December 14, 2021

Ms. Cindy Mulkey
Office of Siting Coordination
Department of Environmental Protection
2600 Blair Stone Road, MS 5500
Tallahassee, FL 32399

Re: **Martin Plant – PPSA No. PA89-27**
Post-Certification Amendment
Martin Plant Unit 8 Switchgear Building Expansion

Dear Ms. Mulkey:

Florida Power & Light Company (FPL) is requesting a post-certification amendment to the Site Certification for FPL's Martin Plant site, pursuant to rule 62-17.205(1)(A) F.A.C. The purpose of this amendment is to obtain approval for a switchgear building expansion for access improvement related to equipment availability for plant personnel.

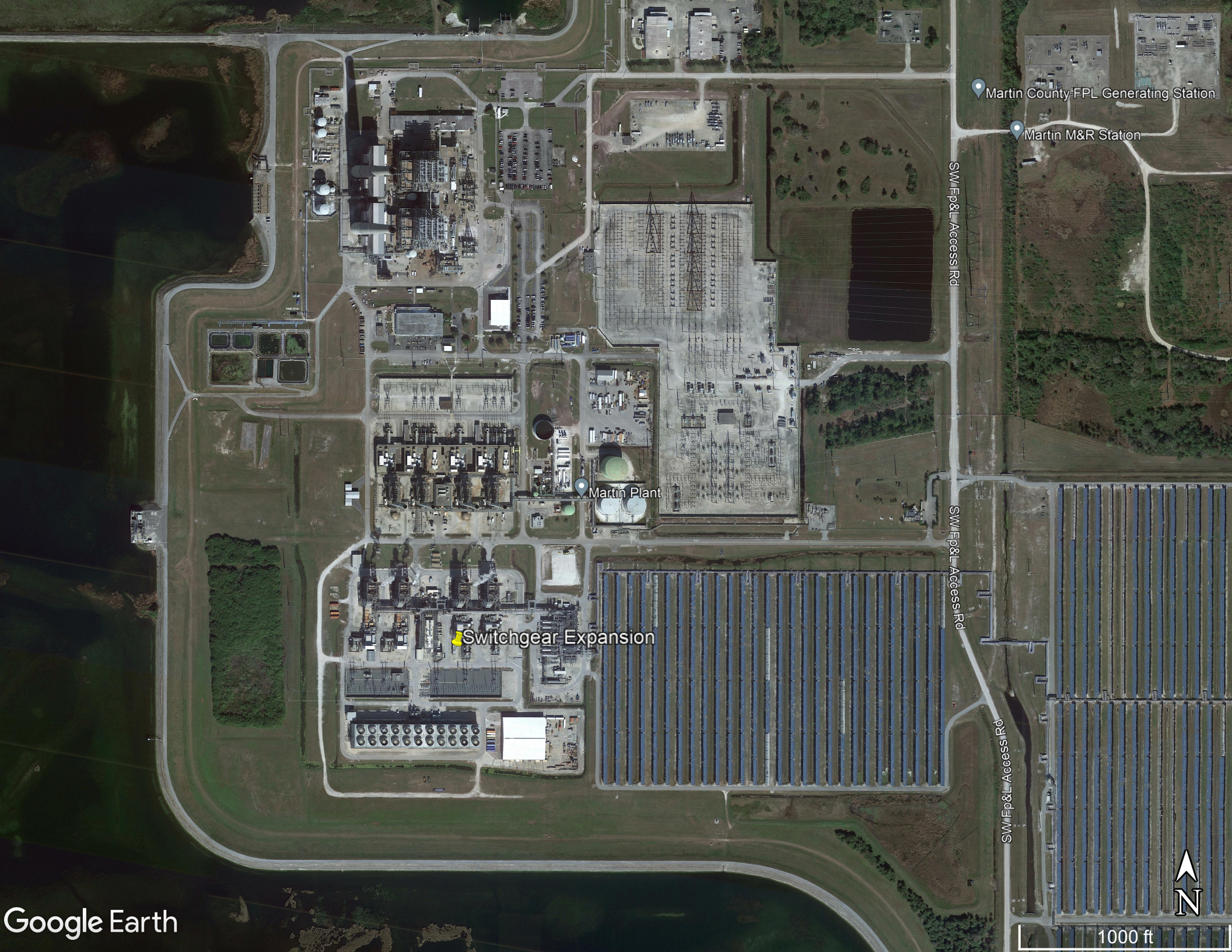
FPL is proposing to expand the existing 6.9 kV switchgear building located near certified Martin Plant Unit 8 (Basin E). The proposed expansion will include construction of an additional 216 square-feet of building footprint. Since the locations of the proposed pads were initially assumed to be impervious in the facility stormwater design, paving over the existing gravel surface will have a negligible impact on stormwater runoff and water quality (Attachment C).

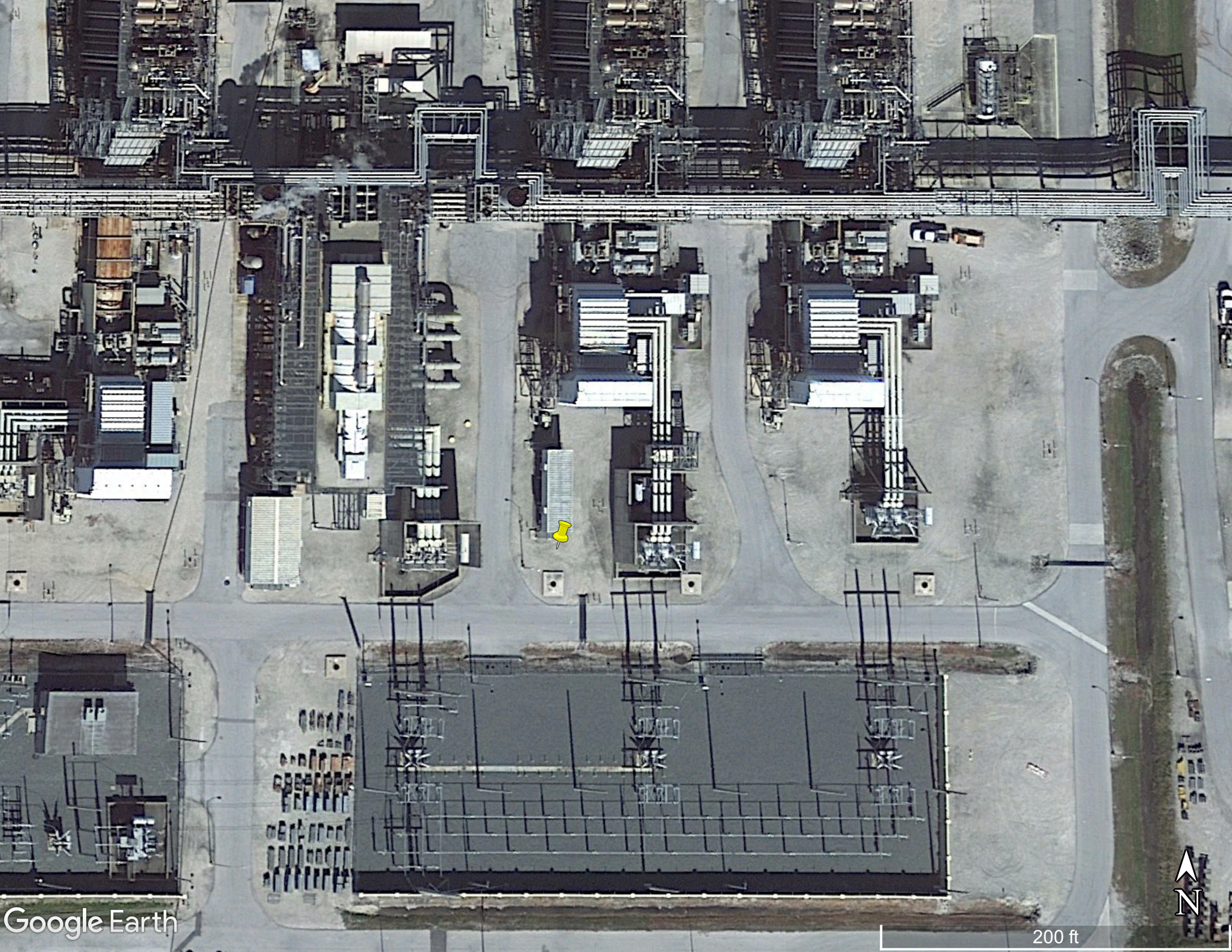
Thank you for your attention to and consideration of FPL's request to amend the Site Certification for the Martin Plant. If you have any questions regarding this submittal, please do not hesitate to contact me at 561-694-3771.

Sincerely,

Allison Thompson
Environmental Specialist

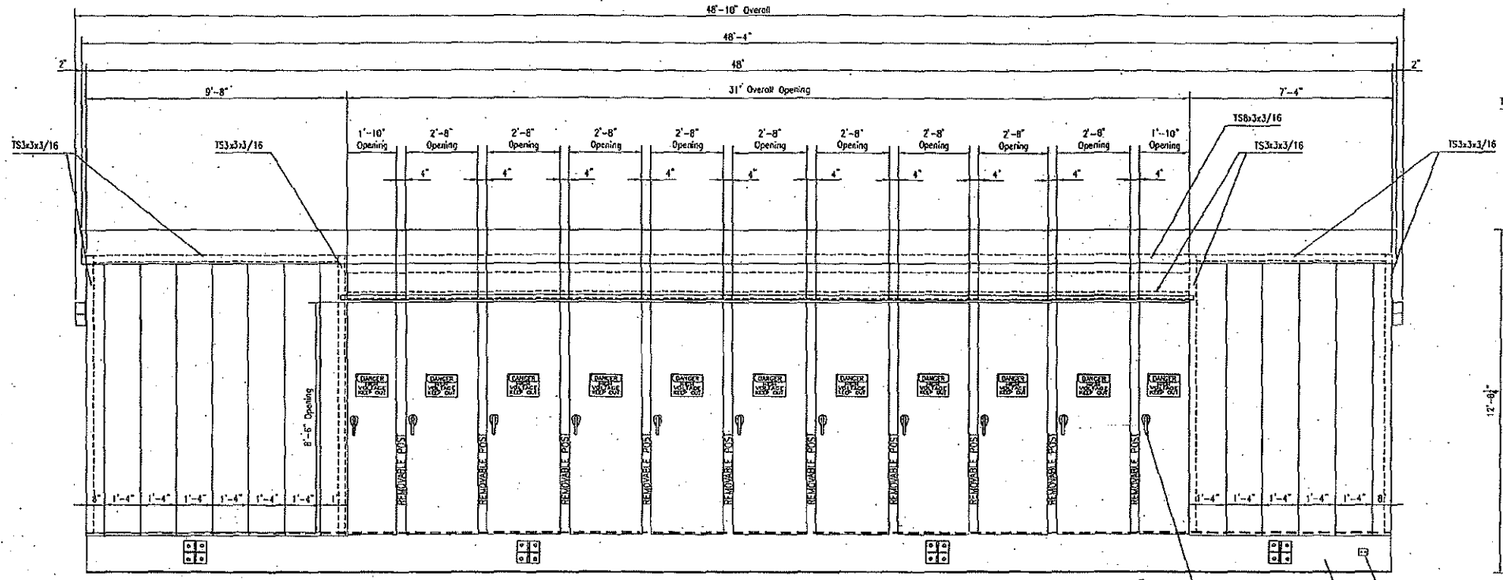
Attachment A
Switchgear Access Improvement Location


Martin County FPL Generating Station
Martin M&R Station
SW Fp&L Access Rd
Martin Plant
SW Fp&L Access Rd
Switchgear Expansion
SW Fp&L Access Rd
N
Google Earth
1000 ft


Google Earth
N
200 ft

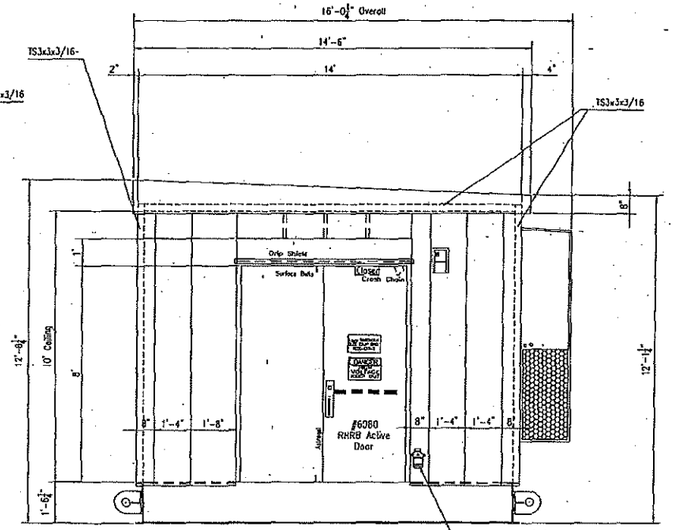
Attachment B
Switchgear Design

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED
1	ADDED END WALL NOTE	11/12/03	DTA



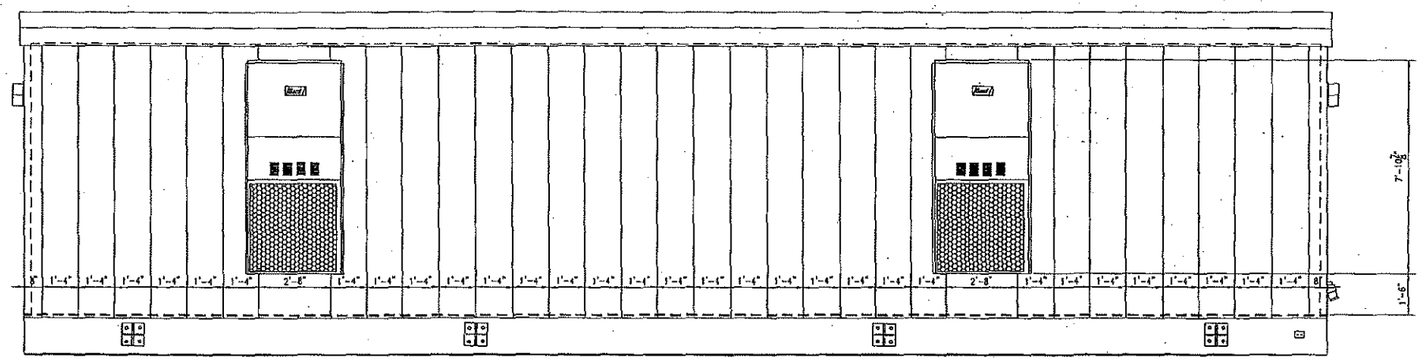
Side C

DO NOT REMOVE MORE THAN (5) CONSECUTIVE EQUIPMENT REAR ACCESS DOORS AT ANY TIME

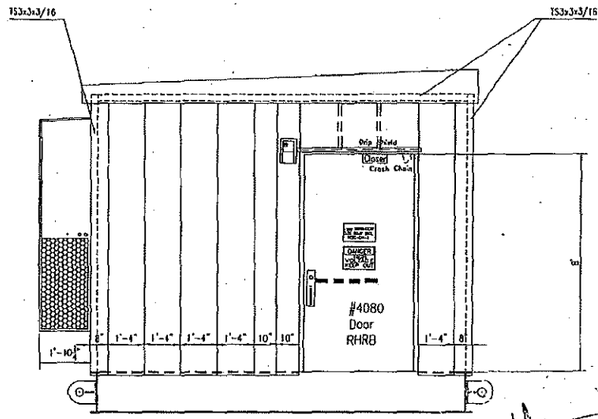


Side D

NOTE: (7) SCREWS PER PANEL AT BASE ON END WALLS ONLY.



Side A



Side B

NOTE: (7) SCREWS PER PANEL AT BASE ON END WALLS ONLY.

11/19/03

FOR ADDITIONAL INFO REFER TO	SIGNATURES	DATE
APPLIED PRACTICES	DRAWN – ACKERMAN	8/28/03
UNLESS OTHERWISE SPECIFIED	CHECKED – COBBLE	Checked
DIMENSIONS ARE IN INCHES TOLERANCES ON: PL. DECIMALS ± PL. DECIMALS ± ANGLES ± FRACTIONS ±	ENGRG	
	MFG	
	QUALITY	
	ISSUED	
	DRAWING FILE 13165-300.dwg	
	REFERENCE	
	CRITICAL TO QUALITY CHARACTERISTIC	

GE (USA) CONFIDENTIAL AND PROPRIETARY
THIS GE DOCUMENT CONTAINS PROPRIETARY AND CONFIDENTIAL INFORMATION OF GE INDUSTRIAL SYSTEMS. IT IS LOANED ON THE CONDITION THAT IT AND THE INFORMATION THEREIN SHALL NOT BE USED-BY-RECIPIENT-NOR-BE-DISCLOSED-TO-OTHERS EXCEPT AS EXPRESSLY APPROVED BY GE INDUSTRIAL SYSTEMS. ANY DOCUMENTS CONTAINING SUCH INFORMATION SHALL BE RETURNED ON REQUEST.

CADDS5 GENERATED

GE SEPS

TITLE FLORIDA POWER & LIGHT–MARTIN
6.9kV SWGR & ELECTRICAL EQUIP ENCL
3EEC–EXX–2

SIZE	CAGE CODE	DWG NO
–	–	13165-300
SCALE None		CONT ON SH NO

FPLMM.63.3600.05-36232 0001 St:RD 12/17/03 ME-00254

Attachment C
Stormwater Calculations

Storm Water Analysis Report

(Purchase Order 2000109354 dated July 19, 2013)

for

FLORIDA POWER & LIGHT COMPANY

MARTIN PLANT (PMR)

December 2, 2013

Prepared by:

Marcos Montes De Oca, PE

MDO Engineering, Inc.

PO Box 1001
Okeechobee, FL 34973
(863) 634-2131
Fax: (863) 763-6169

2185 SW 22nd Circle N
Okeechobee, FL 34974
CA License No. 29880
PE License No. 63897

www.MDO-Engineering.com

and

Patrick J. LaConte, PE

3933 SE Fairway East
Stuart, Florida 34997
(772) 215-0354

TABLE OF CONTENTS

I. CERTIFICATION STATEMENT 3

II. REPORT

A. Introduction 4

- Project Description 4
- Background 5

B. Purpose 5

- Scope 5
- Improvements 6
- Objectives 6

C. Discussion 7

- Basins Descriptions 7
- Basins Orientation 10
- Analysis Criteria 11
- Summary of Findings 11

D. Analysis 12

- Site Data 12
- Curve Numbers 12
- Time of Concentration 13
- Stage Storage Tabulation 14
- Control Structure 14
- Routed Hydrographs 14
- Water Quality 14

E. Conclusions/Results 15

III. FIGURES

Figure 1 ..... Overall Basin Map

Figure 2 ..... Nodal Diagram

Figure 3 ..... Basin 6 & 6A Sub Basin Map

Figure 4 ..... Basin 1-5, 5A & 7 Impervious Area Exhibit

Figure 5 ..... Solar Field Basins Impervious Area Exhibit

Figure 6 ..... Basin 6 & 6A Impervious Area Exhibit

IV. DATA & CALCULATIONS

Appendix A ..... BASIN CHARACTERISTICS

Appendix B ..... ADICPR INPUT DATA

Appendix C ..... NODAL HYDROGRAPHS

Appendix D ..... BASIN HYDROGRAPHS

CERTIFICATION STATEMENT

FS 471.025 and FAC 61G15-23.002

In accordance with F.S. (Florida Statutes) Chapter 471.025 Seals, and
FAC (Florida Administrative Code) 61G15-23.002 Seal, Signature and Date Shall Be Affixed.

I hereby certify that I (or my agent) have visited and examined/reviewed this facility and attest that I am in responsible charge of the preparation of this report, and it has been prepared in accordance with accepted and good engineering practice.

Prepared by:
MDO Engineering, Inc. – CA License No. 29880
PO Box 1001, Okeechobee, FL 34973
2185 SW 22nd Circle N, Okeechobee, FL 34974
(863) 634-2131, and Fax: (863) 763-6169

Marcos Montes De Oca, PE License No. 63897
Printed Name of Registered Professional Engineer

[SEAL]

Signature of Registered Professional Engineer

State Registration No. *PE License No. 63897*

Date _____

REPORT

A. Introduction

Project Description

The Florida Power & Light (FPL) Martin Plant is an existing power plant facility located south of State Road 710 west of the Indiantown area of Martin County, Florida. The developed plant site consists of a 6,800-acre cooling pond, approximately 400 acres of Units 1 through 4, Unit 8, and associated facilities, and approximately 600 acres for the Martin Solar Energy Center (MSEC). The Site Certified (SCA) power plant is located in Sections 20, 21, 28, and 29 of Township 39 South, Range 38 East. The CERTIFIED BOUNDARY prepared by Golder Associates (18 Sep 2013) generally identifies the certified plant site currently consisting of the power block areas, a transmission corridor, and a significant amount of undeveloped area. This CERTIFIED BOUNDARY, as drawn, consists of 2,172.46 acres, however it extends over portions of the cooling pond which is not actually part of the certified plant site. The CERTIFIED BOUNDARY also appropriately wraps around Units 1 and 2, which are also not part of the certified plant site. The latest significant improvement to the certified plant site was the development of the solar energy center that was completed in 2010.

This report addresses stormwater within the CERTIFIED BOUNDARY (please refer to Figure 1 Overall Basin Map for an aerial map of the site). There are two main drainage systems serving the Martin Plant (PMR), the 1) northern perimeter ditch and the 2) eastern perimeter ditch. The northern perimeter ditch drains the majority of the area north of the pond, including a relatively small area of open space north of the main access road and within the CERTIFIED BOUNDARY. The northern perimeter ditch discharges into the L-65 Canal at the northwestern corner of the PMR site. This report does not address the drainage to the northern perimeter ditch. The eastern drainage ditch (also known as the East Ditch) is the major outfall for the CERTIFIED BOUNDARY, and is therefore the subject of analysis for this report. It drains the easternmost portions of the PMR site, as well as the power block area and solar fields, and discharges into the East Ditch Flow Way, which discharges to the St. Lucie Canal. The plant site generally slopes south toward the existing flow way which conveys the project discharge to the St. Lucie Canal.

Finally, the only other exceptions to the CERTIFIED BOUNDARY as the source of all drainage for the East Ditch, are 1) the area immediately around the power block where drainage is collected, treated, and pumped into the cooling pond, 2) any of the area within the CERTIFIED BOUNDARY that includes the cooling pond, banks and dam/levee, which are drained or pumped directly into the cooling pond, and 3) area around Units 1 and 2 that is outside of the CERTIFIED BOUNDARY but contributes drainage to the East Ditch.

Background

Surface water management analysis and reports have been prepared on several occasions in the past to establish pre-development characteristics of the site and estimate conditions of proposed development. Early reports by Howard L. Searcy, PE in 1990, and Foster Wheeler Environmental Corporation in 2002 identified the major contributing basins for the plant. These basins have been refined in subsequent reports, such as the Boyle (legacy to AECOM) report certified by Howard L. Searcy, PE in 2007 and a later report by AECOM in 2010 to evaluate development impacts to the Martin Flow Way Ditch (also known as the East Ditch) – the publication of both of these reports was managed by Patrick LaConte, PE. The design and analysis of the Surface Water Management system and the Site Construction Plans for the MSEC were also prepared by AECOM – Marcos Montes De Oca, PE was the Engineer of Record, and Patrick LaConte, PE was Project Manager. Each of these reports and plans were utilized by FPL to secure development permits and modifications to the Site Certification for the Martin Plant and MSEC. Also, during the construction of the MSEC, an AECOM analysis of Basin 6 (Basin 005E) was prepared by Patrick LaConte, PE in September 29, 2010 to evaluate conditions of development for this basin.

B. Purpose

Scope

MDO Engineering (MDO) was tasked by Florida Power & Light Company (FPL) to provide the engineering services required to analyze the existing storm water system at the Martin Plant (PMR).

The purpose of the engineering analysis of the storm water system is to 1) confirm the required amount of water quality treatment prior to discharge is provided and to 2) verify that existing system in compliance with the criteria of South Florida Water Management District (SFWMD) and Martin Site Certification Modification Requirement. There have been several minor modifications to the plant during the construction of the MSEC power block, solar fields, and Solar Admin building. These modifications were necessary for individual improvements and they were all evaluated and found to not have an impact on the overall storm water system before being implemented. However, as a result of the construction of Unit 8, the cooling tower, MSEC, and the solar fields, the overall composite Martin storm water system needs to be analyzed to verify compliance of the existing storm water facilities. ***Please note, all elevations provided in this document are reported using the NAVD 88 vertical datum.***

Improvements

A list of the projects improvements to be evaluated are as follows:

1. The outfall Structure 005E was temporarily plugged for HTF containment – this plug has been removed and 005E is again operating as intended.
2. The main solar field roadways were re-graded and paved to control dust to minimize maintenance cleaning of the mirrors.
3. Double 12" PVC pipes were added in 2 locations between the Cooling Tower, the Solar Field 1 and 5E Detention area. FPL plans to remove the north-south oriented pipes to accommodate the addition of a new warehouse building and leave the others that connect the ditch to the detention area.
4. A shallow 24" culvert in a ditch adjacent to the Solar Power Block was replaced by a new 2' x 8' box culvert to improve drainage.
5. The open area between the Cooling Tower and the Solar Field 1 has been made impervious to accommodate the addition of a new warehouse building and to increase plant operation space. Also a 3,000 SF overflow containment structure was recently constructed in this space for HTF control which drains through the cooling pond outfall system.
6. The plant access road was lowered approximately 2' under the solar pipe rack to improve vertical clearance at this crossing.
7. The Solar Administration Building outfall pipe was extended to discharge into an existing ditch to the west to improve drainage.
8. The pavement was widened for the roadway on the north side of the solar field at the intersection with the access road to allow circulation around a new security gate/fence.
9. Swales through the Solar Power Block and around Unit 8 were deepened and additional culvert connections made to improve drainage in this area.
10. There was some question if a new Oil Trap was installed north of Solar Field 1. This structure was however existing prior to the solar development – it appears to be a stormwater baffle box with a skimmer for oil and debris.
11. A parking lot expansion is under construction just north of the existing parking lot by Units 1 and 2 to provide improved parking capacity for plant personnel.
12. A new Gas Yard was constructed and another one is under construction immediately north of the west end of the transmission corridor to improve fuel supply to the plant.

Objectives

The Design Requirements in the Statement of Work by FPL and therefore the objectives of this report are as follows:

2.2.1 The storm water analysis shall be performed in accordance with applicable South Florida Water Management District criteria and conditions that stated in Attachment D – State of Florida Department of Environmental Protection Martin Expansion Project Florida Power & Light Condition of Certification Modification M (PA89-27 M).

2.2.2 Engineer shall verify the storm water system of Unit 8, cooling tower, MSEC, solar power block, and solar field. Engineer also verify the calculation of east perimeter ditch and as- built drawings that are provided.

2.2.3 The design shall provide the storm water models for 25 year 24 hour storm, 25 year 72 hour storm, and 100 year 72 hour storm of Martin Plant.

2.2.4 The storm water model shall be done in ICPR modeling program or program that is approved by SFWMD.

2.2.5 The analysis shall state the free board elevation at east perimeter ditch, Basin and Outfall D-05 E, Outfall D-05 D and Outfall D-05 C from the design storm of 25 year 24 hour event and 25 year 72 hour event.

2.2.6 Engineer shall verify the basic design requirement of the SFWMD, which states the peak post-construction runoff flow rate resulting from the design storm should not exceed the pre-development peak flow rate.

2.2.7 Florida Registered Professional Engineer shall certifies the surface water management system after verifying the existing storm water system, analyzing and modeling the existing design, and reviewing the as-built drawings.

2.2.8 The analysis shall confirm the required amount of water quality treatment prior to discharge is provided.

C. Discussion

The site has been analyzed on pre-development vs. post development conditions. Pre-development assumptions were mostly adopted from the previous surface water management reports. The model continues to use the basic basin layout based on the existing facilities and topography, however this report has also incorporates the additional sub-basins designed for the Solar Field, as well as the additional sub-basins previously established in 2010 to more accurately model Basin 6 surrounding Units 3, 4, 8 and the Solar Power block, and newly identified Basins 5A and 6A for non-SCA development around Units 1 & 2 that is actually included in this system. Please see The Overall Basin Map (Figure 1) for the basin layout.

Basins Descriptions

Basin 1 – This is the northern most area contributing to the ditch that ultimately becomes the East Ditch flow way at the south end of the certified site area. There is a generally undeveloped

portion of the certified site adjacent and north of Basin 1 and 5 that drains to the west into the northern perimeter ditch, and therefore is a non-contributing area to the certified site. Basin 1 is 45.0 acres and consists primarily of undeveloped area with the exception of the entrance road which is the sole source of the 0.9 acres of impervious area. The outfall (Structure 1) for this basin is overland flow into the northern extent of the ditch.

Basin 2 – At 593.2 acres, this is the largest contributing basin in the certified site. The basin is primarily undeveloped area but includes a portion of the transmission area, the northern borrow lake used for the construction of the solar field, and the access road. The road entirely contributes the 1.1 acres of impervious area to this basin. In previous studies, the outfall for this basin was only considered to be overland flow (Structure 2B), located towards the east and in the Transmission Corridor. This analysis utilizes the same outfall and we have introduced another outfall (Structure 2A); the multiple pipes in the ditch crossing for the transmission corridor maintenance road (nothing more than a trail at natural grade). These pipes collectively are referred to as D-05B, and the pipe inlet inverts are higher than the overland flow, however, as the storm stage increases they do eventually convey drainage south through the ditch.

Basin 3 – This basin has similar characteristic as Basin 2 being mostly undeveloped, even so, much of the total 283.1 acres covers the transmission area which was cleared and is maintained to protect the transmission corridor. Additional development in this basin are the gas yards and nearly as much access road as in Basin 2. The impervious area in this basin amounts to 0.75 acres. This basin is immediately north of the solar fields and through a series of shallow ditches the basin stages up to outfall through Structure 3, overland flow just north of the solar fields into the same ditch draining basins 1 and 2.

Basin 5 and 5A – This combined basin is west of the access road from the northern extents of the certified site south to the plant roadway that leads to Units 3 and 4. This basin includes the west portion of the main access road adjacent to Basins 1, 2 and 3, and generally consists of open space and undeveloped area west to the cooling pond levee, and adjacent to and including 49.3 acres (Basin 5A) of the uncertified plant site. Basin 5 is 178.8 acres, and includes 3.9 acres of impervious area, Basin 5A includes 10.6 acres of impervious area. The drainage in this combined basin is directed into a wet pond at the southern extent that is managed by a control structure outfall (Structure 5) also referred to as D-05A. This outfall drains into the same ditch as Basins 1 and 2 at a location slightly north of the Basin 3 outfall. A significant

portion of the CERTIFIED BOUNDARY area west of the northern extents of Basin 5 is over the cooling pond and therefore is another non-contributing area.

Solar Basins (Basins S1 – S8) – The entire solar field area east of the main access road is divided into basins consistent with the design and construction of this facility. The solar field stormwater management system utilizes swale storage on each solar mirror row. These swales drain into perimeter ditches on either the north or south side of the solar field, and the perimeter ditches drain west through a series of control structures ultimately draining into the ditch that becomes the East Ditch Flow Way south of the certified site. Basin S3 (57.7 acres) drains through CS-03 into Basin S2 (58.1 acres), which drains through CS-02 into Basin S1 (74.1 acres), which outfalls these 3 basin through CS-01 (also known as control structure D-05C) into the East Ditch immediately north of the solar field north access road. In a similar manner, Basin S8 (62.3 acres) drains through CS-08 into Basin S7 (61.0 acres), which drains through CS-07 into Basin S6 (25.2 acres), which drains through CS-06 into Basin S5 (38.2 acres), which drains through CS-05 into Basin S4 (39.6 acres), which outfalls these 5 basin through CS-04 (also known as control structure D-05D) into the East Ditch immediately south of the solar field south access road. The solar field consists of a repetitive layout of rows of solar thermal generating units and swales with perimeter and central access roads, therefore the basins characteristics are similar and the impervious area averages 56% of the total solar basin area.

Basin 7 – This basin is located at the south eastern corner of the certified site. Basin 7 is 272.0 acres and consists primarily of undeveloped area with the exception of the southern borrow lake that was used for the construction of the solar field, and there is no impervious area in this basin. Due to the existing natural topography of this basin, and the storage of both natural surface areas like wetlands and the borrow lake, there is no drainage from this basin into other basins or off-site for the design storms modeled in this analysis.

Basin 4 – This 46.8 acres basin is a relatively narrow strip of entirely undeveloped property between the solar fields and the southern border of the certified area. This basin similar to Basins 1, 2 and 3 north of the solar field naturally flows towards the west and stages up to outfall through Structure 4, overland flow just south of the solar fields into the north end of the East Ditch Flow Way immediately upstream of the low bridge.

Basin 6 & 6A – The final combined basin contributing to this analysis is the 200.00 acres of Basin 6 and the 33.6 acres of Basin 6A which is outside of the certified area. This combined basin is west of the main access road at the southwest corner of the certified site. There is a

considerable amount of CERTIFIED BOUNDARY area adjacent to Basin 6 that consists solely of cooling pond area and is therefore a non-contributing area or not included in the model analysis. Because Basin 6 & 6A are developed areas, these basin have been divided up into sub-basins to improve the accuracy of the model results. These sub-basins have been established consistent to a previous analysis and can be seen on the Basin 6 & 6A Sub Basin Map (Figure 3). Basin 6 also includes some undeveloped area in the southern most extents of the basin, which actually does not drain into the stormwater management system. Both of these basins also exclude power block and solar power block drainage that is collected, treated and discharged into the cooling pond. As a result of these exclusions, the analyzed net basin area for Basin 6 includes 117.5 acres of impervious area, and Basin 6A has 9.0 acres of impervious area. The combined basins drainage is collected in a wet pond at the south-east corner of the Basin 6 and is managed by a control structure outfall (Structure 6) also referred to as D-05E. This outfall drains through double pipes into a ditch that flows south into the north end of the East Ditch Flow Way immediately downstream of the low bridge. The pipes, as common in most cases, have more capacity than the Structure 6 (D-05E), therefore the structure limits the flow capacity of these basins.

