

APPENDIX C

Post Development Calculations

Project Name: Wekiva Parkway Section 7B (SR 46)
 FPID: 240200-3-52-01
 County: Seminole

Designer: PAT
 Checked by: KMV
 Date: 3/2/2018

POST DEVELOPMENT

Basin 6A Sta. 190+20 to 204+00
 Description Orange Blvd to West of Henderson St.

<u>Curve Number</u>	<u>Hydrologic</u>	<u>Soil</u>			
<u>Land Use</u>	<u>Condition</u>	<u>Class</u>	<u>Area (ac.)</u>	<u>CN</u>	<u>Product</u>
Open Space - roadside swale/mediar	Good	A	2.67	49	130.77
Open Space - ditch	Good	A	0.92	39	35.98
Existing Impervious - sidewalk			0.03	98	2.81
Existing Impervious - Road			2.77	98	271.71
New Impervious - sidewalk			0.36	98	35.73
New Impervious - Road			0.71	98	69.65
Total=			7.47		546.65
CN=			73.20		

Water Quality Volumes

	Area (ac.)	c-value
Pervious onsite =	3.59	0.20
Impervious Area =	0.71	0.95
Total =	4.30	
Weighted c =	0.32	

1" of runoff from contributing area 0.62 ac-ft

2.5" of runoff from NEW impervious area 0.15 ac-ft provided in Pond 6

Water Quantity - SCS Runoff Curve Number Method (TR-55)

Q= Runoff (in)
 P= Rainfall (in)
 S= Potential Maximum Retention After Runoff Begins (in)

$$Q = \frac{(P-0.2S)^2}{(P+0.8S)}$$

25-year 96-hr Precipitation:

Pre		Post	
P= 11.3	inches	P= 11.3	inches
S= 5.6	inches	S= 3.7	inches
Q= 6.55	inches	Q= 7.85	inches

Volume of Runoff = Post Q (Area of Basin) - Pre Q (Area of Basin)

V= 0.04 Ac-ft

100-year 24-hr Precipitation:

Pre		Post	
P= 11.4	inches	P= 11.4	inches
S= 5.6	inches	S= 3.7	inches
Q= 6.63	inches	Q= 7.94	inches

Volume of Runoff = Post Q (Area of Basin) - Pre Q (Area of Basin)

V= 0.03 Ac-ft

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Total Peak Storage volume required:

Volume Peak = Estimated Peak Attenuation Volume

Volume Peak = 0.04 Ac-ft

Pond Dimensions

Required Attenuation Volume = 0.07 Includes 0.03 ac-ft Floodplain Impacts
 Estimated Peak Storage Elevation = 66.006

Stage/Storage in Lake 18

	Stage	Area	Inc. Volume	Volume
	68.00	10.07	9.19	16.82
	67.00	8.32	7.63	7.63
100 year Flood	66.00	6.94	6.43	0.00
	65.00	5.91	4.75	25.35
	64.00	3.58	3.54	20.60
	63.00	3.50	3.47	17.06
	62.00	3.45	3.43	13.59
	61.00	3.42	3.41	10.16
	60.00	3.40	3.39	6.75
	59.00	3.38	3.36	3.36
NWL	58.00	3.35		

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POST DEVELOPMENT

Basin 6B 204+00 to 259+00
 Description West of Henderson St. to N. Oregon St. TO WETLAND

<u>Curve Number</u> <u>Land Use</u>	<u>Hydrologic</u> <u>Condition</u>	<u>Soil</u> <u>Class</u>	<u>Area (ac.)</u>	<u>CN</u>	<u>Product</u>
Open Space - median	Good	A	2.07	49	101.67
Open Space - ditch	Good	A		39	0.00
Open Space - ditch	Good	A/D	3.57	80	285.42
New Impervious - sidewalk			0.35	98	34.53
Existing Impervious (includes impervious from PRE-Basin 6C)			10.69	98	1047.76
New Impervious - Road			5.32	98	521.81
Total=			22.01		1991.19
CN=			90.46		

Water Quality Volumes

	Area (ac.)	c-value	
Pervious onsite =	5.64	0.20	
Impervious Area =	16.37	0.95	
Total =	22.01		
Weighted c =	0.76		
1" of runoff from contributing area	1.83	ac-ft	
2.5" of runoff from NEW impervious area	1.26	ac-ft	Includes Basin 6A

Pond Dimensions

Treatment Method: Wet Detention

Required Water Quality Volume =	1.26	
Required Water Quality Elevation in Pond =	30.17	
Water Quality Volume Provided =	1.85	ac-ft

Stage/Storage Pond 6

	Stage El.	Area (ac.)	Inc. Volume (ac -ft)	Volume (ac-ft)
NWL	33.00	8.66	8.24	23.42
	32.00	7.81	7.70	15.18
	31.00	7.59	5.63	7.48
	30.25	7.43	1.85	1.85
	30.00	7.37	7.26	0.00
	29.00	7.16	7.05	46.80
	28.00	6.94	6.89	39.75
	27.00	6.84	6.78	32.86
	26.00	6.73	6.68	26.08
	25.00	6.62	6.57	19.40
	24.00	6.52	6.47	12.83
	23.00	6.42	6.36	6.36
	22.00	6.31	0.00	0.00

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POST DEVELOPMENT

Basin 6B 204+00 to 259+00
Description West of Henderson St. to N. Oregon St. TO WETLAND

Permanent Pool Volume

$$PPV = \frac{DA \times C \times R \times RT}{WS \times CF}$$

DA = Drainage Area to Pond
C = Runoff coefficient for DA
R = wet season rainfall depth, 31 inches per SJRWMD Figure 26-1
RT = Residence time - 21 days for no littoral zone
WS = Length of wet season (days) 153 days per SJRWMD PIM
CF = conversion factor 12 in = 1 ft.

