1.91E+00 N448 / 2.45E+00 N449 / 1.80E-03 N450 / 0.00E+00 N451 /
2.28E+00 N453 / 0.00E+00
N454 / 2.87E+00 N455 / 0.00E+00 N456 / 1.01E-02 N457 / 1.67E+00 N458 /
0.00E+00 N459 / 0.00E+00
N460 / 0.00E+00 N461 / 0.00E+00 N464 / 4.94E-01 N465 / 5.92E+00 N466 /
0.00E+00 N467 / 9.71E-01
N468 / 1.66E+00 N469 / 6.49E-01 N470 / 0.00E+00 N471 / 1.29E+00 N472 /
9.32E-01 N473 / 6.79E-01
N487 / 0.00E+00 N489 / 0.00E+00 N490 / 9.10E+00 N491 / 3.82E-01 N492 /
4.46E+00 N493 / 0.00E+00
N497 / 2.99E+00 N499 / 0.00E+00 N509 / 1.10E+01 N513 / 6.72E+00 N514 /
1.52E-01 N516 / 0.00E+00
N524 / 6.06E-01 N525 / 0.00E+00 N526 / 5.99E-01 N527 / 3.29E-01 N528 /
0.00E+00 N529 / 0.00E+00

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N530      / 3.01E-01 N689      / 0.00E+00 N494      / 0.00E+00 N541      / 0.00E+00 EL329      /
4.34E+00 N427      / 0.00E+00
N411      / 0.00E+00 N295      / 0.00E+00 N311      / 0.00E+00 N462      / 2.13E+00 N266      /
1.13E-01 N267      / 9.44E-02
N268      / 1.74E+00 N269      / 0.00E+00 N270      / 3.96E+00 N271      / 7.71E-01 N280      /
3.79E+00 N281      / 4.26E-01
N282      / 6.28E-02 N283      / 1.17E+00 N284      / 8.57E-01 N285      / 2.66E+00 N286      /
2.69E-01 N287      / 0.00E+00
N297      / 1.56E+00 N298      / 1.20E-01 N299      / 0.00E+00 N300      / 1.57E+00 N305      /
1.57E+00 N306      / 1.31E-01
N307      / 0.00E+00 N308      / 1.41E+00 N313      / 1.73E-01 N314      / 2.71E-01 N315      /
7.07E-01 N316      / 0.00E+00
N317      / 4.36E+00 N318      / 7.15E-01 N319      / 1.40E+00 N320      / 1.70E-01 N321      /
1.87E+00 N325      / 0.00E+00
N326      / 8.51E-01 N327      / 2.46E+00 N328      / 5.03E-01 N329      / 2.82E+00 N330      /
2.21E-01 N331      / 0.00E+00
N332      / 2.69E+00 N333      / 1.60E+00 N334      / 0.00E+00 N335      / 1.17E-01 N336      /
1.28E+00 N337      / 2.92E-01
N338      / 1.28E+00 N339      / 1.62E+00 N340      / 0.00E+00 N341      / 0.00E+00 N347      /
0.00E+00 N348      / 1.98E-01
N349      / 1.71E+00 N350      / 1.63E+00 N351      / 1.11E-01 N352      / 1.96E+00 N353      /
2.21E+00 N354      / 0.00E+00
N355      / 0.00E+00 N356      / 4.26E-01 N357      / 4.32E-01 N358      / 4.33E-01 N359      /
0.00E+00 N360      / 0.00E+00
N500      / 2.47E+00 N501      / 0.00E+00 N503      / 0.00E+00 N504      / 1.08E+01 N506      /
3.80E+00 N517      / 1.29E-01
N518      / 0.00E+00 N554      / 0.00E+00 N511      / 5.12E+00 N555      / 0.00E+00
#####
#####
==> System inflows (data group K3) at      2.00 hours ( Junction / Inflow,cfs )

N221      / 2.89E+00 N222      / 2.44E-01 N223      / 1.62E-01 N224      / 1.23E-01 N227      /
2.49E+00 N228      / 5.37E+00
N230      / 9.89E-01 N231      / 9.50E-01 N233      / 1.78E-01 N234      / 0.00E+00 N235      /
2.31E-01 N236      / 0.00E+00
N237      / 0.00E+00 N238      / 6.74E-01 N239      / 4.21E-01 N240      / 6.55E-01 N241      /
1.00E-02 N242      / 5.13E-01
N243      / 3.42E-01 N244      / 1.12E-01 N245      / 2.90E-01 N246      / 3.20E-03 N247      /
4.05E+00 N248      / 4.48E-01
N249      / 2.13E+00 N250      / 3.08E+00 N251      / 3.69E+00 N252      / 3.70E-01 N253      /
6.31E-02 N254      / 1.24E+00
N255      / 8.98E-01 N256      / 1.85E+00 N257      / 2.48E+00 N259      / 2.46E+00 N260      /
0.00E+00 N261      / 1.98E+00
N262      / 1.58E+00 N263      / 1.16E-01 N264      / 0.00E+00 N265      / 1.30E+00 N272      /
1.84E-01 N273      / 8.53E-01
N274      / 1.95E-01 N275      / 1.58E-01 N276      / 9.79E-01 N277      / 1.25E-01 N278      /
0.00E+00 N279      / 1.20E+00
N288      / 9.16E-01 N289      / 0.00E+00 N290      / 9.45E+00 N291      / 8.56E+00 N292      /
0.00E+00 N293      / 1.51E+00
N294      / 1.29E-01 N296      / 1.51E+00 N301      / 3.42E+00 N302      / 9.90E-02 N303      /
0.00E+00 N304      / 1.50E+00
N309      / 1.82E+00 N310      / 6.99E-02 N312      / 2.26E+00 N342      / 1.20E-01 N343      /
0.00E+00 N344      / 1.88E+00
N345      / 5.08E-01 N361      / 2.13E+01 N362      / 0.00E+00 N363      / 1.70E+00 N364      /
0.00E+00 N365      / 0.00E+00
N366      / 4.59E+00 N367      / 2.63E+00 N368      / 1.23E+01 N369      / 0.00E+00 N370      /
1.84E+01 N371      / 2.56E+01
N372      / 0.00E+00 N373      / 0.00E+00 N374      / 0.00E+00 N375      / 8.86E+00 N376      /
8.25E+00 N377      / 0.00E+00
N378      / 0.00E+00 N379      / 0.00E+00 N381      / 5.18E-02 N382      / 1.00E+00 N383      /

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2.31E+00 N384	/ 2.16E+00				
N386	/ 2.65E+00 N387	/ 1.64E+00 N388	/ 0.00E+00 N389	/ 3.54E+00 N390	/
2.28E+00 N391	/ 3.49E+00				
N392	/ 0.00E+00 N394	/ 0.00E+00 N395	/ 3.35E+00 N396	/ 0.00E+00 N397	/
7.42E-02 N398	/ 1.92E+00				
N399	/ 1.80E+00 N403	/ 0.00E+00 N404	/ 6.97E+00 N405	/ 2.23E+00 N406	/
3.25E+00 N407	/ 1.61E+00				
N408	/ 5.48E+00 N409	/ 0.00E+00 N410	/ 0.00E+00 N412	/ 4.24E+00 N413	/
0.00E+00 N414	/ 0.00E+00				
N415	/ 4.58E+00 N416	/ 4.32E+00 N417	/ 0.00E+00 N418	/ 4.05E+00 N419	/
0.00E+00 N420	/ 7.12E+00				
N421	/ 0.00E+00 N422	/ 0.00E+00 N423	/ 4.85E+00 N424	/ 0.00E+00 N425	/
3.83E+00 N426	/ 0.00E+00				
N428	/ 0.00E+00 N429	/ 1.91E+00 N430	/ 2.24E+00 N431	/ 1.02E-02 N432	/
0.00E+00 N434	/ 2.27E+00				
N435	/ 0.00E+00 N436	/ 2.85E+00 N437	/ 5.17E+00 N438	/ 0.00E+00 N439	/
1.65E-01 N440	/ 1.66E+00				
N441	/ 3.80E+00 N442	/ 0.00E+00 N443	/ 9.32E-01 N444	/ 3.97E+00 N445	/
9.48E-01 N446	/ 9.39E-01				
N447	/ 1.91E+00 N448	/ 2.45E+00 N449	/ 1.80E-03 N450	/ 0.00E+00 N451	/
2.28E+00 N453	/ 0.00E+00				
N454	/ 2.87E+00 N455	/ 0.00E+00 N456	/ 1.01E-02 N457	/ 1.67E+00 N458	/
0.00E+00 N459	/ 0.00E+00				
N460	/ 0.00E+00 N461	/ 0.00E+00 N464	/ 4.94E-01 N465	/ 5.92E+00 N466	/
0.00E+00 N467	/ 9.71E-01				
N468	/ 1.66E+00 N469	/ 6.49E-01 N470	/ 0.00E+00 N471	/ 1.29E+00 N472	/
9.32E-01 N473	/ 6.79E-01				
N487	/ 0.00E+00 N489	/ 0.00E+00 N490	/ 9.10E+00 N491	/ 3.82E-01 N492	/
4.46E+00 N493	/ 0.00E+00				
N497	/ 2.99E+00 N499	/ 0.00E+00 N509	/ 1.10E+01 N513	/ 6.72E+00 N514	/
1.52E-01 N516	/ 0.00E+00				
N524	/ 6.06E-01 N525	/ 0.00E+00 N526	/ 5.99E-01 N527	/ 3.29E-01 N528	/
0.00E+00 N529	/ 0.00E+00				
N530	/ 3.01E-01 N689	/ 0.00E+00 N494	/ 0.00E+00 N541	/ 0.00E+00 EL329	/
4.34E+00 N427	/ 0.00E+00				
N411	/ 0.00E+00 N295	/ 0.00E+00 N311	/ 0.00E+00 N462	/ 2.13E+00 N266	/
1.13E-01 N267	/ 9.44E-02				
N268	/ 1.74E+00 N269	/ 0.00E+00 N270	/ 3.96E+00 N271	/ 7.71E-01 N280	/
3.79E+00 N281	/ 4.26E-01				
N282	/ 6.28E-02 N283	/ 1.17E+00 N284	/ 8.57E-01 N285	/ 2.66E+00 N286	/
2.69E-01 N287	/ 0.00E+00				
N297	/ 1.56E+00 N298	/ 1.20E-01 N299	/ 0.00E+00 N300	/ 1.57E+00 N305	/
1.57E+00 N306	/ 1.31E-01				
N307	/ 0.00E+00 N308	/ 1.41E+00 N313	/ 1.73E-01 N314	/ 2.71E-01 N315	/
7.07E-01 N316	/ 0.00E+00				
N317	/ 4.36E+00 N318	/ 7.15E-01 N319	/ 1.40E+00 N320	/ 1.70E-01 N321	/
1.87E+00 N325	/ 0.00E+00				
N326	/ 8.51E-01 N327	/ 2.46E+00 N328	/ 5.03E-01 N329	/ 2.82E+00 N330	/
2.21E-01 N331	/ 0.00E+00				
N332	/ 2.69E+00 N333	/ 1.60E+00 N334	/ 0.00E+00 N335	/ 1.17E-01 N336	/
1.28E+00 N337	/ 2.92E-01				
N338	/ 1.28E+00 N339	/ 1.62E+00 N340	/ 0.00E+00 N341	/ 0.00E+00 N347	/
0.00E+00 N348	/ 1.98E-01				
N349	/ 1.71E+00 N350	/ 1.63E+00 N351	/ 1.11E-01 N352	/ 1.96E+00 N353	/
2.21E+00 N354	/ 0.00E+00				
N355	/ 0.00E+00 N356	/ 4.26E-01 N357	/ 4.32E-01 N358	/ 4.33E-01 N359	/
0.00E+00 N360	/ 0.00E+00				
N500	/ 2.47E+00 N501	/ 0.00E+00 N503	/ 0.00E+00 N504	/ 1.08E+01 N506	/
3.80E+00 N517	/ 1.29E-01				
N518	/ 0.00E+00 N554	/ 0.00E+00 N511	/ 5.12E+00 N555	/ 0.00E+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)
N221	26.5188	66.2969	60.0000
N222	30.9041	77.2602	0.0000
N223	124.4801	311.2002	0.0000
N224	33.2221	83.0553	0.0000
N227	23.7516	59.3790	0.0000
N228	24.3345	60.8364	0.0000
N230	86.9341	217.3353	0.0000
N231	180.0396	450.0989	0.0000
N233	149.6004	374.0009	0.0000
N234	600.0000	600.0000	0.0000
N235	346.1674	600.0000	0.0000
N236	445.0845	600.0000	0.0000
N237	453.2341	600.0000	0.0000
N238	42.4139	106.0347	0.0000
N239	287.9114	600.0000	0.0000
N240	123.6961	309.2402	0.0000
N241	232.9384	582.3461	0.0000
N242	141.6149	354.0373	0.0000
N243	70.6140	176.5351	0.0000
N244	43.8766	109.6915	0.0000
N245	22.4170	56.0426	0.0000
N246	46.5962	116.4906	0.0000
N247	35.3393	88.3483	0.0000
N248	181.4488	453.6221	0.0000
N249	38.9833	97.4582	0.0000
N250	13.7639	34.4098	60.0000
N251	112.3854	280.9635	0.0000
N252	54.6622	136.6555	0.0000
N253	35.6843	89.2107	0.0000
N254	163.7518	409.3795	0.0000
N255	10.2823	25.7058	120.0000
N256	130.1950	325.4875	0.0000
N257	127.0826	317.7065	0.0000
N259	9.9727	24.9319	0.0000
N260	600.0000	600.0000	0.0000
N261	4.7525	11.8813	0.0000
N262	298.6856	600.0000	0.0000
N263	307.2046	600.0000	0.0000
N264	600.0000	600.0000	0.0000
N265	131.8017	329.5042	0.0000
N272	82.4414	206.1036	0.0000
N273	600.0000	600.0000	0.0000
N274	122.4139	306.0347	0.0000
N275	600.0000	600.0000	0.0000
N276	294.9803	600.0000	0.0000

N277	429.7207	600.0000	0.0000
N278	600.0000	600.0000	0.0000
N279	138.5119	346.2798	0.0000
N288	0.5182	1.2955	19740.0000
N289	600.0000	600.0000	0.0000
N290	0.9854	2.4636	60.0000
N291	333.8759	600.0000	0.0000
N292	600.0000	600.0000	0.0000
N293	245.6933	600.0000	0.0000
N294	206.9186	517.2965	0.0000
N296	129.5241	323.8103	0.0000
N301	30.5239	76.3099	0.0000
N302	382.7287	600.0000	0.0000
N303	600.0000	600.0000	0.0000
N304	136.6436	341.6091	0.0000
N309	240.4023	600.0000	0.0000
N310	368.8572	600.0000	0.0000
N312	139.7987	349.4968	0.0000
N342	127.5391	318.8476	0.0000
N343	600.0000	600.0000	0.0000
N344	130.8658	327.1644	0.0000
N345	328.5364	600.0000	0.0000
N361	105.0130	262.5325	0.0000
N362	108.3460	270.8649	0.0000
N363	47.7017	119.2542	0.0000
N364	156.9940	392.4851	0.0000
N365	600.0000	600.0000	0.0000
N366	95.0359	237.5897	0.0000
N367	124.2998	310.7495	0.0000
N368	30.5985	76.4964	0.0000
N369	55.6298	139.0746	0.0000
N370	21.7816	54.4539	0.0000
N371	25.3790	63.4475	60.0000
N372	50.2192	125.5480	0.0000
N373	32.2122	80.5306	0.0000
N374	14.1251	35.3128	0.0000
N375	26.7681	66.9201	0.0000
N376	139.0138	347.5344	0.0000
N377	65.4583	163.6457	0.0000
N378	122.1617	305.4042	0.0000
N379	600.0000	600.0000	0.0000
N381	129.2236	323.0590	0.0000
N382	93.2697	233.1743	0.0000
N383	96.8947	242.2367	0.0000
N384	125.3402	313.3505	0.0000
N386	108.2062	270.5156	0.0000
N387	137.1532	342.8831	0.0000
N388	43.9045	109.7613	0.0000
N389	17.7859	44.4646	0.0000
N390	11.1184	27.7961	0.0000
N391	6.8556	17.1391	0.0000
N392	21.4372	53.5930	0.0000
N394	600.0000	600.0000	0.0000
N395	11.2668	28.1669	0.0000
N396	126.3525	315.8814	0.0000
N397	49.6293	124.0732	120.0000
N398	266.9984	600.0000	0.0000
N399	15.3248	38.3120	60.0000
N403	40.8930	102.2325	60.0000
N404	15.6074	39.0184	0.0000

N405	121.9031	304.7577	0.0000
N406	33.4879	83.7198	0.0000
N407	144.5817	361.4544	0.0000
N408	18.0534	45.1335	0.0000
N409	22.3909	55.9773	0.0000
N410	7.3367	18.3418	0.0000
N412	124.6831	311.7078	0.0000
N413	23.8132	59.5330	0.0000
N414	23.7947	59.4866	0.0000
N415	68.5804	171.4510	0.0000
N416	140.5200	351.3000	0.0000
N417	181.8020	454.5051	0.0000
N418	215.0549	537.6374	0.0000
N419	48.1406	120.3516	0.0000
N420	50.9239	127.3098	0.0000
N421	26.0168	65.0421	0.0000
N422	81.3152	203.2880	0.0000
N423	55.9739	139.9347	0.0000
N424	80.4519	201.1298	0.0000
N425	45.6630	114.1575	0.0000
N426	69.2307	173.0766	0.0000
N428	100.5313	251.3282	0.0000
N429	73.4376	183.5941	0.0000
N430	255.4107	600.0000	0.0000
N431	168.5800	421.4500	0.0000
N432	134.8947	337.2368	0.0000
N434	101.9121	254.7802	0.0000
N435	47.3042	118.2605	0.0000
N436	40.4914	101.2284	0.0000
N437	35.1823	87.9557	0.0000
N438	112.4909	281.2274	0.0000
N439	81.0546	202.6365	0.0000
N440	58.8296	147.0740	60.0000
N441	30.2179	75.5447	60.0000
N442	86.4279	216.0697	0.0000
N443	77.4058	193.5145	0.0000
N444	29.4000	73.5001	0.0000
N445	208.7145	521.7863	0.0000
N446	127.5553	318.8881	0.0000
N447	211.5289	528.8222	0.0000
N448	32.0010	80.0025	0.0000
N449	33.7173	84.2932	0.0000
N450	19.5761	48.9402	0.0000
N451	35.5015	88.7537	0.0000
N453	35.9306	89.8266	0.0000
N454	31.3203	78.3008	0.0000
N455	141.2374	353.0935	0.0000
N456	166.9355	417.3388	0.0000
N457	75.7028	189.2569	0.0000
N458	137.4326	343.5814	0.0000
N459	208.0939	520.2347	0.0000
N460	337.4662	600.0000	0.0000
N461	600.0000	600.0000	0.0000
N464	44.1593	110.3982	0.0000
N465	16.9288	42.3220	0.0000
N466	18.1655	45.4139	0.0000
N467	48.7529	121.8822	0.0000
N468	100.9100	252.2750	0.0000
N469	109.1813	272.9534	0.0000
N470	600.0000	600.0000	0.0000

N471	96.6750	241.6874	0.0000
N472	106.7128	266.7821	0.0000
N473	212.6372	531.5929	0.0000
N487	107.3037	268.2593	0.0000
N489	18.7580	46.8950	120.0000
N490	119.0580	297.6450	0.0000
N491	32.9570	82.3926	0.0000
N492	95.2900	238.2251	0.0000
N493	600.0000	600.0000	0.0000
N497	291.2100	600.0000	0.0000
N499	600.0000	600.0000	0.0000
N509	54.9392	137.3479	0.0000
N513	110.6970	276.7426	0.0000
N514	227.4168	568.5419	0.0000
N516	600.0000	600.0000	0.0000
N524	319.4248	600.0000	0.0000
N525	172.6453	431.6133	0.0000
N526	286.4537	600.0000	0.0000
N527	600.0000	600.0000	0.0000
N528	36.4016	91.0039	60.0000
N529	3.4135	8.5337	0.0000
N530	15.0305	37.5762	0.0000
N689	600.0000	600.0000	0.0000
N494	161.5825	403.9562	0.0000
N541	55.7135	139.2836	0.0000
EL329	34.8791	87.1977	0.0000
N427	50.4609	126.1523	60.0000
N411	600.0000	600.0000	0.0000
N295	600.0000	600.0000	0.0000
N311	600.0000	600.0000	0.0000
N462	32.9981	82.4953	0.0000
N266	600.0000	600.0000	0.0000
N267	131.0369	327.5923	0.0000
N268	180.1517	450.3793	0.0000
N269	192.1696	480.4241	0.0000
N270	188.6430	471.6076	0.0000
N271	82.8950	207.2375	0.0000
N280	193.2661	483.1653	0.0000
N281	28.5307	71.3268	0.0000
N282	31.2674	78.1684	0.0000
N283	29.4729	73.6823	0.0000
N284	169.8667	424.6667	0.0000
N285	36.3629	90.9073	0.0000
N286	63.0081	157.5202	0.0000
N287	1.4873	3.7182	0.0000
N297	56.9814	142.4534	0.0000
N298	71.8525	179.6312	0.0000
N299	600.0000	600.0000	0.0000
N300	79.5586	198.8966	0.0000
N305	16.8611	42.1527	0.0000
N306	1.3664	3.4161	0.0000
N307	600.0000	600.0000	0.0000
N308	0.9890	2.4726	0.0000
N313	600.0000	600.0000	0.0000
N314	460.1847	600.0000	0.0000
N315	362.9104	600.0000	0.0000
N316	600.0000	600.0000	0.0000
N317	10.1010	25.2525	0.0000
N318	17.3889	43.4724	0.0000
N319	9.7070	24.2674	60.0000

N320	15.8986	39.7464	0.0000
N321	13.1801	32.9503	0.0000
N325	15.6311	39.0779	0.0000
N326	13.9549	34.8873	60.0000
N327	12.2897	30.7241	120.0000
N328	4.8802	12.2004	0.0000
N329	3.0333	7.5833	0.0000
N330	1.0195	2.5488	0.0000
N331	600.0000	600.0000	0.0000
N332	2.2842	5.7104	60.0000
N333	35.7276	89.3189	0.0000
N334	45.3880	113.4701	0.0000
N335	30.7135	76.7838	0.0000
N336	20.7398	51.8496	0.0000
N337	101.0207	252.5518	0.0000
N338	128.6905	321.7261	0.0000
N339	182.7556	456.8889	0.0000
N340	176.8827	442.2068	0.0000
N341	99.0862	247.7154	0.0000
N347	13.5709	33.9273	180.0000
N348	32.9413	82.3532	0.0000
N349	16.9856	42.4641	0.0000
N350	17.9158	44.7894	120.0000
N351	37.1629	92.9072	0.0000
N352	36.0399	90.0998	0.0000
N353	31.6040	79.0100	0.0000
N354	304.5638	600.0000	0.0000
N355	600.0000	600.0000	0.0000
N356	371.7999	600.0000	0.0000
N357	325.7538	600.0000	0.0000
N358	278.3413	600.0000	0.0000
N359	341.7095	600.0000	0.0000
N360	600.0000	600.0000	0.0000
N500	43.5866	108.9665	0.0000
N501	44.5350	111.3376	0.0000
N503	600.0000	600.0000	0.0000
N504	1.3261	3.3153	240.0000
N506	54.4225	136.0562	0.0000
N517	90.7322	226.8306	0.0000
N518	56.7823	141.9556	60.0000
N554	52.4017	131.0042	0.0000
N322	600.0000	600.0000	0.0000
N511	398.6346	600.0000	0.0000
N555	600.0000	600.0000	0.0000

The junction requiring the smallest time step was...N288

Table E5a - Conduit Explicit Condition Summary

Courant = Conduit Length

Time step = $\frac{\text{Conduit Length}}{\text{Velocity} + \sqrt{g \cdot \text{depth}}}$

Conduit Implicit Condition Summary

Courant = Conduit Length

Time step = $\frac{\text{Conduit Length}}{\text{Velocity}}$

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
L210	6.2515	6.2515	18.7553	1.0000	0.0108	1.3509	Normal Soln
L211	31.1457	31.1457	101.2091	0.0000	-0.0033	1.4135	Normal Soln
L212	52.2625	52.2625	164.6491	0.0000	0.0062	0.9308	Normal Soln
L213	8.6695	8.6695	33.1187	0.0000	0.0102	1.1818	Normal Soln
L214	7.1669	7.1669	30.8026	0.0000	0.0131	1.2167	Normal Soln
L217	12.9886	12.9886	30.4267	0.0000	0.0013	0.3996	Normal Soln
L220	21.3513	21.3513	68.8686	0.0000	0.0116	1.6019	Normal Soln
L221	30.7605	30.7605	94.9061	0.0000	0.0146	1.4233	Normal Soln
L222	9.5820	9.5820	19.4016	0.0000	0.0147	0.3574	Normal Soln
L223	16.5400	16.5400	50.1321	0.0000	0.0003	0.1454	Normal Soln
L224	67.1259	67.1259	218.6507	0.0000	0.0003	0.1471	Normal Soln
L225	44.3093	44.3093	212.3033	0.0000	0.0010	0.1799	Normal Soln
L226	49.1405	49.1405	218.6131	0.0000	0.0014	0.6783	Normal Soln
L227	25.8165	25.8165	103.1838	0.0000	0.0017	1.1183	Normal Soln
L228	33.4838	33.4838	125.9101	0.0000	0.0028	1.6570	Normal Soln
L229	65.7559	65.7559	220.5156	0.0000	0.0022	1.0348	Normal Soln
L230	37.6846	37.6846	135.9271	0.0000	0.0029	1.4589	Normal Soln
L231	32.7004	32.7004	129.8439	0.0000	0.0035	1.6231	Normal Soln
L232	23.8493	23.8493	90.2924	0.0000	0.0082	1.7444	Normal Soln
L233	34.2989	34.2989	134.7716	0.0000	0.0095	1.2812	Normal Soln
L234	31.0691	31.0691	144.1844	0.0000	0.0338	1.0186	Normal Soln
L235	7.5038	7.5038	45.8062	0.0000	0.0007	0.4409	Normal Soln
L236	9.0023	9.0023	39.0021	0.0000	0.0077	1.6059	Normal Soln
L237	7.4322	7.4322	25.6997	0.0000	0.0108	1.5498	Normal Soln
L238	4.9304	4.9304	11.5673	0.0000	0.0122	1.5702	Normal Soln
L239	9.0896	9.0896	23.9116	0.0000	0.0053	1.7384	Normal Soln
L240	12.0804	12.0804	28.5367	0.0000	0.0017	0.5257	Normal Soln
L241	22.4338	22.4338	66.7490	0.0000	0.0072	1.5011	Normal Soln
L242	7.7300	7.7300	18.2402	0.0000	0.0017	0.7871	Normal Soln
L243	10.7957	10.7957	26.3322	0.0000	0.0022	1.0474	Normal Soln
L246	25.0937	25.0937	84.1009	0.0000	-3.1824	3.7190	Normal Soln
L247	5.9740	5.9740	16.3038	0.0000	3.9594	6.4349	Normal Soln
L248	5.0180	5.0180	18.6691	0.0000	-0.7055	2.9804	Normal Soln
L249	9.4542	9.4542	22.2610	0.0000	0.0030	0.6747	Normal Soln
L250	4.1448	4.1448	8.5193	0.0000	0.0022	0.3070	Normal Soln
L251	9.4773	9.4773	22.3581	0.0000	0.0011	0.5553	Normal Soln
L259	27.2141	27.2141	74.1703	0.0000	0.0061	0.9545	Normal Soln
L260	3.2083	3.2083	6.2024	0.0000	0.0074	0.1455	Normal Soln
L261	20.6903	20.6903	51.3702	0.0000	0.0009	0.4139	Normal Soln
L262	3.2442	3.2442	7.8906	0.0000	0.0018	0.1655	Normal Soln
L263	16.4832	16.4832	40.3638	0.0000	0.0019	0.5097	Normal Soln

L272	1.9631	1.9631	14.1155	339.0000	182.0895	63.3927	Normal	Soln
L273	6.4373	6.4373	30.2092	0.0000	-18.5520	31.9359	Normal	Soln
L274	4.5051	4.5051	10.2752	0.0000	0.1696	0.2679	Normal	Soln
L275	13.0078	13.0078	40.7738	0.0000	0.0020	0.6480	Normal	Soln
L277	14.1276	14.1276	43.8767	0.0000	0.0020	0.6486	Normal	Soln
L281	8.5693	8.5693	23.1348	0.0000	0.0095	1.5513	Normal	Soln
L282	1.9736	1.9736	3.2450	19.0000	0.0057	0.3395	Normal	Soln
L283	15.1101	15.1101	36.7070	0.0000	0.0014	0.6326	Normal	Soln
L287	13.6881	13.6881	32.8380	0.0000	0.0017	0.7713	Normal	Soln
L289	14.0922	14.0922	34.5708	0.0000	0.0022	0.9601	Normal	Soln
L319	5.5975	5.5975	13.5686	0.0000	0.0063	1.5855	Normal	Soln
L320	8.0688	8.0688	22.0820	0.0000	0.0017	0.8380	Normal	Soln
L338	6.8569	6.8569	21.4648	0.0000	0.0781	1.0182	Normal	Soln
L339	21.1432	21.1432	64.2430	0.0000	0.0162	1.0020	Normal	Soln
L340	18.5450	18.5450	55.0650	0.0000	0.0236	1.0401	Normal	Soln
L341	7.6907	7.6907	19.5133	0.0000	0.0273	1.0587	Normal	Soln
L342	7.7612	7.7612	19.2026	0.0000	0.0093	1.2413	Normal	Soln
L343	10.4487	10.4487	25.7250	0.0000	0.0023	1.1146	Normal	Soln
L344	4.1865	4.1865	12.4796	0.0000	0.0338	0.9011	Normal	Soln
L346	3.3448	3.3448	18.8270	0.0000	0.0771	1.5440	Normal	Soln
L347	22.7161	22.7161	88.6212	0.0000	0.1659	1.7800	Normal	Soln
L348	24.2125	24.2125	93.7966	0.0000	-0.1681	1.9456	Normal	Soln
L349	24.7033	24.7033	92.4129	0.0000	-0.3964	2.2962	Normal	Soln
L350	8.3550	8.3550	29.3133	0.0000	-0.2794	2.5995	Normal	Soln
L351	3.3857	3.3857	10.4210	0.0000	0.0396	0.9482	Normal	Soln
L352	13.9667	13.9667	43.3775	0.0000	0.0063	0.8894	Normal	Soln
L354	5.4488	5.4488	16.6375	0.0000	18.1237	1.7883	Normal	Soln
L361	5.4554	5.4554	12.7955	0.0000	0.0020	0.9880	Normal	Soln
L362	7.8495	7.8495	18.7039	0.0000	0.0019	0.9219	Normal	Soln
L363	43.0525	43.0525	125.3009	0.0000	0.0040	0.8513	Normal	Soln
L364	5.3147	5.3147	12.4812	0.0000	0.0066	1.1294	Normal	Soln
L365	8.0058	8.0058	19.5999	0.0000	0.0015	0.6995	Normal	Soln
L366	36.2590	36.2590	115.8670	0.0000	0.0075	1.0412	Normal	Soln
L367	33.4920	33.4920	107.2280	0.0000	0.0853	2.6692	Normal	Soln
L368	14.5949	14.5949	35.9571	0.0000	-0.0046	1.6103	Normal	Soln
L369	8.7136	8.7136	21.9892	0.0000	-0.0115	2.5883	Normal	Soln
L370	16.0916	16.0916	56.4323	0.0000	-1.8653	4.7348	Normal	Soln
L373	6.4122	6.4122	26.6176	0.0000	4.3210	1.8239	Normal	Soln
L374	12.5311	12.5311	37.1557	0.0000	0.0037	2.1148	Normal	Soln
L375	47.0845	47.0845	176.7072	0.0000	0.0027	1.2291	Normal	Soln
L376	14.4642	14.4642	62.0882	0.0000	0.0077	0.8570	Normal	Soln
L386	24.3880	24.3880	112.5830	0.0000	-0.1187	1.2132	Normal	Soln
L387	25.2952	25.2952	118.2948	0.0000	-0.1751	1.4818	Normal	Soln
L388	12.0576	12.0576	39.1305	0.0000	0.0042	1.4663	Normal	Soln
L389	25.6875	25.6875	119.4813	0.0000	-0.2832	1.6683	Normal	Soln
L390	13.7012	13.7012	37.5836	0.0000	0.0016	0.8822	Normal	Soln
L391	32.6281	32.6281	141.4397	0.0000	-0.2916	2.2976	Normal	Soln
L392	23.8985	23.8985	89.8743	0.0000	-0.5859	3.0672	Normal	Soln
L393	29.2323	29.2323	100.3153	0.0000	-16.2711	4.0982	Normal	Soln
L395	3.6081	3.6081	14.5294	0.0000	0.0376	0.6686	Normal	Soln
L396	36.6243	36.6243	207.7287	0.0000	0.0066	0.4523	Normal	Soln
L397	4.0334	4.0334	15.3371	0.0000	0.0057	0.7321	Normal	Soln
L398	3.6388	3.6388	13.1820	0.0000	0.0153	0.6500	Normal	Soln
L399	31.6001	31.6001	115.8057	0.0000	0.0034	0.4843	Normal	Soln
L402	7.1766	7.1766	24.8473	0.0000	0.0198	1.1671	Normal	Soln
L403	33.0824	33.0824	116.1692	0.0000	-0.0101	1.1798	Normal	Soln
L404	30.6635	30.6635	104.5308	0.0000	-0.0090	1.2283	Normal	Soln
L405	6.2092	6.2092	18.3900	0.0000	0.0106	1.1024	Normal	Soln
L406	27.7072	27.7072	114.0732	0.0000	0.0141	0.9375	Normal	Soln
L407	6.0310	6.0310	18.5727	0.0000	0.0081	1.3108	Normal	Soln

L408	26.3866	26.3866	115.8019	0.0000	0.0166	0.9626	Normal	Soln
L410	27.1993	27.1993	133.6868	0.0000	0.0180	0.9834	Normal	Soln
L411	20.6552	20.6552	105.9398	0.0000	0.0197	0.9667	Normal	Soln
L413	40.1062	40.1062	155.5415	0.0000	0.0021	0.4898	Normal	Soln
L415	5.7002	5.7002	13.0492	0.0000	0.0019	0.9100	Normal	Soln
L417	5.8832	5.8832	17.8127	0.0000	0.0035	1.4330	Normal	Soln
L418	6.2687	6.2687	18.5368	0.0000	0.0113	1.1437	Normal	Soln
L419	21.0701	21.0701	77.2660	0.0000	0.0064	0.9814	Normal	Soln
L420	31.6178	31.6178	122.3553	0.0000	0.0065	0.9989	Normal	Soln
L421	6.4509	6.4509	20.6556	0.0000	-0.0040	0.9346	Normal	Soln
L422	6.3270	6.3270	19.9862	0.0000	0.0089	1.2815	Normal	Soln
L423	28.6671	28.6671	125.6540	0.0000	0.0151	1.0523	Normal	Soln
L424	20.5528	20.5528	93.0295	0.0000	0.0157	1.1044	Normal	Soln
L425	7.1395	7.1395	25.4237	0.0000	0.0014	0.5654	Normal	Soln
L426	5.8951	5.8951	19.2755	0.0000	0.0099	1.3554	Normal	Soln
L427	29.2809	29.2809	115.7345	0.0000	0.0350	1.3980	Normal	Soln
L428	10.0652	10.0652	32.3331	0.0000	0.0014	0.5811	Normal	Soln
L429	24.5883	24.5883	91.6764	0.0000	0.0356	1.4768	Normal	Soln
L430	7.7857	7.7857	27.6689	0.0000	0.0066	0.9636	Normal	Soln
L431	39.1114	39.1114	132.6127	0.0000	0.0047	1.0571	Normal	Soln
L432	8.5732	8.5732	26.9221	0.0000	0.0020	1.1822	Normal	Soln
L435	7.5019	7.5019	24.7417	0.0000	0.0105	1.3867	Normal	Soln
L436	27.3473	27.3473	84.8219	0.0000	0.0037	1.3164	Normal	Soln
L437	32.3027	32.3027	111.3242	0.0000	0.0026	0.8680	Normal	Soln
L438	9.2879	9.2879	31.4850	0.0000	0.0026	0.8603	Normal	Soln
L439	32.2509	32.2509	98.9040	0.0000	0.0037	1.3237	Normal	Soln
L440	38.3201	38.3201	121.6160	0.0000	0.0039	0.9307	Normal	Soln
L441	25.2294	25.2294	81.9432	0.0000	0.0416	1.7028	Normal	Soln
L442	28.9437	28.9437	77.2274	0.0000	0.0455	1.7005	Normal	Soln
L443	3.2282	3.2282	5.8300	0.0000	0.0524	0.1738	Normal	Soln
L446	4.5793	4.5793	17.2379	0.0000	0.0135	1.2557	Normal	Soln
L448	8.0270	8.0270	32.1444	0.0000	0.0074	0.5699	Normal	Soln
L449	32.6426	32.6426	115.0008	0.0000	0.0109	1.4022	Normal	Soln
L450	30.6032	30.6032	93.8944	0.0000	0.0108	1.4346	Normal	Soln
L451	7.1048	7.1048	17.6776	0.0000	0.0120	1.6067	Normal	Soln
L452	5.9967	5.9967	18.0859	0.0000	0.0019	0.6437	Normal	Soln
L453	7.7414	7.7414	24.8896	0.0000	0.0016	0.4807	Normal	Soln
L454	10.3094	10.3094	30.3107	0.0000	0.0007	0.3101	Normal	Soln
L466	9.2963	9.2963	21.2434	0.0000	0.0081	0.9016	Normal	Soln
L468	54.8638	54.8638	181.0675	0.0000	0.0034	0.4682	Normal	Soln
L470	15.4247	15.4247	41.0683	0.0000	0.0134	1.3127	Normal	Soln
L471	43.8959	43.8959	227.0363	0.0000	0.0008	0.1441	Normal	Soln
L472	3.9352	3.9352	9.2028	0.0000	-0.0269	2.1770	Normal	Soln
L490	12.0034	12.0034	34.1207	0.0000	0.0065	1.3896	Normal	Soln
L496	61.2675	61.2675	166.3291	0.0000	0.0009	0.2575	Normal	Soln
L497	61.6959	61.6959	168.0343	0.0000	0.0008	0.2545	Normal	Soln
L498	13.8903	13.8903	32.5163	0.0000	0.0012	0.5120	Normal	Soln
L501	29.3932	29.3932	143.2066	0.0000	0.0196	0.6409	Normal	Soln
L502	31.2040	31.2040	334.9124	0.0000	0.0563	0.6714	Normal	Soln
L503	26.4789	26.4789	92.7478	0.0000	-0.3281	2.8088	Normal	Soln
L504	28.5285	28.5285	91.7979	0.0000	-10.1301	3.8173	Normal	Soln
L505	25.1053	25.1053	90.3015	0.0000	0.0164	1.5473	Normal	Soln
L506	23.5100	23.5100	88.4759	0.0000	0.0211	1.6573	Normal	Soln
L509	5.5791	5.5791	13.9326	0.0000	0.0256	0.2750	Normal	Soln
L511	10.4981	10.4981	28.4512	0.0000	0.0122	3.1171	Normal	Soln
L512	3.5154	3.5154	6.8866	0.0000	0.0172	0.2261	Normal	Soln
L514	29.2377	29.2377	119.9845	0.0000	-0.0249	1.2524	Normal	Soln
L515	12.0917	12.0917	53.3484	0.0000	0.0179	0.8453	Normal	Soln
CH21	104.8804	104.8804	600.0000	0.0000	0.0185	0.0616	Normal	Soln
L474	8.9345	8.9345	23.7515	0.0000	-0.0279	1.9683	Normal	Soln

L523	28.8755	28.8755	140.7912	0.0000	0.0079	0.4128	Normal	Soln
L525	42.4511	42.4511	165.4916	0.0000	0.0193	0.8851	Normal	Soln
L527	37.6031	37.6031	149.5067	0.0000	0.0078	0.9593	Normal	Soln
L528	36.0936	36.0936	114.9947	0.0000	0.0046	1.3586	Normal	Soln
L529	25.2469	25.2469	104.9026	0.0000	-0.0049	1.4697	Normal	Soln
L533	58.9742	58.9742	228.0493	0.0000	-0.0043	1.0001	Normal	Soln
L537	36.8704	36.8704	178.8752	0.0000	0.0069	1.5079	Normal	Soln
L394	9.2722	9.2722	25.6498	0.0000	8.3982	5.5420	Normal	Soln
L276	5.2191	5.2191	12.5943	0.0000	0.0023	1.3347	Normal	Soln
L288	2.7917	2.7917	6.4149	0.0000	0.0032	0.2031	Normal	Soln
L412	5.9417	5.9417	11.7777	0.0000	0.0073	0.6832	Normal	Soln
L447	35.4182	35.4182	166.4817	0.0000	0.0090	0.5853	Normal	Soln
L252	57.9257	57.9257	438.1697	0.0000	0.0003	0.0479	Normal	Soln
L253	8.9055	8.9055	21.3251	0.0000	0.0035	0.7377	Normal	Soln
L254	43.0686	43.0686	126.2921	0.0000	0.0017	0.7372	Normal	Soln
L255	8.3804	8.3804	21.5764	0.0000	0.0073	1.1013	Normal	Soln
L256	29.2278	29.2278	97.0603	0.0000	0.0040	0.9024	Normal	Soln
L257	25.4433	25.4433	75.1841	0.0000	0.0056	1.2750	Normal	Soln
L264	8.4259	8.4259	20.8395	0.0000	0.0066	1.0516	Normal	Soln
L265	27.3302	27.3302	103.7915	0.0000	-0.0505	1.3823	Normal	Soln
L266	15.7479	15.7479	58.1507	0.0000	-0.1796	2.0394	Normal	Soln
L267	9.0421	9.0421	22.7894	0.0000	0.0008	0.3924	Normal	Soln
L268	7.4193	7.4193	23.4623	0.0000	0.0076	1.2084	Normal	Soln
L269	22.9535	22.9535	65.3736	0.0000	0.0039	1.2997	Normal	Soln
L270	29.7742	29.7742	96.5790	0.0000	-2.1268	3.4297	Normal	Soln
L271	20.2934	20.2934	95.8543	0.0000	-4.2888	4.9993	Normal	Soln
L278	5.2025	5.2025	22.0215	0.0000	0.0038	0.7092	Normal	Soln
L279	14.4231	14.4231	39.2902	0.0000	0.0037	1.4175	Normal	Soln
L280	5.4164	5.4164	22.7685	0.0000	0.0023	0.7187	Normal	Soln
L284	2.7604	2.7604	7.8645	0.0000	8.4196	12.0048	Normal	Soln
L285	10.2712	10.2712	80.4185	0.0000	8.5176	5.5213	Normal	Soln
L286	2.6029	2.6029	7.5207	1.0000	-8.1417	7.5344	Normal	Soln
L290	78.6962	78.6962	230.1393	0.0000	0.0003	0.0738	Normal	Soln
L291	63.6696	63.6696	172.1096	0.0000	0.0007	0.1884	Normal	Soln
L292	6.3934	6.3934	33.3155	0.0000	0.0116	0.3513	Normal	Soln
L294	6.5797	6.5797	27.1870	0.0000	-0.0136	0.8753	Normal	Soln
L300	16.1533	16.1533	68.6063	0.0000	-0.0290	1.2875	Normal	Soln
L301	4.2951	4.2951	17.0056	0.0000	-0.0054	1.0566	Normal	Soln
L302	35.1114	35.1114	183.5592	0.0000	0.0480	1.0787	Normal	Soln
L303	7.3447	7.3447	31.0267	0.0000	0.0104	0.7168	Normal	Soln
L304	5.0870	5.0870	18.6300	0.0000	0.0103	1.4790	Normal	Soln
L305	10.7658	10.7658	54.4645	0.0000	-0.0165	0.9203	Normal	Soln
L306	3.5790	3.5790	16.4822	0.0000	-0.4032	17.2236	Normal	Soln
L307	5.3332	5.3332	19.2003	0.0000	6.4484	3.4049	Normal	Soln
L308	7.0144	7.0144	56.5269	0.0000	1.5682	4.1380	Normal	Soln
L309	3.8266	3.8266	17.2572	0.0000	0.5900	6.3074	Normal	Soln
L310	5.7726	5.7726	19.1733	0.0000	0.0034	0.8114	Normal	Soln
L311	31.4100	31.4100	137.1995	0.0000	0.0018	0.7639	Normal	Soln
L312	4.9627	4.9627	27.6973	0.0000	-0.0039	0.6854	Normal	Soln
L313	40.4957	40.4957	155.4600	0.0000	-0.0030	1.3623	Normal	Soln
L314	10.6430	10.6430	33.8023	0.0000	-0.0020	0.6956	Normal	Soln
L315	8.9796	8.9796	21.8649	0.0000	0.0031	0.6980	Normal	Soln
L316	30.4550	30.4550	94.7922	0.0000	0.0017	0.7485	Normal	Soln
L317	25.9998	25.9998	86.7174	0.0000	0.0073	1.2537	Normal	Soln
L318	28.2215	28.2215	90.3327	0.0000	0.0058	1.2283	Normal	Soln
L321	64.8006	64.8006	262.1698	0.0000	0.0007	0.3257	Normal	Soln
L324	8.8190	8.8190	42.8042	0.0000	0.0074	0.9326	Normal	Soln
L325	4.5796	4.5796	24.3002	0.0000	0.0036	0.7749	Normal	Soln
L326	9.1869	9.1869	44.6803	0.0000	0.0040	0.9538	Normal	Soln
L327	8.8938	8.8938	42.4548	0.0000	0.0036	1.0655	Normal	Soln

L328	21.9349	21.9349	75.1030	0.0000	0.0089	2.3035	Normal	Soln
L329	5.3893	5.3893	11.3227	0.0000	0.0086	0.3873	Normal	Soln
L334	69.2836	69.2836	188.2975	0.0000	0.0007	0.1811	Normal	Soln
L335	53.5685	53.5685	140.9656	0.0000	0.0013	0.3648	Normal	Soln
L336	17.2315	17.2315	42.2257	0.0000	0.0013	0.5475	Normal	Soln
L337	8.2473	8.2473	22.0972	0.0000	0.0011	0.1691	Normal	Soln
L475	6.6266	6.6266	26.1492	0.0000	-0.0205	1.4815	Normal	Soln
L478	28.2318	28.2318	106.2365	0.0000	0.0212	1.5681	Normal	Soln
L479	39.7769	39.7769	160.9062	0.0000	0.0293	1.3348	Normal	Soln
L487	8.1525	8.1525	36.8343	0.0000	0.3152	2.0951	Normal	Soln
L493	32.6219	32.6219	127.4553	0.0000	0.0168	1.8467	Normal	Soln
L499	28.2002	28.2002	182.9228	0.0000	0.0072	1.3444	Normal	Soln
L500	27.2300	27.2300	143.9566	0.0000	0.0072	1.4636	Normal	Soln
L507	10.7144	10.7144	30.2504	0.0000	0.0047	1.6782	Normal	Soln
L513	21.2652	21.2652	75.9175	0.0000	0.0169	1.9281	Normal	Soln
L546	42.6208	42.6208	162.8089	0.0000	0.0054	0.6683	Normal	Soln
L510	4.4627	4.4627	12.0534	0.0000	0.0839	0.2736	Normal	Soln

The conduit with the smallest time step limitation was..L272
The conduit with the largest wobble was.....L272
The conduit with the largest flow change in any
consecutive time step.....L272

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*=====
| 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 =      6.017 hours
|=====

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Junction /	Depth /	Elevation	====>	"*" Junction is	Surcharged.			
102.12/	N221/	1.76*/	107.60/	N222/	2.55*/	106.99/	N223/	1.31 /
100.61/	N224/	3.32*/	100.29/	N227/	2.63*/	100.97/	N228/	3.08 /
95.25/	N230/	2.34 /	98.17/	N231/	0.45 /	100.29/	N233/	0.83 /
118.89/	N234/	4.87 /	90.47/	N235/	0.26 /	119.86/	N236/	0.28 /
118.56/	N237/	0.40 /	117.66/	N238/	2.47*/	117.58/	N239/	0.87 /
110.43/	N240/	1.58*/	118.20/	N241/	1.16 /	112.52/	N242/	1.80 /
105.30/	N243/	2.59 /	108.45/	N244/	2.79*/	106.64/	N245/	3.62*/
112.53/	N246/	3.48*/	103.01/	N247/	4.16*/	102.03/	N248/	1.05 /
116.65/	N249/	2.51 /	107.13/	N250/	2.85*/	103.99/	N251/	1.27*/
113.35/	N252/	2.22 /	115.28/	N253/	2.38 /	110.46/	N254/	0.52 /
108.45/	N255/	4.01 /	106.81/	N256/	0.66 /	108.07/	N257/	0.84 /
100.31/	N259/	2.96*/	100.12/	N260/	2.55 /	99.55/	N261/	1.38*/
99.54/	N262/	0.61 /	105.49/	N263/	0.38 /	104.84/	N264/	2.90 /
97.68/	N265/	0.55 /	105.41/	N272/	1.33 /	97.68/	N273/	0.00 /
	N274/	0.45 /	96.03/	N275/	2.88 /	90.48/	N276/	0.49 /

94.74/	N277/	0.28 /	93.72/	N278/	5.91 /	83.91/	N279/	0.55 /
94.67/	N288/	6.87*/	83.90/	N289/	6.90 /	83.90/	N290/	6.36*/
84.46/	N291/	0.55 /	92.47/	N292/	7.30 /	83.90/	N293/	0.69 /
119.61/	N294/	1.02*/	119.32/	N296/	0.68 /	119.66/	N301/	1.92*/
124.82/	N302/	0.40 /	122.68/	N303/	2.82 /	113.42/	N304/	0.61 /
123.56/	N309/	0.67 /	113.82/	N310/	0.41 /	112.67/	N312/	0.79 /
114.00/	N342/	1.45*/	101.67/	N343/	1.11 /	101.11/	N344/	0.79 /
101.90/	N345/	0.40 /	119.23/	N361/	2.17 /	128.41/	N362/	2.11 /
128.24/	N363/	2.36 /	127.64/	N364/	2.04 /	127.05/	N365/	5.17 /
122.57/	N366/	1.11 /	128.98/	N367/	0.89 /	129.22/	N368/	2.94*/
127.20/	N369/	3.47*/	127.14/	N370/	5.19*/	126.89/	N371/	4.68*/
126.94/	N372/	4.76*/	126.10/	N373/	4.37*/	125.34/	N374/	3.96*/
124.56/	N375/	4.32 /	124.30/	N376/	1.69 /	124.59/	N377/	1.71 /
124.53/	N378/	3.36 /	122.63/	N379/	4.18 /	122.58/	N381/	1.09 /
125.85/	N382/	1.73 /	124.59/	N383/	0.76 /	126.29/	N384/	0.74 /
126.38/	N386/	0.84 /	124.98/	N387/	0.64 /	124.87/	N388/	1.73 /
123.68/	N389/	2.73 /	122.84/	N390/	0.79 /	123.62/	N391/	1.46*/
124.15/	N392/	2.82 /	122.65/	N394/	4.18 /	122.58/	N395/	2.73*/
120.84/	N396/	1.29 /	118.97/	N397/	2.59 /	118.40/	N398/	2.35 /
118.66/	N399/	3.68 /	118.28/	N403/	3.73 /	118.03/	N404/	4.28 /
117.76/	N405/	1.33*/	118.33/	N406/	4.30 /	117.47/	N407/	0.77 /
117.77/	N408/	4.23 /	117.01/	N409/	4.03 /	116.51/	N410/	3.75 /
115.87/	N412/	2.69*/	118.99/	N413/	3.38*/	118.71/	N414/	2.96 /
118.79/	N415/	2.75*/	119.08/	N416/	2.24*/	119.07/	N417/	1.37 /
118.94/	N418/	0.92 /	120.82/	N419/	2.56*/	113.47/	N420/	2.52*/
114.76/	N421/	2.53*/	114.53/	N422/	3.35*/	112.48/	N423/	2.31*/
112.68/	N424/	3.81*/	112.07/	N425/	2.34*/	112.40/	N426/	4.18*/
111.63/	N428/	4.24*/	111.16/	N429/	4.77*/	110.79/	N430/	0.61 /
119.61/	N431/	2.15 /	118.82/	N432/	1.04 /	119.11/	N434/	0.73 /
119.53/	N435/	2.78*/	112.96/	N436/	1.96*/	113.53/	N437/	2.27*/

113.19/								
	N438/	2.95*/	112.53/	N439/	3.71*/	111.86/	N440/	2.01*/
112.06/	N441/	2.48*/	112.21/	N442/	4.06*/	111.28/	N443/	1.96*/
111.34/	N444/	2.61*/	111.64/	N445/	4.27*/	109.75/	N446/	1.34*/
109.83/	N447/	3.83*/	108.88/	N448/	2.01*/	120.78/	N449/	2.23*/
120.22/	N450/	1.79*/	122.53/	N451/	1.75*/	123.02/	N453/	1.94 /
115.70/	N454/	2.17*/	116.46/	N455/	1.34*/	113.02/	N456/	1.93*/
112.19/	N457/	1.43*/	112.45/	N458/	1.39 /	109.78/	N459/	3.05 /
107.66/	N460/	0.99 /	105.10/	N461/	5.47 /	99.57/	N464/	3.05*/
128.14/	N465/	3.10*/	129.75/	N466/	3.31*/	129.50/	N467/	1.92*/
128.22/	N468/	2.41*/	126.00/	N469/	1.78 /	120.44/	N470/	0.97 /
118.68/	N471/	1.21*/	126.09/	N472/	1.12*/	126.06/	N473/	0.46 /
120.53/	N487/	1.02 /	119.59/	N489/	2.44 /	120.87/	N490/	1.60 /
123.50/	N491/	0.86 /	125.03/	N492/	1.78*/	128.12/	N493/	1.00 /
127.04/	N497/	0.36 /	108.21/	N499/	6.44 /	97.64/	N509/	3.56*/
112.44/	N513/	1.33 /	111.34/	N514/	0.65 /	108.76/	N516/	7.42 /
97.42/	N524/	0.35 /	133.80/	N525/	0.51 /	131.68/	N526/	0.34 /
133.80/	N527/	0.51 /	131.11/	N528/	4.32*/	126.98/	N529/	3.92 /
123.56/	N530/	4.78*/	104.49/	N689/	1.50 /	119.50/	N494/	0.95 /
122.36/	N541/	2.20*/	114.29/	EL329/	2.41*/	114.93/	N427/	3.01*/
112.65/	N411/	3.63 /	115.63/	N295/	3.79 /	110.72/	N311/	4.73 /
108.83/	N462/	1.93*/	129.71/	N266/	0.15 /	100.51/	N267/	1.65*/
99.20/	N268/	0.64 /	101.38/	N269/	0.66 /	100.99/	N270/	1.13 /
100.27/	N271/	1.36 /	99.91/	N280/	1.01 /	86.34/	N281/	2.71 /
85.95/	N282/	2.72 /	85.49/	N283/	2.70 /	85.20/	N284/	0.48 /
85.62/	N285/	1.65*/	96.56/	N286/	1.53*/	95.98/	N287/	5.85 /
84.31/	N297/	1.47*/	114.71/	N298/	1.63*/	114.59/	N299/	2.78 /
110.10/	N300/	1.47*/	114.72/	N305/	3.41*/	108.93/	N306/	4.08*/
108.80/	N307/	4.39 /	108.64/	N308/	3.64*/	108.83/	N313/	0.18 /
104.11/	N314/	0.29 /	102.08/	N315/	0.42 /	100.03/	N316/	5.47 /
99.57/	N317/	3.96 /	93.13/	N318/	4.81 /	92.55/	N319/	3.24 /

92.71/									
	N320/	4.05 /	93.33/	N321/	3.42 /	93.53/	N325/	3.75 /	
93.52/	N326/	2.83 /	93.58/	N327/	3.28 /	93.94/	N328/	4.32 /	
97.76/	N329/	4.13 /	98.13/	N330/	4.22 /	97.66/	N331/	4.94 /	
97.64/	N332/	4.18 /	98.18/	N333/	2.07*/	110.94/	N334/	2.27*/	
110.78/	N335/	3.54*/	109.72/	N336/	3.29*/	109.83/	N337/	2.05*/	
104.33/	N338/	1.18*/	104.49/	N339/	0.64 /	105.53/	N340/	0.75 /	
105.22/	N341/	1.70*/	102.95/	N347/	4.25*/	122.70/	N348/	3.92*/	
120.09/	N349/	3.90*/	123.06/	N350/	3.92*/	121.72/	N351/	4.36*/	
121.55/	N352/	3.18*/	120.55/	N353/	3.32*/	120.68/	N354/	0.70 /	
116.35/	N355/	2.82 /	113.42/	N356/	0.29 /	125.61/	N357/	0.42 /	
123.40/	N358/	0.57 /	121.39/	N359/	0.28 /	120.37/	N360/	2.74 /	
115.34/	N500/	4.84*/	91.51/	N501/	3.89*/	89.36/	N503/	7.62 /	
97.42/	N504/	2.87*/	98.41/	N506/	2.49*/	94.63/	N517/	2.69*/	
86.64/	N518/	3.52*/	87.83/	N554/	1.78*/	92.46/	N322/	5.14 /	
97.64/	N511/	0.51 /	102.72/	N555/	7.62 /	97.42/			

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

L210/	2.89 /	L211/	3.14 /	L212/	3.30 /
L213/	2.49 /	L214/	5.37 /	L217/	0.95 /
L220/	11.28 /	L221/	13.22 /	L222/	13.39 /
L223/	0.23 /	L224/	0.23 /	L225/	0.23 /
L226/	0.93 /	L227/	1.58 /	L228/	2.49 /
L229/	2.95 /	L230/	3.46 /	L231/	3.80 /
L232/	6.04 /	L233/	6.33 /	L234/	9.41 /
L235/	0.45 /	L236/	2.13 /	L237/	3.08 /
L238/	3.69 /	L239/	4.06 /	L240/	1.24 /
L241/	5.36 /	L242/	1.85 /	L243/	2.48 /
L246/	24.36 /	L247/	28.80 /	L248/	1.98 /
L249/	1.58 /	L250/	3.00 /	L251/	1.30 /
L259/	6.86 /	L260/	7.05*/	L261/	0.98 /
L262/	2.30*/	L263/	1.20 /	L272/	38.20 /
L273/	9.43 /	L274/	8.56 /	L275/	1.51 /
L277/	1.51 /	L281/	3.42 /	L282/	5.02*/
L283/	1.50 /	L287/	1.82 /	L289/	2.26 /
L319/	8.20 /	L320/	1.88 /	L338/	21.25 /
L339/	21.25 /	L340/	30.17 /	L341/	30.17 /
L342/	4.59 /	L343/	2.63 /	L344/	12.33 /
L346/	25.60 /	L347/	56.33 /	L348/	56.33 /
L349/	56.33 /	L350/	56.33 /	L351/	8.25 /
L352/	8.25 /	L354/	73.45 /	L361/	2.31 /
L362/	2.16 /	L363/	4.52 /	L364/	2.65 /
L365/	1.64 /	L366/	9.81 /	L367/	9.81 /
L368/	2.28 /	L369/	3.49 /	L370/	19.12 /
L373/	19.12 /	L374/	3.35 /	L375/	3.35 /
L376/	14.27 /	L386/	36.62 /	L387/	36.60 /

L388/	2.23 /	L389/	50.32 /	L390/	1.61 /
L391/	55.16 /	L392/	65.35 /	L393/	65.35 /
L395/	4.24 /	L396/	8.35 /	L397/	4.58 /
L398/	4.32 /	L399/	4.04 /	L402/	7.12 /
L403/	7.12 /	L404/	7.12 /	L405/	4.85 /
L406/	11.97 /	L407/	3.83 /	L408/	15.80 /
L410/	20.14 /	L411/	20.14 /	L413/	2.27 /
L415/	2.27 /	L417/	2.85 /	L418/	5.17 /
L419/	8.02 /	L420/	8.02 /	L421/	1.66 /
L422/	3.80 /	L423/	13.65 /	L424/	18.55 /
L425/	0.93 /	L426/	3.97 /	L427/	40.59 /
L428/	0.94 /	L429/	42.48 /	L430/	2.45 /
L431/	2.28 /	L432/	2.28 /	L435/	2.87 /
L436/	2.87 /	L437/	2.87 /	L438/	1.67 /
L439/	4.55 /	L440/	4.55 /	L441/	48.94 /
L442/	48.94 /	L443/	48.94*/	L446/	5.92 /
L448/	0.97 /	L449/	9.51 /	L450/	13.39 /
L451/	14.72 /	L452/	1.29 /	L453/	0.93 /
L454/	0.68 /	L466/	4.05 /	L468/	4.05 /
L470/	9.48 /	L471/	0.38*/	L472/	4.46 /
L490/	6.72 /	L496/	0.61*/	L497/	0.60*/
L498/	1.21 /	L501/	12.33 /	L502/	12.33 /
L503/	73.45 /	L504/	73.45 /	L505/	10.60 /
L506/	10.90 /	L509/	2.99 /	L511/	11.04 /
L512/	17.90*/	L514/	8.04 /	L515/	17.68 /
CH21/	13.57 /	L474/	9.48 /	L523/	9.48 /
L525/	17.16 /	L527/	4.52 /	L528/	4.73 /
L529/	4.34 /	L533/	4.34 /	L537/	4.34 /
L394/	65.35 /	L276/	3.15 /	L288/	4.16 /
L412/	2.24 /	L447/	2.13 /	L252/	0.11*/
L253/	1.74 /	L254/	1.74 /	L255/	3.96 /
L256/	4.73 /	L257/	6.67 /	L264/	3.79 /
L265/	22.43 /	L266/	23.35 /	L267/	0.86 /
L268/	2.66 /	L269/	2.92 /	L270/	27.45 /
L271/	27.43 /	L278/	1.56 /	L279/	3.25 /
L280/	1.57 /	L284/	1.57 /	L285/	3.11 /
L286/	1.41 /	L290/	0.17*/	L291/	0.44*/
L292/	1.15 /	L294/	1.40 /	L300/	5.35 /
L301/	1.87 /	L302/	11.83 /	L303/	0.85 /
L304/	2.46 /	L305/	3.31 /	L306/	2.82 /
L307/	3.04 /	L308/	3.20 /	L309/	2.69 /
L310/	1.60 /	L311/	1.60 /	L312/	1.28 /
L313/	3.00 /	L314/	1.28 /	L315/	1.62 /
L316/	1.62 /	L317/	6.20 /	L318/	6.20 /
L321/	0.51 /	L324/	1.71 /	L325/	1.63 /
L326/	1.96 /	L327/	2.21 /	L328/	7.82 /
L329/	7.82 /	L334/	0.43*/	L335/	0.86*/
L336/	1.29 /	L337/	1.29*/	L475/	4.36 /
L478/	18.09 /	L479/	18.09 /	L487/	10.77 /
L493/	18.09 /	L499/	1.71 /	L500/	3.45 /
L507/	3.80 /	L513/	18.22 /	L546/	3.80 /
L510/	5.12 /	FREE # 1/	13.39 /	FREE # 2/	28.80 /
FREE # 3/	3.00 /	FREE # 4/	7.21 /	FREE # 5/	2.30 /
FREE # 6/	38.20 /	FREE # 7/	8.56 /	FREE # 8/	5.02 /
FREE # 9/	8.20 /	FREE #10/	30.17 /	FREE #11/	73.45 /
FREE #12/	19.12 /	FREE #13/	48.94 /	FREE #14/	4.46 /
FREE #15/	2.99 /	FREE #16/	17.90 /	FREE #17/	1.53 /
FREE #18/	9.48 /	FREE #19/	65.35 /	FREE #20/	3.15 /
FREE #21/	4.16 /	FREE #22/	3.25 /	FREE #23/	3.11 /
FREE #24/	1.15 /	FREE #25/	3.20 /	FREE #26/	7.82 /

FREE #27/	1.29 /	FREE #28/	10.77 /	FREE #29/	3.04 /
FREE #30/	5.12 /				

Conduit/	Velocity				
L210/	3.66 /	L211/	4.03 /	L212/	2.64 /
L213/	3.14 /	L214/	3.02 /	L217/	2.83 /
L220/	4.65 /	L221/	4.16 /	L222/	9.38 /
L223/	1.44 /	L224/	1.33 /	L225/	0.67 /
L226/	1.27 /	L227/	2.01 /	L228/	3.23 /
L229/	2.59 /	L230/	2.92 /	L231/	3.07 /
L232/	3.40 /	L233/	3.55 /	L234/	2.98 /
L235/	0.56 /	L236/	2.68 /	L237/	3.88 /
L238/	4.75 /	L239/	5.19 /	L240/	3.01 /
L241/	4.43 /	L242/	3.40 /	L243/	3.61 /
L246/	4.92 /	L247/	5.64 /	L248/	2.52 /
L249/	3.28 /	L250/	9.16 /	L251/	3.09 /
L259/	3.79 /	L260/	10.32 /	L261/	2.69 /
L262/	9.63 /	L263/	2.90 /	L272/	2.39 /
L273/	3.86 /	L274/	11.97 /	L275/	2.50 /
L277/	2.56 /	L281/	4.63 /	L282/	14.79 /
L283/	3.11 /	L287/	3.32 /	L289/	3.47 /
L319/	4.79 /	L320/	2.79 /	L338/	3.90 /
L339/	4.05 /	L340/	4.43 /	L341/	5.28 /
L342/	4.06 /	L343/	3.65 /	L344/	2.40 /
L346/	2.66 /	L347/	4.46 /	L348/	4.31 /
L349/	4.33 /	L350/	4.50 /	L351/	2.92 /
L352/	2.87 /	L354/	5.65 /	L361/	3.67 /
L362/	3.53 /	L363/	3.25 /	L364/	3.79 /
L365/	3.02 /	L366/	3.40 /	L367/	3.39 /
L368/	3.45 /	L369/	4.50 /	L370/	2.82 /
L373/	2.77 /	L374/	4.30 /	L375/	2.10 /
L376/	2.64 /	L386/	3.03 /	L387/	3.00 /
L388/	2.82 /	L389/	3.22 /	L390/	2.45 /
L391/	3.53 /	L392/	4.23 /	L393/	4.38 /
L395/	3.43 /	L396/	1.35 /	L397/	3.70 /
L398/	3.50 /	L399/	1.70 /	L402/	2.95 /
L403/	2.95 /	L404/	2.95 /	L405/	2.74 /
L406/	2.43 /	L407/	3.10 /	L408/	2.65 /
L410/	2.84 /	L411/	2.84 /	L413/	1.67 /
L415/	3.75 /	L417/	3.61 /	L418/	2.92 /
L419/	2.55 /	L420/	2.54 /	L421/	2.10 /
L422/	3.08 /	L423/	2.77 /	L424/	3.11 /
L425/	1.18 /	L426/	3.21 /	L427/	4.20 /
L428/	1.19 /	L429/	4.30 /	L430/	3.10 /
L431/	2.88 /	L432/	2.89 /	L435/	3.63 /
L436/	3.62 /	L437/	2.27 /	L438/	2.12 /
L439/	3.71 /	L440/	2.65 /	L441/	4.94 /
L442/	5.94 /	L443/	16.47 /	L446/	3.33 /
L448/	1.23 /	L449/	3.93 /	L450/	4.26 /
L451/	5.09 /	L452/	1.60 /	L453/	1.14 /
L454/	1.77 /	L466/	4.24 /	L468/	2.41 /
L470/	4.31 /	L471/	1.72 /	L472/	5.65 /
L490/	3.55 /	L496/	2.36 /	L497/	2.34 /
L498/	3.01 /	L501/	1.67 /	L502/	1.26 /
L503/	4.71 /	L504/	5.07 /	L505/	4.37 /
L506/	4.48 /	L509/	9.62 /	L511/	6.26 /
L512/	16.12 /	L514/	3.33 /	L515/	2.72 /
CH21/	0.12 /	L474/	5.35 /	L523/	1.21 /
L525/	2.45 /	L527/	2.55 /	L528/	3.90 /
L529/	2.45 /	L533/	2.45 /	L537/	2.44 /

L394/	4.63 /	L276/	4.05 /	L288/	9.51 /
L412/	4.50 /	L447/	1.20 /	L252/	0.76 /
L253/	3.25 /	L254/	3.00 /	L255/	3.41 /
L256/	2.78 /	L257/	3.72 /	L264/	3.58 /
L265/	3.34 /	L266/	3.47 /	L267/	2.16 /
L268/	3.37 /	L269/	3.79 /	L270/	4.15 /
L271/	2.84 /	L278/	1.99 /	L279/	4.20 /
L280/	1.99 /	L284/	1.97 /	L285/	1.74 /
L286/	1.14 /	L290/	1.60 /	L291/	2.17 /
L292/	3.15 /	L294/	1.76 /	L300/	2.99 /
L301/	2.34 /	L302/	2.95 /	L303/	1.07 /
L304/	3.09 /	L305/	1.86 /	L306/	3.52 /
L307/	0.96 /	L308/	1.79 /	L309/	3.36 /
L310/	2.02 /	L311/	2.02 /	L312/	1.61 /
L313/	3.76 /	L314/	1.57 /	L315/	3.00 /
L316/	2.51 /	L317/	3.48 /	L318/	3.37 /
L321/	1.50 /	L324/	2.14 /	L325/	2.03 /
L326/	2.46 /	L327/	2.78 /	L328/	4.63 /
L329/	8.66 /	L334/	2.13 /	L335/	2.63 /
L336/	2.96 /	L337/	5.39 /	L475/	3.50 /
L478/	4.52 /	L479/	3.67 /	L487/	4.45 /
L493/	3.66 /	L499/	2.13 /	L500/	2.76 /
L507/	4.77 /	L513/	3.62 /	L546/	2.06 /
L510/	9.21 /				

