



AMERICAN CIVIL ENGINEERING CO.

207 N. MOSS ROAD, SUITE 211 · WINTER SPRINGS, FLORIDA 32708

Telephone: (407) 327 7700 Fax: (407) 327 0227

August 8, 2016

CUBESMART @ HANCOCK ROAD LAKE COUNTY, FLORIDA

STORMWATER MANAGEMENT REPORT

PREPARED FOR:

CLERMONT STORAGE CENTER, LLC
1041 CROWN PARK CR.
WINDER GARDEN, FL 34786

PREPARED BY:

AMERICAN CIVIL ENGINEERING COMPANY
207 N. MOSS ROAD, SUITE 211
WINTER SPRINGS, FLORIDA 32708
(407) 327-7700



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PRE VS POST ANALYSIS

PRE VS. POST ANALYSIS

<u>EVENT</u>	<u>Q(PRE)</u>	<u>Q(POST)</u>
25 YR/96 HR	10.61 CFS	3.47 CFS
25 YR/24 HR	5.43 CFS	0.41 CFS
10 YR/24 HR	3.02 CFS	0.11 CFS
MEAN ANNUAL	0.18 CFS	0.00 CFS

$$\begin{aligned}\text{PRO-RATA SHARE} &= (9.33 \text{ AC}/9.99 \text{ AC}) \times 11.36 \text{ CFS} = 10.61 \text{ CFS} \\ &= (9.33 \text{ AC}/9.99 \text{ AC}) \times 5.81 \text{ CFS} = 5.43 \text{ CFS} \\ &= (9.33 \text{ AC}/9.99 \text{ AC}) \times 3.23 \text{ CFS} = 3.02 \text{ CFS} \\ &= (9.33 \text{ AC}/9.99 \text{ AC}) \times 0.19 \text{ CFS} = 0.18 \text{ CFS}\end{aligned}$$

PRE-DEVELOPMENT VOLUME

$$9.99 \text{ AC} \times 2.919'' / (12''/\text{FT}) = 2.43 \text{ AC-FT}$$

$$\text{PRO RATA SHARE } (9.33/9.99) \times 2.43 \text{ AC-FT} = \mathbf{2.27 \text{ AC-FT}}$$

POST DEVELOPMENT VOLUME

$$3.79 \text{ AC} \times 7.204'' / (12''/\text{FT}) = 2.28 \text{ AC-FT}$$

$$4.82 \text{ AC} \times 6.916'' / (12''/\text{FT}) = 2.78 \text{ AC-FT}$$

$$0.72 \text{ AC} \times 9.818'' / (12''/\text{FT}) = \mathbf{0.59 \text{ AC-FT}}$$

$$\text{TOTAL VOLUME GENERATED} = \mathbf{5.65 \text{ AC-FT}}$$

25 YR/96 HR DIFFERENTIAL VOLUME REQUIRED

$$5.65 \text{ AC-FT} - 2.27 \text{ AC-FT} = \mathbf{3.38 \text{ AC-FT}}$$

VOLUME PROVIDED

$$\text{NODE 11} = 1.18 \text{ AC-FT}$$

$$\text{NODE 12} = 1.90 \text{ AC-FT}$$

$$\text{NODE 13} = \mathbf{0.30 \text{ AC-FT}}$$

$$\text{TOTAL} = \mathbf{3.38 \text{ AC-FT}}$$

DRAWDOWN TIME FOR WATER QUALITY VOLUME:
<72 HOURS

PROJECT NARRATIVE

PROJECT NARRATIVE

PROJECT DESCRIPTION:

DEVELOP A 5.74 ACRE VACANT COMMERCIAL PARCEL LOCATED ON THE EAST SIDE OF HANCOCK ROAD APPROXIMATE ONE MILE SOUTH WEST COLONIAL DRIVE (SR 50) IN LAKE COUNTY, FLORIDA. THE DEVELOPMENT WILL CONSIST OF SUBDIVIDING THE PARCEL INTO THREE LOTS WITH OFFSITE DRY RETENTION AREAS THAT WILL BE RELOCATED WHEN THE FUTURE DEVELOPMENT TO THE EAST IS CONSTRUCTED. AND MASTER RETENTION SYSTEM. PHASE I WILL INCLUDE CONSTRUCTING THE LOT 1 IMPROVEMENTS AND EXTEND UTILITIES TO SERVE THE LOTS.

EXISTING CONDITIONS:

THE SITE DRAINS TO THE NORTH.

POSITIVE OUTFALL:

THE SITE RETENTION AREAS WILL OVERFLOW TO THE NORTH TO A LANDLOCKED BASIN.

METHODOLOGY:

THE SYSTEM WILL BE DESIGNED TO CONTAIN TWO DRY RETENTION AREAS AND ONE EXFILTRATION SYSTEM.

DRAWDOWN:

THE DRAWDOWN OF THE RETENTION SYSTEM WILL BE THROUGH NATURAL INFILTRATION.

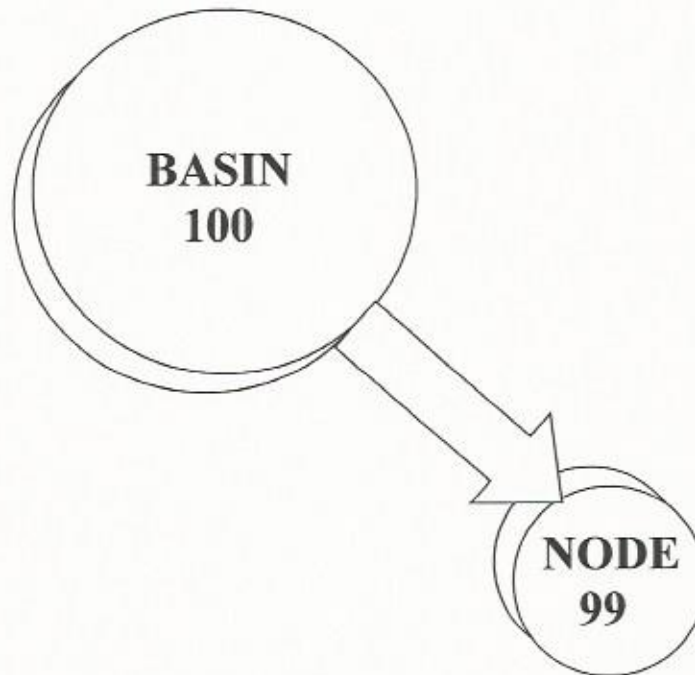
CONCLUSIONS:

THE RETENTION POND IS DESIGNED TO CONFORM TO THE LAKE COUNTY AND SJRWMD PERMIT REQUIREMENTS.