PPV =	6.10 acre-feet	required
PPV provided =	54.06 acre-feet	OK

Mean Depth

$$\text{Mean depth} = PPV / A_p$$

A_p = area of pond at control elevation

MD =	7.33	2' < MD < 8'	OK
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POST DEVELOPMENT

Basin 6C Sta. 240+00 to 259+00
 Description Terracina Dr. to N. Oregon St. to LOCKHART SMITH CULVERT

<u>Curve Number</u>	<u>Hydrologic</u>	<u>Soil</u>			
<u>Land Use</u>	<u>Condition</u>	<u>Class</u>	<u>Area (ac.)</u>	<u>CN</u>	<u>Product</u>
Open Space - roadside swale/median	Good	A/D	2.12	80	169.50
Open Space - ditch	Good	A/D	0.00	80	0.00
Existing Impervious - sidewalk			0.07	98	7.11
Existing Impervious - Road			0.04	98	3.82
New Impervious - sidewalk			0.00	98	0.00
New Impervious - Road			0.00	98	0.00
Total=			2.23		180.42
CN=			80.90		

PAT

Wekiva 7B

SEMINOLE WEST MSE4 County, Florida

Sub-Area Time of Concentration Details

Sub-Area Identifier/	Flow Length (ft)	Slope (ft/ft)	Mannings's n	End Area (sq ft)	Wetted Perimeter (ft)	Velocity (ft/sec)	Travel Time (hr)

Offsite-1							
SHEET	100	0.0167	0.400				0.290
SHALLOW	784	0.0167	0.050				0.104
SHALLOW	187	0.0267	0.050				0.020
CHANNEL	1127	0.0050	0.240	28.00	24.00	0.487	0.643
						Time of Concentration	1.057
							=====
Offsite-2							
SHEET	100	0.0421	0.410				0.204
SHALLOW	637	0.0421	0.050				0.053
SHALLOW	338	0.0089	0.050				0.062
						Time of Concentration	.319
							=====
Wetland							
SHEET	100	0.0291	0.800				0.404
SHALLOW	175	0.0291	0.050				0.018
SHALLOW	590	0.0007	0.050				0.384
						Time of Concentration	.806
							=====
Wetl-Post							
SHEET	100	0.0291	0.400				0.232
SHALLOW	590	0.0007	0.050				0.384
						Time of Concentration	.616
							=====
Pond Berm							
						Time of Concentration	<undef>
							=====
Basin 6C							
SHEET	100	0.0200	0.410				0.275
SHALLOW	250	0.0200	0.025				0.024
SHALLOW	2963	0.0103	0.050				0.503
						Time of Concentration	.802
							=====

