Hillsborough County Solid Waste Management Department

Hillsborough County Resource Recovery Facility: Stormwater Design and Operations Plan Report

Addendum to Site Certification #PA 83-19

December 2009

Report

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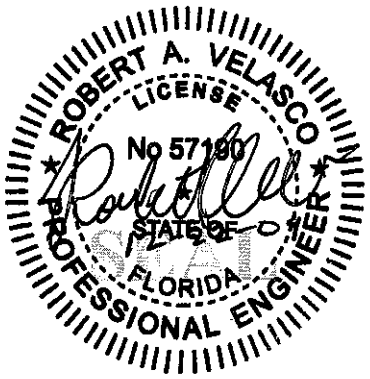

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The seal certifies the stormwater design modifications and calculations shown herein provide reasonable assurances of achieving the requirements pursuant to Chapter 40D-4 F.A.C. and the Basis of Review.

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Section 1
Introduction

1.1 Facility Description

The Hillsborough County Resource Recovery (HCRRF) is a "mass-burn" type facility with a continuous design rated capacity of 1,200 tons per day (tpd). Prior to July 2009, the HCRRF utilized three (3) combustion/steam generation units, each with a continuous design rated nominal capacity of 400 tpd. The design layout for the HCRRF allowed for the addition of a 4th combustion/steam generation unit. The tipping area and refuse pit were designed to handle at least 1,600 tpd. The Facility has one steam turbine-generator (T/G) that generates a nominal electrical capacity of 29 megawatts (MW). The storm water runoff on the 37.4 acre site is treated trough a series of onsite retention ponds prior to discharging to the Tampa Bypass Canal.

1.2 Background

In 1984, the Siting Board approved the construction and operation of a 39 MW steam electrical Facility pursuant to the Power Plant Siting Act (PPSA). The Facility was authorized to operate three boilers, each capable of processing a nominal 400 tpd of solid waste with a total capacity of 1,200 tpd. The facility was also approved for an additional 4th Unit for an ultimate site capacity of 1,600 tpd. Although a 4th unit was not constructed, the Facility was designed with space requirements for expansion of a 4th Unit.

Since the start up of the Facility in 1987, the County's population, and the quantity of municipal solid waste (MSW) generated in the County, has grown more rapidly than originally anticipated. As a result, the County has decided to increase the capacity of the existing facility by adding a new boiler with a nominal rated capacity of 600 tpd.

In November 2005, CDM on behalf of the Hillsborough County Solid Waste Management Department (HCSWMD) filed a PPSA Application with the Florida Department of Environmental Protection (FDEP) pursuant to the State of Florida Power Plant Siting Act. This application proposed the construction and operation of a new 600-tpd combustion unit to increase solid waste processing capacity from 1,200 to 1,800 tpd. This application also proposed increasing the nominal electrical generating capacity from 39 to 47 MW.

On March 29, 2006, CDM met with the Southwest Florida Water Management District (SWFWMD) in Tampa to discuss the comments on insufficiency, dated March 23, 2006 and discuss additional storm water management issues. Based on the meeting, SWFWMD has requested that CDM re-evaluate the existing stormwater management system and perform the following:

- Use the ICPR (Interconnected Pond Routing) model to verify that the proposed changes at the site do not increase the peak flows and do not cause on-site flooding problems;

- Remove the existing plate covering the weir and the bleed valve currently installed on each control structure;
- Design a multi-stage, broad crested weir that will:
  - Discharge ½ inch of detention runoff from the contributing area in 24 hours,
  - Allow for higher discharge rates in the case of a 25 year/24 hour event in accordance with the technical manual TP/SWP-022,
  - Provide a 14 day wet detention time for treatment of Class III surface water standards;
- Install skimmers on both control structures with a flow area equal to 1.5 times the weir cross-sectional area; and
- Prepare a stormwater operations plan to operate the new control structures.

CDM has prepared the aforementioned request in response to SWFWMD's requests and in accordance with the Basis of Review and Chapter 40D-4 F.A.C. On April 7, 2006, SWFWMD approved the responses related to the Notice of Insufficiency. On September 27, 2006, the final order with Conditions of Certification PA-83-19 authorized construction of the new 600-tpd combustion unit and a new 17 MW T/G.

On May 15, 2007, a meeting was arranged with SWFWMD to discuss the modifications to the approved storm water management system in the PPSA site certification and the Conditions of Certification. These conditions require that the existing retention pond weirs be returned to their original design prior to commencing construction of the HCRRF expansion project. The SWFWMD indicated that any changes should comply with the applicable FDEP/SWFWMD standards for water quality and quantity. The SWFWMD also agreed to consider an adjustable weir to prevent any contaminants from inadvertently entering into the waters of the State.

1.3 Objective

The objective of this Design Report is to incorporate changes into the Conditions of Certification that were made during HCRRF expansion and the property boundary. The specific changes that need to be incorporated into the stormwater management system include the following:

- Site changes from HCRRF expansion,
- Addition of scale house and travel lane,
- Land Acquisitions to the adjacent Advanced Wastewater Treatment Plant (AWTP), and

- Modifications to the control structures to achieve compliance with the Basis of Review and Chapter 40D-4 F.A.C.

The specific details of these modifications are discussed in Section 3 of this Report.

Section 2
Existing Site Conditions

2.1 Site Layout and Drainage Subbasins

This section briefly describes the dimensions, location and uses of the existing HCRRF located at 350 N. Falkenburg Road in Tampa, Florida. Proposed modifications to the HCRRF and their locations are described herein. The site dimensions have not changed since the original certification application in 1983. **Figure 2-1** shows the general location map of the HCRRF.

The HCRRF site consists of the tipping buildings to accept the solid waste, the boiler building, which contains the boilers to combust the MSW and generate superheated steam, air pollution control (APC) building, which houses APC equipment, turbine building, which contains turbine generators to convert the steam into electricity, ash handling building to the process the ash, coolers, water tanks, chemical storage, switch yards, access road, parking lot and 4 retention ponds to control on-site storm water.

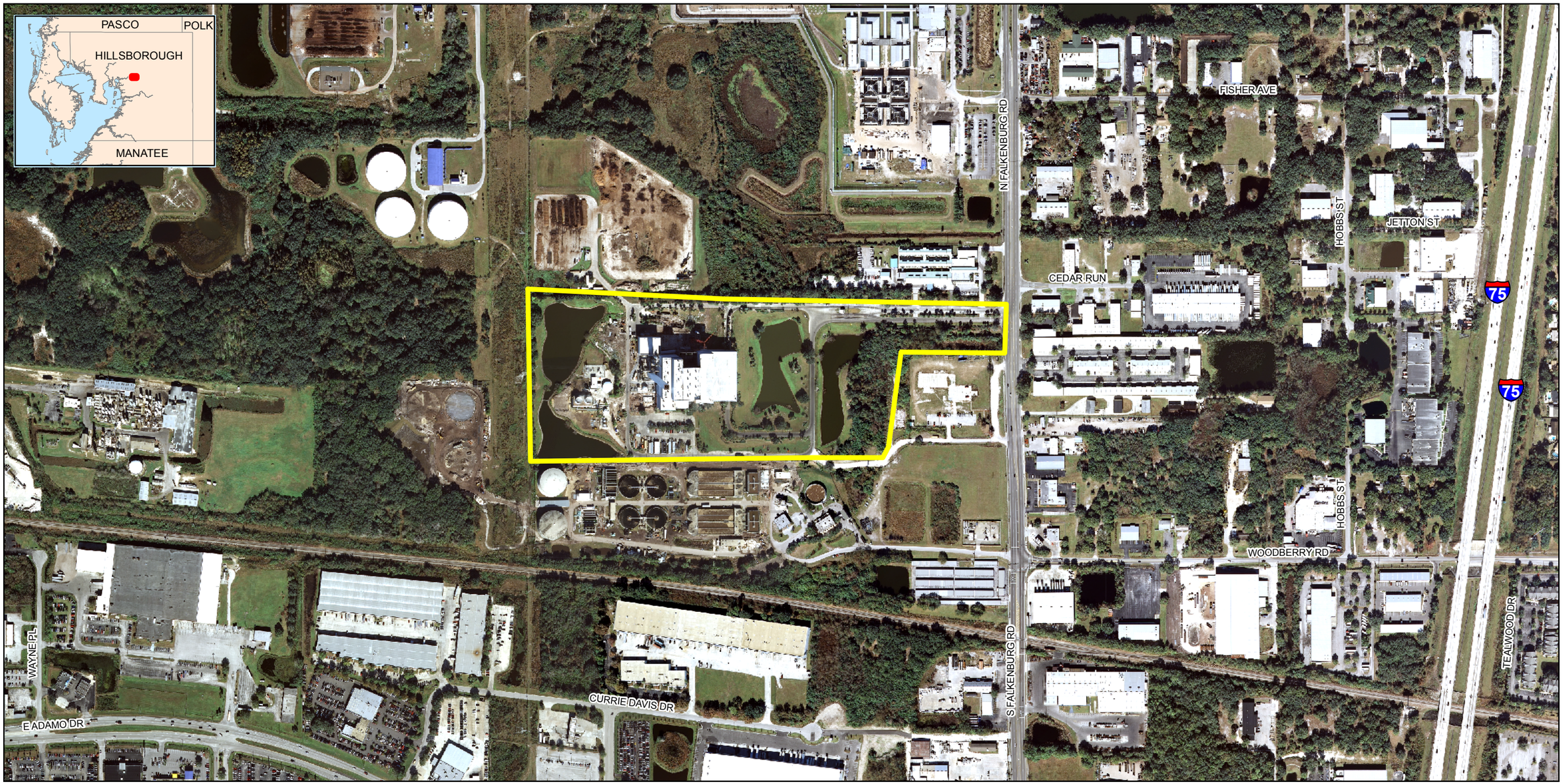
Runoff in Subbasins C and D from the tipping building and east side of the HCRRF property are captured and treated in ponds C and D. The ponds are interconnected ponds and discharge through a common control structure located on the north side of Pond C. The control structure in Pond C discharges to the wet land area north of the HCRRF. The permitted discharge rate from the control structure C is limited to 25 cfs (cubic feet per second).

Runoff in Subbasins A and B from other facility buildings and remaining areas on the west side of the property are captured and treated in ponds A and B. The control structure in Pond B limits the discharge to the swale on the southwest side of the property. The permitted discharge rate from the control structure B is limited to 35 cfs. **Figure 2-2** shows the site layout and existing drainage subbasins.

2.2 Property Boundaries and Land Use

The HCRRF is located southeast of the City of Tampa, west of Interstate 75 (I-75), and north of the Crosstown Expressway, in an unincorporated area of Hillsborough County. The HCRRF currently sites on a 37.4 acre site located in the southern portion of a 353 acre tract of land that is situated in Section 18, Township 29 and Range 20. The currently boundary survey and the legal description for the 37.4 acre site is shown in **Attachment 1**.

The site is bounded by the AWTP to the south that is owned by HCWRD, a 230 Kilovolt (kV) transmission line corridor and easement that is owned by the Tampa Electric Company (TECO) to the west, Falkenburg Road Jail and the Hillsborough County Department of Animal Services to the north, and a HCWRD office complex and Falkenburg Road to the east.



Legend

Approximate Property Boundary

1 inch = 500 feet

0 500 1,000 2,000 Feet

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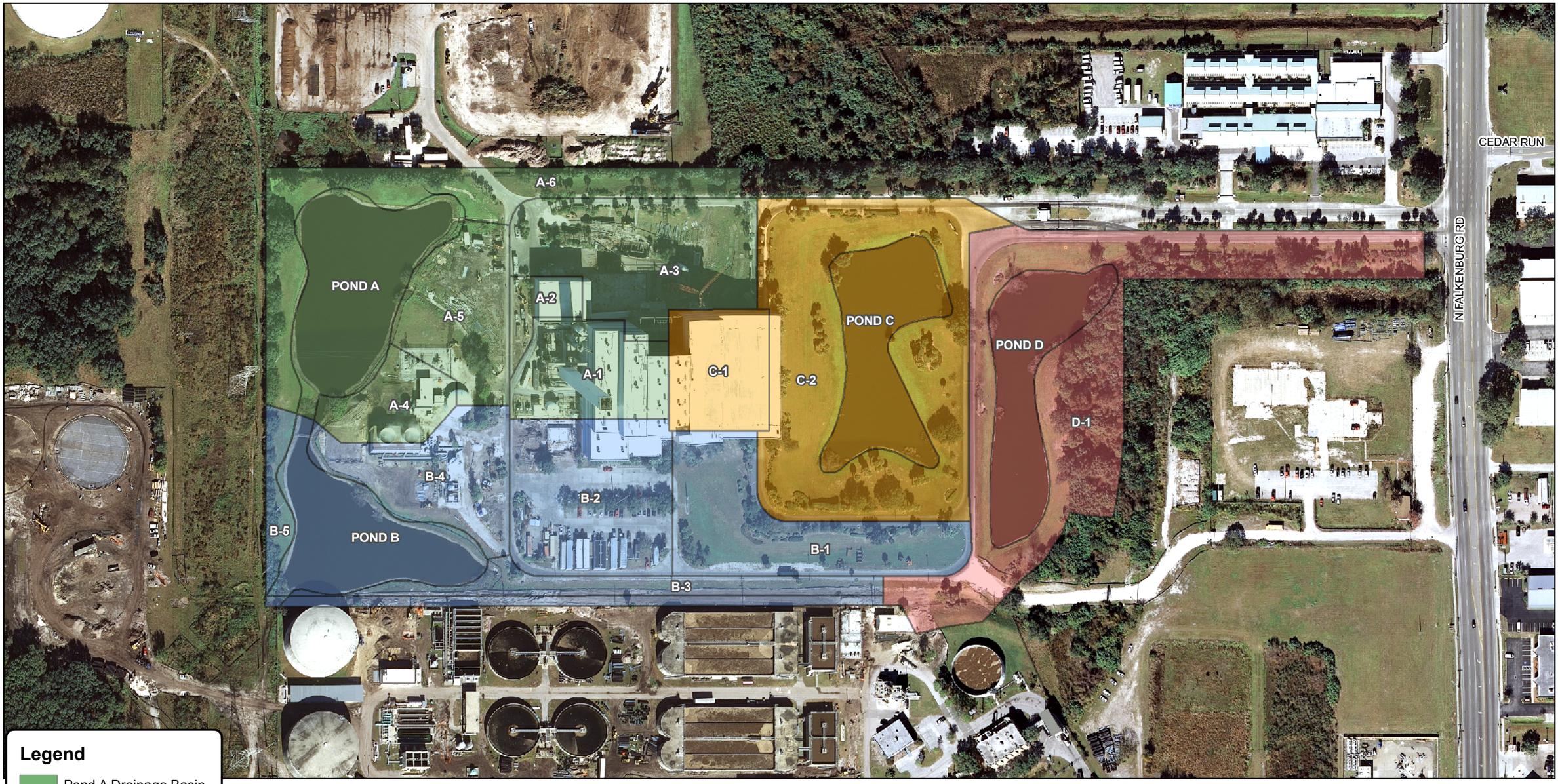
Aerial per SWFWMD, 2008

Figure 2-1
General Location Map
Resource Recovery Facility
Hillsborough County, Florida



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Aerial per SWFWMD, 2008

Figure 2-2
Existing Site Layout and Drainage Subbasins
Resource Recovery Facility
Hillsborough County, Florida

Section 3
Site Modifications

This section discusses the site changes to the storm water management system due to the HCRRF expansion and the expansion of the adjacent AWTP. **Figure 3-1** shows the locations of the site changes in the Subbasins as indicated by letters T through Z. Each of the site changes is discussed below in detail.

3.1 North Ash Pad Extension

The north ash pad to the north of the boiler, APC and ash building areas was extended to allow vehicles to access to the facility buildings. The additional pavement has increased the impervious area by approximately 2,069 square feet in Subbasin A-3. The new paved area is shown as Area U in Figure 3-1.

3.2 Removal of Concrete Drainage Swale

The existing switch yard was expanded to construct the new electrical equipment for the expansion. The concrete portion of the swale to Pond A was demolished and rerouted around the switchyard area. The modified swale has decreased the impervious area by approximately 1,171 square feet in Subbasin A-5. The new grass swale area is shown as Area V in Figure 3-1.

3.3 Addition of 13.8 kV Ductbank

A 13.8 kV concrete ductbank was installed to interconnect the new equipment in the switchyard to the switchgear in the T/G building. The ductbank has increased the impervious area by approximately 1, 148 square feet in Subbasins A-5 and B-4. The area is shown as Area W in Figure 3-1.

3.4 Paved Entrance to Air Pollution Control/ Boiler Building

A 12 feet wide paved area was constructed to access the APC and boiler buildings. The paved area has increased the impervious area by approximately 425 square feet in Subbasin A-1. The paved area is shown as Area X in Figure 3-1.

3.5 Paved Entrance to Turbine Building

A paved entrance was constructed on the south side of the T/G building. The paved area has increased the impervious area by approximately 515 square feet in Subbasin A-1. The paved area is shown as Area Y in Figure 3-1.

3.6 Proposed Scale House Improvements

A scale house improvement is planned for the facility. The improvements include the replacement of three (3) existing scales, addition of a new inbound scale, a new scale house and a new travel lane. The new travel lane will increase the impervious area by

approximately 18,186 square feet. The new travel lane is shown as Area Z in Figure 3-1. The site plan of the scale house improvements is included in **Attachment 2.**

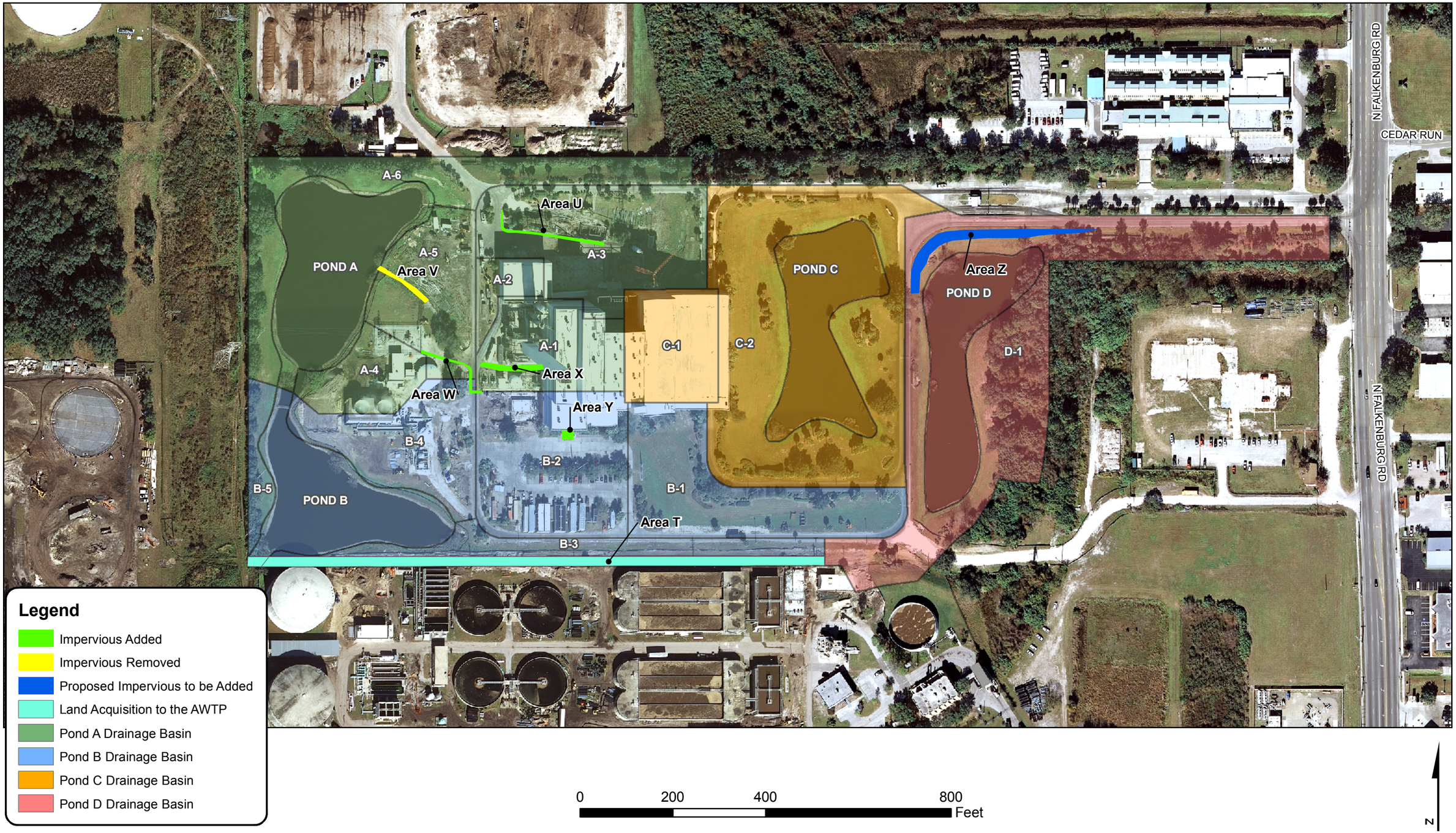
3.7 Land Acquisitions by AWTP from HCRRF

3.7.1 New Access Road

HCWRD acquired a portion of the HCRRF parcel of land from the HCSWMD. The land was acquired as part of the AWTP expansion, which included installation of an access road and pipeline on the property line between the HCRRF and AWTP. The runoff from the access road is captured and treated by the stormwater management system located on the AWTP property. HCWRD is planning on installing a curb along the north side the access road to prevent any additional runoff or inadvertent spills from entering into Subbasin B-3. The land acquisition has reduced the size of the Subbasin B-3 from 142,828 to 127,412 square feet and reduced the pervious area by approximately 15,416 square feet. The land acquisition to the AWTP is shown as Area V in Figure 3-1.

3.7.2 Sludge Holding Tank

HCWRD acquired a portion of the HCRRF parcel of land from the HCSWMD to construct a 700,000 gallon waste activated sludge holding tank at the Falkenburg AWTP. The project was completed in September 2006 prior to the HCRRF expansion and the record drawings were not upgraded to reflect the land acquisition. The previous model used the basin size of 379,306 square feet based on the record drawings, whereas the current model used the basin size of approximately 279,715 square feet from a land survey. The pervious area is reduced by approximately 99,591 square feet.



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Aerial per SWFWMD, 2008

Figure 3-1
Site Modifications
Resource Recovery Facility
Hillsborough County, Florida

Section 4
Stormwater Modeling

4.1 Background

In 2006, CDM developed a stormwater model and technical memorandum for the PPSA permit application in response to SWFWMD's notice of insufficiency, March 23, 2006. The model was developed in accordance with the conditions outlined in Section 1.2. The previous model results clearly showed that the existing control structures with the proposed weir modifications were sufficient to provide the water quality treatment to the meet the requirements of TP/SWP-022. The model results also showed the existing ponds have adequate storage capacity to meet the additional runoff for the HCRRF expansion. Details of the previous stormwater model and technical memorandum are included in **Attachment 3**.

On September 23, 2009, a pre-application meeting was conducted with CDM, RS&H and SWFWMD to discuss the modifications to the HCRRF site and the stormwater management system. It was agreed the modifications should include the 0.5 acres of impervious area, an adjustable outfall control system that will be used to replace previously approved design that can be operated at selected elevations with an approved Operations Plan provided the system will not cause any adverse impacts, will not impede the conveyance of contributing off-site flows and provide sufficient water quality treatment for entire project area. A detailed summary of the preapplication meeting minutes is included in **Attachment 4**.

Upon receipt of additional information, it was determined that the pre-expansion conditions of the model needed to be revised to more accurately reflect the actual conditions of the storm water management system. A recent survey from the AWTP facility expansion showed the southern and southeastern property boundaries of the HCRRF were actually 4,983 square feet larger in Subbasin B-3. The actual drainage area in Subbasin D-1 was also shown to be approximately 99,591 square feet smaller due in part to the actual drainage patterns and the land acquisition for the sludge holding tank. Finally, the rectangular weir plates (designed for treatment) were included in the revised model to accurately account for the pre-expansion revisions. **Table 4-1** shows a summary of the revised hydraulic data for the pre-expansion conditions.

As indicated in Section 3, the HCRRF expansion has introduced additional impervious areas throughout the facility in Subbasins A-1, A-3, B-4, and D-1 with some areas of net impervious surface removal in Subbasins A-5 and B-3. The modification to Subbasin B-3 included land acquisition to construct an access road and pipeline as part of the AWTP expansion. The additional runoff from the acquired property is now routed and treated on the AWTP site. The proposed scale house improvements will include an additional turning lane that will increase the impervious area in Subbasin D-1. **Table 4-2** shows a summary of the revised hydraulic data for the proposed conditions. **Table 4-3** shows a summary of hydraulic data changes between the pre-expansion and proposed conditions.

Table 4-1. Revised Hydrologic Data for Pre-Expansion Conditions.

Drainage Area	Drains to	Subdrainage Area			Pervious Area		Impervious Area		Composite Runoff Value	Combined Curve Number	Time of Concentration (Tc)
		Name	Area (sq.ft)	Area (acres)	Area (sq.ft)	%	Area (sq.ft)	%		CN	Minutes
West	Pond A	A-1	55,659	1.28	0	0	55,659	100	0.95	98	22.3
West	Pond A	A-2	15,548	0.36	5,094	33	10,454	67	0.70	92	57.8
West	Pond A	A-3	106,573	2.45	52,620	49	53,953	51	0.58	89	91.4
West	Pond A	A-4	38,204	0.88	15,621	41	22,583	59	0.64	91	63.7
West	Pond A	A-5	61,186	1.41	47,389	78	13,797	23	0.37	84	52.5
West	Pond A	A-6 + Pond A	184,868	4.24	87,016	47	97,852	53	0.60	90	188.3
West	Pond B	B-1	99,652	2.29	79,396	80	20,256	20	0.35	84	58.9
West	Pond B	B-2	104,324	2.39	20,885	20	83,439	80	0.80	94	24.3
West	Pond B	B-3 + Pond B[1]	142,828	3.28	62,777	44	80,051	56	0.62	90	68.6
West	Pond B	B-4	70,965	1.63	30,449	43	40,517	57	0.63	90	17.9
West	Pond B	B-5	15,037	0.35	15,037	100	0	0	0.20	80	15.2
North	Pond C	C-1	52,864	1.21	0	0	52,864	100	0.95	98	5.2
North	Pond C	C-2	280,717	6.44	148,438	53	132,279	47	0.55	88	18.5
North	Pond D	D-1 + Pond D[2]	279,715	6.42	154,065	55	125,650	45	0.54	88	63.8

NOTES:
1. The southern property boundary of the HCRRF was corrected in the 2006 Modified Conditions. This affected Subbasin B-3 in which the drainage area increased by 4,963 square feet.
2. The southeastern property boundary of the HCRRF was corrected in the 2006 Modified Conditions. Subbasin D-1 was affected in which the drainage area decreased by 99,591 square feet.

Table 4-2. Hydrologic Data for Proposed Conditions

Drainage Area	Drains to	Subdrainage Area			Pervious Area		Impervious Area		Composite Runoff Value	Combined Curve Number	Time of Concentration (tc)
		Name	Area (sq.ft)	Area (acres)	Area (sq.ft)	%	Area (sq.ft)	%		CN	Minutes
West	Pond A	A-1[1]	55,659	1.28	0	0	55,659	100	0.95	98	22.3
West	Pond A	A-2	15,548	0.36	5,094	33	10,454	67	0.70	92	57.8
West	Pond A	A-3[2]	106,573	2.45	50,551	47	56,022	53	0.59	89	91.4
West	Pond A	A-4	38,204	0.88	15,621	41	22,583	59	0.64	91	63.7
West	Pond A	A-5[3]	61,186	1.41	47,412	77	13,774	23	0.37	84	52.5
West	Pond A	A-6 + Pond A	184,868	4.24	87,016	47	97,852	53	0.60	90	188.3
West	Pond B	B-1	99,652	2.29	79,396	80	20,256	20	0.35	84	58.9
West	Pond B	B-2[4]	104,324	2.39	20,462	20	83,862	80	0.80	94	24.3
West	Pond B	B-3 + Pond B[5]	127,412	2.92	47,361	37	80,051	63	0.67	91	68.6
West	Pond B	B-4[6]	70,965	1.63	30,373	43	40,592	57	0.63	90	17.9
West	Pond B	B-5	15,037	0.35	15,037	100	0	0	0.20	80	15.2
North	Pond C	C-1	52,864	1.21	0	0	52,864	100	0.95	98	5.2
North	Pond C	C-2	280,717	6.44	148,438	53	132,279	47	0.55	88	18.5
North	Pond D	D-1 + Pond D[7]	279,715	6.42	135,879	49	143,836	51	0.59	89	63.8

NOTES:
1. An entrance road was re-paved (Net added impervious area = 0 sq ft).
2. A new turn lane was constructed (Net added impervious area = 2,069 sq ft).
3. A concrete channel liner was removed and replaced with grass (1,171 sq ft); a sidewalk was added (1,148 sq ft) (Net added impervious area = 23 sq ft).
4. A new paved entrance to the steam turbine unit was added (Net added impervious area = 423 sq ft).
5. Property was acquired from the HCRRF and was developed by others. Associated runoff is on other's property (Net removed area = 15,416 sq ft).
6. Sidewalk was added (Net added impervious area = 75 sq ft)
7. A new, paved turn lane was added south of the scale house (Net added impervious area = 18,186 sq ft).

Table 4-3. Hydrologic Data Changes in Site Conditions.

Drainage Area	Drains to	Subdrainage Area			Pervious Area		Impervious Area		Composite Runoff Value	Combined Curve Number	Time of Concentration (Tc)
		Name	Area (sq.ft)	Area (acres)	Area (sq.ft)	%	Area (sq.ft)	%		CN	Minutes
West	Pond A	A-1[1]	0	0	0	0	0	0	0	0	0
West	Pond A	A-2	0	0	0	0	0	0	0	0	0
West	Pond A	A-3[2]	0	0	-2,069	-2	2,069	2	0.01	0	0
West	Pond A	A-4	0	0	0	0	0	0	0	0	0
West	Pond A	A-5[3]	0	0	23	-1	-23	0	0	0	0
West	Pond A	A-6 + Pond A	0	0	0	0	0	0	0	0	0
West	Pond B	B-1	0	0	0	0	0	0	0	0	0
West	Pond B	B-2[4]	0	0	-423	0	423	0	0	0	0
West	Pond B	B-3 + Pond B[5]	-15,416	0.36	-15,416	-7	0	7	0.05	1	0
West	Pond B	B-4[6]	0	0	-76	0	75	0	0	0	0
West	Pond B	B-5	0	0	0	0	0	0	0	0	0
North	Pond C	C-1	0	0	0	0	0	0	0	0	0
North	Pond C	C-2	0	0	0	0	0	0	0	0	0
North	Pond D	D-1 + Pond D[7]	0	0	-18,186	-6	18,186	6	0.05	1	0

4.2 Revised Model Conditions

The revised model simulation was conducted using the Interconnected Channel and Pond Routing (ICPR) Model, Version 3.10. The former model that was used in the technical memorandum, dated April 7, 2006, was imported into the new model with the same input parameters described in the technical memorandum with the exception of those areas modified in **Table 4-1**. The revised hydrologic data for pre-expansion conditions and model schematic are shown in **Figures 4-1** and **4-2**, respectively. The revised hydrologic data for proposed conditions after the HCRRF expansion and model schematic are shown in **Figures 4-3** and **4-4**, respectively.

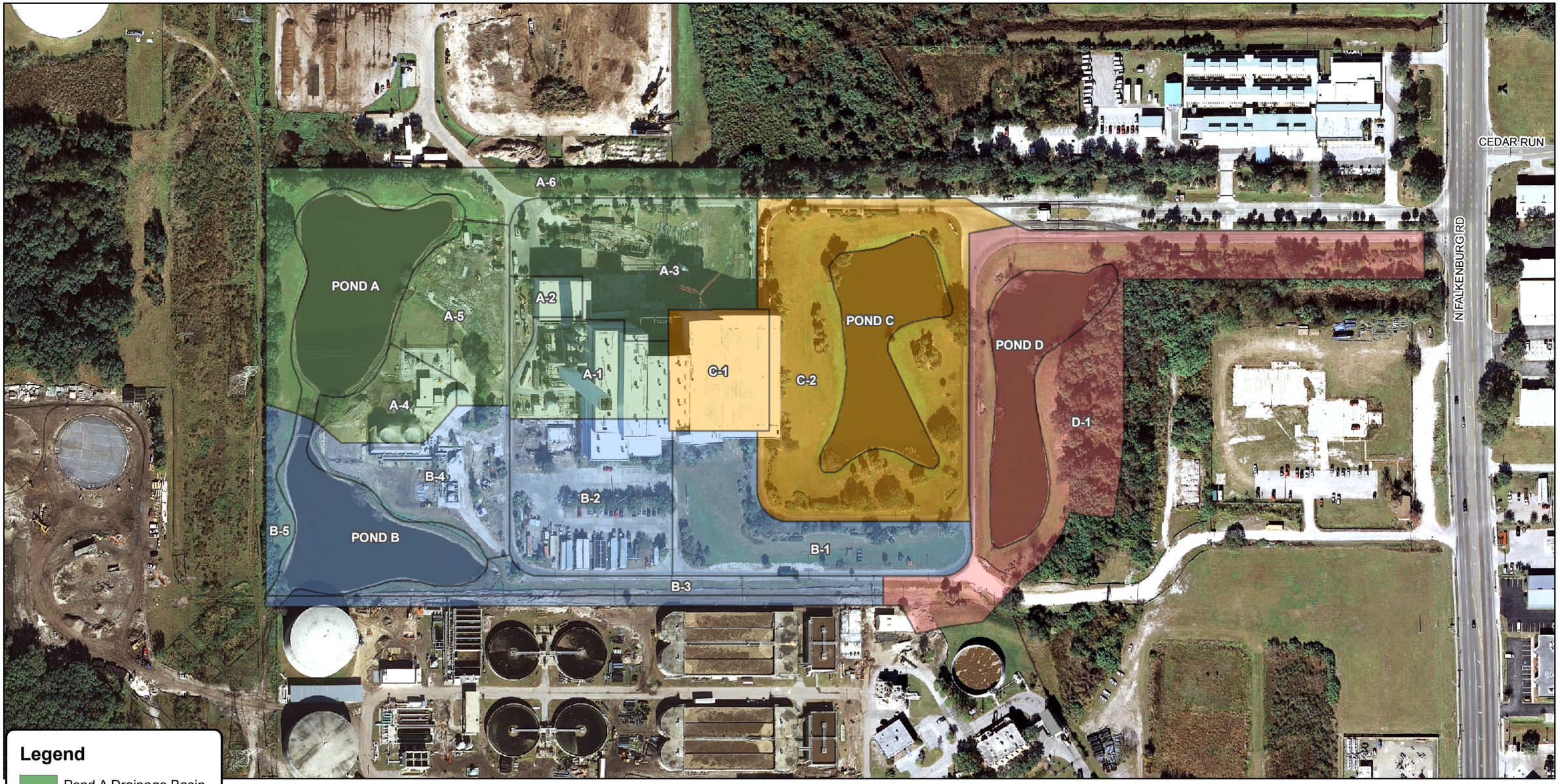
In addition the revision of the hydraulic data, the methodology to calculate the time of concentrations (Tc) was also revised. The previous model in technical memorandum used the FAA method to calculate the time of concentrations in each Subbasin. Upon subsequent review of FAA method, it was discovered that the time of concentrations were higher than expected. To provide more reasonable estimates, the time of concentration was calculated using the Soil Conservation Service TR-55 method, which is a widely accepted methodology and is approved for use by the SWFWMD. The revised time of concentrations were then incorporated in the revised model simulation. The model results with the new values had negligible effect on model output despite the notable deviations in the time of concentrations. A summary of the revised time of concentrations is shown in Tables 4-1 and 4-2. Details of the time of concentration work sheets are included in **Attachment 5**.

4.3 Treatment Volume

Similar to the technical memorandum, the SWFWMD Alternative Method worksheet of the TP/SWP-022 was employed. The work sheets calculated a required v-notch weir with 170° for Weir #1 (located at southwest corner of Pond B) and 174° for Weir #2 (located at north side of Pond C). The required v-notch weir angles were very large, thus rectangular weirs will be used instead to discharge ½ inch of runoff over the drainage area in no less than 24 hours. This methodology was confirmed during the SWFWMD pre-application meeting and approved for use in the revised model. A summary of the v-notch work sheets is included in **Attachment 6**.

The contributing area for Ponds A and B is 20.20 acres. To provide the required ½ inch of treatment over the contributing area, 0.84 acre-feet of treatment volume must be provided at Weir #1. The contributing area for Ponds C and D is 14.07 acres. A treatment volume of 0.59 acre-feet must be provided at Weir #2 to meet the ½ inch of treatment over the contributing area.

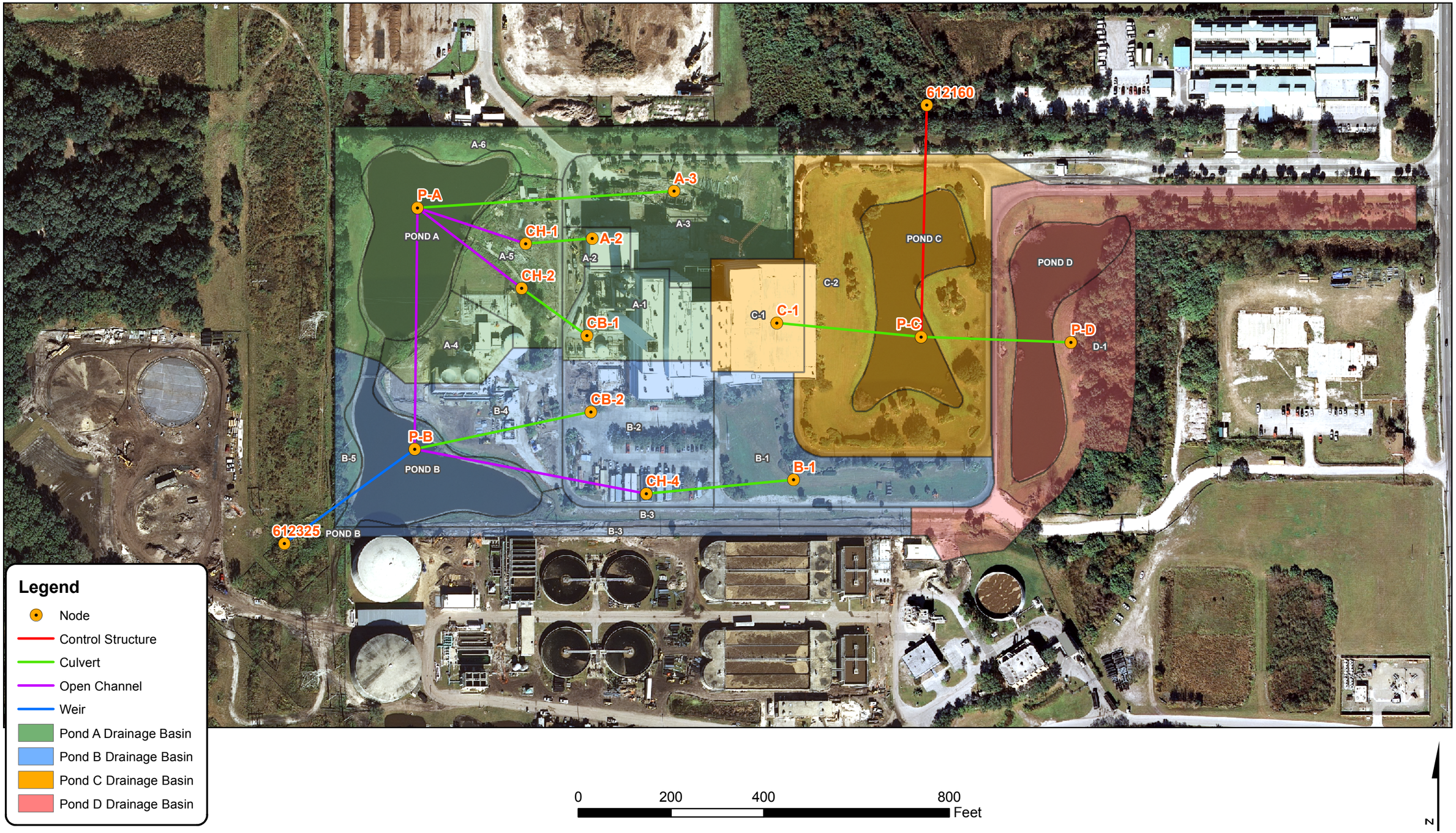
Various model scenarios were constructed to size the proposed rectangular treatment weirs at each control structure. Based on the ICPR routines, a 2 feet wide by 0.51 feet high rectangular treatment weir discharges a volume of approximately 0.84 acre-feet at 25.75 hours at Weir #1. A 2 feet wide by 0.39 feet high rectangular treatment weir discharges a volume of approximately 0.59 acre-feet at 24.75 hours at Weir #2. A



CDM

Aerial per SWFWMD, 2008

Figure 4-1
Existing Hydrologic Units
Resource Recovery Facility
Hillsborough County, Florida



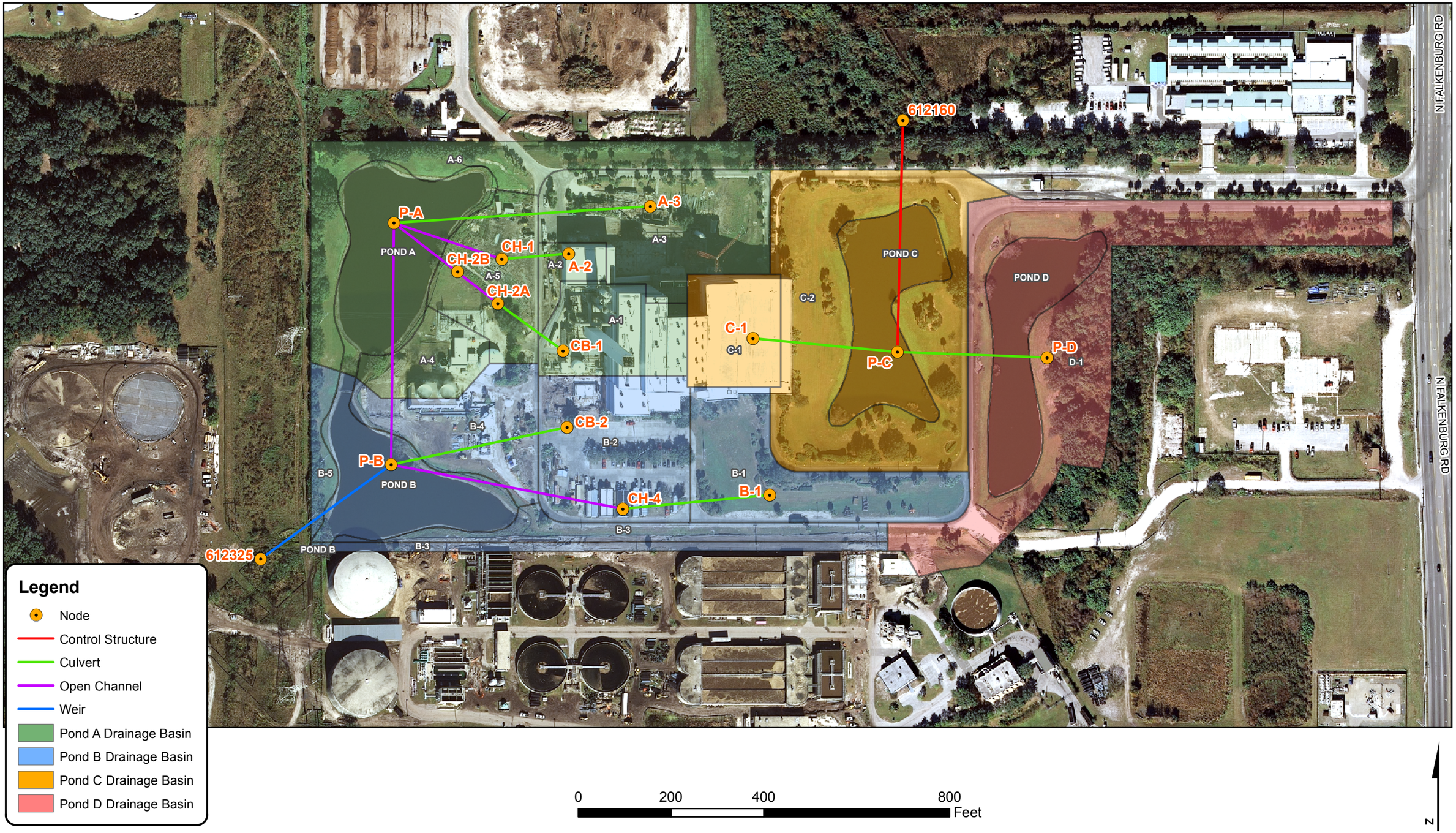
Aerial per SWFWMD, 2008

Figure 4-2
Existing System Model Schematic
Resource Recovery Facility
Hillsborough County, Florida

CDM

Aerial per SWFWMD, 2008

Figure 4-3
Proposed Hydrologic Units
Resource Recovery Facility
Hillsborough County, Florida



Aerial per SWFWMD, 2008

Figure 4-4
Proposed System Model Schematic
Resource Recovery Facility
Hillsborough County, Florida

summary of the ICPR input and time series output of Weirs #1 and #2 is included in **Attachment 7**.

4.4 Proposed Model Conditions

The model was run with the revised hydraulic conditions and a 2 foot by ½ foot rectangular treatment notch and an additional channel node for both weirs. A channel node was added in the proposed model conditions to account for the partial removal of a concrete swale. Node CH-2 in the revised model conditions was split into Nodes CH-2A and CH-2B. Channel CH-2A was modeled as the concreted swale portion while Channel CH-2B was modeled as the grass swale portion. There is a net increase of impervious area of approximately 0.477 acres from the pre-expansion to the proposed conditions. The hydrologic parameters used for the proposed model conditions are shown in Table 4-2.

4.5 Model Results

Table 4-4 compares the modeling peak stages, peak flows and compares results of the modified pre-expansion conditions and the proposed conditions in Ponds A, B, C and D. The results demonstrate that site modifications and new weir configurations at Control Structures 1 and 2 will only increase the 25-year, 24-hour design peak stages by 0.01 to 0.03 feet. Also, the flow through Weirs #1 and #2 are reduced with the new configurations. **Table 4-5** displays the free board available in Ponds A, B, C and D during the 25-year, 24-hour storm event. A summary of ICPR input parameters and output results for the pre-expansion and proposed conditions is included in **Attachments 8** and **9**, respectively.