**PRE DEVELOPMENT
BASIN DATA**

PROJECT: CUBESMART @ HANCOCK ROAD
LAKE COUNTY, FLORIDA

PRE-DEVELOPED HYD. SCHEMATIC:



AMERICAN CIVIL ENGINEERING COMPANY
207 N. MOSS ROAD, SUITE 211
WINTER SPRINGS, FLORIDA 32708
PHONE: (407) 327-7700
FAX: (407) 327-0227

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PROJECT: CUBESMART @ HANCOCK ROAD
LAKE COUNTY, FLORIDA

PRE-DEVELOPED ANALYSIS:

HYDROGRAPH DATA:

BASIN NO. 100

TOTAL AREA (AC)	ONSITE = 5.74 AC OFFSITE = 4.25 AC	<u>9.99 ACRES</u>
PERVIOUS AREA (AC)		<u>9.99 ACRES</u>
IMPERVIOUS AREA (AC)		<u>0.00 ACRES</u>
WATER SURFACE AREA (AC)		<u>0.00 ACRE</u>

SCS SOIL TYPE	<u>PASTURE-GOOD</u>
PERVIOUS CN	<u>39</u>
IMPERVIOUS CN	<u>98</u>
WATER SURFACE CN	<u>100</u>
COMPOSITE CN	<u>39</u>

TIME OF CONCENTRATION: 31.8 MINUTES

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207 N. MOSS ROAD, SUITE 211
WINTER SPRINGS, FLORIDA 32708
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PROJECT: CUBESMART @ HANCOCK ROAD
LAKE COUNTY, FLORIDA

PRE-DEVELOPED TIME OF CONCENTRATION COMPUTATIONS:
BASED ON SOIL CONVERSATION SERVICE (SCS) TECHNICAL RELEASE 55 (TR-55)

BASIN NUMBER: 100

1. OVERLAND FLOW: $T_1 = [0.007 (nL)^{0.8}] / (P)^{0.5}(s)^{0.4}$

n = MANNING'S ROUGHNESS 0.40
L = FLOW LENGTH (ft) 300
P = 4.75 INCHES
S = SLOPE OF HYD. GR. (ft/ft) 0.045
T₁ = TRAVEL TIME (hr) 0.51 HOUR

2. CONCENTRATED FLOW: $T_2 = L/V$

L = FLOW LENGTH (ft) 255
V = VELOCITY BASED ON TR55 4.6 FT/S
T₂ = TRAVEL TIME (hr) 0.02 HOUR

3. PIPE FLOW: $T_3 = L/V$

L = FLOW LENGTH (ft)
V = VEL. IN PIPE, ASSUME 4.0 ft/s
T₃ = TRAVEL TIME (hr) 0.0 HOUR

4. TOTAL TIME OF CONCENTRATION:

$$T_c = T_1 + T_2 + T_3$$

$$T_c = 0.51 + 0.02 + 0.0 = \underline{0.53 \text{ HOUR}}$$

31.8 MIN.

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**PRE DEVELOPMENT
HYDROGRAPHS**

CUBESMART @ HANCOCK RD
PRE DEVELOPMENT

BASIN SUMMARY

Basin Name: 100
Group Name: BASE
Node Name: 99
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Scsii-24
Rainfall Amount (in): 7.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 31.20
Time Shift (hrs): 0.00
Area (ac): 9.990
Curve Number: 39.000
DCIA (%): 0.000

Time Max (hrs): 12.00
Flow Max (cfs): 3.233
Runoff Volume (in): 0.955
Runoff Volume (ft3): 34632.444

Basin Name: 100
Group Name: BASE
Node Name: 99
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Scsii-24
Rainfall Amount (in): 8.600
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 31.20
Time Shift (hrs): 0.00
Area (ac): 9.990
Curve Number: 39.000
DCIA (%): 0.000

Time Max (hrs): 12.00
Flow Max (cfs): 5.808
Runoff Volume (in): 1.418
Runoff Volume (ft3): 51426.305

CUBESMART @ HANCOCK RD
PRE DEVELOPMENT

BASIN SUMMARY

Basin Name: 100
Group Name: BASE
Node Name: 99
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Sjrwnd96
Rainfall Amount (in): 11.500
Storm Duration (hrs): 96.00
Status: Onsite
Time of Conc (min): 31.20
Time Shift (hrs): 0.00
Area (ac): 9.990
Curve Number: 39.000
DCIA (%): 0.000

Time Max (hrs): 60.00
Flow Max (cfs): 11.359
Runoff Volume (in): 2.919
Runoff Volume (ft3): 105843.947

Basin Name: 100
Group Name: BASE
Node Name: 99
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Scsii-24
Rainfall Amount (in): 4.750
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 31.20
Time Shift (hrs): 0.00
Area (ac): 9.990
Curve Number: 39.000
DCIA (%): 0.000