PAT

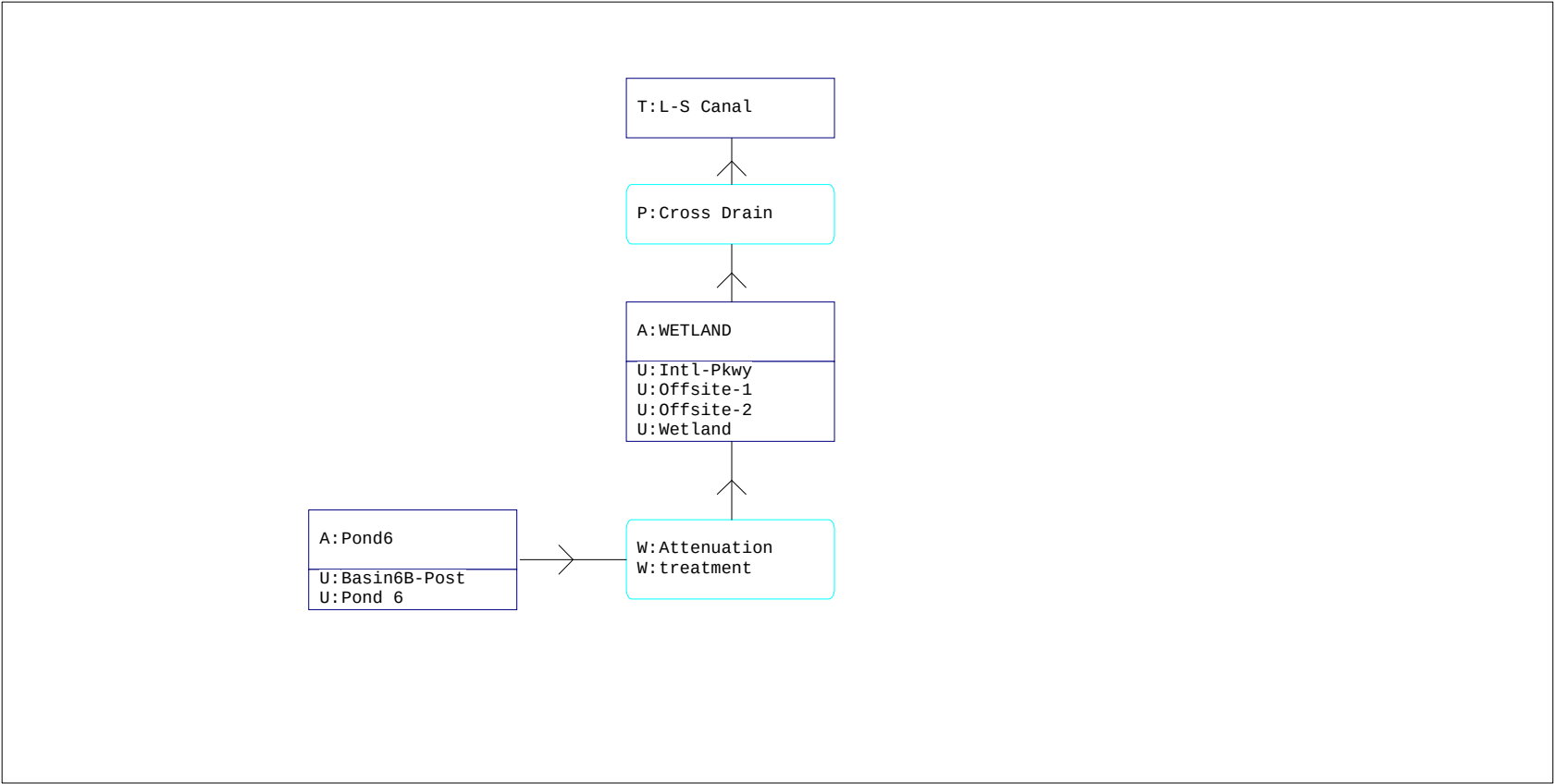
Wekiva 7B

SEMINOLE WEST MSE4 County, Florida

Sub-Area Land Use and Curve Number Details

Sub-Area Identifier	Land Use	Hydrologic Soil Group	Sub-Area Area (ac)	Curve Number
Offsite-1	Residential districts (2 acre)	A	32.086	46
	Total Area / Weighted Curve Number		32.09 =====	46 ==
Offsite-2	Brush - brush, weed, grass mix (poor)	A	15.681	48
	Total Area / Weighted Curve Number		15.68 =====	48 ==
Wetland	Paved parking lots, roofs, driveways	D	.572	98
	Woods (good)	D	33.9	77
	Total Area / Weighted Curve Number		34.47 =====	77 ==
Wetl-Post	Paved parking lots, roofs, driveways	D	.31	98
	Woods (good)	D	24.34	77
	Total Area / Weighted Curve Number		24.65 =====	77 ==
Pond Berm	Open space; grass cover > 75% (good)	D	3.424	80
	Paved parking lots, roofs, driveways	D	.261	98
	Total Area / Weighted Curve Number		3.69 =====	81 ==
Basin 6C	CN directly entered by user	-	0	0
	Total Area / Weighted Curve Number		0 =	0 ==

- 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: Basin 6C Node: L-S Canal Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 38.00
Area(ac): 2.230 Time Shift(hrs): 0.00
Curve Number: 80.90 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

See ditch calculations to DBI at Sta. 252+31 for Tc

Name: Basin6B-Post Node: Pond6 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 31.52
Area(ac): 22.010 Time Shift(hrs): 0.00
Curve Number: 90.46 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Intl-Pkwy Node: WETLAND Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh484 Peaking Factor: 484.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 10.00
Area(ac): 2.285 Time Shift(hrs): 0.00
Curve Number: 98.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

International Parkway from Wayside Drive to SR 46 - drains to wetland via curb inlets

Name: Offsite-1 Node: WETLAND Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000 Time of Conc(min): 63.00
Area(ac): 32.090 Time Shift(hrs): 0.00
Curve Number: 46.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Roadside swale taking in off-site runoff from 208+50 to 238+50 RT
Wooded residential area (large lots) from Sta. 217+00 to 232+00 RT, runoff enters roadway right of way via ditch
Tc is to cross drain under International Parkway

Name: Offsite-2 Node: WETLAND 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): 19.00
Area(ac): 15.680 Time Shift(hrs): 0.00
Curve Number: 48.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Graded offsite area Sta. 232+00 to 239+00 RT
drains to wetland via 3-36" cross drain under International Parkway

Name: Pond 6 Node: Pond6 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh323	Peaking Factor: 323.0
Rainfall File:	Storm Duration(hrs): 0.00
Rainfall Amount(in): 0.000	Time of Conc(min): 10.00
Area(ac): 3.690	Time Shift(hrs): 0.00
Curve Number: 81.00	Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00	

Pond area above ESHGW el. 30, and Wayside Drive pavement that drains to it.

Name: Wetland	Node: WETLAND	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): 37.00
Area(ac): 24.650	Time Shift(hrs): 0.00
Curve Number: 77.00	Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00	

Wetland surrounded by SR 46, International Parkway, Wayside Drive, less Pond 6 area

=====
 Nodes
 =====

Name: L-S Canal	Base Flow(cfs): 0.000	Init Stage(ft): 29.120
Group: BASE		Warn Stage(ft): 31.000
Type: Time/Stage		

Time(hrs)	Stage(ft)
0.00	29.120
120.00	29.120

Name: Pond6	Base Flow(cfs): 0.000	Init Stage(ft): 30.000
Group: BASE		Warn Stage(ft): 31.000
Type: Stage/Area		

Stage(ft)	Area(ac)
22.000	6.3100
23.000	6.4200
24.000	6.5200
25.000	6.6200
26.000	6.7300
27.000	6.8400
28.000	6.9400
29.000	7.1600
30.000	7.3700
30.250	7.4300
31.000	7.5900
32.000	7.8100
33.000	8.6600

Name: WETLAND	Base Flow(cfs): 0.000	Init Stage(ft): 29.000
Group: BASE		Warn Stage(ft): 31.000
Type: Stage/Area		

Stage(ft)	Area(ac)
29.000	0.5286
30.000	8.4227
31.000	18.5756
32.000	21.1976

==== Pipes =====

Name: Cross Drain	From Node: WETLAND	Length(ft): 200.00
Group: BASE	To Node: L-S Canal	Count: 5
	Friction Equation: Automatic	
	Solution Algorithm: Most Restrictive	
	Flow: Both	
UPSTREAM	DOWNSTREAM	Entrance Loss Coef: 0.00
Geometry: Circular	Circular	Exit Loss Coef: 1.00
Span(in): 36.00	36.00	Bend Loss Coef: 0.00
Rise(in): 36.00	36.00	Outlet Ctrl Spec: Use dc or tw
Invert(ft): 29.320	29.120	Inlet Ctrl Spec: Use dc
Manning's N: 0.012000	0.012000	Stabilizer Option: None
Top Clip(in): 0.000	0.000	
Bot Clip(in): 0.000	0.000	

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

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

ALL Existing cross drains under SR 46 to Lockhart-Smith Canal System (box culvert)
 2-36" at Sta. 242+00, 2-36" at Sta. 252+00, 1-30" at Sta. 257+80

==== Weirs =====

Name: Attenuation	From Node: Pond6
Group: BASE	To Node: WETLAND
Flow: Both	Count: 1
Type: Vertical: Mavis	Geometry: Trapezoidal
Bottom Width(ft): 11.00	
Left Side Slope(h/v): 6.00	
Right Side Slope(h/v): 6.00	
Invert(ft): 30.200	
Control Elevation(ft): 30.200	
Struct Opening Dim(ft): 9999.00	
TABLE	
Bottom Clip(ft): 0.000	
Top Clip(ft): 0.000	
Weir Discharge Coef: 3.200	
Orifice Discharge Coef: 0.600	

