Project: MDM 15246

DRAINAGE REPORT

APEC # - Circle-K

501 N. State Road 7, Plantation, Florida

Prepared for: Automated Petroleum & Energy

APEC

Prepared by:

MDM Services, Inc.
Engineering, Environmental, and Construction

2151 W. Hillsboro Blvd., Suite 400
Deerfield Beach, Florida

Report Date: 06/18/2021

Revision Date:

Digitally signed by Daimian D Leslie
Date: 2021.07.20 10:35:22-04'00'
Signature:

DAIMIAN DWIGHT LESLIE
LICENSE
No. 73113
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

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Daimian Leslie, PE - FL Reg: 73113

Pre-Development

MDM Services, Inc.

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MDM South Florida
2151 W Hillsboro Blvd.,
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FL 33442
954/427-3076

Design storm event peak stage calculations, assuming zero discharge, for specific design events, comparing subject site originally approved (historic) and post-development (remediation) conditions.

Storm Peak	Pre-dev't	Post dev't
3 year, 1 day	9.13	6.15
5 year, 1 day	9.28	7.50
10 year, 1 day	9.39	7.95
25 year, 3 day	10.71	9.08
100 year, 3 day	11.45	9.39

Reference: Florida East (FIPS 901) Zone, High Accuracy Reference Network North American Vertical Datum 1988, US survey feet Planar Units.

Special Note. In accordance with National Oceanic and Atmospheric Administration Hydrometeorological Design Studies Center, a 100-year storm – is an event that has a 1% chance of occurrence in any year.

Digitally signed by:

Daimian D. Leslie, P.E.
Fla. Reg. Lic. 73113

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MDM Services, Inc.

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SURFACE WATER MANAGEMENT CALCULATION, PRE-DEVELOPMENT CONDITION

1) BREAKDOWN BY EXISTING LAND USE

Building:	2076 sf	0.0477 ac	8.63%
Pavement:	14051 sf	0.3226 ac	58.38%
Green:	7942 sf	0.1823 ac	33.00%
Pervious:	7942 sf	0.1823 ac	33.00%
Impervious:	16127 sf	0.3702 ac	67.00%
Total Site:	24069 sf	0.5525 ac	100.00%

2) FLOOD AND RAINFALL CRITERIA

3 year, 1 day storm.....	6.30	inches
5 year, 1 day storm.....	7.70	inches
10 year, 1 day storm.....	8.80	inches
25 year, 3 day storm.....	15.00	inches
100 year, 3 day storm.....	18.00	inches
Water control elevation.....	2.50	ft.navd.88
Minimum roadway crown	8.25	ft.navd.88
Finished floor elevation.....	9.55	ft.navd.88
Rainfall distribution	II FL	
Hydrograph shape (peak rate) factor	256	

3) COMPUTE SOIL MOISTURE STORAGE

Average pervious elevation	8.75	ft.navd.88
Depth to the water table	6.25	ft.
Assuming compaction with 25% voids reduction, available ground storage is.....	8.18	inches
Ground Storage available under pervious areas of the site:	0.12	cu.ft.
Converting to equivalent site wide moisture storage,S:	2.70	inches
SCS Curve Number CN = 1000 / (S+10)	79	

4) STAGE-STORAGE CALCULATION

Linear storage in the green areas

Total area, At:	0.1823	ac
Bottom Elev, Eb	8.00	ft.navd.88
Top Elev, Et	9.55	ft.navd.88
Volume	0.1413	ac.ft.

Vertical storage in the green areas

Total area, At:	0.1823	ac
Bottom Elev, Eb	9.55	ft.navd.88
Top Elev, Et	11.50	ft.navd.88
Volume	0.3555	ac.ft.

Linear storage in the paved areas

Total area, At:	0.3226	ac
Bottom Elev, Eb	8.25	ft.navd.88
Top Elev, Et	9.55	ft.ngvd.
Volume	0.2097	ac.ft.

Vertical storage in the paved areas

Total area, At:	0.3226	ac
Bottom Elev, Eb	9.55	ft.navd.88
Top Elev, Et	11.50	ft.navd.88
Volume	0.6290	ac.ft.