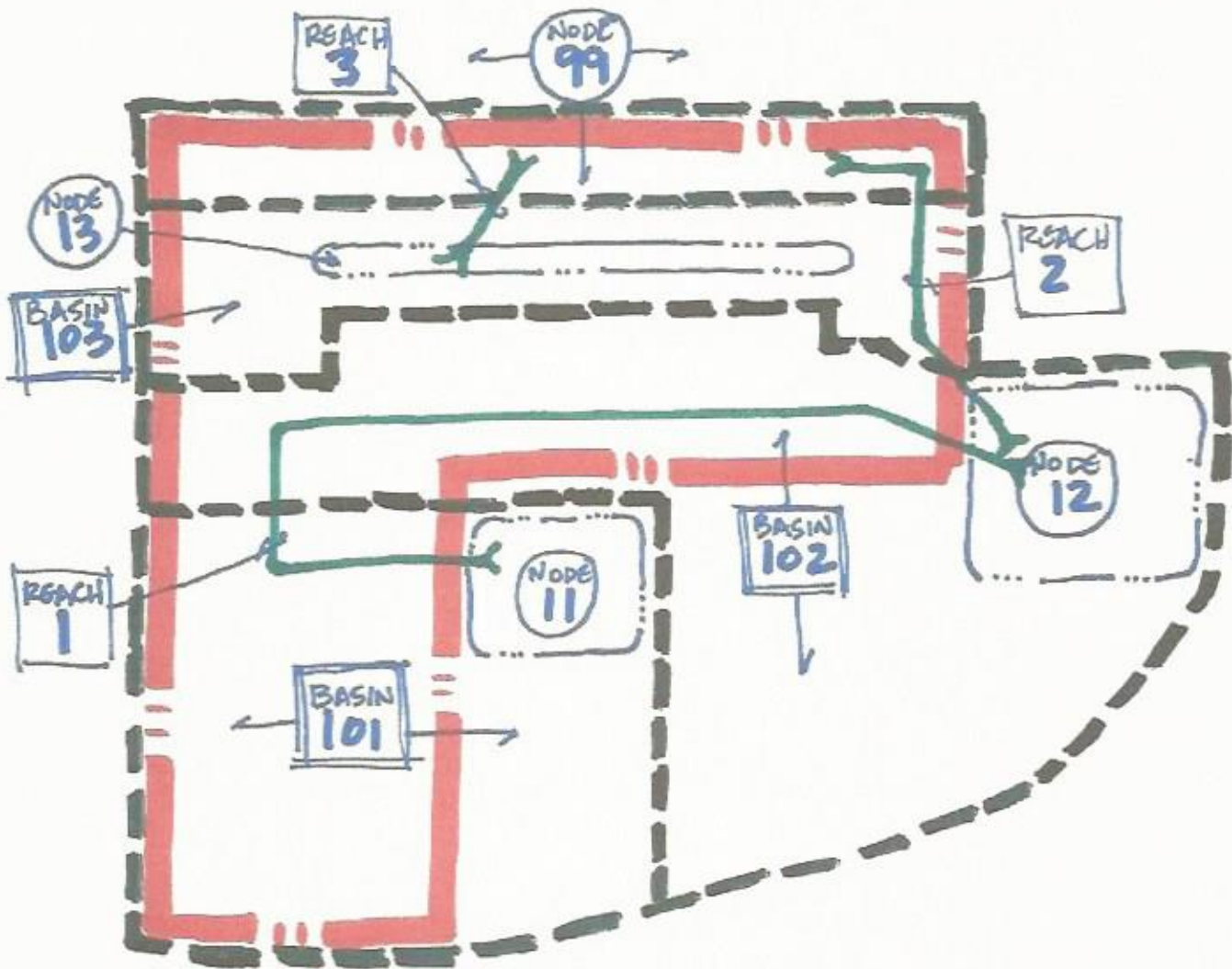
Time Max (hrs): 13.25
Flow Max (cfs): 0.190
Runoff Volume (in): 0.152
Runoff Volume (ft3): 5525.237

**POST DEVELOPMENT
BASIN DATA**

PROJECT: CUBESMART @ HANCOCK ROAD
LAKE COUNTY, FLORIDA

POST DEVELOPMENT ANALYSIS

POST-DEVELOPED HYD. SCHEMATIC:



AMERICAN CIVIL ENGINEERING COMPANY
207 N. MOSS ROAD, SUITE 211
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PROJECT: CUBESMART @ HANCOCK ROAD
LAKE COUNTY, FLORIDA

POST-DEVELOPED ANALYSIS:

HYDROGRAPH DATA:

BASIN NO. 101

TOTAL AREA (AC)	ONSITE = 2.27 AC OFFSITE = 1.52 AC	<u>3.79 ACRES</u>
PERVIOUS AREA (AC)		<u>1.97 ACRES</u>
IMPERVIOUS AREA (AC)		<u>1.82 ACRES</u>
WATER SURFACE AREA (AC)		<u>0.00 ACRE</u>

SCS SOIL TYPE	PASTURE-GOOD	<u>HYD. GRP. A</u>
PERVIOUS CN		<u>39</u>
IMPERVIOUS CN		<u>98</u>
WATER SURFACE CN		<u>100</u>
COMPOSITE CN	$[(1.97)(39) + (1.82)(98)] / [3.79] =$	<u>67.3</u>

TIME OF CONCENTRATION: 15.0 MINUTES

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PROJECT: CUBESMART @ HANCOCK ROAD
LAKE COUNTY, FLORIDA

POST-DEVELOPMENT ANALYSIS

SPECIFIC DESIGN CRITERIA:

DRY RETENTION AREA

FIRST 1.0" OF RUNOFF OR
1.25" X IMP. AREA + 0.5" (AREA)

WATER QUALITY VOLUME:

$$V_1 = (1.0'')(3.79 \text{ ACRE})/(12'' \text{ FT}) = \underline{\underline{0.316 \text{ AC-FT}}}$$

$$V_2 = \\ [(1.25'')(1.82 \text{ ACRE})+(0.50'')(3.79 \text{ ACRE})]/(12'') \\ = \underline{\underline{0.348 \text{ AC-FT}}}$$

REQUIRED WATER QUALITY VOLUME:

$$\underline{\underline{0.348 \text{ AC-FT}}}$$

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PROJECT: CUBESMART @ HANCOCK ROAD
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POST-DEVELOPMENT ANALYSIS

STAGE/STORAGE DATA:

NODE 11

STAGE (ELEV)	AREA (ACRE)	AVE. AREA (ACRE)	DEPTH (FEET)	INCREM. VOLUME (AC-FT)	ACCUM. VOLUME (AC-FT)
172.00	0.122	-	-	-	-
173.00	0.147	0.135	1.00	0.135	0.135
174.00	0.172	0.160	1.00	0.160	0.294
175.00	0.199	0.186	1.00	0.186	0.480
176.00	0.229	0.214	1.00	0.214	0.694
177.00	0.289	0.259	1.00	0.259	0.953
178.00	0.415	0.352	1.00	0.352	1.305

$$\frac{(175.00 - X)}{(175.00 - 174.00)} = \frac{(0.480 - 0.348)}{(0.480 - 0.294)} \quad X = 174.30 \text{ (MIN)}$$

VOLUME PROVIDED AT OVERFLOW WEIR EL. 177.65 = 1.18 AC-FT

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LAKE COUNTY, FLORIDA

POST-DEVELOPED ANALYSIS:

HYDROGRAPH DATA:

BASIN NO. **102**

TOTAL AREA (AC)	ONSITE = 2.08 AC OFFSITE = 2.72 AC	<u>4.82 ACRES</u>
PERVIOUS AREA (AC)		<u>2.67 ACRES</u>
IMPERVIOUS AREA (AC)		<u>2.15 ACRES</u>
WATER SURFACE AREA (AC)		<u>0.00 ACRE</u>

SCS SOIL TYPE	PASTURE-GOOD	<u>HYD. GRP. A</u>
PERVIOUS CN		<u>39</u>
IMPERVIOUS CN		<u>98</u>
WATER SURFACE CN		<u>100</u>
COMPOSITE CN	$[(2.67)(39) + (2.15)(98)] / [4.82] =$	<u>65.3</u>

TIME OF CONCENTRATION: **15.0** MINUTES

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PROJECT: CUBESMART @ HANCOCK ROAD
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POST-DEVELOPMENT ANALYSIS

SPECIFIC DESIGN CRITERIA:

DRY RETENTION AREA

FIRST 1.0" OF RUNOFF OR
1.25" X IMP. AREA + 0.5" (AREA)