Name: treatment	From Node: Pond6
Group: BASE	To Node: WETLAND
Flow: Both	Count: 1
Type: Horizontal	Geometry: Circular
Span(in): 6.00	
Rise(in): 6.00	
Invert(ft): 29.500	
Control Elevation(ft): 30.000	
TABLE	
Bottom Clip(in): 0.000	
Top Clip(in): 0.000	
Weir Discharge Coef: 3.200	
Orifice Discharge Coef: 0.600	

==== Hydrology Simulations =====

Name: 25-10-post
 Filename: H:\16.122\1\DOC\DRAINAGE\CALCULATIONS\ICPR\25-10-post.R32

Override Defaults: Yes
 Storm Duration(hrs): 24.00
 Rainfall File: Flmod
 Rainfall Amount(in): 6.80

Time(hrs)	Print Inc(min)
30.000	5.00

Name: 25-24POST
 Filename: H:\16.122\1\Doc\Drainage\Calculations\ICPR\25-24POST.R32

Override Defaults: Yes
 Storm Duration(hrs): 24.00
 Rainfall File: Flmod
 Rainfall Amount(in): 8.50

Time(hrs)	Print Inc(min)
30.000	5.00

==== Routing Simulations =====

Name: 10yy24hr Hydrology Sim: 25-10-post
 Filename: H:\16.122\1\DOC\DRAINAGE\CALCULATIONS\ICPR\10yy24hr.I32

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

Max Delta Z(ft): 1.00	Delta Z Factor: 0.00500
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 120.00
Min Calc Time(sec): 0.5000	Max Calc Time(sec): 60.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
30.000	5.000
120.000	15.000

Group	Run
BASE	Yes

Name: 25yr24hr Hydrology Sim: 25-24POST
 Filename: H:\16.122\1\Doc\Drainage\Calculations\ICPR\25yr24hr.I32

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

Max Delta Z(ft): 1.00	Delta Z Factor: 0.00500
Time Step Optimizer: 10.000	
Start Time(hrs): 0.000	End Time(hrs): 120.00
Min Calc Time(sec): 0.5000	Max Calc Time(sec): 60.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
15.000	30.000
72.000	15.000
120.000	60.000

Group	Run
BASE	Yes

Basin Name: Basin 6C
Group Name: BASE
Simulation: 25-24POST
Node Name: L-S Canal
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Fator: 323.0
Spec Time Inc (min): 5.07
Comp Time Inc (min): 5.00
Rainfall File: Flmod
Rainfall Amount (in): 8.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 38.00
Time Shift (hrs): 0.00
Area (ac): 2.230
Vol of Unit Hyd (in): 1.001
Curve Number: 80.900
DCIA (%): 0.000

Time Max (hrs): 12.33
Flow Max (cfs): 5.95
Runoff Volume (in): 6.205
Runoff Volume (ft3): 50233

Basin Name: Basin6B-Post
Group Name: BASE
Simulation: 25-24POST
Node Name: Pond6
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Fator: 323.0
Spec Time Inc (min): 4.20
Comp Time Inc (min): 4.20
Rainfall File: Flmod
Rainfall Amount (in): 8.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 31.52
Time Shift (hrs): 0.00
Area (ac): 22.010
Vol of Unit Hyd (in): 1.000
Curve Number: 90.460
DCIA (%): 0.000

Time Max (hrs): 12.26
Flow Max (cfs): 73.69
Runoff Volume (in): 7.353
Runoff Volume (ft3): 587467

Basin Name: Intl-Pkwy
Group Name: BASE
Simulation: 25-24POST
Node Name: WETLAND
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh484
Peaking Fator: 484.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 8.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 2.285

Vol of Unit Hyd (in): 1.001
Curve Number: 98.000
DCIA (%): 0.000

Time Max (hrs): 12.00
Flow Max (cfs): 14.19
Runoff Volume (in): 8.249
Runoff Volume (ft3): 68421

Basin Name: Offsite-1
Group Name: BASE
Simulation: 25-24POST
Node Name: WETLAND
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Fator: 323.0
Spec Time Inc (min): 8.40
Comp Time Inc (min): 5.00
Rainfall File: Flmod
Rainfall Amount (in): 8.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 63.00
Time Shift (hrs): 0.00
Area (ac): 32.090
Vol of Unit Hyd (in): 1.001
Curve Number: 46.000
DCIA (%): 0.000

Time Max (hrs): 12.75
Flow Max (cfs): 18.33
Runoff Volume (in): 2.115
Runoff Volume (ft3): 246343

Basin Name: Offsite-2
Group Name: BASE
Simulation: 25-24POST
Node Name: WETLAND
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 2.53
Comp Time Inc (min): 2.53
Rainfall File: Flmod
Rainfall Amount (in): 8.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 19.00
Time Shift (hrs): 0.00
Area (ac): 15.680
Vol of Unit Hyd (in): 1.000
Curve Number: 48.000
DCIA (%): 0.000

Time Max (hrs): 12.20
Flow Max (cfs): 16.82
Runoff Volume (in): 2.335
Runoff Volume (ft3): 132896

Basin Name: Pond 6
Group Name: BASE
Simulation: 25-24POST
Node Name: Pond6
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh323
Peaking Fator: 323.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Flmod
Rainfall Amount (in): 8.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 3.690
Vol of Unit Hyd (in): 1.001
Curve Number: 81.000
DCIA (%): 0.000

Time Max (hrs): 12.04
Flow Max (cfs): 17.50
Runoff Volume (in): 6.218
Runoff Volume (ft3): 83289

Basin Name: Wetland
Group Name: BASE
Simulation: 25-24POST
Node Name: WETLAND
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 4.93
Comp Time Inc (min): 4.93
Rainfall File: Flmod
Rainfall Amount (in): 8.500
Storm Duration (hrs): 24.00
Status: Onsite
Time of Conc (min): 37.00
Time Shift (hrs): 0.00
Area (ac): 24.650
Vol of Unit Hyd (in): 1.000
Curve Number: 77.000
DCIA (%): 0.000

Time Max (hrs): 12.33
Flow Max (cfs): 52.47
Runoff Volume (in): 5.727
Runoff Volume (ft3): 512468