Conduit/	Width				
L210/	0.01 /	L211/	0.09 /	L212/	0.43 /
L213/	0.01 /	L214/	0.01 /	L217/	0.99 /
L220/	0.04 /	L221/	0.57 /	L222/	1.77 /
L223/	0.87 /	L224/	0.89 /	L225/	0.92 /
L226/	0.61 /	L227/	0.01 /	L228/	0.10 /
L229/	0.71 /	L230/	0.13 /	L231/	0.01 /
L232/	0.01 /	L233/	0.01 /	L234/	0.01 /
L235/	0.36 /	L236/	0.01 /	L237/	0.01 /
L238/	0.08 /	L239/	0.08 /	L240/	1.00 /
L241/	0.11 /	L242/	0.95 /	L243/	0.76 /
L246/	0.06 /	L247/	0.51 /	L248/	0.01 /
L249/	0.97 /	L250/	0.87 /	L251/	0.99 /
L259/	1.50 /	L260/	1.38 /	L261/	0.99 /
L262/	0.80 /	L263/	0.98 /	L272/	0.02 /
L273/	0.01 /	L274/	1.30 /	L275/	0.87 /
L277/	0.88 /	L281/	0.10 /	L282/	0.88 /
L283/	0.97 /	L287/	0.94 /	L289/	0.83 /
L319/	0.66 /	L320/	0.78 /	L338/	2.69 /
L339/	2.75 /	L340/	3.29 /	L341/	3.45 /
L342/	0.81 /	L343/	0.66 /	L344/	0.50 /
L346/	0.02 /	L347/	0.09 /	L348/	0.74 /
L349/	1.38 /	L350/	1.58 /	L351/	1.45 /
L352/	1.38 /	L354/	3.75 /	L361/	0.87 /
L362/	0.89 /	L363/	1.32 /	L364/	0.74 /
L365/	0.95 /	L366/	1.36 /	L367/	1.36 /
L368/	0.82 /	L369/	0.08 /	L370/	1.67 /
L373/	1.26 /	L374/	0.09 /	L375/	1.06 /
L376/	1.93 /	L386/	2.17 /	L387/	1.97 /
L388/	0.04 /	L389/	1.90 /	L390/	0.82 /
L391/	1.87 /	L392/	2.16 /	L393/	2.79 /
L395/	0.01 /	L396/	2.26 /	L397/	0.01 /
L398/	0.01 /	L399/	1.75 /	L402/	0.01 /
L403/	0.01 /	L404/	0.01 /	L405/	0.01 /
L406/	0.01 /	L407/	0.01 /	L408/	0.01 /

L410/	0.01 /	L411/	0.01 /	L413/	1.24 /
L415/	0.90 /	L417/	0.01 /	L418/	0.01 /
L419/	0.01 /	L420/	0.01 /	L421/	0.01 /
L422/	0.01 /	L423/	0.01 /	L424/	0.01 /
L425/	0.01 /	L426/	0.01 /	L427/	0.05 /
L428/	0.01 /	L429/	0.41 /	L430/	0.01 /
L431/	0.01 /	L432/	0.01 /	L435/	0.01 /
L436/	0.04 /	L437/	0.41 /	L438/	0.01 /
L439/	0.08 /	L440/	0.72 /	L441/	1.29 /
L442/	2.41 /	L443/	2.84 /	L446/	0.01 /
L448/	0.01 /	L449/	0.02 /	L450/	0.43 /
L451/	1.30 /	L452/	0.11 /	L453/	0.28 /
L454/	0.98 /	L466/	1.11 /	L468/	1.98 /
L470/	1.06 /	L471/	0.79 /	L472/	0.04 /
L490/	1.52 /	L496/	0.96 /	L497/	0.95 /
L498/	1.00 /	L501/	0.65 /	L502/	0.17 /
L503/	1.89 /	L504/	3.10 /	L505/	0.01 /
L506/	0.01 /	L509/	0.86 /	L511/	0.11 /
L512/	1.68 /	L514/	0.01 /	L515/	2.03 /
CH21/	100.00 /	L474/	0.07 /	L523/	11.35 /
L525/	1.17 /	L527/	0.01 /	L528/	0.11 /
L529/	0.01 /	L533/	0.01 /	L537/	0.01 /
L394/	3.36 /	L276/	0.44 /	L288/	1.05 /
L412/	0.98 /	L447/	0.01 /	L252/	0.66 /
L253/	0.96 /	L254/	0.88 /	L255/	0.75 /
L256/	0.82 /	L257/	0.58 /	L264/	0.99 /
L265/	1.77 /	L266/	1.75 /	L267/	0.99 /
L268/	0.01 /	L269/	0.09 /	L270/	1.87 /
L271/	0.02 /	L278/	0.01 /	L279/	0.09 /
L280/	0.01 /	L284/	0.01 /	L285/	0.01 /
L286/	0.01 /	L290/	0.79 /	L291/	0.92 /
L292/	0.89 /	L294/	0.01 /	L300/	0.01 /
L301/	0.01 /	L302/	0.01 /	L303/	0.01 /
L304/	0.01 /	L305/	0.01 /	L306/	0.01 /
L307/	0.01 /	L308/	0.01 /	L309/	0.01 /
L310/	0.01 /	L311/	0.01 /	L312/	0.01 /
L313/	0.01 /	L314/	0.18 /	L315/	0.95 /
L316/	0.78 /	L317/	0.05 /	L318/	0.43 /
L321/	0.95 /	L324/	0.01 /	L325/	0.01 /
L326/	0.01 /	L327/	0.01 /	L328/	0.16 /
L329/	1.35 /	L334/	0.91 /	L335/	0.99 /
L336/	0.98 /	L337/	0.81 /	L475/	0.01 /
L478/	0.01 /	L479/	0.01 /	L487/	0.01 /
L493/	0.10 /	L499/	0.01 /	L500/	0.01 /
L507/	0.02 /	L513/	0.96 /	L546/	0.42 /
L510/	1.11 /				

Junction/	EGL				
N221/	1.76 /	N222/	2.76 /	N223/	2.26 /
N224/	3.47 /	N227/	2.63 /	N228/	3.08 /
N230/	4.03 /	N231/	0.45 /	N233/	2.08 /
N234/	6.24 /	N235/	0.26 /	N236/	1.03 /
N237/	0.82 /	N238/	2.54 /	N239/	0.90 /
N240/	1.60 /	N241/	3.54 /	N242/	2.04 /
N243/	2.88 /	N244/	2.93 /	N245/	3.80 /
N246/	3.72 /	N247/	4.47 /	N248/	1.05 /
N249/	2.51 /	N250/	2.85 /	N251/	1.27 /
N252/	3.17 /	N253/	5.52 /	N254/	0.52 /
N255/	5.24 /	N256/	0.66 /	N257/	0.84 /
N259/	3.33 /	N260/	3.04 /	N261/	1.38 /

N262/	0.61 /	N263/	0.55 /	N264/	4.20 /
N265/	0.55 /	N272/	1.54 /	N273/	0.00 /
N274/	0.67 /	N275/	4.53 /	N276/	0.49 /
N277/	0.41 /	N278/	7.35 /	N279/	0.55 /
N288/	7.13 /	N289/	6.99 /	N290/	6.36 /
N291/	0.55 /	N292/	9.53 /	N293/	0.69 /
N294/	1.12 /	N296/	0.68 /	N301/	1.92 /
N302/	0.73 /	N303/	6.22 /	N304/	0.61 /
N309/	0.67 /	N310/	1.08 /	N312/	0.79 /
N342/	1.62 /	N343/	1.46 /	N344/	0.79 /
N345/	0.40 /	N361/	2.17 /	N362/	2.35 /
N363/	3.40 /	N364/	2.35 /	N365/	9.63 /
N366/	1.11 /	N367/	0.89 /	N368/	2.94 /
N369/	3.56 /	N370/	5.30 /	N371/	4.68 /
N372/	5.07 /	N373/	4.66 /	N374/	4.25 /
N375/	4.63 /	N376/	1.69 /	N377/	1.84 /
N378/	3.76 /	N379/	4.68 /	N381/	1.36 /
N382/	1.95 /	N383/	0.76 /	N384/	0.74 /
N386/	0.84 /	N387/	0.64 /	N388/	1.91 /
N389/	3.11 /	N390/	0.79 /	N391/	1.46 /
N392/	2.94 /	N394/	4.30 /	N395/	2.73 /
N396/	1.58 /	N397/	2.70 /	N398/	2.35 /
N399/	3.80 /	N403/	3.87 /	N404/	4.42 /
N405/	1.33 /	N406/	4.46 /	N407/	0.77 /
N408/	4.47 /	N409/	4.31 /	N410/	4.05 /
N412/	2.69 /	N413/	3.59 /	N414/	3.15 /
N415/	2.75 /	N416/	2.24 /	N417/	1.46 /
N418/	0.92 /	N419/	2.70 /	N420/	2.52 /
N421/	2.67 /	N422/	3.48 /	N423/	2.31 /
N424/	3.96 /	N425/	2.34 /	N426/	4.29 /
N428/	4.36 /	N429/	4.92 /	N430/	0.61 /
N431/	2.65 /	N432/	1.27 /	N434/	0.73 /
N435/	2.98 /	N436/	1.96 /	N437/	2.27 /
N438/	3.05 /	N439/	3.86 /	N440/	2.01 /
N441/	2.48 /	N442/	4.22 /	N443/	1.96 /
N444/	2.61 /	N445/	4.54 /	N446/	1.34 /
N447/	4.12 /	N448/	2.01 /	N449/	2.38 /
N450/	1.92 /	N451/	1.75 /	N453/	2.14 /
N454/	2.17 /	N455/	1.54 /	N456/	2.01 /
N457/	1.43 /	N458/	1.60 /	N459/	3.43 /
N460/	1.54 /	N461/	9.68 /	N464/	3.23 /
N465/	3.10 /	N466/	3.48 /	N467/	1.92 /
N468/	2.65 /	N469/	5.60 /	N470/	2.53 /
N471/	1.21 /	N472/	1.12 /	N473/	0.46 /
N487/	1.84 /	N489/	2.82 /	N490/	1.64 /
N491/	0.86 /	N492/	1.78 /	N493/	1.50 /
N497/	0.36 /	N499/	7.88 /	N509/	3.56 /
N513/	1.33 /	N514/	2.90 /	N516/	11.45 /
N524/	0.35 /	N525/	0.59 /	N526/	0.34 /
N527/	0.65 /	N528/	4.36 /	N529/	4.26 /
N530/	5.07 /	N689/	1.94 /	N494/	1.23 /
N541/	2.29 /	EL329/	2.41 /	N427/	3.10 /
N411/	3.96 /	N295/	12.08 /	N311/	6.13 /
N462/	1.93 /	N266/	0.15 /	N267/	1.79 /
N268/	0.64 /	N269/	0.82 /	N270/	1.13 /
N271/	1.54 /	N280/	1.01 /	N281/	2.91 /
N282/	2.89 /	N283/	11.46 /	N284/	0.48 /
N285/	1.65 /	N286/	1.70 /	N287/	6.11 /
N297/	1.47 /	N298/	1.69 /	N299/	5.73 /
N300/	1.47 /	N305/	3.41 /	N306/	4.14 /

N307/	4.44 /	N308/	3.64 /	N313/	0.18 /
N314/	0.33 /	N315/	0.50 /	N316/	5.62 /
N317/	3.96 /	N318/	5.00 /	N319/	3.24 /
N320/	4.14 /	N321/	3.42 /	N325/	3.90 /
N326/	2.83 /	N327/	3.28 /	N328/	4.50 /
N329/	4.13 /	N330/	4.41 /	N331/	4.99 /
N332/	4.18 /	N333/	2.07 /	N334/	2.33 /
N335/	3.61 /	N336/	3.29 /	N337/	2.27 /
N338/	1.18 /	N339/	0.64 /	N340/	0.89 /
N341/	1.89 /	N347/	4.32 /	N348/	4.04 /
N349/	3.90 /	N350/	3.92 /	N351/	4.43 /
N352/	3.18 /	N353/	3.32 /	N354/	1.03 /
N355/	3.98 /	N356/	0.29 /	N357/	0.49 /
N358/	0.68 /	N359/	0.41 /	N360/	3.19 /
N500/	4.98 /	N501/	4.20 /	N503/	7.93 /
N504/	2.87 /	N506/	2.49 /	N517/	2.90 /
N518/	3.73 /	N554/	2.13 /	N322/	5.15 /
N511/	0.51 /	N555/	8.94 /		

Junction/ Freeboard

N221/	6.43 /	N222/	5.09 /	N223/	4.14 /
N224/	6.04 /	N227/	8.43 /	N228/	1.79 /
N230/	6.22 /	N231/	4.11 /	N233/	5.10 /
N234/	9.53 /	N235/	18.29 /	N236/	7.34 /
N237/	6.63 /	N238/	4.77 /	N239/	6.52 /
N240/	3.89 /	N241/	7.08 /	N242/	5.24 /
N243/	4.24 /	N244/	3.06 /	N245/	2.38 /
N246/	1.69 /	N247/	5.17 /	N248/	3.47 /
N249/	1.50 /	N250/	9.41 /	N251/	10.37 /
N252/	5.97 /	N253/	8.57 /	N254/	7.05 /
N255/	7.10 /	N256/	11.81 /	N257/	9.95 /
N259/	2.57 /	N260/	1.55 /	N261/	6.07 /
N262/	4.91 /	N263/	4.56 /	N264/	6.46 /
N265/	2.99 /	N272/	4.38 /	N273/	6.72 /
N274/	4.28 /	N275/	11.22 /	N276/	5.66 /
N277/	5.68 /	N278/	12.09 /	N279/	3.73 /
N288/	12.50 /	N289/	12.50 /	N290/	11.94 /
N291/	3.82 /	N292/	10.10 /	N293/	6.79 /
N294/	4.64 /	N296/	2.74 /	N301/	3.58 /
N302/	5.71 /	N303/	10.88 /	N304/	2.84 /
N309/	5.58 /	N310/	3.99 /	N312/	2.40 /
N342/	5.17 /	N343/	3.29 /	N344/	10.17 /
N345/	8.91 /	N361/	4.99 /	N362/	5.61 /
N363/	8.04 /	N364/	7.26 /	N365/	6.43 /
N366/	7.42 /	N367/	2.18 /	N368/	2.90 /
N369/	3.01 /	N370/	3.14 /	N371/	3.38 /
N372/	5.71 /	N373/	5.99 /	N374/	8.26 /
N375/	7.93 /	N376/	5.88 /	N377/	5.98 /
N378/	6.56 /	N379/	5.62 /	N381/	2.62 /
N382/	3.41 /	N383/	6.01 /	N384/	4.80 /
N386/	7.19 /	N387/	8.06 /	N388/	4.53 /
N389/	5.54 /	N390/	8.78 /	N391/	7.25 /
N392/	6.56 /	N394/	7.49 /	N395/	5.56 /
N396/	5.63 /	N397/	6.54 /	N398/	9.38 /
N399/	6.02 /	N403/	7.47 /	N404/	8.93 /
N405/	12.92 /	N406/	7.02 /	N407/	14.81 /
N408/	8.21 /	N409/	6.81 /	N410/	8.35 /
N412/	6.25 /	N413/	4.79 /	N414/	3.21 /
N415/	5.30 /	N416/	6.14 /	N417/	2.82 /
N418/	3.58 /	N419/	6.73 /	N420/	9.14 /

N421/	6.68 /	N422/	5.88 /	N423/	7.72 /
N424/	6.49 /	N425/	7.99 /	N426/	5.61 /
N428/	3.63 /	N429/	5.39 /	N430/	8.61 /
N431/	4.25 /	N432/	1.62 /	N434/	6.74 /
N435/	7.29 /	N436/	11.87 /	N437/	9.71 /
N438/	7.29 /	N439/	6.28 /	N440/	10.34 /
N441/	8.69 /	N442/	4.97 /	N443/	7.06 /
N444/	6.76 /	N445/	3.55 /	N446/	8.57 /
N447/	4.32 /	N448/	4.84 /	N449/	5.38 /
N450/	2.69 /	N451/	3.38 /	N453/	4.13 /
N454/	8.94 /	N455/	5.26 /	N456/	4.09 /
N457/	9.95 /	N458/	4.22 /	N459/	2.59 /
N460/	5.00 /	N461/	10.53 /	N464/	4.38 /
N465/	5.37 /	N466/	2.47 /	N467/	2.74 /
N468/	3.95 /	N469/	8.22 /	N470/	8.32 /
N471/	7.21 /	N472/	3.39 /	N473/	5.70 /
N487/	2.63 /	N489/	3.76 /	N490/	2.41 /
N491/	2.16 /	N492/	2.28 /	N493/	2.86 /
N497/	4.59 /	N499/	13.41 /	N509/	5.46 /
N513/	6.48 /	N514/	9.14 /	N516/	13.58 /
N524/	2.66 /	N525/	4.52 /	N526/	3.40 /
N527/	4.89 /	N528/	2.52 /	N529/	10.70 /
N530/	4.75 /	N689/	3.77 /	N494/	3.64 /
N541/	5.71 /	EL329/	3.07 /	N427/	5.85 /
N411/	13.32 /	N295/	9.38 /	N311/	5.47 /
N462/	3.29 /	N266/	5.10 /	N267/	5.06 /
N268/	9.04 /	N269/	9.04 /	N270/	6.13 /
N271/	2.47 /	N280/	10.06 /	N281/	5.96 /
N282/	11.59 /	N283/	14.84 /	N284/	12.78 /
N285/	5.84 /	N286/	4.41 /	N287/	12.59 /
N297/	5.69 /	N298/	3.84 /	N299/	7.66 /
N300/	1.68 /	N305/	3.47 /	N306/	1.53 /
N307/	3.06 /	N308/	-0.43 /	N313/	3.68 /
N314/	3.43 /	N315/	3.28 /	N316/	1.43 /
N317/	3.27 /	N318/	1.55 /	N319/	7.69 /
N320/	1.99 /	N321/	2.87 /	N325/	3.75 /
N326/	6.82 /	N327/	4.46 /	N328/	2.50 /
N329/	6.27 /	N330/	3.96 /	N331/	2.62 /
N332/	3.22 /	N333/	13.52 /	N334/	10.61 /
N335/	1.54 /	N336/	10.47 /	N337/	4.00 /
N338/	11.91 /	N339/	7.87 /	N340/	5.26 /
N341/	3.11 /	N347/	4.29 /	N348/	2.61 /
N349/	6.34 /	N350/	6.68 /	N351/	3.30 /
N352/	6.85 /	N353/	4.72 /	N354/	6.65 /
N355/	7.68 /	N356/	2.78 /	N357/	3.12 /
N358/	6.80 /	N359/	6.41 /	N360/	6.16 /
N500/	4.37 /	N501/	5.55 /	N503/	2.68 /
N504/	1.99 /	N506/	5.77 /	N517/	3.64 /
N518/	1.42 /	N554/	2.05 /	N322/	3.98 /
N511/	12.23 /	N555/	12.58 /		

Junction/	Max	Volume			
N221/	22.15 /	N222/	32.09 /	N223/	16.41 /
N224/	41.73 /	N227/	33.07 /	N228/	38.70 /
N230/	29.40 /	N231/	5.62 /	N233/	10.45 /
N234/	61.20 /	N235/	3.32 /	N236/	3.52 /
N237/	5.02 /	N238/	31.07 /	N239/	10.91 /
N240/	19.85 /	N241/	14.56 /	N242/	22.62 /
N243/	32.52 /	N244/	35.02 /	N245/	45.44 /
N246/	43.77 /	N247/	52.29 /	N248/	13.17 /

N249/	31.48 /	N250/	35.79 /	N251/	15.99 /
N252/	27.91 /	N253/	29.95 /	N254/	6.58 /
N255/	50.38 /	N256/	8.34 /	N257/	10.52 /
N259/	37.15 /	N260/	32.04 /	N261/	17.33 /
N262/	7.70 /	N263/	4.80 /	N264/	36.44 /
N265/	6.87 /	N272/	16.68 /	N273/	0.00 /
N274/	5.66 /	N275/	36.19 /	N276/	6.19 /
N277/	3.46 /	N278/	74.27 /	N279/	6.88 /
N288/	117.74 /	N289/	86.71 /	N290/	109.15 /
N291/	6.96 /	N292/	91.73 /	N293/	8.70 /
N294/	12.78 /	N296/	8.54 /	N301/	24.12 /
N302/	4.96 /	N303/	35.44 /	N304/	7.69 /
N309/	8.42 /	N310/	5.12 /	N312/	9.93 /
N342/	18.16 /	N343/	13.93 /	N344/	9.91 /
N345/	5.05 /	N361/	27.21 /	N362/	26.56 /
N363/	29.72 /	N364/	25.69 /	N365/	64.97 /
N366/	13.99 /	N367/	11.14 /	N368/	36.89 /
N369/	43.59 /	N370/	65.26 /	N371/	58.76 /
N372/	59.80 /	N373/	54.93 /	N374/	49.79 /
N375/	54.26 /	N376/	21.20 /	N377/	21.49 /
N378/	42.53 /	N379/	52.53 /	N381/	13.67 /
N382/	21.74 /	N383/	9.53 /	N384/	9.29 /
N386/	10.61 /	N387/	8.08 /	N388/	21.77 /
N389/	38.13 /	N390/	9.94 /	N391/	18.36 /
N392/	38.04 /	N394/	52.53 /	N395/	34.27 /
N396/	16.26 /	N397/	32.57 /	N398/	29.53 /
N399/	46.27 /	N403/	46.83 /	N404/	53.80 /
N405/	16.74 /	N406/	54.03 /	N407/	9.69 /
N408/	53.17 /	N409/	50.68 /	N410/	47.17 /
N412/	33.80 /	N413/	42.46 /	N414/	37.14 /
N415/	34.60 /	N416/	28.12 /	N417/	17.17 /
N418/	11.57 /	N419/	32.17 /	N420/	31.71 /
N421/	31.84 /	N422/	42.08 /	N423/	29.02 /
N424/	47.85 /	N425/	29.35 /	N426/	52.58 /
N428/	53.25 /	N429/	59.99 /	N430/	7.63 /
N431/	27.08 /	N432/	13.12 /	N434/	9.15 /
N435/	34.95 /	N436/	24.68 /	N437/	28.54 /
N438/	37.07 /	N439/	46.65 /	N440/	25.21 /
N441/	31.14 /	N442/	51.03 /	N443/	24.67 /
N444/	32.83 /	N445/	53.66 /	N446/	16.85 /
N447/	48.17 /	N448/	26.10 /	N449/	28.81 /
N450/	23.32 /	N451/	22.81 /	N453/	24.33 /
N454/	27.32 /	N455/	16.84 /	N456/	24.25 /
N457/	17.91 /	N458/	17.45 /	N459/	38.36 /
N460/	12.41 /	N461/	68.74 /	N464/	38.38 /
N465/	38.99 /	N466/	41.57 /	N467/	24.14 /
N468/	30.29 /	N469/	22.40 /	N470/	12.19 /
N471/	15.18 /	N472/	14.02 /	N473/	5.78 /
N487/	12.84 /	N489/	30.69 /	N490/	20.04 /
N491/	10.76 /	N492/	22.34 /	N493/	12.57 /
N497/	4.53 /	N499/	80.93 /	N509/	44.74 /
N513/	16.66 /	N514/	8.12 /	N516/	93.24 /
N524/	4.35 /	N525/	6.37 /	N526/	4.32 /
N527/	6.37 /	N528/	54.24 /	N529/	49.25 /
N530/	60.03 /	N689/	18.85 /	N494/	11.88 /
N541/	27.60 /	EL329/	30.24 /	N427/	37.84 /
N411/	45.61 /	N295/	47.63 /	N311/	59.44 /
N462/	24.28 /	N266/	1.87 /	N267/	20.69 /
N268/	8.08 /	N269/	8.31 /	N270/	14.14 /
N271/	17.15 /	N280/	12.72 /	N281/	34.01 /

N282/	34.14 /	N283/	33.87 /	N284/	6.04 /
N285/	20.69 /	N286/	19.18 /	N287/	76.57 /
N297/	18.48 /	N298/	20.46 /	N299/	34.93 /
N300/	18.42 /	N305/	54.12 /	N306/	64.62 /
N307/	55.16 /	N308/	2732.01 /	N313/	2.31 /
N314/	3.70 /	N315/	5.32 /	N316/	68.74 /
N317/	49.70 /	N318/	60.40 /	N319/	40.73 /
N320/	50.95 /	N321/	43.01 /	N325/	47.12 /
N326/	35.58 /	N327/	41.22 /	N328/	60.13 /
N329/	102.99 /	N330/	100.45 /	N331/	62.08 /
N332/	56.31 /	N333/	25.99 /	N334/	28.48 /
N335/	44.54 /	N336/	41.30 /	N337/	25.81 /
N338/	14.81 /	N339/	8.05 /	N340/	9.40 /
N341/	21.41 /	N347/	53.40 /	N348/	49.23 /
N349/	49.00 /	N350/	49.23 /	N351/	54.81 /
N352/	40.02 /	N353/	41.67 /	N354/	8.78 /
N355/	35.44 /	N356/	3.62 /	N357/	5.25 /
N358/	7.20 /	N359/	3.50 /	N360/	34.43 /
N500/	60.82 /	N501/	48.82 /	N503/	95.75 /
N504/	40.38 /	N506/	31.23 /	N517/	33.82 /
N518/	44.28 /	N554/	22.31 /	N322/	64.59 /
N511/	6.47 /	N555/	95.75 /		

Junction/Total Fldng

N221/	0.00 /	N222/	0.00 /	N223/	0.00 /
N224/	0.00 /	N227/	0.00 /	N228/	0.00 /
N230/	0.00 /	N231/	0.00 /	N233/	0.00 /
N234/	0.00 /	N235/	0.00 /	N236/	0.00 /
N237/	0.00 /	N238/	0.00 /	N239/	0.00 /
N240/	0.00 /	N241/	0.00 /	N242/	0.00 /
N243/	0.00 /	N244/	0.00 /	N245/	0.00 /
N246/	0.00 /	N247/	0.00 /	N248/	0.00 /
N249/	0.00 /	N250/	0.00 /	N251/	0.00 /
N252/	0.00 /	N253/	0.00 /	N254/	0.00 /
N255/	0.00 /	N256/	0.00 /	N257/	0.00 /
N259/	0.00 /	N260/	0.00 /	N261/	0.00 /
N262/	0.00 /	N263/	0.00 /	N264/	0.00 /
N265/	0.00 /	N272/	0.00 /	N273/	0.00 /
N274/	0.00 /	N275/	0.00 /	N276/	0.00 /
N277/	0.00 /	N278/	0.00 /	N279/	0.00 /
N288/	0.00 /	N289/	0.00 /	N290/	0.00 /
N291/	0.00 /	N292/	0.00 /	N293/	0.00 /
N294/	0.00 /	N296/	0.00 /	N301/	0.00 /
N302/	0.00 /	N303/	0.00 /	N304/	0.00 /
N309/	0.00 /	N310/	0.00 /	N312/	0.00 /
N342/	0.00 /	N343/	0.00 /	N344/	0.00 /
N345/	0.00 /	N361/	0.00 /	N362/	0.00 /
N363/	0.00 /	N364/	0.00 /	N365/	0.00 /
N366/	0.00 /	N367/	0.00 /	N368/	0.00 /
N369/	0.00 /	N370/	0.00 /	N371/	0.00 /
N372/	0.00 /	N373/	0.00 /	N374/	0.00 /
N375/	0.00 /	N376/	0.00 /	N377/	0.00 /
N378/	0.00 /	N379/	0.00 /	N381/	0.00 /
N382/	0.00 /	N383/	0.00 /	N384/	0.00 /
N386/	0.00 /	N387/	0.00 /	N388/	0.00 /
N389/	0.00 /	N390/	0.00 /	N391/	0.00 /
N392/	0.00 /	N394/	0.00 /	N395/	0.00 /
N396/	0.00 /	N397/	0.00 /	N398/	0.00 /
N399/	0.00 /	N403/	0.00 /	N404/	0.00 /
N405/	0.00 /	N406/	0.00 /	N407/	0.00 /

N408/	0.00 /	N409/	0.00 /	N410/	0.00 /
N412/	0.00 /	N413/	0.00 /	N414/	0.00 /
N415/	0.00 /	N416/	0.00 /	N417/	0.00 /
N418/	0.00 /	N419/	0.00 /	N420/	0.00 /
N421/	0.00 /	N422/	0.00 /	N423/	0.00 /
N424/	0.00 /	N425/	0.00 /	N426/	0.00 /
N428/	0.00 /	N429/	0.00 /	N430/	0.00 /
N431/	0.00 /	N432/	0.00 /	N434/	0.00 /
N435/	0.00 /	N436/	0.00 /	N437/	0.00 /
N438/	0.00 /	N439/	0.00 /	N440/	0.00 /
N441/	0.00 /	N442/	0.00 /	N443/	0.00 /
N444/	0.00 /	N445/	0.00 /	N446/	0.00 /
N447/	0.00 /	N448/	0.00 /	N449/	0.00 /
N450/	0.00 /	N451/	0.00 /	N453/	0.00 /
N454/	0.00 /	N455/	0.00 /	N456/	0.00 /
N457/	0.00 /	N458/	0.00 /	N459/	0.00 /
N460/	0.00 /	N461/	0.00 /	N464/	0.00 /
N465/	0.00 /	N466/	0.00 /	N467/	0.00 /
N468/	0.00 /	N469/	0.00 /	N470/	0.00 /
N471/	0.00 /	N472/	0.00 /	N473/	0.00 /
N487/	0.00 /	N489/	0.00 /	N490/	0.00 /
N491/	0.00 /	N492/	0.00 /	N493/	0.00 /
N497/	0.00 /	N499/	0.00 /	N509/	0.00 /
N513/	0.00 /	N514/	0.00 /	N516/	0.00 /
N524/	0.00 /	N525/	0.00 /	N526/	0.00 /
N527/	0.00 /	N528/	0.00 /	N529/	0.00 /
N530/	0.00 /	N689/	0.00 /	N494/	0.00 /
N541/	0.00 /	EL329/	0.00 /	N427/	0.00 /
N411/	0.00 /	N295/	0.00 /	N311/	0.00 /
N462/	0.00 /	N266/	0.00 /	N267/	0.00 /
N268/	0.00 /	N269/	0.00 /	N270/	0.00 /
N271/	0.00 /	N280/	0.00 /	N281/	0.00 /
N282/	0.00 /	N283/	0.00 /	N284/	0.00 /
N285/	0.00 /	N286/	0.00 /	N287/	0.00 /
N297/	0.00 /	N298/	0.00 /	N299/	0.00 /
N300/	0.00 /	N305/	0.00 /	N306/	0.00 /
N307/	0.00 /	N308/	2578.85 /	N313/	0.00 /
N314/	0.00 /	N315/	0.00 /	N316/	0.00 /
N317/	0.00 /	N318/	0.00 /	N319/	0.00 /
N320/	0.00 /	N321/	0.00 /	N325/	0.00 /
N326/	0.00 /	N327/	0.00 /	N328/	0.00 /
N329/	0.00 /	N330/	0.00 /	N331/	0.00 /
N332/	0.00 /	N333/	0.00 /	N334/	0.00 /
N335/	0.00 /	N336/	0.00 /	N337/	0.00 /
N338/	0.00 /	N339/	0.00 /	N340/	0.00 /
N341/	0.00 /	N347/	0.00 /	N348/	0.00 /
N349/	0.00 /	N350/	0.00 /	N351/	0.00 /
N352/	0.00 /	N353/	0.00 /	N354/	0.00 /
N355/	0.00 /	N356/	0.00 /	N357/	0.00 /
N358/	0.00 /	N359/	0.00 /	N360/	0.00 /
N500/	0.00 /	N501/	0.00 /	N503/	0.00 /
N504/	0.00 /	N506/	0.00 /	N517/	0.00 /
N518/	0.00 /	N554/	0.00 /	N322/	0.00 /
N511/	0.00 /	N555/	0.00 /		

Conduit/ Cross Sectional Area

L210/	0.79 /	L211/	0.78 /	L212/	1.25 /
L213/	0.79 /	L214/	1.78 /	L217/	0.34 /
L220/	2.43 /	L221/	3.18 /	L222/	1.43 /
L223/	0.16 /	L224/	0.17 /	L225/	0.34 /

L226/	0.73 /	L227/	0.79 /	L228/	0.77 /
L229/	1.14 /	L230/	1.18 /	L231/	1.24 /
L232/	1.78 /	L233/	1.78 /	L234/	3.16 /
L235/	0.81 /	L236/	0.79 /	L237/	0.79 /
L238/	0.78 /	L239/	0.78 /	L240/	0.41 /
L241/	1.21 /	L242/	0.54 /	L243/	0.69 /
L246/	4.95 /	L247/	5.10 /	L248/	0.79 /
L249/	0.48 /	L250/	0.33 /	L251/	0.42 /
L259/	1.81 /	L260/	0.68 /	L261/	0.36 /
L262/	0.24 /	L263/	0.41 /	L272/	15.96 /
L273/	2.45 /	L274/	0.71 /	L275/	0.60 /
L277/	0.59 /	L281/	0.74 /	L282/	0.34 /
L283/	0.48 /	L287/	0.55 /	L289/	0.65 /
L319/	1.71 /	L320/	0.67 /	L338/	5.45 /
L339/	5.25 /	L340/	6.81 /	L341/	5.72 /
L342/	1.13 /	L343/	0.72 /	L344/	5.13 /
L346/	9.64 /	L347/	12.64 /	L348/	13.08 /
L349/	13.01 /	L350/	12.51 /	L351/	2.83 /
L352/	2.87 /	L354/	13.00 /	L361/	0.63 /
L362/	0.61 /	L363/	1.39 /	L364/	0.70 /
L365/	0.54 /	L366/	2.89 /	L367/	2.89 /
L368/	0.66 /	L369/	0.78 /	L370/	6.77 /
L373/	6.91 /	L374/	0.78 /	L375/	1.60 /
L376/	5.40 /	L386/	12.09 /	L387/	12.20 /
L388/	0.79 /	L389/	15.61 /	L390/	0.66 /
L391/	15.63 /	L392/	15.46 /	L393/	14.93 /
L395/	1.24 /	L396/	6.18 /	L397/	1.24 /
L398/	1.23 /	L399/	2.37 /	L402/	2.41 /
L403/	2.41 /	L404/	2.41 /	L405/	1.77 /
L406/	4.92 /	L407/	1.23 /	L408/	5.95 /
L410/	7.09 /	L411/	7.09 /	L413/	1.36 /
L415/	0.60 /	L417/	0.79 /	L418/	1.77 /
L419/	3.15 /	L420/	3.15 /	L421/	0.79 /
L422/	1.23 /	L423/	4.92 /	L424/	5.96 /
L425/	0.79 /	L426/	1.24 /	L427/	9.67 /
L428/	0.79 /	L429/	9.88 /	L430/	0.79 /
L431/	0.79 /	L432/	0.79 /	L435/	0.79 /
L436/	0.79 /	L437/	1.26 /	L438/	0.79 /
L439/	1.23 /	L440/	1.72 /	L441/	9.90 /
L442/	8.23 /	L443/	2.97 /	L446/	1.78 /
L448/	0.79 /	L449/	2.42 /	L450/	3.14 /
L451/	2.89 /	L452/	0.81 /	L453/	0.82 /
L454/	0.38 /	L466/	0.96 /	L468/	1.68 /
L470/	2.20 /	L471/	0.22 /	L472/	0.79 /
L490/	1.89 /	L496/	0.26 /	L497/	0.26 /
L498/	0.40 /	L501/	7.37 /	L502/	9.76 /
L503/	15.59 /	L504/	14.50 /	L505/	2.42 /
L506/	2.43 /	L509/	0.31 /	L511/	1.76 /
L512/	1.11 /	L514/	2.42 /	L515/	6.50 /
CH21/	110.82 /	L474/	1.77 /	L523/	7.81 /
L525/	7.00 /	L527/	1.77 /	L528/	1.21 /
L529/	1.77 /	L533/	1.77 /	L537/	1.78 /
L394/	14.13 /	L276/	0.78 /	L288/	0.44 /
L412/	0.50 /	L447/	1.77 /	L252/	0.15 /
L253/	0.54 /	L254/	0.58 /	L255/	1.16 /
L256/	1.70 /	L257/	1.79 /	L264/	1.06 /
L265/	6.71 /	L266/	6.72 /	L267/	0.40 /
L268/	0.79 /	L269/	0.77 /	L270/	6.61 /
L271/	9.66 /	L278/	0.79 /	L279/	0.77 /
L280/	0.79 /	L284/	0.80 /	L285/	1.79 /

L286/	1.24 /	L290/	0.11 /	L291/	0.21 /
L292/	0.37 /	L294/	0.80 /	L300/	1.79 /
L301/	0.80 /	L302/	4.00 /	L303/	0.79 /
L304/	0.80 /	L305/	1.78 /	L306/	0.80 /
L307/	3.16 /	L308/	1.79 /	L309/	0.80 /
L310/	0.79 /	L311/	0.79 /	L312/	0.80 /
L313/	0.80 /	L314/	0.82 /	L315/	0.54 /
L316/	0.65 /	L317/	1.78 /	L318/	1.84 /
L321/	0.34 /	L324/	0.80 /	L325/	0.80 /
L326/	0.80 /	L327/	0.80 /	L328/	1.69 /
L329/	0.90 /	L334/	0.20 /	L335/	0.33 /
L336/	0.44 /	L337/	0.24 /	L475/	1.24 /
L478/	4.00 /	L479/	4.93 /	L487/	2.42 /
L493/	4.94 /	L499/	0.80 /	L500/	1.25 /
L507/	0.80 /	L513/	5.03 /	L546/	1.84 /
L510/	0.56 /				

Conduit/	Final Volume				
L210/	55.24 /	L211/	317.33 /	L212/	677.02 /
L213/	84.91 /	L214/	165.45 /	L217/	28.91 /
L220/	776.67 /	L221/	1254.33 /	L222/	259.88 /
L223/	11.56 /	L224/	50.40 /	L225/	100.02 /
L226/	301.51 /	L227/	186.04 /	L228/	313.37 /
L229/	650.38 /	L230/	470.24 /	L231/	493.60 /
L232/	545.28 /	L233/	852.93 /	L234/	1357.22 /
L235/	40.27 /	L236/	83.25 /	L237/	79.44 /
L238/	42.73 /	L239/	97.17 /	L240/	35.32 /
L241/	358.05 /	L242/	33.77 /	L243/	65.39 /
L246/	2048.72 /	L247/	469.57 /	L248/	37.00 /
L249/	35.15 /	L250/	25.55 /	L251/	29.17 /
L259/	508.67 /	L260/	43.74 /	L261/	50.30 /
L262/	18.18 /	L263/	48.42 /	L272/	542.56 /
L273/	286.11 /	L274/	87.91 /	L275/	64.33 /
L277/	69.12 /	L281/	79.16 /	L282/	16.28 /
L283/	54.95 /	L287/	59.93 /	L289/	78.28 /
L319/	111.21 /	L320/	45.19 /	L338/	457.72 /
L339/	1365.17 /	L340/	1661.16 /	L341/	588.66 /
L342/	88.09 /	L343/	67.72 /	L344/	261.58 /
L346/	482.09 /	L347/	4992.49 /	L348/	5283.89 /
L349/	5205.92 /	L350/	1651.32 /	L351/	99.04 /
L352/	422.31 /	L354/	1222.00 /	L361/	29.58 /
L362/	40.39 /	L363/	571.58 /	L364/	33.51 /
L365/	34.15 /	L366/	1137.54 /	L367/	1051.90 /
L368/	82.01 /	L369/	76.84 /	L370/	1394.97 /
L373/	677.19 /	L374/	124.68 /	L375/	643.04 /
L376/	885.82 /	L386/	4121.98 /	L387/	4329.29 /
L388/	89.17 /	L389/	6011.05 /	L390/	69.67 /
L391/	7801.19 /	L392/	5873.08 /	L393/	6884.96 /
L395/	61.83 /	L396/	2486.26 /	L397/	70.51 /
L398/	59.22 /	L399/	715.15 /	L402/	207.44 /
L403/	960.04 /	L404/	895.00 /	L405/	125.90 /
L406/	1790.74 /	L407/	87.61 /	L408/	2185.23 /
L410/	2799.14 /	L411/	2133.25 /	L413/	544.76 /
L415/	29.62 /	L417/	53.73 /	L418/	127.65 /
L419/	815.74 /	L420/	1266.85 /	L421/	53.76 /
L422/	93.85 /	L423/	1954.83 /	L424/	1781.31 /
L425/	55.33 /	L426/	90.20 /	L427/	4697.69 /
L428/	69.28 /	L429/	3894.19 /	L430/	71.94 /
L431/	339.46 /	L432/	71.82 /	L435/	71.20 /
L436/	249.70 /	L437/	414.61 /	L438/	69.31 /

L439/	458.37 /	L440/	680.17 /	L441/	4010.22 /
L442/	3779.43 /	L443/	285.32 /	L446/	108.53 /
L448/	62.43 /	L449/	1093.49 /	L450/	1257.37 /
L451/	260.20 /	L452/	40.43 /	L453/	49.89 /
L454/	26.85 /	L466/	86.06 /	L468/	834.05 /
L470/	389.82 /	L471/	86.66 /	L472/	41.02 /
L490/	229.18 /	L496/	100.86 /	L497/	100.64 /
L498/	39.19 /	L501/	2765.43 /	L502/	4130.38 /
L503/	6812.20 /	L504/	6742.43 /	L505/	957.47 /
L506/	964.94 /	L509/	41.66 /	L511/	313.97 /
L512/	123.30 /	L514/	965.06 /	L515/	943.03 /
CH21/	102505.78 /	L474/	225.24 /	L523/	1335.12 /
L525/	3731.47 /	L527/	769.19 /	L528/	548.42 /
L529/	503.76 /	L533/	1285.41 /	L537/	805.54 /
L394/	2217.92 /	L276/	39.62 /	L288/	26.68 /
L412/	26.42 /	L447/	697.87 /	L252/	58.69 /
L253/	37.46 /	L254/	226.10 /	L255/	91.80 /
L256/	500.52 /	L257/	501.76 /	L264/	83.65 /
L265/	2328.32 /	L266/	1357.98 /	L267/	24.97 /
L268/	62.30 /	L269/	191.18 /	L270/	2651.38 /
L271/	3846.27 /	L278/	37.82 /	L279/	127.83 /
L280/	39.39 /	L284/	41.47 /	L285/	250.14 /
L286/	62.11 /	L290/	39.93 /	L291/	76.55 /
L292/	38.36 /	L294/	65.33 /	L300/	416.21 /
L301/	44.66 /	L302/	2170.65 /	L303/	65.97 /
L304/	54.18 /	L305/	255.15 /	L306/	46.46 /
L307/	300.65 /	L308/	180.67 /	L309/	46.48 /
L310/	48.24 /	L311/	316.16 /	L312/	48.61 /
L313/	466.32 /	L314/	75.16 /	L315/	38.40 /
L316/	188.49 /	L317/	537.37 /	L318/	559.77 /
L321/	148.75 /	L324/	97.61 /	L325/	49.61 /
L326/	94.78 /	L327/	94.05 /	L328/	587.21 /
L329/	88.53 /	L334/	80.31 /	L335/	121.03 /
L336/	54.54 /	L337/	28.54 /	L475/	121.91 /
L478/	1921.85 /	L479/	2910.85 /	L487/	396.75 /
L493/	2305.71 /	L499/	312.62 /	L500/	495.99 /
L507/	116.96 /	L513/	1383.14 /	L546/	1062.75 /
L510/	61.68 /				

Conduit/ Hydraulic Radius

L210/	0.25 /	L211/	0.26 /	L212/	0.31 /
L213/	0.25 /	L214/	0.38 /	L217/	0.23 /
L220/	0.44 /	L221/	0.51 /	L222/	0.45 /
L223/	0.15 /	L224/	0.16 /	L225/	0.22 /
L226/	0.30 /	L227/	0.25 /	L228/	0.25 /
L229/	0.36 /	L230/	0.32 /	L231/	0.31 /
L232/	0.38 /	L233/	0.38 /	L234/	0.50 /
L235/	0.25 /	L236/	0.25 /	L237/	0.25 /
L238/	0.26 /	L239/	0.26 /	L240/	0.26 /
L241/	0.32 /	L242/	0.29 /	L243/	0.30 /
L246/	0.62 /	L247/	0.62 /	L248/	0.25 /
L249/	0.27 /	L250/	0.21 /	L251/	0.26 /
L259/	0.50 /	L260/	0.28 /	L261/	0.24 /
L262/	0.17 /	L263/	0.25 /	L272/	1.12 /
L273/	0.44 /	L274/	0.31 /	L275/	0.29 /
L277/	0.29 /	L281/	0.25 /	L282/	0.22 /
L283/	0.27 /	L287/	0.29 /	L289/	0.30 /
L319/	0.42 /	L320/	0.30 /	L338/	0.90 /
L339/	0.89 /	L340/	1.02 /	L341/	0.95 /
L342/	0.37 /	L343/	0.30 /	L344/	0.62 /

L346/	0.88 /	L347/	1.00 /	L348/	1.00 /
L349/	1.00 /	L350/	1.04 /	L351/	0.61 /
L352/	0.60 /	L354/	1.35 /	L361/	0.30 /
L362/	0.30 /	L363/	0.45 /	L364/	0.30 /
L365/	0.29 /	L366/	0.60 /	L367/	0.60 /
L368/	0.30 /	L369/	0.26 /	L370/	0.89 /
L373/	0.85 /	L374/	0.26 /	L375/	0.45 /
L376/	0.83 /	L386/	1.18 /	L387/	1.16 /
L388/	0.25 /	L389/	1.28 /	L390/	0.30 /
L391/	1.28 /	L392/	1.30 /	L393/	1.34 /
L395/	0.31 /	L396/	0.91 /	L397/	0.31 /
L398/	0.31 /	L399/	0.59 /	L402/	0.44 /
L403/	0.44 /	L404/	0.44 /	L405/	0.38 /
L406/	0.62 /	L407/	0.31 /	L408/	0.69 /
L410/	0.75 /	L411/	0.75 /	L413/	0.44 /
L415/	0.30 /	L417/	0.25 /	L418/	0.38 /
L419/	0.50 /	L420/	0.50 /	L421/	0.25 /
L422/	0.31 /	L423/	0.62 /	L424/	0.69 /
L425/	0.25 /	L426/	0.31 /	L427/	0.88 /
L428/	0.25 /	L429/	0.88 /	L430/	0.25 /
L431/	0.25 /	L432/	0.25 /	L435/	0.25 /
L436/	0.25 /	L437/	0.31 /	L438/	0.25 /
L439/	0.32 /	L440/	0.43 /	L441/	0.89 /
L442/	1.01 /	L443/	0.60 /	L446/	0.38 /
L448/	0.25 /	L449/	0.44 /	L450/	0.51 /
L451/	0.60 /	L452/	0.25 /	L453/	0.25 /
L454/	0.24 /	L466/	0.37 /	L468/	0.51 /
L470/	0.51 /	L471/	0.16 /	L472/	0.25 /
L490/	0.52 /	L496/	0.20 /	L497/	0.20 /
L498/	0.25 /	L501/	0.75 /	L502/	0.88 /
L503/	1.28 /	L504/	1.36 /	L505/	0.44 /
L506/	0.44 /	L509/	0.20 /	L511/	0.38 /
L512/	0.38 /	L514/	0.44 /	L515/	0.90 /
CH21/	1.08 /	L474/	0.38 /	L523/	0.66 /
L525/	0.84 /	L527/	0.38 /	L528/	0.32 /
L529/	0.38 /	L533/	0.38 /	L537/	0.38 /
L394/	1.37 /	L276/	0.26 /	L288/	0.24 /
L412/	0.28 /	L447/	0.38 /	L252/	0.11 /
L253/	0.29 /	L254/	0.29 /	L255/	0.37 /
L256/	0.44 /	L257/	0.38 /	L264/	0.38 /
L265/	0.89 /	L266/	0.89 /	L267/	0.25 /
L268/	0.25 /	L269/	0.25 /	L270/	0.90 /
L271/	0.88 /	L278/	0.25 /	L279/	0.26 /
L280/	0.25 /	L284/	0.25 /	L285/	0.38 /
L286/	0.31 /	L290/	0.12 /	L291/	0.17 /
L292/	0.23 /	L294/	0.25 /	L300/	0.38 /
L301/	0.25 /	L302/	0.56 /	L303/	0.25 /
L304/	0.25 /	L305/	0.38 /	L306/	0.25 /
L307/	0.50 /	L308/	0.38 /	L309/	0.25 /
L310/	0.25 /	L311/	0.25 /	L312/	0.25 /
L313/	0.25 /	L314/	0.25 /	L315/	0.29 /
L316/	0.30 /	L317/	0.38 /	L318/	0.38 /
L321/	0.22 /	L324/	0.25 /	L325/	0.25 /
L326/	0.25 /	L327/	0.25 /	L328/	0.37 /
L329/	0.36 /	L334/	0.17 /	L335/	0.23 /
L336/	0.26 /	L337/	0.17 /	L475/	0.31 /
L478/	0.56 /	L479/	0.62 /	L487/	0.44 /
L493/	0.62 /	L499/	0.25 /	L500/	0.31 /
L507/	0.25 /	L513/	0.64 /	L546/	0.38 /
L510/	0.28 /				

	Conduit/	Upstream/	Downstream	Elevation					
100.29/	L210/	107.60/	106.99	L211/	106.99/	102.82	L212/	102.12/	
99.74/	L213/	100.97/	100.29	L214/	100.61/	100.29	L217/	100.29/	
90.47/	L220/	100.29/	98.17	L221/	98.17/	96.23	L222/	95.25/	
117.58/	L223/	119.86/	119.61	L224/	118.89/	118.06	L225/	117.66/	
114.74/	L226/	118.56/	118.20	L227/	118.20/	117.58	L228/	117.58/	
106.64/	L229/	112.52/	110.57	L230/	110.43/	108.61	L231/	108.45/	
102.03/	L232/	106.64/	105.30	L233/	105.30/	103.01	L234/	103.01/	
103.01/	L235/	112.53/	112.52	L236/	107.13/	106.64	L237/	103.99/	
112.80/	L238/	116.65/	115.88	L239/	115.28/	113.18	L240/	113.35/	
107.72/	L241/	110.46/	107.74	L242/	108.07/	107.63	L243/	108.45/	
100.12/	L246/	102.03/	100.12	L247/	100.12/	99.55	L248/	100.31/	
104.84/	L249/	105.49/	104.84	L250/	104.84/	99.54	L251/	105.41/	
93.72/	L259/	97.68/	96.03	L260/	96.03/	90.48	L261/	94.74/	
83.90/	L262/	93.72/	83.91	L263/	94.67/	93.72	L272/	83.90/	
119.32/	L273/	84.46/	83.90	L274/	92.47/	83.90	L275/	119.61/	
113.42/	L277/	119.66/	119.32	L281/	124.82/	122.68	L282/	122.68/	
113.15/	L283/	123.56/	122.68	L287/	113.82/	113.08	L289/	114.00/	
128.24/	L319/	101.67/	101.11	L320/	101.90/	101.67	L338/	128.41/	
126.60/	L339/	128.24/	127.64	L340/	127.64/	127.05	L341/	127.05/	
127.14/	L342/	128.98/	128.40	L343/	129.22/	128.48	L344/	127.20/	
125.34/	L346/	126.94/	126.89	L347/	126.89/	126.10	L348/	126.10/	
124.53/	L349/	125.34/	124.56	L350/	124.56/	124.30	L351/	124.59/	
125.91/	L352/	124.53/	124.30	L354/	122.63/	122.58	L361/	126.29/	
124.59/	L362/	126.38/	125.89	L363/	125.85/	124.59	L364/	124.98/	
122.84/	L365/	124.87/	124.59	L366/	124.59/	123.68	L367/	123.68/	
122.65/	L368/	123.62/	122.84	L369/	124.15/	122.91	L370/	122.84/	
118.40/	L373/	122.65/	122.58	L374/	120.84/	118.97	L375/	118.97/	
117.76/	L376/	118.66/	118.40	L386/	118.28/	118.03	L387/	118.03/	
117.47/	L388/	118.33/	117.76	L389/	117.76/	117.47	L390/	117.77/	

115.87/	L391/	117.47/	117.01	L392/	117.01/	116.51	L393/	116.51/
118.71/	L395/	118.99/	118.71	L396/	118.79/	118.71	L397/	119.08/
114.53/	L398/	119.07/	118.79	L399/	118.94/	118.79	L402/	114.76/
112.48/	L403/	114.53/	113.47	L404/	113.47/	112.48	L405/	112.68/
111.63/	L406/	112.48/	112.07	L407/	112.40/	112.07	L408/	112.07/
118.82/	L410/	111.63/	111.16	L411/	111.16/	110.79	L413/	119.11/
112.96/	L415/	119.53/	119.12	L417/	113.53/	112.96	L418/	113.19/
111.86/	L419/	112.96/	112.53	L420/	112.53/	111.86	L421/	112.06/
110.79/	L422/	112.21/	111.86	L423/	111.86/	111.28	L424/	111.28/
109.75/	L425/	111.34/	111.28	L426/	111.64/	111.28	L427/	110.79/
120.22/	L428/	109.83/	109.75	L429/	109.75/	108.88	L430/	120.78/
115.70/	L431/	122.53/	120.22	L432/	123.02/	122.53	L435/	116.46/
112.19/	L436/	115.70/	113.02	L437/	113.02/	112.19	L438/	112.45/
107.66/	L439/	112.19/	109.78	L440/	109.78/	108.88	L441/	108.88/
129.50/	L442/	107.66/	105.10	L443/	105.10/	99.57	L446/	129.75/
123.98/	L448/	128.22/	128.14	L449/	128.14/	126.00	L450/	126.00/
126.00/	L451/	120.44/	119.84	L452/	126.09/	126.00	L453/	126.06/
118.94/	L454/	120.53/	120.44	L466/	120.82/	120.13	L468/	119.59/
127.04/	L470/	123.50/	122.36	L471/	125.03/	123.50	L472/	128.12/
131.68/	L490/	111.34/	110.82	L496/	133.80/	131.68	L497/	133.80/
126.89/	L498/	131.68/	131.11	L501/	127.14/	126.98	L502/	126.98/
104.49/	L503/	124.30/	123.56	L504/	123.56/	122.63	L505/	106.81/
109.88/	L506/	104.49/	102.03	L509/	108.21/	97.64	L511/	112.44/
118.28/	L512/	108.76/	97.42	L514/	129.50/	128.14	L515/	118.40/
121.23/	CH21/	118.68/	118.66	L474/	120.87/	119.50	L523/	122.36/
117.01/	L525/	118.71/	118.28	L527/	118.82/	117.76	L528/	120.22/
111.63/	L529/	114.93/	114.29	L533/	114.29/	112.65	L537/	112.65/
108.83/	L394/	115.87/	115.63	L276/	119.32/	118.76	L288/	112.67/
99.20/	L412/	119.61/	119.01	L447/	129.71/	129.50	L252/	100.51/
99.91/	L253/	101.38/	100.99	L254/	100.99/	99.20	L255/	100.27/

85.95/	L256/	99.91/	99.20	L257/	99.20/	97.68	L264/	86.34/
85.49/	L265/	85.95/	85.49	L266/	85.49/	85.20	L267/	85.62/
84.31/	L268/	96.56/	95.98	L269/	95.98/	93.73	L270/	85.20/
112.77/	L271/	84.31/	83.90	L278/	114.71/	114.59	L279/	114.59/
108.64/	L280/	114.72/	114.59	L284/	108.93/	108.80	L285/	108.80/
100.03/	L286/	108.83/	108.80	L290/	104.11/	102.08	L291/	102.08/
92.55/	L292/	100.03/	99.57	L294/	92.71/	92.55	L300/	93.33/
93.52/	L301/	93.53/	93.33	L302/	92.55/	91.51	L303/	93.58/
97.66/	L304/	93.94/	93.52	L305/	93.52/	93.33	L306/	98.13/
97.76/	L307/	97.66/	97.64	L308/	97.76/	97.64	L309/	98.18/
109.72/	L310/	110.94/	110.78	L311/	110.78/	109.72	L312/	109.83/
105.22/	L313/	109.72/	104.33	L314/	104.49/	104.33	L315/	105.53/
101.67/	L316/	105.22/	104.33	L317/	104.33/	102.95	L318/	102.95/
121.55/	L321/	119.23/	118.56	L324/	123.06/	122.70	L325/	121.72/
116.35/	L326/	120.55/	120.09	L327/	120.68/	120.09	L328/	120.09/
121.39/	L329/	116.35/	113.42	L334/	125.61/	123.40	L335/	123.40/
92.55/	L336/	121.39/	120.37	L337/	120.37/	115.34	L475/	93.13/
97.42/	L478/	91.51/	89.36	L479/	89.36/	87.83	L487/	98.41/
120.09/	L493/	87.83/	86.64	L499/	122.70/	121.55	L500/	121.55/
91.51/	L507/	94.63/	92.46	L513/	86.64/	85.95	L546/	92.46/
	L510/	102.72/	97.42					

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| Table E7 - Iteration Summary |

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Total number of time steps simulated.....	360
Total number of passes in the simulation.....	12469
Total number of time steps during simulation....	11049
Ratio of actual # of time steps / NTCYC.....	30.692
Average number of iterations per time step.....	1.129
Average time step size(seconds).....	1.955
Smallest time step size(seconds).....	1.000
Largest time step size(seconds).....	15.000
Average minimum Conduit Courant time step (sec).	2.152
Average minimum implicit time step (sec).....	1.980
Average minimum junction time step (sec).....	1.980
Average Courant Factor Tf.....	1.980
Number of times omega reduced.....	0

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
N221	0	1.27	14052	0	10	1	0	0
N222	0	1.50	16539	0	6	0	0	0
N223	0	1.49	16515	0	5	0	0	0
N224	0	1.55	17159	0	22	2	0	0
N227	0	1.27	14022	0	10	1	0	0
N228	0	1.33	14747	0	11	1	0	0
N230	0	1.51	16719	0	11	1	0	0
N231	0	1.23	13551	0	7	0	0	0
N233	0	1.47	16251	0	5	0	0	0
N234	0	1.17	12906	0	4	0	0	0
N235	0	1.07	11834	0	3	0	0	0
N236	0	1.07	11852	0	3	0	0	0
N237	0	1.07	11787	0	3	0	0	0
N238	0	1.48	16377	0	7	0	0	0
N239	0	1.26	13879	0	4	0	0	0
N240	0	1.43	15818	0	5	0	0	0
N241	0	1.51	16697	0	5	0	0	0
N242	0	1.51	16639	0	5	0	0	0
N243	0	1.51	16640	0	5	0	0	0
N244	0	1.60	17662	0	7	0	0	0
N245	0	1.54	16988	0	19	1	0	0
N246	0	1.62	17889	0	24	16	0	0
N247	0	1.46	16112	0	18	7	0	0
N248	0	1.22	13443	0	4	0	0	0
N249	0	1.28	14091	0	10	1	0	0
N250	0	1.28	14195	0	11	1	0	0
N251	0	1.24	13701	0	10	1	0	0
N252	0	1.46	16112	0	5	0	0	0
N253	0	1.46	16156	0	9	0	0	0
N254	0	1.23	13591	0	5	0	0	0
N255	0	1.50	16622	0	14	1	0	0
N256	0	1.23	13643	0	11	1	0	0
N257	0	1.25	13757	0	10	1	0	0
N259	0	1.43	15768	0	25	10	1	0
N260	0	1.38	15226	0	18	3	0	0
N261	0	1.28	14144	0	14	5	0	0
N262	0	1.22	13457	0	9	0	0	0
N263	0	1.47	16235	0	10	1	0	0
N264	0	1.14	12576	0	4	0	0	0
N265	0	1.22	13462	0	4	0	0	0
N272	0	1.39	15383	0	5	0	0	0
N273	0	1.00	11049	0	1	0	0	0
N274	0	1.38	15285	0	5	0	0	0
N275	0	1.20	13275	0	4	0	0	0
N276	0	1.18	13005	0	8	0	0	0
N277	0	1.47	16200	0	9	0	0	0

N278	0	1.13	12440	0	3	0	0	0
N279	0	1.20	13226	0	6	0	0	0
N288	3	6.27	69326	0	501	1751	8	6
N289	0	4.23	46757	0	50	3	1	1
N290	0	2.08	22975	0	109	10	4	3
N291	0	1.24	13713	0	9	0	0	0
N292	0	1.17	12882	0	5	0	0	0
N293	0	1.24	13674	0	8	0	0	0
N294	0	1.45	16018	0	10	1	0	0
N296	0	1.23	13640	0	4	0	0	0
N301	0	1.21	13348	0	9	0	0	0
N302	0	1.47	16289	0	11	1	0	0
N303	0	1.13	12499	0	4	0	0	0
N304	0	1.22	13482	0	10	1	0	0
N309	0	1.23	13632	0	7	0	0	0
N310	0	1.45	16073	0	9	0	0	0
N312	0	1.24	13719	0	10	1	0	0
N342	0	1.49	16439	0	10	1	0	0
N343	0	1.41	15601	0	5	0	0	0
N344	0	1.24	13695	0	11	1	0	0
N345	0	1.16	12791	0	4	0	0	0
N361	0	1.36	15016	0	13	2	0	0
N362	0	1.53	16910	0	17	1	0	0
N363	0	1.50	16599	0	15	1	0	0
N364	0	1.48	16307	0	6	0	0	0
N365	0	1.39	15375	0	5	0	0	0
N366	0	1.26	13885	0	12	1	0	0
N367	0	1.25	13820	0	11	1	0	0
N368	0	1.36	15041	0	10	1	0	0
N369	0	1.62	17917	0	14	1	0	0
N370	0	1.83	20272	0	20	5	0	0
N371	0	1.54	17020	0	12	1	0	0
N372	0	1.52	16757	0	23	3	0	0
N373	0	1.50	16567	0	13	2	0	0
N374	0	1.53	16921	0	25	5	1	0
N375	0	1.49	16435	0	21	4	0	0
N376	0	1.37	15151	0	11	2	0	0
N377	0	1.56	17218	0	13	1	0	0
N378	0	1.25	13843	0	60	4	2	1
N379	0	1.40	15432	0	22	3	0	0
N381	0	1.47	16215	0	13	1	0	0
N382	0	1.52	16803	0	14	1	0	0
N383	0	1.23	13610	0	11	1	0	0
N384	0	1.24	13655	0	11	1	0	0
N386	0	1.23	13609	0	10	1	0	0
N387	0	1.23	13621	0	11	1	0	0
N388	0	1.51	16638	0	21	1	0	0
N389	0	1.43	15855	0	27	11	2	0
N390	0	1.25	13841	0	17	2	0	0
N391	0	1.28	14194	0	19	2	0	0
N392	0	1.44	15878	0	45	10	1	1
N394	0	1.41	15547	0	26	6	2	0
N395	0	1.23	13555	0	5	0	0	0
N396	0	1.49	16466	0	5	0	0	0
N397	0	1.91	21137	0	8	0	0	0
N398	0	1.73	19100	0	8	0	0	0
N399	0	1.68	18606	0	24	4	0	0
N403	0	1.60	17698	0	76	4	3	2
N404	0	1.58	17476	0	28	5	1	0
N405	0	1.24	13685	0	10	1	0	0

N406	0	1.52	16752	0	29	6	1	0
N407	0	1.23	13615	0	4	0	0	0
N408	0	1.49	16488	0	33	4	1	0
N409	0	1.45	16019	0	30	5	1	0
N410	0	1.44	15926	0	45	5	1	1
N412	0	1.26	13904	0	12	1	0	0
N413	0	1.55	17081	0	11	1	0	0
N414	0	1.54	16995	0	11	1	0	0
N415	0	1.25	13844	0	10	1	0	0
N416	0	1.27	13988	0	11	1	0	0
N417	0	1.50	16520	0	5	0	0	0
N418	0	1.26	13897	0	10	1	0	0
N419	0	1.58	17450	0	6	0	0	0
N420	0	1.37	15093	0	9	0	0	0
N421	0	1.58	17423	0	11	1	0	0
N422	0	1.72	19044	0	12	1	0	0
N423	0	1.35	14938	0	11	1	0	0
N424	1	1.76	19473	0	501	5	1	1
N425	0	1.35	14884	0	11	1	0	0
N426	0	1.62	17888	0	8	0	0	0
N428	2	1.66	18308	0	501	3	2	2
N429	1	1.65	18280	0	501	2	1	1
N430	0	1.20	13314	0	9	0	0	0
N431	0	1.35	14961	0	6	0	0	0
N432	0	1.47	16206	0	11	1	0	0
N434	0	1.23	13610	0	11	1	0	0
N435	0	1.63	17966	0	14	1	0	0
N436	0	1.30	14342	0	11	1	0	0
N437	0	1.34	14786	0	11	1	0	0
N438	0	1.64	18122	0	6	0	0	0
N439	6	1.97	21812	0	501	7	6	6
N440	0	1.37	15158	0	9	0	0	0
N441	0	1.35	14950	0	11	1	0	0
N442	0	1.77	19515	0	12	1	0	0
N443	0	1.44	15922	0	5	0	0	0
N444	0	1.34	14841	0	11	1	0	0
N445	0	1.71	18941	0	8	0	0	0
N446	0	1.39	15402	0	5	0	0	0
N447	0	1.58	17473	0	6	0	0	0
N448	0	1.26	13909	0	11	1	0	0
N449	0	1.54	17020	0	6	0	0	0
N450	0	1.52	16762	0	9	0	0	0
N451	0	1.29	14209	0	11	1	0	0
N453	0	1.48	16374	0	11	1	0	0
N454	0	1.25	13765	0	12	1	0	0
N455	0	1.53	16915	0	5	0	0	0
N456	0	1.56	17230	0	9	0	0	0
N457	0	1.27	14039	0	10	1	0	0
N458	0	1.49	16498	0	5	0	0	0
N459	0	1.46	16154	0	6	0	0	0
N460	0	1.47	16217	0	6	0	0	0
N461	0	1.24	13691	0	40	1	1	1
N464	0	1.59	17559	0	10	1	0	0
N465	0	1.34	14795	0	78	1	1	1
N466	0	1.60	17665	0	9	0	0	0
N467	0	1.36	15064	0	9	0	0	0
N468	0	1.59	17620	0	13	1	0	0
N469	0	1.50	16528	0	10	1	0	0
N470	0	1.55	17109	0	22	1	0	0
N471	0	1.36	15068	0	5	0	0	0

N472	0	1.35	14966	0	5	0	0	0
N473	0	1.18	12985	0	4	0	0	0
N487	0	1.45	16013	0	7	0	0	0
N489	0	1.41	15525	0	5	0	0	0
N490	0	1.30	14403	0	11	1	0	0
N491	0	1.14	12642	0	14	1	0	0
N492	0	1.21	13389	0	9	0	0	0
N493	0	2.44	26914	0	499	27	27	27
N497	0	1.23	13590	0	11	1	0	0
N499	0	1.14	12559	0	4	0	0	0
N509	0	1.24	13701	0	13	1	0	0
N513	0	1.27	13986	0	6	0	0	0
N514	0	1.43	15846	0	13	2	0	0
N516	0	1.12	12340	0	4	0	0	0
N524	0	1.20	13251	0	7	0	0	0
N525	0	1.23	13544	0	6	0	0	0
N526	0	1.20	13246	0	4	0	0	0
N527	0	1.28	14093	0	5	0	0	0
N528	0	1.62	17852	0	7	0	0	0
N529	0	1.35	14952	0	41	4	1	1
N530	0	1.46	16082	0	34	4	1	0
N689	0	2.34	25900	0	499	25	25	25
N494	0	1.45	16020	0	10	1	0	0
N541	0	1.58	17412	0	9	0	0	0
EL329	0	1.33	14710	0	9	0	0	0
N427	0	1.57	17293	0	7	0	0	0
N411	0	1.47	16279	0	31	4	1	0
N295	0	1.36	14978	0	5	0	0	0
N311	0	1.17	12912	0	4	0	0	0
N462	0	1.32	14571	0	7	0	0	0
N266	0	1.00	11060	0	2	0	0	0
N267	0	1.49	16452	0	7	0	0	0
N268	0	1.23	13630	0	9	0	0	0
N269	0	1.44	15886	0	5	0	0	0
N270	0	1.27	13977	0	9	0	0	0
N271	0	1.52	16741	0	5	0	0	0
N280	0	1.26	13904	0	9	0	0	0
N281	0	1.61	17787	0	33	3	1	0
N282	0	1.61	17805	0	14	1	0	0
N283	0	1.56	17278	0	22	3	0	0
N284	0	1.20	13266	0	5	0	0	0
N285	0	1.24	13753	0	11	1	0	0
N286	0	1.48	16315	0	5	0	0	0
N287	0	2.02	22313	0	135	5	3	1
N297	0	1.29	14223	0	10	1	0	0
N298	0	1.52	16771	0	10	1	0	0
N299	0	1.38	15249	0	5	0	0	0
N300	0	1.28	14169	0	10	1	0	0
N305	0	1.22	13500	0	51	7	2	1
N306	3	1.55	17104	0	501	10	5	5
N307	0	1.43	15789	0	14	2	0	0
N308	0	1.29	14233	0	245	4	3	2
N313	0	1.00	11057	0	3	0	0	0
N314	0	1.15	12667	0	5	0	0	0
N315	0	2.11	23271	0	386	45	43	42
N316	0	1.28	14152	0	9	0	0	0
N317	0	1.35	14864	0	10	1	0	0
N318	0	1.66	18335	0	9	0	0	0
N319	0	1.38	15198	0	7	0	0	0
N320	0	1.62	17909	0	10	1	0	0

N321	0	1.39	15303	0	11	1	0	0
N325	0	1.66	18340	0	11	1	0	0
N326	0	1.36	14997	0	7	0	0	0
N327	0	1.32	14604	0	11	1	0	0
N328	1	1.31	14433	0	501	12	4	4
N329	0	1.25	13768	0	70	9	4	3
N330	3	1.54	17046	0	501	23	6	4
N331	0	1.37	15129	0	33	8	1	0
N332	0	1.24	13706	0	53	8	3	3
N333	0	1.38	15225	0	9	0	0	0
N334	0	1.60	17642	0	7	0	0	0
N335	0	1.64	18096	0	9	0	0	0
N336	0	1.42	15643	0	7	0	0	0
N337	0	1.58	17468	0	10	1	0	0
N338	0	1.31	14487	0	5	0	0	0
N339	0	1.23	13597	0	9	0	0	0
N340	0	1.44	15953	0	5	0	0	0
N341	0	1.53	16858	0	5	0	0	0
N347	0	1.45	16048	0	9	0	0	0
N348	0	1.46	16131	0	10	1	0	0
N349	0	1.32	14590	0	9	0	0	0
N350	0	1.39	15332	0	8	0	0	0
N351	0	1.55	17152	0	8	0	0	0
N352	0	1.36	14972	0	10	1	0	0
N353	0	1.33	14741	0	10	1	0	0
N354	0	1.44	15919	0	5	0	0	0
N355	0	1.23	13537	0	32	1	1	0
N356	0	1.15	12662	0	6	0	0	0
N357	0	1.22	13507	0	6	0	0	0
N358	0	1.20	13301	0	5	0	0	0
N359	0	1.28	14118	0	4	0	0	0
N360	0	1.21	13390	0	31	1	1	0
N500	0	1.58	17421	0	11	1	0	0
N501	0	1.53	16954	0	13	3	0	0
N503	0	1.38	15251	0	31	4	3	0
N504	0	1.24	13677	0	55	7	2	1
N506	0	1.24	13743	0	10	1	0	0
N517	0	1.53	16878	0	6	0	0	0
N518	0	1.49	16488	0	8	0	0	0
N554	0	1.52	16748	0	5	0	0	0
N322	0	1.37	15168	0	35	6	1	0
N511	0	1.24	13731	0	11	1	0	0
N555	0	1.21	13421	0	5	0	0	0

Total number of iterations for all junctions.. 4256014
Minimum number of possible iterations..... 2972181
Efficiency of the simulation..... 1.43
Good Efficiency

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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