25.5, 26.7 and Offsite East – These are not actually basins, and therefore, are not identified on any of the basin maps. They are instead the 3 ultimate outfall conditions for all of the studied basins, and therefore they are identified in the Nodal Diagram (Figure2) as well as several tables within the body of this report. The outfalls 25.5 and 26.7 were named in a previous study as a reference to the tail-water elevation at each location on the East Ditch. The tail-water elevations are dependent on the total flow in the East Ditch, and as a result, the tail-water elevation for the outfall 25.5 was determined to be more accurately represented by an elevation of 25.9. Due to the greater flow capacity of the East Ditch at the location of outfall 26.7, this tail-water remains at the elevation of 26.7. Finally, Offsite East is the minimum overland flow condition that would allow discharge from Basin 7 at the east boundary of the certified area. However, the model results demonstrate that the peak stage in Basin 7 never reaches the outfall elevation and therefore there is no discharge in any of the modeled storm events for this outfall.

Basins Orientation

Basins 1, 2 and 3 combine to outfall into the flow-way from the north east. Basin 5 & non-SCA Basin 5A are collected in the pond that outfalls from the west into the flow-way. The Basin 5 pond is east of the Unit 1 and 2 facilities although there is no drainage connection to this pond from Units 1 and 2 as this stormwater drains to the cooling pond system, and therefore does

not contribute to this reports study area. Solar Field Basins S1, S2 and S3 combine to outfall to the flow-way at the northwest corner of the Solar Field. The Nodal Diagram (see Figure 2) shows the general connection and peak discharge values. These three basin groups enter the flow-way north of the Solar Fields and therefore are shown together on the left side of the Nodal Diagram.

The majority of the Solar Field (Basins S4, S5, S6, S7 and S8) and the unimproved Basin 4 adjacent to the south side of the Solar Field outfall to the flow-way south of the Solar Field from the east. Basin 6 consisting of 6 sub-basins and non-SCA Basin 6A discharges into the flow-way from the west through the D-05E outfall towards the south end of Basin 6. This grouping is shown on the right side of the Nodal Diagram.

Analysis Criteria

As discussed in the previous section, the surface water management system is a collection of basins that are all inter-connected to a common ultimate outfall the East Ditch (flow-way). The analysis was performed using Advanced Interconnected Pond Routing (ADICPR) stormwater modeling software, which is accepted for stormwater analysis by SFWMD.

The model was evaluated for the following storm events and discharge considerations:

- 25-year, 1-day storm event
- 25-year, 3-day storm event (Permit Discharge criteria)
- 100-year, 3-day storm event

Supplemental Discussion – Multiple runs of the model were performed with the input and output data examined to evaluate the basin data and ensure the model was an effective representation of the field conditions.

Discharge or peak flow values are identified on the Nodal Diagram, however it is important to note that the timing of these peak flows will not occur at the same time through-out the system – therefore the model computes the overall peak for the system.

Summary of Findings

The analysis shows that the site discharge is well within the permit conditions and Certification standards. The model shows that during the 25 year, 3 day storm event the plant's peak discharge is only 375.14 cfs. The allowable discharge is 550cfs for the same 25 year, 3 day storm event, and the previous Water Surface Profile Analysis prepared in 2010 calculated the

peak discharge at 299.1cfs.

The multi-basin flood routing analysis also determined peak elevations, and findings indicate that paved areas should remain above flood stage elevations for the 25 year, 3 day storm event.

D. Analysis

Site Data

Pre-development. Boundary and topographic surveys, existing permit documentation, and previously mentioned engineering studies and site observations have been utilized to determine the characteristics of the pre-development and existing unimproved property within the study area. The site was reviewed with regard to the pre-development existing conditions, and the existing topography, was reviewed for drainage and runoff characteristics and noted for the significance of existing impervious area. The pre-development pervious and impervious areas for this site are quantified in the DATA & CALCULATIONS, Appendix A – Site Data.

Developed. The developed area, including estimates for future development in the power block area, was organized into pervious and impervious areas and analyzed based on the percentage of the pertinent basin.

Curve Numbers

The widely accepted rainfall distribution for South Florida is the Santa Barbara Urban Hydrograph. The runoff from the rainfall is calculated based on the surface conditions of the site, and the Curve Number (CN) is used to qualify the surface conditions in the runoff calculation. A comprehensive list of Curve Numbers is established in the TR-55 publication, which is the basis for the CN values determined for this analysis. The SFWMD volume IV and the modeling program calculate the equivalent soil storage (S) as follows:

$$S = 1000/CN - 10$$

Therefore, S is dependent on the CN value. Therefore, when using pre-determined CN values listed within the TR-55 Tables—see DATA & CALCULATIONS, Section B–that differentiate these values for different ground types and Hydrologic Soil Groups, the S value calculated will not necessarily correspond to the soil storage determined by SFWMD Tables. The S vs. DWT

correlation can be determined from the table below; the table was created from the SFWMD Volume IV Manual and is based on the direct relationship between soil storage and the depth-to-water table. The overall CN value can also be calculated by taking a weighted average of CN values for each basin/sub-basin area of interest.

Depth to Water Table (DWT) (in feet)	Cumulative Water Storage, S_{cum} (in inches)	Compacted Water Storage, S_{com} (in inches)
1	0.60	0.45
2	2.50	1.88
3	6.60	4.95
4	10.90	8.18

Table—SCS Method for Determining the Compacted Water Storage for A Drainage Basin

In order to establish the appropriate S and CN values, calculations were also conducted using the methods outlined in the South Florida Water Management District's, Management and Storage of Surface Waters—Permit Information Manual, Volume IV, section C-III-1 on "Water Storage." According to the SFWMD and the Soil Conservation Service, the moisture storage capability for this site can be estimated for the typically normal sandy soils found within the District's boundaries by investigating the relationship between available water storage and the depth to water table (DWT). The table listed above was utilized to interpolate values for the cumulative and compacted water storage at both the average existing and finished grades for the project.

Pre-development.

The pre-development/existing condition has been established in the previous studies.

Developed condition. All of the different surface types indicated within the project were given curve numbers (CN values) based on the TR-55 runoff tables and hydrologic group classification –see DATA & CALCULATIONS, Section B, for details. These CN values for each sub-basin area were then weighted, based on their percentage of surface area for all pervious and impervious contributions, to arrive at post-development CN values shown on the Basin Characteristic analysis for each basin.

Time of Concentration

**NOTE: Roughness coefficients, for sheet flow and data on the 2-yr, 24-hr rainfall event, applicable to this site were based on Tables from the TR-55 packet.*

Pre-development.

The pre-development/existing condition has been established in the previous studies.

Developed condition. Time of concentration values for the developed condition was based on the site attributes subsequent to development. The length and flow characteristics were determined by locating the most remote point-of-origin and calculating the travel time to the point-of-collection. According to the results calculated by the TR-55 Method, the post-development TC values for each basin is shown in the table that follows.

Stage-Storage Tabulation

Areas within each basin contributing to the East Ditch outfall were labeled and quantified in a spreadsheet. These project areas were then evaluated, according to their topography or elevation within the site, and correlated with stage elevations resulting from design storm events. Changes in stage-storage volumes were identified at incremental design elevations. The stage-storage relationship is used to determine the stage elevation for the storage volume needed for water quality/quantity management (based on linear, vertical, linear/vertical and trapezoidal storage calculations)–see DATA & CALCULATIONS, Section E, "STAGE STORAGE TABULATION."

Control Structure

In order to manage the amount of discharge, or outflow, from the 24-hr and 72-hour storm events, the details of the existing outfall structure for each basin was entered into the model. The model calculates the flow capacity of the structure based on a head range or series of stages (elevation). This relationship of flow to head, is also considered stage-discharge and is utilized in the analysis to route the hydrographs.

Routed Hydrographs

Variable Tail-water Analysis. The 2010 Water Surface Profile Analysis of the Martin Flow Way Ditch generated tail-water elevations for the flow way under the flows for the 25-yr/3-day and 100-yr/3-day storm events under pre-development and post-development conditions. The estimated conditions of Hurricane Mitch were also determined, and the 100-yr/3-day/Zero Discharge (Minimum Building Finished Floor Elevation) storm events. These elevations were utilized for this study.

Water Quality

Since the surface water management system utilizes a wet detention system, SFWMD water quality criteria states that the system must manage the greater of the following two values:

1. The first inch of runoff over the entire site
2. The amount of 2.5 in. times the percentage of impervious area

All of the basins except Basin 6 meet these water quality requirements. The water quality volume for Basin 6 is 24.48 acre-ft. based on the 2.5 inches over the impervious area criteria. Unfortunately, this volume results in a stage elevation of 27.4 for this basin, while the outfall structure is constructed with a weir elevation of 27.0, thus the weir is 0.4 ft. too low. Basin 6 does comply with the first inch over the entire site criteria – the required volume of 16.9 acre-ft. results in a stage of 26.8. In comparison, the actual weir elevation of 27.0 provides storage for 1.2 inches over the basin, and 2.1 inches over the impervious area.

As a result of this analysis, FPL is going to correct this issue by modifying the outfall structure to meet the water quality requirement.

E. Conclusions/Results

The proposed Surface Water Management System for this project will operate in a similar manner as the previously-permitted design, and within accepted parameters governed by the existing Surface Water Management permit (issued by the SFWMD).

Results of this analysis are summarized in the following tables.

This table shows the routed Peak Discharge for each of the considered storm events.

Total Site – Peak Flow

DESIGN PARAMETERS RELATED TO RELEVANT STORM EVENTS	**PEAK DISCHARGE** (CFS)
25-Yr, 1-Day Storm Event	**227.38**
25-Yr, 3-Day Storm Event ***(Peak Discharge Criteria)***	**375.14**
100-Yr, 3-Day Storm Event	**440.81**

This table shows the routed peak stage elevations for each considered storm event.

Modeled Basin Name	Max Nodal Stage 100 year 3 day Storm Event	Max Nodal Stage 25 year 3 day Storm Event	Max Nodal Stage 25 year 1 day Storm Event
1	29.04	28.78	28.32
2	29.03	28.78	28.31
3	28.89	28.66	28.23
4	26.92	26.79	26.51
5	30.07	29.72	28.80
5A (non SCA)	30.10	29.86	29.40
B6-welcomectr	29.64	29.31	29.00
Basin6-DRYDET	28.55	28.17	27.47
Basin6-solar	28.72	28.31	27.50
Basin6-Unit3-4	29.26	28.80	27.63
Unit8E	30.37	30.22	29.55
Levee-Unit8W	28.89	28.45	27.51
6A (non SCA)	30.71	30.54	30.18
7	29.35	29.07	28.46
S1	28.95	28.79	28.31
S2	29.92	29.73	29.17
S3	30.79	30.60	30.11
S4	27.75	27.59	27.17
S5	28.91	28.74	28.19
S6	30.92	30.67	30.15
S7	31.99	31.81	31.32
S8	32.31	32.14	31.57
25.5	25.9	25.9	25.9
26.7	26.7	26.7	26.7
offsite-east	30.5	30.5	30.5

This table shows each basins peak discharge for each considered storm event.

Modeled Basin Name	Max Outflow – cfs 100 year 3 day Storm Event	Max Outflow – cfs 25 year 3 day Storm Event	Max Outflow – cfs 25 year 1 day Storm Event
1	44.53	34.93	14.50
2	265.36*	265.36*	265.36*
3	241.66**	198.77**	126.74**
4	34.82	27.9	14.53
5	21.80	18.71	11.28
5A (non SCA)	11.33	9.52	6.23
B6-welcomectr	2.09	1.91	0.29
Basin6-DRYDET	34.23	30.22	19.19
Basin6-solar	92.39	83.71	68.93
Basin6-Unit3-4	52.71	51.22	45.39
Unit8E	11.66	11.43	9.08
Levee-Unit8W	53.23	46.96	38.05
6A (non SCA)	27.02	24.95	20.80
7	0	0	0
S1	60.81	57.22	31.59
S2	40.43	39.66	21.37
S3	29.29	28.24	11.44
S4	58.61	56.01	37.91
S5	46.63	45.81	32.61
S6	40.43	40.29	26.61
S7	39.14	35.35	22.29
S8	19.27	18.76	11.86
25.5	0	0	0
26.7	0	0	0
offsite-east	0	0	0

* Basin 2 contains two outfalls (Structures 2A and 2B). Structure 2A (D-05B) culvert inverts are 4' below the basin's initial stage, therefore, they maintain capacity (peak discharge) for each storm event without Structure 2B operating.

** Basin 3 discharge is consistently lower than Basin 2 as a result of Basin 2 early peaking and Basin 3 relatively high storage component. The abundance of surface storage allows Basin 3 to immediately stage with storage for Basin 2 and the Basin 3 overland flow (Structure 3) delays the peak. In essence the peak discharge occurs later and at a lower value – however, the volume of discharge is cumulative of Basin 2 and Basin 3 over the storm duration.

Results of the Objectives area as follows:

2.2.1 The storm water analysis is in accordance with applicable South Florida Water Management District criteria and conditions that stated in Attachment D – State of Florida

Department of Environmental Protection Martin Expansion Project Florida Power & Light Condition of Certification Modification M (PA89-27 M).

2.2.2 The storm water system of Unit 8, cooling tower, MSEC, solar power block, and solar field has been verified. The Engineer has also verified the calculation of east perimeter ditch and as- built drawings.

2.2.3 The analysis provides results for the 25 year 24 hour storm, 25 year 72 hour storm, and 100 year 72 hour storm of Martin Plant.

2.2.4 The storm water model was done using the ICPR modeling program approved by SFWMD.

2.2.5 Free board elevation of East Ditch.

- The Water Surface Profile Analysis of The Martin Flow Way Ditch prepared by AECOM in 2010 determined the peak water surface elevations in the East Ditch under the development conditions at that time. In summary, the peak stage elevations of the East Ditch at Station 244; the upstream end of the of the ditch profile located near the low bridge converted to NAVD are as follows:

    1. The 25 year 72 hour (Post Development) event peak stage was 25.87
    2. The 1998 Hurricane Mitch 24 hour (Post Development) simulated event peak stage was 26.01
    3. The 100 year 72 hour (Post Development) event peak stage was 26.59

  The Water Surface Profile Analysis also noted that the East Ditch was understood to have a peak flow rate capacity of only 64 CFS. Therefore, the storms mentioned were all above capacity causing the water surface to breach the bank at 24-ft NGVD (22.6 NAVD), the Low Bridge at 26.1-ft NGVD (24.7 NAVD) and the Roadway at 27-ft NGVD (25.6 NAVD), but not reaching the toe of the Levee at 29-ft NGVD (27.6 NAVD).

  The upstream flows for all of the storm events considered in the 2010 report, were modeled based on an a tailwater at the upstream end of the flow way of 25.9 which is consistent with the 25 year 72 hour design storm event despite the peak stage elevations ultimately determined for the flow way. It was also determined to model the 100 year 72 hour event with an outfall, even though it is a common for that event to be modeled under a no-discharge condition.

  Therefore, the peak stage elevations for the storm events analyzed in the 2010 report, are graphed with each storms peak discharge to plot a curve representing the peak water surface elevation for peak discharge values. This graph (Tailwater Projections)

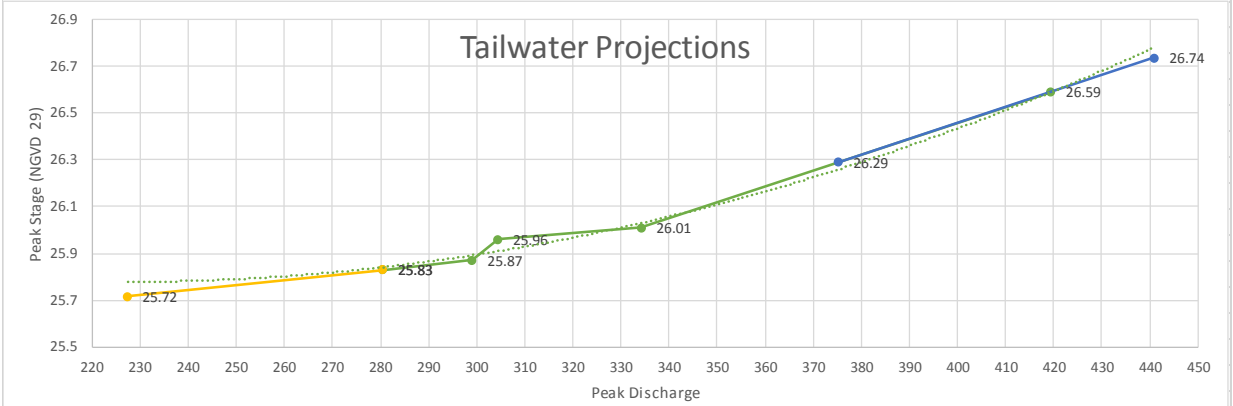
as shown on page 21, was then used to project the tailwater elevations for the peak discharge flow rates determined in this report as follows:

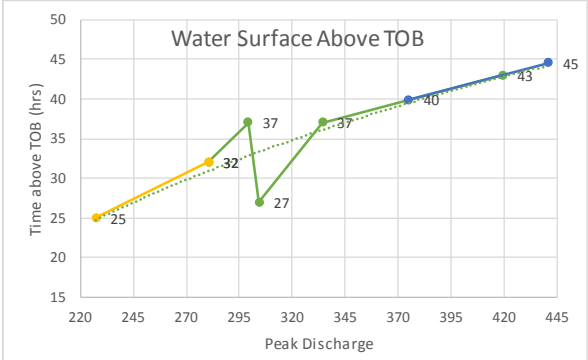
1. The 25 year 24 hour storm event is projected as 25.72 (0.18-ft below 25.9).
2. The 25 year 72 hour storm event is projected as 26.29 (0.39-ft above 25.9).
3. The 100 year 72 hour storm event is projected as 26.74.

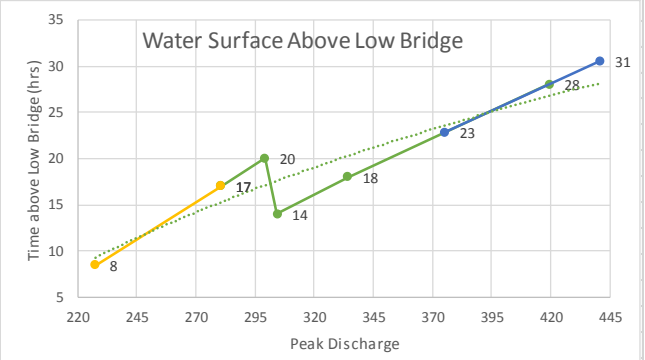
- The projected water surface elevations for the storm events listed above have also been compared to the peak elevations determined in the 2010 report to estimate the time that the water surface is above the ditch top of bank, the Low Bridge, and the roadway adjacent to the ditch – refer to the Tailwater Projections analysis (page 21).
- Therefore, the current analysis utilizes the same tailwater elevation of 25.9 for the east ditch at the southern extent of the CERTIFIED BOUNDARY. This elevation corresponds to an elevation outside of the existing ditch top of bank and overflow toward the levee area, while the eastern bank would be approximately 0.8' below the roadway elevation just beyond the area of the 6-60 inch concrete pipes.
- Similarly, the tailwater for the northern discharge point of outfall D-05C, at the north portion of Solar Panel fields 1, 2, and 3 is analyzed as 26.7' This elevation corresponds to an average bank elevation of the east ditch of 27.4' in this location, which provides a free board in this area of 0.7'. Please also note the roadway elevation in the immediate area is above 29.5' (2.8-ft above 26.7).
- Throughout the project study area, a minimum of 0.7' was reached as freeboard during modeling of all the areas before roadway encroachment.

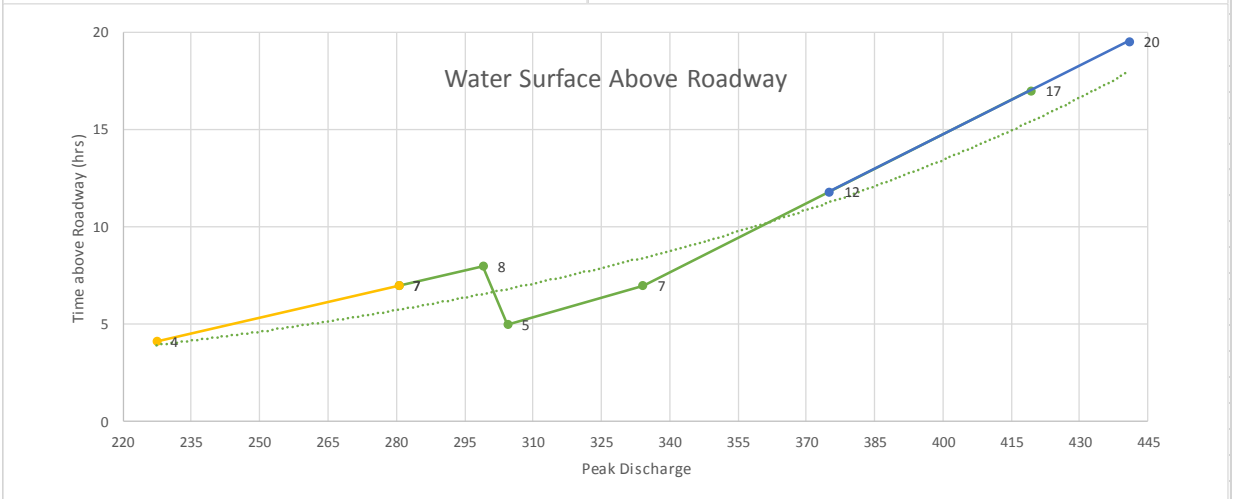
Tailwater Projections

									Time (hrs) - Water Surface above...			
			Rainfall	Peak Discharge	Peak Time	Peak Stage EL (NGVD)	Peak Stage EL (NAVD)	Peak Stage Flow	TOB (EL 24)	Low Bridge (EL 26.1)	Roadway (EL 27)	Levee (EL 29)
2010 Flow Way - Water Surface Profile												
	25Y / 3D	Pre-development	9	280.5	73	27.23	25.83	*257.4*	32	17	7	-
		Post-development	9	299.1	75	27.27	25.87	*273.37*	37	20	8	-
	Mitch98	Pre-development	9.5	304.4	26	27.36	25.96	*296.5*	27	14	5	-
		Post-development	9.5	334.2	29	27.41	26.01	*330.91*	37	18	7	-
	100Y / 3D	Post-development	11	419.3	74	27.99	26.59	*373.33*	43	28	17	-
2013 PMR Stormwater Analysis												
		Projection Estimates				interpolate	interpolate		interpolate			
	25Y / 1D	Post-development		227.38		27.12	25.72		25	8	4	-
	25Y / 3D	Post-development		375.14		27.69	26.29		40	23	12	-
	100Y / 3D	Post-development		440.81		28.14	26.74		45	31	20	-









2.2.6 The report verifies the SFWMD design requirement, as follows: The peak post-construction runoff flow rate for the design storm does not exceed the pre-development peak flow rate.

- The addition of the second gas yard, calculated at 400' x 400', was also incorporated in the analysis. This analysis utilized the grades of 28.0' to 29.0' and revised stage storage calculations and runoff coefficients accordingly. These "undeveloped" basins were also modified to include the borrow areas which also provided storage which was not previously included in other analyses.
- The revision of the stage storage and runoff component yielded a lower runoff to the northern portion of the east ditch. The additional inclusion of the gas yard was more than offset by the borrow area. Please refer the stage storage calculations and basin maximum outflow model results.

2.2.7 An explanation as to the Florida Registered Professional Engineer certifying the surface water management system is as follows:

- The peak runoff rates meet the district's criteria based upon the allowable for the project area. However, during the kick off meeting site visit, it was noted there are 2-18 inch pipes which connect the Solar 08 field to the borrow area. This flow to the east was not included in the permitted project construction of solar fields 2, 3 and 4. These pipes and corresponding basin have been included in the model.
- REMOVAL OF N/S PVC Pipes / solar area removed – The removal of the existing connection from the Unit 8 East basin, which discharges to the Levee/Unit 8 West basin, was removed. The Levee / Unit 8 West basin also had an additional area of 105' x 27' removed as a treatment area.
- The stage storage for this basin was also updated due to the removal and replacement of fill. The link connection was modified to reflect an 18 inch corrugated pipe, located at the northwest corner of the Unit 8 East basin. This connection was included due to its proximity and hydraulic link for the two basins. The previous model prepared by AECOM did not utilize or included this link. The removal of the north / south connect was completely nullified by the addition of this infield pipe. Flows encountered in this pipe were 11.43cfs.
- The stages in both the Unit 8 basins did not show an appreciable lowering OR stage increase. The model also included the 2' x 8' box culvert for the flow connection to the Basin 6 solar field, Solar Field 1. The addition of this did increase the flow and reduced the peak time of flow to 44.42cfs at 64.35.

- TRUCK CLEARANCE AREA – The lowering for roadway clearance in this area of approximately 2 feet was also reviewed. Due to the elevation of the roadway, an average of 29.6', the newly lowered roadway at elevation 27.6', does still provide positive outfall with a minimum differential of 0.9'.

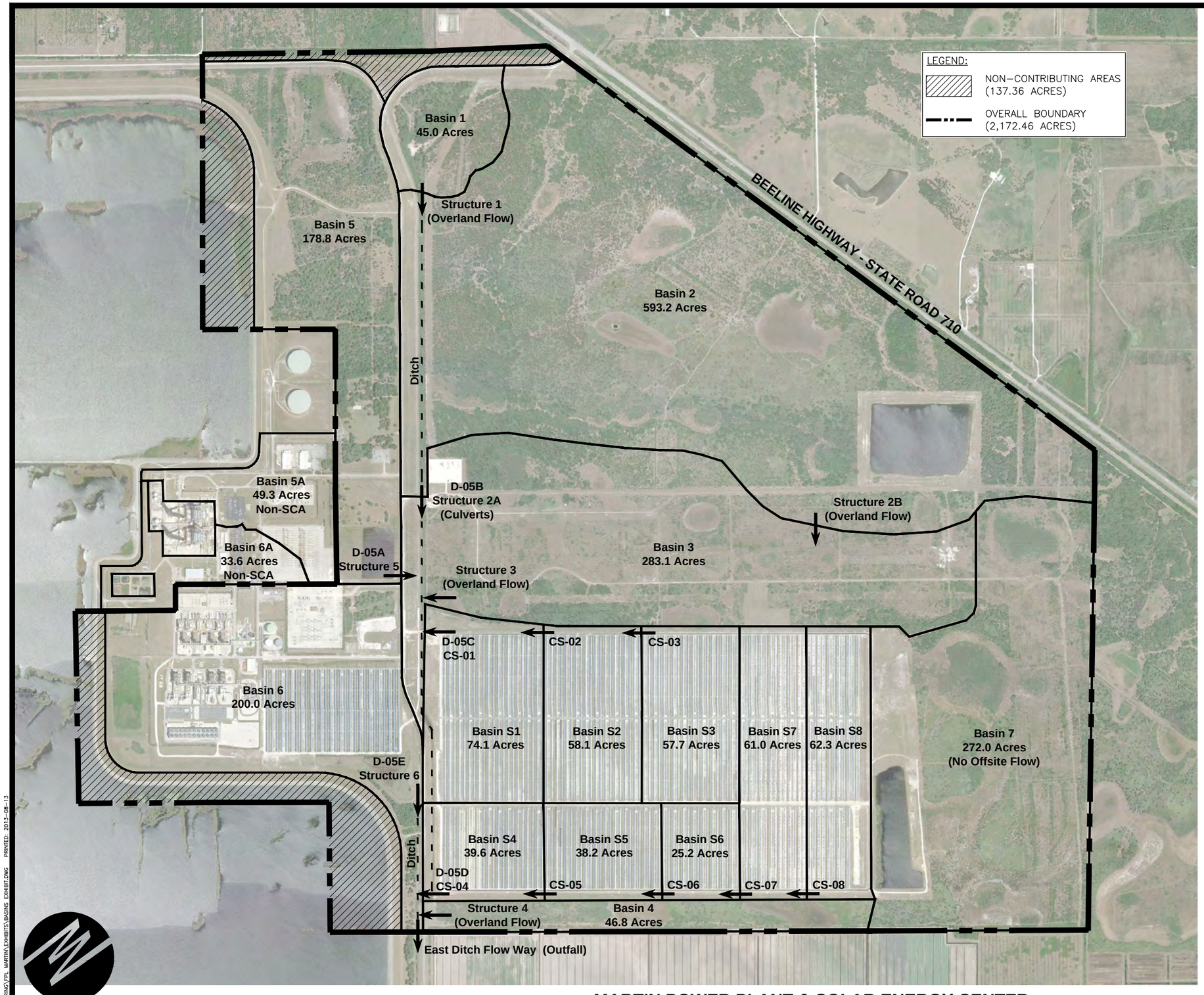
2.2.8 The analysis shall confirm the required amount of water quality treatment prior to discharge is provided.

- The site complies with current SFWMD water quality requirements with the exception of Basin 6 as is discussed in the Water Quality section on page 11.

The following pages of the report are Figures, followed by the Appendix which contains detailed input information and storm hydrographs output.

FIGURES

Figure 1 Overall Basin Map
Figure 2 Nodal Diagram
Figure 3 Basin 6 & 6A Sub Basin Map
Figure 4 Basin 1-5, 5A & 7 Impervious Area Exhibit
Figure 5 Solar Field Basins Impervious Area Exhibit
Figure 6 Basin 6 & 6A Impervious Area Exhibit



0 1,200' 2,400'

SCALE: 1" = 1,200'

CONTRIBUTING BASIN AREA SUMMARY			
BASIN #	IMPERVIOUS AREA (ACRES)	SCA (ACRES)	NON–SCA (ACRES)
1	0.9	45.0	–
2	1.1	593.2	–
3	0.75	283.1	–
4	0.2	46.8	–
5	3.9	178.8	–
BASIN 5A	10.6	–	49.3
6	117.5	200.00	–
BASIN 6A	9.0	–	33.6
7	0	272.0	–
S1	38.3	74.1	–
S2	34.4	58.1	–
S3	34.4	57.7	–
S4	20.3	39.6	–
S5	21.7	38.2	–
S6	14.5	25.2	–
S7	30.9	61.0	–
S8	37.9	62.3	–
TOTAL	376.4	2,035.1	82.9
NON–CONTRIBUTING AREA		137.36	
TOTAL BOUNDARY AREA		2,172.46	

BASIN MODEL PEAK STAGE				
BASIN		100 YR/3 DAY	25 YR/3 DAY	25 YR/1 DAY
1		29.04	28.78	28.32
2		29.03	2.78	28.31
3		28.89	28.66	28.23
4		26.92	26.79	26.51
5		30.07	29.72	28.80
5A		30.10	29.86	29.40
BASIN 6	B6–WELCOMECTR	29.64	29.31	29.00
	BASIN6–DRYDET	28.55	28.17	27.47
	BASIN6–SOLAR	28.72	28.31	27.50
	BASIN6–UNIT3–4	29.26	28.80	27.63
	UNIT–8 (E)	30.37	30.22	29.55
	LEVEE–UNIT–8 (W)	28.89	28.45	27.51
6A		30.71	30.54	30.18
7		29.35	29.07	28.46
S1		28.95	28.79	28.31
S2		29.92	29.73	29.17
S3		30.79	30.60	30.11
S4		27.75	27.59	27.17
S5		28.91	28.74	28.16
S6		30.92	30.67	30.15
S7		31.99	31.81	31.32
S8		32.31	32.14	31.57

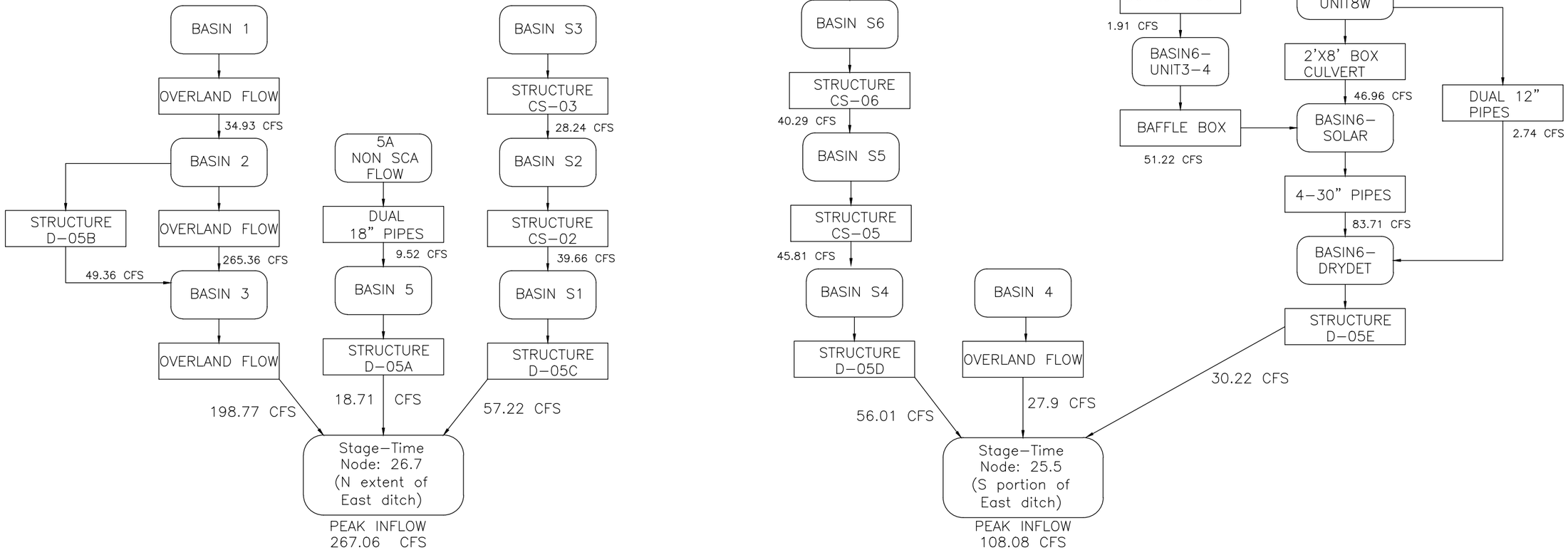
FPL

MARTIN POWER PLANT & SOLAR ENERGY CENTER
OVERALL BASIN MAP - FIGURE 1

DATE: 11/01/2013

MDO ENGINEERING, INC.
WWW.MDO–ENGINEERING.COM

E:\MDO ENGINEERING\FPL MARTIN\EXHIBITS\BASINS EXHIBIT.DWG PRINTED: 2013–08–13



DWG: E:\MDO ENGINEERING\FPL Martin\Exhibits\Figure 2 - Nodal Diagram.dwg Layout Name: MDO - Plotted by: Owner Date: 10/26/2013 - 10:03 AM
XREFS: IMAGES: IMG_0918.BMP -

MDO ENGINEERING, INC.
WWW.MDO-ENGINEERING.COM

PO BOX 1001
OKEECHOBEE, FL 34973
TEL: (863) 634-2131
FAX: (863) 763-6169
FL ENGINEERING BUSINESS NO. 29880
MARCOS@MDO-ENGINEERING.COM

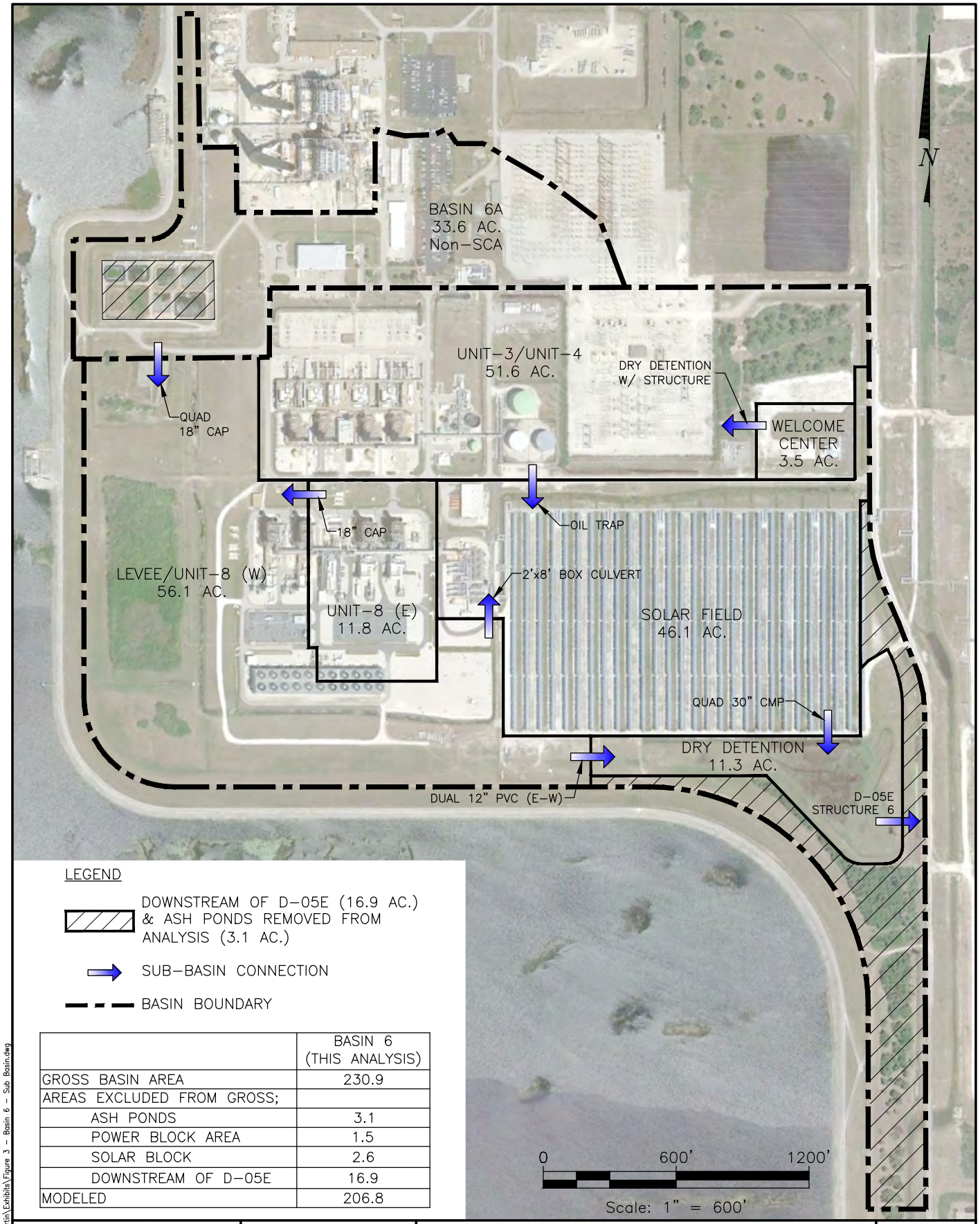
PROJECT NUMBER
003

MARTIN POWER - MODEL ANALYSIS WITH 25 YEAR 3 DAY BASIN OUTFLOWS

NODAL DIAGRAM

FIGURE
2

DATE
10/11/2013



LEGEND

DOWNSTREAM OF D-05E (16.9 AC.) & ASH PONDS REMOVED FROM ANALYSIS (3.1 AC.)

