DRAINAGE REPORT

For the design of

SHOOSTER PRESERVE

South side of S.W. Seventh Court between
U.S.441/State Rd. 7 and S.W. 64th Terrace, Margate

Broward County, Florida

Prepared By:

SSN ENGINEERING, LLC

3500 N. State Road 7, Suite 213-4
Lauderdale Lakes, FL 33319

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RUBEL SIDDIQUE, P.E.
P.E. Lic. No. 67239

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  - Node-Reach Diagram
  - ICPR Input Data
  - Node Maximum Report

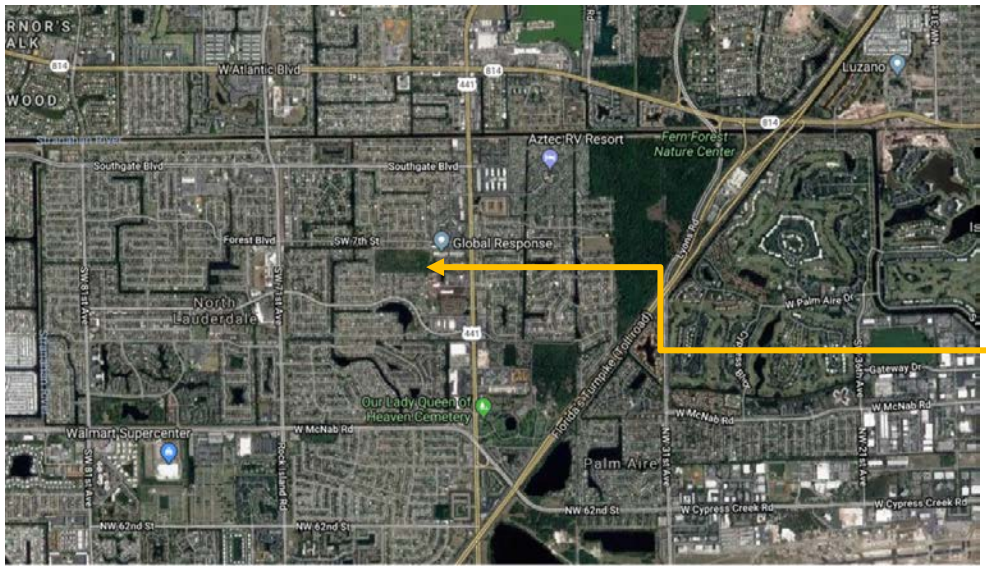
1.0 INTRODUCTION

Shooster Preserve is owned and maintained by the Broward County Parks and Recreation. The total size of this preserve is 19.78 acres which falls within the City of Margate. The proposed project also includes parking spaces within the City of North Lauderdale.

2.0 PROJECT BACKGROUND

2.1 Location

The proposed project is located in Section 1/ Township 49 South/Range 41 east, Broward County Florida. The site is located on the south side of S.W. 7th Court between U.S.441/State Rd. 7 and S.W. 64th Terrace, Margate.



2.2 Proposed development

Proposed development includes construction of new parking spaces along SW 64th Terrace within the City of North Lauderdale boundary. The development also includes the construction of new walkway and boardwalk inside the park within the City of Margate boundary. Modification of the existing walkway entrance to the park is necessary to meet the ADA accessibility guidelines.

3.0 EXISTING CONDITIONS

The preserve site is primarily a basin swamp, characterized by bald cypress, red maple, and pond apple in its deeper area, with a few areas of willow. Also included is a disturbed area of mesic flatwoods with slash pines and laurel oak, situated along the northern border of the site. The interior of the site contains a mature cypress dome with large pond apples, a type of habitat becoming increasingly rare in Broward County. The land is classified as a mixture of 11 acres of Conservation Area and 8.78 acres of impacted Green Space.

Wildlife observations have documented a total of 76 species in the Shooster Preserve. Among them are 43 species of birds, 18 butterflies, seven mammals, five amphibians, and three reptiles.

3.1 Water table elevation

Water table elevation used in design is 4.0 NAVD-88 to match with the existing permit document. The Broward County Water Table Map- Average Wet Season is included in ***Exhibit-1*** of this report.

4.0 SURFACE WATER MANAGEMENT SYSTEM DESIGN

Proposed Storm water Management System:

The proposed drainage system consists of a Dry pond/Swale, solid pipe and two inlets. The dry pond will provide the water quality and quantity for the proposed development.

Water Quality Treatment Volume

SFWMD criteria require treatment of storm water equal to either the first inch of runoff over entire area or 2.5 inches times the percent imperviousness. Dry retention volume shall be provided equal to 50 percent of the amounts computed for wet detention.

Water Quantity Treatment Volume

25 year 3 day with discharge has been determined to compare the maximum pre vs post off-site discharge.