 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 Gutter Width feet	Maximum Gutter Junction Velocity Name ft/s	Uppermost Ground Elevation feet	Pipe Crown Elevation feet	Maximum Junction Elevation feet	Time of Occurence Hr. Min.	Feet of Surcharge at Max Elevation	Freeboard of node feet	Maximum Junction Area ft^2	Maximum Gutter Depth feet
0.0000	N221	114.0300	106.8400	107.6026	2 47	0.7626	6.4274	12.5660	0.0000
0.0000	N222	112.0800	106.4400	106.9939	2 47	0.5539	5.0861	12.5660	0.0000
0.0000	N223	106.2600	103.0600	102.1159	4 21	0.0000	4.1441	12.5660	0.0000
0.0000	N224	106.3300	99.7200	100.2909	4 23	0.5709	6.0391	12.5660	0.0000
0.0000	N227	109.4000	99.3400	100.9720	4 22	1.6320	8.4280	12.5660	0.0000
0.0000	N228	102.4000	99.0300	100.6100	4 22	1.5800	1.7900	12.5660	0.0000
0.0000	N230	104.3900	100.3300	98.1694	4 22	0.0000	6.2206	12.5660	0.0000
0.0000	N231	104.4000	100.8400	100.2872	1 2	0.0000	4.1128	12.5660	0.0000
0.0000	N233	100.3500	96.9200	95.2520	4 18	0.0000	5.0980	12.5660	0.0000
0.0000	N234	100.0000	89.6000	90.4700	0 0	0.8700	9.5300	12.5660	0.0000
0.0000	N235	138.1500	120.6000	119.8642	2 1	0.0000	18.2858	12.5660	0.0000
0.0000	N236	126.2300	120.4100	118.8903	5 0	0.0000	7.3397	12.5660	0.0000
0.0000	N237	124.2900	118.8600	117.6596	6 0	0.0000	6.6304	12.5660	0.0000
0.0000	N238	122.3500	117.5100	117.5825	6 0	0.0725	4.7675	12.5660	0.0000
0.0000	N239	125.0800	118.6900	118.5578	6 0	0.0000	6.5222	12.5660	0.0000
0.0000	N240	122.0900	117.6200	118.1994	6 0	0.5794	3.8906	12.5660	0.0000
0.0000	N241	119.6000	115.0600	112.5184	6 0	0.0000	7.0816	12.5660	0.0000
0.0000	N242	115.6700	111.1300	110.4305	6 0	0.0000	5.2395	12.5660	0.0000

0.0000	N243	112.6900	109.1100	108.4480	6	0	0.0000	4.2420	12.5660	0.0000
0.0000	N244	109.7000	106.3500	106.6365	6	0	0.2865	3.0635	12.5660	0.0000
0.0000	N245	107.6800	104.8800	105.2963	6	0	0.4163	2.3837	12.5660	0.0000
0.0000	N246	104.7000	101.8100	103.0130	6	0	1.2030	1.6870	12.5660	0.0000
0.0000	N247	107.2000	100.3700	102.0312	6	0	1.6612	5.1688	12.5660	0.0000
0.0000	N248	116.0000	112.4800	112.5280	6	0	0.0480	3.4720	12.5660	0.0000
0.0000	N249	108.6300	105.6200	107.1256	6	0	1.5056	1.5044	12.5660	0.0000
0.0000	N250	113.4000	102.1400	103.9881	6	0	1.8481	9.4119	12.5660	0.0000
0.0000	N251	127.0200	116.3800	116.6527	1	0	0.2727	10.3673	12.5660	0.0000
0.0000	N252	121.2500	116.0600	115.2810	1	0	0.0000	5.9690	12.5660	0.0000
0.0000	N253	119.0300	113.3300	110.4633	1	1	0.0000	8.5667	12.5660	0.0000
0.0000	N254	120.4000	113.8300	113.3534	1	1	0.0000	7.0466	12.5660	0.0000
0.0000	N255	113.9100	108.0500	106.8092	6	0	0.0000	7.1008	12.5660	0.0000
0.0000	N256	119.8800	108.4100	108.0734	1	0	0.0000	11.8066	12.5660	0.0000
0.0000	N257	118.4000	108.6100	108.4472	1	2	0.0000	9.9528	12.5660	0.0000
0.0000	N259	102.6900	99.6600	100.1167	6	0	0.4567	2.5733	12.5660	0.0000
0.0000	N260	101.1000	99.5000	99.5500	0	0	0.0500	1.5500	12.5660	0.0000
0.0000	N261	106.3800	99.9300	100.3093	6	0	0.3793	6.0707	12.5660	0.0000
0.0000	N262	110.4000	105.8800	105.4930	1	0	0.0000	4.9070	12.5660	0.0000
0.0000	N263	109.4000	105.4600	104.8418	1	0	0.0000	4.5582	12.5660	0.0000
0.0000	N264	106.0000	97.6400	99.5400	0	0	1.9000	6.4600	12.5660	0.0000
0.0000	N265	108.4000	105.8600	105.4066	1	0	0.0000	2.9934	12.5660	0.0000
0.0000	N272	102.0600	98.1000	97.6771	4	59	0.0000	4.3829	12.5660	0.0000
0.0000	N273	104.4000	97.6800	97.6800	0	0	0.0000	6.7200	12.5660	0.0000
0.0000	N274	100.3100	97.3300	96.0308	3	56	0.0000	4.2792	12.5660	0.0000
0.0000	N275	101.7000	89.3500	90.4800	0	0	1.1300	11.2200	12.5660	0.0000
0.0000	N276	100.4000	95.2500	94.7428	1	2	0.0000	5.6572	12.5660	0.0000
0.0000	N277	99.4000	94.4400	93.7152	1	1	0.0000	5.6848	12.5660	0.0000
0.0000	N278	96.0000	79.0000	83.9100	0	0	4.9100	12.0900	12.5660	0.0000
0.0000	N279	98.4000	95.1200	94.6677	1	0	0.0000	3.7323	12.5660	0.0000

0.0000	N288	96.4000	81.5300	86.4925	0	0	4.9625	9.9075	12.5660	0.0000
0.0000	N289	96.4000	81.5000	83.9000	0	0	2.4000	12.5000	12.5660	0.0000
0.0000	N290	96.4000	79.8500	86.7858	0	0	6.9358	9.6142	12.5660	0.0000
0.0000	N291	96.2900	93.4200	92.4740	1	0	0.0000	3.8160	12.5660	0.0000
0.0000	N292	94.0000	78.1000	83.9000	0	0	5.8000	10.1000	12.5660	0.0000
0.0000	N293	126.4000	119.9200	119.6123	2	16	0.0000	6.7877	12.5660	0.0000
0.0000	N294	123.9600	119.3000	119.3170	2	16	0.0170	4.6430	12.5660	0.0000
0.0000	N296	122.4000	119.9800	119.6597	2	14	0.0000	2.7403	12.5660	0.0000
0.0000	N301	128.4000	123.9000	124.8193	1	29	0.9193	3.5807	12.5660	0.0000
0.0000	N302	128.3900	123.2800	122.6751	1	27	0.0000	5.7149	12.5660	0.0000
0.0000	N303	124.3000	111.6000	113.4200	0	0	1.8200	10.8800	12.5660	0.0000
0.0000	N304	126.4000	123.9500	123.5620	1	0	0.0000	2.8380	12.5660	0.0000
0.0000	N309	119.4000	114.1500	113.8197	1	3	0.0000	5.5803	12.5660	0.0000
0.0000	N310	116.6600	113.5100	112.6673	1	38	0.0000	3.9927	12.5660	0.0000
0.0000	N312	116.4000	114.2100	114.0002	1	37	0.0000	2.3998	12.5660	0.0000
0.0000	N342	106.8400	101.7200	101.6653	6	0	0.0000	5.1747	12.5660	0.0000
0.0000	N343	104.4000	101.5000	101.1083	6	59	0.0000	3.2917	12.5660	0.0000
0.0000	N344	112.0700	102.1100	101.8986	6	0	0.0000	10.1714	12.5660	0.0000
0.0000	N345	128.1400	119.8300	119.2319	6	0	0.0000	8.9081	12.5660	0.0000
0.0000	N361	133.4000	129.2400	128.4056	2	24	0.0000	4.9944	12.5660	0.0000
0.0000	N362	133.8500	129.1300	128.2437	2	21	0.0000	5.6063	12.5660	0.0000
0.0000	N363	135.6800	128.7800	127.6447	2	22	0.0000	8.0353	12.5660	0.0000
0.0000	N364	134.3100	128.5100	127.0548	2	24	0.0000	7.2552	12.5660	0.0000
0.0000	N365	129.0000	128.4000	122.5700	0	0	0.0000	6.4300	12.5660	0.0000
0.0000	N366	136.4000	129.1200	128.9836	1	0	0.0000	7.4164	12.5660	0.0000
0.0000	N367	131.4000	129.3300	129.2163	1	32	0.0000	2.1837	12.5660	0.0000
0.0000	N368	130.1000	126.7600	127.1958	2	17	0.4358	2.9042	12.5660	0.0000
0.0000	N369	130.1500	126.6700	127.1391	2	17	0.4691	3.0109	12.5660	0.0000
0.0000	N370	130.0300	125.7000	126.8932	5	14	1.1932	3.1368	12.5660	0.0000
0.0000	N371	130.3200	125.7600	126.9363	2	47	1.1763	3.3837	12.5660	0.0000

0.0000	N372	131.8100	125.3400	126.0985	3	42	0.7585	5.7115	12.5660	0.0000
0.0000	N373	131.3300	124.9700	125.3411	2	18	0.3711	5.9889	12.5660	0.0000
0.0000	N374	132.8200	124.6000	124.5626	2	18	0.0000	8.2574	12.5660	0.0000
0.0000	N375	132.2300	124.4800	124.2984	2	19	0.0000	7.9316	12.5660	0.0000
0.0000	N376	130.4700	124.9000	124.5869	2	19	0.0000	5.8831	12.5660	0.0000
0.0000	N377	130.5100	124.8200	124.5302	2	19	0.0000	5.9798	12.5660	0.0000
0.0000	N378	129.1900	123.7700	122.6545	0	1	0.0000	6.5355	12.5660	0.0000
0.0000	N379	128.2000	122.9000	122.5800	0	0	0.0000	5.6200	12.5660	0.0000
0.0000	N381	128.4700	126.2600	125.8482	3	53	0.0000	2.6218	12.5660	0.0000
0.0000	N382	128.0000	124.8600	124.5904	3	56	0.0000	3.4096	12.5660	0.0000
0.0000	N383	132.3000	126.5300	126.2887	1	0	0.0000	6.0113	12.5660	0.0000
0.0000	N384	131.1800	126.6400	126.3795	1	0	0.0000	4.8005	12.5660	0.0000
0.0000	N386	132.1700	125.1400	124.9847	3	54	0.0000	7.1853	12.5660	0.0000
0.0000	N387	132.9300	125.2300	124.8733	3	56	0.0000	8.0567	12.5660	0.0000
0.0000	N388	128.2100	123.9500	123.6822	3	57	0.0000	4.5278	12.5660	0.0000
0.0000	N389	128.3800	123.1100	123.1444	0	1	0.0344	5.2356	12.5660	0.0000
0.0000	N390	132.4000	123.8300	123.6213	1	0	0.0000	8.7787	12.5660	0.0000
0.0000	N391	131.4000	123.6900	124.1512	1	25	0.4612	7.2488	12.5660	0.0000
0.0000	N392	129.2100	122.8300	122.8575	0	1	0.0275	6.3525	12.5660	0.0000
0.0000	N394	130.0700	121.4000	122.5800	0	0	1.1800	7.4900	12.5660	0.0000
0.0000	N395	126.4000	119.6100	120.8368	6	0	1.2268	5.5632	12.5660	0.0000
0.0000	N396	124.6000	119.1800	118.9739	6	0	0.0000	5.6261	12.5660	0.0000
0.0000	N397	124.9400	118.8100	118.4019	6	0	0.0000	6.5381	12.5660	0.0000
0.0000	N398	128.0400	119.0600	118.6604	6	0	0.0000	9.3796	12.5660	0.0000
0.0000	N399	124.3000	118.6100	118.2820	6	0	0.0000	6.0180	12.5660	0.0000
0.0000	N403	125.5000	118.3000	118.0270	6	0	0.0000	7.4730	12.5660	0.0000
0.0000	N404	126.6900	117.9800	117.7614	6	0	0.0000	8.9286	12.5660	0.0000
0.0000	N405	131.2500	118.0000	118.3319	6	0	0.3319	12.9181	12.5660	0.0000
0.0000	N406	124.4900	117.6700	117.4697	6	0	0.0000	7.0203	12.5660	0.0000
0.0000	N407	132.5800	118.0000	117.7713	6	0	0.0000	14.8087	12.5660	0.0000

0.0000	N441	120.9000	110.9800	112.2083	6	0	1.2283	8.6917	12.5660	0.0000
0.0000	N442	116.2500	109.9700	111.2807	6	0	1.3107	4.9693	12.5660	0.0000
0.0000	N443	118.4000	110.3800	111.3435	6	0	0.9635	7.0565	12.5660	0.0000
0.0000	N444	118.4000	110.2800	111.6425	6	0	1.3625	6.7575	12.5660	0.0000
0.0000	N445	113.3000	108.9800	109.7503	6	0	0.7703	3.5497	12.5660	0.0000
0.0000	N446	118.4000	109.4900	109.8312	6	0	0.3412	8.5688	12.5660	0.0000
0.0000	N447	113.2000	108.5500	108.8835	6	0	0.3335	4.3165	12.5660	0.0000
0.0000	N448	125.6200	119.7700	120.8468	3	33	1.0768	4.7732	12.5660	0.0000
0.0000	N449	125.6000	119.2400	120.2831	3	34	1.0431	5.3169	12.5660	0.0000
0.0000	N450	125.2200	121.7400	122.5957	3	34	0.8557	2.6243	12.5660	0.0000
0.0000	N451	126.4000	122.2700	123.0855	3	34	0.8155	3.3145	12.5660	0.0000
0.0000	N453	119.8300	114.7600	115.6961	6	0	0.9361	4.1339	12.5660	0.0000
0.0000	N454	125.4000	115.2900	116.4642	6	0	1.1742	8.9358	12.5660	0.0000
0.0000	N455	118.2800	112.9300	113.0201	6	0	0.0901	5.2599	12.5660	0.0000
0.0000	N456	116.2800	111.5100	112.1895	6	0	0.6795	4.0905	12.5660	0.0000
0.0000	N457	122.4000	112.0200	112.4454	6	0	0.4254	9.9546	12.5660	0.0000
0.0000	N458	114.0000	109.8900	109.7789	6	0	0.0000	4.2211	12.5660	0.0000
0.0000	N459	110.2500	108.1100	107.6629	6	0	0.0000	2.5871	12.5660	0.0000
0.0000	N460	110.1000	107.6100	105.0976	6	59	0.0000	5.0024	12.5660	0.0000
0.0000	N461	110.1000	97.6000	99.5700	0	0	1.9700	10.5300	12.5660	0.0000
0.0000	N464	132.5200	126.8400	128.1440	5	53	1.3040	4.3760	12.5660	0.0000
0.0000	N465	135.1200	128.1500	129.7527	5	55	1.6027	5.3673	12.5660	0.0000
0.0000	N466	131.9700	127.9400	129.4984	5	54	1.5584	2.4716	12.5660	0.0000
0.0000	N467	130.9600	127.3000	128.2210	5	48	0.9210	2.7390	12.5660	0.0000
0.0000	N468	129.9500	125.5900	126.0007	5	55	0.4107	3.9493	12.5660	0.0000
0.0000	N469	128.6600	124.6600	120.4426	5	58	0.0000	8.2174	12.5660	0.0000
0.0000	N470	127.0000	120.4600	118.6802	6	0	0.0000	8.3198	12.5660	0.0000
0.0000	N471	133.3000	125.8800	126.0884	5	55	0.2084	7.2116	12.5660	0.0000
0.0000	N472	129.4500	125.9400	126.0559	5	56	0.1159	3.3941	12.5660	0.0000
0.0000	N473	126.2300	121.0700	120.5302	6	59	0.0000	5.6998	12.5660	0.0000

0.0000	N500	95.8800	88.9200	91.5100	4	29	2.5900	4.3700	12.5660	0.0000
0.0000	N501	94.9100	87.9700	89.3552	6	59	1.3852	5.5548	12.5660	0.0000
0.0000	N503	100.1000	91.5500	97.4200	0	0	5.8700	2.6800	12.5660	0.0000
0.0000	N504	100.4000	97.2900	98.7659	0	1	1.4759	1.6341	12.5660	0.0000
0.0000	N506	100.4000	93.1400	94.6255	4	30	1.4855	5.7745	12.5660	0.0000
0.0000	N517	90.2800	86.4500	86.6416	5	59	0.1916	3.6384	12.5660	0.0000
0.0000	N518	89.2500	87.0600	87.8334	6	59	0.7734	1.4166	12.5660	0.0000
0.0000	N554	94.5100	92.2800	92.4555	4	30	0.1755	2.0545	12.5660	0.0000
0.0000	N322	101.6200	94.5000	97.6400	0	0	3.1400	3.9800	12.5660	0.0000
0.0000	N511	114.9500	103.4600	102.7250	1	0	0.0000	12.2250	12.5660	0.0000
0.0000	N555	110.0000	91.0500	97.4200	0	0	6.3700	12.5800	12.5660	0.0000

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

Maximum Water Pipe Ends Dwnstrm (ft)	Ratio Design Flow (cfs)	Conduit Design Velocity (ft/s)	Maximum Vertical Depth (in)	Maximum Computed Flow (cfs)	Time of Occurrence Hr. Min.	Maximum Computed Velocity (ft/s)	Time of Occurrence Hr. Min.	Ratio of Max. to Design Flow	Elev at Upstream (ft)
106.9939	2.3341	2.9719	12.0000	2.8911	2 40	3.7442	0 56	1.2386	107.6026
102.8186	2.3583	3.0027	12.0000	3.1354	2 46	4.0313	2 46	1.3295	106.9939
100.2909	3.6820	3.0003	15.0000	3.2978	4 18	3.3045	0 56	0.8957	102.1159
100.2909	2.3504	2.9927	12.0000	2.4916	1 18	3.2326	0 40	1.0601	100.9720
100.2909	5.2561	2.9743	18.0000	5.3716	1 18	3.0197	1 18	1.0220	100.6100
99.7386	2.3778	3.0275	12.0000	0.9501	1 2	2.8265	1 3	0.3996	100.2872
98.1694	7.2421	3.0109	21.0000	11.2776	4 21	4.6465	4 21	1.5572	100.2909
96.2277	9.4105	2.9955	24.0000	13.2165	4 23	4.1620	4 23	1.4044	98.1694
	37.9531	12.0808	24.0000	13.3950	4 23	9.3807	4 23	0.3529	95.2520

90.4700	0.416	1.435											
	L223	1.5862	2.0196	12.0000	0.2305	2	1	1.4362	5	2	0.1453	119.8642	
119.6069	0.264	0.197											
	L224	1.5676	1.9959	12.0000	0.2305	5	1	1.3309	5	1	0.1470	118.8903	
118.0569	0.280	0.197											
	L225	1.5703	1.9993	12.0000	0.2305	6	59	1.3999	0	57	0.1468	117.6596	
117.5825	0.400	1.072											
	L226	1.5717	2.0011	12.0000	0.9294	6	59	1.8893	0	58	0.5913	118.5578	
118.1994	0.868	1.579											
	L227	1.5698	1.9988	12.0000	1.5845	6	0	2.2885	0	55	1.0093	118.1994	
117.5825	1.579	1.572											
	L228	1.5683	1.9969	12.0000	2.4888	6	0	3.2325	6	0	1.5869	117.5825	
114.7356	2.472	0.676											
	L229	2.8478	2.3206	15.0000	2.9466	6	0	2.5939	2	7	1.0347	112.5184	
110.5696	0.927	0.552											
	L230	2.4656	2.0091	15.0000	3.4595	6	0	2.9207	6	0	1.4031	110.4305	
108.6104	1.440	0.600											
	L231	2.4434	1.9910	15.0000	3.8015	6	0	3.0729	6	0	1.5558	108.4480	
106.6365	2.070	1.229											
	L232	3.5621	2.0157	18.0000	6.0390	6	0	3.4001	6	0	1.6954	106.6365	
105.2963	1.858	1.278											
	L233	5.2943	2.9960	18.0000	6.3287	6	0	3.5542	6	0	1.1954	105.2963	
103.0130	2.244	1.802											
	L234	10.3141	3.2831	24.0000	9.4131	6	0	2.9823	6	0	0.9126	103.0130	
102.0312	1.727	1.831											
	L235	1.5127	1.9260	12.0000	0.4478	6	0	1.0916	0	14	0.2960	112.5280	
112.5184	1.048	1.158											
	L236	1.5658	1.9936	12.0000	2.1260	6	0	2.6924	1	11	1.3578	107.1256	
106.6365	2.506	2.287											
	L237	2.3516	2.9941	12.0000	3.0865	1	1	3.8943	1	1	1.3125	103.9881	
103.0130	2.848	2.453											
	L238	2.3553	2.9988	12.0000	3.6943	1	0	4.7555	1	0	1.5685	116.6527	
115.8783	1.273	0.818											
	L239	2.3692	3.0165	12.0000	4.0636	1	0	5.1858	1	0	1.7152	115.2810	
113.1820	2.221	0.852											
	L240	2.3544	2.9977	12.0000	1.2377	1	1	3.0137	1	2	0.5257	113.3534	
112.7991	0.523	0.469											
	L241	3.6815	3.0000	15.0000	5.3649	1	1	4.4351	1	1	1.4572	110.4632	
107.7384	1.907	0.751											
	L242	2.3529	2.9958	12.0000	1.8517	1	0	3.3991	1	1	0.7870	108.0734	
107.6293	0.663	0.579											
	L243	2.3707	3.0185	12.0000	2.4831	1	2	3.6078	1	2	1.0474	108.4472	
107.7248	0.837	0.675											
	L246	14.7213	2.9990	30.0000	24.3602	6	0	4.9227	6	0	1.6548	102.0312	
100.1167	1.664	1.183											
	L247	14.8246	3.0200	30.0000	28.8013	6	0	5.6428	6	0	1.9428	100.1167	
99.5500	1.183	1.020											
	L248	2.3403	2.9798	12.0000	1.9855	1	1	2.5223	1	1	0.8484	100.3093	
100.1167	1.379	1.457											
	L249	2.3421	2.9821	12.0000	1.5796	1	0	3.2797	1	0	0.6744	105.4930	
104.8418	0.613	0.382											
	L250	9.7769	12.4483	12.0000	3.0003	1	0	9.1561	1	0	0.3069	104.8418	
99.5400	0.382	2.900											
	L251	2.3510	2.9934	12.0000	1.3050	1	0	3.0865	1	0	0.5551	105.4066	
104.8418	0.547	0.382											
	L259	7.1885	2.9886	21.0000	6.8581	4	59	3.7886	4	59	0.9540	97.6771	
96.0308	0.758	0.258											
	L260	48.4905	20.1600	21.0000	7.0527	3	55	10.3186	3	56	0.1454	96.0308	
90.4800	0.258	1.646											
	L261	2.3656	3.0120	12.0000	0.9792	1	2	2.6864	1	3	0.4139	94.7428	

93.7152	0.493	0.275											
	L262	13.9175	17.7203	12.0000	2.3040	1	1	9.6318	1	1	0.1655	93.7152	
83.9100	0.275	5.910											
	L263	2.3540	2.9972	12.0000	1.1997	1	0	2.8987	1	0	0.5097	94.6677	
93.7152	0.548	0.275											
	L272	50.6250	3.1831	54.0000	-182.090	0	0	-3.0701	0	1	-3.5968	86.3999	
83.9000	2.082	1.533											
	L273	7.1817	2.9858	21.0000	-20.2978	0	0	3.8734	1	37	-2.8263	86.7858	
86.3999	4.963	4.926											
	L274	32.1290	18.1813	18.0000	8.5583	1	0	11.9728	1	0	0.2664	92.4740	
83.9000	0.369	4.867											
	L275	2.3504	2.9927	12.0000	1.5051	2	14	2.6242	0	52	0.6403	119.6123	
119.3170	0.692	1.017											
	L277	2.3540	2.9972	12.0000	1.5120	2	15	2.6674	0	54	0.6423	119.6597	
119.3170	0.680	1.017											
	L281	2.3504	2.9927	12.0000	3.4219	1	29	4.6251	1	29	1.4559	124.8193	
122.6751	1.919	0.395											
	L282	15.2316	19.3934	12.0000	5.0178	1	25	14.7920	1	25	0.3294	122.6751	
113.4200	0.395	2.820											
	L283	2.3672	3.0140	12.0000	1.4971	1	0	3.1057	1	1	0.6325	123.5620	
122.6751	0.612	0.395											
	L287	2.3660	3.0125	12.0000	1.8249	1	3	3.3193	1	3	0.7713	113.8197	
113.0849	0.670	0.575											
	L289	2.3583	3.0027	12.0000	2.2642	1	37	3.4711	1	37	0.9601	114.0002	
113.1535	0.790	0.644											
	L319	5.2963	2.9971	18.0000	8.1961	6	0	4.7905	6	0	1.5475	101.6653	
101.1083	0.964	0.739											
	L320	2.3558	2.9995	12.0000	1.8863	1	7	3.0353	0	47	0.8007	101.8986	
101.6653	0.789	0.945											
	L338	20.9182	2.9593	36.0000	21.2501	1	50	3.9155	1	0	1.0159	128.4056	
128.2437	0.722	0.705											
	L339	21.2087	3.0004	36.0000	21.2501	2	22	4.0471	1	21	1.0020	128.2437	
127.6447	0.705	0.622											
	L340	29.0054	3.0148	42.0000	30.1672	2	22	4.4311	2	22	1.0401	127.6447	
127.0548	0.676	0.584											
	L341	28.4951	2.9617	42.0000	30.1672	2	24	5.2785	2	23	1.0587	127.0548	
126.5963	0.584	0.485											
	L342	3.6963	3.0120	15.0000	4.5877	1	0	4.0620	1	1	1.2412	128.9836	
128.3977	0.891	0.694											
	L343	2.3619	3.0073	12.0000	2.6326	1	33	3.6540	1	33	1.1146	129.2163	
128.4750	0.886	0.695											
	L344	14.9332	3.0422	30.0000	12.3310	4	8	4.0916	0	43	0.8257	127.1958	
127.1391	1.174	1.188											
	L346	30.2053	3.1395	42.0000	25.6091	1	5	2.6568	1	5	0.8478	126.9363	
126.8932	1.336	1.341											
	L347	37.5829	2.9908	48.0000	56.3352	2	20	4.4572	5	30	1.4990	126.8932	
126.0985	1.298	1.190											
	L348	37.6745	2.9980	48.0000	56.3335	2	16	4.3072	2	16	1.4953	126.0985	
125.3411	1.190	1.093											
	L349	37.8624	3.0130	48.0000	56.3333	2	17	4.3284	3	5	1.4878	125.3411	
124.5626	1.093	0.991											
	L350	37.5354	2.9870	48.0000	56.3333	2	17	4.5031	2	17	1.5008	124.5626	
124.2984	0.991	0.955											
	L351	9.3735	2.9837	24.0000	8.2540	5	51	3.3587	0	50	0.8806	124.5869	
124.5302	0.843	0.855											
	L352	9.4291	3.0014	24.0000	8.2540	5	51	3.3889	0	46	0.8754	124.5302	
124.2984	0.855	0.909											
	L354	163.9607	10.3092	54.0000	-98.8503	0	0	5.6499	2	20	-0.6029	122.6545	
122.5800	0.752	0.929											
	L361	2.3403	2.9798	12.0000	2.3118	1	0	3.6734	1	0	0.9878	126.2887	

125.9103	0.759	0.650											
	L362	2.3430	2.9831	12.0000	2.1598	1	0	3.5287	1	1	0.9218	126.3795	
125.8878	0.739	0.628											
	L363	5.3133	3.0067	18.0000	4.5228	3	41	3.2801	0	58	0.8512	125.8482	
124.5904	0.725	0.820											
	L364	2.3583	3.0027	12.0000	2.6499	1	0	3.8459	1	0	1.1237	124.9847	
124.5904	0.845	0.730											
	L365	2.3663	3.0129	12.0000	1.6367	3	55	3.2166	0	57	0.6917	124.8733	
124.5904	0.643	0.730											
	L366	9.4224	2.9993	24.0000	9.8099	3	57	3.4015	1	1	1.0411	124.5904	
123.6822	0.865	0.866											
	L367	9.4185	2.9980	24.0000	9.8099	3	57	3.3946	3	57	1.0416	123.6822	
123.1444	0.866	1.017											
	L368	2.3529	2.9958	12.0000	2.2788	1	1	3.4486	1	1	0.9685	123.6213	
123.1444	0.791	1.034											
	L369	2.3634	3.0092	12.0000	3.4945	1	25	4.5022	1	25	1.4786	124.1512	
123.1444	1.461	1.034											
	L370	21.3114	3.0150	36.0000	-23.1711	0	1	-3.6437	0	1	-1.0873	123.1444	
122.8575	1.011	1.009											
	L373	69.8268	9.8785	36.0000	-32.7200	0	0	-3.6394	0	1	-0.4686	122.8575	
122.5800	1.009	1.393											
	L374	1.6007	2.0381	12.0000	3.3515	1	0	4.3063	1	0	2.0937	120.8368	
118.9739	2.227	0.794											
	L375	2.7585	1.5610	18.0000	3.3513	2	42	2.2806	2	42	1.2149	118.9739	
118.4019	0.863	0.728											
	L376	17.8956	3.0129	33.0000	14.2708	6	0	2.6421	6	0	0.7975	118.6604	
118.4019	0.855	0.852											
	L386	37.5354	2.9870	48.0000	36.6159	6	0	3.0292	6	0	0.9755	118.2820	
118.0270	0.918	0.932											
	L387	37.3765	2.9743	48.0000	36.6031	6	0	3.0015	6	0	0.9793	118.0269	
117.7614	0.932	0.945											
	L388	1.5910	2.0257	12.0000	2.2296	2	1	2.8878	1	38	1.4014	118.3319	
117.7613	1.332	1.061											
	L389	48.3609	3.0407	54.0000	50.3153	6	0	3.2226	6	0	1.0404	117.7613	
117.4697	0.951	0.955											
	L390	1.8968	2.4151	12.0000	1.6079	2	9	2.8204	1	36	0.8477	117.7713	
117.4696	0.771	0.870											
	L391	47.6460	2.9958	54.0000	55.1620	6	0	3.5284	6	0	1.1577	117.4696	
117.0117	0.955	0.940											
	L392	47.8865	3.0109	54.0000	65.3549	6	0	4.2286	6	0	1.3648	117.0117	
116.5129	0.940	0.896											
	L393	47.6261	2.9945	54.0000	65.3488	6	0	-4.9060	0	1	1.3721	116.5129	
115.8734	0.896	0.834											
	L395	7.7978	6.3542	15.0000	4.2403	6	59	3.4419	1	0	0.5438	118.9901	
118.7087	2.152	2.703											
	L396	21.1861	2.9972	36.0000	8.3479	6	0	1.9353	0	50	0.3940	118.7853	
118.7087	0.805	0.960											
	L397	7.4154	6.0426	15.0000	4.5806	6	0	3.7176	1	0	0.6177	119.0832	
118.7087	2.203	2.703											
	L398	7.9175	6.4517	15.0000	4.3232	6	0	3.6417	0	34	0.5460	119.0675	
118.7853	1.790	2.332											
	L399	9.4392	3.0046	24.0000	4.0369	6	0	2.6079	0	50	0.4277	118.9368	
118.7853	0.683	0.958											
	L402	7.2544	3.0160	21.0000	7.1190	1	29	3.4621	1	0	0.9813	114.7633	
114.5335	1.442	1.448											
	L403	7.1865	2.9878	21.0000	7.1192	1	7	3.4260	1	8	0.9906	114.5335	
113.4701	1.448	1.463											
	L404	7.2356	3.0082	21.0000	7.1286	1	6	3.5493	1	4	0.9852	113.4701	
112.4791	1.463	1.485											
	L405	5.2929	2.9952	18.0000	4.8562	1	28	3.8609	1	0	0.9175	112.6795	

112.4791	1.540	1.566											
	L406	14.6711	2.9888	30.0000	11.9729	6	59	3.1921	0	52	0.8161	112.4791	
112.0680	1.340	1.423											
	L407	3.6392	2.9655	15.0000	3.8258	1	0	3.8229	1	0	1.0513	112.3959	
112.0680	1.869	1.846											
	L408	17.9044	3.0144	33.0000	15.7980	6	59	3.1695	0	46	0.8824	112.0680	
111.6343	1.385	1.431											
	L410	21.1742	2.9955	36.0000	20.1364	6	59	2.9547	0	45	0.9510	111.6343	
111.1574	1.395	1.412											
	L411	21.0724	2.9811	36.0000	20.1364	6	59	2.8412	6	59	0.9556	111.1574	
110.7941	1.412	1.425											
	L413	5.3791	3.0440	18.0000	2.2679	6	0	2.5782	0	56	0.4216	119.1140	
118.8248	0.696	1.437											
	L415	2.4953	3.1771	12.0000	2.2703	1	0	3.7552	1	0	0.9098	119.5280	
119.1244	0.728	0.644											
	L417	2.3384	2.9774	12.0000	2.8494	1	2	3.8175	1	2	1.2185	113.5338	
112.9610	1.964	1.781											
	L418	5.2561	2.9743	18.0000	5.1688	3	15	3.8865	1	0	0.9834	113.1916	
112.9610	1.514	1.521											
	L419	9.4366	3.0038	24.0000	8.0182	6	59	3.3526	1	59	0.8497	112.9610	
112.5301	1.391	1.475											
	L420	9.4302	3.0017	24.0000	8.0182	6	59	3.2859	0	55	0.8503	112.5301	
111.8621	1.475	1.606											
	L421	2.3682	3.0153	12.0000	1.6633	1	1	3.2980	1	0	0.7024	112.0562	
111.8621	2.006	2.212											
	L422	3.6891	3.0062	15.0000	3.8019	5	58	3.8116	1	0	1.0306	112.2083	
111.8621	1.983	1.970											
	L423	14.7122	2.9971	30.0000	13.6466	6	59	3.1599	0	44	0.9276	111.8621	
111.2807	1.485	1.524											
	L424	17.7815	2.9937	33.0000	18.5464	6	59	3.2140	0	40	1.0430	111.2807	
110.7941	1.477	1.463											
	L425	2.3631	3.0088	12.0000	0.9317	6	0	2.7609	0	54	0.3943	111.3435	
111.2807	1.964	2.311											
	L426	3.6483	2.9729	15.0000	3.9681	3	17	3.7880	0	57	1.0877	111.6425	
111.2807	2.090	2.049											
	L427	29.0650	3.0210	42.0000	40.5902	6	0	4.1993	6	0	1.3965	110.7941	
109.7503	1.364	1.220											
	L428	2.3506	2.9929	12.0000	0.9393	3	32	2.7409	0	53	0.3996	109.8312	
109.7503	1.341	1.770											
	L429	28.8057	2.9940	42.0000	42.4776	6	0	4.2977	6	0	1.4746	109.7503	
108.8835	1.220	1.095											
	L430	2.8587	3.6398	12.0000	2.4485	3	41	3.2889	0	42	0.8565	120.8468	
120.2831	2.077	2.293											
	L431	2.3544	2.9977	12.0000	2.2782	3	42	3.2432	0	51	0.9676	122.5957	
120.2831	1.856	2.043											
	L432	2.3565	3.0003	12.0000	2.2777	3	42	3.3819	0	55	0.9666	123.0855	
122.5957	1.815	1.856											
	L435	2.3695	3.0170	12.0000	2.8738	1	6	3.6388	1	6	1.2128	116.4642	
115.6961	2.174	1.936											
	L436	2.3535	2.9966	12.0000	2.8765	1	6	3.7239	1	6	1.2222	115.6961	
113.0201	1.936	1.090											
	L437	3.6836	3.0017	15.0000	2.8725	1	15	2.9465	0	52	0.7798	113.0201	
112.1895	1.072	1.544											
	L438	2.3506	2.9929	12.0000	1.6723	1	15	2.7953	0	44	0.7114	112.4454	
112.1895	1.425	1.679											
	L439	3.6846	3.0025	15.0000	4.5571	1	15	3.7816	1	14	1.2368	112.1895	
109.7789	1.544	0.911											
	L440	5.2957	2.9968	18.0000	4.5523	6	0	3.2628	0	56	0.8596	109.7789	
108.8835	0.926	1.222											
	L441	28.7403	2.9872	42.0000	48.9390	6	59	4.9424	6	59	1.7028	108.8835	

107.6629	1.095	0.872											
	L442	28.7787	2.9912	42.0000	48.9390	6	0	5.9435	6	59	1.7005	107.6629	
105.0976	0.872	0.282											
	L443	281.5617	29.2649	42.0000	48.9390	6	59	16.4665	6	59	0.1738	105.0976	
99.5700	0.282	1.563											
	L446	5.3415	3.0227	18.0000	5.9168	2	22	3.5391	0	47	1.1077	129.7527	
129.4984	2.068	2.039											
	L448	2.3562	3.0000	12.0000	0.9708	5	12	2.4582	0	34	0.4120	128.2210	
128.1440	1.921	2.304											
	L449	7.2216	3.0024	21.0000	9.5085	5	43	3.9304	5	46	1.3167	128.1440	
126.0007	1.745	1.235											
	L450	9.4537	3.0092	24.0000	13.3913	5	56	4.2601	5	56	1.4165	126.0007	
123.9765	1.205	0.658											
	L451	9.2424	2.9419	24.0000	14.7194	5	58	5.0912	5	58	1.5926	120.4426	
119.8419	0.891	0.691											
	L452	2.3516	2.9941	12.0000	1.2925	5	56	2.7686	0	40	0.5496	126.0884	
126.0007	1.208	1.411											
	L453	2.3389	2.9780	12.0000	0.9323	5	16	2.4657	0	37	0.3986	126.0559	
126.0007	1.116	1.411											
	L454	2.3631	3.0088	12.0000	0.6806	1	1	2.3129	0	39	0.2880	120.5302	
120.4426	0.460	0.783											
	L466	4.4943	3.6623	15.0000	4.0513	1	0	4.2367	1	1	0.9014	120.8207	
120.1342	0.737	0.651											
	L468	8.8034	2.8022	24.0000	4.0497	1	2	2.7409	1	2	0.4600	119.5917	
118.9368	0.511	0.683											
	L470	7.2253	3.0039	21.0000	9.4830	2	21	4.3099	1	0	1.3125	123.4952	
122.3558	0.912	0.540											
	L471	2.6488	3.3726	12.0000	0.3817	2	2	1.7178	1	17	0.1441	125.0264	
123.4952	0.256	1.595											
	L472	2.3453	2.9862	12.0000	4.4591	1	0	5.6523	1	0	1.9013	128.1177	
127.0400	1.778	1.000											
	L490	4.8350	2.0102	21.0000	6.7177	1	1	3.5464	1	1	1.3894	111.3361	
110.8167	0.758	0.547											
	L496	2.3549	2.9983	12.0000	0.6064	2	16	2.3568	2	16	0.2575	133.7961	
131.6772	0.346	0.507											
	L497	2.3540	2.9973	12.0000	0.5989	2	24	2.3448	2	24	0.2544	133.8039	
131.6772	0.344	0.507											
	L498	2.3549	2.9983	12.0000	1.2053	2	32	3.0139	2	32	0.5118	131.6772	
131.1070	0.507	0.507											
	L501	21.3175	3.0158	36.0000	12.3313	4	8	2.6186	0	32	0.5785	127.1391	
126.9767	1.156	1.272											
	L502	28.7542	2.9886	42.0000	12.3327	2	48	1.2630	4	8	0.4289	126.9767	
126.8932	1.233	1.341											
	L503	47.5382	2.9890	54.0000	73.4486	2	19	4.7117	1	58	1.5450	124.2984	
123.5594	0.960	0.871											
	L504	48.0749	3.0228	54.0000	73.4486	2	19	5.0655	2	20	1.5278	123.5594	
122.6545	0.871	0.752											
	L505	7.2137	2.9991	21.0000	10.6006	1	2	4.3761	1	2	1.4695	106.8092	
104.4871	2.291	1.587											
	L506	7.1955	2.9916	21.0000	10.9036	1	2	4.4890	1	2	1.5153	104.4871	
102.0312	2.730	1.949											
	L509	10.8843	13.8583	12.0000	2.9906	1	0	9.6184	1	0	0.2748	108.2106	
97.6400	0.361	6.440											
	L511	3.5456	2.0064	18.0000	11.0411	1	0	6.2594	1	0	3.1140	112.4401	
109.8810	2.373	0.847											
	L512	79.1933	25.2080	24.0000	17.9049	1	1	16.1185	1	1	0.2261	108.7565	
97.4200	0.323	3.710											
	L514	7.2103	2.9977	21.0000	8.0432	5	43	3.3254	5	43	1.1155	129.4984	
128.1440	1.891	1.745											
	L515	21.4683	3.0371	36.0000	17.6809	6	0	2.7186	6	0	0.8236	118.4019	

118.2820	0.864	0.891											
	CH21	321.7664	1.1701	33.0000	13.5663	6	0	0.3274	1	9	0.0422	118.6802	
118.6603	0.353	0.855											
	L474	5.2973	2.9976	18.0000	9.4830	2	39	5.3470	2	39	1.7902	120.8720	
119.5000	1.628	1.000											
	L523	22.9743	1.4587	18.0000	9.4830	2	38	1.2146	2	38	0.4128	122.3558	
121.2270	0.631	0.265											
	L525	21.2457	3.0056	36.0000	17.1558	6	0	3.2208	1	2	0.8075	118.7087	
118.2820	0.960	1.057											
	L527	5.2074	2.9468	18.0000	4.5202	6	0	2.9029	0	48	0.8680	118.8248	
117.7613	1.437	1.674											
	L528	3.6866	3.0041	15.0000	4.7290	3	42	3.9306	3	36	1.2828	120.2831	
117.0117	1.834	0.785											
	L529	3.5424	2.0046	18.0000	4.3384	6	59	2.7073	1	1	1.2247	114.9266	
114.2861	1.604	1.464											
	L533	5.2922	2.9948	18.0000	4.3384	6	59	3.1793	1	1	0.8198	114.2861	
112.6510	1.464	2.007											
	L537	3.5530	2.0106	18.0000	4.3384	6	0	2.5325	1	59	1.2210	112.6510	
111.6343	2.007	1.790											
	L394	47.1178	2.9626	54.0000	-91.5670	0	0	-6.0689	0	1	-1.9434	115.8734	
115.6300	0.834	0.807											
	L276	2.3682	3.0153	12.0000	3.1458	2	16	4.0495	2	16	1.3283	119.3170	
118.7599	1.017	0.760											
	L288	20.4763	16.6856	15.0000	4.1590	1	37	9.5092	1	35	0.2031	112.6673	
108.8300	0.326	3.784											
	L412	3.2854	4.1830	12.0000	2.2439	1	0	4.5004	1	0	0.6830	119.6069	
119.0068	0.607	0.607											
	L447	5.3092	3.0044	18.0000	2.1264	5	31	2.3674	0	49	0.4005	129.7121	
129.4984	1.288	2.039											
	L252	2.3583	3.0027	12.0000	0.1128	3	44	0.9049	0	19	0.0478	100.5085	
99.1962	0.149	1.146											
	L253	2.3631	3.0088	12.0000	1.7368	1	0	3.2857	1	0	0.7349	101.3827	
100.9914	0.643	0.661											
	L254	2.3579	3.0022	12.0000	1.7367	3	44	3.0967	0	58	0.7365	100.9914	
99.1962	0.661	1.146											
	L255	3.6728	2.9929	15.0000	3.9589	3	54	3.6617	0	57	1.0779	100.2654	
99.9146	0.900	0.892											
	L256	5.3094	3.0045	18.0000	4.7298	3	58	3.0290	0	54	0.8908	99.9146	
99.1962	0.910	1.097											
	L257	5.3028	3.0008	18.0000	6.6737	4	59	3.7242	4	59	1.2585	99.1962	
97.6771	1.097	0.718											
	L264	3.6728	2.9929	15.0000	3.7883	1	0	3.7909	1	1	1.0314	86.3426	
85.9466	0.810	0.765											
	L265	21.2741	3.0097	36.0000	22.4326	5	17	3.3432	5	17	1.0545	85.9466	
85.4870	0.902	0.906											
	L266	21.1336	2.9898	36.0000	23.3527	5	24	3.4737	5	24	1.1050	85.4870	
85.1953	0.906	0.898											
	L267	2.3663	3.0129	12.0000	0.8605	1	2	2.7722	1	2	0.3636	85.6207	
85.4870	0.481	0.717											
	L268	2.3562	3.0000	12.0000	2.6552	2	51	3.3671	2	51	1.1269	96.5563	
95.9765	1.646	1.526											
	L269	2.3610	3.0062	12.0000	2.9244	2	58	3.7936	2	58	1.2386	95.9765	
93.7327	1.526	0.733											
	L270	21.2125	3.0010	36.0000	27.4526	5	16	4.1521	5	16	1.2942	85.1953	
84.5536	0.898	0.865											
	L271	52.2659	5.4324	42.0000	-41.2525	0	0	-4.0704	0	1	-0.7893	84.5536	
86.3999	1.741	2.677											
	L278	2.3583	3.0027	12.0000	1.5645	2	36	2.1797	0	34	0.6634	114.7104	
114.5881	1.470	1.628											
	L279	2.3553	2.9988	12.0000	3.2534	3	8	4.1995	3	8	1.3813	114.5881	

112.7719	1.628	0.772											
	L280	2.3516	2.9941	12.0000	1.5684	3	59	2.1961	0	34	0.6670	114.7162	
114.5881	1.466	1.628											
	L284	2.3453	2.9862	12.0000	5.2952	0	1	3.5155	0	1	2.2578	109.8271	
109.8622	4.307	4.642											
	L285	5.2748	2.9849	18.0000	-9.4447	0	0	1.7409	6	0	-1.7905	109.8701	
108.6400	3.433	2.927											
	L286	3.7136	3.0261	15.0000	-8.3238	0	1	-6.6747	0	1	-2.2414	108.8307	
109.8701	2.913	3.920											
	L290	2.3547	2.9980	12.0000	0.1735	3	4	1.5990	3	4	0.0737	104.1135	
102.0841	0.183	0.294											
	L291	2.3606	3.0056	12.0000	0.4448	3	16	2.1672	3	16	0.1884	102.0841	
100.0331	0.294	0.423											
	L292	7.0734	9.0061	12.0000	1.1514	3	12	3.1517	3	12	0.1628	100.0331	
99.5700	0.423	5.470											
	L294	2.3624	3.0079	12.0000	1.4167	1	2	3.0311	0	52	0.5997	92.7112	
92.5469	3.241	3.557											
	L300	5.3010	2.9997	18.0000	5.3497	4	38	3.3967	0	52	1.0092	93.3343	
92.5469	2.703	2.705											
	L301	2.3703	3.0180	12.0000	1.8664	4	38	3.2948	0	54	0.7874	93.5326	
93.3343	3.423	3.554											
	L302	11.9259	2.9994	27.0000	11.8253	4	37	2.9527	4	37	0.9916	92.5469	
91.5100	2.136	2.151											
	L303	2.3481	2.9898	12.0000	0.8511	4	38	2.6776	0	54	0.3625	93.5815	
93.5200	2.831	3.250											
	L304	2.3384	2.9774	12.0000	2.4625	1	0	3.6540	1	0	1.0530	93.9402	
93.5200	3.280	3.250											
	L305	5.3291	3.0156	18.0000	3.3133	4	38	2.6256	0	53	0.6217	93.5200	
93.3343	2.500	2.703											
	L306	3.0341	3.8631	12.0000	8.4173	0	0	-5.4367	0	1	2.7743	102.1974	
101.4295	8.197	7.990											
	L307	19.5026	6.2079	24.0000	15.6979	0	1	4.7927	0	1	0.8049	101.4339	
97.6400	3.997	2.570											
	L308	7.7925	4.4096	18.0000	-7.2173	0	0	1.7891	1	0	-0.9262	98.2250	
97.6400	3.190	3.293											
	L309	3.0341	3.8631	12.0000	-3.8522	0	0	3.3642	1	0	-1.2697	98.4808	
98.2250	4.481	4.785											
	L310	2.3721	3.0202	12.0000	1.6006	6	59	3.1818	0	56	0.6748	110.9382	
110.7767	2.068	2.267											
	L311	2.3596	3.0043	12.0000	1.6006	6	59	2.9157	0	53	0.6783	110.7767	
109.7243	2.267	3.544											
	L312	2.3721	3.0202	12.0000	1.2821	6	0	2.2026	0	35	0.5405	109.8263	
109.7243	3.286	3.544											
	L313	2.3540	2.9972	12.0000	2.9996	6	0	3.7630	6	0	1.2743	109.7243	
104.3342	3.544	1.554											
	L314	2.3436	2.9840	12.0000	1.2826	6	0	2.7220	0	45	0.5473	104.4885	
104.3342	1.179	1.554											
	L315	2.3749	3.0238	12.0000	1.6227	6	59	3.2505	1	0	0.6833	105.5303	
105.2177	0.640	0.748											
	L316	2.3491	2.9909	12.0000	1.6227	6	59	3.0816	0	58	0.6908	105.2177	
104.3342	0.748	1.554											
	L317	5.3166	3.0086	18.0000	6.1968	6	0	3.4826	6	0	1.1656	104.3342	
102.9537	1.369	1.136											
	L318	5.2991	2.9987	18.0000	6.1968	6	0	3.3653	6	0	1.1694	102.9537	
101.6653	1.136	0.964											
	L321	1.5717	2.0012	12.0000	0.5084	1	20	1.6784	1	1	0.3235	119.2319	
118.5578	0.402	0.868											
	L324	2.3556	2.9992	12.0000	1.7090	3	55	2.8510	0	43	0.7255	123.0594	
122.6995	3.899	4.250											
	L325	2.3529	2.9958	12.0000	1.6252	3	42	2.5529	0	30	0.6907	121.7174	

121.5521	3.917	4.112											
	L326	2.3682	3.0153	12.0000	1.9616	3	50	2.6637	0	30	0.8283	120.5544	
120.0876	3.184	3.418											
	L327	2.3612	3.0063	12.0000	2.2136	3	52	2.7795	0	30	0.9375	120.6763	
120.0876	3.316	3.418											
	L328	3.5191	1.9914	18.0000	7.8187	3	54	4.6336	3	54	2.2218	120.0876	
116.3485	2.612	0.466											
	L329	20.6659	11.6945	18.0000	7.8187	3	40	8.6552	3	39	0.3783	116.3485	
113.4200	0.466	1.880											
	L334	2.3558	2.9995	12.0000	0.4265	2	35	2.1349	1	11	0.1810	125.6081	
123.3977	0.288	0.418											
	L335	2.3560	2.9998	12.0000	0.8586	2	43	2.6318	2	43	0.3644	123.3977	
121.3926	0.418	0.573											
	L336	2.3597	3.0044	12.0000	1.2917	2	49	2.9603	2	49	0.5474	121.3926	
120.3681	0.573	0.278											
	L337	7.6425	9.7307	12.0000	1.2917	2	49	5.3853	2	49	0.1690	120.3681	
115.3400	0.278	2.540											
	L475	3.7084	3.0219	15.0000	4.3583	4	37	3.7516	0	53	1.1752	93.1253	
92.5469	3.164	3.046											
	L478	11.9409	3.0032	27.0000	18.0903	4	37	4.5182	4	37	1.5150	91.5100	
89.3552	2.151	1.616											
	L479	13.9490	2.8417	30.0000	18.0903	4	37	3.6729	4	37	1.2969	89.3552	
87.8334	1.554	1.309											
	L487	25.6909	10.6810	21.0000	10.7816	1	0	4.4566	1	0	0.4197	98.7537	
97.4200	1.836	4.354											
	L493	9.8698	2.0107	30.0000	18.0903	4	37	3.6640	4	37	1.8329	87.8334	
86.6416	1.409	1.077											
	L499	1.5713	2.0007	12.0000	1.7090	3	55	2.1320	3	55	1.0876	122.6995	
121.5521	4.250	4.112											
	L500	2.4625	2.0066	15.0000	3.4454	3	54	2.7647	3	54	1.3992	121.5521	
120.0876	3.490	2.934											
	L507	2.3618	3.0071	12.0000	3.7981	1	0	4.8594	1	0	1.6081	94.6255	
92.4555	2.486	1.175											
	L513	9.8234	2.0012	30.0000	18.2190	5	18	3.6224	5	18	1.8547	86.6416	
85.9466	1.077	0.883											
	L546	6.9471	3.9312	18.0000	3.7980	4	38	3.5451	0	56	0.5467	92.4555	
91.5100	1.117	2.727											
	L510	18.7195	15.2541	15.0000	5.1187	1	0	9.2106	1	0	0.2734	102.7249	
97.4200	0.412	6.096											
	FREE # 1	Undefnd	Undefnd	Undefn	13.3950	4	23						
	FREE # 2	Undefnd	Undefnd	Undefn	-31.4761	0	0						
	FREE # 3	Undefnd	Undefnd	Undefn	3.0003	1	0						
	FREE # 4	Undefnd	Undefnd	Undefn	7.2103	3	56						
	FREE # 5	Undefnd	Undefnd	Undefn	2.3040	1	1						
	FREE # 6	Undefnd	Undefnd	Undefn	-55.6042	0	1						
	FREE # 7	Undefnd	Undefnd	Undefn	8.5581	1	0						
	FREE # 8	Undefnd	Undefnd	Undefn	5.0178	1	25						
	FREE # 9	Undefnd	Undefnd	Undefn	8.1961	6	59						
	FREE #10	Undefnd	Undefnd	Undefn	30.1672	2	24						
	FREE #11	Undefnd	Undefnd	Undefn	-93.2665	0	0						
	FREE #12	Undefnd	Undefnd	Undefn	-33.0708	0	0						
	FREE #13	Undefnd	Undefnd	Undefn	48.9390	6	59						
	FREE #14	Undefnd	Undefnd	Undefn	4.4590	1	0						
	FREE #15	Undefnd	Undefnd	Undefn	2.9906	1	0						
	FREE #16	Undefnd	Undefnd	Undefn	17.9049	1	1						
	FREE #17	Undefnd	Undefnd	Undefn	1.5346	2	32						
	FREE #18	Undefnd	Undefnd	Undefn	9.4830	2	39						
	FREE #19	Undefnd	Undefnd	Undefn	-112.455	0	0						
	FREE #20	Undefnd	Undefnd	Undefn	3.1458	2	16						
	FREE #21	Undefnd	Undefnd	Undefn	4.1590	1	37						

FREE #22	Undefnd	Undefnd	Undefn	3.2534	2	54
FREE #23	Undefnd	Undefnd	Undefn	-9.3661	0	0
FREE #24	Undefnd	Undefnd	Undefn	1.1514	3	12
FREE #25	Undefnd	Undefnd	Undefn	3.2003	1	0
FREE #26	Undefnd	Undefnd	Undefn	7.8187	3	40
FREE #27	Undefnd	Undefnd	Undefn	1.2917	2	49
FREE #28	Undefnd	Undefnd	Undefn	10.7819	1	0
FREE #29	Undefnd	Undefnd	Undefn	15.8189	0	1
FREE #30	Undefnd	Undefnd	Undefn	5.1189	1	0

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)
L210	0.2500	303.4000	0.0000	56.3500	0.3028	0.8145	6.0754
L211	0.2500	0.0000	0.0000	359.7500	0.3021	0.7148	6.6769
L212	0.2500	305.4667	0.0000	54.2833	0.3735	1.2422	4.1200
L213	0.0000	324.0000	0.0000	36.0000	0.3019	0.8117	8.1584
L214	0.0000	344.7778	0.0000	15.2222	0.4557	1.8485	9.2805
L217	0.0000	0.0000	0.0000	360.0000	0.2305	0.3207	1.2094
L220	0.0000	337.1071	0.0000	22.8929	0.5305	2.4695	12.5695
L221	0.0000	0.0000	0.0000	360.0000	0.6008	2.7121	7.5895
L222	1.0167	358.9833	0.0000	0.0000	0.4465	2.1202	17.3634
L223	0.2500	0.0000	0.0000	359.7500	0.1501	0.1368	0.3311
L224	0.2500	0.0000	0.0000	359.7500	0.1573	0.1434	0.3175
L225	0.2500	303.8333	0.0000	55.9167	0.2176	0.5307	0.5209
L226	0.0000	360.0000	0.0000	0.0000	0.2988	0.7557	1.5578
L227	0.0000	306.6333	0.0000	53.3667	0.3034	0.8150	3.1677
L228	0.0000	0.0000	0.0000	360.0000	0.2990	0.6754	5.0881
L229	0.0000	0.0000	0.0000	360.0000	0.3741	0.9293	2.3945
L230	0.2500	0.0000	0.0000	359.7500	0.3733	0.9914	3.7251
L231	0.2500	288.4839	0.0000	71.2661	0.3732	1.2604	6.3372
L232	0.0000	298.6129	0.0000	61.3871	0.4485	1.8135	7.9950
L233	4.7778	313.5667	0.0000	41.6556	0.4518	1.8120	10.7857
L234	1.2167	358.0500	0.7333	0.0000	0.5976	3.2219	10.6084
L235	0.0000	360.0000	0.0000	0.0000	0.3034	0.8132	0.6133
L236	0.0000	321.5862	0.0000	38.4138	0.3035	0.8052	6.4252
L237	0.0000	310.5000	0.0000	49.5000	0.3026	0.8105	10.2800
L238	0.2500	0.0000	0.0000	359.7500	0.3030	0.7475	4.9700
L239	0.2500	0.0000	0.0000	359.7500	0.3026	0.7517	7.9671
L240	0.0000	0.0000	0.0000	360.0000	0.2552	0.3887	1.4956
L241	0.0000	0.0000	0.0000	360.0000	0.3770	1.1088	7.3642
L242	0.0000	0.0000	0.0000	360.0000	0.2886	0.5117	2.1118
L243	0.0000	0.0000	0.0000	360.0000	0.3027	0.6317	2.7274
L246	0.0000	360.0000	0.0000	0.0000	0.7496	5.1136	17.5195
L247	0.0000	360.0000	0.0000	0.0000	0.7061	5.0514	15.5366
L248	0.0000	359.5000	0.0000	0.5000	0.3024	0.8090	3.5698
L249	0.2500	359.7500	0.0000	0.0000	0.2729	0.3844	1.6307
L250	0.0000	360.0000	0.0000	0.0000	0.2111	0.5130	15.0232
L251	0.0000	360.0000	0.0000	0.0000	0.2579	0.3543	1.4321
L259	0.2500	359.7500	0.0000	0.0000	0.5025	1.1427	3.3678

L260	1.0167	358.9833	0.0000	0.0000	0.2805	1.3318	17.1846
L261	0.2500	359.7500	0.0000	0.0000	0.2386	0.2739	1.0315
L262	0.0000	360.0000	0.0000	0.0000	0.1681	0.4544	29.7871
L263	0.0000	360.0000	0.0000	0.0000	0.2535	0.2981	1.1926
L272	0.0000	360.0000	0.0000	0.0000	1.1252	16.1820	16.6263
L273	0.0000	360.0000	0.0000	0.0000	0.4375	2.4642	24.1640
L274	0.7500	359.2500	0.0000	0.0000	0.3097	1.1468	47.0074
L275	0.2500	359.7500	0.0000	0.0000	0.2905	0.6833	2.1395
L277	0.0000	360.0000	0.0000	0.0000	0.2891	0.6771	2.1711
L281	0.2500	359.7500	0.0000	0.0000	0.2916	0.5187	5.3520
L282	0.0000	360.0000	0.0000	0.0000	0.2160	0.5207	23.7786
L283	0.0000	360.0000	0.0000	0.0000	0.2733	0.3911	1.5637
L287	0.2500	0.0000	0.0000	359.7500	0.2895	0.5124	2.0656
L289	0.0000	0.0000	0.0000	360.0000	0.3021	0.5986	2.4883
L319	0.0000	360.0000	0.0000	0.0000	0.4540	1.5692	6.1164
L320	0.0000	325.3448	0.0000	34.6552	0.3022	0.7154	2.4158
L338	0.2500	359.7500	0.0000	0.0000	0.8954	5.3920	8.3443
L339	0.2500	338.3571	0.0000	21.3929	0.8854	4.9645	8.0507
L340	0.0000	360.0000	0.0000	0.0000	1.0177	6.3687	9.7696
L341	0.2500	0.0000	0.0000	359.7500	0.9474	5.2176	9.8735
L342	0.0000	0.0000	0.0000	360.0000	0.3782	1.0290	4.0239
L343	0.0000	0.0000	0.0000	360.0000	0.3027	0.6576	2.8892
L344	0.2500	316.3448	0.0000	43.4052	0.7606	5.1452	7.0982
L346	0.0000	351.8889	0.0000	8.1111	1.0648	10.0858	12.4404
L347	0.0000	360.0000	0.0000	0.0000	1.2167	13.1029	22.1779
L348	0.2500	359.7500	0.0000	0.0000	1.2167	13.0760	19.6615
L349	0.2500	359.7500	0.0000	0.0000	1.2167	12.7970	18.0357
L350	0.2500	358.3000	0.0000	1.4500	1.2168	12.4420	17.5190
L351	0.2500	359.7500	0.0000	0.0000	0.6085	2.8428	4.9542
L352	0.2500	320.7931	0.0000	38.9569	0.6083	2.9282	5.0690
L354	0.0000	360.0000	0.0000	0.0000	1.3511	14.0920	21.3015
L361	0.0000	0.0000	0.0000	360.0000	0.3009	0.5892	2.5874
L362	0.0000	0.0000	0.0000	360.0000	0.2987	0.5699	2.4123
L363	0.0000	326.1379	0.0000	33.8621	0.4493	1.4608	3.7703
L364	0.0000	297.9355	0.0000	62.0645	0.3032	0.6604	2.9884
L365	0.0000	305.8667	0.0000	54.1333	0.2879	0.5737	2.0741
L366	0.0000	360.0000	0.0000	0.0000	0.6085	2.8882	5.8826
L367	0.2500	359.5000	0.0000	0.2500	0.6083	2.8911	5.8844
L368	0.0000	358.8833	0.0000	1.1167	0.3035	0.6420	2.6283
L369	0.0000	24.8119	0.0000	335.1881	0.3027	0.7294	5.0871
L370	0.0000	360.0000	0.0000	0.0000	0.9104	7.1049	7.9678
L373	0.0000	360.0000	0.0000	0.0000	0.8847	7.0936	12.4827
L374	2.0500	25.3226	0.0000	332.6274	0.3002	0.7292	6.4956
L375	2.0833	197.9032	0.0000	160.0134	0.4535	1.4972	2.5036
L376	0.0000	347.8519	0.0000	12.1481	0.8367	5.3948	6.1986
L386	0.2500	359.6019	0.1481	0.0000	1.2169	12.1309	11.2062
L387	0.2500	355.4444	0.0000	4.3056	1.2168	12.2361	11.2679
L388	0.0000	239.4194	0.0000	120.5806	0.3006	0.7975	3.3803
L389	0.0000	360.0000	0.0000	0.0000	1.3690	15.6286	13.8267
L390	0.0000	232.0000	0.0000	128.0000	0.3028	0.6870	2.0065
L391	0.0000	360.0000	0.0000	0.0000	1.3690	15.5759	15.0510
L392	0.2500	359.7500	0.0000	0.0000	1.3691	15.2612	17.4737
L393	0.0000	360.0000	0.0000	0.0000	1.3691	14.5926	17.0348
L395	0.2500	359.7500	0.0000	0.0000	0.3735	1.2597	10.4048
L396	2.5333	357.4667	0.0000	0.0000	0.9069	6.5297	3.6432
L397	0.0000	360.0000	0.0000	0.0000	0.3735	1.2597	11.3534
L398	0.0000	358.8500	0.0000	1.1500	0.3735	1.2594	9.0276
L399	0.5000	330.2857	0.0000	29.2143	0.5858	2.6810	2.8493
L402	0.2500	359.7500	0.0000	0.0000	0.5324	2.5208	7.4621
L403	0.2500	359.7500	0.0000	0.0000	0.5323	2.5026	7.5161

L404	0.7500	300.2903	0.0000	58.9597	0.5324	2.4848	7.6120
L405	0.0000	295.5484	0.0000	64.4516	0.4563	1.8504	6.3763
L406	0.0000	343.2963	0.0000	16.7037	0.7586	5.0904	8.4049
L407	0.0000	295.4516	0.0000	64.5484	0.3800	1.2865	7.1978
L408	0.0000	342.1852	0.0000	17.8148	0.8358	6.1950	10.2710
L410	0.2500	359.7500	0.0000	0.0000	0.9120	7.3935	11.9652
L411	0.2500	345.4074	0.0000	14.3426	0.9121	7.3987	12.0915
L413	0.0000	360.0000	0.0000	0.0000	0.4364	1.5366	2.7023
L415	0.0000	0.0000	0.0000	360.0000	0.2981	0.5732	2.5763
L417	0.0000	286.3548	0.0000	73.6452	0.3028	0.8121	6.7524
L418	0.0000	302.6667	0.0000	57.3333	0.4564	1.8519	6.6363
L419	0.0000	360.0000	0.0000	0.0000	0.6072	3.2606	7.2952
L420	0.2500	327.2500	0.0000	32.5000	0.6037	3.2205	7.8395
L421	0.0000	299.3548	0.0000	60.6452	0.2991	0.8052	4.4324
L422	0.0000	299.5484	0.0000	60.4516	0.3801	1.2864	7.6052
L423	0.0000	345.8889	0.0000	14.1111	0.7598	5.1196	10.4245
L424	0.0000	333.6786	0.0000	26.3214	0.8366	6.2248	12.5843
L425	0.0000	305.9333	0.0000	54.0667	0.2988	0.8055	2.5192
L426	0.0000	303.0333	0.0000	56.9667	0.3798	1.2863	8.3064
L427	0.2500	359.7500	0.0000	0.0000	1.0648	10.0331	18.9897
L428	0.0000	307.2333	0.0000	52.7667	0.2988	0.8058	1.8560
L429	0.0000	360.0000	0.0000	0.0000	1.0646	9.9813	17.4138
L430	0.2500	359.7500	0.0000	0.0000	0.2988	0.8054	6.7629
L431	0.0000	333.7857	0.0000	26.2143	0.2988	0.8061	5.6208
L432	0.0000	360.0000	0.0000	0.0000	0.3042	0.8175	5.2946
L435	0.0000	360.0000	0.0000	0.0000	0.3042	0.8154	7.4598
L436	0.0000	294.1613	0.0000	65.8387	0.3022	0.8031	5.4816
L437	0.2500	359.7500	0.0000	0.0000	0.3735	1.2495	3.7139
L438	0.0000	336.1071	0.0000	23.8929	0.2988	0.8053	3.2924
L439	0.0000	289.0323	0.0000	70.9677	0.3768	1.2021	5.6985
L440	0.5000	310.0333	0.0000	49.4667	0.4493	1.7585	4.2702
L441	0.2500	359.7500	0.0000	0.0000	1.0616	9.4516	17.0179
L442	0.2500	359.7500	0.0000	0.0000	1.0125	5.1951	12.0073
L443	0.2500	359.7500	0.0000	0.0000	0.5991	5.5082	53.1666
L446	0.2500	331.3571	0.0000	28.3929	0.4563	1.8523	10.2448
L448	0.0000	326.7586	0.0000	33.2414	0.2988	0.8057	2.5953
L449	0.0000	342.5556	0.0000	17.4444	0.5323	2.4678	10.2478
L450	0.0000	0.0000	0.0000	360.0000	0.6008	2.7108	7.9391
L451	0.0000	0.0000	0.0000	360.0000	0.6047	2.6286	8.0557
L452	0.0000	320.9310	0.0000	39.0690	0.2990	0.8052	2.0930
L453	0.0000	323.9310	0.0000	36.0690	0.2988	0.8043	1.4401
L454	0.0000	321.6552	0.0000	38.3448	0.2432	0.4981	1.1073
L466	0.2500	0.0000	0.0000	359.7500	0.3737	0.9067	3.6749
L468	0.2500	359.7500	0.0000	0.0000	0.5144	1.9410	2.8754
L470	0.2500	359.7500	0.0000	0.0000	0.5225	1.7909	5.4703
L471	6.8148	353.1852	0.0000	0.0000	0.1597	0.4340	1.5903
L472	0.2500	359.7500	0.0000	0.0000	0.3042	0.8043	7.8446
L490	0.2500	0.0000	0.0000	359.7500	0.5222	1.6409	4.0474
L496	0.2500	359.7500	0.0000	0.0000	0.1977	0.3174	1.0056
L497	0.0000	360.0000	0.0000	0.0000	0.1968	0.3162	0.9979
L498	0.0000	360.0000	0.0000	0.0000	0.2520	0.3998	1.5284
L501	0.2500	339.1429	0.0000	20.6071	0.9091	7.3282	6.0914
L502	0.5000	356.5000	0.0000	3.0000	1.0615	9.9872	5.6895
L503	0.2500	359.7500	0.0000	0.0000	1.3686	15.1892	19.4068
L504	0.0000	360.0000	0.0000	0.0000	1.3674	13.7033	18.4380
L505	0.0000	306.2667	0.0000	53.7333	0.5260	2.4690	14.8338
L506	0.0000	358.7167	0.0000	1.2833	0.5299	2.5212	18.3578
L509	0.7500	359.2500	0.0000	0.0000	0.2032	0.5077	32.7030
L511	0.2500	0.0000	0.0000	359.7500	0.4500	1.6884	15.0957
L512	0.5000	359.5000	0.0000	0.0000	0.3768	1.9170	65.0088