Please note that "top of bank" elevation for Pond D was determined using one-foot topography by others. The designed top of bank for Pond D is elevation 36.0 feet. However, for modeling purposes, the top of bank was increased only as much as allotted (without off-site impact) for on-site storage as discussed at the pre-application meeting on September 23, 2009.

4.6 Adjustable Weir Gate Operation

The control structures have been designed with an adjustable weir gate for improved operation and to prevent possible future spills to the existing ponds from the AWTP and the HCRRF. Based on historical data, the HCRRF proposes to operate Ponds A and B (Weir #1) at approximately elevation 31.2 feet and Ponds C and D (Weir #2) at approximately elevation 36.1 feet. SWFWMD agreed to this approach to allow stormwater ponding outside the pond top of banks as long as containment remains on the site. An operation plan summarizing the operating conditions is included in **Section 6**.

Table 4-4. Peak Stage and Flow Modeling Results.

Retention Pond	Top of Bank Elevation (Feet)	25-Year, 24-Hour Design Storm Event		
		Stage for Pre-Expansion Conditions (Feet)	Stage for Proposed Conditions (Feet)	Elevation Change (Proposed - 2006 Modified Conditions) (Feet)
Pond A	31.5	29.65	29.67	+0.02
Pond B	31.5	29.63	29.66	+0.03
Pond C	38.0	35.61	35.62	+0.01
Pond D	37.0	35.65	35.66	+0.01
Weir No.	**Permitted Discharge (cfs)**	**25-Year, 24-Hour Design Storm Event**		
		Peak Flows at 2006 Modified Conditions (cfs)	Peak Flows at Proposed Conditions (cfs)	Flow Difference (Proposed-2006 Modified Conditions) (cfs)
1 (Link W-1_MOD)	35	18.25	17.30	-0.95
2 (Link W-2D)	25	8.95	8.93	-0.02

Table 4-5. Free Board for Proposed Conditions.

Retention Pond	Top of Bank Elevation (Feet)	Bottom of Pond Elevation (Feet)	Max. Stage Proposed Conditions (Feet)	Available Free Board (Feet)
Pond A	31.50	26.00	29.67	+1.83
Pond B	31.50	26.00	29.66	+1.84
Pond C	38.00	32.00	35.62	+2.38
Pond D	37.00	32.00	35.66	+1.34

Section 5
Stormwater Operating Conditions

5.1 Weir Gate Modeled 18-inches above DLW

The model at the proposed conditions was utilized to evaluate the maximum elevation the weir gates can be adjusted to satisfy the requirements of the 25-year, 24-hour storm event. Through an iterative process, it was determined that if each gate were raised 18 inches above design low water (DLW) elevation, stormwater could be contained on the HCRRF site during the 25-year, 24-hour storm event. **Table 5-1** shows the associated free board elevations with the weir gate raised 18 inches above the DLW.

Table 5-1. Free Board for Proposed Conditions with Weir Gates Raised 18-inches above the DLW

Retention Pond	Control Structure DLW Elevation (Feet)	Gate Raised 18-in. above DLW (Feet)	Top of Bank Elevation (Feet)	Bottom of Pond Elevation (Feet)	Max. Stage Proposed Conditions (Feet)	Available Free Board (Feet)
Pond A[1]	N/A	N/A	31.50	26.00	31.04	+0.46
Pond B[1]	28.00	29.50	31.50	26.00	31.04	+0.46
Pond C[2]	34.50	36.00	38.00	32.00	36.89	+1.11
Pond D[2]	N/A	N/A	37.00	32.00	36.90	+0.10

Notes:
[1]The HCRRF has request a NWL for Ponds A and B at elevation 31.2'
[2]The HCRRF has request a NWL for Ponds C and D at elevation 36.1'

As previously described in Section 4, HCRRF proposes to operate Ponds A and B (Weir #1) at approximately elevation 31.2 feet and Ponds C and D (Weir #2) at approximately elevation 36.1 feet. Ponds C and D are approximately at the proposed elevation with the weir gate (Weir #2) raised 18 inches. Therefore, the model indicates the weir gate (Weir #2) can be raised to elevation 36.00 feet and remain in place for storm events producing less than or equal to the 25-year, 24-hour storm event (8 inches in a 24-hour period). Ponds A and B are approximately 1.7 feet below the proposed elevation with weir gate (Weir #1) raised 18 inches. Adjusting the gate at Weir #1 higher than 18 inches is discussed further in **Section 5.2**. A summary of the ICPR input parameters and output results is included in **Attachment 10**.

5.2 Weir Gate Modeled Higher than 18-inches above DLW

As indicated earlier, Ponds A and B (Weir #1) are approximately 1.7 feet below the proposed elevation with the weir gate raised 18 inches above the DLW. Therefore, additional modeling scenario was conducted for Weir #1 to determine the storm event can sustain the water levels in Ponds A and B at approximately elevation 30.7 feet. The model results showed the Weir #1 can sustain the water elevation at

approximately 30.70 feet for a storm event slightly less (i.e., 4 inches in a 24-hour period) than the mean annual storm. A storm event of this smaller magnitude results in a remaining freeboard of 0.05 feet in Ponds A and B. In the event that there is a storm event larger than 4 inches in a 24-hour period, the operator shall lower the weir gate to elevation 29.50 feet. A summary of the ICPR input parameters and output results are included in **Attachment 11**.

5.3 Peak Discharge Validation

As described in the technical memorandum, the permitted peak discharge rates for Weir #1 and Weir #2 are 35 cfs and 25 cfs, respectively. Model simulations were run to determine the peak discharge rate for the condition when elevation at Weir #1 was drawn down from elevation 31.50 feet to elevation 28.00 feet and Weir #2 from elevation 36.00 feet to elevation 34.50 feet. The resultant peak discharge rates for Weir #1 and Weir #2 were determined to be approximately 41 cfs and 14 cfs, respectively. Since Weir #1 exceeded the permitted peak discharge rate, another model simulation was run for the condition when elevation at Weir #1 was drawn down from elevation 31.50 feet down to elevation 29.50 feet. The resultant peak discharge rate for Weir #1 was determined to be 28 cfs, which is below the maximum permitted rate of 35 cfs.

Section 6
Stormwater Operation Plan

The purpose of this section is to assist the operator in operation of the HCRRF stormwater system. The operator, HCSWMD, shall retain all responsibility and liability of operations of the stormwater system including the operations described herein.

HCSWMD operator shall use an adjustable weir gate to control the water elevations on a daily basis, in advance of anticipated storm events such as hurricanes and winter storms and prevent contaminated water from entering the waters of the State. Staff gauges and rain gauges shall be used to assist the operator in control the water elevations on a daily basis, particularly for un-anticipated storms events. Staff gauges referenced NAVD88 datum shall be installed in ponds C and B. One (1) rain gauge shall be installed near Weir #2 to measure daily rainfall.

HCSWMD operator will be on-site 5 days a week to check and operate the weirs. The operator shall check and record the staff gauge elevations and rainfall in a log on a daily basis and make daily adjustments as necessary or in advance of anticipated and unanticipated storm events. HCRRF contracted operator is also on-site 24 hours per day to operate the HCRRF facility and can operate the weir gates at the discretion or in the absence of the HCSWMD operator.

6.1 Emergency Operations

Weir #1 Emergency Operating Conditions
(Located in Pond B at the southwest corner of the HCRRF property)

For Spills from the AWTP and HCRRF that have a reasonable potential to contaminate the stormwater ponds, the adjustable weir gate shall be closed by the HCSWMD operator or its designated agent at a minimum elevation 31.5 feet to minimize potential contamination to the waters of the State. The weir gate shall remain in the closed position until such time the spill has been approximately assessed and appropriate corrective action has been implemented. The HCRRF operator, at the discretion of HCSWMD, can operate the adjustable weir gate to minimize potential contamination to the waters of the State or mitigate elevated water levels in the facility ponds. The facility operator shall report spills in accordance with all local, State, and Federal requirements.

Emergency Contracts
HCSWMD Operator (Facility Office): (813) 744-5591.
HCRRF Contracted Operator (Control Room): (813) 689-7585 or (813) 684-5688 x3018

Weir #2 Emergency Operating Conditions
(Located in Pond C near the northeast entrance of the HCRRF property)

For Spills from the AWTP and HCRRF, the adjustable weir gate shall be closed at minimum elevation 36.0 feet to minimize the potential for contamination to the waters of the State. The weir gate shall remain in the closed position until such time the spill has been appropriately assessed and appropriate corrective actions has been implemented.

For Spills from the AWTP and HCRRF that have a reasonable potential to contaminate the stormwater ponds, the adjustable weir gate shall be closed by the HCSWMD operator or its designated agent at a minimum elevation 31.5 feet to minimize potential contamination to the waters of the State. The weir gate shall remain in the closed position until such time has been appropriately assessed and appropriate corrective action has been implemented. The HCRRF operator, at the discretion of HCSWMD, can operate the adjustable weir gate to minimize potential contamination of the waters of the State or mitigate elevated water levels in the facility ponds. The facility operator shall report spills in accordance with all local, State and Federal requirements.

6.2 Normal Operation

Weir #1 Operating Conditions
(Located in Pond B at the southwest corner of the HCRRF property)

For rain events larger than 8 inches in 24 hours, the adjustable gate should be set at elevation 28.00 feet.

For rain events less than 8 inches in 24 hours or larger than 4 inches in 24 hours, the adjustable gate should be set at elevation 29.50 feet.

For rain events equal to or less than 4 inches in 24 hours, the adjustable gate may be set at elevation 30.70 feet.

Summary Operating Conditions for Weir #1
If Rain Event > 8 in./24 hrs., then set gate at elevation 28.00 feet.
If Rain Event < 8 in./24 hrs. or Rain Event > 4 in./24 hrs., then set at elevation 29.50 feet.
If Rain Event ≤ 4 in./24 hrs., then set gate at elevation 30.70 feet.

Weir #2 Operating Conditions
(Located in Pond C near the northeast entrance of the HCRRF property)

For rain events larger than 8 inches in 24 hours, the adjustable gate shall be set at elevation 34.50 feet.

For rain events equal to or less than 8 inches in 24 hours, the adjustable weir gate shall be set at elevation 36.00 feet.

Summary Operating Conditions for Weir #2
If Rain Event > 8 in./24 hrs., then set gate at elevation 34.50 feet.
If Rain Event ≤ 8 in./24 hrs., then set gate at elevation 36.00 feet.

Should an operator be unavailable for longer than a 24 hour period, Weir #1 shall be set to elevation 29.50 feet and Weir #2 shall be set to elevation 34.50 feet.

Section 7
Proposed Control Structure Modifications

The proposed system modifications for the control structures at Pond B (Weir #1) and Pond C (Weir #2) include removal of the existing weir plate and adjustable orifice and installation of a vertically-adjustable weir gate and skimmer. Each weir gate shall be installed with either a lockable hand crank or lockable hand wheel to allow for easy access and safe operation of the weir gate. Detailed drawings of the weir gate and modifications to the control structures are shown in **Attachment 12**. Detailed specifications of the adjustable weir gate and skimmer are included in **Attachment 13**.

As part of the Operation Plan, it is required that staff gauges with absolute elevations in NAVD88 datum be installed under the direct supervision of a Professional Land Surveyor licensed in the State of Florida. The Professional Land Surveyor shall verify all structure elevations listed herein and coordinate with the Engineer of Record prior to staff gauge installation. One rain gauge shall be installed near Weir #2 for easy access from the tipping floor area. A wireless long range rain gauge (Oregon Scientific Model #RGR126) or approved equal shall be utilized to monitor rainfall on a daily basis. The HCSWMD operator shall coordinate the final location of the rain gauge.

Section 8
Conclusions

The proposed HCRRF stormwater management system has been designed to operate with a skimmer and vertically adjustable weir gates. The adjustable weir gates on the control structures will be operated to control water levels in Ponds A and B (Weir #1) at approximately elevation 31.2 feet and Ponds C and D (Weir #2) at approximately elevation 36.1 feet to maintain historical water elevations in the ponds in accordance with the stormwater operations plan.

The modeling simulations have demonstrated the conditions set forth in the stormwater operations plan will provide sufficient water quality treatment and treatment volume to ensure compliance with technical manual TP/SWP-022 and the Basis of Review. Since the proposed stormwater modifications and scale house improvements will have a negligible effect on the operating Facility, an addendum to the Conditions of Certification No. PA 83-19 is requested pursuant to Florida Statutes 403.516, Modification of Certification.

ATTACHMENT 1

Revised Boundary Survey & Legal Description

February 6, 2008

Project No. 2006-271-U
Resource Recovery
Plant Site

Schedule "A"

That Part of:

A tract of land in Section 18, Township 29 South, Range 20 East, Hillsborough County Florida, described as follows:

Commencing at the Southeast corner of Section 18, Township 29 South, Range 20 East; thence N.00°06'02" W., a distance of 1130.05 feet along the East boundary of said Section 18, Township 29 South, Range 20 East to a point; thence S.89°53'38"W., a distance of 69.15 feet to the Point of Beginning, said point being on the West right of way of line of Falkenburg Road; thence continue S.89°53'38"W., a distance of 641.78 feet: thence S.00°06'21"E., a distance of 287.74 feet to a point of curvature; thence Southwesterly, 383.84 feet along an arc of a curve concave to the Northwest, , said curve having a chord bearing of S.12°02'20"W., a chord distance of 380.97 feet and a radius of 905.37 feet; thence S.89°54'48"W., a distance of 215.47 feet; thence N.00°05'12"W., a distance of 33.50 feet; thence S.89°54'48"W., a distance of 1246.00 feet; thence S.00°05'12"E., a distance of 33.50 feet; thence S.89°54'48"W., a distance of 192.20 feet to a point on the East boundary of a 200.00 feet Tampa Electric Company easement; thence N.00°15'19"W., a distance of 885.01 feet along the East boundary of Tampa Electric Company easement; thence N.89°54'10"E., a distance of 2377.81 feet to a point on the West right of way line of Falkenburg Road; thence S.00°06'02"E. along said right of way line, a distance of 188.85 feet to a point of curve; thence along said curve Southeasterly an arc distance of 36.12 feet, said curve having a radius of 11,505.91 feet, a chord bearing of S.00°11'21"E. and a chord distance of 36.12 feet, to the Point of Beginning.

Containing 37.4 acres more or less.

This Legal Description Prepared By:
Right of Way Mapping Section
County Surveying Division
Real Estate Department

_____
Richard G. Crate, P.S.M. #4232
In-House Project No. S07-0061

The Description is not complete without the accompanying sketch sheets __1__ through _2__.

Project No. 2006-271-U
C.I.P. 10784

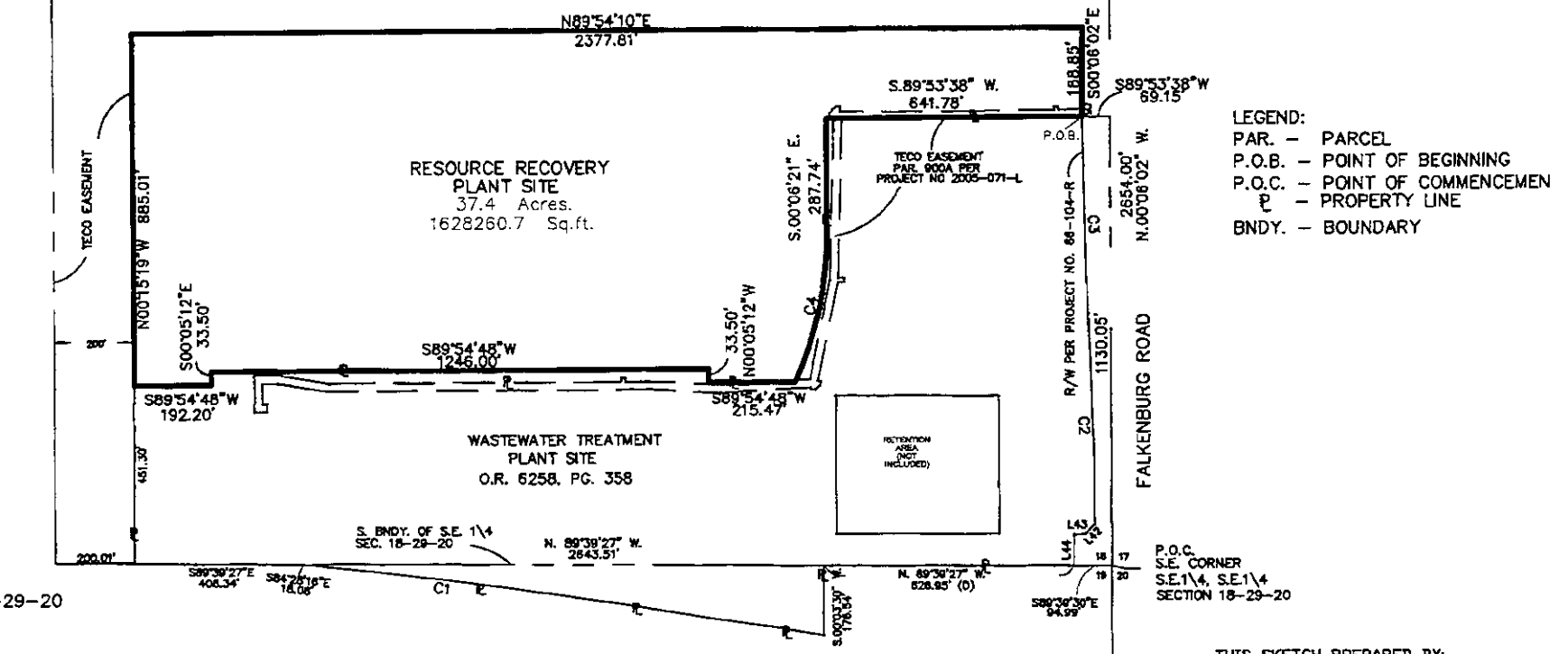
HILLSBOROUGH COUNTY, FLORIDA
SECTION 18, TOWNSHIP 29 SOUTH, RANGE 20 EAST
PARCEL 100

N.W. CORNER
S.E.1\4
SECTION 18-29-20

N.E. CORNER
S.E.1\4
SECTION 18-29-20

NOT TO SCALE

NUM	DELTA	ARC	RADIUS	BEARING	DISTANCE
C1	3°22'40"	681.50'	11560.00'	N82°46'55"W	681.40'
C2	2°30'11"	498.62'	11412.41'	N1°39'16"W	498.58'
C3	2°37'37"	527.56'	11505.91'	S1°35'27"E	527.51'
C4	24°17'27"	383.84'	905.37'	N12°02'20"E	380.97'
C5	0°10'47"	36.12'	11505.91'	S0°11'21"E	36.12'



LEGEND:
PAR. – PARCEL
P.O.B. – POINT OF BEGINNING
P.O.C. – POINT OF COMMENCEMEN
℄ – PROPERTY LINE
BNDY. – BOUNDARY

S.W. CORNER
S.E.1\4
SECTION 18-29-20

BASIS OF BEARINGS: SOUTH BOUNDARY OF
SECTION 18 , TOWNSHIP 29 SOUTH, RANGE 20 EAST
SAID LINE BEING N. 89°39'27" W.

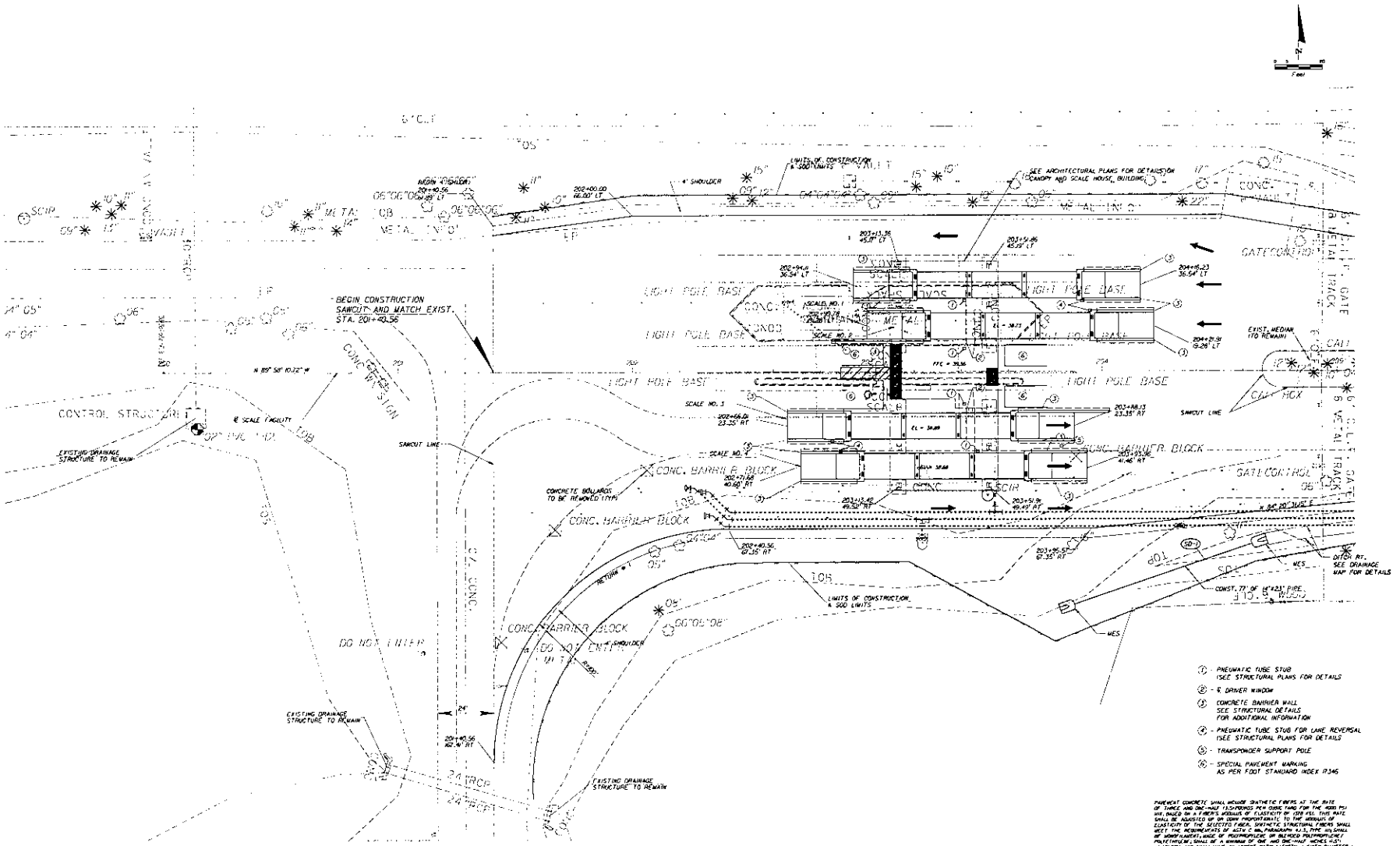
THIS SKETCH PREPARED BY:

RICHARD G. CRATE, P.S.M #4232
County Surveying Division
SURVEYING AND MAPPING SERVICES SECTION

REVISIONS				PROJ. NO.	S07-0061	HILLSBOROUGH COUNTY REAL ESTATE DEPARTMENT COUNTY SURVEYING DIVISION SURVEYING AND MAPPING SERVICES DIVISION 601 E. KENNEDY BLVD/FLR 21/TAMPA, FLORIDA 33602	RESOURCE RECOVERY PLANT SITE	SHEET 1 OF 2
				DRAWN BY:	R. CRATE			
				CHECKED BY:	C. SNYDER			
NO.	DATE	DESCRIPTION	APPV'D.	DATE:	1/25/08			

ATTACHMENT 2

Scale House General Arrangement



REVISIONS			
NO.	DATE	DESCRIPTION	APPROVED

RS+H
IMPROVING YOUR WORLD

HILLSBOROUGH COUNTY FLORIDA

SOLID WASTE MANAGEMENT DEPARTMENT

NAME	DATE
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
SUPERVISED BY:	

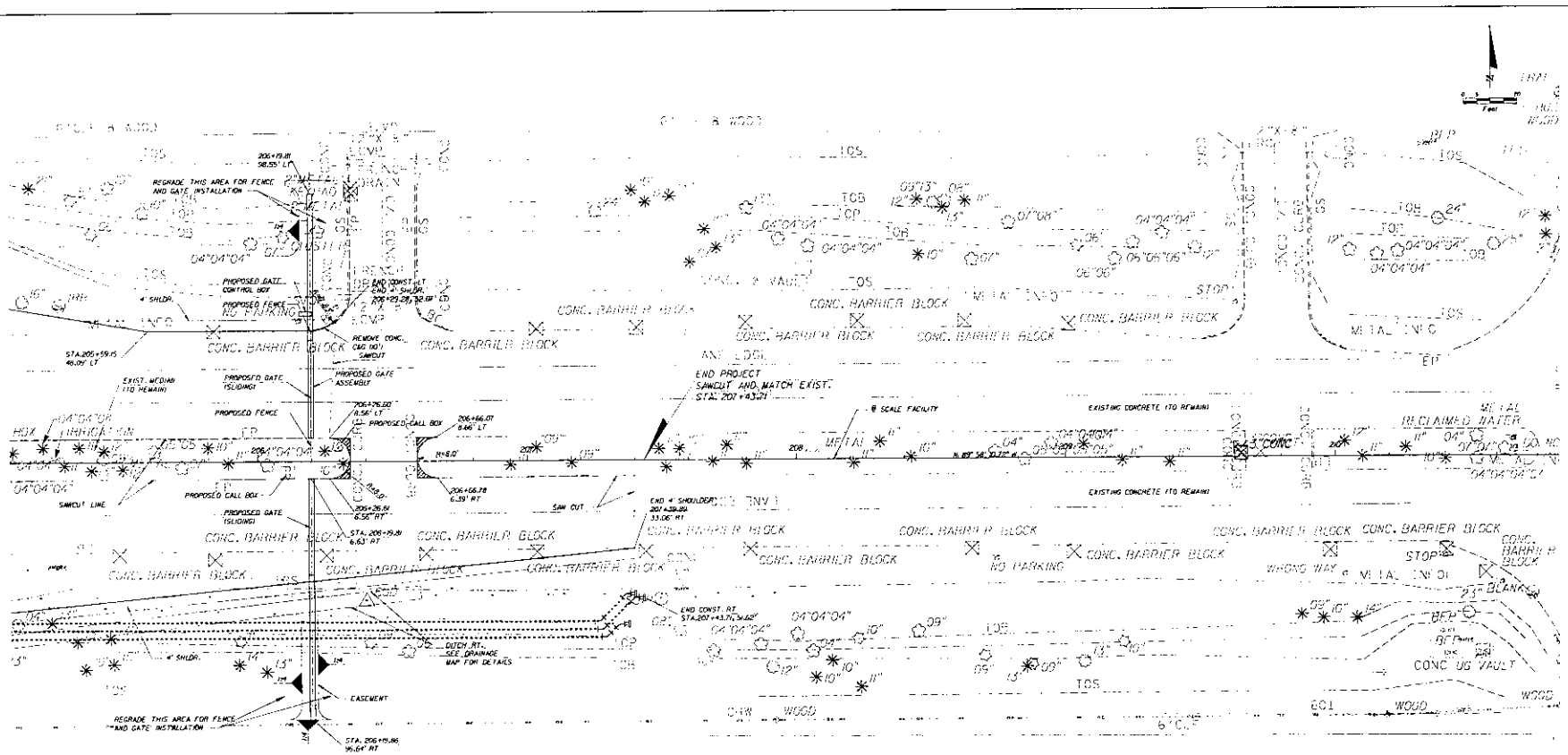
APPROVED BY:

RESOURCE RECOVERY SCALE HOUSE

PLAN SHEET (1)

PROJECT NO. 54044

SHEET NO. C104



NO.	DATE	REVISION	APPROVED

PREPARED BY: **RS+H** IMPROVING YOUR WORLD

HILLSBOROUGH COUNTY FLORIDA

	NAME	DATE
DESIGNED BY:	JHC	12/19/2014
DRAWN BY:	NJF	12/19/2014
CHECKED BY:	CJD	12/19/2014
QUALITY CHK BY:	JHC	12/19/2014

RESOURCE RECOVERY FACILITY

PLAN

PROJECT NO. 54244

SHEET NO. 21

ATTACHMENT 3

Technical Memorandum
Dated April 7, 2006

CDM
1715 North Westshore Boulevard, Suite 875
Tampa, Florida 33607
tel: 813 281-2900
fax: 813 288-8787

April 7, 2006

Mr. Paul Yosler, P.E.
Southwest Florida Water Management District
Tampa Service Office
7601 Highway 301 North
Tampa, Florida 33637-6759

Subject: Hillsborough County Resource Recovery Facility Expansion
Power Plant Siting Application No. PA 83-19A

Dear Mr. Yosler:

Please find enclosed two (2) copies of the stormwater modifications and supporting documentation for the proposed Hillsborough County Resource Recovery Facility Expansion. Please find the stormwater modifications have been prepared in accordance with the District's request on March 29, 2006, technical document TP/SWP-022 and Basis of Review Chapter 7.6.

If you have any questions, please contact me at (813) 281-2900.

Very truly yours,

Robert A. Velasco, P.E.
Camp Dresser & McKee Inc.

Enclosures

cc: CDM - File

4/7/06

Robert A. Velasco
Florida PE No. 57190
Camp, Dresser & McKee, Inc
1715 N. West Shore Boulevard
Suite 875
Tampa, FL 33607
Certificate of Authorization No. 20

Memorandum

To: *Paul Yosler, P.E., Southwest Florida Water Management District*

From: *Robert Velasco, P.E., CDM*

Date: *April 7, 2006*

Subject: *Hillsborough County Resource Recovery Facility Expansion*
Power Plant Siting Application No. PA 83-19A

Background

Hillsborough County is proposing to expand the steam electrical generating capacity at Hillsborough County Resource Recovery Facility (HCRRF) from 39 to 47 megawatts (MW). The existing site layout will need to be modified slightly to accommodate the planned expansion. The proposed expansion area is expected introduce approximately 0.32 acres of new impervious area to the existing site.

Figure 1 presents the existing site layout including the stormwater system. Currently, the facility site runoff is routed to four on-site ponds and ultimately discharges to the Tampa Bypass Canal. Ponds A and B are interconnected ponds and discharge through control structures located on the southwest corner of Pond B. Ponds C and D are interconnected ponds and discharge through control structures located on the northside of Pond C. The flow from each control structure is discharged through canals and ultimately to the Tampa Bypass Canal. Details of the control structures are included in **Figures 2 - 3.**

When the facility was originally constructed, the on-site stormwater systems were designed to address runoff quantity. However, with the planned changes for the facility, the Southwest Florida Water Management District requires that the existing stormwater system be retrofitted to meet current standards that address both quantity and quality.

Therefore, in addition to managing stormwater runoff, the existing ponds need to provide water quality treatment. The ponds' outfall structures need to be "multi-stage weir with a "v-notch" or other gravity draw down control device sized to discharge ½-inch of detention runoff from the contributing area in 24 hours; and having a broad crested weir for higher discharges, including the 25-year/24-hour event" (SWFWMD, TP/SWP-022). In addition, "the pool volume below the control elevation must be equal to 1-inch of runoff plus the calculated volume based on average residence time of 14 days and average total rainfall during the wet season" (SWFWMD, TP/SWP-022).

Objectives

CDM met with the District in Tampa on March 29, 2006 to discuss the insufficiency comments, dated March 23, 2006, and resolve all stormwater management issues. Based on the meeting, the District has requested CDM to re-evaluate the existing stormwater management system and provide the following:

1. Use the AdICPR (Advanced Interconnected Pond Routing) model to verify that the proposed changes at the site do not increase the peak flows and do not cause on-site flooding problems.
2. Design a multi-stage weir with the following criteria:
    a. V-notch or rectangular weir notch weirs to discharge ½-inch of detention runoff from the contributing area in 24 hours
    b. Broad crested weir for higher discharges for a 25-year/24-hour event in accordance the technical manual TP/SWP-022.
    c. Provide a 14 day retention wet detention time for treatment of Class III surface water standards;
3. Install skimmers on both control structures with a flow area equal to 1.5 times the weir cross-sectional area; and
4. Remove the existing plate covering the original weir and bleed valve installed on each control structure and restore operation to the original design.

CDM has prepared the aforementioned request in response to the District's Requests and in accordance with Basis of Review and Chapter 40D-4 F.A.C.

Model Results

Figures 4 - 5 illustrates the proposed weir configuration at both weir structures.
The Alternative 3 Method worksheet of the TP/SWP-022 required that a v-notch weir with 169 degrees and 0.27 feet of depth designed for the Weir Structure 1. A v-notch weir with 172 degrees and 0.22 feet of depth was needed for the Weir Structure 2. Due to these large V-notch weir angles, it was agreed that a rectangular weir with same discharge capacity can be designed in place of the V-notch weir.

The required pool depths were also calculated. A pond depth of 1.73 feet is required for the interconnected Ponds A and B and 1.26 feet for the interconnected ponds C and D. The existing ponds have adequate depth to meet these requirements. Due to shallow depths at these ponds, the entire pond depth can be considered as littoral zone. The pond attribute information is included in **Attachment A.**

The AdICPR results for the existing and proposed peak stages and flows are presented in **Table 1**. A detailed discussion of the AdICPR model parameters developed for the site is included in **Attachment A.**

These results demonstrate that site modifications and new weir configuration at Weir Structures 1 and 2 will only increase the 25-year/24-hour design peak stages by 0.04 to 0.07

feet. As expected the flow through Weir Structures 1 and 2 are reduced with new configurations.

The results clearly show that the existing ponds with proposed control structure modifications are sufficient to provide the water quality treatment as required in TP/SWP-022. The results also show that the ponds meet the adequate storage capacity requirements.

Table 1 Modeling Peak Stage and Flow Comparison Results

Retention Pond	Top of Bank Elevation (Feet)	25-Year/24-Hour Design Peak Stage Based on Modeling Results		
		Stage for Existing Conditions (Feet)	Stage for Proposed Conditions (Feet)	Elevation Change (Proposed-Existing) (Feet)
Pond A	31.5	29.31	29.38	0.07
Pond B	31.5	29.29	29.36	0.07
Pond C	38.0	35.64	35.69	0.05
Pond D	36.0	35.71	35.75	0.04
Control Structure	**Permitted Discharge (cfs)**	**25-Year/24-Hour Design Peak Flow Based on Modeling Results**		
		Peak Flows at Existing Conditions (cfs)	Peak Flows at Proposed Condition (cfs)	Flow Difference (Proposed-Existing) (cfs)
Weir 1	35	13.51	13.42	-0.09
Weir 2	25	11.08	10.74	-0.34

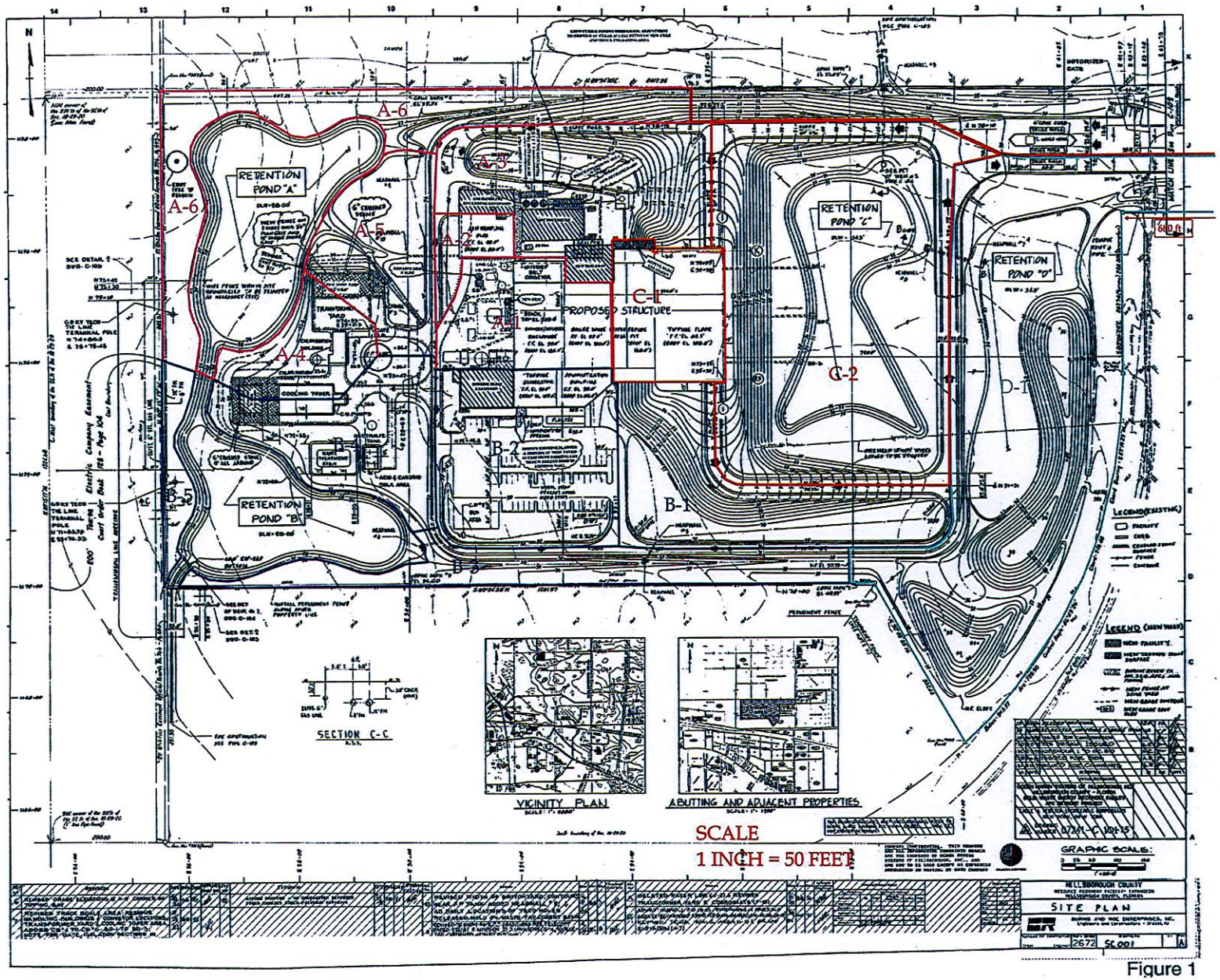

A-6
A-5
A-4
A-3
A-2
A-1
B-1
B-2
B-3
B-4
B-5
C-1
C-2
D-1
RETENTION POND "A"
RETENTION POND "B"
RETENTION POND "C"
RETENTION POND "D"
PROPOSED STRUCTURE
SECTION C-C
VICINITY PLAN
ABUTTING AND ADJACENT PROPERTIES
SCALE
1 INCH = 50 FEET
GRAPHIC SCALE:
SITE PLAN
HILLSBOROUGH COUNTY
SC001

Figure 1

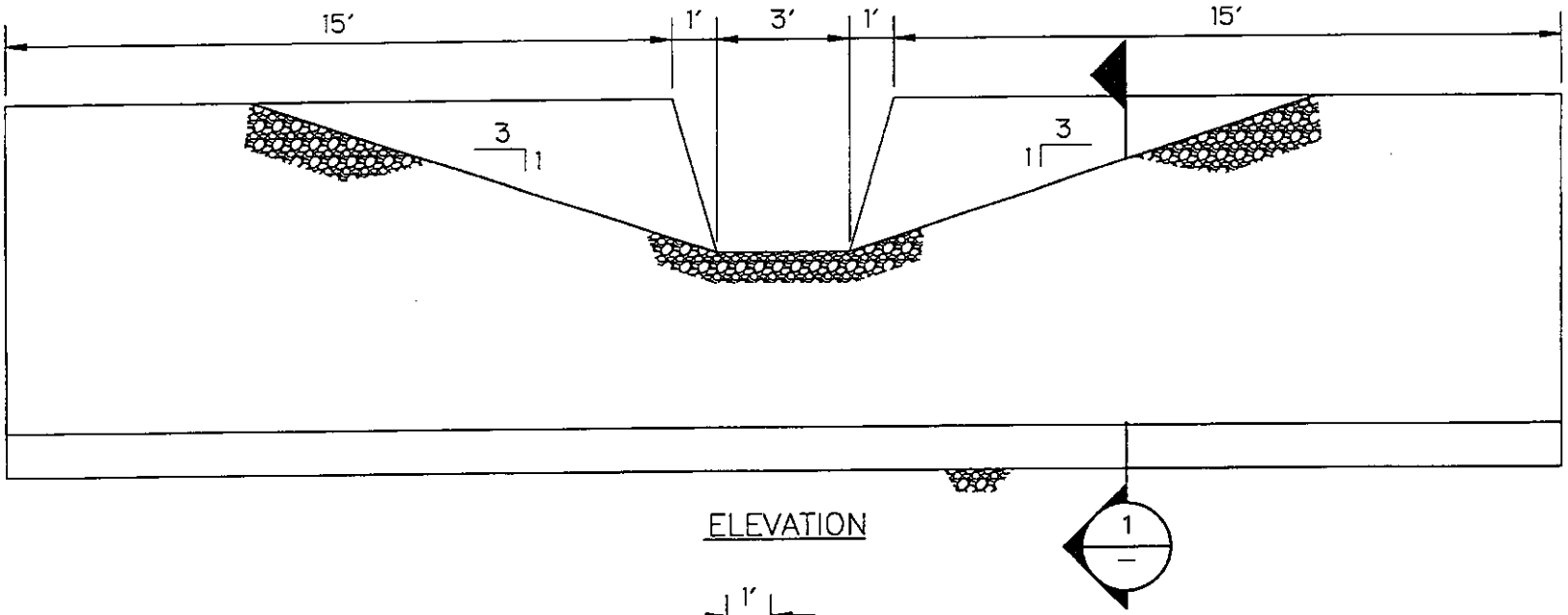


Figure No. 2
Control Structure Weir 1

CDM

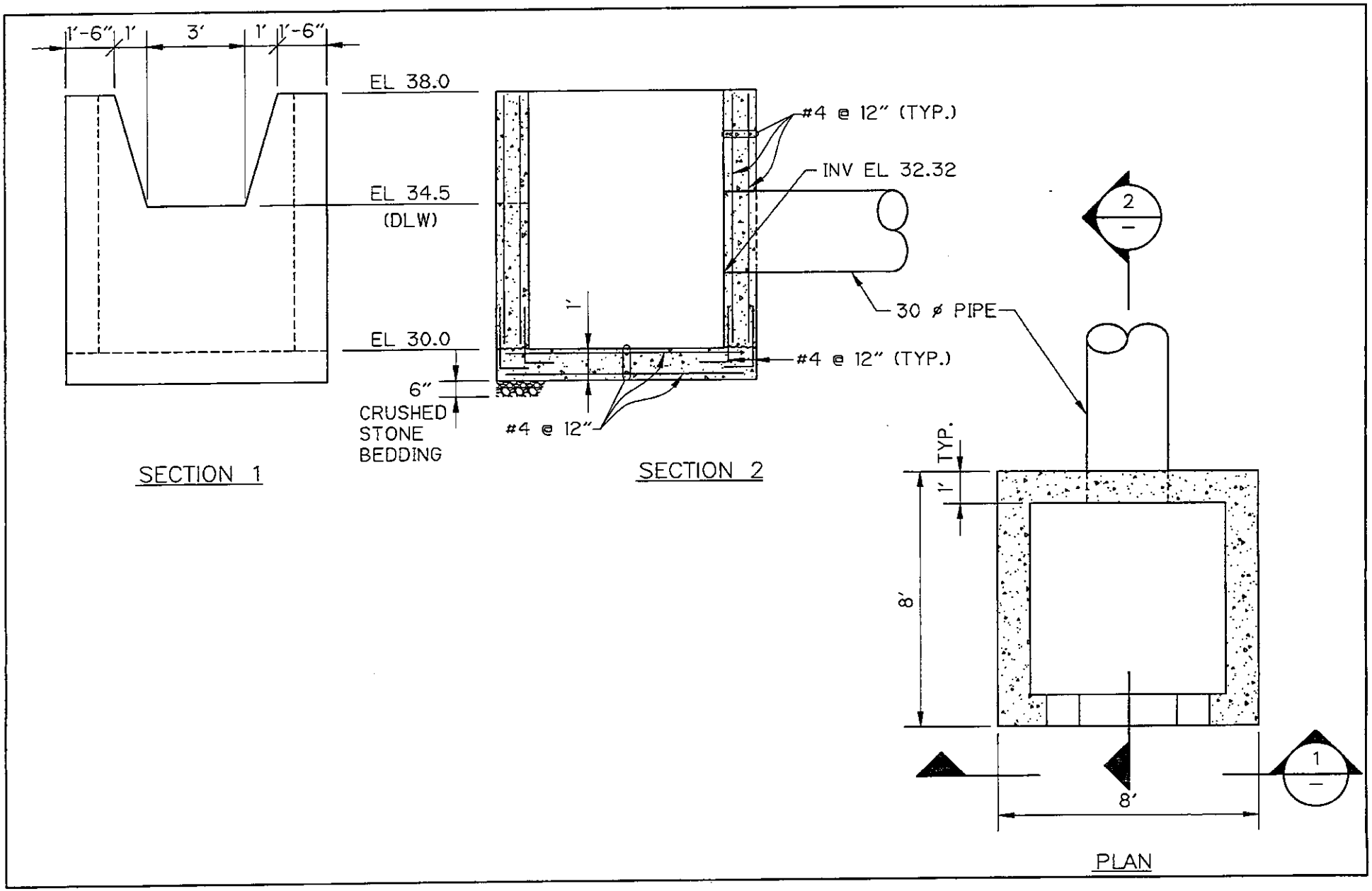
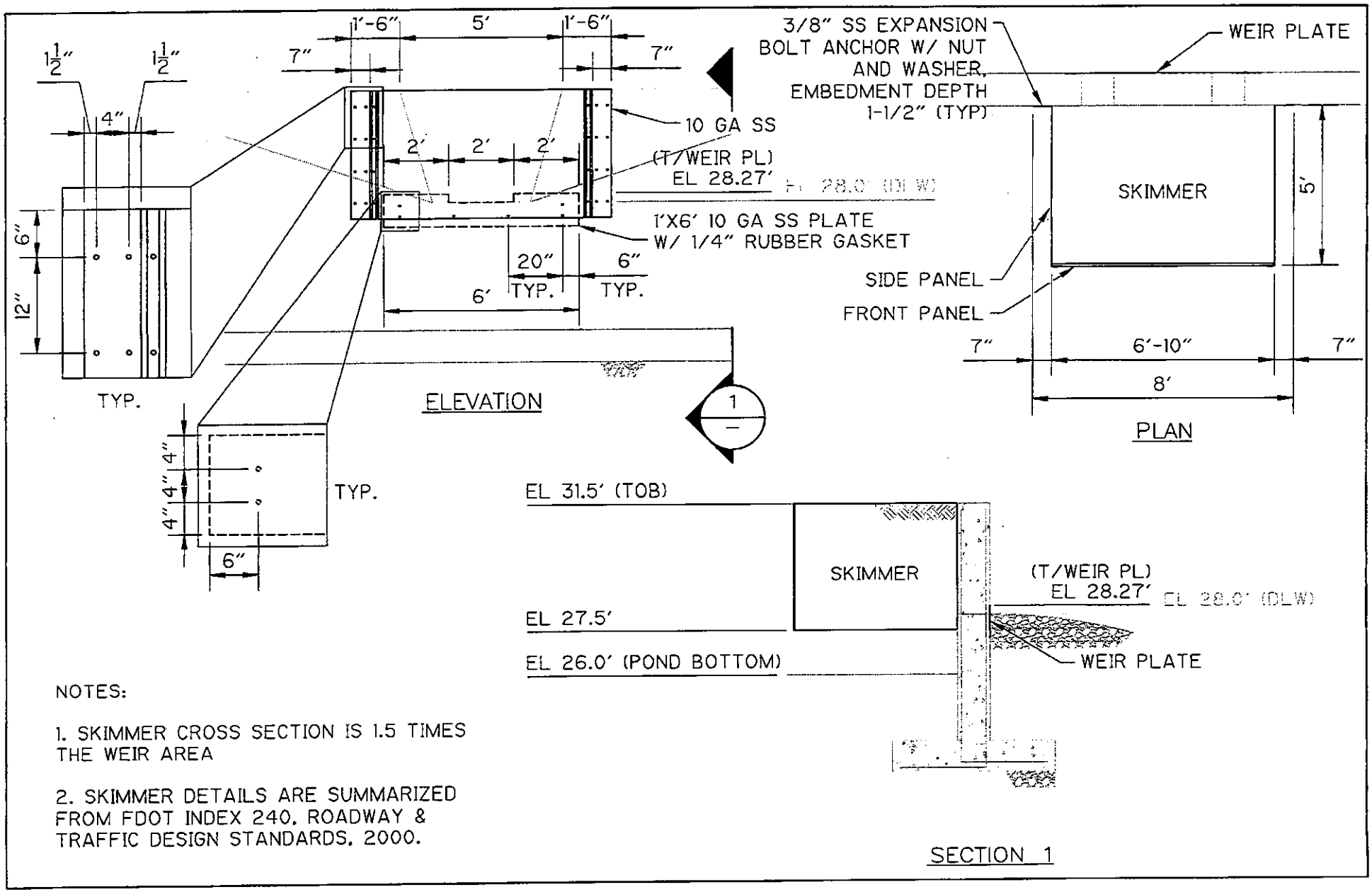