5.0 HYDROLOGIC/HYDRAULIC MODELING

Interconnected Channel and Pond Routing Model (ICPR v3.10) was used to model the proposed stormwater management systems. ICPR is an engineering software tool developed by Streamline Technologies, Inc. and is a comprehensive hydrodynamic stormwater modeling system that includes an integrated hydrology component. It is extremely flexible and can be used for the design of single detention ponds for the smallest site plans or modeling of the largest and most complex regional systems with thousands of nodes and links. ICPR can simulate hydrologic and hydraulic conditions by generating runoff hydrographs and dynamically routing these hydrographs through dendritic, diverging, or looped stormwater management systems.

The ICPR model parameters, input report and results are included in ***Appendix-A, Appendix-B, Appendix-C and Appendix-D***.

5.1 Node-Reach Diagram / Node-Link Schematic

The three primary building blocks in ICPR are Basins, Nodes and Links. Runoff hydrographs generated in the hydrology component of ICPR are assigned to specific nodes in the drainage network and subsequently routed through ponds, channels and storm sewer systems in the hydraulics component. Nodes are used to represent ponds and specific locations in the drainage network such as along channels, streams, rivers and junctions in pipe systems. Links are used to model weirs, gates, orifices, pipes, culverts, storm sewers, channels, streams, rivers, drop structures, bridges, rating curves, breaches, percolation, exfiltration trench etc.

Please see the enclosed ICPR Node-Reach Diagram developed for post-development conditions for the proposed stormwater management systems, which depicts the primary hydraulic connections between the internal nodes and boundary conditions.

5.2 Hydrology

In ICPR model, runoff hydrographs can be generated using a number of different methods which includes the NRCS (SCS) Unit Hydrograph Method, the Santa Barbara Urban Hydrograph Method, and the Kinematic Overland Flow Method. For the proposed improvement, the SCS Unit Hydrograph method was used, because it is the most representative method for evaluating runoff conditions with the FDOT rainfall distributions. Other related parameters used to model the drainage basins hydrology are described in the following subsections.

5.2.1 *Basin Area*

Runoff contributing area including pervious area, and impervious area for each drainage basin was determined and included in the drainage basin areas were assigned to each drainage basin in the ICPR model.

5.2.2 *Runoff Curve Number (CN)*

The runoff curve number (CN) for each basin was estimated by computing a basin-specific soil storage (S) value, as outlined in the SFWMD Basis of Review Vol IV. The moisture storage capability (S) of the soil profile has been estimated by the Soil Conservation Service for normal sandy soils found within the South Florida Water Management District boundaries. The total amount of water which can be stored in the soil profile expressed as a function of the depth to the water table:

Depth to Water Table (feet)	Cumulative Water Storage (inches)	Compacted Water Storage (inches)
1	0.60	0.45
2	2.50	1.88
3	6.60	4.95
4	10.90	8.18

The values in the third column represent the estimated amount of water which can be stored under the previous area after development or compaction.

The curve number for each drainage basin was derived from the following equation:

$CN = 1000/ (S+10)$

5.2.3 *Time of Concentration (T_C)*

The time of concentration for each basin was determined using the method outlined in USDA Urban Hydrology for Small Watersheds (TR-55). Time of Concentration represents the length of time (in minutes) required for a particle of water to travel from the hydraulic-most distant point in the drainage basin to its outlet.

5.2.4 *Directly Connected Imperious Area (DCIA)*

The DCIA is the impervious area within a basin that is hydraulically connected to the discharge point. If a paved road drains by way of curb and gutter into a storm sewer system, then the roadway would be considered DCIA. The DCIA is expressed as the percentage of the basin area. The DCIA data field in ICPR model is optional and can be left zero, if the curve number represents the entire basin. For proposed project the CN was calculated for the entire basin or sub-basin area, therefore, the DCIA data was not utilized.

5.2.5 *Peaking Factor*

The SCS Unit Hydrograph Method requires a dimensionless unit hydrograph and its associated peaking factor. The dimensionless unit hydrograph combined with a peaking factor affect the shape of the runoff hydrograph and its peak flow rate. The higher the peaking factor, the higher the peak flow rate. According to SFWMD Basis of Review Volume IV, in the South Florida Water Management District, for slopes less than about 5 feet per mile, a value of 100 is recommended and for slopes greater than 5 feet per mile a factor of 256 is recommended. Therefore, the ICPR model for proposed project surface water management system utilized a peaking factor of 256 for all drainage basins.

5.2.6 *Design Storm Rainfall*

The following design storms and rainfall depths were utilized to simulate design storms hydrology. In ICPR the rainfall distribution, storm duration, and rainfall depth can be specified for each drainage basin or it can defined globally for all the drainage basins through Hydrology Simulation Control Template. The following is a summary of different storm events that were used in Hydrology Simulation Control Template to be applied to all drainage basins:

Design Storm	Storm Duration (hours)	Rainfall Name/Distribution	Rainfall Depth (inches)
10-year, 24-hour	24	FDOT 24-hour	9.50
25-year, 72-hour	72	SFWMD 72-hour	14.0

5.3 Hydraulics

The hydraulic parameters used in the ICPR model of the proposed surface water management systems, utilized standard engineering practices and or data discovered during project research.