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
Pond6	BASE	10yy24hr	13.31	30.80	31.00	0.0045	328739	12.25	66.36	13.17	20.81
WETLAND	BASE	10yy24hr	15.09	30.46	31.00	0.0050	572930	12.50	69.37	15.09	26.15
Pond6	BASE	25yr24hr	13.21	30.98	31.00	0.0044	330421	12.25	85.21	12.96	29.87
WETLAND	BASE	25yr24hr	14.77	30.74	31.00	0.0050	693735	12.50	108.32	14.77	38.86

tailwater for storm sewer

post development discharge rate < pre-development

Pond 6 drawdown

Wekiva Parkway Section 7B
 FPID 240200-3-52-01
 Post Development 03/08/2018

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25yr24hr	Pond6	BASE	0.00	30.00	31.00	321037	0.00	0.00	0.0	0.0
25yr24hr	Pond6	BASE	0.50	30.00	31.00	321037	0.00	0.00	0.0	0.0
25yr24hr	Pond6	BASE	1.02	30.00	31.00	321037	0.00	0.00	0.0	0.0
25yr24hr	Pond6	BASE	1.52	30.00	31.00	321037	0.00	0.00	0.0	0.0
25yr24hr	Pond6	BASE	2.02	30.00	31.00	321037	0.00	0.00	0.0	0.0
25yr24hr	Pond6	BASE	2.52	30.00	31.00	321038	0.06	0.00	0.0	0.0
25yr24hr	Pond6	BASE	3.02	30.00	31.00	321046	0.24	0.02	0.0	0.0
25yr24hr	Pond6	BASE	3.52	30.00	31.00	321065	0.48	0.05	0.0	0.0
25yr24hr	Pond6	BASE	4.02	30.01	31.00	321096	0.71	0.07	0.0	0.0
25yr24hr	Pond6	BASE	4.52	30.01	31.00	321141	1.01	0.09	0.1	0.0
25yr24hr	Pond6	BASE	5.02	30.02	31.00	321202	1.28	0.12	0.1	0.0
25yr24hr	Pond6	BASE	5.52	30.02	31.00	321278	1.57	0.14	0.2	0.0
25yr24hr	Pond6	BASE	6.02	30.03	31.00	321368	1.81	0.17	0.3	0.0
25yr24hr	Pond6	BASE	6.52	30.04	31.00	321474	2.20	0.19	0.3	0.0
25yr24hr	Pond6	BASE	7.02	30.05	31.00	321600	2.50	0.22	0.4	0.0
25yr24hr	Pond6	BASE	7.52	30.07	31.00	321745	2.95	0.25	0.6	0.0
25yr24hr	Pond6	BASE	8.02	30.08	31.00	321912	3.28	0.27	0.7	0.1
25yr24hr	Pond6	BASE	8.52	30.10	31.00	322103	3.84	0.30	0.8	0.1
25yr24hr	Pond6	BASE	9.02	30.12	31.00	322329	4.57	0.33	1.0	0.1
25yr24hr	Pond6	BASE	9.52	30.15	31.00	322595	5.22	0.36	1.2	0.1
25yr24hr	Pond6	BASE	10.02	30.18	31.00	322904	6.19	0.40	1.4	0.1
25yr24hr	Pond6	BASE	10.52	30.21	31.00	323284	7.78	0.50	1.7	0.1
25yr24hr	Pond6	BASE	11.02	30.26	31.00	323749	10.11	1.02	2.1	0.2
25yr24hr	Pond6	BASE	11.52	30.32	31.00	324278	15.46	2.02	2.6	0.2
25yr24hr	Pond6	BASE	12.00	30.50	31.00	325991	71.87	7.27	4.4	0.4
25yr24hr	Pond6	BASE	12.50	30.85	31.00	329262	67.69	24.62	7.3	1.1
25yr24hr	Pond6	BASE	13.00	30.97	31.00	330358	36.34	29.85	9.4	2.2
25yr24hr	Pond6	BASE	13.50	30.97	31.00	330343	22.17	26.83	10.6	3.4
25yr24hr	Pond6	BASE	14.02	30.93	31.00	329993	14.07	21.99	11.4	4.4
25yr24hr	Pond6	BASE	14.52	30.89	31.00	329580	9.66	17.49	11.9	5.2
25yr24hr	Pond6	BASE	15.02	30.85	31.00	329216	7.84	14.31	12.2	5.9
25yr24hr	Pond6	BASE	15.52	30.82	31.00	328911	6.95	12.54	12.5	6.4
25yr24hr	Pond6	BASE	15.77	30.80	31.00	328770	6.52	12.01	12.7	6.7
25yr24hr	Pond6	BASE	16.02	30.79	31.00	328631	6.13	11.58	12.8	6.9
25yr24hr	Pond6	BASE	16.27	30.77	31.00	328492	5.80	11.23	12.9	7.2
25yr24hr	Pond6	BASE	16.52	30.76	31.00	328354	5.53	10.92	13.1	7.4
25yr24hr	Pond6	BASE	16.77	30.74	31.00	328217	5.27	10.64	13.2	7.6
25yr24hr	Pond6	BASE	17.02	30.73	31.00	328081	5.05	10.38	13.3	7.8
25yr24hr	Pond6	BASE	17.27	30.71	31.00	327946	4.92	10.13	13.4	8.0
25yr24hr	Pond6	BASE	17.52	30.70	31.00	327815	4.84	9.89	13.5	8.3
25yr24hr	Pond6	BASE	17.77	30.68	31.00	327686	4.58	9.65	13.6	8.5
25yr24hr	Pond6	BASE	18.02	30.67	31.00	327556	4.29	9.40	13.7	8.7
25yr24hr	Pond6	BASE	18.27	30.66	31.00	327427	4.23	9.15	13.8	8.8
25yr24hr	Pond6	BASE	18.52	30.64	31.00	327305	4.27	8.92	13.8	9.0
25yr24hr	Pond6	BASE	18.77	30.63	31.00	327187	4.07	8.69	13.9	9.2
25yr24hr	Pond6	BASE	19.02	30.62	31.00	327068	3.81	8.45	14.0	9.4
25yr24hr	Pond6	BASE	19.27	30.61	31.00	326952	3.77	8.21	14.1	9.6
25yr24hr	Pond6	BASE	19.52	30.59	31.00	326842	3.82	7.99	14.2	9.7
25yr24hr	Pond6	BASE	19.77	30.58	31.00	326737	3.74	7.78	14.2	9.9
25yr24hr	Pond6	BASE	20.02	30.57	31.00	326634	3.61	7.57	14.3	10.1
25yr24hr	Pond6	BASE	20.27	30.56	31.00	326533	3.44	7.36	14.4	10.2