SUB-BASIN CONNECTION

BASIN BOUNDARY

	BASIN 6 (THIS ANALYSIS)
GROSS BASIN AREA	230.9
AREAS EXCLUDED FROM GROSS;	
ASH PONDS	3.1
POWER BLOCK AREA	1.5
SOLAR BLOCK	2.6
DOWNSTREAM OF D-05E	16.9
MODELED	206.8

DWG: E:\MDO ENGINEERING\FPL Martin\Exhibits\Figure 3 - Basin 6 - Sub Basin.dwg

MDO ENGINEERING, INC.
WWW.MDO-ENGINEERING.COM
PO BOX 1001
OKEECHOBEE, FL 34973
TEL: (863) 634-2131
FAX: (863) 763-6169
FL ENGINEERING BUSINESS NO. 29880
MARCOS@MDO-ENGINEERING.COM

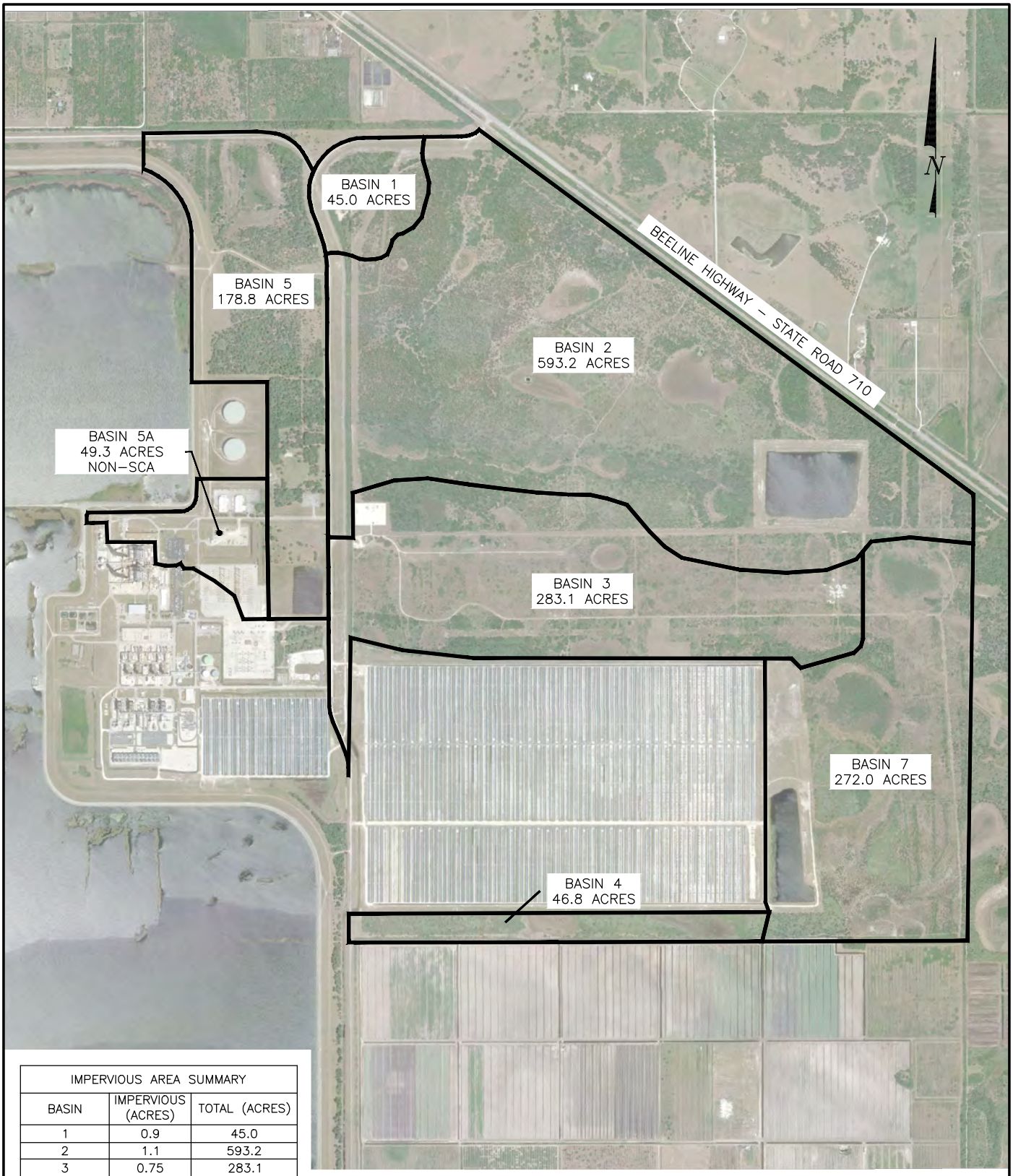
PROJECT NUMBER
003

FPL MARTIN PLANT

BASIN 6 & 6A SUB BASIN MAP

FIGURE
3

DATE
10/11/2013



IMPERVIOUS AREA SUMMARY		
BASIN	IMPERVIOUS (ACRES)	TOTAL (ACRES)
1	0.9	45.0
2	1.1	593.2
3	0.75	283.1
4	0.20	46.8
5	3.90	178.8
7	0	272.0
BASIN 5A	10.6	49.3
TOTAL	17.45	1,468.2

LEGEND

BASIN BOUNDARY

0 1800' 3600'

Scale: 1" = 1800'

DWG: E:\MDO ENGINEERING\FPL Martin\Exhibits\Figure 4 - Basins 1-7 Impervious Exhibit.dwg Layout Name: IMPERVIOUS - Plotted by: Owner Date: 10/16/2013 - 8:25 PM
XREFS: 17038.03 Xref Ext IMAGES: AERIAL-1.jpg - IMG_0918.BMP -

MDO ENGINEERING, INC.
WWW.MDO-ENGINEERING.COM
PO BOX 1001
OKEECHOBEE, FL 34973
TEL: (863) 634-2131
FAX: (863) 763-6169
FL ENGINEERING BUSINESS NO. 29880
MARCOS@MDO-ENGINEERING.COM

PROJECT NUMBER
003

FPL MARTIN PLANT

BASINS 1-5,5A, & 7 IMPERVIOUS AREA EXHIBIT

FIGURE
4

DATE
10/11/2013

LEGEND

BASIN EXTENTS

IMPERVIOUS AREA SUMMARY		
BASIN	IMPERVIOUS (ACRES)	TOTAL (ACRES)
S1	38.3	74.1
S2	34.4	58.1
S3	34.4	57.7
S4	20.3	39.6
S5	21.7	38.2
S6	14.5	25.2
S7	30.9	61.0
S8	37.9	62.3
TOTAL	232.4	416.2

MDO ENGINEERING, INC.
WWW.MDO-ENGINEERING.COM
PO BOX 1001
OKEECHOBEE, FL 34973
TEL: (863) 634-2131
FAX: (863) 763-6169
FL ENGINEERING BUSINESS NO. 29880
MARCOS@MDO-ENGINEERING.COM

PROJECT NUMBER
003

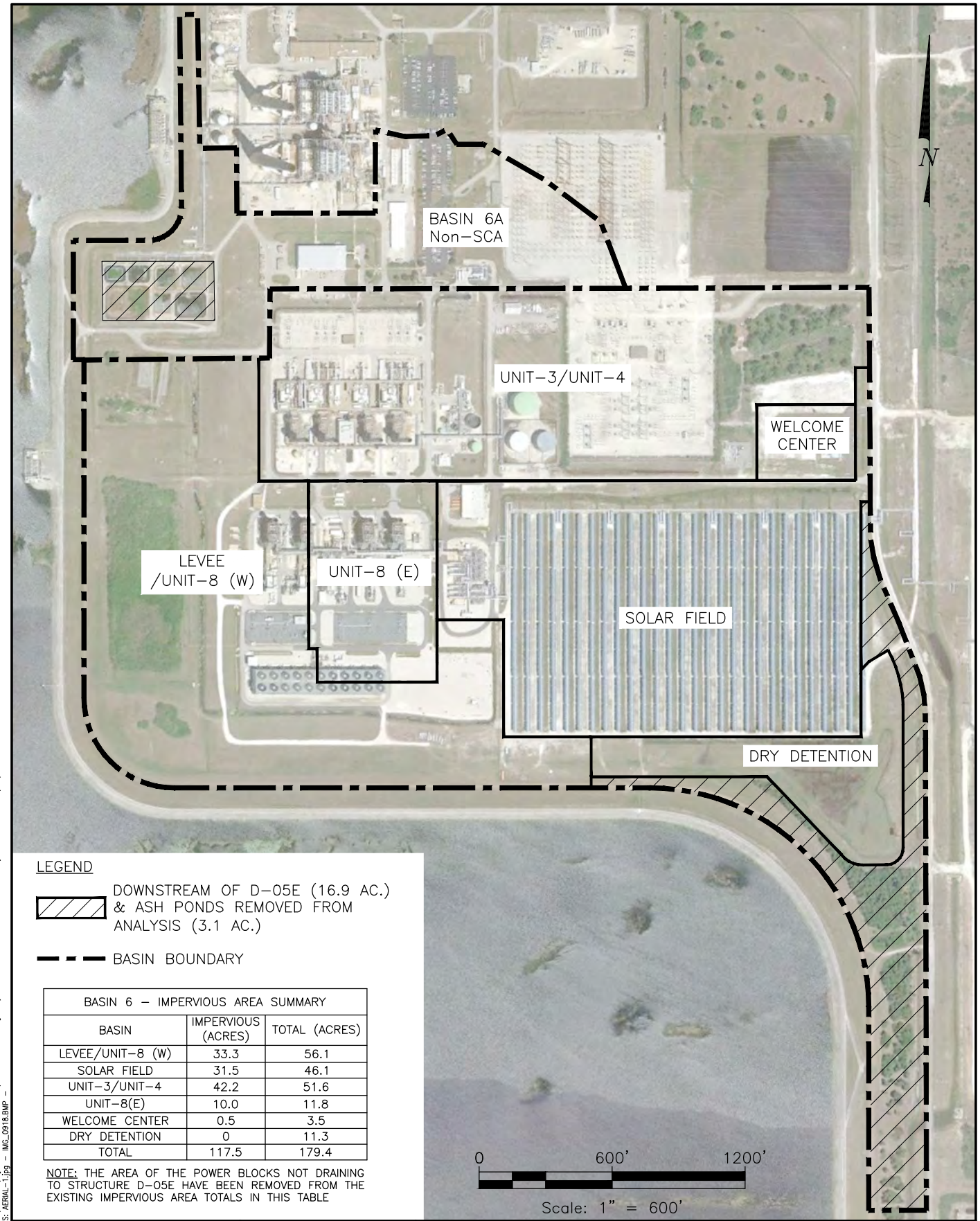
FPL MARTIN PLANT

SOLAR FIELD BASINS IMPERVIOUS AREA EXHIBIT

FIGURE
5

DATE
10/11/2013

DWG: E:\MDO ENGINEERING\FPL Martin\Exhibits\Figure 5 - Solar Field Impervious Exhibit.dwg Layout Name: IMPERVIOUS - Plotted by: Owner Date: 10/11/2013 - 4:00 PM
XREFS: 17038.03 Xref Ext IMAGES: AERIAL-1.jpg - IMG_0918.BMP -



LEGEND

DOWNSTREAM OF D–05E (16.9 AC.) & ASH PONDS REMOVED FROM ANALYSIS (3.1 AC.)

BASIN BOUNDARY

BASIN 6 – IMPERVIOUS AREA SUMMARY		
BASIN	IMPERVIOUS (ACRES)	TOTAL (ACRES)
LEVEE/UNIT–8 (W)	33.3	56.1
SOLAR FIELD	31.5	46.1
UNIT–3/UNIT–4	42.2	51.6
UNIT–8(E)	10.0	11.8
WELCOME CENTER	0.5	3.5
DRY DETENTION	0	11.3
TOTAL	117.5	179.4

NOTE: THE AREA OF THE POWER BLOCKS NOT DRAINING TO STRUCTURE D–05E HAVE BEEN REMOVED FROM THE EXISTING IMPERVIOUS AREA TOTALS IN THIS TABLE

MDO ENGINEERING, INC.
WWW.MDO–ENGINEERING.COM
PO BOX 1001
OKEECHOBEE, FL 34973
TEL: (863) 634–2131
FAX: (863) 763–6169
FL ENGINEERING BUSINESS NO. 29880
MARCOS@MDO–ENGINEERING.COM

PROJECT NUMBER
003

FPL MARTIN PLANT

BASIN 6 & 6A IMPERVIOUS AREA EXHIBIT

FIGURE
6

DATE
10/11/2013

Appendix A
BASIN CHARACTERISTICS

Site Data
Curve Numbers
Time of Concentration
Land Use
Stage-Storage / Stage-Area

Basin Characteristics - Florida Power & Light (Basin 1)

Avg. Ground Elevation =	**31.00**		
Basin Control Elevation =	**28.00**		
Avg. Depth to Water Table =	**3.00**	**FEET**	
Soil Storage =	**4.05**	**INCHES**	**(PER SFWMD FLATWOODS SOIL CATEGORY WITH 25% REDUCTION FOR COMPACTION)**

$$S = \frac{\text{(Pervious Area * Soil Storage)}}{\text{Total Area}} = \frac{43.80 * 4.05}{45.00} = 3.94$$

Curve Number (CN) =	**71.73**		**(1000 / (S+10))**
Max Overland Flow Length (L_{over}) =	**1,170.00**	**ft**	
Max. Overland EL. Difference (ΔEl_{over}) =	**2.00**	**ft**	
Max. Channelized Flow Length (L_{chan}) =	**1.00**	**ft**	
Max. Channelized EL. Difference (ΔEl_{over}) =	**0.001**	**ft**	
Average Watershed Slope (Y_{over}) =	**0.17**	**%**	**($\Delta El/L$)**
Average Channel Slope (Y_{chan}) =	**0.0010**	**ft/ft**	**($\Delta El/L$)**
Overland Time of Concentration ($T_{c,over}$) =	**110.94**	**minutes**	**($L_{over}^{0.8}((1000/CN)-9)^{0.7}$)/1140$Y_{over}^{0.5}$ (10 min if eqn equals less than 10 min) (SCS Lag Eqn)**
Channel Time of Concentration ($T_{c,chan}$) =	**10.00**	**minutes**	**($0.0078L_{chan}^{0.77}Y_{chan}^{-0.385}$ (10 min if eqn equals less than 10 min) (Kirpich Eqn)**
Total Time of Concentration =	**120.94**	**minutes**	**$T_{c,over} + T_{c,\ chan}$**

Basin 1	Wetlands	Upland Preserve	Road	Building	Swale / Ditch	Detention Area	Open Lot	Total
Total Areas (Ac.)	0.00	17.16	0.90	0.00	0.30	0.00	26.64	45.00
Roof %	0%	0%	0%	0%	0%	0%	0%	0.0%
Roof Area	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pervious %	10%	100%	0%	0%	0%	0%	100%	97.3%
Pervious Area (Ac.)	0.00	17.16	0.00	0.00	0.00	0.00	26.64	43.80
Impervious %	0%	0%	100%	100%	0%	0%	0%	2.0%
Impervious Area (Ac.)	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.90
SWM %	90%	0%	0%	0%	100%	100%	0%	0.7%
SWM Area (Ac.)	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.30

MIN. ELEV.	28.00	**NAVD**
MAX. ELEV.	35.00	**NAVD**
Stage Increment	0.50	

Basin 1	Wetlands	Upland Preserve	Road	Building	Swale / Ditch	Detention Area	Open Lot	Total
ROOF AC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER. AC.	0.00	17.16	0.00	0.00	0.00	0.00	26.64	43.80
IMP. AC.	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.90
SWM AC.	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.30
TOTAL AREA	0.00	17.16	0.90	0.00	0.30	0.00	26.64	45.00
TYPE	L	L	L	V	V	V	L	
ST. EL.	28.00	30.00	34.50	100.00	28.00	28.00	28.00	
MAX. EL.	30.00	32.50	35.00				34.50	

Basin Characteristics - Florida Power & Light (Basin 2)

Avg. Ground Elevation =	**30.50**		
Basin Control Elevation =	**28.00**		
Avg. Depth to Water Table =	**2.50**	**FEET**	
Soil Storage =	**2.96**	**INCHES**	**(PER SFWMD FLATWOODS SOIL CATEGORY WITH 25% REDUCTION FOR COMPACTION)**

$$S = \frac{\text{(Pervious Area * Soil Storage)}}{\text{Total Area}} = \frac{520.44 * 2.96}{592.90} = 2.60$$

Curve Number (CN) =	**79.36**		**(1000 / (S+10))**
Max Overland Flow Length (L_{over}) =	**2,600.00**	**ft**	
Max. Overland EL. Difference (ΔEl_{over}) =	**3.00**	**ft**	
Max. Channelized Flow Length (L_{chan}) =	**525.00**	**ft**	
Max. Channelized EL. Difference (ΔEl_{over}) =	**0.001**	**ft**	
Average Watershed Slope (Y_{over}) =	**0.12**	**%**	**($\Delta El/L$)**
Average Channel Slope (Y_{chan}) =	**0.0000**	**ft/ft**	**($\Delta El/L$)**
Overland Time of Concentration ($T_{c,over}$) =	**204.93**	**minutes**	**($L_{over}^{0.8}((1000/CN)-9)^{0.7}$)/1140$Y_{over}^{0.5}$ (10 min if eqn equals less than 10 min) (SCS Lag Eqn)**
Channel Time of Concentration ($T_{c,chan}$) =	**154.48**	**minutes**	**($0.0078L_{chan}^{0.77}Y_{chan}^{-0.385}$ (10 min if eqn equals less than 10 min) (Kirpich Eqn)**
Total Time of Concentration =	**359.41**	**minutes**	**$T_{c,over} + T_{c,\ chan}$**

Basin 2	**Wetlands**	**Upland Preserve**	**Road**	**Building**	**Swale / Ditch**	**Detention Area**	**Open Lot**	**Total**
Total Areas (Ac.)	52.40	37.03	1.10	0.00	0.40	23.80	478.17	592.90
Roof %	0%	0%	0%	0%	0%	0%	0%	0.0%
Roof Area	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pervious %	10%	100%	0%	0%	0%	0%	100%	87.8%
Pervious Area (Ac.)	5.24	37.03	0.00	0.00	0.00	0.00	478.17	520.44
Impervious %	0%	0%	100%	100%	0%	0%	0%	0.2%
Impervious Area (Ac.)	0.00	0.00	1.10	0.00	0.00	0.00	0.00	1.10
SWM %	90%	0%	0%	0%	100%	100%	0%	12.0%
SWM Area (Ac.)	47.16	0.00	0.00	0.00	0.40	23.80	0.00	71.36

MIN. ELEV.	28.00
MAX. ELEV.	34.50
Stage Increment	0.50

Basin 2	Wetlands	Upland Preserve	Road	Building	Swale / Ditch	Detention Area	Open Lot	Total
ROOF AC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER. AC.	5.24	37.03	0.00	0.00	0.00	0.00	478.17	520.44
IMP. AC.	0.00	0.00	1.10	0.00	0.00	0.00	0.00	1.10
SWM AC.	47.16	0.00	0.00	0.00	0.40	23.80	0.00	71.36
TOTAL AREA	52.40	37.03	1.10	0.00	0.40	23.80	478.17	592.90
TYPE	L	L	L	V	V	V	L	
ST. EL.	29.00	31.50	33.50	100.00	28.00	28.00	28.00	
MAX. EL.	32.00	34.00	34.50				34.00	

Basin Characteristics - Florida Power & Light (Basin 3)

Avg. Ground Elevation =	31.00		
Basin Control Elevation =	27.00		
Avg. Depth to Water Table =	4.00	FEET	
Soil Storage =	6.75	INCHES	(PER SFWMD FLATWOODS SOIL CATEGORY WITH 25% REDUCTION FOR COMPACTION)

$$S = \frac{\text{(Pervious Area * Soil Storage)}}{\text{Total Area}} = \frac{232.97 * 6.75}{283.10} = 5.55$$

Curve Number (CN) =	64.29		(1000 / (S+10))
Max Overland Flow Length (L_{over}) =	2,130.00	ft	
Max. Overland EL. Difference (ΔEl_{over}) =	2.00	ft	
Max. Channelized Flow Length (L_{chan}) =	250.00	ft	
Max. Channelized EL. Difference (ΔEl_{over}) =	0.001	ft	
Average Watershed Slope (Y_{over}) =	0.09	%	($\Delta El/L$)
Average Channel Slope (Y_{chan}) =	0.0000	ft/ft	($\Delta El/L$)
Overland Time of Concentration ($T_{c,over}$) =	294.59	minutes	$(L_{over}^{0.8}((1000/CN)-9)^{0.7})/1140Y_{over}^{0.5}$ (10 min if eqn equals less than 10 min) (SCS Lag Eqn)
Channel Time of Concentration ($T_{c,chan}$) =	65.57	minutes	$(0.0078L_{chan}^{0.77}Y_{chan}^{-0.385}$ (10 min if eqn equals less than 10 min) (Kirpich Eqn)
Total Time of Concentration =	360.16	minutes	$T_{c,over} + T_{c,\ chan}$

Basin 3	Wetlands	Upland Preserve	Road	Building	Swale / Ditch	Detention Area	Open Lot	Total
Total Areas (Ac.)	54.59	0.00	0.75	0.00	0.25	0.00	227.51	283.10
Roof %	0%	0%	0%	0%	0%	0%	0%	0.0%
Roof Area	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pervious %	10%	100%	0%	0%	0%	0%	100%	82.3%
Pervious Area (Ac.)	5.46	0.00	0.00	0.00	0.00	0.00	227.51	232.97
Impervious %	0%	0%	100%	100%	0%	0%	0%	0.3%
Impervious Area (Ac.)	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.75
SWM %	90%	0%	0%	0%	100%	100%	0%	17.4%
SWM Area (Ac.)	49.13	0.00	0.00	0.00	0.25	0.00	0.00	49.38

MIN. ELEV.	27.00	**NAVD**
MAX. ELEV.	33.50	**NAVD**
Stage Increment	0.50	

Basin 3	Wetlands	Upland Preserve	Road	Building	Swale / Ditch	Detention Area	Open Lot	Total
ROOF AC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER. AC.	5.46	0.00	0.00	0.00	0.00	0.00	227.51	232.97
IMP. AC.	0.00	0.00	0.75	0.00	0.00	0.00	0.00	0.75
SWM AC.	49.13	0.00	0.00	0.00	0.25	0.00	0.00	49.38
TOTAL AREA	54.59	0.00	0.75	0.00	0.25	0.00	227.51	283.10
TYPE	L	L	L	V	V	V	L	
ST. EL.	28.00	29.50	30.50	100.00	27.00	28.00	27.00	
MAX. EL.	33.50	33.50	33.50				33.50	

Basin Characteristics - Florida Power & Light (Basin 4)

Avg. Ground Elevation =	29.00		
Basin Control Elevation =	26.00		
Avg. Depth to Water Table =	3.00	FEET	
Soil Storage =	4.05	INCHES	(PER SFWMD FLATWOODS SOIL CATEGORY WITH 25% REDUCTION FOR COMPACTION)
Curve Number (CN) =	76.72		(1000 / (S+10))
Max Overland Flow Length (L_{over}) =	760.00	ft	
Max. Overland EL. Difference (ΔEl_{over}) =	1.50	ft	
Max. Channelized Flow Length (L_{chan}) =	150.00	ft	
Max. Channelized EL. Difference (ΔEl_{over}) =	0.001	ft	
Average Watershed Slope (Y_{over}) =	0.20	%	($\Delta El/L$)
Average Channel Slope (Y_{chan}) =	0.0000	ft/ft	($\Delta El/L$)
Overland Time of Concentration ($T_{c,over}$) =	63.43	minutes	$(L_{over}^{0.8}((1000/CN)-9)^{0.7})/1140Y_{over}^{0.5}$ (10 min if eqn equals less than 10 min) (SCS Lag Eqn)
Channel Time of Concentration ($T_{c,chan}$) =	36.35	minutes	$(0.0078L_{chan}^{0.77}Y_{chan}^{-0.385}$ (10 min if eqn equals less than 10 min) (Kirpich Eqn)
Total Time of Concentration =	99.78	minutes	$T_{c,over} + T_{c, chan}$

$$S = \frac{\text{(Pervious Area * Soil Storage)}}{\text{Total Area}} = \frac{35.06 * 4.05}{46.80} = 3.03$$

Basin 4	Wetlands	Upland Preserve	Road	Building	Swale / Ditch	Detention Area	Open Lot	Total
Total Areas (Ac.)	12.74	0.00	0.20	0.00	0.07	0.00	33.79	46.80
Roof %	0%	0%	0%	0%	0%	0%	0%	0.0%
Roof Area	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pervious %	10%	100%	0%	0%	0%	0%	100%	74.9%
Pervious Area (Ac.)	1.27	0.00	0.00	0.00	0.00	0.00	33.79	35.06
Impervious %	0%	0%	100%	100%	0%	0%	0%	0.4%
Impervious Area (Ac.)	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.20
SWM %	90%	0%	0%	0%	100%	100%	0%	24.6%
SWM Area (Ac.)	11.47	0.00	0.00	0.00	0.07	0.00	0.00	11.54

MIN. ELEV.	26.00
MAX. ELEV.	30.50
Stage Increment	0.50

Basin 4	Wetlands	Upland Preserve	Road	Building	Swale / Ditch	Detention Area	Open Lot	Total
ROOF AC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER. AC.	1.27	0.00	0.00	0.00	0.00	0.00	33.79	35.06
IMP. AC.	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.20
SWM AC.	11.47	0.00	0.00	0.00	0.07	0.00	0.00	11.54
TOTAL AREA	12.74	0.00	0.20	0.00	0.07	0.00	33.79	46.80
TYPE	L	L	L	V	V	V	L	
ST. EL.	26.00	26.50	29.00	100.00	26.00	28.00	26.00	
MAX. EL.	28.00	28.00	30.50				30.50	

Basin Characteristics - Florida Power & Light (Basin 5)

Avg. Ground Elevation =	30.50		
Basin Control Elevation =	27.00		
Avg. Depth to Water Table =	3.50	FEET	
Soil Storage =	5.40	INCHES	(PER SFWMD FLATWOODS SOIL CATEGORY WITH 25% REDUCTION FOR COMPACTION)
Curve Number (CN) =	66.29		(1000 / (S+10))
Max Overland Flow Length (L_{over}) =	3,500.00	ft	
Max. Overland EL. Difference (ΔEl_{over}) =	2.50	ft	
Max. Channelized Flow Length (L_{chan}) =	750.00	ft	
Max. Channelized EL. Difference (ΔEl_{over}) =	0.25	ft	
Average Watershed Slope (Y_{over}) =	0.07	%	($\Delta El/L$)
Average Channel Slope (Y_{chan}) =	0.0003	ft/ft	($\Delta El/L$)
Overland Time of Concentration ($T_{c,over}$) =	477.08	minutes	($L_{over}^{0.8}((1000/CN)-9)^{0.7}$)/1140$Y_{over}^{0.5}$ (10 min if eqn equals less than 10 min) (SCS Lag Eqn)
Channel Time of Concentration ($T_{c,chan}$) =	27.83	minutes	($0.0078L_{chan}^{0.77}Y_{chan}^{-0.385}$ (10 min if eqn equals less than 10 min) (Kirpich Eqn)
Total Time of Concentration =	504.92	minutes	$T_{c,over} + T_{c, chan}$

$$S = \frac{\text{(Pervious Area * Soil Storage)}}{\text{Total Area}} = \frac{168.40 * 5.40}{178.80} = 5.09$$

Basin 5	Wetlands	Upland Preserve	Road / Parking	Building	Swale / Ditch	Detention Area	Open Lot	Total
Total Areas (Ac.)	0.00	110.20	3.90	0.00	0.80	5.70	58.20	178.80
Roof %	0%	0%	0%	0%	0%	0%	0%	0.0%
Roof Area	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pervious %	10%	100%	0%	0%	0%	0%	100%	94.2%
Pervious Area (Ac.)	0.00	110.20	0.00	0.00	0.00	0.00	58.20	168.40
Impervious %	0%	0%	100%	100%	0%	0%	0%	2.2%
Impervious Area (Ac.)	0.00	0.00	3.90	0.00	0.00	0.00	0.00	3.90
SWM %	90%	0%	0%	0%	100%	100%	0%	3.6%
SWM Area (Ac.)	0.00	0.00	0.00	0.00	0.80	5.70	0.00	6.50

MIN. ELEV.	27.00	**NAVD**
MAX. ELEV.	35.00	**NAVD**
Stage Increment	0.50	

Basin 5	Wetlands	Upland Preserve	Road / Parking	Building	Swale / Ditch	Detention Area	Open Lot	Total
ROOF AC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER. AC.	0.00	110.20	0.00	0.00	0.00	0.00	58.20	168.40
IMP. AC.	0.00	0.00	3.90	0.00	0.00	0.00	0.00	3.90
SWM AC.	0.00	0.00	0.00	0.00	0.80	5.70	0.00	6.50
TOTAL AREA	0.00	110.20	3.90	0.00	0.80	5.70	58.20	178.80
TYPE	L	L	L	V	V	V	L	
ST. EL.	27.00	29.50	33.50	100.00	27.00	27.00	27.00	
MAX. EL.	30.00	32.50	35.00				35.00	