5.3.1 *Nodes*

In ICPR, Nodes represent retention/detention ponds/swales, inlets with storage above the grate elevation, and specific locations in the drainage network such as along channels, streams, rivers and junctions in pipe systems. There are different types of Nodes that are used in ICPR model – Stage-Area type, Stage-Volume type, Time-Stage type, or Manhole type.

The storage characteristics of each drainage basin were determined using the vertical and linear storage methods described in SFWMD Basis of Review Volume IV and was assigned to a Node within the ICPR model with Stage-Area or Stage-Volume type.
Time-stage nodes are typically used to simulate the boundary conditions for the surface water management systems or ICPR model. For the proposed surface water management system, the boundary conditions for exfiltration trench were determined based on the assumed variable groundwater conditions for the various design storms events. The

boundary conditions for all other outfall locations were determined based on historically observed storm stages for the receiving water bodies.

5.3.2 *Links*

The ICPR model for the proposed stormwater management systems of proposed project utilized weirs, and rating curves as the links for hydraulic connections. The input parameters for these links were based on standard engineering practices.

Weirs were utilized to model the hydraulic connections among the drainage basins. The input parameters for weirs included type of weir, geometry of weir, size of weir, invert/control elevation, weir discharge coefficient, and orifice discharge coefficient etc.

6.0 CONCLUSION/RECOMMENDATION

Water Quality Comparison:
Required water quality volume for proposed development = 0.013 Ac-ft
Provided water quality volume for the proposed drainage system = 0.016 Ac-ft

Water Quantity Comparison:
The summary of ICPR model is provided bellow. See appendix A and B for more detail information.

Storm Event	**Max Off-site discharge (cfs)**	
	Pre-Condition	Post Condition
10-Year,24-H	3.60	0.08
25-Year,72-H	12.35	2.71

So, it is concluded that off-site discharge is lower in all storm event for post development condition then predevelopment condition. So, the project meet the water quality and quantity requirement.

7.0 REFERENCE MATERIAL

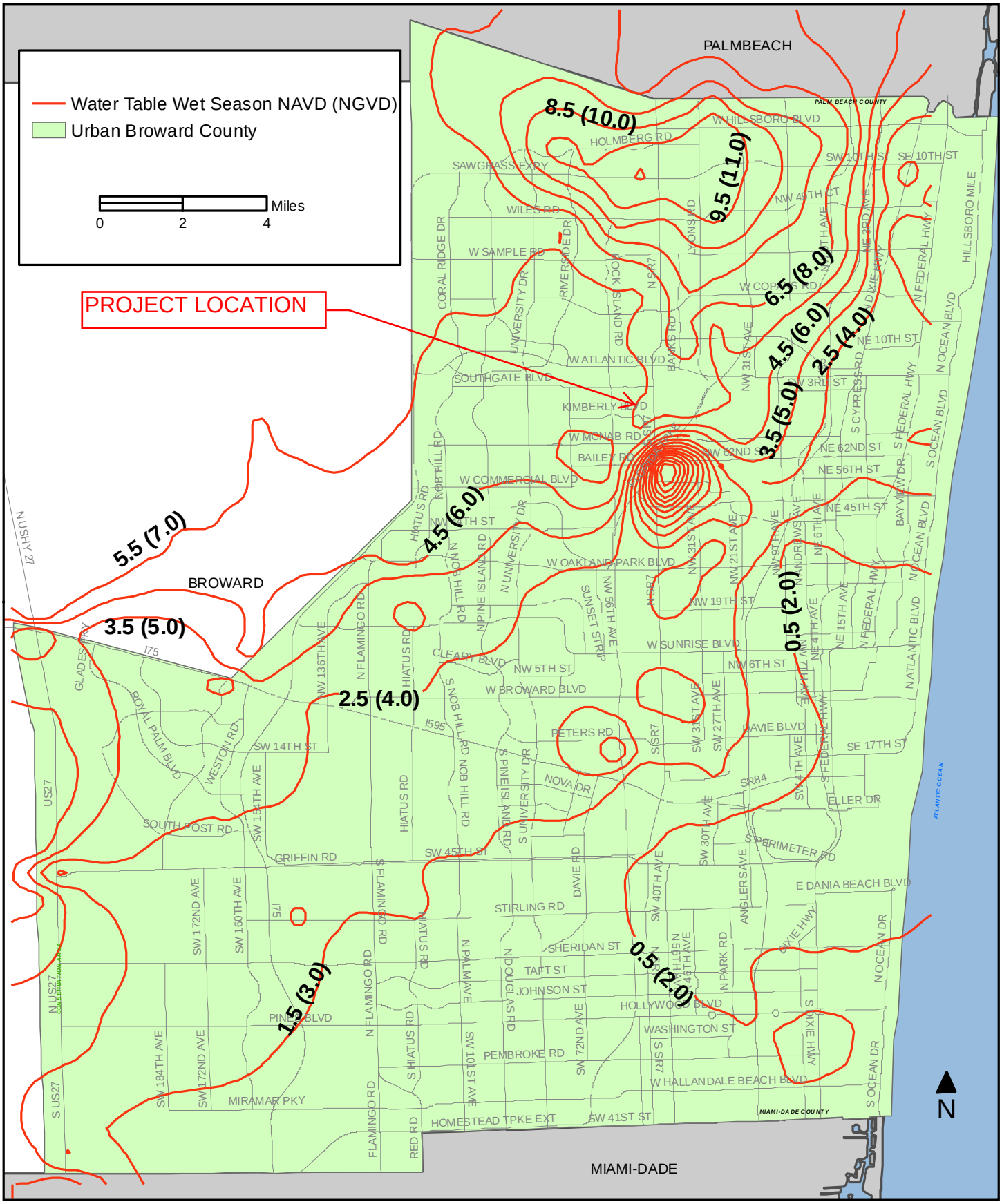
1. USDA Urban Hydrology for Small Watersheds TR-55
2. SFWMD ERP Information Manual Volume IV
3. FDOT drainage handbook