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25yr24hr	Pond6	BASE	20.52	30.55	31.00	326433	3.27	7.15	14.5	10.4
25yr24hr	Pond6	BASE	20.77	30.54	31.00	326334	3.17	6.94	14.5	10.5
25yr24hr	Pond6	BASE	21.02	30.53	31.00	326239	3.11	6.74	14.6	10.6
25yr24hr	Pond6	BASE	21.27	30.52	31.00	326148	3.08	6.55	14.7	10.8
25yr24hr	Pond6	BASE	21.52	30.51	31.00	326061	3.06	6.37	14.7	10.9
25yr24hr	Pond6	BASE	21.77	30.50	31.00	325978	3.04	6.20	14.8	11.0
25yr24hr	Pond6	BASE	22.02	30.49	31.00	325899	3.03	6.03	14.8	11.2
25yr24hr	Pond6	BASE	22.27	30.48	31.00	325824	3.03	5.87	14.9	11.3
25yr24hr	Pond6	BASE	22.52	30.48	31.00	325753	3.02	5.72	15.0	11.4
25yr24hr	Pond6	BASE	22.77	30.47	31.00	325684	2.92	5.57	15.0	11.5
25yr24hr	Pond6	BASE	23.02	30.46	31.00	325616	2.79	5.42	15.1	11.6
25yr24hr	Pond6	BASE	23.27	30.45	31.00	325549	2.71	5.27	15.2	11.8
25yr24hr	Pond6	BASE	23.52	30.45	31.00	325484	2.66	5.12	15.2	11.9
25yr24hr	Pond6	BASE	23.77	30.44	31.00	325422	2.53	4.97	15.3	12.0
25yr24hr	Pond6	BASE	24.02	30.43	31.00	325359	2.34	4.81	15.3	12.1
25yr24hr	Pond6	BASE	24.27	30.43	31.00	325289	1.61	4.61	15.4	12.2
25yr24hr	Pond6	BASE	24.52	30.42	31.00	325206	0.93	4.36	15.4	12.3
25yr24hr	Pond6	BASE	24.77	30.41	31.00	325116	0.56	4.09	15.4	12.3
25yr24hr	Pond6	BASE	25.02	30.40	31.00	325025	0.35	3.84	15.4	12.4
25yr24hr	Pond6	BASE	25.27	30.39	31.00	324937	0.21	3.59	15.4	12.5
25yr24hr	Pond6	BASE	25.52	30.38	31.00	324851	0.12	3.36	15.4	12.6
25yr24hr	Pond6	BASE	25.77	30.37	31.00	324769	0.06	3.15	15.4	12.6
25yr24hr	Pond6	BASE	26.02	30.36	31.00	324692	0.02	2.96	15.4	12.7
25yr24hr	Pond6	BASE	26.27	30.35	31.00	324618	0.00	2.79	15.4	12.8
25yr24hr	Pond6	BASE	26.52	30.35	31.00	324548	0.00	2.62	15.4	12.8
25yr24hr	Pond6	BASE	26.77	30.34	31.00	324482	0.00	2.48	15.4	12.9
25yr24hr	Pond6	BASE	27.02	30.33	31.00	324420	0.00	2.34	15.4	12.9
25yr24hr	Pond6	BASE	27.27	30.33	31.00	324362	0.00	2.21	15.4	13.0
25yr24hr	Pond6	BASE	27.52	30.32	31.00	324306	0.00	2.08	15.4	13.0
25yr24hr	Pond6	BASE	27.77	30.31	31.00	324254	0.00	1.97	15.4	13.1
25yr24hr	Pond6	BASE	28.02	30.31	31.00	324204	0.00	1.86	15.4	13.1
25yr24hr	Pond6	BASE	28.27	30.30	31.00	324158	0.00	1.76	15.4	13.1
25yr24hr	Pond6	BASE	28.52	30.30	31.00	324113	0.00	1.67	15.4	13.2
25yr24hr	Pond6	BASE	28.77	30.30	31.00	324071	0.00	1.59	15.4	13.2
25yr24hr	Pond6	BASE	29.02	30.29	31.00	324031	0.00	1.51	15.4	13.2
25yr24hr	Pond6	BASE	29.27	30.29	31.00	323993	0.00	1.44	15.4	13.3
25yr24hr	Pond6	BASE	29.52	30.28	31.00	323957	0.00	1.37	15.4	13.3
25yr24hr	Pond6	BASE	29.77	30.28	31.00	323922	0.00	1.31	15.4	13.3
25yr24hr	Pond6	BASE	30.02	30.28	31.00	323889	0.00	1.25	15.4	13.3
25yr24hr	Pond6	BASE	30.27	30.27	31.00	323857	0.00	1.20	15.4	13.4
25yr24hr	Pond6	BASE	30.52	30.27	31.00	323827	0.00	1.15	15.4	13.4
25yr24hr	Pond6	BASE	30.77	30.27	31.00	323798	0.00	1.10	15.4	13.4
25yr24hr	Pond6	BASE	31.02	30.26	31.00	323770	0.00	1.05	15.4	13.4
25yr24hr	Pond6	BASE	31.27	30.26	31.00	323743	0.00	1.01	15.4	13.5
25yr24hr	Pond6	BASE	31.52	30.26	31.00	323718	0.00	0.97	15.4	13.5
25yr24hr	Pond6	BASE	31.77	30.25	31.00	323693	0.00	0.94	15.4	13.5
25yr24hr	Pond6	BASE	32.02	30.25	31.00	323669	0.00	0.90	15.4	13.5
25yr24hr	Pond6	BASE	32.27	30.25	31.00	323646	0.00	0.87	15.4	13.5
25yr24hr	Pond6	BASE	32.52	30.25	31.00	323621	0.00	0.84	15.4	13.6
25yr24hr	Pond6	BASE	32.77	30.24	31.00	323597	0.00	0.81	15.4	13.6
25yr24hr	Pond6	BASE	33.02	30.24	31.00	323574	0.00	0.78	15.4	13.6