Pre-Development Land Use and Stage-Storage Calculations

FPL Martin Basin 5A

Computation Type: Land Use & Stage-Storage

Control Elevation =	**28.50**	**ft**	
Average Ground Elevation (EL_{grnd}) =	**30.18**	**ft NAVD**	
Avg. Depth to Water Table (D_{WT}) =	**1.68**	**ft**	
Soil Type =	**Flatwoods**		
Max. Available Soil Storage (S_{max}) =	**1.93**	**in**	**(Per SFWMD Flatwoods soil category)**
Compaction Factor ($F_{compact}$) =	**25%**	**%**	**(Use 25% for developed site)**
Compacted Soil Storage ($S_{compact}$) =	**1.45**	**in**	**$(S_{max})(1 - F_{compact})$**
Available Soil Storage (S_{avail}) =	**0.83**	**in**	**$(A_p)(S_{compact})/(A_t)$**
Curve Number (CN) =	**92**		**1000 / (S_{avail}+10)**
Total Time of Concentration =	**31**	**minutes**	

	Pervious	Impervious	Swale	Filled Yards			Total
	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)
Total Areas (A_t)	26.4	10.6	2.0	10.3	0.0	0.0	49.3
Pervious %	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	57.6%
Pervious Area (A_p)	26.4	0.0	2.0	0.0	0.0	0.0	28.4
Impervious %	0.0%	100.0%	0.0%	100.0%	100.0%	100.0%	42.4%
Impervious Area (A_i)	0.0	10.6	0.0	10.3	0.0	0.0	20.9

Starting Stage =	28.0
Ending Stage =	33.0
Stage Increment =	0.5

Name	**Pervious**	**Impervious**	**2.00**	**Filled Yards**	**0.0**	**0.0**
Area	26.4	10.6	2.0	10.3	0.0	0.0
Start Elev	27.5	30.0	28.5	30.5	0.0	0.0
End Elev	31.0	31.0	29.0	31.0		

Stage Feet NAVD	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Vert Storage Ac-ft	Total Storage ac-ft
28.0	0.94	0.00	0.00	0.00	0.00	0.00	0.94
28.5	3.77	0.00	0.00	0.00	0.00	0.00	3.77
29.0	8.49	0.00	0.50	0.00	0.00	0.00	8.99
29.5	15.09	0.00	1.50	0.00	0.00	0.00	16.59
30.0	23.57	0.00	2.50	0.00	0.00	0.00	26.07
30.5	33.94	1.33	3.50	0.00	0.00	0.00	38.77
31.0	46.20	5.30	4.50	2.58	0.00	0.00	58.58
31.5	59.40	10.60	5.50	7.73	0.00	0.00	83.23
32.0	72.60	15.90	6.50	12.88	0.00	0.00	107.88
32.5	85.80	21.20	7.50	18.03	0.00	0.00	132.53
33.0	99.00	26.50	8.50	23.18	0.00	0.00	157.18

Basin Characteristics - Florida Power & Light (Basin 7)

Avg. Ground Elevation =	**30.00**		
Basin Control Elevation =	**27.00**		
Avg. Depth to Water Table =	**3.00**	**FEET**	
Soil Storage =	**4.05**	**INCHES**	**(PER SFWMD FLATWOODS SOIL CATEGORY WITH 25% REDUCTION FOR COMPACTION)**

$$S = \frac{\text{(Pervious Area * Soil Storage)}}{\text{Total Area}} = \frac{206.03 * 4.05}{272.00} = 3.07$$

Curve Number (CN) =	**76.52**		**(1000 / (S+10))**
Max Overland Flow Length (L_{over}) =	**2,500.00**	**ft**	
Max. Overland EL. Difference (ΔEl_{over}) =	**2.50**	**ft**	
Max. Channelized Flow Length (L_{chan}) =	**500.00**	**ft**	
Max. Channelized EL. Difference (ΔEl_{over}) =	**0.001**	**ft**	
Average Watershed Slope (Y_{over}) =	**0.10**	**%**	**(ΔEl/L)**
Average Channel Slope (Y_{chan}) =	**0.0000**	**ft/ft**	**(ΔEl/L)**
Overland Time of Concentration ($T_{c,over}$) =	**232.35**	**minutes**	**($L_{over}^{0.8}((1000/CN)-9)^{0.7}$)/1140$Y_{over}^{0.5}$ (10 min if eqn equals less than 10 min) (SCS Lag Eqn)**
Channel Time of Concentration ($T_{c,chan}$) =	**146.02**	**minutes**	**($0.0078L_{chan}^{0.77}Y_{chan}^{-0.385}$ (10 min if eqn equals less than 10 min) (Kirpich Eqn)**
Total Time of Concentration =	**378.37**	**minutes**	**$T_{c,over} + T_{c,\ chan}$**

Basin 7	**Wetlands**	**Upland Preserve**	**Road / Parking**	**Building**	**Swale / Ditch**	**Detention Area**	**Open Lot**	**Total**
Total Areas (Ac.)	57.97	0.00	0.00	0.00	0.00	13.80	200.23	272.00
Roof %	0%	0%	0%	0%	0%	0%	0%	0.0%
Roof Area	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pervious %	10%	100%	0%	0%	0%	0%	100%	75.7%
Pervious Area (Ac.)	5.80	0.00	0.00	0.00	0.00	0.00	200.23	206.03
Impervious %	0%	0%	100%	100%	0%	0%	0%	0.0%
Impervious Area (Ac.)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SWM %	90%	0%	0%	0%	100%	100%	0%	24.3%
SWM Area (Ac.)	52.17	0.00	0.00	0.00	0.00	13.80	0.00	65.97

MIN. ELEV.	27.00	**NAVD**
MAX. ELEV.	32.00	**NAVD**
Stage Increment	0.50	

Basin 6	Wetlands	Upland Preserve	Road / Parking	Building	Swale / Ditch	Detention Area	Open Lot	Total
ROOF AC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PER. AC.	5.80	0.00	0.00	0.00	0.00	0.00	200.23	206.03
IMP. AC.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SWM AC.	52.17	0.00	0.00	0.00	0.00	13.80	0.00	65.97
TOTAL AREA	57.97	0.00	0.00	0.00	0.00	13.80	200.23	272.00
TYPE	L	L	L	V	V	V	L	
ST. EL.	26.00	26.50	30.00	100.00	24.00	25.00	24.00	
MAX. EL.	27.00	27.50	32.00				32.00	

SOLAR FIELD BASINS

BASIN CHARACTERISTICS - Basin S1

Soil Type = Flatwoods Soil
Soil Condition = Compacted
Soil storage reduction due to compaction = 75%
Avg. Depth to Water Table = 1 FEET
Soil Storage = 0.45 INCHES (PER SFWMD FLATWOODS SOIL CATEGORY WITH COMPACTION)

$$S = \frac{\text{(PERVIOUS AREA * SOIL STORAGE)}}{\text{Total Area}} = \frac{35.3 * 0.45}{74.1} = 0.21$$

Curve Number = 1000 / (S+10) = 98
DCIA = 0 %
Time of Concentration = 0.33 hours = 20.0 minutes

BASIN 1	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	Total Area
Total Areas (Ac.)	3.4	9.2	0.0	0.0	38.8	22.7	74.1
Bldg. %	0%	0%	0%	0%	0%	0%	0%
Bldg. Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100%	100%	0%	100%	0%	100%	48%
Pervious Area (Ac.)	3.4	9.2	0.0	0.0	0.0	22.7	35.3
Impervious %	0%	0%	100%	0%	100%	0%	52%
Impervious Area (Ac.)	0.0	0.0	0.0	0.0	38.8	0.0	38.8

Computation Type Stage-Storage

Starting Stage = 26.00
Ending Stage = 31.20
Stage Increment = 0.50

Name	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	
Area Available for Surface Water Storage	3.4	9.2	0.0	0.0	38.8	22.7	
Start Elev	26.0	26.0	30.0	30.0	28.5	28.9	NAVD
End Elev		28.5		30.1	28.9	29.2	

Stage Feet NAVD	Vert Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Total Storage Ac-ft
26.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.5	1.7	0.5	0.0	0.0	0.0	0.0	2.2
27.0	3.4	1.8	0.0	0.0	0.0	0.0	5.2
27.5	5.1	4.2	0.0	0.0	0.0	0.0	9.2
28.0	6.8	7.4	0.0	0.0	0.0	0.0	14.2
28.5	8.5	11.5	0.0	0.0	0.0	0.0	20.0
29.0	10.2	16.2	0.0	0.0	11.6	0.4	38.4
29.5	11.9	20.8	0.0	0.0	31.1	10.2	73.9
30.0	13.5	25.4	0.0	0.0	50.5	21.5	111.0
30.5	15.2	30.0	0.0	0.0	69.9	32.9	148.1
31.0	16.9	34.6	0.0	0.0	89.3	44.2	185.1

BASIN CHARACTERISTICS - Basin S2

Soil Type = Flatwoods Soil
Soil Condition = Compacted
Soil storage reduction due to compaction = 75%
Avg. Depth to Water Table = 1 FEET
Soil Storage = 0.45 INCHES (PER SFWMD FLATWOODS SOIL CATEGORY WITH COMPACTION)

$$S = \frac{\text{(PERVIOUS AREA * SOIL STORAGE)}}{\text{Total Area}} = \frac{23.7 * 0.45}{58.1} = 0.18$$

Curve Number = 1000 / (S+10) = 98
DCIA = 0 %
Time of Concentration = 0.33 hours = 20.0 minutes

BASIN 2	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	Total Area
Total Areas (Ac.)	2.8	7.8	0.0	0.0	34.4	13.1	58.1
Bldg. %	0%	0%	0%	0%	0%	0%	0%
Bldg. Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100%	100%	0%	100%	0%	100%	41%
Pervious Area (Ac.)	2.8	7.8	0.0	0.0	0.0	13.1	23.7
Impervious %	0%	0%	100%	0%	100%	0%	59%
Impervious Area (Ac.)	0.0	0.0	0.0	0.0	34.4	0.0	34.4

Computation Type Stage-Storage

Starting Stage = 27.20
Ending Stage = 32.20
Stage Increment = 0.50

Name	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	
Area Available for Surface Water Storage	2.8	7.8	0.0	0.0	34.4	13.1	
Start Elev	27.0	27.0	31.0	31.0	29.5	29.9	NAVD
End Elev		29.5		31.1	29.9	30.2	

Stage Feet NAVD	Vert Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Total Storage Ac-ft
27.2	0.6	0.1	0.0	0.0	0.0	0.0	0.6
27.7	2.0	0.8	0.0	0.0	0.0	0.0	2.8
28.2	3.4	2.2	0.0	0.0	0.0	0.0	5.7
28.7	4.8	4.5	0.0	0.0	0.0	0.0	9.3
29.2	6.3	7.5	0.0	0.0	0.0	0.0	13.8
29.7	7.7	11.3	0.0	0.0	1.7	0.0	20.7
30.2	9.1	15.1	0.0	0.0	17.2	2.0	43.4
30.7	10.5	19.0	0.0	0.0	34.4	8.5	72.5
31.2	12.0	22.9	0.0	0.0	51.6	15.0	101.5
31.7	13.4	26.8	0.0	0.0	68.8	21.6	130.6
32.2	14.8	30.7	0.0	0.0	86.0	28.1	159.6

BASIN CHARACTERISTICS - Basin S3

Soil Type = Flatwoods Soil
Soil Condition = Compacted
Soil storage reduction due to compaction = 75%
Avg. Depth to Water Table = 1 FEET
Soil Storage = 0.45 INCHES (PER SFWMD FLATWOODS SOIL CATEGORY WITH COMPACTION)

$$S = \frac{\text{(PERVIOUS AREA * SOIL STORAGE)}}{\text{Total Area}} = \frac{23.2 * 0.45}{57.7} = 0.18$$

Curve Number = 1000 / (S+10) = 98
DCIA = 0 %
Time of Concentration = 0.33 hours = 20.0 minutes

BASIN 3	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	Total Area
Total Areas (Ac.)	2.8	7.8	0.0	0.0	34.4	12.6	57.7
Bldg. %	0%	0%	0%	0%	0%	0%	0%
Bldg. Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100%	100%	0%	100%	0%	100%	40%
Pervious Area (Ac.)	2.8	7.8	0.0	0.0	0.0	12.6	23.2
Impervious %	0%	0%	100%	0%	100%	0%	60%
Impervious Area (Ac.)	0.0	0.0	0.0	0.0	34.4	0.0	34.4

Computation Type Stage-Storage

Starting Stage = 28.20
Ending Stage = 33.20
Stage Increment = 0.50

Name	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	
Area Available for Surface Water Storage	2.8	7.8	0.0	0.0	34.4	12.6	
Start Elev	28.0	28.0	32.0	32.0	30.5	30.9	NAVD
End Elev		30.5		32.1	30.9	31.2	

Stage Feet NAVD	Vert Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Total Storage Ac-ft
28.2	0.6	0.1	0.0	0.0	0.0	0.0	0.6
28.7	2.0	0.8	0.0	0.0	0.0	0.0	2.8
29.2	3.4	2.2	0.0	0.0	0.0	0.0	5.7
29.7	4.8	4.5	0.0	0.0	0.0	0.0	9.3
30.2	6.3	7.5	0.0	0.0	0.0	0.0	13.8
30.7	7.7	11.3	0.0	0.0	1.7	0.0	20.7
31.2	9.1	15.1	0.0	0.0	17.2	1.9	43.4
31.7	10.5	19.0	0.0	0.0	34.4	8.2	72.2
32.2	12.0	22.9	0.0	0.0	51.6	14.5	101.0
32.7	13.4	26.8	0.0	0.0	68.8	20.8	129.8
33.2	14.8	30.7	0.0	0.0	86.0	27.2	158.7

BASIN CHARACTERISTICS - Basin S4

Soil Type = Flatwoods Soil
Soil Condition = Compacted
Soil storage reduction due to compaction = 75%
Avg. Depth to Water Table = 1 FEET
Soil Storage = 0.45 INCHES (PER SFWMD FLATWOODS SOIL CATEGORY WITH COMPACTION)

$$S = \frac{\text{(PERVIOUS AREA * SOIL STORAGE)}}{\text{Total Area}} = \frac{19.3 * 0.45}{39.6} = 0.22$$

Curve Number = 1000 / (S+10) = 98
DCIA = 0 %
Time of Concentration = 0.33 hours = 20.0 minutes

BASIN 4	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	Total Area
Total Areas (Ac.)	1.7	4.7	0.0	0.0	20.3	12.8	39.6
Bldg. %	0%	0%	0%	0%	0%	0%	0%
Bldg. Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100%	100%	0%	100%	0%	100%	49%
Pervious Area (Ac.)	1.7	4.7	0.0	0.0	0.0	12.8	19.3
Impervious %	0%	0%	100%	0%	100%	0%	51%
Impervious Area (Ac.)	0.0	0.0	0.0	0.0	20.3	0.0	20.3

Computation Type Stage-Storage

Starting Stage = 24.80
Ending Stage = 28.50
Stage Increment = 0.50

Name	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	
Area Available for Surface Water Storage	1.7	4.7	0.0	0.0	20.3	12.8	
Start Elev	24.8	24.8	28.5	28.5	27.3	27.7	NAVD
End Elev		27.3		28.6	27.7	28.0	

Stage Feet NAVD	Vert Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Total Storage Ac-ft
24.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
25.3	0.9	0.2	0.0	0.0	0.0	0.0	1.1
25.8	1.7	0.9	0.0	0.0	0.0	0.0	2.7
26.3	2.6	2.1	0.0	0.0	0.0	0.0	4.7
26.8	3.5	3.8	0.0	0.0	0.0	0.0	7.3
27.3	4.3	5.9	0.0	0.0	0.0	0.0	10.3
27.8	5.2	8.3	0.0	0.0	6.1	0.2	19.8
28.3	6.1	10.7	0.0	0.0	16.3	5.8	38.8

BASIN CHARACTERISTICS - Basin S5

Soil Type = Flatwoods Soil
Soil Condition = Compacted
Soil storage reduction due to compaction = 75%
Avg. Depth to Water Table = 1 FEET
Soil Storage = 0.45 INCHES (PER SFWMD FLATWOODS SOIL CATEGORY WITH COMPACTION)

$$S = \frac{\text{(PERVIOUS AREA * SOIL STORAGE)}}{\text{Total Area}} = \frac{16.4 * 0.45}{38.2} = 0.19$$

Curve Number = 1000 / (S+10) = 98
DCIA = 0 %
Time of Concentration = 0.33 hours = 20.0 minutes

BASIN 5	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	Total Area
Total Areas (Ac.)	1.9	5.3	0.0	0.0	21.7	9.3	38.2
Bldg. %	0%	0%	0%	0%	0%	0%	0%
Bldg. Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100%	100%	0%	100%	0%	100%	43%
Pervious Area (Ac.)	1.9	5.3	0.0	0.0	0.0	9.3	16.4
Impervious %	0%	0%	100%	0%	100%	0%	57%
Impervious Area (Ac.)	0.0	0.0	0.0	0.0	21.7	0.0	21.7

Computation Type Stage-Storage

Starting Stage = 26.20
Ending Stage = 30.00
Stage Increment = 0.50

Name	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	
Area Available for Surface Water Storage	1.9	5.3	0.0	0.0	21.7	9.3	
Start Elev	26.0	26.0	30.0	30.0	28.5	28.9	NAVD
End Elev		28.5		30.1	28.9	29.2	

Stage Feet NAVD	Vert Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Total Storage Ac-ft
26.2	0.4	0.0	0.0	0.0	0.0	0.0	0.4
26.7	1.3	0.5	0.0	0.0	0.0	0.0	1.9
27.2	2.3	1.5	0.0	0.0	0.0	0.0	3.8
27.7	3.3	3.0	0.0	0.0	0.0	0.0	6.3
28.2	4.2	5.1	0.0	0.0	0.0	0.0	9.3
28.7	5.2	7.6	0.0	0.0	1.1	0.0	13.9
29.2	6.2	10.2	0.0	0.0	10.9	1.4	28.7
29.7	7.1	12.9	0.0	0.0	21.7	6.0	47.8

BASIN CHARACTERISTICS - Basin S6

Soil Type = Flatwoods Soil
Soil Condition = Compacted
Soil storage reduction due to compaction = 75%
Avg. Depth to Water Table = 1 FEET
Soil Storage = 0.45 INCHES (PER SFWMD FLATWOODS SOIL CATEGORY WITH COMPACTION)

$$S = \frac{\text{(PERVIOUS AREA * SOIL STORAGE)}}{\text{Total Area}} = \frac{10.7 * 0.45}{25.2} = 0.19$$

Curve Number = 1000 / (S+10) = 98
DCIA = 0 %
Time of Concentration = 0.33 hours = 20.0 minutes

BASIN 6	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	Total Area
Total Areas (Ac.)	1.3	3.5	0.0	0.0	14.5	5.9	25.2
Bldg. %	0%	0%	0%	0%	0%	0%	0%
Bldg. Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100%	100%	0%	100%	0%	100%	42%
Pervious Area (Ac.)	1.3	3.5	0.0	0.0	0.0	5.9	10.7
Impervious %	0%	0%	100%	0%	100%	0%	58%
Impervious Area (Ac.)	0.0	0.0	0.0	0.0	14.5	0.0	14.5

Computation Type Stage-Storage

Starting Stage = 28.20
Ending Stage = 32.00
Stage Increment = 0.50

Name	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	
Area Available for Surface Water Storage	1.3	3.5	0.0	0.0	14.5	5.9	
Start Elev	28.0	28.0	32.0	32.0	30.5	30.9	NAVD
End Elev		30.5		32.1	30.9	31.2	
Stage Feet NAVD	Vert Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Total Storage Ac-ft
28.2	0.3	0.0	0.0	0.0	0.0	0.0	0.3
28.7	0.9	0.3	0.0	0.0	0.0	0.0	1.2
29.2	1.5	1.0	0.0	0.0	0.0	0.0	2.5
29.7	2.2	2.0	0.0	0.0	0.0	0.0	4.2
30.2	2.8	3.4	0.0	0.0	0.0	0.0	6.2
30.7	3.5	5.1	0.0	0.0	0.7	0.0	9.3
31.2	4.1	6.8	0.0	0.0	7.2	0.9	19.1
31.7	4.7	8.6	0.0	0.0	14.5	3.8	31.7

BASIN CHARACTERISTICS - Basin S7

Soil Type = Flatwoods Soil
Soil Condition = Compacted
Soil storage reduction due to compaction = 75%
Avg. Depth to Water Table = 1 FEET
Soil Storage = 0.45 INCHES (PER SFWMD FLATWOODS SOIL CATEGORY WITH COMPACTION)

$$S = \frac{\text{(PERVIOUS AREA * SOIL STORAGE)}}{\text{Total Area}} = \frac{30.1 * 0.45}{61.0} = 0.22$$

Curve Number = 1000 / (S+10) = 98
DCIA = 0 %
Time of Concentration = 0.33 hours = 20.0 minutes

BASIN 7	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	Total Area
Total Areas (Ac.)	2.5	6.8	0.0	0.0	30.9	20.8	61.0
Bldg. %	0%	0%	0%	0%	0%	0%	0%
Bldg. Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100%	100%	0%	100%	0%	100%	49%
Pervious Area (Ac.)	2.5	6.8	0.0	0.0	0.0	20.8	30.1
Impervious %	0%	0%	100%	0%	100%	0%	51%
Impervious Area (Ac.)	0.0	0.0	0.0	0.0	30.9	0.0	30.9

Computation Type Stage-Storage

Starting Stage = 29.20
Ending Stage = 33.00
Stage Increment = 0.50

Name	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	
Area Available for Surface Water Storage	2.5	6.8	0.0	0.0	30.9	20.8	
Start Elev	29.0	29.0	33.0	33.0	31.5	31.9	NAVD
End Elev		31.5		33.1	31.9	32.2	

Stage Feet NAVD	Vert Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Total Storage Ac-ft
29.2	0.5	0.1	0.0	0.0	0.0	0.0	0.6
29.7	1.7	0.7	0.0	0.0	0.0	0.0	2.4
30.2	3.0	2.0	0.0	0.0	0.0	0.0	5.0
30.7	4.2	3.9	0.0	0.0	0.0	0.0	8.2
31.2	5.5	6.6	0.0	0.0	0.0	0.0	12.1
31.7	6.7	9.9	0.0	0.0	1.5	0.0	18.1
32.2	8.0	13.3	0.0	0.0	15.5	3.1	39.8
32.7	9.2	16.7	0.0	0.0	30.9	13.5	70.4

BASIN CHARACTERISTICS - Basin S8

Soil Type = Flatwoods Soil
Soil Condition = Compacted
Soil storage reduction due to compaction = 75%
Avg. Depth to Water Table = 1 FEET
Soil Storage = 0.45 INCHES (PER SFWMD FLATWOODS SOIL CATEGORY WITH COMPACTION)

$$S = \frac{\text{(PERVIOUS AREA * SOIL STORAGE)}}{\text{Total Area}} = \frac{24.4 * 0.45}{62.3} = 0.18$$

Curve Number = 1000 / (S+10) = 98
DCIA = 0 %
Time of Concentration = 0.33 hours = 20.0 minutes

BASIN 8	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	Total Area
Total Areas (Ac.)	3.2	8.8	0.0	0.0	37.9	12.3	62.3
Bldg. %	0%	0%	0%	0%	0%	0%	0%
Bldg. Area	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100%	100%	0%	100%	0%	100%	39%
Pervious Area (Ac.)	3.2	8.8	0.0	0.0	0.0	12.3	24.4
Impervious %	0%	0%	100%	0%	100%	0%	61%
Impervious Area (Ac.)	0.0	0.0	0.0	0.0	37.9	0.0	37.9

Computation Type Stage-Storage

Starting Stage = 29.70
Ending Stage = 33.50
Stage Increment = 0.50

Name	Swale Btm.	Swale Slopes	Wet Detention	Wet Detention Slope	Roads	Open Area	
Area Available for Surface Water Storage	3.2	8.8	0.0	0.0	37.9	12.3	
Start Elev	29.5	29.5	33.0	33.0	32.0	32.0	NAVD
End Elev		32.0		33.1	32.4	32.7	

Stage Feet NAVD	Vert Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Total Storage Ac-ft
29.7	0.6	0.1	0.0	0.0	0.0	0.0	0.7
30.2	2.3	0.9	0.0	0.0	0.0	0.0	3.1
30.7	3.9	2.5	0.0	0.0	0.0	0.0	6.4
31.2	5.5	5.1	0.0	0.0	0.0	0.0	10.6
31.7	7.1	8.6	0.0	0.0	0.0	0.0	15.7
32.2	8.8	12.8	0.0	0.0	1.9	0.4	23.8
32.7	10.4	17.3	0.0	0.0	18.9	4.3	50.9
33.2	12.0	21.7	0.0	0.0	37.9	10.5	82.1

BASIN 6

Time of Concentration for Basin 6

		Dry Detention Sub-Basin	Solar Field Sub-Basin			Unit-3/Unit-4 Sub-Basin	Levee-Unit8W)Sub-Basin	Unit8E Sub-Basin	Welcome Center	Basin 6A
Sheet Flow		Segment A	Segment A			Segment A	Segment A	Segment A	Segment A	Segment A
1. Surface Description		Mowed Grass	Mowed Grass/ Base Rock			Impervious	Mowed Grass	Impervious	Mowed Grass	Mowed Grass
2. Manning's roughness		0.24	0.087			0.011	0.24	0.011	0.24	0.24
3. Flow length, L	(ft)	200	20			275	300	275	150	250
4. Two-year rainfall, P_2	(in)	5.0	5.0			5.0	5.0	5.0	5.0	5.0
5. Land slope, s	(ft/ft)	0.0050	0.0167			0.0020	0.0500	0.0020	0.0050	0.0500
6. $T_t = 0.007\ (nL)^{0.8} / (P_2^{0.5}\ s^{0.4})$	(hr)	0.58	0.03			0.09	0.32	0.09	0.46	0.27
Shallow Concentrated Flow						Segment B	Segment B	Segment B	Segment B	Segment B
7. Surface description						Unpaved	Unpaved	Unpaved	Unpaved	Unpaved
8. Flow Length, L	(ft)					375	300	375	150	275
9. Watercourse slope, s	(ft/ft)					0.0050	0.0001	0.0050	0.0050	0.0075
10. Average velocity, V	(ft/s)	0.00				1.14	0.16	1.14	1.14	1.40
11. $T_t = L / 3600\ V$	(hr)	0.00				0.09	0.52	0.09	0.04	0.05
Channel Flow			Segment B	Segment C	Segment D	Segment C	Segment C	Segment C	Segment C	Segment C
12. Cross sectional flow area, a	(ft^2)		32.5	189	35.87	60	120	60	0	50
13. Wetted perimeter, Pw	(ft)		21.3	61.1	23.6	30.6	33.3	30.6	0	30.5
14. Hydraulic radius, r = a/Pw	(ft)	n/a	1.53	3.09	1.52	1.96	3.60	1.96	n/a	1.64
15. Channel slope, s	(ft/ft)		0.0012	0.0001	0.0002	0.0008	0.0015	0.0030	0.0030	0.0015
16. Manning's roughness, n			0.030	0.030	0.030	0.030	0.030	0.030	0.030	0.030
17. $V = 1.49\ r^{0.67} s^{0.5} / n$	(ft/s)	n/a	2.28	1.06	0.93	2.21	4.54	4.27	n/a	2.68
18. Flow length, L	(ft)		1000	2500	1000	2500	2750	700	700	750
19. $T_t = L / 3600\ V$	(hr)	0.00	0.12	0.66	0.30	0.31	0.17	0.05	0.00	0.08
20. Watershed Time of concentration	**(hr)**	**0.58**			**1.10**	**0.50**	**1.00**	**0.23**	**0.49**	**0.41**
	(min)	**35**			**66**	**30**	**60**	**14**	**30**	**24**

Pre-Development Land Use and Stage-Storage Calculations

FPL Martin Basin 005E -Welcome Center

Computation Type: **Land Use & Stage-Storage**

Control Elevation =	**27.00**	**ft**	
Average Ground Elevation (EL_{grnd}) =	**30.00**	**ft NAVD**	
Avg. Depth to Water Table (D_{WT}) =	**3.00**	**ft**	
Soil Type =	**Flatwoods**		
Max. Available Soil Storage (S_{max}) =	**5.4**	**in**	**(Per SFWMD Flatwoods soil category)**
Compaction Factor ($F_{compact}$) =	**25%**	**%**	**(Use 25% for developed site)**
Compacted Soil Storage ($S_{compact}$) =	**4.05**	**in**	**(S_{max})(1 - $F_{compact}$)**
Available Soil Storage (S_{avail}) =	**3.09**	**in**	**(A_p)($S_{compact}$)/(A_t)**
Curve Number (CN) =	**76**		**1000 / (S_{avail}+10)**
Total Time of Concentration =	**31**	**minutes**	

	Pervious	Impervious	Swale	Detention Area			Total
	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)
Total Areas (A_t)	2.7	0.5	0.0	0.3	0.0	0.0	3.5
Bldg. %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bldg. Area (A_r)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	76.3%
Pervious Area (A_p)	2.7	0.0	0.0	0.0	0.0	0.0	2.7
Impervious %	0.0%	100.0%	0.0%	100.0%	100.0%	100.0%	23.7%
Impervious Area (A_i)	0.0	0.5	0.0	0.3	0.0	0.0	0.8
SWM %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SWM Area (Ac.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Starting Stage =	27.0
Ending Stage =	32.0
Stage Increment =	0.5

Name	**Pervious**	**Impervious**	**Swale**	**Detention Area**	**0.0**	**0.0**
Area	2.7	0.5	0.0	0.3	0.0	0.0
Start Elev	29.0	31.0	25.0	27.0	0.0	0.0
End Elev	31.0	33.0	29.0			

Stage	Linear	Linear	Linear	Vert	Vert	Vert	Total
Feet	Storage	Storage	Storage	Storage	Storage	Storage	Storage
NAVD	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	ac-ft
27.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27.5	0.00	0.00	0.00	0.15	0.00	0.00	0.15
28.0	0.00	0.00	0.00	0.30	0.00	0.00	0.30
28.5	0.00	0.00	0.00	0.45	0.00	0.00	0.45
29.0	0.00	0.00	0.00	0.60	0.00	0.00	0.60
29.5	0.17	0.00	0.00	0.75	0.00	0.00	0.92
30.0	0.67	0.00	0.00	0.90	0.00	0.00	1.57
30.5	1.50	0.00	0.00	1.05	0.00	0.00	2.55
31.0	2.67	0.00	0.00	1.20	0.00	0.00	3.87
31.5	4.01	0.03	0.00	1.35	0.00	0.00	5.39
32.0	5.34	0.13	0.00	1.50	0.00	0.00	6.97

Pre-Development Land Use and Stage-Storage Calculations
FPL Martin Basin 005E - Unit-8E Sub-Basin

Computation Type: **Land Use & Stage-Storage**

Control Elevation =	**23.80**	**ft**	
Average Ground Elevation (EL_{grnd}) =	**30.32**	**ft NAVD**	
Avg. Depth to Water Table (D_{WT}) =	**6.52**	**ft**	
Soil Type =	**Flatwoods**		
Max. Available Soil Storage (S_{max}) =	**9**	**in**	**(Per SFWMD Flatwoods soil category)**
Compaction Factor ($F_{compact}$) =	**25%**	**%**	**(Use 25% for developed site)**
Compacted Soil Storage ($S_{compact}$) =	**6.75**	**in**	**(S_{max})(1 - $F_{compact}$)**
Available Soil Storage (S_{avail}) =	**1.03**	**in**	**(A_p)($S_{compact}$)/(A_t)**
Curve Number (CN) =	**91**		**1000 / (S_{avail}+10)**
Total Time of Concentration =	**14**	**minutes**	

	Pervious	Impervious	Swale				Total
	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)
Total Areas (A_t)	1.3	10.0	0.5	0.0	0.0	0.0	11.8
Pervious %	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	15.3%
Pervious Area (A_p)	1.3	0.0	0.5	0.0	0.0	0.0	1.8
Impervious %	0.0%	100.0%	0.0%	100.0%	100.0%	100.0%	84.7%
Impervious Area (A_i)	0.0	10.0	0.0	0.0	0.0	0.0	10.0

Starting Stage =	26.0
Ending Stage =	32.0
Stage Increment =	0.5

Name	**Pervious**	**Impervious**	**Swale**	**0.0**	**0.0**	**0.0**
Area	1.3	10.0	0.5	0.0	0.0	0.0
Start Elev	29.0	30.0	26.0	0.0	0.0	0.0
End Elev	31.0	31.0	29.0			

Stage Feet NAVD	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Vert Storage Ac-ft	Vert Storage Ac-ft	Total Storage ac-ft
26.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26.5	0.00	0.00	0.02	0.00	0.00	0.00	0.02
27.0	0.00	0.00	0.08	0.00	0.00	0.00	0.08
27.5	0.00	0.00	0.19	0.00	0.00	0.00	0.19
28.0	0.00	0.00	0.33	0.00	0.00	0.00	0.33
28.5	0.00	0.00	0.52	0.00	0.00	0.00	0.52
29.0	0.00	0.00	0.75	0.00	0.00	0.00	0.75
29.5	0.08	0.00	1.00	0.00	0.00	0.00	1.08
30.0	0.33	0.00	1.25	0.00	0.00	0.00	1.58
30.5	0.73	1.25	1.50	0.00	0.00	0.00	3.48
31.0	1.30	5.00	1.75	0.00	0.00	0.00	8.05
31.5	1.95	10.00	2.00	0.00	0.00	0.00	13.95
32.0	2.60	15.00	2.25	0.00	0.00	0.00	19.85