EXHIBITS

- Exhibit 1 Broward County Water Table Map- Average Wet Season

- **Exhibit 1 Broward County Water Table Map- Average Wet Season**

WATER TABLE MAP - AVERAGE WET SEASON



Division Name: Planning and Environmental Regulation
Department Name: Environmental Protection and Growth Management

This map is for conceptual purposes only and should not be used for legal boundary determinations.
Elevation converted from NGDV to NAVD using the FEMA approved conversion factor for Broward County of (-) 1.5

TABLES

- **Table-1: Proposed and Existing Land use Information**

SHOOSTER PRESERVE

Table-1: Proposed and Existing Land use Information

Proposed and Existing Land use Information			

Water table Elevation = 5.5 NAVD-88

Existing Land use:

Other Pervious Area	4,594 Sq-ft		
Dry Pond	0 Sq-ft		
Parking	0 Sq-ft		
Sidewalk	0 Sq-ft		
Building Roof	0 Sq-ft		
Other Pavers	0 Sq-ft		
Total Impevious Area	0 Sq-ft		
Total Area	4,594 Sq-ft		
Summary :			
Total Area	4,594 Sq-ft	0.105 Ac	100.00%
Impervious	0 Sq-ft	0.00 Ac	0.00%
Roof	0 Sq-ft	0.00 Ac	
Dry Pond	0 Sq-ft	0.00 Ac	
Other Pervious Area	4,594 Sq-ft	0.11 Ac	100.00%

Proposed Land use

Other Pervious Area	0 Sq-ft		
Dry Pond	930 Sq-ft		
Parking	2,450 Sq-ft		
Sidewalk	1,214 Sq-ft		
Building Roof	0 Sq-ft		
Other Pavers	0 Sq-ft		
Total Impevious Area	3,664 Sq-ft		
Total Area	4,594 Sq-ft		
Summary :			
Total Area	4,594 Sq-ft	0.105 Ac	100.00%
Impervious	3,664 Sq-ft	0.08 Ac	79.76%
Roof	0 Sq-ft	0.00 Ac	
Dry Pond	930 Sq-ft	0.02 Ac	
Other Pervious Area	0 Sq-ft	0.00 Ac	0.00%

- **Table-2: Propose Water Quality Volume Calculation**

SHOOSTER PRESERVE

Table-2: Propose Water Quality Volume Calculation

1. Given

A. Proposed acreages

1. Lake =	0.00	ac
2. Roofs=	0.00	ac
3. Other Pavement=	0.08	ac
4. Dry Pond/Pervious areas	0.02	ac
5. Total=	0.11	ac

Design Criteria

Quality

1. If a **wet detention** system, then whichever is the greater of

a. The first inch of runoff from the entire site.

b. The amount of 2.5 in. times the percentage of impervious.

2. If a **dry detention** system, then 75% of the volume required for wet detention.

3. If a **retention** system, then 50% of the volume required.

Computations

A. Quality

1. Compute the first inch of runoff from the entire developed site.

= 1 in. x 0.105 ac 1 ft/12 in.
= 0.009 ac-ft for the first inch of runoff.

2. Compute 2.5 in. times the percentage of imperviousness.

a. Site area, for water quality pervious/impervious calculation only

= Total project - (lake + roof)

= 0.10546 ac -(0.00 ac + 0.00 ac)

= 0.10546 ac site area, for water quality pervious/impervious.

b. Impervious area, for water quality pervious/impervious calculations only

= (Site area for water quality pervious/impervious) - pervious

= 0.10546 ac- 0.02 ac

= 0.08411 ac impervious area, for water quality pervious/impervious.

c. Percentage of imperviousness for water quality.

$$= \frac{\text{Impervious area for water quality x 100\%}}{\text{Site area for water quality}}$$

= (0.084 ac / 0.11 ac)x100%

= 80% impervious

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Table-2: Propose Water Quality Volume Calculation

d. For 2.5 in. times the percentage impervious

= 2.5 in. x 0.798

= 1.99 in. to be treated

e. Compute volume required for quality detention

= inches to be treated x (total site - lake)

= 1.99 in. x (0.105 ac - 0 ac) x 1 ft/12 in.