L514	0.0000	360.0000	0.0000	0.0000	0.5319	2.5196	10.5788
L515	0.0000	350.1852	0.0000	9.8148	0.9126	6.5665	7.1552
CH21	0.5000	359.5000	0.0000	0.0000	1.0810	161.0160	0.2438
L474	0.7500	359.2500	0.0000	0.0000	0.4564	1.8097	10.5391
L523	0.5000	0.0000	0.0000	359.5000	0.6614	5.3660	0.8155
L525	2.0667	351.0741	0.0000	6.8593	0.9113	7.1157	7.4136
L527	0.0000	353.0000	0.0000	7.0000	0.4482	1.8121	5.9504
L528	0.2500	145.6129	0.0000	214.1371	0.3767	1.1319	6.2513
L529	0.0000	360.0000	0.0000	0.0000	0.4534	1.8389	5.6288
L533	0.0000	360.0000	0.0000	0.0000	0.4482	1.8145	6.3708
L537	0.5000	304.1667	0.0000	55.3333	0.4510	1.8451	6.9475
L394	0.0000	360.0000	0.0000	0.0000	1.3691	13.9558	20.9732
L276	0.0000	0.0000	0.0000	360.0000	0.3031	0.7148	3.5977
L288	0.0000	360.0000	0.0000	0.0000	0.2368	0.7515	24.4255
L412	0.2500	0.0000	0.0000	359.7500	0.2790	0.4986	2.7301
L447	0.0000	353.0000	0.0000	7.0000	0.4482	1.8148	2.9956
L252	0.2500	344.1481	0.0000	15.6019	0.1096	0.3807	0.4927
L253	0.2500	359.7500	0.0000	0.0000	0.2869	0.5421	2.1162
L254	0.5000	326.8276	0.0000	32.6724	0.2860	0.6826	2.7144
L255	0.2500	312.0667	0.0000	47.6833	0.3797	1.1587	3.8157
L256	0.0000	360.0000	0.0000	0.0000	0.4522	1.7631	4.1823
L257	0.0000	312.7000	0.0000	47.3000	0.4521	1.5930	5.0710
L264	0.2500	290.9032	0.0000	68.8468	0.3800	1.0359	3.5222
L265	0.2500	359.7500	0.0000	0.0000	0.9127	6.7173	9.0661
L266	0.0000	360.0000	0.0000	0.0000	0.9127	6.7071	9.4002
L267	0.0000	298.6774	0.0000	61.3226	0.2491	0.4834	1.2950
L268	0.2500	359.7500	0.0000	0.0000	0.3041	0.8230	5.3415
L269	0.0000	0.0000	0.0000	360.0000	0.3023	0.7035	4.2852
L270	0.0000	359.5000	0.0000	0.5000	0.9117	6.3057	10.4680
L271	0.0000	360.0000	0.0000	0.0000	0.8750	9.8747	25.4903
L278	0.2500	359.7500	0.0000	0.0000	0.3000	0.8051	3.0766
L279	0.0000	0.0000	0.0000	360.0000	0.3024	0.7183	5.0393
L280	0.0000	360.0000	0.0000	0.0000	0.2996	0.8051	3.0801
L284	0.0000	360.0000	0.0000	0.0000	0.2500	0.8021	29.5863
L285	0.0000	360.0000	0.0000	0.0000	0.3776	1.7917	7.3725
L286	0.0000	360.0000	0.0000	0.0000	0.3125	1.2450	26.8826
L290	0.2500	359.7500	0.0000	0.0000	0.1172	0.1434	0.3818
L291	0.2500	359.7500	0.0000	0.0000	0.1735	0.2520	0.7772
L292	0.2500	359.7500	0.0000	0.0000	0.2257	0.5431	9.2866
L294	0.0000	308.8667	0.0000	51.1333	0.2988	0.8055	5.9840
L300	0.0000	315.5862	0.0000	44.4138	0.4553	1.8191	12.1459
L301	0.0000	311.3333	0.0000	48.6667	0.3022	0.8078	8.1633
L302	0.0000	360.0000	0.0000	0.0000	0.6798	4.1144	14.2423
L303	0.0000	308.5667	0.0000	51.4333	0.2988	0.8057	3.2563
L304	0.0000	299.0968	0.0000	60.9032	0.3039	0.8231	10.0897
L305	0.0000	360.0000	0.0000	0.0000	0.4482	1.8120	7.2462
L306	0.0000	360.0000	0.0000	0.0000	0.2500	0.8209	14.6906
L307	0.0000	360.0000	0.0000	0.0000	0.5001	3.2303	25.3464
L308	0.0000	360.0000	0.0000	0.0000	0.3750	1.7924	8.2738
L309	0.0000	360.0000	0.0000	0.0000	0.2500	0.8036	14.2942
L310	0.2500	359.7500	0.0000	0.0000	0.2993	0.8052	4.3868
L311	0.2500	359.7500	0.0000	0.0000	0.2988	0.8083	5.8691
L312	0.0000	360.0000	0.0000	0.0000	0.2988	0.8053	5.4943
L313	0.0000	308.0667	0.0000	51.9333	0.3021	0.8084	9.5927
L314	0.0000	325.0345	0.0000	34.9655	0.2988	0.8056	2.1452
L315	0.2500	359.7500	0.0000	0.0000	0.2876	0.5797	2.0820
L316	0.5000	321.4138	0.0000	38.0862	0.2961	0.7074	2.8932
L317	0.0000	360.0000	0.0000	0.0000	0.4564	1.8303	6.5434
L318	0.5000	359.5000	0.0000	0.0000	0.4563	1.7985	5.2986
L321	0.0000	360.0000	0.0000	0.0000	0.2236	0.4937	0.9547

L324	0.0000	360.0000	0.0000	0.0000	0.2988	0.8060	8.7033
L325	0.2500	339.0357	0.0000	20.7143	0.2988	0.8053	8.1551
L326	0.0000	341.1481	0.0000	18.8519	0.2988	0.8058	8.1303
L327	0.0000	340.0741	0.0000	19.9259	0.2988	0.8056	9.3511
L328	0.0000	360.0000	0.0000	0.0000	0.4358	1.2638	10.6946
L329	0.2500	359.7500	0.0000	0.0000	0.3593	1.2601	15.2264
L334	0.2500	359.7500	0.0000	0.0000	0.1708	0.2465	0.7534
L335	0.2500	359.7500	0.0000	0.0000	0.2259	0.3853	1.3031
L336	0.2500	359.7500	0.0000	0.0000	0.2596	0.3105	1.2592
L337	0.2500	359.7500	0.0000	0.0000	0.1694	0.4492	7.5883
L475	0.2500	306.8667	0.0000	52.8833	0.3795	1.2803	13.5972
L478	0.2500	337.2857	0.0000	22.4643	0.6816	4.0796	19.1463
L479	0.2500	339.7143	0.0000	20.0357	0.7604	5.0560	13.1466
L487	0.0000	360.0000	0.0000	0.0000	0.5229	2.4890	23.3520
L493	0.5000	359.5000	0.0000	0.0000	0.7586	5.0001	11.3860
L499	0.0000	341.1111	0.0000	18.8889	0.2988	0.8062	8.9137
L500	0.0000	352.6667	0.0000	7.3333	0.3766	1.2580	11.0999
L507	0.2500	287.5161	0.0000	72.2339	0.3025	0.8080	8.7382
L513	0.0000	355.9259	0.0000	4.0741	0.7580	4.8299	8.8714
L546	1.9833	334.4286	0.0000	23.5881	0.4482	1.8172	5.9443
L510	0.7500	359.2500	0.0000	0.0000	0.2773	0.8404	37.4566

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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 Weightng	Mean Froude Number	Mean Hydraulic Radius	Mean Cross Area	Mean Conduit Roughness
L210	2.6464	57161.452	0.0000	0.9999	0.5548	0.2480	0.7334	0.0150
L211	2.8494	61547.433	0.0000	0.9999	0.8032	0.2504	0.7262	0.0150
L212	2.9718	64190.177	0.0000	0.9999	0.4586	0.3039	1.1251	0.0150
L213	2.2762	49166.008	0.0000	0.9999	0.3971	0.2457	0.7346	0.0150
L214	4.9137	106136.70	0.0000	0.9999	0.3378	0.3689	1.6535	0.0150
L217	0.8692	18775.272	0.0000	0.9999	0.7743	0.2191	0.3133	0.0150
L220	10.2335	221042.57	0.0001	0.9999	0.5753	0.4308	2.2723	0.0150
L221	11.9298	257683.26	0.0001	0.9999	0.6432	0.4964	2.9336	0.0150
L222	12.0875	261089.75	0.0001	0.9996	1.7307	0.4213	1.3366	0.0150
L223	0.2105	4547.3993	0.0000	0.9999	0.5672	0.1423	0.1496	0.0150
L224	0.2077	4485.8552	0.0000	0.9998	0.5394	0.1470	0.1592	0.0150
L225	0.2040	4406.4720	0.0000	0.9862	0.2597	0.1915	0.2900	0.0150
L226	0.8375	18089.120	0.0000	0.9999	0.2845	0.2765	0.6366	0.0150
L227	1.4237	30752.956	0.0000	0.9999	0.3258	0.2437	0.7168	0.0150
L228	2.2171	47890.298	0.0000	0.9999	0.6744	0.2471	0.7171	0.0150
L229	2.6007	56175.990	0.0000	0.9999	0.5894	0.3425	1.0220	0.0150
L230	3.0410	65684.538	0.0000	0.9999	0.5786	0.3043	1.0816	0.0150
L231	3.3238	71794.319	0.0000	0.9999	0.4586	0.3003	1.1244	0.0150
L232	5.3342	115218.32	0.0000	0.9999	0.4689	0.3649	1.6301	0.0150
L233	5.5588	120070.06	0.0000	0.9842	0.4049	0.3592	1.6100	0.0150
L234	8.3378	180097.18	0.0001	0.9985	0.2867	0.4871	2.9150	0.0150
L235	0.4088	8830.3848	0.0000	0.9999	0.1623	0.2443	0.7276	0.0150
L236	1.9435	41980.000	0.0000	0.9999	0.3567	0.2476	0.7380	0.0150
L237	2.8188	60885.719	0.0000	0.9999	0.4836	0.2478	0.7418	0.0150
L238	3.3828	73067.706	0.0000	0.9999	0.9040	0.2535	0.7337	0.0150
L239	3.7147	80236.485	0.0000	0.9999	0.9576	0.2523	0.7431	0.0150
L240	1.1325	24462.061	0.0000	0.9999	0.7708	0.2430	0.3827	0.0150
L241	4.8820	105452.02	0.0000	0.9999	0.8133	0.3132	1.1352	0.0150
L242	1.6952	36615.634	0.0000	0.9999	0.7826	0.2759	0.5079	0.0150
L243	2.2724	49084.361	0.0000	0.9999	0.7714	0.2911	0.6408	0.0150
L246	21.8010	470902.41	0.0007	0.9999	0.4650	0.6359	4.8747	0.0150

L247	25.8048	557382.77	0.0008	1.0000	0.5678	0.6286	5.0812	0.0150
L248	1.8152	39208.077	0.0001	0.9999	0.3603	0.2548	0.7694	0.0150
L249	1.4463	31239.991	0.0000	0.9999	0.9261	0.2611	0.4502	0.0150
L250	2.7464	59321.491	0.0000	0.9999	2.5146	0.2017	0.3107	0.0150
L251	1.1948	25806.929	0.0000	0.9999	0.8723	0.2463	0.3950	0.0150
L259	6.2060	134049.16	0.0000	0.9999	0.9745	0.4771	1.6747	0.0150
L260	6.3823	137856.63	0.0000	0.9996	2.5581	0.2659	0.6492	0.0150
L261	0.8960	19354.446	0.0000	0.9999	0.8931	0.2272	0.3401	0.0150
L262	2.1084	45541.171	0.0000	0.9999	3.0875	0.1608	0.2285	0.0150
L263	1.0981	23719.068	0.0000	0.9999	0.9636	0.2419	0.3866	0.0150
L272	33.5867	725472.40	0.0408	1.0000	0.1441	1.1249	15.9567	0.0150
L273	8.6579	187010.01	0.0035	0.9999	0.2543	0.4375	2.4447	0.0150
L274	7.8421	169389.91	0.0001	0.9998	2.7516	0.2956	0.6771	0.0150
L275	1.3778	29759.506	0.0000	0.9999	0.5513	0.2764	0.5537	0.0150
L277	1.3840	29894.039	0.0000	0.9999	0.5668	0.2751	0.5445	0.0150
L281	3.1327	67666.929	0.0000	0.9999	1.2632	0.2442	0.6993	0.0150
L282	4.5930	99209.583	0.0000	0.9999	3.9945	0.2065	0.3216	0.0150
L283	1.3704	29601.436	0.0000	0.9999	0.8631	0.2610	0.4499	0.0150
L287	1.6694	36059.826	0.0000	0.9999	0.7683	0.2764	0.5118	0.0150
L289	2.0711	44736.606	0.0000	0.9999	0.7604	0.2896	0.6068	0.0150
L319	7.3993	159824.54	0.0000	0.9999	0.7913	0.4111	1.5847	0.0150
L320	1.7208	37169.830	0.0000	0.9999	0.5816	0.2878	0.6181	0.0150
L338	19.4678	420503.84	0.0001	0.9999	0.4807	0.8582	5.0819	0.0150
L339	19.4088	419229.80	0.0001	0.9998	0.5249	0.8445	4.8823	0.0150
L340	27.5148	594318.87	0.0002	0.9999	0.5475	0.9711	6.3465	0.0150
L341	27.4524	592971.32	0.0002	0.9998	0.7211	0.8999	5.3184	0.0150
L342	4.1999	90718.780	0.0000	0.9999	0.7612	0.3615	1.0552	0.0150
L343	2.4093	52040.930	0.0000	0.9999	0.7699	0.2889	0.6708	0.0150
L344	11.2926	243919.27	0.0001	0.9999	0.3076	0.6043	4.5955	0.0150
L346	23.4508	506537.97	0.0002	0.9999	0.2352	0.8627	8.9586	0.0150
L347	51.1154	1104093.6	0.0004	0.9999	0.3626	0.9932	11.8468	0.0150
L348	50.8577	1098525.8	0.0004	0.9998	0.3681	0.9966	12.2270	0.0150
L349	50.6061	1093090.9	0.0004	0.9998	0.3831	1.0083	12.2181	0.0150
L350	50.4526	1089775.7	0.0005	0.9998	0.4152	1.0494	11.8417	0.0150
L351	7.5629	163359.20	0.0000	0.9999	0.4248	0.5791	2.5908	0.0150
L352	7.5441	162952.89	0.0000	0.9998	0.4197	0.5745	2.6190	0.0150
L354	65.4377	1413454.1	0.0034	1.0000	0.4978	1.3496	13.0395	0.0150
L361	2.1169	45725.289	0.0000	0.9999	0.7973	0.2889	0.5874	0.0150
L362	1.9772	42707.927	0.0000	0.9999	0.7806	0.2863	0.5706	0.0150
L363	4.1195	88980.352	0.0000	0.9999	0.5772	0.4269	1.2849	0.0150
L364	2.4266	52414.697	0.0000	0.9999	0.7818	0.2921	0.6509	0.0150
L365	1.4984	32365.604	0.0000	0.9999	0.6783	0.2738	0.5012	0.0150
L366	8.9273	192829.24	0.0001	0.9999	0.4573	0.5783	2.6690	0.0150
L367	8.8789	191783.30	0.0001	0.9998	0.4398	0.5918	2.7423	0.0150
L368	2.0862	45061.131	0.0000	0.9999	0.7042	0.2926	0.6191	0.0150
L369	3.1990	69098.597	0.0000	0.9999	0.8625	0.2545	0.7360	0.0150
L370	17.3389	374519.91	0.0006	0.9999	0.2790	0.8876	6.7253	0.0150
L373	17.2960	373593.65	0.0010	1.0000	0.2681	0.8549	6.9024	0.0150
L374	3.0623	66146.699	0.0000	0.9939	0.8184	0.2522	0.7423	0.0150
L375	3.0317	65484.538	0.0000	0.9931	0.4318	0.4275	1.3946	0.0150
L376	8.7838	189729.36	0.0001	0.9999	0.2908	0.7004	3.8286	0.0150
L386	28.7043	620012.76	0.0002	0.9998	0.2877	1.1381	10.2117	0.0150
L387	28.4956	615504.03	0.0003	0.9998	0.2913	1.1458	10.5354	0.0150
L388	2.0380	44020.416	0.0000	0.9999	0.5526	0.2509	0.7369	0.0150
L389	40.7582	880377.75	0.0004	0.9999	0.2588	1.2987	14.0539	0.0150
L390	1.4701	31754.886	0.0000	0.9999	0.5912	0.2838	0.5596	0.0150
L391	44.8729	969253.77	0.0005	0.9999	0.2804	1.3072	14.3661	0.0150
L392	53.8466	1163087.3	0.0007	0.9999	0.3402	1.3277	14.5494	0.0150
L393	53.5324	1156300.3	0.0031	0.9999	0.3543	1.3542	14.3737	0.0150
L395	3.8842	83898.567	0.0000	0.9999	0.4276	0.3057	1.1604	0.0150

L396	7.5231	162498.56	0.0001	0.9912	0.2032	0.8244	4.9364	0.0150
L397	4.1959	90632.111	0.0000	0.9999	0.4521	0.3061	1.1619	0.0150
L398	3.9605	85546.946	0.0000	0.9999	0.4963	0.3051	1.1405	0.0150
L399	3.6455	78741.879	0.0000	0.9997	0.3915	0.5128	1.8192	0.0150
L402	6.5187	140803.39	0.0000	0.9999	0.3822	0.4371	2.1917	0.0150
L403	6.4882	140146.02	0.0000	0.9998	0.3966	0.4350	2.1883	0.0150
L404	6.4284	138853.73	0.0000	0.9997	0.4002	0.4303	2.1764	0.0150
L405	4.4428	95965.035	0.0000	0.9999	0.3912	0.3700	1.5932	0.0150
L406	10.8019	233321.97	0.0001	0.9999	0.2954	0.6070	4.4015	0.0150
L407	3.5008	75618.231	0.0000	0.9999	0.4284	0.3100	1.1261	0.0150
L408	14.1920	306548.17	0.0001	0.9999	0.3027	0.6661	5.3592	0.0150
L410	17.9292	387269.85	0.0001	0.9998	0.3204	0.7237	6.4044	0.0150
L411	17.7986	384450.25	0.0001	0.9998	0.3180	0.7193	6.4153	0.0150
L413	2.0661	44627.747	0.0000	0.9999	0.4062	0.3853	1.0715	0.0150
L415	2.0789	44904.048	0.0000	0.9999	0.8204	0.2856	0.5638	0.0150
L417	2.6080	56333.191	0.0000	0.9999	0.5376	0.2501	0.7312	0.0150
L418	4.7311	102192.59	0.0000	0.9999	0.4100	0.3714	1.5997	0.0150
L419	7.3153	158010.87	0.0000	0.9999	0.3424	0.4918	2.8351	0.0150
L420	7.2499	156597.91	0.0000	0.9998	0.3344	0.4869	2.8330	0.0150
L421	1.5194	32819.501	0.0000	0.9999	0.3516	0.2433	0.7060	0.0150
L422	3.4792	75150.953	0.0000	0.9999	0.4132	0.3091	1.1287	0.0150
L423	12.3134	265968.97	0.0001	0.9999	0.3074	0.6078	4.4661	0.0150
L424	16.6862	360422.06	0.0001	0.9999	0.3211	0.6681	5.4314	0.0150
L425	0.8510	18381.720	0.0000	0.9999	0.2476	0.2364	0.6911	0.0150
L426	3.6316	78443.611	0.0000	0.9999	0.4167	0.3091	1.1347	0.0150
L427	36.0218	778070.98	0.0002	0.9999	0.3615	0.8506	8.8757	0.0150
L428	0.8579	18530.475	0.0000	0.9999	0.2779	0.2370	0.6843	0.0150
L429	37.5339	810732.80	0.0002	0.9999	0.3826	0.8495	9.0256	0.0150
L430	2.2411	48407.308	0.0000	0.9999	0.4641	0.2452	0.7280	0.0150
L431	2.0710	44734.382	0.0000	0.9999	0.4363	0.2442	0.7210	0.0150
L432	2.0846	45027.076	0.0000	0.9999	0.4563	0.2465	0.7228	0.0150
L435	2.6292	56790.875	0.0000	0.9999	0.5159	0.2478	0.7368	0.0150
L436	2.6120	56418.135	0.0000	0.9999	0.6565	0.2466	0.7342	0.0150
L437	2.6012	56186.278	0.0000	0.9998	0.4015	0.3059	1.1268	0.0150
L438	1.5281	33007.456	0.0000	0.9999	0.3761	0.2435	0.7118	0.0150
L439	4.1042	88650.943	0.0000	0.9999	0.6589	0.3110	1.1299	0.0150
L440	4.0758	88037.733	0.0000	0.9998	0.4638	0.4093	1.5264	0.0150
L441	43.1601	932257.67	0.0003	0.9999	0.5017	0.8660	8.9868	0.0150
L442	42.9820	928410.63	0.0003	0.9998	1.0401	0.9428	7.4370	0.0150
L443	42.9543	927813.95	0.0003	0.9998	2.6886	0.5555	2.7660	0.0150
L446	5.4178	117023.62	0.0000	0.9999	0.3853	0.3700	1.6399	0.0150
L448	0.8868	19155.830	0.0000	0.9999	0.2376	0.2375	0.7011	0.0150
L449	8.5897	185537.49	0.0001	0.9999	0.5029	0.4291	2.2415	0.0150
L450	12.0564	260417.84	0.0001	0.9999	0.6489	0.4971	2.9062	0.0150
L451	13.2579	286370.04	0.0001	0.9999	0.7514	0.5719	2.6721	0.0150
L452	1.1827	25546.743	0.0000	0.9999	0.3267	0.2409	0.7218	0.0150
L453	0.8524	18412.660	0.0000	0.9999	0.2670	0.2380	0.7203	0.0150
L454	0.6210	13413.601	0.0000	0.9999	0.5009	0.2266	0.3468	0.0150
L466	3.7085	80103.227	0.0000	0.9999	0.8247	0.3579	0.8906	0.0150
L468	3.6890	79682.754	0.0000	0.9998	0.4818	0.4725	1.4625	0.0150
L470	8.6781	187447.71	0.0001	0.9999	0.7901	0.4963	2.0589	0.0150
L471	0.3474	7504.1747	0.0000	0.9792	0.5667	0.1517	0.2095	0.0150
L472	4.0840	88215.086	0.0000	0.9999	0.9552	0.2483	0.7542	0.0150
L490	6.1448	132728.24	0.0000	0.9999	0.6276	0.5023	1.7740	0.0150
L496	0.5532	11949.372	0.0000	0.9999	0.7080	0.1871	0.2389	0.0150
L497	0.5464	11801.337	0.0000	0.9999	0.7090	0.1862	0.2372	0.0150
L498	1.0973	23700.727	0.0000	0.9999	0.7672	0.2383	0.3705	0.0150
L501	11.2067	242064.51	0.0001	0.9998	0.2002	0.7205	6.6110	0.0150
L502	11.0415	238496.61	0.0001	0.9998	0.1570	0.8485	8.9199	0.0150
L503	65.9058	1423564.6	0.0006	0.9999	0.3975	1.2858	14.9780	0.0150

L504	65.5839	1416613.1	0.0021	0.9999	0.4540	1.3539	14.1600	0.0150
L505	9.6192	207774.81	0.0001	0.9999	0.4918	0.4303	2.2615	0.0150
L506	9.8604	212983.69	0.0001	0.9999	0.4259	0.4305	2.2900	0.0150
L509	2.7405	59194.338	0.0000	0.9998	2.7231	0.1945	0.2955	0.0150
L511	10.0943	218037.21	0.0001	0.9999	0.9280	0.3801	1.6968	0.0150
L512	16.3767	353737.63	0.0001	0.9998	3.3811	0.3600	1.0566	0.0150
L514	7.3087	157867.52	0.0000	0.9999	0.3747	0.4304	2.2328	0.0150
L515	11.8315	255560.90	0.0001	0.9999	0.3199	0.8054	4.9620	0.0150
CH21	10.9151	235765.70	0.0001	0.9998	0.0473	0.6706	68.4222	0.0600
L474	8.6018	185798.94	0.0001	0.9997	0.7477	0.3670	1.6725	0.0150
L523	8.6096	185966.41	0.0001	0.9998	0.3427	0.6228	7.2536	0.0600
L525	15.4368	333435.12	0.0001	0.9938	0.3126	0.8338	5.8480	0.0150
L527	4.0942	88433.973	0.0000	0.9999	0.3688	0.3698	1.6125	0.0150
L528	4.2763	92367.875	0.0000	0.9998	0.7205	0.3115	1.1203	0.0150
L529	3.9618	85574.787	0.0000	0.9999	0.3426	0.3751	1.6305	0.0150
L533	3.9202	84675.486	0.0000	0.9999	0.3925	0.3668	1.5816	0.0150
L537	3.8699	83590.720	0.0000	0.9998	0.3154	0.3643	1.6177	0.0150
L394	53.3273	1151869.2	0.0019	1.0000	0.3695	1.3676	13.9565	0.0150
L276	2.8741	62079.651	0.0000	0.9999	0.8167	0.2525	0.7235	0.0150
L288	3.8042	82170.392	0.0000	0.9999	2.5339	0.2254	0.4143	0.0150
L412	2.0547	44381.170	0.0000	0.9999	1.0185	0.2662	0.4644	0.0150
L447	1.9320	41732.100	0.0000	0.9999	0.2183	0.3542	1.5557	0.0150
L252	0.1021	2206.3141	0.0000	0.9999	0.3832	0.1012	0.1346	0.0150
L253	1.5907	34359.810	0.0000	0.9999	0.7337	0.2738	0.4979	0.0150
L254	1.5816	34162.532	0.0000	0.9998	0.6660	0.2714	0.5323	0.0150
L255	3.6244	78286.445	0.0000	0.9999	0.5908	0.3588	1.0729	0.0150
L256	4.3183	93275.988	0.0000	0.9999	0.4569	0.4196	1.5591	0.0150
L257	6.0524	130731.29	0.0000	0.9999	0.6621	0.3744	1.6538	0.0150
L264	3.4675	74897.125	0.0000	0.9999	0.6596	0.3645	0.9806	0.0150
L265	19.8411	428567.00	0.0001	0.9999	0.3498	0.8555	6.1314	0.0150
L266	20.5963	444880.07	0.0002	0.9999	0.3692	0.8695	6.2509	0.0150
L267	0.7842	16939.277	0.0000	0.9999	0.5873	0.2329	0.3590	0.0150
L268	2.4313	52516.867	0.0000	0.9999	0.5194	0.2473	0.7324	0.0150
L269	2.6646	57555.770	0.0000	0.9999	0.7742	0.2508	0.7182	0.0150
L270	24.2379	523538.14	0.0006	0.9999	0.4521	0.8851	6.2733	0.0150
L271	24.1335	521283.99	0.0016	0.9999	0.1911	0.8748	9.6619	0.0150
L278	1.4323	30937.544	0.0000	0.9999	0.3327	0.2442	0.7239	0.0150
L279	2.9682	64113.660	0.0000	0.9999	0.8372	0.2516	0.7265	0.0150
L280	1.4358	31013.976	0.0000	0.9999	0.3343	0.2442	0.7237	0.0150
L284	1.4381	31061.973	0.0013	0.9999	0.1747	0.2500	0.7972	0.0150
L285	2.7201	58755.210	0.0013	1.0000	0.1390	0.3750	1.7865	0.0150
L286	1.1731	25337.913	0.0013	0.9999	0.0965	0.3125	1.2419	0.0150
L290	0.1579	3409.5749	0.0000	0.9999	0.6523	0.1104	0.1006	0.0150
L291	0.4043	8733.1282	0.0000	0.9999	0.6959	0.1635	0.1899	0.0150
L292	1.0510	22702.342	0.0000	0.9999	0.8325	0.2141	0.3433	0.0150
L294	1.2815	27680.111	0.0000	0.9999	0.2624	0.2405	0.7121	0.0150
L300	4.8555	104878.90	0.0000	0.9999	0.3274	0.3670	1.6333	0.0150
L301	1.7071	36872.301	0.0000	0.9999	0.3097	0.2437	0.7208	0.0150
L302	10.7151	231446.78	0.0001	0.9999	0.2686	0.5501	3.6816	0.0150
L303	0.7764	16770.624	0.0000	0.9999	0.2148	0.2346	0.6937	0.0150
L304	2.2525	48653.404	0.0000	0.9999	0.3794	0.2472	0.7309	0.0150
L305	3.0186	65202.606	0.0000	0.9999	0.2299	0.3629	1.6044	0.0150
L306	2.5891	55924.725	0.0001	0.9999	0.2835	0.2500	0.8008	0.0150
L307	2.8090	60673.758	0.0010	1.0000	0.0765	0.5000	3.1645	0.0150
L308	2.9243	63165.612	0.0003	1.0000	0.1399	0.3750	1.7886	0.0150
L309	2.4644	53231.035	0.0001	0.9999	0.2685	0.2500	0.8011	0.0150
L310	1.4648	31639.551	0.0000	0.9999	0.3443	0.2427	0.7071	0.0150
L311	1.4559	31448.272	0.0000	0.9998	0.3175	0.2416	0.7114	0.0150
L312	1.1721	25317.384	0.0000	0.9999	0.2495	0.2417	0.7213	0.0150
L313	2.7062	58453.691	0.0000	0.9999	0.5895	0.2448	0.7373	0.0150

L314	1.1726	25328.298	0.0000	0.9999	0.3331	0.2408	0.7209	0.0150
L315	1.4862	32102.148	0.0000	0.9999	0.6896	0.2732	0.4988	0.0150
L316	1.4783	31930.493	0.0000	0.9998	0.5550	0.2789	0.5833	0.0150
L317	5.6055	121078.79	0.0000	0.9999	0.5174	0.3683	1.6355	0.0150
L318	5.5815	120561.10	0.0000	0.9998	0.4976	0.3714	1.6812	0.0150
L321	0.4624	9988.8997	0.0000	0.9999	0.4298	0.2098	0.3069	0.0150
L324	1.5621	33741.398	0.0000	0.9999	0.2805	0.2423	0.7307	0.0150
L325	1.4859	32095.195	0.0000	0.9999	0.2408	0.2422	0.7352	0.0150
L326	1.7934	38736.700	0.0000	0.9999	0.2954	0.2434	0.7364	0.0150
L327	2.0241	43721.569	0.0000	0.9999	0.3185	0.2443	0.7398	0.0150
L328	7.0772	152867.18	0.0000	0.9999	0.9486	0.3666	1.5999	0.0150
L329	7.0715	152743.40	0.0000	0.9998	1.7607	0.3390	0.8428	0.0150
L334	0.3888	8398.2248	0.0000	0.9999	0.6952	0.1613	0.1854	0.0150
L335	0.7813	16876.611	0.0000	0.9999	0.7117	0.2135	0.3024	0.0150
L336	1.1759	25399.996	0.0000	0.9999	0.9853	0.2465	0.4054	0.0150
L337	1.1754	25388.621	0.0000	0.9998	1.7075	0.1612	0.2281	0.0150
L475	3.9869	86117.335	0.0000	0.9999	0.3794	0.3093	1.1502	0.0150
L478	16.2932	351932.52	0.0001	0.9999	0.4387	0.5509	3.7184	0.0150
L479	16.1638	349137.67	0.0001	0.9998	0.4047	0.6057	4.5042	0.0150
L487	9.8692	213175.73	0.0001	1.0000	0.4304	0.4379	2.4237	0.0150
L493	16.0411	346487.21	0.0001	0.9998	0.4001	0.6040	4.5341	0.0150
L499	1.5479	33435.389	0.0000	0.9999	0.2500	0.2433	0.7404	0.0150
L500	3.1146	67276.270	0.0000	0.9999	0.2769	0.3053	1.1653	0.0150
L507	3.4729	75014.848	0.0000	0.9999	0.7822	0.2483	0.7510	0.0150
L513	16.0709	347131.11	0.0001	0.9999	0.4395	0.6147	4.5408	0.0150
L546	3.4450	74412.956	0.0000	0.9942	0.3621	0.3583	1.6141	0.0150
L510	4.6901	101306.24	0.0000	0.9998	2.2172	0.2640	0.5239	0.0150
FREE # 1	12.0870	261079.30						
FREE # 2	25.8154	557613.50						
FREE # 3	2.7462	59318.845						
FREE # 4	6.5264	140971.04						
FREE # 5	2.1083	45539.071						
FREE # 6	33.7054	728037.55						
FREE # 7	7.8421	169390.17						
FREE # 8	4.5928	99204.988						
FREE # 9	7.3991	159820.89						
FREE #10	27.4518	592957.99						
FREE #11	65.4921	1414629.1						
FREE #12	17.3155	374014.35						
FREE #13	42.9524	927771.22						
FREE #14	4.0840	88214.325						
FREE #15	2.7405	59194.342						
FREE #16	16.3760	353721.75						
FREE #17	1.3991	30221.102						
FREE #18	8.6016	185793.97						
FREE #19	53.3582	1152536.7						
FREE #20	2.8740	62078.262						
FREE #21	3.8040	82167.186						
FREE #22	2.9682	64112.236						
FREE #23	2.7259	58879.124						
FREE #24	1.0510	22701.805						
FREE #25	2.9287	63260.410						
FREE #26	7.0713	152739.14						
FREE #27	1.1753	25387.441						
FREE #28	9.8647	213076.75						
FREE #29	2.8130	60759.769						
FREE #30	4.6901	101306.45						

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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

Conduit Name	Maximum Flow	Head Loss	Friction Loss	Critical Depth	Normal Depth	HW Elevat	TW Elevat	
L210	2.8911	0.0000	0.6079	0.7287	1.0000	107.6026	106.9939	Max Flow
L211	3.1354	0.0000	4.1728	0.7586	1.0000	106.9939	102.8186	Max Flow
L212	3.2978	0.0000	2.2915	0.7315	0.9241	102.1159	100.2909	Max Flow
L213	2.4909	0.0000	0.6823	0.6759	0.8914	100.9508	100.2682	Max Flow
L214	5.3707	0.0000	0.3194	0.8928	1.2615	100.5876	100.2682	Max Flow
L217	0.9501	0.0000	0.4954	0.4086	0.4397	100.2872	99.7386	Max Flow
L220	11.2776	0.0000	2.1196	1.2514	1.7500	100.2909	98.1694	Max Flow
L221	13.2165	0.0000	1.7213	1.3077	2.0000	98.1694	96.2277	Max Flow
L222	13.3950	0.0000	4.7820	1.3167	0.8202	95.2520	90.4700	Max Flow
L223	0.2305	0.0000	0.1897	0.1969	0.2569	119.8642	119.6069	Max Flow
L224	0.2305	0.0000	0.6187	0.1969	0.2585	118.8903	118.0569	Max Flow
L225	0.2305	0.0000	0.6971	0.1969	0.2582	117.6596	117.5825	Max Flow
L226	0.9294	0.0000	0.9538	0.4040	0.5533	118.5578	118.1994	Max Flow
L227	1.5845	0.0000	0.6336	0.5338	0.8293	118.1994	117.5825	Max Flow
L228	2.4888	0.0000	2.6900	0.6756	1.0000	117.5825	114.7356	Max Flow
L229	2.9466	0.0000	1.5156	0.6896	1.0706	112.5184	110.5696	Max Flow
L230	3.4595	0.0000	1.6036	0.7504	1.2500	110.4305	108.6104	Max Flow
L231	3.8015	0.0000	1.8103	0.7879	1.2500	108.4480	106.6365	Max Flow
L232	6.0390	0.0000	1.3373	0.9490	1.5000	106.6365	105.2963	Max Flow
L233	6.3287	0.0000	2.2799	0.9722	1.5000	105.2963	103.0130	Max Flow
L234	9.4131	0.0000	0.9819	1.0955	1.5018	103.0130	102.0312	Max Flow
L235	0.4478	0.0000	0.1334	0.2768	0.3725	112.5280	112.5184	Max Flow
L236	2.1260	0.0000	0.4907	0.6226	1.0000	107.1256	106.6365	Max Flow
L237	3.0838	0.0000	0.9796	0.7523	1.0000	103.6073	102.6273	Max Flow
L238	3.6937	0.0000	0.7819	0.8182	1.0000	116.6523	115.8782	Max Flow
L239	4.0636	0.0000	2.0981	0.8520	1.0000	115.2807	113.1820	Max Flow
L240	1.2377	0.0000	0.4915	0.4691	0.5152	113.3534	112.7991	Max Flow
L241	5.3641	0.0000	2.7217	0.9383	1.2500	110.4620	107.7383	Max Flow
L242	1.8517	0.0000	0.3828	0.5793	0.6687	108.0733	107.6293	Max Flow
L243	2.4831	0.0000	0.6200	0.6748	0.8718	108.4472	107.7248	Max Flow
L246	24.3602	0.0000	1.9130	1.6806	2.5000	102.0312	100.1167	Max Flow
L247	28.8013	0.0000	0.5586	1.8288	2.5000	100.1167	99.5500	Max Flow
L248	1.9821	0.0000	0.1927	0.6006	0.7067	100.3093	100.1167	Max Flow
L249	1.5791	0.0000	0.4519	0.5329	0.6016	105.4928	104.8417	Max Flow
L250	2.9997	0.0000	5.3020	0.7420	0.3798	104.8417	99.5400	Max Flow
L251	1.3045	0.0000	0.4079	0.4824	0.5322	105.4064	104.8417	Max Flow
L259	6.8581	0.0000	1.0288	0.9673	1.3681	97.6771	96.0308	Max Flow
L260	7.0527	0.0000	3.7815	0.9819	0.4498	96.0308	90.4800	Max Flow
L261	0.9792	0.0000	0.6857	0.4149	0.4484	94.7428	93.7152	Max Flow
L262	2.3040	0.0000	7.7425	0.6492	0.2750	93.7152	83.9100	Max Flow
L263	1.1997	0.0000	0.6244	0.4615	0.5057	94.6677	93.7152	Max Flow
L272	38.4384	0.0000	0.0172	1.7824	2.9342	83.9351	83.9000	Max Flow
L273	9.4703	0.0000	0.5384	1.1445	1.7500	84.4498	83.8983	Max Flow
L274	8.5560	0.0000	8.5738	1.1323	0.5281	92.4738	83.9000	Max Flow
L275	1.5051	0.0000	0.5846	0.5200	0.5818	119.6123	119.3170	Max Flow
L277	1.5120	0.0000	0.6483	0.5212	0.5830	119.6597	119.3170	Max Flow
L281	3.4219	0.0000	1.5113	0.7905	1.0000	124.8193	122.6751	Max Flow
L282	5.0178	0.0000	8.2593	0.9172	0.3949	122.6751	113.4200	Max Flow
L283	1.4971	0.0000	0.6318	0.5185	0.5772	123.5619	122.6750	Max Flow
L287	1.8249	0.0000	0.6389	0.5749	0.6593	113.8197	113.0849	Max Flow
L289	2.2642	0.0000	0.7268	0.6435	0.7865	114.0002	113.1535	Max Flow
L319	8.1961	0.0000	0.4784	1.1083	1.5000	101.6653	101.1083	Max Flow
L320	1.8842	0.0000	0.3882	0.5846	0.6764	101.8614	101.5978	Max Flow

L338	21.2501	0.0000	0.1889	1.4803	2.5058	128.4056	128.2437	Max Flow
L339	21.2501	0.0000	0.5106	1.4803	2.4674	128.2437	127.6447	Max Flow
L340	30.1672	0.0000	0.4769	1.6963	3.0203	127.6447	127.0548	Max Flow
L341	30.1672	0.0000	0.3143	1.6963	3.1122	127.0548	126.5963	Max Flow
L342	4.5877	0.0000	0.4878	0.8677	1.2500	128.9836	128.3977	Max Flow
L343	2.6326	0.0000	0.6387	0.6950	1.0000	129.2163	128.4750	Max Flow
L344	12.3310	0.0000	0.1758	1.1780	1.7323	127.1958	127.1390	Max Flow
L346	25.6047	0.0000	0.1209	1.5569	2.4750	126.9360	126.8928	Max Flow
L347	56.3351	0.0000	0.7996	2.2572	4.0000	126.8928	126.0985	Max Flow
L348	56.3334	0.0000	0.7637	2.2572	4.0000	126.0985	125.3411	Max Flow
L349	56.3333	0.0000	0.7605	2.2572	4.0000	125.3411	124.5626	Max Flow
L350	56.3333	0.0000	0.2583	2.2572	4.0000	124.5626	124.2984	Max Flow
L351	8.2540	0.0000	0.1140	1.0227	1.4579	124.5869	124.5302	Max Flow
L352	8.2540	0.0000	0.4160	1.0227	1.4508	124.5302	124.2984	Max Flow
L354	73.4486	0.0000	0.2047	2.5008	2.1105	122.6305	122.5800	Max Flow
L361	2.3115	0.0000	0.3204	0.6503	0.8093	126.2886	125.9103	Max Flow
L362	2.1598	0.0000	0.4193	0.6278	0.7572	126.3794	125.8878	Max Flow
L363	4.5228	0.0000	1.3920	0.8156	1.0642	125.8482	124.5904	Max Flow
L364	2.6496	0.0000	0.3554	0.6973	1.0000	124.9752	124.5573	Max Flow
L365	1.6367	0.0000	0.3762	0.5430	0.6119	124.8733	124.5904	Max Flow
L366	9.8099	0.0000	0.9084	1.1200	1.7285	124.5904	123.6822	Max Flow
L367	9.8099	0.0000	0.8379	1.1200	1.7295	123.6822	122.8446	Max Flow
L368	2.2788	0.0000	0.7370	0.6456	0.7930	123.6212	122.8367	Max Flow
L369	3.4945	0.0000	1.2617	0.7986	1.0000	124.1512	122.9086	Max Flow
L370	19.1219	0.0000	0.3233	1.4008	2.2211	122.8446	122.6510	Max Flow
L373	19.1219	0.0000	0.1933	1.4008	1.0725	122.6510	122.5800	Max Flow
L374	3.3514	0.0000	1.8661	0.7827	1.0000	120.8308	118.9627	Max Flow
L375	3.3513	0.0000	0.6264	0.6972	1.5000	118.9042	118.0072	Max Flow
L376	14.2708	0.1085	0.2167	1.2348	1.8562	118.6604	118.4019	Max Flow
L386	36.6159	0.0000	0.2563	1.8012	3.1936	118.2820	118.0270	Max Flow
L387	36.6031	0.0000	0.2665	1.8008	3.2064	118.0269	117.7614	Max Flow
L388	2.2296	0.0000	0.5983	0.6385	1.0000	118.0355	117.3402	Max Flow
L389	50.3153	0.0000	0.2919	2.0509	3.8852	117.7613	117.4697	Max Flow
L390	1.6079	0.0000	0.4428	0.5379	0.7072	117.6983	117.1414	Max Flow
L391	55.1620	0.0000	0.4549	2.1533	4.5000	117.4696	117.0117	Max Flow
L392	65.3549	0.0000	0.4864	2.3527	4.5000	117.0117	116.5129	Max Flow
L393	65.3488	0.0000	0.6749	2.3526	4.5000	116.5129	115.8734	Max Flow
L395	4.2403	0.0000	0.6734	0.8335	0.6572	118.9891	118.7077	Max Flow
L396	8.3479	0.0000	0.4893	0.9094	1.3085	118.7853	118.7087	Max Flow
L397	4.5806	0.0000	0.5730	0.8670	0.7108	119.0832	118.7087	Max Flow
L398	4.3232	0.0000	0.8171	0.8420	0.6588	119.0675	118.7853	Max Flow
L399	4.0369	0.0000	0.6933	0.7039	0.9134	118.9368	118.7853	Max Flow
L402	7.1188	0.0000	0.2435	0.9866	1.4060	113.6518	113.4140	Max Flow
L403	7.1191	0.0000	1.1036	0.9866	1.4210	113.4140	112.2979	Max Flow
L404	7.1280	0.0000	1.1163	0.9872	1.4122	112.2983	111.0824	Max Flow
L405	4.8549	0.0000	0.3254	0.8468	1.1311	111.3924	110.9768	Max Flow
L406	11.9729	0.0000	0.6417	1.1597	1.7166	112.4791	112.0680	Max Flow
L407	3.8256	0.0000	0.3887	0.7905	1.0955	111.0297	110.5505	Max Flow
L408	15.7980	0.0000	0.5961	1.3024	2.0080	112.0680	111.6343	Max Flow
L410	20.1364	0.0000	0.5380	1.4401	2.3383	111.6343	111.1574	Max Flow
L411	20.1364	0.0000	0.4097	1.4401	2.3489	111.1574	110.7941	Max Flow
L413	2.2679	0.0000	1.3383	0.5683	0.6796	119.1140	118.8248	Max Flow
L415	2.2700	0.0000	0.3536	0.6444	0.7489	119.5279	119.1244	Max Flow
L417	2.8494	0.0000	0.5217	0.7235	1.0000	112.5021	111.9035	Max Flow
L418	5.1688	0.0000	0.3287	0.8748	1.2081	113.1916	112.9610	Max Flow
L419	8.0182	0.0000	0.6051	1.0071	1.4169	112.9610	112.5301	Max Flow
L420	8.0182	0.0000	0.9396	1.0071	1.4176	112.5301	111.8621	Max Flow
L421	1.6633	0.0000	0.4103	0.5476	0.6182	110.6689	110.2170	Max Flow
L422	3.8019	0.0000	0.4121	0.7879	1.0644	112.2083	111.8621	Max Flow
L423	13.6466	0.0000	0.6966	1.2419	1.9032	111.8621	111.2807	Max Flow

L424	18.5464	0.0000	0.5378	1.4164	2.3829	111.2807	110.7941	Max Flow
L425	0.9317	0.0000	0.4053	0.4045	0.4363	111.3435	111.2807	Max Flow
L426	3.9681	0.0000	0.3930	0.8057	1.2500	111.6425	111.2807	Max Flow
L427	40.5902	0.0000	1.0434	1.9812	3.5000	110.7941	109.7503	Max Flow
L428	0.9393	0.0000	0.4987	0.4062	0.4397	109.8312	109.7503	Max Flow
L429	42.4776	0.0000	0.8860	2.0284	3.5000	109.7503	108.8835	Max Flow
L430	2.4485	0.0000	0.7713	0.6699	0.7129	120.8344	120.2703	Max Flow
L431	2.2782	0.0000	2.4871	0.6455	0.7923	122.5834	120.2684	Max Flow
L432	2.2777	0.0000	0.5304	0.6455	0.7915	123.0735	122.5834	Max Flow
L435	2.8727	0.0000	0.7705	0.7264	1.0000	116.1805	115.4092	Max Flow
L436	2.8741	0.0000	2.7379	0.7266	1.0000	115.4092	112.6914	Max Flow
L437	2.8724	0.0000	1.3708	0.6804	0.8304	112.8384	112.0502	Max Flow
L438	1.6723	0.0000	0.5063	0.5492	0.6236	112.3086	112.0515	Max Flow
L439	4.5570	0.0000	2.5017	0.8648	1.2500	112.0515	109.5673	Max Flow
L440	4.5523	0.0000	1.3288	0.8185	1.0723	109.7789	108.8835	Max Flow
L441	48.9390	0.0000	1.1723	2.1842	3.5000	108.8835	107.6629	Max Flow
L442	48.9390	0.0000	1.6389	2.1842	3.5000	107.6629	105.0976	Max Flow
L443	48.9390	0.0000	5.2516	2.1842	0.9872	105.0976	99.5700	Max Flow
L446	5.9168	0.0000	0.2542	0.9388	1.5000	129.7527	129.4984	Max Flow
L448	0.9708	0.0000	0.4572	0.4131	0.4472	128.2210	128.1440	Max Flow
L449	9.5085	0.0000	2.1422	1.1469	1.7500	128.1440	126.0007	Max Flow
L450	13.3913	0.0000	1.8254	1.3165	2.0000	126.0007	123.9765	Max Flow
L451	14.7194	0.0000	0.4727	1.3819	2.0000	120.4426	119.8419	Max Flow
L452	1.2925	0.0000	0.2887	0.4802	0.5291	126.0884	126.0007	Max Flow
L453	0.9323	0.0000	0.3450	0.4046	0.4391	126.0559	126.0007	Max Flow
L454	0.6805	0.0000	0.4065	0.3432	0.3671	120.4710	120.2912	Max Flow
L466	4.0513	0.0000	0.6115	0.8142	0.9291	120.8206	120.1342	Max Flow
L468	4.0489	0.0000	0.9972	0.7050	0.9525	119.5315	118.6021	Max Flow
L470	9.4830	0.0000	0.8188	1.1453	1.7500	123.4952	122.3558	Max Flow
L471	0.3817	0.0000	1.3528	0.2545	0.2559	125.0264	123.4952	Max Flow
L472	4.4576	0.0000	1.0741	0.8830	1.0000	128.1166	127.0400	Max Flow
L490	6.7172	0.0000	0.3686	0.9567	1.7500	111.3361	110.8167	Max Flow
L496	0.6064	0.0000	2.1723	0.3236	0.3457	133.7961	131.6772	Max Flow
L497	0.5989	0.0000	2.1823	0.3217	0.3435	133.8039	131.6772	Max Flow
L498	1.2053	0.0000	0.5699	0.4626	0.5070	131.6772	131.1070	Max Flow
L501	12.3313	0.0000	0.5457	1.1137	1.6375	127.1390	126.9766	Max Flow
L502	12.3326	0.0000	0.2228	1.0636	1.6011	126.9766	126.8925	Max Flow
L503	73.4486	0.0000	0.7096	2.5008	4.5000	124.2984	123.5594	Max Flow
L504	73.4486	0.0000	0.8098	2.5008	4.5000	123.5594	122.6305	Max Flow
L505	10.5969	0.0000	2.3187	1.2124	1.7500	106.8092	104.4871	Max Flow
L506	10.8991	0.0000	2.4522	1.2297	1.7500	104.3059	101.8428	Max Flow
L509	2.9902	0.0000	10.5706	0.7408	0.3581	108.2106	97.6400	Max Flow
L511	11.0354	0.0000	2.5525	1.2707	1.5000	112.4350	109.8807	Max Flow
L512	17.9041	0.0000	10.7974	1.5241	0.6463	108.7565	97.4200	Max Flow
L514	8.0432	0.0000	1.3537	1.0519	1.7500	129.4984	128.1440	Max Flow
L515	17.6809	0.0000	0.2062	1.3448	2.0745	118.4019	118.2820	Max Flow
CH21	13.5663	0.0000	0.7786	0.0721	0.3067	118.6802	118.6603	Max Flow
L474	9.4830	0.0000	1.3681	1.1890	1.5000	120.8720	119.5000	Max Flow
L523	9.4830	0.0000	0.7137	0.3970	0.9455	122.3558	121.2270	Max Flow
L525	17.1558	0.0000	0.7320	1.3244	2.0432	118.7087	118.2820	Max Flow
L527	4.5202	0.0000	1.3764	0.8154	1.0805	118.8248	117.7613	Max Flow
L528	4.7290	0.0000	3.2735	0.8811	1.2500	120.2684	116.9196	Max Flow
L529	4.3384	0.0000	0.6401	0.7981	1.5000	114.9266	114.2861	Max Flow
L533	4.3384	0.0000	2.4125	0.7981	1.0336	114.2861	112.6510	Max Flow
L537	4.3384	0.0000	1.0160	0.7981	1.5000	112.6510	111.6343	Max Flow
L394	65.3471	0.0000	0.3954	2.3526	4.5000	115.8734	115.6300	Max Flow
L276	3.1458	0.0000	0.5263	0.7599	1.0000	119.3170	118.7599	Max Flow
L288	4.1590	0.0000	3.8373	0.8252	0.3816	112.6673	108.8300	Max Flow
L412	2.2432	0.0000	0.6001	0.6405	0.6067	119.6067	119.0067	Max Flow
L447	2.1264	0.0000	1.3136	0.5499	0.6604	129.7121	129.4984	Max Flow

L252	0.1128	0.0000	1.9646	0.1356	0.1476	100.5085	99.1962	Max Flow
L253	1.7367	0.0000	0.4100	0.5604	0.6375	101.3827	100.9914	Max Flow
L254	1.7367	0.0000	2.2633	0.5604	0.6384	100.9914	99.1962	Max Flow
L255	3.9589	0.0000	0.3955	0.8048	1.2500	100.2654	99.9146	Max Flow
L256	4.7298	0.0000	0.9765	0.8353	1.1040	99.9146	99.1962	Max Flow
L257	6.6737	0.0000	1.4264	0.9991	1.5000	99.1962	97.6771	Max Flow
L264	3.7882	0.0000	0.4255	0.7864	1.0657	86.2987	85.7764	Max Flow
L265	22.4326	0.0000	0.4605	1.5229	2.6415	85.9466	85.4869	Max Flow
L266	23.3527	0.0000	0.2899	1.5560	3.0000	85.4869	85.1952	Max Flow
L267	0.8600	0.0000	0.3665	0.3877	0.4168	85.5601	85.1703	Max Flow
L268	2.6552	0.0000	0.5795	0.6980	1.0000	96.5563	95.9765	Max Flow
L269	2.9244	0.0000	2.2492	0.7327	1.0000	95.9765	93.7327	Max Flow
L270	27.4525	0.0000	0.8163	1.6932	3.0000	85.1953	84.3071	Max Flow
L271	27.4816	0.0000	0.8354	1.6148	1.8033	84.3072	83.8988	Max Flow
L278	1.5645	0.0000	0.2712	0.5304	0.5953	114.7104	114.5881	Max Flow
L279	3.2534	0.0000	1.8307	0.7719	1.0000	114.5881	112.7719	Max Flow
L280	1.5684	0.0000	0.2818	0.5310	0.5973	114.7162	114.5881	Max Flow
L284	5.2952	0.0000	1.4695	0.9283	1.0000	109.8271	109.8622	Max Flow
L285	3.1105	0.0000	0.1599	0.6707	0.8285	108.7998	108.6400	Max Flow
L286	1.4106	0.0000	1.0619	0.4690	0.5339	108.8307	108.7998	Max Flow
L290	0.1735	0.0000	1.7034	0.1697	0.1827	104.1135	102.0841	Max Flow
L291	0.4448	0.0000	2.0154	0.2758	0.2936	102.0841	100.0331	Max Flow
L292	1.1514	0.0000	0.7734	0.4517	0.2725	100.0331	99.5700	Max Flow
L294	1.4027	0.0000	0.4751	0.5008	0.5547	92.7112	92.5469	Max Flow
L300	5.3497	0.0000	0.8098	0.8909	1.2437	93.3343	92.5469	Max Flow
L301	1.8664	0.0000	0.3398	0.5817	0.6689	93.5326	93.3343	Max Flow
L302	11.8253	0.0000	1.0370	1.1905	1.8290	92.5469	91.5100	Max Flow
L303	0.8511	0.0000	0.4760	0.3856	0.4161	93.5815	93.5200	Max Flow
L304	2.4622	0.0000	0.4536	0.6718	0.8785	91.4767	90.9497	Max Flow
L305	3.3133	0.0000	0.4742	0.6930	0.8565	93.5200	93.3343	Max Flow
L306	2.8190	0.0000	0.4647	0.7198	0.7625	98.1270	97.6624	Max Flow
L307	15.6979	0.0000	0.5971	1.4279	1.3589	98.5454	97.6400	Max Flow
L308	3.1961	0.0000	0.1215	0.6801	0.6691	97.7613	97.6400	Max Flow
L309	2.6934	0.0000	0.4239	0.7031	0.7338	98.1849	97.7613	Max Flow
L310	1.6006	0.0000	0.3595	0.5367	0.6019	110.9382	110.7767	Max Flow
L311	1.6006	0.0000	2.2956	0.5367	0.6040	110.7767	109.7243	Max Flow
L312	1.2821	0.0000	0.3494	0.4781	0.5238	109.8263	109.7243	Max Flow
L313	2.9996	0.0000	5.3594	0.7420	1.0000	109.7243	104.3342	Max Flow
L314	1.2826	0.0000	0.5265	0.4782	0.5278	104.4885	104.3342	Max Flow
L315	1.6227	0.0000	0.4188	0.5405	0.6069	105.5303	105.2177	Max Flow
L316	1.6227	0.0000	1.6834	0.5405	0.6114	105.2177	104.3342	Max Flow
L317	6.1968	0.0000	1.3801	0.9620	1.5000	104.3342	102.9537	Max Flow
L318	6.1968	0.0000	1.2767	0.9620	1.5000	102.9537	101.6653	Max Flow
L321	0.5084	0.0000	1.1070	0.2951	0.3909	119.2319	118.5578	Max Flow
L324	1.7090	0.0000	0.6972	0.5556	0.6319	123.0594	122.6995	Max Flow
L325	1.6252	0.0000	0.3553	0.5410	0.6113	121.7174	121.5521	Max Flow
L326	1.9616	0.0000	0.6864	0.5973	0.6946	120.5544	120.0876	Max Flow
L327	2.2136	0.0000	0.6824	0.6360	0.7690	120.6763	120.0876	Max Flow
L328	7.8187	0.0000	2.8329	1.0831	1.5000	120.0876	116.3485	Max Flow
L329	7.8187	0.0000	2.9285	1.0831	0.6393	116.3485	113.4200	Max Flow
L334	0.4265	0.0000	2.1293	0.2696	0.2878	125.6081	123.3977	Max Flow
L335	0.8586	0.0000	1.9033	0.3874	0.4174	123.3977	121.3926	Max Flow
L336	1.2917	0.0000	0.6739	0.4800	0.5278	121.3926	120.3681	Max Flow
L337	1.2917	0.0000	3.7507	0.4800	0.2780	120.3681	115.3400	Max Flow
L475	4.3583	0.0000	0.5780	0.8456	1.2500	93.1253	92.5469	Max Flow
L478	18.0903	0.0000	2.1503	1.4859	2.2500	91.5100	89.3552	Max Flow
L479	18.0903	0.0000	1.5203	1.4395	2.5000	89.3552	87.8334	Max Flow
L487	10.7713	0.0000	0.9974	1.2224	0.7903	98.4097	97.4200	Max Flow
L493	18.0903	0.0000	1.1955	1.4395	2.5000	87.8334	86.6415	Max Flow
L499	1.7090	0.0000	1.1470	0.5556	1.0000	122.6995	121.5521	Max Flow

L259	355.0000	5.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L260	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L261	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L262	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L263	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L272	0.0000	0.0000	0.0000	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	None
L273	0.0000	0.0000	0.0000	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	None
L274	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L275	2.0000	59.0000	0.0000	0.0000	0.0000	299.0000	0.0000	0.0000	0.0000	None
L277	2.0000	59.0000	0.0000	0.0000	0.0000	299.0000	0.0000	0.0000	0.0000	None
L281	53.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	307.0000	0.0000	None
L282	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L283	359.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L287	280.0000	80.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L289	273.0000	87.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L319	288.0000	72.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L320	1.0000	359.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L338	4.0000	356.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L339	9.0000	351.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L340	6.0000	354.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L341	81.0000	279.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L342	292.0000	68.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L343	287.0000	73.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L344	1.0000	61.0000	0.0000	0.0000	0.0000	298.0000	0.0000	0.0000	0.0000	None
L346	0.0000	55.0000	0.0000	0.0000	0.0000	305.0000	0.0000	0.0000	0.0000	None
L347	5.0000	53.0000	0.0000	0.0000	0.0000	302.0000	0.0000	0.0000	0.0000	None
L348	3.0000	58.0000	0.0000	0.0000	0.0000	299.0000	0.0000	0.0000	0.0000	None
L349	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L350	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L351	3.0000	357.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L352	27.0000	333.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L354	0.0000	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L361	295.0000	65.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L362	82.0000	278.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L363	10.0000	350.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L364	2.0000	358.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L365	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L366	1.0000	359.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L367	0.0000	359.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	None
L368	0.0000	359.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	None
L369	291.0000	68.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	None
L370	0.0000	359.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	None
L373	0.0000	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L374	3.0000	42.0000	2.0000	0.0000	0.0000	0.0000	0.0000	313.0000	0.0000	None
L375	84.0000	274.0000	2.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L376	6.0000	354.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L386	5.0000	355.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L387	2.0000	358.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L388	40.0000	254.0000	0.0000	0.0000	0.0000	66.0000	0.0000	0.0000	0.0000	None
L389	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L390	25.0000	335.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L391	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L392	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L393	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L395	0.0000	0.0000	10.0000	31.0000	0.0000	0.0000	310.0000	9.0000	0.0000	None
L396	0.0000	358.0000	2.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L397	0.0000	0.0000	10.0000	29.0000	0.0000	0.0000	309.0000	12.0000	0.0000	None
L398	0.0000	0.0000	12.0000	29.0000	0.0000	0.0000	294.0000	25.0000	0.0000	None
L399	21.0000	339.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L402	4.0000	79.0000	0.0000	0.0000	0.0000	277.0000	0.0000	0.0000	0.0000	None

L403	10.0000	71.0000	0.0000	0.0000	279.0000	0.0000	0.0000	0.0000	None
L404	29.0000	48.0000	0.0000	0.0000	283.0000	0.0000	0.0000	0.0000	None
L405	4.0000	73.0000	0.0000	0.0000	283.0000	0.0000	0.0000	0.0000	None
L406	9.0000	62.0000	0.0000	0.0000	289.0000	0.0000	0.0000	0.0000	None
L407	4.0000	67.0000	0.0000	0.0000	289.0000	0.0000	0.0000	0.0000	None
L408	9.0000	58.0000	0.0000	0.0000	293.0000	0.0000	0.0000	0.0000	None
L410	12.0000	52.0000	0.0000	0.0000	296.0000	0.0000	0.0000	0.0000	None
L411	7.0000	55.0000	0.0000	0.0000	298.0000	0.0000	0.0000	0.0000	None
L413	1.0000	91.0000	0.0000	0.0000	268.0000	0.0000	0.0000	0.0000	None
L415	292.0000	68.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L417	6.0000	71.0000	0.0000	0.0000	283.0000	0.0000	0.0000	0.0000	None
L418	0.0000	77.0000	0.0000	0.0000	283.0000	0.0000	0.0000	0.0000	None
L419	10.0000	64.0000	0.0000	0.0000	286.0000	0.0000	0.0000	0.0000	None
L420	12.0000	54.0000	0.0000	0.0000	294.0000	0.0000	0.0000	0.0000	None
L421	0.0000	66.0000	0.0000	0.0000	294.0000	0.0000	0.0000	0.0000	None
L422	1.0000	65.0000	0.0000	0.0000	294.0000	0.0000	0.0000	0.0000	None
L423	9.0000	54.0000	0.0000	0.0000	297.0000	0.0000	0.0000	0.0000	None
L424	18.0000	44.0000	0.0000	0.0000	298.0000	0.0000	0.0000	0.0000	None
L425	0.0000	63.0000	0.0000	0.0000	297.0000	0.0000	0.0000	0.0000	None
L426	1.0000	62.0000	0.0000	0.0000	297.0000	0.0000	0.0000	0.0000	None
L427	0.0000	66.0000	0.0000	0.0000	294.0000	0.0000	0.0000	0.0000	None
L428	3.0000	63.0000	0.0000	0.0000	294.0000	0.0000	0.0000	0.0000	None
L429	0.0000	73.0000	0.0000	0.0000	287.0000	0.0000	0.0000	0.0000	None
L430	2.0000	5.0000	31.0000	0.0000	315.0000	0.0000	7.0000	0.0000	None
L431	18.0000	36.0000	0.0000	0.0000	306.0000	0.0000	0.0000	0.0000	None
L432	15.0000	46.0000	0.0000	0.0000	299.0000	0.0000	0.0000	0.0000	None
L435	11.0000	45.0000	0.0000	0.0000	304.0000	0.0000	0.0000	0.0000	None
L436	27.0000	34.0000	0.0000	0.0000	267.0000	0.0000	32.0000	0.0000	None
L437	0.0000	59.0000	0.0000	0.0000	301.0000	0.0000	0.0000	0.0000	None
L438	2.0000	57.0000	0.0000	0.0000	301.0000	0.0000	0.0000	0.0000	None
L439	36.0000	60.0000	0.0000	0.0000	0.0000	0.0000	264.0000	0.0000	None
L440	28.0000	45.0000	0.0000	0.0000	287.0000	0.0000	0.0000	0.0000	None
L441	13.0000	347.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L442	358.0000	2.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L443	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L446	1.0000	57.0000	0.0000	0.0000	302.0000	0.0000	0.0000	0.0000	None
L448	0.0000	56.0000	0.0000	0.0000	304.0000	0.0000	0.0000	0.0000	None
L449	11.0000	50.0000	0.0000	0.0000	299.0000	0.0000	0.0000	0.0000	None
L450	222.0000	138.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L451	202.0000	158.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L452	2.0000	59.0000	0.0000	0.0000	299.0000	0.0000	0.0000	0.0000	None
L453	3.0000	58.0000	0.0000	0.0000	299.0000	0.0000	0.0000	0.0000	None
L454	3.0000	357.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L466	195.0000	165.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L468	10.0000	350.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L470	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L471	0.0000	23.0000	6.0000	0.0000	331.0000	0.0000	0.0000	0.0000	None
L472	0.0000	51.0000	0.0000	0.0000	309.0000	0.0000	0.0000	0.0000	None
L490	287.0000	73.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L496	4.0000	356.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L497	4.0000	356.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L498	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L501	9.0000	50.0000	0.0000	0.0000	301.0000	0.0000	0.0000	0.0000	None
L502	1.0000	54.0000	0.0000	0.0000	305.0000	0.0000	0.0000	0.0000	None
L503	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L504	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L505	24.0000	34.0000	0.0000	0.0000	302.0000	0.0000	0.0000	0.0000	None
L506	1.0000	40.0000	0.0000	0.0000	319.0000	0.0000	0.0000	0.0000	None
L509	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L511	4.0000	40.0000	0.0000	0.0000	0.0000	0.0000	316.0000	0.0000	None

L321	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L324	9.0000	39.0000	0.0000	0.0000	312.0000	0.0000	0.0000	0.0000	None
L325	1.0000	43.0000	0.0000	0.0000	316.0000	0.0000	0.0000	0.0000	None
L326	2.0000	38.0000	0.0000	0.0000	320.0000	0.0000	0.0000	0.0000	None
L327	2.0000	38.0000	0.0000	0.0000	320.0000	0.0000	0.0000	0.0000	None
L328	48.0000	0.0000	0.0000	0.0000	0.0000	0.0000	312.0000	0.0000	None
L329	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L334	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L335	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L336	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L337	0.0000	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L475	0.0000	58.0000	0.0000	0.0000	302.0000	0.0000	0.0000	0.0000	None
L478	10.0000	52.0000	0.0000	0.0000	298.0000	0.0000	0.0000	0.0000	None
L479	11.0000	53.0000	0.0000	0.0000	296.0000	0.0000	0.0000	0.0000	None
L487	0.0000	0.0000	0.0000	0.0000	0.0000	360.0000	0.0000	0.0000	None
L493	0.0000	70.0000	0.0000	0.0000	290.0000	0.0000	0.0000	0.0000	None
L499	8.0000	36.0000	0.0000	0.0000	316.0000	0.0000	0.0000	0.0000	None
L500	5.0000	35.0000	0.0000	0.0000	320.0000	0.0000	0.0000	0.0000	None
L507	1.0000	50.0000	0.0000	0.0000	284.0000	0.0000	25.0000	0.0000	None
L513	0.0000	360.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	None
L546	15.0000	38.0000	1.0000	0.0000	306.0000	0.0000	0.0000	0.0000	None
L510	0.0000	0.0000	360.0000	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
L210	0.0000	0.0000	0.0000	0.0000
L211	0.0000	0.0000	0.9833	0.0000
L212	0.5000	303.9333	2.9333	0.0000
L213	0.0000	17.6000	0.0000	0.0000
L214	0.1935	37.9009	0.0000	0.0000
L217	0.0000	0.0000	0.7500	0.0000
L220	0.0000	0.2500	1.0500	0.0000
L221	0.0000	0.2500	1.3667	0.0000
L222	57.0694	359.7500	346.4833	0.0000
L223	0.0000	0.0000	4.0093	0.0000
L224	0.0000	0.0000	0.0000	0.0000
L225	6.8237	302.6667	5.0741	0.0000
L226	34.4109	360.0000	3.4167	0.0000
L227	0.0333	302.8333	3.6667	0.0000
L228	0.0000	2.5167	2.5167	0.0000
L229	0.0000	0.2500	1.6333	0.0000
L230	0.0000	0.0000	0.0000	0.0000
L231	0.0000	0.0000	0.2500	0.0000
L232	0.0000	0.5000	1.4500	0.0000
L233	0.0000	10.4129	0.2963	0.0000
L234	4.6444	356.6296	0.0000	0.0000
L235	0.0000	346.0370	6.4444	0.0000
L236	0.0000	0.0000	0.0000	0.0000
L237	0.0000	0.0000	0.0000	0.0000
L238	0.0000	0.0000	0.0000	0.0000
L239	0.0000	0.0000	0.5000	0.0000
L240	0.0000	0.0000	0.7500	0.0000
L241	0.0000	0.5000	1.9167	0.0000
L242	0.0000	0.0000	0.0000	0.0000

L243	0.0000	0.0000	0.0000	0.0000
L246	0.2500	38.8043	0.0000	0.0000
L247	0.0000	32.3218	0.0000	0.0000
L248	0.0000	357.7481	0.0000	0.0000
L249	0.0000	0.0000	0.2500	0.0000
L250	58.1290	360.0000	355.1481	0.0000
L251	0.0000	0.0000	0.5000	0.0000
L259	0.6000	1.0778	0.0000	0.0000
L260	359.7500	359.7500	349.1870	0.0000
L261	0.0000	0.0000	0.5000	0.0000
L262	360.0000	360.0000	354.6296	0.0000
L263	0.0000	0.0000	0.7500	0.0000
L272	0.2500	322.3781	0.0000	0.0000
L273	0.0667	44.1287	0.0000	0.0000
L274	43.7845	359.7500	356.8000	0.0000
L275	16.2585	357.0667	0.5000	0.0000
L277	19.2381	357.0833	1.0000	0.0000
L281	0.0000	0.0000	352.3241	0.0000
L282	360.0000	360.0000	357.2167	0.0000
L283	0.0000	0.0000	0.5000	0.0000
L287	0.0000	0.0000	0.0000	0.0000
L289	0.0000	0.0000	0.0000	0.0000
L319	0.0000	0.0000	0.8833	0.0000
L320	0.0000	320.7586	0.0000	0.0000
L338	0.0000	0.0000	1.6667	0.0000
L339	0.0000	0.0000	0.5000	0.0000
L340	0.0000	0.0000	2.0500	0.0000
L341	0.0000	0.0000	2.0167	0.0000
L342	0.0000	0.0000	0.0000	0.0000
L343	0.0000	0.0000	0.0000	0.0000
L344	0.0667	304.6667	0.0000	0.0000
L346	0.0370	350.7037	0.0000	0.0000
L347	0.0000	21.2407	0.0000	0.0000
L348	0.0000	26.6520	2.6000	0.0000
L349	0.7500	29.4705	1.6833	0.0000
L350	0.0833	28.9914	1.4500	0.0000
L351	0.0000	304.1667	1.5667	0.0000
L352	0.0000	305.9333	0.5000	0.0000
L354	0.0000	350.0000	0.0000	0.0000
L361	0.0000	0.0000	0.0000	0.0000
L362	0.0000	0.0000	0.0000	0.0000
L363	0.0000	310.4667	1.4333	0.0000
L364	0.0000	0.0000	0.0000	0.0000
L365	0.0000	302.3667	0.0000	0.0000
L366	5.2519	358.7667	1.1167	0.0000
L367	0.5333	357.1667	0.2500	0.0000
L368	13.1796	37.7862	0.0000	0.0000
L369	2.7593	19.0405	0.0000	0.0000
L370	0.0000	355.7481	0.0000	0.0000
L373	0.0000	355.7333	0.0000	0.0000
L374	0.0000	0.0000	0.0000	0.0000
L375	0.0000	0.0000	0.4167	0.0000
L376	0.5926	347.2963	0.0000	0.0000
L386	0.0000	348.7407	2.9167	0.0000
L387	0.4815	347.3333	4.3056	0.0000
L388	0.0000	0.0000	0.0000	0.0000
L389	0.0167	348.1907	0.5000	0.0000
L390	0.0000	0.0000	0.0000	0.0000
L391	1.7833	349.0481	0.2500	0.0000
L392	0.0000	48.4976	0.0000	0.0000

L393	0.0000	48.1589	0.0000	0.0000
L395	10.6111	359.5000	0.5500	0.0000
L396	0.2000	357.4667	0.0000	0.0000
L397	10.5333	359.5000	0.7500	0.0000
L398	8.4037	358.8167	1.7500	0.0000
L399	0.0000	317.3793	3.7685	0.0000
L402	0.0323	298.2581	1.8500	0.0000
L403	0.0323	287.4839	3.7315	0.0000
L404	0.0323	289.5161	2.2333	0.0000
L405	0.0323	289.9032	0.0000	0.0000
L406	0.0000	308.1833	1.5667	0.0000
L407	0.0968	3.8710	0.0000	0.0000
L408	0.0000	314.1000	1.8667	0.0000
L410	0.0000	326.3103	6.3704	0.0000
L411	0.0000	332.8214	8.6389	0.0000
L413	39.9019	353.5296	0.5000	0.0000
L415	0.0000	0.0000	0.0000	0.0000
L417	0.0000	0.0000	0.0000	0.0000
L418	0.0323	286.8387	0.0000	0.0000
L419	0.0000	308.2859	3.8704	0.0000
L420	0.0000	304.9667	2.3833	0.0000
L421	0.0323	298.1290	0.0000	0.0000
L422	0.0968	7.0968	0.0000	0.0000
L423	0.0000	316.7069	1.6333	0.0000
L424	0.0000	34.0398	1.6500	0.0000
L425	0.0000	305.2000	0.5000	0.0000
L426	0.5161	0.6774	0.0000	0.0000
L427	0.0000	12.0000	0.2500	0.0000
L428	0.0000	306.4333	0.5000	0.0000
L429	4.8889	19.8190	0.2500	0.0000
L430	10.8267	351.1852	5.2685	0.0000
L431	17.8429	328.5357	1.8000	0.0000
L432	0.0000	306.5929	4.2593	0.0000
L435	0.0000	27.1548	3.5000	0.0000
L436	0.0000	0.5000	1.2333	0.0000
L437	30.6500	356.5833	0.9333	0.0000
L438	0.0000	332.9643	0.5000	0.0000
L439	0.0000	0.5000	1.9833	0.0000
L440	0.0000	303.5667	5.1019	0.0000
L441	0.0000	0.0000	2.5000	0.0000
L442	0.0000	0.0000	316.8426	0.0000
L443	359.7500	359.7500	338.4643	0.0000
L446	0.0656	2.1559	0.0000	0.0000
L448	0.0000	325.2069	0.7500	0.0000
L449	0.0000	0.5000	2.0167	0.0000
L450	0.0000	0.5000	1.5500	0.0000
L451	0.0000	0.0000	2.4667	0.0000
L452	0.0000	319.2759	0.5000	0.0000
L453	0.0000	322.6552	0.5000	0.0000
L454	0.0000	320.3103	1.0000	0.0000
L466	0.0000	0.0000	0.0000	0.0000
L468	0.0000	297.9032	4.7963	0.0000
L470	0.0000	0.0000	6.3519	0.0000
L471	353.1852	353.1852	0.0000	0.0000
L472	0.1034	0.1034	0.0000	0.0000
L490	0.0000	0.0000	0.0000	0.0000
L496	354.0741	354.4444	2.7500	0.0000
L497	354.1111	354.4074	3.0000	0.0000
L498	0.0000	0.0000	0.2500	0.0000
L501	0.0000	328.0357	0.9667	0.0000

L502	2.7667	354.8370	3.0000	0.0000
L503	0.0000	29.1568	0.0000	0.0000
L504	0.0000	29.7957	0.0000	0.0000
L505	0.0000	0.5000	1.5167	0.0000
L506	5.6796	42.1016	1.2833	0.0000
L509	56.9833	359.7500	356.3889	0.0000
L511	0.0000	0.0000	0.0000	0.0000
L512	359.7500	359.7500	355.4722	0.0000
L514	0.0000	47.0227	0.2500	0.0000
L515	0.0000	343.9444	4.2315	0.0000
CH21	68.9194	359.5000	0.0000	0.0000
L474	0.3448	0.3448	0.0000	0.0000
L523	0.0000	0.2500	0.5000	0.0000
L525	0.0000	323.9735	0.1833	0.0000
L527	11.8743	352.7407	1.8333	0.0000
L528	0.0000	0.2500	1.3833	0.0000
L529	0.0000	0.0000	2.8500	0.0000
L533	29.0444	342.6296	6.8333	0.0000
L537	0.0000	0.0000	1.3037	0.0000
L394	0.0000	47.4767	0.0000	0.0000
L276	0.0000	0.2500	0.7500	0.0000
L288	41.8621	360.0000	354.1852	0.0000
L412	0.0000	0.0000	352.8889	0.0000
L447	29.6335	349.3333	0.0000	0.0000
L252	343.2963	343.4444	3.9352	0.0000
L253	0.0000	302.7442	3.9444	0.0000
L254	20.6162	322.9655	1.3667	0.0000
L255	0.0000	0.0000	0.0000	0.0000
L256	0.0000	349.6296	3.9000	0.0000
L257	0.0000	0.2500	2.2833	0.0000
L264	0.0000	0.0000	0.0000	0.0000
L265	0.7833	354.3704	0.8833	0.0000
L266	0.3500	65.3643	1.0000	0.0000
L267	0.1290	297.2581	1.0000	0.0000
L268	0.0000	44.0148	2.4500	0.0000
L269	0.0000	0.0000	0.5000	0.0000
L270	0.2500	41.6630	0.2500	0.0000
L271	0.0000	353.2593	0.0000	0.0000
L278	0.0000	356.0333	1.6167	0.0000
L279	0.0000	0.2500	0.7167	0.0000
L280	0.0000	356.0333	1.8667	0.0000
L284	0.2833	357.9667	0.0000	0.0000
L285	0.0000	347.4815	0.0000	0.0000
L286	0.0000	346.1111	0.0000	0.0000
L290	354.4074	354.4074	0.0000	0.0000
L291	359.2500	359.7500	0.0000	0.0000
L292	3.1833	359.7500	0.0000	0.0000
L294	0.0000	307.5000	0.2500	0.0000
L300	0.0000	305.6667	1.2667	0.0000
L301	0.0000	304.3000	0.0000	0.0000
L302	2.1833	349.1870	0.2500	0.0000
L303	0.0000	305.4333	0.5000	0.0000
L304	0.1613	1.4839	0.0000	0.0000
L305	0.0000	353.2963	0.0000	0.0000
L306	0.2500	358.1833	0.0000	0.0000
L307	0.0000	358.2963	0.0000	0.0000
L308	0.0000	358.0074	0.0000	0.0000
L309	0.0000	357.9019	0.0000	0.0000
L310	0.0000	304.5000	2.4167	0.0000
L311	43.4444	350.1111	0.9000	0.0000

L312	0.0000	350.6296	4.8148	0.0000
L313	0.0000	0.2500	1.8167	0.0000
L314	0.0000	322.2759	0.7500	0.0000
L315	0.0000	317.0862	3.3667	0.0000
L316	14.6830	317.2069	1.3000	0.0000
L317	0.0000	1.1667	5.1111	0.0000
L318	10.5093	60.4435	0.2667	0.0000
L321	70.9570	352.9630	4.1481	0.0000
L324	5.7474	348.7778	4.4815	0.0000
L325	0.0000	337.2857	0.0000	0.0000
L326	0.0000	339.6786	0.0000	0.0000
L327	0.0000	338.3571	0.0000	0.0000
L328	0.0000	0.0000	2.5000	0.0000
L329	31.1429	359.7500	349.2222	0.0000
L334	355.9630	359.7500	0.0000	0.0000
L335	357.0000	359.7500	0.0000	0.0000
L336	0.0000	0.0000	3.0167	0.0000
L337	359.7500	359.7500	344.7037	0.0000
L475	0.0000	0.0000	0.0000	0.0000
L478	0.0000	0.0000	0.0000	0.0000
L479	0.0000	0.0000	5.4907	0.0000
L487	0.0000	358.2056	0.0000	0.0000
L493	7.0000	8.3333	0.0370	0.0000
L499	0.0000	27.7673	1.6000	0.0000
L500	0.0000	36.0407	1.2833	0.0000
L507	0.0000	0.0000	0.0000	0.0000
L513	0.6296	5.9630	3.7500	0.0000
L546	28.4833	333.2857	0.8000	0.0000
L510	25.7143	359.7500	356.3148	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.