Figure No. 3
Control Structure Weir 2

CDM



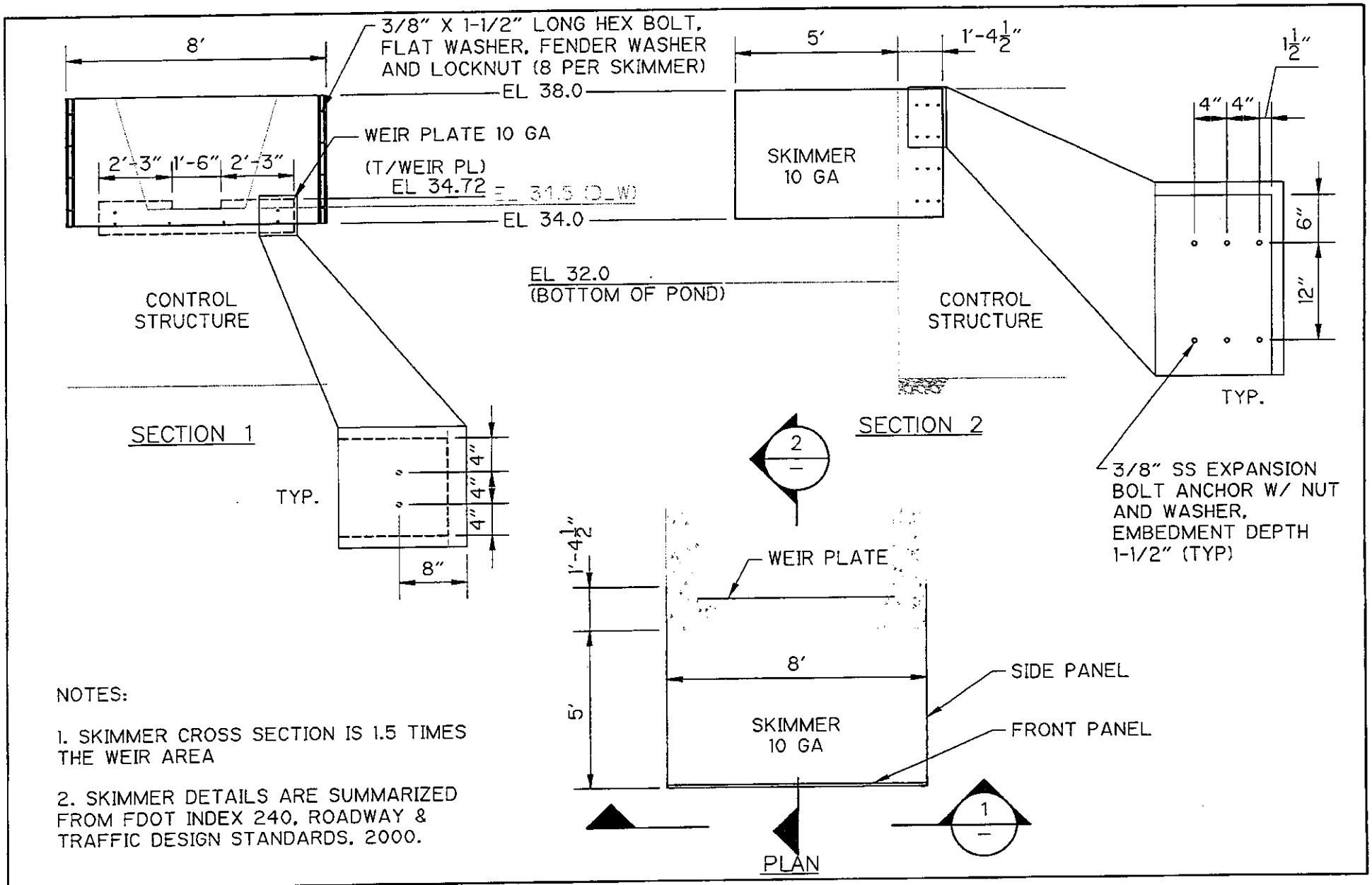
NOTES:

1. SKIMMER CROSS SECTION IS 1.5 TIMES THE WEIR AREA

2. SKIMMER DETAILS ARE SUMMARIZED FROM FDOT INDEX 240, ROADWAY & TRAFFIC DESIGN STANDARDS, 2000.

Figure No. 4
Control Structure Weir 1

CDM



NOTES:

1. SKIMMER CROSS SECTION IS 1.5 TIMES THE WEIR AREA

2. SKIMMER DETAILS ARE SUMMARIZED FROM FDOT INDEX 240, ROADWAY & TRAFFIC DESIGN STANDARDS, 2000.

Figure No. 5
Control Structure Weir 2

CDM

Attachment A
Stormwater Modeling Parameters

Table A-1. Input Data for Existing Modeling Conditions

Drainage Area	Drain Destination	Subdrainage Area			Pervious Area		Impervious Area		Composite Runoff Value	Combined Curve Number	Time of Concentration (tc)
		Name	Area (sq.ft)	Area (acres)	Area (sq.ft)	%	Area (sq.ft)	%		CN	Minutes
West	Pond A	A-1	55659	1.28	0	0	55659	100	0.95	98	22.3
West	Pond A	A-2	15548	0.36	5094	33	10454	67	0.70	92	57.8
West	Pond A	A-3	106573	2.45	56858	53	49715	47	0.55	88	91.4
West	Pond A	A-4	38204	0.88	19349	51	18855	49	0.57	89	63.7
West	Pond A	A-5	61186	1.41	51551	84	9635	16	0.32	83	52.5
West	Pond A	A-6 + Pond A	184868	4.24	87016	47	97852	53	0.60	90	188.3
West	Pond B	B-1	99652	2.29	79396	80	20256	20	0.35	84	58.9
West	Pond B	B-2	104324	2.39	27720	27	76604	73	0.75	93	24.3
West	Pond B	B-3 + Pond B	137865	3.16	55522	40	82343	60	0.65	91	68.6
West	Pond B	B-4	70965	1.63	34325	48	36640	52	0.59	89	17.9
West	Pond B	B-5	15037	0.35	15037	100	0	0	0.20	80	15.2
North	Pond C	C-1	52864	1.21	1145	2	51719	98	0.93	98	5.2
North	Pond C	C-2	280717	6.44	148438	53	132279	47	0.55	88	18.5
North	Pond D	D-1	379306	8.71	253656	67	125650	33	0.45	86	63.8

Table A-2. Pond Elevation Details

Retention Pond	Top of Bank Elevation (Feet)	Bottom of Pond Elevation (Feet)	Depth of High Water Level (DHW) Elevation (Feet)	Depth of Lower Water Level (DLW) Elevation (Feet)	Free Board (Feet)
A	32	26	30	28	2
B	32	26	30	28	2
C	38	32	37	34.5	1
D	36	32	35.5	34.5	0.5

Table A-3. Pond Stage and Storage Relationships

Retention Pond	Stage	Surface Area	Storage Between each Stage	Cumulative Storage Upto Weir Crest	
	(Feet)	(Sq feet)	(Cu. Feet)	(Cu. feet)	(Acres- feet)
A and B	28 – Weir Crest	136,584	132,565	257089.5	5.90
	27	128,545	124,525		
	26 – Pond Bottom	120,505	----------		
C	34.5 – Weir Crest	72,862	34,870	159937.5	3.67
	34	66,617	64,577		
	33	62,537	60,490		
	32 – Pond Bottom	58,443	----------		
D	34.5 – Weir Crest	70,645	32,976	91992.8	2.11
	34	61,258	59,017		
	33 – Pond Bottom	56,776	----------		

Table A-4 Input Data for Proposed Modeling Conditions

Drainage Area	Drains to	Subdrainage Area			Pervious Area		Impervious Area		Composite Runoff Value	Combined Curve Number	Time of Concentration (tc)
		Name	Area (sq.ft)	Area (acres)	Area (sq.ft)	%	Area (sq.ft)	%		CN	Minutes
West	Pond A	A-1	55,659	1.28	0	0	55,659	100	0.95	98	22.3
West	Pond A	A-2	15,548	0.36	,5094	33	10,454	67	0.70	92	57.8
West	Pond A	A-3	106,573	2.45	5,2620	49	53,953	51	0.58	89	91.4
West	Pond A	A-4	38,204	0.88	1,5621	41	22,583	59	0.64	91	63.7
West	Pond A	A-5	61,186	1.41	47,389	78	13,797	23	0.37	84	52.5
West	Pond A	A-6 + Pond A	184,868	4.24	87,016	47	97,852	53	0.60	90	188.3
West	Pond B	B-1	99,652	2.29	79,396	80	20,256	20	0.35	84	58.9
West	Pond B	B-2	10,432	2.39	20,885	20	83,439	80	0.80	94	24.3
West	Pond B	B-3 + Pond B	137,865	3.16	55,522	40	82,343	60	0.65	91	68.6
West	Pond B	B-4	70,965	1.63	30,449	43	40,517	57	0.63	90	17.9
West	Pond B	B-5	15,037	0.35	15,037	100	0	0	0.20	80	15.2
North	Pond C	C-1	52,864	1.21	0	0	52,864	100	0.95	98	5.2
North	Pond C	C-2	280,717	6.44	148,438	53	132,279	47	0.55	88	18.5
North	Pond D	D-1	379,306	8.71	253,656	67	125,650	33	0.45	86	63.8

Existing Conditions
25-Year/24-Hour Design Storm
Input

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PPSA ICPR Model

********** Input Report **********

--------Class: Node----------

Name: 612160 Base Flow(cfs): 0 Init Stage(ft): 27.3
Group: BASE Warn Stage(ft): 32.63
Comment:

Time(hrs)	Stage(ft)
0	27.3
6	27.31
9	28.31
10	28.53
11	28.9
12	30.23
13	31.69
14	31.95
15	32.21
16	32.57
17	32.63
20	32.08
24	31.78
26	31.66
28	30.28
29	28.46
30	28.2

--------Class: Node----------

Name: 612325 Base Flow(cfs): 0 Init Stage(ft): 21.8
Group: BASE Warn Stage(ft): 25.89
Comment:

Time(hrs)	Stage(ft)
0	21.8
6	22.49
9	22.91
10	23.05
11	23.22
12	23.51
13	24.89
14	25.8
14.5	25.89
16	25.31
17	24.64
18	24.14
19	23.63
20	23.3
24	22.96
28	22.47
30	22.2

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PPSA ICPR Model

********** Input Report **********

--------Class: Node--------

Name: A-2 Base Flow(cfs): 0 Init Stage(ft): 35
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
35	0.001
37.5	0.001

--------Class: Node--------

Name: A-3 Base Flow(cfs): 0 Init Stage(ft): 33.5
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
33.5	0.001
37.5	0.001

--------Class: Node--------

Name: B-1 Base Flow(cfs): 0 Init Stage(ft): 35.25
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
35.25	0.001
37.5	0.001

--------Class: Node--------

Name: C-1 Base Flow(cfs): 0 Init Stage(ft): 55.75
Group: BASE Warn Stage(ft): 60
Comment:

Stage(ft)	Area(ac)
55.75	0.001
60	0.001

--------Class: Node--------

Name: CB-1 Base Flow(cfs): 0 Init Stage(ft): 35
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
35	0.001
37.5	0.001

--------Class: Node--------

Name: CB-2 Base Flow(cfs): 0 Init Stage(ft): 32
Group: BASE Warn Stage(ft): 36.5
Comment:

Stage(ft)	Area(ac)
32	0.001
36.5	0.001

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PPSA ICPR Model

********** Input Report **********
--------Class: Node--------
Name: CH-1 Base Flow(cfs): 0 Init Stage(ft): 33.5
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
33.5	0.001
37.5	0.001

--------Class: Node--------
Name: CH-2 Base Flow(cfs): 0 Init Stage(ft): 34.25
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
34.25	0.001
37.5	0.001

--------Class: Node--------
Name: CH-4 Base Flow(cfs): 0 Init Stage(ft): 35
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
35	0.001
37.5	0.001

--------Class: Node--------
Name: P-A Base Flow(cfs): 0 Init Stage(ft): 28
Group: BASE Warn Stage(ft): 32
Comment:

Stage(ft)	Area(ac)
26	1.5509
28	1.738
30	1.9073
32	2.14019

--------Class: Node--------
Name: P-B Base Flow(cfs): 0 Init Stage(ft): 28
Group: BASE Warn Stage(ft): 32
Comment:

Stage(ft)	Area(ac)
26	1.215
28	1.3642
30	1.5192
32	1.6768

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PPSA ICPR Model

********** Input Report **********

--------Class: Node----------

Name: P-C Base Flow(cfs): 0 Init Stage(ft): 34.5
Group: BASE Warn Stage(ft): 38
Comment:

Stage(ft)	Area(ac)
32	1.342
34	1.529
36	1.8161
38	2.042

--------Class: Node----------

Name: P-D Base Flow(cfs): 0 Init Stage(ft): 34.5
Group: BASE Warn Stage(ft): 36
Comment:

Stage(ft)	Area(ac)
33	1.3034
34	1.4063
36	1.83728

--------Class: Cross Section----------

Name: CS-1 Group: BASE
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	32	0.035
5.8	32	0.035
11.3	30	0.035
17.1	28	0.035
23.2	28	0.035
29.1	30	0.035
34.9	32	0.035

--------Class: Cross Section----------

Name: CS-2 Group: BASE
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	32	0.035
5.8	32	0.035
11.3	30	0.035
17.1	28	0.035
23.2	28	0.035
29.1	30	0.035
34.9	32	0.035

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PPSA ICPR Model

********** Input Report **********

--------Class: Cross Section--------

Name: CS-3 Group: BASE

Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	36	0.035
5.8	35	0.035
12.4	36	0.035
16.6	37	0.035

--------Class: Cross Section--------

Name: CS-4 Group: BASE

Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	34	0.035
37.1	33.2	0.035
57.9	34	0.035
73.3	35	0.035
79.1	36	0.035

--------Class: Cross Section--------

Name: CS-6 Group: BASE

Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	34	0.035
2.4	33.5	0.035
4.1	33.5	0.035
6.5	34	0.035

--------Class: Cross Section--------

Name: CS-7 Group: BASE

Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	33	0.035
22.9	32	0.035
32.1	30	0.035
41.7	32	0.035
55.6	33	0.035

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PPSA ICPR Model

********** Input Report **********

--------Class: Basin--------

Basin: A-1 Node: CB-1 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 1.28 Concentration Time(min): 22.3
Curve #: 98 Time Shift(hrs): 0
DCIA(%): 100

--------Class: Basin--------

Basin: A-2 Node: A-2 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 0.36 Concentration Time(min): 57.8
Curve #: 92 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------

Basin: A-3 Node: A-3 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 2.45 Concentration Time(min): 91.4
Curve #: 88 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------

Basin: A-4 Node: P-A Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 0.88 Concentration Time(min): 63.7
Curve #: 89 Time Shift(hrs): 0
DCIA(%): 0

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PPSA ICPR Model

********** Input Report **********

--------Class: Basin--------
Basin: A-5 Node: P-A Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 1.41 Concentration Time(min): 52.5
Curve #: 83 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------
Basin: A-6 Node: P-A Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 4.24 Concentration Time(min): 188.3
Curve #: 90 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------
Basin: B-1 Node: B-1 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 2.29 Concentration Time(min): 58.9
Curve #: 84 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------
Basin: B-2 Node: CB-2 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 2.4 Concentration Time(min): 24.3
Curve #: 93 Time Shift(hrs): 0
DCIA(%): 80

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PPSA ICPR Model

********** Input Report **********

--------Class: Basin--------
Basin: B-3 Node: P-B Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 3.16 Concentration Time(min): 68.6
Curve #: 91 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------
Basin: B-4 Node: P-B Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 1.63 Concentration Time(min): 17.9
Curve #: 89 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------
Basin: B-5 Node: P-B Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 0.35 Concentration Time(min): 15.2
Curve #: 80 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------
Basin: C-1 Node: C-1 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 1.21 Concentration Time(min): 5.2
Curve #: 98 Time Shift(hrs): 0
DCIA(%): 98

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [9]
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PPSA ICPR Model

********** Input Report **********

--------Class: Basin--------

Basin: C-2 Node: P-C Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 6.44 Concentration Time(min): 18.5
Curve #: 88 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------

Basin: D-1 Node: P-D Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 8.71 Concentration Time(min): 63.8
Curve #: 86 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Pipe--------

Name: PI-A1 From Node: CB-1 Length(ft): 62
Group: BASE To Node: CH-2 Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Hor Ellipse	Hor Ellipse	Equation:	Average K
Span(in):	14	14	Flow:	Both
Rise(in):	23	23	Entrance Loss Coef:	0.3
Invert(ft):	35	34.75	Exit Loss Coef:	0.5
Manning's N:	0.013	0.013	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

CATCH BASIN 1 TO CHANNEL CS 6 (A-5)

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [10]
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PPSA ICPR Model

********** Input Report **********

--------Class: Pipe--------

Name:	PI-A2	From Node:	A-2	Length(ft):	92
Group:	BASE	To Node:	CH-1	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Hor Ellipse	Hor Ellipse	Equation:	Average K
Span(in):	8	8	Flow:	Both
Rise(in):	8	8	Entrance Loss Coef:	0.3
Invert(ft):	35	34	Exit Loss Coef:	0.5
Manning's N:	0.013	0.013	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

A-2 TO CHANNEL CROSSECTION CS-5 (A-5)

--------Class: Pipe--------

Name:	PI-A3	From Node:	A-3	Length(ft):	86
Group:	BASE	To Node:	P-A	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Hor Ellipse	Hor Ellipse	Equation:	Average K
Span(in):	19	19	Flow:	Both
Rise(in):	30	30	Entrance Loss Coef:	0.3
Invert(ft):	33.5	33	Exit Loss Coef:	0.5
Manning's N:	0.013	0.013	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

HEADWALL 1 AND 2

PPSA ICPR Model

********** Input Report **********

--------Class: Pipe----------

Name:	PI-B1	From Node: B-1	Length(ft): 38
Group:	BASE	To Node: CH-4	Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Hor Ellipse	Hor Ellipse	Equation:	Average K
Span(in):	14	14	Flow:	Both
Rise(in):	23	23	Entrance Loss Coef:	0.3
Invert(ft):	35.25	35	Exit Loss Coef:	0.5
Manning's N:	0.013	0.013	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

HEADWALL 5 AND 6

--------Class: Pipe----------

Name:	PI-B2	From Node: CB-2	Length(ft): 73
Group:	BASE	To Node: P-B	Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Hor Ellipse	Hor Ellipse	Equation:	Average K
Span(in):	19	19	Flow:	Both
Rise(in):	30	30	Entrance Loss Coef:	0.3
Invert(ft):	32	31.5	Exit Loss Coef:	0.5
Manning's N:	0.013	0.013	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

CATCH BASIN B2 TO POND B THROUGH HEADWALL 4

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [12]
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PPSA ICPR Model

********** Input Report **********
--------Class: Pipe----------

Name:	PI-BD1	From Node:	C-1	Length(ft):	146
Group:	BASE	To Node:	P-C	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Equation:	Average K
Span(in):	10	10	Flow:	Both
Rise(in):	10	10	Entrance Loss Coef:	0.3
Invert(ft):	55.75	34.25	Exit Loss Coef:	0.5
Manning's N:	0.01	0.01	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope 2 2

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope 2 2

C-1 to Pond C

--------Class: Pipe----------

Name:	PI-BD2	From Node:	C-1	Length(ft):	157
Group:	BASE	To Node:	P-C	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Equation:	Average K
Span(in):	10	10	Flow:	Both
Rise(in):	10	10	Entrance Loss Coef:	0.3
Invert(ft):	55.75	34.25	Exit Loss Coef:	0.5
Manning's N:	0.01	0.01	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope 2 2

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope 2 2

C-1 TO Pond C

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [13]
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PPSA ICPR Model

********** Input Report **********

--------Class: Pipe----------

Name:	PI-BD3	From Node:	C-1	Length(ft): 136
Group:	BASE	To Node:	P-C	Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Equation:	Average K
Span(in):	10	10	Flow:	Both
Rise(in):	10	10	Entrance Loss Coef:	0.3
Invert(ft):	55.75	34.25	Exit Loss Coef:	0.5
Manning's N:	0.01	0.01	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope 2 2

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope 2 2

C-1 to Pond C

--------Class: Pipe----------

Name:	PI-D	From Node:	P-D	Length(ft): 75
Group:	BASE	To Node:	P-C	Count: 2

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Equation:	Average K
Span(in):	24	24	Flow:	Both
Rise(in):	24	24	Entrance Loss Coef:	0.3
Invert(ft):	34.5	34.25	Exit Loss Coef:	0.5
Manning's N:	0.013	0.013	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall 1 2

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall 1 2

POND D TO POND C THROUGH HEADWALLS 7 AND 8

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [14]
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PPSA ICPR Model

********** Input Report **********

--------Class: Channel--------

Name: CH-1 From Node: CH-1 Length(ft): 81
Group: BASE To Node: P-A Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Equation:	Aver Conveyance
Invert(ft):	33.5	30	Flow:	Both
TclpInitZ(ft):	999	999	Eddy Contrac Coef:	0.1
Manning's N:			Eddy Expans Coef:	0.3
TClip(ft):	0	0	Entrance Loss Coef:	0
BClip(ft):	0	0	Exit Loss Coef:	0
Main Xsec:	CS-6	CS-7	Outlet Cntrl Spec:	Use dc or tw
AxEl1(ft):	0	0	Inlet Cntrl Spec:	Use dn
Aux Xsec1:			Stabilizer Option:	None
AxEl2(ft):	0	0		
Aux Xsec2:				
TWidth(ft):				
Depth(ft):				
BWidth(ft):				
LSdSlp(h/v):				
RSdSlp(h/v):				

INTERCONNECT BETWEEN CS-6 AND 7

--------Class: Channel--------

Name: CH-2 From Node: CH-2 Length(ft): 230
Group: BASE To Node: P-A Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Equation:	Aver Conveyance
Invert(ft):	34.25	30	Flow:	Both
TclpInitZ(ft):	999	999	Eddy Contrac Coef:	0.1
Manning's N:	0.015	0.015	Eddy Expans Coef:	0.3
TClip(ft):	0	0	Entrance Loss Coef:	0
BClip(ft):	0	0	Exit Loss Coef:	0
Main Xsec:			Outlet Cntrl Spec:	Use dc or tw
AxEl1(ft):			Inlet Cntrl Spec:	Use dn
Aux Xsec1:			Stabilizer Option:	None
AxEl2(ft):				
Aux Xsec2:				
TWidth(ft):				
Depth(ft):				
BWidth(ft):	3	3		
LSdSlp(h/v):	2.33	2.33		
RSdSlp(h/v):	2.33	2.33		

INTERCONNECT BETWEEN A-1 AND POND A

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [15]
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PPSA ICPR Model

********** Input Report **********

--------Class: Channel--------

Name: CH-3 From Node: P-A Length(ft): 120
Group: BASE To Node: P-B Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Equation:	Aver Conveyance
Invert(ft):	28	28	Flow:	Both
TclpInitZ(ft):	999	999	Eddy Contrac Coef:	0.1
Manning's N:			Eddy Expans Coef:	0.3
TClip(ft):	0	0	Entrance Loss Coef:	0
BClip(ft):	0	0	Exit Loss Coef:	0
Main Xsec:	CS-1	CS-2	Outlet Cntrl Spec:	Use dc or tw
AxEl1(ft):	0	0	Inlet Cntrl Spec:	Use dn
Aux Xsec1:			Stabilizer Option:	None
AxEl2(ft):	0	0		
Aux Xsec2:				
TWidth(ft):				
Depth(ft):				
BWidth(ft):				
LSdSlp(h/v):				
RSdSlp(h/v):				

INTERCONNECT BETWEEN CS-1 AND CS-2

--------Class: Channel--------

Name: CH-4 From Node: CH-4 Length(ft): 374
Group: BASE To Node: P-B Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Equation:	Aver Conveyance
Invert(ft):	35	33.2	Flow:	Both
TclpInitZ(ft):	999	999	Eddy Contrac Coef:	0.1
Manning's N:			Eddy Expans Coef:	0.3
TClip(ft):	0	0	Entrance Loss Coef:	0
BClip(ft):	0	0	Exit Loss Coef:	0
Main Xsec:	CS-3	CS-4	Outlet Cntrl Spec:	Use dc or tw
AxEl1(ft):	0	0	Inlet Cntrl Spec:	Use dn
Aux Xsec1:			Stabilizer Option:	None
AxEl2(ft):	0	0		
Aux Xsec2:				
TWidth(ft):				
Depth(ft):				
BWidth(ft):				
LSdSlp(h/v):				
RSdSlp(h/v):				

INTERCONNECT BETWEEN CS-3 AND 4

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [16]
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PPSA ICPR Model

********** Input Report **********

--------Class: Weir----------

Name: W-1 From Node: P-B
Group: BASE To Node: 612325
Count: 1

Type: Mavis Flow: Both Geometry: Trapezoidal

Bottom Width(ft)	3
Left Side Slope(h/v)	0.2857
Right Side Slope(h/v)	0.2857
Invert(ft)	28
Control Elev(ft)	28
StructOpeningDim(ft)	999 TABLE
Bottom Clip(ft)	0
Top Clip(ft)	0
Weir Discharge Coef	2.8
Orifice Discharge Coef	0.6

WEIR 1

--------Class: Drop Structure----------

Name: W-2D From Node: P-C Length(ft): 128
Group: BASE To Node: 612160 Count: 1

Outlet Cntrl Spec: Use dc or tw Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular Downstream Geometry: Circular

	UPSTREAM	DOWNSTREAM
Span(in)	30	30
Rise(in)	30	30
Invert(ft)	32.32	31.75
Manning's N	0.013	0.013
Top Clip(in)	0	0
Bottom Clip(in)	0	0

Entrance Loss Coef: 0.3 Flow: Both
Exit Loss Coef: 1 Equation: Aver Conveyance

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1
Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

WEIR 2 WITH PIPE

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [17]
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PPSA ICPR Model

********** Input Report **
*** Weir 1 of 1 for Drop Structure W-2D *** [TABLE]

Count:	1	Bottom Clip(ft):	0
Type:	Mavis	Top Clip(ft):	0
Flow:	Both	Weir Discharge Coef:	2.8
Geometry:	Trapezoidal	Orifice Discharge Coef:	0.6

Bottom Width(ft):	3	Invert(ft):	34.5
Left Side Slope(h/v):	0.2857	Control Elev(ft):	34.5
Right Side Slope(h/v):	0.2857	StructOpeningDim(ft):	999

Existing Conditions
25-Year/24-Hour Design Storm
Output

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [1]
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ppsa swfwmd existing
25-Year/24 Hour Storm Event
updated 04/05/06

********** Basin Summary - 25YEAR **********

***					
Basin Name:	A-1	A-2	A-3	A-4	A-5
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	CB-1	A-2	A-3	P-A	P-A
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00	256.00
Spec Time Inc (min):	2.97	7.70	12.18	8.49	7.00
Comp Time Inc (min):	2.97	7.71	12.19	8.49	7.00
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	8.00	8.00	8.00	8.00	8.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	22.30	57.80	91.40	63.70	52.50
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	1.28	0.36	2.45	0.88	1.41
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	98.00	92.00	88.00	89.00	83.00
DCIA (%):	100.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.14	12.59	13.00	12.60	12.48
Flow Max (cfs):	4.37	0.69	3.26	1.52	2.52
Runoff Volume (in):	7.90	7.03	6.56	6.68	5.97
Runoff Volume (cf):	36689	9190	58372	21334	30551

***					
Basin Name:	A-6	B-1	B-2	B-3	B-4
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	P-A	B-1	CB-2	P-B	P-B
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00	256.00
Spec Time Inc (min):	25.10	7.85	3.24	9.14	2.39
Comp Time Inc (min):	15.00	7.85	3.24	9.15	2.39
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	8.00	8.00	8.00	8.00	8.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	188.30	58.90	24.30	68.60	17.90
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	4.24	2.29	2.40	3.16	1.63
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	90.00	84.00	93.00	91.00	89.00
DCIA (%):	0.00	0.00	80.00	0.00	0.00
Time Max (hrs):	14.00	12.57	12.20	12.65	12.13
Flow Max (cfs):	3.42	3.86	7.77	5.35	5.72

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [2]
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ppsa swfwmd permit run1
25-Year/24 Hour Storm Event
updated 04/04/06

********** Basin Summary - 25YEAR **********

Runoff Volume (in):	6.80	6.09	7.75	6.92	6.68
Runoff Volume (cf):	104662	50621	67501	79342	39545

***

Basin Name:	B-5	C-1	C-2	D-1
Group Name:	BASE	BASE	BASE	BASE
Node Name:	P-B	C-1	P-C	P-D
Hydrograph Type:	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00
Spec Time Inc (min):	2.03	0.69	2.47	8.50
Comp Time Inc (min):	2.03	0.69	2.47	8.51
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	8.00	8.00	8.00	8.00
Storm Duration (hr):	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	15.20	5.20	18.50	63.80
Lag Time (hr):	0.00	0.00	0.00	0.00
Area (acres):	0.35	1.21	6.44	8.71
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00
Curve Number:	80.00	98.00	88.00	86.00
DCIA (%):	0.00	98.00	0.00	0.00
Time Max (hrs):	12.09	12.01	12.13	12.62
Flow Max (cfs):	1.16	6.86	22.07	14.43
Runoff Volume (in):	5.62	7.89	6.56	6.33
Runoff Volume (cf):	7142	34671	153435	200017

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [1]
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ppsa swfwmd existing
25-Year/24 Hour Storm Event
updated 04/05/06

********** Node Maximum Conditions - 25YEAR **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
612160	BASE	17.00	32.63	32.63	-0.0011	0.00	14.04	11.08	0.00	0.00
612325	BASE	14.50	25.89	25.89	0.0003	0.00	14.49	13.51	0.00	0.00
A-2	BASE	12.54	35.55	37.50	0.0000	139.47	12.50	0.68	12.53	0.68
A-3	BASE	13.00	34.48	37.50	0.0000	178.52	13.00	3.26	13.00	3.26
B-1	BASE	12.52	36.47	37.50	0.0000	134.60	12.50	3.80	12.52	3.79
C-1	BASE	12.01	57.25	60.00	0.0006	162.10	12.00	6.85	12.01	6.76
CB-1	BASE	12.25	36.30	37.50	0.0000	147.84	12.25	4.21	12.25	4.19
CB-2	BASE	12.25	33.58	36.50	0.0001	169.29	12.25	7.64	12.25	7.62
CH-1	BASE	12.55	33.58	37.50	0.0000	218.22	12.53	0.68	12.55	0.68
CH-2	BASE	12.26	34.50	37.50	0.0000	626.42	12.25	4.19	12.26	4.19
CH-4	BASE	12.64	35.58	37.50	0.0000	1924.68	12.52	3.79	12.64	3.77
P-A	BASE	14.51	29.31	32.00	0.0000	81815.36	12.51	12.27	14.79	7.82
P-B	BASE	14.49	29.29	32.00	0.0000	66564.39	12.65	18.06	14.49	13.51
P-C	BASE	14.04	35.64	38.00	0.0000	77108.41	12.00	23.84	14.04	11.08
P-D	BASE	13.98	35.71	36.00	0.0000	77424.63	12.75	14.25	13.88	8.17

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [1]
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ppsa swfwmd existing
25-Year/24 Hour Storm Event
updated 04/05/06

********** Link Maximum Conditions - 25YEAR **********

(Time units - hours)

Link Name	Group Name	Max Time Flow	Max Flow (cfs)	Max Delta Q (cfs)	Max Time U/S Stage	Max US Stage (ft)	Max Time D/S Stage	Max DS Stage (ft)
CH-1	BASE	12.55	0.68	0.00	12.55	33.58	12.55	30.01
CH-2	BASE	12.26	4.19	0.00	12.26	34.50	12.26	30.25
CH-3	BASE	14.79	7.82	0.12	14.51	29.31	14.49	29.29
CH-4	BASE	12.64	3.77	0.07	12.64	35.58	12.70	33.43
PI-A1	BASE	12.25	4.19	0.00	12.25	36.30	12.25	35.66
PI-A2	BASE	12.53	0.68	0.00	12.54	35.55	12.53	34.32
PI-A3	BASE	13.00	3.26	0.00	13.00	34.48	13.00	33.64
PI-B1	BASE	12.52	3.79	-0.00	12.52	36.47	12.52	35.75
PI-B2	BASE	12.25	7.62	-0.00	12.25	33.58	12.25	32.44
PI-BD1	BASE	12.01	2.25	0.31	12.01	57.25	26.26	34.88
PI-BD2	BASE	12.01	2.26	0.31	12.01	57.25	26.20	34.89
PI-BD3	BASE	12.01	2.24	0.32	12.01	57.25	26.37	34.88
PI-D	BASE	13.88	8.17	0.09	13.98	35.71	14.04	35.64
W-1	BASE	14.49	13.51	-0.00	14.49	29.29	14.50	25.89
W-2D	BASE	14.04	11.08	-0.00	14.04	35.64	17.00	32.63

Proposed Conditions
25-Year/24-Hour Design Storm
Output

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [1]
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ppsa swfwmd proposed
25-Year/24 Hour Storm Event
updated 04/06/06

********** Basin Summary - 25 **********

***					
Basin Name:	A-1	A-2	A-3	A-4	A-5
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	CB-1	A-2	A-3	P-A	P-A
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00	256.00
Spec Time Inc (min):	2.97	7.70	12.17	8.49	7.00
Comp Time Inc (min):	2.97	7.71	12.17	8.49	7.00
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	8.00	8.00	8.00	8.00	8.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	22.30	57.80	91.30	63.70	52.50
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	1.28	0.36	2.45	0.88	1.41
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	98.00	92.00	89.00	91.00	84.00
DCIA (%):	100.00	0.00	0.00	0.00	0.00
Time Max (hrs):	12.14	12.59	12.98	12.60	12.48
Flow Max (cfs):	4.37	0.69	3.32	1.56	2.56
Runoff Volume (in):	7.90	7.03	6.68	6.92	6.09
Runoff Volume (cf):	36689	9190	59408	22093	31154

***					
Basin Name:	A-6	B-1	B-2	B-3	B-4
Group Name:	BASE	BASE	BASE	BASE	BASE
Node Name:	P-A	B-1	CB-2	P-B	P-B
Hydrograph Type:	UH	UH	UH	UH	UH
Unit Hydrograph:	UH256	UH256	UH256	UH256	UH256
Peaking Factor:	256.00	256.00	256.00	256.00	256.00
Spec Time Inc (min):	25.10	7.85	3.24	9.14	2.39
Comp Time Inc (min):	15.00	7.85	3.24	9.15	2.39
Rainfall File:	FLMOD	FLMOD	FLMOD	FLMOD	FLMOD
Rainfall Amount (in):	8.00	8.00	8.00	8.00	8.00
Storm Duration (hr):	24.00	24.00	24.00	24.00	24.00
Status:	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE
Time of Conc. (min):	188.30	58.90	24.30	68.60	17.90
Lag Time (hr):	0.00	0.00	0.00	0.00	0.00
Area (acres):	4.24	2.29	2.40	3.16	1.63
Vol of Unit Hyd (in):	1.00	1.00	1.00	1.00	1.00
Curve Number:	90.00	84.00	94.00	91.00	90.00
DCIA (%):	0.00	0.00	80.00	0.00	0.00
Time Max (hrs):	14.00	12.57	12.20	12.65	12.13
Flow Max (cfs):	3.42	3.86	7.78	5.35	5.79

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [2]
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ppsa swfwmd permit run1
25-Year/24 Hour Storm Event
updated 04/04/06

********** Basin Summary - 25 **********

Runoff Volume (in):	6.80	6.09	7.77	6.92	6.80
Runoff Volume (cf):	104662	50621	67708	79342	40248

***

Advanced Interconnected Channel & Pond Routing (ICPR Ver 2.20) [1]
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ppsa swfwmd proposed
25-Year/24 Hour Storm Event
updated 04/06/06

********** Node Maximum Conditions - 25 **********

(Time units - hours)

Node Name	Group Name	Max Time Conditions	Max Stage (ft)	Warning Stage (ft)	Max Delta Stage (ft)	Max Surface Area (sf)	Max Time Inflow	Max Inflow (cfs)	Max Time Outflow	Max Outflow (cfs)
612160	BASE	17.00	32.63	32.63	-0.0011	0.00	14.12	10.74	0.00	0.00
612325	BASE	14.50	25.89	25.89	0.0003	0.00	14.55	13.35	0.00	0.00
A-2	BASE	12.54	35.55	37.50	0.0000	139.47	12.50	0.68	12.53	0.68
A-3	BASE	13.00	34.49	37.50	0.0000	178.60	13.00	3.31	13.00	3.31
B-1	BASE	12.52	36.47	37.50	0.0000	134.60	12.50	3.80	12.52	3.79
C-1	BASE	12.01	57.25	60.00	0.0006	162.10	12.00	6.85	12.01	6.76
CB-1	BASE	12.25	36.30	37.50	0.0000	147.84	12.25	4.21	12.25	4.19
CB-2	BASE	12.25	33.59	36.50	0.0001	169.28	12.25	7.65	12.25	7.63
CH-1	BASE	12.55	33.58	37.50	0.0000	218.22	12.53	0.68	12.55	0.68
CH-2	BASE	12.26	34.50	37.50	0.0000	626.42	12.25	4.19	12.26	4.19
CH-4	BASE	12.64	35.58	37.50	0.0000	1924.68	12.52	3.79	12.64	3.77
P-A	BASE	14.57	29.37	32.00	0.0000	82074.28	12.51	12.40	14.79	7.76
P-B	BASE	14.55	29.36	32.00	0.0000	66793.49	12.67	17.90	14.55	13.35
P-C	BASE	14.12	35.69	38.00	0.0000	77435.53	12.00	23.60	14.12	10.74
P-D	BASE	14.03	35.75	36.00	0.0000	77832.41	12.75	14.25	13.88	7.99

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ppsa swfwmd proposed
25-Year/24 Hour Storm Event
updated 04/06/06

********** Link Maximum Conditions - 25 **********

(Time units - hours)

Link Name	Group Name	Max Time Flow	Max Flow (cfs)	Max Delta Q (cfs)	Max Time U/S Stage	Max US Stage (ft)	Max Time D/S Stage	Max DS Stage (ft)
CH-1	BASE	12.55	0.68	0.00	12.55	33.58	12.55	30.01
CH-2	BASE	12.26	4.19	0.00	12.26	34.50	12.26	30.25
CH-3	BASE	14.79	7.76	0.13	14.57	29.37	14.55	29.36
CH-4	BASE	12.64	3.77	0.07	12.64	35.58	12.70	33.43
PI-A1	BASE	12.25	4.19	0.00	12.25	36.30	12.25	35.66
PI-A2	BASE	12.53	0.68	0.00	12.54	35.55	12.53	34.32
PI-A3	BASE	13.00	3.31	0.00	13.00	34.49	13.00	33.64
PI-B1	BASE	12.52	3.79	-0.00	12.52	36.47	12.52	35.75
PI-B2	BASE	12.25	7.63	-0.00	12.25	33.59	12.25	32.44
PI-BD1	BASE	12.01	2.25	0.31	12.01	57.25	26.26	34.96
PI-BD2	BASE	12.01	2.26	0.31	12.01	57.25	26.20	34.97
PI-BD3	BASE	12.01	2.24	0.32	12.01	57.25	26.37	34.96
PI-D	BASE	13.88	7.99	0.11	14.03	35.75	14.12	35.69
W-1	BASE	14.55	13.35	-0.00	14.55	29.36	14.50	25.89
W-2D	BASE	14.12	10.74	-0.00	14.12	35.69	17.00	32.63

Proposed Conditions
25-Year/24-Hour Design Storm
Input

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WITH PROPOSED WEIRS

********** Input Report **********

--------Class: Node----------

Name: 612160 Base Flow(cfs): 0 Init Stage(ft): 27.3
Group: BASE Warn Stage(ft): 32.63
Comment:

Time(hrs)	Stage(ft)
0	27.3
6	27.31
9	28.31
10	28.53
11	28.9
12	30.23
13	31.69
14	31.95
15	32.21
16	32.57
17	32.63
20	32.08
24	31.78
26	31.66
28	30.28
29	28.46
30	28.2

--------Class: Node----------

Name: 612325 Base Flow(cfs): 0 Init Stage(ft): 21.8
Group: BASE Warn Stage(ft): 25.89
Comment:

Time(hrs)	Stage(ft)
0	21.8
6	22.49
9	22.91
10	23.05
11	23.22
12	23.51
13	24.89
14	25.8
14.5	25.89
16	25.31
17	24.64
18	24.14
19	23.63
20	23.3
24	22.96
28	22.47
30	22.2

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********** Input Report **********

--------Class: Node--------

Name: A-2 Base Flow(cfs): 0 Init Stage(ft): 35
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
35	0.001
37.5	0.001

--------Class: Node--------

Name: A-3 Base Flow(cfs): 0 Init Stage(ft): 33.5
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
33.5	0.001
37.5	0.001

--------Class: Node--------

Name: B-1 Base Flow(cfs): 0 Init Stage(ft): 35.25
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
35.25	0.001
37.5	0.001

--------Class: Node--------

Name: C-1 Base Flow(cfs): 0 Init Stage(ft): 55.75
Group: BASE Warn Stage(ft): 60
Comment:

Stage(ft)	Area(ac)
55.75	0.001
60	0.001

--------Class: Node--------

Name: CB-1 Base Flow(cfs): 0 Init Stage(ft): 35
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
35	0.001
37.5	0.001

--------Class: Node--------

Name: CB-2 Base Flow(cfs): 0 Init Stage(ft): 32
Group: BASE Warn Stage(ft): 36.5
Comment:

Stage(ft)	Area(ac)
32	0.001
36.5	0.001

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********** Input Report **********

--------Class: Node--------

Name: CH-1 Base Flow(cfs): 0 Init Stage(ft): 33.5
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
33.5	0.001
37.5	0.001

--------Class: Node--------

Name: CH-2 Base Flow(cfs): 0 Init Stage(ft): 34.25
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
34.25	0.001
37.5	0.001

--------Class: Node--------

Name: CH-4 Base Flow(cfs): 0 Init Stage(ft): 35
Group: BASE Warn Stage(ft): 37.5
Comment:

Stage(ft)	Area(ac)
35	0.001
37.5	0.001

--------Class: Node--------

Name: P-A Base Flow(cfs): 0 Init Stage(ft): 28
Group: BASE Warn Stage(ft): 32
Comment:

Stage(ft)	Area(ac)
26	1.5509
28	1.738
30	1.9073
32	2.14019

--------Class: Node--------

Name: P-B Base Flow(cfs): 0 Init Stage(ft): 28
Group: BASE Warn Stage(ft): 32
Comment:

Stage(ft)	Area(ac)
26	1.215
28	1.3642
30	1.5192
32	1.6768

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********** Input Report **********

--------Class: Node--------

Name: P-C Base Flow(cfs): 0 Init Stage(ft): 34.5
Group: BASE Warn Stage(ft): 38
Comment:

Stage(ft)	Area(ac)
32	1.342
34	1.529
36	1.8161
38	2.042

--------Class: Node--------

Name: P-D Base Flow(cfs): 0 Init Stage(ft): 34.5
Group: BASE Warn Stage(ft): 36
Comment:

Stage(ft)	Area(ac)
33	1.3034
34	1.4063
36	1.83728

--------Class: Cross Section--------

Name: CS-1 Group: BASE
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	32	0.035
5.8	32	0.035
11.3	30	0.035
17.1	28	0.035
23.2	28	0.035
29.1	30	0.035
34.9	32	0.035

--------Class: Cross Section--------

Name: CS-2 Group: BASE
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	32	0.035
5.8	32	0.035
11.3	30	0.035
17.1	28	0.035
23.2	28	0.035
29.1	30	0.035
34.9	32	0.035

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********** Input Report **********

--------Class: Cross Section--------
Name: CS-3 Group: BASE
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	36	0.035
5.8	35	0.035
12.4	36	0.035
16.6	37	0.035

--------Class: Cross Section--------
Name: CS-4 Group: BASE
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	34	0.035
37.1	33.2	0.035
57.9	34	0.035
73.3	35	0.035
79.1	36	0.035

--------Class: Cross Section--------
Name: CS-6 Group: BASE
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	34	0.035
2.4	33.5	0.035
4.1	33.5	0.035
6.5	34	0.035

