DRAINAGE DESIGN DOCUMENTATION REPORT

(Final Submittal)

Southernmost Plaza Streetscape Project Whitehead Street from United Street to South Street and along South Street from Whitehead Street to Duval Street.

Project No. RFQ 22-006 TO #1

City of Key West
Monroe County

Prepared by:

BCC Engineering, LLC.

November 2025

Professional Engineering Certificate

I hereby certify that I am a registered professional engineer in the State of Florida practicing with BCC Engineering LLC., a corporation, authorized to operate as an engineering business with Certificate of Authorization No. 7184, by the State of Florida, and that I have reviewed or approved the evaluation, findings, opinions, conclusions, or technical advice of this Drainage Report.

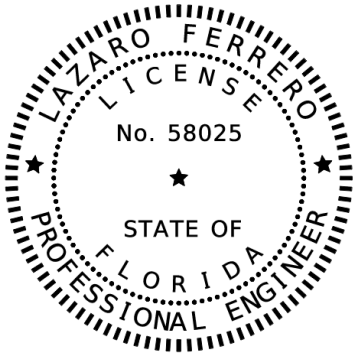
Project: Southernmost Point Plaza Streetscape Project, Project No. RFQ 22-006, TO #1

Prepared for: City of Key West

I acknowledge that the procedures and references used to develop the results contained in this Conceptual Drainage Report are standard to the professional practice of engineering and planning as applied through professional judgment and experience.

Name: Lazaro Ferrero, PE

Digital Signature: Lazaro Ferrero 2025.11.20 11:09:53-05'00'



BCC Engineering, LLC.
Certificate of Authorization No. 7184

The official record of this document has been electronically signed and sealed by Lazaro Ferrero, State of Florida, PE No. 58025, on 11/20/2025 using a digital signature as required by Rule 61G 15-23.004, F.A.C. Printed copies of this document are not considered signed and sealed. The signature must be verified on the electronic documents.

TABLE OF CONTENTS

SECTION 1 – GENERAL INFORMATION

1.1 Introduction and Project Location

This report has been prepared for the City of Key West (Client) and addresses the stormwater management improvements for the Southernmost Point Plaza Streetscape (the project). The project corridor is located along Whitehead Street, from United Street to South Street and along South Street from Whitehead Street to Duval Street. The project involves roadway, drainage, signing and pavement marking, roadway lighting, decorative lighting and electrical outlets, as well as landscaping. (See **Appendix B** for Typical Sections)

1.2 Purpose

This report aims to provide all the relevant information that has been used in developing the proposed drainage system. This report provides all the necessary information and calculations that have been performed during the design phase of the drainage system of Southernmost Point Plaza Streetscape.

1.3 Existing Drainage Patterns

The existing improvements along the project's right of way include a two-way asphalt-paved road, adjacent sidewalks, and sections of parallel parking on both sides of the road. At the intersection of Whitehead and South Street, the catch basin connects to an existing gravity drainage well. Please refer to **Figure 1** below for a view of the well and inlet:

Figure 1 – Existing Conditions

1.4 Vertical Datum

Project Vertical Datum is in feet (ft) relative to the National Geodetic Vertical Datum of 1929 (ft-NGVD 29). The datum shift is determined using the National Geodetic Survey VERTCON online tool. The datum shift used to convert from the National Geodetic Vertical Datum of 1929 (NGVD 29) to NAVD 88 for the project is shown in **Table 1**.

Table 1: Datum Conversion from NGVD29 to NAVD88

Location	Latitude	Longitude	Conversion(ft)
Key West, FL	$24^0$33'5.47"N	$81^0$46'22.67"W	-1.345

1.5 Floodplain Impacts and Mitigation

The floodplain classification for this Project is "Zone VE," meaning coastal flood zone with velocity hazard (wave action); base flood elevations are determined at elevation 13.45 ft-NGVD29. Please refer to the FEMA map, located in **Appendix A** of this report. It is not a requirement for this Project to provide any compensation for encroachment into floodplain areas.

1.6 Seasonal High-Water Table (SHWT) Elevation

In accordance with FDOT Drainage Manual Section 3.4, tidal design SHWT elevation in coastal projects is typically set consistent with the Mean High Tide, also known as Mean High Water (MHHW). Following this criterion, the project design SHWT elevation would be 1.35 ft-NGVD29 as per MHHW recorded on Key West Tidal Station 872-4580 (tidal epoch 1983-2001). However, the Key West Stormwater Master Plan 2024 Update 2.2.1 Datum and Tidal Levels recommended the use of the Mean Higher-high Water (MHHW) elevation of 1.35 ft-NGVD29. This recommendation was adopted for this project.

SECTION 2 – DRAINAGE DESIGN CRITERIA

According to the City of Key West's Utility Department the required level of service for a drainage system on 2-Lane Road is 5-year. The proposed drainage system will be designed for a 5-year, 24-hour storm event.

2.1 Permitting Agencies

A pre-application meeting with the South Florida Water Management District (SFWMD) was conducted on March 19th, 2025, to discuss the proposed project. Based on the preliminary review, it has been determined that a General Environmental Resource Permit (ERP) GP 62-330.451 F.A.C is required. A General Environmental Resource Permit application was submitted to SFWMD on April 21st, 2025. A Request for Additional Information was requested by SFWMD on May 7th, 2025, and a response was provided on May 22nd, 2025. The ERP was issued on July 10th, 2025. A redesign of the roadway resulted in drainage layout adjustments and an increase in total project area from the permitted 0.89 acres to 0.93 acres. The SFWMD was contacted by email on November 17th, 2025, to confirm whether a permit modification is needed.

2.2 Water Quantity

The following are the project-specific criteria used for the drainage system design as documented in this report. These water quantity criteria have been utilized as the baseline for this project design.

1. City of Key West (CKW) Design Criteria:
    a. Per the recommendation of the CKW, all inlets are to be set at or above the peak elevation following design storm event:
        - 5-year, 24-hour storm event

    b. Per the CKW West 2024 Stormwater Master Plan Table 2-2 the recommended design storm event distribution for the 5 year, 24-hour design storm event must be based on the FLMOD distribution.
    c. In accordance with section 2.3.4.8 Recharge Wells of the CKW Stormwater Master Plan, a total of 1.6-foot mounding at the injection wells must be applied, assuming a well with a 60-foot casing, due to the differences in specific gravity between saltwater and freshwater and an open hole extending to 120 feet below land surface.
    d. For this project location, drainage well capacity of 1,600 (GPM)/ft of head will be used based on the recommendation of the Key West Stormwater Master Plan 2024 Update (Figure 2-9 Gravity Recharge Well Rating Curve)

2. Florida Department of Environmental Protection (FDEP) Design Criteria:
    a. The maximum hydraulic head on the wells cannot exceed 8 ft-NGVD29 unless a passive gravity bypass is provided at an elevation of 8.00 ft-NGVD29.
    b. ICPR Technical Design Guide Section 2.2.1.3 states that FDEP requires the drainage system to provide a minimum of 90 seconds of detention time before discharging stormwater runoff into the drainage well.

3. South Florida Water Management District (SFWMD):
    a. Per Applicant Handbook Volume I, and Section 3.2 of the Applicant Handbook Volume II, a post-development 25-year, 3-day total discharge rate equal to or lesser than the pre-development conditions are required.
    b. The post-development peak stage analysis for the 100-year 3-day storm must be equal to or less the pre-development peak stage for the project's contributing area

2.3 Water Quality

The proposed drainage system connects an outfall to the Florida Keys, an Outstanding Florida Water (OFW). The criteria outlined below is required to meet the latest standards for an Environmental Resource Permit within SFWMD: As recommended in the SFWMD Pre-Application meeting, a two-chamber pollution structure with a weir and a baffle has been proposed to meet the aforementioned water quality standards.

1. South Florida Water Management District (SFWMD) Design Criteria
    - Wet detention volume shall be provided for the first inch of runoff from the developed project, or the total runoff of 2.5 inches times the percentage of imperviousness, whichever is greater.

As recommended in the SFWMD Pre-Application meeting, a two-chamber pollution structure with a concrete baffle has been proposed to meet the aforementioned water quality standards.

SECTION 3 – STORMWATER MANAGEMENT SYSTEM APPROACH

The proposed drainage system is designed to enhance stormwater management in the area by integrating a comprehensive network of components. The system will primarily consist of a single drainage gravity well system, which is planned to undergo rehabilitation to restore its functionality and ensure its long-term efficiency. Once rehabilitated, the drainage gravity well system will collect stormwater and channel it through strategically placed curb and driveway inlets, which are designed to efficiently convey runoff.

Ultimately, the stormwater will be directed into the Florida Keys through an existing outfall connection equipped with a Pollution Control Structure. This structure is specifically designed to mitigate environmental impacts and improve water quality before discharge.

To evaluate the performance and efficiency of the proposed drainage system, a Stormwise Model (formerly known as ICPR4) was developed. This advanced hydrological and hydraulic model allows for a detailed analysis of the system's capacity to manage stormwater under various conditions. It incorporates critical parameters such as design rainfall depth and rainfall distribution, which are tailored to the specific characteristics of the region. These parameters are presented in detail below in **Table 2** to provide a clear understanding of the model's assumptions and inputs.

Table 2: Design rainfall Depth and Rainfall Distribution

Design Storm Event	Rainfall Depth (inches)	Rainfall Distribution
5-year, 24-hour	6.00	FLMOD
25-year, 72-hour	12.00	SFWMD72
100-year,72-hour	17.00	SFWMD72

The project area is comprised of impervious areas. The land use area breakdown is shown below in **Table 3**:

Table 3: Project Area Land-Use Breakdown

Basin	Structure Number	Area Impervious (Ac.)	Area Pervious (Ac.)
B01	S-01	0.05	0.00
B02	S-02	0.12	0.00
B04	S-04	0.03	0.00
B06	S-06	0.16	0.00
B08	S-08	0.01	0.00
B09	S-09	0.01	0.00
BDW-1	DW-1	0.03	0.00
B11	S-11	0.06	0.00
B14	S-14	0.04	0.00
B15	S-15	0.06	0.00
B16	S-16	0.02	0.00
B17	S-17	0.02	0.00
B18	S-18	0.13	0.00
B19	S-19	0.11	0.00
B20	S-20	0.01	0.00
B22	S-22	0.04	0.00
B23	S-23	0.03	0.00
Total =		**0.93**	**0.00**

3.1 Drainage Wells

Drainage wells consist of a drilled hole into the surficial aquifer to discharge stormwater runoff in the aquifer portion that meets the FDEP salinity and total dissolved solids (TDS) requirements. There are two types of drainage wells: gravity and pump injection wells. Gravity drainage wells can be utilized in terrains where the drainage system has a reasonable hydraulic gradient to inject the stormwater runoff without overtopping the inlet and roadway. Injection drainage wells are utilized using stormwater pump stations in coastal or low-lying areas where a gravity drainage system is not feasible. Injection wells operate using pressurized head provided by the pump station during peak storm events. The existing well within the project corridor will be redeveloped as part of the proposed improvements.

The following are the parameters that were assimilated in the drainage design:

a. Mounding must be accounted for in the design, which is where less dense freshwater would need a greater hydraulic head force to push against the denser saltwater. Using FDEP standard practice, 1.6 foot of head was discounted against use considering a 60-foot-deep casing. Refer to **Appendix D** for rating curve calculations.

b. FDEP requires that the maximum head elevation allow each drainage well to be 8 ft-NGVD29.

More information related to the design parameters above can be found under the FDOT District 6 ICPR-AM.
The proposed drainage system will incorporate the rehabilitation of an existing drainage well. to meet the project area's hydraulic and hydrologic requirements. The drainage well intake capacity of 1,600 GPM/ft-head was taken from the Key West Stormwater Master Plan 2024 Update.

SECTION 4 – RESULTS & CONCLUSION

The roadway drainage system has been designed for the 5-year storm event of critical duration (24-hr rainfall). The analyses performed using the Stormwise modeling software show that the peak stages during 5-year critical-duration event (24-hour) are below the lowest elevation of all inlets (see **Appendix E**). Additionally, please refer to Table 4 and Table 5 for a summary of the peak stages under pre-development and post-development conditions, respectively, for the 5-year 24-hour, 25-year 72-hour, and 100-year-72-hour rainfall events.

Table 4: Pre-Development Max Stage Summary Table

Node Name	Warning Stage (Ft-NGVD)	Pre-Development		
		5YR-24HR	25YR-72HR	100YR-72HR
		Max. Stage (Ft-NGVD)	Max. Stage (Ft-NGVD)	Max. Stage (Ft-NGVD)
DW1	3.06	3.06	3.07	2.97
X1	3.16	3.07	3.08	2.97
X2	2.98	3.00	3.00	2.97
X3	3.05	3.03	3.05	2.97

Table 5: Post-Development Max Stage Summary Table

Node Name	Warning Stage (Ft-NGVD)	Post-Development		
		5YR-24HR	25YR-72HR	100YR-72HR
		Max. Stage (Ft-NGVD)	Max. Stage (Ft-NGVD)	Max. Stage (Ft-NGVD)
DW1	3.82	1.54	1.80	2.21
S-01	3.36	1.56	1.84	2.26
S-02	3.39	1.56	1.84	2.26
S-03	3.49	1.56	1.83	2.26
S-04	3.39	1.56	1.83	2.25
S-05	3.4	1.56	1.82	2.24
S-06	3.22	1.56	1.82	2.24
S-07	3.29	1.55	1.82	2.24
S-08	3.31	1.55	1.82	2.23
S-09	3.42	1.55	1.81	2.22
S-10	3.55	1.54	1.81	2.21
S-11	3.26	1.54	1.80	2.21
S-12	3.38	1.54	1.80	2.20
S-13	3.75	1.54	1.79	2.19
S-14	3.21	1.53	1.79	2.17
S-15	3.31	1.53	1.78	2.16
S-16	3.24	1.52	1.77	2.14
S-17	3.28	1.52	1.77	2.14
S-18	3.33	1.51	1.74	2.09
S-19	3.39	1.51	1.74	2.09
S-20	3.47	1.49	1.69	2.00
S-21	3.69	1.49	1.69	2.00
S-22	3.28	1.48	1.66	1.93
S-23	3.32	1.48	1.66	1.93
S-24+A	3.4	1.47	1.63	1.88
S-24+B	3.4	1.46	1.62	1.86

As required by the SFWMD water quantity design criteria, a pre-development versus post-development analysis was performed to evaluate the potential impacts of the proposed improvements. This analysis was conducted using the Stormwise computer model for the 25-year, 72-hour storm.

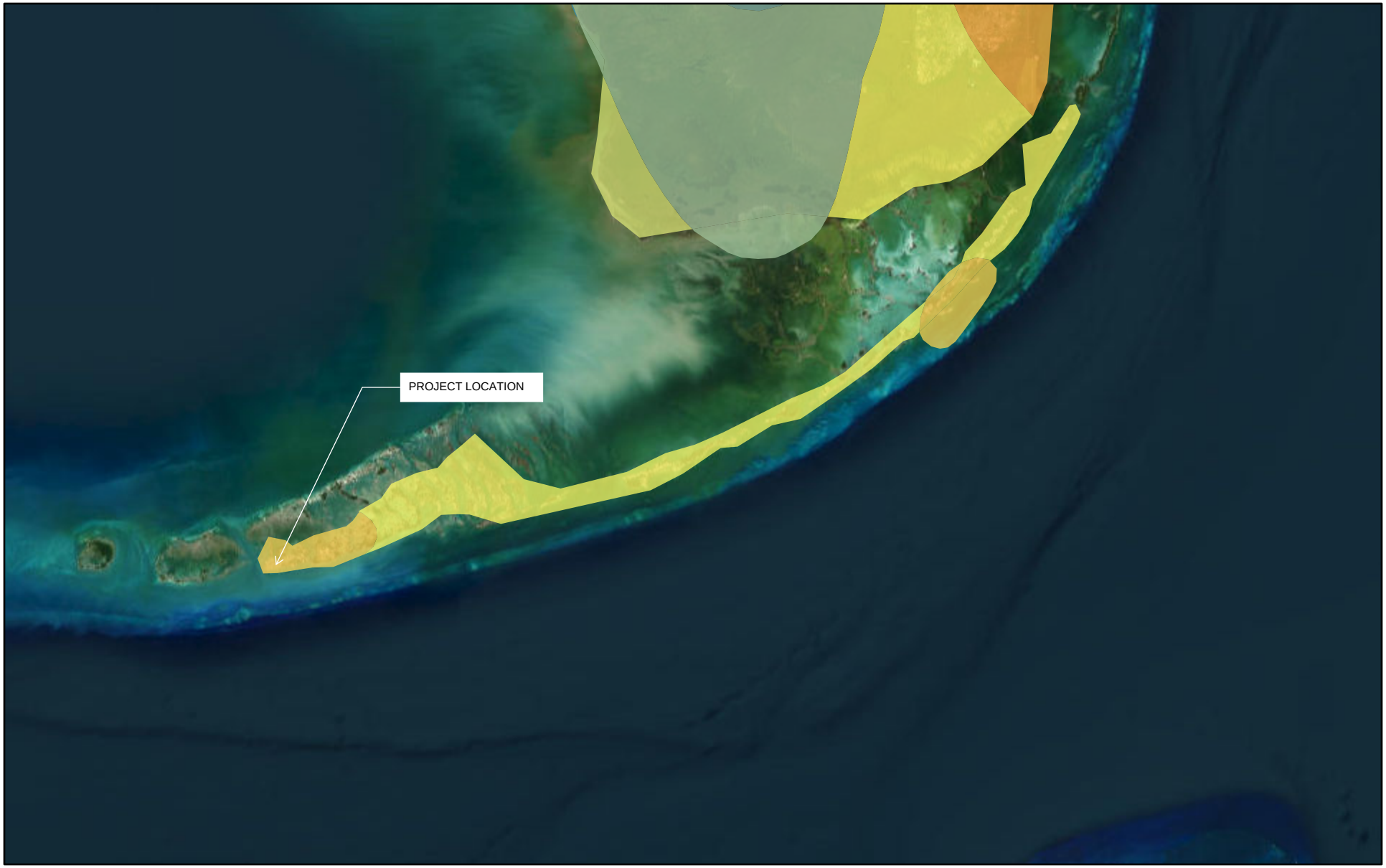
Table 6 provides a summary of the simulation results and illustrates that the proposed development will have a minimal effect on stormwater discharge. Specifically, the pre-development peak discharge for the 25-year, 72-hour storm event is calculated at 4.46 cfs, while the post-development peak discharge is 4.55 cfs. This represents an increase of only 0.09 cfs, which is considered negligible and well within acceptable limits established by regulatory criteria. The minimal difference confirms that the proposed drainage improvements will not adversely impact downstream conditions. Additional modeling outputs and supporting calculations can be found on pages E-54 and E-104 of **Appendix E.**