treatment
volume el

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25yr24hr	Pond6	BASE	33.27	30.24	31.00	323552	0.00	0.76	15.4	13.6
25yr24hr	Pond6	BASE	33.52	30.24	31.00	323530	0.00	0.73	15.4	13.6
25yr24hr	Pond6	BASE	33.77	30.24	31.00	323509	0.00	0.71	15.4	13.6
25yr24hr	Pond6	BASE	34.02	30.23	31.00	323489	0.00	0.69	15.4	13.7
25yr24hr	Pond6	BASE	34.27	30.23	31.00	323469	0.00	0.67	15.4	13.7
25yr24hr	Pond6	BASE	34.52	30.23	31.00	323450	0.00	0.65	15.4	13.7
25yr24hr	Pond6	BASE	34.77	30.23	31.00	323431	0.00	0.63	15.4	13.7
25yr24hr	Pond6	BASE	35.02	30.23	31.00	323413	0.00	0.61	15.4	13.7
25yr24hr	Pond6	BASE	35.27	30.23	31.00	323396	0.00	0.59	15.4	13.7
25yr24hr	Pond6	BASE	35.52	30.22	31.00	323379	0.00	0.58	15.4	13.7
25yr24hr	Pond6	BASE	35.77	30.22	31.00	323362	0.00	0.56	15.4	13.7
25yr24hr	Pond6	BASE	36.02	30.22	31.00	323346	0.00	0.55	15.4	13.8
25yr24hr	Pond6	BASE	36.27	30.22	31.00	323330	0.00	0.54	15.4	13.8
25yr24hr	Pond6	BASE	36.52	30.22	31.00	323315	0.00	0.53	15.4	13.8
25yr24hr	Pond6	BASE	36.77	30.22	31.00	323299	0.00	0.51	15.4	13.8
25yr24hr	Pond6	BASE	37.02	30.21	31.00	323285	0.00	0.50	15.4	13.8
25yr24hr	Pond6	BASE	37.27	30.21	31.00	323270	0.00	0.49	15.4	13.8
25yr24hr	Pond6	BASE	37.52	30.21	31.00	323256	0.00	0.48	15.4	13.8
25yr24hr	Pond6	BASE	37.77	30.21	31.00	323242	0.00	0.47	15.4	13.8
25yr24hr	Pond6	BASE	38.02	30.21	31.00	323228	0.00	0.47	15.4	13.8
25yr24hr	Pond6	BASE	38.27	30.21	31.00	323215	0.00	0.46	15.4	13.8
25yr24hr	Pond6	BASE	38.52	30.21	31.00	323202	0.00	0.45	15.4	13.9
25yr24hr	Pond6	BASE	38.77	30.21	31.00	323189	0.00	0.44	15.4	13.9
25yr24hr	Pond6	BASE	39.02	30.20	31.00	323176	0.00	0.44	15.4	13.9
25yr24hr	Pond6	BASE	39.27	30.20	31.00	323163	0.00	0.43	15.4	13.9
25yr24hr	Pond6	BASE	39.52	30.20	31.00	323151	0.00	0.43	15.4	13.9
25yr24hr	Pond6	BASE	39.77	30.20	31.00	323138	0.00	0.42	15.4	13.9
25yr24hr	Pond6	BASE	40.02	30.20	31.00	323126	0.00	0.42	15.4	13.9
25yr24hr	Pond6	BASE	40.27	30.20	31.00	323114	0.00	0.42	15.4	13.9
25yr24hr	Pond6	BASE	40.52	30.20	31.00	323101	0.00	0.42	15.4	13.9
25yr24hr	Pond6	BASE	40.77	30.20	31.00	323089	0.00	0.42	15.4	13.9
25yr24hr	Pond6	BASE	41.02	30.20	31.00	323077	0.00	0.42	15.4	13.9
25yr24hr	Pond6	BASE	41.27	30.19	31.00	323065	0.00	0.42	15.4	14.0
25yr24hr	Pond6	BASE	41.52	30.19	31.00	323053	0.00	0.41	15.4	14.0
25yr24hr	Pond6	BASE	41.77	30.19	31.00	323041	0.00	0.41	15.4	14.0
25yr24hr	Pond6	BASE	42.02	30.19	31.00	323029	0.00	0.41	15.4	14.0
25yr24hr	Pond6	BASE	42.27	30.19	31.00	323017	0.00	0.41	15.4	14.0
25yr24hr	Pond6	BASE	42.52	30.19	31.00	323005	0.00	0.41	15.4	14.0
25yr24hr	Pond6	BASE	42.77	30.19	31.00	322993	0.00	0.41	15.4	14.0
25yr24hr	Pond6	BASE	43.02	30.19	31.00	322981	0.00	0.41	15.4	14.0
25yr24hr	Pond6	BASE	43.27	30.18	31.00	322969	0.00	0.41	15.4	14.0
25yr24hr	Pond6	BASE	43.52	30.18	31.00	322957	0.00	0.40	15.4	14.0
25yr24hr	Pond6	BASE	43.77	30.18	31.00	322945	0.00	0.40	15.4	14.0
25yr24hr	Pond6	BASE	44.02	30.18	31.00	322934	0.00	0.40	15.4	14.0
25yr24hr	Pond6	BASE	44.27	30.18	31.00	322922	0.00	0.40	15.4	14.1
25yr24hr	Pond6	BASE	44.52	30.18	31.00	322910	0.00	0.40	15.4	14.1
25yr24hr	Pond6	BASE	44.77	30.18	31.00	322899	0.00	0.40	15.4	14.1
25yr24hr	Pond6	BASE	45.02	30.18	31.00	322887	0.00	0.40	15.4	14.1
25yr24hr	Pond6	BASE	45.27	30.18	31.00	322875	0.00	0.40	15.4	14.1
25yr24hr	Pond6	BASE	45.52	30.17	31.00	322864	0.00	0.39	15.4	14.1
25yr24hr	Pond6	BASE	45.77	30.17	31.00	322852	0.00	0.39	15.4	14.1