--------Class: Cross Section--------
Name: CS-7 Group: BASE
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	33	0.035
22.9	32	0.035
32.1	30	0.035
41.7	32	0.035
55.6	33	0.035

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********** Input Report **********
--------Class: Cross Section----------
Name: W-1P Group: BASE
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	31.5	0
0.923	28.27	0
1.5	28.27	0
1.5	28	0
3.5	28	0
3.5	28.27	0
4.077	28.27	0
5	31.5	0

--------Class: Cross Section----------
Name: W-2P Group: BASE
Comment:

X-Station(ft)	Y-Elevation(ft)	Manning's N
0	38	0
0.937	34.72	0
1.6	34.72	0
1.6	34.5	0
3.4	34.5	0
3.4	34.72	0
4.063	34.72	0
5	38	0

--------Class: Basin----------
Basin: A-1 Node: CB-1 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 1.28 Concentration Time(min): 22.3
Curve #: 98 Time Shift(hrs): 0
DCIA(%): 100

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********** Input Report **********

--------Class: Basin--------
Basin: A-2 Node: A-2 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 0.36 Concentration Time(min): 57.8
Curve #: 92 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------
Basin: A-3 Node: A-3 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 2.45 Concentration Time(min): 91.3
Curve #: 89 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------
Basin: A-4 Node: P-A Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 0.88 Concentration Time(min): 63.7
Curve #: 91 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------
Basin: A-5 Node: P-A Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 1.41 Concentration Time(min): 52.5
Curve #: 84 Time Shift(hrs): 0
DCIA(%): 0

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********** Input Report **********

--------Class: Basin--------

Basin: A-6 Node: P-A Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 4.24 Concentration Time(min): 188.3
Curve #: 90 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------

Basin: B-1 Node: B-1 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 2.29 Concentration Time(min): 58.9
Curve #: 84 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------

Basin: B-2 Node: CB-2 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 2.4 Concentration Time(min): 24.3
Curve #: 94 Time Shift(hrs): 0
DCIA(%): 80

--------Class: Basin--------

Basin: B-3 Node: P-B Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 3.16 Concentration Time(min): 68.6
Curve #: 91 Time Shift(hrs): 0
DCIA(%): 0

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********** Input Report **********

--------Class: Basin--------

Basin: B-4 Node: P-B Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 1.63 Concentration Time(min): 17.9
Curve #: 90 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------

Basin: B-5 Node: P-B Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 0.35 Concentration Time(min): 15.2
Curve #: 80 Time Shift(hrs): 0
DCIA(%): 0

--------Class: Basin--------

Basin: C-1 Node: C-1 Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 1.21 Concentration Time(min): 5.2
Curve #: 98 Time Shift(hrs): 0
DCIA(%): 98

--------Class: Basin--------

Basin: C-2 Node: P-C Status: On Site Type: SCS Unit Hydr
Group: BASE
Unit Hydrograph: UH256 Peak Factor: 256
Rainfall File: FLMOD Storm Duration(hrs): 24
Rainfall Amount(in): 8
Area(ac): 6.44 Concentration Time(min): 18.5
Curve #: 88 Time Shift(hrs): 0
DCIA(%): 0

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********** Input Report **
--------Class: Basin----------

Basin: D-1	Node: P-D	Status: On Site	Type: SCS Unit Hydr
Group: BASE			
Unit Hydrograph:	UH256	Peak Factor:	256
Rainfall File:	FLMOD	Storm Duration(hrs):	24
Rainfall Amount(in):	8		
Area(ac):	8.71	Concentration Time(min):	63.8
Curve #:	86	Time Shift(hrs):	0
DCIA(%):	0		

--------Class: Pipe----------

Name:	PI-A1	From Node:	CB-1	Length(ft):	62
Group:	BASE	To Node:	CH-2	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Hor Ellipse	Hor Ellipse	Equation:	Average K
Span(in):	14	14	Flow:	Both
Rise(in):	23	23	Entrance Loss Coef:	0.3
Invert(ft):	35	34.75	Exit Loss Coef:	0.5
Manning's N:	0.013	0.013	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

CATCH BASIN 1 TO CHANNEL CS 6 (A-5)

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********** Input Report **********

--------Class: Pipe----------

Name:	PI-A2	From Node:	A-2	Length(ft): 92
Group:	BASE	To Node:	CH-1	Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Hor Ellipse	Hor Ellipse	Equation:	Average K
Span(in):	8	8	Flow:	Both
Rise(in):	8	8	Entrance Loss Coef:	0.3
Invert(ft):	35	34	Exit Loss Coef:	0.5
Manning's N:	0.013	0.013	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

A-2 TO CHANNEL CROSSECTION CS-5 (A-5)

--------Class: Pipe----------

Name:	PI-A3	From Node:	A-3	Length(ft): 86
Group:	BASE	To Node:	P-A	Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Hor Ellipse	Hor Ellipse	Equation:	Average K
Span(in):	19	19	Flow:	Both
Rise(in):	30	30	Entrance Loss Coef:	0.3
Invert(ft):	33.5	33	Exit Loss Coef:	0.5
Manning's N:	0.013	0.013	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

HEADWALL 1 AND 2

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********** Input Report **********
--------Class: Pipe----------

Name:	PI-B1	From Node:	B-1	Length(ft): 38
Group:	BASE	To Node:	CH-4	Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Hor Ellipse	Hor Ellipse	Equation:	Average K
Span(in):	14	14	Flow:	Both
Rise(in):	23	23	Entrance Loss Coef:	0.3
Invert(ft):	35.25	35	Exit Loss Coef:	0.5
Manning's N:	0.013	0.013	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

HEADWALL 5 AND 6

--------Class: Pipe----------

Name:	PI-B2	From Node:	CB-2	Length(ft): 73
Group:	BASE	To Node:	P-B	Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Hor Ellipse	Hor Ellipse	Equation:	Average K
Span(in):	19	19	Flow:	Both
Rise(in):	30	30	Entrance Loss Coef:	0.3
Invert(ft):	32	31.5	Exit Loss Coef:	0.5
Manning's N:	0.013	0.013	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall 29 2

CATCH BASIN B2 TO POND B THROUGH HEADWALL 4

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********** Input Report **
--------Class: Pipe----------

Name:	PI-BD1	From Node:	C-1	Length(ft):	146
Group:	BASE	To Node:	P-C	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Equation:	Average K
Span(in):	10	10	Flow:	Both
Rise(in):	10	10	Entrance Loss Coef:	0.3
Invert(ft):	55.75	34.25	Exit Loss Coef:	0.5
Manning's N:	0.01	0.01	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope 2 2

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope 2 2

C-1 to Pond C

--------Class: Pipe----------

Name:	PI-BD2	From Node:	C-1	Length(ft):	157
Group:	BASE	To Node:	P-C	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Equation:	Average K
Span(in):	10	10	Flow:	Both
Rise(in):	10	10	Entrance Loss Coef:	0.3
Invert(ft):	55.75	34.25	Exit Loss Coef:	0.5
Manning's N:	0.01	0.01	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope 2 2

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope 2 2

C-1 TO Pond C

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********** Input Report **
--------Class: Pipe----------

Name:	PI-BD3	From Node:	C-1	Length(ft):	136
Group:	BASE	To Node:	P-C	Count:	1

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Equation:	Average K
Span(in):	10	10	Flow:	Both
Rise(in):	10	10	Entrance Loss Coef:	0.3
Invert(ft):	55.75	34.25	Exit Loss Coef:	0.5
Manning's N:	0.01	0.01	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope 2 2

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope 2 2

C-1 to Pond C

--------Class: Pipe----------

Name:	PI-D	From Node:	P-D	Length(ft):	75
Group:	BASE	To Node:	P-C	Count:	2

	UPSTREAM	DOWNSTREAM		
Geometry:	Circular	Circular	Equation:	Average K
Span(in):	24	24	Flow:	Both
Rise(in):	24	24	Entrance Loss Coef:	0.3
Invert(ft):	34.5	34.25	Exit Loss Coef:	0.5
Manning's N:	0.013	0.013	Bend Loss Coef:	0
Top Clip(in):	0	0	Outlet Cntrl Spec:	Use dc or tw
Bottom Clip(in):	0	0	Inlet Cntrl Spec:	Use dn
			Stabilizer Option:	None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall 1 2

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall 1 2

POND D TO POND C THROUGH HEADWALLS 7 AND 8

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WITH PROPOSED WEIRS

********** Input Report **********

--------Class: Channel--------

Name: CH-1 From Node: CH-1 Length(ft): 81
Group: BASE To Node: P-A Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Equation:	Aver Conveyance
Invert(ft):	33.5	30	Flow:	Both
TclpInitZ(ft):	999	999	Eddy Contrac Coef:	0.1
Manning's N:			Eddy Expans Coef:	0.3
TClip(ft):	0	0	Entrance Loss Coef:	0
BClip(ft):	0	0	Exit Loss Coef:	0
Main Xsec:	CS-6	CS-7	Outlet Cntrl Spec:	Use dc or tw
AxEl1(ft):	0	0	Inlet Cntrl Spec:	Use dn
Aux Xsec1:			Stabilizer Option:	None
AxEl2(ft):	0	0		
Aux Xsec2:				
TWidth(ft):				
Depth(ft):				
BWidth(ft):				
LSdSlp(h/v):				
RSdSlp(h/v):				

INTERCONNECT BETWEEN CS-6 AND 7

--------Class: Channel--------

Name: CH-2 From Node: CH-2 Length(ft): 230
Group: BASE To Node: P-A Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Trapezoidal	Trapezoidal	Equation:	Aver Conveyance
Invert(ft):	34.25	30	Flow:	Both
TclpInitZ(ft):	999	999	Eddy Contrac Coef:	0.1
Manning's N:	0.015	0.015	Eddy Expans Coef:	0.3
TClip(ft):	0	0	Entrance Loss Coef:	0
BClip(ft):	0	0	Exit Loss Coef:	0
Main Xsec:			Outlet Cntrl Spec:	Use dc or tw
AxEl1(ft):			Inlet Cntrl Spec:	Use dn
Aux Xsec1:			Stabilizer Option:	None
AxEl2(ft):				
Aux Xsec2:				
TWidth(ft):				
Depth(ft):				
BWidth(ft):	3	3		
LSdSlp(h/v):	2.33	2.33		
RSdSlp(h/v):	2.33	2.33		

INTERCONNECT BETWEEN A-1 AND POND A

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WITH PROPOSED WEIRS

********** Input Report **********

--------Class: Channel--------

Name: CH-3	From Node: P-A	Length(ft): 120	
Group: BASE	To Node: P-B	Count: 1	

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Equation:	Aver Conveyance
Invert(ft):	28	28	Flow:	Both
TclpInitZ(ft):	999	999	Eddy Contrac Coef:	0.1
Manning's N:			Eddy Expans Coef:	0.3
TClip(ft):	0	0	Entrance Loss Coef:	0
BClip(ft):	0	0	Exit Loss Coef:	0
Main Xsec:	CS-1	CS-2	Outlet Cntrl Spec:	Use dc or tw
AxEl1(ft):	0	0	Inlet Cntrl Spec:	Use dn
Aux Xsec1:			Stabilizer Option:	None
AxEl2(ft):	0	0		
Aux Xsec2:				
TWidth(ft):				
Depth(ft):				
BWidth(ft):				
LSdSlp(h/v):				
RSdSlp(h/v):				

INTERCONNECT BETWEEN CS-1 AND CS-2

--------Class: Channel--------

Name: CH-4	From Node: CH-4	Length(ft): 374	
Group: BASE	To Node: P-B	Count: 1	

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Equation:	Aver Conveyance
Invert(ft):	35	33.2	Flow:	Both
TclpInitZ(ft):	999	999	Eddy Contrac Coef:	0.1
Manning's N:			Eddy Expans Coef:	0.3
TClip(ft):	0	0	Entrance Loss Coef:	0
BClip(ft):	0	0	Exit Loss Coef:	0
Main Xsec:	CS-3	CS-4	Outlet Cntrl Spec:	Use dc or tw
AxEl1(ft):	0	0	Inlet Cntrl Spec:	Use dn
Aux Xsec1:			Stabilizer Option:	None
AxEl2(ft):	0	0		
Aux Xsec2:				
TWidth(ft):				
Depth(ft):				
BWidth(ft):				
LSdSlp(h/v):				
RSdSlp(h/v):				

INTERCONNECT BETWEEN CS-3 AND 4

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WITH PROPOSED WEIRS

********** Input Report **********

--------Class: Weir----------

Name: W-1 From Node: P-B
Group: BASE To Node: 612325
Count: 1

Type: Mavis Flow: Both Geometry: Irregular

XSec Name: W-1P

Invert(ft): 28
Control Elev(ft): 28
StructOpeningDim(ft): 999 TABLE
Bottom Clip(ft): 0
Top Clip(ft): 0
Weir Discharge Coef: 2.81
Orifice Discharge Coef: 0.6

WEIR 1

--------Class: Drop Structure----------

Name: W-2D From Node: P-C Length(ft): 128
Group: BASE To Node: 612160 Count: 1

Outlet Cntrl Spec: Use dc or tw Inlet Cntrl Spec: Use dn
Upstream Geometry: Circular Downstream Geometry: Circular

	UPSTREAM	DOWNSTREAM
Span(in):	30	30
Rise(in):	30	30
Invert(ft):	32.32	31.75
Manning's N:	0.013	0.013
Top Clip(in):	0	0
Bottom Clip(in):	0	0

Entrance Loss Coef: 0.3 Flow: Both
Exit Loss Coef: 1 Equation: Aver Conveyance

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1
Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall 1 1

WEIR 2 WITH PIPE

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WITH PROPOSED WEIRS

********** Input Report **
*** Weir 1 of 1 for Drop Structure W-2D *** [TABLE]

Count:	1	Bottom Clip(ft):	0
Type:	Fread	Top Clip(ft):	0
Flow:	Both	Weir Discharge Coef:	2.81
Geometry:	Irregular	Orifice Discharge Coef:	0.6

Cross Section:	W-2P	Control Elev(ft):	34.5
Invert(ft):	34.5	StructOpeningDim(ft):	999

Wet Detention Pool Calculations

Thin Blue Numbers	= Input data
Bold Red Numbers	= Answers

Wet Detention Design Pool - Alternative 3 (Conservation Design)

Taken from SWFWMD Technical Procedure TP/SWP-022

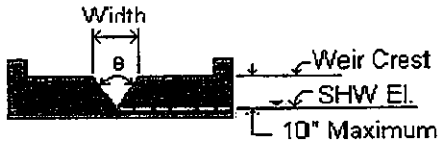
The project site acreage is	16.36	acres
The site coefficient of runoff is	0.53	
The offsite acreage is	0.00	acres
The offsite coefficient of runoff is	0.00	
Rainfall Depth (OFW ?) =	1.0	inches

The required minimum pond surface area at SHW =	**0.82**	acres or
	35,634	square feet
The design pool volume =	**3.94**	acre-feet
or	**171,500**	cubic feet
The required V-notch angle (θ) =	**56**	degrees
The maximum head =	**0.83**	feet or
	10.0	inches

Required littoral zone =	**0.29**	acres or
	12,472	square feet
SHW =	**34.5**	feet
design weir crest =	**35.33**	feet
Required V-notch width =	**1.08**	feet

If the pond is larger than the minimum ==> acreage required, this will calculate the required dimensions.

SHW =	34.50	feet
pond surface area =	3.11	acres
design weir crest =	**34.72**	feet
V-notch angle (θ) =	**172**	degrees
V-notch width =	**6.55**	feet
Minimum pond depth below SHW elevation =	**1.26**	feet



1. Treatment Volume (Q)
   a) For project site (Q_p)
      Project acreage = 16.36 Acres
      Q_p = 1.36 Ac.-Ft.
   b) For offsite (Q_o)
      Offsite acreage = 0.00 Acres
      Coefficient of offsite runoff = 0.00
      Q_o = 0.00 Ac.-Ft.

   Therefore treatment volume Q = 1.36 Ac.-Ft.

2. Permanent wet pool volume (V_b)

a) based on 14 day residence volume (V_r)

3 Composite rational coefficient of runoff = 0.53

V_r = 2.57 Ac.-Ft.

b) A_s 0.667 inches of runoff (V_{min})

V_{min} = 0.91 Ac.-Ft.

V_b is the greater of a or b 2.57 Ac.-Ft.

Therefore the design pool volume = **3.94** Ac.-Ft.

3. Average minimum pond area (A_s)

a) For alternative 1, based on 1.5 ft. treatment volume fluctuation and pond bottom at least one foot below control elevation.

A_s = **0.91** Acres

b) For alternative 2, based on the permanent wet pool volume below the control elevation to a maximum 8 feet in depth.

Weir Crest Elevation = 34.50 Feet

Littoral Shelf Elevation = 34.00 Feet

Pond Bottom Elevation = 32.00 Feet

A_s = **1.43** Acres

c) For alternative 3, based on treatment volume below control elevation of a v-notch weir.

1) Based on 10" maximum head on the V notch

V_w = 0.68 Ac.-Ft.

A_s = 0.82 Acres

2) based on design pool volume (Q & V_b)

A_s = 0.67 Acres

Check Max head (H) = V_w/A_s 12.3 Inches = 1.02 Feet

The correct minimum pond surface area = **0.82** Acres

The V notch angle = **55.8** Degrees

4. Rectangular Sharp-Crested Weir Calculations

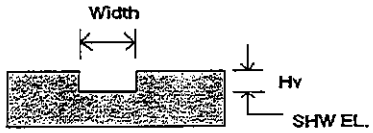
Project Acreage = 16.36 Acres

Runoff to be discharged through weir in 24 hours = 0.5 inches

Qv = **0.68** Ac.-Ft.

Head on the weir (Hv) = 0.22 Feet

Width = **2.04** Feet



Thin Blue Numbers	= Input data
Bold Red Numbers	**= Answers**

Wet Detention Design Pool - Alternative 3 (Conservation Design)

Taken from SWFWMD Technical Procedure TP/SWP-022

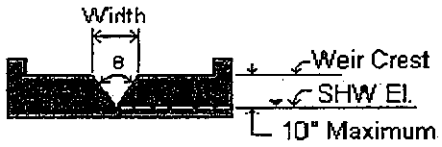
The project site acreage is	20.45	acres
The site coefficient of runoff is	0.61	
The offsite acreage is	0.00	acres
The offsite coefficient of runoff is	0.00	
Rainfall Depth (OFW ?) =	1.0	inches

The required minimum pond surface area at SHW =	**1.02**	acres or
	44,542	square feet
The design pool volume =	**5.41**	acre-feet
or	**235,528**	cubic feet
The required V-notch angle (θ) =	**67**	degrees
The maximum head =	**0.83**	feet or
	10.0	inches

Required littoral zone =	**0.36**	acres or
	15,590	square feet
SHW =	**28**	feet
design weir crest =	**28.83**	feet
Required V-notch width =	**1.23**	feet

If the pond is larger than the minimum ==> acreage required, this will calculate the required dimensions.

SHW =	**28.00**	feet
pond surface area =	**3.13**	acres
design weir crest =	**28.27**	feet
V-notch angle (θ) =	**169**	degrees
V-notch width =	**5.90**	feet
Minimum pond depth below SHW elevation =	**1.73**	feet



1. Treatment Volume (Q)
   a) For project site (Q_p)
      Project acreage = 20.45 Acres
      Q_p = 1.70 Ac.-Ft.
   b) For offsite (Q_o)
      Offsite acreage = 0.00 Acres
      Coefficient of offsite runoff = 0.00
      Q_o = 0.00 Ac.-Ft.

      Therefore treatment volume Q = 1.70 Ac.-Ft.

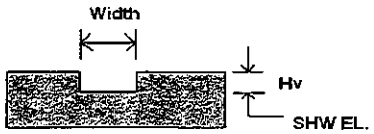
Project Acreage = 20.45 Acres

Runoff to be discharged through weir in 24 hours = 0.5 inches

Qv = **0.85** Ac.-Ft.

Head on the weir (Hv) = 0.27 Feet

Width = **1.86** Feet



ATTACHMENT 4

Pre-Application Meeting Minutes

THIS FORM IS INTENDED TO FACILITATE AND GUIDE THE DIALOGUE DURING A PRE-APPLICATION MEETING BY PROVIDING A PARTIAL "PROMPT LIST" OF DISCUSSION SUBJECTS. IT IS NOT A LIST OF REQUIREMENTS FOR SUBMITTAL BY THE APPLICANT.

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
RESOURCE REGULATION DIVISION
PRE-APPLICATION MEETING NOTES

FILE NUMBER:

Date:	9/23/09
Time:	11:00
Project Name:	Hillsborough County Resource Recovery Facility
Attendees:	David Kramer, Paul Yosler, Robert Velasco (CDM), Nick Charnas III (CDM), William Crellin Jr. (CDM), James Goodwin Jr. (RS&H), David Adams (Hillsborough County)

County:	Hillsborough	**Sec/Twp/Rge:**	18/29/20
Total Land Acreage:	50.4	**Project Acreage:**	0.5

Prior On-Site/Off-Site Permit Activity:
- HILLS CO-RESOURCE RECOVERY FACILITY
- PPSA PA 83-19A

Project Overview:
- Modifications to the approved plan include approximately 0.5 ac. Of additional impervious area related to entrance drive improvements.
- A variable outfall control structure is also proposed to replace the previously approved design for the conservation method wet detention ponds on-site.

Environmental Discussion: (Wetlands On-Site, Wetlands on Adjacent Properties, Delineation, T&E species, Easements, Drawdown Issues, Setbacks, Justification, Elimination/Reduction, Permanent/Temporary Impacts, Secondary and Cumulative Impacts, Mitigation Options, SHWL, Upland Habitats, Site Visit, etc.)
- N/A

Site Information Discussion: (SHW Levels, Floodplain, Tailwater Conditions, Adjacent Off-Site Contributing Sources, Receiving Waterbody, etc.)
- Time of concentration methodology should be reviewed for applicability.
- Curve Numbers of 80 for pervious areas and 98 for impervious areas appear conservative.
- A variable weir is proposed as a substitution for the approved fixed structures.
- Specific conditions of the approved Site Certification required that these structures be in place prior to start of construction, however, they have not yet been constructed.
- An operating schedule will be required to show no adverse off-site impacts will result from the variable structures.
- Actual rainfall records may be helpful in developing an operation schedule to determine a worst case scenario.
- Since water quantity routing calculations are permitted to begin at the 36-hour draw down level, this should be the target timeframe for volume recovery.

Water Quantity Discussions: (Basin Description, Storm Event, Pre/Post Volume, Pre/Post Discharge, etc.)
- Demonstrate that the proposed modifications to the project will not cause any adverse impacts.
- Limit the post-development 25-year, 24-hour discharge rate at all outfall locations to the pre-development 25-year, 24-hour discharge rate.
- Demonstrate that the project will not impede the conveyance of contributing off-site flows.
- Provide equivalent compensating storage for all proposed riverine (100-year, 24-hour rainfall event) floodplain impacts.

Water Quality Discussions: (Type of Treatment, Technical Characteristics, Non-presumptive Alternatives, etc.)
- Provide water quality treatment for entire project area and all contributing off-site flows.

Sovereign Lands Discussion: (Determining Location, Correct Form of Authorization, Content of Application, Assessment of Fees, Coordination with FDEP)
- N/A

Operation and Maintenance/Legal Information: (Ownership or Perpetual Control, O&M Entity, O&M Instructions, Homeowner Association Documents, Coastal Zone requirements, etc.)

- N/A

Application Type and Fee Required:

- N/A

Other: (Future Pre-Application Meetings, Fast Track, Submittal Date, Construction Start Date, Required District Permits – WUP, WOD, Well Construction, etc.)

- N/A

Disclaimer: The District ERP pre-application meeting process is a service made available to the public to assist interested parties in preparing for submittal of a permit application. Information shared at pre-application meetings is superseded by the actual permit application submittal. District permit decisions are based upon information submitted during the application process and Rules in effect at the time the application is complete.

ATTACHMENT 5

Time of Concentration Work Sheets

Time of Concentration Worksheets

Time of Concentration (Tc) or Travel Time (Tt)				Basin A1	
Project	Resource Recovery Facility	By	NCIII	Date	11/9/2009
Location	Hillsborough County				

Check one: [ ] Present [X] Developed

Check one: [X] Tc [ ] Tt through subarea

Notes:

Sheet Flow (Applicable to Tc only)

			Segment ID	AB				
1. Surface description (table 3-1)				Roof				
2. Manning's roughness coefficient, n (table 3-1)				--				
3. Flow length, L (total L <= 300 ft)			ft	--				
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*			in	--				
5. Land slope, s			ft / ft	--				
6. Tt = $\frac{0.007\,(n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt		hr	0.10	+		=	0.10
	Compute Tt		min	6.00	+		=	6.00

Shallow concentrated flow

			Segment ID					
7. Surface description (paved or unpaved)				Unpaved		Unpaved		
8. Flow length, L			ft					
9. Watercourse slope, s			ft / ft					
10. Average velocity, V			ft / s	0.000		0.000		
V = $16.1345 * s^{0.5}$	(unpaved)							
V = $20.3282 * s^{0.5}$	(paved)							
11. Tt = $\frac{L}{3600 * V}$	Compute Tt		hr	0.000	+	0.000	=	0.00
			min	0.000	+	0.000	=	0.00

Channel (or swale) flow (assumes full flow, depth)

			Segment ID					
12. Cross sectional flow area, a			ft^2					
13. Wetted perimeter, Pw			ft					
14. Hydraulic radius, r = a / Pw; compute r			ft					
15. Channel slope, s			ft / ft					
16. Manning's roughness coefficient, n								
17. V = $\frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V		ft / s					
18. Flow length, L			ft					
19. Tt = $\frac{L}{3600 * V}$	Compute Tt		hr	0.000	+	0.000		0.00
			min	0.000	+	0.000		0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	0.10
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	6

Time of Concentration (Tc) or Travel Time (Tt)				Basin A2	
Project	Resource Recovery Facility	By	NCIII	Date	11/9/2009
Location	Hillsborough County				
Check one:	[ ] Present	[X] Developed			
Check one:	[X] Tc	[ ] Tt through subarea			

Notes:

Sheet Flow (Applicable to Tc only)

			Segment ID	AB			
1. Surface description (table 3-1)				Dense Grass			
2. Manning's roughness coefficient, n (table 3-1)				0.24			
3. Flow length, L (total L <= 300 ft)			ft	40			
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*			in	5			
5. Land slope, s			ft / ft	0.005			
6. Tt = $\frac{0.007 (n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$		Compute Tt	hr	0.16	+	0.00	= 0.16
		Compute Tt	min	9.55	+	0.00	= 9.55

Shallow concentrated flow

			Segment ID				
7. Surface description (paved or unpaved)				Unpaved		Unpaved	
8. Flow length, L			ft				
9. Watercourse slope, s			ft / ft				
10. Average velocity, V			ft / s	0.000		0.000	
$V = 16.1345 * s^{0.5}$	(unpaved)						
$V = 20.3282 * s^{0.5}$	(paved)						
11. Tt = $\frac{L}{3600 * V}$		Compute Tt	hr	0.000	+	0.000	= 0.00
			min	0.000	+	0.000	= 0.00

Channel (or swale) flow (assumes full flow, depth)

			Segment ID				
12. Cross sectional flow area, a			ft^2				
13. Wetted perimeter, Pw			ft				
14. Hydraulic radius, r = a / Pw; compute r			ft				
15. Channel slope, s			ft / ft				
16. Manning's roughness coefficient, n							
17. V = $\frac{1.49 * r^{2/3} * s^{1/2}}{n}$		Compute V	ft / s				
18. Flow length, L			ft				
19. Tt = $\frac{L}{3600 * V}$		Compute Tt	hr	0.000	+	0.000	0.00
			min	0.000	+	0.000	0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	0.16
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	10

Time of Concentration (Tc) or Travel Time (Tt)				Basin A3
Project	Resource Recovery Facility	By	NCIII	Date 11/9/2009
Location	Hillsborough County			

Check one: [ ] Present [X] Developed

Check one: [X] Tc [ ] Tt through subarea

Notes:

Sheet Flow (Applicable to Tc only)

		Segment ID	AB		BC		
1. Surface description (table 3-1)			Dense Grass		Dense Grass		
2. Manning's roughness coefficient, n (table 3-1)			0.24		0.24		
3. Flow length, L (total L <= 300 ft)		ft	170		130		
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*		in	5		5		
5. Land slope, s		ft / ft	0.140		0.005		
6. Tt = $\frac{0.007 (n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt	hr	0.13	+	0.41	=	0.54
	Compute Tt	min	8.01	+	24.52	=	32.53

Shallow concentrated flow

		Segment ID	CD				
7. Surface description (paved or unpaved)			Unpaved		Unpaved		
8. Flow length, L		ft	180				
9. Watercourse slope, s		ft / ft	0.005				
10. Average velocity, V		ft / s	1.141		0.000		
$V = 16.1345 * s^{0.5}$	(unpaved)						
$V = 20.3282 * s^{0.5}$	(paved)						
11. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.044	+	0.000	=	0.04
		min	2.630	+	0.000	=	2.63

Channel (or swale) flow (assumes full flow, depth)

		Segment ID					
12. Cross sectional flow area, a		ft^2					
13. Wetted perimeter, Pw		ft					
14. Hydraulic radius, r = a / Pw; compute r		ft					
15. Channel slope, s		ft / ft					
16. Manning's roughness coefficient, n							
17. V = $\frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V	ft / s					
18. Flow length, L		ft					
19. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+	0.000		0.00
		min	0.000	+	0.000		0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19	hr	0.59
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	35

Time of Concentration (Tc) or Travel Time (Tt)				Basin A4
Project	Resource Recovery Facility	By	NCIII	Date 11/9/2009
Location	Hillsborough County			
Check one: [ ] Present	[X] Developed			
Check one: [X] Tc	[ ] Tt through subarea			

Notes:

Sheet Flow (Applicable to Tc only)

		Segment ID	AB		
1. Surface description (table 3-1)			Dense Grass		
2. Manning's roughness coefficient, n (table 3-1)			0.24		
3. Flow length, L (total L <= 300 ft)		ft	100		
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*		in	5		
5. Land slope, s		ft / ft	0.020		
6. Tt = $\frac{0.007 (n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt	hr	0.19	+ 0.00	= 0.19
	Compute Tt	min	11.42	+ 0.00	= 11.42

Shallow concentrated flow

		Segment ID			
7. Surface description (paved or unpaved)			Unpaved	Unpaved	
8. Flow length, L		ft			
9. Watercourse slope, s		ft / ft			
10. Average velocity, V		ft / s	0.000	0.000	
V = 16.1345 * $s^{0.5}$	(unpaved)				
V = 20.3282 * $s^{0.5}$	(paved)				
11. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+ 0.000	= 0.00
		min	0.000	+ 0.000	= 0.00

Channel (or swale) flow (assumes full flow, depth)

		Segment ID			
12. Cross sectional flow area, a		ft^2			
13. Wetted perimeter, Pw		ft			
14. Hydraulic radius, r = a / Pw; compute r		ft			
15. Channel slope, s		ft / ft			
16. Manning's roughness coefficient, n					
17. V = $\frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V	ft / s			
18. Flow length, L		ft			
19. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+ 0.000	0.00
		min	0.000	+ 0.000	0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	0.19
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	11

Time of Concentration (Tc) or Travel Time (Tt)				Basin A5	
Project	Resource Recovery Facility	By	NCIII	Date	11/9/2009
Location	Hillsborough County				
Check one: [ ] Present	[X] Developed				
Check one: [X] Tc	[ ] Tt through subarea				

Notes:

Sheet Flow (Applicable to Tc only)

		Segment ID	AB			
1. Surface description (table 3-1)			Dense Grass			
2. Manning's roughness coefficient, n (table 3-1)			0.24			
3. Flow length, L (total L <= 300 ft)		ft	180			
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*		in	5			
5. Land slope, s		ft / ft	0.028			
6. Tt = $\frac{0.007 (n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt	hr	0.27	+ 0.00	=	0.27
	Compute Tt	min	15.97	+ 0.00	=	15.97

Shallow concentrated flow

		Segment ID				
7. Surface description (paved or unpaved)			Unpaved	Unpaved		
8. Flow length, L		ft				
9. Watercourse slope, s		ft / ft				
10. Average velocity, V		ft / s	0.000	0.000		
$V = 16.1345 * s^{0.5}$	(unpaved)					
$V = 20.3282 * s^{0.5}$	(paved)					
11. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+ 0.000	=	0.00
		min	0.000	+ 0.000	=	0.00

Channel (or swale) flow (assumes full flow, depth)

		Segment ID				
12. Cross sectional flow area, a		ft^2				
13. Wetted perimeter, Pw		ft				
14. Hydraulic radius, r = a / Pw; compute r		ft				
15. Channel slope, s		ft / ft				
16. Manning's roughness coefficient, n						
17. $V = \frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V	ft / s				
18. Flow length, L		ft				
19. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+ 0.000		0.00
		min	0.000	+ 0.000		0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	0.27
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	16

Time of Concentration (Tc) or Travel Time (Tt)				Basin A6	
Project	Resource Recovery Facility	By	NCIII	Date	11/9/2009
Location	Hillsborough County				
Check one: [ ] Present	[X] Developed				
Check one: [X] Tc	[ ] Tt through subarea				

Notes:

Sheet Flow (Applicable to Tc only)

		Segment ID	AB		
1. Surface description (table 3-1)			Dense Grass		
2. Manning's roughness coefficient, n (table 3-1)			0.24		
3. Flow length, L (total L <= 300 ft)		ft	300		
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*		in	5		
5. Land slope, s		ft / ft	0.033		
6. Tt = $\frac{0.007 (n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt	hr	0.38	+ 0.00	= 0.38
	Compute Tt	min	22.50	+ 0.00	= 22.50

Shallow concentrated flow

		Segment ID	BC	CD	
7. Surface description (paved or unpaved)			Unpaved	Paved	
8. Flow length, L		ft	150	75	
9. Watercourse slope, s		ft / ft	0.033	0.020	
10. Average velocity, V		ft / s	2.931	2.875	
$V = 16.1345 * s^{0.5}$	(unpaved)				
$V = 20.3282 * s^{0.5}$	(paved)				
11. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.014	+ 0.007	= 0.02
		min	0.853	+ 0.435	= 1.29

Channel (or swale) flow (assumes full flow, depth)

		Segment ID	DE		
12. Cross sectional flow area, a		ft^2	21.500		
13. Wetted perimeter, Pw		ft	25.280		
14. Hydraulic radius, r = a / Pw; compute r		ft	0.850		
15. Channel slope, s		ft / ft	0.070		
16. Manning's roughness coefficient, n			0.24		
17. V = $\frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V	ft / s	1.474		
18. Flow length, L		ft	30		
19. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.006	+ 0.000	0.01
		min	0.339	+ 0.000	0.34

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	0.40
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	24

Time of Concentration (Tc) or Travel Time (Tt)				Basin B1
Project	Resource Recovery Facility	By	NCIII	Date 11/9/2009
Location	Hillsborough County			
Check one: [ ] Present	[X] Developed			
Check one: [X] Tc	[ ] Tt through subarea			

Notes:

Sheet Flow (Applicable to Tc only)

		Segment ID	AB		BC		
1. Surface description (table 3-1)			Dense Grass		Dense Grass		
2. Manning's roughness coefficient, n (table 3-1)			0.24		0.24		
3. Flow length, L (total L <= 300 ft)		ft	180		120		
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*		in	5		5		
5. Land slope, s		ft / ft	0.133		0.005		
6. Tt = $\frac{0.007 (n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt	hr	0.14	+	0.38	=	0.53
	Compute Tt	min	8.56	+	23.00	=	31.56

Shallow concentrated flow

		Segment ID					
7. Surface description (paved or unpaved)			Unpaved		Unpaved		
8. Flow length, L		ft					
9. Watercourse slope, s		ft / ft					
10. Average velocity, V		ft / s	0.000		0.000		
$V = 16.1345 * s^{0.5}$	(unpaved)						
$V = 20.3282 * s^{0.5}$	(paved)						
11. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+	0.000	=	0.00
		min	0.000	+	0.000	=	0.00

Channel (or swale) flow (assumes full flow, depth)

		Segment ID					
12. Cross sectional flow area, a		ft^2					
13. Wetted perimeter, Pw		ft					
14. Hydraulic radius, r = a / Pw; compute r		ft					
15. Channel slope, s		ft / ft					
16. Manning's roughness coefficient, n							
17. $V = \frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V	ft / s					
18. Flow length, L		ft					
19. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+	0.000		0.00
		min	0.000	+	0.000		0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	0.53
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	32

Time of Concentration (Tc) or Travel Time (Tt)				Basin B2
Project	Resource Recovery Facility	By	NCIII	Date 11/9/2009
Location	Hillsborough County			

Check one: [ ] Present [X] Developed

Check one: [X] Tc [ ] Tt through subarea

Notes:

Sheet Flow (Applicable to Tc only)

		Segment ID	AB			
1. Surface description (table 3-1)			Pavement			
2. Manning's roughness coefficient, n (table 3-1)			0.015			
3. Flow length, L (total L <= 300 ft)		ft	300			
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*		in	5			
5. Land slope, s		ft / ft	0.005			
6. Tt = $\frac{0.007 (n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt	hr	0.09	+	0.00	= 0.09
	Compute Tt	min	5.21	+	0.00	= 5.21

Shallow concentrated flow

		Segment ID	BC			
7. Surface description (paved or unpaved)			Paved		Unpaved	
8. Flow length, L		ft	100			
9. Watercourse slope, s		ft / ft	0.005			
10. Average velocity, V		ft / s	1.437		0.000	
V = $16.1345 * s^{0.5}$	(unpaved)					
V = $20.3282 * s^{0.5}$	(paved)					
11. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.019	+	0.000	= 0.02
		min	1.159	+	0.000	= 1.16

Channel (or swale) flow (assumes full flow, depth)

		Segment ID				
12. Cross sectional flow area, a		ft^2				
13. Wetted perimeter, Pw		ft				
14. Hydraulic radius, r = a / Pw; compute r		ft				
15. Channel slope, s		ft / ft				
16. Manning's roughness coefficient, n						
17. V = $\frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V	ft / s				
18. Flow length, L		ft				
19. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+	0.000	0.00
		min	0.000	+	0.000	0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	0.11
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	6

Time of Concentration (Tc) or Travel Time (Tt)				Basin B3
Project	Resource Recovery Facility	By	NCIII	Date 11/9/2009
Location	Hillsborough County			
Check one: [ ] Present	[X] Developed			
Check one: [X] Tc	[ ] Tt through subarea			

Notes:

Sheet Flow (Applicable to Tc only)

			Segment ID	AB				
1. Surface description (table 3-1)				Dense Grass				
2. Manning's roughness coefficient, n (table 3-1)				0.24				
3. Flow length, L (total L <= 300 ft)			ft	300				
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*			in	5				
5. Land slope, s			ft / ft	0.007				
6. Tt = $\frac{0.007\,(n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt		hr	0.70	+	0.00	=	0.70
	Compute Tt		min	41.84	+	0.00	=	41.84

Shallow concentrated flow

			Segment ID	BC				
7. Surface description (paved or unpaved)				Unpaved		Unpaved		
8. Flow length, L			ft	450				
9. Watercourse slope, s			ft / ft	0.009				
10. Average velocity, V			ft / s	1.531		0.000		
V = $16.1345 * s^{0.5}$	(unpaved)							
V = $20.3282 * s^{0.5}$	(paved)							
11. Tt = $\frac{L}{3600 * V}$	Compute Tt		hr	0.082	+	0.000	=	0.08
			min	4.900	+	0.000	=	4.90

Channel (or swale) flow (assumes full flow, depth)

			Segment ID					
12. Cross sectional flow area, a			ft^2					
13. Wetted perimeter, Pw			ft					
14. Hydraulic radius, r = a / Pw; compute r			ft					
15. Channel slope, s			ft / ft					
16. Manning's roughness coefficient, n								
17. V = $\frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V		ft / s					
18. Flow length, L			ft					
19. Tt = $\frac{L}{3600 * V}$	Compute Tt		hr	0.000	+	0.000		0.00
			min	0.000	+	0.000		0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	0.78
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	47

Time of Concentration (Tc) or Travel Time (Tt)				Basin B4
Project	Resource Recovery Facility	By	NCIII	Date 11/9/2009
Location	Hillsborough County			
Check one: [ ] Present	[X] Developed			
Check one: [X] Tc	[ ] Tt through subarea			

Notes:

Sheet Flow (Applicable to Tc only)

		Segment ID	AB			
1. Surface description (table 3-1)			Dense Grass			
2. Manning's roughness coefficient, n (table 3-1)			0.24			
3. Flow length, L (total L <= 300 ft)		ft	200			
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*		in	5			
5. Land slope, s		ft / ft	0.020			
6. Tt = $\frac{0.007 (n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt	hr	0.33	+ 0.00	=	0.33
	Compute Tt	min	19.88	+ 0.00	=	19.88

Shallow concentrated flow

		Segment ID				
7. Surface description (paved or unpaved)			Unpaved	Unpaved		
8. Flow length, L		ft				
9. Watercourse slope, s		ft / ft				
10. Average velocity, V		ft / s	0.000	0.000		
$V = 16.1345 * s^{0.5}$	(unpaved)					
$V = 20.3282 * s^{0.5}$	(paved)					
11. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+ 0.000	=	0.00
		min	0.000	+ 0.000	=	0.00

Channel (or swale) flow (assumes full flow, depth)

		Segment ID				
12. Cross sectional flow area, a		ft^2				
13. Wetted perimeter, Pw		ft				
14. Hydraulic radius, r = a / Pw; compute r		ft				
15. Channel slope, s		ft / ft				
16. Manning's roughness coefficient, n						
17. $V = \frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V	ft / s				
18. Flow length, L		ft				
19. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+ 0.000		0.00
		min	0.000	+ 0.000		0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	0.33
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	20

Time of Concentration (Tc) or Travel Time (Tt)				Basin B5
Project	Resource Recovery Facility	By	NCIII	Date 11/9/2009
Location	Hillsborough County			
Check one:	[ ] Present	[X] Developed		
Check one:	[X] Tc	[ ] Tt through subarea		

Notes:

Sheet Flow (Applicable to Tc only)

			Segment ID	AB				
1. Surface description (table 3-1)				Dense Grass				
2. Manning's roughness coefficient, n (table 3-1)				0.24				
3. Flow length, L (total L <= 300 ft)			ft	50				
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*			in	5				
5. Land slope, s			ft / ft	0.005				
6. Tt = $\frac{0.007 (n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt		hr	0.19	+	0.00	=	0.19
	Compute Tt		min	11.42	+	0.00	=	11.42

Shallow concentrated flow

			Segment ID					
7. Surface description (paved or unpaved)				Unpaved		Unpaved		
8. Flow length, L			ft					
9. Watercourse slope, s			ft / ft					
10. Average velocity, V			ft / s	0.000		0.000		
V = $16.1345 * s^{0.5}$	(unpaved)							
V = $20.3282 * s^{0.5}$	(paved)							
11. Tt = $\frac{L}{3600 * V}$	Compute Tt		hr	0.000	+	0.000	=	0.00
			min	0.000	+	0.000	=	0.00

Channel (or swale) flow (assumes full flow, depth)

			Segment ID					
12. Cross sectional flow area, a			ft^2					
13. Wetted perimeter, Pw			ft					
14. Hydraulic radius, r = a / Pw; compute r			ft					
15. Channel slope, s			ft / ft					
16. Manning's roughness coefficient, n								
17. V = $\frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V		ft / s					
18. Flow length, L			ft					
19. Tt = $\frac{L}{3600 * V}$	Compute Tt		hr	0.000	+	0.000		0.00
			min	0.000	+	0.000		0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	0.19
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	11

Time of Concentration (Tc) or Travel Time (Tt)				Basin C1
Project	Resource Recovery Facility	By	NCIII	Date 11/9/2009
Location	Hillsborough County			
Check one: [ ] Present	[X] Developed			
Check one: [X] Tc	[ ] Tt through subarea			

Notes:

Sheet Flow (Applicable to Tc only)

		Segment ID	AB			
1. Surface description (table 3-1)			Roof			
2. Manning's roughness coefficient, n (table 3-1)			--			
3. Flow length, L (total L <= 300 ft)		ft	--			
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*		in	--			
5. Land slope, s		ft / ft	--			
6. Tt = $\frac{0.007 (n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt	hr	0.10	+	=	0.10
	Compute Tt	min	6.00	+	=	6.00

Shallow concentrated flow

		Segment ID				
7. Surface description (paved or unpaved)			Unpaved	Unpaved		
8. Flow length, L		ft				
9. Watercourse slope, s		ft / ft				
10. Average velocity, V		ft / s	0.000	0.000		
V = 16.1345 * $s^{0.5}$	(unpaved)					
V = 20.3282 * $s^{0.5}$	(paved)					
11. Tt = L / (3600 * V)	Compute Tt	hr	0.000	+ 0.000	=	0.00
		min	0.000	+ 0.000	=	0.00

Channel (or swale) flow (assumes full flow, depth)

		Segment ID			
12. Cross sectional flow area, a		ft^2			
13. Wetted perimeter, Pw		ft			
14. Hydraulic radius, r = a / Pw; compute r		ft			
15. Channel slope, s		ft / ft			
16. Manning's roughness coefficient, n					
17. V = $\frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V	ft / s			
18. Flow length, L		ft			
19. Tt = L / (3600 * V)	Compute Tt	hr	0.000	+ 0.000	0.00
		min	0.000	+ 0.000	0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	0.10
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	6

Time of Concentration (Tc) or Travel Time (Tt)				Basin C2
Project	Resource Recovery Facility	By	NCIII	Date 11/9/2009
Location	Hillsborough County			
Check one: [ ] Present	[X] Developed			
Check one: [X] Tc	[ ] Tt through subarea			

Notes:

Sheet Flow (Applicable to Tc only)

		Segment ID	AB		BC		
1. Surface description (table 3-1)			Pavement		Dense Grass		
2. Manning's roughness coefficient, n (table 3-1)			0.015		0.24		
3. Flow length, L (total L <= 300 ft)		ft	10		150		
4. Two-year 24-hour rainfall, P_2 *(FDOT IDF)*		in	5		5		
5. Land slope, s		ft / ft	0.020		0.013		
6. Tt = $\frac{0.007 (n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt	hr	0.00	+	0.31	=	0.32
	Compute Tt	min	0.20	+	18.76	=	18.96

Shallow concentrated flow

		Segment ID					
7. Surface description (paved or unpaved)			Unpaved		Unpaved		
8. Flow length, L		ft					
9. Watercourse slope, s		ft / ft					
10. Average velocity, V		ft / s	0.000		0.000		
$V = 16.1345 * s^{0.5}$	(unpaved)						
$V = 20.3282 * s^{0.5}$	(paved)						
11. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+	0.000	=	0.00
		min	0.000	+	0.000	=	0.00

Channel (or swale) flow (assumes full flow, depth)

		Segment ID					
12. Cross sectional flow area, a		ft^2					
13. Wetted perimeter, Pw		ft					
14. Hydraulic radius, r = a / Pw; compute r		ft					
15. Channel slope, s		ft / ft					
16. Manning's roughness coefficient, n							
17. $V = \frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V	ft / s					
18. Flow length, L		ft					
19. Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+	0.000		0.00
		min	0.000	+	0.000		0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	0.32
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	19

Time of Concentration (Tc) or Travel Time (Tt)				Basin D1
Project	Resource Recovery Facility	By	NCIII	Date 11/9/2009
Location	Hillsborough County			

Check one: [ ] Present [X] Developed

Check one: [X] Tc [ ] Tt through subarea

Notes:

Sheet Flow (Applicable to Tc only)

			Segment ID	AB				
1.	Surface description (table 3-1)			Dense Grass				
2.	Manning's roughness coefficient, n (table 3-1)			0.24				
3.	Flow length, L (total L <= 300 ft)		ft	300				
4.	Two-year 24-hour rainfall, P_2 *(FDOT IDF)*		in	5				
5.	Land slope, s		ft / ft	0.003				
6.	Tt = $\frac{0.007\,(n*L)^{0.8}}{P_2^{0.5} * s^{0.4}}$	Compute Tt	hr	0.94	+	0.00	=	0.94
		Compute Tt	min	56.52	+	0.00	=	56.52

Shallow concentrated flow

			Segment ID	BC				
7.	Surface description (paved or unpaved)			Unpaved		Unpaved		
8.	Flow length, L		ft	370				
9.	Watercourse slope, s		ft / ft	0.005				
10.	Average velocity, V		ft / s	1.141		0.000		
	V = 16.1345 * $s^{0.5}$	(unpaved)						
	V = 20.3282 * $s^{0.5}$	(paved)						
11.	Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.090	+	0.000	=	0.09
			min	5.405	+	0.000	=	5.41

Channel (or swale) flow (assumes full flow, depth)

			Segment ID					
12.	Cross sectional flow area, a		ft^2					
13.	Wetted perimeter, Pw		ft					
14.	Hydraulic radius, r = a / Pw; compute r		ft					
15.	Channel slope, s		ft / ft					
16.	Manning's roughness coefficient, n							
17.	V = $\frac{1.49 * r^{2/3} * s^{1/2}}{n}$	Compute V	ft / s					
18.	Flow length, L		ft					
19.	Tt = $\frac{L}{3600 * V}$	Compute Tt	hr	0.000	+	0.000		0.00
			min	0.000	+	0.000		0.00

20. Watershed or subarea Tc or Tt (add Tt in steps 6, 11 and 19)	hr	1.03
Minimum Tc per TR-55 is 0.1 hr (6 minutes)	min	62

ATTACHMENT 6

V-Notch Sizing Worksheets

Weir #1

V-Notch Sizing Worksheet

Thin Blue Numbers	= Input data
Bold Red Numbers	**= Answers**

Wet Detention Design Pool - Alternative 3 (Conservation Design)

Taken from SWFWMD Technical Procedure TP/SWP-022

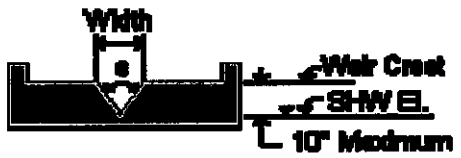
The project site acreage is	20.20	acres
The site coefficient of runoff is	0.61	
The offsite acreage is	0.00	acres
The offsite coefficient of runoff is	0.00	
Rainfall Depth (OFW ?) =	1.0	inches

The required minimum pond surface area at SHW =	**1.01**	acres or
	43,997	square feet
The design pool volume =	**5.34**	acre-feet
or	**232,649**	cubic feet
The required V-notch angle (θ) =	**66**	degrees
The maximum head =	**0.83**	feet or
	10.0	inches

Required littoral zone =	**0.35**	acres or
	15,399	square feet
Required V-notch width =	**1.22**	feet

If the pond is larger than the minimum == acreage required, this will calculate the required dimensions.