Conduit Maximum Elevation (ft)	Name	Maximum Flow (cfs)	Total Flow (ft^3)	Maximum Velocity (ft/s)	Maximum Volume (ft^3)	##	Junction Name	Invert Elevation (ft)
107.6026	L210	2.8911	57161.4515	3.7442	56.6758	##	N221	105.8400
106.9939	L211	3.1354	61547.4330	4.0313	92.9610	##	N222	104.4400
102.1159	L212	3.2978	64190.1773	3.3045	521.4422	##	N223	100.8100
100.2909	L213	2.4916	49166.0079	3.2326	86.7910	##	N224	96.9700
100.9720	L214	5.3716	106136.6995	3.0197	172.0499	##	N227	98.3400
100.6100	L217	0.9501	18775.2717	2.8265	22.0944	##	N228	97.5300

98.1694	L220	11.2776	221042.5723	4.6465	795.1415	##	N230	95.8300
100.2872	L221	13.2165	257683.2569	4.1620	1071.2640	##	N231	99.8400
95.2520	L222	13.3950	261089.7470	9.3807	186.3000	##	N233	94.4200
90.4700	L223	0.2305	4547.3993	1.4362	9.8486	##	N234	85.6000
119.8642	L224	0.2305	4485.8552	1.3309	10.9512	##	N235	119.6000
118.8903	L225	0.2305	4406.4720	1.3999	161.7749	##	N236	118.6100
117.6596	L226	0.9294	18089.1195	1.8893	319.3934	##	N237	117.2600
117.5825	L227	1.5845	30752.9556	2.2885	192.5825	##	N238	115.1100
118.5578	L228	2.4888	47890.2984	3.2325	176.8815	##	N239	117.6900
118.1994	L229	2.9466	56175.9895	2.5939	247.7024	##	N240	116.6200
112.5184	L230	3.4595	65684.5379	2.9207	383.3851	##	N241	111.3600
110.4305	L231	3.8015	71794.3187	3.0729	505.4724	##	N242	108.6300
108.4480	L232	6.0390	115218.3207	3.4001	562.5537	##	N243	105.8600
106.6365	L233	6.3287	120070.0643	3.5542	859.2245	##	N244	103.8500
105.2963	L234	9.4131	180097.1792	2.9823	1361.9430	##	N245	101.6800
103.0130	L235	0.4478	8830.3848	1.0916	41.1676	##	N246	99.5300
102.0312	L236	2.1260	41980.0003	2.6924	85.6260	##	N247	97.8700
112.5280	L237	3.0865	60885.7191	3.8943	80.9914	##	N248	111.4800
107.1256	L238	3.6943	73067.7059	4.7555	41.1048	##	N249	104.6200
103.9881	L239	4.0636	80236.4855	5.1858	93.2085	##	N250	101.1400
116.6527	L240	1.2377	24462.0607	3.0137	31.3633	##	N251	115.3800
115.2810	L241	5.3649	105452.0217	4.4351	240.5992	##	N252	113.0600
110.4633	L242	1.8517	36615.6339	3.3991	31.7247	##	N253	108.0800
113.3534	L243	2.4831	49084.3607	3.6078	60.0089	##	N254	112.8300
106.8092	L246	24.3602	470902.4073	4.9227	2113.5340	##	N255	102.8000
108.0734	L247	28.8013	557382.7692	5.6428	462.0253	##	N256	107.4100
108.4472	L248	1.9855	39208.0774	2.5223	38.3297	##	N257	107.6100
100.1167	L249	1.5796	31239.9913	3.2797	25.5028	##	N259	97.1600
99.5500	L250	3.0003	59321.4914	9.1561	20.1806	##	N260	97.0000
100.3093	L251	1.3050	25806.9292	3.0865	23.3263	##	N261	98.9300

105.4930	L259	6.8581	134049.1647	3.7886	187.9927	##	N262	104.8800
104.8418	L260	7.0527	137856.6330	10.3186	40.5794	##	N263	104.4600
99.5400	L261	0.9792	19354.4456	2.6864	12.8399	##	N264	96.6400
105.4066	L262	2.3040	45541.1712	9.6318	21.8116	##	N265	104.8600
97.6771	L263	1.1997	23719.0677	2.8987	14.1156	##	N272	96.3500
97.6800	L272	-182.0896	725472.3970	-3.0701	542.5826	##	N273	97.6800
96.0308	L273	-20.2978	187010.0053	3.8734	286.4577	##	N274	95.5800
90.4800	L274	8.5583	169389.9117	11.9728	98.1242	##	N275	87.6000
94.7428	L275	1.5051	29759.5057	2.6242	73.4280	##	N276	94.2500
93.7152	L277	1.5120	29894.0388	2.6674	79.5612	##	N277	93.4400
83.9100	L281	3.4219	67666.9294	4.6251	35.3664	##	N278	78.0000
94.6677	L282	5.0178	99209.5831	14.7920	8.0822	##	N279	94.1200
86.4925	L283	1.4971	29601.4364	3.1057	26.2910	##	N288	77.0300
83.9000	L287	1.8249	36059.8257	3.3193	50.1690	##	N289	77.0000
86.7858	L289	2.2642	44736.6059	3.4711	66.0334	##	N290	78.1000
92.4740	L319	8.1961	159824.5371	4.7905	101.9994	##	N291	91.9200
83.9000	L320	1.8863	37169.8300	3.0353	47.9324	##	N292	76.6000
119.6123	L338	21.2501	420503.8412	3.9155	452.9297	##	N293	118.9200
119.3170	L339	21.2501	419229.8037	4.0471	1290.7590	##	N294	118.3000
119.6597	L340	30.1672	594318.8740	4.4311	1553.9508	##	N296	118.9800
124.8193	L341	30.1672	592971.3158	5.2785	537.4167	##	N301	122.9000
122.6751	L342	4.5877	90718.7801	4.0620	80.2604	##	N302	122.2800
113.4200	L343	2.6326	52040.9298	3.6540	61.8189	##	N303	110.6000
123.5620	L344	12.3310	243919.2739	4.0916	262.4070	##	N304	122.9500
113.8197	L346	25.6091	506537.9697	2.6568	504.2764	##	N309	113.1500
112.6673	L347	56.3352	1104093.602	4.4572	5203.3213	##	N310	112.2600
114.0002	L348	56.3335	1098525.791	4.3072	5279.8845	##	N312	113.2100
101.6653	L349	56.3333	1093090.891	4.3284	5118.8131	##	N342	100.2200
101.1083	L350	56.3333	1089775.684	4.5031	1642.3414	##	N343	100.0000
101.8986	L351	8.2540	163359.1993	3.3587	99.4964	##	N344	101.1100

119.2319	L352	8.2540	162952.8856	3.3889	430.4495	##	N345	118.8300
128.4056	L354	-98.8503	1413454.090	5.6499	1322.5082	##	N361	126.2400
128.2437	L361	2.3118	45725.2893	3.6734	27.6898	##	N362	126.1300
127.6447	L362	2.1598	42707.9272	3.5287	37.6123	##	N363	125.2800
127.0548	L363	4.5228	88980.3517	3.2801	527.6489	##	N364	125.0100
122.5700	L364	2.6499	52414.6975	3.8459	31.7015	##	N365	117.4000
128.9836	L365	1.6367	32365.6039	3.2166	36.1454	##	N366	127.8700
129.2163	L366	9.8099	192829.2431	3.4015	1137.9485	##	N367	128.3300
127.1958	L367	9.8099	191783.3002	3.3946	1052.3772	##	N368	124.2600
127.1391	L368	2.2788	45061.1313	3.4486	79.6120	##	N369	123.6700
126.8932	L369	3.4945	69098.5972	4.5022	72.2000	##	N370	121.7000
126.9363	L370	-23.1711	374519.9089	-3.6437	1458.8795	##	N371	122.2600
126.0985	L373	-32.7200	373593.6519	-3.6394	694.3127	##	N372	121.3400
125.3411	L374	3.3515	66146.6994	4.3063	116.6647	##	N373	120.9700
124.5626	L375	3.3513	65484.5384	2.2806	603.3538	##	N374	120.6000
124.2984	L376	14.2708	189729.3596	2.6421	884.7539	##	N375	119.9800
124.5869	L386	36.6159	620012.7574	3.0292	4136.6531	##	N376	122.9000
124.5302	L387	36.6031	615504.0251	3.0015	4343.8201	##	N377	122.8200
122.6545	L388	2.2296	44020.4163	2.8878	90.3608	##	N378	119.2700
122.5800	L389	50.3153	880377.7452	3.2226	6017.0175	##	N379	118.4000
125.8482	L390	1.6079	31754.8863	2.8204	72.8176	##	N381	124.7600
124.5904	L391	55.1620	969253.7669	3.5284	7772.3705	##	N382	122.8600
126.2887	L392	65.3549	1163087.258	4.2286	5799.2640	##	N383	125.5300
126.3795	L393	65.3488	1156300.260	-4.9060	6727.2029	##	N384	125.6400
124.9847	L395	4.2403	83898.5673	3.4419	62.0245	##	N386	124.1400
124.8733	L396	8.3479	162498.5611	1.9353	2624.9569	##	N387	124.2300
123.6822	L397	4.5806	90632.1107	3.7176	70.7079	##	N388	121.9500
123.1444	L398	4.3232	85546.9461	3.6417	59.4044	##	N389	120.1100
123.6213	L399	4.0369	78741.8793	2.6079	809.6569	##	N390	122.8300
124.1512	L402	7.1190	140803.3903	3.4621	216.2409	##	N391	122.6900

122.8575	L403	7.1192	140146.0218	3.4260	997.1274	##	N392	119.8300
122.5800	L404	7.1286	138853.7340	3.5493	924.1414	##	N394	118.4000
120.8368	L405	4.8562	95965.0352	3.8609	131.3126	##	N395	118.1100
118.9739	L406	11.9729	233321.9749	3.1921	1863.5359	##	N396	117.6800
118.4019	L407	3.8258	75618.2309	3.8229	91.3394	##	N397	115.8100
118.6604	L408	15.7980	306548.1739	3.1695	2280.7554	##	N398	116.3100
118.2820	L410	20.1364	387269.8478	2.9547	2924.8980	##	N399	114.6000
118.0270	L411	20.1364	384450.2544	2.8412	2230.4028	##	N403	114.3000
117.7614	L413	2.2679	44627.7467	2.5782	660.3298	##	N404	113.4800
118.3319	L415	2.2703	44904.0477	3.7552	28.0842	##	N405	117.0000
117.4697	L417	2.8494	56333.1911	3.8175	55.1808	##	N406	113.1700
117.7713	L418	5.1688	102192.5943	3.8865	132.9652	##	N407	117.0000
117.0117	L419	8.0182	158010.8739	3.3526	847.4604	##	N408	112.7800
116.5129	L420	8.0182	156597.9066	3.2859	1298.1061	##	N409	112.4800
115.8734	L421	1.6633	32819.5013	3.2980	54.7215	##	N410	112.1200
118.9902	L422	3.8019	75150.9533	3.8116	97.7455	##	N412	116.3000
118.7087	L423	13.6466	265968.9694	3.1599	2035.8874	##	N413	115.3300
118.7853	L424	18.5464	360422.0566	3.2140	1861.1306	##	N414	115.8300
119.0832	L425	0.9317	18381.7203	2.7609	55.4366	##	N415	116.3300
119.0675	L426	3.9681	78443.6115	3.7880	93.8612	##	N416	116.8300
118.9368	L427	40.5902	778070.9819	4.1993	4899.3234	##	N417	117.5700
120.8207	L428	0.9393	18530.4753	2.7409	69.4540	##	N418	119.9000
113.4701	L429	42.4776	810732.7963	4.2977	3938.7453	##	N419	110.9100
114.7633	L430	2.4485	48407.3076	3.2889	72.3267	##	N420	112.2400
114.5335	L431	2.2782	44734.3820	3.2432	277.7449	##	N421	112.0000
112.4791	L432	2.2777	45027.0759	3.3819	74.4880	##	N422	109.1300
112.6795	L435	2.8738	56790.8750	3.6388	73.2165	##	N423	110.3700
112.0680	L436	2.8765	56418.1346	3.7239	150.8933	##	N424	108.2600
112.3959	L437	2.8725	56186.2781	2.9465	407.0035	##	N425	110.0600
111.6343	L438	1.6723	33007.4557	2.7953	69.7827	##	N426	107.4500

111.1574	L439	4.5571	88650.9431	3.7816	316.0481	##	N428	106.9200
110.7941	L440	4.5523	88037.7328	3.2628	701.4473	##	N429	106.0200
119.6069	L441	48.9390	932257.6671	4.9424	3827.9167	##	N430	119.0000
118.8248	L442	48.9390	928410.6340	5.9435	2384.5663	##	N431	116.6700
119.1140	L443	48.9390	927813.9547	16.4665	367.3159	##	N432	118.0700
119.5280	L446	5.9168	117023.6196	3.5391	112.8537	##	N434	118.8000
112.9610	L448	0.9708	19155.8303	2.4582	62.5615	##	N435	110.1800
113.5338	L449	9.5085	185537.4852	3.9304	1120.3934	##	N436	111.5700
113.1916	L450	13.3913	260417.8449	4.2601	1084.2233	##	N437	110.9200
112.5301	L451	14.7194	286370.0435	5.0912	236.5739	##	N438	109.5800
111.8621	L452	1.2925	25546.7435	2.7686	40.5570	##	N439	108.1500
112.0562	L453	0.9323	18412.6595	2.4657	48.6381	##	N440	110.0500
112.2083	L454	0.6806	13413.6014	2.3129	34.8690	##	N441	109.7300
111.2807	L466	4.0513	80103.2270	4.2367	81.5989	##	N442	107.2200
111.3435	L468	4.0497	79682.7540	2.7409	962.7297	##	N443	109.3800
111.6425	L470	9.4830	187447.7132	4.3099	316.9864	##	N444	109.0300
109.7503	L471	0.3817	7504.1747	1.7178	122.7373	##	N445	105.4800
109.8312	L472	4.4591	88215.0856	5.6523	41.8186	##	N446	108.4900
108.8835	L490	6.7177	132728.2443	3.5464	198.5522	##	N447	105.0500
120.8468	L496	0.6064	11949.3720	2.3568	27.6784	##	N448	118.7700
120.2831	L497	0.5989	11801.3371	2.3448	27.5982	##	N449	117.9900
122.5957	L498	1.2053	23700.7269	3.0139	34.8508	##	N450	120.7400
123.0855	L501	12.3313	242064.5055	2.6186	2774.4659	##	N451	121.2700
115.6961	L502	12.3327	238496.6080	1.2630	4266.1785	##	N453	113.7600
116.4642	L503	73.4486	1423564.560	4.7117	6637.6776	##	N454	114.2900
113.0201	L504	73.4486	1416613.125	5.0655	6372.0477	##	N455	111.6800
112.1895	L505	10.6006	207774.8091	4.3761	979.2098	##	N456	110.2600
112.4454	L506	10.9036	212983.6938	4.4890	999.7635	##	N457	111.0200
109.7789	L509	2.9906	59194.3379	9.6184	39.6627	##	N458	108.3900
107.6629	L511	11.0411	218037.2092	6.2594	300.5165	##	N459	104.6100

105.0976	L512	17.9049	353737.6307	16.1185	129.6650	##	N460	104.1100
99.5700	L514	8.0432	157867.5233	3.3254	1004.0820	##	N461	94.1000
128.1440	L515	17.6809	255560.9016	2.7186	952.1482	##	N464	125.0900
129.7527	CH21	13.5663	235765.6966	0.3274	148939.8416	##	N465	126.6500
129.4984	L474	9.4830	185798.9430	5.3470	229.7956	##	N466	126.1900
128.2210	L523	9.4830	185966.4079	1.2146	628.1273	##	N467	126.3000
126.0007	L525	17.1558	333435.1195	3.2208	3811.0579	##	N468	123.5900
120.4426	L527	4.5202	88433.9731	2.9029	778.7412	##	N469	118.6600
118.6802	L528	4.7290	92367.8752	3.9306	256.2389	##	N470	117.7100
126.0884	L529	4.3384	85574.7870	2.7073	522.1977	##	N471	124.8800
126.0559	L533	4.3384	84675.4858	3.1793	1301.3440	##	N472	124.9400
120.5302	L537	4.3384	83590.7200	2.5325	834.8186	##	N473	120.0700
119.5917	L394	-91.5670	1151869.231	-6.0689	2191.0627	##	N487	118.5700
120.8720	L276	3.1458	62079.6509	4.0495	36.4563	##	N489	118.4300
123.4952	L288	4.1590	82170.3924	9.5092	39.5134	##	N490	121.9000
125.0264	L412	2.2439	44381.1703	4.5004	26.4187	##	N491	124.1700
128.1178	L447	2.1264	41732.1001	2.3674	700.8605	##	N492	126.3400
127.0400	L252	0.1128	2206.3141	0.9049	85.8941	##	N493	126.0400
108.2106	L253	1.7368	34359.8104	3.2857	37.9505	##	N497	107.8500
97.6400	L254	1.7367	34162.5323	3.0967	137.7121	##	N499	91.2000
112.4401	L255	3.9589	78286.4446	3.6617	91.5407	##	N509	108.8800
111.3361	L256	4.7298	93275.9875	3.0290	521.6686	##	N513	110.0100
108.7565	L257	6.6737	130731.2899	3.7242	446.0535	##	N514	108.1100
97.4200	L264	3.7883	74897.1253	3.7909	81.8354	##	N516	90.0000
133.7961	L265	22.4326	428566.9995	3.3432	2330.9127	##	N524	133.4500
131.6772	L266	23.3527	444880.0657	3.4737	1354.8427	##	N525	131.1700
133.8039	L267	0.8605	16939.2774	2.7722	30.4568	##	N526	133.4600
131.1070	L268	2.6552	52516.8672	3.3671	64.9970	##	N527	130.6000
126.9767	L269	2.9244	57555.7698	3.7936	87.7935	##	N528	122.6600
123.5594	L270	27.4526	523538.1401	4.1521	2528.5760	##	N529	119.6400

104.4871	L271	-41.2525	521283.9916	-4.0704	3856.5312	##	N530	99.7100
119.5000	L278	1.5645	30937.5440	2.1797	39.0396	##	N689	118.0000
122.3558	L279	3.2534	64113.6597	4.1995	95.2880	##	N494	121.4100
114.2861	L280	1.5684	31013.9763	2.1961	40.6264	##	N541	112.0900
114.9266	L284	5.2952	31061.9727	3.5155	41.5114	##	EL329	112.5200
112.6510	L285	-9.4447	58755.2098	1.7409	250.4349	##	N427	109.6400
115.6300	L286	-8.3238	25337.9129	-6.6747	62.4999	##	N411	112.0000
110.7200	L290	0.1735	3409.5749	1.5990	7.2536	##	N295	106.9300
108.8300	L291	0.4448	8733.1282	2.1672	18.2453	##	N311	104.1000
129.7121	L292	1.1514	22702.3420	3.1517	79.1545	##	N462	127.7800
100.5085	L294	1.4167	27680.1106	3.0311	65.4510	##	N266	100.3600
99.1962	L300	5.3497	104878.9008	3.3967	425.5414	##	N267	97.5500
101.3827	L301	1.8664	36872.3005	3.2948	44.7013	##	N268	100.7400
100.9914	L302	11.8253	231446.7827	2.9527	2233.8672	##	N269	100.3300
100.2654	L303	0.8511	16770.6244	2.6776	66.1218	##	N270	99.1400
99.9146	L304	2.4625	48653.4038	3.6540	55.9491	##	N271	98.5500
86.3426	L305	3.3133	65202.6056	2.6256	257.3444	##	N280	85.3300
85.9466	L306	8.4173	55924.7250	-5.4367	46.4972	##	N281	83.2400
85.4870	L307	15.6979	60673.7582	4.7927	301.4343	##	N282	82.7700
85.1953	L308	-7.2173	63165.6118	1.7891	181.0875	##	N283	82.5000
85.6207	L309	-3.8522	53231.0351	3.3642	46.5497	##	N284	85.1400
96.5563	L310	1.6006	31639.5510	3.1818	49.2560	##	N285	94.9100
95.9765	L311	1.6006	31448.2722	2.9157	318.4497	##	N286	94.4500
84.5536	L312	1.2821	25317.3836	2.2026	48.7149	##	N287	78.4600
114.7104	L313	2.9996	58453.6915	3.7630	211.6171	##	N297	113.2400
114.5881	L314	1.2826	25328.2983	2.7220	72.6318	##	N298	112.9600
110.1000	L315	1.6227	32102.1482	3.2505	41.1562	##	N299	107.3200
114.7162	L316	1.6227	31930.4931	3.0816	197.6990	##	N300	113.2500
109.8271	L317	6.1968	121078.7928	3.4826	552.2805	##	N305	105.5200
109.8701	L318	6.1968	120561.1026	3.3653	546.7480	##	N306	104.7200

108.6400	L321	0.5084	9988.8997	1.6784	165.3585	##	N307	104.2500
108.8307	L324	1.7090	33741.3979	2.8510	97.8008	##	N308	105.1900
104.1135	L325	1.6252	32095.1948	2.5529	49.6594	##	N313	103.9300
102.0841	L326	1.9616	38736.7000	2.6637	94.9009	##	N314	101.7900
100.0331	L327	2.2136	43721.5692	2.7795	94.1034	##	N315	99.6100
99.5700	L328	7.8187	152867.1773	4.6336	439.7930	##	N316	94.1000
93.1253	L329	7.8187	152743.3977	8.6552	82.2008	##	N317	89.1700
92.5469	L334	0.4265	8398.2248	2.1349	17.6904	##	N318	87.7400
92.7112	L335	0.8586	16876.6106	2.6318	37.8961	##	N319	89.4700
93.3343	L336	1.2917	25399.9961	2.9603	14.7868	##	N320	89.2800
93.5326	L337	1.2917	25388.6210	5.3853	27.2701	##	N321	90.1100
93.5200	L475	4.3583	86117.3353	3.7516	125.4573	##	N325	89.7700
93.5815	L478	18.0903	351932.5168	4.5182	1972.8698	##	N326	90.7500
93.9402	L479	18.0903	349137.6726	3.6729	3002.1404	##	N327	90.6600
98.2247	L487	10.7816	213175.7266	4.4566	402.8897	##	N328	93.4400
102.1974	L493	18.0903	346487.2061	3.6640	2354.6528	##	N329	94.0000
101.4295	L499	1.7090	33435.3888	2.1320	312.3738	##	N330	93.4400
97.6400	L500	3.4454	67276.2695	2.7647	499.9224	##	N331	92.7000
98.4808	L507	3.7981	75014.8480	4.8594	119.1612	##	N332	94.0000
110.9382	L513	18.2190	347131.1065	3.6224	1328.2095	##	N333	108.8700
110.7767	L546	3.7980	74412.9564	3.5451	1034.9015	##	N334	108.5100
109.7243	L510	5.1187	101306.2371	9.2106	81.5827	##	N335	106.1800
109.8263	FREE # 1	13.3950	261079.2979	0.0000	0.0000	##	N336	106.5400
104.3342	FREE # 2	-31.4761	557613.5027	0.0000	0.0000	##	N337	102.2800
104.4885	FREE # 3	3.0003	59318.8454	0.0000	0.0000	##	N338	103.3100
105.5303	FREE # 4	7.2103	140971.0357	0.0000	0.0000	##	N339	104.8900
105.2177	FREE # 5	2.3040	45539.0706	0.0000	0.0000	##	N340	104.4700
102.9537	FREE # 6	-55.6042	728037.5537	0.0000	0.0000	##	N341	101.2500
122.6995	FREE # 7	8.5581	169390.1734	0.0000	0.0000	##	N347	118.4500
120.0876	FREE # 8	5.0178	99204.9877	0.0000	0.0000	##	N348	116.1700

123.0594	FREE # 9	8.1961	159820.8905	0.0000	0.0000	##	N349	119.1600
121.7174	FREE #10	30.1672	592957.9895	0.0000	0.0000	##	N350	117.8000
121.5521	FREE #11	-93.2665	1414629.102	0.0000	0.0000	##	N351	117.1900
120.5544	FREE #12	-33.0708	374014.3473	0.0000	0.0000	##	N352	117.3700
120.6763	FREE #13	48.9390	927771.2238	0.0000	0.0000	##	N353	117.3600
116.3485	FREE #14	4.4590	88214.3252	0.0000	0.0000	##	N354	115.6500
113.4200	FREE #15	2.9906	59194.3416	0.0000	0.0000	##	N355	110.6000
125.6081	FREE #16	17.9049	353721.7540	0.0000	0.0000	##	N356	125.3200
123.3977	FREE #17	1.5346	30221.1019	0.0000	0.0000	##	N357	122.9800
121.3926	FREE #18	9.4830	185793.9682	0.0000	0.0000	##	N358	120.8200
120.3681	FREE #19	-112.4551	1152536.733	0.0000	0.0000	##	N359	120.0900
115.3400	FREE #20	3.1458	62078.2622	0.0000	0.0000	##	N360	112.6000
91.5100	FREE #21	4.1590	82167.1857	0.0000	0.0000	##	N500	86.6700
89.3552	FREE #22	3.2534	64112.2358	0.0000	0.0000	##	N501	85.4700
97.4200	FREE #23	-9.3661	58879.1237	0.0000	0.0000	##	N503	89.8000
98.7659	FREE #24	1.1514	22701.8049	0.0000	0.0000	##	N504	95.5400
94.6255	FREE #25	3.2003	63260.4104	0.0000	0.0000	##	N506	92.1400
86.6416	FREE #26	7.8187	152739.1425	0.0000	0.0000	##	N517	83.9500
87.8334	FREE #27	1.2917	25387.4410	0.0000	0.0000	##	N518	84.3100
92.4555	FREE #28	10.7819	213076.7524	0.0000	0.0000	##	N554	90.6800
97.6400	FREE #29	15.8189	60759.7691	0.0000	0.0000	##	N322	92.5000
102.7250	FREE #30	5.1189	101306.4503	0.0000	0.0000	##	N511	102.2100
97.4200						##	N555	89.8000

 | 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. |

Upstream Node	Downstream Node	Maximum Flow (cfs)	Total Flow (ft^3)
N221	N222	2.8911	57161.4515
N222	N223	3.1354	61547.4330

N223	N224	3.2978	64190.1773
N227	N224	2.4916	49166.0079
N228	N224	5.3716	106136.699
N231	N230	0.9501	18775.2717
N224	N230	11.2776	221042.572
N230	N233	13.2165	257683.257
N233	N234	13.3950	261089.747
N235	N236	0.2305	4547.3993
N236	N237	0.2305	4485.8552
N237	N238	0.2305	4406.4720
N239	N240	0.9294	18089.1195
N240	N238	1.5845	30752.9556
N238	N241	2.4888	47890.2984
N241	N242	2.9466	56175.9895
N242	N243	3.4595	65684.5379
N243	N244	3.8015	71794.3187
N244	N245	6.0390	115218.321
N245	N246	6.3287	120070.064
N246	N247	9.4131	180097.179
N248	N241	0.4478	8830.3848
N249	N244	2.1260	41980.0003
N250	N246	3.0865	60885.7191
N251	N252	3.6943	73067.7059
N252	N253	4.0636	80236.4855
N254	N253	1.2377	24462.0607
N253	N255	5.3649	105452.022
N256	N255	1.8517	36615.6339
N257	N255	2.4831	49084.3607
N247	N259	24.3602	470902.407
N259	N260	28.8013	557382.769
N261	N259	1.9855	39208.0774
N262	N263	1.5796	31239.9913
N263	N264	3.0003	59321.4914
N265	N263	1.3050	25806.9292
N272	N274	6.8581	134049.165
N274	N275	7.0527	137856.633
N276	N277	0.9792	19354.4456
N277	N278	2.3040	45541.1712
N279	N277	1.1997	23719.0677
N288	N289	-182.0896	725472.397
N290	N288	-20.2978	187010.005
N291	N292	8.5583	169389.912
N293	N294	1.5051	29759.5057
N296	N294	1.5120	29894.0388
N301	N302	3.4219	67666.9294
N302	N303	5.0178	99209.5831
N304	N302	1.4971	29601.4364
N309	N310	1.8249	36059.8257
N312	N310	2.2642	44736.6059
N342	N343	8.1961	159824.537
N344	N342	1.8863	37169.8300
N361	N362	21.2501	420503.841
N362	N363	21.2501	419229.804
N363	N364	30.1672	594318.874
N364	N365	30.1672	592971.316
N366	N363	4.5877	90718.7801
N367	N363	2.6326	52040.9298
N368	N369	12.3310	243919.274
N371	N370	25.6091	506537.970
N370	N372	56.3352	1104093.60

N372	N373	56.3335	1098525.79
N373	N374	56.3333	1093090.89
N374	N375	56.3333	1089775.68
N376	N377	8.2540	163359.199
N377	N375	8.2540	162952.886
N378	N379	-98.8503	1413454.09
N383	N381	2.3118	45725.2893
N384	N381	2.1598	42707.9272
N381	N382	4.5228	88980.3517
N386	N382	2.6499	52414.6975
N387	N382	1.6367	32365.6039
N382	N388	9.8099	192829.243
N388	N389	9.8099	191783.300
N390	N389	2.2788	45061.1313
N391	N389	3.4945	69098.5972
N389	N392	-23.1711	374519.909
N392	N394	-32.7200	373593.652
N395	N396	3.3515	66146.6994
N396	N397	3.3513	65484.5384
N398	N397	14.2708	189729.360
N399	N403	36.6159	620012.757
N403	N404	36.6031	615504.025
N405	N404	2.2296	44020.4163
N404	N406	50.3153	880377.745
N407	N406	1.6079	31754.8863
N406	N408	55.1620	969253.767
N408	N409	65.3549	1163087.26
N409	N410	65.3488	1156300.26
N412	N413	4.2403	83898.5673
N414	N413	8.3479	162498.561
N415	N413	4.5806	90632.1107
N416	N414	4.3232	85546.9461
N417	N414	4.0369	78741.8793
N420	N421	7.1190	140803.390
N421	N419	7.1192	140146.022
N419	N422	7.1286	138853.734
N423	N422	4.8562	95965.0352
N422	N424	11.9729	233321.975
N425	N424	3.8258	75618.2309
N424	N426	15.7980	306548.174
N426	N428	20.1364	387269.848
N428	N429	20.1364	384450.254
N432	N431	2.2679	44627.7467
N434	N432	2.2703	44904.0477
N436	N435	2.8494	56333.1911
N437	N435	5.1688	102192.594
N435	N438	8.0182	158010.874
N438	N439	8.0182	156597.907
N440	N439	1.6633	32819.5013
N441	N439	3.8019	75150.9533
N439	N442	13.6466	265968.969
N442	N429	18.5464	360422.057
N443	N442	0.9317	18381.7203
N444	N442	3.9681	78443.6115
N429	N445	40.5902	778070.982
N446	N445	0.9393	18530.4753
N445	N447	42.4776	810732.796
N448	N449	2.4485	48407.3076
N450	N449	2.2782	44734.3820
N451	N450	2.2777	45027.0759

N454	N453	2.8738	56790.8750
N453	N455	2.8765	56418.1346
N455	N456	2.8725	56186.2781
N457	N456	1.6723	33007.4557
N456	N458	4.5571	88650.9431
N458	N447	4.5523	88037.7328
N447	N459	48.9390	932257.667
N459	N460	48.9390	928410.634
N460	N461	48.9390	927813.955
N465	N466	5.9168	117023.620
N467	N464	0.9708	19155.8303
N464	N468	9.5085	185537.485
N468	N469	13.3913	260417.845
N469	N470	14.7194	286370.043
N471	N468	1.2925	25546.7435
N472	N468	0.9323	18412.6595
N473	N469	0.6806	13413.6014
N418	N487	4.0513	80103.2270
N487	N417	4.0497	79682.7540
N490	N494	9.4830	187447.713
N491	N490	0.3817	7504.1747
N492	N493	4.4591	88215.0856
N513	N514	6.7177	132728.244
N524	N525	0.6064	11949.3720
N526	N525	0.5989	11801.3371
N525	N527	1.2053	23700.7269
N369	N528	12.3313	242064.505
N528	N370	12.3327	238496.608
N375	N529	73.4486	1423564.56
N529	N378	73.4486	1416613.13
N255	N530	10.6006	207774.809
N530	N247	10.9036	212983.694
N497	N499	2.9906	59194.3379
N509	N514	11.0411	218037.209
N514	N516	17.9049	353737.631
N466	N464	8.0432	157867.523
N397	N399	17.6809	255560.902
N470	N398	13.5663	235765.697
N489	N689	9.4830	185798.943
N494	N489	9.4830	185966.408
N413	N399	17.1558	333435.119
N431	N404	4.5202	88433.9731
N449	N408	4.7290	92367.8752
EL329	N541	4.3384	85574.7870
N541	N427	4.3384	84675.4858
N427	N426	4.3384	83590.7200
N410	N411	-91.5670	1151869.23
N294	N295	3.1458	62079.6509
N310	N311	4.1590	82170.3924
N430	N431	2.2439	44381.1703
N462	N466	2.1264	41732.1001
N266	N267	0.1128	2206.3141
N268	N269	1.7368	34359.8104
N269	N267	1.7367	34162.5323
N270	N271	3.9589	78286.4446
N271	N267	4.7298	93275.9875
N267	N272	6.6737	130731.290
N280	N281	3.7883	74897.1253
N281	N282	22.4326	428567.000
N282	N283	23.3527	444880.066

N284	N282	0.8605	16939.2774
N285	N286	2.6552	52516.8672
N286	N283	2.9244	57555.7698
N283	N287	27.4526	523538.140
N287	N288	-41.2525	521283.992
N297	N298	1.5645	30937.5440
N298	N299	3.2534	64113.6597
N300	N298	1.5684	31013.9763
N305	N306	5.2952	31061.9727
N306	N307	-9.4447	58755.2098
N308	N306	-8.3238	25337.9129
N313	N314	0.1735	3409.5749
N314	N315	0.4448	8733.1282
N315	N316	1.1514	22702.3420
N319	N318	1.4167	27680.1106
N320	N318	5.3497	104878.901
N321	N320	1.8664	36872.3005
N318	N500	11.8253	231446.783
N326	N325	0.8511	16770.6244
N327	N325	2.4625	48653.4038
N325	N320	3.3133	65202.6056
N329	N330	8.4173	55924.7250
N330	N322	15.6979	60673.7582
N328	N331	-7.2173	63165.6118
N332	N328	-3.8522	53231.0351
N333	N334	1.6006	31639.5510
N334	N335	1.6006	31448.2722
N336	N335	1.2821	25317.3836
N335	N337	2.9996	58453.6915
N338	N337	1.2826	25328.2983
N339	N340	1.6227	32102.1482
N340	N337	1.6227	31930.4931
N337	N341	6.1968	121078.793
N341	N342	6.1968	120561.103
N345	N239	0.5084	9988.8997
N349	N347	1.7090	33741.3979
N350	N351	1.6252	32095.1948
N352	N348	1.9616	38736.7000
N353	N348	2.2136	43721.5692
N348	N354	7.8187	152867.177
N354	N355	7.8187	152743.398
N356	N357	0.4265	8398.2248
N357	N358	0.8586	16876.6106
N358	N359	1.2917	25399.9961
N359	N360	1.2917	25388.6210
N317	N318	4.3583	86117.3353
N500	N501	18.0903	351932.517
N501	N518	18.0903	349137.673
N504	N503	10.7816	213175.727
N518	N517	18.0903	346487.206
N347	N351	1.7090	33435.3888
N351	N348	3.4454	67276.2695
N506	N554	3.7981	75014.8480
N517	N281	18.2190	347131.106
N554	N500	3.7980	74412.9564
N511	N555	5.1187	101306.237

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		

L210	N221	N222	105.8400	105.4400	107.6026	106.9939	Circular		
L211	N222	N223	104.4400	102.0600	106.9939	102.8186	Circular		
L212	N223	N224	100.8100	98.4700	102.1159	100.2909	Circular		
L213	N227	N224	98.3400	97.7200	100.9720	100.2909	Circular		
L214	N228	N224	97.5300	97.2200	100.6100	100.2909	Circular		
L217	N231	N230	99.8400	99.3300	100.2872	99.7386	Circular		
L220	N224	N230	96.9700	96.0800	100.2909	98.1694	Circular		
L221	N230	N233	95.8300	94.9200	98.1694	96.2277	Circular		
L222	N233	N234	94.4200	87.6000	95.2520	90.4700	Circular		
L223	N235	N236	119.6000	119.4100	119.8642	119.6069	Circular		
L224	N236	N237	118.6100	117.8600	118.8903	118.0569	Circular		
L225	N237	N238	117.2600	116.5100	117.6596	117.5825	Circular		
L226	N239	N240	117.6900	116.6200	118.5578	118.1994	Circular		
L227	N240	N238	116.6200	116.0100	118.1994	117.5825	Circular		
L228	N238	N241	115.1100	114.0600	117.5825	114.7356	Circular		
L229	N241	N242	111.3600	109.8800	112.5184	110.5696	Circular		
L230	N242	N243	108.6300	107.8600	110.4305	108.6104	Circular		
L231	N243	N244	105.8600	105.1000	108.4480	106.6365	Circular		
L232	N244	N245	103.8500	103.3800	106.6365	105.2963	Circular		
L233	N245	N246	101.9300	100.3100	105.2963	103.0130	Circular		
L234	N246	N247	99.5600	98.3700	103.0130	102.0312	Circular		
L235	N248	N241	111.4800	111.3600	112.5280	112.5184	Circular		
L236	N249	N244	104.6200	104.3500	107.1256	106.6365	Circular		
L237	N250	N246	101.1400	100.5600	103.9881	103.0130	Circular		
L238	N251	N252	115.3800	115.0600	116.6527	115.8783	Circular		
L239	N252	N253	113.0600	112.3300	115.2810	113.1820	Circular		
L240	N254	N253	112.8300	112.3300	113.3534	112.7991	Circular		
L241	N253	N255	108.0800	106.8000	110.4632	107.7384	Circular		
L242	N256	N255	107.4100	107.0500	108.0734	107.6293	Circular		
L243	N257	N255	107.6100	107.0500	108.4472	107.7248	Circular		
L246	N247	N259	97.8700	97.1600	102.0312	100.1167	Circular		
L247	N259	N260	97.1600	97.0000	100.1167	99.5500	Circular		
L248	N261	N259	98.9300	98.6600	100.3093	100.1167	Circular		
L249	N262	N263	104.8800	104.4600	105.4930	104.8418	Circular		
L250	N263	N264	104.4600	96.6400	104.8418	99.5400	Circular		
L251	N265	N263	104.8600	104.4600	105.4066	104.8418	Circular		
L259	N272	N274	96.3500	95.5800	97.6771	96.0308	Circular		
L260	N274	N275	95.5800	87.6000	96.0308	90.4800	Circular		
L261	N276	N277	94.2500	93.4400	94.7428	93.7152	Circular		
L262	N277	N278	93.4400	78.0000	93.7152	83.9100	Circular		
L263	N279	N277	94.1200	93.4400	94.6677	93.7152	Circular		
L272	N288	N289	77.0300	77.0000	86.3999	83.9000	Circular		
L273	N290	N288	78.1000	77.7800	86.7858	86.3999	Circular		
L274	N291	N292	91.9200	76.6000	92.4740	83.9000	Circular		
L275	N293	N294	118.9200	118.3000	119.6123	119.3170	Circular		
L277	N296	N294	118.9800	118.3000	119.6597	119.3170	Circular		
L281	N301	N302	122.9000	122.2800	124.8193	122.6751	Circular		
L282	N302	N303	122.2800	110.6000	122.6751	113.4200	Circular		
L283	N304	N302	122.9500	122.2800	123.5620	122.6751	Circular		
L287	N309	N310	113.1500	112.5100	113.8197	113.0849	Circular		
L289	N312	N310	113.2100	112.5100	114.0002	113.1535	Circular		
L319	N342	N343	100.2200	100.0000	101.6653	101.1083	Circular		
L320	N344	N342	101.1100	100.7200	101.8986	101.6653	Circular		

L338	N361	N362	126.2400	126.1300	128.4056	128.2437	Circular
L339	N362	N363	126.1300	125.7800	128.2437	127.6447	Circular
L340	N363	N364	125.2800	125.0100	127.6447	127.0548	Circular
L341	N364	N365	125.0100	124.9000	127.0548	126.5963	Circular
L342	N366	N363	127.8700	127.5300	128.9836	128.3977	Circular
L343	N367	N363	128.3300	127.7800	129.2163	128.4750	Circular
L344	N368	N369	124.2600	124.1700	127.1958	127.1391	Circular
L346	N371	N370	122.2600	122.2000	126.9363	126.8932	Circular
L347	N370	N372	121.7000	121.3400	126.8932	126.0985	Circular
L348	N372	N373	121.3400	120.9700	126.0985	125.3411	Circular
L349	N373	N374	120.9700	120.6000	125.3411	124.5626	Circular
L350	N374	N375	120.6000	120.4800	124.5626	124.2984	Circular
L351	N376	N377	122.9000	122.8200	124.5869	124.5302	Circular
L352	N377	N375	122.8200	122.4800	124.5302	124.2984	Circular
L354	N378	N379	119.2700	118.4000	122.6545	122.5800	Circular
L361	N383	N381	125.5300	125.2600	126.2887	125.9103	Circular
L362	N384	N381	125.6400	125.2600	126.3795	125.8878	Circular
L363	N381	N382	124.7600	123.3600	125.8482	124.5904	Circular
L364	N386	N382	124.1400	123.8600	124.9847	124.5904	Circular
L365	N387	N382	124.2300	123.8600	124.8733	124.5904	Circular
L366	N382	N388	122.8600	121.9500	124.5904	123.6822	Circular
L367	N388	N389	121.9500	121.1100	123.6822	123.1444	Circular
L368	N390	N389	122.8300	122.1100	123.6213	123.1444	Circular
L369	N391	N389	122.6900	122.1100	124.1512	123.1444	Circular
L370	N389	N392	120.1100	119.8300	123.1444	122.8575	Circular
L373	N392	N394	119.8300	118.4000	122.8575	122.5800	Circular
L374	N395	N396	118.6100	118.1800	120.8368	118.9739	Circular
L375	N396	N397	117.6800	117.3100	118.9739	118.4019	Circular
L376	N398	N397	116.3100	116.0600	118.6604	118.4019	Circular
L386	N399	N403	114.6100	114.3000	118.2820	118.0270	Circular
L387	N403	N404	114.3000	113.9800	118.0269	117.7614	Circular
L388	N405	N404	117.0000	116.7000	118.3319	117.7613	Circular
L389	N404	N406	113.4800	113.1700	117.7613	117.4697	Circular
L390	N407	N406	117.0000	116.6000	117.7713	117.4696	Circular
L391	N406	N408	113.1700	112.7800	117.4696	117.0117	Circular
L392	N408	N409	112.7800	112.4800	117.0117	116.5129	Circular
L393	N409	N410	112.4800	112.1200	116.5129	115.8734	Circular
L395	N412	N413	116.3000	115.3300	118.9901	118.7087	Circular
L396	N414	N413	116.3700	115.8300	118.7853	118.7087	Circular
L397	N415	N413	116.3300	115.3300	119.0832	118.7087	Circular
L398	N416	N414	116.8300	115.8700	119.0675	118.7853	Circular
L399	N417	N414	117.5700	116.8700	118.9368	118.7853	Circular
L402	N420	N421	112.2400	112.0000	114.7633	114.5335	Circular
L403	N421	N419	112.0000	110.9100	114.5335	113.4701	Circular
L404	N419	N422	110.9100	109.8800	113.4701	112.4791	Circular
L405	N423	N422	110.3700	110.1300	112.6795	112.4791	Circular
L406	N422	N424	109.1300	108.5100	112.4791	112.0680	Circular
L407	N425	N424	110.0600	109.7600	112.3959	112.0680	Circular
L408	N424	N426	108.2600	107.7000	112.0680	111.6343	Circular
L410	N426	N428	107.4500	106.9200	111.6343	111.1574	Circular
L411	N428	N429	106.9200	106.5200	111.1574	110.7941	Circular
L413	N432	N431	118.0700	116.6700	119.1140	118.8248	Circular
L415	N434	N432	118.8000	118.4800	119.5280	119.1244	Circular
L417	N436	N435	111.5700	111.1800	113.5338	112.9610	Circular
L418	N437	N435	110.9200	110.6800	113.1916	112.9610	Circular
L419	N435	N438	110.1800	109.5800	112.9610	112.5301	Circular
L420	N438	N439	109.5800	108.6500	112.5301	111.8621	Circular
L421	N440	N439	110.0500	109.6500	112.0562	111.8621	Circular
L422	N441	N439	109.7300	109.4000	112.2083	111.8621	Circular
L423	N439	N442	108.1500	107.4700	111.8621	111.2807	Circular

L424	N442	N429	107.2200	106.7700	111.2807	110.7941	Circular
L425	N443	N442	109.3800	108.9700	111.3435	111.2807	Circular
L426	N444	N442	109.0300	108.7200	111.6425	111.2807	Circular
L427	N429	N445	106.0200	105.4800	110.7941	109.7503	Circular
L428	N446	N445	108.4900	107.9800	109.8312	109.7503	Circular
L429	N445	N447	105.4800	105.0500	109.7503	108.8835	Circular
L430	N448	N449	118.7700	117.9900	120.8468	120.2831	Circular
L431	N450	N449	120.7400	118.2400	122.5957	120.2831	Circular
L432	N451	N450	121.2700	120.7400	123.0855	122.5957	Circular
L435	N454	N453	114.2900	113.7600	116.4642	115.6961	Circular
L436	N453	N455	113.7600	111.9300	115.6961	113.0201	Circular
L437	N455	N456	111.6800	110.2600	113.0201	112.1895	Circular
L438	N457	N456	111.0200	110.5100	112.4454	112.1895	Circular
L439	N456	N458	110.2600	108.6400	112.1895	109.7789	Circular
L440	N458	N447	108.3900	107.0500	109.7789	108.8835	Circular
L441	N447	N459	105.0500	104.6100	108.8835	107.6629	Circular
L442	N459	N460	104.6100	104.1100	107.6629	105.0976	Circular
L443	N460	N461	104.1100	94.1000	105.0976	99.5700	Circular
L446	N465	N466	126.6500	126.4400	129.7527	129.4984	Circular
L448	N467	N464	126.3000	125.8400	128.2210	128.1440	Circular
L449	N464	N468	125.0900	123.8400	128.1440	126.0007	Circular
L450	N468	N469	123.5900	122.6600	126.0007	123.9765	Circular
L451	N469	N470	118.6600	118.4600	120.4426	119.8419	Circular
L452	N471	N468	124.8800	124.5900	126.0884	126.0007	Circular
L453	N472	N468	124.9400	124.5900	126.0559	126.0007	Circular
L454	N473	N469	120.0700	119.6600	120.5302	120.4426	Circular
L466	N418	N487	119.9000	119.3200	120.8207	120.1342	Circular
L468	N487	N417	118.5700	117.5700	119.5917	118.9368	Circular
L470	N490	N494	121.9000	121.4100	123.4952	122.3558	Circular
L471	N491	N490	124.7700	121.9000	125.0264	123.4952	Circular
L472	N492	N493	126.3400	126.0400	128.1177	127.0400	Circular
L490	N513	N514	110.0100	109.8600	111.3361	110.8167	Circular
L496	N524	N525	133.4500	131.1700	133.7961	131.6772	Circular
L497	N526	N525	133.4600	131.1700	133.8039	131.6772	Circular
L498	N525	N527	131.1700	130.6000	131.6772	131.1070	Circular
L501	N369	N528	123.6700	123.1600	127.1391	126.9767	Circular
L502	N528	N370	122.6600	122.2000	126.9767	126.8932	Circular
L503	N375	N529	119.9800	119.6400	124.2984	123.5594	Circular
L504	N529	N378	119.6400	119.2700	123.5594	122.6545	Circular
L505	N255	N530	102.8000	101.7100	106.8092	104.4871	Circular
L506	N530	N247	99.7100	98.6200	104.4871	102.0312	Circular
L509	N497	N499	107.8500	91.2000	108.2106	97.6400	Circular
L511	N509	N514	108.8800	108.6100	112.4401	109.8810	Circular
L512	N514	N516	108.1100	90.0000	108.7565	97.4200	Circular
L514	N466	N464	126.1900	125.0900	129.4984	128.1440	Circular
L515	N397	N399	115.8100	115.6100	118.4019	118.2820	Circular
CH21	N470	N398	117.7100	116.3100	118.6802	118.6603	Rectangle
L474	N489	N689	118.4300	118.0000	120.8720	119.5000	Circular
L523	N494	N489	121.4100	120.8300	122.3558	121.2270	Trapezoid
L525	N413	N399	115.8300	115.1100	118.7087	118.2820	Circular
L527	N431	N404	116.6700	115.2500	118.8248	117.7613	Circular
L528	N449	N408	117.9900	116.0300	120.2831	117.0117	Circular
L529	EL329	N541	112.5200	112.0900	114.9266	114.2861	Circular
L533	N541	N427	112.0900	109.6400	114.2861	112.6510	Circular
L537	N427	N426	109.6400	108.9500	112.6510	111.6343	Circular
L394	N410	N411	112.1200	112.0000	115.8734	115.6300	Circular
L276	N294	N295	118.3000	118.0000	119.3170	118.7599	Circular
L288	N310	N311	112.2600	104.1000	112.6673	108.8300	Circular
L412	N430	N431	119.0000	118.4000	119.6069	119.0068	Circular
L447	N462	N466	127.7800	126.4400	129.7121	129.4984	Circular

L252	N266	N267	100.3600	98.0500	100.5085	99.1962	Circular
L253	N268	N269	100.7400	100.3300	101.3827	100.9914	Circular
L254	N269	N267	100.3300	98.0500	100.9914	99.1962	Circular
L255	N270	N271	99.1400	98.8000	100.2654	99.9146	Circular
L256	N271	N267	98.5500	97.5500	99.9146	99.1962	Circular
L257	N267	N272	97.5500	96.6000	99.1962	97.6771	Circular
L264	N280	N281	85.3300	84.9900	86.3426	85.9466	Circular
L265	N281	N282	83.2400	82.7700	85.9466	85.4870	Circular
L266	N282	N283	82.7700	82.5000	85.4870	85.1953	Circular
L267	N284	N282	85.1400	84.7700	85.6207	85.4870	Circular
L268	N285	N286	94.9100	94.4500	96.5563	95.9765	Circular
L269	N286	N283	94.4500	93.0000	95.9765	93.7327	Circular
L270	N283	N287	82.5000	81.9600	85.1953	84.5536	Circular
L271	N287	N288	78.4600	77.0300	84.5536	86.3999	Circular
L278	N297	N298	113.2400	112.9600	114.7104	114.5881	Circular
L279	N298	N299	112.9600	112.0000	114.5881	112.7719	Circular
L280	N300	N298	113.2500	112.9600	114.7162	114.5881	Circular
L284	N305	N306	105.5200	105.2200	109.8271	109.8622	Circular
L285	N306	N307	104.7200	104.2500	109.8701	108.6400	Circular
L286	N308	N306	105.1900	104.9700	108.8307	109.8701	Circular
L290	N313	N314	103.9300	101.7900	104.1135	102.0841	Circular
L291	N314	N315	101.7900	99.6100	102.0841	100.0331	Circular
L292	N315	N316	99.6100	94.1000	100.0331	99.5700	Circular
L294	N319	N318	89.4700	88.9900	92.7112	92.5469	Circular
L300	N320	N318	89.2800	88.4900	93.3343	92.5469	Circular
L301	N321	N320	90.1100	89.7800	93.5326	93.3343	Circular
L302	N318	N500	87.7400	86.6700	92.5469	91.5100	Circular
L303	N326	N325	90.7500	90.2700	93.5815	93.5200	Circular
L304	N327	N325	90.6600	90.2700	93.9402	93.5200	Circular
L305	N325	N320	89.7700	89.2800	93.5200	93.3343	Circular
L306	N329	N330	94.0000	93.4400	102.1974	101.4295	Circular
L307	N330	N322	93.4400	92.5000	101.4339	97.6400	Circular
L308	N328	N331	93.4400	92.7000	98.2250	97.6400	Circular
L309	N332	N328	94.0000	93.4400	98.4808	98.2250	Circular
L310	N333	N334	108.8700	108.5100	110.9382	110.7767	Circular
L311	N334	N335	108.5100	106.1800	110.7767	109.7243	Circular
L312	N336	N335	106.5400	106.1800	109.8263	109.7243	Circular
L313	N335	N337	106.1800	102.7800	109.7243	104.3342	Circular
L314	N338	N337	103.3100	102.7800	104.4885	104.3342	Circular
L315	N339	N340	104.8900	104.4700	105.5303	105.2177	Circular
L316	N340	N337	104.4700	102.7800	105.2177	104.3342	Circular
L317	N337	N341	102.2800	101.2500	104.3342	102.9537	Circular
L318	N341	N342	101.2500	100.2200	102.9537	101.6653	Circular
L321	N345	N239	118.8300	117.6900	119.2319	118.5578	Circular
L324	N349	N347	119.1600	118.4500	123.0594	122.6995	Circular
L325	N350	N351	117.8000	117.4400	121.7174	121.5521	Circular
L326	N352	N348	117.3700	116.6700	120.5544	120.0876	Circular
L327	N353	N348	117.3600	116.6700	120.6763	120.0876	Circular
L328	N348	N354	116.1700	115.6500	120.0876	116.3485	Circular
L329	N354	N355	115.6500	110.6000	116.3485	113.4200	Circular
L334	N356	N357	125.3200	122.9800	125.6081	123.3977	Circular
L335	N357	N358	122.9800	120.8200	123.3977	121.3926	Circular
L336	N358	N359	120.8200	120.0900	121.3926	120.3681	Circular
L337	N359	N360	120.0900	112.8000	120.3681	115.3400	Circular
L475	N317	N318	89.1700	88.7400	93.1253	92.5469	Circular
L478	N500	N501	86.6700	85.7200	91.5100	89.3552	Circular
L479	N501	N518	85.4700	84.5600	89.3552	87.8334	Circular
L487	N504	N503	95.5400	89.8000	98.7537	97.4200	Circular
L493	N518	N517	84.3100	83.9500	87.8334	86.6416	Circular
L499	N347	N351	118.4500	117.4400	122.6995	121.5521	Circular

L500	N351	N348	117.1900	116.4200	121.5521	120.0876	Circular
L507	N506	N554	92.1400	91.2800	94.6255	92.4555	Circular
L513	N517	N281	83.9500	83.7400	86.6416	85.9466	Circular
L546	N554	N500	90.7800	87.4200	92.4555	91.5100	Circular
L510	N511	N555	102.2100	89.8000	102.7249	97.4200	Circular

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

Failed to Converge	Junction	<-----Continuity Error ----->			Remaining	Beginning	Net Flow	Total Flow
	Name	Volume	% of Node	% of Inflow	Volume	Volume	Thru Node	Thru Node
	N221	33.8003	0.0295	0.0004	49.7524	0.0000	83.5527	114408.5360
	N222	244.8740	0.1980	0.0028	205.5175	0.0000	450.3915	123546.3038
	N223	72.0619	0.0558	0.0008	498.2510	0.0000	570.3129	128953.3159
	N224	-18.5559	-0.0042	0.0002	896.4054	0.0000	877.8495	442969.0175
	N227	33.5535	0.0341	0.0004	75.5204	0.0000	109.0739	98443.1331
	N228	34.9300	0.0164	0.0004	121.4250	0.0000	156.3550	212435.1765
	N230	732.0425	0.1414	0.0084	972.3050	0.0000	1704.3475	517080.4713
	N231	17.8225	0.0474	0.0002	19.4099	0.0000	37.2325	37588.3378
	N233	-618.9120	-0.1184	0.0071	739.0234	0.0000	120.1114	522307.5080
	N234	-192.7029	-0.0369	0.0022	254.1335	61.1964	0.2341	522169.0450
	N235	8.4611	0.0928	0.0001	8.2446	0.0000	16.7057	9111.5628
	N236	32.2393	0.3563	0.0004	29.3053	0.0000	61.5446	9033.2545
	N237	-23.4136	-0.2618	0.0003	102.8335	0.0000	79.4199	8892.3272
	N238	271.1457	0.2808	0.0031	338.4895	0.0000	609.6352	96391.7363
	N239	-39.7973	-0.1089	0.0005	275.5647	0.0000	235.7674	36414.3006
	N240	38.1669	0.0616	0.0004	268.9154	0.0000	307.0823	61813.8040

N241	302.6783	0.2671	0.0035	438.1298	0.0000	740.8081	113094.6842
N242	159.5306	0.1206	0.0018	485.1159	0.0000	644.6465	132016.5338
N243	182.0200	0.1260	0.0021	477.2545	0.0000	659.2745	144250.8476
N244	163.7909	0.0708	0.0019	596.8884	0.0000	760.6793	231200.4671
N245	136.2227	0.0564	0.0016	743.6675	0.0000	879.8902	241024.7761
N246	-273.3713	-0.0756	0.0031	1188.2285	0.0000	914.8571	361116.3262
N247	70.7066	0.0075	0.0008	2252.6956	0.0000	2323.4022	944152.1686
N248	2.4146	0.0136	0.0000	33.4991	0.0000	35.9138	17697.3367
N249	42.6524	0.0507	0.0005	73.0847	0.0000	115.7372	84077.2307
N250	47.9126	0.0393	0.0006	75.4715	0.0000	123.3841	121897.0021
N251	33.4123	0.0228	0.0004	36.2440	0.0000	69.6563	146207.1883
N252	54.1233	0.0337	0.0006	94.7626	0.0000	148.8859	160622.6939
N253	235.5643	0.1114	0.0027	257.3503	0.0000	492.9147	211400.0199
N254	21.7808	0.0445	0.0003	23.2899	0.0000	45.0707	48969.9354
N255	418.6725	0.1004	0.0048	738.2285	0.0000	1156.9010	416712.2122
N256	20.8683	0.0285	0.0002	24.1963	0.0000	45.0647	73277.4496
N257	41.8056	0.0425	0.0005	40.5244	0.0000	82.3300	98252.5788
N259	202.2159	0.0181	0.0023	1327.5335	0.0000	1529.7494	1116184.265
N260	-230.7420	-0.0206	0.0027	263.8215	32.0433	1.0362	1117570.602
N261	4.3610	0.0056	0.0001	35.8385	0.0000	40.1995	78455.9228
N262	5.5048	0.0088	0.0001	21.7296	0.0000	27.2345	62507.9759
N263	-30.1207	-0.0254	0.0003	51.0502	0.0000	20.9296	118663.3643
N264	-19.9854	-0.0168	0.0002	56.4452	36.4414	0.0184	118640.3368
N265	3.9260	0.0076	0.0000	19.0866	0.0000	23.0125	51637.5213
N272	-70.7778	-0.0263	0.0008	400.2539	0.0000	329.4762	268431.7854
N273	16888.3950	100.0000	0.1941	0.0000	0.0000	16888.3950	16888.3950
N274	-172.3388	-0.0625	0.0020	208.8328	0.0000	36.4940	275759.1002
N275	-42.4429	-0.0151	0.0005	78.8069	36.1901	0.1738	281948.3289
N276	9.3020	0.0240	0.0001	25.0887	0.0000	34.3907	38743.7250
N277	-45.2436	-0.0497	0.0005	57.0597	0.0000	11.8161	91093.7876

N278	-17.2471	-0.0189	0.0002	91.5307	74.2651	0.0186	91080.2418
N279	9.5237	0.0201	0.0001	24.3216	0.0000	33.8452	47472.5190
N288	1051.4197	0.0724	0.0121	2425.1437	0.0000	3476.5633	1451908.201
N289	-271.3447	-0.0186	0.0031	357.9913	86.7054	-0.0589	1456135.121
N290	-146.2586	-0.0391	0.0017	222.8675	0.0000	76.6090	374107.0462
N291	-55.9619	-0.0165	0.0006	77.4753	0.0000	21.5134	338808.4926
N292	-70.6401	-0.0208	0.0008	162.2481	91.7318	-0.1239	338780.0850
N293	-2.9427	-0.0049	0.0000	45.2547	0.0000	42.3120	59562.2057
N294	14.5051	0.0117	0.0002	107.1751	0.0000	121.6802	124281.6024
N296	-3.6894	-0.0062	0.0000	48.1544	0.0000	44.4650	59833.3672
N301	37.5632	0.0277	0.0004	51.8690	0.0000	89.4322	135424.4618
N302	-47.5685	-0.0240	0.0005	67.5056	0.0000	19.9371	198438.2621
N303	-12.4629	-0.0063	0.0001	47.9322	35.4361	0.0332	198414.5708
N304	8.1564	0.0138	0.0001	29.9827	0.0000	38.1391	59241.7682
N309	37.8477	0.0524	0.0004	36.3423	0.0000	74.1900	72194.9324
N310	-81.3276	-0.0495	0.0009	91.8805	0.0000	10.5530	164350.9238
N312	49.9057	0.0557	0.0006	45.8436	0.0000	95.7493	89570.3549
N342	-95.0754	-0.0297	0.0011	366.5012	0.0000	271.4257	319925.6665
N343	-64.7098	-0.0202	0.0007	64.9264	0.0000	0.2166	319645.4276
N344	13.3100	0.0179	0.0002	33.8762	0.0000	47.1862	74388.0591
N345	-35.7501	-0.1777	0.0004	113.6572	0.0000	77.9070	20055.8009
N361	0.6849	0.0001	0.0000	253.6779	0.0000	254.3628	841280.1167
N362	364.5966	0.0434	0.0042	898.4054	0.0000	1263.0020	839733.6450
N363	-265.2458	-0.0223	0.0030	1523.1074	0.0000	1257.8615	1189916.868
N364	253.8728	0.0214	0.0029	1071.3786	0.0000	1325.2514	1187290.190
N365	-268.5519	-0.0226	0.0031	333.6746	64.9662	0.1564	1185929.305
N366	56.0219	0.0309	0.0006	54.1198	0.0000	110.1417	181550.5848
N367	43.8815	0.0421	0.0005	42.0471	0.0000	85.9286	104169.4196
N368	63.3350	0.0130	0.0007	167.4964	0.0000	230.8314	488085.1817
N369	302.5310	0.0622	0.0035	1532.3265	0.0000	1834.8575	485983.7794