Pre-Development Land Use and Stage-Storage Calculations

FPL Martin Basin 005E - Unit-3/Unit-4 Sub-Basin

Computation Type: Land Use & Stage-Storage

Control Elevation =	**23.80**	**ft**	
Average Ground Elevation (EL_{grnd}) =	**30.18**	**ft NAVD**	
Avg. Depth to Water Table (D_{WT}) =	**6.38**	**ft**	
Soil Type =	**Flatwoods**		
Max. Available Soil Storage (S_{max}) =	**9**	**in**	**(Per SFWMD Flatwoods soil category)**
Compaction Factor ($F_{compact}$) =	**25%**	**%**	**(Use 25% for developed site)**
Compacted Soil Storage ($S_{compact}$) =	**6.75**	**in**	**(S_{max})(1 - $F_{compact}$)**
Available Soil Storage (S_{avail}) =	**1.23**	**in**	**(A_p)($S_{compact}$)/(A_t)**
Curve Number (CN) =	**89**		**1000 / (S_{avail}+10)**
Total Time of Concentration =	**31**	**minutes**	

	Pervious	Impervious	Swale				Total
	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)
Total Areas (A_t)	7.2	42.2	2.2	0.0	0.0	0.0	51.6
Bldg. %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bldg. Area (A_r)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	18.2%
Pervious Area (A_p)	7.2	0.0	2.2	0.0	0.0	0.0	9.4
Impervious %	0.0%	100.0%	0.0%	100.0%	100.0%	100.0%	81.8%
Impervious Area (A_i)	0.0	42.2	0.0	0.0	0.0	0.0	42.2
SWM %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SWM Area (Ac.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Starting Stage =	25.0
Ending Stage =	31.0
Stage Increment =	0.5

Name	**Pervious**	**Impervious**	**Swale**	**0.0**	**0.0**	**0.0**
Area	7.2	42.2	2.2	0.0	0.0	0.0
Start Elev	27.5	30.0	25.0	0.0	0.0	0.0
End Elev	31.0	31.0	29.0			

Stage Feet NAVD	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Vert Storage Ac-ft	Vert Storage Ac-ft	Total Storage ac-ft
25.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25.5	0.00	0.00	0.07	0.00	0.00	0.00	0.07
26.0	0.00	0.00	0.28	0.00	0.00	0.00	0.28
26.5	0.00	0.00	0.62	0.00	0.00	0.00	0.62
27.0	0.00	0.00	1.10	0.00	0.00	0.00	1.10
27.5	0.00	0.00	1.72	0.00	0.00	0.00	1.72
28.0	0.26	0.00	2.48	0.00	0.00	0.00	2.73
28.5	1.03	0.00	3.37	0.00	0.00	0.00	4.40
29.0	2.31	0.00	4.40	0.00	0.00	0.00	6.71
29.5	4.11	0.00	5.50	0.00	0.00	0.00	9.61
30.0	6.43	0.00	6.60	0.00	0.00	0.00	13.03
30.5	9.26	5.28	7.70	0.00	0.00	0.00	22.23
31.0	12.60	21.10	8.80	0.00	0.00	0.00	42.50

Pre-Development Land Use and Stage-Storage Calculations
FPL Martin Basin 005E - Levee/Unit-8W Sub-Basin

Computation Type: Land Use & Stage-Storage

Control Elevation =	**23.80**	**ft**	
Average Ground Elevation (EL_{grnd}) =	**31.64**	**ft NAVD**	
Avg. Depth to Water Table (D_{WT}) =	**7.84**	**ft**	
Soil Type =	**Flatwoods**		
Max. Available Soil Storage (S_{max}) =	**9**	**in**	**(Per SFWMD Flatwoods soil category)**
Compaction Factor ($F_{compact}$) =	**25%**	**%**	**(Use 25% for developed site)**
Compacted Soil Storage ($S_{compact}$) =	**6.75**	**in**	**(S_{max})(1 - $F_{compact}$)**
Available Soil Storage (S_{avail}) =	**3.71**	**in**	**(A_p)($S_{compact}$)/(A_t)**
Curve Number (CN) =	**73**		**1000 / (S_{avail}+10)**
Total Time of Concentration =	**107**	**minutes**	

	Pervious (ac)	Impervious (ac)	Levee Slope (ac)	Ditch (ac)	Swale (ac)	(ac)	Total (ac)
Total Areas (A_t)	29.9	33.3	13.0	2.0	0.2	0.0	78.4
Bldg. %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bldg. Area (A_r)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100.0%	0.0%	100.0%	0.0%	100.0%	0.0%	55.0%
Pervious Area (A_p)	29.9	0.0	13.0	0.0	0.2	0.0	43.1
Impervious %	0.0%	100.0%	0.0%	100.0%	0.0%	100.0%	45.0%
Impervious Area (A_i)	0.0	33.3	0.0	2.0	0.0	0.0	35.3
SWM %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SWM Area (Ac.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Starting Stage =	23.8
Ending Stage =	32.0
Stage Increment =	0.5

Name	**Pervious**	**Impervious**	**Levee Slope**	**Ditch**	**Swale**	**0.0**
Area	29.9	33.3	13.0	2.0	0.2	0.0
Start Elev	26.0	31.0	30.0	23.8	28.0	0.0
End Elev	31.0	32.0	50.0	30.0	31.0	

Stage Feet NAVD	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Total Storage ac-ft
23.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.3	0.00	0.00	0.00	0.04	0.00	0.00	0.04
24.8	0.00	0.00	0.00	0.16	0.00	0.00	0.16
25.3	0.00	0.00	0.00	0.36	0.00	0.00	0.36
25.8	0.00	0.00	0.00	0.65	0.00	0.00	0.65
26.3	0.27	0.00	0.00	1.01	0.00	0.00	1.28
26.8	1.91	0.00	0.00	1.45	0.00	0.00	3.37
27.3	5.05	0.00	0.00	1.98	0.00	0.00	7.03
27.8	9.69	0.00	0.00	2.58	0.00	0.00	12.27
28.3	15.82	0.00	0.00	3.27	0.00	0.00	19.09
28.8	23.44	0.00	0.00	4.03	0.02	0.00	27.50
29.3	32.56	0.00	0.00	4.88	0.06	0.00	37.50
29.8	43.18	0.00	0.00	5.81	0.11	0.00	49.09
30.3	55.29	0.00	0.03	6.80	0.18	0.00	62.29
30.8	68.89	0.00	0.21	7.80	0.26	0.00	77.16
31.3	83.72	1.50	0.55	8.80	0.36	0.00	94.93
31.8	98.67	10.66	1.05	9.80	0.46	0.00	120.64

Pre-Development Land Use and Stage-Storage Calculations
FPL Martin Basin 005E - Dry Detention Sub-Basin

Computation Type: Land Use & Stage-Storage

Control Elevation =	**23.80**	**ft**	
Average Ground Elevation (EL_{grnd}) =	**25.38**	**ft NAVD**	
Avg. Depth to Water Table (D_{WT}) =	**1.58**	**ft**	
Soil Type =	**Flatwoods**		
Max. Available Soil Storage (S_{max}) =	**1.74**	**in**	**(Per SFWMD Flatwoods soil category)**
Compaction Factor ($F_{compact}$) =	**25%**	**%**	**(Use 25% for developed site)**
Compacted Soil Storage ($S_{compact}$) =	**1.31**	**in**	**(S_{max})(1 - $F_{compact}$)**
Available Soil Storage (S_{avail}) =	**1.31**	**in**	**(A_p)($S_{compact}$)/(A_t)**
Curve Number (CN) =	**88**		**1000 / (S_{avail}+10)**
Total Time of Concentration =	**35**	**minutes**	

	Open Space	Dry Detention Bottom	Dry Detention Slope				Total
	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)
Total Areas (A_t)	0.9	8.95	1.5	0.0	0.0	0.0	11.3
Bldg. %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bldg. Area (A_r)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100.0%	100.0%	100.0%	0.0%	0.0%	0.0%	100.0%
Pervious Area (A_p)	0.9	9.0	1.5	0.0	0.0	0.0	11.3
Impervious %	0.0%	0.0%	0.0%	100.0%	100.0%	100.0%	0.0%
Impervious Area (A_i)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SWM %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SWM Area (Ac.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Starting Stage =	23.8
Ending Stage =	32.0
Stage Increment =	0.5

Name	**Open Space**	**Dry Detention Bottom**	**Dry Detention Slope**	**0.0**	**0.0**	**0.0**
Area	0.9	8.95	1.5	0.0	0.0	0.0
Start Elev	26.0	24.8	24.8	0.0	0.0	0.0
End Elev	31.0		29.3			

Stage Feet NAVD	Linear Storage Ac-ft	Vert Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Vert Storage Ac-ft	Vert Storage Ac-ft	Total Storage ac-ft
23.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25.3	0.00	4.48	0.04	0.00	0.00	0.00	4.52
25.8	0.00	8.95	0.17	0.00	0.00	0.00	9.12
26.3	0.01	13.43	0.38	0.00	0.00	0.00	13.81
26.8	0.05	17.90	0.67	0.00	0.00	0.00	18.62
27.3	0.14	22.38	1.04	0.00	0.00	0.00	23.56
27.8	0.28	26.85	1.50	0.00	0.00	0.00	28.63
28.3	0.45	31.33	2.04	0.00	0.00	0.00	33.82
28.8	0.67	35.80	2.67	0.00	0.00	0.00	39.13
29.3	0.93	40.28	3.38	0.00	0.00	0.00	44.58
29.8	1.23	44.75	4.13	0.00	0.00	0.00	50.10
30.3	1.57	49.23	4.88	0.00	0.00	0.00	55.67
30.8	1.96	53.70	5.63	0.00	0.00	0.00	61.28
31.3	2.38	58.18	6.38	0.00	0.00	0.00	66.93
31.8	2.81	62.65	7.13	0.00	0.00	0.00	72.58

Pre-Development Land Use and Stage-Storage Calculations
FPL Martin Basin 005E - Solar Field Sub-Basin

Project Name: FPL Martin
Project #: 17038
Engineer: BF
Date: 8/13/2010

Computation Type: Land Use & Stage-Storage

Control Elevation =	**23.80**	**ft**	
Average Ground Elevation (EL_{grnd}) =	**28.27**	**ft NAVD**	
Avg. Depth to Water Table (D_{WT}) =	**4.47**	**ft**	
Soil Type =	**Flatwoods**		
Max. Available Soil Storage (S_{max}) =	**9**	**in**	**(Per SFWMD Flatwoods soil category)**
Compaction Factor ($F_{compact}$) =	**25%**	**%**	**(Use 25% for developed site)**
Compacted Soil Storage ($S_{compact}$) =	**6.75**	**in**	**(S_{max})(1 - $F_{compact}$)**
Available Soil Storage (S_{avail}) =	**2.96**	**in**	**(A_p)($S_{compact}$)/(A_t)**
Curve Number (CN) =	**77**		**1000 / (S_{avail}+10)**
Total Time of Concentration =	**66**	**minutes**	

	Open Space	Solar Panels	Medians	Field Swale Bottom	Field Swale Slope	Pass-thru Swale Slope	Header Ditch Bottom	Header Ditch Slope	Western Ditch Bottom	Western Ditch Slope	Western Ditch Slope	Roadway	Berm	Total
	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)
Total Areas (A_t)	0.2	24.8	5.6	1.3	7.0	2.5	0.9	1.2	0.2	0.4	0.5	1.1	0.4	46.1
Bldg. %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bldg. Area (A_r)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pervious %	100.0%	0.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%	100.0%	43.8%
Pervious Area (A_p)	0.2	0.0	5.6	1.3	7.0	2.5	0.9	1.2	0.2	0.4	0.5	0.0	0.4	20.2
Impervious %	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	56.2%
Impervious Area (A_i)	0.0	24.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	25.9
SWM %	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
SWM Area (Ac.)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Starting Stage = 24.5
Ending Stage = 31.0
Stage Increment = 0.5

Name	**Open Space**	**Solar Panels**	**Medians**	**Field Swale Bottom**	**Field Swale Slope**	**Pass-thru Swale Slope**	**Header Ditch Bottom**	**Header Ditch Slope**	**Western Ditch Bottom**	**Western Ditch Slope**	**Western Ditch Slope**	**Roadway**	**Berm**	
Area	0.2	24.8	5.6	1.3	7.0	2.5	0.9	1.2	0.2	0.4	0.5	1.1	0.4	
Start Elev	28.0	28.5	29.1	26.0	26.0	24.5	24.8	24.8	26.0	26.0	26.0	29.3	29.3	
End Elev	28.5	29.1	29.3		28.5	28.5		29.3		28.0	28.5	30.5		
Stage	Linear	Linear	Linear	Vert	Linear	Linear	Vert	Linear	Vert	Linear	Linear	Linear	Vert	Total
Feet	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage	Storage
NAVD	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	Ac-ft	ac-ft
24.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25.0	0.00	0.00	0.00	0.00	0.00	0.08	0.18	0.01	0.00	0.00	0.00	0.00	0.00	0.26
25.5	0.00	0.00	0.00	0.00	0.00	0.31	0.63	0.07	0.00	0.00	0.00	0.00	0.00	1.01
26.0	0.00	0.00	0.00	0.00	0.00	0.70	1.08	0.19	0.00	0.00	0.00	0.00	0.00	1.98
26.5	0.00	0.00	0.00	0.65	0.35	1.25	1.53	0.39	0.10	0.03	0.03	0.00	0.00	4.32
27.0	0.00	0.00	0.00	1.30	1.40	1.95	1.98	0.65	0.20	0.10	0.10	0.00	0.00	7.68
27.5	0.00	0.00	0.00	1.95	3.15	2.81	2.43	0.97	0.30	0.23	0.23	0.00	0.00	12.06
28.0	0.00	0.00	0.00	2.60	5.60	3.83	2.88	1.37	0.40	0.40	0.40	0.00	0.00	17.47
28.5	0.05	0.00	0.00	3.25	8.75	5.00	3.33	1.83	0.50	0.60	0.63	0.00	0.00	23.93
29.0	0.15	5.17	0.00	3.90	12.25	6.25	3.78	2.35	0.60	0.80	0.88	0.00	0.00	36.12
29.5	0.25	17.36	1.68	4.55	15.75	7.50	4.23	2.94	0.70	1.00	1.13	0.02	0.08	57.18
30.0	0.35	29.76	4.48	5.20	19.25	8.75	4.68	3.54	0.80	1.20	1.38	0.22	0.28	79.89
30.5	0.45	42.16	7.28	5.85	22.75	10.00	5.13	4.14	0.90	1.40	1.63	0.66	0.48	102.83
31.0	0.55	54.56	10.08	6.50	26.25	11.25	5.58	4.74	1.00	1.60	1.88	1.21	0.68	125.88

Pre-Development Land Use and Stage-Storage Calculations

FPL Martin Basin 6A

Computation Type: Land Use & Stage-Storage

Control Elevation =	**28.50**	**ft**	
Average Ground Elevation (EL_{grnd}) =	**30.18**	**ft NAVD**	
Avg. Depth to Water Table (D_{WT}) =	**1.68**	**ft**	
Soil Type =	**Flatwoods**		
Max. Available Soil Storage (S_{max}) =	**1.93**	**in**	**(Per SFWMD Flatwoods soil category)**
Compaction Factor ($F_{compact}$) =	**25%**	**%**	**(Use 25% for developed site)**
Compacted Soil Storage ($S_{compact}$) =	**1.45**	**in**	**(S_{max})(1 - $F_{compact}$)**
Available Soil Storage (S_{avail}) =	**0.76**	**in**	**(A_p)($S_{compact}$)/(A_t)**
Curve Number (CN) =	**93**		**1000 / (S_{avail}+10)**
Total Time of Concentration =	**42**	**minutes**	

	Pervious	Impervious	Swales	Filled Yards			Total
	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)	(ac)
Total Areas (A_t)	14.6	9.0	1.2	5.4	0.0	0.0	30.2
Pervious %	100.0%	0.0%	100.0%	0.0%	0.0%	0.0%	52.3%
Pervious Area (A_p)	14.6	0.0	1.2	0.0	0.0	0.0	15.8
Impervious %	0.0%	100.0%	0.0%	100.0%	100.0%	100.0%	47.7%
Impervious Area (A_i)	0.0	9.0	0.0	5.4	0.0	0.0	14.4

Starting Stage =	28.0
Ending Stage =	33.0
Stage Increment =	0.5

Name	**Pervious**	**Impervious**	**Swales**	**Filled Yards**	**0.0**	**0.0**
Area	14.6	9.0	1.5	5.4	0.0	0.0
Start Elev	30.0	32.5	28.0	30.0	0.0	0.0
End Elev	32.0	33.5	30.0	31.0		

Stage Feet NAVD	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Linear Storage Ac-ft	Vert Storage Ac-ft	Vert Storage Ac-ft	Total Storage ac-ft
28.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28.5	0.00	0.00	0.09	0.00	0.00	0.00	0.09
29.0	0.00	0.00	0.38	0.00	0.00	0.00	0.38
29.5	0.00	0.00	0.84	0.00	0.00	0.00	0.84
30.0	0.00	0.00	1.50	0.00	0.00	0.00	1.50
30.5	0.91	0.00	2.25	0.68	0.00	0.00	3.84
31.0	3.65	0.00	3.00	2.70	0.00	0.00	9.35
31.5	8.21	0.00	3.75	5.40	0.00	0.00	17.36
32.0	14.60	0.00	4.50	8.10	0.00	0.00	27.20
32.5	21.90	0.00	5.25	10.80	0.00	0.00	37.95
33.0	29.20	1.13	6.00	13.50	0.00	0.00	49.83

STAGE-AREA

Basin Characteristics - Florida Power & Light (Basin 1)

Starting Stage, Control El.	28.00	
Ending Stage	35.50	
Stage Increment	0.5	Note: Stage Increment < End Elev - Start Elev

Name	**Wetlands**	**Upland Preserve**	**Road**	**Building**	**Swale / Ditch**	**Detention Area**	**Open Lot**
Area	0.00	17.16	0.90	0.00	0.30	0.00	26.64
Start Elev	28.00	30.00	34.50	100.00	28.00	28.00	28.00
End Elev	30.00	32.50	35.00	0.00	0.00	0.00	34.50

Stage	Linear	Linear	Linear	Vert	Vert	Vert	Linear	Total
Feet	Area	Area	Area	Area	Area	Area	Area	Area
NAVD	Ac	Ac	Ac	Ac	Ac	Ac	Ac	Ac
28.0	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.30
28.5	0.00	0.00	0.00	0.00	0.30	0.00	2.05	2.35
29.0	0.00	0.00	0.00	0.00	0.30	0.00	4.10	4.40
29.5	0.00	0.00	0.00	0.00	0.30	0.00	6.15	6.45
30.0	0.00	0.00	0.00	0.00	0.30	0.00	8.20	8.50
30.5	0.00	3.43	0.00	0.00	0.30	0.00	10.25	13.98
31.0	0.00	6.86	0.00	0.00	0.30	0.00	12.30	19.46
31.5	0.00	10.30	0.00	0.00	0.30	0.00	14.34	24.94
32.0	0.00	13.73	0.00	0.00	0.30	0.00	16.39	30.42
32.5	0.00	17.16	0.00	0.00	0.30	0.00	18.44	35.90
33.0	0.00	17.16	0.00	0.00	0.30	0.00	20.49	37.95
33.5	0.00	17.16	0.00	0.00	0.30	0.00	22.54	40.00
34.0	0.00	17.16	0.00	0.00	0.30	0.00	24.59	42.05
34.5	0.00	17.16	0.00	0.00	0.30	0.00	26.64	44.10
35.0	0.00	17.16	0.90	0.00	0.30	0.00	26.64	45.00
35.5	0.00	17.16	0.90	0.00	0.30	0.00	26.64	45.00

Basin Characteristics - Florida Power & Light (Basin 2)

Starting Stage, Control El.	28.00	
Ending Stage	35.00	
Stage Increment	0.5	Note: Stage Increment < End Elev - Start Elev

Name	**Wetlands**	**Upland Preserve**	**Road**	**Building**	**Swale / Ditch**	**Detention Area**	**Open Lot**	
Area	52.40	37.03	1.10	0.00	0.40	23.80	478.17	592.90
Start Elev	29.00	31.50	33.50	100.00	28.00	28.00	28.50	
End Elev	32.00	34.00	34.50	0.00	0.00	0.00	33.50	
Stage	Linear	Linear	Linear	Vert	Vert	Vert	Linear	Total
Feet	Area	Area	Area	Area	Area	Area	Area	Area
NAVD	Ac	Ac	Ac	Ac	Ac	Ac	Ac	Ac
28.0	0.00	0.00	0.00	0.00	0.40	23.80	0.00	24.20
28.5	0.00	0.00	0.00	0.00	0.40	23.80	0.00	24.20
29.0	0.00	0.00	0.00	0.00	0.40	23.80	47.82	72.02
29.5	8.73	0.00	0.00	0.00	0.40	23.80	95.63	128.57
30.0	17.47	0.00	0.00	0.00	0.40	23.80	143.45	185.12
30.5	26.20	0.00	0.00	0.00	0.40	23.80	191.27	241.67
31.0	34.93	0.00	0.00	0.00	0.40	23.80	239.09	298.22
31.5	43.67	0.00	0.00	0.00	0.40	23.80	286.90	354.77
32.0	52.40	7.41	0.00	0.00	0.40	23.80	334.72	418.73
32.5	52.40	14.81	0.00	0.00	0.40	23.80	382.54	473.95
33.0	52.40	22.22	0.00	0.00	0.40	23.80	430.35	529.17
33.5	52.40	29.62	0.00	0.00	0.40	23.80	478.17	584.39
34.0	52.40	37.03	0.55	0.00	0.40	23.80	478.17	592.35
34.5	52.40	37.03	1.10	0.00	0.40	23.80	478.17	592.90
35.0	52.40	37.03	1.10	0.00	0.40	23.80	478.17	592.90

Basin Characteristics - Florida Power & Light (Basin 3)

Starting Stage, Control El.	27.00	
Ending Stage	34.00	
Stage Increment	0.5	Note: Stage Increment < End Elev - Start Elev

Name	**Wetlands**	**Upland Preserve**	**Road**	**Gas Areas**	**Swale / Ditch**	**Detention Area**	**Open Lot**	**Total**
Area	54.59	0.00	0.75	2.97	0.25	0.00	224.54	283.10
Start Elev	28.00	28.50	28.50	29.00	27.00	28.00	27.00	
End Elev	31.00	31.50	32.00	31.00	0.00	0.00	31.50	
Stage	Linear	Linear	Linear	Linear	Vert	Vert	Linear	Total
Feet	Area	Area	Area	Area	Area	Area	Area	Area
NAVD	Ac	Ac	Ac	Ac	Ac	Ac	Ac	Ac
27.0	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.25
27.5	0.00	0.00	0.00	0.00	0.25	0.00	24.95	25.20
28.0	0.00	0.00	0.00	0.00	0.25	0.00	49.90	50.15
28.5	9.10	0.00	0.00	0.00	0.25	0.00	74.85	84.20
29.0	18.20	0.00	0.11	0.00	0.25	0.00	99.80	118.35
29.5	27.30	0.00	0.21	0.74	0.25	0.00	124.74	153.25
30.0	36.39	0.00	0.32	1.49	0.25	0.00	149.69	188.14
30.5	45.49	0.00	0.43	2.23	0.25	0.00	174.64	223.04
31.0	54.59	0.00	0.54	2.97	0.25	0.00	199.59	257.94
31.5	54.59	0.00	0.64	2.97	0.25	0.00	224.54	282.99
32.0	54.59	0.00	0.75	2.97	0.25	0.00	224.54	283.10
32.5	54.59	0.00	0.75	2.97	0.25	0.00	224.54	283.10
33.0	54.59	0.00	0.75	2.97	0.25	0.00	224.54	283.10
33.5	54.59	0.00	0.75	2.97	0.25	0.00	224.54	283.10
34.0	54.59	0.00	0.75	2.97	0.25	0.00	224.54	283.10

Basin Characteristics - Florida Power & Light (Basin 4)

Starting Stage, Control El.	26.00	
Ending Stage	31.00	
Stage Increment	0.5	Note: Stage Increment < End Elev - Start Elev

Name	**Wetlands**	**Upland Preserve**	**Road**	**Building**	**Swale / Ditch**	**Detention Area**	**Open Lot**	**Total**
Area	12.74	0.00	0.20	0.00	0.07	0.00	33.79	46.80
Start Elev	26.00	26.50	29.00	100.00	26.00	28.00	26.00	
End Elev	28.00	28.00	30.50	0.00	0.00	0.00	30.50	

Stage Feet NAVD	Linear Area Ac	Linear Area Ac	Linear Area Ac	Vert Area Ac	Vert Area Ac	Vert Area Ac	Linear Area Ac	Total Area Ac
26.0	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.07
26.5	3.19	0.00	0.00	0.00	0.07	0.00	3.75	7.01
27.0	6.37	0.00	0.00	0.00	0.07	0.00	7.51	13.95
27.5	9.56	0.00	0.00	0.00	0.07	0.00	11.26	20.89
28.0	12.74	0.00	0.00	0.00	0.07	0.00	15.02	27.83
28.5	12.74	0.00	0.00	0.00	0.07	0.00	18.77	31.58
29.0	12.74	0.00	0.00	0.00	0.07	0.00	22.53	35.34
29.5	12.74	0.00	0.07	0.00	0.07	0.00	26.28	39.16
30.0	12.74	0.00	0.13	0.00	0.07	0.00	30.04	42.98
30.5	12.74	0.00	0.20	0.00	0.07	0.00	33.79	46.80
31.0	12.74	0.00	0.20	0.00	0.07	0.00	33.79	46.80

Basin Characteristics - Florida Power & Light (Basin 5)

Starting Stage, Control El.	27.00	
Ending Stage	35.50	
Stage Increment	0.5	Note: Stage Increment < End Elev - Start Elev

Name	**Wetlands**	**Upland Preserve**	**Road / Parking**	**Building**	**Swale / Ditch**	**Detention Area**	**Open Lot**
Area	0.00	110.20	3.90	0.00	0.80	5.70	58.20
Start Elev	27.00	29.50	33.50	100.00	27.00	27.00	27.00
End Elev	30.00	32.50	35.00	0.00	0.00	0.00	35.00

Stage	Linear	Linear	Linear	Vert	Vert	Vert	Linear	Total
Feet	Area	Area	Area	Area	Area	Area	Area	Area
NAVD	Ac	Ac	Ac	Ac	Ac	Ac	Ac	Ac
27.0	0.00	0.00	0.00	0.00	0.80	5.70	0.00	6.50
27.5	0.00	0.00	0.00	0.00	0.80	5.70	3.64	10.14
28.0	0.00	0.00	0.00	0.00	0.80	5.70	7.28	13.78
28.5	0.00	0.00	0.00	0.00	0.80	5.70	10.91	17.41
29.0	0.00	0.00	0.00	0.00	0.80	5.70	14.55	21.05
29.5	0.00	0.00	0.00	0.00	0.80	5.70	18.19	24.69
30.0	0.00	18.37	0.00	0.00	0.80	5.70	21.83	46.69
30.5	0.00	36.73	0.00	0.00	0.80	5.70	25.46	68.70
31.0	0.00	55.10	0.00	0.00	0.80	5.70	29.10	90.70
31.5	0.00	73.47	0.00	0.00	0.80	5.70	32.74	112.70
32.0	0.00	91.83	0.00	0.00	0.80	5.70	36.38	134.71
32.5	0.00	110.20	0.00	0.00	0.80	5.70	40.01	156.71
33.0	0.00	110.20	0.00	0.00	0.80	5.70	43.65	160.35
33.5	0.00	110.20	0.00	0.00	0.80	5.70	47.29	163.99
34.0	0.00	110.20	1.30	0.00	0.80	5.70	50.93	168.93
34.5	0.00	110.20	2.60	0.00	0.80	5.70	54.56	173.86
35.0	0.00	110.20	3.90	0.00	0.80	5.70	58.20	178.80
35.5	0.00	110.20	3.90	0.00	0.80	5.70	58.20	178.80

Stage-Area Calculations

FPL Martin Basin 5A

Starting Stage	28.0	
Ending Stage	33.0	
Stage Increment	0.5	Note: Stage Increment < End Elev - Start Elev

Name	**Pervious**	**Impervious**	**2.0**	**Filled Yards**	**0.0**	**0.0**
Area	26.4	10.6	2.0	10.3	0.0	0.0
Start Elev	27.5	30.0	28.5	30.5	0.0	0.0
End Elev	31.0	31.0	29.0	31.0	0.0	0.0

Stage Feet NAVD	Linear Area Ac	Linear Area Ac	Linear Area Ac	Linear Area Ac	Vert Area Ac	Vert Area Ac	Total Area Ac
28.0	3.77	0.00	0.00	0.00	0.00	0.00	3.77
28.5	7.54	0.00	0.00	0.00	0.00	0.00	7.54
29.0	11.31	0.00	2.00	0.00	0.00	0.00	13.31
29.5	15.09	0.00	2.00	0.00	0.00	0.00	17.09
30.0	18.86	0.00	2.00	0.00	0.00	0.00	20.86
30.5	22.63	5.30	2.00	0.00	0.00	0.00	29.93
31.0	26.40	10.60	2.00	10.30	0.00	0.00	49.30
31.5	26.40	10.60	2.00	10.30	0.00	0.00	49.30
32.0	26.40	10.60	2.00	10.30	0.00	0.00	49.30
32.5	26.40	10.60	2.00	10.30	0.00	0.00	49.30
33.0	26.40	10.60	2.00	10.30	0.00	0.00	49.30

Basin Characteristics - Florida Power & Light (Pre-Development Basin 7)

Starting Stage, Control El.	27.00	
Ending Stage	32.50	
Stage Increment	0.5	Note: Stage Increment < End Elev - Start Elev

Name	**Wetlands**	**Upland Preserve**	**Road / Parking**	**Building**	**Swale / Ditch**	**Detention Area**	**Open Lot**	
								Total
Area	57.97	0.00	0.00	0.00	0.00	13.80	200.23	272.00
Start Elev	27.00	26.50	30.00	100.00	24.00	27.00	28.50	
End Elev	28.50	27.50	32.00	0.00	0.00	0.00	30.50	
Stage	Linear	Linear	Linear	Vert	Vert	Vert	Linear	Total
Feet	Area	Area	Area	Area	Area	Area	Area	Area
NAVD	Ac	Ac	Ac	Ac	Ac	Ac	Ac	Ac
27.0	0.00	0.00	0.00	0.00	0.00	13.80	0.00	13.80
27.5	19.32	0.00	0.00	0.00	0.00	13.80	0.00	33.12
28.0	38.65	0.00	0.00	0.00	0.00	13.80	0.00	52.45
28.5	57.97	0.00	0.00	0.00	0.00	13.80	0.00	71.77
29.0	57.97	0.00	0.00	0.00	0.00	13.80	50.06	121.83
29.5	57.97	0.00	0.00	0.00	0.00	13.80	100.12	171.89
30.0	57.97	0.00	0.00	0.00	0.00	13.80	150.17	221.94
30.5	57.97	0.00	0.00	0.00	0.00	13.80	200.23	272.00
31.0	57.97	0.00	0.00	0.00	0.00	13.80	200.23	272.00
31.5	57.97	0.00	0.00	0.00	0.00	13.80	200.23	272.00
32.0	57.97	0.00	0.00	0.00	0.00	13.80	200.23	272.00
32.5	57.97	0.00	0.00	0.00	0.00	13.80	200.23	272.00

Appendix B
ADICPR INPUT DATA

==== Basins==========

Name: 1 Node: 1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 120.00
Area(ac): 45.000 Time Shift(hrs): 0.00
Curve Number: 72.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: 2 Node: 2 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 360.00
Area(ac): 592.900 Time Shift(hrs): 0.00
Curve Number: 79.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: 3 Node: 3 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 360.00
Area(ac): 283.100 Time Shift(hrs): 0.00
Curve Number: 66.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: 4 Node: 4 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 100.00
Area(ac): 46.800 Time Shift(hrs): 0.00
Curve Number: 76.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: 5 Node: 5 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 505.00
Area(ac): 178.800 Time Shift(hrs): 0.00
Curve Number: 66.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: 5A Node: 5A Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 30.00
Area(ac): 49.300 Time Shift(hrs): 0.00
Curve Number: 92.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

NON SCA flows

Name: 6A Node: 6A Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00

Rainfall Amount(in): 9.000 Time of Conc(min): 24.00
Area(ac): 30.200 Time Shift(hrs): 0.00
Curve Number: 93.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

NON SCA flows

Name: 7 Node: 7 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 370.00
Area(ac): 272.000 Time Shift(hrs): 0.00
Curve Number: 76.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: B6-welcomectr Node: B6-welcomectr Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 30.00
Area(ac): 3.500 Time Shift(hrs): 0.00
Curve Number: 76.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Basin6-DRYDET Node: Basin6-DRYDET Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 35.00
Area(ac): 11.300 Time Shift(hrs): 0.00
Curve Number: 84.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Basin6-solar Node: Basin6-solar Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 66.00
Area(ac): 46.100 Time Shift(hrs): 0.00
Curve Number: 77.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Basin6-Unit3-4 Node: Basin6-Unit3-4 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 30.00
Area(ac): 51.600 Time Shift(hrs): 0.00
Curve Number: 86.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Levee-unit8W Node: Levee-unit8W Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 60.00
Area(ac): 78.400 Time Shift(hrs): 0.00
Curve Number: 73.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: offsite-east Node: offsite-east Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0

Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 5.00
Area(ac): 0.010 Time Shift(hrs): 0.00
Curve Number: 98.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: S1 Node: S1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 20.00
Area(ac): 74.100 Time Shift(hrs): 0.00
Curve Number: 86.40 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: S2 Node: S2 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: UH256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 20.00
Area(ac): 58.100 Time Shift(hrs): 0.00
Curve Number: 88.60 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: S3 Node: S3 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: UH256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 20.00
Area(ac): 57.700 Time Shift(hrs): 0.00
Curve Number: 88.70 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: S4 Node: S4 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: UH256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 20.00
Area(ac): 39.600 Time Shift(hrs): 0.00
Curve Number: 86.10 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: S5 Node: S5 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: UH256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 20.00
Area(ac): 38.200 Time Shift(hrs): 0.00
Curve Number: 87.90 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: S6 Node: S6 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: UH256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 20.00
Area(ac): 25.200 Time Shift(hrs): 0.00
Curve Number: 88.10 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: S7 Node: S7 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: UH256 Peaking Factor: 256.0

Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 20.00
Area(ac): 61.000 Time Shift(hrs): 0.00
Curve Number: 86.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: S8 Node: S8 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: UH256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 20.00
Area(ac): 62.300 Time Shift(hrs): 0.00
Curve Number: 89.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Unit8E Node: Unit8E Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN
Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sfwmd72 Storm Duration(hrs): 72.00
Rainfall Amount(in): 9.000 Time of Conc(min): 14.00
Area(ac): 11.800 Time Shift(hrs): 0.00
Curve Number: 91.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

====Nodes==========

Name: 1 Base Flow(cfs): 0.000 Init Stage(ft): 28.000
Group: BASE Warn Stage(ft): 34.500
Type: Stage/Area

Stage(ft)	Area(ac)
28.000	0.3000
28.500	2.3500
29.000	4.4000
29.500	6.4500
30.000	8.5000
30.500	13.9800
31.000	19.4600
31.500	24.9400
32.000	30.4200
32.500	35.9000
33.000	37.9500
33.500	40.0000
34.000	42.0500
34.500	44.1000
35.000	45.0000

Name: 2 Base Flow(cfs): 0.000 Init Stage(ft): 28.000
Group: BASE Warn Stage(ft): 34.500
Type: Stage/Area

Stage(ft)	Area(ac)
28.000	24.2000
28.500	64.0500
29.000	103.9000
29.500	152.4800
30.000	201.0600
30.500	249.6400
31.000	298.2200
31.500	346.8000
32.000	402.7900

Name: 25.5 Base Flow(cfs): 0.000 Init Stage(ft): 25.000
Group: BASE Warn Stage(ft): 26.200

Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	25.000
60.00	25.900
120.00	25.000

Name: 26.7 Base Flow(cfs): 0.000 Init Stage(ft): 26.200
Group: BASE Warn Stage(ft): 27.200
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	26.200
60.00	26.700
120.00	26.200

Name: 3 Base Flow(cfs): 0.000 Init Stage(ft): 27.000
Group: BASE Warn Stage(ft): 30.500
Type: Stage/Area

Stage(ft)	Area(ac)
27.000	0.2500
27.500	25.2000
28.000	50.1500
28.500	84.2000
29.000	118.3500
29.500	153.2500
30.000	188.1400
30.500	223.0400
31.000	257.9400
31.500	282.9900
32.000	283.1000

Name: 4 Base Flow(cfs): 0.000 Init Stage(ft): 26.000
Group: BASE Warn Stage(ft): 29.000
Type: Stage/Area

Stage(ft)	Area(ac)
26.000	0.0700
26.500	7.0100
27.000	13.9500
27.500	20.8900
28.000	27.8300
28.500	31.5800
29.000	35.3400
29.500	39.1600
30.000	42.9800
30.500	46.8000

Name: 5 Base Flow(cfs): 0.000 Init Stage(ft): 27.000
Group: BASE Warn Stage(ft): 33.500
Type: Stage/Area

Stage(ft)	Area(ac)
27.000	6.5000
27.500	10.1400
28.000	13.7800
28.500	17.4100
29.000	21.0500
29.500	24.6900
30.000	46.6900
30.500	68.7000

31.000	90.7000
31.500	112.7000
32.000	134.7100
32.500	156.7100
33.000	160.3500
33.500	163.9900
34.000	168.9300
34.500	173.8600
35.000	178.8000

Name: 5A Base Flow(cfs): 0.000 Init Stage(ft): 28.000
Group: BASE Warn Stage(ft): 32.500
Type: Stage/Volume

Stage(ft)	Volume(af)
28.000	0.9400
28.500	3.7700
29.000	8.9900
29.500	16.5900
30.000	26.0700
30.500	38.7700
31.000	58.5800
31.500	83.2300
32.000	107.8800
32.500	132.5300
33.000	157.1800

Name: 6A Base Flow(cfs): 0.000 Init Stage(ft): 28.000
Group: BASE Warn Stage(ft): 32.500
Type: Stage/Volume

Stage(ft)	Volume(af)
28.000	0.0000
28.500	0.0900
29.000	0.3800
29.500	0.8400
30.000	1.5000
30.500	3.8400
31.000	9.3500
31.500	17.3600
32.000	27.2000
32.500	37.9500
33.000	49.8300

Name: 7 Base Flow(cfs): 0.000 Init Stage(ft): 27.000
Group: BASE Warn Stage(ft): 30.500
Type: Stage/Area

Stage(ft)	Area(ac)
27.000	13.8000
27.500	33.1200
28.000	52.4500
28.500	71.7700
29.000	121.8300
29.500	171.8900
30.000	221.9400
30.500	272.0000

Name: B6-welcomectr Base Flow(cfs): 0.000 Init Stage(ft): 26.000
Group: BASE Warn Stage(ft): 32.000
Type: Stage/Area

Stage(ft)	Area(ac)

27.000	0.0000
27.500	0.1500
28.000	0.3000
28.500	0.4500
29.000	0.6000
29.500	0.9200
30.000	1.5700
30.500	2.5500
31.000	3.8700
31.500	5.3900
32.000	6.9700

Name: Basin6-DRYDET Base Flow(cfs): 0.000 Init Stage(ft): 23.800
Group: BASE Warn Stage(ft): 29.000
Type: Stage/Area

Stage(ft)	Area(ac)
24.800	0.0000
25.300	4.5200
25.800	9.1200
26.300	13.8100
26.800	18.6200
27.300	23.5600
27.800	28.6300
28.300	33.8200
28.800	39.1300
29.300	44.5800
29.800	50.1000
30.300	55.6700

Name: Basin6-solar Base Flow(cfs): 0.000 Init Stage(ft): 24.800
Group: BASE Warn Stage(ft): 31.000
Type: Stage/Area

Stage(ft)	Area(ac)
24.800	0.0000
25.000	1.2700
25.500	1.7100
26.000	3.6600
26.500	5.7000
27.000	7.7500
27.500	9.8000
28.000	11.8400
28.500	13.9900
29.000	34.7900
29.500	45.1800
30.000	45.6400
30.500	46.1000

Name: Basin6-Unit3-4 Base Flow(cfs): 0.000 Init Stage(ft): 24.800
Group: BASE Warn Stage(ft): 31.000
Type: Stage/Area

Stage(ft)	Area(ac)
25.000	0.0000
25.500	0.0700
26.000	0.2800
26.500	0.6200
27.000	1.1000
27.500	1.7200
28.000	2.7300
28.500	4.4000
29.000	6.7100

29.500	9.6100
30.000	13.0300
30.500	22.2300
31.000	42.5000

Name: Levee-unit8W Base Flow(cfs): 0.000 Init Stage(ft): 23.800
Group: BASE Warn Stage(ft): 30.000
Type: Stage/Area

Stage(ft)	Area(ac)
24.300	0.1600
24.800	0.3200
25.300	0.4800
25.800	0.6500
26.300	2.6000
26.800	5.7500
27.300	8.9000
27.800	12.0500
28.300	15.2300
28.800	18.4100
29.300	21.5900
29.800	24.7800
30.300	28.0600
31.300	42.9400

Name: offsite-east Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 31.000
Type: Time/Stage
offsite sheet flow to the east

Time(hrs)	Stage(ft)
0.00	30.000
120.00	30.500
400.00	30.000

Name: S1 Base Flow(cfs): 0.000 Init Stage(ft): 25.000
Group: BASE Warn Stage(ft): 31.200
Type: Stage/Volume

Stage(ft)	Volume(af)
26.000	0.0000
26.500	2.2000
27.000	5.2000
27.500	9.2000
28.000	14.2000
28.500	20.0000
29.000	38.4000
29.500	73.9000
30.000	111.0000

Name: S2 Base Flow(cfs): 0.000 Init Stage(ft): 25.850
Group: BASE Warn Stage(ft): 32.200
Type: Stage/Volume

Stage(ft)	Volume(af)
27.000	0.0000
27.500	1.8000
28.000	4.4000
28.500	7.8000
29.000	11.9000
29.500	16.8000
30.000	32.7000

30.500	60.9000
31.000	89.9000

Name: S3 Base Flow(cfs): 0.000 Init Stage(ft): 27.110
Group: BASE Warn Stage(ft): 33.200
Type: Stage/Volume

Stage(ft)	Volume(af)
28.200	0.6000
28.700	2.8000
29.200	5.7000
29.700	9.3000
30.200	13.8000
30.700	20.7000
31.200	43.4000
31.700	72.2000
32.200	101.0000
32.700	129.8000
33.200	158.7000

Name: S4 Base Flow(cfs): 0.000 Init Stage(ft): 23.790
Group: BASE Warn Stage(ft): 30.200
Type: Stage/Volume

Stage(ft)	Volume(af)
24.800	0.0000
25.300	1.1000
25.800	2.7000
26.300	4.7000
26.800	7.3000
27.300	10.3000
27.800	19.8000
28.300	38.8000

Name: S5 Base Flow(cfs): 0.000 Init Stage(ft): 25.000
Group: BASE Warn Stage(ft): 31.200
Type: Stage/Volume

Stage(ft)	Volume(af)
26.200	0.4000
26.700	1.9000
27.200	3.8000
27.700	6.3000
28.200	9.3000
28.700	13.9000
29.200	28.7000
29.700	47.8000

Name: S6 Base Flow(cfs): 0.000 Init Stage(ft): 27.020
Group: BASE Warn Stage(ft): 33.200
Type: Stage/Volume

Stage(ft)	Volume(af)
28.200	0.3000
28.700	1.2000
29.200	2.5000
29.700	4.2000
30.200	6.2000
30.700	9.3000
31.200	19.1000
31.700	31.7000

Name: S7 Base Flow(cfs): 0.000 Init Stage(ft): 28.070

Group: BASE Warn Stage(ft): 34.200
Type: Stage/Volume

Stage(ft)	Volume(af)
29.200	0.6000
29.700	2.4000
30.200	5.0000
30.700	8.2000
31.200	12.1000
31.700	18.1000
32.200	39.8000
32.700	70.4000

Name: S8 Base Flow(cfs): 0.000 Init Stage(ft): 28.600
Group: BASE Warn Stage(ft): 34.200
Type: Stage/Volume

Stage(ft)	Volume(af)
29.700	0.7000
30.200	3.1000
30.700	6.4000
31.200	10.6000
31.700	15.7000
32.200	23.8000
32.700	50.9000
33.200	82.1000

Name: Unit8E Base Flow(cfs): 0.000 Init Stage(ft): 24.800
Group: BASE Warn Stage(ft): 31.000
Type: Stage/Area

Stage(ft)	Area(ac)
26.500	0.0800
27.000	0.1700
27.500	0.2500
28.000	0.3300
28.500	0.4200
29.000	0.5000
29.500	0.8300
30.000	1.1500
30.500	6.4800
31.000	11.8000

==== Pipes ==

Name: 5 to 26.7 From Node: 5 Length(ft): 90.00
Group: BASE To Node: 26.7 Count: 1
Friction Equation: Automatic
UPSTREAM DOWNSTREAM Solution Algorithm: Automatic
Geometry: Circular Circular Flow: Both
Span(in): 24.00 24.00 Entrance Loss Coef: 0.50
Rise(in): 24.00 24.00 Exit Loss Coef: 0.00
Invert(ft): 27.000 27.000 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 dc
Bot Clip(in): 0.000 0.000 Stabilizer Option: None
Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting
Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Name: 5A to Basin 5 From Node: 5A Length(ft): 60.00
Group: BASE To Node: 5 Count: 2
Friction Equation: Automatic
UPSTREAM DOWNSTREAM Solution Algorithm: Most Restrictive
Geometry: Circular Circular Flow: Both
Span(in): 18.00 18.00 Entrance Loss Coef: 0.00
Rise(in): 18.00 18.00 Exit Loss Coef: 1.00
Invert(ft): 28.000 28.000 Bend Loss Coef: 0.00
Manning's N: 0.024000 0.024000 Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000 0.000 Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000 0.000 Stabilizer Option: None
Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: 6A to Levee-8W From Node: 6A Length(ft): 60.00
Group: BASE To Node: Levee-unit8W Count: 4
Friction Equation: Automatic
UPSTREAM DOWNSTREAM Solution Algorithm: Most Restrictive
Geometry: Circular Circular Flow: Both
Span(in): 18.00 18.00 Entrance Loss Coef: 0.00
Rise(in): 18.00 18.00 Exit Loss Coef: 1.00
Invert(ft): 28.000 28.000 Bend Loss Coef: 0.00
Manning's N: 0.024000 0.024000 Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000 0.000 Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000 0.000 Stabilizer Option: None
Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Name: Basin08-dual18 From Node: S8 Length(ft): 80.00
Group: BASE To Node: 7 Count: 2
Friction Equation: Automatic
UPSTREAM DOWNSTREAM Solution Algorithm: Most Restrictive
Geometry: Circular Circular Flow: Both
Span(in): 18.00 18.00 Entrance Loss Coef: 0.00
Rise(in): 18.00 18.00 Exit Loss Coef: 1.00
Invert(ft): 31.500 31.500 Bend Loss Coef: 0.00
Manning's N: 0.024000 0.024000 Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000 0.000 Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000 0.000 Stabilizer Option: None
Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting

Name: Boxculvert From Node: Levee-unit8W Length(ft): 81.00
Group: BASE To Node: Basin6-solar Count: 1
Friction Equation: Automatic
UPSTREAM DOWNSTREAM Solution Algorithm: Most Restrictive
Geometry: Rectangular Rectangular Flow: Both
Span(in): 96.00 96.00 Entrance Loss Coef: 0.00
Rise(in): 24.00 24.00 Exit Loss Coef: 1.00
Invert(ft): 24.780 24.280 Bend Loss Coef: 0.00
Manning's N: 0.009000 0.009000 Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000 0.000 Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000 0.000 Stabilizer Option: None
Upstream FHWA Inlet Edge Description:
C M Box: 90° headwall
Downstream FHWA Inlet Edge Description:
C M Box: 90° headwall

Name: Dual-PVC(E-W) From Node: Levee-unit8W Length(ft): 760.00
Group: BASE To Node: Basin6-DRYDET Count: 2
Friction Equation: Automatic
UPSTREAM DOWNSTREAM Solution Algorithm: Most Restrictive
Geometry: Circular Circular Flow: Both
Span(in): 12.00 12.00 Entrance Loss Coef: 0.00
Rise(in): 12.00 12.00 Exit Loss Coef: 1.00
Invert(ft): 23.800 23.800 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 dc
Bot Clip(in): 0.000 0.000 Stabilizer Option: None
Upstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting
Downstream FHWA Inlet Edge Description:
Circular Concrete: Groove end projecting
dual 12 inch PVC from chiller8 W - dry det in basin 6

Name: oil/water From Node: Basin6-Unit3-4 Length(ft): 116.00
Group: BASE To Node: Basin6-solar Count: 3
Friction Equation: Automatic
UPSTREAM DOWNSTREAM Solution Algorithm: Most Restrictive
Geometry: Circular Circular Flow: Both
Span(in): 24.00 24.00 Entrance Loss Coef: 0.00
Rise(in): 24.00 24.00 Exit Loss Coef: 1.00
Invert(ft): 25.000 24.900 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 dc
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

Name: solarpipes From Node: Basin6-solar Length(ft): 110.00
Group: BASE To Node: Basin6-DRYDET Count: 4
Friction Equation: Automatic
UPSTREAM DOWNSTREAM Solution Algorithm: Most Restrictive
Geometry: Circular Circular Flow: Both
Span(in): 30.00 30.00 Entrance Loss Coef: 0.00
Rise(in): 30.00 30.00 Exit Loss Coef: 1.00
Invert(ft): 24.000 24.000 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 dc
Bot Clip(in): 0.000 0.000 Stabilizer Option: None

Upstream FHWA Inlet Edge Description:
Circular CMP: Headwall
Downstream FHWA Inlet Edge Description:
Circular CMP: Headwall

Name: Structure2B From Node: 2 Length(ft): 48.00
Group: BASE To Node: 3 Count: 4
Friction Equation: Automatic

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	Solution Algorithm: Most Restrictive
Span(in):	48.00	48.00	Flow: Both
Rise(in):	48.00	48.00	Entrance Loss Coef: 0.00
Invert(ft):	24.100	23.700	Exit Loss Coef: 1.00
Manning's N:	0.024000	0.024000	Bend Loss Coef: 0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec: Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
			Stabilizer Option: None

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

Name: Unit8Pipe From Node: Unit8E Length(ft): 65.00
Group: BASE To Node: Levee-unit8W Count: 1
Friction Equation: Automatic

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	Solution Algorithm: Most Restrictive
Span(in):	18.00	18.00	Flow: Both
Rise(in):	18.00	18.00	Entrance Loss Coef: 0.00
Invert(ft):	26.920	26.400	Exit Loss Coef: 1.00
Manning's N:	0.020000	0.020000	Bend Loss Coef: 0.00
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec: Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dc
			Stabilizer Option: None

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

==== Drop Structures ==

Name: B6Wlcm-u3-4 From Node: B6-welcomectr Length(ft): 518.00
Group: BASE To Node: Basin6-Unit3-4 Count: 1
UPSTREAM DOWNSTREAM Friction Equation: Automatic
Geometry: Circular Circular Solution Algorithm: Most Restrictive
Span(in): 18.00 18.00 Flow: Both
Rise(in): 18.00 18.00 Entrance Loss Coef: 0.000
Invert(ft): 25.000 25.000 Exit Loss Coef: 1.000
Manning's N: 0.020000 0.020000 Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000 0.000 Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000 0.000 Solution Incs: 10
Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope
*** Weir 1 of 2 for Drop Structure B6Wlcm-u3-4 ***
TABLE
Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.130
Geometry: Circular Orifice Disc Coef: 0.600

Span(in): 3.00 Invert(ft): 26.000
Rise(in): 3.00 Control Elev(ft): 26.000
*** Weir 2 of 2 for Drop Structure B6Wlcm-u3-4 ***
TABLE
Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Rectangular Orifice Disc Coef: 0.600

Span(in): 48.00 Invert(ft): 29.000
Rise(in): 12.00 Control Elev(ft): 27.000

Name: Basin6-VNotch From Node: Basin6-DRYDET Length(ft): 85.00
Group: BASE To Node: 25.5 Count: 1
UPSTREAM DOWNSTREAM Friction Equation: Automatic
Geometry: Circular Circular Solution Algorithm: Most Restrictive
Span(in): 30.00 30.00 Flow: Both
Rise(in): 24.00 24.00 Entrance Loss Coef: 0.000
Invert(ft): 22.830 21.460 Exit Loss Coef: 1.000
Manning's N: 0.013000 0.013000 Outlet Ctrl Spec: Use dc or tw
Top Clip(in): 0.000 0.000 Inlet Ctrl Spec: Use dc
Bot Clip(in): 0.000 0.000 Solution Incs: 10
Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
*** Weir 1 of 2 for Drop Structure Basin6-VNotch ***
TABLE
Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.130
Geometry: Rectangular Orifice Disc Coef: 0.600

Span(in): 84.00 Invert(ft): 27.000
Rise(in): 99.00 Control Elev(ft): 23.800
*** Weir 2 of 2 for Drop Structure Basin6-VNotch ***
TABLE
Count: 1 Bottom Clip(ft): 0.000
Type: Vertical: Mavis Top Clip(ft): 0.000

Flow: Both Weir Disc Coef: 3.130
Geometry: Trapezoidal Orifice Disc Coef: 0.600
Bottom Width(ft): 0.00 Invert(ft): 23.800
Left Sd Slp(h/v): 0.22 Control Elev(ft): 23.800
Right Sd Slp(h/v): 0.22 Struct Opening Dim(ft): 3.20

Name: CS 01 From Node: S1 Length(ft): 88.00
Group: BASE To Node: 26.7 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	Friction Equation: Average Conveyance
Span(in):	54.00	54.00	Solution Algorithm: Automatic
Rise(in):	54.00	54.00	Flow: Both
Invert(ft):	21.700	21.700	Entrance Loss Coef: 0.500
Manning's N:	0.024000	0.024000	Exit Loss Coef: 0.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec: Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
			Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope
*** Weir 1 of 2 for Drop Structure CS 01 ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Circular Orifice Disc Coef: 0.600
Span(in): 12.00 Invert(ft): 25.060
Rise(in): 12.00 Control Elev(ft): 25.060

*** Weir 2 of 2 for Drop Structure CS 01 ***

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): 60.00 Invert(ft): 27.600
Rise(in): 24.00 Control Elev(ft): 25.060

Name: CS 02 From Node: S2 Length(ft): 30.00
Group: BASE To Node: S1 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	Friction Equation: Average Conveyance
Span(in):	48.00	48.00	Solution Algorithm: Automatic
Rise(in):	48.00	48.00	Flow: Both
Invert(ft):	23.300	23.300	Entrance Loss Coef: 0.500
Manning's N:	0.024000	0.024000	Exit Loss Coef: 0.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec: Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
			Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope
*** Weir 1 of 2 for Drop Structure CS 02 ***

TABLE

Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Circular Orifice Disc Coef: 0.600
Span(in): 8.40 Invert(ft): 25.850
Rise(in): 8.40 Control Elev(ft): 25.850

*** Weir 2 of 2 for Drop Structure CS 02 ***

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): 60.00 Invert(ft): 28.590
Rise(in): 24.00 Control Elev(ft): 25.850

Name: CS 03 From Node: S3 Length(ft): 30.00
Group: BASE To Node: S2 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry: Circular	Circular		Friction Equation: Average Conveyance
Span(in): 36.00	36.00		Solution Algorithm: Automatic
Rise(in): 36.00	36.00		Flow: Both
Invert(ft): 25.900	25.900		Entrance Loss Coef: 0.500
Manning's N: 0.024000	0.024000		Exit Loss Coef: 0.000
Top Clip(in): 0.000	0.000		Outlet Ctrl Spec: Use dc or tw
Bot Clip(in): 0.000	0.000		Inlet Ctrl Spec: Use dn
			Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope
*** Weir 1 of 2 for Drop Structure CS 03 ***
TABLE
Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Circular Orifice Disc Coef: 0.600

Span(in): 7.20 Invert(ft): 27.110
Rise(in): 7.20 Control Elev(ft): 27.110
*** Weir 2 of 2 for Drop Structure CS 03 ***
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): 60.00 Invert(ft): 29.740
Rise(in): 24.00 Control Elev(ft): 27.110

Name: CS 04 From Node: S4 Length(ft): 88.00
Group: BASE To Node: 25.5 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry: Circular	Circular		Friction Equation: Average Conveyance
Span(in): 54.00	54.00		Solution Algorithm: Automatic
Rise(in): 54.00	54.00		Flow: Both
Invert(ft): 20.400	20.400		Entrance Loss Coef: 0.500
Manning's N: 0.024000	0.024000		Exit Loss Coef: 0.000
Top Clip(in): 0.000	0.000		Outlet Ctrl Spec: Use dc or tw
Bot Clip(in): 0.000	0.000		Inlet Ctrl Spec: Use dn
			Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
*** Weir 1 of 2 for Drop Structure CS 04 ***
TABLE
Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Circular Orifice Disc Coef: 0.600
Span(in): 10.80 Invert(ft): 23.790
Rise(in): 10.80 Control Elev(ft): 23.790
*** Weir 2 of 2 for Drop Structure CS 04 ***
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): 60.00 Invert(ft): 26.340
Rise(in): 24.00 Control Elev(ft): 23.790

Name: CS 05 From Node: S5 Length(ft): 30.00
Group: BASE To Node: S4 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	Friction Equation: Average Conveyance
Span(in):	48.00	48.00	Solution Algorithm: Automatic
Rise(in):	48.00	48.00	Flow: Both
Invert(ft):	22.100	22.100	Entrance Loss Coef: 0.500
Manning's N:	0.024000	0.024000	Exit Loss Coef: 0.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec: Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
			Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope
*** Weir 1 of 2 for Drop Structure CS 05 ***
TABLE
Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Circular Orifice Disc Coef: 0.600
Span(in): 10.80 Invert(ft): 25.000
Rise(in): 10.80 Control Elev(ft): 25.000
*** Weir 2 of 2 for Drop Structure CS 05 ***
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): 60.00 Invert(ft): 27.430
Rise(in): 24.00 Control Elev(ft): 25.000

Name: CS 06 From Node: S6 Length(ft): 90.00
Group: BASE To Node: S5 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	Friction Equation: Average Conveyance
Span(in):	36.00	36.00	Solution Algorithm: Automatic
Rise(in):	36.00	36.00	Flow: Both
Invert(ft):	25.600	25.600	Entrance Loss Coef: 0.500
Manning's N:	0.024000	0.024000	Exit Loss Coef: 0.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec: Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
			Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope
*** Weir 1 of 2 for Drop Structure CS 06 ***
TABLE
Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Circular Orifice Disc Coef: 0.600
Span(in): 8.40 Invert(ft): 27.020
Rise(in): 8.40 Control Elev(ft): 27.020
*** Weir 2 of 2 for Drop Structure CS 06 ***
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): 60.00 Invert(ft): 29.480
Rise(in): 24.00 Control Elev(ft): 27.020

Name: CS 07 From Node: S7 Length(ft): 30.00
Group: BASE To Node: S6 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	Friction Equation: Average Conveyance
Span(in):	36.00	36.00	Solution Algorithm: Automatic
Rise(in):	36.00	36.00	Flow: Both
Invert(ft):	26.900	26.900	Entrance Loss Coef: 0.500
Manning's N:	0.024000	0.024000	Exit Loss Coef: 0.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec: Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
			Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope
*** Weir 1 of 2 for Drop Structure CS 07 ***
TABLE
Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Circular Orifice Disc Coef: 0.600

Span(in): 8.40 Invert(ft): 28.070
Rise(in): 8.40 Control Elev(ft): 28.070
*** Weir 2 of 2 for Drop Structure CS 07 ***
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): 60.00 Invert(ft): 30.720
Rise(in): 24.00 Control Elev(ft): 28.070

Name: CS 08 From Node: S8 Length(ft): 30.00
Group: BASE To Node: S7 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	Friction Equation: Average Conveyance
Span(in):	36.00	36.00	Solution Algorithm: Automatic
Rise(in):	36.00	36.00	Flow: Both
Invert(ft):	27.200	27.200	Entrance Loss Coef: 0.500
Manning's N:	0.024000	0.024000	Exit Loss Coef: 0.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec: Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
			Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
Downstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope
*** Weir 1 of 2 for Drop Structure CS 08 ***
TABLE
Count: 1 Bottom Clip(in): 0.000
Type: Vertical: Mavis Top Clip(in): 0.000
Flow: Both Weir Disc Coef: 3.200
Geometry: Circular Orifice Disc Coef: 0.600
Span(in): 6.00 Invert(ft): 28.600
Rise(in): 6.00 Control Elev(ft): 28.600
*** Weir 2 of 2 for Drop Structure CS 08 ***
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): 60.00	Invert(ft): 31.060
Rise(in): 24.00	Control Elev(ft): 28.500

==== Weirs ==

Name: 1 to 2 From Node: 1
Group: BASE To Node: 2
Flow: Both Count: 1
Type: Vertical: Mavis Geometry: Rectangular
Span(in): 600.00
Rise(in): 99.00
Invert(ft): 28.000
Control Elevation(ft): 28.000
TABLE
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 2.650
Orifice Discharge Coef: 0.600

Name: 2 to 3 From Node: 2
Group: BASE To Node: 3
Flow: Both Count: 1
Type: Vertical: Mavis Geometry: Rectangular
Span(in): 600.00
Rise(in): 99.00
Invert(ft): 28.000
Control Elevation(ft): 28.000
TABLE
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 2.650
Orifice Discharge Coef: 0.600

Name: 3 to 26.7 From Node: 3
Group: BASE To Node: 26.7
Flow: Both Count: 1
Type: Vertical: Mavis Geometry: Rectangular
Span(in): 420.00
Rise(in): 99.00
Invert(ft): 27.000
Control Elevation(ft): 27.000
TABLE
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 2.650
Orifice Discharge Coef: 0.600

Name: 4 to 25.5 From Node: 4
Group: BASE To Node: 25.5
Flow: Both Count: 1
Type: Vertical: Mavis Geometry: Rectangular
Span(in): 180.00
Rise(in): 99.00
Invert(ft): 26.000
Control Elevation(ft): 26.000
TABLE
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 2.650
Orifice Discharge Coef: 0.600

Name: 7 to offsite From Node: 7
Group: BASE To Node: offsite-east
Flow: Both Count: 1
Type: Vertical: Mavis Geometry: Rectangular
Span(in): 600.00

Rise(in): 99.00
Invert(ft): 30.500
Control Elevation(ft): 27.000
TABLE
Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 2.650
Orifice Discharge Coef: 0.600

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

Name: 100y3d
Filename: C:\Users\MDO\Desktop\Projects\FPL\not used in analysis\17038\17038 OK\Permit\AdICPR\Post\100Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 11.00

Time(hrs)	Print Inc(min)
80.000	15.00

Name: 24 HOUR
Filename: C:\Users\MDO\Desktop\Projects\FPL\Models\All in One\010Y024H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 6.00

Time(hrs)	Print Inc(min)
30.000	15.00

Name: 25y3d
Filename: C:\Users\MDO\Desktop\Projects\FPL\Models\All in One\025Y072H.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 9.00

Time(hrs)	Print Inc(min)
80.000	15.00

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

Name: 100y3d Hydrology Sim: 10yr3d
Filename: C:\Users\MDO\Desktop\Projects\FPL\Models\All in One\100Y072H.I32

Execute: No 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): 400.00
Min Calc Time(sec): 0.1000 Max Calc Time(sec): 0.5000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
400.000	15.000

Group	Run
BASE	Yes

Name: 24 HOUR Hydrology Sim: 24 HOUR
Filename: C:\Users\MDO\Desktop\Projects\FPL\Models\All in One\010Y024H.I32

Execute: No 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): 400.00
Min Calc Time(sec): 0.1000 Max Calc Time(sec): 0.5000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
400.000	15.000

Group	Run
BASE	Yes

Name: 25y3d Hydrology Sim: 25y3d
Filename: C:\Users\MDO\Desktop\Projects\FPL\Models\All in One\025Y072H.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): 400.00
Min Calc Time(sec): 0.1000 Max Calc Time(sec): 0.5000
Boundary Stages: Boundary Flows:

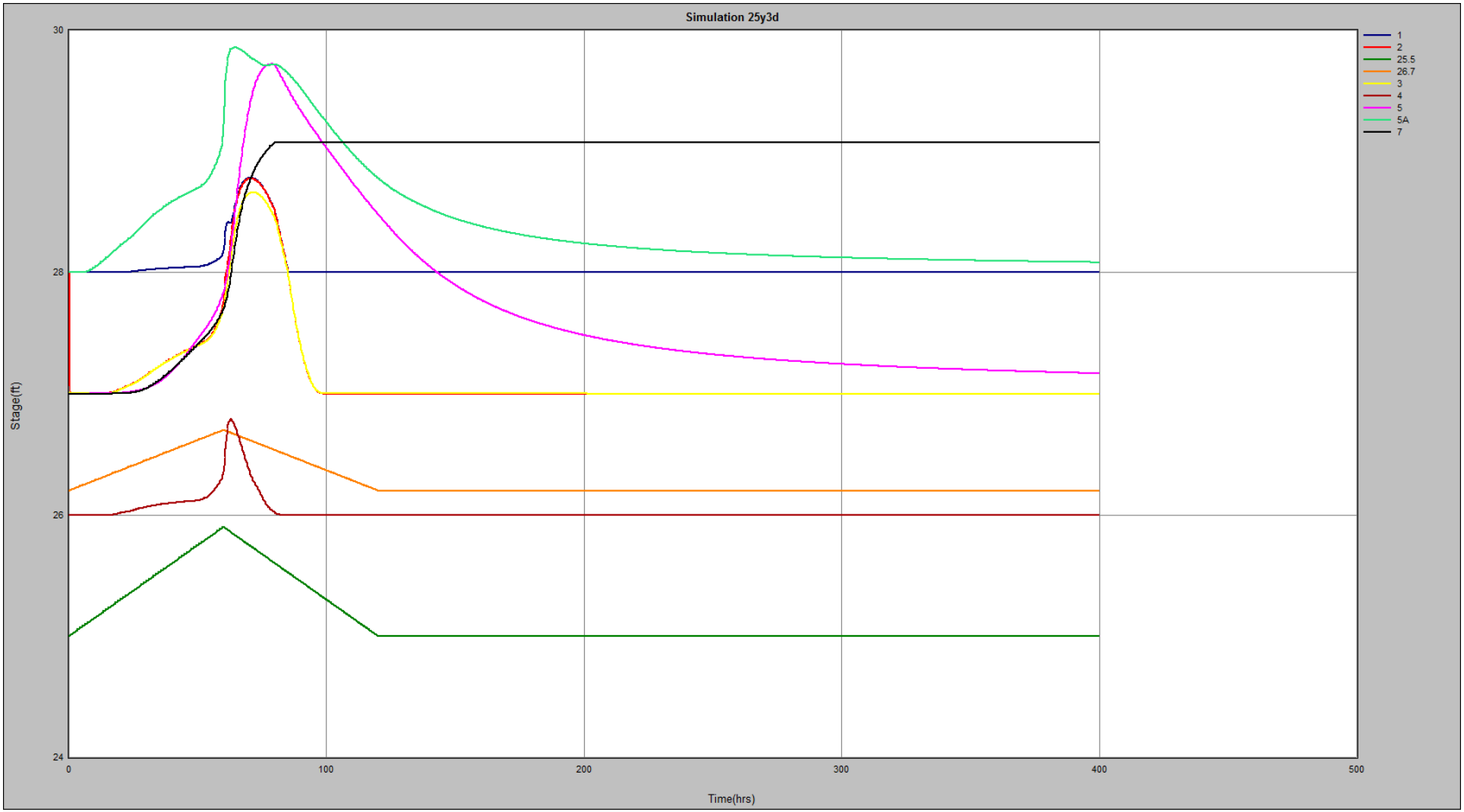
Time(hrs)	Print Inc(min)
400.000	15.000

Group	Run
BASE	Yes

Appendix C
NODAL HYDROGRAPHS

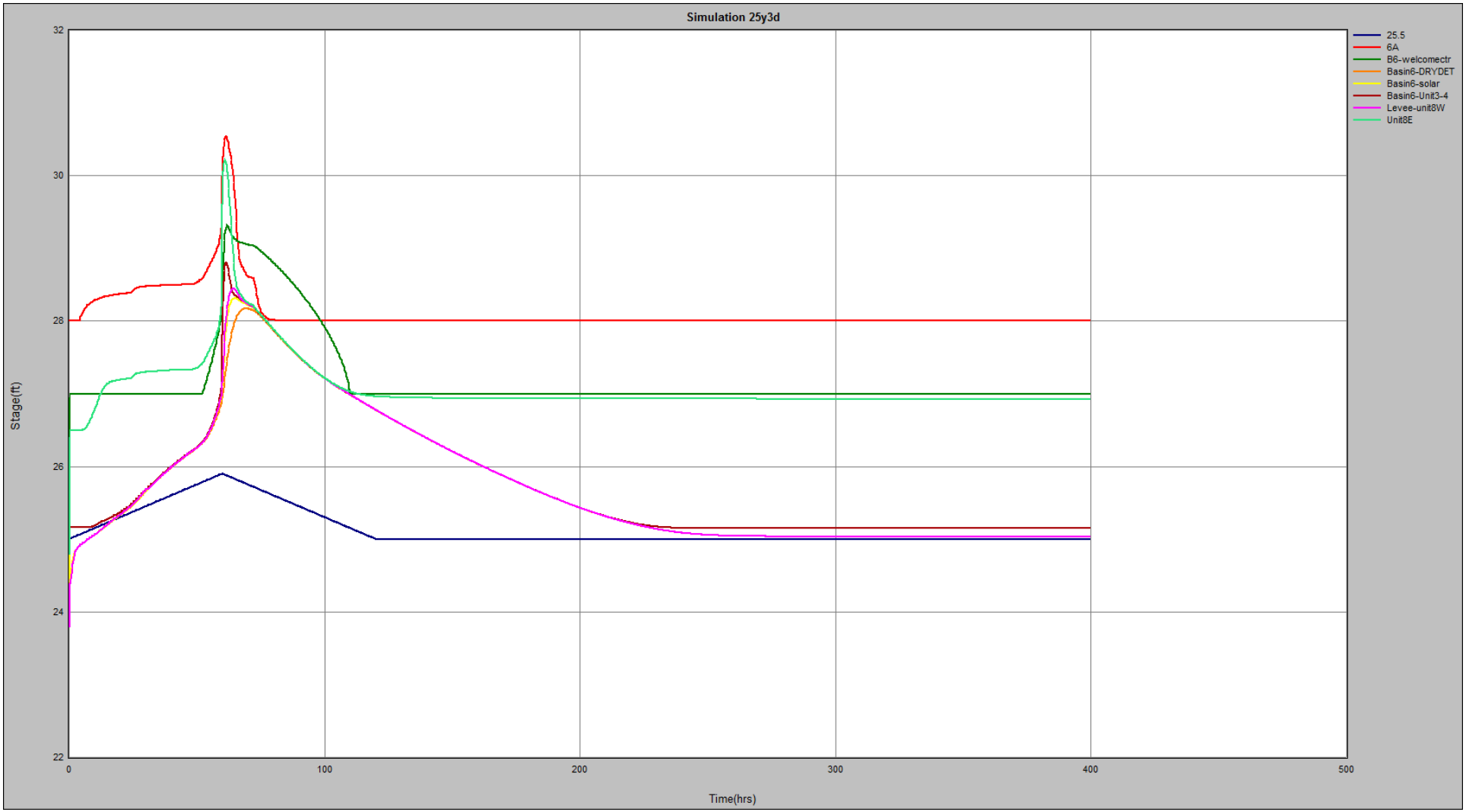
Nodal Hydrographs, 25 Year 3 Day Storm Event for:

Basins 1, 2, 3, 4, 5, 5A, 7 & Respective Tailwater Node



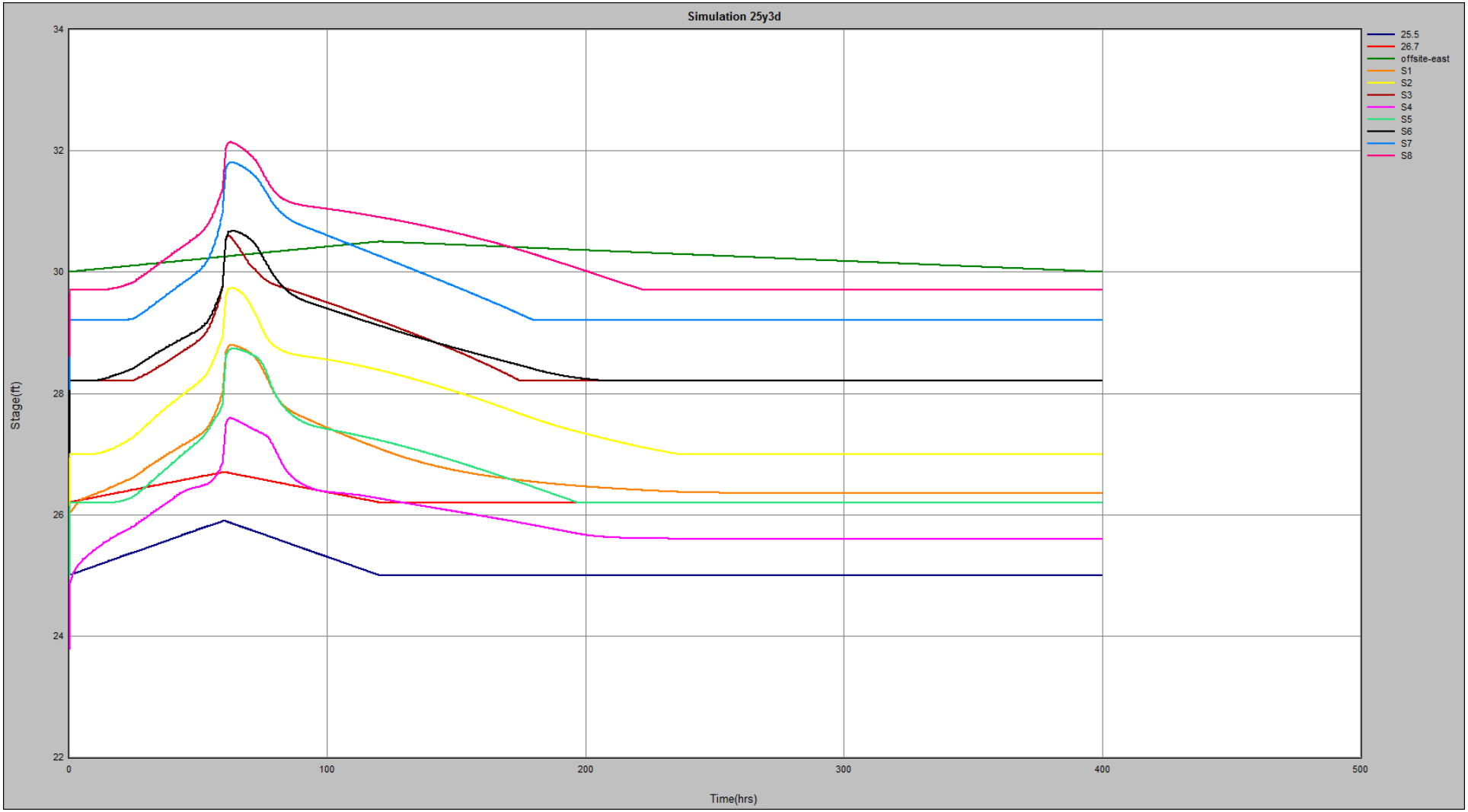
Nodal Hydrographs, 25 Year 3 Day Storm Event for:

Basins 6, Basin 6A, Welcome Center, Levee/Unit 8 West, 8 East, Units 3-4, Basin 6 Solar, Basin 6 Dry Detention & Respective Tailwater Node



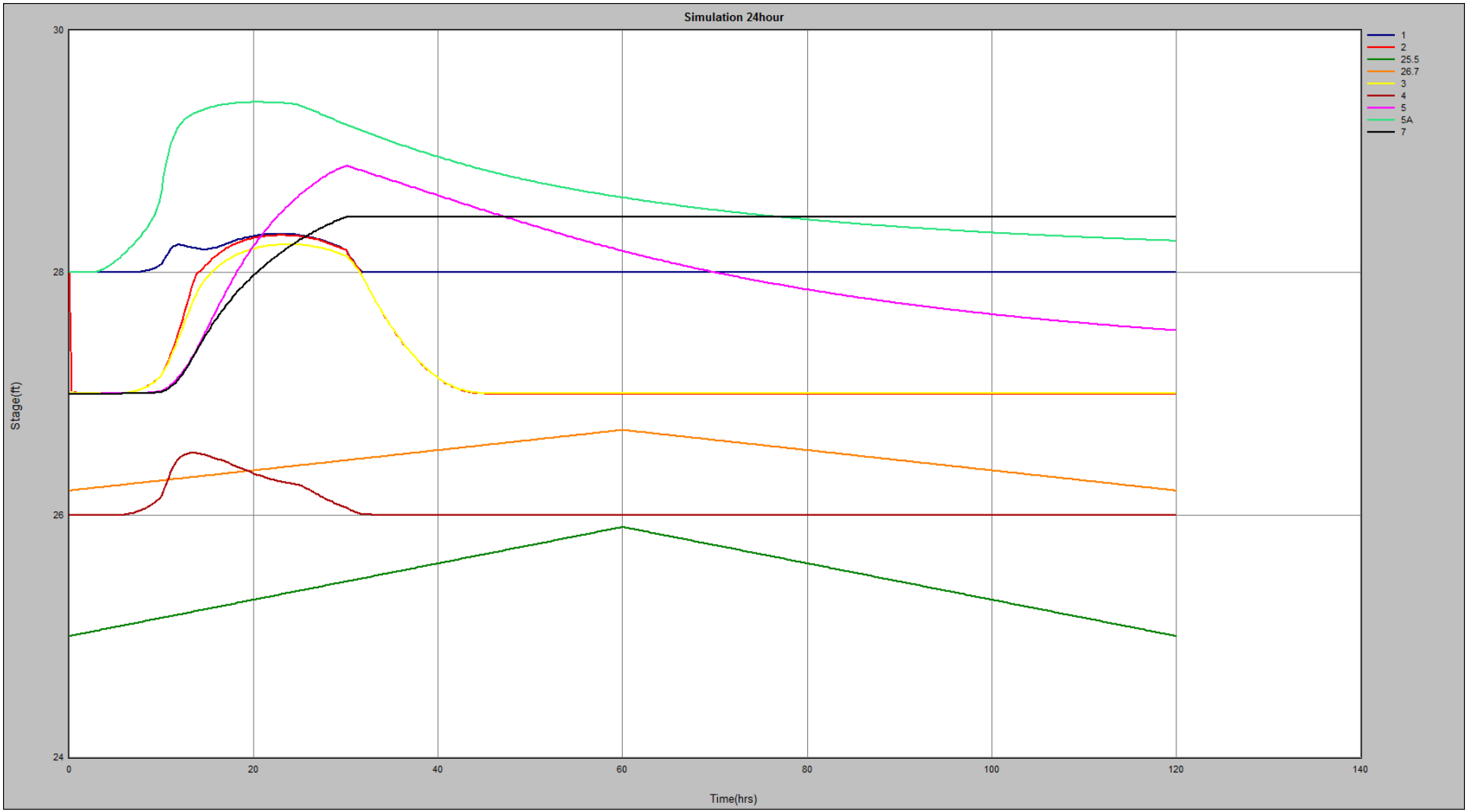
Nodal Hydrographs, 25 Year 3 Day Storm Event for:

Basin S1, Basin S2, Basin S3, Basin S4, Basin S5, Basin S6, Basin S7, Basin S8 & Respective Tailwater Node



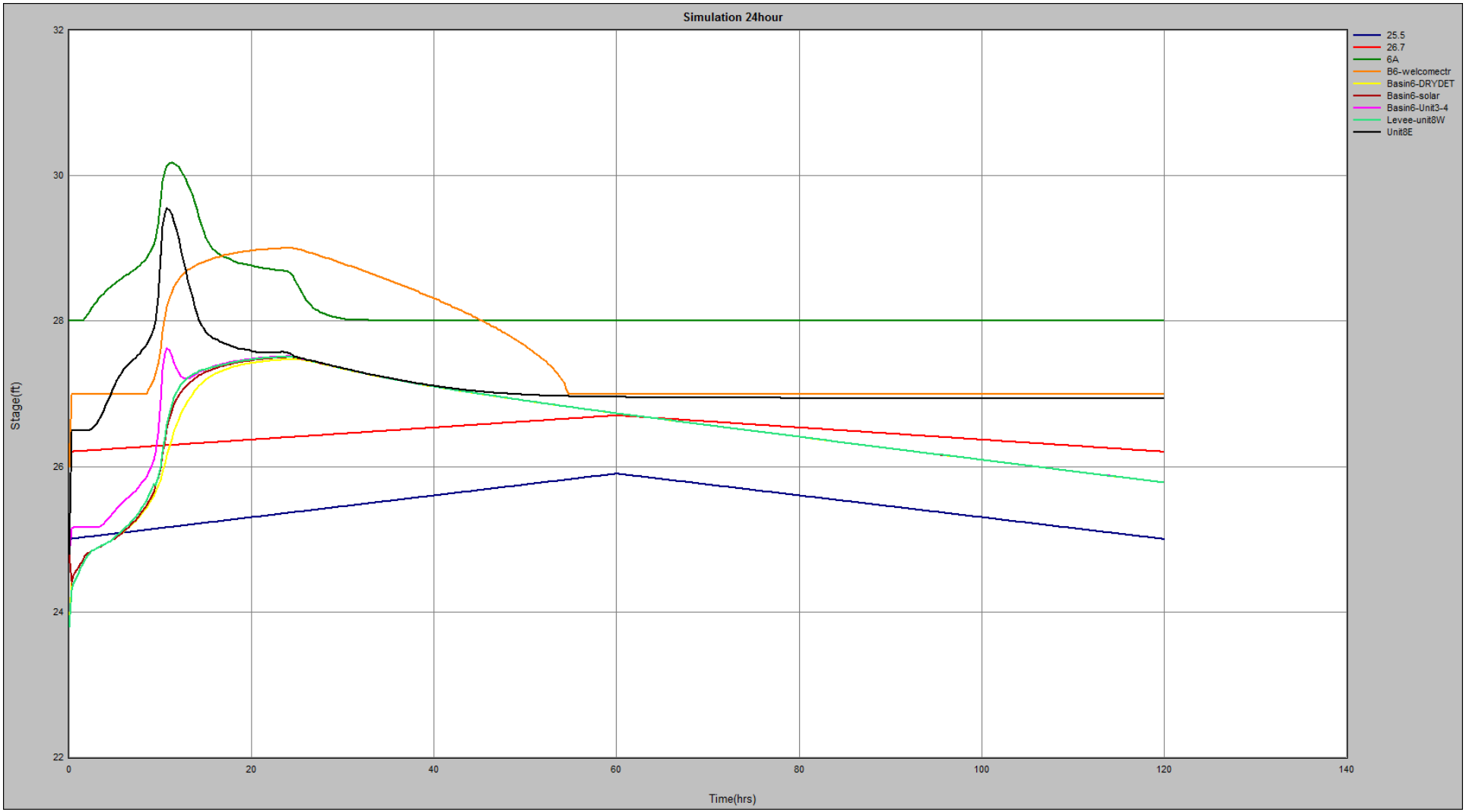
Nodal Hydrographs, 25 Year 1 Day Storm Event for:

Basins 1, 2, 3, 4, 5, 5A, 7 & Respective Tailwater Node



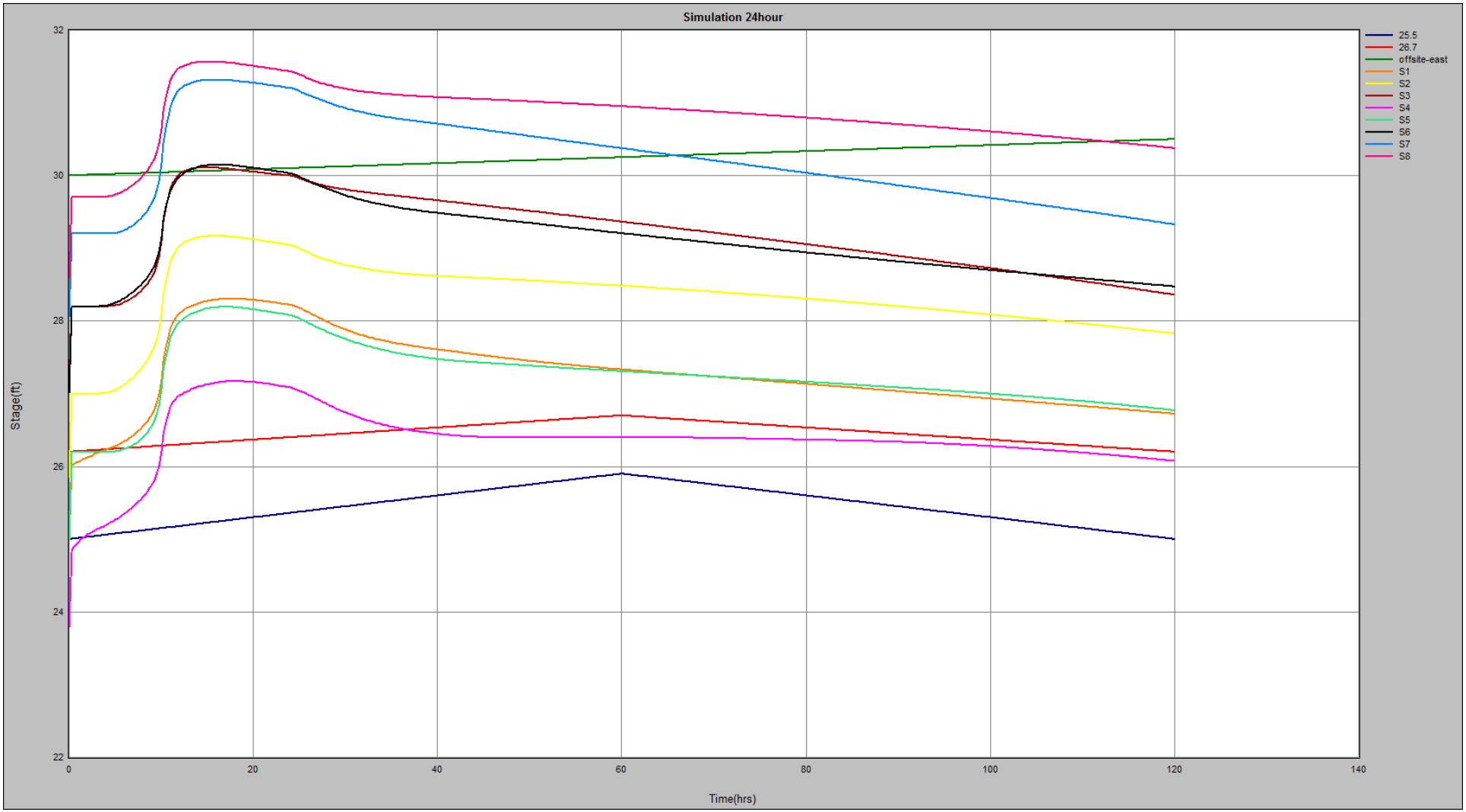
Nodal Hydrographs, 25 Year 1 Day Storm Event for:

Basins 6, Basin 6A, Welcome Center, Levee/Unit 8 West, 8 East, Units 3-4, Basin 6 Solar, Basin 6 Dry Detention & Respective Tailwater Node



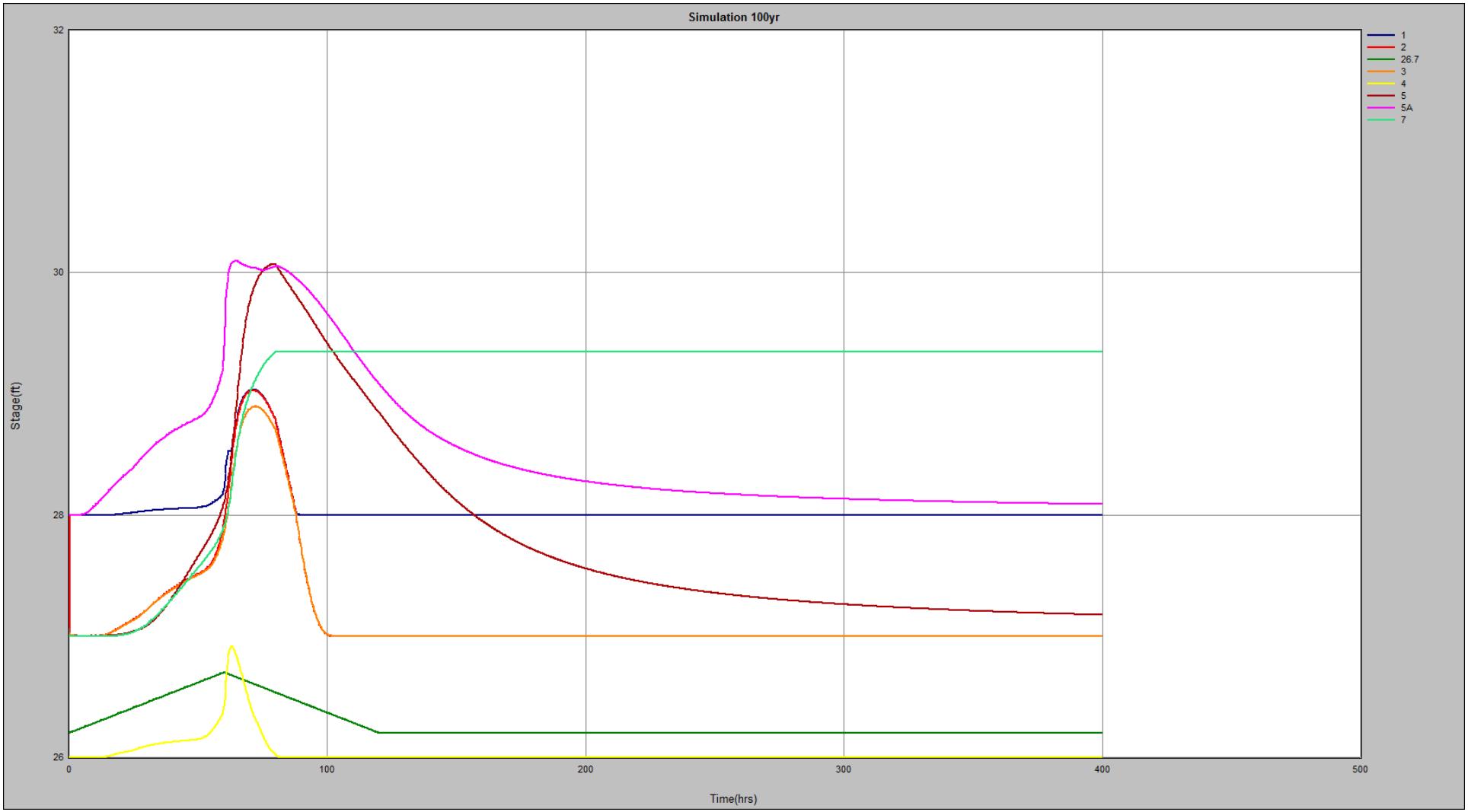
Nodal Hydrographs, 25 Year 1 Day Storm Event for:

Basin S1, Basin S2, Basin S3, Basin S4, Basin S5, Basin S6, Basin S7, Basin S8 & Respective Tailwater Node



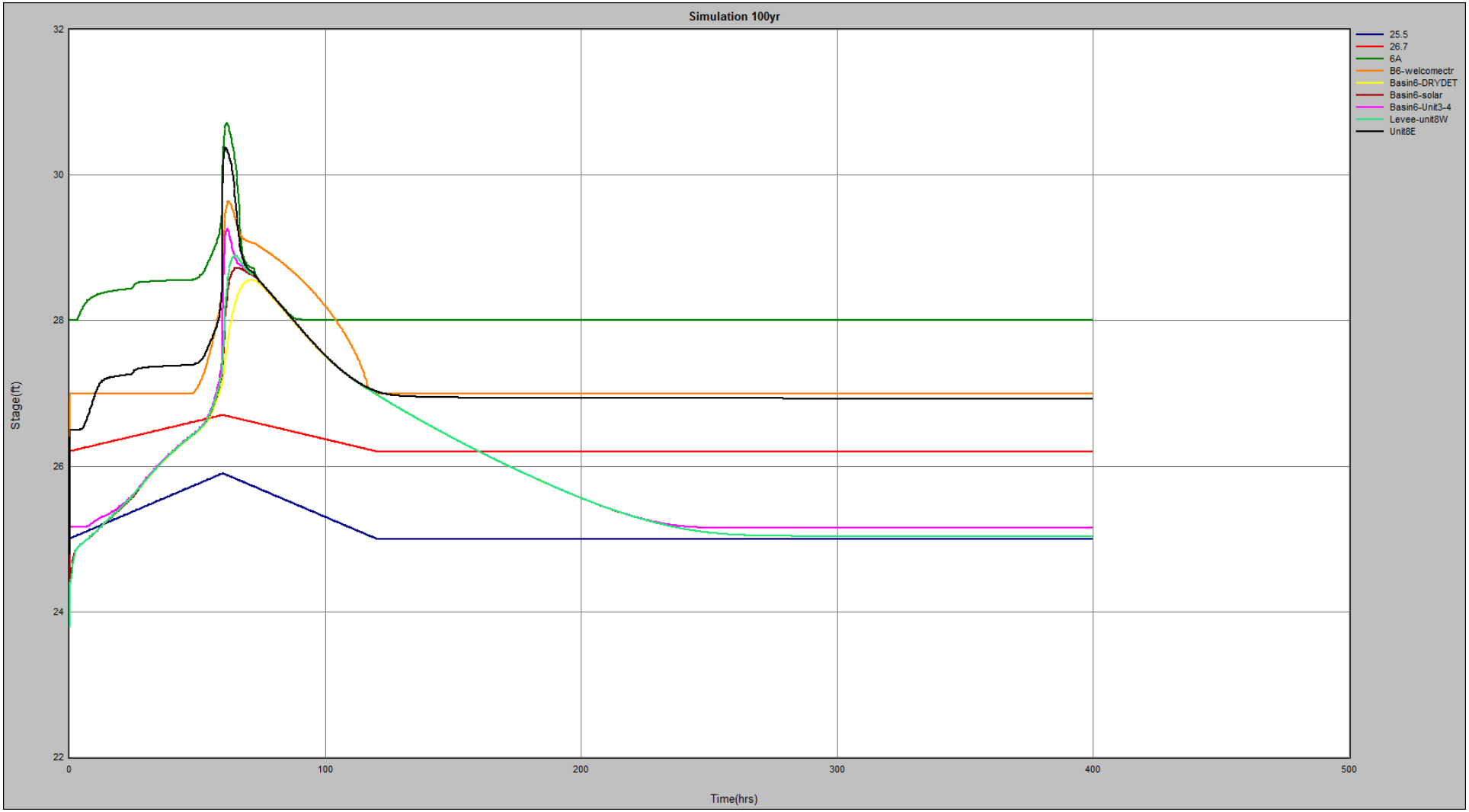
Nodal Hydrographs, 100 Year 3 Day Storm Event for:

Basins 1, 2, 3, 4, 5, 5A, 7 & Respective Tailwater Node



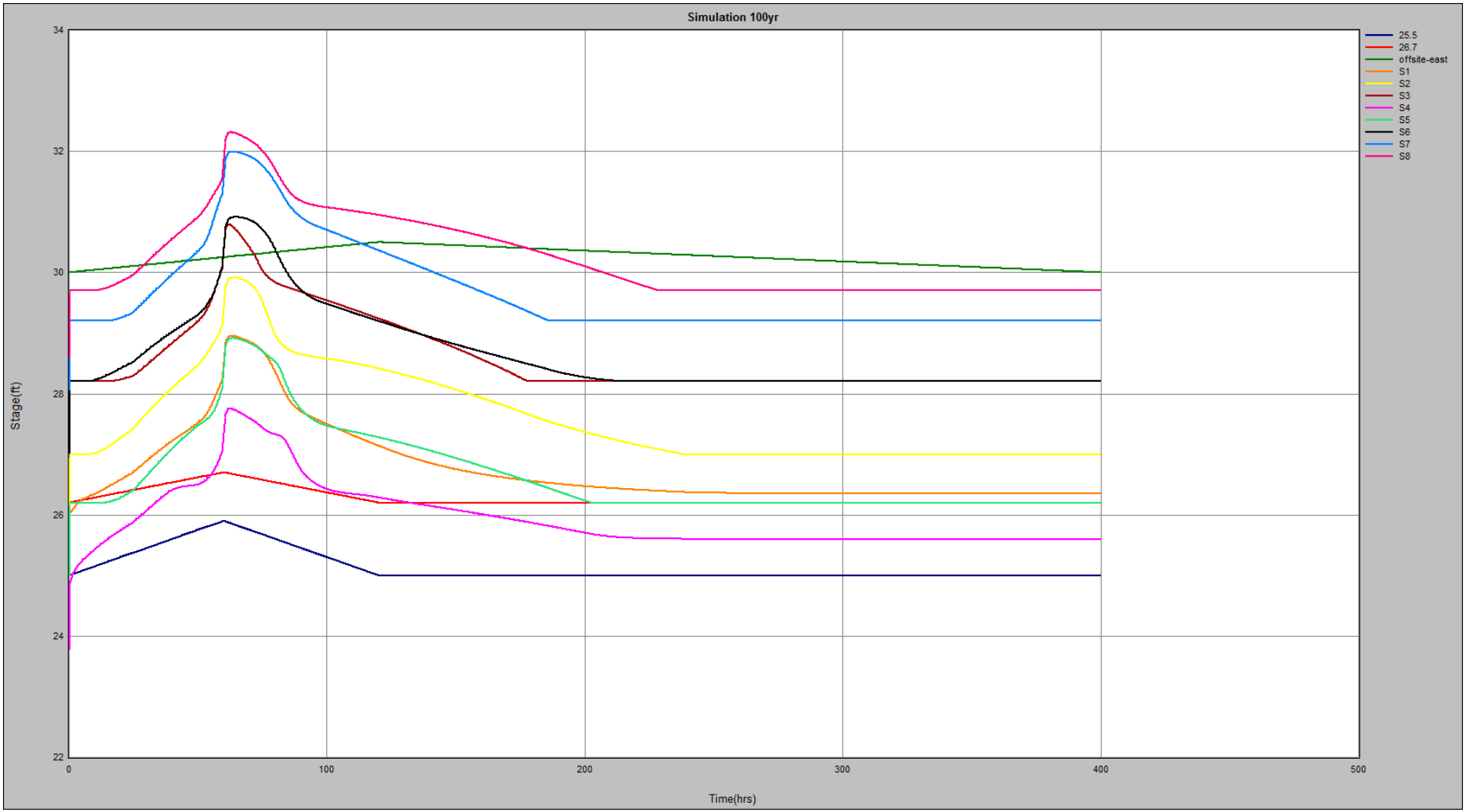
Nodal Hydrographs, 100 Year 3 Day Storm Event for:

Basins 6, Basin 6A, Welcome Center, Levee/Unit 8 West, 8 East, Units 3-4, Basin 6 Solar, Basin 6 Dry Detention & Respective Tailwater Node



Nodal Hydrographs, 100 Year 3 Day Storm Event for:

Basin S1, Basin S2, Basin S3, Basin S4, Basin S5, Basin S6, Basin S7 Basin S8 & Respective Tailwater Node



ADICPR Output for 25 Year – 1 Day

Modeled Basin Name	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
1	22.83	28.32	11.75	14.63	11.82	14.50
2	23.02	28.31	15.25	132.51	0.00	265.36
3	23.78	28.23	0.00	265.36	23.78	126.74
4	13.38	26.51	29.00	20.08	13.38	14.53
5	30	28.80	19.59	25.26	30	11.28
5A (non SCA flow)	24.13	29.00	10.25	3.02	24.16	0.29
B6-welcomectr	24.64	27.47	11.20	78.40	24.52	19.19
Basin6-DRYDET	24.27	27.50	10.77	104.59	11.30	68.93
Basin6-solar	10.78	27.63	10.25	61.25	10.85	45.39
Basin6-Unit3-4	10.82	29.55	10.00	21.63	10.82	9.08
Unit8E	24.23	27.51	10.75	69.90	12.21	38.05
Levee-Unit8W	20.28	29.40	10.25	66.84	20.28	6.23
6A (non SCA Flow)	11.27	30.18	10.25	44.36	11.27	20.80
7	30.00	28.46	15.75	50.23	0.00	0.00
S1	17.74	28.31	10	103.74	17.72	31.59
S2	16.05	29.17	10	86.03	16.02	21.37
S3	14.69	30.11	10	84.3	14.67	11.44
S4	17.98	27.17	10	86.88	17.94	37.91
S5	16.9	28.16	10	57.19	16.85	32.61
S6	16.18	30.15	10	38.12	16.17	26.61
S7	15.94	31.32	10	83.7	15.93	22.29
S8	15.07	31.57	10	91.69	14.51	11.86
25.5	60	25.9	17.61	65.18	0	0
26.7	60	26.7	23.27	162.20	0	0
offsite-east	120	30.5	10.00	0.03	0	0

ADICPR Output for 25 Year – 3 Day

Modeled Basin Name	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
1	70.43	28.78	61.25	35.95	61.47	34.93
2	70.58	28.78	64	254.36	0.00	265.36
3	71.40	28.66	0.00	265.36	71.40	198.77
4	62.81	26.79	61	45.17	62.81	27.9
5	78.83	29.72	66.50	53.06	78.83	18.71
5A (non SCA flow)	61.97	29.31	60.25	7.14	62.45	1.91
B6-welcomectr	69.09	28.17	61.39	95.32	69.82	30.22
BAsin6-DRYDET	64.90	28.31	60.75	147.58	61.89	83.71
BAsin6-solar	61.46	28.80	60.25	117.32	60.54	51.22
Basin6-Unit3-4	60.86	30.22	60.00	40.58	60.91	11.43
Unit8E	64.35	28.45	60.50	136.58	63.47	46.96
Levee-Unit8W	64.44	29.86	60.25	116.35	68.04	9.52
6A (non SCA Flow)	61.37	30.54	60.00	77.45	61.37	24.95
7	80.00	29.07	64.34	103.74	0	0
S1	62.74	28.79	60	231.49	62.78	57.22
S2	62.95	29.73	60	177.75	63.46	39.66
S3	61.65	30.6	60	162.63	61.32	28.24
S4	62.31	27.59	60.03	143.04	64.11	56.01
S5	64.01	28.74	60.06	135.78	71.11	45.81
S6	63.19	30.67	60.01	96.44	60.48	40.29
S7	62.68	31.81	60	96.44	60.48	35.35
S8	62.29	32.14	60	175.95	61.49	18.76
25.5	60	25.9	63.89	108.08	0	0
26.7	60	26.7	70.43	267.06	0	0
offsite-east	120	30.5	60.00	0.05	0	0