WATER QUALITY VOLUME:

$$V_1 = (1.0'')(4.82 \text{ ACRE})/(12'' \text{ FT}) = \underline{\underline{0.402 \text{ AC-FT}}}$$

$$V_2 = \\ [(1.25'')(2.15 \text{ ACRE})+(0.50'')(4.82 \text{ ACRE})]/(12'') \\ = \underline{\underline{0.425 \text{ AC-FT}}}$$

REQUIRED WATER QUALITY VOLUME:

$$\underline{\underline{0.425 \text{ AC-FT}}}$$

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PROJECT: CUBESMART @ HANCOCK ROAD
 LAKE COUNTY, FLORIDA

POST-DEVELOPMENT ANALYSIS

STAGE/STORAGE DATA:

NODE **12**

STAGE (ELEV)	AREA (ACRE)	AVE. AREA (ACRE)	DEPTH (FEET)	INCREM. VOLUME (AC-FT)	ACCUM. VOLUME (AC-FT)
168.00	0.257	-	-	-	-
169.00	0.287	0.272	1.00	0.272	0.272
170.00	0.319	0.303	1.00	0.303	0.575
171.00	0.352	0.336	1.00	0.336	0.911
172.00	0.387	0.370	1.00	0.370	1.280
173.00	0.469	0.428	1.00	0.428	1.708
174.00	0.647	0.558	1.00	0.558	2.266
175.00	2.850	1.749	1.00	1.749	4.015

$$\frac{(170.00 - X)}{(170.00 - 169.00)} = \frac{(0.575 - 0.425)}{(0.575 - 0.272)} \quad X = 169.50 \text{ (MIN)}$$

VOLUME PROVIDED AT OVERFLOW WEIR EL. 173.35 = 1.90 AC-FT

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LAKE COUNTY, FLORIDA

POST-DEVELOPED ANALYSIS:

HYDROGRAPH DATA:

BASIN NO. 103

TOTAL AREA (AC)	<u>0.72 ACRES</u>
PERVIOUS AREA (AC)	<u>0.14 ACRES</u>
IMPERVIOUS AREA (AC)	<u>0.58 ACRES</u>
WATER SURFACE AREA (AC)	<u>0.00 ACRE</u>

SCS SOIL TYPE	PASTURE-GOOD	<u>HYD. GRP. A</u>
PERVIOUS CN		<u>39</u>
IMPERVIOUS CN		<u>98</u>
WATER SURFACE CN		<u>100</u>
COMPOSITE CN	$[(0.14)(39) + (0.58)(98)] / [0.72] =$	<u>86.5</u>

TIME OF CONCENTRATION: 10.0 MINUTES

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FAX: (407) 327-0227

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PROJECT: CUBESMART @ HANCOCK ROAD
LAKE COUNTY, FLORIDA

POST-DEVELOPMENT ANALYSIS

SPECIFIC DESIGN CRITERIA:

DRY RETENTION AREA

FIRST 1.0" OF RUNOFF OR
1.25" X IMP. AREA + 0.5" (AREA)

WATER QUALITY VOLUME:

$$V_1 = (1.0")(0.72 \text{ ACRE})/(12" \text{ FT}) = \underline{\underline{0.060 \text{ AC-FT}}}$$

$$V_2 = \\ [(1.25")(0.58 \text{ ACRE})+(0.50")(0.72 \text{ ACRE})]/(12") \\ = \underline{\underline{0.090 \text{ AC-FT}}}$$

REQUIRED WATER QUALITY VOLUME:

$$\underline{\underline{0.090 \text{ AC-FT}}}$$

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PROJECT: CUBESMART @ HANCOCK ROAD
LAKE COUNTY, FLORIDA

POST-DEVELOPMENT ANALYSIS

STAGE/STORAGE DATA:

NODE **13**

STAGE (ELEV)	AREA (ACRE)	AVE. AREA (ACRE)	DEPTH (FEET)	INCREM. VOLUME (AC-FT)	ACCUM. VOLUME (AC-FT)
155.85	0.060	-	-	-	-
156.85	0.060	0.060	1.00	0.060	0.060
157.85	0.060	0.060	1.00	0.060	0.120
158.85	0.060	0.060	1.00	0.060	0.180
159.85	0.060	0.060	1.00	0.060	0.240
160.85	0.060	0.060	1.00	0.060	0.300

$$\frac{(157.85 - X)}{(157.85 - 156.85)} = \frac{(0.120 - 0.090)}{(0.120 - 0.060)} \quad X = 157.35 \text{ (MIN)}$$

VOLUME PROVIDED AT OVERFLOW WEIR EL. 160.85 = 0.30 AC-FT

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CUBESMART @ HANCOCK ROAD

POST DEVELOPMENT

INPUT SUMMARY

Basins

Name: 101 Node: 11 Status: Onsite
Group: BASE Type: Santa Barbara

Rainfall File: Sjrwm96 Storm Duration(hrs): 96.00
Rainfall Amount(in): 11.500 Time of Conc(min): 15.00
Area(ac): 3.790 Time Shift(hrs): 0.00
Curve Number: 67.30 Time Increment(min): 5.00
DCIA(%): 0.00 Max Allowable Q(cfs): 99999.000

Name: 102 Node: 12 Status: Onsite
Group: BASE Type: Santa Barbara

Rainfall File: Sjrwm96 Storm Duration(hrs): 96.00
Rainfall Amount(in): 11.500 Time of Conc(min): 15.00
Area(ac): 4.820 Time Shift(hrs): 0.00
Curve Number: 65.30 Time Increment(min): 5.00
DCIA(%): 0.00 Max Allowable Q(cfs): 99999.000

Name: 103 Node: 13 Status: Onsite
Group: BASE Type: Santa Barbara

Rainfall File: Sjrwm96 Storm Duration(hrs): 96.00
Rainfall Amount(in): 11.500 Time of Conc(min): 10.00
Area(ac): 0.720 Time Shift(hrs): 0.00
Curve Number: 86.50 Time Increment(min): 5.00
DCIA(%): 0.00 Max Allowable Q(cfs): 99999.000

Nodes

Name: 11 Base Flow(cfs): 0.000 Init Stage(ft): 172.000
Group: BASE Warn Stage(ft): 178.000
Type: Stage/Area

Stage (ft)	Area (ac)
172.000	0.1220
173.000	0.1470
174.000	0.1720

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

INPUT SUMMARY

175.000	0.1990
176.000	0.2290
177.000	0.2890
178.000	0.4150

Name: 12	Base Flow(cfs): 0.000	Init Stage(ft): 168.000
Group: BASE		Warn Stage(ft): 175.000
Type: Stage/Area		

Stage (ft)	Area (ac)
168.000	0.2570
169.000	0.2870
170.000	0.3190
171.000	0.3520
172.000	0.3870
173.000	0.4690
174.000	0.6470
175.000	2.8500