Table 6: Pre versus Post-Development Conditions Discharge Rate – 25 Year/72-hour Storm

Pre-Development		Post-Development	
Link	**Peak (cfs)**	**Link**	**Peak (cfs)**
DW1_WEIR	1.14	P-24_OUT	4.55
X2_WEIR	3.11		
X3_WEIR	0.21		

APPENDIX A:
DESIGN AIDS

5 Year, 24 Hour Storm



3/7/2025

Rainfall Return Period Areas (1-Day 5-Year)

- 4.5 - 5
- 5 - 5.5
- 5.5
- 5.5 - 6
- 6
- 6 - 7

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

150m Resolution Metadata

1:1,155,581

0 5 10 20 mi

0 12.5 25 50 km

Earthstar Geographics

A-2

National Flood Hazard Layer FIRMette

FEMA

81°48'10"W 24°33'4"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

81°47'32"W 24°32'31"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

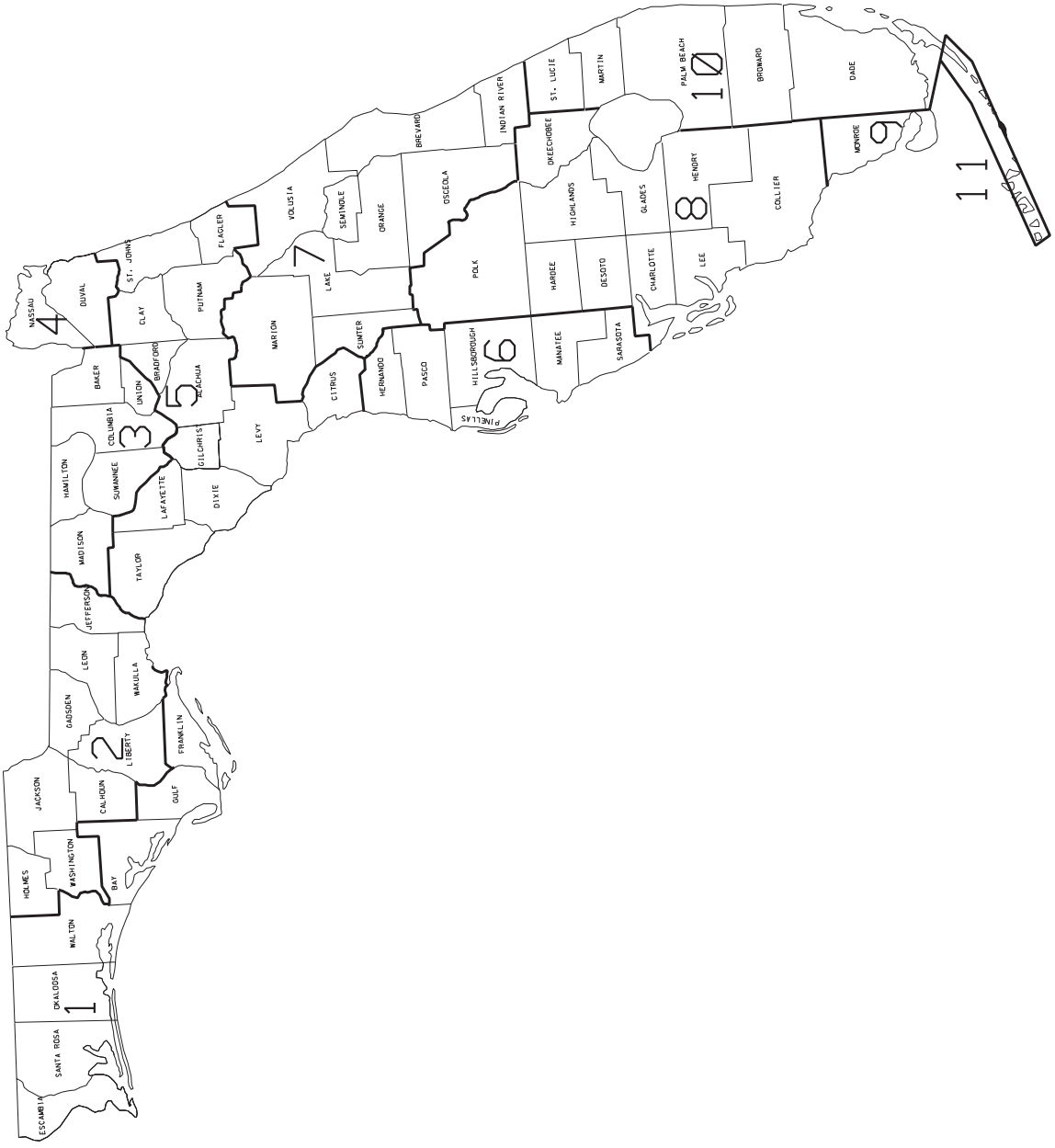
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

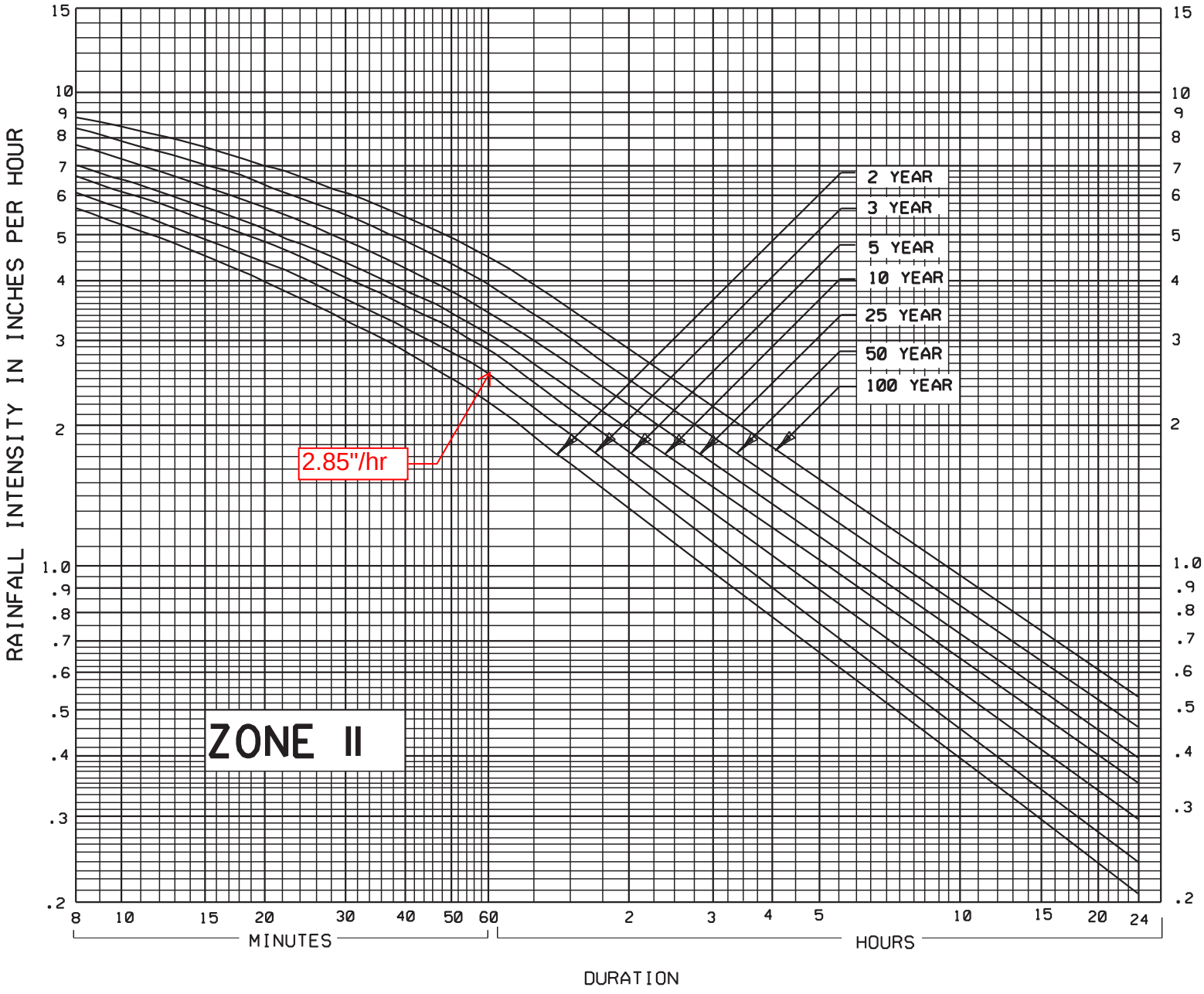
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/19/2024 at 10:03 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

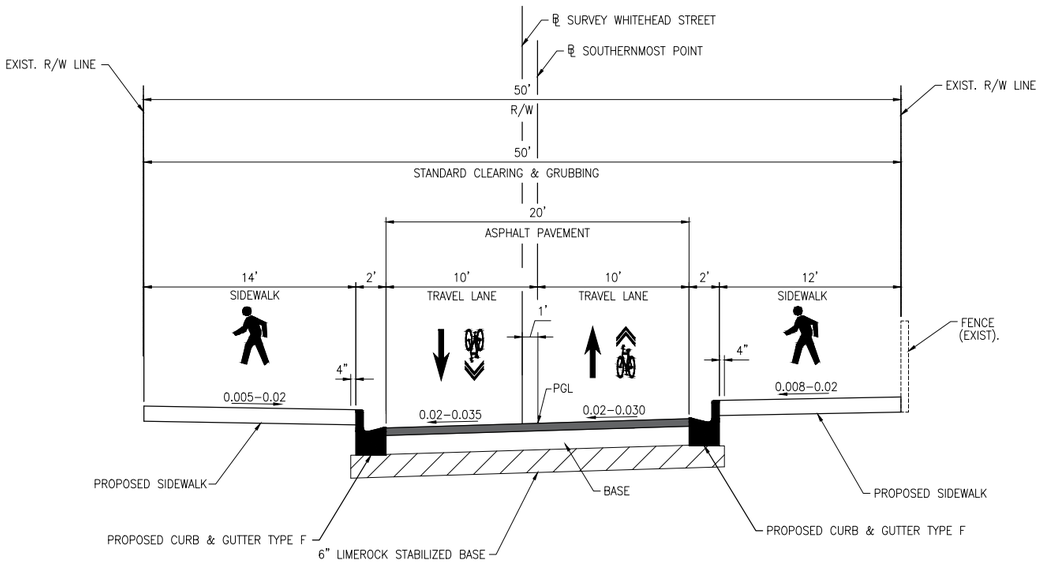
ZONES FOR PRECIPITATION IDF CURVES DEVELOPED BY THE DEPARTMENT



RAINFALL INTENSITY-DURATION-FREQUENCY CURVES
ZONE 11



APPENDIX B:
TYPICAL SECTIONS



TYPICAL SECTION
WHITEHEAD STREET
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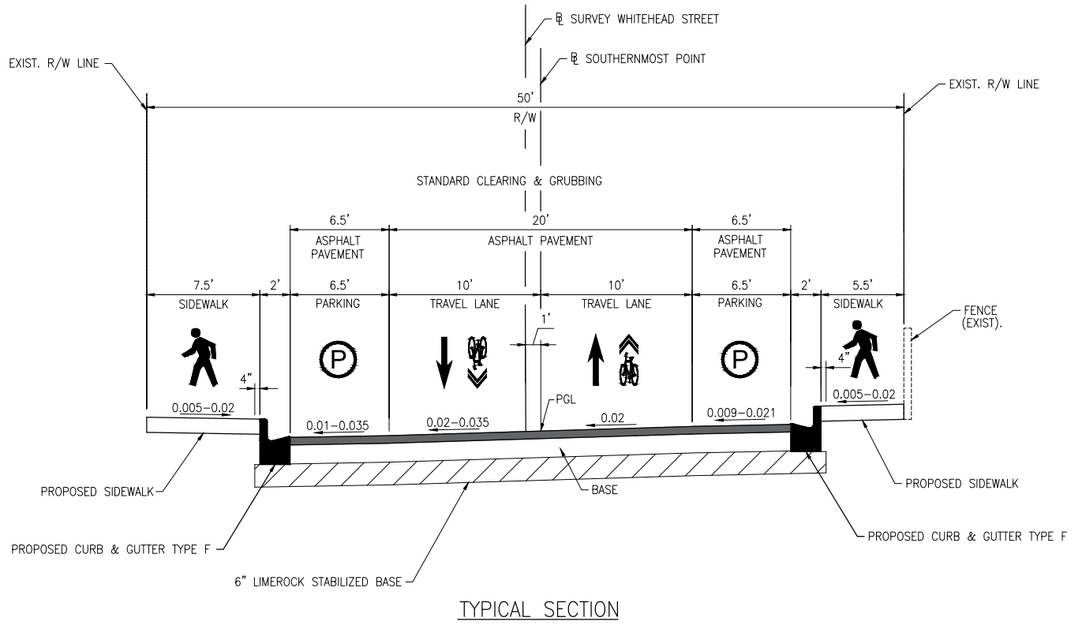
STA. 304+04.27 TO STA. 305+15.00



TYPICAL SECTION
WHITEHEAD STREET
STA. 301+96.97 TO STA. 304+04.27

DESIGN SPEED 25 MPH

RECONSTRUCTION
LIMEROCK BASE (6" THICK) (LBR100)
OPTIONAL BASE GROUP 6 (TYPE B–12.5) (5")
TYPE SP–9.5 STRUCTURAL COURSE (TRAFFIC B) (1.0")
TYPE SP–9.5 STRUCTURAL COURSE FOR LEVELING (TRAFFIC B) (1.0")

MILLING (STA. 300+42.56 TO STA. 301+01.22)
MILL EXISTING ASPHALT PAVEMENT (2.0")

RESURFACING (STA. 300+42.56 TO STA. 301+01.22)
TYPE SP 9.5 STRUCTURAL COURSE (TRAFFIC B) (1.0")
TYPE SP 9.5 STRUCTURAL COURSE FOR LEVELING (TRAFFIC B) (1.0")

TYPICAL SECTION NOTES
1. THE TYPICAL SECTIONS SHOWN MAY NOT BE REPRESENTATIVE OF THE ACTUAL CONDITIONS AT ALL LOCATIONS ON THE PROJECT. VARIABLE CONDITIONS SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER.
2. THE CONTRACTOR MAY ENCOUNTER ISOLATED AREAS OF ASPHALT LESS THAN THE MILLING DEPTH. IN THESE LOCATIONS THE CONTRACTOR SHALL MILL TO THE SURFACE OF THE BASE AND RESURFACE TO MAINTAIN POSITIVE DRAINAGE.
3. LIMEROCK MAY BE ENCOUNTERED DURING MILLING.
4. TYPICAL SECTION START AT BEGIN PROJECT LIMIT AT UNITED STREET.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

bac engineering
Andrew James List, P.E.
P.E. License No. 87190
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Miami, Florida 33173
Phone: (305) 670-2350
Certificate of Authorization No. 7184

CITY OF KEY WEST ENGINEERING DEPARTMENT	
PROJECT NAME	PROJECT NO.
SOUTHERNMOST POINT PLAZA STREETSCAPE PROJECT, CITY OF KEY WEST	IS19002401