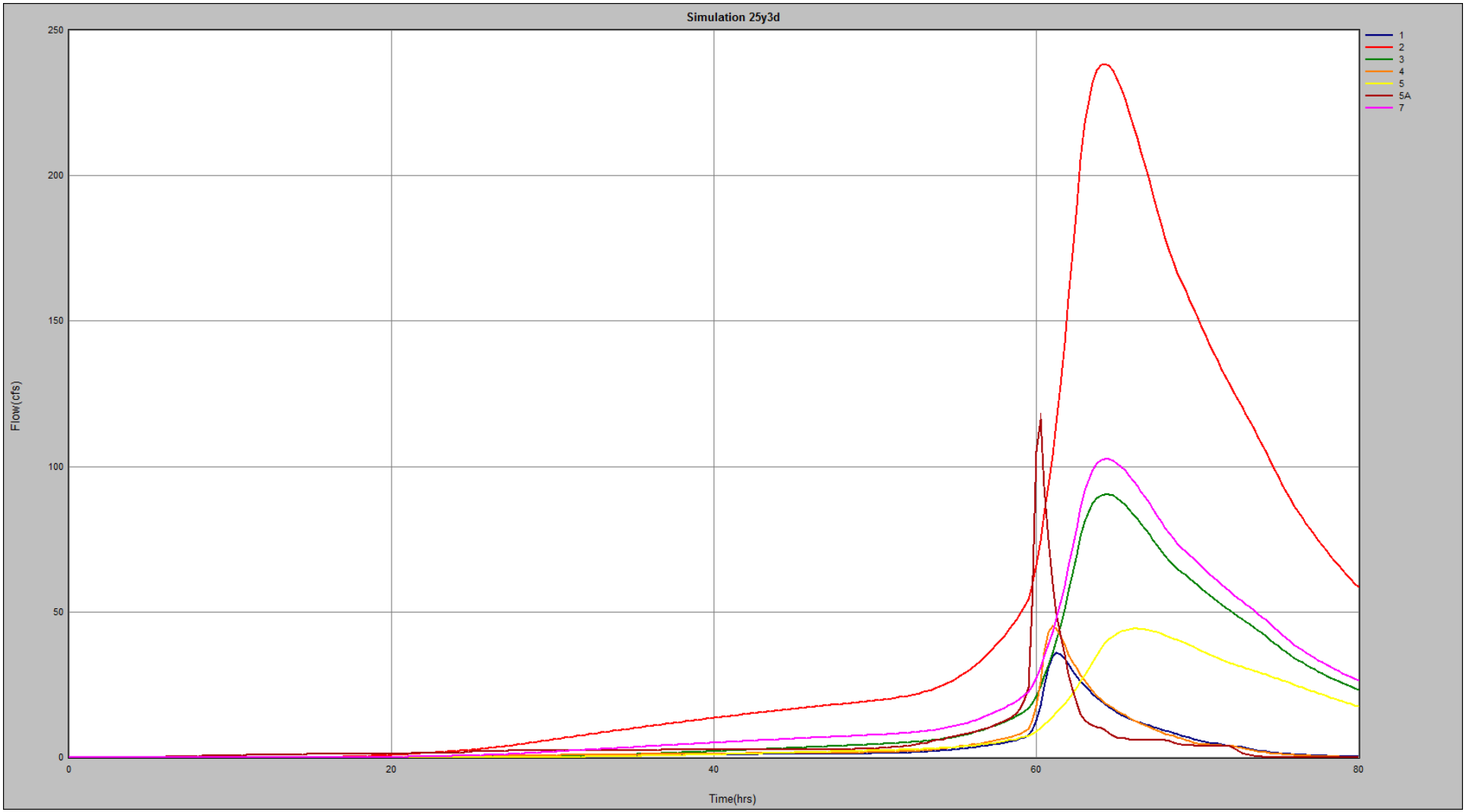
ADICPR Output for 100 Year – 3 Day

Modeled Basin Name	Max Time Stage hrs	Max Stage ft	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
1	71.05	29.04	61.25	46.71	61.49	44.53
2	71.17	29.03	64	323.04	0.00	265.36
3	72.03	28.89	65.05	313.24	72.03	241.66
4	62.88	26.92	61	57.84	62.88	34.82
5	79.79	30.07	66.25	70.47	79.79	21.80
5A (non SCA flow)	62.30	29.64	60.25	9.11	64.08	2.09
B6-welcomectr	70.75	28.55	61.44	105.47	72.31	34.23
Basin6-DRYDET	65.67	28.72	60.75	168.99	62.12	92.39
Basin6-solar	61.74	29.26	60.25	145.88	60.59	52.71
Basin6-Unit3-4	61.01	30.37	60.00	49.97	60.46	11.66
Unit8E	64.78	28.89	60.50	168.83	63.67	53.23
Levee-Unit8W	64.55	30.10	60.25	143.05	66.27	11.33
6A (non SCA Flow)	61.49	30.71	60.00	95.15	61.49	27.02
7	82.71	29.35	64.25	133.91	0	0
S1	62.86	28.95	60	290.03	62.91	60.81
S2	64.15	29.92	60	227.08	67.21	40.43
S3	61.85	30.79	60	201.16	60.39	29.29
S4	62.37	27.75	60	179.29	64.18	58.61
S5	63.92	28.91	60	172.68	75.63	46.63
S6	64.55	30.92	60	118.91	60.07	40.43
S7	64	31.99	60	226.37	60.09	39.14
S8	62.64	32.31	60	217.52	61.72	19.27
25.5	60	25.9	63.65	120.90	0	0
26.7	60	26.7	71.99	319.91	0	0
offsite-east	120	30.5	60.00	0.06	0	0

Appendix D
BASIN HYDROGRAPHS

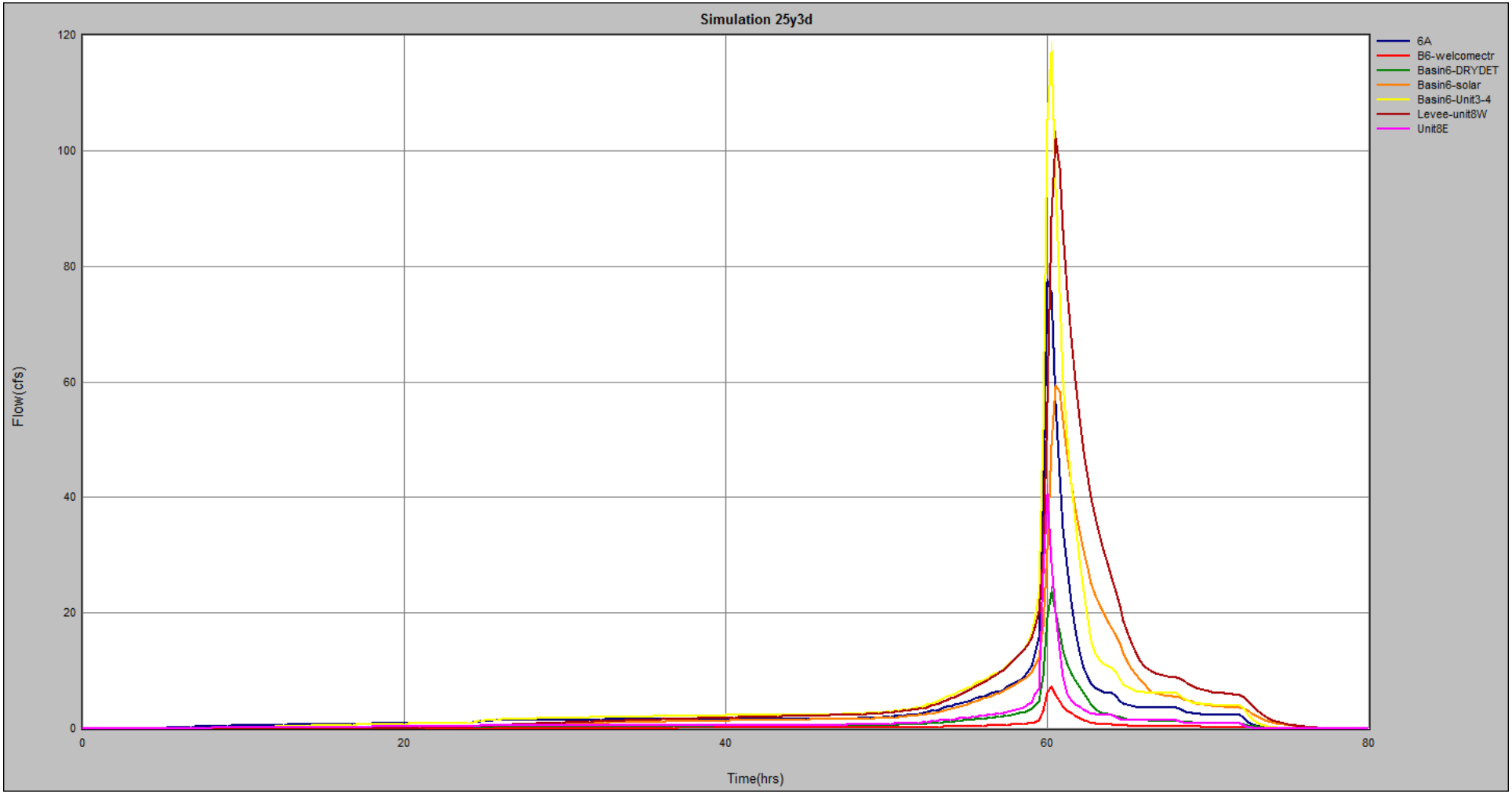
Basin Hydrographs, 25 Year 3 Day Storm Event for:

Basins 1, 2, 3, 4, 5, 5A, & 7



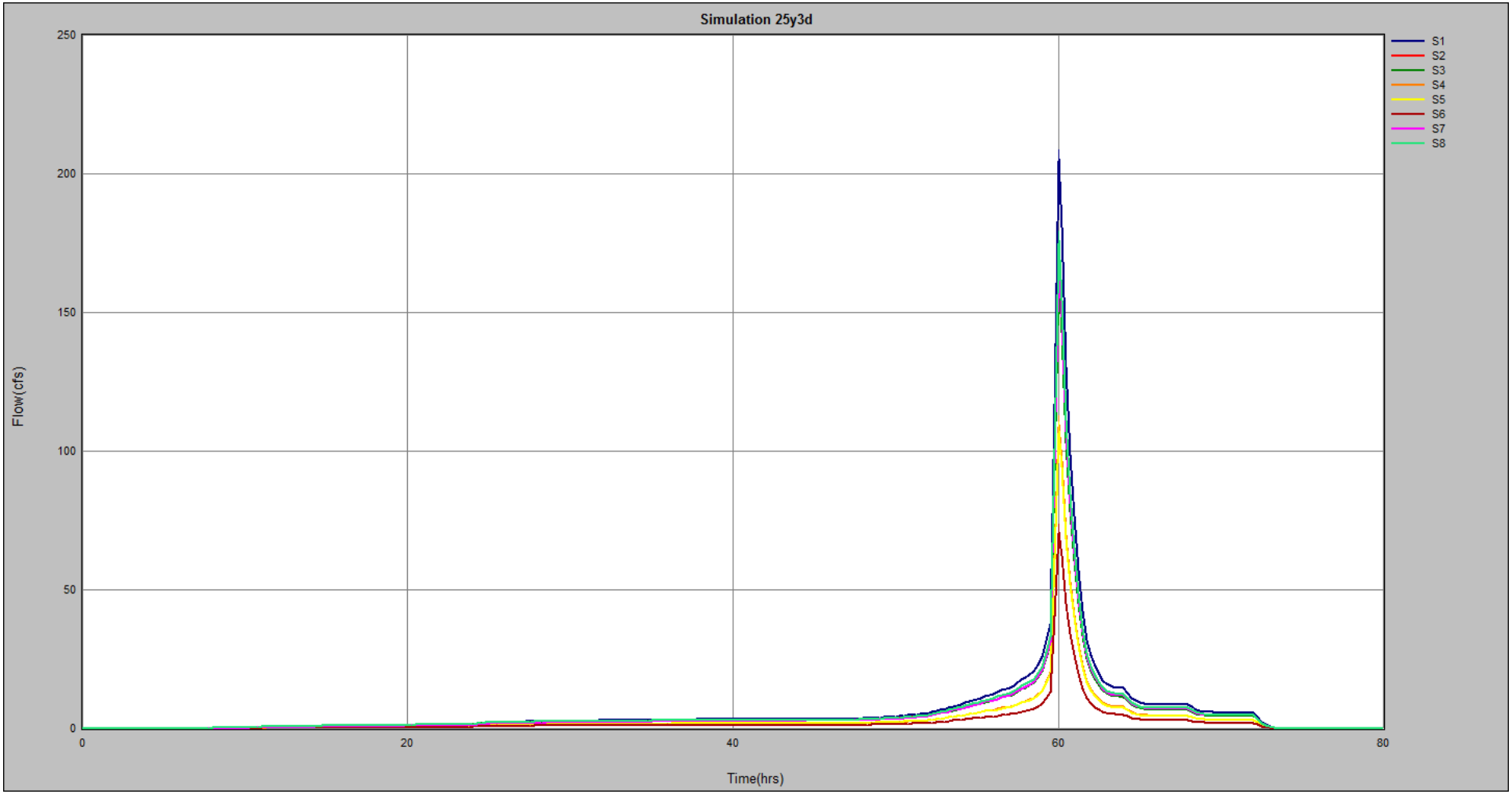
Basin Hydrographs, 25 Year 3 Day Storm Event for:

Basins 6, Basin 6A, Welcome Center, Levee/Unit 8 West, 8 East, Units 3-4, Basin 6 Solar & Basin 6 Dry Detention



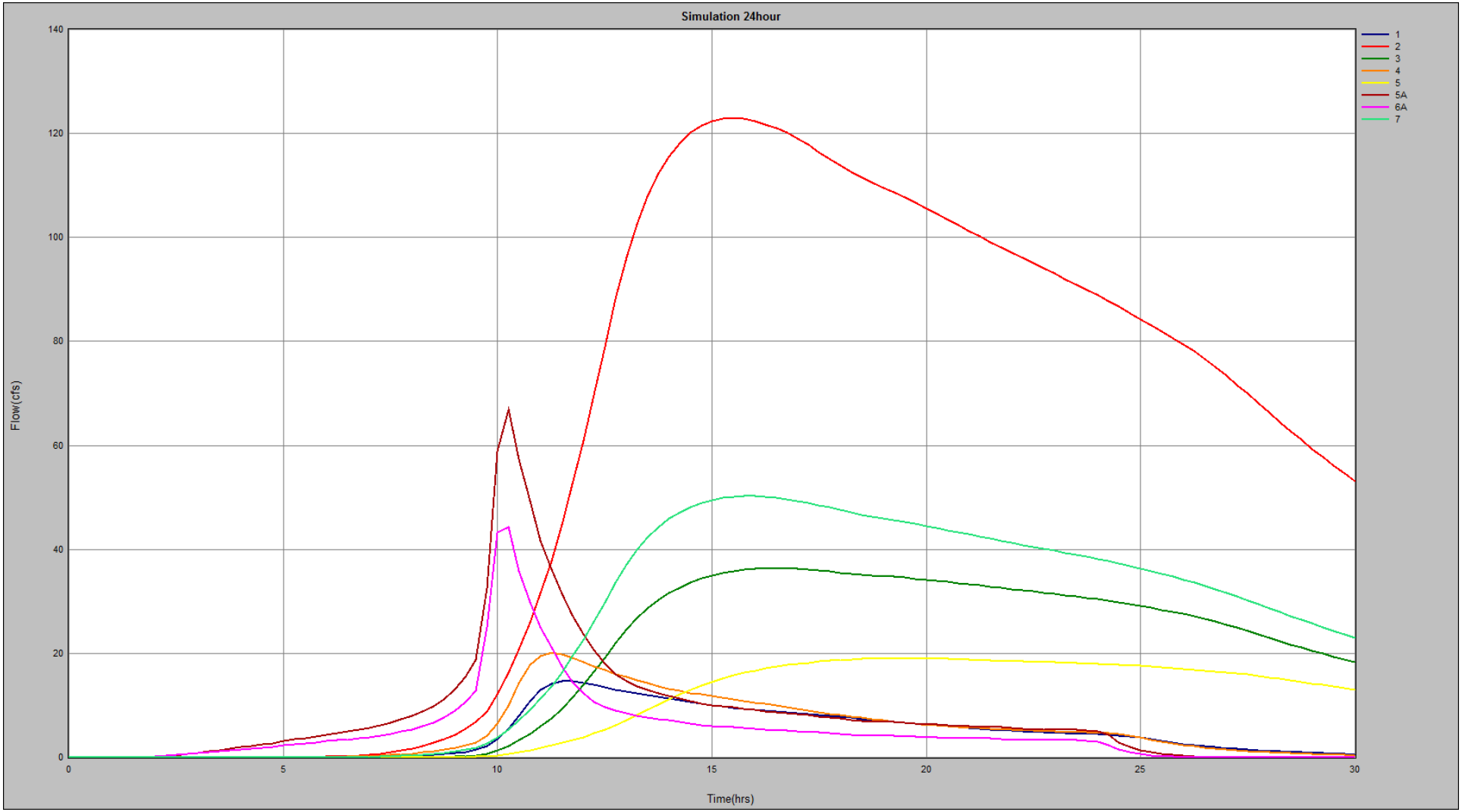
Basin Hydrographs, 25 Year 3 Day Storm Event for:

Basin S1, Basin S2, Basin S3, Basin S4, Basin S5, Basin S6, Basin S7 & Basin S8



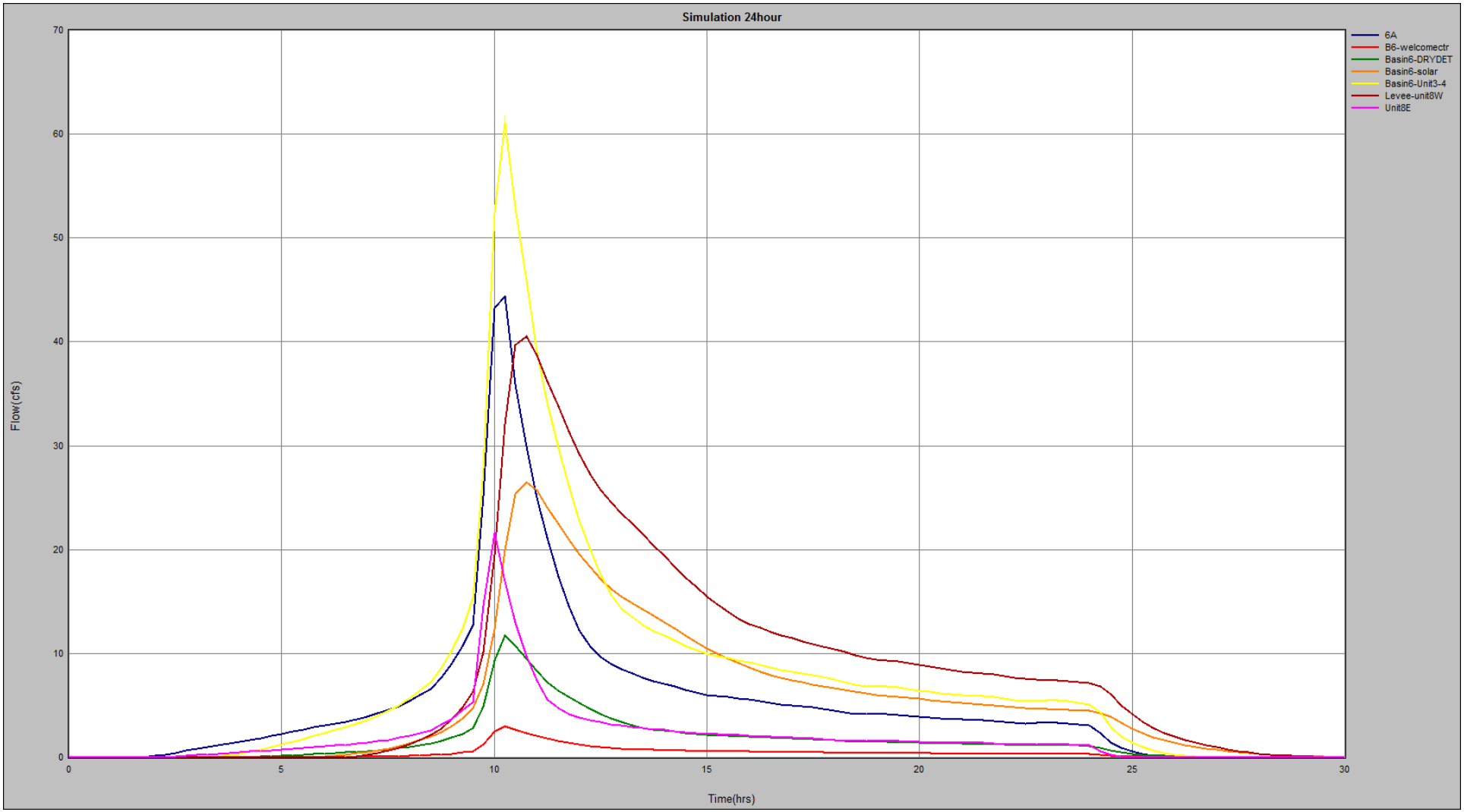
Basin Hydrographs, 25 Year 1 Day Storm Event for:

Basins 1, 2, 3, 4, 5, 5A, & 7



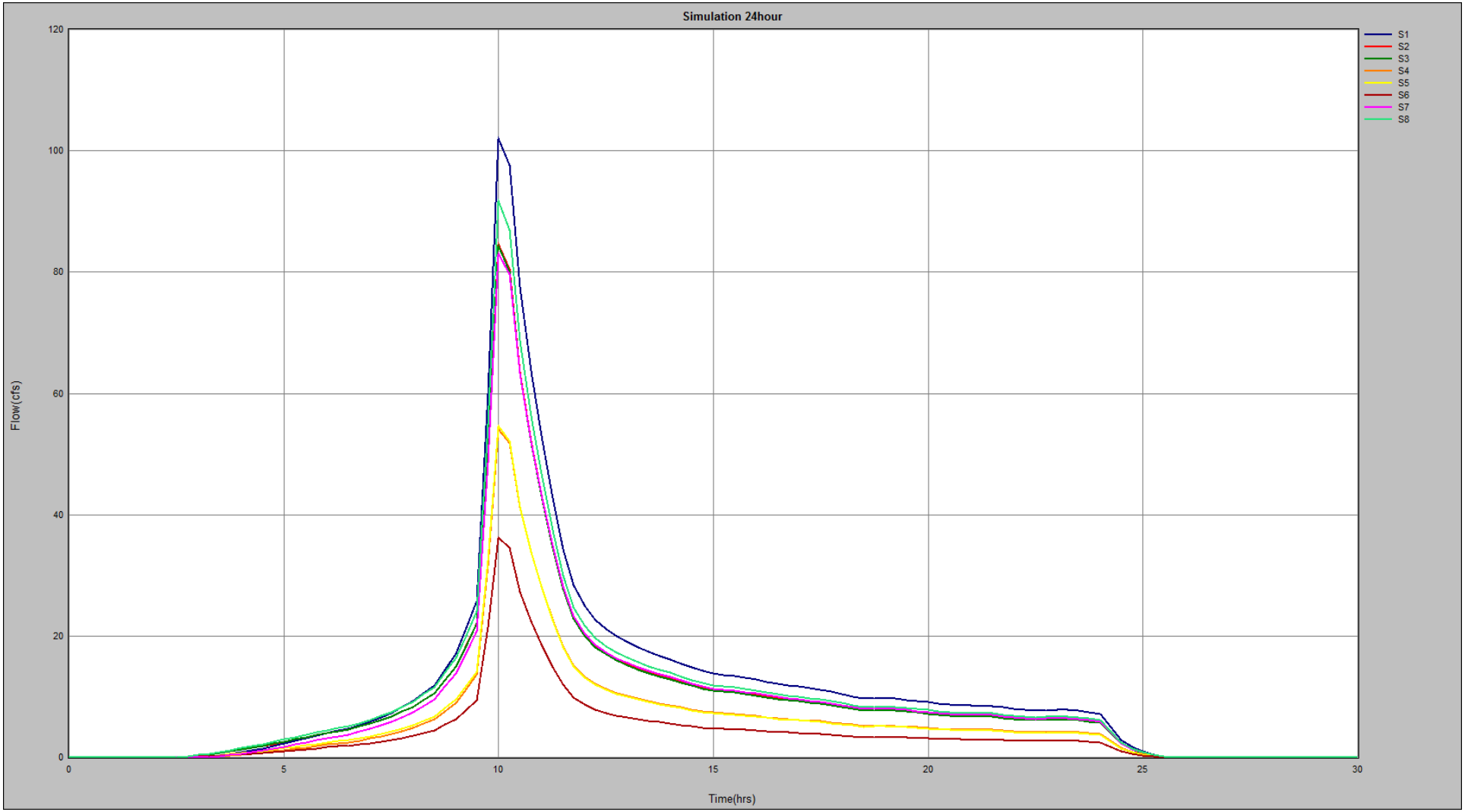
Basin Hydrographs, 25 Year 1 Day Storm Event for:

Basins 6, Basin 6A, Welcome Center, Levee/Unit 8 West, 8 East, Units 3-4, Basin 6 Solar & Basin 6 Dry Detention



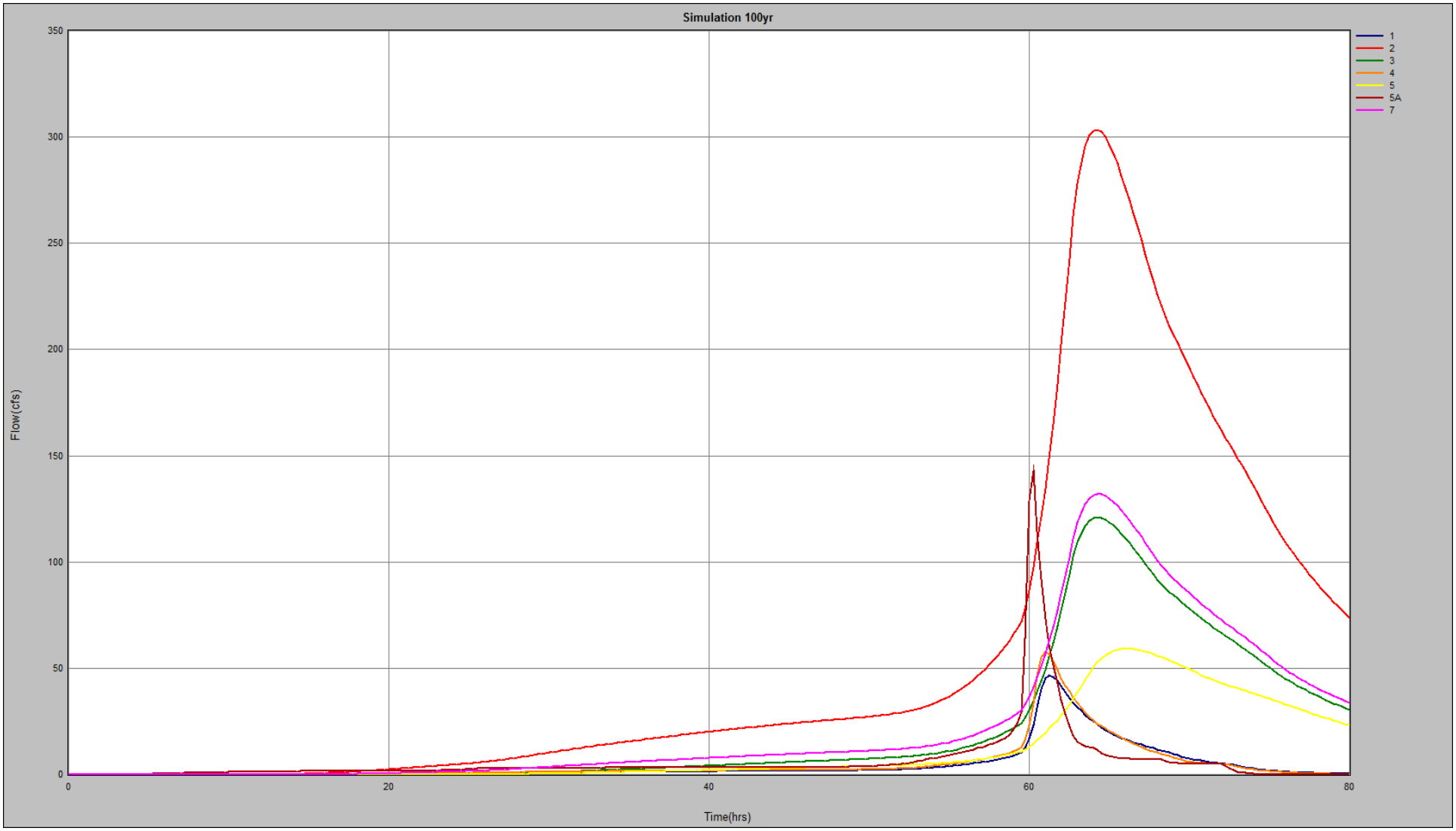
Basin Hydrographs, 25 Year 1 Day Storm Event for:

Basin S1, Basin S2, Basin S3, Basin S4, Basin S5, Basin S6, Basin S7 & Basin S8



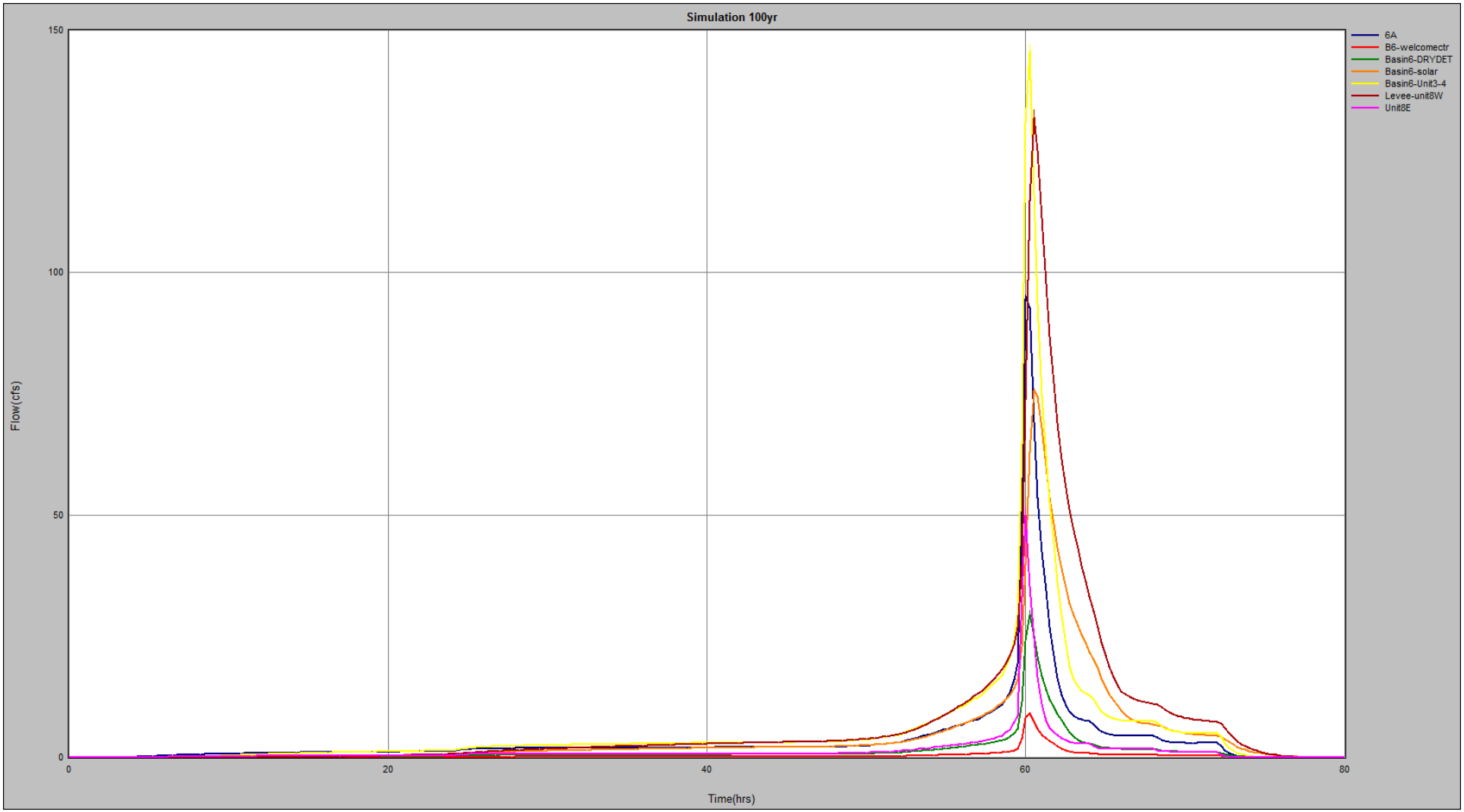
Basin Hydrographs, 100 Year 3 Day Storm Event for:

Basins 1, 2, 3, 4, 5, 5A, & 7



Basin Hydrographs, 100 Year 3 Day Storm Event for:

Basins 6, Basin 6A, Welcome Center, Levee/Unit 8 West, 8 East, Units 3-4, Basin 6 Solar & Basin 6 Dry Detention



Basin Hydrographs, 100 Year 3 Day Storm Event for:

Basin S1, Basin S2, Basin S3, Basin S4, Basin S5, Basin S6, Basin S7 & Basin S8