= 1.99 in. x (0.1055 ac) x 1 ft/12 in.

= 0.018 ac-ft required detention storage

3. Since the 0.018 ac-ft are greater than the, 0.009 ac-ft computed runoff, the volume of 0.018 ac-ft controls.

4. The Proposed system is Dry Detention pond, so water quality volume requirment is 75% of wet volume.
0.013 ac-ft is the required water quality volume.

- **Table-3: Water Quality Volume and Pond Stage relationship**

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Table-3: Water Quality Volume and Pond Stage relationship

Pond Stage -Area				
		Stage (NAVD)	Area (Ac)	Volume (Ac-ft)
	Top	8	0.021	0
	Bottom	7	0.011	0.016

Water Quality Volume and Pond Stage relationship		
Required water Quality volume		0.013 Ac-ft
Provided water Quality volume		0.016 Ac-ft

- **Table-4: Curve Number Calculation**

CIVIC CENTER: ATHLETIC CLUB GYMNASIUM ADDITION

Table-4: Curve Number Calculation

Existing condtion

Total Area (Ac)	Pervious Area (Ac)	Impervious Area (Ac)	Depth to Ground Water (ft)	Soil Storage under pervious Area, in *	Average Soil Storage (S)	Curve Number = 1000/(S+10)
0.11	0.11	0.00	3.00	3.30	3.30	75

Proposed condtion

Total Area (Ac)	Pervious Area (Ac)	Impervious Area (Ac)	Depth to Ground Water (ft)	Soil Storage under pervious Area, in *	Average Soil Storage (S)	Curve Number = 1000/(S+10)
0.11	0.02	0.08	3.00	3.30	0.67	94

Note : * Assumed soil type - Depressional

APPENDICES

- Appendix-A: ICPR Model for Pre-Development Surface Water Management Systems
  (25 year 3 day and 10 year 1 day rainfall event)
  - Node-Reach Diagram
  - ICPR Input Data
  - Node Maximum Report

- Appendix-B: ICPR Model for Post-Development Surface Water Management Systems
  (25 year 3 day and 10 year 1 day rainfall event)
  - Node-Reach Diagram
  - ICPR Input Data
  - Node Maximum Report

APPENDIX-A

ICPR Model for Pre-Development Surface Water Management Systems

(25 year 3 day and 10 year 1 day rainfall event)

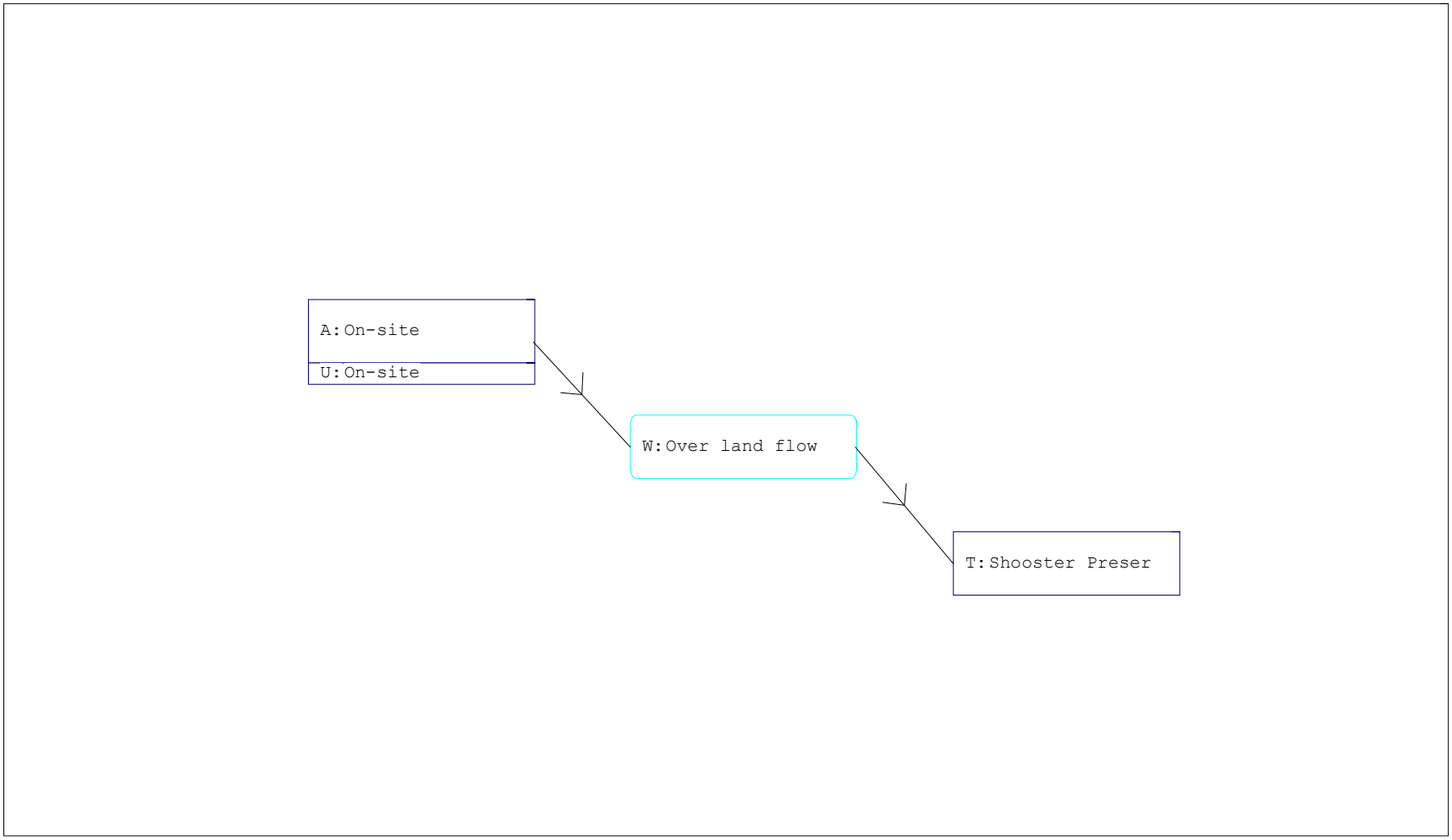
- Node-Reach Diagram
- ICPR Input Data
- Node Maximum Report