Simulation	Node	Group	Time hrs	Stage ft	Warning Stage ft	Surface Area ft2	Total Inflow cfs	Total Outflow cfs	Total Vol In af	Total Vol Out af
25yr24hr	Pond6	BASE	46.02	30.17	31.00	322841	0.00	0.39	15.4	14.1
25yr24hr	Pond6	BASE	46.27	30.17	31.00	322830	0.00	0.39	15.4	14.1
25yr24hr	Pond6	BASE	46.52	30.17	31.00	322818	0.00	0.39	15.4	14.1
25yr24hr	Pond6	BASE	46.77	30.17	31.00	322807	0.00	0.39	15.4	14.1
25yr24hr	Pond6	BASE	47.02	30.17	31.00	322796	0.00	0.39	15.4	14.1
25yr24hr	Pond6	BASE	47.27	30.17	31.00	322784	0.00	0.39	15.4	14.2
25yr24hr	Pond6	BASE	47.52	30.17	31.00	322773	0.00	0.38	15.4	14.2
25yr24hr	Pond6	BASE	47.77	30.16	31.00	322762	0.00	0.38	15.4	14.2
25yr24hr	Pond6	BASE	48.02	30.16	31.00	322751	0.00	0.38	15.4	14.2
25yr24hr	Pond6	BASE	48.27	30.16	31.00	322740	0.00	0.38	15.4	14.2
25yr24hr	Pond6	BASE	48.52	30.16	31.00	322728	0.00	0.38	15.4	14.2
25yr24hr	Pond6	BASE	48.77	30.16	31.00	322717	0.00	0.38	15.4	14.2
25yr24hr	Pond6	BASE	49.02	30.16	31.00	322706	0.00	0.38	15.4	14.2
25yr24hr	Pond6	BASE	49.27	30.16	31.00	322695	0.00	0.38	15.4	14.2
25yr24hr	Pond6	BASE	49.52	30.16	31.00	322684	0.00	0.38	15.4	14.2
25yr24hr	Pond6	BASE	49.77	30.16	31.00	322673	0.00	0.37	15.4	14.2
25yr24hr	Pond6	BASE	50.02	30.16	31.00	322663	0.00	0.37	15.4	14.2
25yr24hr	Pond6	BASE	50.27	30.15	31.00	322652	0.00	0.37	15.4	14.2
25yr24hr	Pond6	BASE	50.52	30.15	31.00	322641	0.00	0.37	15.4	14.3
25yr24hr	Pond6	BASE	50.77	30.15	31.00	322630	0.00	0.37	15.4	14.3
25yr24hr	Pond6	BASE	51.02	30.15	31.00	322619	0.00	0.37	15.4	14.3
25yr24hr	Pond6	BASE	51.27	30.15	31.00	322609	0.00	0.37	15.4	14.3
25yr24hr	Pond6	BASE	51.52	30.15	31.00	322598	0.00	0.37	15.4	14.3
25yr24hr	Pond6	BASE	51.77	30.15	31.00	322587	0.00	0.36	15.4	14.3
25yr24hr	Pond6	BASE	52.02	30.15	31.00	322577	0.00	0.36	15.4	14.3
25yr24hr	Pond6	BASE	52.27	30.15	31.00	322566	0.00	0.36	15.4	14.3
25yr24hr	Pond6	BASE	52.52	30.15	31.00	322556	0.00	0.36	15.4	14.3
25yr24hr	Pond6	BASE	52.77	30.14	31.00	322545	0.00	0.36	15.4	14.3
25yr24hr	Pond6	BASE	53.02	30.14	31.00	322535	0.00	0.36	15.4	14.3
25yr24hr	Pond6	BASE	53.27	30.14	31.00	322524	0.00	0.36	15.4	14.3
25yr24hr	Pond6	BASE	53.52	30.14	31.00	322514	0.00	0.36	15.4	14.3
25yr24hr	Pond6	BASE	53.77	30.14	31.00	322504	0.00	0.35	15.4	14.4
25yr24hr	Pond6	BASE	54.02	30.14	31.00	322493	0.00	0.35	15.4	14.4
25yr24hr	Pond6	BASE	54.27	30.14	31.00	322483	0.00	0.35	15.4	14.4
25yr24hr	Pond6	BASE	54.52	30.14	31.00	322473	0.00	0.35	15.4	14.4
25yr24hr	Pond6	BASE	54.77	30.14	31.00	322463	0.00	0.35	15.4	14.4
25yr24hr	Pond6	BASE	55.02	30.14	31.00	322452	0.00	0.35	15.4	14.4
25yr24hr	Pond6	BASE	55.27	30.13	31.00	322442	0.00	0.35	15.4	14.4
25yr24hr	Pond6	BASE	55.52	30.13	31.00	322432	0.00	0.35	15.4	14.4
25yr24hr	Pond6	BASE	55.77	30.13	31.00	322422	0.00	0.34	15.4	14.4
25yr24hr	Pond6	BASE	56.02	30.13	31.00	322412	0.00	0.34	15.4	14.4
25yr24hr	Pond6	BASE	56.27	30.13	31.00	322402	0.00	0.34	15.4	14.4
25yr24hr	Pond6	BASE	56.52	30.13	31.00	322392	0.00	0.34	15.4	14.4
25yr24hr	Pond6	BASE	56.77	30.13	31.00	322382	0.00	0.34	15.4	14.4
25yr24hr	Pond6	BASE	57.02	30.13	31.00	322372	0.00	0.34	15.4	14.4
25yr24hr	Pond6	BASE	57.27	30.13	31.00	322363	0.00	0.34	15.4	14.5
25yr24hr	Pond6	BASE	57.52	30.13	31.00	322353	0.00	0.34	15.4	14.5
25yr24hr	Pond6	BASE	57.77	30.12	31.00	322343	0.00	0.33	15.4	14.5
25yr24hr	Pond6	BASE	58.02	30.12	31.00	322333	0.00	0.33	15.4	14.5
25yr24hr	Pond6	BASE	58.27	30.12	31.00	322324	0.00	0.33	15.4	14.5
25yr24hr	Pond6	BASE	58.52	30.12	31.00	322314	0.00	0.33	15.4	14.5

1/2 treatment
volume el.