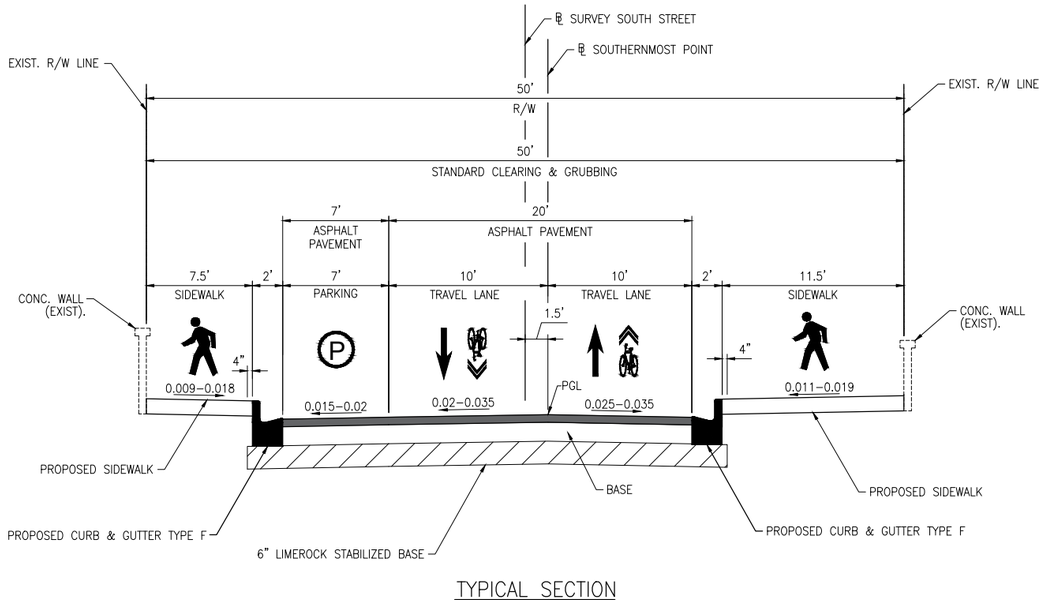
TYPICAL SECTIONS

SHEET NO. B-2

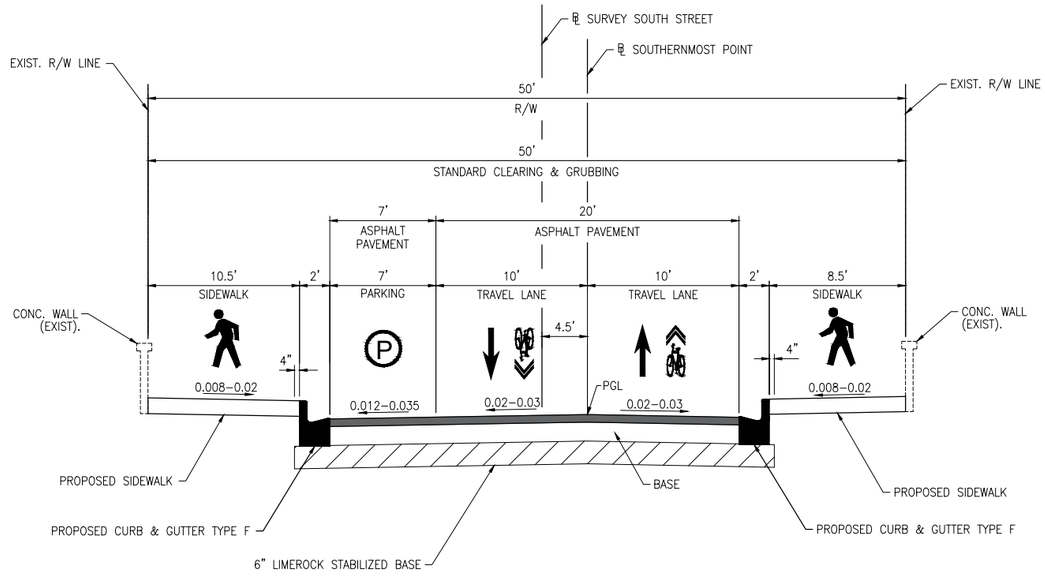
CITY OF KEY WEST PUBLIC WORKS
DEPARTMENT

SOUTHERNMOST POINT PLAZA STREETSCAPE PROJECT
CITY OF KEY WEST

PROJECT NO. IS19002401, TO #1 SHEET ___ OF ___



TYPICAL SECTION
SOUTH STREET
STA. 305+15.00 TO STA. 306+61.92



TYPICAL SECTION
SOUTH STREET
STA. 306+61.92 TO STA. 309+37.20

DESIGN SPEED 25 MPH

RECONSTRUCTION

LIMEROCK BASE (6" THICK) (LBR100)
OPTIONAL BASE GROUP 6 (TYPE B–12.5) (5")
TYPE SP–9.5 STRUCTURAL COURSE (TRAFFIC B) (1.0")
TYPE SP–9.5 STRUCTURAL COURSE FOR LEVELING (TRAFFIC B) (1.0")

MILLING (STA. 309+37.20 TO STA. 309+70.63)

MILL EXISTING ASPHALT PAVEMENT (2.0")

RESURFACING (STA. 309+37.20 TO STA. 309+70.63)

TYPE SP OVERBUILD (TRAFFIC B) (THICKNESS VARIES)
TYPE SP 9.5 STRUCTURAL COURSE (TRAFFIC B) (1.0")
TYPE SP 9.5 STRUCTURAL COURSE FOR LEVELING (TRAFFIC B) (1.0")

TYPICAL SECTION NOTES

1. THE TYPICAL SECTIONS SHOWN MAY NOT BE REPRESENTATIVE OF THE ACTUAL CONDITIONS AT ALL LOCATIONS ON THE PROJECT. VARIABLE CONDITIONS SHALL BE ADJUSTED AS DIRECTED BY THE ENGINEER.
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3. LIMEROCK MAY BE ENCOUNTERED DURING MILLING.
4. TYPICAL SECTIONS FACE DIRECTION OF INCREASED STATIONING.

REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

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CITY OF KEY WEST ENGINEERING DEPARTMENT	
PROJECT NAME	PROJECT NO.
SOUTHERNMOST POINT PLAZA STREETSCAPE PROJECT, CITY OF KEY WEST	IS19002401

TYPICAL SECTIONS

SHEET NO.
B-3

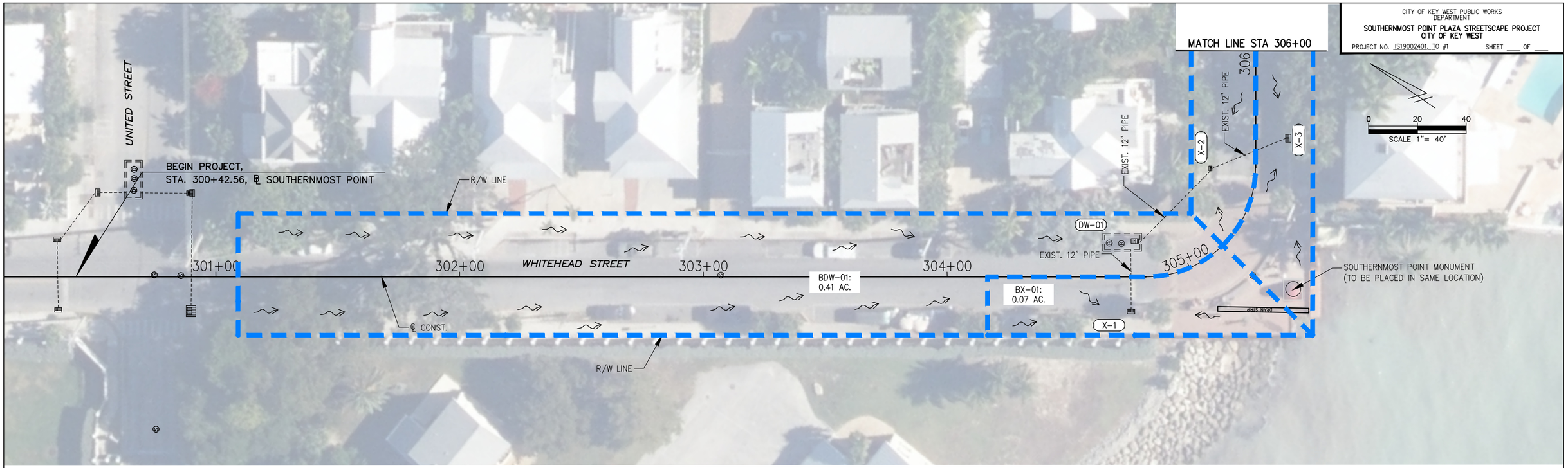
APPENDIX C:
DRAINAGE MAPS

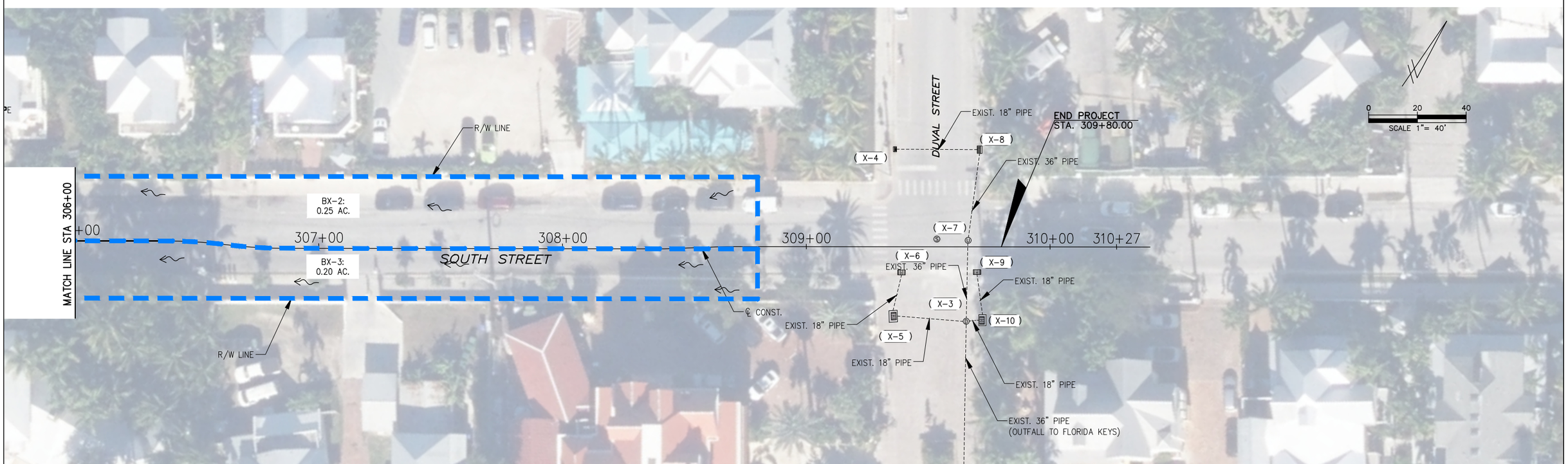
PLOT DATE: 11/19/2025 3:42 PM

CITY OF KEY WEST PUBLIC WORKS DEPARTMENT

SOUTHERNMOST POINT PLAZA STREETSCAPE PROJECT
CITY OF KEY WEST

PROJECT NO. IS19002401, TO #1 SHEET ___ OF ___





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SOUTHERNMOST POINT PLAZA STREETSCAPE PROJECT, CITY OF KEY WEST	IS19002401

PRE-DEVELOPMENT DRAINAGE MAP

SHEET NO. C-2

FILE LOCATION: H:\PROJECTS\1022272.01 CITY OF KEY WEST STREETSCAPE - SOUTHERNMOST POINT PLAZA\8-CAD\DRAINAGE\01-DRAINAGE_MAP_PRE.DWG

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

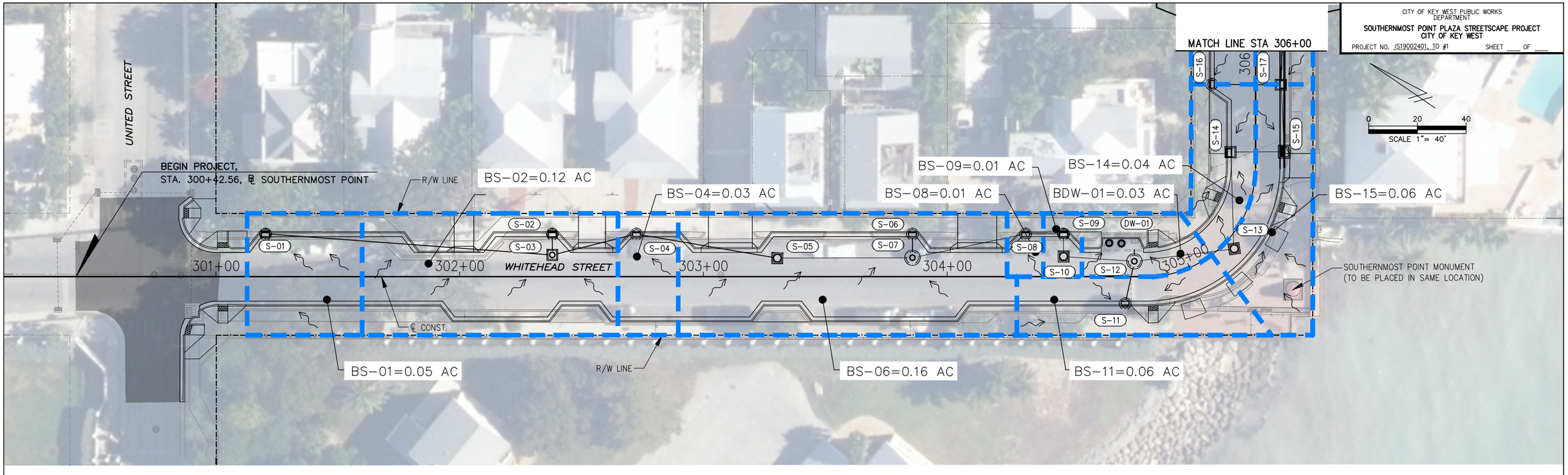
PLOT DATE: 11/19/2025 2:31 PM

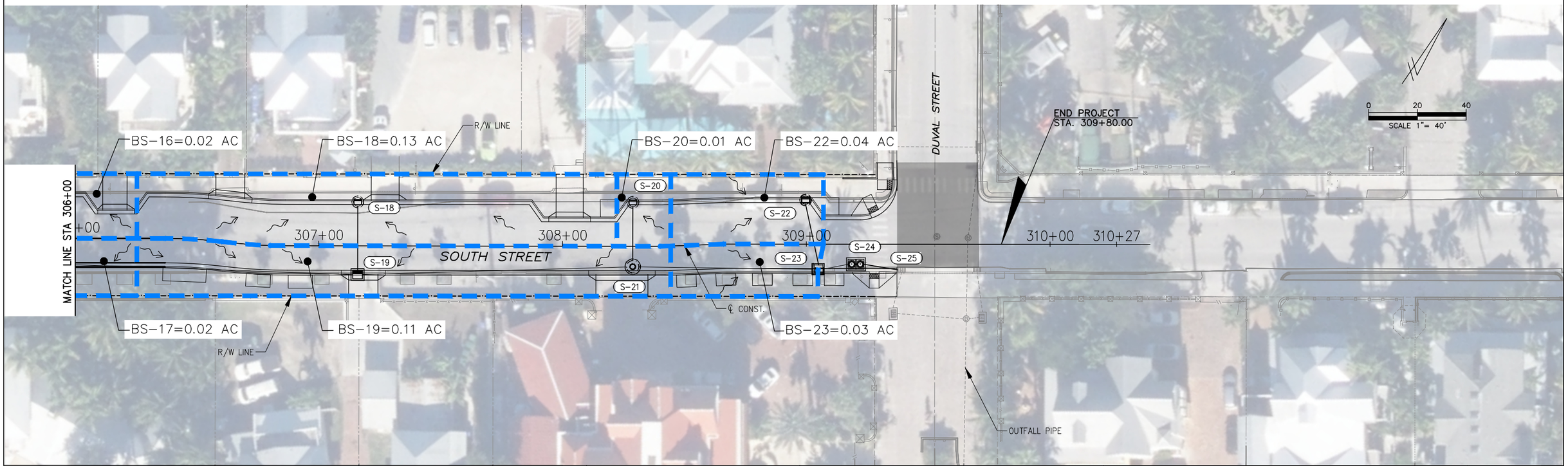
FILE LOCATION: H:\PROJECTS\1022272.01 CITY OF KEY WEST STREETSCAPE - SOUTHERNMOST POINT PLAZA\8-CAD\DRAINAGE\00-DRAINAGE_MAP_RECOVER.DWG

CITY OF KEY WEST PUBLIC WORKS DEPARTMENT

SOUTHERNMOST POINT PLAZA STREETSCAPE PROJECT
CITY OF KEY WEST

PROJECT NO. IS19002401, TO #1 SHEET ___ OF ___





REVISIONS					
DATE	BY	DESCRIPTION	DATE	BY	DESCRIPTION

LAZARO FERRERO, P.E.
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Miami, Florida 33173
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Certificate of Authorization No. 7184

CITY OF KEY WEST ENGINEERING DEPARTMENT		
PROJECT NAME	PROJECT NO.	DRAINAGE MAP
SOUTHERNMOST POINT PLAZA STREETSCAPE PROJECT, CITY OF KEY WEST	IS19002401	SHEET NO. C-3

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

APPENDIX D:

WELL RATING CURVE CALCULATIONS

Well Rating Curve Calculations
Q= 1600 gpm/ft of head

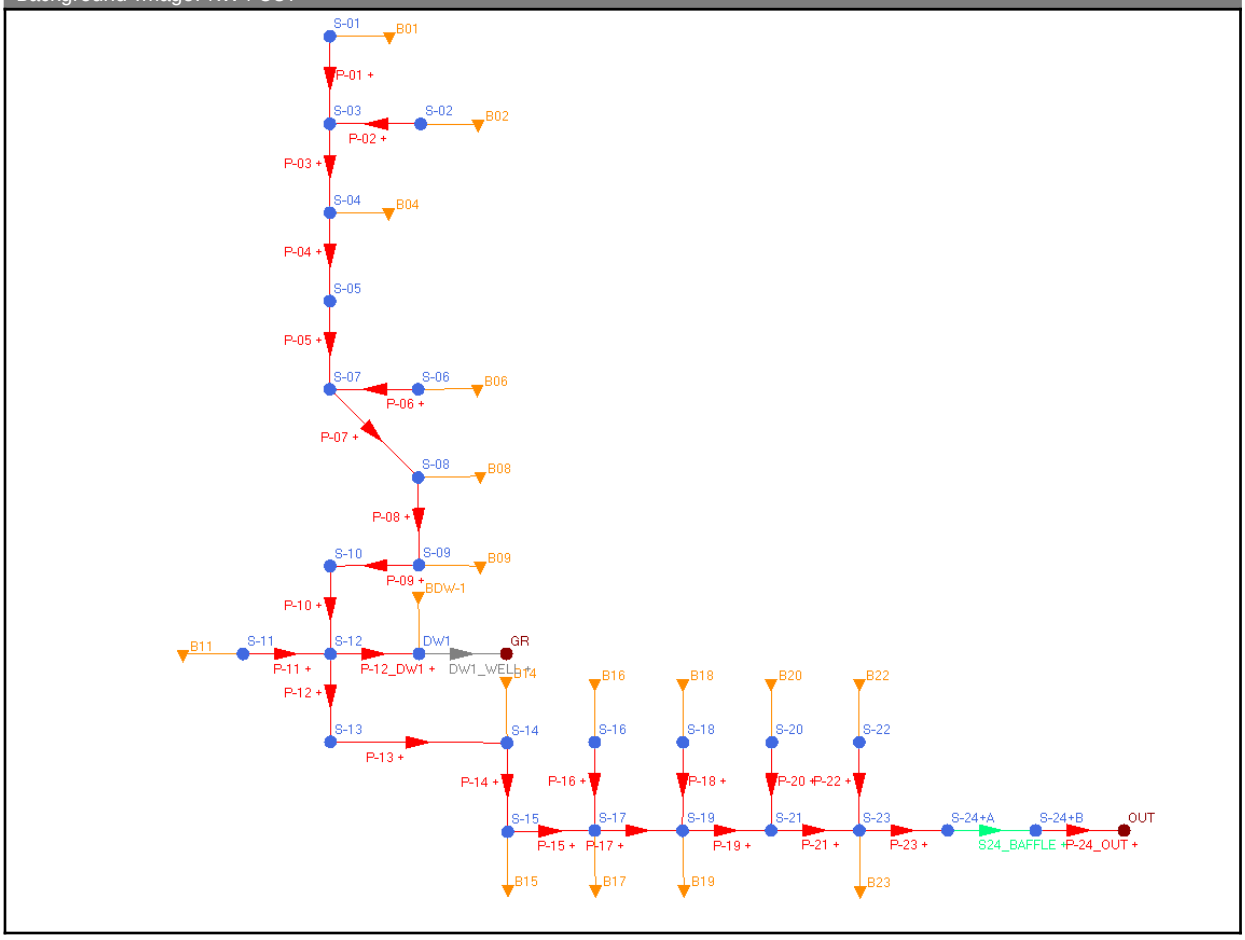
Design Water Surface Elevation = 1.35 ft
Mounding (City of Key West Master Plan) = 1.60 ft

Elevation	Net Head	Flow (gpm)	Flow (cfs)
2.95	0.0	0	0.00
3.95	1.0	1600	3.56
5.0	2.1	3280	7.31
5.5	2.6	4080	9.09
6.0	3.1	4880	10.87
6.5	3.6	5680	12.66
7.0	4.1	6480	14.44
8.0	5.1	8080	18.00
30.0	27.1	8080	18.00

APPENDIX E:
STORMWISE CALCULATIONS

POST-DEVELOPMENT CONDITIONS

Background Image: KW POST



Simple Basin: B01

Scenario:	Post-development Conditions
Node:	S-01
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0500 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00

Rainfall Name:

Comment:

Simple Basin: B02

Scenario:	Post-development Conditions
Node:	S-02
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.1200 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B04

Scenario:	Post-development Conditions
Node:	S-04
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0300 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B06

Scenario:	Post-development Conditions
Node:	S-06
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.1600 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B08

Scenario:	Post-development Conditions
Node:	S-08
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0100 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B09

Scenario:	Post-development Conditions
Node:	S-09
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number

Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0100 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B11

Scenario:	Post-development Conditions
Node:	S-11
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0600 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B14

Scenario:	Post-development Conditions
Node:	S-14
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0

Area:	0.0400 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B15

Scenario:	Post-development Conditions
Node:	S-15
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0600 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B16

Scenario:	Post-development Conditions
Node:	S-16
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0200 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00

% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B17

Scenario:	Post-development Conditions
Node:	S-17
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0200 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B18

Scenario:	Post-development Conditions
Node:	S-18
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.1300 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B19

Scenario:	Post-development Conditions
Node:	S-19
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.1100 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B20

Scenario:	Post-development Conditions
Node:	S-20
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0100 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B22

Scenario:	Post-development Conditions
Node:	S-22
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number

Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0400 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B23

Scenario:	Post-development Conditions
Node:	S-23
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0300 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BDW-1

Scenario:	Post-development Conditions
Node:	DW1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0

Area:	0.0300 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BDW1

Scenario:	Pre-Development Conditions
Node:	DW1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.4100 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BX01

Scenario:	Pre-Development Conditions
Node:	X1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0700 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00

% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BX02

Scenario:	Pre-Development Conditions
Node:	X2
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.2500 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BX03

Scenario:	Pre-Development Conditions
Node:	X3
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.2000 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Node: DW1

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.82 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
1.35	0.0004	17
3.82	0.0004	17

Comment:

Node: GR

Scenario: Post-development Conditions
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 999.00 ft
Alert Stage: 0.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	1.35
0	0	0	9999.0000	1.35

Comment: DHW = 1.35 FT NGVD

Value taken from 2.3.4.8 Discharge Wells from the 2024 Key West Master Plan Update.

Node: OUT

Scenario: Post-development Conditions
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 1.35 ft
Alert Stage: 0.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	1.35
0	0	0	48.0000	1.35

Comment: Initial Stage is Mean High High Water (MHHW) per NOAA

Node: S-01

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.36 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-2.70	0.0001	6
-1.70	0.0001	6
1.51	0.0001	6
1.52	0.0001	6
3.36	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-02

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.39 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-2.00	0.0001	6
-1.00	0.0001	6
1.54	0.0001	6
1.55	0.0001	6
3.39	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-03

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.49 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-2.90	0.0004	16
-1.90	0.0004	16

Stage [ft]	Area [ac]	Area [ft2]
1.81	0.0004	16
1.82	0.0004	16
3.49	0.0004	16

Comment: Manhole P-7 (Alt. B) with Normal Bottom, <10 ft

Node: S-04

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.39 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.00	0.0001	6
-2.00	0.0001	6
1.54	0.0001	6
1.55	0.0001	6
3.39	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-05

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.40 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.10	0.0003	13
-2.10	0.0003	13
1.72	0.0003	13
1.73	0.0003	13
3.40	0.0003	13

Comment: Manhole P-7 with Normal Bottom, <10 ft

Node: S-06

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.22 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-2.10	0.0001	6
-1.10	0.0001	6
1.25	0.0001	6
1.26	0.0001	6
3.22	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-07

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.29 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.20	0.0005	20
-2.20	0.0005	20
1.54	0.0005	20
1.55	0.0003	13
3.29	0.0003	13

Comment: Manhole P-7 with Type "J", Dia. 5.00, <10 ft

Node: S-08

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.31 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.30	0.0001	6
-2.30	0.0001	6
1.46	0.0001	6

Stage [ft]	Area [ac]	Area [ft2]
1.47	0.0001	6
3.31	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-09

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.42 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.40	0.0005	20
-2.40	0.0005	20
1.57	0.0005	20
1.58	0.0001	6
3.42	0.0001	6

Comment: Curber Inlet P-9 with Type "J", Dia. 5.00, <10 ft

Node: S-10

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.55 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.50	0.0004	16
-2.50	0.0004	16
1.87	0.0004	16
1.88	0.0004	16
3.55	0.0004	16

Comment: Manhole P-7 (Alt. B) with Normal Bottom, <10 ft

Node: S-11

Scenario: Post-development Conditions

Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.26 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-5.70	0.0001	6
-4.70	0.0001	6
1.41	0.0001	6
1.42	0.0001	6
3.26	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-12

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.38 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-5.80	0.0005	20
-2.60	0.0005	20
1.70	0.0005	20
1.71	0.0003	13
3.38	0.0003	13

Comment: Manhole P-7 with Type "J", Dia. 5.00, <10 ft

Node: S-13

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.75 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.70	0.0004	16
-2.70	0.0004	16
2.08	0.0004	16
2.09	0.0004	16

Stage [ft]	Area [ac]	Area [ft2]
3.75	0.0004	16

Comment: Manhole P-7 (Alt. B) with Normal Bottom, <10 ft

Node: S-14

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.20 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.00	0.0001	6
-5.00	0.0001	6
1.36	0.0001	6
1.37	0.0001	6
3.20	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-15

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.26 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.10	0.0003	12
-1.40	0.0003	12
1.46	0.0003	12
1.47	0.0003	12
3.26	0.0003	12

Comment: Driveway Inlet with Normal Bottom, <10 ft

Node: S-16

Scenario: Post-development Conditions
Type: Stage/Area

Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.24 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.00	0.0001	6
-5.00	0.0001	6
1.39	0.0001	6
1.40	0.0001	6
3.24	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-17

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.28 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.10	0.0001	6
-1.50	0.0001	6
1.43	0.0001	6
1.44	0.0001	6
3.28	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-18

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.33 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.00	0.0001	6
-5.00	0.0001	6
1.48	0.0001	6
1.49	0.0001	6
3.33	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-19

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.39 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.10	0.0003	14
-1.70	0.0003	14
1.54	0.0003	14
1.55	0.0004	16
3.39	0.0004	16

Comment: Driveway Inlet with Type "J", 3.50 x 4.00, <10 ft

Node: S-20

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.47 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.00	0.0001	6
-5.00	0.0001	6
1.62	0.0001	6
1.63	0.0001	6
3.47	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-21

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft

Warning Stage: 3.69 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.10	0.0003	13
-1.90	0.0003	13
1.97	0.0003	13
1.98	0.0003	13
3.69	0.0003	13

Comment: Manhole P-7 with Type "J", Dia. 4.00, <10 ft

Node: S-22

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.28 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.00	0.0001	6
-5.00	0.0001	6
1.43	0.0001	6
1.44	0.0001	6
3.28	0.0001	6

Comment:

Node: S-23

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.32 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.10	0.0003	14
-2.00	0.0003	14
1.47	0.0003	14
1.48	0.0001	6
3.32	0.0001	6

Comment: Curber Inlet P-9 with Type "J", 3.50 x 4.00, <10 ft

Node: S-24+A

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.40 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-5.60	0.0003	14
-2.10	0.0003	14
1.72	0.0003	14
1.73	0.0003	13
3.40	0.0003	13

Comment:

Node: S-24+B

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.40 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-5.60	0.0003	14
-2.10	0.0003	14
1.72	0.0003	14
1.73	0.0003	13
3.40	0.0003	13

Comment:

Node: DW1

Scenario: Pre-Development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.06 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
1.35	0.0004	17
3.06	0.0004	17

Stage [ft]	Area [ac]	Area [ft2]
3.31	0.1400	6098
3.56	0.2800	12197

Comment:

Node: GR

Scenario: Pre-Development Conditions
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 999.00 ft
Alert Stage: 0.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	1.35
0	0	0	9999.0000	1.35

Comment: DHW = 1.35 FT NGVD

Value taken from 2.3.4.8 Discharge Wells from the 2024 Key West Master Plan Update.

Node: OUT

Scenario: Pre-Development Conditions
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 1.35 ft
Alert Stage: 0.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	1.35
0	0	0	48.0000	1.35

Comment:

Node: X1

Scenario: Pre-Development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs

Initial Stage: 1.35 ft
Warning Stage: 3.16 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
1.35	0.0004	17
3.16	0.0004	17
3.41	0.0350	1525
3.66	0.0700	3049

Comment:

Node: X2

Scenario: Pre-Development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 2.98 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
1.35	0.0004	17
2.98	0.0004	17
3.23	0.1150	5009
3.48	0.2300	10019

Comment:

Node: X3

Scenario: Pre-Development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.05 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
1.35	0.0004	17
3.05	0.0004	17
3.25	0.1000	4356
3.55	0.2000	8712

Comment:

Rating Curve Link: DW1_WELL

Scenario: Post-development Conditions
From Node: DW1
To Node: GR
Link Count: 1
Flow Direction: Both

Table	Elev On [ft]	Elev On Node	Elev Off [ft]	Elev Off Node
W_OPT_1600	1.35	DW1	1.35	DW1

Comment: Well flow capped at el. 8.0 ft - NGVD
DHW = 1.35 FT NGVD

Value taken from 2.3.4.8 Discharge Wells from the 2024 Key West Master Plan Update.

Pipe Link: P-01		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-1.70 ft	Invert:	-1.90 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-01	Geometry: Circular		Geometry: Circular	
To Node:	S-03	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	115.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: P-02		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-1.00 ft	Invert:	-1.10 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-02	Geometry: Circular		Geometry: Circular	
To Node:	S-03	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	5.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	

Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-03		Upstream		Downstream	
Scenario:	Post-development	Invert:	-1.90 ft	Invert:	-2.00 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-03	Geometry: Circular		Geometry: Circular	
To Node:	S-04	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	32.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-04		Upstream		Downstream	
Scenario:	Post-development	Invert:	-2.00 ft	Invert:	-2.10 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-04	Geometry: Circular		Geometry: Circular	
To Node:	S-05	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	55.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-05		Upstream		Downstream	
Scenario:	Post-development	Invert:	-2.10 ft	Invert:	-2.20 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-05	Geometry: Circular		Geometry: Circular	

To Node:	S-07	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	51.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-06		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-1.10 ft	Invert:	-1.20 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-06	Geometry: Circular		Geometry: Circular	
To Node:	S-07	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	6.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-07		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-2.20 ft	Invert:	-2.30 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-07	Geometry: Circular		Geometry: Circular	
To Node:	S-08	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	44.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: P-08		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-2.30 ft	Invert:	-2.40 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-08	Geometry: Circular		Geometry: Circular	
To Node:	S-09	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	13.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: P-09		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-2.40 ft	Invert:	-2.50 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-09	Geometry: Circular		Geometry: Circular	
To Node:	S-10	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	5.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: P-10		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-2.50 ft	Invert:	-2.60 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-10	Geometry: Circular		Geometry: Circular	
To Node:	S-12	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			

Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	25.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-11		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-4.70 ft	Invert:	-4.80 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-11	Geometry: Circular		Geometry: Circular	
To Node:	S-12	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	14.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-12		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-2.60 ft	Invert:	-2.70 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-12	Geometry: Circular		Geometry: Circular	
To Node:	S-13	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	37.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-12_DW1		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-1.40 ft	Invert:	-1.50 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-12	Geometry: Circular		Geometry: Circular	
To Node:	DW1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	6.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-13		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-2.70 ft	Invert:	-2.80 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-13	Geometry: Circular		Geometry: Circular	
To Node:	S-14	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	36.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-14		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-5.00 ft	Invert:	-5.10 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-14	Geometry: Circular		Geometry: Circular	
To Node:	S-15	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	18.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			

Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-15		Upstream		Downstream	
Scenario:	Post-development	Invert:	-1.40 ft	Invert:	-1.50 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-15	Geometry: Circular		Geometry: Circular	
To Node:	S-17	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	24.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-16		Upstream		Downstream	
Scenario:	Post-development	Invert:	-5.00 ft	Invert:	-5.10 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-16	Geometry: Circular		Geometry: Circular	
To Node:	S-17	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	26.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-17		Upstream		Downstream	
Scenario:	Post-development	Invert:	-1.50 ft	Invert:	-1.70 ft

	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-17	Geometry: Circular		Geometry: Circular	
To Node:	S-19	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	126.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-18		Upstream		Downstream	
Scenario:	Post-development	Invert:	-5.00 ft	Invert:	-5.10 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-18	Geometry: Circular		Geometry: Circular	
To Node:	S-19	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	26.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-19		Upstream		Downstream	
Scenario:	Post-development	Invert:	-1.70 ft	Invert:	-1.90 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-19	Geometry: Circular		Geometry: Circular	
To Node:	S-21	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	108.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	

Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-20		Upstream		Downstream	
Scenario:	Post-development	Invert:	-5.00 ft	Invert:	-5.10 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-20	Geometry: Circular		Geometry: Circular	
To Node:	S-21	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	23.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-21		Upstream		Downstream	
Scenario:	Post-development	Invert:	-1.90 ft	Invert:	-2.00 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-21	Geometry: Circular		Geometry: Circular	
To Node:	S-23	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	71.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-22		Upstream		Downstream	
Scenario:	Post-development	Invert:	-5.00 ft	Invert:	-5.10 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-22	Geometry: Circular		Geometry: Circular	

To Node:	S-23	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	26.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-23		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-2.00 ft	Invert:	-2.10 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-23	Geometry: Circular		Geometry: Circular	
To Node:	S-24+A	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	11.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-24_OUT		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-1.10 ft	Invert:	-1.20 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-24+B	Geometry: Circular		Geometry: Circular	
To Node:	OUT	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	41.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Weir Link: S24_BAFFLE

Scenario:	Post-development Conditions	**Bottom Clip**	
From Node:	S-24+A	Default:	0.00 ft
To Node:	S-24+B	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Sharp Crested Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	-5.60 ft	**Discharge Coefficients**	
Control Elevation:	-5.60 ft	Weir Default:	2.800
Max Depth:	2.00 ft	Weir Table:	
Max Width:	4.00 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	

Comment:

Weir Link: DW1_WEIR

Scenario:	Pre-Development Conditions	**Bottom Clip**	
From Node:	DW1	Default:	0.00 ft
To Node:	OUT	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	**Top Clip**	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Paved Road Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	3.06 ft	**Discharge Coefficients**	
Control Elevation:	3.06 ft	Weir Default:	2.800
Max Depth:	0.50 ft	Weir Table:	
Max Width:	390.00 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	

Comment:

Rating Curve Link: DW1_WELL

Scenario:	Pre-Development Conditions
From Node:	DW1
To Node:	GR
Link Count:	1
Flow Direction:	Both

Table	Elev On [ft]	Elev On Node	Elev Off [ft]	Elev Off Node
W_OPT_1600	1.35	DW1	1.35	DW1

Comment: Well flow capped at el. 8.0 ft - NGVD
DHW = 1.35 FT NGVD

Value taken from 2.3.4.8 Discharge Wells from the 2024 Key West Master Plan Update.