Name: 13	Base Flow(cfs): 0.000	Init Stage(ft): 155.850
Group: BASE		Warn Stage(ft): 163.850
Type: Stage/Area		

Stage (ft)	Area (ac)
155.850	0.0600
156.850	0.0600
157.850	0.0600
158.850	0.0600
159.850	0.0600
160.850	0.0600
161.000	0.0010
163.850	0.0010

Name: 99	Base Flow(cfs): 0.000	Init Stage(ft): 154.930
Group: BASE		Warn Stage(ft): 157.000
Type: Time/Stage		

Time (hrs)	Stage (ft)
0.00	154.930
96.00	157.000

==== Drop Structures =====

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

INPUT SUMMARY

Name:	From Node:	Length(ft):	0.00
Group: BASE	To Node:	Count:	1
UPSTREAM	DOWNSTREAM	Friction Equation:	Average Conve
Geometry: Circular	Circular	Solution Algorithm:	Automatic
Span(in): 0.00	0.00	Flow:	Both
Rise(in): 0.00	0.00	Entrance Loss Coef:	0.000
Invert(ft): 0.000	0.000	Exit Loss Coef:	0.000
Manning's N: 0.000000	0.000000	Outlet Ctrl Spec:	Use dc or tw
Top Clip(in): 0.000	0.000	Inlet Ctrl Spec:	Use dn
Bot Clip(in): 0.000	0.000	Solution Incs:	10

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

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

----- Weirs -----

Name: 1	From Node: 11
Group: BASE	To Node: 12
Flow: Both	Count: 1
Type: Vertical: Mavis	Geometry: Rectangular
Span(in): 60.00	
Rise(in): 4.00	
Invert(ft): 177.650	
Control Elevation(ft): 177.650	
	TABLE
Bottom Clip(in): 0.000	
Top Clip(in): 0.000	
Weir Discharge Coef: 3.200	
Orifice Discharge Coef: 0.600	

Name: 2	From Node: 12
Group: BASE	To Node: 99
Flow: Both	Count: 1
Type: Vertical: Mavis	Geometry: Rectangular
Span(in): 12.00	
Rise(in): 9.00	
Invert(ft): 173.350	
Control Elevation(ft): 173.350	
	TABLE

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

INPUT SUMMARY

Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 3.200
Orifice Discharge Coef: 0.600

Name: 3 From Node: 13
Group: BASE To Node: 99
Flow: Both Count: 1
Type: Vertical: Mavis Geometry: Rectangular

Span(in): 12.00
Rise(in): 42.00
Invert(ft): 160.850
Control Elevation(ft): 160.850

TABLE

Bottom Clip(in): 0.000
Top Clip(in): 0.000
Weir Discharge Coef: 3.200
Orifice Discharge Coef: 0.600

==== Hydrology Simulations =====

Name: POST 10 YR-24 H
Filename: C:\Program Files\Icpr3\examples\2015\15130\POST 10 YR-24 H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Scsii-24
Rainfall Amount(in): 7.50

Time(hrs)	Print Inc(min)
24.000	5.00

Name: POST 25 YR-24 H
Filename: C:\Program Files\Icpr3\examples\2015\15130\POST 25 YR-24 H.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Scsii-24
Rainfall Amount(in): 8.60

Time(hrs)	Print Inc(min)
24.000	5.00

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

INPUT SUMMARY

Name: POST 25 YR-96 H
Filename: C:\Program Files\Icpr3\examples\2015\15130\POST 25 YR-96 H.R32

Override Defaults: Yes
Storm Duration(hrs): 96.00
Rainfall File: Sjrwnd96
Rainfall Amount(in): 11.50

Time(hrs)	Print Inc(min)
96.000	5.00

Name: POST MEAN ANNUA
Filename: C:\Program Files\Icpr3\examples\2015\15130\POST MEAN ANNUAL.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Scsii-24
Rainfall Amount(in): 4.50

Time(hrs)	Print Inc(min)
24.000	5.00

==== Routing Simulations

Name: POST 10 YR-24 H Hydrology Sim: POST 10 YR-24 H
Filename: C:\Program Files\Icpr3\examples\2015\15130\POST 10 YR-24 H.I32

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

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000
Start Time(hrs): 0.000 End Time(hrs): 24.00
Min Calc Time(sec): 0.5000 Max Calc Time(sec): 60.0000
Boundary Stages: Boundary Flows:

Time(hrs)	Print Inc(min)
24.000	15.000

Group	Run
BASE	Yes

Name: POST 25 YR-24 H Hydrology Sim: POST 25 YR-24 H
Filename: C:\Program Files\Icpr3\examples\2015\15130\POST 25 YR-24 H.I32

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

INPUT SUMMARY

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

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000 End Time(hrs): 24.00
Start Time(hrs): 0.000 Max Calc Time(sec): 60.0000
Min Calc Time(sec): 0.5000 Boundary Flows:
Boundary Stages:

Time(hrs)	Print Inc(min)
24.000	15.000
Group	Run
BASE	Yes

Name: POST 25 YR-96 H Hydrology Sim: POST 25 YR-96 H
Filename: C:\Program Files\Icpr3\examples\2015\15130\POST 25 YR-96 H.I32

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

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000 End Time(hrs): 96.00
Start Time(hrs): 0.000 Max Calc Time(sec): 60.0000
Min Calc Time(sec): 0.5000 Boundary Flows:
Boundary Stages:

Time(hrs)	Print Inc(min)
96.000	15.000
Group	Run
BASE	Yes

Name: POST MEAN ANNUA Hydrology Sim: POST MEAN ANNUA
Filename: C:\Program Files\Icpr3\examples\2015\15130\POST MEAN ANNUAL .I32

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

Max Delta Z(ft): 1.00 Delta Z Factor: 0.00500
Time Step Optimizer: 10.000 End Time(hrs): 24.00
Start Time(hrs): 0.000

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

INPUT SUMMARY

Min Calc Time(sec): 0.5000
Boundary Stages:

Max Calc Time(sec): 60.0000
Boundary Flows:

Time (hrs)	Print Inc (min)
24.000	15.000
Group	Run
BASE	Yes

==== Boundary Conditions =====

**POST DEVELOPMENT
HYDROGRAPHS &
ROUTINGS**

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

ROUTING SUMMARY

Name	Simulation	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Inflow cfs	Max Outflow cfs
11POST	10 YR-24 H	177.676	178.000	0.0050	16301	12.544	0.068
12POST	10 YR-24 H	172.331	175.000	0.0033	18041	15.007	0.000
13POST	10 YR-24 H	160.957	163.850	0.0050	786	4.383	0.111
99POST	10 YR-24 H	155.447	157.000	0.0004	0	0.111	0.000
11POST	25 YR-24 H	177.754	178.000	0.0050	16726	15.617	0.535
12POST	25 YR-24 H	173.576	175.000	0.0039	24897	18.847	0.344
13POST	25 YR-24 H	161.100	163.850	0.0050	113	5.131	0.400
99POST	25 YR-24 H	155.447	157.000	0.0004	0	0.407	0.000
11POST	25 YR-96 H	177.951	178.000	0.0050	17807	15.388	2.639
12POST	25 YR-96 H	173.945	175.000	0.0039	27758	18.899	1.469
13POST	25 YR-96 H	161.905	163.850	0.0154	113	4.013	3.467
99POST	25 YR-96 H	157.000	157.000	0.0004	0	3.467	0.000
11POST	MEAN ANNUA	174.936	178.000	0.0041	8593	4.794	0.000
12POST	MEAN ANNUA	169.889	175.000	0.0024	13742	5.449	0.000
13POST	MEAN ANNUA	158.896	163.850	0.0050	2614	2.326	0.000
99POST	MEAN ANNUA	155.448	157.000	0.0004	0	0.000	0.000

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

BASIN SUMMARY

Basin Name: 101
Group Name: BASE
Node Name: 11
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Scsii-24
Rainfall Amount (in): 7.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 15.00
Time Shift (hrs): 0.00
Area (ac): 3.790
Curve Number: 67.300
DCIA (%): 0.000

Time Max (hrs): 12.00
Flow Max (cfs): 12.544
Runoff Volume (in): 3.743
Runoff Volume (ft3): 51490.227

Basin Name: 102
Group Name: BASE
Node Name: 12
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Scsii-24
Rainfall Amount (in): 7.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 15.00
Time Shift (hrs): 0.00
Area (ac): 4.820
Curve Number: 65.300
DCIA (%): 0.000

Time Max (hrs): 12.00
Flow Max (cfs): 15.008
Runoff Volume (in): 3.526
Runoff Volume (ft3): 61697.707

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

BASIN SUMMARY

Basin Name: 103
Group Name: BASE
Node Name: 13
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Scsii-24
Rainfall Amount (in): 7.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 0.720
Curve Number: 86.500
DCIA (%): 0.000

Time Max (hrs): 11.92
Flow Max (cfs): 4.383
Runoff Volume (in): 5.906
Runoff Volume (ft3): 15434.838

Basin Name: 101
Group Name: BASE
Node Name: 11
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Scsii-24
Rainfall Amount (in): 8.600
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 15.00
Time Shift (hrs): 0.00
Area (ac): 3.790
Curve Number: 67.300
DCIA (%): 0.000

Time Max (hrs): 12.00
Flow Max (cfs): 15.618
Runoff Volume (in): 4.660
Runoff Volume (ft3): 64111.051

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

BASIN SUMMARY

Basin Name: 102
Group Name: BASE
Node Name: 12
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Scsii-24
Rainfall Amount (in): 8.600
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 15.00
Time Shift (hrs): 0.00
Area (ac): 4.820
Curve Number: 65.300
DCIA (%): 0.000

Time Max (hrs): 12.00
Flow Max (cfs): 18.848
Runoff Volume (in): 4.421
Runoff Volume (ft3): 77345.177

Basin Name: 103
Group Name: BASE
Node Name: 13
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Scsii-24
Rainfall Amount (in): 8.600
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 0.720
Curve Number: 86.500
DCIA (%): 0.000

Time Max (hrs): 11.92
Flow Max (cfs): 5.133
Runoff Volume (in): 6.974
Runoff Volume (ft3): 18228.522

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

BASIN SUMMARY

Basin Name: 101
Group Name: BASE
Node Name: 11
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Sjrwnd96
Rainfall Amount (in): 11.500
Storm Duration (hrs): 96.00
Status: Onsite
Time of Conc (min): 15.00
Time Shift (hrs): 0.00
Area (ac): 3.790
Curve Number: 67.300
DCIA (%): 0.000

Time Max (hrs): 59.92
Flow Max (cfs): 15.389
Runoff Volume (in): 7.204
Runoff Volume (ft3): 99106.165

Basin Name: 102
Group Name: BASE
Node Name: 12
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Sjrwnd96
Rainfall Amount (in): 11.500
Storm Duration (hrs): 96.00
Status: Onsite
Time of Conc (min): 15.00
Time Shift (hrs): 0.00
Area (ac): 4.820
Curve Number: 65.300
DCIA (%): 0.000

Time Max (hrs): 59.92
Flow Max (cfs): 18.900
Runoff Volume (in): 6.916
Runoff Volume (ft3): 121007.000

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

BASIN SUMMARY

Basin Name: 103
Group Name: BASE
Node Name: 13
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Sjrwnd96
Rainfall Amount (in): 11.500
Storm Duration (hrs): 96.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 0.720
Curve Number: 86.500
DCIA (%): 0.000

Time Max (hrs): 59.92
Flow Max (cfs): 4.013
Runoff Volume (in): 9.818
Runoff Volume (ft3): 25660.920

Basin Name: 101
Group Name: BASE
Node Name: 11
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Scsii-24
Rainfall Amount (in): 4.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 15.00
Time Shift (hrs): 0.00
Area (ac): 3.790
Curve Number: 67.300
DCIA (%): 0.000

Time Max (hrs): 12.00
Flow Max (cfs): 4.796
Runoff Volume (in): 1.484

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

BASIN SUMMARY

Runoff Volume (ft3): 20419.707

Basin Name: 102
Group Name: BASE
Node Name: 12
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Scsii-24
Rainfall Amount (in): 4.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 15.00
Time Shift (hrs): 0.00
Area (ac): 4.820
Curve Number: 65.300
DCIA (%): 0.000

Time Max (hrs): 12.00
Flow Max (cfs): 5.451
Runoff Volume (in): 1.350
Runoff Volume (ft3): 23621.165

Basin Name: 103
Group Name: BASE
Node Name: 13
Basin Type: Santa Barbara

Spec Time Inc (min): 5.00
Comp Time Inc (min): 5.00
Rainfall File: Scsii-24
Rainfall Amount (in): 4.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 0.720
Curve Number: 86.500
DCIA (%): 0.000

Time Max (hrs): 11.92
Flow Max (cfs): 2.327

CUBESMART @ HANCOCK ROAD
POST DEVELOPMENT

BASIN SUMMARY

Runoff Volume (in): 3.051
Runoff Volume (ft3): 7973.790

DRAWDOWN ANALYSIS

MODRET

SUMMARY OF UNSATURATED & SATURATED INPUT PARAMETERS

PROJECT NAME : CubeSmart @ Hancock - Node 11
MANUAL RUNOFF DATA USED
UNSATURATED ANALYSIS EXCLUDED