SHOOSTER PRESERVE
South side of S.W. 7th Court between U.S.441/State Rd. 7 and S.W. 64th Terrace, Margate.
NETWORK DIAGRAM-EXISTING CONDITION

Nodes
A Stage/Area
V Stage/Volume
T Time/Stage
M Manhole

Basins
O Overland Flow
U SCS Unit CN
S SBUH CN
Y SCS Unit GA
Z SBUH GA

Links
P Pipe
W Weir
C Channel
D Drop Structure
B Bridge
R Rating Curve
H Breach
E Percolation
F Filter
X Exfil Trench



SHOOSTER PRESERVE
South side of S.W. 7th Court between U.S.441/State Rd. 7 and S.W. 64th Terrace, Margate.
ALL INPUT DATA-EXISTING CONDITION

```
================================================================================
==== Basins ====================================================================
================================================================================

         Name: On-site                  Node: On-site               Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                  Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000              Time of Conc(min): 10.00
             Area(ac): 0.105                  Time Shift(hrs): 0.00
         Curve Number: 75.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


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

      Name: On-site             Base Flow(cfs): 0.000          Init Stage(ft): 8.000
     Group: BASE                                               Warn Stage(ft): 10.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
          8.000          0.0000
          9.000          0.1050

--------------------------------------------------------------------------------
      Name: Shooster Preser     Base Flow(cfs): 0.000          Init Stage(ft): 5.500
     Group: BASE                                               Warn Stage(ft): 8.000
      Type: Time/Stage


      Time(hrs)       Stage(ft)
--------------- ---------------
           0.00           5.500
        9999.00           5.500

================================================================================
==== Weirs =====================================================================
================================================================================

         Name: Over land flow      From Node: On-site
        Group: BASE                  To Node: Shooster Preser
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                    Span(in): 9999.00
                    Rise(in): 24.00
                  Invert(ft): 8.000
       Control Elevation(ft): 8.000
                                          TABLE
            Bottom Clip(in): 0.000
               Top Clip(in): 0.000
          Weir Discharge Coef: 3.200
      Orifice Discharge Coef: 0.600
```

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

Name: 025 YR 72 HR
Filename: C:\Users\mdrahman\Desktop\WZ\SHOOSTER PRESEVE\ICPR\Pre\025 YR 72 HR.R32

Override Defaults: Yes
Storm Duration(hrs): 72.00
Rainfall File: Sfwmd72
Rainfall Amount(in): 14.00

Time(hrs)	Print Inc(min)
108.000	5.00

Name: 10 YR 24 HR
Filename: C:\Users\mdrahman\Desktop\WZ\SHOOSTER PRESEVE\ICPR\Pre\10 YR 24 HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Fdot-24
Rainfall Amount(in): 9.50

Time(hrs)	Print Inc(min)
36.000	5.00

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

Name: 025 YR 72 HR Hydrology Sim: 025 YR 72 HR
Filename: C:\Users\mdrahman\Desktop\WZ\SHOOSTER PRESEVE\ICPR\Pre\025 YR 72 HR.I32

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

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 96.00
Min Calc Time(sec): 0.2500 Max Calc Time(sec): 30.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
96.000	5.000