Pipe Link: X1_DW1		Upstream		Downstream	
Scenario:	Pre-Development Conditions	Invert:	0.15 ft	Invert:	0.10 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	X1	Geometry: Circular		Geometry: Circular	
To Node:	DW1	Max Depth:	1.00 ft	Max Depth:	1.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	24.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Weir Link: X1_WEIR			
Scenario:	Pre-Development Conditions	Bottom Clip	
From Node:	X1	Default:	0.00 ft
To Node:	OUT	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Paved Road Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	3.16 ft	Discharge Coefficients	
Control Elevation:	3.16 ft	Weir Default:	2.800
Max Depth:	0.50 ft	Weir Table:	
Max Width:	133.00 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	

Comment:

Pipe Link: X2_DW1		Upstream		Downstream	
Scenario:	Pre-Development	Invert:	0.00 ft	Invert:	-0.10 ft

	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	X2	Geometry: Circular		Geometry: Circular	
To Node:	DW1	Max Depth:	1.00 ft	Max Depth:	1.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	40.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Weir Link: X2_WEIR

Scenario:	Pre-Development Conditions	Bottom Clip	
From Node:	X2	Default:	0.00 ft
To Node:	OUT	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Paved Road Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	2.98 ft	Discharge Coefficients	
Control Elevation:	2.98 ft	Weir Default:	2.800
Max Depth:	0.50 ft	Weir Table:	
Max Width:	353.00 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	

Comment:

Weir Link: X3_WEIR

Scenario:	Pre-Development Conditions	Bottom Clip	
From Node:	X3	Default:	0.00 ft
To Node:	OUT	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Paved Road Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	3.05 ft	Discharge Coefficients	
Control Elevation:	3.05 ft	Weir Default:	2.800
Max Depth:	0.50 ft	Weir Table:	
Max Width:	396.00 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	

Comment:

Pipe Link: X3_X2		Upstream		Downstream	
Scenario:	Pre-Development Conditions	Invert:	0.10 ft	Invert:	0.00 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	X3	Geometry: Circular		Geometry: Circular	
To Node:	X2	Max Depth:	1.00 ft	Max Depth:	1.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	33.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Simulation: 100YR72HR

Scenario: Post-development Conditions
Run Date/Time: 11/19/2025 3:37:35 PM
Program Version: StormWise 4.08.03

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	72.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft

IA Recovery Time: 24.0000 hr
Ia/S: 0.20 dec
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SFWMD-72
Rainfall Amount: 17.00 in
Storm Duration: 72.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Simulation: 25YR72HR

Scenario: Post-development Conditions
Run Date/Time: 11/19/2025 3:42:47 PM
Program Version: StormWise 4.08.03

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:

Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec	Ia/S:	0.20 dec
dZ Tolerance:	0.0001 ft		
Max dZ:	1.0000 ft	Smp/Man Basin Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft		
		Rainfall Name:	~SFWMD-72
		Rainfall Amount:	12.00 in
		Storm Duration:	72.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 5YR24HR

Scenario: Post-development Conditions
Run Date/Time: 11/19/2025 3:47:56 PM
Program Version: StormWise 4.08.03

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	8.0000	15.0000
0	0	0	10.0000	5.0000
0	0	0	14.0000	1.0000
0	0	0	16.0000	5.0000

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	24.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	8.0000	15.0000
0	0	0	10.0000	5.0000
0	0	0	14.0000	1.0000
0	0	0	16.0000	5.0000
0	0	0	24.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft

IA Recovery Time: 24.0000 hr
Ia/S: 0.20 dec
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~FLMOD
Rainfall Amount: 6.00 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Simulation: 100YR72HR

Scenario: Pre-Development Conditions
Run Date/Time: 11/19/2025 3:49:14 PM
Program Version: StormWise 4.08.03

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:

Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec	Ia/S:	0.20 dec
dZ Tolerance:	0.0001 ft		
Max dZ:	1.0000 ft	Smp/Man Basin Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft		
		Rainfall Name:	~SFWMD-72
		Rainfall Amount:	17.00 in
		Storm Duration:	72.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 25YR72HR

Scenario: Pre-Development Conditions
Run Date/Time: 11/19/2025 3:49:28 PM
Program Version: StormWise 4.08.03

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	72.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:
Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft
Max dZ: 1.0000 ft
Link Optimizer Tol: 0.0001 ft

IA Recovery Time: 24.0000 hr
Ia/S: 0.20 dec
Smp/Man Basin Rain Opt: Global
Rainfall Name: ~SFWMD-72
Rainfall Amount: 12.00 in
Storm Duration: 72.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Simulation: 5YR24HR

Scenario: Pre-Development Conditions
Run Date/Time: 11/19/2025 3:49:46 PM
Program Version: StormWise 4.08.03

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	8.0000	15.0000
0	0	0	10.0000	5.0000
0	0	0	14.0000	1.0000
0	0	0	16.0000	5.0000
0	0	0	24.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	8.0000	15.0000
0	0	0	10.0000	5.0000
0	0	0	14.0000	1.0000
0	0	0	16.0000	5.0000
0	0	0	24.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:

Green-Ampt Set:
Vertical Layers Set:

Impervious Set:

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec	Ia/S:	0.20 dec
dZ Tolerance:	0.0001 ft		
Max dZ:	1.0000 ft	Smp/Man Basin Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft		
		Rainfall Name:	~FLMOD
		Rainfall Amount:	6.00 in
		Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simple Basin : Multi Item | (sim, name) : Runoff Summary [Post-development Conditions]

Sim Name	Basin Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
100YR72HR	B01	0.37	60.0167	17.00	15.81	0.0500
100YR72HR	B02	0.90	60.0167	17.00	15.81	0.1200
100YR72HR	B04	0.22	60.0167	17.00	15.81	0.0300
100YR72HR	B06	1.19	60.0167	17.00	15.81	0.1600
100YR72HR	B08	0.07	60.0167	17.00	15.81	0.0100
100YR72HR	B09	0.07	60.0167	17.00	15.81	0.0100
100YR72HR	B11	0.45	60.0167	17.00	15.81	0.0600
100YR72HR	B14	0.30	60.0167	17.00	15.81	0.0400
100YR72HR	B15	0.45	60.0167	17.00	15.81	0.0600
100YR72HR	B16	0.15	60.0167	17.00	15.81	0.0200
100YR72HR	B17	0.15	60.0167	17.00	15.81	0.0200
100YR72HR	B18	0.97	60.0167	17.00	15.81	0.1300
100YR72HR	B19	0.82	60.0167	17.00	15.81	0.1100
100YR72HR	B20	0.07	60.0167	17.00	15.81	0.0100
100YR72HR	B22	0.30	60.0167	17.00	15.81	0.0400
100YR72HR	B23	0.22	60.0167	17.00	15.81	0.0300
100YR72HR	BDW-1	0.22	60.0167	17.00	15.81	0.0300
25YR72HR	B01	0.26	60.0167	12.00	10.85	0.0500
25YR72HR	B02	0.63	60.0167	12.00	10.85	0.1200
25YR72HR	B04	0.16	60.0167	12.00	10.85	0.0300
25YR72HR	B06	0.84	60.0167	12.00	10.85	0.1600
25YR72HR	B08	0.05	60.0167	12.00	10.85	0.0100
25YR72HR	B09	0.05	60.0167	12.00	10.85	0.0100
25YR72HR	B11	0.31	60.0167	12.00	10.85	0.0600
25YR72HR	B14	0.21	60.0167	12.00	10.85	0.0400
25YR72HR	B15	0.31	60.0167	12.00	10.85	0.0600
25YR72HR	B16	0.10	60.0167	12.00	10.85	0.0200
25YR72HR	B17	0.10	60.0167	12.00	10.85	0.0200
25YR72HR	B18	0.68	60.0167	12.00	10.85	0.1300
25YR72HR	B19	0.58	60.0167	12.00	10.85	0.1100
25YR72HR	B20	0.05	60.0167	12.00	10.85	0.0100
25YR72HR	B22	0.21	60.0167	12.00	10.85	0.0400
25YR72HR	B23	0.16	60.0167	12.00	10.85	0.0300
25YR72HR	BDW-1	0.16	60.0167	12.00	10.85	0.0300
5YR24HR	B01	0.17	12.0500	6.00	4.94	0.0500
5YR24HR	B02	0.40	12.0500	6.00	4.94	0.1200
5YR24HR	B04	0.10	12.0500	6.00	4.94	0.0300
5YR24HR	B06	0.53	12.0500	6.00	4.94	0.1600
5YR24HR	B08	0.03	12.0500	6.00	4.94	0.0100
5YR24HR	B09	0.03	12.0500	6.00	4.94	0.0100
5YR24HR	B11	0.20	12.0500	6.00	4.94	0.0600
5YR24HR	B14	0.13	12.0500	6.00	4.94	0.0400
5YR24HR	B15	0.20	12.0500	6.00	4.94	0.0600
5YR24HR	B16	0.07	12.0500	6.00	4.94	0.0200
5YR24HR	B17	0.07	12.0500	6.00	4.94	0.0200
5YR24HR	B18	0.43	12.0500	6.00	4.94	0.1300
5YR24HR	B19	0.37	12.0500	6.00	4.94	0.1100

Sim Name	Basin Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
5YR24HR	B20	0.03	12.0500	6.00	4.94	0.0100
5YR24HR	B22	0.13	12.0500	6.00	4.94	0.0400
5YR24HR	B23	0.10	12.0500	6.00	4.94	0.0300
5YR24HR	BDW-1	0.10	12.0500	6.00	4.94	0.0300

Node Max Conditions : Multi Item | (sim, name) [Post-development Conditions]

Sim Name	Node Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
100YR72HR	DW1	3.82	0.00	2.21	0.0001	0.22	0.24	100
100YR72HR	GR	999.00	0.00	1.35	0.0000	0.00	0.00	0
100YR72HR	OUT	1.35	0.00	1.35	0.0000	6.26	0.00	0
100YR72HR	S-01	3.36	0.00	2.26	0.0001	0.37	0.36	100
100YR72HR	S-02	3.39	0.00	2.26	-0.0001	0.90	0.86	100
100YR72HR	S-03	3.49	0.00	2.26	0.0001	1.21	1.16	100
100YR72HR	S-04	3.39	0.00	2.25	0.0001	1.38	1.36	100
100YR72HR	S-05	3.40	0.00	2.24	0.0001	1.36	1.46	100
100YR72HR	S-06	3.22	0.00	2.24	-0.0001	1.19	1.16	100
100YR72HR	S-07	3.29	0.00	2.24	-0.0002	2.58	2.45	100
100YR72HR	S-08	3.31	0.00	2.23	-0.0002	2.52	2.50	100
100YR72HR	S-09	3.42	0.00	2.22	-0.0002	2.57	2.57	100
100YR72HR	S-10	3.55	0.00	2.21	0.0002	2.57	2.57	100
100YR72HR	S-11	3.26	0.00	2.21	0.0001	0.45	0.47	100
100YR72HR	S-12	3.38	0.00	2.20	-0.0002	3.29	3.17	100
100YR72HR	S-13	3.75	0.00	2.19	-0.0002	3.17	3.18	100
100YR72HR	S-14	3.21	0.00	2.17	-0.0002	3.43	3.45	100
100YR72HR	S-15	3.31	0.00	2.16	-0.0002	3.83	3.84	100
100YR72HR	S-16	3.24	0.00	2.14	0.0001	0.15	0.15	100
100YR72HR	S-17	3.28	0.00	2.14	0.0002	4.11	4.12	100
100YR72HR	S-18	3.33	0.00	2.09	0.0001	0.97	0.94	100
100YR72HR	S-19	3.39	0.00	2.09	-0.0002	5.74	5.73	100
100YR72HR	S-20	3.47	0.00	2.00	0.0001	0.07	0.09	100
100YR72HR	S-21	3.69	0.00	2.00	-0.0002	5.79	5.79	100
100YR72HR	S-22	3.28	0.00	1.93	-0.0001	0.30	0.34	100
100YR72HR	S-23	3.32	0.00	1.93	-0.0002	6.32	6.26	100
100YR72HR	S-24+A	3.40	0.00	1.88	-0.0001	6.26	6.26	100
100YR72HR	S-24+B	3.40	0.00	1.86	-0.0001	6.26	6.26	100
25YR72HR	DW1	3.82	0.00	1.80	-0.0001	0.16	0.18	100
25YR72HR	GR	999.00	0.00	1.35	0.0000	0.00	0.00	0
25YR72HR	OUT	1.35	0.00	1.35	0.0000	4.55	0.00	0
25YR72HR	S-01	3.36	0.00	1.84	-0.0001	0.26	0.27	100
25YR72HR	S-02	3.39	0.00	1.84	-0.0001	0.63	0.64	100
25YR72HR	S-03	3.49	0.00	1.83	0.0001	0.92	0.85	100
25YR72HR	S-04	3.39	0.00	1.83	-0.0001	1.01	0.99	100
25YR72HR	S-05	3.40	0.00	1.82	-0.0001	0.99	1.08	100
25YR72HR	S-06	3.22	0.00	1.82	0.0001	0.84	0.87	100
25YR72HR	S-07	3.29	0.00	1.82	-0.0002	1.94	1.80	100
25YR72HR	S-08	3.31	0.00	1.82	0.0002	1.86	1.90	100
25YR72HR	S-09	3.42	0.00	1.81	-0.0002	1.95	1.98	100
25YR72HR	S-10	3.55	0.00	1.81	-0.0002	1.98	1.92	100
25YR72HR	S-11	3.26	0.00	1.80	-0.0001	0.31	0.36	100
25YR72HR	S-12	3.38	0.00	1.80	-0.0003	2.44	2.31	100
25YR72HR	S-13	3.75	0.00	1.79	-0.0002	2.31	2.32	100
25YR72HR	S-14	3.21	0.00	1.79	0.0002	2.50	2.51	100
25YR72HR	S-15	3.31	0.00	1.78	0.0002	2.80	2.80	100

Sim Name	Node Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
25YR72HR	S-16	3.24	0.00	1.77	0.0001	0.10	0.11	100
25YR72HR	S-17	3.28	0.00	1.77	-0.0002	3.00	3.00	100
25YR72HR	S-18	3.33	0.00	1.74	0.0001	0.68	0.69	100
25YR72HR	S-19	3.39	0.00	1.74	0.0002	4.21	4.17	100
25YR72HR	S-20	3.47	0.00	1.69	0.0001	0.05	0.06	100
25YR72HR	S-21	3.69	0.00	1.69	0.0002	4.22	4.21	100
25YR72HR	S-22	3.28	0.00	1.66	0.0001	0.21	0.22	100
25YR72HR	S-23	3.32	0.00	1.66	-0.0002	4.58	4.56	100
25YR72HR	S-24+A	3.40	0.00	1.63	-0.0001	4.56	4.56	100
25YR72HR	S-24+B	3.40	0.00	1.62	0.0001	4.56	4.55	100
5YR24HR	DW1	3.82	0.00	1.54	0.0001	0.10	0.13	100
5YR24HR	GR	999.00	0.00	1.35	0.0000	0.00	0.00	0
5YR24HR	OUT	1.35	0.00	1.35	0.0000	2.93	0.00	0
5YR24HR	S-01	3.36	0.00	1.56	0.0001	0.17	0.18	100
5YR24HR	S-02	3.39	0.00	1.56	-0.0001	0.40	0.43	100
5YR24HR	S-03	3.49	0.00	1.56	-0.0001	0.61	0.57	100
5YR24HR	S-04	3.39	0.00	1.56	0.0001	0.67	0.66	100
5YR24HR	S-05	3.40	0.00	1.56	-0.0001	0.66	0.74	100
5YR24HR	S-06	3.22	0.00	1.56	-0.0001	0.53	0.59	100
5YR24HR	S-07	3.29	0.00	1.55	0.0003	1.31	1.28	100
5YR24HR	S-08	3.31	0.00	1.55	-0.0002	1.31	1.36	100
5YR24HR	S-09	3.42	0.00	1.55	-0.0002	1.39	1.41	100
5YR24HR	S-10	3.55	0.00	1.54	0.0002	1.41	1.36	100
5YR24HR	S-11	3.26	0.00	1.54	0.0001	0.20	0.23	100
5YR24HR	S-12	3.38	0.00	1.54	-0.0002	1.70	1.58	100
5YR24HR	S-13	3.75	0.00	1.54	-0.0002	1.58	1.58	100
5YR24HR	S-14	3.21	0.00	1.53	0.0002	1.70	1.72	100
5YR24HR	S-15	3.31	0.00	1.53	-0.0002	1.90	1.85	100
5YR24HR	S-16	3.24	0.00	1.52	0.0001	0.07	0.08	100
5YR24HR	S-17	3.28	0.00	1.52	-0.0002	1.97	1.94	100
5YR24HR	S-18	3.33	0.00	1.51	-0.0001	0.43	0.47	100
5YR24HR	S-19	3.39	0.00	1.51	-0.0002	2.74	2.69	100
5YR24HR	S-20	3.47	0.00	1.49	0.0001	0.03	0.04	100
5YR24HR	S-21	3.69	0.00	1.49	0.0002	2.72	2.72	100
5YR24HR	S-22	3.28	0.00	1.48	0.0000	0.13	0.14	100
5YR24HR	S-23	3.32	0.00	1.48	0.0003	2.95	2.94	100
5YR24HR	S-24+A	3.40	0.00	1.47	-0.0001	2.94	2.94	100
5YR24HR	S-24+B	3.40	0.00	1.46	-0.0001	2.94	2.93	100