N370	341.0854	0.0154	0.0039	4894.7418	0.0000	5235.8273	2213502.874
N371	37.5474	0.0037	0.0004	299.7977	0.0000	337.3451	1013461.099
N372	289.1567	0.0131	0.0033	5235.6361	0.0000	5524.7928	2202619.393
N373	138.1082	0.0063	0.0016	5255.3888	0.0000	5393.4970	2191616.683
N374	-160.5867	-0.0074	0.0018	3430.3701	0.0000	3269.7834	2182866.575
N375	169.2814	0.0059	0.0019	4409.4979	0.0000	4578.7793	2851756.999
N376	-0.7059	-0.0002	0.0000	70.9457	0.0000	70.2398	326797.8350
N377	114.6072	0.0351	0.0013	286.4630	0.0000	401.0702	326312.0850
N378	43.3157	0.0015	0.0005	3888.2802	0.0000	3931.5959	2830067.215
N379	-658.5842	-0.0232	0.0076	712.5540	52.5259	1.4439	2843133.348
N381	130.6513	0.0731	0.0015	346.5217	0.0000	477.1730	178439.2675
N382	-180.1739	-0.0466	0.0021	924.8383	0.0000	744.6645	386408.8603
N383	18.3159	0.0200	0.0002	23.3768	0.0000	41.6927	91493.6513
N384	25.2257	0.0295	0.0003	28.0965	0.0000	53.3222	85470.4764
N386	20.4002	0.0194	0.0002	26.4651	0.0000	46.8653	104877.8272
N387	15.7987	0.0244	0.0002	26.1569	0.0000	41.9557	64774.1347
N388	-78.1272	-0.0203	0.0009	1116.9303	0.0000	1038.8031	384612.5433
N389	24.1542	0.0032	0.0003	1339.3696	0.0000	1363.5239	750537.2037
N390	6.7954	0.0075	0.0001	49.7467	0.0000	56.5421	90180.0165
N391	40.1677	0.0290	0.0005	54.4614	0.0000	94.6291	138293.6929
N392	19.7913	0.0026	0.0002	1080.7804	0.0000	1100.5717	748113.5607
N394	-342.1515	-0.0456	0.0039	394.9456	52.5259	0.2682	750097.8065
N395	118.2842	0.0892	0.0014	92.5978	0.0000	210.8820	132506.2707
N396	284.6053	0.2159	0.0033	376.2705	0.0000	660.8759	131631.2378
N397	-136.0573	-0.0265	0.0016	1252.7055	0.0000	1116.6482	512244.0444
N398	9064.5625	1.8095	0.1042	74942.7477	0.0000	84007.3102	463467.7083
N399	48.3141	0.0039	0.0006	4487.0093	0.0000	4535.3234	1244581.533
N403	199.1130	0.0161	0.0023	4287.0814	0.0000	4486.1944	1235516.782
N404	-29.1372	-0.0016	0.0003	5664.1139	0.0000	5634.9767	1766419.432
N405	62.9963	0.0714	0.0007	61.7963	0.0000	124.7927	88167.0658

N406	215.6060	0.0111	0.0025	6985.1428	0.0000	7200.7487	1945742.093
N407	34.2762	0.0539	0.0004	46.1015	0.0000	80.3777	63591.1635
N408	-178.7989	-0.0077	0.0021	7094.8091	0.0000	6916.0102	2333124.119
N409	314.5569	0.0135	0.0036	6313.9158	0.0000	6628.4728	2319387.517
N410	258.3552	0.0112	0.0030	4506.3009	0.0000	4764.6561	2308169.491
N412	0.0926	0.0001	0.0000	64.7632	0.0000	64.8558	167865.3158
N413	268.6487	0.0400	0.0031	3317.5285	0.0000	3586.1772	670464.3586
N414	1.5187	0.0005	0.0000	1784.1021	0.0000	1785.6208	326787.3865
N415	-0.1509	-0.0001	0.0000	69.8953	0.0000	69.7444	181337.1866
N416	0.4268	0.0002	0.0000	57.7673	0.0000	58.1941	171155.2081
N417	35.0967	0.0221	0.0004	903.3758	0.0000	938.4725	158424.6332
N418	52.5529	0.0328	0.0006	52.3634	0.0000	104.9163	160313.6971
N419	325.9073	0.1166	0.0037	959.7352	0.0000	1285.6425	278999.7557
N420	13.3936	0.0048	0.0002	135.4281	0.0000	148.8217	281761.7880
N421	37.8686	0.0135	0.0004	615.5949	0.0000	653.4634	280949.4120
N422	37.1355	0.0079	0.0004	1448.1246	0.0000	1485.2601	468140.7441
N423	57.8804	0.0301	0.0007	91.9756	0.0000	149.8559	192083.7451
N424	294.7966	0.0478	0.0034	2079.9550	0.0000	2374.7516	615488.3797
N425	46.7727	0.0309	0.0005	73.1559	0.0000	119.9285	151359.5831
N426	-100.9044	-0.0130	0.0012	2947.5001	0.0000	2846.5957	777408.7417
N428	277.4366	0.0359	0.0032	2519.5357	0.0000	2796.9723	771720.1022
N429	143.2774	0.0092	0.0016	4388.0226	0.0000	4531.3000	1560711.993
N430	15.1770	0.0171	0.0002	20.8336	0.0000	36.0106	88799.0954
N431	41.4015	0.0233	0.0005	733.1954	0.0000	774.5969	177644.8618
N432	-58.5523	-0.0653	0.0007	335.2424	0.0000	276.6901	89531.7944
N434	18.0574	0.0201	0.0002	23.1879	0.0000	41.2453	89850.6631
N435	-23.2541	-0.0073	0.0003	533.5823	0.0000	510.3282	316536.6594
N436	34.6688	0.0307	0.0004	51.5288	0.0000	86.1976	112754.5681
N437	59.4702	0.0291	0.0007	92.3718	0.0000	151.8420	204540.7424
N438	325.7800	0.1034	0.0037	1078.6616	0.0000	1404.4417	314608.7805

N439	125.8125	0.0235	0.0014	1731.6084	0.0000	1857.4210	533808.4794
N440	22.3384	0.0340	0.0003	52.1023	0.0000	74.4406	65715.1406
N441	49.7573	0.0331	0.0006	78.0646	0.0000	127.8219	150432.9201
N442	361.6285	0.0499	0.0042	1991.9490	0.0000	2353.5775	723216.3577
N443	13.3279	0.0362	0.0002	52.3617	0.0000	65.6897	36830.4454
N444	47.9370	0.0305	0.0006	77.9259	0.0000	125.8630	157016.5271
N445	188.0672	0.0115	0.0022	4417.4842	0.0000	4605.5515	1626107.717
N446	16.0399	0.0432	0.0002	51.5331	0.0000	67.5730	37129.6891
N447	8.6065	0.0005	0.0001	4268.7001	0.0000	4277.3066	1868830.558
N448	2.7350	0.0028	0.0000	61.2702	0.0000	64.0051	96880.5061
N449	316.9805	0.1706	0.0036	489.6027	0.0000	806.5832	185545.2068
N450	63.8060	0.0710	0.0007	228.2407	0.0000	292.0466	89761.4578
N451	4.4427	0.0049	0.0001	57.9281	0.0000	62.3708	90118.2398
N453	185.7080	0.1639	0.0021	186.3968	0.0000	372.1048	113209.0096
N454	7.4854	0.0066	0.0001	62.9015	0.0000	70.3870	113653.8176
N455	-118.1106	-0.1047	0.0014	348.2477	0.0000	230.1371	112604.4127
N456	250.9121	0.1407	0.0029	488.6306	0.0000	739.5427	178044.6685
N457	16.2117	0.0245	0.0002	52.5901	0.0000	68.8018	66085.2663
N458	19.1875	0.0108	0.0002	590.4156	0.0000	609.6031	176688.6759
N459	678.2838	0.0364	0.0078	3144.6047	0.0000	3822.8886	1860668.301
N460	-861.3548	-0.0464	0.0099	1469.0878	0.0000	607.7330	1856224.589
N461	-262.2315	-0.0141	0.0030	333.1310	68.7360	2.1634	1855585.178
N464	168.1588	0.0451	0.0019	1100.9924	0.0000	1269.1512	372352.5040
N465	36.4249	0.0156	0.0004	93.2476	0.0000	129.6725	234183.0227
N466	-44.5857	-0.0141	0.0005	927.7826	0.0000	883.1968	316623.2429
N467	10.4209	0.0271	0.0001	55.3824	0.0000	65.8033	38378.7801
N468	734.1447	0.1403	0.0084	1164.5122	0.0000	1898.6569	522745.0284
N469	-390.9552	-0.0682	0.0045	698.8100	0.0000	307.8548	573058.3720
N470	-23994.0076	-4.2890	0.2757	74601.3109	0.0000	50607.3033	522135.7400
N471	9.5976	0.0188	0.0001	35.1650	0.0000	44.7625	51139.7219

N472	8.2089	0.0223	0.0001	38.5521	0.0000	46.7610	36873.2653
N473	3.8565	0.0144	0.0000	23.2172	0.0000	27.0737	26854.6174
N487	-115.6635	-0.0723	0.0013	535.0044	0.0000	419.3409	159785.9810
N489	-444.5283	-0.1195	0.0051	601.9206	0.0000	157.3923	371765.3510
N490	4.3724	0.0012	0.0001	263.1712	0.0000	267.5436	375168.0324
N491	-41.5364	-0.2749	0.0005	95.3948	0.0000	53.8584	15062.2710
N492	4.0612	0.0023	0.0000	42.7957	0.0000	46.8569	176480.6617
N493	-33.0236	-0.0187	0.0004	33.0368	0.0000	0.0132	176429.4108
N497	-27.1061	-0.0229	0.0003	38.5467	0.0000	11.4407	118403.7169
N499	-34.0106	-0.0287	0.0004	114.9411	80.9250	0.0055	118388.6795
N509	275.6469	0.0631	0.0032	194.9305	0.0000	470.5774	436550.7442
N513	149.6010	0.0563	0.0017	115.9288	0.0000	265.5298	265726.5824
N514	-345.0800	-0.0488	0.0040	364.0443	0.0000	18.9643	707506.9176
N516	-106.8134	-0.0151	0.0012	199.6345	93.2397	-0.4186	707459.3846
N524	-8.6321	-0.0360	0.0001	66.5561	0.0000	57.9240	23956.7853
N525	-100.6525	-0.2118	0.0012	150.4706	0.0000	49.8180	47451.4360
N526	-9.1905	-0.0388	0.0001	66.6201	0.0000	57.4296	23660.2417
N527	-25.9383	-0.0429	0.0003	25.9620	0.0000	0.0236	60442.3453
N528	81.9688	0.0170	0.0009	3466.0302	0.0000	3547.9990	480561.1134
N529	456.0664	0.0160	0.0052	6554.1125	0.0000	7010.1789	2840177.685
N530	-266.1738	-0.0623	0.0031	1019.4309	0.0000	753.2571	426728.5476
N689	-131.1866	-0.0353	0.0015	131.2870	0.0000	0.1004	371592.9113
N494	848.5307	0.2270	0.0098	629.1738	0.0000	1477.7045	373414.1211
N541	-24.1849	-0.0142	0.0003	922.9751	0.0000	898.7903	170250.2728
EL329	45.4946	0.0265	0.0005	282.0300	0.0000	327.5246	171480.0662
N427	-3.7686	-0.0022	0.0000	1083.9746	0.0000	1080.2060	168266.2057
N411	-1082.9351	-0.0465	0.0124	1141.1462	45.6146	12.5966	2327024.133
N295	-18.2239	-0.0147	0.0002	65.8533	47.6251	0.0043	124157.9131
N311	-22.9604	-0.0140	0.0003	82.3592	59.4372	-0.0384	164337.5781
N462	-2.8569	-0.0034	0.0000	373.8773	0.0000	371.0204	83837.2505

N266	-49.8886	-1.1140	0.0006	77.2382	0.0000	27.3496	4439.8830
N267	65.3821	0.0249	0.0008	711.7192	0.0000	777.1013	262245.3517
N268	0.8609	0.0013	0.0000	27.0513	0.0000	27.9122	68748.4555
N269	36.4446	0.0531	0.0004	160.7426	0.0000	197.1872	68522.3427
N270	41.8102	0.0267	0.0005	59.9123	0.0000	101.7226	156677.1908
N271	-48.8910	-0.0261	0.0006	322.0949	0.0000	273.2039	186827.1333
N280	47.6701	0.0318	0.0005	53.6417	0.0000	101.3118	149897.9151
N281	-32.8520	-0.0038	0.0004	1904.4819	0.0000	1871.6300	859022.5979
N282	-40.2603	-0.0045	0.0005	1892.2343	0.0000	1851.9740	891629.8544
N283	57.1178	0.0054	0.0007	2062.4007	0.0000	2119.5185	1049236.359
N284	8.6079	0.0254	0.0001	21.2679	0.0000	29.8758	33908.8571
N285	5.4749	0.0052	0.0001	51.8264	0.0000	57.3013	105092.8633
N286	153.6028	0.1330	0.0018	137.1868	0.0000	290.7896	115403.1048
N287	-433.4947	-0.0414	0.0050	3262.2886	0.0000	2828.7940	1044822.132
N297	2.0210	0.0033	0.0000	37.3930	0.0000	39.4140	61916.4333
N298	103.9080	0.0809	0.0012	118.3350	0.0000	222.2430	128451.2176
N299	-59.2444	-0.0462	0.0007	94.1913	34.9335	0.0133	128225.8955
N300	2.1136	0.0034	0.0000	38.1274	0.0000	40.2410	62070.0889
N305	-25.5451	-0.0411	0.0003	63.5937	0.0000	38.0486	62137.8864
N306	51.8619	0.0440	0.0006	228.2149	0.0000	280.0768	117739.1446
N307	-124.9279	-0.1051	0.0014	180.3008	55.1647	0.2081	118734.1370
N308	-168.6960	-0.3087	0.0019	2763.0791	0.0000	2594.3831	53269.4059
N313	-2.6148	-0.0381	0.0000	28.6989	0.0000	26.0841	6845.0732
N314	-28.5449	-0.1626	0.0003	77.0897	0.0000	48.5448	17514.7531
N315	-59.1100	-0.1300	0.0007	80.8306	0.0000	21.7206	45426.9580
N316	-28.5467	-0.0628	0.0003	97.2484	68.7360	-0.0344	45404.1469
N317	67.3615	0.0391	0.0008	110.6398	0.0000	178.0013	172416.6577
N318	-79.6514	-0.0171	0.0009	1447.5029	0.0000	1367.8515	464273.0262
N319	19.7366	0.0356	0.0002	73.4216	0.0000	93.1581	55455.1739
N320	145.2428	0.0690	0.0017	409.0307	0.0000	554.2735	210320.0012

N321	16.6420	0.0225	0.0002	65.3479	0.0000	81.9899	73829.1538
N325	-18.4958	-0.0141	0.0002	234.8676	0.0000	216.3718	130626.6338
N326	12.0366	0.0358	0.0001	68.5980	0.0000	80.6345	33623.3773
N327	30.1288	0.0309	0.0003	68.3074	0.0000	98.4362	97407.7793
N328	-110.3315	-0.0873	0.0013	167.9757	0.0000	57.6442	126350.6816
N329	-0.8179	-0.0007	0.0000	75.0943	0.0000	74.2765	111738.2071
N330	-38.7192	-0.0320	0.0004	226.7949	0.0000	188.0757	120966.6153
N331	-90.4060	-0.0714	0.0010	152.5026	62.0760	0.0206	126446.9034
N332	-31.5124	-0.0296	0.0004	75.8354	0.0000	44.3230	106563.4337
N333	2.4802	0.0039	0.0000	50.1222	0.0000	52.6023	63333.2612
N334	-20.8247	-0.0330	0.0002	211.2035	0.0000	190.3787	63087.8233
N335	163.4561	0.1388	0.0019	459.4405	0.0000	622.8967	117534.1010
N336	1.8552	0.0037	0.0000	65.6184	0.0000	67.4736	50704.4288
N337	-262.1079	-0.1079	0.0030	671.6183	0.0000	409.5104	242571.2294
N338	15.5911	0.0307	0.0002	51.7981	0.0000	67.3892	50725.2449
N339	-0.3067	-0.0005	0.0000	28.6240	0.0000	28.3173	64233.4631
N340	38.2611	0.0597	0.0004	133.2611	0.0000	171.5222	64032.6413
N341	-55.4338	-0.0229	0.0006	568.3193	0.0000	512.8855	241639.8954
N347	45.4857	0.0676	0.0005	258.5005	0.0000	303.9862	67176.7866
N348	173.8956	0.0567	0.0020	611.2259	0.0000	785.1216	306524.3225
N349	-1.0794	-0.0016	0.0000	97.8468	0.0000	96.7674	67581.5515
N350	8.6611	0.0135	0.0001	74.0411	0.0000	82.7022	64276.0134
N351	-31.9072	-0.0236	0.0004	483.5307	0.0000	451.6235	135008.7402
N352	16.0619	0.0207	0.0002	87.4309	0.0000	103.4928	77578.6228
N353	19.6286	0.0224	0.0002	88.7099	0.0000	108.3384	87553.3801
N354	-168.1918	-0.0550	0.0019	290.4185	0.0000	122.2268	305610.5750
N355	-61.6814	-0.0202	0.0007	97.1813	35.4361	0.0638	305482.5402
N356	-6.2455	-0.0370	0.0001	53.1746	0.0000	46.9291	16843.4123
N357	-48.5690	-0.1433	0.0006	126.2818	0.0000	77.7128	33830.9094
N358	-45.7328	-0.0898	0.0005	98.0782	0.0000	52.3454	50852.4818

N359	-37.3001	-0.0734	0.0004	49.6271	0.0000	12.3270	50788.6171
N360	-26.6888	-0.0525	0.0003	61.1586	34.4308	0.0390	50776.0620
N500	131.0708	0.0185	0.0015	2630.0690	0.0000	2761.1398	706641.6761
N501	317.6768	0.0452	0.0037	2462.9646	0.0000	2780.6414	701070.1894
N503	-199.6993	-0.0468	0.0023	295.4911	95.7529	0.0389	426459.5359
N504	-130.2729	-0.0305	0.0015	235.7980	0.0000	105.5250	426459.7802
N506	97.2853	0.0647	0.0011	90.5276	0.0000	187.8130	150219.5897
N517	21.0919	0.0030	0.0002	1865.4406	0.0000	1886.5324	696162.7595
N518	-30.5027	-0.0044	0.0004	2666.3097	0.0000	2635.8069	695624.8787
N554	-5.2863	-0.0035	0.0001	605.8677	0.0000	600.5814	149427.8043
N322	-150.4833	-0.1238	0.0017	215.0884	64.5892	0.0158	121440.9911
N511	-34.5119	-0.0170	0.0004	53.1029	0.0000	18.5910	202634.6272
N555	-46.6851	-0.0230	0.0005	142.3871	95.7529	-0.0509	202612.6874

The total continuity error was 7616.8 cubic feet
The remaining total volume was 3.51094E+05 cubic feet
Your mean node continuity error was Excellent
Your worst node continuity error was Excellent

```

*=====
| 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	Basin	Inflow	to Node	to Node	Outfall	to Node
Layer	Name	to Node	to Node	to Node	to Node	to Node	to Node
	from Node	from Node	to Node	to Node	to Node	to Node	to Node
			Infil.				
0.0000	N221	0.0000	57330.5125	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N222	0.0000	4844.4690	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N223	0.0000	3220.3920	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N224	0.0000	2437.1070	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N227	0.0000	49348.9384	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N228	0.0000	106453.3892	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	N230	0.0000	19607.9040	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	N231	0.0000	18840.4830	0.0000	0.0000	0.0000	0.0000

0.0000	0.0000	0.0000	0.0000				
	N233	0.0000	3539.6550	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N234	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	261079.2979	0.0000	0.0000	0.0000			
	N235	0.0000	4570.8150	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N238	0.0000	13361.4540	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N239	0.0000	8348.4300	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N240	0.0000	12990.6330	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N241	0.0000	198.3000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N242	0.0000	10170.8070	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N243	0.0000	6781.8600	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N244	0.0000	2211.0450	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N245	0.0000	5744.7510	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N246	0.0000	63.4560	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N247	0.0000	80285.7208	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N248	0.0000	8879.8740	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N249	0.0000	42158.5800	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N250	0.0000	61100.1967	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N251	0.0000	73246.0708	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N252	0.0000	7329.1680	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N253	0.0000	1251.2730	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N254	0.0000	24543.5908	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N255	0.0000	17811.3060	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N256	0.0000	36715.2441	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N257	0.0000	49239.8725	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N259	0.0000	48761.9700	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N260	0.0000	0.0000	0.0000	0.0000	2574.3296	0.0000
0.0000	560187.8323	0.0000	0.0000				
	N261	0.0000	39305.0425	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N262	0.0000	31313.5525	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N263	0.0000	2298.2970	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N264	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	59318.8454	0.0000	0.0000				
	N265	0.0000	25868.2359	0.0000	0.0000	0.0000	0.0000

0.0000	592957.9895	0.0000	0.0000				
	N366	0.0000	90964.1767	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N367	0.0000	52204.4584	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N368	0.0000	244521.7385	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N370	0.0000	364905.7090	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N371	0.0000	507661.8844	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N375	0.0000	175719.5792	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N376	0.0000	163676.8200	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N379	0.0000	0.0000	0.0000	0.0000	15050.1557	0.0000
0.0000	1.4297E+06	0.0000	0.0000				
	N381	0.0000	1027.1940	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N382	0.0000	19847.8470	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N383	0.0000	45835.0616	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N384	0.0000	42824.8684	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N386	0.0000	52539.5859	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N387	0.0000	32455.7608	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N389	0.0000	70176.3875	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N390	0.0000	45184.6384	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N391	0.0000	69295.9359	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N394	0.0000	0.0000	0.0000	0.0000	2489.8074	0.0000
0.0000	376504.1547	0.0000	0.0000				
	N395	0.0000	66456.2792	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N397	0.0000	1471.3860	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N398	0.0000	38027.9908	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N399	0.0000	35624.5959	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N404	0.0000	138284.5059	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N405	0.0000	44210.9859	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N406	0.0000	64449.4825	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N407	0.0000	31882.6733	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N408	0.0000	108573.2167	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N412	0.0000	84089.1159	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N415	0.0000	90837.2633	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N416	0.0000	85733.0216	0.0000	0.0000	0.0000	0.0000

0.0000	0.0000	0.0000	0.0000				
	N418	0.0000	80327.3633	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N420	0.0000	141163.8208	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N423	0.0000	96258.7867	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N425	0.0000	75851.7325	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N429	0.0000	37823.7416	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N430	0.0000	44482.6567	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N431	0.0000	202.2660	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N434	0.0000	45012.1175	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N436	0.0000	56503.6016	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N437	0.0000	102497.3033	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N439	0.0000	3275.9160	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N440	0.0000	32943.5792	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N441	0.0000	75391.6775	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N443	0.0000	18475.6110	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N444	0.0000	78687.4225	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N445	0.0000	18800.8230	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N446	0.0000	18626.3190	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N447	0.0000	37857.4525	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N448	0.0000	48543.8400	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N449	0.0000	35.6940	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N451	0.0000	45156.8767	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N454	0.0000	56945.8108	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N456	0.0000	200.2830	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N457	0.0000	33126.0159	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N461	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	927771.2238	0.0000	0.0000				
	N464	0.0000	9805.9350	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N465	0.0000	117330.1433	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N467	0.0000	19250.9640	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N468	0.0000	32878.1400	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N469	0.0000	12875.6190	0.0000	0.0000	0.0000	0.0000

0.0000	0.0000	0.0000	0.0000				
	N471	0.0000	25630.2759	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N472	0.0000	18487.5090	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N473	0.0000	13460.6040	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N490	0.0000	180478.7792	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N491	0.0000	7569.1110	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N492	0.0000	88394.2084	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N493	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	88214.3252	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	N497	0.0000	59295.6667	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N499	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	59194.3416	0.0000	0.0000				
	N509	0.0000	218831.9816	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N513	0.0000	133192.1608	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N514	0.0000	3008.2110	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N516	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	353721.7540	0.0000	0.0000				
	N524	0.0000	12024.9120	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N526	0.0000	11876.1870	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N527	0.0000	6530.0190	0.0000	0.0000	-9.5026	0.0000
0.0000	30221.1019	0.0000	0.0000				
	N530	0.0000	5978.7450	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N689	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	185793.9682	0.0000	0.0000				
	EL329	0.0000	86030.4716	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N411	0.0000	0.0000	0.0000	0.0000	22618.1692	0.0000
0.0000	1.1752E+06	0.0000	0.0000				
	N295	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	62078.2622	0.0000	0.0000				
	N311	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	82167.1857	0.0000	0.0000				
	N462	0.0000	42166.5116	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N266	0.0000	2236.8240	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N267	0.0000	1871.9520	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N268	0.0000	34438.7608	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N270	0.0000	78504.9875	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N271	0.0000	15286.9470	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N280	0.0000	75110.0908	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N281	0.0000	8439.6480	0.0000	0.0000	0.0000	0.0000

0.0000	0.0000	0.0000	0.0000				
	N282	0.0000	1245.3240	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N283	0.0000	23296.2840	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N284	0.0000	16994.3100	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N285	0.0000	52652.6167	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N286	0.0000	5338.2360	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N297	0.0000	31024.0359	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N298	0.0000	2389.5150	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N299	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	64112.2358	0.0000	0.0000				
	N300	0.0000	31101.3716	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N305	0.0000	31121.2016	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N306	0.0000	2587.8150	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N307	0.0000	0.0000	0.0000	0.0000	1099.8035	0.0000
0.0000	59978.9272	0.0000	0.0000				
	N308	0.0000	27972.1984	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N313	0.0000	3440.5050	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N314	0.0000	5379.8790	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N315	0.0000	14011.8780	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N316	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	22701.8049	0.0000	0.0000				
	N317	0.0000	86425.0892	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N318	0.0000	14170.5180	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N319	0.0000	27815.5408	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N320	0.0000	3371.1000	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N321	0.0000	37010.7116	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N326	0.0000	16877.3130	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N327	0.0000	48825.4267	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N328	0.0000	9968.5410	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N329	0.0000	55894.8208	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N330	0.0000	4374.4980	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N331	0.0000	0.0000	0.0000	0.0000	20.8812	0.0000
0.0000	63281.2916	0.0000	0.0000				
	N332	0.0000	53410.1216	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N333	0.0000	31739.8984	0.0000	0.0000	0.0000	0.0000

0.0000	0.0000	0.0000	0.0000				
	N335	0.0000	2318.1270	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N336	0.0000	25424.0425	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N337	0.0000	5788.3770	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N338	0.0000	25433.9584	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N339	0.0000	32178.1408	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N348	0.0000	3928.3230	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N349	0.0000	33889.4700	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N350	0.0000	32227.7167	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N351	0.0000	2205.0960	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N352	0.0000	38898.5284	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N353	0.0000	43895.6884	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N355	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	152739.1425	0.0000	0.0000				
	N356	0.0000	8457.4950	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N357	0.0000	8568.5430	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N358	0.0000	8588.3730	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N360	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	25387.4410	0.0000	0.0000				
	N500	0.0000	48920.6100	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N503	0.0000	0.0000	0.0000	0.0000	207.0568	0.0000
0.0000	213283.8093	0.0000	0.0000				
	N504	0.0000	213594.8792	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N506	0.0000	75314.3400	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N517	0.0000	2548.1550	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N322	0.0000	0.0000	0.0000	0.0000	7.4639	0.0000
0.0000	60767.2329	0.0000	0.0000				
	N511	0.0000	101476.0592	0.0000	0.0000	0.0000	0.0000
0.0000	0.0000	0.0000	0.0000				
	N555	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
0.0000	101306.4503	0.0000	0.0000				

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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
N221	302.2667	0.0000	0.0000	22.1483	0.0000
N222	301.7419	0.0000	0.0000	32.0928	0.0000
N223	0.0000	0.0000	0.0000	16.4104	0.0000
N224	300.9032	0.0000	0.0000	41.7304	0.0000
N227	308.1667	0.0000	0.0000	33.0732	0.0000
N228	309.2667	0.0000	0.0000	38.7033	0.0000
N230	0.0000	0.0000	0.0000	29.3965	0.0000
N231	0.0000	0.0000	0.0000	5.6195	0.0000
N233	0.0000	0.0000	0.0000	10.4543	0.0000
N234	360.0000	0.0000	0.0000	61.1964	0.0000
N235	0.0000	0.0000	0.0000	3.3203	0.0000
N236	0.0000	0.0000	0.0000	3.5222	0.0000
N237	0.0000	0.0000	0.0000	5.0215	0.0000
N238	266.0968	0.0000	0.0000	31.0693	0.0000
N239	0.0000	0.0000	0.0000	10.9053	0.0000
N240	294.8710	0.0000	0.0000	19.8467	0.0000
N241	0.0000	0.0000	0.0000	14.5562	0.0000
N242	0.0000	0.0000	0.0000	22.6247	0.0000
N243	0.0000	0.0000	0.0000	32.5210	0.0000
N244	275.9677	0.0000	0.0000	35.0156	0.0000
N245	282.9355	0.0000	0.0000	45.4427	0.0000
N246	304.2333	0.0000	0.0000	43.7677	0.0000
N247	318.9310	0.0000	0.0000	52.2902	0.0000
N248	273.2258	0.0000	0.0000	13.1695	0.0000
N249	304.3000	0.0000	0.0000	31.4849	0.0000
N250	307.3333	0.0000	0.0000	35.7890	0.0000
N251	309.7000	0.0000	0.0000	15.9928	0.0000
N252	0.0000	0.0000	0.0000	27.9085	0.0000
N253	0.0000	0.0000	0.0000	29.9480	0.0000
N254	0.0000	0.0000	0.0000	6.5772	0.0000
N255	0.0000	0.0000	0.0000	50.3793	0.0000
N256	0.0000	0.0000	0.0000	8.3358	0.0000
N257	0.0000	0.0000	0.0000	10.5200	0.0000
N259	328.4643	0.0000	0.0000	37.1536	0.0000
N260	360.0000	0.0000	0.0000	32.0433	0.0000
N261	313.9333	0.0000	0.0000	17.3325	0.0000
N262	0.0000	0.0000	0.0000	7.7033	0.0000
N263	0.0000	0.0000	0.0000	4.7978	0.0000
N264	360.0000	0.0000	0.0000	36.4414	0.0000
N265	0.0000	0.0000	0.0000	6.8681	0.0000
N272	0.0000	0.0000	0.0000	16.6759	0.0000
N273	0.0000	0.0000	0.0000	0.0000	0.0000
N274	0.0000	0.0000	0.0000	5.6648	0.0000
N275	360.0000	0.0000	0.0000	36.1901	0.0000
N276	0.0000	0.0000	0.0000	6.1923	0.0000
N277	0.0000	0.0000	0.0000	3.4581	0.0000
N278	360.0000	0.0000	0.0000	74.2651	0.0000
N279	0.0000	0.0000	0.0000	6.8826	0.0000
N288	360.0000	0.0000	0.0000	117.7426	0.0000
N289	360.0000	0.0000	0.0000	86.7054	0.0000
N290	359.7500	0.0000	0.0000	109.1467	0.0000

N291	0.0000	0.0000	0.0000	6.9617	0.0000
N292	360.0000	0.0000	0.0000	91.7318	0.0000
N293	0.0000	0.0000	0.0000	8.6998	0.0000
N294	298.1935	0.0000	0.0000	12.7791	0.0000
N296	0.0000	0.0000	0.0000	8.5414	0.0000
N301	312.6667	0.0000	0.0000	24.1177	0.0000
N302	0.0000	0.0000	0.0000	4.9644	0.0000
N303	360.0000	0.0000	0.0000	35.4361	0.0000
N304	0.0000	0.0000	0.0000	7.6903	0.0000
N309	0.0000	0.0000	0.0000	8.4156	0.0000
N310	0.0000	0.0000	0.0000	5.1177	0.0000
N312	0.0000	0.0000	0.0000	9.9295	0.0000
N342	0.0000	0.0000	0.0000	18.1613	0.0000
N343	0.0000	0.0000	0.0000	13.9267	0.0000
N344	0.0000	0.0000	0.0000	9.9100	0.0000
N345	0.0000	0.0000	0.0000	5.0497	0.0000
N361	0.0000	0.0000	0.0000	27.2130	0.0000
N362	0.0000	0.0000	0.0000	26.5610	0.0000
N363	0.0000	0.0000	0.0000	29.7151	0.0000
N364	0.0000	0.0000	0.0000	25.6949	0.0000
N365	0.0000	0.0000	0.0000	64.9662	0.0000
N366	0.0000	0.0000	0.0000	13.9941	0.0000
N367	0.0000	0.0000	0.0000	11.1376	0.0000
N368	297.5806	0.0000	0.0000	36.8918	0.0000
N369	297.8065	0.0000	0.0000	43.5922	0.0000
N370	304.0333	0.0000	0.0000	65.2583	0.0000
N371	303.8667	0.0000	0.0000	58.7620	0.0000
N372	301.6129	0.0000	0.0000	59.7958	0.0000
N373	298.7419	0.0000	0.0000	54.9273	0.0000
N374	0.0000	0.0000	0.0000	49.7934	0.0000
N375	0.0000	0.0000	0.0000	54.2645	0.0000
N376	0.0000	0.0000	0.0000	21.1976	0.0000
N377	0.0000	0.0000	0.0000	21.4902	0.0000
N378	0.0000	0.0000	0.0000	42.5300	0.0000
N379	0.0000	0.0000	0.0000	52.5259	0.0000
N381	0.0000	0.0000	0.0000	13.6748	0.0000
N382	0.0000	0.0000	0.0000	21.7439	0.0000
N383	0.0000	0.0000	0.0000	9.5340	0.0000
N384	0.0000	0.0000	0.0000	9.2920	0.0000
N386	0.0000	0.0000	0.0000	10.6144	0.0000
N387	0.0000	0.0000	0.0000	8.0843	0.0000
N388	0.0000	0.0000	0.0000	21.7674	0.0000
N389	0.2833	0.0000	0.0000	38.1306	0.0000
N390	0.0000	0.0000	0.0000	9.9429	0.0000
N391	310.7667	0.0000	0.0000	18.3614	0.0000
N392	0.1833	0.0000	0.0000	38.0438	0.0000
N394	360.0000	0.0000	0.0000	52.5259	0.0000
N395	322.2759	0.0000	0.0000	34.2653	0.0000
N396	0.0000	0.0000	0.0000	16.2591	0.0000
N397	0.0000	0.0000	0.0000	32.5693	0.0000
N398	0.0000	0.0000	0.0000	29.5341	0.0000
N399	0.0000	0.0000	0.0000	46.2674	0.0000
N403	0.0000	0.0000	0.0000	46.8328	0.0000
N404	0.0000	0.0000	0.0000	53.7991	0.0000
N405	300.3226	0.0000	0.0000	16.7366	0.0000
N406	0.0000	0.0000	0.0000	54.0293	0.0000
N407	0.0000	0.0000	0.0000	9.6922	0.0000
N408	0.0000	0.0000	0.0000	53.1750	0.0000
N409	0.0000	0.0000	0.0000	50.6771	0.0000
N410	0.0000	0.0000	0.0000	47.1653	0.0000

N412	316.2069	0.0000	0.0000	33.8044	0.0000
N413	0.0000	0.0000	0.0000	42.4567	0.0000
N414	0.0000	0.0000	0.0000	37.1359	0.0000
N415	316.7931	0.0000	0.0000	34.5967	0.0000
N416	305.9667	0.0000	0.0000	28.1156	0.0000
N417	0.0000	0.0000	0.0000	17.1746	0.0000
N418	0.0000	0.0000	0.0000	11.5693	0.0000
N419	278.9677	0.0000	0.0000	32.1704	0.0000
N420	276.1290	0.0000	0.0000	31.7081	0.0000
N421	276.3226	0.0000	0.0000	31.8363	0.0000
N422	283.0000	0.0000	0.0000	42.0842	0.0000
N423	282.1935	0.0000	0.0000	29.0211	0.0000
N424	288.4516	0.0000	0.0000	47.8518	0.0000
N425	288.6774	0.0000	0.0000	29.3530	0.0000
N426	292.1935	0.0000	0.0000	52.5794	0.0000
N428	295.1935	0.0000	0.0000	53.2469	0.0000
N429	297.7419	0.0000	0.0000	59.9908	0.0000
N430	0.0000	0.0000	0.0000	7.6265	0.0000
N431	0.0000	0.0000	0.0000	27.0771	0.0000
N432	0.0000	0.0000	0.0000	13.1183	0.0000
N434	0.0000	0.0000	0.0000	9.1480	0.0000
N435	282.9032	0.0000	0.0000	34.9464	0.0000
N436	284.3871	0.0000	0.0000	24.6769	0.0000
N437	282.7097	0.0000	0.0000	28.5450	0.0000
N438	285.7419	0.0000	0.0000	37.0714	0.0000
N439	293.0645	0.0000	0.0000	46.6460	0.0000
N440	289.0323	0.0000	0.0000	25.2102	0.0000
N441	293.0645	0.0000	0.0000	31.1418	0.0000
N442	296.6129	0.0000	0.0000	51.0267	0.0000
N443	290.4194	0.0000	0.0000	24.6738	0.0000
N444	296.9355	0.0000	0.0000	32.8288	0.0000
N445	293.9355	0.0000	0.0000	53.6601	0.0000
N446	282.8710	0.0000	0.0000	16.8533	0.0000
N447	286.1290	0.0000	0.0000	48.1715	0.0000
N448	303.9000	0.0000	0.0000	26.0969	0.0000
N449	305.3000	0.0000	0.0000	28.8145	0.0000
N450	298.5806	0.0000	0.0000	23.3190	0.0000
N451	297.6774	0.0000	0.0000	22.8134	0.0000
N453	303.9333	0.0000	0.0000	24.3294	0.0000
N454	305.1333	0.0000	0.0000	27.3212	0.0000
N455	267.0000	0.0000	0.0000	16.8395	0.0000
N456	300.4194	0.0000	0.0000	24.2455	0.0000
N457	294.7097	0.0000	0.0000	17.9111	0.0000
N458	0.0000	0.0000	0.0000	17.4524	0.0000
N459	0.0000	0.0000	0.0000	38.3632	0.0000
N460	0.0000	0.0000	0.0000	12.4097	0.0000
N461	360.0000	0.0000	0.0000	68.7360	0.0000
N464	303.0333	0.0000	0.0000	38.3762	0.0000
N465	301.4839	0.0000	0.0000	38.9881	0.0000
N466	301.2903	0.0000	0.0000	41.5731	0.0000
N467	298.3548	0.0000	0.0000	24.1394	0.0000
N468	298.9032	0.0000	0.0000	30.2926	0.0000
N469	0.0000	0.0000	0.0000	22.4006	0.0000
N470	0.0000	0.0000	0.0000	12.1904	0.0000
N471	294.2258	0.0000	0.0000	15.1844	0.0000
N472	291.7097	0.0000	0.0000	14.0223	0.0000
N473	0.0000	0.0000	0.0000	5.7827	0.0000
N487	0.0000	0.0000	0.0000	12.8386	0.0000
N489	0.0000	0.0000	0.0000	30.6866	0.0000
N490	0.0000	0.0000	0.0000	20.0447	0.0000

N491	0.0000	0.0000	0.0000	10.7615	0.0000
N492	324.8621	0.0000	0.0000	22.3394	0.0000
N493	0.0000	0.0000	0.0000	12.5660	0.0000
N497	0.0000	0.0000	0.0000	4.5314	0.0000
N499	360.0000	0.0000	0.0000	80.9250	0.0000
N509	328.1786	0.0000	0.0000	44.7373	0.0000
N513	0.0000	0.0000	0.0000	16.6638	0.0000
N514	0.0000	0.0000	0.0000	8.1244	0.0000
N516	360.0000	0.0000	0.0000	93.2397	0.0000
N524	0.0000	0.0000	0.0000	4.3492	0.0000
N525	0.0000	0.0000	0.0000	6.3739	0.0000
N526	0.0000	0.0000	0.0000	4.3215	0.0000
N527	0.0000	0.0000	0.0000	6.3708	0.0000
N528	300.7097	0.0000	0.0000	54.2440	0.0000
N529	0.0000	0.0000	0.0000	49.2507	0.0000
N530	301.8387	0.0000	0.0000	60.0291	0.0000
N689	0.0000	0.0000	0.0000	18.8490	0.0000
N494	0.0000	0.0000	0.0000	11.8845	0.0000
N541	275.8065	0.0000	0.0000	27.5966	0.0000
EL329	278.9032	0.0000	0.0000	30.2418	0.0000
N427	293.1613	0.0000	0.0000	37.8364	0.0000
N411	0.0000	0.0000	0.0000	45.6146	0.0000
N295	0.0000	0.0000	0.0000	47.6251	0.0000
N311	360.0000	0.0000	0.0000	59.4372	0.0000
N462	293.6129	0.0000	0.0000	24.2794	0.0000
N266	0.0000	0.0000	0.0000	1.8664	0.0000
N267	299.8387	0.0000	0.0000	20.6863	0.0000
N268	0.0000	0.0000	0.0000	8.0761	0.0000
N269	0.0000	0.0000	0.0000	8.3105	0.0000
N270	0.0000	0.0000	0.0000	14.1420	0.0000
N271	0.0000	0.0000	0.0000	17.1470	0.0000
N280	0.0000	0.0000	0.0000	12.7244	0.0000
N281	0.0000	0.0000	0.0000	34.0115	0.0000
N282	0.0000	0.0000	0.0000	34.1415	0.0000
N283	0.0000	0.0000	0.0000	33.8695	0.0000
N284	0.0000	0.0000	0.0000	6.0405	0.0000
N285	304.5000	0.0000	0.0000	20.6874	0.0000
N286	304.5667	0.0000	0.0000	19.1815	0.0000
N287	0.0000	0.0000	0.0000	76.5722	0.0000
N297	304.8000	0.0000	0.0000	18.4775	0.0000
N298	308.8000	0.0000	0.0000	20.4584	0.0000
N299	0.0000	0.0000	0.0000	34.9335	0.0000
N300	304.7000	0.0000	0.0000	18.4240	0.0000
N305	359.5000	0.0000	0.0000	54.1243	0.0000
N306	359.7500	0.0000	0.0000	64.6165	0.0000
N307	360.0000	0.0000	0.0000	55.1647	0.0000
N308	359.7500	359.2500	0.0000	2732.0112	2578.8548
N313	0.0000	0.0000	0.0000	2.3058	0.0000
N314	0.0000	0.0000	0.0000	3.6953	0.0000
N315	0.0000	0.0000	0.0000	5.3170	0.0000
N316	360.0000	0.0000	0.0000	68.7360	0.0000
N317	301.7097	0.0000	0.0000	49.7020	0.0000
N318	301.1935	0.0000	0.0000	60.4036	0.0000
N319	298.6129	0.0000	0.0000	40.7284	0.0000
N320	299.2903	0.0000	0.0000	50.9466	0.0000
N321	298.2581	0.0000	0.0000	43.0084	0.0000
N325	297.4839	0.0000	0.0000	47.1225	0.0000
N326	296.4194	0.0000	0.0000	35.5805	0.0000
N327	297.2903	0.0000	0.0000	41.2189	0.0000
N328	360.0000	0.0000	0.0000	60.1287	0.0000

N329	360.0000	0.0000	0.0000	102.9922	0.0000
N330	360.0000	0.0000	0.0000	100.4509	0.0000
N331	360.0000	0.0000	0.0000	62.0760	0.0000
N332	359.7500	0.0000	0.0000	56.3055	0.0000
N333	292.6774	0.0000	0.0000	25.9895	0.0000
N334	295.2581	0.0000	0.0000	28.4835	0.0000
N335	306.0000	0.0000	0.0000	44.5372	0.0000
N336	302.5333	0.0000	0.0000	41.2954	0.0000
N337	296.5161	0.0000	0.0000	25.8126	0.0000
N338	287.6452	0.0000	0.0000	14.8095	0.0000
N339	0.0000	0.0000	0.0000	8.0459	0.0000
N340	0.0000	0.0000	0.0000	9.3962	0.0000
N341	292.7419	0.0000	0.0000	21.4082	0.0000
N347	311.6333	0.0000	0.0000	53.3996	0.0000
N348	319.4828	0.0000	0.0000	49.2286	0.0000
N349	309.8333	0.0000	0.0000	48.9998	0.0000
N350	313.3667	0.0000	0.0000	49.2265	0.0000
N351	315.5862	0.0000	0.0000	54.8137	0.0000
N352	313.5333	0.0000	0.0000	40.0152	0.0000
N353	314.0345	0.0000	0.0000	41.6731	0.0000
N354	0.0000	0.0000	0.0000	8.7768	0.0000
N355	360.0000	0.0000	0.0000	35.4361	0.0000
N356	0.0000	0.0000	0.0000	3.6202	0.0000
N357	0.0000	0.0000	0.0000	5.2486	0.0000
N358	0.0000	0.0000	0.0000	7.1951	0.0000
N359	0.0000	0.0000	0.0000	3.4952	0.0000
N360	360.0000	0.0000	0.0000	34.4308	0.0000
N500	305.4000	0.0000	0.0000	60.8192	0.0000
N501	297.7419	0.0000	0.0000	48.8212	0.0000
N503	360.0000	0.0000	0.0000	95.7529	0.0000
N504	358.0204	0.0000	0.0000	40.3834	0.0000
N506	316.2759	0.0000	0.0000	31.2329	0.0000
N517	289.9355	0.0000	0.0000	33.8223	0.0000
N518	295.5806	0.0000	0.0000	44.2757	0.0000
N554	283.7419	0.0000	0.0000	22.3108	0.0000
N322	360.0000	0.0000	0.0000	64.5892	0.0000
N511	0.0000	0.0000	0.0000	6.4709	0.0000
N555	360.0000	0.0000	0.0000	95.7529	0.0000

*=====
 | Simulation Specific Information |
 *=====

Number of Input Conduits.....	238	Number of Simulated Conduits.....	268
Number of Natural Channels.....	0	Number of Junctions.....	269
Number of Storage Junctions.....	0	Number of Weirs.....	0
Number of Orifices.....	0	Number of Pumps.....	0
Number of Free Outfalls.....	30	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..L272 with 0.041 percent
 The Junction with the largest average change was.N288 with 1.755 percent
 The Conduit with the largest sinuosity was.....L272 with 63.393

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

Inflow Junction	Inflow Volume,ft^3	Average Inflow, cfs
N221	57247.0845	2.6503
N222	4837.4193	0.2240
N223	3215.7057	0.1489
N224	2433.5605	0.1127
N227	49277.1252	2.2813
N228	106298.4771	4.9212
N230	19579.3704	0.9065
N231	18813.0661	0.8710
N233	3534.5041	0.1636
N235	4564.1635	0.2113
N238	13342.0103	0.6177
N239	8336.2813	0.3859
N240	12971.7289	0.6005
N241	198.0114	0.0092
N242	10156.0063	0.4702
N243	6771.9910	0.3135
N244	2207.8275	0.1022
N245	5736.3912	0.2656
N246	63.3637	0.0029
N247	80168.8882	3.7115
N248	8866.9519	0.4105
N249	42097.2304	1.9489
N250	61011.2831	2.8246
N251	73139.4823	3.3861
N252	7318.5025	0.3388
N253	1249.4521	0.0578
N254	24507.8747	1.1346
N255	17785.3868	0.8234
N256	36661.8157	1.6973
N257	49168.2181	2.2763
N259	48691.0111	2.2542
N260	2574.3296	0.1192
N261	39247.8453	1.8170
N262	31267.9846	1.4476
N263	2294.9525	0.1062
N265	25830.5922	1.1959
N272	3651.3308	0.1690
N273	16888.3950	0.7819
N274	3853.3025	0.1784
N275	3120.6602	0.1445
N276	19389.2794	0.8977
N277	2479.1031	0.1148
N279	23753.4513	1.0997
N288	18141.8074	0.8399
N289	2625.1707	0.1215
N290	187097.0408	8.6619
N291	169418.5809	7.8435
N293	29802.7000	1.3798
N294	2548.4071	0.1180
N296	29939.3285	1.3861
N301	67757.5323	3.1369

N302	1960.3132	0.0908
N304	29640.3317	1.3722
N309	36135.1067	1.6729
N310	1384.0999	0.0641
N312	44833.7491	2.0756
N342	2370.1968	0.1097
N344	37218.2291	1.7231
N345	10066.9012	0.4661
N361	420776.2755	19.4804
N363	33608.4805	1.5559
N366	90831.8047	4.2052
N367	52128.4899	2.4134
N368	244165.9078	11.3040
N370	364374.6943	16.8692
N371	506923.1293	23.4687
N375	175463.8701	8.1233
N376	163438.6357	7.5666
N379	15050.1557	0.6968
N381	1025.6992	0.0475
N382	19818.9642	0.9175
N383	45768.3620	2.1189
N384	42762.5491	1.9797
N386	52463.1297	2.4288
N387	32408.5308	1.5004
N389	70074.2661	3.2442
N390	45118.8852	2.0888
N391	69195.0957	3.2035
N394	2489.8074	0.1153
N395	66359.5713	3.0722
N397	1469.2448	0.0680
N398	37972.6521	1.7580
N399	35572.7546	1.6469
N404	138083.2728	6.3927
N405	44146.6496	2.0438
N406	64355.6949	2.9794
N407	31836.2773	1.4739
N408	108415.2198	5.0192
N412	83966.7485	3.8873
N415	90705.0759	4.1993
N416	85608.2620	3.9633
N418	80210.4700	3.7134
N420	140958.3977	6.5259
N423	96118.7099	4.4499
N425	75741.3522	3.5065
N429	37768.7001	1.7486
N430	44417.9251	2.0564
N431	201.9717	0.0094
N434	44946.6154	2.0809
N436	56421.3770	2.6121
N437	102348.1481	4.7383
N439	3271.1489	0.1514
N440	32895.6393	1.5229
N441	75281.9668	3.4853
N443	18448.7251	0.8541
N444	78572.9157	3.6376
N445	18773.4638	0.8691
N446	18599.2138	0.8611
N447	37802.3619	1.7501
N448	48473.1985	2.2441
N449	35.6421	0.0017

N451	45091.1639	2.0876
N454	56862.9427	2.6325
N456	199.9915	0.0093
N457	33077.8106	1.5314
N464	9791.6653	0.4533
N465	117159.4032	5.4240
N467	19222.9498	0.8900
N468	32830.2954	1.5199
N469	12856.8823	0.5952
N471	25592.9784	1.1849
N472	18460.6058	0.8547
N473	13441.0160	0.6223
N490	180216.1445	8.3433
N491	7558.0963	0.3499
N492	88265.5761	4.0864
N497	59209.3790	2.7412
N509	218513.5350	10.1164
N513	132998.3381	6.1573
N514	3003.8334	0.1391
N524	12007.4132	0.5559
N526	11858.9046	0.5490
N527	6520.5164	0.3019
N530	5970.0447	0.2764
EL329	85905.2792	3.9771
N411	22618.1692	1.0471
N462	42105.1505	1.9493
N266	2233.5689	0.1034
N267	1869.2279	0.0865
N268	34388.6452	1.5921
N270	78390.7462	3.6292
N271	15264.7013	0.7067
N280	75000.7898	3.4723
N281	8427.3665	0.3902
N282	1243.5118	0.0576
N283	23262.3830	1.0770
N284	16969.5797	0.7856
N285	52575.9961	2.4341
N286	5330.4677	0.2468
N297	30978.8894	1.4342
N298	2386.0378	0.1105
N300	31056.1126	1.4378
N305	31075.9137	1.4387
N306	2584.0492	0.1196
N307	1099.8035	0.0509
N308	27931.4929	1.2931
N313	3435.4983	0.1591
N314	5372.0501	0.2487
N315	13991.4878	0.6478
N317	86299.3225	3.9953
N318	14149.8969	0.6551
N319	27775.0633	1.2859
N320	3366.1943	0.1558
N321	36956.8532	1.7110
N326	16852.7530	0.7802
N327	48754.3754	2.2571
N328	9954.0347	0.4608
N329	55813.4821	2.5840
N330	4368.1322	0.2022
N331	20.8812	0.0010
N332	53332.3986	2.4691

N333	31693.7101	1.4673
N335	2314.7536	0.1072
N336	25387.0451	1.1753
N337	5779.9537	0.2676
N338	25396.9466	1.1758
N339	32131.3148	1.4876
N348	3922.6065	0.1816
N349	33840.1537	1.5667
N350	32180.8186	1.4899
N351	2201.8871	0.1019
N352	38841.9228	1.7982
N353	43831.8109	2.0293
N356	8445.1876	0.3910
N357	8556.0740	0.3961
N358	8575.8751	0.3970
N500	48849.4202	2.2615
N503	207.0568	0.0096
N504	213284.0536	9.8743
N506	75204.7418	3.4817
N517	2544.4469	0.1178
N322	7.4639	0.0003
N511	101328.3901	4.6911
N234	-261079.2979	-12.0870
N260	-560187.8323	-25.9346
N264	-59318.8454	-2.7462
N275	-140971.0357	-6.5264
N278	-45539.0706	-2.1083
N289	-730662.7244	-33.8270
N292	-169390.1734	-7.8421
N303	-99204.9877	-4.5928
N343	-159820.8905	-7.3991
N365	-592957.9895	-27.4518
N379	-1.430E+06	-66.1889
N394	-376504.1547	-17.4307
N461	-927771.2238	-42.9524
N493	-88214.3252	-4.0840
N499	-59194.3416	-2.7405
N516	-353721.7540	-16.3760
N527	-30221.1019	-1.3991
N689	-185793.9682	-8.6016
N411	-1.175E+06	-54.4053
N295	-62078.2622	-2.8740
N311	-82167.1857	-3.8040
N299	-64112.2358	-2.9682
N307	-59978.9272	-2.7768
N316	-22701.8049	-1.0510
N331	-63281.2916	-2.9297
N355	-152739.1425	-7.0713
N360	-25387.4410	-1.1753
N503	-213283.8093	-9.8743
N322	-60767.2329	-2.8133
N555	-101306.4503	-4.6901

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

N234	261079.2979	12.0870
N260	560187.8323	25.9346
N264	59318.8454	2.7462
N275	140971.0357	6.5264

N278	45539.0706	2.1083
N289	730662.7244	33.8270
N292	169390.1734	7.8421
N303	99204.9877	4.5928
N343	159820.8905	7.3991
N365	592957.9895	27.4518
N379	1.42968E+06	66.1889
N394	376504.1547	17.4307
N461	927771.2238	42.9524
N493	88214.3252	4.0840
N499	59194.3416	2.7405
N516	353721.7540	16.3760
N527	30221.1019	1.3991
N689	185793.9682	8.6016
N411	1.17515E+06	54.4053
N295	62078.2622	2.8740
N311	82167.1857	3.8040
N299	64112.2358	2.9682
N307	59978.9272	2.7768
N316	22701.8049	1.0510
N331	63281.2916	2.9297
N355	152739.1425	7.0713
N360	25387.4410	1.1753
N503	213283.8093	9.8743
N322	60767.2329	2.8133
N555	101306.4503	4.6901

```

*=====
| Initial system volume      =      1566.4776 Cu Ft |
| Total system inflow volume =  8.714195E+06 Cu Ft |
| Inflow + Initial volume   =  8.715762E+06 Cu Ft |
*=====
| Total system outflow      =  8.353192E+06 Cu Ft |
| Volume left (Final volume) =  351093.6961 Cu Ft |
| Evaporation               =           0.0000 Cu Ft |
| Basin Infiltration        =           0.0000 Cu Ft |
| Outflow + Final Volume    =  8.704285E+06 Cu Ft |
*=====

```

```

*=====
| Total Model Continuity Error
| Error in Continuity, Percent =           0.1317
| Error in Continuity, ft^3    =      11476.597
| + Error means a continuity loss, - a gain
*=====

```

```

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

```

```

Overall error was (minimum of Table E18 & E21)          0.0874 percent
Worst nodal error was in node N470                      with      -4.5953 percent
Of the total inflow this loss was                       0.2753 percent
Your overall continuity error was                        Excellent
Efficiency of the simulation                             Excellent Efficiency
Most Number of Non Convergences at one Node            1.43
Total Number Non Convergences at all Nodes             6.
Total Number Non Convergences at all Nodes            20.

```

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	Depth (ft)	Width (ft)	Barrels	Max.Flow (ft ³ /s)
------------	------	-----------------	---------	---------------	---------------	---------	----------------------------------

==> Hydraulic model simulation ended normally.
 ==> XP-SWMM Simulation ended normally.
 ==> Your input file was named : P:\projects\2012.21\drainage\swmm\xp\JacksonTrunkNolteA1Ph2
 modf1.DAT
 ==> Your output file was named : P:\projects\2012.21\drainage\swmm\xp\JacksonTrunkNolteA1Ph2
 modf1.out