SHW =	28.00	NGVD
pond surface area =	3.13	acres
design weir crest =	**28.27**	NGVD
V-notch angle (θ) =	**170**	degrees
V-notch width =	**5.94**	feet
Minimum pond depth below SHW elevation less littoral zone =	**1.67**	feet



1. Treatment Volume (Q)
   a) For project site (Q_p)
      Project acreage = 20.20 Acres

Q_p = 1.68 Ac.-Ft.

b) For offsite (Q_o)

Offsite acreage = 0.00 Acres

Coefficient of offsite runoff = 0.00

Q_o = 0.00 Ac.-Ft.

Therefore treatment volume Q = 1.68 Ac.-Ft.

2. Permanent wet pool volume (V_b)

a) based on 14 day residence volume (V_r)

Composite rational coefficient of runoff = 0.61

V_r = 3.66 Ac.-Ft.

b) A_s 0.667 inches of runoff (V_{min})

V_{min} = 1.12 Ac.-Ft.

V_b is the greater of a or b 3.66 Ac.-Ft.

Therefore the design pool volume = **5.34** Ac.-Ft.

3. Average minimum pond area (A_s)

a) For alternative 1, based on 1.5 ft. treatment volume fluctuation and pond bottom at least one foot below control elevation.

A_s = **1.12** Acres

b) For alternative 2, based on the permanent wet pool volume below the control elevation to a maximum 8 feet in depth.

Weir Crest Elevation = 28.00 Feet

Littoral Shelf Elevation = 28.00 Feet

Pond Bottom Elevation = 26.00 Feet

A_s = **2.81** Acres

c) For alternative 3, based on treatment volume below control elevation of a v-notch weir.

1) Based on 10" maximum head on the V notch

V_w = 0.84 Ac.-Ft.

A_s = 1.01 Acres

2) based on design pool volume (Q & V_b)

A_s = 0.91 Acres

Check Max head (H) = V_w/A_s 11.2 Inches = 0.93 Feet

The correct minimum pond surface area = **1.01** Acres

The V notch angle = **66.4** Degrees

Weir #2

V-Notch Sizing Worksheet

Thin Blue Numbers	= Input data
Bold Red Numbers	**= Answers**

Wet Detention Design Pool - Alternative 3 (Conservation Design)

Taken from SWFWMD Technical Procedure TP/SWP-022

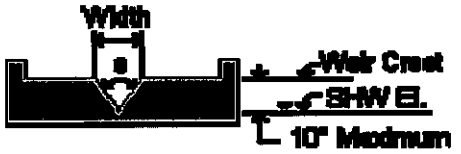
The project site acreage is	14.07	acres
The site coefficient of runoff is	0.61	
The offsite acreage is	0.00	acres
The offsite coefficient of runoff is	0.00	
Rainfall Depth (OFW ?) =	1.0	inches

The required minimum pond surface area at SHW =	**0.70**	acres or
	30,646	square feet
The design pool volume =	**3.72**	acre-feet
or	**162,048**	cubic feet
The required V-notch angle (θ) =	**49**	degrees
The maximum head =	**0.83**	feet or
	10.0	inches

Required littoral zone =	**0.25**	acres or
	10,726	square feet
Required V-notch width =	**0.85**	feet

If the pond is larger than the minimum == acreage required, this will calculate the required dimensions.

SHW =	34.50	NGVD
pond surface area =	3.11	acres
design weir crest =	**34.69**	NGVD
V-notch angle (θ) =	**174**	degrees
V-notch width =	**7.05**	feet
Minimum pond depth below SHW elevation less littoral zone =	**1.13**	feet



1. Treatment Volume (Q)
   a) For project site (Q_p)
      Project acreage = 14.07 Acres

Q_p = 1.17 Ac.-Ft.

b) For offsite (Q_o)

Offsite acreage = 0.00 Acres

Coefficient of offsite runoff = 0.00

Q_o = 0.00 Ac.-Ft.

Therefore treatment volume Q = 1.17 Ac.-Ft.

2. Permanent wet pool volume (V_b)

a) based on 14 day residence volume (V_r)

Composite rational coefficient of runoff = 0.61

V_r = 2.55 Ac.-Ft.

b) A_s 0.667 inches of runoff (V_{min})

V_{min} = 0.78 Ac.-Ft.

V_b is the greater of a or b 2.55 Ac.-Ft.

Therefore the design pool volume = **3.72** Ac.-Ft.

3. Average minimum pond area (A_s)

a) For alternative 1, based on 1.5 ft. treatment volume fluctuation and pond bottom at least one foot below control elevation.

A_s = **0.78** Acres

b) For alternative 2, based on the permanent wet pool volume below the control elevation to a maximum 8 feet in depth.

Weir Crest Elevation = 34.50 Feet

Littoral Shelf Elevation = 34.00 Feet

Pond Bottom Elevation = 32.00 Feet

A_s = **1.42** Acres

c) For alternative 3, based on treatment volume below control elevation of a v-notch weir.

1) Based on 10" maximum head on the V notch

V_w = 0.59 Ac.-Ft.

A_s = 0.70 Acres

2) based on design pool volume (Q & V_b)

A_s = 0.63 Acres

Check Max head (H) = V_w/A_s 11.2 Inches = 0.93 Feet

The correct minimum pond surface area = **0.70** Acres

The V notch angle = **49.0** Degrees

ATTACHMENT 7

ICPR Input and Output Sizing
For Treatment Volume

Weir #1

ICPR Input and Output
Sizing for Treatment Volume

==== Nodes ====

Name: 612325 Base Flow(cfs): 0.000 Init Stage(ft): 21.800
Group: BASE Warn Stage(ft): 25.890
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	21.800
6.00	22.490
9.00	22.910
10.00	23.050
11.00	23.220
12.00	23.510
13.00	24.890
14.00	25.800
14.50	25.890
16.00	25.310
17.00	24.640
18.00	24.140
19.00	23.630
20.00	23.300
24.00	22.960
28.00	22.470
30.00	22.200

Name: P-B Base Flow(cfs): 0.000 Init Stage(ft): 28.510
Group: BASE Warn Stage(ft): 32.000
Type: Stage/Area

Stage(ft)	Area(ac)
26.000	1.5509
28.000	1.7380
30.000	1.9073
32.000	2.1402

==== Weirs ====

Name: Rect_weir From Node: P-B
Group: BASE To Node: 612325
Flow: Both Count: 1
Type: Vertical: Mavis Geometry: Rectangular

Span(in): 24.00
Rise(in): 9999.00
Invert(ft): 28.000
Control Elevation(ft): 28.000
TABLE
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 3.200
Orifice Discharge Coef: 0.600

==== Hydrology Simulations ====

Name:
Filename:

Override Defaults: Yes
Storm Duration(hrs): 0.00
Rainfall File:
Rainfall Amount(in): 0.00

Time(hrs)	Print Inc(min)
30.000	5.00

==== Routing Simulations ====

Name: Treatment_routi Hydrology Sim:
Filename: C:\Projects\Hillsborough County WTE\ICPR\2009_Conditions\Treatment_weir1\Treatment_routi.I32

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

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 120.00
Min Calc Time(sec): 0.1000 Max Calc Time(sec): 0.5000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
120.000	15.000

Group	Run
BASE	Yes

Weir 1 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-B	BASE	0.00	28.510	32.000	77588	0.000	2.331	0.00	0.00
Treatment_routi	P-B	BASE	0.25	28.484	32.000	77492	0.000	2.155	0.00	0.05
Treatment_routi	P-B	BASE	0.50	28.460	32.000	77403	0.000	1.996	0.00	0.09
Treatment_routi	P-B	BASE	0.75	28.438	32.000	77321	0.000	1.852	0.00	0.13
Treatment_routi	P-B	BASE	1.00	28.417	32.000	77244	0.000	1.722	0.00	0.17
Treatment_routi	P-B	BASE	1.25	28.397	32.000	77172	0.000	1.603	0.00	0.20
Treatment_routi	P-B	BASE	1.50	28.379	32.000	77106	0.000	1.495	0.00	0.23
Treatment_routi	P-B	BASE	1.75	28.362	32.000	77044	0.000	1.396	0.00	0.26
Treatment_routi	P-B	BASE	2.00	28.347	32.000	76985	0.000	1.306	0.00	0.29
Treatment_routi	P-B	BASE	2.25	28.332	32.000	76931	0.000	1.223	0.00	0.32
Treatment_routi	P-B	BASE	2.50	28.318	32.000	76880	0.000	1.148	0.00	0.34
Treatment_routi	P-B	BASE	2.75	28.305	32.000	76832	0.000	1.078	0.00	0.36
Treatment_routi	P-B	BASE	3.00	28.293	32.000	76787	0.000	1.014	0.00	0.39
Treatment_routi	P-B	BASE	3.25	28.281	32.000	76744	0.000	0.954	0.00	0.41
Treatment_routi	P-B	BASE	3.50	28.270	32.000	76704	0.000	0.899	0.00	0.42
Treatment_routi	P-B	BASE	3.75	28.260	32.000	76666	0.000	0.849	0.00	0.44
Treatment_routi	P-B	BASE	4.00	28.250	32.000	76630	0.000	0.802	0.00	0.46
Treatment_routi	P-B	BASE	4.25	28.241	32.000	76597	0.000	0.758	0.00	0.48
Treatment_routi	P-B	BASE	4.50	28.233	32.000	76565	0.000	0.718	0.00	0.49
Treatment_routi	P-B	BASE	4.75	28.224	32.000	76534	0.000	0.680	0.00	0.51
Treatment_routi	P-B	BASE	5.00	28.217	32.000	76506	0.000	0.645	0.00	0.52
Treatment_routi	P-B	BASE	5.25	28.209	32.000	76478	0.000	0.612	0.00	0.53
Treatment_routi	P-B	BASE	5.50	28.202	32.000	76453	0.000	0.582	0.00	0.54
Treatment_routi	P-B	BASE	5.75	28.195	32.000	76428	0.000	0.553	0.00	0.56
Treatment_routi	P-B	BASE	6.00	28.189	32.000	76405	0.000	0.526	0.00	0.57
Treatment_routi	P-B	BASE	6.25	28.183	32.000	76382	0.000	0.501	0.00	0.58
Treatment_routi	P-B	BASE	6.50	28.177	32.000	76361	0.000	0.478	0.00	0.59
Treatment_routi	P-B	BASE	6.75	28.172	32.000	76341	0.000	0.456	0.00	0.60
Treatment_routi	P-B	BASE	7.00	28.167	32.000	76321	0.000	0.435	0.00	0.61
Treatment_routi	P-B	BASE	7.25	28.162	32.000	76303	0.000	0.415	0.00	0.62
Treatment_routi	P-B	BASE	7.50	28.157	32.000	76285	0.000	0.397	0.00	0.62
Treatment_routi	P-B	BASE	7.75	28.152	32.000	76268	0.000	0.380	0.00	0.63
Treatment_routi	P-B	BASE	8.00	28.148	32.000	76252	0.000	0.363	0.00	0.64
Treatment_routi	P-B	BASE	8.25	28.144	32.000	76237	0.000	0.348	0.00	0.65
Treatment_routi	P-B	BASE	8.50	28.140	32.000	76222	0.000	0.334	0.00	0.65
Treatment_routi	P-B	BASE	8.75	28.136	32.000	76208	0.000	0.320	0.00	0.66
Treatment_routi	P-B	BASE	9.00	28.132	32.000	76194	0.000	0.307	0.00	0.67
Treatment_routi	P-B	BASE	9.25	28.128	32.000	76181	0.000	0.295	0.00	0.67
Treatment_routi	P-B	BASE	9.50	28.125	32.000	76168	0.000	0.283	0.00	0.68
Treatment_routi	P-B	BASE	9.75	28.122	32.000	76156	0.000	0.272	0.00	0.69
Treatment_routi	P-B	BASE	10.00	28.119	32.000	76145	0.000	0.261	0.00	0.69
Treatment_routi	P-B	BASE	10.25	28.116	32.000	76133	0.000	0.251	0.00	0.70
Treatment_routi	P-B	BASE	10.50	28.113	32.000	76123	0.000	0.242	0.00	0.70
Treatment_routi	P-B	BASE	10.75	28.110	32.000	76112	0.000	0.233	0.00	0.71
Treatment_routi	P-B	BASE	11.00	28.107	32.000	76102	0.000	0.224	0.00	0.71
Treatment_routi	P-B	BASE	11.25	28.105	32.000	76093	0.000	0.216	0.00	0.72
Treatment_routi	P-B	BASE	11.50	28.102	32.000	76083	0.000	0.209	0.00	0.72
Treatment_routi	P-B	BASE	11.75	28.100	32.000	76074	0.000	0.201	0.00	0.72
Treatment_routi	P-B	BASE	12.00	28.097	32.000	76066	0.000	0.194	0.00	0.73
Treatment_routi	P-B	BASE	12.25	28.095	32.000	76058	0.000	0.187	0.00	0.73
Treatment_routi	P-B	BASE	12.50	28.093	32.000	76050	0.000	0.181	0.00	0.74
Treatment_routi	P-B	BASE	12.75	28.091	32.000	76042	0.000	0.175	0.00	0.74
Treatment_routi	P-B	BASE	13.00	28.089	32.000	76034	0.000	0.169	0.00	0.74
Treatment_routi	P-B	BASE	13.25	28.087	32.000	76027	0.000	0.163	0.00	0.75
Treatment_routi	P-B	BASE	13.50	28.085	32.000	76020	0.000	0.158	0.00	0.75
Treatment_routi	P-B	BASE	13.75	28.083	32.000	76013	0.000	0.153	0.00	0.75
Treatment_routi	P-B	BASE	14.00	28.081	32.000	76007	0.000	0.148	0.00	0.76
Treatment_routi	P-B	BASE	14.25	28.079	32.000	76000	0.000	0.143	0.00	0.76
Treatment_routi	P-B	BASE	14.50	28.078	32.000	75994	0.000	0.139	0.00	0.76
Treatment_routi	P-B	BASE	14.75	28.076	32.000	75988	0.000	0.135	0.00	0.77
Treatment_routi	P-B	BASE	15.00	28.075	32.000	75982	0.000	0.130	0.00	0.77
Treatment_routi	P-B	BASE	15.25	28.073	32.000	75977	0.000	0.126	0.00	0.77
Treatment_routi	P-B	BASE	15.50	28.072	32.000	75971	0.000	0.123	0.00	0.77

Weir 1 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-B	BASE	15.75	28.070	32.000	75966	0.000	0.119	0.00	0.78
Treatment_routi	P-B	BASE	16.00	28.069	32.000	75961	0.000	0.115	0.00	0.78
Treatment_routi	P-B	BASE	16.25	28.067	32.000	75956	0.000	0.112	0.00	0.78
Treatment_routi	P-B	BASE	16.50	28.066	32.000	75951	0.000	0.109	0.00	0.78
Treatment_routi	P-B	BASE	16.75	28.065	32.000	75946	0.000	0.106	0.00	0.78
Treatment_routi	P-B	BASE	17.00	28.064	32.000	75942	0.000	0.103	0.00	0.79
Treatment_routi	P-B	BASE	17.25	28.062	32.000	75937	0.000	0.100	0.00	0.79
Treatment_routi	P-B	BASE	17.50	28.061	32.000	75933	0.000	0.097	0.00	0.79
Treatment_routi	P-B	BASE	17.75	28.060	32.000	75929	0.000	0.094	0.00	0.79
Treatment_routi	P-B	BASE	18.00	28.059	32.000	75925	0.000	0.092	0.00	0.79
Treatment_routi	P-B	BASE	18.25	28.058	32.000	75921	0.000	0.089	0.00	0.80
Treatment_routi	P-B	BASE	18.50	28.057	32.000	75917	0.000	0.087	0.00	0.80
Treatment_routi	P-B	BASE	18.75	28.056	32.000	75913	0.000	0.085	0.00	0.80
Treatment_routi	P-B	BASE	19.00	28.055	32.000	75910	0.000	0.082	0.00	0.80
Treatment_routi	P-B	BASE	19.25	28.054	32.000	75906	0.000	0.080	0.00	0.80
Treatment_routi	P-B	BASE	19.50	28.053	32.000	75903	0.000	0.078	0.00	0.81
Treatment_routi	P-B	BASE	19.75	28.052	32.000	75899	0.000	0.076	0.00	0.81
Treatment_routi	P-B	BASE	20.00	28.051	32.000	75896	0.000	0.074	0.00	0.81
Treatment_routi	P-B	BASE	20.25	28.050	32.000	75893	0.000	0.072	0.00	0.81
Treatment_routi	P-B	BASE	20.50	28.049	32.000	75890	0.000	0.070	0.00	0.81
Treatment_routi	P-B	BASE	20.75	28.049	32.000	75887	0.000	0.069	0.00	0.81
Treatment_routi	P-B	BASE	21.00	28.048	32.000	75884	0.000	0.067	0.00	0.81
Treatment_routi	P-B	BASE	21.25	28.047	32.000	75881	0.000	0.065	0.00	0.82
Treatment_routi	P-B	BASE	21.50	28.046	32.000	75878	0.000	0.064	0.00	0.82
Treatment_routi	P-B	BASE	21.75	28.046	32.000	75875	0.000	0.062	0.00	0.82
Treatment_routi	P-B	BASE	22.00	28.045	32.000	75873	0.000	0.061	0.00	0.82
Treatment_routi	P-B	BASE	22.25	28.044	32.000	75870	0.000	0.059	0.00	0.82
Treatment_routi	P-B	BASE	22.50	28.043	32.000	75867	0.000	0.058	0.00	0.82
Treatment_routi	P-B	BASE	22.75	28.043	32.000	75865	0.000	0.057	0.00	0.82
Treatment_routi	P-B	BASE	23.00	28.042	32.000	75862	0.000	0.055	0.00	0.82
Treatment_routi	P-B	BASE	23.25	28.041	32.000	75860	0.000	0.054	0.00	0.83
Treatment_routi	P-B	BASE	23.50	28.041	32.000	75858	0.000	0.053	0.00	0.83
Treatment_routi	P-B	BASE	23.75	28.040	32.000	75855	0.000	0.052	0.00	0.83
Treatment_routi	P-B	BASE	24.00	28.040	32.000	75853	0.000	0.050	0.00	0.83
Treatment_routi	P-B	BASE	24.25	28.039	32.000	75851	0.000	0.049	0.00	0.83
Treatment_routi	P-B	BASE	24.50	28.038	32.000	75849	0.000	0.048	0.00	0.83
Treatment_routi	P-B	BASE	24.75	28.038	32.000	75847	0.000	0.047	0.00	0.83
Treatment_routi	P-B	BASE	25.00	28.037	32.000	75845	0.000	0.046	0.00	0.83
Treatment_routi	P-B	BASE	25.25	28.037	32.000	75843	0.000	0.045	0.00	0.83
Treatment_routi	P-B	BASE	25.50	28.036	32.000	75841	0.000	0.044	0.00	0.83
Treatment_routi	P-B	BASE	25.75	28.036	32.000	75839	0.000	0.043	0.00	0.84
Treatment_routi	P-B	BASE	26.00	28.035	32.000	75837	0.000	0.042	0.00	0.84
Treatment_routi	P-B	BASE	26.25	28.035	32.000	75835	0.000	0.041	0.00	0.84
Treatment_routi	P-B	BASE	26.50	28.034	32.000	75833	0.000	0.040	0.00	0.84
Treatment_routi	P-B	BASE	26.75	28.034	32.000	75832	0.000	0.040	0.00	0.84
Treatment_routi	P-B	BASE	27.00	28.033	32.000	75830	0.000	0.039	0.00	0.84
Treatment_routi	P-B	BASE	27.25	28.033	32.000	75828	0.000	0.038	0.00	0.84
Treatment_routi	P-B	BASE	27.50	28.032	32.000	75827	0.000	0.037	0.00	0.84
Treatment_routi	P-B	BASE	27.75	28.032	32.000	75825	0.000	0.037	0.00	0.84
Treatment_routi	P-B	BASE	28.00	28.031	32.000	75823	0.000	0.036	0.00	0.84
Treatment_routi	P-B	BASE	28.25	28.031	32.000	75822	0.000	0.035	0.00	0.84
Treatment_routi	P-B	BASE	28.50	28.031	32.000	75820	0.000	0.034	0.00	0.84
Treatment_routi	P-B	BASE	28.75	28.030	32.000	75819	0.000	0.034	0.00	0.85
Treatment_routi	P-B	BASE	29.00	28.030	32.000	75817	0.000	0.033	0.00	0.85
Treatment_routi	P-B	BASE	29.25	28.029	32.000	75816	0.000	0.032	0.00	0.85
Treatment_routi	P-B	BASE	29.50	28.029	32.000	75815	0.000	0.032	0.00	0.85
Treatment_routi	P-B	BASE	29.75	28.029	32.000	75813	0.000	0.031	0.00	0.85
Treatment_routi	P-B	BASE	30.00	28.028	32.000	75812	0.000	0.031	0.00	0.85
Treatment_routi	P-B	BASE	30.25	28.028	32.000	75811	0.000	0.030	0.00	0.85
Treatment_routi	P-B	BASE	30.50	28.028	32.000	75809	0.000	0.029	0.00	0.85
Treatment_routi	P-B	BASE	30.75	28.027	32.000	75808	0.000	0.029	0.00	0.85
Treatment_routi	P-B	BASE	31.00	28.027	32.000	75807	0.000	0.028	0.00	0.85
Treatment_routi	P-B	BASE	31.25	28.027	32.000	75805	0.000	0.028	0.00	0.85

Weir 1 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-B	BASE	31.50	28.026	32.000	75804	0.000	0.027	0.00	0.85
Treatment_routi	P-B	BASE	31.75	28.026	32.000	75803	0.000	0.027	0.00	0.85
Treatment_routi	P-B	BASE	32.00	28.026	32.000	75802	0.000	0.026	0.00	0.85
Treatment_routi	P-B	BASE	32.25	28.025	32.000	75801	0.000	0.026	0.00	0.85
Treatment_routi	P-B	BASE	32.50	28.025	32.000	75800	0.000	0.025	0.00	0.85
Treatment_routi	P-B	BASE	32.75	28.025	32.000	75799	0.000	0.025	0.00	0.85
Treatment_routi	P-B	BASE	33.00	28.024	32.000	75797	0.000	0.024	0.00	0.86
Treatment_routi	P-B	BASE	33.25	28.024	32.000	75796	0.000	0.024	0.00	0.86
Treatment_routi	P-B	BASE	33.50	28.024	32.000	75795	0.000	0.024	0.00	0.86
Treatment_routi	P-B	BASE	33.75	28.024	32.000	75794	0.000	0.023	0.00	0.86
Treatment_routi	P-B	BASE	34.00	28.023	32.000	75793	0.000	0.023	0.00	0.86
Treatment_routi	P-B	BASE	34.25	28.023	32.000	75792	0.000	0.022	0.00	0.86
Treatment_routi	P-B	BASE	34.50	28.023	32.000	75791	0.000	0.022	0.00	0.86
Treatment_routi	P-B	BASE	34.75	28.023	32.000	75790	0.000	0.022	0.00	0.86
Treatment_routi	P-B	BASE	35.00	28.022	32.000	75789	0.000	0.021	0.00	0.86
Treatment_routi	P-B	BASE	35.25	28.022	32.000	75789	0.000	0.021	0.00	0.86
Treatment_routi	P-B	BASE	35.50	28.022	32.000	75788	0.000	0.021	0.00	0.86
Treatment_routi	P-B	BASE	35.75	28.022	32.000	75787	0.000	0.020	0.00	0.86
Treatment_routi	P-B	BASE	36.00	28.021	32.000	75786	0.000	0.020	0.00	0.86
Treatment_routi	P-B	BASE	36.25	28.021	32.000	75785	0.000	0.020	0.00	0.86
Treatment_routi	P-B	BASE	36.50	28.021	32.000	75784	0.000	0.019	0.00	0.86
Treatment_routi	P-B	BASE	36.75	28.021	32.000	75783	0.000	0.019	0.00	0.86
Treatment_routi	P-B	BASE	37.00	28.020	32.000	75782	0.000	0.019	0.00	0.86
Treatment_routi	P-B	BASE	37.25	28.020	32.000	75782	0.000	0.018	0.00	0.86
Treatment_routi	P-B	BASE	37.50	28.020	32.000	75781	0.000	0.018	0.00	0.86
Treatment_routi	P-B	BASE	37.75	28.020	32.000	75780	0.000	0.018	0.00	0.86
Treatment_routi	P-B	BASE	38.00	28.020	32.000	75779	0.000	0.017	0.00	0.86
Treatment_routi	P-B	BASE	38.25	28.019	32.000	75779	0.000	0.017	0.00	0.86
Treatment_routi	P-B	BASE	38.50	28.019	32.000	75778	0.000	0.017	0.00	0.86
Treatment_routi	P-B	BASE	38.75	28.019	32.000	75777	0.000	0.017	0.00	0.86
Treatment_routi	P-B	BASE	39.00	28.019	32.000	75776	0.000	0.016	0.00	0.87
Treatment_routi	P-B	BASE	39.25	28.019	32.000	75776	0.000	0.016	0.00	0.87
Treatment_routi	P-B	BASE	39.50	28.018	32.000	75775	0.000	0.016	0.00	0.87
Treatment_routi	P-B	BASE	39.75	28.018	32.000	75774	0.000	0.016	0.00	0.87
Treatment_routi	P-B	BASE	40.00	28.018	32.000	75774	0.000	0.015	0.00	0.87
Treatment_routi	P-B	BASE	40.25	28.018	32.000	75773	0.000	0.015	0.00	0.87
Treatment_routi	P-B	BASE	40.50	28.018	32.000	75772	0.000	0.015	0.00	0.87
Treatment_routi	P-B	BASE	40.75	28.017	32.000	75772	0.000	0.015	0.00	0.87
Treatment_routi	P-B	BASE	41.00	28.017	32.000	75771	0.000	0.015	0.00	0.87
Treatment_routi	P-B	BASE	41.25	28.017	32.000	75770	0.000	0.014	0.00	0.87
Treatment_routi	P-B	BASE	41.50	28.017	32.000	75770	0.000	0.014	0.00	0.87
Treatment_routi	P-B	BASE	41.75	28.017	32.000	75769	0.000	0.014	0.00	0.87
Treatment_routi	P-B	BASE	42.00	28.017	32.000	75768	0.000	0.014	0.00	0.87
Treatment_routi	P-B	BASE	42.25	28.016	32.000	75768	0.000	0.013	0.00	0.87
Treatment_routi	P-B	BASE	42.50	28.016	32.000	75767	0.000	0.013	0.00	0.87
Treatment_routi	P-B	BASE	42.75	28.016	32.000	75767	0.000	0.013	0.00	0.87
Treatment_routi	P-B	BASE	43.00	28.016	32.000	75766	0.000	0.013	0.00	0.87
Treatment_routi	P-B	BASE	43.25	28.016	32.000	75766	0.000	0.013	0.00	0.87
Treatment_routi	P-B	BASE	43.50	28.016	32.000	75765	0.000	0.013	0.00	0.87
Treatment_routi	P-B	BASE	43.75	28.016	32.000	75764	0.000	0.012	0.00	0.87
Treatment_routi	P-B	BASE	44.00	28.015	32.000	75764	0.000	0.012	0.00	0.87
Treatment_routi	P-B	BASE	44.25	28.015	32.000	75763	0.000	0.012	0.00	0.87
Treatment_routi	P-B	BASE	44.50	28.015	32.000	75763	0.000	0.012	0.00	0.87
Treatment_routi	P-B	BASE	44.75	28.015	32.000	75762	0.000	0.012	0.00	0.87
Treatment_routi	P-B	BASE	45.00	28.015	32.000	75762	0.000	0.012	0.00	0.87
Treatment_routi	P-B	BASE	45.25	28.015	32.000	75761	0.000	0.011	0.00	0.87
Treatment_routi	P-B	BASE	45.50	28.015	32.000	75761	0.000	0.011	0.00	0.87
Treatment_routi	P-B	BASE	45.75	28.014	32.000	75760	0.000	0.011	0.00	0.87
Treatment_routi	P-B	BASE	46.00	28.014	32.000	75760	0.000	0.011	0.00	0.87
Treatment_routi	P-B	BASE	46.25	28.014	32.000	75759	0.000	0.011	0.00	0.87
Treatment_routi	P-B	BASE	46.50	28.014	32.000	75759	0.000	0.011	0.00	0.87
Treatment_routi	P-B	BASE	46.75	28.014	32.000	75758	0.000	0.010	0.00	0.87
Treatment_routi	P-B	BASE	47.00	28.014	32.000	75758	0.000	0.010	0.00	0.87

Weir 1 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-B	BASE	47.25	28.014	32.000	75758	0.000	0.010	0.00	0.87
Treatment_routi	P-B	BASE	47.50	28.014	32.000	75757	0.000	0.010	0.00	0.87
Treatment_routi	P-B	BASE	47.75	28.013	32.000	75757	0.000	0.010	0.00	0.87
Treatment_routi	P-B	BASE	48.00	28.013	32.000	75756	0.000	0.010	0.00	0.87
Treatment_routi	P-B	BASE	48.25	28.013	32.000	75756	0.000	0.010	0.00	0.87
Treatment_routi	P-B	BASE	48.50	28.013	32.000	75755	0.000	0.010	0.00	0.87
Treatment_routi	P-B	BASE	48.75	28.013	32.000	75755	0.000	0.009	0.00	0.88
Treatment_routi	P-B	BASE	49.00	28.013	32.000	75755	0.000	0.009	0.00	0.88
Treatment_routi	P-B	BASE	49.25	28.013	32.000	75754	0.000	0.009	0.00	0.88
Treatment_routi	P-B	BASE	49.50	28.013	32.000	75754	0.000	0.009	0.00	0.88
Treatment_routi	P-B	BASE	49.75	28.013	32.000	75753	0.000	0.009	0.00	0.88
Treatment_routi	P-B	BASE	50.00	28.012	32.000	75753	0.000	0.009	0.00	0.88
Treatment_routi	P-B	BASE	50.25	28.012	32.000	75753	0.000	0.009	0.00	0.88
Treatment_routi	P-B	BASE	50.50	28.012	32.000	75752	0.000	0.009	0.00	0.88
Treatment_routi	P-B	BASE	50.75	28.012	32.000	75752	0.000	0.009	0.00	0.88
Treatment_routi	P-B	BASE	51.00	28.012	32.000	75752	0.000	0.008	0.00	0.88
Treatment_routi	P-B	BASE	51.25	28.012	32.000	75751	0.000	0.008	0.00	0.88
Treatment_routi	P-B	BASE	51.50	28.012	32.000	75751	0.000	0.008	0.00	0.88
Treatment_routi	P-B	BASE	51.75	28.012	32.000	75750	0.000	0.008	0.00	0.88
Treatment_routi	P-B	BASE	52.00	28.012	32.000	75750	0.000	0.008	0.00	0.88
Treatment_routi	P-B	BASE	52.25	28.012	32.000	75750	0.000	0.008	0.00	0.88
Treatment_routi	P-B	BASE	52.50	28.011	32.000	75749	0.000	0.008	0.00	0.88
Treatment_routi	P-B	BASE	52.75	28.011	32.000	75749	0.000	0.008	0.00	0.88
Treatment_routi	P-B	BASE	53.00	28.011	32.000	75749	0.000	0.008	0.00	0.88
Treatment_routi	P-B	BASE	53.25	28.011	32.000	75748	0.000	0.008	0.00	0.88
Treatment_routi	P-B	BASE	53.50	28.011	32.000	75748	0.000	0.007	0.00	0.88
Treatment_routi	P-B	BASE	53.75	28.011	32.000	75748	0.000	0.007	0.00	0.88
Treatment_routi	P-B	BASE	54.00	28.011	32.000	75747	0.000	0.007	0.00	0.88
Treatment_routi	P-B	BASE	54.25	28.011	32.000	75747	0.000	0.007	0.00	0.88
Treatment_routi	P-B	BASE	54.50	28.011	32.000	75747	0.000	0.007	0.00	0.88
Treatment_routi	P-B	BASE	54.75	28.011	32.000	75746	0.000	0.007	0.00	0.88
Treatment_routi	P-B	BASE	55.00	28.011	32.000	75746	0.000	0.007	0.00	0.88
Treatment_routi	P-B	BASE	55.25	28.010	32.000	75746	0.000	0.007	0.00	0.88
Treatment_routi	P-B	BASE	55.50	28.010	32.000	75746	0.000	0.007	0.00	0.88
Treatment_routi	P-B	BASE	55.75	28.010	32.000	75745	0.000	0.007	0.00	0.88
Treatment_routi	P-B	BASE	56.00	28.010	32.000	75745	0.000	0.007	0.00	0.88
Treatment_routi	P-B	BASE	56.25	28.010	32.000	75745	0.000	0.007	0.00	0.88
Treatment_routi	P-B	BASE	56.50	28.010	32.000	75744	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	56.75	28.010	32.000	75744	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	57.00	28.010	32.000	75744	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	57.25	28.010	32.000	75744	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	57.50	28.010	32.000	75743	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	57.75	28.010	32.000	75743	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	58.00	28.010	32.000	75743	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	58.25	28.010	32.000	75742	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	58.50	28.009	32.000	75742	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	58.75	28.009	32.000	75742	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	59.00	28.009	32.000	75742	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	59.25	28.009	32.000	75741	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	59.50	28.009	32.000	75741	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	59.75	28.009	32.000	75741	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	60.00	28.009	32.000	75741	0.000	0.006	0.00	0.88
Treatment_routi	P-B	BASE	60.25	28.009	32.000	75740	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	60.50	28.009	32.000	75740	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	60.75	28.009	32.000	75740	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	61.00	28.009	32.000	75740	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	61.25	28.009	32.000	75740	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	61.50	28.009	32.000	75739	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	61.75	28.009	32.000	75739	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	62.00	28.009	32.000	75739	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	62.25	28.009	32.000	75739	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	62.50	28.008	32.000	75738	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	62.75	28.008	32.000	75738	0.000	0.005	0.00	0.88

Weir 1 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-B	BASE	63.00	28.008	32.000	75738	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	63.25	28.008	32.000	75738	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	63.50	28.008	32.000	75738	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	63.75	28.008	32.000	75737	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	64.00	28.008	32.000	75737	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	64.25	28.008	32.000	75737	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	64.50	28.008	32.000	75737	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	64.75	28.008	32.000	75737	0.000	0.005	0.00	0.88
Treatment_routi	P-B	BASE	65.00	28.008	32.000	75736	0.000	0.004	0.00	0.88
Treatment_routi	P-B	BASE	65.25	28.008	32.000	75736	0.000	0.004	0.00	0.88
Treatment_routi	P-B	BASE	65.50	28.008	32.000	75736	0.000	0.004	0.00	0.88
Treatment_routi	P-B	BASE	65.75	28.008	32.000	75736	0.000	0.004	0.00	0.88
Treatment_routi	P-B	BASE	66.00	28.008	32.000	75736	0.000	0.004	0.00	0.88
Treatment_routi	P-B	BASE	66.25	28.008	32.000	75735	0.000	0.004	0.00	0.88
Treatment_routi	P-B	BASE	66.50	28.008	32.000	75735	0.000	0.004	0.00	0.88
Treatment_routi	P-B	BASE	66.75	28.008	32.000	75735	0.000	0.004	0.00	0.88
Treatment_routi	P-B	BASE	67.00	28.007	32.000	75735	0.000	0.004	0.00	0.88
Treatment_routi	P-B	BASE	67.25	28.007	32.000	75735	0.000	0.004	0.00	0.88
Treatment_routi	P-B	BASE	67.50	28.007	32.000	75734	0.000	0.004	0.00	0.88
Treatment_routi	P-B	BASE	67.75	28.007	32.000	75734	0.000	0.004	0.00	0.88
Treatment_routi	P-B	BASE	68.00	28.007	32.000	75734	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	68.25	28.007	32.000	75734	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	68.50	28.007	32.000	75734	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	68.75	28.007	32.000	75734	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	69.00	28.007	32.000	75733	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	69.25	28.007	32.000	75733	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	69.50	28.007	32.000	75733	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	69.75	28.007	32.000	75733	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	70.00	28.007	32.000	75733	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	70.25	28.007	32.000	75733	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	70.50	28.007	32.000	75732	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	70.75	28.007	32.000	75732	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	71.00	28.007	32.000	75732	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	71.25	28.007	32.000	75732	0.000	0.004	0.00	0.89
Treatment_routi	P-B	BASE	71.50	28.007	32.000	75732	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	71.75	28.007	32.000	75732	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	72.00	28.007	32.000	75732	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	72.25	28.007	32.000	75731	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	72.50	28.007	32.000	75731	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	72.75	28.006	32.000	75731	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	73.00	28.006	32.000	75731	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	73.25	28.006	32.000	75731	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	73.50	28.006	32.000	75731	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	73.75	28.006	32.000	75731	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	74.00	28.006	32.000	75730	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	74.25	28.006	32.000	75730	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	74.50	28.006	32.000	75730	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	74.75	28.006	32.000	75730	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	75.00	28.006	32.000	75730	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	75.25	28.006	32.000	75730	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	75.50	28.006	32.000	75730	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	75.75	28.006	32.000	75729	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	76.00	28.006	32.000	75729	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	76.25	28.006	32.000	75729	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	76.50	28.006	32.000	75729	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	76.75	28.006	32.000	75729	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	77.00	28.006	32.000	75729	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	77.25	28.006	32.000	75729	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	77.50	28.006	32.000	75729	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	77.75	28.006	32.000	75728	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	78.00	28.006	32.000	75728	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	78.25	28.006	32.000	75728	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	78.50	28.006	32.000	75728	0.000	0.003	0.00	0.89

Weir 1 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-B	BASE	78.75	28.006	32.000	75728	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	79.00	28.006	32.000	75728	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	79.25	28.006	32.000	75728	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	79.50	28.006	32.000	75728	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	79.75	28.005	32.000	75727	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	80.00	28.005	32.000	75727	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	80.25	28.005	32.000	75727	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	80.50	28.005	32.000	75727	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	80.75	28.005	32.000	75727	0.000	0.003	0.00	0.89
Treatment_routi	P-B	BASE	81.00	28.005	32.000	75727	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	81.25	28.005	32.000	75727	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	81.50	28.005	32.000	75727	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	81.75	28.005	32.000	75727	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	82.00	28.005	32.000	75727	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	82.25	28.005	32.000	75726	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	82.50	28.005	32.000	75726	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	82.75	28.005	32.000	75726	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	83.00	28.005	32.000	75726	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	83.25	28.005	32.000	75726	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	83.50	28.005	32.000	75726	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	83.75	28.005	32.000	75726	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	84.00	28.005	32.000	75726	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	84.25	28.005	32.000	75726	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	84.50	28.005	32.000	75725	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	84.75	28.005	32.000	75725	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	85.00	28.005	32.000	75725	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	85.25	28.005	32.000	75725	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	85.50	28.005	32.000	75725	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	85.75	28.005	32.000	75725	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	86.00	28.005	32.000	75725	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	86.25	28.005	32.000	75725	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	86.50	28.005	32.000	75725	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	86.75	28.005	32.000	75725	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	87.00	28.005	32.000	75725	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	87.25	28.005	32.000	75724	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	87.50	28.005	32.000	75724	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	87.75	28.005	32.000	75724	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	88.00	28.005	32.000	75724	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	88.25	28.005	32.000	75724	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	88.50	28.005	32.000	75724	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	88.75	28.005	32.000	75724	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	89.00	28.004	32.000	75724	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	89.25	28.004	32.000	75724	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	89.50	28.004	32.000	75724	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	89.75	28.004	32.000	75724	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	90.00	28.004	32.000	75724	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	90.25	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	90.50	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	90.75	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	91.00	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	91.25	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	91.50	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	91.75	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	92.00	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	92.25	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	92.50	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	92.75	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	93.00	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	93.25	28.004	32.000	75723	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	93.50	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	93.75	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	94.00	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	94.25	28.004	32.000	75722	0.000	0.002	0.00	0.89

Weir 1 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-B	BASE	94.50	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	94.75	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	95.00	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	95.25	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	95.50	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	95.75	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	96.00	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	96.25	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	96.50	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	96.75	28.004	32.000	75722	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	97.00	28.004	32.000	75721	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	97.25	28.004	32.000	75721	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	97.50	28.004	32.000	75721	0.000	0.002	0.00	0.89
Treatment_routi	P-B	BASE	97.75	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	98.00	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	98.25	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	98.50	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	98.75	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	99.00	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	99.25	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	99.50	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	99.75	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	100.00	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	100.25	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	100.50	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	100.75	28.004	32.000	75721	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	101.00	28.004	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	101.25	28.004	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	101.50	28.004	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	101.75	28.004	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	102.00	28.004	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	102.25	28.003	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	102.50	28.003	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	102.75	28.003	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	103.00	28.003	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	103.25	28.003	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	103.50	28.003	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	103.75	28.003	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	104.00	28.003	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	104.25	28.003	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	104.50	28.003	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	104.75	28.003	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	105.00	28.003	32.000	75720	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	105.25	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	105.50	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	105.75	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	106.00	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	106.25	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	106.50	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	106.75	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	107.00	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	107.25	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	107.50	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	107.75	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	108.00	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	108.25	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	108.50	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	108.75	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	109.00	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	109.25	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	109.50	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	109.75	28.003	32.000	75719	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	110.00	28.003	32.000	75719	0.000	0.001	0.00	0.89

Weir 1 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-B	BASE	110.25	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	110.50	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	110.75	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	111.00	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	111.25	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	111.50	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	111.75	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	112.00	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	112.25	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	112.50	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	112.75	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	113.00	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	113.25	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	113.50	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	113.75	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	114.00	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	114.25	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	114.50	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	114.75	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	115.00	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	115.25	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	115.50	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	115.75	28.003	32.000	75718	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	116.00	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	116.25	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	116.50	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	116.75	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	117.00	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	117.25	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	117.50	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	117.75	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	118.00	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	118.25	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	118.50	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	118.75	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	119.00	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	119.25	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	119.50	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	119.75	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	120.00	28.003	32.000	75717	0.000	0.001	0.00	0.89
Treatment_routi	P-B	BASE	120.00	28.003	32.000	75717	0.000	0.001	0.00	0.89

Weir #2

ICPR Input and Output
Sizing for Treatment Volume

==== Nodes ====

Name: 612160 Base Flow(cfs): 0.000 Init Stage(ft): 27.300
Group: BASE Warn Stage(ft): 32.630
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	27.300
6.00	27.310
9.00	28.310
10.00	28.530
11.00	28.900
12.00	30.230
13.00	31.690
14.00	31.950
15.00	32.210
16.00	32.570
17.00	32.630
20.00	32.080
24.00	31.780
26.00	31.660
28.00	30.280
29.00	28.460
30.00	28.200