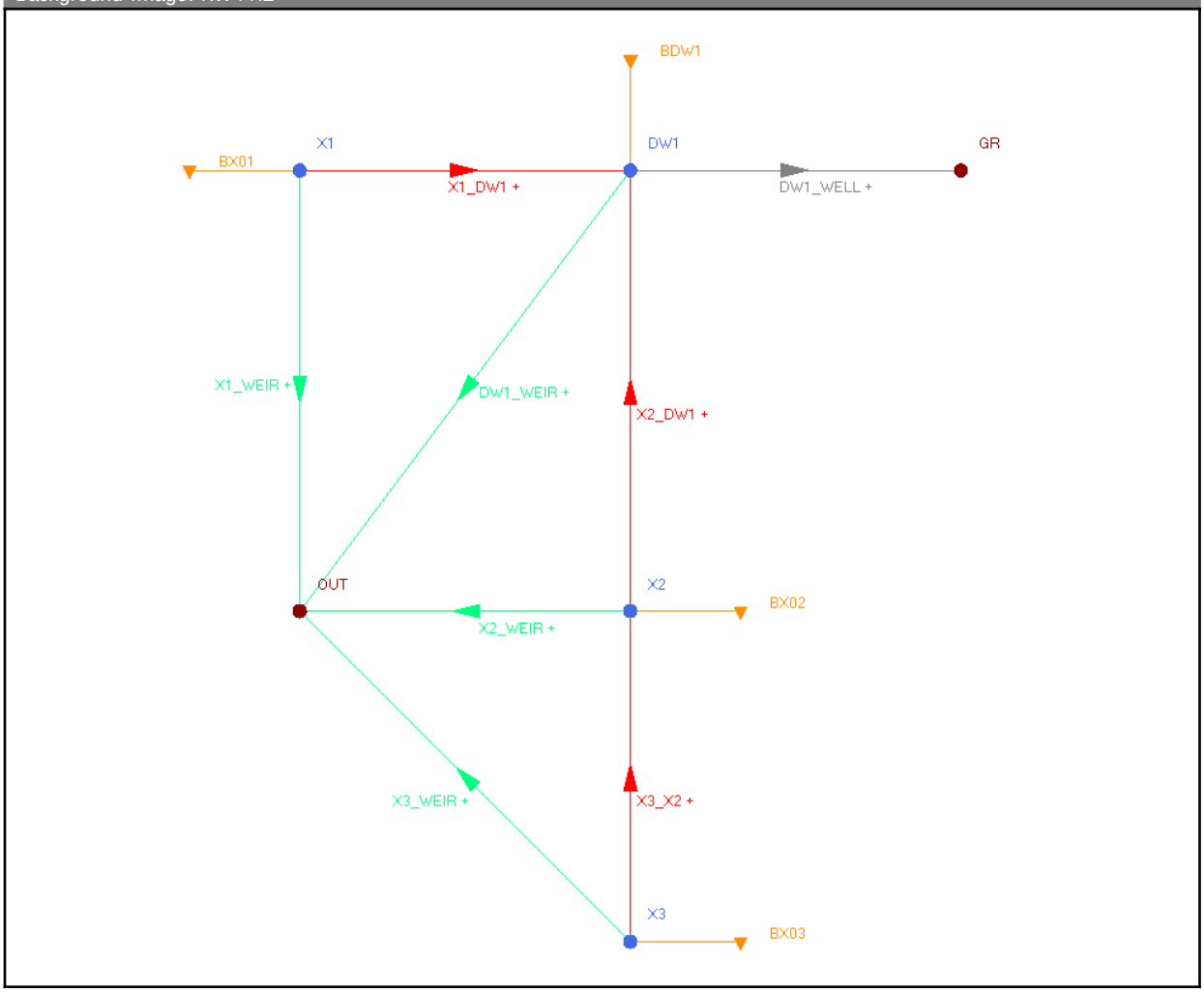
Link Min/Max Conditions : Multi Item | (sim, name) [Post-development Conditions]

Sim Name	Link Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
100YR72HR	DW1_WELL	0.00	0.00	0.00	0.00	0.00	0.00
100YR72HR	P-01	0.36	0.00	-0.05	0.20	0.20	0.20
100YR72HR	P-02	0.86	0.00	-0.11	0.49	0.49	0.49
100YR72HR	P-03	1.16	0.00	0.05	0.66	0.66	0.66
100YR72HR	P-04	1.36	0.00	-0.06	0.77	0.77	0.77
100YR72HR	P-05	1.46	0.00	0.22	0.46	0.46	0.46
100YR72HR	P-06	1.16	0.00	-0.11	0.65	0.65	0.65
100YR72HR	P-07	2.45	0.00	0.29	0.78	0.78	0.78
100YR72HR	P-08	2.50	0.00	0.37	0.80	0.80	0.80
100YR72HR	P-09	2.57	0.00	0.39	0.82	0.82	0.82
100YR72HR	P-10	2.57	0.00	0.32	0.82	0.82	0.82
100YR72HR	P-11	0.47	0.00	-0.12	0.27	0.27	0.27
100YR72HR	P-12	3.17	0.00	0.33	1.01	1.01	1.01
100YR72HR	P-12_DW1	0.00	-0.24	0.08	-0.08	-0.08	-0.08
100YR72HR	P-13	3.18	0.00	0.31	1.01	1.01	1.01
100YR72HR	P-14	3.45	0.00	-0.37	1.10	1.10	1.10
100YR72HR	P-15	3.84	-0.01	0.33	1.22	1.22	1.22
100YR72HR	P-16	0.15	0.00	-0.02	0.08	0.08	0.08
100YR72HR	P-17	4.12	0.00	0.24	1.31	1.31	1.31
100YR72HR	P-18	0.94	0.00	0.07	0.53	0.53	0.53
100YR72HR	P-19	5.73	0.00	-0.26	1.82	1.82	1.82
100YR72HR	P-20	0.09	0.00	-0.01	0.05	0.05	0.05
100YR72HR	P-21	5.79	0.00	-0.29	1.84	1.84	1.84
100YR72HR	P-22	0.34	0.00	0.08	0.19	0.19	0.19
100YR72HR	P-23	6.26	0.00	-0.32	1.99	1.99	1.99
100YR72HR	P-24_OUT	6.26	0.00	-0.04	3.54	3.54	3.54
100YR72HR	S24_BAFFLE	6.26	0.00	0.31	0.78	0.78	0.78
25YR72HR	DW1_WELL	0.00	0.00	0.00	0.00	0.00	0.00
25YR72HR	P-01	0.27	0.00	0.04	0.15	0.15	0.15
25YR72HR	P-02	0.64	0.00	0.08	0.36	0.36	0.36
25YR72HR	P-03	0.85	0.00	-0.05	0.48	0.48	0.48
25YR72HR	P-04	0.99	0.00	0.06	0.56	0.56	0.56
25YR72HR	P-05	1.08	0.00	-0.22	0.34	0.34	0.34
25YR72HR	P-06	0.87	0.00	-0.12	0.49	0.49	0.49
25YR72HR	P-07	1.80	0.00	0.31	0.57	0.57	0.57
25YR72HR	P-08	1.90	0.00	0.39	0.60	0.60	0.60
25YR72HR	P-09	1.98	0.00	-0.40	0.63	0.63	0.63
25YR72HR	P-10	1.92	0.00	-0.31	0.61	0.61	0.61
25YR72HR	P-11	0.36	0.00	0.10	0.20	0.20	0.20
25YR72HR	P-12	2.31	0.00	0.32	0.74	0.74	0.74
25YR72HR	P-12_DW1	0.00	-0.18	-0.06	-0.06	-0.06	-0.06
25YR72HR	P-13	2.32	0.00	-0.31	0.74	0.74	0.74
25YR72HR	P-14	2.51	0.00	0.38	0.80	0.80	0.80
25YR72HR	P-15	2.80	0.00	0.32	0.89	0.89	0.89
25YR72HR	P-16	0.11	0.00	-0.03	0.06	0.06	0.06
25YR72HR	P-17	3.00	0.00	-0.22	0.95	0.95	0.95

Sim Name	Link Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
25YR72HR	P-18	0.69	0.00	-0.06	0.39	0.39	0.39
25YR72HR	P-19	4.17	0.00	-0.26	1.33	1.33	1.33
25YR72HR	P-20	0.06	0.00	-0.01	0.04	0.04	0.04
25YR72HR	P-21	4.21	0.00	-0.29	1.34	1.34	1.34
25YR72HR	P-22	0.22	0.00	0.05	0.13	0.13	0.13
25YR72HR	P-23	4.56	0.00	0.30	1.45	1.45	1.45
25YR72HR	P-24_OUT	4.55	0.00	-0.03	2.58	2.58	2.58
25YR72HR	S24_BAFFLE	4.56	0.00	0.34	0.57	0.57	0.57
5YR24HR	DW1_WELL	0.00	0.00	0.00	0.00	0.00	0.00
5YR24HR	P-01	0.18	0.00	-0.02	0.10	0.10	0.10
5YR24HR	P-02	0.43	0.00	0.08	0.24	0.24	0.24
5YR24HR	P-03	0.57	0.00	0.06	0.32	0.32	0.32
5YR24HR	P-04	0.66	0.00	0.07	0.37	0.37	0.37
5YR24HR	P-05	0.74	0.00	-0.21	0.24	0.24	0.24
5YR24HR	P-06	0.59	0.00	-0.13	0.33	0.33	0.33
5YR24HR	P-07	1.28	0.00	-0.29	0.41	0.41	0.41
5YR24HR	P-08	1.36	0.00	-0.40	0.43	0.43	0.43
5YR24HR	P-09	1.41	0.00	0.41	0.45	0.45	0.45
5YR24HR	P-10	1.36	0.00	0.34	0.43	0.43	0.43
5YR24HR	P-11	0.23	0.00	0.09	0.13	0.13	0.13
5YR24HR	P-12	1.58	0.00	-0.32	0.50	0.50	0.50
5YR24HR	P-12_DW1	0.00	-0.13	0.05	-0.04	-0.04	-0.04
5YR24HR	P-13	1.58	0.00	0.31	0.50	0.50	0.50
5YR24HR	P-14	1.72	0.00	-0.38	0.55	0.55	0.55
5YR24HR	P-15	1.85	0.00	0.38	0.59	0.59	0.59
5YR24HR	P-16	0.08	0.00	-0.02	0.04	0.04	0.04
5YR24HR	P-17	1.94	0.00	0.22	0.62	0.62	0.62
5YR24HR	P-18	0.47	0.00	0.07	0.27	0.27	0.27
5YR24HR	P-19	2.69	0.00	0.24	0.86	0.86	0.86
5YR24HR	P-20	0.04	0.00	-0.01	0.02	0.02	0.02
5YR24HR	P-21	2.72	0.00	-0.29	0.86	0.86	0.86
5YR24HR	P-22	0.14	0.00	0.06	0.08	0.08	0.08
5YR24HR	P-23	2.94	0.00	0.31	0.94	0.94	0.94
5YR24HR	P-24_OUT	2.93	0.00	0.04	1.66	1.66	1.66
5YR24HR	S24_BAFFLE	2.94	0.00	0.31	0.37	0.37	0.37

PRE-DEVELOPMENT CONDITIONS

Background Image: KW PRE



Simple Basin: B01

Scenario:	Post-development Conditions
Node:	S-01
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0500 ac
Curve Number:	91.0
Ia/S:	0.00

% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B02

Scenario:	Post-development Conditions
Node:	S-02
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.1200 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B04

Scenario:	Post-development Conditions
Node:	S-04
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0300 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B06

Scenario:	Post-development Conditions
Node:	S-06
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.1600 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B08

Scenario:	Post-development Conditions
Node:	S-08
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0100 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B09

Scenario:	Post-development Conditions
Node:	S-09
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0100 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B11

Scenario:	Post-development Conditions
Node:	S-11
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0600 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B14

Scenario:	Post-development Conditions
Node:	S-14
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number

Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0400 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B15

Scenario:	Post-development Conditions
Node:	S-15
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0600 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B16

Scenario:	Post-development Conditions
Node:	S-16
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0

Area:	0.0200 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B17

Scenario:	Post-development Conditions
Node:	S-17
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0200 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B18

Scenario:	Post-development Conditions
Node:	S-18
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.1300 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00

% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B19

Scenario:	Post-development Conditions
Node:	S-19
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.1100 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B20

Scenario:	Post-development Conditions
Node:	S-20
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0100 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B22

Scenario:	Post-development Conditions
Node:	S-22
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0400 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: B23

Scenario:	Post-development Conditions
Node:	S-23
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0300 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BDW-1

Scenario:	Post-development Conditions
Node:	DW1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number

Time of Concentration:	10.0000 min
Max Allowable Q:	99999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.0300 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BDW1

Scenario:	Pre-Development Conditions
Node:	DW1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.4100 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BX01

Scenario:	Pre-Development Conditions
Node:	X1
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0

Area:	0.0700 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BX02

Scenario:	Pre-Development Conditions
Node:	X2
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.2500 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00
% Direct:	0.00
Rainfall Name:	

Comment:

Simple Basin: BX03

Scenario:	Pre-Development Conditions
Node:	X3
Hydrograph Method:	NRCS Unit Hydrograph
Infiltration Method:	Curve Number
Time of Concentration:	10.0000 min
Max Allowable Q:	9999.00 cfs
Time Shift:	0.0000 hr
Unit Hydrograph:	UH256
Peaking Factor:	256.0
Area:	0.2000 ac
Curve Number:	91.0
Ia/S:	0.00
% Impervious:	0.00
% DCIA:	0.00

% Direct: 0.00
Rainfall Name:

Comment:

Node: DW1

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.82 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
1.35	0.0004	17
3.82	0.0004	17

Comment:

Node: GR

Scenario: Post-development Conditions
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 999.00 ft
Alert Stage: 0.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	1.35
0	0	0	9999.0000	1.35

Comment: DHW = 1.35 FT NGVD

Value taken from 2.3.4.8 Discharge Wells from the 2024 Key West Master Plan Update.