```

*=====
|                SWMM Simulation Date and Time Summary                |
*=====
| Starting Date... July           6, 2017  Time...  11:41:17:76  |
| Ending Date...  July           6, 2017  Time...  11:41:37:30  |
| Elapsed Time...   0.32567 minutes or   19.54000 seconds  |
*=====

```

**APPENDIX D
MORRISON CREEK OUTFALL ALTERNATIVES**

**APPENDIX E
LOW IMPACT DEVELOPMENT CALCULATIONS**

Jackson Township

LID CREDITS WORKSHEET

**SAMPLE FOR
LOW DENSITY RESIDENTIAL
(LDR)**

Appendix D-1: Residential Sites: Low Impact Development (LID) Credits and Treatment BMP Sizing Calculations

Name of Drainage Shed: Jackson Township - Sample LDR Area
 Location of project: Sacramento

Fill in Blue Highlighted boxes

Step 1 - Open Space and Pervious Area Credits

Is your project within the drainage area of a common drainage plan that includes open space? If not, skip to 1 b.

1 a. Common Drainage Plan Area acres A_{CDP}

Common Drainage Plan Open Space (Off-project) acres A_{OS}

a. Natural storage reservoirs and drainage corridors acres
 b. Buffer zones for natural water bodies acres
 c. Natural areas including existing trees, other vegetation, and soil acres
 d. Common landscape area/park acres
 e. Regional Flood Control/Drainage basins acres

see area example below

1 b. Project Drainage Shed Area (Total) acres A

Project-Specific Open Space (In-project, communal**) acres A_{PSOS}

a. Natural storage reservoirs and drainage corridors acres
 b. Buffer zones for natural water bodies acres
 c. Natural areas including existing trees, other vegetation, and soil acres
 d. Landscape area/park acres
 e. Flood Control/Drainage basins acres

see area example below

** Doesn't include impervious areas within individual lots and surrounding individual units. That is accounted for below using Form D-1a in Step 2.

Area with Runoff Reduction Potential $A - A_{PSOS} =$ acres A_T

Number of Units in A_T

Number of units per acre in A_T $DU/A_T =$




DUA

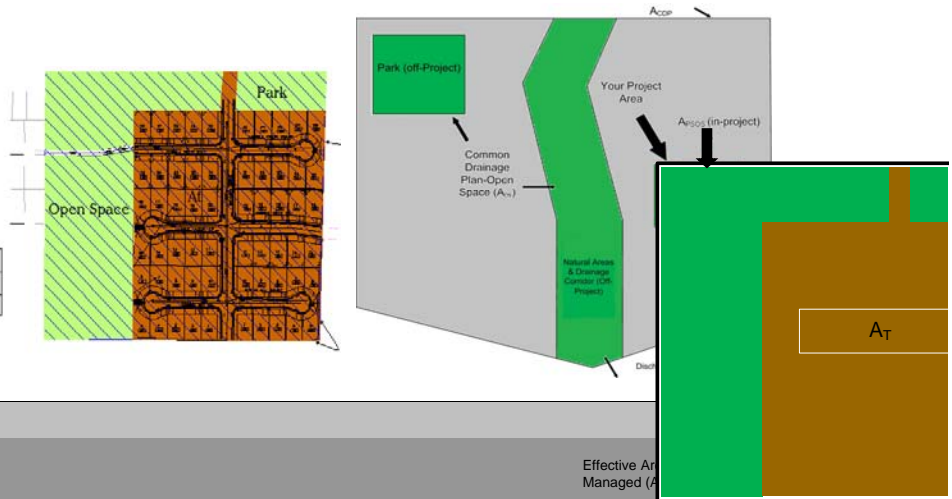
Assumed Initial Impervious Fraction of A_T
 (determined using Table D-1a)

I

Open Space & Pervious Area LID Credit (Step 1)
 $(A_{OS}/A_{CDP} + A_{PSOS}/A) \times 100 =$ pts

Dwelling units per acre	Imperviousness
1	0.17
2	0.25
3,4	0.35
5,6	0.40
7	0.50
8,9	0.55
10-14	0.60
15-20	0.70

 A - Drainage Shed Area
 A_{PSOS} Parks and Open Space
 A_T - Area with Runoff Reduction Potential



Step 2 - Runoff Reduction Credits

Runoff Reduction Measures	Effective Area Managed (A_c)
Disconnected Roof Drains (see Fact Sheet) use Form D-1a for credits <input type="text" value="9.35"/> acres	A_c <input type="text" value="12.29"/> acres EAM
Disconnected Pavement (see Fact Sheet) use Form D-1b for credits <input type="text" value="0.68"/> acres	
Interceptor Trees (see Fact Sheet) use Form D-1c for credits <input type="text" value="0.83"/> acres	
Alternative Driveway Design (see Fact Sheet) use Form D-1d for credits <input type="text" value="1.43"/> acres	
Total Effective Area Managed (Credit Area)	

Runoff Reduction Credit (Step 2) $(A_c / A_T) \times 100 =$ pts

Form D-1a: Disconnected Roof Drains Worksheet
 See Fact Sheet for more information regarding Disconnected Roof Drain credit guidelines

1. Determine efficiency Multiplier

Runoff is directed to a dispersal trench or dry well (Type A and B soils only)	1.00	
Runoff is directed across landscaping, determine setback		
25 ft +	Use multiplier of	1.00
≥ 20 and < 25 ft	Use multiplier of	0.90
≥ 15 and < 20 ft	Use multiplier of	0.70
≥ 10 and < 15 ft	Use multiplier of	0.45
≥ 5 and < 10 ft	Use multiplier of	0.25

Efficiency Multiplier → Box J1

2. Determine percentage of roof drains disconnected → Box J2

3. Select project density in dwelling units per acre:

1	Use reduction factor of	0.08
2	Use reduction factor of	0.13
3,4	Use reduction factor of	0.19
5,6	Use reduction factor of	0.23
7	Use reduction factor of	0.29
8,9	Use reduction factor of	0.33
10-14	Use reduction factor of	0.37
15-20	Use reduction factor of	0.44

Reduction Factor → Box J3

4. Determine Area Managed

Multiply Box J3 by A_r, and enter the result in Box J4 acres Box J4

5. Multiply Boxes J1, J2 and J4, and enter 60% of the Result in Box J acres Box J

This is the amount of area credit to enter into the "Disconnected Roof Drains" Box of Form D-1

Form D-1b: Disconnected Pavement Worksheet

See Fact Sheet for more information regarding NDC Pavement credit guidelines

Divided Sidewalks

1. Determine percentage of units with divided Sidewalks Box K1

Multiply Box K1, A_r, and 0.04 and enter 60% of the result in Box K acres Box K

This is the amount of area credit to enter into the "Disconnected Pavement" Box of Form D-1

Form D-1c: Interceptor Tree Worksheet

See Fact Sheet for more information regarding Interceptor Tree credit guidelines

New Evergreen Trees

1. Enter number of new evergreen trees that qualify as Interceptor Trees in Box L1. trees Box L1

2. Multiply Box L1 by 200 and enter result in Box L2 sq. ft. Box L2

New Deciduous Trees

3. Enter number of new deciduous trees that qualify as Interceptor Trees in Box L3. trees Box L3

4. Multiply Box L3 by 100 and enter result in Box L4 sq. ft. Box L4

Existing Tree Canopy

5. Enter square footage of existing tree canopy that qualifies as Existing Tree canopy in Box L5. sq. ft. Box L5

6. Multiply Box L5 by 0.5 and enter the result in Box L6 sq. ft. Box L6

Total Interceptor Tree Credits

Add Boxes L2, L4, and L6 and enter it into Box L7 sq. ft. Box L7

Divide Box L7 by 43,560 and multiply by 20% to get effective area managed and enter the result in Box L8 acres Box L8

This is the amount of area credit to enter into the "Interceptor Trees" Box of Form D-1

Form D-1d: Alternative Driveway Design

See Fact Sheet for more information regarding Alternative Driveway Design credit guidelines

1. Select type of driveway

Pervious Driveway:	Multiplier:
Cobblestone Block	0.40
Pervious Concrete/Modular Block	0.60
Porous Pavement	0.75
Porous Gravel	
Not Directly-connected	1.00

Box M1

2. Determine percentage of units with Alternative Driveways:

Box M2

4. Multiply Boxes M1, M2, A_T and 0.04, and enter the result in Box M

This is the amount of area credit to enter into the "Alternative Driveway Design" Box of Form D-1

acres

Step 3 - Runoff Management Credits

Capture and Use Credits

Impervious Area Managed by Rain barrels, Cisterns, and automatically-emptied systems

(see Fact Sheet) enter gallons, for simple rain barrels acres

Automated-Control Capture and Use System

(see Fact Sheet, then enter impervious area managed by the system) acres

Bioretention/Infiltration Credits

Impervious Area Managed by Bioretention BMPs

(see Fact Sheet) Bioretention Area sq ft
 Subdrain Elevation inches
 Ponding Depth, inches inches acres

Impervious Area Managed by Infiltration BMPs

(see Fact Sheet) Drawdown Time, hrs drawdown_hrs_inf
 Soil Infiltration Rate, in/hr soil_inf_rate
 Sizing Option 1: Capture Volume, acre-ft capture_vol_inf acres
 Sizing Option 2: Infiltration BMP surface area, sq ft soil_surface_area acres
 Basin or trench? approximate BMP depth ft

Impervious Area Managed by Amended Soil or Mulch Beds

(see Fact Sheet) Mulched Infiltration Area, sq ft mulch_area acres

Total Effective Area Managed by Capture-and-Use/Bioretention/Infiltration BMPs

A_{LIDC}

Runoff Management Credit (Step 3)

A_{LIDC}/A_T*200 = pts

Total LID Credits (Step 1+2+3)

LID compliant, check for treatment sizing in Step 4

Does project require hydromodification management? If yes, proceed to using SachM.

Adjusted Area for Flow-Based, Non-LID Treatment

A_T - A_C - A_{LIDC} = A_{AT}

Adjusted Impervious Fraction of A for Volume-Based, Non-LID Treatment

(A_T*I - A_C - A_{LIDC}) / A = I_A

Further treatment is required, see choose flow-based or volume-based sizing in Step 4

Step 4a Treatment - Flow-Based (Rational Method)

Form D-1e

Calculate treatment flow (cfs):

Flow = Runoff Coefficient x Rainfall Intensity x Adjusted Treatment Area

Determine C Factor using Table D-1b

C

Determine i using Table D-1c (Rainfall Intensity)

i

A_{AT} from Step 2

A_{AT}

Flow = C * i * A_{AT} cfs

TABLE D-1b

Development Type	Runoff Coefficient (Rational), C
Single-family areas	0.50
Multi-units, detached	0.60
Apartment dwelling areas	0.70
Multi-units, attached	0.75
User Specified	0.00

Table D-1c

Rainfall Intensity	
Roseville	i = 0.20 in/hr
Sacramento	i = 0.18 in/hr
Folsom	i = 0.20 in/hr

Step 4b Treatment - Volume-Based (ASCE-WEF)

Calculate water quality volume (Acre-Feet):

$$WQV = \text{Area} \times \text{Maximized Detention Volume (P}_0\text{)}$$

Obtain A from Step 1

A

hrs

Specified Draw Down time

Obtain P₀: Maximized Detention Volume from figures E-1 to E-4 in Appendix E of this manual using I_a from Step 2.

P₀

Calculate treatment volume (acre-ft):

$$\text{Treatment volume} = A \times (P_0 / 12)$$

Acre-Feet

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Jackson Township

LID CREDITS WORKSHEET

**SAMPLE FOR
MEDIUM DENSITY RESIDENTIAL
(MDR)**

Appendix D-1: Residential Sites: Low Impact Development (LID) Credits and Treatment BMP Sizing Calculations

Name of Drainage Shed: Jackson Township - Sample MDR Area

Fill in Blue Highlighted boxes

Location of project: Sacramento

Step 1 - Open Space and Pervious Area Credits

Is your project within the drainage area of a common drainage plan that includes open space? If not, skip to 1 b.

1 a. Common Drainage Plan Area acres A_{CDP}

Common Drainage Plan Open Space (Off-project) acres A_{OS}

a. Natural storage reservoirs and drainage corridors acres

b. Buffer zones for natural water bodies acres

c. Natural areas including existing trees, other vegetation, and soil acres

d. Common landscape area/park acres

e. Regional Flood Control/Drainage basins acres

see area example below

1 b. Project Drainage Shed Area (Total) acres A

Project-Specific Open Space (In-project, communal**) acres A_{PSOS}

a. Natural storage reservoirs and drainage corridors acres

b. Buffer zones for natural water bodies acres

c. Natural areas including existing trees, other vegetation, and soil acres

d. Landscape area/park acres

e. Flood Control/Drainage basins acres

see area example below

** Doesn't include impervious areas within individual lots and surrounding individual units. That is accounted for below using Form D-1a in Step 2.

Area with Runoff Reduction Potential $A - A_{PSOS} =$ acres A_T

Number of Units in A_T

Number of units per acre in A_T $DU/A_T =$


DUA


Assumed Initial Impervious Fraction of A_T
(determined using Table D-1a)


I

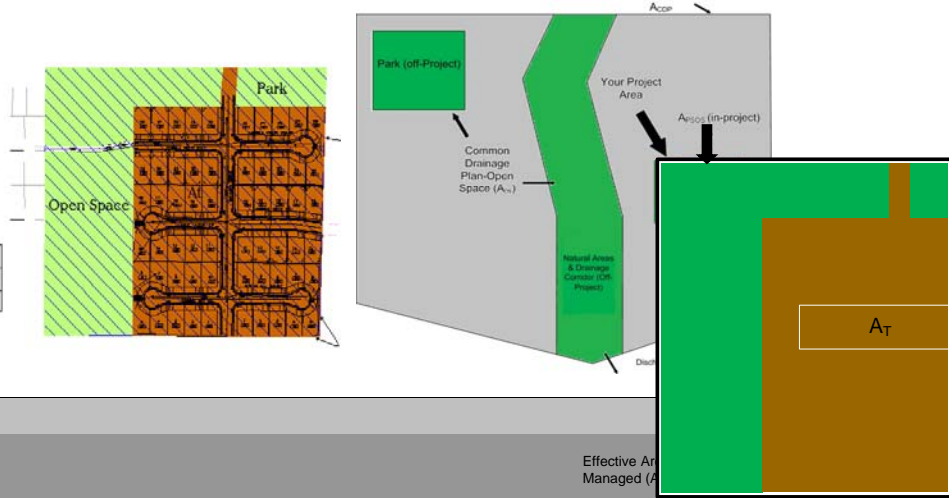
Open Space & Pervious Area LID Credit (Step 1)
 $(A_{OS}/A_{CDP} + A_{PSOS}/A) \times 100 =$ pts

Dwelling units per acre	Imperviousness
1	0.17
2	0.25
3,4	0.35
5,6	0.40
7	0.50
8,9	0.55
10-14	0.60
15-20	0.70

 **A - Drainage Shed Area**

 **A_{PSOS} Parks and Open Space**

 **A_T - Area with Runoff Reduction Potential**



Step 2 - Runoff Reduction Credits

Runoff Reduction Measures	Effective Area Managed (A_C)
Disconnected Roof Drains (see Fact Sheet) use Form D-1a for credits <input type="text" value="11.75"/> acres	A_C <input type="text" value="15.13"/> acres EAM
Disconnected Pavement (see Fact Sheet) use Form D-1b for credits <input type="text" value="0.57"/> acres	
Interceptor Trees (see Fact Sheet) use Form D-1c for credits <input type="text" value="1.38"/> acres	
Alternative Driveway Design (see Fact Sheet) use Form D-1d for credits <input type="text" value="1.43"/> acres	
Total Effective Area Managed (Credit Area)	

Runoff Reduction Credit (Step 2) $(A_C / A_T) \times 100 =$ pts

Form D-1a: Disconnected Roof Drains Worksheet
See Fact Sheet for more information regarding Disconnected Roof Drain credit guidelines

1. Determine efficiency Multiplier

Runoff is directed to a dispersal trench or dry well (Type A and B soils only) 1.00

Runoff is directed across landscaping, determine setback

25 ft +	Use multiplier of	1.00
≥ 20 and < 25 ft	Use multiplier of	0.90
≥ 15 and < 20 ft	Use multiplier of	0.70
≥ 10 and < 15 ft	Use multiplier of	0.45
≥ 5 and < 10 ft	Use multiplier of	0.25

Efficiency Multiplier → Box J1

2. Determine percentage of roof drains disconnected → Box J2

3. Select project density in dwelling units per acre:

1	Use reduction factor of	0.08
2	Use reduction factor of	0.13
3,4	Use reduction factor of	0.19
5,6	Use reduction factor of	0.23
7	Use reduction factor of	0.29
8,9	Use reduction factor of	0.33
10-14	Use reduction factor of	0.37
15-20	Use reduction factor of	0.44

Reduction Factor → Box J3

4. Determine Area Managed

Multiply Box J3 by A_r, and enter the result in Box J4 acres Box J4

5. Multiply Boxes J1, J2 and J4, and enter 60% of the Result in Box J acres Box J

This is the amount of area credit to enter into the "Disconnected Roof Drains" Box of Form D-1

Form D-1b: Disconnected Pavement Worksheet

See Fact Sheet for more information regarding NDC Pavement credit guidelines

Divided Sidewalks

1. Determine percentage of units with divided Sidewalks Box K1

Multiply Box K1, A_r, and 0.04 and enter 60% of the result in Box K acres Box K

This is the amount of area credit to enter into the "Disconnected Pavement" Box of Form D-1

Form D-1c: Interceptor Tree Worksheet

See Fact Sheet for more information regarding Interceptor Tree credit guidelines

New Evergreen Trees

1. Enter number of new evergreen trees that qualify as Interceptor Trees in Box L1. trees Box L1

2. Multiply Box L1 by 200 and enter result in Box L2 sq. ft. Box L2

New Deciduous Trees

3. Enter number of new deciduous trees that qualify as Interceptor Trees in Box L3. trees Box L3

4. Multiply Box L3 by 100 and enter result in Box L4 sq. ft. Box L4

Existing Tree Canopy

5. Enter square footage of existing tree canopy that qualifies as Existing Tree canopy in Box L5. sq. ft. Box L5

6. Multiply Box L5 by 0.5 and enter the result in Box L6 sq. ft. Box L6

Total Interceptor Tree Credits

Add Boxes L2, L4, and L6 and enter it into Box L7 sq. ft. Box L7

Divide Box L7 by 43,560 and multiply by 20% to get effective area managed and enter the result in Box L8 acres Box L8

This is the amount of area credit to enter into the "Interceptor Trees" Box of Form D-1

Form D-1d: Alternative Driveway Design

See Fact Sheet for more information regarding Alternative Driveway Design credit guidelines

1. Select type of driveway

Pervious Driveway:	Multiplier:
Cobblestone Block	0.40
Pervious Concrete/Asphalt	0.60
Modular Block	
Porous Pavement	0.75
Porous Gravel	
Not Directly-connected	1.00

0.75 Box M1

2. Determine percentage of units with Alternative Driveways:

50% Box M2

4. Multiply Boxes M1, M2, A_T and 0.04, and enter the result in Box M

This is the amount of area credit to enter into the "Alternative Driveway Design" Box of Form D-1

1.43 acres

Step 3 - Runoff Management Credits

Capture and Use Credits

Impervious Area Managed by Rain barrels, Cisterns, and automatically-emptied systems

(see Fact Sheet) enter gallons, for simple rain barrels 0.00 acres

Automated-Control Capture and Use System

(see Fact Sheet, then enter impervious area managed by the system) 0.00 acres

Bioretention/Infiltration Credits

Impervious Area Managed by Bioretention BMPs

(see Fact Sheet) Bioretention Area - sq ft
Subdrain Elevation 6 inches
Ponding Depth, inches 6.6 inches 0.00 acres

Impervious Area Managed by Infiltration BMPs

(see Fact Sheet) Drawdown Time, hrs 12 drawdown_hrs_inf
Soil Infiltration Rate, in/hr 0.50 soil_inf_rate
Sizing Option 1: Capture Volume, acre-ft 0.00 capture_vol_inf 0.00 acres
Sizing Option 2: Infiltration BMP surface area, sq ft 0 soil_surface_area 0.00 acres
Basin or trench? Basin approximate BMP depth 0.50 ft

Impervious Area Managed by Amended Soil or Mulch Beds

(see Fact Sheet) Mulched Infiltration Area, sq ft 285,000 mulch_area 26.17 acres

Total Effective Area Managed by Capture-and-Use/Bioretention/Infiltration BMPs

26.17 A_{LIDC}

Runoff Management Credit (Step 3)

A_{LIDC}/A_T*200 = 55.1 pts

Total LID Credits (Step 1+2+3)

LID compliant, check for treatment sizing in Step 4 100.1

Does project require hydromodification management? If yes, proceed to using SachM.

Adjusted Area for Flow-Based, Non-LID Treatment

A_T - A_C - A_{LIDC} = 53.70 A_{AT}

Adjusted Impervious Fraction of A for Volume-Based, Non-LID Treatment

(A_T*I - A_C - A_{LIDC}) / A = 0.157 I_A

Further treatment is required, see choose flow-based or volume-based sizing in Step 4

Step 4a Treatment - Flow-Based (Rational Method)

Form D-1e

Calculate treatment flow (cfs):

Flow = Runoff Coefficient x Rainfall Intensity x Adjusted Treatment Area

Determine C Factor using Table D-1b

0.50 C

Determine i using Table D-1c (Rainfall Intensity)

0.18 i

A_{AT} from Step 2

53.70 A_{AT}

Flow = C * i * A_{AT} 4.83 cfs

TABLE D-1b

Development Type	Runoff Coefficient (Rational), C
Single-family areas	0.50
Multi-units, detached	0.60
Apartment dwelling areas	0.70
Multi-units, attached	0.75
User Specified	0.00

Table D-1c

Rainfall Intensity	
Roseville	i = 0.20 in/hr
Sacramento	i = 0.18 in/hr
Folsom	i = 0.20 in/hr

Step 4b Treatment - Volume-Based (ASCE-WEF)

Calculate water quality volume (Acre-Feet):

$$WQV = \text{Area} \times \text{Maximized Detention Volume (P}_0\text{)}$$

Obtain A from Step 1

A

hrs

Specified Draw Down time

Obtain P₀: Maximized Detention Volume from figures E-1 to E-4 in Appendix E of this manual using I_a from Step 2.

P₀

Calculate treatment volume (acre-ft):

$$\text{Treatment volume} = A \times (P_0 / 12)$$

Acre-Feet

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Jackson Township

LID CREDITS WORKSHEET

**SAMPLE FOR
HIGH DENSITY RESIDENTIAL
(HDR)**

Appendix D-1: Residential Sites: Low Impact Development (LID) Credits and Treatment BMP Sizing Calculations

Name of Drainage Shed: Jackson Township - Sample HDR Area
 Location of project: Sacramento

Fill in Blue Highlighted boxes

Step 1 - Open Space and Pervious Area Credits

Is your project within the drainage area of a common drainage plan that includes open space? If not, skip to 1 b.

1 a. Common Drainage Plan Area acres A_{CDP}

Common Drainage Plan Open Space (Off-project) acres A_{OS}

a. Natural storage reservoirs and drainage corridors acres
 b. Buffer zones for natural water bodies acres
 c. Natural areas including existing trees, other vegetation, and soil acres
 d. Common landscape area/park acres
 e. Regional Flood Control/Drainage basins acres

see area example below

1 b. Project Drainage Shed Area (Total) acres A

Project-Specific Open Space (In-project, communal**) acres A_{PSOS}

a. Natural storage reservoirs and drainage corridors acres
 b. Buffer zones for natural water bodies acres
 c. Natural areas including existing trees, other vegetation, and soil acres
 d. Landscape area/park acres
 e. Flood Control/Drainage basins acres

see area example below

** Doesn't include impervious areas within individual lots and surrounding individual units. That is accounted for below using Form D-1a in Step 2.

Area with Runoff Reduction Potential $A - A_{PSOS} =$ acres A_T




Number of Units in A_T

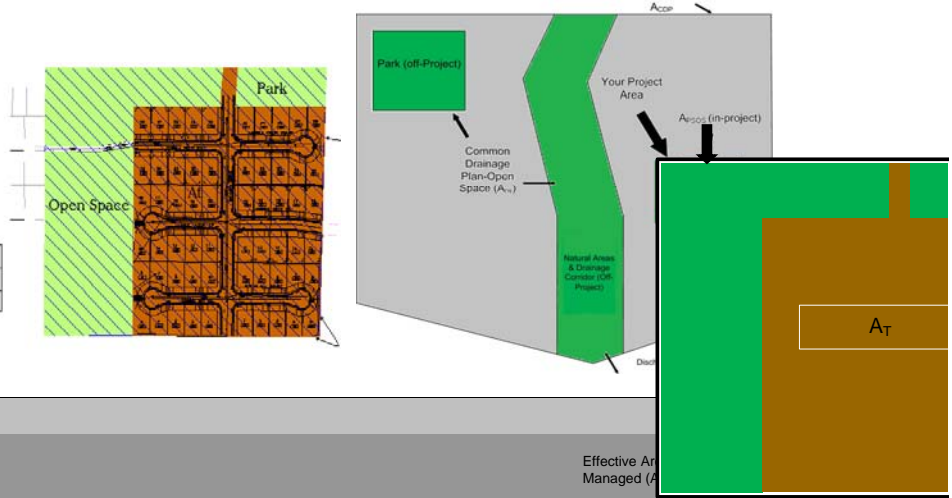
Number of units per acre in A_T $DU/A_T =$ DUA

Assumed Initial Impervious Fraction of A_T I
 (determined using Table D-1a)

Open Space & Pervious Area LID Credit (Step 1)
 $(A_{OS}/A_{CDP} + A_{PSOS}/A) \times 100 =$ pts

Dwelling units per acre	Imperviousness
1	0.17
2	0.25
3,4	0.35
5,6	0.40
7	0.50
8,9	0.55
10-14	0.60
15-20	0.70

 A - Drainage Shed Area
 A_{PSOS} Parks and Open Space
 A_T - Area with Runoff Reduction Potential



Step 2 - Runoff Reduction Credits

Runoff Reduction Measures Effective Area Managed (A_C)

Disconnected Roof Drains use Form D-1a for credits acres
 (see Fact Sheet)

Disconnected Pavement use Form D-1b for credits acres
 (see Fact Sheet)

Interceptor Trees use Form D-1c for credits acres
 (see Fact Sheet)

Alternative Driveway Design use Form D-1d for credits acres
 (see Fact Sheet)

Total Effective Area Managed (Credit Area) A_C acres EAM

Runoff Reduction Credit (Step 2) $(A_C / A_T) * 100 =$ pts

Form D-1a: Disconnected Roof Drains Worksheet
 See Fact Sheet for more information regarding Disconnected Roof Drain credit guidelines

1. Determine efficiency Multiplier

Runoff is directed to a dispersal trench or dry well (Type A and B soils only)	1.00	
Runoff is directed across landscaping, determine setback		
25 ft +	Use multiplier of	1.00
≥ 20 and < 25 ft	Use multiplier of	0.90
≥ 15 and < 20 ft	Use multiplier of	0.70
≥ 10 and < 15 ft	Use multiplier of	0.45
≥ 5 and < 10 ft	Use multiplier of	0.25

Efficiency Multiplier → Box J1

2. Determine percentage of roof drains disconnected → Box J2

3. Select project density in dwelling units per acre:

1	Use reduction factor of	0.08
2	Use reduction factor of	0.13
3,4	Use reduction factor of	0.19
5,6	Use reduction factor of	0.23
7	Use reduction factor of	0.29
8,9	Use reduction factor of	0.33
10-14	Use reduction factor of	0.37
15-20	Use reduction factor of	0.44

Reduction Factor → Box J3

4. Determine Area Managed

Multiply Box J3 by A_T, and enter the result in Box J4 acres Box J4

5. Multiply Boxes J1, J2 and J4, and enter 60% of the Result in Box J acres Box J

This is the amount of area credit to enter into the "Disconnected Roof Drains" Box of Form D-1

Form D-1b: Disconnected Pavement Worksheet

See Fact Sheet for more information regarding NDC Pavement credit guidelines

Divided Sidewalks

1. Determine percentage of units with divided Sidewalks Box K1

Multiply Box K1, A_T, and 0.04 and enter 60% of the result in Box K acres Box K

This is the amount of area credit to enter into the "Disconnected Pavement" Box of Form D-1

Form D-1c: Interceptor Tree Worksheet

See Fact Sheet for more information regarding Interceptor Tree credit guidelines

New Evergreen Trees

1. Enter number of new evergreen trees that qualify as Interceptor Trees in Box L1. trees Box L1

2. Multiply Box L1 by 200 and enter result in Box L2 sq. ft. Box L2

New Deciduous Trees

3. Enter number of new deciduous trees that qualify as Interceptor Trees in Box L3. trees Box L3

4. Multiply Box L3 by 100 and enter result in Box L4 sq. ft. Box L4

Existing Tree Canopy

5. Enter square footage of existing tree canopy that qualifies as Existing Tree canopy in Box L5. sq. ft. Box L5

6. Multiply Box L5 by 0.5 and enter the result in Box L6 sq. ft. Box L6

Total Interceptor Tree Credits

Add Boxes L2, L4, and L6 and enter it into Box L7 sq. ft. Box L7

Divide Box L7 by 43,560 and multiply by 20% to get effective area managed and enter the result in Box L8 acres Box L8

This is the amount of area credit to enter into the "Interceptor Trees" Box of Form D-1

Form D-1d: Alternative Driveway Design

See Fact Sheet for more information regarding Alternative Driveway Design credit guidelines

1. Select type of driveway

Pervious Driveway:	Multiplier:
Cobblestone Block	0.40
Pervious Concrete/Asphalt	0.60
Modular Block	
Porous Pavement	0.75
Porous Gravel	
Not Directly-connected	1.00

Box M1

2. Determine percentage of units with Alternative Driveways:

Box M2

4. Multiply Boxes M1, M2, A_T and 0.04, and enter the result in Box M

This is the amount of area credit to enter into the "Alternative Driveway Design" Box of Form D-1

acres

Step 3 - Runoff Management Credits

Capture and Use Credits

Impervious Area Managed by Rain barrels, Cisterns, and automatically-emptied systems

(see Fact Sheet) enter gallons, for simple rain barrels acres

Automated-Control Capture and Use System

(see Fact Sheet, then enter impervious area managed by the system) acres

Bioretention/Infiltration Credits

Impervious Area Managed by Bioretention BMPs

(see Fact Sheet) Bioretention Area sq ft
 Subdrain Elevation inches
 Ponding Depth, inches inches acres

Impervious Area Managed by Infiltration BMPs

(see Fact Sheet) Drawdown Time, hrs drawdown_hrs_inf
 Soil Infiltration Rate, in/hr soil_inf_rate
 Sizing Option 1: Capture Volume, acre-ft capture_vol_inf acres
 Sizing Option 2: Infiltration BMP surface area, sq ft soil_surface_area acres
 Basin or trench? approximate BMP depth ft

Impervious Area Managed by Amended Soil or Mulch Beds

(see Fact Sheet) Mulched Infiltration Area, sq ft mulch_area acres

Total Effective Area Managed by Capture-and-Use/Bioretention/Infiltration BMPs

A_{LIDC}

Runoff Management Credit (Step 3)

A_{LIDC}/A_T*200 = pts

Total LID Credits (Step 1+2+3)

LID compliant, check for treatment sizing in Step 4

Does project require hydromodification management? If yes, proceed to using SachM.

Adjusted Area for Flow-Based, Non-LID Treatment

A_T - A_C - A_{LIDC} = A_{AT}

Adjusted Impervious Fraction of A for Volume-Based, Non-LID Treatment

(A_T*I - A_C - A_{LIDC}) / A = I_A

Further treatment is required, see choose flow-based or volume-based sizing in Step 4

Step 4a Treatment - Flow-Based (Rational Method)

Form D-1e

Calculate treatment flow (cfs):

Flow = Runoff Coefficient x Rainfall Intensity x Adjusted Treatment Area

Determine C Factor using Table D-1b

C

Determine i using Table D-1c (Rainfall Intensity)

i

A_{AT} from Step 2

A_{AT}

Flow = C * i * A_{AT} cfs

TABLE D-1b

Development Type	Runoff Coefficient (Rational), C
Single-family areas	0.50
Multi-units, detached	0.60
Apartment dwelling areas	0.70
Multi-units, attached	0.75
User Specified	0.00

Table D-1c

Rainfall Intensity	
Roseville	i = 0.20 in/hr
Sacramento	i = 0.18 in/hr
Folsom	i = 0.20 in/hr

Step 4b Treatment - Volume-Based (ASCE-WEF)

Calculate water quality volume (Acre-Feet):

$$WQV = \text{Area} \times \text{Maximized Detention Volume (P}_0\text{)}$$

Obtain A from Step 1

A

hrs

Specified Draw Down time

Obtain P₀: Maximized Detention Volume from figures E-1 to E-4 in Appendix E of this manual using I_a from Step 2.

P₀

Calculate treatment volume (acre-ft):

$$\text{Treatment volume} = A \times (P_0 / 12)$$

Acre-Feet

v06232012

Jackson Township

LID CREDITS WORKSHEET

**SAMPLE FOR
PQP/SCHOOL
(PQP)**

Appendix D-2: Commercial Sites: Low Impact Development (LID) Credits and Treatment BMP Sizing Calculations

Name of Drainage Shed: Fill in Blue Highlighted boxes
 Location of project:

Step 1 - Open Space and Pervious Area Credits

Is your project within the drainage area of a common drainage plan that includes open space? If not, skip to 1 b.

1 a. Common Drainage Plan Area acres A_{CDP}

Common Drainage Plan Open Space (Off-project) acres A_{OS} **see area example below**

a. Natural storage reservoirs and drainage corridors acres
 b. Buffer zones for natural water bodies acres
 c. Natural areas including existing trees, other vegetation, and soil acres
 d. Common landscape area/park acres
 e. Regional Flood Control/Drainage basins acres

1 b. Project Drainage Shed Area (Total) acres A

Project-Specific Open Space (In-project, communal)** acres A_{PSOS} **see area example below**

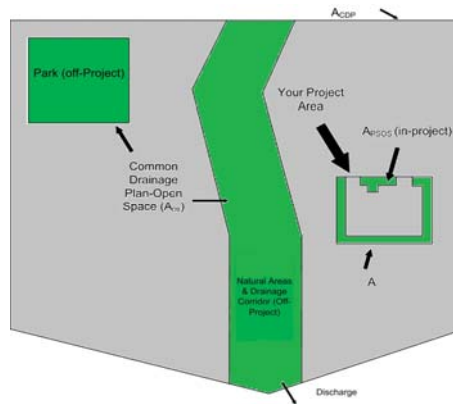
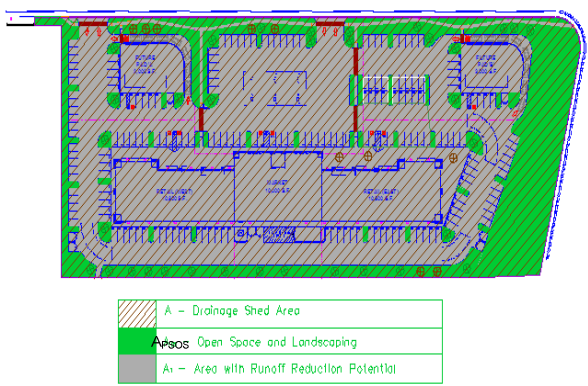
a. Natural storage reservoirs and drainage corridors acres
 b. Buffer zones for natural water bodies acres
 c. Natural areas including existing trees, other vegetation, and soil acres
 d. Landscape area/park acres
 e. Flood Control/Drainage basins acres

** Doesn't include impervious areas within individual lots and surrounding individual units. That is accounted for below using Form D-1a in Step 2.

Area with Runoff Reduction Potential $A - A_{PSOS} =$ acres A_T

Assumed Initial Impervious Fraction $A_T / A =$ I

Open Space & Pervious Area LID Credit (Step 1)
 $(A_{OS}/A_{CDP} + A_{PSOS}/A) \times 100 =$ pts



Step 2 - Runoff Reduction Credits

Runoff Reduction Treatments	Impervious Area Managed	Efficiency Factor	Effective Area Managed (A _C)
Porous Pavement:			
Option 1: Porous Pavement (see Fact Sheet, excludes porous pavement used in Option 2)	<input type="text" value="0"/> acres	x <input type="text" value="1"/>	= <input type="text" value="0.000"/> acres
Option 2: Disconnected Pavement (see Fact Sheet, excludes porous pavement used in Option 1)	use Form D-2a for credits	→	= <input type="text" value="0.00"/> acres
Landscaping used to Disconnect Pavement (see Fact Sheet)	<input type="text" value="2.0000"/> acres	=	= <input type="text" value="2.00"/> acres
Disconnected Roof Drains (see Fact Sheet and/or Table D-2b for summary of requirements)	<input type="text" value="1.7"/> acres	=	= <input type="text" value="1.70"/> acres
Ecoroof (see Fact Sheet)	<input type="text" value="0"/> acres	=	= <input type="text" value="0.00"/> acres
Interceptor Trees (see Fact Sheet)	use Form D-2b for credits	→	= <input type="text" value="0.14"/> acres
Total Effective Area Managed by Runoff Reduction Measures		A_C	= <input type="text" value="3.84"/> acres
Runoff Reduction Credit (Step 2)		$(A_C / A_T) * 100 =$	= <input type="text" value="55"/> pts

Table D-2a

Porous Pavement Type	Efficiency Multiplier
Cobblestone Block Pavement	0.40
Pervious Concrete/Asphalt	0.60
Modular Block Pavement &	0.75
Reinforced Grass Pavement	1.00

Table D-2b

Maximum roof size	Minimum travel distance
≤ 3,500 sq ft	21 ft
≤ 5,000 sq ft	24 ft
≤ 7,500 sq ft	28 ft
≤ 10,000 sq ft	32 ft

Form D-2a: Disconnected Pavement Worksheet

See Fact Sheet for more information regarding Disconnected Pavement credit guidelines

Effective Area Managed (A_c)

Pavement Draining to Porous Pavement

2. Enter area draining onto Porous Pavement

acres

Box K1

3. Enter area of Receiving Porous Pavement

acres

Box K2

(excludes area entered in Step 2 under Porous Pavement)

4. Ratio of Areas (Box K1 / Box K2)

Box K3

5. Select multiplier using ratio from Box K3 and enter into Box K4

Ratio (Box D)	Multiplier
Ratio is ≤ 0.5	1.00
Ratio is > 0.5 and < 1.0	0.83
Ratio is > 1.0 and < 1.5	0.71
Ratio is > 1.5 and < 2.0	0.55

Box K4

6. Enter Efficiency of Porous Pavement (see table below)

Box K5

Porous Pavement Type	Efficiency Multiplier
Cobblestone Block Pavement	0.40
Pervious Concrete Asphalt Pavement	0.60
Modular Block Pavement	0.75
Porous Gravel Pavement	
Reinforced Grass Pavement	1.00

7. Multiply Box K2 by Box K5 and enter into Box K6

acres

Box K6

8. Multiply Boxes K1, K4, and K5 and enter the result in Box K7

acres

Box K7

9. Add Box K6 to Box K7 and multiply by 60%, and enter the Result in Box K8

 acres

Box K8

This is the amount of area credit to enter into the "Disconnected Pavement" Box of Form D-2

Form D-2b: Interceptor Tree Worksheet

See Fact Sheet for more information regarding Interceptor Tree credit guidelines

New Evergreen Trees

1. Enter number of new evergreen trees that qualify as Interceptor Trees in Box L1. trees Box L1
2. Multiply Box L1 by 200 and enter result in Box L2 sq. ft. Box L2

New Deciduous Trees

3. Enter number of new deciduous trees that qualify as Interceptor Trees in Box L3. trees Box L3
4. Multiply Box L3 by 100 and enter result in Box L4 sq. ft. Box L4

Existing Tree Canopy

5. Enter square footage of existing tree canopy that qualifies as Existing Tree canopy in Box L5. sq. ft. Box L5
6. Multiply Box L5 by 0.5 and enter the result in Box L6 sq. ft. Box L6

Total Interceptor Tree EAM Credits

- Add Boxes L2, L4, and L6 and enter it into Box L7 sq. ft. Box L7
- Divide Box L7 by 43,560 and multiply by 20% to get effective area managed and enter result in Box L8 acres Box L8
- This is the amount of area credit to enter into the "Interceptor Trees" Box of Form D-2

Step 3 - Runoff Management Credits

Capture and Use Credits

Impervious Area Managed by Rain barrels, Cisterns, and automatically-emptied systems

(see Fact Sheet) enter gallons, for simple rain barrels acres

Automated-Control Capture and Use System

(see Fact Sheet, then enter impervious area managed by the system) acres

Bioretention/Infiltration Credits

Impervious Area Managed by Bioretention BMPs

(see Fact Sheet)

Bioretention Area sq ft

Subdrain Elevation inches

Ponding Depth, inches inches acres

Impervious Area Managed by Infiltration BMPs

(see Fact Sheet)

Drawdown Time, hrs drawdown_hrs_inf

Soil Infiltration Rate, in/hr soil_inf_rate

Sizing Option 1: Capture Volume, acre-ft capture_vol_inf acres

Sizing Option 2: Infiltration BMP surface area, sq ft soil_surface_area acres

Basin or trench? approximate BMP depth ft

Impervious Area Managed by Amended Soil or Mulch Beds

(see Fact Sheet) Mulched Infiltration Area, sq ft mulch_area acres

Total Effective Area Managed by Capture-and-Use/Bioretention/Infiltration BMPs

A_{LIDc}

Runoff Management Credit (Step 3)

A_{LIDc}/A_T*200 = pts

Total LID Credits (Step 1+2+3)

LID compliant, check for treatment sizing in Step 4

108.9

Does project require hydromodification management? If yes, proceed to using SachM.

Adjusted Area for Flow-Based, Non-LID Treatment

A_T - A_C - A_{LIDc} = A_{AT}

Adjusted Impervious Fraction of A for Volume-Based, Non-LID Treatment

A_{AT} / A = I_A

Further treatment is required, see choose flow-based or volume-based sizing in Step 4

Step 4a Treatment - Flow-Based (Rational Method)

Calculate treatment flow (cfs):

$$\text{Flow} = \text{Runoff Coefficient} \times \text{Rainfall Intensity} \times \text{Area}$$

Look up value for i in Table D-2c (Rainfall Intensity)

i

Obtain A_{AT} from Step 3

A_{AT}

Use $C = 0.95$

C

$$\text{Flow} = 0.95 * i * A_{AT}$$

cfs

Table D-2c

Rainfall Intensity	
Roseville	$i = 0.20$ in/hr
Sacramento	$i = 0.18$ in/hr
Folsom	$i = 0.20$ in/hr

Step 4b Treatment - Volume-Based (ASCE-WEF)

Calculate water quality volume (Acre-Feet):

$$WQV = \text{Area} \times \text{Maximized Detention Volume (P}_0\text{)}$$

Obtain A from Step 1

A

hrs

Specified Draw Down time

Obtain P₀: Maximized Detention Volume from figures E-1 to E-4 in Appendix E of this manual using I_k from Step 2.

P₀

Calculate treatment volume (acre-ft):

$$\text{Treatment volume} = A \times (P_0 / 12)$$

Acre-Feet

v06232012

Jackson Township

LID CREDITS WORKSHEET

**SAMPLE FOR
ROAD
(ROAD)**

Appendix D-2: Commercial Sites: Low Impact Development (LID) Credits and Treatment BMP Sizing Calculations

Name of Drainage Shed: **Jackson Township - Sample ROAD** Fill in Blue Highlighted boxes
 Location of project: **Sacramento**

Step 1 - Open Space and Pervious Area Credits

Is your project within the drainage area of a common drainage plan that includes open space? If not, skip to 1 b.

1 a. Common Drainage Plan Area acres A_{CDP}

Common Drainage Plan Open Space (Off-project) acres A_{OS} **see area example below**

a. Natural storage reservoirs and drainage corridors acres
 b. Buffer zones for natural water bodies acres
 c. Natural areas including existing trees, other vegetation, and soil acres
 d. Common landscape area/park acres
 e. Regional Flood Control/Drainage basins acres

1 b. Project Drainage Shed Area (Total) acres A

Project-Specific Open Space (In-project, communal)** acres A_{PSOS} **see area example below**

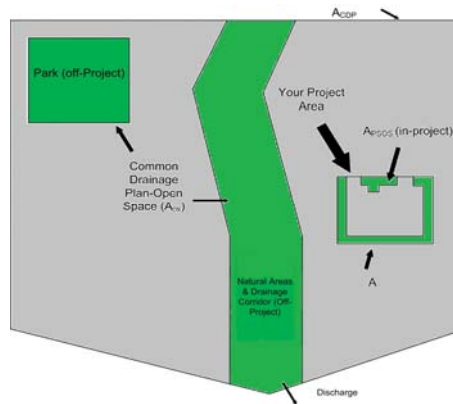
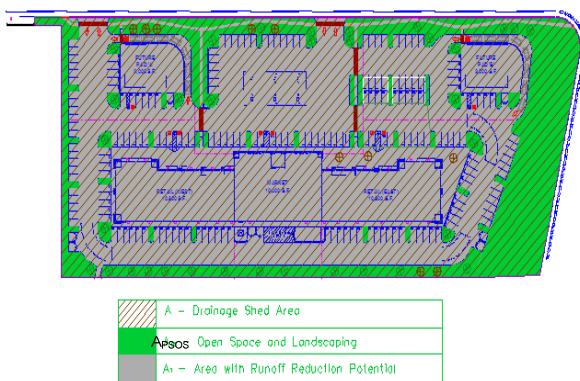
a. Natural storage reservoirs and drainage corridors acres
 b. Buffer zones for natural water bodies acres
 c. Natural areas including existing trees, other vegetation, and soil acres
 d. Landscape area/park acres
 e. Flood Control/Drainage basins acres

** Doesn't include impervious areas within individual lots and surrounding individual units. That is accounted for below using Form D-1a in Step 2.

Area with Runoff Reduction Potential $A - A_{PSOS} =$ acres A_T

Assumed Initial Impervious Fraction $A_T / A =$ I

Open Space & Pervious Area LID Credit (Step 1)
 $(A_{OS}/A_{CDP} + A_{PSOS}/A) \times 100 =$ pts



Step 2 - Runoff Reduction Credits

Runoff Reduction Treatments	Impervious Area Managed	Efficiency Factor	Effective Area Managed (A_C)
Porous Pavement:			
Option 1: Porous Pavement (see Fact Sheet, excludes porous pavement used in Option 2)	<input type="text" value="0"/> acres	x <input type="text" value="1"/>	= <input type="text" value="0.000"/> acres
Option 2: Disconnected Pavement (see Fact Sheet, excludes porous pavement used in Option 1)	use Form D-2a for credits	→	= <input type="text" value="0.00"/> acres