Name: P-C Base Flow(cfs): 0.000 Init Stage(ft): 34.890
Group: BASE Warn Stage(ft): 38.000
Type: Stage/Area

Stage(ft)	Area(ac)
32.000	1.3420
34.000	1.5290
36.000	1.8161
38.000	2.0420

==== Weirs ====

Name: Rect_weir From Node: P-C
Group: BASE To Node: 612160
Flow: Both Count: 1
Type: Vertical: Mavis Geometry: Rectangular

Span(in): 24.00
Rise(in): 9999.00
Invert(ft): 34.500
Control Elevation(ft): 34.500
TABLE
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 3.200
Orifice Discharge Coef: 0.600

==== Hydrology Simulations ====

Name:
Filename:

Override Defaults: Yes
Storm Duration(hrs): 0.00
Rainfall File:
Rainfall Amount(in): 0.00

Time(hrs)	Print Inc(min)
30.000	5.00

==== Routing Simulations ====

Name: Treatment_routi Hydrology Sim:
Filename: C:\Projects\Hillsborough County WTE\ICPR\2009_Conditions\Treatment_weir2\Treatment_routi.I32

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

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 120.00
Min Calc Time(sec): 0.1000 Max Calc Time(sec): 0.5000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
120.000	15.000

Group	Run
BASE	Yes

Weir 2 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-C	BASE	0.00	34.890	38.000	72168	0.000	1.559	0.00	0.00
Treatment_routi	P-C	BASE	0.25	34.871	38.000	72051	0.000	1.448	0.00	0.03
Treatment_routi	P-C	BASE	0.50	34.854	38.000	71942	0.000	1.347	0.00	0.06
Treatment_routi	P-C	BASE	0.75	34.838	38.000	71840	0.000	1.255	0.00	0.09
Treatment_routi	P-C	BASE	1.00	34.822	38.000	71745	0.000	1.171	0.00	0.11
Treatment_routi	P-C	BASE	1.25	34.808	38.000	71656	0.000	1.095	0.00	0.14
Treatment_routi	P-C	BASE	1.50	34.795	38.000	71573	0.000	1.024	0.00	0.16
Treatment_routi	P-C	BASE	1.75	34.782	38.000	71495	0.000	0.960	0.00	0.18
Treatment_routi	P-C	BASE	2.00	34.771	38.000	71422	0.000	0.901	0.00	0.20
Treatment_routi	P-C	BASE	2.25	34.760	38.000	71353	0.000	0.846	0.00	0.21
Treatment_routi	P-C	BASE	2.50	34.749	38.000	71288	0.000	0.796	0.00	0.23
Treatment_routi	P-C	BASE	2.75	34.739	38.000	71227	0.000	0.750	0.00	0.25
Treatment_routi	P-C	BASE	3.00	34.730	38.000	71170	0.000	0.707	0.00	0.26
Treatment_routi	P-C	BASE	3.25	34.722	38.000	71115	0.000	0.668	0.00	0.28
Treatment_routi	P-C	BASE	3.50	34.713	38.000	71064	0.000	0.631	0.00	0.29
Treatment_routi	P-C	BASE	3.75	34.706	38.000	71015	0.000	0.597	0.00	0.30
Treatment_routi	P-C	BASE	4.00	34.698	38.000	70969	0.000	0.565	0.00	0.32
Treatment_routi	P-C	BASE	4.25	34.691	38.000	70926	0.000	0.535	0.00	0.33
Treatment_routi	P-C	BASE	4.50	34.685	38.000	70884	0.000	0.508	0.00	0.34
Treatment_routi	P-C	BASE	4.75	34.678	38.000	70845	0.000	0.482	0.00	0.35
Treatment_routi	P-C	BASE	5.00	34.672	38.000	70808	0.000	0.458	0.00	0.36
Treatment_routi	P-C	BASE	5.25	34.667	38.000	70772	0.000	0.436	0.00	0.37
Treatment_routi	P-C	BASE	5.50	34.661	38.000	70738	0.000	0.415	0.00	0.38
Treatment_routi	P-C	BASE	5.75	34.656	38.000	70706	0.000	0.395	0.00	0.38
Treatment_routi	P-C	BASE	6.00	34.651	38.000	70675	0.000	0.376	0.00	0.39
Treatment_routi	P-C	BASE	6.25	34.647	38.000	70646	0.000	0.359	0.00	0.40
Treatment_routi	P-C	BASE	6.50	34.642	38.000	70618	0.000	0.343	0.00	0.41
Treatment_routi	P-C	BASE	6.75	34.638	38.000	70592	0.000	0.327	0.00	0.41
Treatment_routi	P-C	BASE	7.00	34.634	38.000	70566	0.000	0.313	0.00	0.42
Treatment_routi	P-C	BASE	7.25	34.630	38.000	70542	0.000	0.299	0.00	0.43
Treatment_routi	P-C	BASE	7.50	34.626	38.000	70518	0.000	0.287	0.00	0.43
Treatment_routi	P-C	BASE	7.75	34.623	38.000	70496	0.000	0.274	0.00	0.44
Treatment_routi	P-C	BASE	8.00	34.619	38.000	70474	0.000	0.263	0.00	0.44
Treatment_routi	P-C	BASE	8.25	34.616	38.000	70454	0.000	0.252	0.00	0.45
Treatment_routi	P-C	BASE	8.50	34.613	38.000	70434	0.000	0.242	0.00	0.45
Treatment_routi	P-C	BASE	8.75	34.610	38.000	70415	0.000	0.232	0.00	0.46
Treatment_routi	P-C	BASE	9.00	34.607	38.000	70397	0.000	0.223	0.00	0.46
Treatment_routi	P-C	BASE	9.25	34.604	38.000	70379	0.000	0.214	0.00	0.47
Treatment_routi	P-C	BASE	9.50	34.601	38.000	70363	0.000	0.206	0.00	0.47
Treatment_routi	P-C	BASE	9.75	34.599	38.000	70346	0.000	0.198	0.00	0.48
Treatment_routi	P-C	BASE	10.00	34.596	38.000	70331	0.000	0.191	0.00	0.48
Treatment_routi	P-C	BASE	10.25	34.594	38.000	70316	0.000	0.184	0.00	0.48
Treatment_routi	P-C	BASE	10.50	34.591	38.000	70301	0.000	0.177	0.00	0.49
Treatment_routi	P-C	BASE	10.75	34.589	38.000	70288	0.000	0.171	0.00	0.49
Treatment_routi	P-C	BASE	11.00	34.587	38.000	70274	0.000	0.164	0.00	0.50
Treatment_routi	P-C	BASE	11.25	34.585	38.000	70261	0.000	0.159	0.00	0.50
Treatment_routi	P-C	BASE	11.50	34.583	38.000	70249	0.000	0.153	0.00	0.50
Treatment_routi	P-C	BASE	11.75	34.581	38.000	70237	0.000	0.148	0.00	0.51
Treatment_routi	P-C	BASE	12.00	34.579	38.000	70225	0.000	0.143	0.00	0.51
Treatment_routi	P-C	BASE	12.25	34.577	38.000	70214	0.000	0.138	0.00	0.51
Treatment_routi	P-C	BASE	12.50	34.576	38.000	70203	0.000	0.133	0.00	0.51
Treatment_routi	P-C	BASE	12.75	34.574	38.000	70192	0.000	0.129	0.00	0.52
Treatment_routi	P-C	BASE	13.00	34.572	38.000	70182	0.000	0.125	0.00	0.52
Treatment_routi	P-C	BASE	13.25	34.571	38.000	70172	0.000	0.121	0.00	0.52
Treatment_routi	P-C	BASE	13.50	34.569	38.000	70163	0.000	0.117	0.00	0.52
Treatment_routi	P-C	BASE	13.75	34.568	38.000	70154	0.000	0.113	0.00	0.53
Treatment_routi	P-C	BASE	14.00	34.566	38.000	70145	0.000	0.109	0.00	0.53
Treatment_routi	P-C	BASE	14.25	34.565	38.000	70136	0.000	0.106	0.00	0.53
Treatment_routi	P-C	BASE	14.50	34.564	38.000	70128	0.000	0.103	0.00	0.53
Treatment_routi	P-C	BASE	14.75	34.562	38.000	70120	0.000	0.100	0.00	0.54
Treatment_routi	P-C	BASE	15.00	34.561	38.000	70112	0.000	0.097	0.00	0.54
Treatment_routi	P-C	BASE	15.25	34.560	38.000	70104	0.000	0.094	0.00	0.54
Treatment_routi	P-C	BASE	15.50	34.559	38.000	70097	0.000	0.091	0.00	0.54

Weir 2 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-C	BASE	15.75	34.558	38.000	70090	0.000	0.088	0.00	0.54
Treatment_routi	P-C	BASE	16.00	34.556	38.000	70083	0.000	0.086	0.00	0.54
Treatment_routi	P-C	BASE	16.25	34.555	38.000	70076	0.000	0.083	0.00	0.55
Treatment_routi	P-C	BASE	16.50	34.554	38.000	70069	0.000	0.081	0.00	0.55
Treatment_routi	P-C	BASE	16.75	34.553	38.000	70063	0.000	0.079	0.00	0.55
Treatment_routi	P-C	BASE	17.00	34.552	38.000	70057	0.000	0.076	0.00	0.55
Treatment_routi	P-C	BASE	17.25	34.551	38.000	70050	0.000	0.074	0.00	0.55
Treatment_routi	P-C	BASE	17.50	34.550	38.000	70045	0.000	0.072	0.00	0.55
Treatment_routi	P-C	BASE	17.75	34.549	38.000	70039	0.000	0.070	0.00	0.56
Treatment_routi	P-C	BASE	18.00	34.549	38.000	70033	0.000	0.068	0.00	0.56
Treatment_routi	P-C	BASE	18.25	34.548	38.000	70028	0.000	0.067	0.00	0.56
Treatment_routi	P-C	BASE	18.50	34.547	38.000	70023	0.000	0.065	0.00	0.56
Treatment_routi	P-C	BASE	18.75	34.546	38.000	70017	0.000	0.063	0.00	0.56
Treatment_routi	P-C	BASE	19.00	34.545	38.000	70012	0.000	0.062	0.00	0.56
Treatment_routi	P-C	BASE	19.25	34.544	38.000	70008	0.000	0.060	0.00	0.56
Treatment_routi	P-C	BASE	19.50	34.544	38.000	70003	0.000	0.058	0.00	0.57
Treatment_routi	P-C	BASE	19.75	34.543	38.000	69998	0.000	0.057	0.00	0.57
Treatment_routi	P-C	BASE	20.00	34.542	38.000	69994	0.000	0.055	0.00	0.57
Treatment_routi	P-C	BASE	20.25	34.541	38.000	69989	0.000	0.054	0.00	0.57
Treatment_routi	P-C	BASE	20.50	34.541	38.000	69985	0.000	0.053	0.00	0.57
Treatment_routi	P-C	BASE	20.75	34.540	38.000	69981	0.000	0.051	0.00	0.57
Treatment_routi	P-C	BASE	21.00	34.539	38.000	69977	0.000	0.050	0.00	0.57
Treatment_routi	P-C	BASE	21.25	34.539	38.000	69973	0.000	0.049	0.00	0.57
Treatment_routi	P-C	BASE	21.50	34.538	38.000	69969	0.000	0.048	0.00	0.57
Treatment_routi	P-C	BASE	21.75	34.538	38.000	69965	0.000	0.047	0.00	0.58
Treatment_routi	P-C	BASE	22.00	34.537	38.000	69961	0.000	0.046	0.00	0.58
Treatment_routi	P-C	BASE	22.25	34.536	38.000	69958	0.000	0.045	0.00	0.58
Treatment_routi	P-C	BASE	22.50	34.536	38.000	69954	0.000	0.043	0.00	0.58
Treatment_routi	P-C	BASE	22.75	34.535	38.000	69951	0.000	0.042	0.00	0.58
Treatment_routi	P-C	BASE	23.00	34.535	38.000	69947	0.000	0.042	0.00	0.58
Treatment_routi	P-C	BASE	23.25	34.534	38.000	69944	0.000	0.041	0.00	0.58
Treatment_routi	P-C	BASE	23.50	34.534	38.000	69941	0.000	0.040	0.00	0.58
Treatment_routi	P-C	BASE	23.75	34.533	38.000	69938	0.000	0.039	0.00	0.58
Treatment_routi	P-C	BASE	24.00	34.533	38.000	69934	0.000	0.038	0.00	0.58
Treatment_routi	P-C	BASE	24.25	34.532	38.000	69931	0.000	0.037	0.00	0.58
Treatment_routi	P-C	BASE	24.50	34.532	38.000	69929	0.000	0.036	0.00	0.58
Treatment_routi	P-C	BASE	24.75	34.531	38.000	69926	0.000	0.035	0.00	0.59
Treatment_routi	P-C	BASE	25.00	34.531	38.000	69923	0.000	0.035	0.00	0.59
Treatment_routi	P-C	BASE	25.25	34.530	38.000	69920	0.000	0.034	0.00	0.59
Treatment_routi	P-C	BASE	25.50	34.530	38.000	69917	0.000	0.033	0.00	0.59
Treatment_routi	P-C	BASE	25.75	34.530	38.000	69915	0.000	0.033	0.00	0.59
Treatment_routi	P-C	BASE	26.00	34.529	38.000	69912	0.000	0.032	0.00	0.59
Treatment_routi	P-C	BASE	26.25	34.529	38.000	69910	0.000	0.031	0.00	0.59
Treatment_routi	P-C	BASE	26.50	34.528	38.000	69907	0.000	0.031	0.00	0.59
Treatment_routi	P-C	BASE	26.75	34.528	38.000	69905	0.000	0.030	0.00	0.59
Treatment_routi	P-C	BASE	27.00	34.528	38.000	69902	0.000	0.029	0.00	0.59
Treatment_routi	P-C	BASE	27.25	34.527	38.000	69900	0.000	0.029	0.00	0.59
Treatment_routi	P-C	BASE	27.50	34.527	38.000	69898	0.000	0.028	0.00	0.59
Treatment_routi	P-C	BASE	27.75	34.526	38.000	69895	0.000	0.028	0.00	0.59
Treatment_routi	P-C	BASE	28.00	34.526	38.000	69893	0.000	0.027	0.00	0.59
Treatment_routi	P-C	BASE	28.25	34.526	38.000	69891	0.000	0.027	0.00	0.59
Treatment_routi	P-C	BASE	28.50	34.525	38.000	69889	0.000	0.026	0.00	0.59
Treatment_routi	P-C	BASE	28.75	34.525	38.000	69887	0.000	0.025	0.00	0.60
Treatment_routi	P-C	BASE	29.00	34.525	38.000	69885	0.000	0.025	0.00	0.60
Treatment_routi	P-C	BASE	29.25	34.524	38.000	69883	0.000	0.025	0.00	0.60
Treatment_routi	P-C	BASE	29.50	34.524	38.000	69881	0.000	0.024	0.00	0.60
Treatment_routi	P-C	BASE	29.75	34.524	38.000	69879	0.000	0.024	0.00	0.60
Treatment_routi	P-C	BASE	30.00	34.524	38.000	69877	0.000	0.023	0.00	0.60
Treatment_routi	P-C	BASE	30.25	34.523	38.000	69875	0.000	0.023	0.00	0.60
Treatment_routi	P-C	BASE	30.50	34.523	38.000	69873	0.000	0.022	0.00	0.60
Treatment_routi	P-C	BASE	30.75	34.523	38.000	69872	0.000	0.022	0.00	0.60
Treatment_routi	P-C	BASE	31.00	34.522	38.000	69870	0.000	0.021	0.00	0.60
Treatment_routi	P-C	BASE	31.25	34.522	38.000	69868	0.000	0.021	0.00	0.60

Weir 2 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-C	BASE	31.50	34.522	38.000	69866	0.000	0.021	0.00	0.60
Treatment_routi	P-C	BASE	31.75	34.522	38.000	69865	0.000	0.020	0.00	0.60
Treatment_routi	P-C	BASE	32.00	34.521	38.000	69863	0.000	0.020	0.00	0.60
Treatment_routi	P-C	BASE	32.25	34.521	38.000	69862	0.000	0.020	0.00	0.60
Treatment_routi	P-C	BASE	32.50	34.521	38.000	69860	0.000	0.019	0.00	0.60
Treatment_routi	P-C	BASE	32.75	34.521	38.000	69859	0.000	0.019	0.00	0.60
Treatment_routi	P-C	BASE	33.00	34.520	38.000	69857	0.000	0.019	0.00	0.60
Treatment_routi	P-C	BASE	33.25	34.520	38.000	69856	0.000	0.018	0.00	0.60
Treatment_routi	P-C	BASE	33.50	34.520	38.000	69854	0.000	0.018	0.00	0.60
Treatment_routi	P-C	BASE	33.75	34.520	38.000	69853	0.000	0.018	0.00	0.60
Treatment_routi	P-C	BASE	34.00	34.519	38.000	69851	0.000	0.017	0.00	0.60
Treatment_routi	P-C	BASE	34.25	34.519	38.000	69850	0.000	0.017	0.00	0.60
Treatment_routi	P-C	BASE	34.50	34.519	38.000	69848	0.000	0.017	0.00	0.60
Treatment_routi	P-C	BASE	34.75	34.519	38.000	69847	0.000	0.016	0.00	0.61
Treatment_routi	P-C	BASE	35.00	34.519	38.000	69846	0.000	0.016	0.00	0.61
Treatment_routi	P-C	BASE	35.25	34.518	38.000	69845	0.000	0.016	0.00	0.61
Treatment_routi	P-C	BASE	35.50	34.518	38.000	69843	0.000	0.016	0.00	0.61
Treatment_routi	P-C	BASE	35.75	34.518	38.000	69842	0.000	0.015	0.00	0.61
Treatment_routi	P-C	BASE	36.00	34.518	38.000	69841	0.000	0.015	0.00	0.61
Treatment_routi	P-C	BASE	36.25	34.518	38.000	69840	0.000	0.015	0.00	0.61
Treatment_routi	P-C	BASE	36.50	34.517	38.000	69838	0.000	0.015	0.00	0.61
Treatment_routi	P-C	BASE	36.75	34.517	38.000	69837	0.000	0.014	0.00	0.61
Treatment_routi	P-C	BASE	37.00	34.517	38.000	69836	0.000	0.014	0.00	0.61
Treatment_routi	P-C	BASE	37.25	34.517	38.000	69835	0.000	0.014	0.00	0.61
Treatment_routi	P-C	BASE	37.50	34.517	38.000	69834	0.000	0.014	0.00	0.61
Treatment_routi	P-C	BASE	37.75	34.516	38.000	69833	0.000	0.014	0.00	0.61
Treatment_routi	P-C	BASE	38.00	34.516	38.000	69832	0.000	0.013	0.00	0.61
Treatment_routi	P-C	BASE	38.25	34.516	38.000	69831	0.000	0.013	0.00	0.61
Treatment_routi	P-C	BASE	38.50	34.516	38.000	69830	0.000	0.013	0.00	0.61
Treatment_routi	P-C	BASE	38.75	34.516	38.000	69828	0.000	0.013	0.00	0.61
Treatment_routi	P-C	BASE	39.00	34.516	38.000	69827	0.000	0.013	0.00	0.61
Treatment_routi	P-C	BASE	39.25	34.515	38.000	69826	0.000	0.012	0.00	0.61
Treatment_routi	P-C	BASE	39.50	34.515	38.000	69825	0.000	0.012	0.00	0.61
Treatment_routi	P-C	BASE	39.75	34.515	38.000	69825	0.000	0.012	0.00	0.61
Treatment_routi	P-C	BASE	40.00	34.515	38.000	69824	0.000	0.012	0.00	0.61
Treatment_routi	P-C	BASE	40.25	34.515	38.000	69823	0.000	0.012	0.00	0.61
Treatment_routi	P-C	BASE	40.50	34.515	38.000	69822	0.000	0.011	0.00	0.61
Treatment_routi	P-C	BASE	40.75	34.515	38.000	69821	0.000	0.011	0.00	0.61
Treatment_routi	P-C	BASE	41.00	34.514	38.000	69820	0.000	0.011	0.00	0.61
Treatment_routi	P-C	BASE	41.25	34.514	38.000	69819	0.000	0.011	0.00	0.61
Treatment_routi	P-C	BASE	41.50	34.514	38.000	69818	0.000	0.011	0.00	0.61
Treatment_routi	P-C	BASE	41.75	34.514	38.000	69817	0.000	0.011	0.00	0.61
Treatment_routi	P-C	BASE	42.00	34.514	38.000	69816	0.000	0.010	0.00	0.61
Treatment_routi	P-C	BASE	42.25	34.514	38.000	69816	0.000	0.010	0.00	0.61
Treatment_routi	P-C	BASE	42.50	34.514	38.000	69815	0.000	0.010	0.00	0.61
Treatment_routi	P-C	BASE	42.75	34.513	38.000	69814	0.000	0.010	0.00	0.61
Treatment_routi	P-C	BASE	43.00	34.513	38.000	69813	0.000	0.010	0.00	0.61
Treatment_routi	P-C	BASE	43.25	34.513	38.000	69812	0.000	0.010	0.00	0.61
Treatment_routi	P-C	BASE	43.50	34.513	38.000	69812	0.000	0.010	0.00	0.61
Treatment_routi	P-C	BASE	43.75	34.513	38.000	69811	0.000	0.009	0.00	0.61
Treatment_routi	P-C	BASE	44.00	34.513	38.000	69810	0.000	0.009	0.00	0.61
Treatment_routi	P-C	BASE	44.25	34.513	38.000	69809	0.000	0.009	0.00	0.62
Treatment_routi	P-C	BASE	44.50	34.513	38.000	69809	0.000	0.009	0.00	0.62
Treatment_routi	P-C	BASE	44.75	34.512	38.000	69808	0.000	0.009	0.00	0.62
Treatment_routi	P-C	BASE	45.00	34.512	38.000	69807	0.000	0.009	0.00	0.62
Treatment_routi	P-C	BASE	45.25	34.512	38.000	69806	0.000	0.009	0.00	0.62
Treatment_routi	P-C	BASE	45.50	34.512	38.000	69806	0.000	0.009	0.00	0.62
Treatment_routi	P-C	BASE	45.75	34.512	38.000	69805	0.000	0.008	0.00	0.62
Treatment_routi	P-C	BASE	46.00	34.512	38.000	69804	0.000	0.008	0.00	0.62
Treatment_routi	P-C	BASE	46.25	34.512	38.000	69804	0.000	0.008	0.00	0.62
Treatment_routi	P-C	BASE	46.50	34.512	38.000	69803	0.000	0.008	0.00	0.62
Treatment_routi	P-C	BASE	46.75	34.512	38.000	69802	0.000	0.008	0.00	0.62
Treatment_routi	P-C	BASE	47.00	34.512	38.000	69802	0.000	0.008	0.00	0.62

Weir 2 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-C	BASE	47.25	34.511	38.000	69801	0.000	0.008	0.00	0.62
Treatment_routi	P-C	BASE	47.50	34.511	38.000	69800	0.000	0.008	0.00	0.62
Treatment_routi	P-C	BASE	47.75	34.511	38.000	69800	0.000	0.008	0.00	0.62
Treatment_routi	P-C	BASE	48.00	34.511	38.000	69799	0.000	0.008	0.00	0.62
Treatment_routi	P-C	BASE	48.25	34.511	38.000	69799	0.000	0.007	0.00	0.62
Treatment_routi	P-C	BASE	48.50	34.511	38.000	69798	0.000	0.007	0.00	0.62
Treatment_routi	P-C	BASE	48.75	34.511	38.000	69797	0.000	0.007	0.00	0.62
Treatment_routi	P-C	BASE	49.00	34.511	38.000	69797	0.000	0.007	0.00	0.62
Treatment_routi	P-C	BASE	49.25	34.511	38.000	69796	0.000	0.007	0.00	0.62
Treatment_routi	P-C	BASE	49.50	34.511	38.000	69796	0.000	0.007	0.00	0.62
Treatment_routi	P-C	BASE	49.75	34.510	38.000	69795	0.000	0.007	0.00	0.62
Treatment_routi	P-C	BASE	50.00	34.510	38.000	69795	0.000	0.007	0.00	0.62
Treatment_routi	P-C	BASE	50.25	34.510	38.000	69794	0.000	0.007	0.00	0.62
Treatment_routi	P-C	BASE	50.50	34.510	38.000	69794	0.000	0.007	0.00	0.62
Treatment_routi	P-C	BASE	50.75	34.510	38.000	69793	0.000	0.007	0.00	0.62
Treatment_routi	P-C	BASE	51.00	34.510	38.000	69793	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	51.25	34.510	38.000	69792	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	51.50	34.510	38.000	69792	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	51.75	34.510	38.000	69791	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	52.00	34.510	38.000	69791	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	52.25	34.510	38.000	69790	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	52.50	34.510	38.000	69790	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	52.75	34.509	38.000	69789	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	53.00	34.509	38.000	69789	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	53.25	34.509	38.000	69788	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	53.50	34.509	38.000	69788	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	53.75	34.509	38.000	69787	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	54.00	34.509	38.000	69787	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	54.25	34.509	38.000	69786	0.000	0.006	0.00	0.62
Treatment_routi	P-C	BASE	54.50	34.509	38.000	69786	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	54.75	34.509	38.000	69785	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	55.00	34.509	38.000	69785	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	55.25	34.509	38.000	69785	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	55.50	34.509	38.000	69784	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	55.75	34.509	38.000	69784	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	56.00	34.509	38.000	69783	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	56.25	34.508	38.000	69783	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	56.50	34.508	38.000	69783	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	56.75	34.508	38.000	69782	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	57.00	34.508	38.000	69782	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	57.25	34.508	38.000	69781	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	57.50	34.508	38.000	69781	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	57.75	34.508	38.000	69781	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	58.00	34.508	38.000	69780	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	58.25	34.508	38.000	69780	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	58.50	34.508	38.000	69779	0.000	0.005	0.00	0.62
Treatment_routi	P-C	BASE	58.75	34.508	38.000	69779	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	59.00	34.508	38.000	69779	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	59.25	34.508	38.000	69778	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	59.50	34.508	38.000	69778	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	59.75	34.508	38.000	69778	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	60.00	34.508	38.000	69777	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	60.25	34.508	38.000	69777	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	60.50	34.507	38.000	69777	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	60.75	34.507	38.000	69776	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	61.00	34.507	38.000	69776	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	61.25	34.507	38.000	69776	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	61.50	34.507	38.000	69775	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	61.75	34.507	38.000	69775	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	62.00	34.507	38.000	69775	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	62.25	34.507	38.000	69774	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	62.50	34.507	38.000	69774	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	62.75	34.507	38.000	69774	0.000	0.004	0.00	0.62

Weir 2 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-C	BASE	63.00	34.507	38.000	69773	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	63.25	34.507	38.000	69773	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	63.50	34.507	38.000	69773	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	63.75	34.507	38.000	69773	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	64.00	34.507	38.000	69772	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	64.25	34.507	38.000	69772	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	64.50	34.507	38.000	69772	0.000	0.004	0.00	0.62
Treatment_routi	P-C	BASE	64.75	34.507	38.000	69771	0.000	0.003	0.00	0.62
Treatment_routi	P-C	BASE	65.00	34.507	38.000	69771	0.000	0.003	0.00	0.62
Treatment_routi	P-C	BASE	65.25	34.507	38.000	69771	0.000	0.003	0.00	0.62
Treatment_routi	P-C	BASE	65.50	34.507	38.000	69771	0.000	0.003	0.00	0.62
Treatment_routi	P-C	BASE	65.75	34.506	38.000	69770	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	66.00	34.506	38.000	69770	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	66.25	34.506	38.000	69770	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	66.50	34.506	38.000	69770	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	66.75	34.506	38.000	69769	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	67.00	34.506	38.000	69769	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	67.25	34.506	38.000	69769	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	67.50	34.506	38.000	69769	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	67.75	34.506	38.000	69768	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	68.00	34.506	38.000	69768	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	68.25	34.506	38.000	69768	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	68.50	34.506	38.000	69768	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	68.75	34.506	38.000	69767	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	69.00	34.506	38.000	69767	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	69.25	34.506	38.000	69767	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	69.50	34.506	38.000	69767	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	69.75	34.506	38.000	69766	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	70.00	34.506	38.000	69766	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	70.25	34.506	38.000	69766	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	70.50	34.506	38.000	69766	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	70.75	34.506	38.000	69765	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	71.00	34.506	38.000	69765	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	71.25	34.506	38.000	69765	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	71.50	34.506	38.000	69765	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	71.75	34.506	38.000	69765	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	72.00	34.506	38.000	69764	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	72.25	34.505	38.000	69764	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	72.50	34.505	38.000	69764	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	72.75	34.505	38.000	69764	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	73.00	34.505	38.000	69764	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	73.25	34.505	38.000	69763	0.000	0.003	0.00	0.63
Treatment_routi	P-C	BASE	73.50	34.505	38.000	69763	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	73.75	34.505	38.000	69763	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	74.00	34.505	38.000	69763	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	74.25	34.505	38.000	69763	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	74.50	34.505	38.000	69762	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	74.75	34.505	38.000	69762	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	75.00	34.505	38.000	69762	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	75.25	34.505	38.000	69762	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	75.50	34.505	38.000	69762	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	75.75	34.505	38.000	69761	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	76.00	34.505	38.000	69761	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	76.25	34.505	38.000	69761	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	76.50	34.505	38.000	69761	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	76.75	34.505	38.000	69761	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	77.00	34.505	38.000	69760	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	77.25	34.505	38.000	69760	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	77.50	34.505	38.000	69760	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	77.75	34.505	38.000	69760	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	78.00	34.505	38.000	69760	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	78.25	34.505	38.000	69760	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	78.50	34.505	38.000	69759	0.000	0.002	0.00	0.63

Weir 2 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-C	BASE	78.75	34.505	38.000	69759	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	79.00	34.505	38.000	69759	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	79.25	34.505	38.000	69759	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	79.50	34.505	38.000	69759	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	79.75	34.505	38.000	69759	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	80.00	34.505	38.000	69758	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	80.25	34.505	38.000	69758	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	80.50	34.505	38.000	69758	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	80.75	34.505	38.000	69758	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	81.00	34.504	38.000	69758	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	81.25	34.504	38.000	69758	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	81.50	34.504	38.000	69757	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	81.75	34.504	38.000	69757	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	82.00	34.504	38.000	69757	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	82.25	34.504	38.000	69757	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	82.50	34.504	38.000	69757	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	82.75	34.504	38.000	69757	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	83.00	34.504	38.000	69757	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	83.25	34.504	38.000	69756	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	83.50	34.504	38.000	69756	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	83.75	34.504	38.000	69756	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	84.00	34.504	38.000	69756	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	84.25	34.504	38.000	69756	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	84.50	34.504	38.000	69756	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	84.75	34.504	38.000	69756	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	85.00	34.504	38.000	69755	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	85.25	34.504	38.000	69755	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	85.50	34.504	38.000	69755	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	85.75	34.504	38.000	69755	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	86.00	34.504	38.000	69755	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	86.25	34.504	38.000	69755	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	86.50	34.504	38.000	69755	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	86.75	34.504	38.000	69755	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	87.00	34.504	38.000	69754	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	87.25	34.504	38.000	69754	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	87.50	34.504	38.000	69754	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	87.75	34.504	38.000	69754	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	88.00	34.504	38.000	69754	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	88.25	34.504	38.000	69754	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	88.50	34.504	38.000	69754	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	88.75	34.504	38.000	69754	0.000	0.002	0.00	0.63
Treatment_routi	P-C	BASE	89.00	34.504	38.000	69753	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	89.25	34.504	38.000	69753	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	89.50	34.504	38.000	69753	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	89.75	34.504	38.000	69753	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	90.00	34.504	38.000	69753	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	90.25	34.504	38.000	69753	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	90.50	34.504	38.000	69753	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	90.75	34.504	38.000	69753	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	91.00	34.504	38.000	69752	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	91.25	34.504	38.000	69752	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	91.50	34.504	38.000	69752	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	91.75	34.504	38.000	69752	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	92.00	34.504	38.000	69752	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	92.25	34.504	38.000	69752	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	92.50	34.504	38.000	69752	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	92.75	34.504	38.000	69752	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	93.00	34.503	38.000	69752	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	93.25	34.503	38.000	69752	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	93.50	34.503	38.000	69751	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	93.75	34.503	38.000	69751	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	94.00	34.503	38.000	69751	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	94.25	34.503	38.000	69751	0.000	0.001	0.00	0.63

Weir 2 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-C	BASE	94.50	34.503	38.000	69751	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	94.75	34.503	38.000	69751	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	95.00	34.503	38.000	69751	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	95.25	34.503	38.000	69751	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	95.50	34.503	38.000	69751	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	95.75	34.503	38.000	69750	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	96.00	34.503	38.000	69750	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	96.25	34.503	38.000	69750	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	96.50	34.503	38.000	69750	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	96.75	34.503	38.000	69750	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	97.00	34.503	38.000	69750	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	97.25	34.503	38.000	69750	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	97.50	34.503	38.000	69750	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	97.75	34.503	38.000	69750	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	98.00	34.503	38.000	69750	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	98.25	34.503	38.000	69750	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	98.50	34.503	38.000	69749	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	98.75	34.503	38.000	69749	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	99.00	34.503	38.000	69749	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	99.25	34.503	38.000	69749	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	99.50	34.503	38.000	69749	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	99.75	34.503	38.000	69749	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	100.00	34.503	38.000	69749	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	100.25	34.503	38.000	69749	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	100.50	34.503	38.000	69749	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	100.75	34.503	38.000	69749	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	101.00	34.503	38.000	69749	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	101.25	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	101.50	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	101.75	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	102.00	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	102.25	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	102.50	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	102.75	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	103.00	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	103.25	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	103.50	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	103.75	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	104.00	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	104.25	34.503	38.000	69748	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	104.50	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	104.75	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	105.00	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	105.25	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	105.50	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	105.75	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	106.00	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	106.25	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	106.50	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	106.75	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	107.00	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	107.25	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	107.50	34.503	38.000	69747	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	107.75	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	108.00	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	108.25	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	108.50	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	108.75	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	109.00	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	109.25	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	109.50	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	109.75	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	110.00	34.503	38.000	69746	0.000	0.001	0.00	0.63

Weir 2 Time Series Output Report

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
Treatment_routi	P-C	BASE	110.25	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	110.50	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	110.75	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	111.00	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	111.25	34.503	38.000	69746	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	111.50	34.503	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	111.75	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	112.00	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	112.25	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	112.50	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	112.75	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	113.00	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	113.25	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	113.50	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	113.75	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	114.00	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	114.25	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	114.50	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	114.75	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	115.00	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	115.25	34.502	38.000	69745	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	115.50	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	115.75	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	116.00	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	116.25	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	116.50	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	116.75	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	117.00	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	117.25	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	117.50	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	117.75	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	118.00	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	118.25	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	118.50	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	118.75	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	119.00	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	119.25	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	119.50	34.502	38.000	69744	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	119.75	34.502	38.000	69743	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	120.00	34.502	38.000	69743	0.000	0.001	0.00	0.63
Treatment_routi	P-C	BASE	120.00	34.502	38.000	69743	0.000	0.001	0.00	0.63

ATTACHMENT 8

Revised Pre-Expansion Conditions
25 Year, 24 Hour Storm Event

Revised Pre-Expansion Conditions
ICPR Input
25 Year, 24 Hour Storm Event

Basins

Name: A-1 | Node: CB-1 | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph	UH256	Peaking Factor	256.0
Rainfall File	FLMOD	Storm Duration(hrs)	24.00
Rainfall Amount(in)	8.000	Time of Conc(min)	6.00
Area(ac)	1.280	Time Shift(hrs)	0.00
Curve Number	98.00	Max Allowable Q(cfs)	999999.000
DCIA(%)	0.00		

Name: A-2 | Node: A-2 | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph	UH256	Peaking Factor	256.0
Rainfall File	FLMOD	Storm Duration(hrs)	24.00
Rainfall Amount(in)	8.000	Time of Conc(min)	10.00
Area(ac)	0.360	Time Shift(hrs)	0.00
Curve Number	92.00	Max Allowable Q(cfs)	999999.000
DCIA(%)	0.00		

Name: A-3 | Node: A-3 | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph	UH256	Peaking Factor	256.0
Rainfall File	FLMOD	Storm Duration(hrs)	24.00
Rainfall Amount(in)	8.000	Time of Conc(min)	35.00
Area(ac)	2.450	Time Shift(hrs)	0.00
Curve Number	89.00	Max Allowable Q(cfs)	999999.000
DCIA(%)	0.00		

Name: A-4 | Node: P-A | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph	UH256	Peaking Factor	256.0
Rainfall File	FLMOD	Storm Duration(hrs)	24.00
Rainfall Amount(in)	8.000	Time of Conc(min)	11.00
Area(ac)	0.880	Time Shift(hrs)	0.00
Curve Number	91.00	Max Allowable Q(cfs)	999999.000
DCIA(%)	0.00		

Name: A-5 | Node: P-A | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph	UH256	Peaking Factor	256.0
Rainfall File	FLMOD	Storm Duration(hrs)	24.00
Rainfall Amount(in)	8.000	Time of Conc(min)	16.00
Area(ac)	1.410	Time Shift(hrs)	0.00
Curve Number	84.00	Max Allowable Q(cfs)	999999.000

DCIA(%): 0.00

Name: A-6
Group: BASE

Node: P-A
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.000	Time of Conc(min):	24.00
Area(ac):	4.240	Time Shift(hrs):	0.00
Curve Number:	90.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: B-1
Group: BASE

Node: B-1
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.000	Time of Conc(min):	32.00
Area(ac):	2.290	Time Shift(hrs):	0.00
Curve Number:	84.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: B-2
Group: BASE

Node: CB-2
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.000	Time of Conc(min):	6.00
Area(ac):	2.390	Time Shift(hrs):	0.00
Curve Number:	94.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: B-3
Group: BASE

Node: P-B
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.000	Time of Conc(min):	47.00
Area(ac):	3.280	Time Shift(hrs):	0.00
Curve Number:	90.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: B-4
Group: BASE

Node: P-B
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	8.000	Time of Conc(min):	20.00
Area(ac):	1.630	Time Shift(hrs):	0.00
Curve Number:	90.00	Max Allowable Q(cfs):	999999.000

DCIA(%): 0.00

Name: B-5 | Node: P-B | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH256 | Peaking Factor: 256.0
Rainfall File: FLMOD | Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.000 | Time of Conc(min): 20.00
Area(ac): 0.350 | Time Shift(hrs): 0.00
Curve Number: 80.00 | Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: C-1 | Node: C-1 | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH256 | Peaking Factor: 256.0
Rainfall File: FLMOD | Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.000 | Time of Conc(min): 6.00
Area(ac): 1.210 | Time Shift(hrs): 0.00
Curve Number: 98.00 | Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: C-2 | Node: P-C | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH256 | Peaking Factor: 256.0
Rainfall File: FLMOD | Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.000 | Time of Conc(min): 19.00
Area(ac): 6.440 | Time Shift(hrs): 0.00
Curve Number: 88.00 | Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: D-1 | Node: P-D | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH256 | Peaking Factor: 256.0
Rainfall File: FLMOD | Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.000 | Time of Conc(min): 62.00
Area(ac): 6.420 | Time Shift(hrs): 0.00
Curve Number: 88.00 | Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

==== Nodes ====

Name: 612160 | Base Flow(cfs): 0.000 | Init Stage(ft): 27.300
Group: BASE | Warn Stage(ft): 32.630
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	27.300
6.00	27.310
9.00	28.310
10.00	28.530
11.00	28.900
12.00	30.230
13.00	31.690
14.00	31.950
15.00	32.210
16.00	32.570
17.00	32.630
20.00	32.080
24.00	31.780
26.00	31.660
28.00	30.280
29.00	28.460
30.00	28.200

Name: 612325 Base Flow(cfs): 0.000 Init Stage(ft): 21.800
Group: BASE Warn Stage(ft): 25.890
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	21.800
6.00	22.490
9.00	22.910
10.00	23.050
11.00	23.220
12.00	23.510
13.00	24.890
14.00	25.800
14.50	25.890
16.00	25.310
17.00	24.640
18.00	24.140
19.00	23.630
20.00	23.300
24.00	22.960
28.00	22.470
30.00	22.200

Name: A-2 Base Flow(cfs): 0.000 Init Stage(ft): 35.000
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
35.000	0.0010
37.500	0.0010

Name: A-3 Base Flow(cfs): 0.000 Init Stage(ft): 33.500
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
33.500	0.0010
37.500	0.0010

Name: B-1 Base Flow(cfs): 0.000 Init Stage(ft): 35.250
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
35.250	0.0010
37.500	0.0010

Name: C-1 Base Flow(cfs): 0.000 Init Stage(ft): 55.750
Group: BASE Warn Stage(ft): 60.000
Type: Stage/Area

Stage(ft)	Area(ac)
55.750	0.0010
60.000	0.0010

Name: CB-1 Base Flow(cfs): 0.000 Init Stage(ft): 35.000
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
35.000	0.0010
37.500	0.0010

Name: CB-2 Base Flow(cfs): 0.000 Init Stage(ft): 32.000
Group: BASE Warn Stage(ft): 36.500
Type: Stage/Area

Stage(ft)	Area(ac)
32.000	0.0010
36.500	0.0010

Name: CH-1 Base Flow(cfs): 0.000 Init Stage(ft): 33.500
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
33.500	0.0010

37.500	0.0010

Name: CH-2 Base Flow(cfs): 0.000 Init Stage(ft): 34.250
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
34.250	0.0010
37.500	0.0010

Name: CH-4 Base Flow(cfs): 0.000 Init Stage(ft): 35.000
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
35.000	0.0010
37.500	0.0010

Name: P-A Base Flow(cfs): 0.000 Init Stage(ft): 28.000
Group: BASE Warn Stage(ft): 31.500
Type: Stage/Area

Stage(ft)	Area(ac)
26.000	1.5509
28.000	1.7380
30.000	1.9073
32.000	2.1402

Name: P-B Base Flow(cfs): 0.000 Init Stage(ft): 28.000
Group: BASE Warn Stage(ft): 31.500
Type: Stage/Area

Stage(ft)	Area(ac)
26.000	1.2150
28.000	1.3642
30.000	1.5192
32.000	1.6768

Name: P-C Base Flow(cfs): 0.000 Init Stage(ft): 34.500
Group: BASE Warn Stage(ft): 38.000
Type: Stage/Area

Stage(ft)	Area(ac)
32.000	1.3420
34.000	1.5290

36.000	1.8161
38.000	2.0420

Name: P-D Base Flow(cfs): 0.000 Init Stage(ft): 34.500
Group: BASE Warn Stage(ft): 37.000
Type: Stage/Area

Stage(ft)	Area(ac)
33.000	1.3034
34.000	1.4063
36.000	1.8373
37.000	4.4665

Cross Sections

Name: CS-1 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	32.000	0.035000
5.800	32.000	0.035000
11.300	30.000	0.035000
17.100	28.000	0.035000
23.200	28.000	0.035000
29.100	30.000	0.035000
34.900	32.000	0.035000

Name: CS-2 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	32.000	0.035000
5.800	32.000	0.035000
11.300	30.000	0.035000
17.100	28.000	0.035000
23.200	28.000	0.035000
29.100	30.000	0.035000
34.900	32.000	0.035000

Name: CS-3 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	36.000	0.035000
5.800	35.000	0.035000
12.400	36.000	0.035000
16.600	37.000	0.035000

Name: CS-4 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	34.000	0.035000
37.100	33.200	0.035000
57.900	34.000	0.035000
73.300	35.000	0.035000
79.100	36.000	0.035000

Name: CS-6 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	34.000	0.035000
2.400	33.500	0.035000
4.100	33.500	0.035000
6.500	34.000	0.035000

Name: CS-7 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	33.000	0.035000
22.900	32.000	0.035000
32.100	30.000	0.035000
41.700	32.000	0.035000
55.600	33.000	0.035000

Name: Weir_skim1 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	31.500	0.015000
15.000	31.500	0.015000
15.920	28.270	0.015000
16.500	28.270	0.015000
16.500	28.000	0.015000
18.500	28.000	0.015000
18.500	28.270	0.015000
19.080	28.270	0.015000
20.000	31.500	0.015000
35.000	31.500	0.015000

Name: Weir_skim2 Group: BASE
Encroachment: No

Top Opening Width measured in field by RM, 9/4/09

Bottom Opening Width not verified; full of water

Station(ft)	Elevation(ft)	Manning's N
0.000	38.000	0.015000
2.000	38.000	0.015000
2.440	34.720	0.015000
3.250	34.720	0.015000
3.250	34.500	0.015000
4.750	34.500	0.015000
4.750	34.720	0.015000
5.560	34.720	0.015000
6.000	38.000	0.015000
8.000	38.000	0.015000

Pipes

Name: PI-A1 | From Node: CB-1 | Length(ft): 62.00
Group: BASE | To Node: CH-2 | Count: 1
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Horz Ellipse	Horz Ellipse
Span(in):	23.00	23.00
Rise(in):	14.00	14.00
Invert(ft):	35.000	34.750
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

CATCH BASIN 1 TO CHANNEL CS 6 (A-5)

Name: PI-A2 | From Node: A-2 | Length(ft): 92.00
Group: BASE | To Node: CH-1 | Count: 1
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	8.00	8.00
Rise(in):	8.00	8.00
Invert(ft):	35.000	34.000
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

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

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

A-2 TO CHANNEL CROSSECTION CS-5 (A-5)

Name: PI-A3 | From Node: A-3 | Length(ft): 86.00
Group: BASE | To Node: P-A | Count: 1
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Horz Ellipse	Horz Ellipse
Span(in):	30.00	30.00
Rise(in):	19.00	19.00
Invert(ft):	33.500	33.000
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

HEADWALL 1 AND 2

Name: PI-B1 | From Node: B-1 | Length(ft): 38.00
Group: BASE | To Node: CH-4 | Count: 1
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Horz Ellipse	Horz Ellipse
Span(in):	23.00	23.00
Rise(in):	14.00	14.00
Invert(ft):	35.250	35.000
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

HEADWALL 5 AND 6

Name: PI-B2 | From Node: CB-2 | Length(ft): 73.00
Group: BASE | To Node: P-B | Count: 1
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Horz Ellipse	Horz Ellipse
Span(in):	30.00	30.00
Rise(in):	19.00	19.00
Invert(ft):	32.000	31.500
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

CATCH BASIN B2 TO POND B THROUGH HEADWALL 4

Name:	PI-BD1	From Node:	C-1	Length(ft): 146.00
Group:	BASE	To Node:	P-C	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	10.00	10.00		Entrance Loss Coef: 0.30
Rise(in):	10.00	10.00		Exit Loss Coef: 0.50
Invert(ft):	55.750	34.250		Bend Loss Coef: 0.00
Manning's N:	0.010000	0.010000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