Group	Run
BASE	Yes

Name: 10 YR 24 HR Hydrology Sim: 10 YR 24 HR
Filename: C:\Users\mdrahman\Desktop\WZ\SHOOSTER PRESEVE\ICPR\Pre\10 YR 24 HR.I32

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

       Max Delta Z(ft): 1.00                    Delta Z Factor: 0.10000
   Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                    End Time(hrs): 36.00
    Min Calc Time(sec): 0.2500              Max Calc Time(sec): 30.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
48.000          5.000

Group           Run
--------------- -----
BASE            Yes
```

SHOOSTER PRESERVE
South side of S.W. 7th Court between U.S.441/State Rd. 7 and S.W. 64th Terrace, Margate.
NODE MAX REPORT-EXISTING CONDITION

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
On-site	BASE	025 YR 72 HR	12.35	8.00	10.00	-0.0000	113	60.00	0.60	12.35	0.00
Shooster Preser	BASE	025 YR 72 HR	0.00	5.50	8.00	0.0000	0	12.35	0.00	0.00	0.00
On-site	BASE	10 YR 24 HR	3.60	8.00	10.00	-0.0000	113	12.00	0.08	3.60	0.00
Shooster Preser	BASE	10 YR 24 HR	0.00	5.50	8.00	0.0000	0	3.60	0.00	0.00	0.00

APPENDIX-B

ICPR Model for Post-Development Surface Water Management Systems

(25 year 3 day and 10 year 1 day rainfall event)

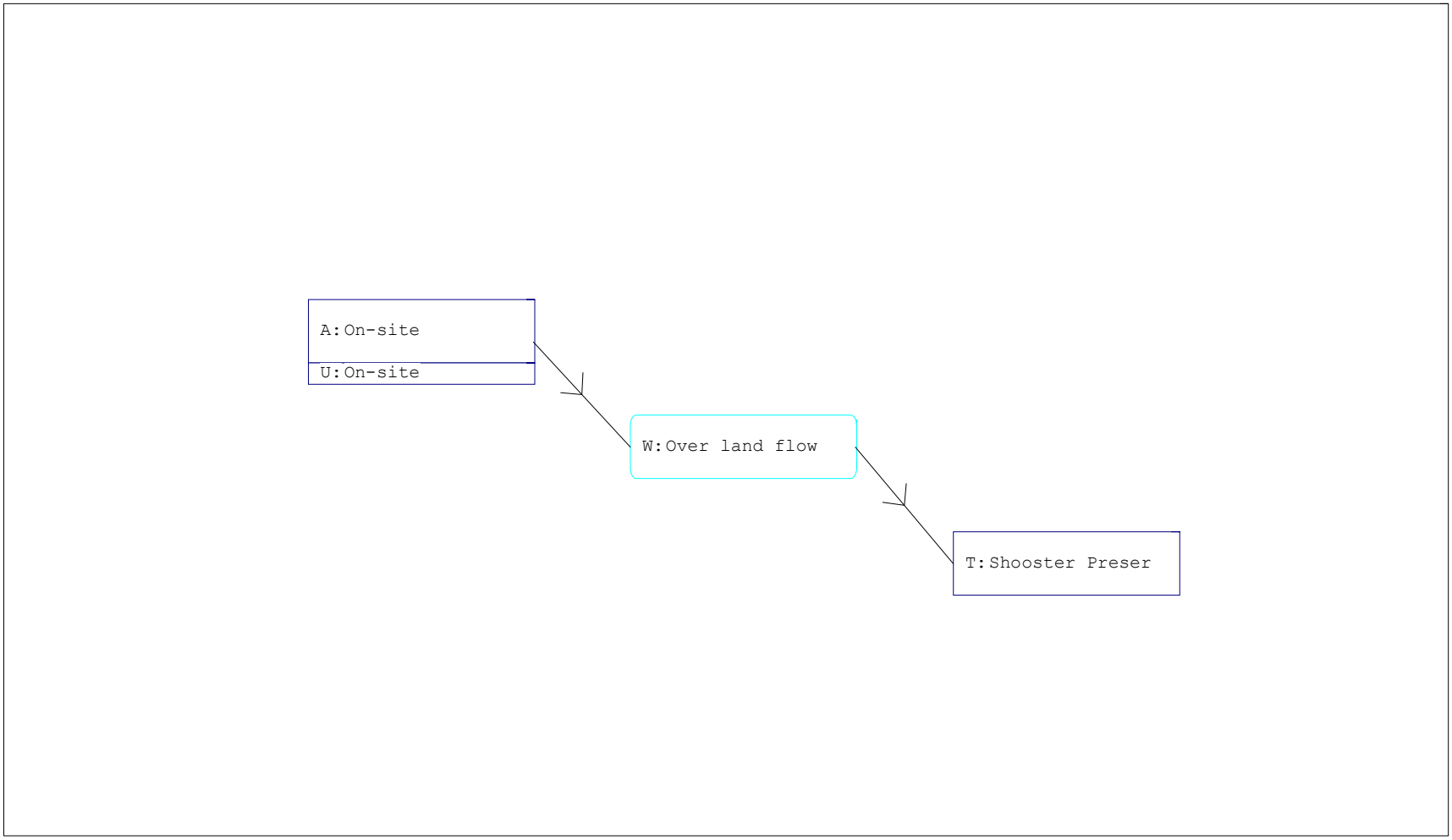
- Node-Reach Diagram
- ICPR Input Data
- Node Maximum Report

SHOOSTER PRESERVE
South side of S.W. 7th Court between U.S.441/State Rd. 7 and S.W. 64th Terrace, Margate.
NETWORK DIAGRAM-PROPOSED CONDITION

Nodes
A Stage/Area
V Stage/Volume
T Time/Stage
M Manhole

Basins
O Overland Flow
U SCS Unit CN
S SBUH CN
Y SCS Unit GA
Z SBUH GA

Links
P Pipe
W Weir
C Channel
D Drop Structure
B Bridge
R Rating Curve
H Breach
E Percolation
F Filter
X Exfil Trench



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

Name: On-site Node: On-site Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 0.105 Time Shift(hrs): 0.00
Curve Number: 94.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

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

Name: On-site Base Flow(cfs): 0.000 Init Stage(ft): 8.000
Group: BASE Warn Stage(ft): 10.000
Type: Stage/Area

The storage area in between stage 7 to 8 refer to storage volume in the dry pond

Stage(ft)	Area(ac)
6.900	0.0000
7.000	0.0111
8.000	0.0207
9.000	0.1050

Name: Shooster Preser Base Flow(cfs): 0.000 Init Stage(ft): 5.500
Group: BASE Warn Stage(ft): 8.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	5.500
9999.00	5.500

==========
==== Weirs ====
==========

Name: Over land flow From Node: On-site
Group: BASE To Node: Shooster Preser
Flow: Both Count: 1
Type: Vertical: Mavis Geometry: Rectangular

Span(in): 9999.00
Rise(in): 24.00
Invert(ft): 8.000
Control Elevation(ft): 8.000
TABLE
Bottom Clip(in): 0.000
Top Clip(in): 0.000