Landscaping used to Disconnect Pavement (see Fact Sheet)	<input type="text" value="0.0000"/> acres	=	= <input type="text" value="0.00"/> acres
Disconnected Roof Drains (see Fact Sheet and/or Table D-2b for summary of requirements)	<input type="text" value="1.7"/> acres	=	= <input type="text" value="1.70"/> acres
Ecoroof (see Fact Sheet)	<input type="text" value="0"/> acres	=	= <input type="text" value="0.00"/> acres
Interceptor Trees (see Fact Sheet)	use Form D-2b for credits	→	= <input type="text" value="0.14"/> acres
Total Effective Area Managed by Runoff Reduction Measures		A_C	= <input type="text" value="1.84"/> acres
Runoff Reduction Credit (Step 2)		$(A_C / A_T) \times 100 =$	= <input type="text" value="23"/> pts

Table D-2a

Porous Pavement Type	Efficiency Multiplier
Cobblestone Block Pavement	0.40
Pervious Concrete/Asphalt	0.60
Modular Block Pavement &	0.75
Reinforced Grass Pavement	1.00

Table D-2b

Maximum roof size	Minimum travel distance
≤ 3,500 sq ft	21 ft
≤ 5,000 sq ft	24 ft
≤ 7,500 sq ft	28 ft
≤ 10,000 sq ft	32 ft

Form D-2a: Disconnected Pavement Worksheet

See Fact Sheet for more information regarding Disconnected Pavement credit guidelines

Effective Area Managed (A_c)

Pavement Draining to Porous Pavement

2. Enter area draining onto Porous Pavement acres Box K1

3. Enter area of Receiving Porous Pavement acres Box K2
(excludes area entered in Step 2 under Porous Pavement)

4. Ratio of Areas (Box K1 / Box K2) Box K3

5. Select multiplier using ratio from Box K3 and enter into Box K4

Ratio (Box D)	Multiplier
Ratio is ≤ 0.5	1.00
Ratio is > 0.5 and < 1.0	0.83
Ratio is > 1.0 and < 1.5	0.71
Ratio is > 1.5 and < 2.0	0.55

Box K4

6. Enter Efficiency of Porous Pavement (see table below) Box K5

Porous Pavement Type	Efficiency Multiplier
Cobblestone Block Pavement	0.40
Pervious Concrete Asphalt Pavement	0.60
Modular Block Pavement	0.75
Porous Gravel Pavement	
Reinforced Grass Pavement	1.00

7. Multiply Box K2 by Box K5 and enter into Box K6 acres Box K6

8. Multiply Boxes K1, K4, and K5 and enter the result in Box K7 acres Box K7

9. Add Box K6 to Box K7 and multiply by 60%, and enter the Result in Box K8 acres Box K8

This is the amount of area credit to enter into the "Disconnected Pavement" Box of Form D-2

Form D-2b: Interceptor Tree Worksheet

See Fact Sheet for more information regarding Interceptor Tree credit guidelines

New Evergreen Trees

1. Enter number of new evergreen trees that qualify as Interceptor Trees in Box L1. trees Box L1
2. Multiply Box L1 by 200 and enter result in Box L2 sq. ft. Box L2

New Deciduous Trees

3. Enter number of new deciduous trees that qualify as Interceptor Trees in Box L3. trees Box L3
4. Multiply Box L3 by 100 and enter result in Box L4 sq. ft. Box L4

Existing Tree Canopy

5. Enter square footage of existing tree canopy that qualifies as Existing Tree canopy in Box L5. sq. ft. Box L5
6. Multiply Box L5 by 0.5 and enter the result in Box L6 sq. ft. Box L6

Total Interceptor Tree EAM Credits

- Add Boxes L2, L4, and L6 and enter it into Box L7 sq. ft. Box L7
- Divide Box L7 by 43,560 and multiply by 20% to get effective area managed and enter result in Box L8 acres Box L8
- This is the amount of area credit to enter into the "Interceptor Trees" Box of Form D-2

Step 3 - Runoff Management Credits

Capture and Use Credits

Impervious Area Managed by Rain barrels, Cisterns, and automatically-emptied systems

(see Fact Sheet) enter gallons, for simple rain barrels acres

Automated-Control Capture and Use System

(see Fact Sheet, then enter impervious area managed by the system) acres

Bioretention/Infiltration Credits

Impervious Area Managed by Bioretention BMPs

(see Fact Sheet)

Bioretention Area sq ft

Subdrain Elevation inches

Ponding Depth, inches inches acres

Impervious Area Managed by Infiltration BMPs

(see Fact Sheet)

Drawdown Time, hrs drawdown_hrs_inf

Soil Infiltration Rate, in/hr soil_inf_rate

Sizing Option 1: Capture Volume, acre-ft capture_vol_inf acres

Sizing Option 2: Infiltration BMP surface area, sq ft soil_surface_area acres

Basin or trench? approximate BMP depth ft

Impervious Area Managed by Amended Soil or Mulch Beds

(see Fact Sheet) Mulched Infiltration Area, sq ft mulch_area acres

Total Effective Area Managed by Capture-and-Use/Bioretention/Infiltration BMPs

A_{LIDc}

Runoff Management Credit (Step 3)

A_{LIDc}/A_T*200 = pts

Total LID Credits (Step 1+2+3)

LID compliant, check for treatment sizing in Step 4

Does project require hydromodification management? If yes, proceed to using SachM.

Adjusted Area for Flow-Based, Non-LID Treatment

A_T - A_C - A_{LIDc} = A_{AT}

Adjusted Impervious Fraction of A for Volume-Based, Non-LID Treatment

A_{AT} / A = I_A

Further treatment is required, see choose flow-based or volume-based sizing in Step 4

Step 4a Treatment - Flow-Based (Rational Method)

Calculate treatment flow (cfs):

$$\text{Flow} = \text{Runoff Coefficient} \times \text{Rainfall Intensity} \times \text{Area}$$

Look up value for i in Table D-2c (Rainfall Intensity)

i

Obtain A_{AT} from Step 3

A_{AT}

Use $C = 0.95$

C

$$\text{Flow} = 0.95 * i * A_{AT}$$

cfs

Table D-2c

Rainfall Intensity	
Roseville	$i = 0.20$ in/hr
Sacramento	$i = 0.18$ in/hr
Folsom	$i = 0.20$ in/hr

Step 4b Treatment - Volume-Based (ASCE-WEF)

Calculate water quality volume (Acre-Feet):

$$WQV = \text{Area} \times \text{Maximized Detention Volume (P}_0\text{)}$$

Obtain A from Step 1

A

hrs

Specified Draw Down time

Obtain P₀: Maximized Detention Volume from figures E-1 to E-4 in Appendix E of this manual using I_k from Step 2.

P₀

Calculate treatment volume (acre-ft):

$$\text{Treatment volume} = A \times (P_0 / 12)$$

Acre-Feet

v06232012

Jackson Township

LID CREDITS WORKSHEET

**SAMPLE FOR
COMMERCIAL
(C)**

Appendix D-2: Commercial Sites: Low Impact Development (LID) Credits and Treatment BMP Sizing Calculations

Name of Drainage Shed: Fill in Blue Highlighted boxes
 Location of project:

Step 1 - Open Space and Pervious Area Credits

Is your project within the drainage area of a common drainage plan that includes open space? If not, skip to 1 b.

1 a. Common Drainage Plan Area acres A_{CDP}

Common Drainage Plan Open Space (Off-project) acres A_{OS} **see area example below**

a. Natural storage reservoirs and drainage corridors acres
 b. Buffer zones for natural water bodies acres
 c. Natural areas including existing trees, other vegetation, and soil acres
 d. Common landscape area/park acres
 e. Regional Flood Control/Drainage basins acres

1 b. Project Drainage Shed Area (Total) acres A

Project-Specific Open Space (In-project, communal)** acres A_{PSOS} **see area example below**

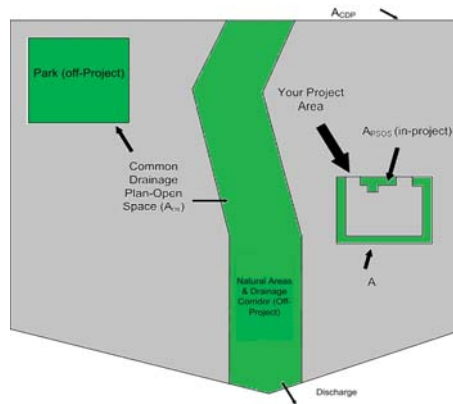
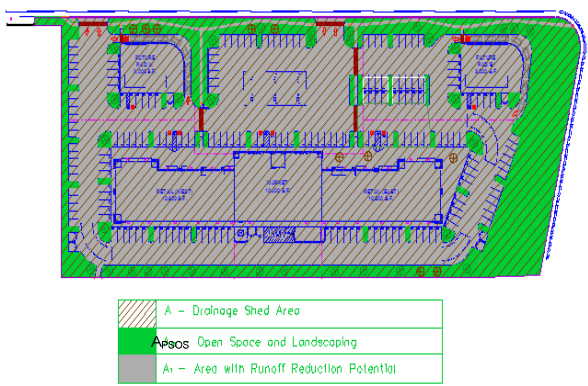
a. Natural storage reservoirs and drainage corridors acres
 b. Buffer zones for natural water bodies acres
 c. Natural areas including existing trees, other vegetation, and soil acres
 d. Landscape area/park acres
 e. Flood Control/Drainage basins acres

** Doesn't include impervious areas within individual lots and surrounding individual units. That is accounted for below using Form D-1a in Step 2.

Area with Runoff Reduction Potential $A - A_{PSOS} =$ acres A_T

Assumed Initial Impervious Fraction $A_T / A =$ I

Open Space & Pervious Area LID Credit (Step 1)
 $(A_{OS}/A_{CDP} + A_{PSOS}/A) \times 100 =$ pts



Step 2 - Runoff Reduction Credits

Runoff Reduction Treatments	Impervious Area Managed	Efficiency Factor	Effective Area Managed (A _C)
Porous Pavement:			
Option 1: Porous Pavement (see Fact Sheet, excludes porous pavement used in Option 2)	<input type="text" value="0"/> acres	x <input type="text" value="1"/>	= <input type="text" value="0.000"/> acres
Option 2: Disconnected Pavement (see Fact Sheet, excludes porous pavement used in Option 1)	use Form D-2a for credits	→	= <input type="text" value="0.00"/> acres
Landscaping used to Disconnect Pavement (see Fact Sheet)	<input type="text" value="2.0000"/> acres	=	= <input type="text" value="2.00"/> acres
Disconnected Roof Drains (see Fact Sheet and/or Table D-2b for summary of requirements)	<input type="text" value="1.7"/> acres	=	= <input type="text" value="1.70"/> acres
Ecoroof (see Fact Sheet)	<input type="text" value="0"/> acres	=	= <input type="text" value="0.00"/> acres
Interceptor Trees (see Fact Sheet)	use Form D-2b for credits	→	= <input type="text" value="0.14"/> acres
Total Effective Area Managed by Runoff Reduction Measures		A_C	= <input type="text" value="3.84"/> acres
Runoff Reduction Credit (Step 2)		$(A_C / A_T) \times 100 =$	= <input type="text" value="38"/> pts

Table D-2a

Porous Pavement Type	Efficiency Multiplier
Cobblestone Block Pavement	0.40
Pervious Concrete/Asphalt	0.60
Modular Block Pavement &	0.75
Reinforced Grass Pavement	1.00

Table D-2b

Maximum roof size	Minimum travel distance
≤ 3,500 sq ft	21 ft
≤ 5,000 sq ft	24 ft
≤ 7,500 sq ft	28 ft
≤ 10,000 sq ft	32 ft

Form D-2a: Disconnected Pavement Worksheet

See Fact Sheet for more information regarding Disconnected Pavement credit guidelines

Effective Area Managed (A_c)

Pavement Draining to Porous Pavement

2. Enter area draining onto Porous Pavement

acres

Box K1

3. Enter area of Receiving Porous Pavement

acres

Box K2

(excludes area entered in Step 2 under Porous Pavement)

4. Ratio of Areas (Box K1 / Box K2)

Box K3

5. Select multiplier using ratio from Box K3 and enter into Box K4

Ratio (Box D)	Multiplier
Ratio is ≤ 0.5	1.00
Ratio is > 0.5 and < 1.0	0.83
Ratio is > 1.0 and < 1.5	0.71
Ratio is > 1.5 and < 2.0	0.55

Box K4

6. Enter Efficiency of Porous Pavement (see table below)

Box K5

Porous Pavement Type	Efficiency Multiplier
Cobblestone Block Pavement	0.40
Pervious Concrete Asphalt Pavement	0.60
Modular Block Pavement	0.75
Porous Gravel Pavement	
Reinforced Grass Pavement	1.00

7. Multiply Box K2 by Box K5 and enter into Box K6

acres

Box K6

8. Multiply Boxes K1, K4, and K5 and enter the result in Box K7

acres

Box K7

9. Add Box K6 to Box K7 and multiply by 60%, and enter the Result in Box K8

 acres

Box K8

This is the amount of area credit to enter into the "Disconnected Pavement" Box of Form D-2

Form D-2b: Interceptor Tree Worksheet

See Fact Sheet for more information regarding Interceptor Tree credit guidelines

New Evergreen Trees

1. Enter number of new evergreen trees that qualify as Interceptor Trees in Box L1. trees Box L1
2. Multiply Box L1 by 200 and enter result in Box L2 sq. ft. Box L2

New Deciduous Trees

3. Enter number of new deciduous trees that qualify as Interceptor Trees in Box L3. trees Box L3
4. Multiply Box L3 by 100 and enter result in Box L4 sq. ft. Box L4

Existing Tree Canopy

5. Enter square footage of existing tree canopy that qualifies as Existing Tree canopy in Box L5. sq. ft. Box L5
6. Multiply Box L5 by 0.5 and enter the result in Box L6 sq. ft. Box L6

Total Interceptor Tree EAM Credits

- Add Boxes L2, L4, and L6 and enter it into Box L7 sq. ft. Box L7
- Divide Box L7 by 43,560 and multiply by 20% to get effective area managed and enter result in Box L8 acres Box L8
- This is the amount of area credit to enter into the "Interceptor Trees" Box of Form D-2

Step 3 - Runoff Management Credits

Capture and Use Credits

Impervious Area Managed by Rain barrels, Cisterns, and automatically-emptied systems

(see Fact Sheet) enter gallons, for simple rain barrels acres

Automated-Control Capture and Use System

(see Fact Sheet, then enter impervious area managed by the system) acres

Bioretention/Infiltration Credits

Impervious Area Managed by Bioretention BMPs

(see Fact Sheet)

Bioretention Area sq ft

Subdrain Elevation inches

Ponding Depth, inches inches acres

Impervious Area Managed by Infiltration BMPs

(see Fact Sheet)

Drawdown Time, hrs drawdown_hrs_inf

Soil Infiltration Rate, in/hr soil_inf_rate

Sizing Option 1: Capture Volume, acre-ft capture_vol_inf acres

Sizing Option 2: Infiltration BMP surface area, sq ft soil_surface_area acres

Basin or trench? approximate BMP depth ft

Impervious Area Managed by Amended Soil or Mulch Beds

(see Fact Sheet) Mulched Infiltration Area, sq ft mulch_area acres

Total Effective Area Managed by Capture-and-Use/Bioretention/Infiltration BMPs

A_{LIDc}

Runoff Management Credit (Step 3)

A_{LIDc}/A_T*200 = pts

Total LID Credits (Step 1+2+3)

LID compliant, check for treatment sizing in Step 4

Does project require hydromodification management? If yes, proceed to using SachM.

Adjusted Area for Flow-Based, Non-LID Treatment

A_T - A_C - A_{LIDc} = A_{AT}

Adjusted Impervious Fraction of A for Volume-Based, Non-LID Treatment

A_{AT} / A = I_A

Further treatment is required, see choose flow-based or volume-based sizing in Step 4

Step 4a Treatment - Flow-Based (Rational Method)

Calculate treatment flow (cfs):

$$\text{Flow} = \text{Runoff Coefficient} \times \text{Rainfall Intensity} \times \text{Area}$$

Look up value for i in Table D-2c (Rainfall Intensity)

i

Obtain A_{AT} from Step 3

A_{AT}

Use $C = 0.95$

C

$$\text{Flow} = 0.95 * i * A_{AT}$$

cfs

Table D-2c

Rainfall Intensity	
Roseville	$i = 0.20$ in/hr
Sacramento	$i = 0.18$ in/hr
Folsom	$i = 0.20$ in/hr

Step 4b Treatment - Volume-Based (ASCE-WEF)

Calculate water quality volume (Acre-Feet):

$$WQV = \text{Area} \times \text{Maximized Detention Volume } (P_0)$$

Obtain A from Step 1

A

hrs

Specified Draw Down time

Obtain P_0 : Maximized Detention Volume from figures E-1 to E-4 in Appendix E of this manual using I_h from Step 2.

P_0

Calculate treatment volume (acre-ft):

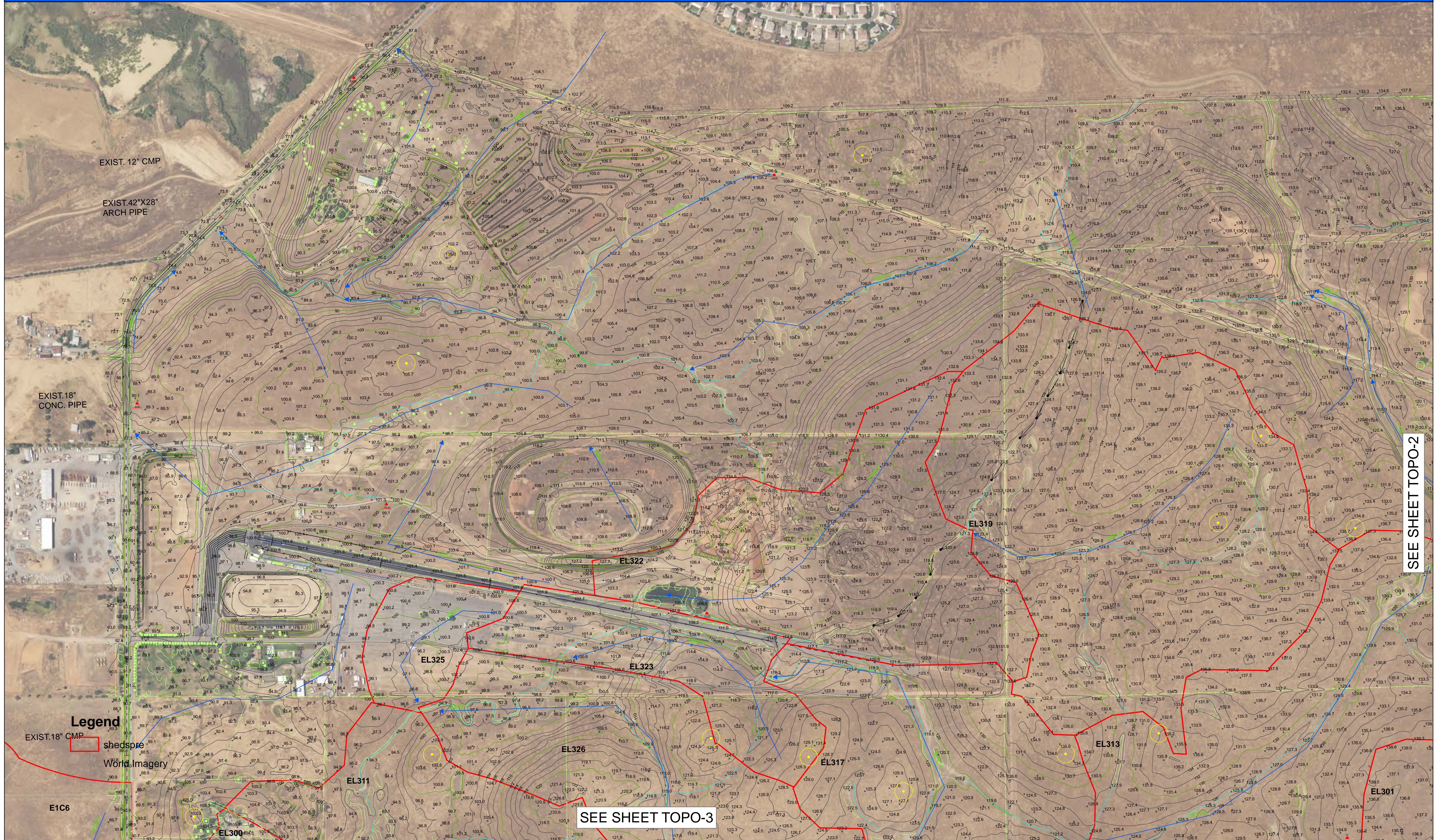
$$\text{Treatment volume} = A \times (P_0 / 12)$$

Acre-Feet

v06232012

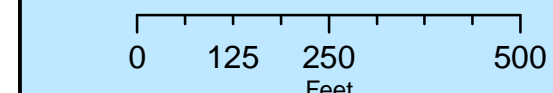
**APPENDIX F
OVERSIZED EXHIBITS**

JACKSON TOWNSHIP

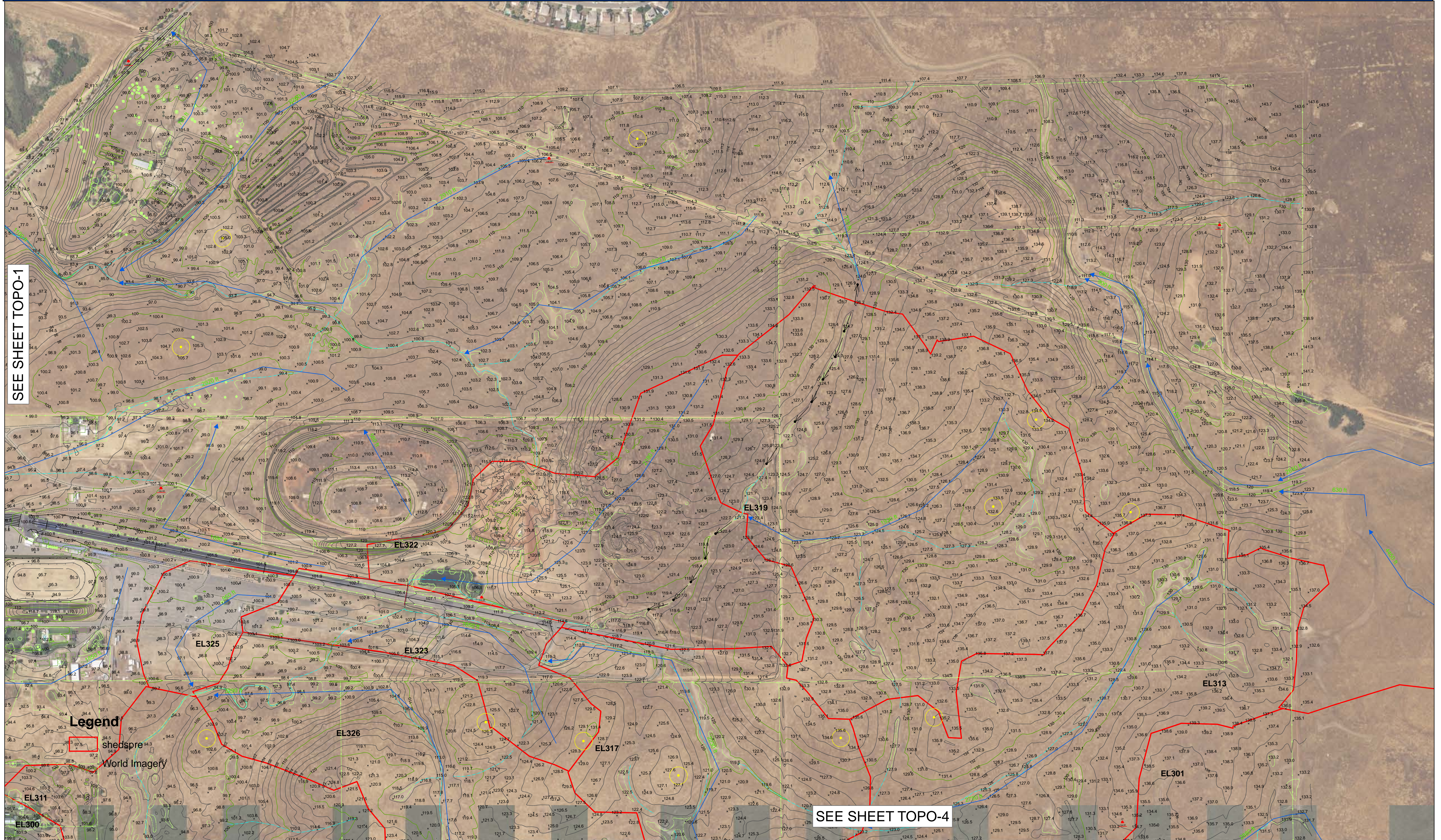


SEE SHEET TOPO-2

SEE SHEET TOPO-3



JACKSON TOWNSHIP



SEE SHEET TOPO-1

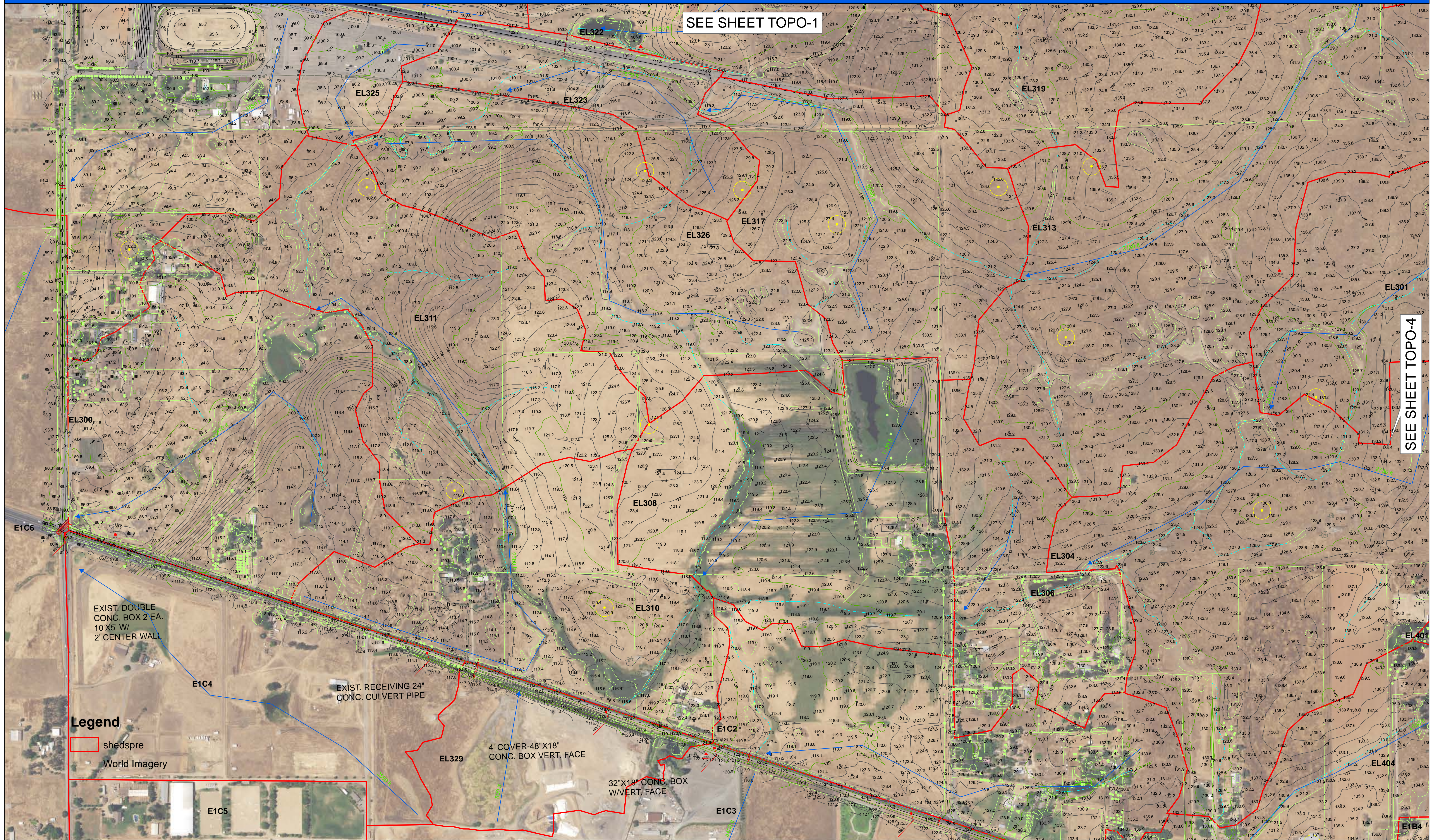
SEE SHEET TOPO-4



JACKSON TOWNSHIP

SEE SHEET TOPO-1

SEE SHEET TOPO-4



EXIST. DOUBLE CONC. BOX 2 EA. 10'X6' W/ 2" CENTER WALL

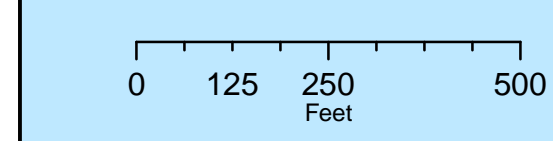
EXIST. RECEIVING 24" CONC. CULVERT PIPE

4' COVER-48"X18" CONC. BOX VERT. FACE

32'X18" CONC. BOX W/VERT. FACE

Legend

- shedspre
- World Imagery



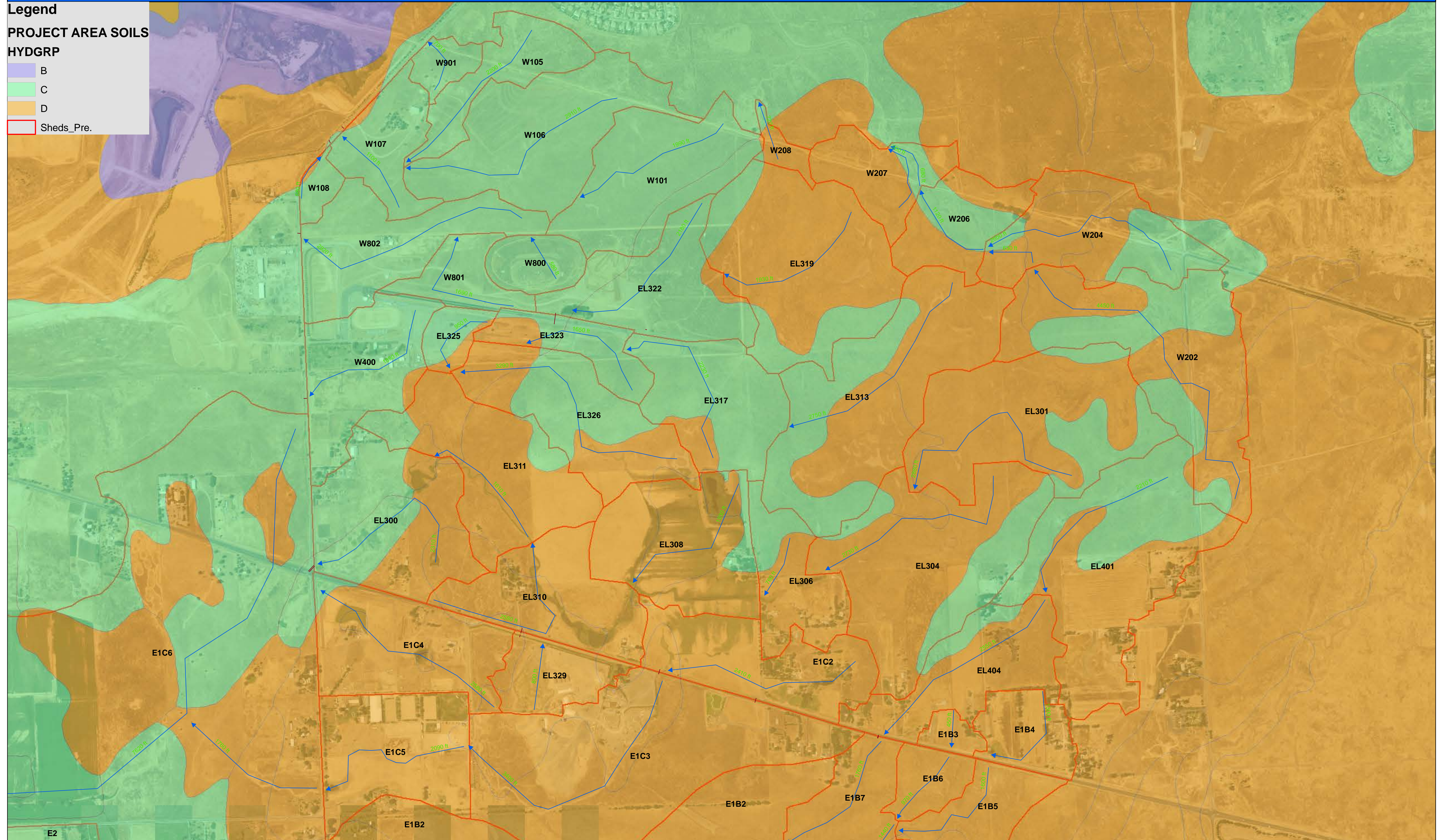
JACKSON TOWNSHIP

Legend

PROJECT AREA SOILS

HYDGRP

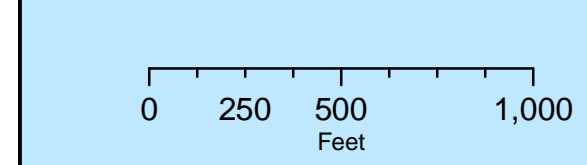
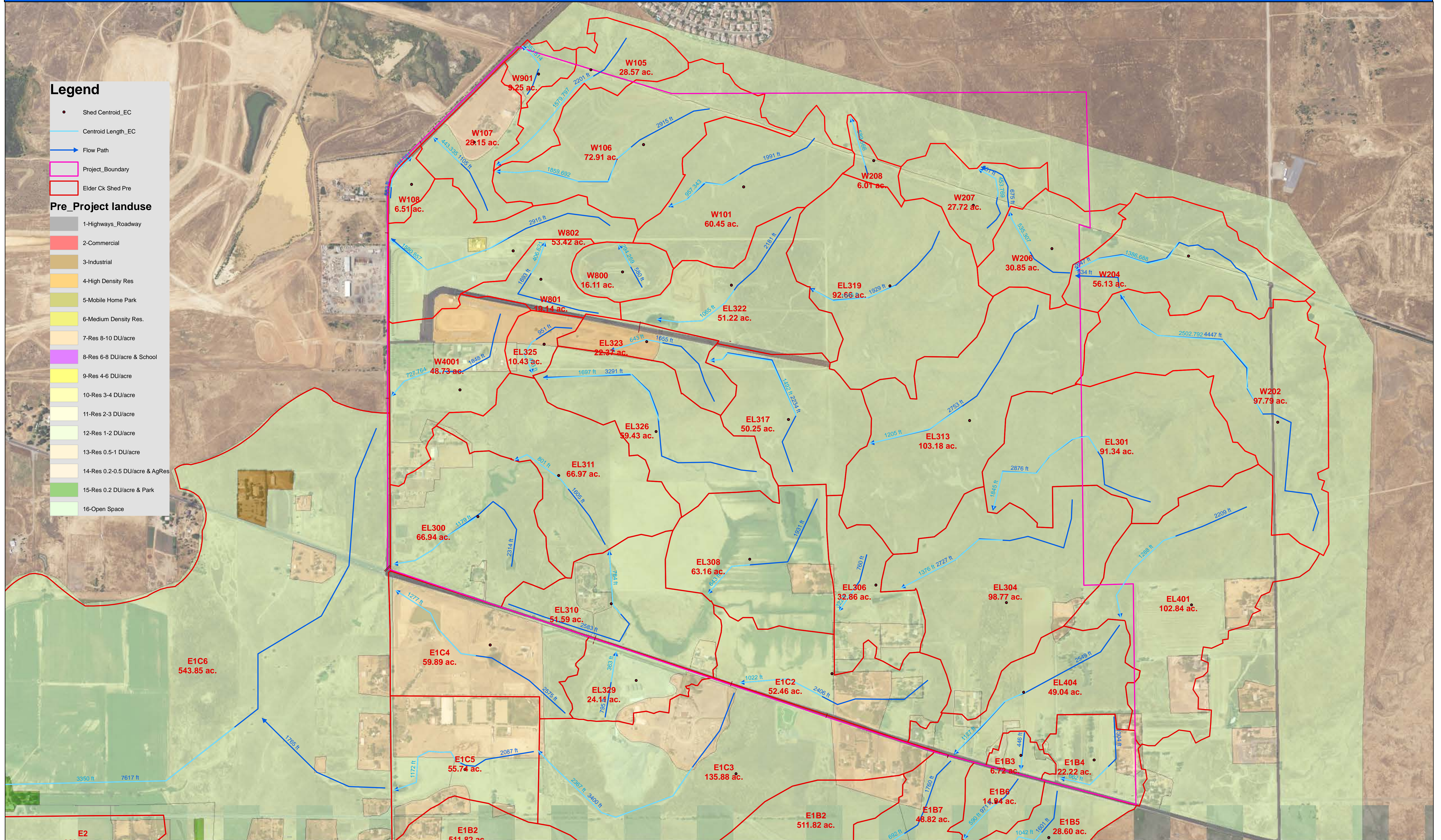
- B
- C
- D
- Sheds_Pre.



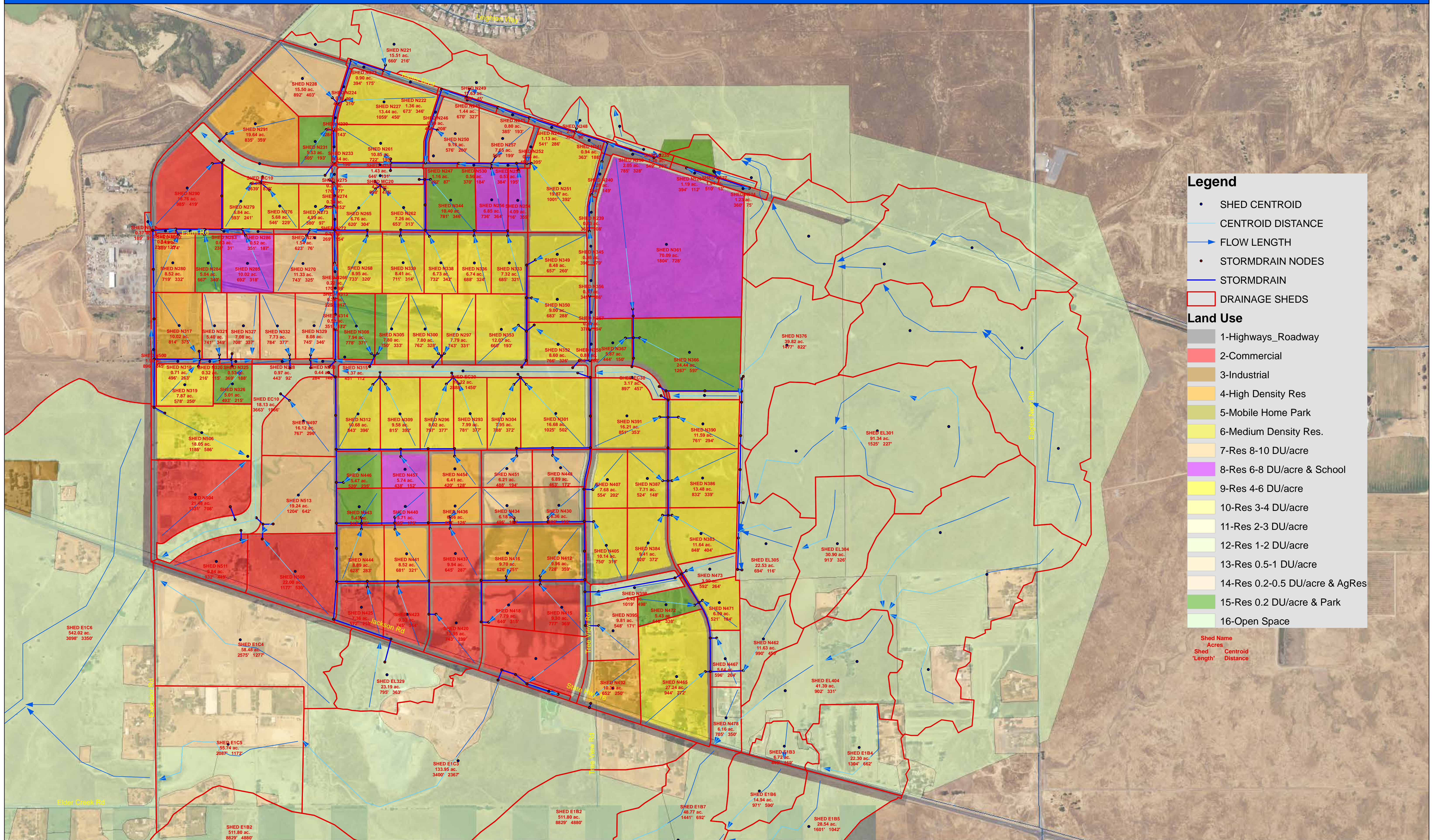
JACKSON TOWNSHIP

Legend

- Shed Centroid_EC
 - Centroid Length_EC
 - Flow Path
 - Project_Boundary
 - Elder Ck Shed Pre
- Pre_Project landuse**
- 1-Highways_Roadway
 - 2-Commercial
 - 3-Industrial
 - 4-High Density Res
 - 5-Mobile Home Park
 - 6-Medium Density Res.
 - 7-Res 8-10 DU/acre
 - 8-Res 6-8 DU/acre & School
 - 9-Res 4-6 DU/acre
 - 10-Res 3-4 DU/acre
 - 11-Res 2-3 DU/acre
 - 12-Res 1-2 DU/acre
 - 13-Res 0.5-1 DU/acre
 - 14-Res 0.2-0.5 DU/acre & AgRes
 - 15-Res 0.2 DU/acre & Park
 - 16-Open Space



JACKSON TOWNSHIP



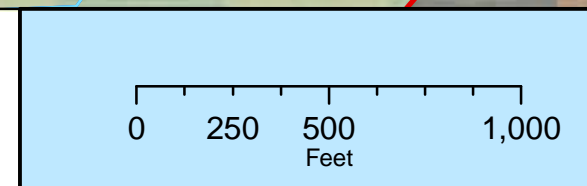
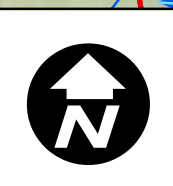
Legend

- SHED CENTROID
- CENTROID DISTANCE
- FLOW LENGTH
- STORMDRAIN NODES
- STORMDRAIN
- DRAINAGE SHEDS

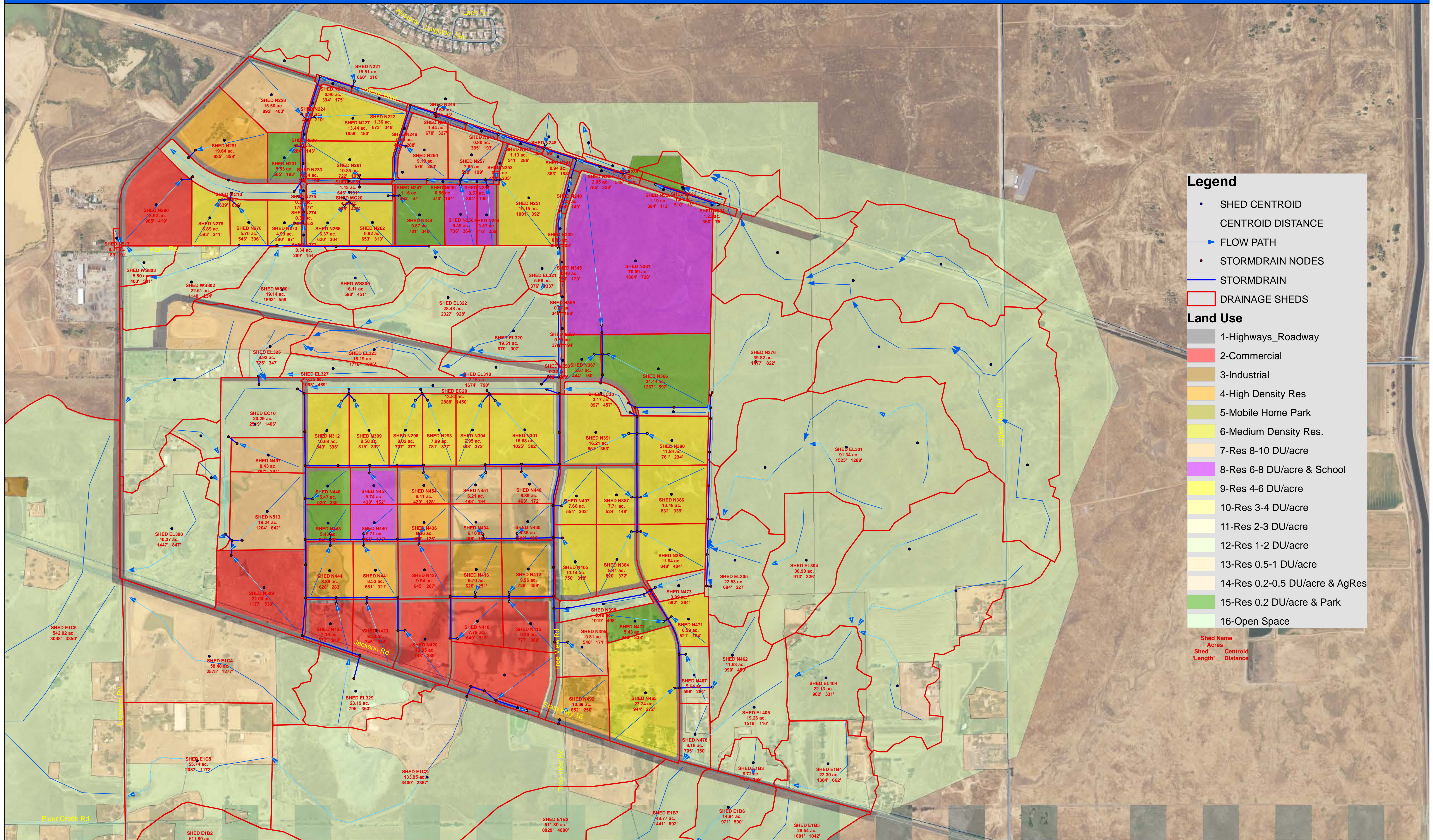
Land Use

- 1-Highways_Roadway
- 2-Commercial
- 3-Industrial
- 4-High Density Res
- 5-Mobile Home Park
- 6-Medium Density Res.
- 7-Res 8-10 DU/acre
- 8-Res 6-8 DU/acre & School
- 9-Res 4-6 DU/acre
- 10-Res 3-4 DU/acre
- 11-Res 2-3 DU/acre
- 12-Res 1-2 DU/acre
- 13-Res 0.5-1 DU/acre
- 14-Res 0.2-0.5 DU/acre & AgRes
- 15-Res 0.2 DU/acre & Park
- 16-Open Space

Shed Name
Acres
Shed 'Length'
Centroid Distance



JACKSON TOWNSHIP



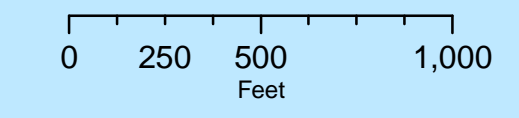
Legend

- SHED CENTROID
- CENTROID DISTANCE
- FLOW PATH
- STORMDRAIN NODES
- STORMDRAIN
- DRAINAGE SHEDS

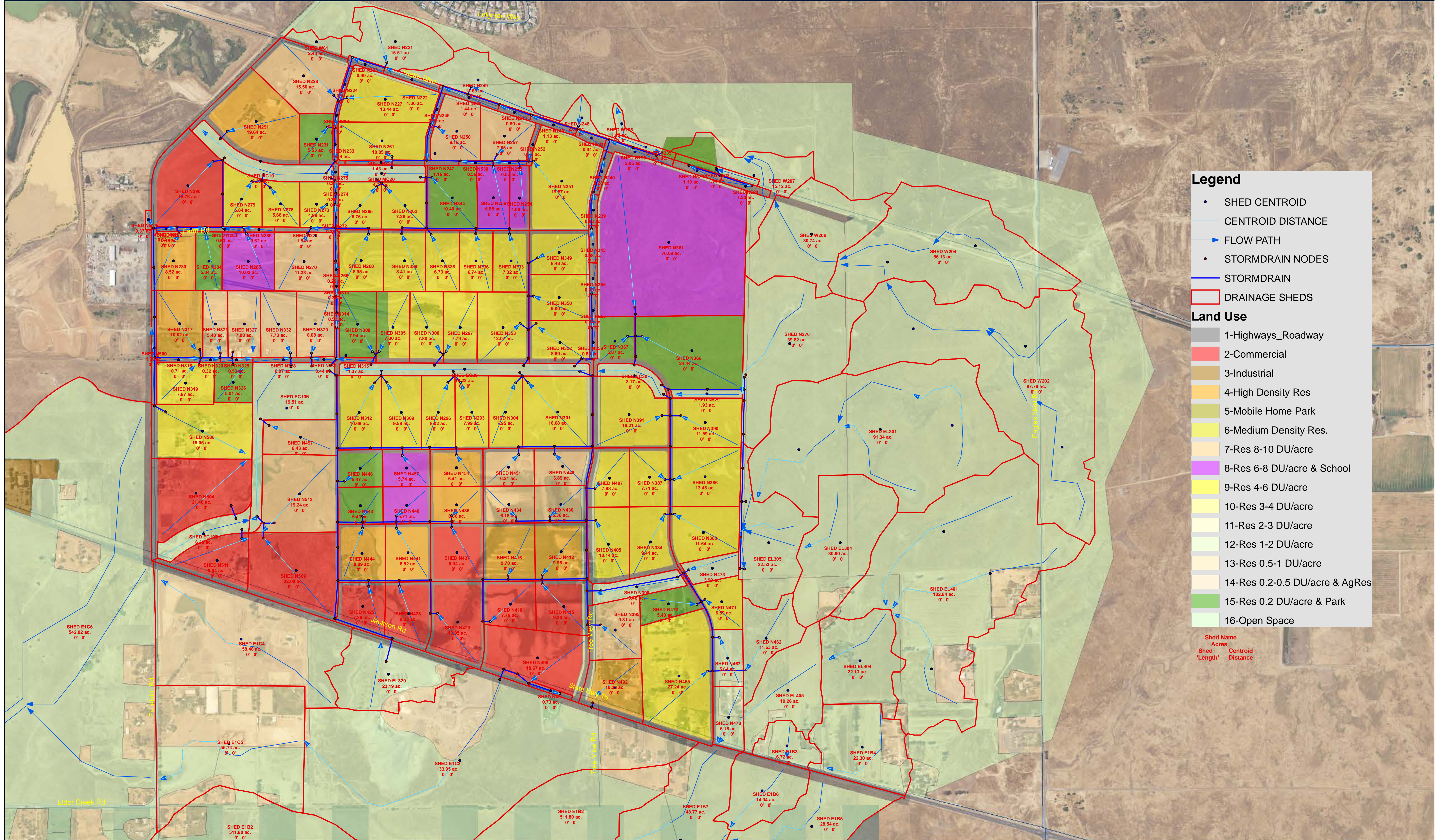
Land Use

- 1-Highways_Roadway
- 2-Commercial
- 3-Industrial
- 4-High Density Res
- 5-Mobile Home Park
- 6-Medium Density Res.
- 7-Res 8-10 DU/acre
- 8-Res 6-8 DU/acre & School
- 9-Res 4-6 DU/acre
- 10-Res 3-4 DU/acre
- 11-Res 2-3 DU/acre
- 12-Res 1-2 DU/acre
- 13-Res 0.5-1 DU/acre
- 14-Res 0.2-0.5 DU/acre & AgRes
- 15-Res 0.2 DU/acre & Park
- 16-Open Space

Shed Name
Acres
Centroid Distance



JACKSON TOWNSHIP



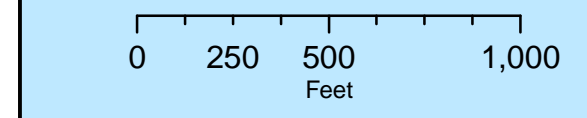
Legend

- SHED CENTROID
- CENTROID DISTANCE
- FLOW PATH
- STORMDRAIN NODES
- STORMDRAIN
- ▭ DRAINAGE SHEDS

Land Use

- 1-Highways_Roadway
- 2-Commercial
- 3-Industrial
- 4-High Density Res
- 5-Mobile Home Park
- 6-Medium Density Res.
- 7-Res 8-10 DU/acre
- 8-Res 6-8 DU/acre & School
- 9-Res 4-6 DU/acre
- 10-Res 3-4 DU/acre
- 11-Res 2-3 DU/acre
- 12-Res 1-2 DU/acre
- 13-Res 0.5-1 DU/acre
- 14-Res 0.2-0.5 DU/acre & AgRes
- 15-Res 0.2 DU/acre & Park
- 16-Open Space

Shed Name
Acres
Shed 'Length'
Centroid Distance



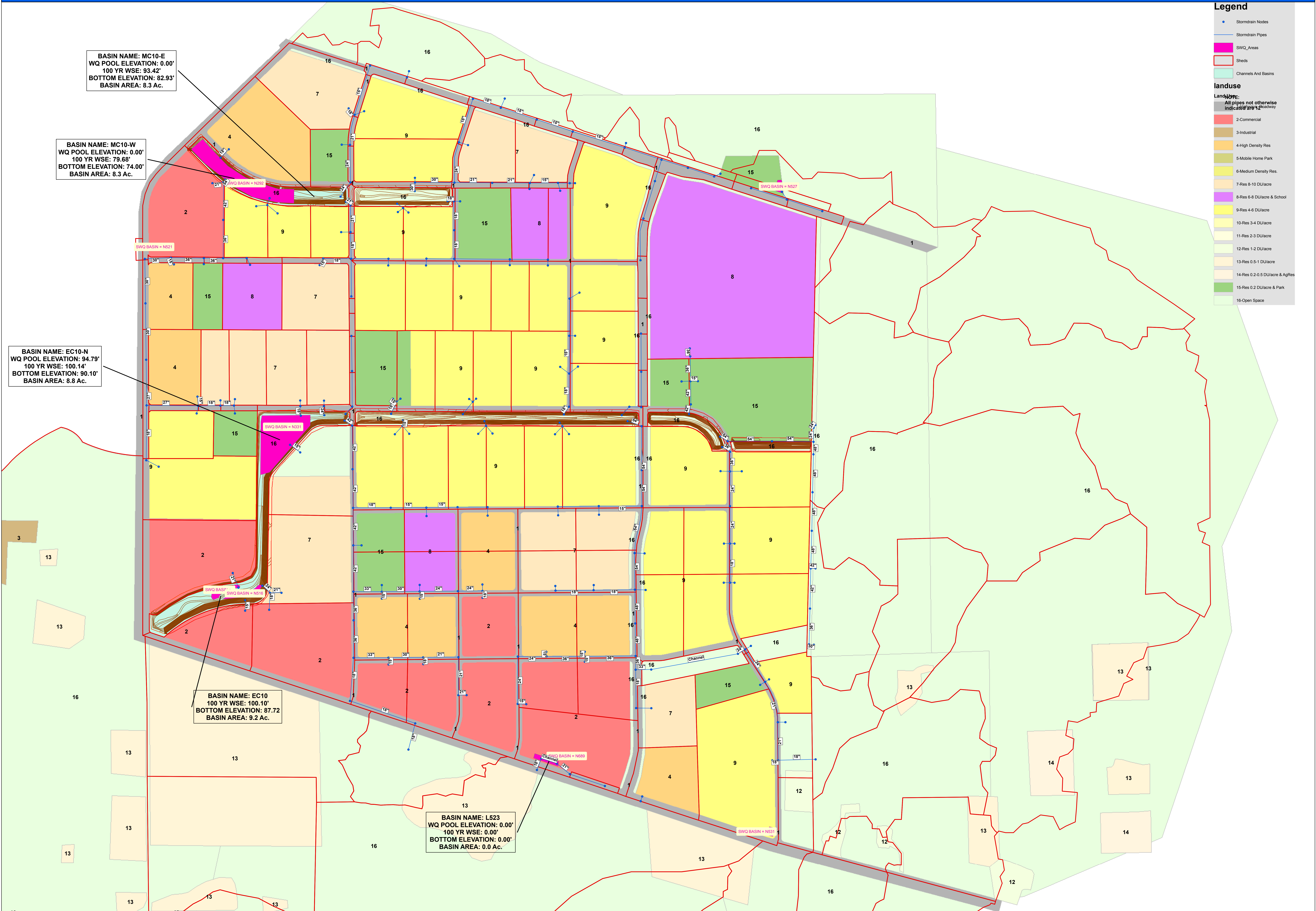
JACKSON TOWNSHIP

Legend

- Stormdrain Nodes
- Stormdrain Pipes
- SWQ_Areas
- Sheds
- Channels And Basins

Landuse

- All pipes not otherwise indicated are 12" roadway
- 2-Commercial
 - 3-Industrial
 - 4-High Density Res
 - 5-Mobile Home Park
 - 6-Medium Density Res.
 - 7-Res 8-10 DU/acre
 - 8-Res 6-8 DU/acre & School
 - 9-Res 4-6 DU/acre
 - 10-Res 3-4 DU/acre
 - 11-Res 2-3 DU/acre
 - 12-Res 1-2 DU/acre
 - 13-Res 0.5-1 DU/acre
 - 14-Res 0.2-0.5 DU/acre & AgRes
 - 15-Res 0.2 DU/acre & Park
 - 16-Open Space



BASIN NAME: MC10-E
WQ POOL ELEVATION: 0.00'
100 YR WSE: 93.42'
BOTTOM ELEVATION: 82.93'
BASIN AREA: 8.3 Ac.

BASIN NAME: MC10-W
WQ POOL ELEVATION: 0.00'
100 YR WSE: 79.68'
BOTTOM ELEVATION: 74.00'
BASIN AREA: 8.3 Ac.

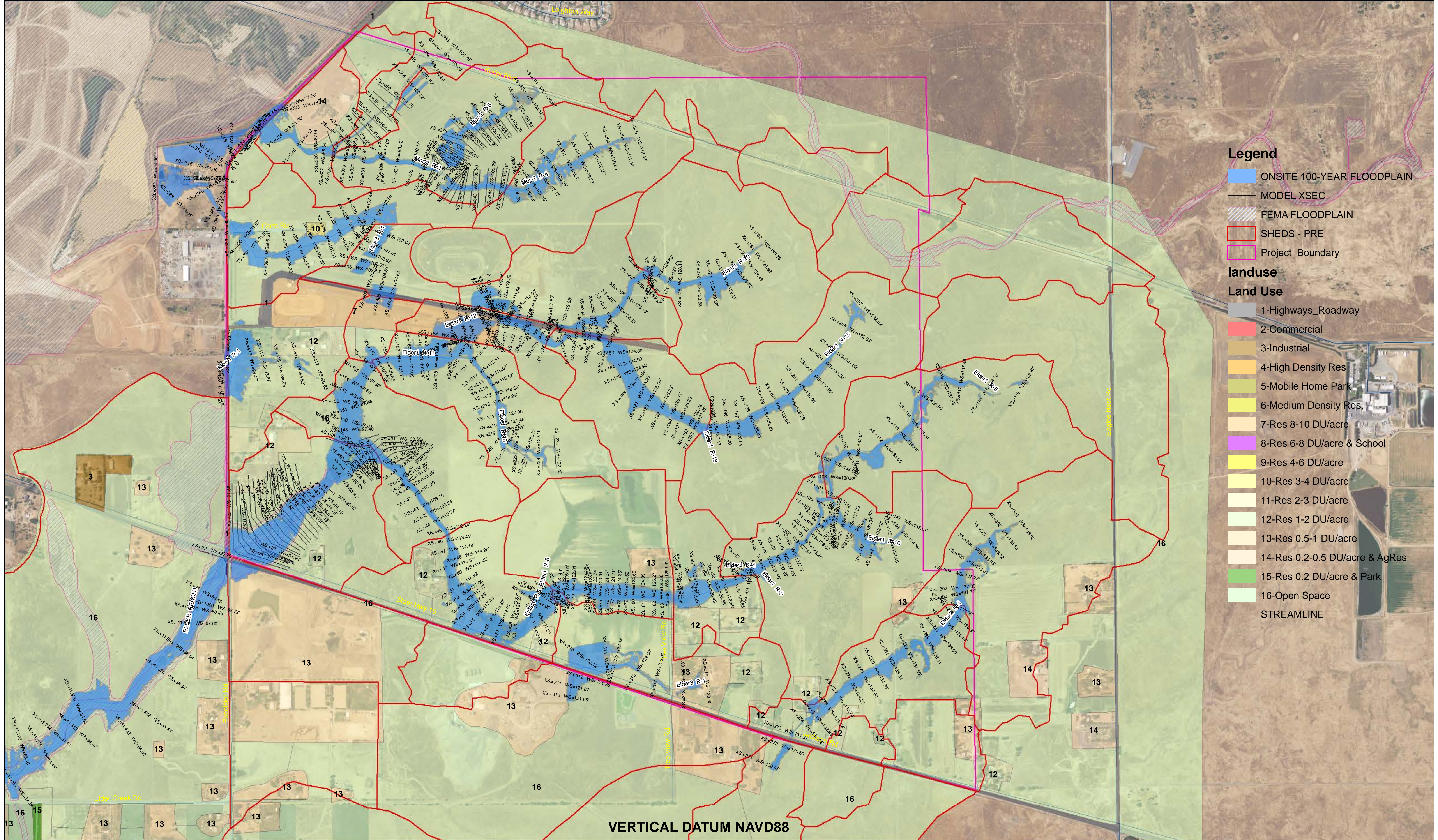
BASIN NAME: EC10-N
WQ POOL ELEVATION: 94.79'
100 YR WSE: 100.14'
BOTTOM ELEVATION: 90.10'
BASIN AREA: 8.8 Ac.

BASIN NAME: EC10
100 YR WSE: 100.10'
BOTTOM ELEVATION: 87.72'
BASIN AREA: 9.2 Ac.

BASIN NAME: L523
WQ POOL ELEVATION: 0.00'
100 YR WSE: 0.00'
BOTTOM ELEVATION: 0.00'
BASIN AREA: 0.0 Ac.

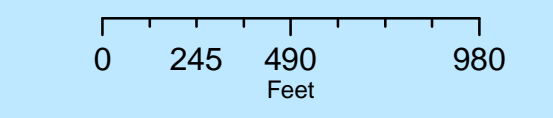


JACKSON TOWNSHIP

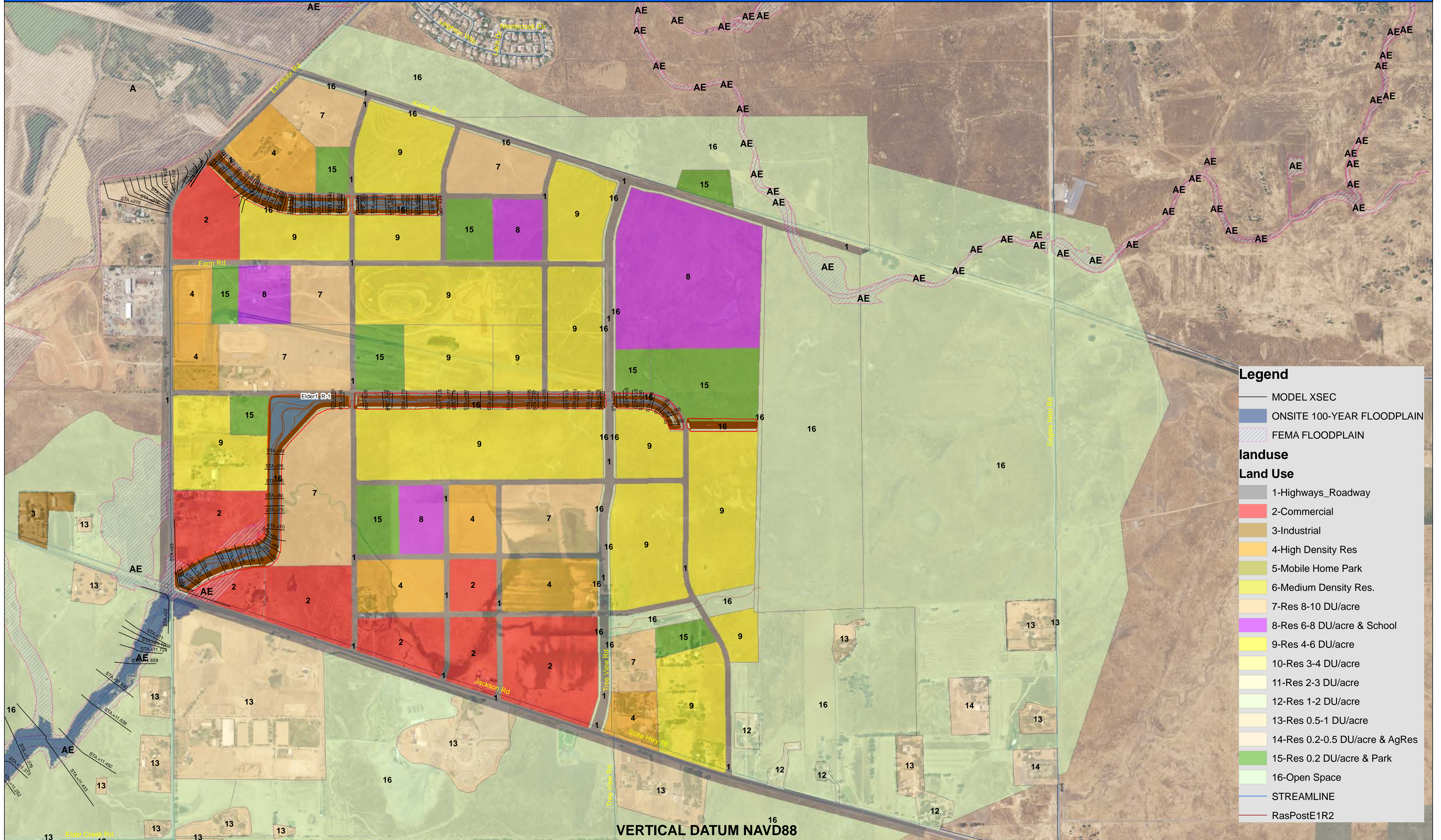


- Legend**
- ONSITE 100-YEAR FLOODPLAIN
 - MODEL XSEC
 - FEMA FLOODPLAIN
 - SHEDS - PRE
 - Project_Boundary
- landuse**
- Land Use**
- 1-Highways_Roadway
 - 2-Commercial
 - 3-Industrial
 - 4-High Density Res
 - 5-Mobile Home Park
 - 6-Medium Density Res.
 - 7-Res 8-10 DU/acre
 - 8-Res 6-8 DU/acre & School
 - 9-Res 4-6 DU/acre
 - 10-Res 3-4 DU/acre
 - 11-Res 2-3 DU/acre
 - 12-Res 1-2 DU/acre
 - 13-Res 0.5-1 DU/acre
 - 14-Res 0.2-0.5 DU/acre & AgRes
 - 15-Res 0.2 DU/acre & Park
 - 16-Open Space
 - STREAMLINE

VERTICAL DATUM NAVD88



JACKSON TOWNSHIP



Legend

- MODEL XSEC
- ONSITE 100-YEAR FLOODPLAIN
- FEMA FLOODPLAIN

landuse

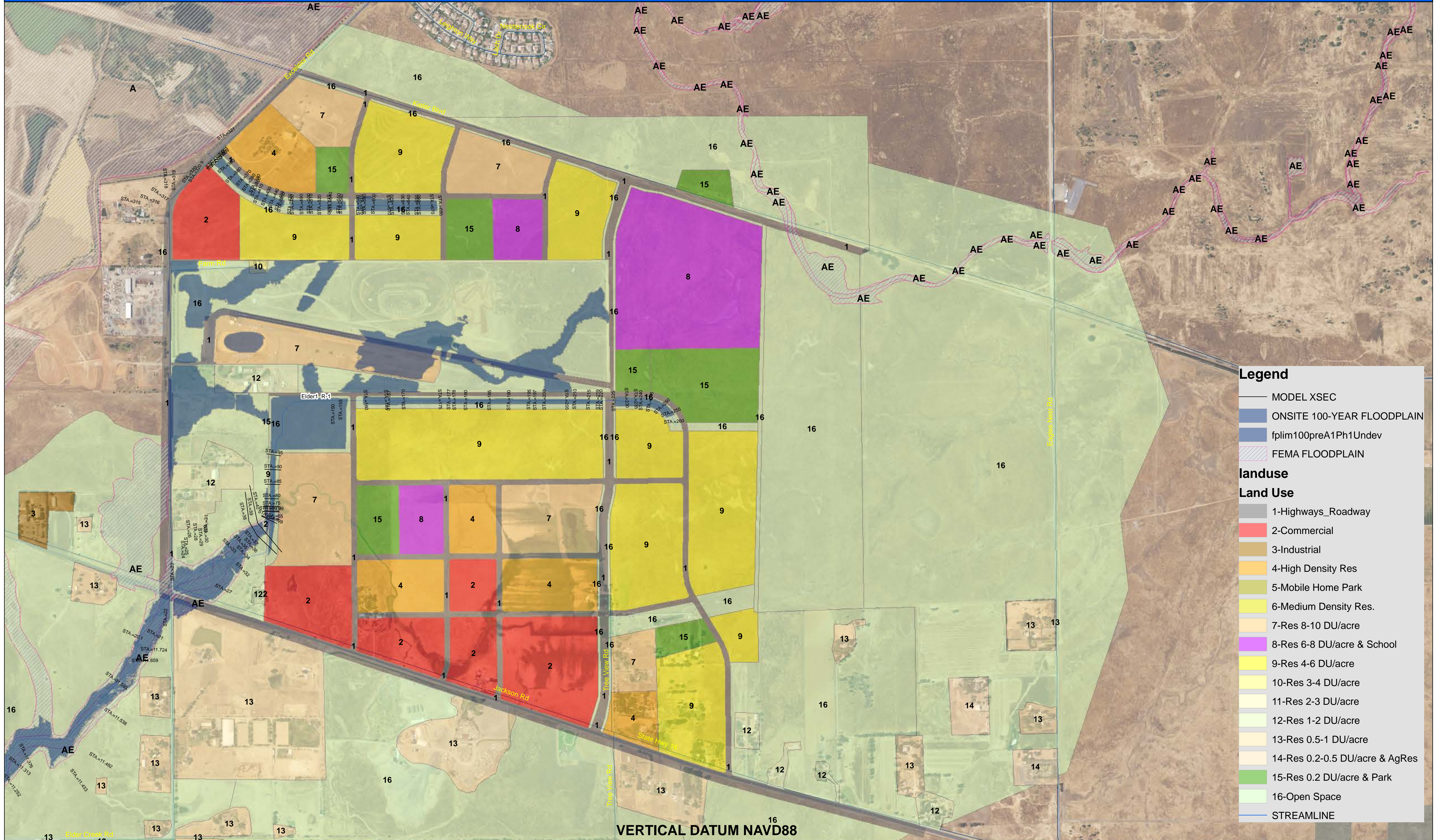
Land Use

- 1-Highways_Roadway
- 2-Commercial
- 3-Industrial
- 4-High Density Res
- 5-Mobile Home Park
- 6-Medium Density Res.
- 7-Res 8-10 DU/acre
- 8-Res 6-8 DU/acre & School
- 9-Res 4-6 DU/acre
- 10-Res 3-4 DU/acre
- 11-Res 2-3 DU/acre
- 12-Res 1-2 DU/acre
- 13-Res 0.5-1 DU/acre
- 14-Res 0.2-0.5 DU/acre & AgRes
- 15-Res 0.2 DU/acre & Park
- 16-Open Space
- STREAMLINE
- RasPostE1R2

VERTICAL DATUM NAVD88



JACKSON TOWNSHIP



Legend

- MODEL XSEC
- ONSITE 100-YEAR FLOODPLAIN
- fplim100preA1Ph1Undev
- FEMA FLOODPLAIN

landuse

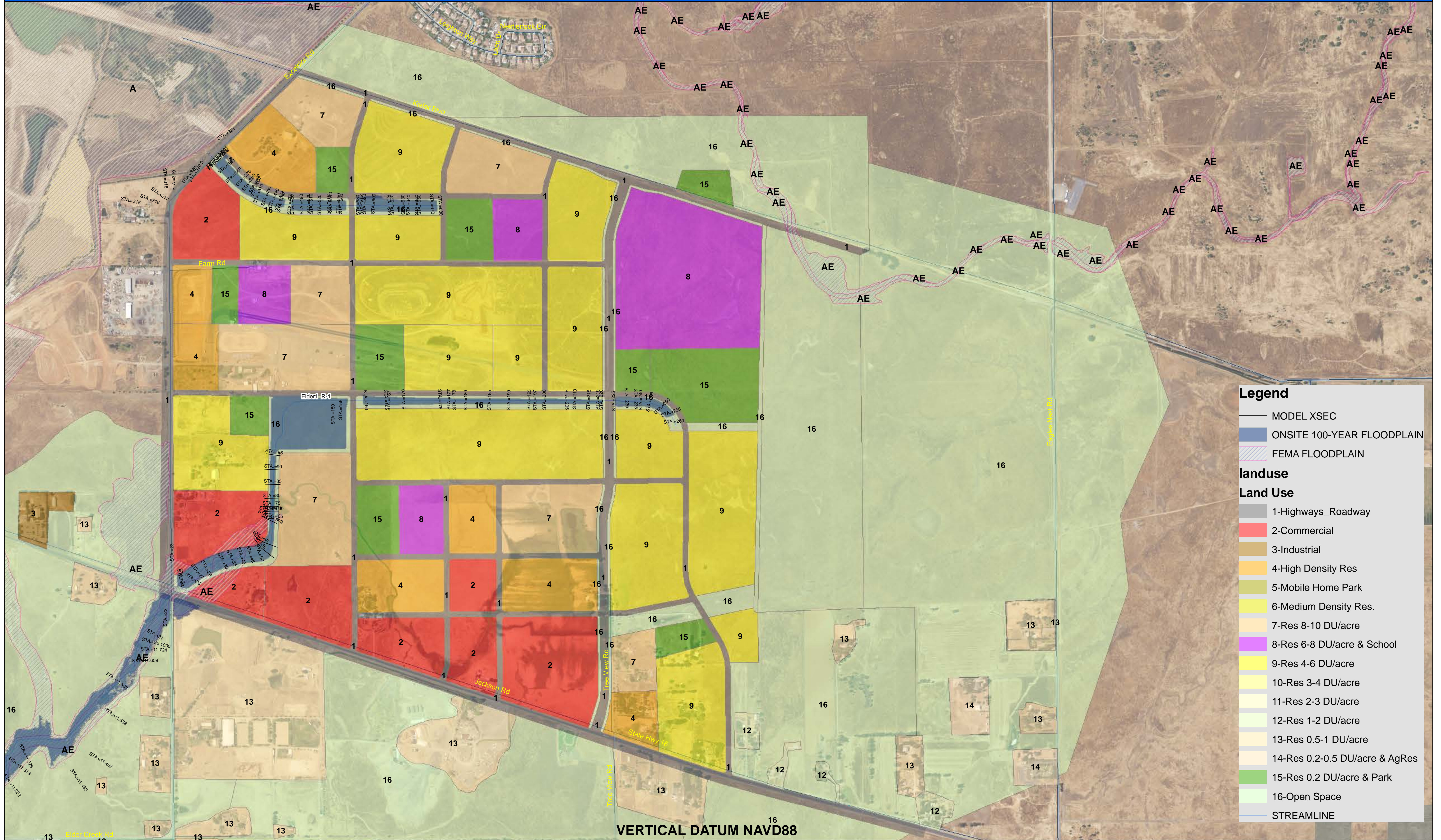
Land Use

- 1-Highways_Roadway
- 2-Commercial
- 3-Industrial
- 4-High Density Res
- 5-Mobile Home Park
- 6-Medium Density Res.
- 7-Res 8-10 DU/acre
- 8-Res 6-8 DU/acre & School
- 9-Res 4-6 DU/acre
- 10-Res 3-4 DU/acre
- 11-Res 2-3 DU/acre
- 12-Res 1-2 DU/acre
- 13-Res 0.5-1 DU/acre
- 14-Res 0.2-0.5 DU/acre & AgRes
- 15-Res 0.2 DU/acre & Park
- 16-Open Space
- STREAMLINE

VERTICAL DATUM NAVD88



JACKSON TOWNSHIP



Legend

- MODEL XSEC
- ONSITE 100-YEAR FLOODPLAIN
- FEMA FLOODPLAIN

landuse

Land Use

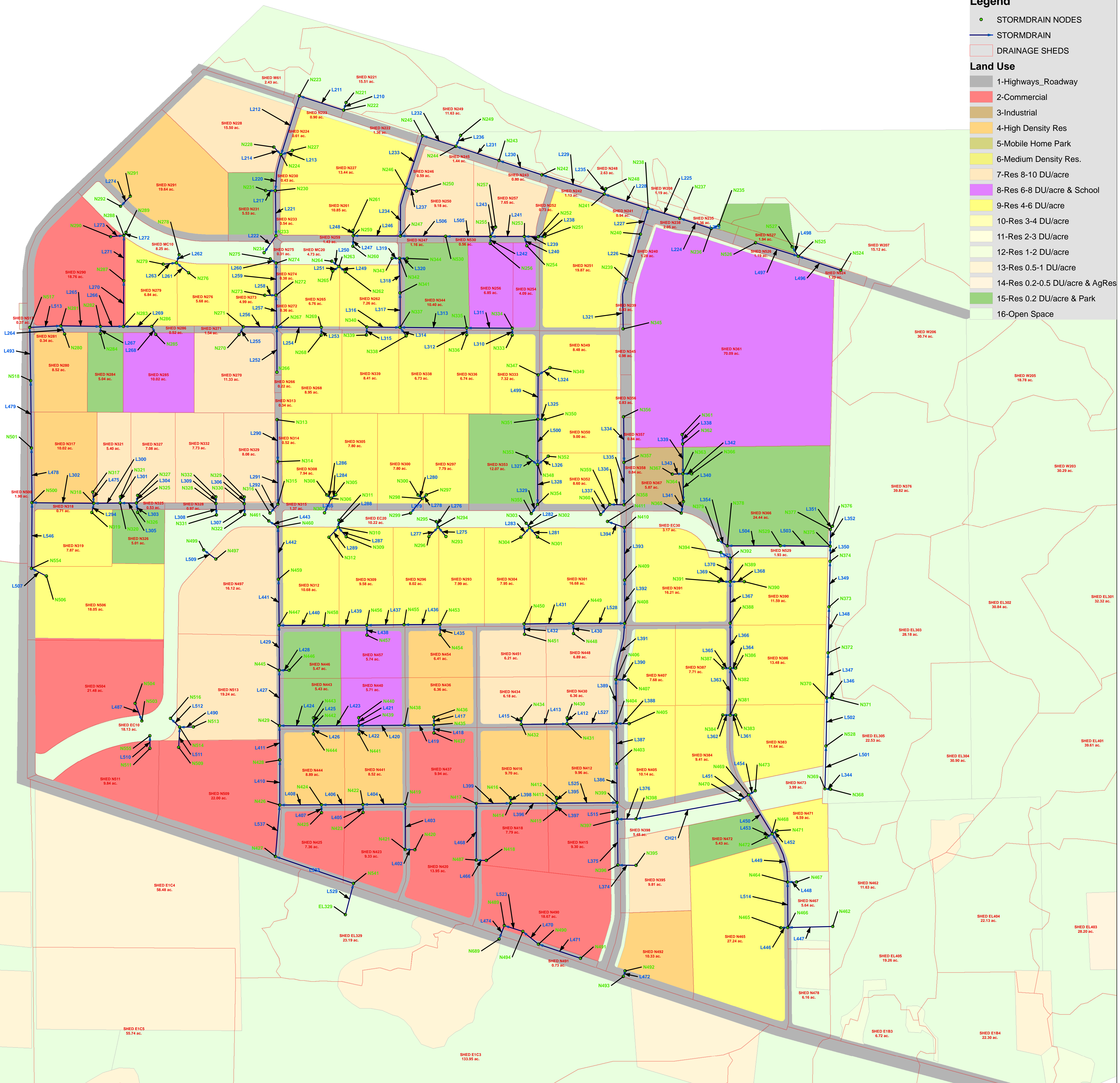
- 1-Highways_Roadway
- 2-Commercial
- 3-Industrial
- 4-High Density Res
- 5-Mobile Home Park
- 6-Medium Density Res.
- 7-Res 8-10 DU/acre
- 8-Res 6-8 DU/acre & School
- 9-Res 4-6 DU/acre
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- 12-Res 1-2 DU/acre
- 13-Res 0.5-1 DU/acre
- 14-Res 0.2-0.5 DU/acre & AgRes
- 15-Res 0.2 DU/acre & Park
- 16-Open Space
- STREAMLINE

VERTICAL DATUM NAVD88



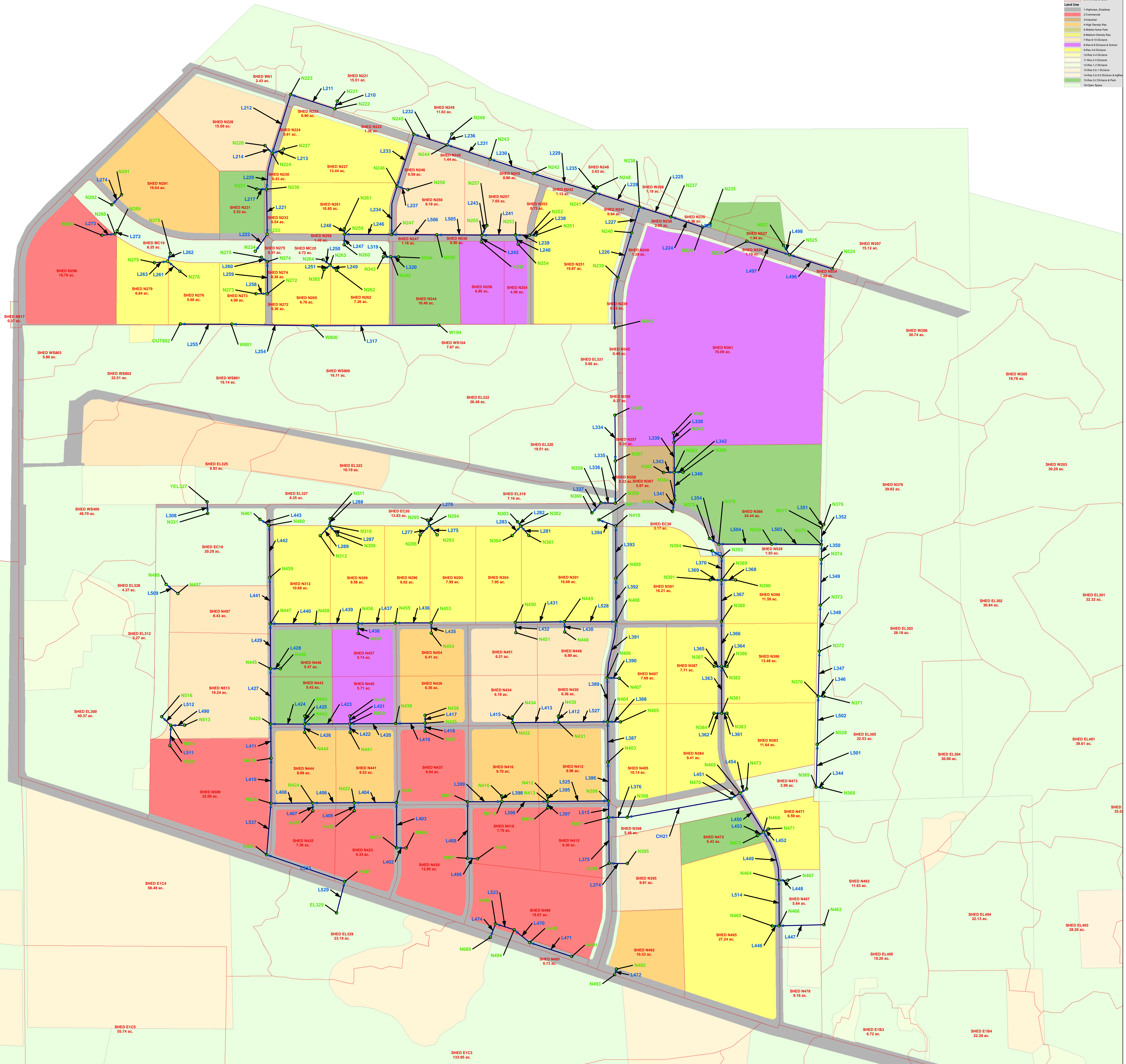
JACKSON TOWNSHIP

- Legend**
- STORMDRAIN NODES
 - STORMDRAIN
 - ▭ DRAINAGE SHEDS
- Land Use**
- 1-Highways_Roadway
 - 2-Commercial
 - 3-Industrial
 - 4-High Density Res
 - 5-Mobile Home Park
 - 6-Medium Density Res.
 - 7-Res 8-10 DU/acre
 - 8-Res 6-8 DU/acre & School
 - 9-Res 4-6 DU/acre
 - 10-Res 3-4 DU/acre
 - 11-Res 2-3 DU/acre
 - 12-Res 1-2 DU/acre
 - 13-Res 0.5-1 DU/acre
 - 14-Res 0.2-0.5 DU/acre & AgRes
 - 15-Res 0.2 DU/acre & Park
 - 16-Open Space



JACKSON TOWNSHIP

- Legend**
- STORMWATER NODES
 - STORMWATER
 - STORMWATER (Shaded Area Only)
 - DRAINAGE SHEDS
- Land Use**
- 1 Single-Family Residential
 - 2 Commercial
 - 3 Industrial
 - 4 High Density Res.
 - 5 Medium Density Res.
 - 6 Medium Density Res.
 - 7 Office / Business
 - 8 Multi-Family / School
 - 9 Public Use / Office
 - 10 Office / Business
 - 11 Public Use / Office
 - 12 Public Use / Office
 - 13 Public Use / Office
 - 14 Public Use / Office & Park
 - 15 Public Use / Office & Park
 - 16 Open Space



JACKSON TOWNSHIP

STORM DRAIN SYSTEM NODE DATA													
NAME	X	Y	INVERT	GROUND/R/WSEL/HGL/NOLTE	Q	NAME	X	Y	INVERT	GROUND/R/WSEL/HGL/NOLTE	Q		
N221	6765302	1957481	105.84	114.03	107.603	2.891	N389	6768673	1953276	120.11	128.38	123.043	19.122
N222	6765281	1957414	104.44	112.08	106.994	3.135	N390	6768798	1953278	122.83	132.4	123.624	2.279
N223	6764892	1957540	100.81	106.26	102.116	3.298	N391	6768574	1953279	122.69	131.4	124.151	3.494
N224	6764731	1957023	96.97	106.33	100.291	10.341	N392	6768675	1953482	119.83	129.21	122.755	19.122
N227	6764830	1957060	98.34	109.4	100.972	2.489	N394	6768591	1953533	118.4	130.07	122.53	19.122
N228	6764668	1957091	97.53	102.4	100.61	5.368	N395	6767847	1950789	118.11	126.4	120.836	3.351
N230	6764681	1956708	95.83	104.39	98.169	12.28	N396	6767688	1950790	117.68	124.6	118.972	3.351
N231	6764595	1956709	99.84	104.4	100.287	0.95	N397	6767683	1951193	115.81	124.94	118.397	19.915
N233	6764687	1956313	94.42	100.35	95.241	12.459	N398	6767847	1951195	116.31	128.04	118.657	16.599
N234	6764582	1956183	87.61	100	89.41	12.459	N399	6767881	1951338	114.6	124.3	118.277	38.414
N235	6768573	1956404	119.6	138.15	119.864	0.231	N403	6767817	1951679	114.3	125.5	118.022	38.414
N236	6768508	1956375	118.61	126.23	118.89	0.231	N404	6767674	1952034	113.48	126.69	117.756	52.141
N237	6768231	1956466	117.26	124.29	117.66	0.231	N405	6767787	1952031	116.63	131.25	118.339	2.23
N238	6767954	1956552	115.11	122.35	117.582	2.489	N406	6767671	1952419	113.17	124.49	117.464	56.999
N239	6767765	1955931	117.69	125.08	118.558	0.929	N407	6767777	1952414	117	132.58	117.768	1.608
N240	6767885	1956326	116.62	122.09	118.199	1.584	N408	6767747	1952911	112.78	125.22	117.006	67.201
N241	6767567	1956678	111.36	119.6	112.518	2.757	N409	6767746	1953291	112.48	123.32	116.506	67.201
N242	6767021	1956847	108.63	115.67	110.43	3.27	N410	6767745	1953752	112.12	124.22	115.865	67.201
N243	6766644	1956972	105.86	112.69	108.07	3.612	N412	6767149	1951383	116.3	125.24	118.985	4.241
N244	6766265	1957097	103.85	109.7	106.274	4.425	N413	6767148	1951333	115.33	123.5	118.704	16.703
N245	6765973	1957190	101.68	107.68	104.936	4.714	N414	6767466	1951333	113.62	122	118.781	8.157
N246	6765326	1956734	99.56	104.7	102.646	7.371	N415	6767149	1951276	118.53	124.38	119.078	4.581
N247	6765778	1956310	97.87	107.2	101.662	22.318	N416	6765744	1951381	116.83	125.21	119.059	4.323
N248	6765782	1956726	111.48	116	112.528	0.448	N417	6765744	1951331	117.57	121.76	118.933	4.051
N249	6766307	1957193	104.62	108.63	106.765	2.126	N418	6766533	1950831	119.9	124.4	120.821	4.051
N250	6765921	1956704	101.14	113.4	103.625	3.081	N419	6765820	1951325	110.91	120.2	113.47	7.119
N251	6767405	1956305	115.38	127.02	116.652	3.694	N420	6765906	1950926	112.24	123.9	114.763	7.119
N252	6766990	1956304	113.06	121.25	115.281	4.063	N421	6765820	1950927	112	121.91	114.534	7.119
N253	6766866	1956307	108.08	119.03	110.463	5.364	N422	6765450	1951322	109.13	118.36	112.479	11.679
N254	6766889	1956224	112.83	120.4	113.353	1.238	N423	6765451	1951252	110.37	120.4	112.679	4.854
N255	6766570	1956306	102.8	113.91	106.452	10.597	N424	6765085	1951320	108.26	118.56	112.068	15.324
N256	6766568	1956244	107.41	119.88	108.073	1.852	N425	6765087	1951249	110.06	120.39	112.396	3.825
N257	6766815	1956390	107.61	118.4	108.447	2.483	N426	6764719	1951318	107.45	117.24	111.634	17.025
N259	6765364	1956313	97.16	102.69	99.733	26.759	N428	6764719	1951713	106.92	114.79	111.457	17.025
N260	6765362	1956220	97	101.1	99.1	26.759	N429	6764718	1952013	106.02	116.18	110.794	36.445
N261	6765363	1956359	98.93	106.38	99.911	1.982	N430	6767243	1952082	119	128.22	119.607	2.243
N262	6765296	1955996	104.88	110.4	105.493	1.579	N431	6767241	1952029	116.67	123.07	118.819	4.523
N263	6765239	1956042	104.46	109.4	104.84	3	N432	6766840	1952025	118.07	120.73	119.11	2.27
N264	6765177	1956089	96.64	106	99.09	3	N434	6766839	1952074	118.8	126.27	119.528	2.27
N265	6765184	1956001	104.86	108.4	105.406	1.305	N435	6766073	1952021	110.18	120.25	112.961	7.831
W800	6765805	1955509	102.51	110.03	105.613	4.456	N436	6766073	1952089	111.57	125.4	113.534	2.849
W801	6764376	1955524	101.45	106.4	103.933	9.049	N437	6766073	1951949	110.92	122.9	113.192	5.169
WUT002	6764395	1955525	101	103	103	9.448	N438	6765814	1952018	109.58	119.82	112.53	7.831
N272	6764688	1955791	96.35	102.06	96.85	1.048	N439	6765412	1952015	108.15	118.14	111.862	13.146
N273	6764588	1955790	97.68	104.4	98.105	0.853	N440	6765413	1952084	110.05	122.4	112.056	1.661
N274	6764688	1956072	95.58	100.31	95.773	1.254	N441	6765413	1951939	109.73	120.9	112.206	3.802
N275	6764636	1956110	87.61	101.7	89.42	1.42	N442	6765016	1952012	107.22	116.25	111.281	17.513
N276	6763920	1955987	94.25	100.4	94.743	0.979	N443	6765016	1952083	109.38	118.4	111.344	0.932
N277	6763813	1956075	93.44	99.4	93.715	2.304	N444	6765015	1951940	109.03	118.4	111.643	3.968
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N288	6763351	1956316	77.03	96.4	81.472	9.449	N447	6764714	1952893	105.05	113.2	108.883	44.794
N289	6763370	1956343	77	96.4	81.47	9.449	N448	6767298	1952821	118.77	126.62	120.847	2.448
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N291	6763408	1956660	91.92	96.29	92.448	8.556	N450	6766865	1952906	120.74	125.22	122.596	2.277
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N293	6766178	1953674	118.92	126.4	119.537	1.505	N453	6766126	1952902	113.76	119.83	115.696	2.872
N294	6766110	1953756	118.3	123.96	118.616	3.146	N454	6766127	1952812	114.29	125.4	116.464	2.872
N296	6766029	1953672	118.98	122.4	119.605	1.512	N455	6765811	1952901	111.68	118.28	113.02	2.872
N301	6766982	1953669	122.9	128.4	124.819	3.422	N456	6765813	1952896	110.25	116.28	112.189	4.552
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N303	6766884	1953789	110.6	124.3	113.27	5.018	N458	6765109	1952895	108.39	114	109.779	4.552
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N331	6764164	1953862	92.7	101	98.41	26.486	N466	6769179	1950242	126.19	131.97	129.498	8.005
W104	6766192	1955514	105.39	108.33	106.344	1.357	N467	6769256	1950642	126.3	130.96	128.221	0.971
N342	6765771	1956114	100.22	106.84	100.828	1.88	N468	6769043	1951065	123.59	129.95	126.001	13.354
N343	6765706	1956115	100	104.4	100.516	1.88	N469	6768935	1951407	118.96	128.66	120.443	14.682
N344	6765838	1956114	101.11	112.07	101.782	1.88	N470	6768758	1951560	117.71	127	118.677	14.682
N345	6767737	1955492	118.83	128.14	119.232	0.508	N471	6769085	1951092	124.88	133.3	126.088	1.292
N356	6767738	1954724	125.32	128.39	125.608	0.427	N472	6768990	1951034	124.94	129.45	126.056	0.932
N357	6767742	1954323	122.98	126.52	123.398	0.859	N473	6768894	1951443	120.07	126.23	120.53	0.679
N358	6767742	1953952	120.82	128.19	121.393	1.292	N487	6766444	1950834	118.57	122.22	119.591	4.051
N359	6767616	1953956	120.09	126.78	120.368	1.292	N489	6766691	1950260	118.43	124.63	120.872	9.483
N360	6767537	1953867	112.8	121.5	115.32	1.292	N490	6766989	1950095	121.9	125.91	123.495	9.483
N361	6768252	1954568	126.24	133.4	128.321	21.25	N491	6767360	1949972	124.17			

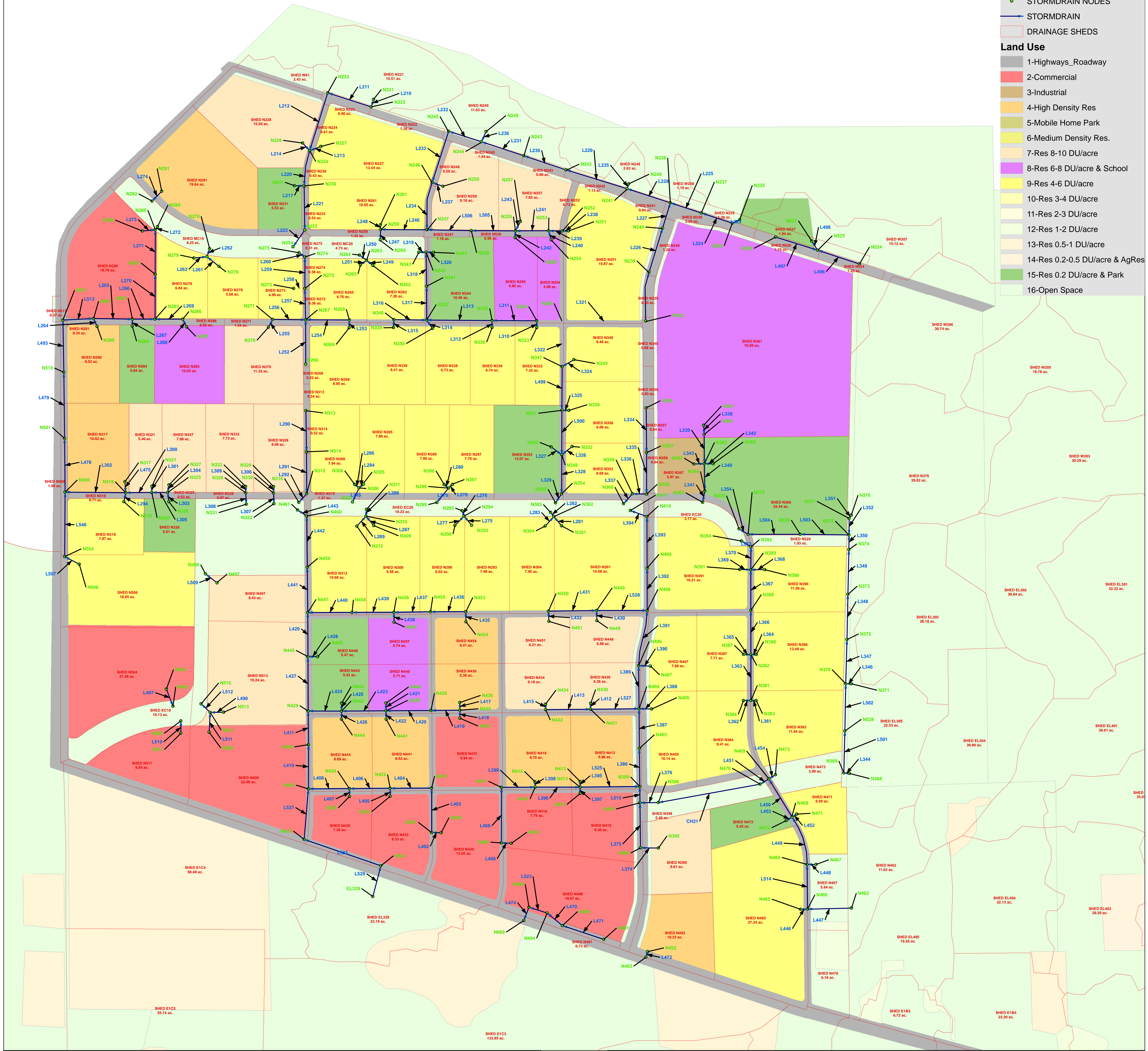
JACKSON TOWNSHIP

Legend

- STORMDRAIN NODES
- STORMDRAIN
- ▭ DRAINAGE SHEDS

Land Use

- 1-Highways_Roadway
- 2-Commercial
- 3-Industrial
- 4-High Density Res
- 5-Mobile Home Park
- 6-Medium Density Res.
- 7-Res 8-10 DU/acre
- 8-Res 6-8 DU/acre & School
- 9-Res 4-6 DU/acre
- 10-Res 3-4 DU/acre
- 11-Res 2-3 DU/acre
- 12-Res 1-2 DU/acre
- 13-Res 0.5-1 DU/acre
- 14-Res 0.2-0.5 DU/acre & AgRes
- 15-Res 0.2 DU/acre & Park
- 16-Open Space



JACKSON TOWNSHIP

STORM DRAIN SYSTEM NODE DATA

NAME	X	Y	INVERT	GROUND/NOEL/HGL	NOEL/E Q	
N221	6765302	1957481	105.84	114.03	107.603	2.891
N222	6765281	1957414	104.44	112.08	106.994	3.135
N223	6764892	1957440	100.81	106.20	102.110	3.298
N224	6764731	1957323	96.97	106.33	100.291	3.341
N225	6764630	1957260	98.34	102.49	100.072	2.480
N226	6764668	1957091	95.83	102.4	100.61	5.368
N228	6764681	1956709	97.53	104.39	98.169	12.28
N231	6764595	1956709	99.84	104.4	100.287	0.95
N233	6764687	1956313	94.42	100.35	95.252	12.490
N234	6764682	1956163	85.6	100	90.47	12.459
N235	6765873	1956404	119.6	138.15	119.864	0.231
N236	6765838	1956375	118.81	126.23	118.89	0.231
N237	6765231	1956466	117.26	129.29	117.66	0.231
N238	6767954	1956657	115.11	122.35	117.582	2.486
N239	6767765	1955937	117.69	125.08	118.558	0.929
N240	6767885	1955332	126.53	128.59	123.356	1.584
N241	6767567	1955683	111.36	119.6	112.518	2.757
N242	6767021	1956852	108.63	115.67	110.43	3.27
N243	6766644	1956978	105.88	112.69	108.448	3.612
N244	6766265	1957102	102.86	103.7	108.637	4.425
N245	6765973	1957196	101.66	107.68	105.266	4.714
N246	6765220	1956730	99.53	104.7	103.013	7.371
N247	6765778	1956316	97.87	107.2	102.031	22.318
N248	6767822	1957126	111.48	116	112.228	0.448
N249	6766307	1957193	104.62	108.63	107.126	2.126
N250	6765921	1956704	101.14	113.4	103.388	3.081
N251	6767145	1956505	115.30	122.02	116.552	3.624
N252	6766690	1956204	113.06	121.67	116.071	4.053
N253	6766866	1956307	108.08	119.03	110.463	5.364
N254	6766889	1956224	112.83	120.4	113.353	1.238
N255	6766570	1956368	107.81	113.81	108.308	10.597
N256	6766568	1956244	107.41	119.88	108.073	1.852
N257	6766615	1956390	107.61	118.4	108.447	2.483
N258	6766354	1956318	107.16	102.69	100.117	26.759
N259	6765922	1956228	97	101.11	99.53	26.759
N261	6765363	1956559	98.83	108.10	100.309	1.982
N262	6765296	1955996	104.88	110.4	105.493	1.579
N263	6765239	1956042	104.46	108.4	104.842	3
N264	6765177	1955898	105.8	108	99.54	3
N265	6765184	1956001	105.88	106.4	105.406	1.305
N272	6764888	1955791	96.35	102.06	97.877	6.753
N273	6764598	1955790	97.68	104.4	97.68	0.853
N274	6764888	1956072	96.58	100.31	98.031	6.948
N275	6764636	1956110	87.6	101.7	90.48	7.106
N276	6763320	1955987	94.25	100.4	94.743	0.979
N277	6763813	1956075	93.44	99.4	93.715	2.304
N278	6763837	1956146	78	96	93.1	2.304
N279	6763897	1956063	94.12	99.4	94.668	1.2
N288	6763351	1956316	77.03	96.4	84.53	36.931
N289	6763370	1956343	77	96.4	83.9	36.931
N290	6763325	1956304	76.18	94.4	84.457	6.948
N291	6763408	1956660	91.92	96.29	92.474	8.556
N292	6763322	1956672	76.96	94	83.79	8.556
N293	6763178	1956124	118.92	124.74	118.92	1.506
N294	6766110	1953756	118.33	123.98	119.317	3.146
N296	6766029	1956372	118.98	122.4	119.66	1.512
N301	6766982	1956369	122.9	128.4	124.819	3.422
N302	6766913	1956351	128.28	122.02	122.02	0.112
N303	6766984	1956789	110.9	122.4	113.42	0.516
N304	6766836	1956367	122.95	126.4	123.562	1.497
N309	6765303	1956371	113.15	118.9	113.82	1.825
N310	6765234	1956355	112.26	116.6	112.667	4.158
N312	6765152	1956366	113.21	116.4	114.2	2.264
N342	6765771	1956114	100.22	106.84	101.665	8.196
N343	6765706	1956115	101	108.4	101.108	8.196
N344	6765638	1956114	101	112.07	101.669	8.8
N345	6767734	1956500	118.83	128.14	119.232	0.508
N361	6768252	1954688	126.24	133.4	128.408	21.25
N362	6768257	1954485	126.13	133.95	128.244	21.25
N363	6768259	1954225	126.28	136.68	127.645	31.167
N364	6768263	1953880	125.01	134.31	127.055	30.167
N365	6768244	1953879	117.4	129	122.57	30.167
N366	6768337	1954224	127.87	136.4	128.964	4.587
N367	6768168	1954221	129.33	131.4	129.33	2.633
N368	6768556	1951455	124.26	130.1	127.196	12.331
N369	6768904	1951460	123.67	130.15	127.139	12.331
N370	6768922	1952058	121.7	130.03	126.983	13.33
N371	6768972	1952257	122.26	130.32	126.936	26.801
N372	6768933	1952652	121.34	131.81	126.099	56.333
N373	6768941	1953056	120.97	131.33	125.341	56.333
N374	6768950	1953456	120.6	132.82	124.953	56.333
N375	6768951	1953588	119.98	132.23	124.298	73.449
N376	6768971	1953764	122.9	130.47	124.587	8.254
N377	6768953	1953735	122.82	130.51	124.53	8.254
N378	6768949	1953693	119.27	129.19	124.643	73.449
N379	6768958	1953842	118.4	128.2	122.58	73.449
N381	6768675	1952107	124.76	128.47	125.848	4.523
N382	6768674	1952118	122.86	128	124.59	9.81
N383	6768722	1952153	123.2	128.289	124.211	10.04
N384	6768609	1952107	125.64	131.18	126.379	2.16
N386	6768722	1952519	124.14	132.17	124.95	2.649
N387	6768610	1952519	124.23	132.93	124.873	1.637
N388	6768674	1952513	126.21	133.69	126.96	8.81
N389	6768673	1952276	120.11	128.38	123.132	19.122
N390	6768798	1953278	122.83	132.4	123.621	2.279
N391	6768674	1953279	122.69	131.4	124.151	3.494
N392	6768675	1953482	118.83	128.21	122.831	19.122
N394	6768991	1953533	118.1	130.07	122.58	12.92
N395	6767847	1950789	118.1	126.4	120.837	3.351
N396	6767848	1950790	118.68	126.4	120.837	3.351
N397	6767883	1951193	115.81	124.94	118.402	19.915
N398	6767847	1951195	116.31	128.04	118.66	16.599
N399	6767881	1951338	114.6	124.3	118.282	38.414
N403	6767677	1951678	114.3	125.5	118.027	38.414
N404	6767674	1951683	113.48	126.69	117.761	52.141
N405	6767787	1952031	117	131.25	118.332	2.23
N406	6767871	1952419	113.17	124.49	117.47	36.999
N407	6767777	1952414	117	132.58	117.711	1.008
N408	6767747	1952911	112.78	125.22	117.012	67.201
N409	6767746	1952921	112.48	123.32	116.513	67.201
N410	6767745	1953752	112.12	124.22	115.873	67.201
N412	6767149	1951983	116.3	125.24	118.99	4.241
N413	6767148	1951333	115.33	123.5	118.709	16.703
N414	6766746	1951333	115.83	122	118.785	8.157
N415	6767149	1951276	116.33	126	119.053	4.581
N416	6766744	1951581	116.83	125.21	119.067	4.323
N417	6766444	1951331	117.57	121.76	118.937	4.051
N418	6766533	1950831	119.9	124.4	120.821	4.051
N419	6765820	1951225	110.91	122.2	113.47	7.119
N420	6765906	1950926	112.24	123.9	114.763	7.119
N421	6765820	1950927	112	121.21	114.534	7.119
N422	6765450	1951322	109.13	118.36	112.479	11.679
N423	6765451	1951252	110.37	120.4	112.378	4.854
N424	6765087	1951320	106.26	118.56	112.068	15.324
N425	6765087	1951249	110.46	120.39	112.396	3.825
N426	6764719	1951318	107.45	117.24	111.634	17.025
N428	6764719	1951713	106.92	114.79	111.157	17.025
N429	6764716	1952013	106.02	116.18	110.794	36.445
N430	6767243	1952082	119	128.22	119.607	2.243
N431	6767241	1952029	116.67	123.07	118.825	4.523
N432	6766840	1952025	118.07	120.73	119.114	2.277
N434	6766839	1952074	118.8	126.27	119.528	2.27
N435	6766073	1952021	110.18	120.25	112.961	7.831
N436	6766073	1952089	111.57	125.4	113.534	2.849
N437	6766073	1951949	110.82	123.8	113.192	5.168

STORM DRAIN SYSTEM PIPE DATA

NAME	X	Y	INVERT	GROUND/NOEL/HGL	NOEL/E Q	
N438	6765814	1952018	109.58	119.82	112.53	7.831
N439	6765412	1952015	108.15	118.14	111.882	13.146
N440	6765413	1952048	110.05	122.4	112.056	1.681
N441	6765413	1952039	109.73	120.9	112.208	3.802
N442	6765016	1952019	107.22	116.25	111.25	17.513
N443	6765016	1952083	109.38	118.4	111.344	0.932
N444	6765015	1951940	109.03	118.4	111.643	3.968
N445	6764715	1952499	105.48	113.3	109.75	36.333
N446	6764802	1952499	108.49	118.4	108.831	0.939
N447	6764714	1952893	105.05	113.2	108.883	44.794
N448	6767298	1952821	118.77	125.62	120.847	2.448
N449	6767295	1952912	117.89	123.6	120.283	4.727
N450	6766885	1952906	120.74	125.22	122.598	2.277
N451	6766889	1952815	121.27	126.4	123.085	2.277
N452	6766126	1952902	113.76	119.83	115.696	2.872
N454	6768127	1952812	114.29	123.4	118.454	2.87

APPENDIX G

DATA FILES