C-1 to Pond C

Name:	PI-BD2	From Node:	C-1	Length(ft): 157.00
Group:	BASE	To Node:	P-C	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	10.00	10.00		Entrance Loss Coef: 0.30
Rise(in):	10.00	10.00		Exit Loss Coef: 0.50
Invert(ft):	55.750	34.250		Bend Loss Coef: 0.00
Manning's N:	0.010000	0.010000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

C-1 TO Pond C

Name:	PI-BD3	From Node:	C-1	Length(ft): 136.00
Group:	BASE	To Node:	P-C	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	10.00	10.00		Entrance Loss Coef: 0.30
Rise(in):	10.00	10.00		Exit Loss Coef: 0.50
Invert(ft):	55.750	34.250		Bend Loss Coef: 0.00
Manning's N:	0.010000	0.010000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:

Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

C-1 to Pond C

Name:	PI-D	From Node:	P-D	Length(ft): 75.00
Group:	BASE	To Node:	P-C	Count: 2
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	24.00	24.00		Entrance Loss Coef: 0.30
Rise(in):	24.00	24.00		Exit Loss Coef: 0.50
Invert(ft):	34.500	34.250		Bend Loss Coef: 0.00
Manning's N:	0.013000	0.013000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall

POND D TO POND C THROUGH HEADWALLS 7 AND 8

==== Channels ====

Name:	CH-1	From Node:	CH-1	Length(ft): 81.00
Group:	BASE	To Node:	P-A	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Irregular	Irregular		Flow: Both
Invert(ft):	33.500	30.000		Contraction Coef: 0.100
TClpInitZ(ft):	999.000	999.000		Expansion Coef: 0.300
Manning's N:				Entrance Loss Coef: 0.000
Top Clip(ft):				Exit Loss Coef: 0.000
Bot Clip(ft):				Outlet Ctrl Spec: Use dc or tw
Main XSec:	CS-6	CS-7		Inlet Ctrl Spec: Use dn
AuxElev1(ft):	0.000	0.000		Stabilizer Option: None
Aux XSec1:				
AuxElev2(ft):	0.000	0.000		
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

INTERCONNECT BETWEEN CS-6 AND 7

Name:	CH-2	From Node:	CH-2	Length(ft): 230.00
Group:	BASE	To Node:	P-A	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Trapezoidal	Trapezoidal		Flow: Both
Invert(ft):	34.250	30.000		Contraction Coef: 0.100
TClpInit2(ft):	999.000	999.000		

Manning's N:	0.015000	0.015000	Expansion Coef:	0.300
Top Clip(ft):	0.000	0.000	Entrance Loss Coef:	0.000
Bot Clip(ft):	0.000	0.000	Exit Loss Coef:	0.000
Main XSec:			Outlet Ctrl Spec:	Use dc or tw
AuxElev1(ft):			Inlet Ctrl Spec:	Use dn
Aux XSec1:			Stabilizer Option:	None
AuxElev2(ft):				
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):	3.000	3.000		
LtSdSlp(h/v):	2.33	2.33		
RtSdSlp(h/v):	2.33	2.33		

INTERCONNECT BETWEEN A-1 AND POND A

Name:	CH-3	From Node:	P-A	Length(ft): 120.00
Group:	BASE	To Node:	P-B	Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Friction Equation:	Average Conveyance
Invert(ft):	28.000	28.000	Solution Algorithm:	Automatic
TClpInitZ(ft):	999.000	999.000	Flow:	Both
Manning's N:			Contraction Coef:	0.100
Top Clip(ft):			Expansion Coef:	0.300
Bot Clip(ft):			Entrance Loss Coef:	0.000
Main XSec:	CS-1	CS-2	Exit Loss Coef:	0.000
AuxElev1(ft):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):	0.000	0.000	Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

INTERCONNECT BETWEEN CS-1 AND CS-2

Name:	CH-4	From Node:	CH-4	Length(ft): 374.00
Group:	BASE	To Node:	P-B	Count: 1

	UPSTREAM	DOWNSTREAM		
Geometry:	Irregular	Irregular	Friction Equation:	Average Conveyance
Invert(ft):	35.000	33.200	Solution Algorithm:	Automatic
TClpInitZ(ft):	999.000	999.000	Flow:	Both
Manning's N:			Contraction Coef:	0.100
Top Clip(ft):			Expansion Coef:	0.300
Bot Clip(ft):			Entrance Loss Coef:	0.000
Main XSec:	CS-3	CS-4	Exit Loss Coef:	0.000
AuxElev1(ft):	0.000	0.000	Outlet Ctrl Spec:	Use dc or tw
Aux XSec1:			Inlet Ctrl Spec:	Use dn
AuxElev2(ft):	0.000	0.000	Stabilizer Option:	None
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

INTERCONNECT BETWEEN CS-3 AND 4

--- Drop Structures ---

Name: W-2D | From Node: P-C | Length(ft): 128.00
Group: BASE | To Node: 612160 | Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	30.00	30.00
Rise(in):	30.00	30.00
Invert(ft):	32.320	31.750
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.300
Exit Loss Coef: 1.000
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Solution Incs: 0

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

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

WEIR 2 WITH PIPE

*** Weir 1 of 2 for Drop Structure W-2D ***

TABLE

Count: 1 | Bottom Clip(ft): 0.000
Type: Vertical: Mavis | Top Clip(ft): 0.000
Flow: Both | Weir Disc Coef: 2.800
Geometry: Irregular | Orifice Disc Coef: 0.600

Cross Section: Weir_skim2 | Control Elev(ft): 34.500
Invert(ft): 34.500 | Struct Opening Dim(ft): 999.00

*** Weir 2 of 2 for Drop Structure W-2D ***

TABLE

Count: 1 | Bottom Clip(in): 0.000
Type: Horizontal | Top Clip(in): 0.000
Flow: Both | Weir Disc Coef: 3.200
Geometry: Rectangular | Orifice Disc Coef: 0.600

Span(in): 72.00 | Invert(ft): 38.000
Rise(in): 72.00 | Control Elev(ft): 38.000

--- Weirs ---

Name: OVER-1 | From Node: P-C
Group: BASE | To Node: 612160
Flow: Both | Count: 1
Type: Vertical: Paved | Geometry: Rectangular

Span(in): 1200.00
Rise(in): 9999.00
Invert(ft): 37.000
Control Elevation(ft): 37.000

TABLE

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

```
---------------------------------------------------------------------------------------------------
        Name: W-1                   From Node: P-B
       Group: BASE                    To Node: 612325
        Flow: None                      Count: 1
        Type: Vertical: Mavis      Geometry: Trapezoidal

           Bottom Width(ft): 3.00
     Left Side Slope(h/v): 0.29
    Right Side Slope(h/v): 0.29
              Invert(ft): 28.000
   Control Elevation(ft): 28.000
  Struct Opening Dim(ft): 999.00
                                          TABLE
         Bottom Clip(ft): 0.000
            Top Clip(ft): 0.000
      Weir Discharge Coef: 2.800
    Orifice Discharge Coef: 0.600

WEIR 1

---------------------------------------------------------------------------------------------------
        Name: W-1_MOD               From Node: P-B
       Group: BASE                    To Node: 612325
        Flow: Both                      Count: 1
        Type: Vertical: Mavis      Geometry: Irregular

                    XSec: Weir_skim1
              Invert(ft): 28.000
   Control Elevation(ft): 28.000
  Struct Opening Dim(ft): 9999.00
                                          TABLE
         Bottom Clip(ft): 0.000
            Top Clip(ft): 0.000
      Weir Discharge Coef: 2.800
    Orifice Discharge Coef: 0.600



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

         Name: 233YEAR
     Filename: C:\Projects\Hillsborough County WTE\ICPR\2006_Conditions\233YEAR.R32

      Override Defaults: No

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          15.00

---------------------------------------------------------------------------------------------------
         Name: 25YEAR
     Filename: C:\Projects\Hillsborough County WTE\ICPR\2006_Conditions\25YEAR.R32

      Override Defaults: No

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          15.00

==== Routing Simulations ============
```

Name: 233YEAR Hydrology Sim: 233YEAR
Filename: C:\Projects\Hillsborough County WTE\ICPR\2006_Conditions\233YEAR.I32

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

Max Delta Z(ft): 0.05 Delta Z Factor: 0.00100
Time Step Optimizer: 40.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.1000 Max Calc Time(sec): 10.0000
Boundary Stages: Boundary Flows:

ppsa swfwmd permit run1
2.33-Year/24 Hour Storm Event
updated 10/16/06

Time(hrs)	Print Inc(min)
30.000	15.000

Group	Run
BASE	Yes

Name: 25YEAR Hydrology Sim: 25YEAR
Filename: C:\Projects\Hillsborough County WTE\ICPR\2006_Conditions\25YEAR.I32

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

Max Delta Z(ft): 0.05 Delta Z Factor: 0.00100
Time Step Optimizer: 40.000
Start Time(hrs): 0.000 End Time(hrs): 30.00
Min Calc Time(sec): 0.1000 Max Calc Time(sec): 10.0000
Boundary Stages: Boundary Flows:

ppsa swfwmd permit run1
25-Year/24 Hour Storm Event
updated 04/04/06

Time(hrs)	Print Inc(min)
30.000	15.000

Group	Run
BASE	Yes

Revised Pre-Expansion Conditions
ICPR Node Report
25 Year, 24 Hour Storm Event

Existing Conditions Node Min/Max Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
612160	BASE	25YEAR	17.00	32.630	32.630	-0.0014	0	14.07	8.950	0.00	0.000
612325	BASE	25YEAR	14.50	25.890	25.890	0.0003	0	13.41	18.248	0.00	0.000
A-2	BASE	25YEAR	12.06	36.295	37.500	-0.0002	119	12.00	1.623	12.06	1.523
A-3	BASE	25YEAR	12.26	34.498	37.500	0.0000	218	12.25	6.010	12.26	5.997
B-1	BASE	25YEAR	12.26	36.341	37.500	0.0000	136	12.25	5.538	12.26	5.524
C-1	BASE	25YEAR	12.01	57.211	60.000	0.0006	162	12.00	6.668	12.01	6.587
CB-1	BASE	25YEAR	12.00	36.335	37.500	0.0001	129	12.00	7.053	12.00	7.008
CB-2	BASE	25YEAR	12.00	33.410	36.500	-0.0008	181	12.00	12.932	12.00	13.443
CH-1	BASE	25YEAR	12.07	33.655	37.500	0.0001	228	12.06	1.523	12.07	1.522
CH-2	BASE	25YEAR	12.01	34.582	37.500	0.0000	677	12.00	7.008	12.01	6.986
CH-4	BASE	25YEAR	12.32	35.701	37.500	0.0000	2272	12.26	5.524	12.32	5.416
P-A	BASE	25YEAR	13.41	29.646	31.500	0.0000	83226	12.11	31.731	13.49	9.009
P-B	BASE	25YEAR	13.41	29.634	31.500	0.0000	66764	12.11	32.673	13.41	18.248
P-C	BASE	25YEAR	14.07	35.610	38.000	0.0000	76934	12.01	23.091	14.07	8.950
P-D	BASE	25YEAR	14.04	35.649	37.000	0.0000	76879	12.75	11.036	14.00	6.006

ATTACHMENT 9

Proposed Conditions
25 Year, 24 Hour Storm Event

Proposed Conditions

ICPR Input

25 Year, 24 Hour Storm Event

==== Basins ====

Name: A-1
Group: BASE
Node: CB-1
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 1.280
Curve Number: 98.00
DCIA(%): 0.00
Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 6.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: A-2
Group: BASE
Node: A-2
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 0.360
Curve Number: 92.00
DCIA(%): 0.00
Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 10.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: A-3
Group: BASE
Node: A-3
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 2.450
Curve Number: 89.00
DCIA(%): 0.00
Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 35.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: A-4
Group: BASE
Node: P-A
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 0.880
Curve Number: 91.00
DCIA(%): 0.00
Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 11.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: A-5
Group: BASE
Node: P-A
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 1.410
Curve Number: 84.00
Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 16.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

DCIA(%): 0.00

Name: A-6
Group: BASE

Node: P-A
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 4.240
Curve Number: 90.00
DCIA(%): 0.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 24.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: B-1
Group: BASE

Node: B-1
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 2.290
Curve Number: 84.00
DCIA(%): 0.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 32.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: B-2
Group: BASE

Node: CB-2
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 2.390
Curve Number: 94.00
DCIA(%): 0.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 6.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: B-3
Group: BASE

Node: P-B
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 2.920
Curve Number: 91.00
DCIA(%): 0.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 47.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: B-4
Group: BASE

Node: P-B
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 1.630
Curve Number: 90.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 20.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

DCIA(%): 0.00

Name: B-5
Group: BASE

Node: P-B
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 0.350
Curve Number: 80.00
DCIA(%): 0.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 20.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: C-1
Group: BASE

Node: C-1
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 1.210
Curve Number: 98.00
DCIA(%): 0.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 6.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: C-2
Group: BASE

Node: P-C
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 6.440
Curve Number: 88.00
DCIA(%): 0.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 19.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: D-1
Group: BASE

Node: P-D
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 8.000
Area(ac): 6.420
Curve Number: 89.00
DCIA(%): 0.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 62.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

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==== Nodes ==========

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Name: 612160
Group: BASE
Type: Time/Stage

Base Flow(cfs): 0.000

Init Stage(ft): 27.300
Warn Stage(ft): 32.630

Time(hrs)	Stage(ft)
0.00	27.300
6.00	27.310
9.00	28.310
10.00	28.530
11.00	28.900
12.00	30.230
13.00	31.690
14.00	31.950
15.00	32.210
16.00	32.570
17.00	32.630
20.00	32.080
24.00	31.780
26.00	31.660
28.00	30.280
29.00	28.460
30.00	28.200

Name: 612325 Base Flow(cfs): 0.000 Init Stage(ft): 21.800
Group: BASE Warn Stage(ft): 25.890
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	21.800
6.00	22.490
9.00	22.910
10.00	23.050
11.00	23.220
12.00	23.510
13.00	24.890
14.00	25.800
14.50	25.890
16.00	25.310
17.00	24.640
18.00	24.140
19.00	23.630
20.00	23.300
24.00	22.960
28.00	22.470
30.00	22.200

Name: A-2 Base Flow(cfs): 0.000 Init Stage(ft): 35.000
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
35.000	0.0010
37.500	0.0010

Name: A-3 Base Flow(cfs): 0.000 Init Stage(ft): 33.500
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
33.500	0.0010
37.500	0.0010

Name: B-1 Base Flow(cfs): 0.000 Init Stage(ft): 35.250
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
35.250	0.0010
37.500	0.0010

Name: C-1 Base Flow(cfs): 0.000 Init Stage(ft): 55.750
Group: BASE Warn Stage(ft): 60.000
Type: Stage/Area

Stage(ft)	Area(ac)
55.750	0.0010
60.000	0.0010

Name: CB-1 Base Flow(cfs): 0.000 Init Stage(ft): 35.000
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
35.000	0.0010
37.500	0.0010

Name: CB-2 Base Flow(cfs): 0.000 Init Stage(ft): 32.000
Group: BASE Warn Stage(ft): 36.500
Type: Stage/Area

Stage(ft)	Area(ac)
32.000	0.0010
36.500	0.0010

Name: CH-1 Base Flow(cfs): 0.000 Init Stage(ft): 33.500
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
33.500	0.0010

37.500	0.0010

Name: CH-2A
Group: BASE
Type: Stage/Area

Base Flow(cfs): 0.000

Init Stage(ft): 34.250
Warn Stage(ft): 37.500

Stage(ft)	Area(ac)
34.250	0.0010
37.500	0.0010

Name: CH-2B
Group: BASE
Type: Stage/Area

Base Flow(cfs): 0.000

Init Stage(ft): 32.830
Warn Stage(ft): 37.500

Stage(ft)	Area(ac)
34.250	0.0010
37.500	0.0010

Name: CH-4
Group: BASE
Type: Stage/Area

Base Flow(cfs): 0.000

Init Stage(ft): 35.000
Warn Stage(ft): 37.500

Stage(ft)	Area(ac)
35.000	0.0010
37.500	0.0010

Name: P-A
Group: BASE
Type: Stage/Area

Base Flow(cfs): 0.000

Init Stage(ft): 28.000
Warn Stage(ft): 31.500

Stage(ft)	Area(ac)
26.000	1.5509
28.000	1.7380
30.000	1.9073
32.000	2.1402

Name: P-B
Group: BASE
Type: Stage/Area

Base Flow(cfs): 0.000

Init Stage(ft): 28.000
Warn Stage(ft): 31.500

Stage(ft)	Area(ac)
26.000	1.2150
28.000	1.3642
30.000	1.5192
32.000	1.6768

Name: P-C Base Flow(cfs): 0.000 Init Stage(ft): 34.500
Group: BASE Warn Stage(ft): 38.000
Type: Stage/Area

Stage(ft)	Area(ac)
32.000	1.3420
34.000	1.5290
36.000	1.8161
38.000	2.0420

Name: P-D Base Flow(cfs): 0.000 Init Stage(ft): 34.500
Group: BASE Warn Stage(ft): 37.000
Type: Stage/Area

Stage(ft)	Area(ac)
33.000	1.3034
34.000	1.4063
36.000	1.8373
37.000	4.4665

Cross Sections

Name: CS-1 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	32.000	0.035000
5.800	32.000	0.035000
11.300	30.000	0.035000
17.100	28.000	0.035000
23.200	28.000	0.035000
29.100	30.000	0.035000
34.900	32.000	0.035000

Name: CS-2 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	32.000	0.035000
5.800	32.000	0.035000
11.300	30.000	0.035000
17.100	28.000	0.035000
23.200	28.000	0.035000
29.100	30.000	0.035000
34.900	32.000	0.035000

Name: CS-3 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	36.000	0.035000
5.800	35.000	0.035000
12.400	36.000	0.035000
16.600	37.000	0.035000

Name: CS-4 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	34.000	0.035000
37.100	33.200	0.035000
57.900	34.000	0.035000
73.300	35.000	0.035000
79.100	36.000	0.035000

Name: CS-6 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	34.000	0.035000
2.400	33.500	0.035000
4.100	33.500	0.035000
6.500	34.000	0.035000

Name: CS-7 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	33.000	0.035000
22.900	32.000	0.035000
32.100	30.000	0.035000
41.700	32.000	0.035000
55.600	33.000	0.035000

Name: Weir_skim1 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	31.500	0.015000
15.000	31.500	0.015000
15.850	28.510	0.015000
16.500	28.510	0.015000

16.500	28.000	0.015000
18.500	28.000	0.015000
18.500	28.510	0.015000
19.150	28.510	0.015000
20.000	31.500	0.015000
35.000	31.500	0.015000

Name: Weir_skim2 Group: BASE
Encroachment: No

Top Opening Width measured in field by RM, 9/4/09
Bottom Opening Width not verified; full of water

Station(ft)	Elevation(ft)	Manning's N
0.000	38.000	0.015000
2.000	38.000	0.015000
2.390	34.890	0.015000
3.000	34.890	0.015000
3.000	34.500	0.015000
5.000	34.500	0.015000
5.000	34.890	0.015000
5.610	34.890	0.015000
6.000	38.000	0.015000
8.000	38.000	0.015000

==== Pipes ====

Name: PI-A1 From Node: CB-1 Length(ft): 62.00
Group: BASE To Node: CH-2A Count: 1
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Horz Ellipse	Horz Ellipse
Span(in):	23.00	23.00
Rise(in):	14.00	14.00
Invert(ft):	35.000	34.750
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

CATCH BASIN 1 TO CHANNEL CS 6 (A-5)

Name: PI-A2 From Node: A-2 Length(ft): 92.00
Group: BASE To Node: CH-1 Count: 1
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	8.00	8.00
Rise(in):	8.00	8.00
Invert(ft):	35.000	34.000
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

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

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

A-2 TO CHANNEL CROSSECTION CS-5 (A-5)

Name:	PI-A3	From Node: A-3	Length(ft): 86.00
Group:	BASE	To Node: P-A	Count: 1
			Friction Equation: Average Conveyance
			Solution Algorithm: Automatic
			Flow: Both
			Entrance Loss Coef: 0.30
			Exit Loss Coef: 0.50
			Bend Loss Coef: 0.00
			Outlet Ctrl Spec: Use dc or tw
			Inlet Ctrl Spec: Use dn
			Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Horz Ellipse	Horz Ellipse
Span(in):	30.00	30.00
Rise(in):	19.00	19.00
Invert(ft):	33.500	33.000
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

HEADWALL 1 AND 2

Name:	PI-B1	From Node: B-1	Length(ft): 38.00
Group:	BASE	To Node: CH-4	Count: 1
			Friction Equation: Average Conveyance
			Solution Algorithm: Automatic
			Flow: Both
			Entrance Loss Coef: 0.30
			Exit Loss Coef: 0.50
			Bend Loss Coef: 0.00
			Outlet Ctrl Spec: Use dc or tw
			Inlet Ctrl Spec: Use dn
			Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Horz Ellipse	Horz Ellipse
Span(in):	23.00	23.00
Rise(in):	14.00	14.00
Invert(ft):	35.250	35.000
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

HEADWALL 5 AND 6

Name:	PI-B2	From Node: CB-2	Length(ft): 73.00
Group:	BASE	To Node: P-B	Count: 1
			Friction Equation: Average Conveyance
			Solution Algorithm: Automatic
			Flow: Both
			Entrance Loss Coef: 0.30
			Exit Loss Coef: 0.50

	UPSTREAM	DOWNSTREAM
Geometry:	Horz Ellipse	Horz Ellipse
Span(in):	30.00	30.00
Rise(in):	19.00	19.00

Invert(ft):	32.000	31.500	Bend Loss Coef: 0.00
Manning's N:	0.013000	0.013000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

CATCH BASIN B2 TO POND B THROUGH HEADWALL 4

Name: PI-BD1 From Node: C-1 Length(ft): 146.00
Group: BASE To Node: P-C Count: 1
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	10.00	10.00
Rise(in):	10.00	10.00
Invert(ft):	55.750	34.250
Manning's N:	0.010000	0.010000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

C-1 to Pond C

Name: PI-BD2 From Node: C-1 Length(ft): 157.00
Group: BASE To Node: P-C Count: 1
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	10.00	10.00
Rise(in):	10.00	10.00
Invert(ft):	55.750	34.250
Manning's N:	0.010000	0.010000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

C-1 TO Pond C

Name: PI-BD3 From Node: C-1 Length(ft): 136.00
Group: BASE To Node: P-C Count: 1
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	10.00	10.00
Rise(in):	10.00	10.00
Invert(ft):	55.750	34.250
Manning's N:	0.010000	0.010000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

C-1 to Pond C

Name: PI-D
Group: BASE
From Node: P-D
To Node: P-C
Length(ft): 75.00
Count: 2
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	24.00	24.00
Rise(in):	24.00	24.00
Invert(ft):	34.500	34.250
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall

POND D TO POND C THROUGH HEADWALLS 7 AND 8

==========

==== Channels ====

Name: CH-1
Group: BASE
From Node: CH-1
To Node: P-A
Length(ft): 81.00
Count: 1
Friction Equation: Average Conveyance

	UPSTREAM	DOWNSTREAM
Geometry:	Irregular	Irregular
Invert(ft):	33.500	30.000
TClpInitZ(ft):	999.000	999.000
Manning's N:		
Top Clip(ft):		
Bot Clip(ft):		
Main XSec:	CS-6	CS-7
AuxElev1(ft):	0.000	0.000
Aux XSec1:		
AuxElev2(ft):	0.000	0.000
Aux XSec2:		
Top Width(ft):		
Depth(ft):		
Bot Width(ft):		
LtSdSlp(h/v):		

Solution Algorithm: Automatic
Flow: Both
Contraction Coef: 0.100
Expansion Coef: 0.300
Entrance Loss Coef: 0.000
Exit Loss Coef: 0.000
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

RtSdSlp(h/v):

INTERCONNECT BETWEEN CS-6 AND 7

Name: CH-2A | From Node: CH-2A | Length(ft): 77.00
Group: BASE | To Node: CH-2B | Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Trapezoidal	Trapezoidal
Invert(ft):	34.250	32.830
TClpInitZ(ft):	999.000	999.000
Manning's N:	0.015000	0.015000
Top Clip(ft):	0.000	0.000
Bot Clip(ft):	0.000	0.000
Main XSec:		
AuxElev1(ft):		
Aux XSec1:		
AuxElev2(ft):		
Aux XSec2:		
Top Width(ft):		
Depth(ft):		
Bot Width(ft):	3.000	3.000
LtSdSlp(h/v):	2.33	2.33
RtSdSlp(h/v):	2.33	2.33

Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Contraction Coef: 0.100
Expansion Coef: 0.300
Entrance Loss Coef: 0.000
Exit Loss Coef: 0.000
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

INTERCONNECT BETWEEN A-1 AND POND A

Name: CH-2B | From Node: CH-2B | Length(ft): 153.00
Group: BASE | To Node: P-A | Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Trapezoidal	Trapezoidal
Invert(ft):	32.830	30.000
TClpInitZ(ft):	999.000	999.000
Manning's N:	0.035000	0.035000
Top Clip(ft):	0.000	0.000
Bot Clip(ft):	0.000	0.000
Main XSec:		
AuxElev1(ft):		
Aux XSec1:		
AuxElev2(ft):		
Aux XSec2:		
Top Width(ft):		
Depth(ft):		
Bot Width(ft):	3.000	3.000
LtSdSlp(h/v):	2.33	2.33
RtSdSlp(h/v):	2.33	2.33

Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Contraction Coef: 0.100
Expansion Coef: 0.300
Entrance Loss Coef: 0.000
Exit Loss Coef: 0.000
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

INTERCONNECT BETWEEN A-1 AND POND A
CONCRETE-PAVING REMOVED IN THIS SECTION

Name: CH-3 | From Node: P-A | Length(ft): 120.00
Group: BASE | To Node: P-B | Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Irregular	Irregular
Invert(ft):	28.000	28.000
TClpInitZ(ft):	999.000	999.000
Manning's N:		
Top Clip(ft):		
Bot Clip(ft):		
Main XSec:	CS-1	CS-2

Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Contraction Coef: 0.100
Expansion Coef: 0.300
Entrance Loss Coef: 0.000
Exit Loss Coef: 0.000
Outlet Ctrl Spec: Use dc or tw

```
 AuxElev1(ft): 0.000          0.000                  Inlet Ctrl Spec: Use dn
    Aux XSec1:                                     Stabilizer Option: None
 AuxElev2(ft): 0.000          0.000
    Aux XSec2:
Top Width(ft):
    Depth(ft):
Bot Width(ft):
 LtSdSlp(h/v):
 RtSdSlp(h/v):

INTERCONNECT BETWEEN CS-1 AND CS-2

-------------------------------------------------------------------------------------------------

         Name: CH-4                 From Node: CH-4              Length(ft): 374.00
        Group: BASE                   To Node: P-B                    Count: 1

               UPSTREAM       DOWNSTREAM              Friction Equation: Average Conveyance
     Geometry: Irregular      Irregular             Solution Algorithm: Automatic
   Invert(ft): 35.000         33.200                           Flow: Both
TClpInitZ(ft): 999.000        999.000                Contraction Coef: 0.100
  Manning's N:                                         Expansion Coef: 0.300
 Top Clip(ft):                                      Entrance Loss Coef: 0.000
 Bot Clip(ft):                                          Exit Loss Coef: 0.000
    Main XSec: CS-3             CS-4                  Outlet Ctrl Spec: Use dc or tw
 AuxElev1(ft): 0.000            0.000                  Inlet Ctrl Spec: Use dn
    Aux XSec1:                                     Stabilizer Option: None
 AuxElev2(ft): 0.000            0.000
    Aux XSec2:
Top Width(ft):
    Depth(ft):
Bot Width(ft):
 LtSdSlp(h/v):
 RtSdSlp(h/v):

INTERCONNECT BETWEEN CS-3 AND 4

=================================================================================================
==== Drop Structures ============================================================================
=================================================================================================

         Name: W-2D                 From Node: P-C               Length(ft): 128.00
        Group: BASE                   To Node: 612160                 Count: 1

               UPSTREAM       DOWNSTREAM              Friction Equation: Average Conveyance
     Geometry: Circular       Circular              Solution Algorithm: Automatic
     Span(in): 30.00            30.00                          Flow: Both
     Rise(in): 30.00            30.00               Entrance Loss Coef: 0.300
   Invert(ft): 32.320           31.750                  Exit Loss Coef: 1.000
  Manning's N: 0.013000         0.013000              Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000            0.000                  Inlet Ctrl Spec: Use dn
 Bot Clip(in): 0.000            0.000                    Solution Incs: 0

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

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

WEIR 2 WITH PIPE

*** Weir 1 of 2 for Drop Structure W-2D ***
                                                                          TABLE
                  Count: 1                      Bottom Clip(ft): 0.000
                   Type: Vertical: Mavis           Top Clip(ft): 0.000
                   Flow: Both                   Weir Disc Coef: 2.800
```

```
             Geometry: Irregular            Orifice Disc Coef: 0.600

        Cross Section: Weir_skim2             Control Elev(ft): 34.500
           Invert(ft): 34.500           Struct Opening Dim(ft): 999.00

*** Weir 2 of 2 for Drop Structure W-2D ***
                                                                    TABLE
                Count: 1                      Bottom Clip(in): 0.000
                 Type: Horizontal               Top Clip(in): 0.000
                 Flow: Both                   Weir Disc Coef: 3.200
             Geometry: Rectangular          Orifice Disc Coef: 0.600

             Span(in): 72.00                        Invert(ft): 38.000
             Rise(in): 72.00                 Control Elev(ft): 38.000


==========================================================================================
==== Weirs ===============================================================================
==========================================================================================

        Name: OVER-1                 From Node: P-C
       Group: BASE                     To Node: 612160
        Flow: Both                       Count: 1
        Type: Vertical: Paved       Geometry: Rectangular

                  Span(in): 1200.00
                  Rise(in): 9999.00
                Invert(ft): 37.000
      Control Elevation(ft): 37.000
                                       TABLE
           Bottom Clip(in): 0.000
              Top Clip(in): 0.000
        Weir Discharge Coef: 3.200
     Orifice Discharge Coef: 0.600


------------------------------------------------------------------------------------------
        Name: W-1                    From Node: P-B
       Group: BASE                     To Node: 612325
        Flow: None                       Count: 1
        Type: Vertical: Mavis       Geometry: Trapezoidal

           Bottom Width(ft): 3.00
      Left Side Slope(h/v): 0.29
     Right Side Slope(h/v): 0.29
                Invert(ft): 28.000
      Control Elevation(ft): 28.000
     Struct Opening Dim(ft): 999.00
                                       TABLE
           Bottom Clip(ft): 0.000
              Top Clip(ft): 0.000
        Weir Discharge Coef: 2.800
     Orifice Discharge Coef: 0.600

WEIR 1

------------------------------------------------------------------------------------------
        Name: W-1_MOD                From Node: P-B
       Group: BASE                     To Node: 612325
        Flow: Both                       Count: 1
        Type: Vertical: Mavis       Geometry: Irregular

                     XSec: Weir_skim1
                Invert(ft): 28.000
```

```
      Control Elevation(ft): 28.000
     Struct Opening Dim(ft): 9999.00
                                      TABLE
           Bottom Clip(ft): 0.000
              Top Clip(ft): 0.000
        Weir Discharge Coef: 2.800
     Orifice Discharge Coef: 0.600


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

         Name: 233YEAR
     Filename: C:\Projects\Hillsborough County WTE\ICPR\2009_Conditions\233YEAR.R32

      Override Defaults: No

Time(hrs)       Print Inc(min)
--------------- ---------------
72.000          15.00

--------------------------------------------------------------------------------
         Name: 25YEAR
     Filename: C:\Projects\Hillsborough County WTE\ICPR\2009_Conditions\25YEAR.R32

      Override Defaults: No

Time(hrs)       Print Inc(min)
--------------- ---------------
72.000          15.00

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

         Name: 233YEAR             Hydrology Sim: 233YEAR
     Filename: C:\Projects\Hillsborough County WTE\ICPR\2009_Conditions\233YEAR.I32

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

       Max Delta Z(ft): 0.05                    Delta Z Factor: 0.00100
    Time Step Optimizer: 40.000
       Start Time(hrs): 0.000                    End Time(hrs): 72.00
    Min Calc Time(sec): 0.1000               Max Calc Time(sec): 10.0000
       Boundary Stages:                          Boundary Flows:

ppsa swfwmd permit run1
2.33-Year/24 Hour Storm Event
updated 10/16/09

Time(hrs)       Print Inc(min)
--------------- ---------------
72.000          15.000

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

--------------------------------------------------------------------------------
         Name: 25YEAR              Hydrology Sim: 25YEAR
     Filename: C:\Projects\Hillsborough County WTE\ICPR\2009_Conditions\25YEAR.I32
```

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

       Max Delta Z(ft): 0.05                     Delta Z Factor: 0.00100
   Time Step Optimizer: 40.000
       Start Time(hrs): 0.000                     End Time(hrs): 72.00
    Min Calc Time(sec): 0.1000              Max Calc Time(sec): 10.0000
       Boundary Stages:                         Boundary Flows:

ppsa swfwmd permit run1
25-Year/24 Hour Storm Event
updated 04/04/06

Time(hrs)       Print Inc(min)
--------------- ---------------
72.000          15.000

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

Proposed Conditions

ICPR Node Report

25 Year, 24 Hour Storm Event

Proposed Conditions Node Min/Max Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
612160	BASE	25YEAR	17.00	32.630	32.630	-0.0014	0	14.10	8.925	0.00	0.000
612325	BASE	25YEAR	14.50	25.890	25.890	0.0003	0	13.45	17.298	0.00	0.000
A-2	BASE	25YEAR	12.06	36.295	37.500	-0.0002	119	12.00	1.623	12.06	1.523
A-3	BASE	25YEAR	12.26	34.498	37.500	0.0000	218	12.25	6.010	12.26	5.997
B-1	BASE	25YEAR	12.26	36.341	37.500	0.0000	136	12.25	5.538	12.26	5.524
C-1	BASE	25YEAR	12.01	57.211	60.000	0.0006	162	12.00	6.668	12.01	6.587
CB-1	BASE	25YEAR	12.00	36.335	37.500	0.0001	129	12.00	7.053	12.00	7.008
CB-2	BASE	25YEAR	12.00	33.410	36.500	-0.0008	181	12.00	12.932	12.00	13.443
CH-1	BASE	25YEAR	12.07	33.655	37.500	0.0001	228	12.06	1.523	12.07	1.522
CH-2A	BASE	25YEAR	12.01	34.582	37.500	0.0001	330	12.00	7.008	12.01	7.002
CH-2B	BASE	25YEAR	12.01	33.401	37.500	0.0000	713	12.01	7.002	12.01	6.958
CH-4	BASE	25YEAR	12.32	35.701	37.500	0.0000	2272	12.26	5.524	12.32	5.416
P-A	BASE	25YEAR	13.45	29.667	31.500	0.0000	83196	12.12	31.796	13.56	8.713
P-B	BASE	25YEAR	13.45	29.656	31.500	0.0000	66830	12.11	32.032	13.45	17.298
P-C	BASE	25YEAR	14.10	35.622	38.000	-0.0000	77006	12.01	23.116	14.10	8.925
P-D	BASE	25YEAR	14.06	35.660	37.000	-0.0000	76984	12.75	11.186	14.00	6.031

ATTACHMENT 10

Proposed Conditions
(Gates at Weirs #1 and #2 Raised 18-Inches)

Proposed Conditions

(Gates at Weirs #1 and #2 Raised 18-inches)

ICPR Input

25 Year, 24 Hour Storm Event

Basins

Name: A-1
Group: BASE
Node: CB-1
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 0.000
Area(ac): 1.280
Curve Number: 98.00
DCIA(%): 0.00
Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 6.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: A-2
Group: BASE
Node: A-2
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 0.000
Area(ac): 0.360
Curve Number: 92.00
DCIA(%): 0.00
Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 10.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: A-3
Group: BASE
Node: A-3
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 0.000
Area(ac): 2.450
Curve Number: 89.00
DCIA(%): 0.00
Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 35.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: A-4
Group: BASE
Node: P-A
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 0.000
Area(ac): 0.880
Curve Number: 91.00
DCIA(%): 0.00
Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 11.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: A-5
Group: BASE
Node: P-A
Type: SCS Unit Hydrograph CN
Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 0.000
Area(ac): 1.410
Curve Number: 84.00
Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 16.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

DCIA(%): 0.00

Name: A-6 | Node: P-A | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	24.00
Area(ac):	4.240	Time Shift(hrs):	0.00
Curve Number:	90.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: B-1 | Node: B-1 | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	32.00
Area(ac):	2.290	Time Shift(hrs):	0.00
Curve Number:	84.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: B-2 | Node: CB-2 | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	6.00
Area(ac):	2.390	Time Shift(hrs):	0.00
Curve Number:	94.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: B-3 | Node: P-B | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	47.00
Area(ac):	2.920	Time Shift(hrs):	0.00
Curve Number:	91.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: B-4 | Node: P-B | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	20.00
Area(ac):	1.630	Time Shift(hrs):	0.00
Curve Number:	90.00	Max Allowable Q(cfs):	999999.000

DCIA(%): 0.00

Name: B-5 Node: P-B Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH256 Peaking Factor: 256.0
Rainfall File: FLMOD Storm Duration(hrs): 24.00
Rainfall Amount(in): 0.000 Time of Conc(min): 20.00
Area(ac): 0.350 Time Shift(hrs): 0.00
Curve Number: 80.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: C-1 Node: C-1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH256 Peaking Factor: 256.0
Rainfall File: FLMOD Storm Duration(hrs): 24.00
Rainfall Amount(in): 0.000 Time of Conc(min): 6.00
Area(ac): 1.210 Time Shift(hrs): 0.00
Curve Number: 98.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: C-2 Node: P-C Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH256 Peaking Factor: 256.0
Rainfall File: FLMOD Storm Duration(hrs): 24.00
Rainfall Amount(in): 0.000 Time of Conc(min): 19.00
Area(ac): 6.440 Time Shift(hrs): 0.00
Curve Number: 88.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: D-1 Node: P-D Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: UH256 Peaking Factor: 256.0
Rainfall File: FLMOD Storm Duration(hrs): 24.00
Rainfall Amount(in): 0.000 Time of Conc(min): 62.00
Area(ac): 6.420 Time Shift(hrs): 0.00
Curve Number: 89.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

==========

==== Nodes ==========

==========

Name: 612160 Base Flow(cfs): 0.000 Init Stage(ft): 27.300
Group: BASE Warn Stage(ft): 32.630
Type: Time/Stage

ATTACHMENT 11

Proposed Conditions
(Gate at Weir #1 Raised to Elev. 30.70 Feet)

Proposed Conditions

(Gate at Weir #1 Raised to Elev. 30.70 feet)

ICPR Input

4-Inch Rain Event

Basins

Name: A-1 | Node: CB-1 | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	6.00
Area(ac):	1.280	Time Shift(hrs):	0.00
Curve Number:	98.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: A-2 | Node: A-2 | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	10.00
Area(ac):	0.360	Time Shift(hrs):	0.00
Curve Number:	92.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: A-3 | Node: A-3 | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	35.00
Area(ac):	2.450	Time Shift(hrs):	0.00
Curve Number:	89.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: A-4 | Node: P-A | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	11.00
Area(ac):	0.880	Time Shift(hrs):	0.00
Curve Number:	91.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: A-5 | Node: P-A | Status: Onsite
Group: BASE | Type: SCS Unit Hydrograph CN

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	16.00
Area(ac):	1.410	Time Shift(hrs):	0.00
Curve Number:	84.00	Max Allowable Q(cfs):	999999.000

DCIA(%): 0.00

Name: A-6
Group: BASE

Node: P-A
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	24.00
Area(ac):	4.240	Time Shift(hrs):	0.00
Curve Number:	90.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: B-1
Group: BASE

Node: B-1
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	32.00
Area(ac):	2.290	Time Shift(hrs):	0.00
Curve Number:	84.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: B-2
Group: BASE

Node: CB-2
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	6.00
Area(ac):	2.390	Time Shift(hrs):	0.00
Curve Number:	94.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: B-3
Group: BASE

Node: P-B
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	47.00
Area(ac):	2.920	Time Shift(hrs):	0.00
Curve Number:	91.00	Max Allowable Q(cfs):	999999.000
DCIA(%):	0.00		

Name: B-4
Group: BASE

Node: P-B
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph:	UH256	Peaking Factor:	256.0
Rainfall File:	FLMOD	Storm Duration(hrs):	24.00
Rainfall Amount(in):	0.000	Time of Conc(min):	20.00
Area(ac):	1.630	Time Shift(hrs):	0.00
Curve Number:	90.00	Max Allowable Q(cfs):	999999.000

DCIA(%): 0.00

Name: B-5
Group: BASE

Node: P-B
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 0.000
Area(ac): 0.350
Curve Number: 80.00
DCIA(%): 0.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 20.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: C-1
Group: BASE

Node: C-1
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 0.000
Area(ac): 1.210
Curve Number: 98.00
DCIA(%): 0.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 6.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: C-2
Group: BASE

Node: P-C
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 0.000
Area(ac): 6.440
Curve Number: 88.00
DCIA(%): 0.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 19.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Name: D-1
Group: BASE

Node: P-D
Type: SCS Unit Hydrograph CN

Status: Onsite

Unit Hydrograph: UH256
Rainfall File: FLMOD
Rainfall Amount(in): 0.000
Area(ac): 6.420
Curve Number: 89.00
DCIA(%): 0.00

Peaking Factor: 256.0
Storm Duration(hrs): 24.00
Time of Conc(min): 62.00
Time Shift(hrs): 0.00
Max Allowable Q(cfs): 999999.000

Nodes

Name: 612160
Group: BASE
Type: Time/Stage

Base Flow(cfs): 0.000

Init Stage(ft): 27.300
Warn Stage(ft): 32.630

Time(hrs)	Stage(ft)
0.00	27.300
6.00	27.310
9.00	28.310
10.00	28.530
11.00	28.900
12.00	30.230
13.00	31.690
14.00	31.950
15.00	32.210
16.00	32.570
17.00	32.630
20.00	32.080
24.00	31.780
26.00	31.660
28.00	30.280
29.00	28.460
30.00	28.200

Name: 612325 Base Flow(cfs): 0.000 Init Stage(ft): 21.800
Group: BASE Warn Stage(ft): 25.890
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	21.800
6.00	22.490
9.00	22.910
10.00	23.050
11.00	23.220
12.00	23.510
13.00	24.890
14.00	25.800
14.50	25.890
16.00	25.310
17.00	24.640
18.00	24.140
19.00	23.630
20.00	23.300
24.00	22.960
28.00	22.470
30.00	22.200

Name: A-2 Base Flow(cfs): 0.000 Init Stage(ft): 35.000
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
35.000	0.0010
37.500	0.0010

Name: A-3 Base Flow(cfs): 0.000 Init Stage(ft): 33.500
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
33.500	0.0010
37.500	0.0010

Name: B-1 Base Flow(cfs): 0.000 Init Stage(ft): 35.250
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
35.250	0.0010
37.500	0.0010

Name: C-1 Base Flow(cfs): 0.000 Init Stage(ft): 55.750
Group: BASE Warn Stage(ft): 60.000
Type: Stage/Area

Stage(ft)	Area(ac)
55.750	0.0010
60.000	0.0010

Name: CB-1 Base Flow(cfs): 0.000 Init Stage(ft): 35.000
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
35.000	0.0010
37.500	0.0010

Name: CB-2 Base Flow(cfs): 0.000 Init Stage(ft): 32.000
Group: BASE Warn Stage(ft): 36.500
Type: Stage/Area

Stage(ft)	Area(ac)
32.000	0.0010
36.500	0.0010

Name: CH-1 Base Flow(cfs): 0.000 Init Stage(ft): 33.500
Group: BASE Warn Stage(ft): 37.500
Type: Stage/Area

Stage(ft)	Area(ac)
33.500	0.0010

37.500	0.0010

Name: CH-2A
Group: BASE
Type: Stage/Area

Base Flow(cfs): 0.000

Init Stage(ft): 34.250
Warn Stage(ft): 37.500

Stage(ft)	Area(ac)
34.250	0.0010
37.500	0.0010

Name: CH-2B
Group: BASE
Type: Stage/Area

Base Flow(cfs): 0.000

Init Stage(ft): 32.830
Warn Stage(ft): 37.500

Stage(ft)	Area(ac)
34.250	0.0010
37.500	0.0010

Name: CH-4
Group: BASE
Type: Stage/Area

Base Flow(cfs): 0.000

Init Stage(ft): 35.000
Warn Stage(ft): 37.500

Stage(ft)	Area(ac)
35.000	0.0010
37.500	0.0010

Name: P-A
Group: BASE
Type: Stage/Area

Base Flow(cfs): 0.000

Init Stage(ft): 30.700
Warn Stage(ft): 31.500

Stage(ft)	Area(ac)
26.000	1.5509
28.000	1.7380
30.000	1.9073
32.000	2.1402

Name: P-B
Group: BASE
Type: Stage/Area

Base Flow(cfs): 0.000

Init Stage(ft): 30.700
Warn Stage(ft): 31.500

Stage(ft)	Area(ac)
26.000	1.2150
28.000	1.3642
30.000	1.5192
32.000	1.6768

Name: P-C
Group: BASE
Type: Stage/Area

Base Flow(cfs): 0.000

Init Stage(ft): 36.000
Warn Stage(ft): 38.000

Stage(ft)	Area(ac)
32.000	1.3420
34.000	1.5290
36.000	1.8161
38.000	2.0420

Name: P-D
Group: BASE
Type: Stage/Area

Base Flow(cfs): 0.000

Init Stage(ft): 36.000
Warn Stage(ft): 37.000

Stage(ft)	Area(ac)
33.000	1.3034
34.000	1.4063
36.000	1.8373
37.000	4.4665

Cross Sections

Name: CS-1
Encroachment: No

Group: BASE

Station(ft)	Elevation(ft)	Manning's N
0.000	32.000	0.035000
5.800	32.000	0.035000
11.300	30.000	0.035000
17.100	28.000	0.035000
23.200	28.000	0.035000
29.100	30.000	0.035000
34.900	32.000	0.035000

Name: CS-2
Encroachment: No

Group: BASE

Station(ft)	Elevation(ft)	Manning's N
0.000	32.000	0.035000
5.800	32.000	0.035000
11.300	30.000	0.035000
17.100	28.000	0.035000
23.200	28.000	0.035000
29.100	30.000	0.035000
34.900	32.000	0.035000

Name: CS-3 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	36.000	0.035000
5.800	35.000	0.035000
12.400	36.000	0.035000
16.600	37.000	0.035000

Name: CS-4 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	34.000	0.035000
37.100	33.200	0.035000
57.900	34.000	0.035000
73.300	35.000	0.035000
79.100	36.000	0.035000