```
         Weir Discharge Coef: 3.200
      Orifice Discharge Coef: 0.600


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

         Name: 025 YR 72 HR
     Filename: C:\Users\mdrahman\Desktop\WZ\SHOOSTER PRESEVE\ICPR\Post\025 YR 72 HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 72.00
          Rainfall File: Sfwmd72
    Rainfall Amount(in): 14.00

Time(hrs)       Print Inc(min)
--------------- ---------------
108.000         5.00

--------------------------------------------------------------------------------------------------------
         Name: 10 YR 24 HR
     Filename: C:\Users\mdrahman\Desktop\WZ\SHOOSTER PRESEVE\ICPR\Post\10 YR 24 HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Fdot-24
    Rainfall Amount(in): 9.50

Time(hrs)       Print Inc(min)
--------------- ---------------
36.000          5.00

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

         Name: 025 YR 72 HR        Hydrology Sim: 025 YR 72 HR
     Filename: C:\Users\mdrahman\Desktop\WZ\SHOOSTER PRESEVE\ICPR\Post\025 YR 72 HR.I32

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

       Max Delta Z(ft): 1.00                     Delta Z Factor: 0.10000
    Time Step Optimizer: 10.000
       Start Time(hrs): 0.000                     End Time(hrs): 96.00
     Min Calc Time(sec): 0.2500               Max Calc Time(sec): 30.0000
       Boundary Stages:                         Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
96.000          5.000

Group           Run
--------------- -----
BASE            Yes


--------------------------------------------------------------------------------------------------------
```

Name: 10 YR 24 HR Hydrology Sim: 10 YR 24 HR
Filename: C:\Users\mdrahman\Desktop\WZ\SHOOSTER PRESEVE\ICPR\Post\10 YR 24 HR.I32

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

Max Delta Z(ft): 1.00 Delta Z Factor: 0.10000
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 36.00
Min Calc Time(sec): 0.2500 Max Calc Time(sec): 30.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
48.000	5.000

Group	Run
BASE	Yes

SHOOSTER PRESERVE
South side of S.W. 7th Court between U.S.441/State Rd. 7 and S.W. 64th Terrace, Margate.
NODE MAX REPORT-PROPOSED CONDITION

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
On-site	BASE	025 YR 72 HR	60.06	8.01	10.00	-0.0278	937	60.00	0.65	60.06	2.71
Shooster Preser	BASE	025 YR 72 HR	0.00	5.50	8.00	0.0000	0	60.06	2.71	0.00	0.00
On-site	BASE	10 YR 24 HR	10.83	8.00	10.00	-0.0001	903	12.00	0.10	10.83	0.08
Shooster Preser	BASE	10 YR 24 HR	0.00	5.50	8.00	0.0000	0	10.83	0.08	0.00	0.00