Node: OUT

Scenario: Post-development Conditions
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 1.35 ft

Alert Stage: 0.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	1.35
0	0	0	48.0000	1.35

Comment: Initial Stage is Mean High High Water (MHHW) per NOAA

Node: S-01

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.36 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-2.70	0.0001	6
-1.70	0.0001	6
1.51	0.0001	6
1.52	0.0001	6
3.36	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-02

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.39 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-2.00	0.0001	6
-1.00	0.0001	6
1.54	0.0001	6
1.55	0.0001	6
3.39	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-03

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.49 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-2.90	0.0004	16
-1.90	0.0004	16
1.81	0.0004	16
1.82	0.0004	16
3.49	0.0004	16

Comment: Manhole P-7 (Alt. B) with Normal Bottom, <10 ft

Node: S-04

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.39 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.00	0.0001	6
-2.00	0.0001	6
1.54	0.0001	6
1.55	0.0001	6
3.39	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-05

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.40 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.10	0.0003	13
-2.10	0.0003	13

Stage [ft]	Area [ac]	Area [ft2]
1.72	0.0003	13
1.73	0.0003	13
3.40	0.0003	13

Comment: Manhole P-7 with Normal Bottom, <10 ft

Node: S-06

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.22 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-2.10	0.0001	6
-1.10	0.0001	6
1.25	0.0001	6
1.26	0.0001	6
3.22	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-07

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.29 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.20	0.0005	20
-2.20	0.0005	20
1.54	0.0005	20
1.55	0.0003	13
3.29	0.0003	13

Comment: Manhole P-7 with Type "J", Dia. 5.00, <10 ft

Node: S-08

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.31 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.30	0.0001	6
-2.30	0.0001	6
1.46	0.0001	6
1.47	0.0001	6
3.31	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-09

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.42 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.40	0.0005	20
-2.40	0.0005	20
1.57	0.0005	20
1.58	0.0001	6
3.42	0.0001	6

Comment: Curber Inlet P-9 with Type "J", Dia. 5.00, <10 ft

Node: S-10

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.55 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.50	0.0004	16
-2.50	0.0004	16
1.87	0.0004	16

Stage [ft]	Area [ac]	Area [ft2]
1.88	0.0004	16
3.55	0.0004	16

Comment: Manhole P-7 (Alt. B) with Normal Bottom, <10 ft

Node: S-11

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.26 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-5.70	0.0001	6
-4.70	0.0001	6
1.41	0.0001	6
1.42	0.0001	6
3.26	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-12

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.38 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-5.80	0.0005	20
-2.60	0.0005	20
1.70	0.0005	20
1.71	0.0003	13
3.38	0.0003	13

Comment: Manhole P-7 with Type "J", Dia. 5.00, <10 ft

Node: S-13

Scenario: Post-development Conditions

Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.75 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-3.70	0.0004	16
-2.70	0.0004	16
2.08	0.0004	16
2.09	0.0004	16
3.75	0.0004	16

Comment: Manhole P-7 (Alt. B) with Normal Bottom, <10 ft

Node: S-14

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.20 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.00	0.0001	6
-5.00	0.0001	6
1.36	0.0001	6
1.37	0.0001	6
3.20	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-15

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.26 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.10	0.0003	12
-1.40	0.0003	12
1.46	0.0003	12
1.47	0.0003	12

Stage [ft]	Area [ac]	Area [ft2]
3.26	0.0003	12

Comment: Driveway Inlet with Normal Bottom, <10 ft

Node: S-16

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.24 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.00	0.0001	6
-5.00	0.0001	6
1.39	0.0001	6
1.40	0.0001	6
3.24	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-17

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.28 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.10	0.0001	6
-1.50	0.0001	6
1.43	0.0001	6
1.44	0.0001	6
3.28	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-18

Scenario: Post-development Conditions
Type: Stage/Area

Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.33 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.00	0.0001	6
-5.00	0.0001	6
1.48	0.0001	6
1.49	0.0001	6
3.33	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-19

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.39 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.10	0.0003	14
-1.70	0.0003	14
1.54	0.0003	14
1.55	0.0004	16
3.39	0.0004	16

Comment: Driveway Inlet with Type "J", 3.50 x 4.00, <10 ft

Node: S-20

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.47 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.00	0.0001	6
-5.00	0.0001	6
1.62	0.0001	6
1.63	0.0001	6
3.47	0.0001	6

Comment: Curber Inlet P-9 with Normal Bottom, <10 ft

Node: S-21

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.69 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.10	0.0003	13
-1.90	0.0003	13
1.97	0.0003	13
1.98	0.0003	13
3.69	0.0003	13

Comment: Manhole P-7 with Type "J", Dia. 4.00, <10 ft

Node: S-22

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.28 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.00	0.0001	6
-5.00	0.0001	6
1.43	0.0001	6
1.44	0.0001	6
3.28	0.0001	6

Comment:

Node: S-23

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft

Warning Stage: 3.32 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-6.10	0.0003	14
-2.00	0.0003	14
1.47	0.0003	14
1.48	0.0001	6
3.32	0.0001	6

Comment: Curber Inlet P-9 with Type "J", 3.50 x 4.00, <10 ft

Node: S-24+A

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.40 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-5.60	0.0003	14
-2.10	0.0003	14
1.72	0.0003	14
1.73	0.0003	13
3.40	0.0003	13

Comment:

Node: S-24+B

Scenario: Post-development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.40 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
-5.60	0.0003	14
-2.10	0.0003	14
1.72	0.0003	14
1.73	0.0003	13
3.40	0.0003	13

Comment:

Node: DW1

Scenario: Pre-Development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.06 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
1.35	0.0004	17
3.06	0.0004	17
3.31	0.1400	6098
3.56	0.2800	12197

Comment:

Node: GR

Scenario: Pre-Development Conditions
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 999.00 ft
Alert Stage: 0.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	1.35
0	0	0	9999.0000	1.35

Comment: DHW = 1.35 FT NGVD

Value taken from 2.3.4.8 Discharge Wells from the 2024 Key West Master Plan Update.

Node: OUT

Scenario: Pre-Development Conditions
Type: Time/Stage
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 1.35 ft
Alert Stage: 0.00 ft
Boundary Stage:

Year	Month	Day	Hour	Stage [ft]
0	0	0	0.0000	1.35
0	0	0	48.0000	1.35

Comment:

Node: X1

Scenario: Pre-Development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.16 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
1.35	0.0004	17
3.16	0.0004	17
3.41	0.0350	1525
3.66	0.0700	3049

Comment:

Node: X2

Scenario: Pre-Development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 2.98 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
1.35	0.0004	17
2.98	0.0004	17
3.23	0.1150	5009
3.48	0.2300	10019

Comment:

Node: X3

Scenario: Pre-Development Conditions
Type: Stage/Area
Base Flow: 0.00 cfs
Initial Stage: 1.35 ft
Warning Stage: 3.05 ft
Alert Stage: 0.00 ft

Stage [ft]	Area [ac]	Area [ft2]
1.35	0.0004	17
3.05	0.0004	17
3.25	0.1000	4356
3.55	0.2000	8712

Comment:

Rating Curve Link: DW1_WELL

Scenario: Post-development Conditions
From Node: DW1
To Node: GR
Link Count: 1
Flow Direction: Both

Table	Elev On [ft]	Elev On Node	Elev Off [ft]	Elev Off Node
W_OPT_1600	1.35	DW1	1.35	DW1

Comment: Well flow capped at el. 8.0 ft - NGVD
DHW = 1.35 FT NGVD

Value taken from 2.3.4.8 Discharge Wells from the 2024 Key West Master Plan Update.

Pipe Link: P-01

		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-1.70 ft	Invert:	-1.90 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-01	Geometry: Circular		Geometry: Circular	
To Node:	S-03	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	115.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Pipe Link: P-02 Upstream Downstream

Scenario:	Post-development Conditions	Invert:	-1.00 ft	Invert:	-1.10 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-02	Geometry: Circular		Geometry: Circular	
To Node:	S-03	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	5.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-03		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-1.90 ft	Invert:	-2.00 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-03	Geometry: Circular		Geometry: Circular	
To Node:	S-04	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	32.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-04		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-2.00 ft	Invert:	-2.10 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-04	Geometry: Circular		Geometry: Circular	
To Node:	S-05	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	55.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft

Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-05		Upstream		Downstream	
Scenario:	Post-development	Invert:	-2.10 ft	Invert:	-2.20 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-05	Geometry: Circular		Geometry: Circular	
To Node:	S-07	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	51.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-06		Upstream		Downstream	
Scenario:	Post-development	Invert:	-1.10 ft	Invert:	-1.20 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-06	Geometry: Circular		Geometry: Circular	
To Node:	S-07	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	6.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-07		Upstream		Downstream	
Scenario:	Post-development	Invert:	-2.20 ft	Invert:	-2.30 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120

From Node:	S-07	Geometry: Circular		Geometry: Circular	
To Node:	S-08	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	44.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-08		Upstream		Downstream	
Scenario:	Post-development	Invert:	-2.30 ft	Invert:	-2.40 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-08	Geometry: Circular		Geometry: Circular	
To Node:	S-09	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	13.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-09		Upstream		Downstream	
Scenario:	Post-development	Invert:	-2.40 ft	Invert:	-2.50 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-09	Geometry: Circular		Geometry: Circular	
To Node:	S-10	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	5.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	

Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-10		Upstream		Downstream	
Scenario:	Post-development	Invert:	-2.50 ft	Invert:	-2.60 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-10	Geometry: Circular		Geometry: Circular	
To Node:	S-12	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	25.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-11		Upstream		Downstream	
Scenario:	Post-development	Invert:	-4.70 ft	Invert:	-4.80 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-11	Geometry: Circular		Geometry: Circular	
To Node:	S-12	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	14.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-12		Upstream		Downstream	
Scenario:	Post-development	Invert:	-2.60 ft	Invert:	-2.70 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-12	Geometry: Circular		Geometry: Circular	
To Node:	S-13	Max Depth:	2.00 ft	Max Depth:	2.00 ft

Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	37.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-12_DW1		Upstream		Downstream	
Scenario:	Post-development	Invert:	-1.40 ft	Invert:	-1.50 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-12	Geometry: Circular		Geometry: Circular	
To Node:	DW1	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	6.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-13		Upstream		Downstream	
Scenario:	Post-development	Invert:	-2.70 ft	Invert:	-2.80 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-13	Geometry: Circular		Geometry: Circular	
To Node:	S-14	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	36.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-14		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-5.00 ft	Invert:	-5.10 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-14	Geometry: Circular		Geometry: Circular	
To Node:	S-15	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	18.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-15		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-1.40 ft	Invert:	-1.50 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-15	Geometry: Circular		Geometry: Circular	
To Node:	S-17	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	24.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-16		Upstream		Downstream	
Scenario:	Post-development Conditions	Invert:	-5.00 ft	Invert:	-5.10 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-16	Geometry: Circular		Geometry: Circular	
To Node:	S-17	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	26.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			

Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-17		Upstream		Downstream	
Scenario:	Post-development	Invert:	-1.50 ft	Invert:	-1.70 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-17	Geometry: Circular		Geometry: Circular	
To Node:	S-19	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	126.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-18		Upstream		Downstream	
Scenario:	Post-development	Invert:	-5.00 ft	Invert:	-5.10 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-18	Geometry: Circular		Geometry: Circular	
To Node:	S-19	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	26.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-19		Upstream		Downstream	
Scenario:	Post-development	Invert:	-1.70 ft	Invert:	-1.90 ft

	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-19	Geometry: Circular		Geometry: Circular	
To Node:	S-21	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	108.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-20		Upstream		Downstream	
Scenario:	Post-development	Invert:	-5.00 ft	Invert:	-5.10 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-20	Geometry: Circular		Geometry: Circular	
To Node:	S-21	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	23.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-21		Upstream		Downstream	
Scenario:	Post-development	Invert:	-1.90 ft	Invert:	-2.00 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-21	Geometry: Circular		Geometry: Circular	
To Node:	S-23	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	71.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	

Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-22		Upstream		Downstream	
Scenario:	Post-development	Invert:	-5.00 ft	Invert:	-5.10 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-22	Geometry: Circular		Geometry: Circular	
To Node:	S-23	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	26.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-23		Upstream		Downstream	
Scenario:	Post-development	Invert:	-2.00 ft	Invert:	-2.10 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-23	Geometry: Circular		Geometry: Circular	
To Node:	S-24+A	Max Depth:	2.00 ft	Max Depth:	2.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	11.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	0	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Pipe Link: P-24_OUT		Upstream		Downstream	
Scenario:	Post-development	Invert:	-1.10 ft	Invert:	-1.20 ft
	Conditions	Manning's N:	0.0120	Manning's N:	0.0120
From Node:	S-24+B	Geometry: Circular		Geometry: Circular	

To Node:	OUT	Max Depth:	1.50 ft	Max Depth:	1.50 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	41.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000
Comment:					

Weir Link: S24_BAFFLE

Scenario:	Post-development Conditions	Bottom Clip	
From Node:	S-24+A	Default:	0.00 ft
To Node:	S-24+B	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Sharp Crested Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	-5.60 ft	Discharge Coefficients	
Control Elevation:	-5.60 ft	Weir Default:	2.800
Max Depth:	2.00 ft	Weir Table:	
Max Width:	4.00 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	
Comment:			

Weir Link: DW1_WEIR

Scenario:	Pre-Development Conditions	Bottom Clip	
From Node:	DW1	Default:	0.00 ft
To Node:	OUT	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Paved Road Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	3.06 ft	Discharge Coefficients	
Control Elevation:	3.06 ft	Weir Default:	2.800
Max Depth:	0.50 ft	Weir Table:	
Max Width:	390.00 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	
Comment:			

Rating Curve Link: DW1_WELL

Scenario: Pre-Development Conditions
From Node: DW1
To Node: GR
Link Count: 1
Flow Direction: Both

Table	Elev On [ft]	Elev On Node	Elev Off [ft]	Elev Off Node
W_OPT_1600	1.35	DW1	1.35	DW1

Comment: Well flow capped at el. 8.0 ft - NGVD
DHW = 1.35 FT NGVD

Value taken from 2.3.4.8 Discharge Wells from the 2024 Key West Master Plan Update.

Pipe Link: X1_DW1

Scenario: Pre-Development Conditions
From Node: X1
To Node: DW1
Link Count: 1
Flow Direction: Both
Damping: 0.0000 ft
Length: 24.00 ft
FHWA Code: 1
Entr Loss Coef: 1
Exit Loss Coef: 1
Bend Loss Coef: 0
Bend Location: 0.00 dec
Energy Switch: Energy

Upstream		Downstream	
Invert:	0.15 ft	Invert:	0.10 ft
Manning's N:	0.0120	Manning's N:	0.0120
Geometry: Circular		Geometry: Circular	
Max Depth:	1.00 ft	Max Depth:	1.00 ft
Bottom Clip			
Default:	0.00 ft	Default:	0.00 ft
Op Table:		Op Table:	
Ref Node:		Ref Node:	
Manning's N:	0.0000	Manning's N:	0.0000
Top Clip			
Default:	0.00 ft	Default:	0.00 ft
Op Table:		Op Table:	
Ref Node:		Ref Node:	
Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Weir Link: X1_WEIR

Scenario: Pre-Development Conditions
From Node: X1
To Node: OUT
Link Count: 1
Flow Direction: Both
Damping: 0.0000 ft
Weir Type: Paved Road Vertical
Geometry Type: Rectangular
Invert: 3.16 ft
Control Elevation: 3.16 ft
Max Depth: 0.50 ft
Max Width: 133.00 ft

Bottom Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	
Discharge Coefficients	
Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600

Fillet:	0.00 ft		
		Orifice Table:	

Comment:

Pipe Link: X2_DW1		Upstream		Downstream	
Scenario:	Pre-Development Conditions	Invert:	0.00 ft	Invert:	-0.10 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	X2	Geometry: Circular		Geometry: Circular	
To Node:	DW1	Max Depth:	1.00 ft	Max Depth:	1.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	40.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Weir Link: X2_WEIR			
Scenario:	Pre-Development Conditions	Bottom Clip	
From Node:	X2	Default:	0.00 ft
To Node:	OUT	Op Table:	
Link Count:	1	Ref Node:	
Flow Direction:	Both	Top Clip	
Damping:	0.0000 ft	Default:	0.00 ft
Weir Type:	Paved Road Vertical	Op Table:	
Geometry Type:	Rectangular	Ref Node:	
Invert:	2.98 ft	Discharge Coefficients	
Control Elevation:	2.98 ft	Weir Default:	2.800
Max Depth:	0.50 ft	Weir Table:	
Max Width:	353.00 ft	Orifice Default:	0.600
Fillet:	0.00 ft	Orifice Table:	

Comment:

Weir Link: X3_WEIR			
Scenario:	Pre-Development Conditions	Bottom Clip	
From Node:	X3	Default:	0.00 ft
To Node:	OUT	Op Table:	
Link Count:	1	Ref Node:	

Flow Direction:	Both
Damping:	0.0000 ft
Weir Type:	Paved Road Vertical
Geometry Type:	Rectangular
Invert:	3.05 ft
Control Elevation:	3.05 ft
Max Depth:	0.50 ft
Max Width:	396.00 ft
Fillet:	0.00 ft

Top Clip	
Default:	0.00 ft
Op Table:	
Ref Node:	

Discharge Coefficients	
Weir Default:	2.800
Weir Table:	
Orifice Default:	0.600
Orifice Table:	

Comment:

Pipe Link: X3_X2		Upstream		Downstream	
Scenario:	Pre-Development Conditions	Invert:	0.10 ft	Invert:	0.00 ft
		Manning's N:	0.0120	Manning's N:	0.0120
From Node:	X3	Geometry: Circular		Geometry: Circular	
To Node:	X2	Max Depth:	1.00 ft	Max Depth:	1.00 ft
Link Count:	1	Bottom Clip			
Flow Direction:	Both	Default:	0.00 ft	Default:	0.00 ft
Damping:	0.0000 ft	Op Table:		Op Table:	
Length:	33.00 ft	Ref Node:		Ref Node:	
FHWA Code:	1	Manning's N:	0.0000	Manning's N:	0.0000
Entr Loss Coef:	1	Top Clip			
Exit Loss Coef:	1	Default:	0.00 ft	Default:	0.00 ft
Bend Loss Coef:	0	Op Table:		Op Table:	
Bend Location:	0.00 dec	Ref Node:		Ref Node:	
Energy Switch:	Energy	Manning's N:	0.0000	Manning's N:	0.0000

Comment:

Simulation: 100YR72HR	
Scenario:	Post-development Conditions
Run Date/Time:	11/19/2025 3:37:35 PM
Program Version:	StormWise 4.08.03

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:

Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft
Max dZ: 1.0000 ft

Link Optimizer Tol: 0.0001 ft

IA Recovery Time: 24.0000 hr

Ia/S: 0.20 dec

Smp/Man Basin Rain Opt: Global

Rainfall Name: ~SFWMD-72
Rainfall Amount: 17.00 in
Storm Duration: 72.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area 100 ft2

(1D):
Energy Switch (1D): Energy

Comment:

Simulation: 25YR72HR

Scenario: Post-development Conditions
Run Date/Time: 11/19/2025 3:42:47 PM
Program Version: StormWise 4.08.03

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources		Lookup Tables	
Rainfall Folder:		Boundary Stage Set:	
		Extern Hydrograph Set:	
Unit Hydrograph Folder:		Curve Number Set:	
		Green-Ampt Set:	
		Vertical Layers Set:	
		Impervious Set:	