Name: CS-6 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	34.000	0.035000
2.400	33.500	0.035000
4.100	33.500	0.035000
6.500	34.000	0.035000

Name: CS-7 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	33.000	0.035000
22.900	32.000	0.035000
32.100	30.000	0.035000
41.700	32.000	0.035000
55.600	33.000	0.035000

Name: Weir_skim1 Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	31.500	0.015000
15.000	31.500	0.015000
15.850	28.510	0.015000
16.500	28.510	0.015000

16.500	28.000	0.015000
18.500	28.000	0.015000
18.500	28.510	0.015000
19.150	28.510	0.015000
20.000	31.500	0.015000
35.000	31.500	0.015000

Name: Weir_skim1_18up Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	31.500	0.015000
15.000	31.500	0.015000
15.430	30.010	0.015000
16.500	30.010	0.015000
16.500	29.500	0.015000
18.500	29.500	0.015000
18.500	30.010	0.015000
19.570	30.010	0.015000
20.000	31.500	0.015000
35.000	31.500	0.015000

Name: Weir_skim2 Group: BASE
Encroachment: No

Top Opening Width measured in field by RM, 9/4/09
Bottom Opening Width not verified; full of water

Station(ft)	Elevation(ft)	Manning's N
0.000	38.000	0.015000
2.000	38.000	0.015000
2.390	34.890	0.015000
3.000	34.890	0.015000
3.000	34.500	0.015000
5.000	34.500	0.015000
5.000	34.890	0.015000
5.610	34.890	0.015000
6.000	38.000	0.015000
8.000	38.000	0.015000

Name: Weir_skim2_18up Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	38.000	0.015000
2.000	38.000	0.015000
2.200	36.390	0.015000
3.000	36.390	0.015000
3.000	36.000	0.015000
5.000	36.000	0.015000
5.000	36.390	0.015000
5.800	36.390	0.015000
6.000	38.000	0.015000
8.000	38.000	0.015000

Name: Weirskim1_324up Group: BASE
Encroachment: No

Station(ft)	Elevation(ft)	Manning's N
0.000	31.500	0.015000
15.000	31.500	0.015000
15.080	31.210	0.015000
16.500	31.210	0.015000
16.500	30.700	0.015000
18.500	30.700	0.015000
18.500	31.210	0.015000
19.920	31.210	0.015000
20.000	31.500	0.015000
35.000	31.500	0.015000

==== Pipes ====

Name: PI-A1 From Node: CB-1 Length(ft): 62.00
Group: BASE To Node: CH-2A Count: 1
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Horz Ellipse	Horz Ellipse
Span(in):	23.00	23.00
Rise(in):	14.00	14.00
Invert(ft):	35.000	34.750
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

CATCH BASIN 1 TO CHANNEL CS 6 (A-5)

Name: PI-A2 From Node: A-2 Length(ft): 92.00
Group: BASE To Node: CH-1 Count: 1
Friction Equation: Average Conveyance
Solution Algorithm: Automatic
Flow: Both
Entrance Loss Coef: 0.30
Exit Loss Coef: 0.50
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	8.00	8.00
Rise(in):	8.00	8.00
Invert(ft):	35.000	34.000
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

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

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

A-2 TO CHANNEL CROSSECTION CS-5 (A-5)

Name:	PI-A3	From Node: A-3	Length(ft): 86.00
Group:	BASE	To Node: P-A	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow: Both
Span(in):	30.00	30.00	Entrance Loss Coef: 0.30
Rise(in):	19.00	19.00	Exit Loss Coef: 0.50
Invert(ft):	33.500	33.000	Bend Loss Coef: 0.00
Manning's N:	0.013000	0.013000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

HEADWALL 1 AND 2

Name:	PI-B1	From Node: B-1	Length(ft): 38.00
Group:	BASE	To Node: CH-4	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow: Both
Span(in):	23.00	23.00	Entrance Loss Coef: 0.30
Rise(in):	14.00	14.00	Exit Loss Coef: 0.50
Invert(ft):	35.250	35.000	Bend Loss Coef: 0.00
Manning's N:	0.013000	0.013000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

HEADWALL 5 AND 6

Name:	PI-B2	From Node: CB-2	Length(ft): 73.00
Group:	BASE	To Node: P-B	Count: 1
			Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM	Solution Algorithm: Automatic
Geometry:	Horz Ellipse	Horz Ellipse	Flow: Both
Span(in):	30.00	30.00	Entrance Loss Coef: 0.30
Rise(in):	19.00	19.00	Exit Loss Coef: 0.50
Invert(ft):	32.000	31.500	Bend Loss Coef: 0.00
Manning's N:	0.013000	0.013000	Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000	Stabilizer Option: None

Upstream FHWA Inlet Edge Description:

Horizontal Ellipse Concrete: Groove end with headwall

Downstream FHWA Inlet Edge Description:
Horizontal Ellipse Concrete: Groove end with headwall

CATCH BASIN B2 TO POND B THROUGH HEADWALL 4

Name:	PI-BD1	From Node:	C-1	Length(ft): 146.00
Group:	BASE	To Node:	P-C	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	10.00	10.00		Entrance Loss Coef: 0.30
Rise(in):	10.00	10.00		Exit Loss Coef: 0.50
Invert(ft):	55.750	34.250		Bend Loss Coef: 0.00
Manning's N:	0.010000	0.010000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

C-1 to Pond C

Name:	PI-BD2	From Node:	C-1	Length(ft): 157.00
Group:	BASE	To Node:	P-C	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	10.00	10.00		Entrance Loss Coef: 0.30
Rise(in):	10.00	10.00		Exit Loss Coef: 0.50
Invert(ft):	55.750	34.250		Bend Loss Coef: 0.00
Manning's N:	0.010000	0.010000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

C-1 TO Pond C

Name:	PI-BD3	From Node:	C-1	Length(ft): 136.00
Group:	BASE	To Node:	P-C	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	10.00	10.00		Entrance Loss Coef: 0.30
Rise(in):	10.00	10.00		Exit Loss Coef: 0.50
Invert(ft):	55.750	34.250		Bend Loss Coef: 0.00
Manning's N:	0.010000	0.010000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

C-1 to Pond C

Name:	PI-D	From Node:	P-D	Length(ft): 75.00
Group:	BASE	To Node:	P-C	Count: 2
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Circular	Circular		Flow: Both
Span(in):	24.00	24.00		Entrance Loss Coef: 0.30
Rise(in):	24.00	24.00		Exit Loss Coef: 0.50
Invert(ft):	34.500	34.250		Bend Loss Coef: 0.00
Manning's N:	0.013000	0.013000		Outlet Ctrl Spec: Use dc or tw
Top Clip(in):	0.000	0.000		Inlet Ctrl Spec: Use dn
Bot Clip(in):	0.000	0.000		Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end w/ headwall

POND D TO POND C THROUGH HEADWALLS 7 AND 8

==== Channels ====

Name:	CH-1	From Node:	CH-1	Length(ft): 81.00
Group:	BASE	To Node:	P-A	Count: 1
				Friction Equation: Average Conveyance
	UPSTREAM	DOWNSTREAM		Solution Algorithm: Automatic
Geometry:	Irregular	Irregular		Flow: Both
Invert(ft):	33.500	30.000		Contraction Coef: 0.100
TClpInitZ(ft):	999.000	999.000		Expansion Coef: 0.300
Manning's N:				Entrance Loss Coef: 0.000
Top Clip(ft):				Exit Loss Coef: 0.000
Bot Clip(ft):				Outlet Ctrl Spec: Use dc or tw
Main XSec:	CS-6	CS-7		Inlet Ctrl Spec: Use dn
AuxElev1(ft):	0.000	0.000		Stabilizer Option: None
Aux XSec1:				
AuxElev2(ft):	0.000	0.000		
Aux XSec2:				
Top Width(ft):				
Depth(ft):				
Bot Width(ft):				
LtSdSlp(h/v):				
RtSdSlp(h/v):				

INTERCONNECT BETWEEN CS-6 AND 7

Name:	CH-2A	From Node:	CH-2A	Length(ft): 77.00
Group:	BASE	To Node:	CH-2B	Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Trapezoidal	Trapezoidal
Invert(ft):	34.250	32.830
TClpInitZ(ft):	999.000	999.000
Manning's N:	0.015000	0.015000
Top Clip(ft):	0.000	0.000
Bot Clip(ft):	0.000	0.000
Main XSec:		
AuxElev1(ft):		
Aux XSec1:		
AuxElev2(ft):		
Aux XSec2:		
Top Width(ft):		
Depth(ft):		
Bot Width(ft):	3.000	3.000
LtSdSlp(h/v):	2.33	2.33
RtSdSlp(h/v):	2.33	2.33

Friction Equation:	Average Conveyance
Solution Algorithm:	Automatic
Flow:	Both
Contraction Coef:	0.100
Expansion Coef:	0.300
Entrance Loss Coef:	0.000
Exit Loss Coef:	0.000
Outlet Ctrl Spec:	Use dc or tw
Inlet Ctrl Spec:	Use dn
Stabilizer Option:	Nonc

INTERCONNECT BETWEEN A-1 AND POND A

Name:	CH-2B	From Node: CH-2B	Length(ft): 153.00
Group:	BASE	To Node: P-A	Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Trapezoidal	Trapezoidal
Invert(ft):	32.830	30.000
TClpInitZ(ft):	999.000	999.000
Manning's N:	0.035000	0.035000
Top Clip(ft):	0.000	0.000
Bot Clip(ft):	0.000	0.000
Main XSec:		
AuxElev1(ft):		
Aux XSec1:		
AuxElev2(ft):		
Aux XSec2:		
Top Width(ft):		
Depth(ft):		
Bot Width(ft):	3.000	3.000
LtSdSlp(h/v):	2.33	2.33
RtSdSlp(h/v):	2.33	2.33

Friction Equation:	Average Conveyance
Solution Algorithm:	Automatic
Flow:	Both
Contraction Coef:	0.100
Expansion Coef:	0.300
Entrance Loss Coef:	0.000
Exit Loss Coef:	0.000
Outlet Ctrl Spec:	Use dc or tw
Inlet Ctrl Spec:	Use dn
Stabilizer Option:	None

INTERCONNECT BETWEEN A-1 AND POND A
CONCRETE-PAVING REMOVED IN THIS SECTION

Name:	CH-3	From Node: P-A	Length(ft): 120.00
Group:	BASE	To Node: P-B	Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Irregular	Irregular
Invert(ft):	28.000	28.000
TClpInitZ(ft):	999.000	999.000
Manning's N:		
Top Clip(ft):		
Bot Clip(ft):		
Main XSec:	CS-1	CS-2
AuxElev1(ft):	0.000	0.000
Aux XSec1:		
AuxElev2(ft):	0.000	0.000
Aux XSec2:		
Top Width(ft):		
Depth(ft):		
Bot Width(ft):		
LtSdSlp(h/v):		

Friction Equation:	Average Conveyance
Solution Algorithm:	Automatic
Flow:	Both
Contraction Coef:	0.100
Expansion Coef:	0.300
Entrance Loss Coef:	0.000
Exit Loss Coef:	0.000
Outlet Ctrl Spec:	Use dc or tw
Inlet Ctrl Spec:	Use dn
Stabilizer Option:	None

RtSdSlp(h/v):

INTERCONNECT BETWEEN CS-1 AND CS-2

Name:	CH-4	From Node:	CH-4	Length(ft): 374.00
Group:	BASE	To Node:	P-B	Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Irregular	Irregular
Invert(ft):	35.000	33.200
TClpInitZ(ft):	999.000	999.000
Manning's N:		
Top Clip(ft):		
Bot Clip(ft):		
Main XSec:	CS-3	CS-4
AuxElev1(ft):	0.000	0.000
Aux XSec1:		
AuxElev2(ft):	0.000	0.000
Aux XSec2:		
Top Width(ft):		
Depth(ft):		
Bot Width(ft):		
LtSdSlp(h/v):		
RtSdSlp(h/v):		

Friction Equation:	Average Conveyance
Solution Algorithm:	Automatic
Flow:	Both
Contraction Coef:	0.100
Expansion Coef:	0.300
Entrance Loss Coef:	0.000
Exit Loss Coef:	0.000
Outlet Ctrl Spec:	Use dc or tw
Inlet Ctrl Spec:	Use dn
Stabilizer Option:	None

INTERCONNECT BETWEEN CS-3 AND 4

==== Drop Structures ====

Name:	W-2D	From Node:	P-C	Length(ft): 128.00
Group:	BASE	To Node:	612160	Count: 1

	UPSTREAM	DOWNSTREAM
Geometry:	Circular	Circular
Span(in):	30.00	30.00
Rise(in):	30.00	30.00
Invert(ft):	32.320	31.750
Manning's N:	0.013000	0.013000
Top Clip(in):	0.000	0.000
Bot Clip(in):	0.000	0.000

Friction Equation:	Average Conveyance
Solution Algorithm:	Automatic
Flow:	Both
Entrance Loss Coef:	0.300
Exit Loss Coef:	1.000
Outlet Ctrl Spec:	Use dc or tw
Inlet Ctrl Spec:	Use dn
Solution Incs:	0

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

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

WEIR 2 WITH PIPE

*** Weir 1 of 2 for Drop Structure W-2D ***

TABLE

Count:	1	Bottom Clip(ft):	0.000
Type:	Vertical: Mavis	Top Clip(ft):	0.000
Flow:	Both	Weir Disc Coef:	2.800
Geometry:	Irregular	Orifice Disc Coef:	0.600
Cross Section:	Weir_skim2_18up	Control Elev(ft):	36.000
Invert(ft):	36.000	Struct Opening Dim(ft):	999.00

*** Weir 2 of 2 for Drop Structure W-2D ***

TABLE

Count:	1	Bottom Clip(in):	0.000

```
                Type: Horizontal              Top Clip(in): 0.000
                Flow: Both                 Weir Disc Coef: 3.200
            Geometry: Rectangular       Orifice Disc Coef: 0.600

            Span(in): 72.00                      Invert(ft): 38.000
            Rise(in): 72.00               Control Elev(ft): 38.000
```

Weirs

```
        Name: OVER-1              From Node: P-C
       Group: BASE                  To Node: 612160
        Flow: Both                    Count: 1
        Type: Vertical: Paved      Geometry: Rectangular

                  Span(in): 1200.00
                  Rise(in): 9999.00
                Invert(ft): 37.000
      Control Elevation(ft): 37.000
                                        TABLE
           Bottom Clip(in): 0.000
              Top Clip(in): 0.000
        Weir Discharge Coef: 3.200
     Orifice Discharge Coef: 0.600
```

```
        Name: W-1                 From Node: P-B
       Group: BASE                  To Node: 612325
        Flow: None                    Count: 1
        Type: Vertical: Mavis      Geometry: Trapezoidal

          Bottom Width(ft): 3.00
     Left Side Slope(h/v): 0.29
    Right Side Slope(h/v): 0.29
                Invert(ft): 28.000
      Control Elevation(ft): 28.000
     Struct Opening Dim(ft): 999.00
                                        TABLE
           Bottom Clip(ft): 0.000
              Top Clip(ft): 0.000
        Weir Discharge Coef: 2.800
     Orifice Discharge Coef: 0.600
```

WEIR 1

```
        Name: W-1_MOD             From Node: P-B
       Group: BASE                  To Node: 612325
        Flow: Both                    Count: 1
        Type: Vertical: Mavis      Geometry: Irregular

                     XSec: Weirskim1_324up
                Invert(ft): 30.700
      Control Elevation(ft): 30.700
     Struct Opening Dim(ft): 9999.00
                                        TABLE
           Bottom Clip(ft): 0.000
              Top Clip(ft): 0.000
        Weir Discharge Coef: 2.800
     Orifice Discharge Coef: 0.600
```

Hydrology Simulations

Name: 25YEAR
Filename: C:\Projects\Hillsborough County WTE\ICPR\2009_Conditions\Weirs_up\Operated_weirs\PPSA_prop_w1_30.7_w2_36.0\25YEAR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: FLMOD
Rainfall Amount(in): 8.00

Time(hrs)	Print Inc(min)
72.000	15.00
120.000	60.00

Name: 4IN_Rain
Filename: C:\Projects\Hillsborough County WTE\ICPR\2009_Conditions\Weirs_up\Operated_weirs\PPSA_prop_w1_30.7_w2_36.0\4IN_Rain.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: FLMOD
Rainfall Amount(in): 4.00

Time(hrs)	Print Inc(min)
72.000	15.00
120.000	60.00

Routing Simulations

Name: 25YEAR Hydrology Sim: 25YEAR
Filename: C:\Projects\Hillsborough County WTE\ICPR\2009_Conditions\Weirs_up\Operated_weirs\PPSA_prop_w1_30.7_w2_36.0\25YEAR.I32

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

Max Delta Z(ft): 0.05 Delta Z Factor: 0.00100
Time Step Optimizer: 40.000
Start Time(hrs): 0.000 End Time(hrs): 120.00
Min Calc Time(sec): 0.1000 Max Calc Time(sec): 10.0000
Boundary Stages: Boundary Flows:

ppsa swfwmd permit run1
25-Year/24 Hour Storm Event
updated 04/04/06

Time(hrs)	Print Inc(min)
72.000	15.000
120.000	60.000

Group	Run
BASE	Yes

Name: 4IN_Rain Hydrology Sim: 4IN_Rain

Filename: C:\Projects\Hillsborough County WTF\ICPR\2009_Conditions\Weirs_up\Operated_weirs\PPSA_prop_w1_30.7_w2_36.0\4IN_Rain.I32

Execute:	Yes	Restart:	No
Patch:	No		
Alternative:	No		
Max Delta Z(ft):	0.05	Delta Z Factor:	0.00100
Time Step Optimizer:	40.000		
Start Time(hrs):	0.000	End Time(hrs):	120.00
Min Calc Time(sec):	0.1000	Max Calc Time(sec):	10.0000
Boundary Stages:		Boundary Flows:	

ppsa swfwmd permit run1
4 Inches Rain
updated 10/16/09

Time(hrs)	Print Inc(min)
72.000	15.000
120.000	60.000

Group	Run
BASE	Yes

Proposed Conditions

(Gate at Weir #1 Raised to Elev. 30.70 feet)

ICPR Node Report

4-Inch Rain Event

Proposed Conditions Weir 1@30.7' and Weir 2@36.0' (4-in Rain) Node Min/Max Report

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
612160	BASE	4IN_Rain	17.00	32.630	32.630	-0.0018	0	16.29	1.982	0.00	0.000
612325	BASE	4IN_Rain	14.50	25.890	25.890	-0.0005	0	14.25	4.616	0.00	0.000
A-2	BASE	4IN_Rain	12.00	35.559	37.500	-0.0002	137	12.00	0.746	12.00	1.109
A-3	BASE	4IN_Rain	12.27	34.120	37.500	0.0000	217	12.25	2.587	12.26	2.580
B-1	BASE	4IN_Rain	12.26	35.868	37.500	0.0000	149	12.25	2.159	12.26	2.152
C-1	BASE	4IN_Rain	12.00	56.541	60.000	0.0000	211	12.00	3.312	12.00	3.279
CB-1	BASE	4IN_Rain	12.00	35.765	37.500	0.0001	171	12.00	3.503	12.00	3.473
CB-2	BASE	4IN_Rain	12.00	33.010	36.500	-0.0000	202	12.00	6.168	12.00	6.126
CH-1	BASE	4IN_Rain	12.01	33.587	37.500	0.0001	219	12.00	1.109	12.01	0.742
CH-2A	BASE	4IN_Rain	12.01	34.472	37.500	0.0001	327	12.00	3.473	12.01	3.468
CH-2B	BASE	4IN_Rain	12.02	33.189	37.500	-0.0000	626	12.01	3.468	12.02	3.444
CH-4	BASE	4IN_Rain	12.32	35.432	37.500	0.0000	1056	12.26	2.152	12.32	2.130
P-A	BASE	4IN_Rain	14.25	31.452	31.500	-0.0000	92365	12.25	14.102	22.24	2.417
P-B	BASE	4IN_Rain	14.25	31.452	31.500	-0.0000	73048	12.02	12.277	14.25	4.616
P-C	BASE	4IN_Rain	16.29	36.480	38.000	-0.0000	81579	12.00	6.942	16.29	1.982
P-D	BASE	4IN_Rain	16.28	36.481	37.000	0.0000	135144	12.75	4.835	15.25	1.289

ATTACHMENT 8

Proposed Conditions

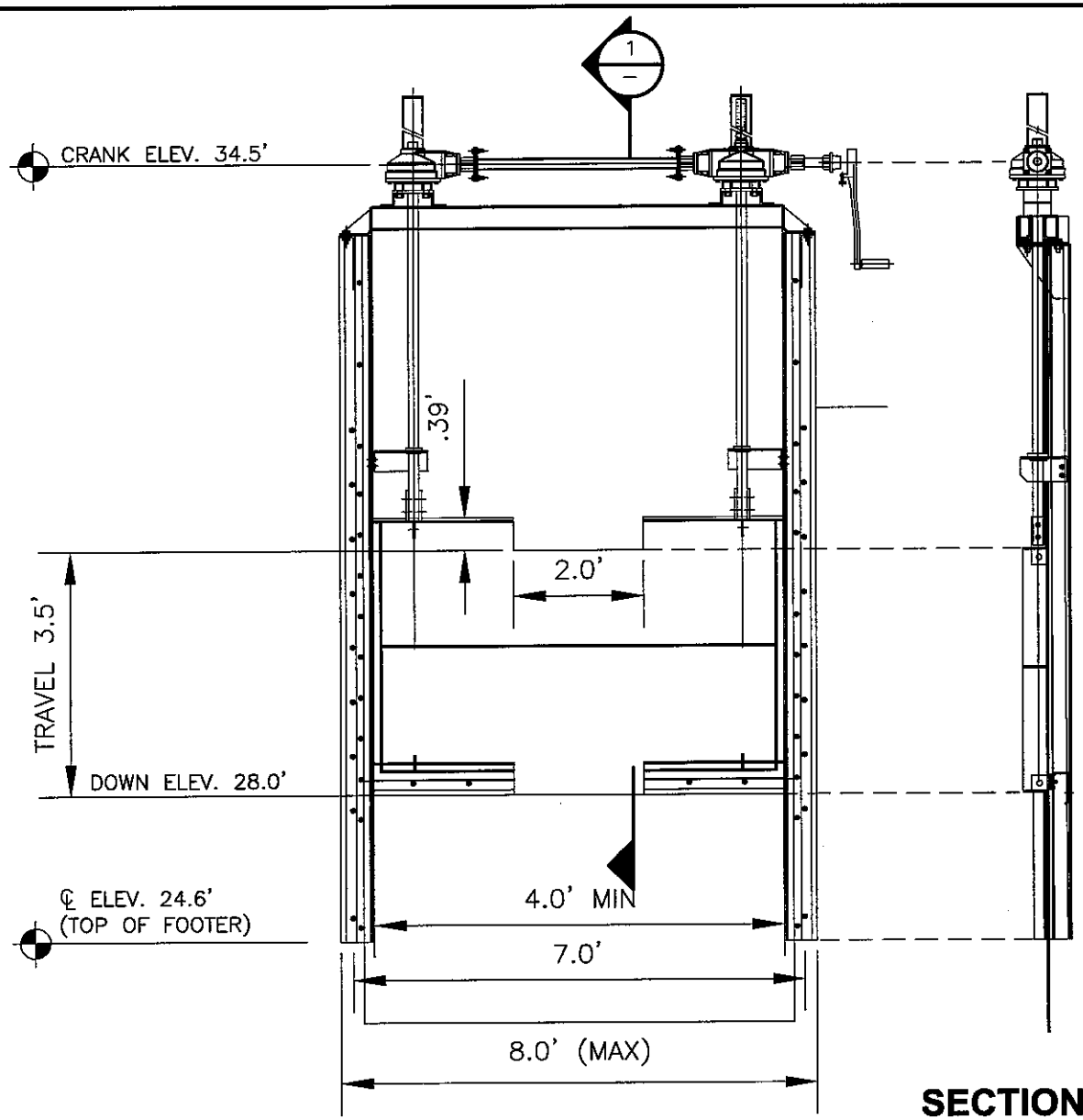
(Gates at Weirs #1 and #2 Raised 18-inches)

ICPR Input

25 Year, 24 Hour Storm Event

ATTACHMENT 12

Adjustable Weir Gate Details



NOTE:

1. CONTRACTOR SHALL FIELD VERIFY ALL ELEVATIONS AND CONTROL STRUCTURE DIMENSIONS FOR APPROVAL BY THE ENGINEER.
2. CONTRACTOR SHALL COORDINATE BOLTING AND ASSOCIATED SPACING W/ WEIR MANUFACTURER.
3. DRAWINGS SHOWN HERE IN WERE PROVIDED BY FORTAINE AND MODIFIED BY CDM FOR DISPLAY PURPOSES ONLY.

SECTION 1
NTS

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CDM

Figure 1
Adjustable Weir Gate No. 1
Stormwater Design And Operations Plan Report
Hillsborough County Resource Recovery Facility

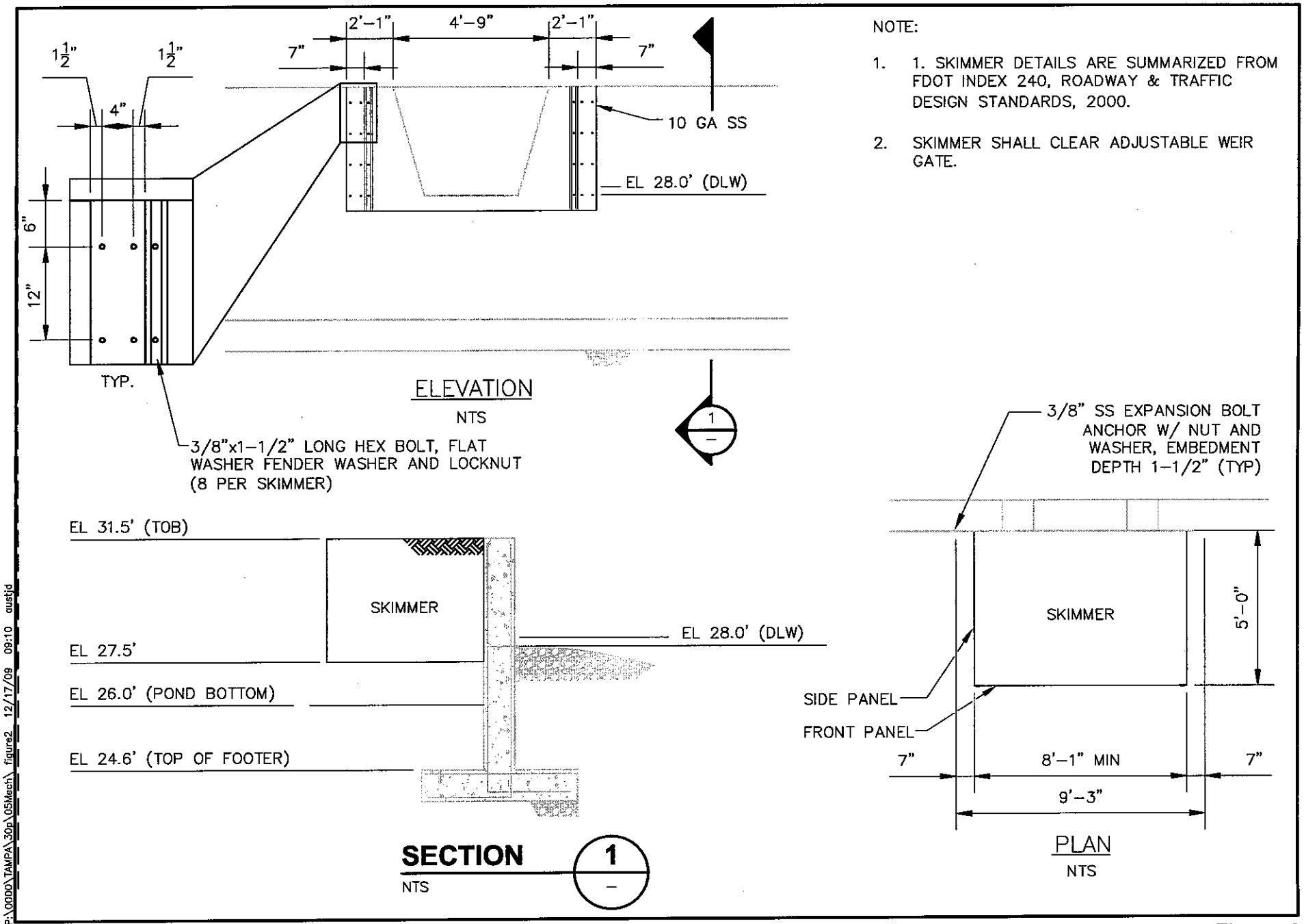


Figure 2
Skimmer Weir Gate No. 1
Stormwater Design And Operations Plan Report
Hillsborough County Resource Recovery Facility

CDM

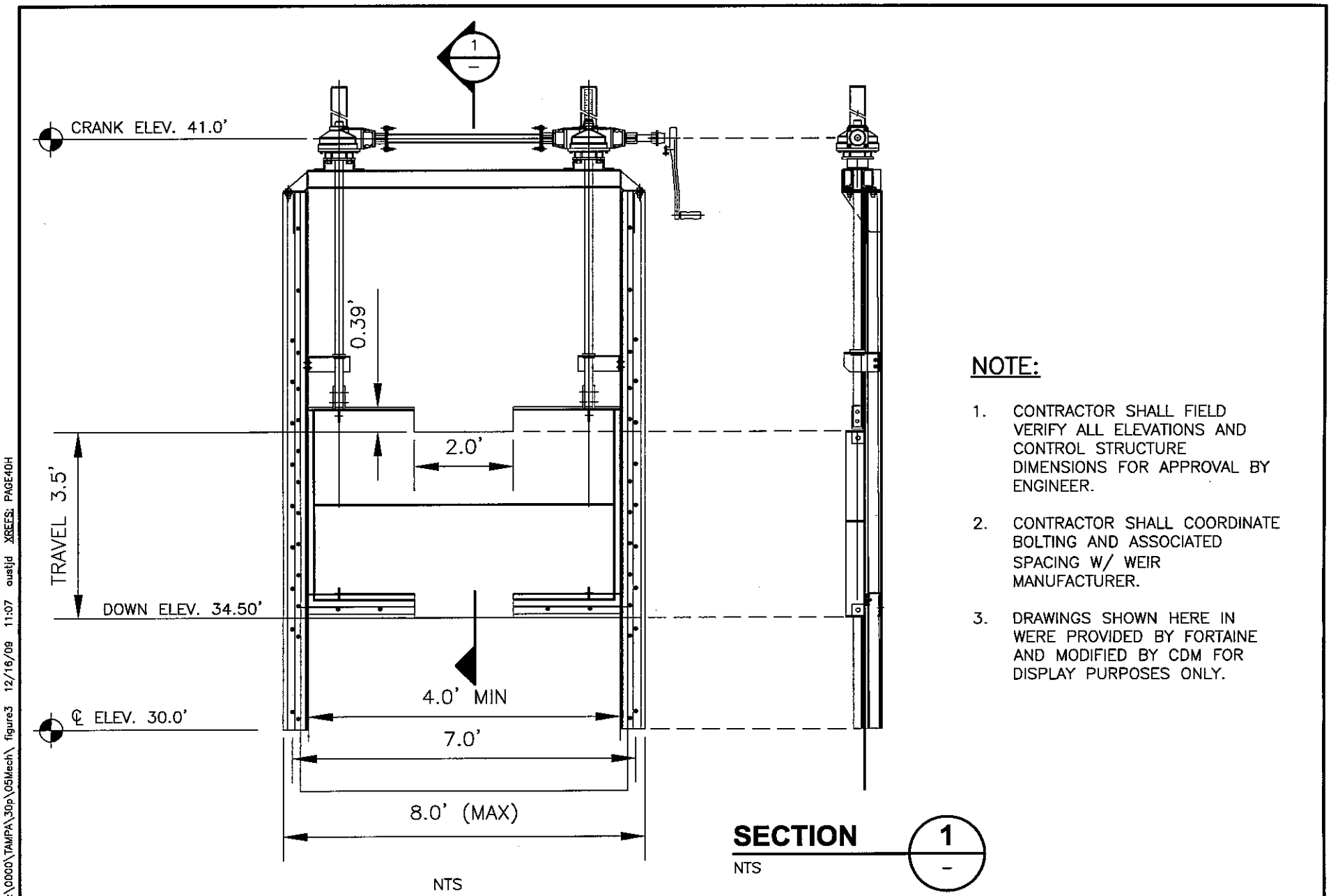
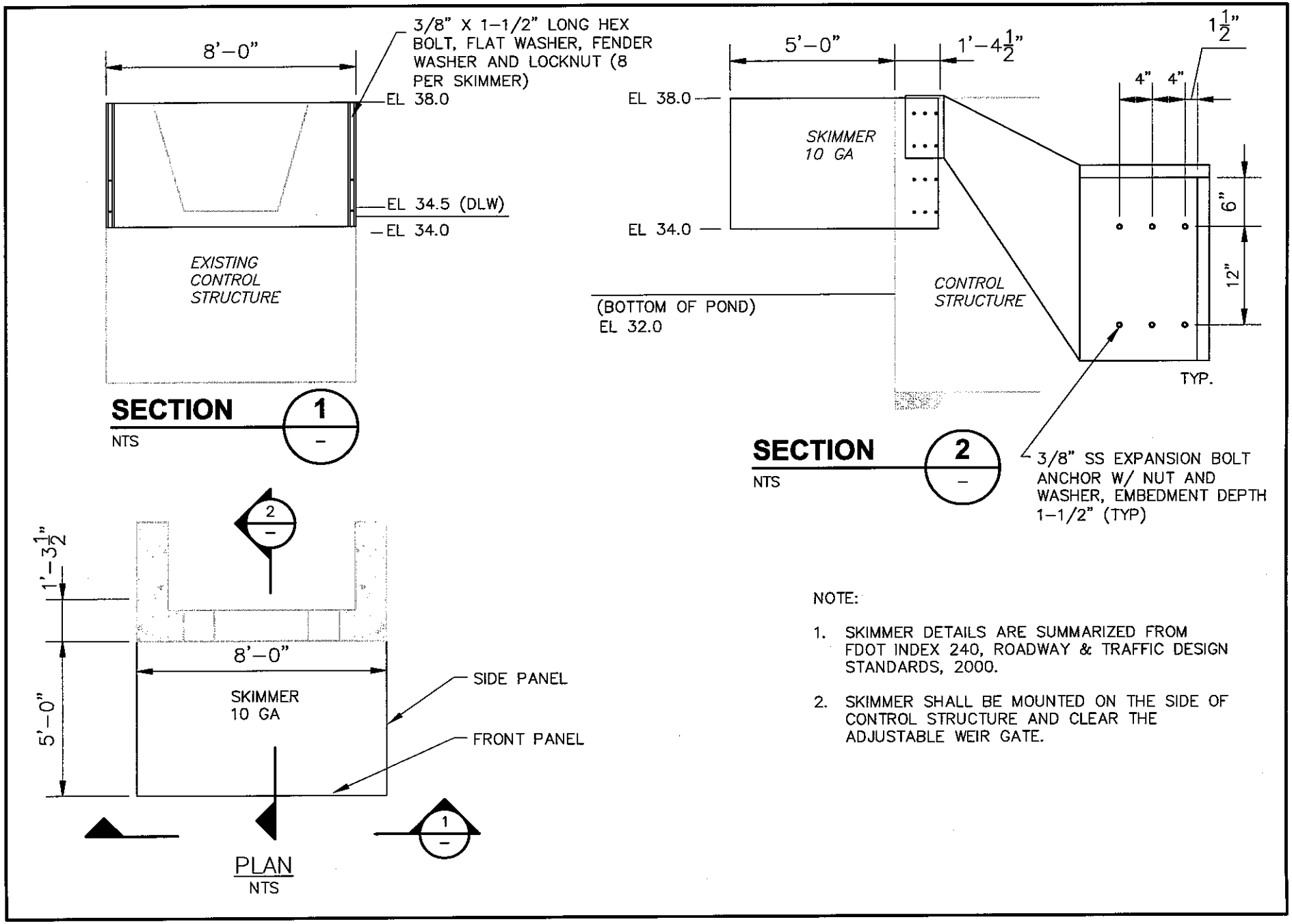


Figure. 3
Adjustable Weir Gate No. 2
Stormwater Design And Operations Plan Report
Hillsborough County Resource Recovery Facility



NOTE:

1. SKIMMER DETAILS ARE SUMMARIZED FROM FDOT INDEX 240, ROADWAY & TRAFFIC DESIGN STANDARDS, 2000.
2. SKIMMER SHALL BE MOUNTED ON THE SIDE OF CONTROL STRUCTURE AND CLEAR THE ADJUSTABLE WEIR GATE.

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CDM

Figure 4
Skimmer Weir Gate No. 2
Stormwater Design And Operations Plan Report
Hillsborough County Resource Recovery Facility

ATTACHMENT 13

Adjustable Weir Gate and Skimmer Specifications

SECTION 11282

ADJUSTABLE WEIR GATES AND SKIMMERS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Furnish all labor, materials, equipment and incidentals required to install a stainless steel downward opening weir gate and operator as shown on the Drawings and as specified herein.

1.02 SPECIAL CONSIDERATIONS

A. The stormwater calculations, control structure elevations and control structure elevation shown herein were based on the existing record drawings C1005 Rev 2, dated May 14, 2007 and the best available information.

B. The existing facility layout was developed by others. The Engineer does not certify the accuracy of the existing facility as shown.

C. The Contractor shall field verify all elevations and dimensions of the control structure for approval by the Engineer.

D. The Contractor shall construct the adjustable weir gates and skimmers based on actual based on actual field measurements.

E. The Contractor shall coordinate the bolting and spacing requirements with the weir gate manufacturer.

F. The Contractor shall field coordinate the location of the staff gauges and rain gauge with the Hillsborough Solids Water Management Department (HCSWMD) operator.

1.03 SUBMITTALS

A. Submit, in accordance with the Contract Documents, shop drawings and product data showing materials of construction and details of installation for:
   1. Complete description of all materials.
   2. Certified shop and installation drawings showing all details of construction, dimensions and anchor bolt locations.
   3. Descriptive literature, bulletins and/or catalogs of the equipment.
   4. A complete bill of materials.
   5. The weight of each component.

B. In the event it is not possible to conform to certain details of this Section, describe completely all non-conforming aspects.

C. Operation and Maintenance Data
   1. Operating and maintenance instructions shall be furnished to the Engineer.

1.04 REFERENCE STANDARDS

A. American Society for Testing and Materials (ASTM)

B. National Electrical Manufacturers Association (NEMA)

C. Aluminum Association, Inc. (AA)

D. Factory Mutual (FM)

E. Underwriters Laboratories (UL)

F. Where reference is made to one of the above standards, the revision in effect at the time of bid opening shall apply.

1.05 QUALITY ASSURANCE

A. The manufacturer shall have experience in the production of substantially similar equipment, and shall show evidence of satisfactory operation in at least 50 installations. The manufacturer's shop welds, welding procedures and welders shall be qualified and certified in accordance with the requirement of the latest edition of ASME, Section IX.

B. The weir gates, operators, operating stems and all related equipment shall be designed, constructed and installed in accordance with the best practices and methods.

C. Weir gates shall be shop inspected for operation before shipping.

D. A factory representative who has complete knowledge of proper operation and maintenance of the equipment provided under this section shall be provided for one 8-hour day to instruct representatives of the Owner and Engineer on the proper operation and maintenance of the equipment. This work may be conducted in conjunction with the inspection of the installation and test runs as provided under PART 3.

E. This instruction period shall be scheduled with the Owner at least 10 days in advance and shall take place prior to start-up and acceptance by the Owner.

PART 2 PRODUCTS

2.01 STAINLESS STEEL WEIR GATES AND SKIMMER

A. The weir gates shall have the characteristics and dimensions as shown in the Figures 1 to 4.

B. GENERAL DESIGN. Weir gates shall be wall mounted, self contained frame, fabricated from type 304L stainless steel, flange back construction and self adjusting UHMWPE (ultra high molecular weight polyethylene) side and bottom seals. The weir shall be constructed with 2 ft x 6 in rectangular opening on Structures #1 and #2.

C. FRAME. The gate frame shall be constructed of structural members or formed plate welded to form a rigid one-piece frame. The frame shall be of the flange back design, suitable for mounting on a concrete wall (CW). The guide slot shall be made of UHMWPE (ultra high molecular weight polyethylene).

D. SLIDE. The slide shall consist of a flat plate reinforced with formed plates or structural members to limit its deflection to 1/720 of the gate's span under the design head.

E. GUIDES AND SEALS. The guides shall be made of UHMWPE (ultra high molecular weight polyethylene) and shall be of such length as to retain and support at least two thirds (⅔) of the vertical height of the slide in the fully open position.

The bottom and side seals shall be made of UHMWPE (ultra high molecular weight polyethylene) of the self-adjusting type. A continuous compression cord shall ensure contact between the UHMWPE guide and the gate in all positions. The sealing system shall maintain efficient sealing in any position of the slide and let the water flow only in the open part of the gate.

Seals shall maintain the specified leakage rate in both seating and unseating conditions.

2.02 OPERATORS AND STEM

A. STEM AND COUPLINGS. The weir gate shall be provided with dual rising stems fabricated of type 303 MX stainless steel. Each stem shall be designed to transmit in compression at least two (2) times the rated output of the operating manual mechanism with a 40 lbs (178 N) effort on the crank or handwheel.

The stem shall have a slenderness ratio (L/r) less than 200. The threaded portion of the stem shall have machine cut threads of the Acme type.

Where a hydraulic, pneumatic or electric operator is used, the stem design force shall not be less than 1¼ times the output thrust of the hydraulic or pneumatic cylinder, with a pressure equal to the maximum working pressure of the supply or 1¼ times the output thrust of the electric motor in the stalled condition.

For stems in more than one piece and with a diameter of 1¾ inches (45 mm) and larger, the different sections shall be joined together by solid bronze couplings. Stems with a diameter smaller than 1 ¾ inches, shall be pinned to an extension tube.

The couplings shall be grooved and keyed and shall be of greater strength than the stem.

B. STEM GUIDES. Stem guides shall be fabricated from type 304L stainless steel. The guide shall be equipped with an UHMWPE bushing. Guides shall be adjustable and shall be spaced in accordance with the manufacturer's recommendation. The L/r ratio shall not be greater than 200.

C. STEM COVER. Rising stem gates shall be provided with a clear polycarbonate stem cover. The stem cover shall have a cap and condensation vents as well as a clear mylar position indicating tape. The tape shall be field applied to the stem cover after the gate has been installed and positioned.

D. LIFTING MECHANISM. Weir gates shall be provided with two lifting mechanisms connected by a tandem shaft. A single lifting mechanism with an extended shaft for operation by the side of gate can be specified, if approved by the ENGINEER.

All bearings and gears shall be totally enclosed in a weather tight housing. The pinion shaft of crank-operated mechanisms shall be constructed of stainless steel and supported by roller or needle bearings.

Each manual operator shall be designed to operate the gate under the maximum specified seating and unseating heads by using a maximum effort of 40 lbs (178 N) on the crank or handwheel, and shall be able to withstand, without damage, an effort of 80 lbs (356 N).

The crank shall be removable and fitted with a corrosion resistant rotating handle. The maximum crank radius shall be 15 inches (381 mm) and the maximum handwheel diameter shall be 24 inches (610 mm).

E. YOKE. Weir gates shall be provided with a yoke made of structural members or formed plates. The maximum deflection shall be 1/360 of the gate's span.

F. All parts of the weir gate shall have a minimum thickness of 1/4-in.

G. All necessary attaching bolts and anchor bolts shall be Type 316 stainless steel and shall be furnished by the slide gate manufacturer.

H. The basis of design is Fontaine Series 40 for Structure #1 (Model 403 - 62 X 48 - B – CW) and Structure #2 (Model 403 - 50 X 42 - B – CW).

I. Stainless steel weir gate manufacturer shall be Fontaine or approved equal.

2.03 WEIR GATE MATERIALS

PART	MATERIAL
Frame, yoke, stem guides, slide, stem extension	Stainless steel ASTM A-240 type 304L or 316L
Guides, side and bottom seals, stem guide liner	Ultra high molecular weight polyethylene (UHMWPE) ASTM D-4020
Compression cord	Nitrile ASTM D2000 M6BG 708, A14, B14, E014, E034
Threaded stem	Stainless steel ASTM A-276 type 303 MX or 316
Fasteners	ASTM F593 and F594 GR1 for type 304 and GR2 for type 316
Pedestal, handwheel and crank	Tenzaloy aluminum
Gasket (between frame and wall)	EPDM ASTM 1056
Stem cover	Polycarbonate ASTM D-3935
Lift nut, couplings	Manganese bronze ASTM B584 UNS-C86500

2.04 SKIMMERS

A. The skimmers shall be designed and installed to the dimensions shown on the contract and as specified in the FDOT Design Standard Manual, Index 240, 2000 Edition, Southwest Florida Water Management Technical Procedure TP/SWP-02, and the Southwest Florida Water Management Basis of Review.

PART 3 EXECUTION

3.01 INSTALLATION

A. Installation of all weir gates and guides shall be done in a workmanlike manner. Handle, store and install the equipment specified in this Section in strict accordance with the manufacturer's drawings and recommendations. Frames and guides shall be installed in a true vertical plane and shall be installed with 90° corners.

B. Gates with embedded guides and inverts shall be installed in accordance with the recommendations of the manufacturer subject to the Engineer's approval.

C. The installation of all weir gates shall be under the supervision of a representative of the manufacturer furnishing the gates.

3.02 FIELD TESTING

A. Furnish the services of a factory representative, as provided under PART 1, who has complete knowledge of proper operation and maintenance to inspect the final installation and supervise a test of the equipment. These services may be combined with those provided under PART 1.

B. After installation, all weir gates shall be field tested at maximum differential head to ensure that all items of equipment are in compliance with this Section, including the leakage requirements.
   1. LEAKAGE. Weir gates shall be substantially watertight under the design head conditions. Leakage shall not exceed 0.05 U.S. gallon per minute per foot (0.60 l/min per meter) of seal periphery under the design seating head and 0.1 U.S. gallon per minute per foot (1.25 l/min per meter) of seal periphery for the design unseating head.
   2. DESIGN HEAD. Weir gates shall be designed to withstand the design head (maximum design head shall be taken as the height of the slide unless otherwise shown in the schedule).
   3. SEAL PERFORMANCE TEST. The weir gate's sealing system should have been tested through a cycle test in an abrasive environment and should show that the leakage requirements are still obtained after 25,000 cycles with a minimum deterioration.

C. In the event that any unit fails to meet the above requirements, the necessary changes shall be made and the unit retested. If the unit remains unable to meet the test requirements to the satisfaction of the Engineer, it shall be removed and replaced with a satisfactory unit at no additional cost to the Owner.

END OF SECTION