Pond Bottom Area	5,314.00 ft ²
Pond Volume between Bottom & DHWL	56,079.00 ft ³
Pond Length to Width Ratio (L/W)	2.00
Elevation of Effective Aquifer Base	165.50 ft
Elevation of Seasonal High Groundwater Table	168.50 ft
Elevation of Starting Water Level	172.00 ft
Elevation of Pond Bottom	172.00 ft
Is there overflow ?	Y
Avg. Effective Storage Coefficient of Soil for Unsaturated Analysis	0.30
Unsaturated Vertical Hydraulic Conductivity	15.00 ft/d
Factor of Safety	2.00
Saturated Horizontal Hydraulic Conductivity	30.00 ft/d
Avg. Effective Storage Coefficient of Soil for Saturated Analysis	0.30
Avg. Effective Storage Coefficient of Pond/Exfiltration Trench	1.00

Hydraulic Control Features:

Groundwater Control Features - Y/N

Distance to Edge of Pond
 Elevation of Water Level

	Top	Bottom	Left	Right
	N	N	N	N
	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00

Impervious Barrier - Y/N

Elevation of Barrier Bottom

	Top	Bottom	Left	Right
	N	N	N	N
	0.00	0.00	0.00	0.00

MODRET

TIME - RUNOFF INPUT DATA

PROJECT NAME: CUBESMART @ HANCOCK - NODE 11

STRESS PERIOD NUMBER	INCREMENT OF TIME (hrs)	VOLUME OF RUNOFF (ft ³)
Unsat	0.00	0.00
1	1.00	15,159.00
2	3.00	0.00
3	4.00	0.00
4	4.00	0.00
5	4.00	0.00
6	4.00	0.00
7	4.00	0.00
8	24.00	0.00
9	24.00	0.00
10	24.00	0.00
11	24.00	0.00
12	24.00	0.00
13	24.00	0.00
14	24.00	0.00
15	24.00	0.00
16	24.00	0.00
17	24.00	0.00

MODRET

ELEVATION VS OVERFLOW RELATIONSHIP

PROJECT NAME : CubeSmart @ Hancock - Node 11
Structure Type: BROAD CRESTED

Crest Elevation	177.65 ft
Crest Length	1.00 ft
Coefficient of Discharge	3.31
Weir Flow Exponent	1.50
Number of Contractions	1.00
Design High Water Level Elevation	177.95 ft

MODRET

SUMMARY OF RESULTS

PROJECT NAME : CubeSmart @ Hancock - Node 11

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft ³)
00.00 - 0.00	168.500	0.000 *		
			0.00000	
0.00	168.500	0.23819		
			0.23483	
1.00	173.519	0.23148		0.00
			0.22141	
4.00	173.265	0.20444		0.00
			0.18182	
8.00	172.987	0.16304		0.00
			0.14425	
12.00	172.767	0.13025		0.00
			0.11625	
16.00	172.589	0.10640		0.00
			0.09656	
20.00	172.442	0.08950		0.00
			0.08245	
24.00	172.316	0.07784		0.00
			0.05016	
40.48	172.000	0.04262		0.00
			0.03507	
72.00	171.534	0.03082		0.00
			0.02658	
96.00	171.291	0.02394		0.00
			0.02131	
120.00	171.095	0.01946		0.00
			0.01762	
144.00	170.934	0.01629		0.00
			0.01496	
168.00	170.797	0.01396		0.00

MODRET

SUMMARY OF RESULTS

PROJECT NAME : CubeSmart @ Hancock - Node 11

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft³)
			0.01296	
192.00	170.678	0.01218		0.00
			0.01140	
216.00	170.573	0.01076		0.00
			0.01012	
240.00	170.481	0.00961		0.00
			0.00910	
264.00	170.397			0.00

Maximum Water Elevation: 173.519 feet @ 1.00 hours
Recovery @ 40.475 hours
* Time increment when there is no runoff
Maximum Infiltration Rate: 2.153 ft/day

MODRET

SUMMARY OF UNSATURATED & SATURATED INPUT PARAMETERS

PROJECT NAME : CubeSmart @ Hancock - Node 12
MANUAL RUNOFF DATA USED
UNSATURATED ANALYSIS EXCLUDED

Pond Bottom Area	11,195.00 ft ²
Pond Volume between Bottom & DHWL	97,492.00 ft ³
Pond Length to Width Ratio (L/W)	2.00
Elevation of Effective Aquifer Base	163.00 ft
Elevation of Seasonal High Groundwater Table	166.00 ft
Elevation of Starting Water Level	168.00 ft
Elevation of Pond Bottom	168.00 ft
Is there overflow ?	Y
Avg. Effective Storage Coefficient of Soil for Unsaturated Analysis	0.30
Unsaturated Vertical Hydraulic Conductivity	15.00 ft/d
Factor of Safety	2.00
Saturated Horizontal Hydraulic Conductivity	30.00 ft/d
Avg. Effective Storage Coefficient of Soil for Saturated Analysis	0.30
Avg. Effective Storage Coefficient of Pond/Exfiltration Trench	1.00

Hydraulic Control Features:

	Top	Bottom	Left	Right
Groundwater Control Features - Y/N	N	N	N	N
Distance to Edge of Pond	0.00	0.00	0.00	0.00
Elevation of Water Level	0.00	0.00	0.00	0.00
Impervious Barrier - Y/N	N	N	N	N
Elevation of Barrier Bottom	0.00	0.00	0.00	0.00

MODRET

TIME - RUNOFF INPUT DATA

PROJECT NAME: CUBESMART @ HANCOCK - NODE 12

STRESS PERIOD NUMBER	INCREMENT OF TIME (hrs)	VOLUME OF RUNOFF (ft ³)
Unsat	0.00	0.00
1	1.00	18,513.00
2	3.00	0.00
3	4.00	0.00
4	4.00	0.00
5	4.00	0.00
6	4.00	0.00
7	4.00	0.00
8	24.00	0.00
9	24.00	0.00
10	24.00	0.00
11	24.00	0.00
12	24.00	0.00
13	24.00	0.00
14	24.00	0.00
15	24.00	0.00
16	24.00	0.00
17	24.00	0.00

MODRET

ELEVATION VS OVERFLOW RELATIONSHIP

PROJECT NAME : CubeSmart @ Hancock - Node 12
Structure Type: BROAD CRESTED

Crest Elevation	173.35 ft
Crest Length	1.00 ft
Coefficient of Discharge	3.31
Weir Flow Exponent	1.50
Number of Contractions	1.00
Design High Water Level Elevation	173.95 ft