Tolerances & Options

Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec	Ia/S:	0.20 dec
dZ Tolerance:	0.0001 ft		
Max dZ:	1.0000 ft	Smp/Man Basin Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft		
		Rainfall Name:	~SFWMD-72
		Rainfall Amount:	12.00 in
		Storm Duration:	72.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 5YR24HR

Scenario: Post-development Conditions
Run Date/Time: 11/19/2025 3:47:56 PM
Program Version: StormWise 4.08.03

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	8.0000	15.0000
0	0	0	10.0000	5.0000
0	0	0	14.0000	1.0000
0	0	0	16.0000	5.0000
0	0	0	24.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	8.0000	15.0000
0	0	0	10.0000	5.0000
0	0	0	14.0000	1.0000
0	0	0	16.0000	5.0000
0	0	0	24.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:

Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft
Max dZ: 1.0000 ft

Link Optimizer Tol: 0.0001 ft

IA Recovery Time: 24.0000 hr

Ia/S: 0.20 dec

Smp/Man Basin Rain Opt: Global

Rainfall Name: ~FLMOD
Rainfall Amount: 6.00 in
Storm Duration: 24.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area 100 ft2

(1D):
Energy Switch (1D): Energy

Comment:

Simulation: 100YR72HR

Scenario: Pre-Development Conditions
Run Date/Time: 11/19/2025 3:49:14 PM
Program Version: StormWise 4.08.03

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources		Lookup Tables	
Rainfall Folder:		Boundary Stage Set:	
		Extern Hydrograph Set:	
Unit Hydrograph Folder:		Curve Number Set:	
		Green-Ampt Set:	
		Vertical Layers Set:	
		Impervious Set:	

Tolerances & Options			
Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec	Ia/S:	0.20 dec
dZ Tolerance:	0.0001 ft		
Max dZ:	1.0000 ft	Smp/Man Basin Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft		
		Rainfall Name:	~SFWMD-72
		Rainfall Amount:	17.00 in
		Storm Duration:	72.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simulation: 25YR72HR

Scenario: Pre-Development Conditions
Run Date/Time: 11/19/2025 3:49:28 PM
Program Version: StormWise 4.08.03

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	72.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	48.0000	15.0000
0	0	0	56.0000	5.0000
0	0	0	64.0000	1.0000
0	0	0	72.0000	5.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources

Rainfall Folder:

Unit Hydrograph Folder:

Lookup Tables

Boundary Stage Set:
Extern Hydrograph Set:
Curve Number Set:

Green-Ampt Set:
Vertical Layers Set:
Impervious Set:

Tolerances & Options

Time Marching: SAOR
Max Iterations: 6
Over-Relax Weight Fact: 0.5 dec
dZ Tolerance: 0.0001 ft
Max dZ: 1.0000 ft

Link Optimizer Tol: 0.0001 ft

IA Recovery Time: 24.0000 hr

Ia/S: 0.20 dec

Smp/Man Basin Rain Opt: Global

Rainfall Name: ~SFWMD-72
Rainfall Amount: 12.00 in
Storm Duration: 72.0000 hr
Dflt Damping (1D): 0.0050 ft
Min Node Srf Area (1D): 100 ft2
Energy Switch (1D): Energy

Comment:

Simulation: 5YR24HR

Scenario: Pre-Development Conditions
Run Date/Time: 11/19/2025 3:49:46 PM
Program Version: StormWise 4.08.03

General

Run Mode: Normal

	Year	Month	Day	Hour [hr]
Start Time:	0	0	0	0.0000
End Time:	0	0	0	24.0000

	Hydrology [sec]	Surface Hydraulics [sec]
Min Calculation Time:	60.0000	0.1000
Max Calculation Time:		30.0000

Output Time Increments

Hydrology

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	8.0000	15.0000
0	0	0	10.0000	5.0000
0	0	0	14.0000	1.0000
0	0	0	16.0000	5.0000
0	0	0	24.0000	15.0000

Surface Hydraulics

Year	Month	Day	Hour [hr]	Time Increment [min]
0	0	0	0.0000	15.0000
0	0	0	8.0000	15.0000
0	0	0	10.0000	5.0000
0	0	0	14.0000	1.0000
0	0	0	16.0000	5.0000
0	0	0	24.0000	15.0000

Restart File

Save Restart: False

Resources & Lookup Tables

Resources		Lookup Tables	
Rainfall Folder:		Boundary Stage Set:	
		Extern Hydrograph Set:	
Unit Hydrograph Folder:		Curve Number Set:	
		Green-Ampt Set:	
		Vertical Layers Set:	
		Impervious Set:	

Tolerances & Options			
Time Marching:	SAOR	IA Recovery Time:	24.0000 hr
Max Iterations:	6		
Over-Relax Weight Fact:	0.5 dec	Ia/S:	0.20 dec
dZ Tolerance:	0.0001 ft		
Max dZ:	1.0000 ft	Smp/Man Basin Rain Opt:	Global
Link Optimizer Tol:	0.0001 ft		
		Rainfall Name:	~FLMOD
		Rainfall Amount:	6.00 in
		Storm Duration:	24.0000 hr
		Dflt Damping (1D):	0.0050 ft
		Min Node Srf Area (1D):	100 ft2
		Energy Switch (1D):	Energy

Comment:

Simple Basin : Multi Item | (sim, name) : Runoff Summary [Pre-Development Conditions]

Sim Name	Basin Name	Max Flow [cfs]	Time to Max Flow [hrs]	Total Rainfall [in]	Total Runoff [in]	Area [ac]
100YR72HR	BDW1	3.06	60.0167	17.00	15.81	0.4100
100YR72HR	BX01	0.52	60.0167	17.00	15.81	0.0700
100YR72HR	BX02	1.87	60.0167	17.00	15.81	0.2500
100YR72HR	BX03	1.49	60.0167	17.00	15.81	0.2000
25YR72HR	BDW1	2.15	60.0167	12.00	10.85	0.4100
25YR72HR	BX01	0.37	60.0167	12.00	10.85	0.0700
25YR72HR	BX02	1.31	60.0167	12.00	10.85	0.2500
25YR72HR	BX03	1.05	60.0167	12.00	10.85	0.2000
5YR24HR	BDW1	1.37	12.0500	6.00	4.94	0.4100
5YR24HR	BX01	0.23	12.0500	6.00	4.94	0.0700
5YR24HR	BX02	0.83	12.0500	6.00	4.94	0.2500
5YR24HR	BX03	0.67	12.0500	6.00	4.94	0.2000

Node Max Conditions : Multi Item | (sim, name) [Pre-Development Conditions]

Sim Name	Node Name	Warning Stage [ft]	Alert Stage [ft]	Max Stage [ft]	Min/Max Delta Stage [ft]	Max Total Inflow [cfs]	Max Total Outflow [cfs]	Max Surface Area [ft2]
100YR72HR	DW1	3.06	0.00	3.08	0.0001	3.58	3.58	402
100YR72HR	GR	999.00	0.00	1.35	0.0000	0.45	0.00	0
100YR72HR	OUT	1.35	0.00	1.35	0.0000	6.49	0.00	0
100YR72HR	X1	3.16	0.00	3.09	-0.0001	0.52	0.52	100
100YR72HR	X2	2.98	0.00	3.00	0.0001	3.69	3.69	499
100YR72HR	X3	3.05	0.00	3.06	0.0001	1.49	1.49	167
25YR72HR	DW1	3.06	0.00	3.07	0.0001	2.51	2.51	268
25YR72HR	GR	999.00	0.00	1.35	0.0000	0.43	0.00	0
25YR72HR	OUT	1.35	0.00	1.35	0.0000	4.44	0.00	0
25YR72HR	X1	3.16	0.00	3.08	0.0001	0.37	0.37	100
25YR72HR	X2	2.98	0.00	3.00	0.0001	3.11	3.11	447
25YR72HR	X3	3.05	0.00	3.05	0.0001	1.05	1.06	100
5YR24HR	DW1	3.06	0.00	3.06	-0.0001	1.61	1.62	114
5YR24HR	GR	999.00	0.00	1.35	0.0000	0.41	0.00	0
5YR24HR	OUT	1.35	0.00	1.35	0.0000	2.71	0.00	0
5YR24HR	X1	3.16	0.00	3.07	0.0001	0.23	0.25	100
5YR24HR	X2	2.98	0.00	3.00	0.0001	2.43	2.43	382
5YR24HR	X3	3.05	0.00	3.03	0.0001	0.67	0.67	100

Link Min/Max Conditions : Multi Item | (sim, name) [Pre-Development Conditions]

Sim Name	Link Name	Max Flow [cfs]	Min Flow [cfs]	Min/Max Delta Flow [cfs]	Max Us Velocity [fps]	Max Ds Velocity [fps]	Max Avg Velocity [fps]
100YR72HR	DW1_WEIR	2.17	0.00	-0.03	0.00	0.00	0.00
100YR72HR	DW1_WELL	0.45	0.00	0.00	0.00	0.00	0.00
100YR72HR	X1_DW1	0.52	-0.01	-0.05	0.67	0.67	0.67
100YR72HR	X1_WEIR	0.00	0.00	0.00	0.00	0.00	0.00
100YR72HR	X2_DW1	0.07	-0.97	0.06	-1.23	-1.23	-1.23
100YR72HR	X2_WEIR	3.69	0.00	-0.07	0.00	0.00	0.00
100YR72HR	X3_WEIR	0.63	0.00	0.04	0.00	0.00	0.00
100YR72HR	X3_X2	0.86	0.00	0.06	1.09	1.09	1.09
25YR72HR	DW1_WEIR	1.14	0.00	-0.02	0.00	0.00	0.00
25YR72HR	DW1_WELL	0.43	0.00	0.00	0.00	0.00	0.00
25YR72HR	X1_DW1	0.37	-0.01	-0.04	0.47	0.47	0.47
25YR72HR	X1_WEIR	0.00	0.00	0.00	0.00	0.00	0.00
25YR72HR	X2_DW1	0.07	-0.95	0.05	-1.21	-1.21	-1.21
25YR72HR	X2_WEIR	3.11	0.00	0.07	0.00	0.00	0.00
25YR72HR	X3_WEIR	0.21	0.00	-0.03	0.00	0.00	0.00
25YR72HR	X3_X2	0.85	0.00	-0.06	1.08	1.08	1.08
5YR24HR	DW1_WEIR	0.28	0.00	-0.04	0.00	0.00	0.00
5YR24HR	DW1_WELL	0.41	0.00	0.00	0.00	0.00	0.00
5YR24HR	X1_DW1	0.25	-0.01	0.05	0.32	0.32	0.32
5YR24HR	X1_WEIR	0.00	0.00	0.00	0.00	0.00	0.00
5YR24HR	X2_DW1	0.07	-0.93	0.05	-1.18	-1.18	-1.18
5YR24HR	X2_WEIR	2.43	0.00	-0.07	0.00	0.00	0.00
5YR24HR	X3_WEIR	0.00	0.00	0.00	0.00	0.00	0.00
5YR24HR	X3_X2	0.67	0.00	0.06	0.85	0.85	0.85

Total Flow = 4.46 cfs (overland flow to the Ocean)

APPENDIX F:
CORRESPONDENCE

Outlook

RE: Pre-Application Meeting / STREETSCAPE PROJECT

From Gareau, Glen <ggareau@sfwmd.gov>

Date Wed 3/19/2025 10:16 AM

To Sultana, Arifa <asultana@sfwmd.gov>; Conmy, Barbara <bconmy@sfwmd.gov>; Veguilla, Elizabeth <eveguil@sfwmd.gov>; Yairen Sotolongo-Gabeiras <ysotolongo@bcceng.com>; Lazaro Ferrero <lferrero@bcceng.com>; Andrew James List <alist@bcceng.com>; Armando Rodriguez <arodriguez@bcceng.com>

Cc Jamaica, Gyna <gjamaica@sfwmd.gov>; Tellman, Shari <stellman@sfwmd.gov>; Vicciardo, Mark <mvicciar@sfwmd.gov>; Reins, Morgan <mreins@sfwmd.gov>; Parker, Tammy <tparker@sfwmd.gov>

1 attachment (105 KB)

TEN Tips to prepare ERP Apps.pdf;

As we discussed,

- Recommend you explore GP 62-330.451 FAC, FEE is $250
- New Water Quality Performance standards do not apply until December 28 2025, see Section 3.1.2 AH Vol. I.
- If not grandfathered new O&M criteria are required, recommend review grandfathering provisions in Section 3.1.2 AH Vol I
- Applicant must demonstrate non-presumptive BMP's meet state water quality standards in 62-330.301 and 62-330.302 FAC, recommend you consider the quality assurance standards of 62-160 FAC. Recommend evaluating the BMP's found in the BMPTrains model version 4.3.5 available from UCF.
- See link to FDEP below for help with NEW rule applicability, flow charts, Forms, and FAQ

Attached are tips on preparing an ERP application.

Sincerely,

Glen Gareau, P.E.
South Florida Water Management District
316 NW 5th Street
Okeechobee, FL 34972

Phone 863-462-5260 x3006

Additional help with NEW rule applicability, flow charts, Forms, and FAQ can be found on the FDEP web site:

- https://floridadep.gov/water/engineering-hydrology-geology/content/erp-stormwater-resource-center

F-2

RegPermitting now serves as the District's online platform for submittal of permit applications, additional information, compliance information and payments for the Environmental Resource, Water Use and Well Construction regulatory programs, along with submittal of Everglades Works of the District water quality data. ePermitting remains available for Records Search and Electronic Noticing only. For assistance with RegPermitting, email regpermitting@sfwmd.gov.

While the District supports that it is commonplace and convenient to collaborate via email during the pre-application/application process, Permit Applications and Responses to a Request for Additional Information (RAI) submitted via email are not an official submittal (Chapter 62-330.061(1), Florida Statutes and Sections 40E-1.021(2) and 40E-2.101, Florida Administrative Code). For timely and efficient processing of permit applications and RAI responses, submit online using RegPermitting.

Florida enjoys a broad public records law. This email and any response to this email are subject to that law and may be reviewed by the public.

-----Original Appointment-----
From: Burchett, Elaine <aburchet@sfwmd.gov>
Sent: Tuesday, March 18, 2025 11:54 AM
To: Burchett, Elaine; Sultana, Arifa; Conmy, Barbara; Veguilla, Elizabeth; Yairen Sotolongo-Gabeiras; lferrero@bcceng.com; alist@bcceng.com; arodriguez@bcceng.com
Cc: Jamaica, Gyna; Tellman, Shari; Vicciardo, Mark; Reins, Morgan; Parker, Tammy; Gareau, Glen
Subject: Pre-Application Meeting / STREETSCAPE PROJECT
When: Wednesday, March 19, 2025 9:30 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting; WPB Pre-Application Meetings

Good morning,

I've a pre-app meeting tomorrow. I have a confusion regarding their question here. Will you be able to attend the meeting with me?

Thank you,

Arifa Sultana, M.Sc.
Engineering Specialist 2
ENVIRONMENTAL RESOURCE BUREAU
South Florida Water Management District
3301 Gun Club Road, West Palm Beach, FL 33406
Phone: 561-682-6605 Ext: 6605

-----Original Appointment-----
From: Burchett, Elaine <aburchet@sfwmd.gov>
Sent: Monday, March 10, 2025 11:02 AM
To: Burchett, Elaine; Sultana, Arifa; Conmy, Barbara; Veguilla, Elizabeth; Yairen Sotolongo-Gabeiras; lferrero@bcceng.com; alist@bcceng.com; arodriguez@bcceng.com
Cc: Jamaica, Gyna; Tellman, Shari; Vicciardo, Mark; Reins, Morgan; Parker, Tammy
Subject: Pre-Application Meeting / STREETSCAPE PROJECT
When: Wednesday, March 19, 2025 9:30 AM-10:00 AM (UTC-05:00) Eastern Time (US & Canada).
Where: Microsoft Teams Meeting; WPB Pre-Application Meetings

Meeting Link Below Notes:

A little introduction on the project:
The project is located on Whitehead Street from United Street to South Steet and along South Street from Whitehead Street to Duval Street. The existing drainage consists of a closed self-contained drainage basin comprised of drainage wells. The proposed drainage design consists of catch basins connected to an existing structure on the intersection of South Street and Duval Street (See page four of Drainage Plans) that leads to an outfall into the ocean. Please see below questions we would like to address in the pre application meeting:

1. We are coordinating with Contech, a company specializing in nutrient removal filters (jellyfish and/or water polisher) to meet the 95% removal requirement (**Minimum Performance Standards for Impaired Waters (AH Vol. I – Section 8.3.4)** as our project connects with an outfall to a OFW. Are these technologies acceptable?
2. Our project consists of a total 0.89 acres of area, it is over 40% impervious. The City of Key West is fixed on not installing any drainage wells because they have found from experience that they are not effective. According to **Land Use and Coverage Criteria (AH Vol. II – Section 4.1.1)** it is my understanding that at least 20% of the pollutant load using a retention BMP or a separate containing system must be removed. However, given the location of this project, we are unable to provide any other form of BMP than drainage wells which the city is vehemently against. Could we receive any exemption from this if the 95% removal is achieved?

Microsoft Teams Need help?

Join the meeting now

Meeting ID: 255 934 486 314

Passcode: 2yB3Ab9m

Dial in by phone

+1 561-437-5958,,584706092# United States, West Palm Beach

Find a local number

Phone conference ID: 584 706 092#

For organizers: Meeting options | Reset dial-in PIN