MODRET

SUMMARY OF RESULTS

PROJECT NAME : CubeSmart @ Hancock - Node 12

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft ³)
00.00 - 0.00	166.000	0.000 *		
			0.00000	
0.00	166.000	0.14082		
			0.13900	
1.00	169.099	0.13718		0.00
			0.13172	
4.00	169.012	0.12585		0.00
			0.11801	
8.00	168.909	0.11110		0.00
			0.10419	
12.00	168.817	0.09775		0.00
			0.09131	
16.00	168.737	0.08574		0.00
			0.08018	
20.00	168.667	0.07554		0.00
			0.07091	
24.00	168.604	0.06733		0.00
			0.04589	
48.00	168.362	0.03945		0.00
			0.03300	
72.00	168.188	0.02929		0.00
			0.02557	
96.00	168.053	0.02328		0.00
			0.02099	
107.56	168.000	0.01933		0.00
			0.01766	
144.00	167.850	0.01647		0.00
			0.01527	
168.00	167.769	0.01441		0.00

MODRET

SUMMARY OF RESULTS

PROJECT NAME : CubeSmart @ Hancock - Node 12

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft³)
			0.01356	
192.00	167.697	0.01281		0.00
			0.01206	
216.00	167.634	0.01148		0.00
			0.01089	
240.00	167.576	0.01040		0.00
			0.00991	
264.00	167.524			0.00

Maximum Water Elevation: 169.099 feet @ 1.00 hours	Recovery @ 107.563 hours
* Time increment when there is no runoff	
Maximum Infiltration Rate: 0.733 ft/day	

MODRET

SUMMARY OF UNSATURATED & SATURATED INPUT PARAMETERS

PROJECT NAME : CubeSmart @ Hancock - Node 13
MANUAL RUNOFF DATA USED
UNSATURATED ANALYSIS EXCLUDED

Pond Bottom Area	2,614.00 ft ²																
Pond Volume between Bottom & DHWL	13,068.00 ft ³																
Pond Length to Width Ratio (L/W)	2.00																
Elevation of Effective Aquifer Base	147.00 ft																
Elevation of Seasonal High Groundwater Table	150.00 ft																
Elevation of Starting Water Level	155.85 ft																
Elevation of Pond Bottom	155.85 ft																
Is there overflow ?	Y																
Avg. Effective Storage Coefficient of Soil for Unsaturated Analysis	0.30																
Unsaturated Vertical Hydraulic Conductivity	15.00 ft/d																
Factor of Safety	2.00																
Saturated Horizontal Hydraulic Conductivity	30.00 ft/d																
Avg. Effective Storage Coefficient of Soil for Saturated Analysis	0.30																
Avg. Effective Storage Coefficient of Pond/Exfiltration Trench	1.00																
Hydraulic Control Features:																	
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Top</th> <th style="width: 25%;">Bottom</th> <th style="width: 25%;">Left</th> <th style="width: 25%;">Right</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">N</td> <td style="text-align: center;">N</td> <td style="text-align: center;">N</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">0.00</td> <td style="text-align: center;">0.00</td> <td style="text-align: center;">0.00</td> <td style="text-align: center;">0.00</td> </tr> <tr> <td style="text-align: center;">0.00</td> <td style="text-align: center;">0.00</td> <td style="text-align: center;">0.00</td> <td style="text-align: center;">0.00</td> </tr> </tbody> </table>	Top	Bottom	Left	Right	N	N	N	N	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Top	Bottom	Left	Right														
N	N	N	N														
0.00	0.00	0.00	0.00														
0.00	0.00	0.00	0.00														
Groundwater Control Features - Y/N																	
Distance to Edge of Pond																	
Elevation of Water Level																	
Impervious Barrier - Y/N																	
Elevation of Barrier Bottom																	

MODRET

TIME - RUNOFF INPUT DATA

PROJECT NAME: CUBESMART @ HANCOCK - NODE 13

STRESS PERIOD NUMBER	INCREMENT OF TIME (hrs)	VOLUME OF RUNOFF (ft ³)
Unsat	0.00	0.00
1	1.00	3,920.00
2	3.00	0.00
3	4.00	0.00
4	4.00	0.00
5	4.00	0.00
6	4.00	0.00
7	4.00	0.00
8	24.00	0.00
9	24.00	0.00
10	24.00	0.00
11	24.00	0.00
12	24.00	0.00
13	24.00	0.00
14	24.00	0.00
15	24.00	0.00
16	24.00	0.00
17	24.00	0.00

MODRET

ELEVATION VS OVERFLOW RELATIONSHIP

PROJECT NAME : CubeSmart @ Hancock - Node 13
Structure Type: BROAD CRESTED

Crest Elevation	160.85 ft
Crest Length	1.00 ft
Coefficient of Discharge	3.31
Weir Flow Exponent	1.50
Number of Contractions	1.00
Design High Water Level Elevation	161.90 ft

MODRET

SUMMARY OF RESULTS

PROJECT NAME : CubeSmart @ Hancock - Node 13

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft ³)
00.00 - 0.00	150.000	0.000 *		
			0.00000	
0.00	150.000	0.18750		
			0.18750	
1.00	157.352	0.18750		0.00
			0.18750	
4.00	156.415	0.16122		0.00
			0.12617	
6.69	155.850	0.10102		0.00
			0.07587	
12.00	155.068	0.06655		0.00
			0.05722	
16.00	154.686	0.05150		0.00
			0.04579	
20.00	154.381	0.04192		0.00
			0.03804	
24.00	154.128	0.03563		0.00
			0.02114	
48.00	153.282	0.01736		0.00
			0.01358	
72.00	152.739	0.01156		0.00
			0.00955	
96.00	152.357	0.00833		0.00
			0.00712	
120.00	152.072	0.00633		0.00
			0.00555	
144.00	151.850	0.00499		0.00
			0.00444	
168.00	151.673	0.00405		0.00

MODRET

SUMMARY OF RESULTS

PROJECT NAME : CubeSmart @ Hancock - Node 13

CUMULATIVE TIME (hrs)	WATER ELEVATION (feet)	INSTANTANEOUS INFILTRATION RATE (cfs)	AVERAGE INFILTRATION RATE (cfs)	CUMULATIVE OVERFLOW (ft³)
			0.00365	
192.00	151.527	0.00334		0.00
			0.00302	
216.00	151.406	0.00280		0.00
			0.00259	
240.00	151.302	0.00241		0.00
			0.00223	
264.00	151.213			0.00

Maximum Water Elevation: 157.352 feet @ 1.00 hours Recovery @ 6.686 hours
 * Time increment when there is no runoff
 Maximum Infiltration Rate: 7.500 ft/day

Analysis Date: 8/8/2016

NUTRIENT LOADING ANALYSIS