5) STAGE-STORAGE TABLE

Stage ft.	Green Linear	Green Vertical	Pav't Linear	Pav't Vertical	Storage ac.ft.
	0.18	0.18	0.32	0.32	
	8.00	9.55	8.25	9.55	
	9.55	11.50	9.55	11.50	
8.00	0.0000				0.0000
8.25	0.0037		0.0000		0.0037
8.50	0.0147		0.0078		0.0225
9.00	0.0588		0.0698		0.1286
9.55	0.1413	0.0000	0.2097	0.0000	0.3510
10.00	0.1413	0.0820	0.2097	0.1452	0.4330
10.50	0.1413	0.1732	0.2097	0.3064	0.5242
11.00	0.1413	0.2644	0.2097	0.4677	0.6153
11.50	0.1413	0.3555	0.2097	0.6290	0.7065

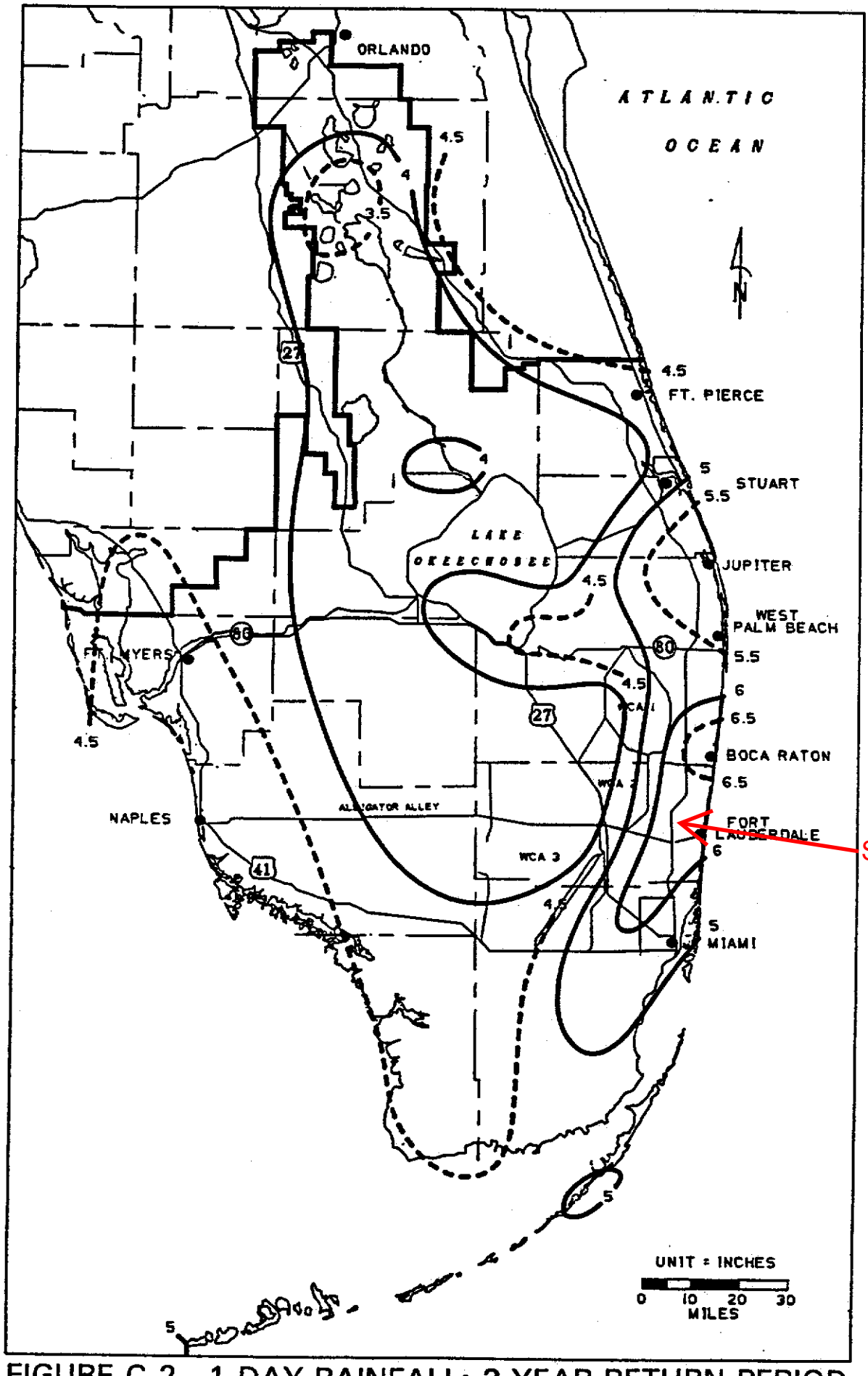


FIGURE C-2. 1-DAY RAINFALL: 3-YEAR RETURN PERIOD

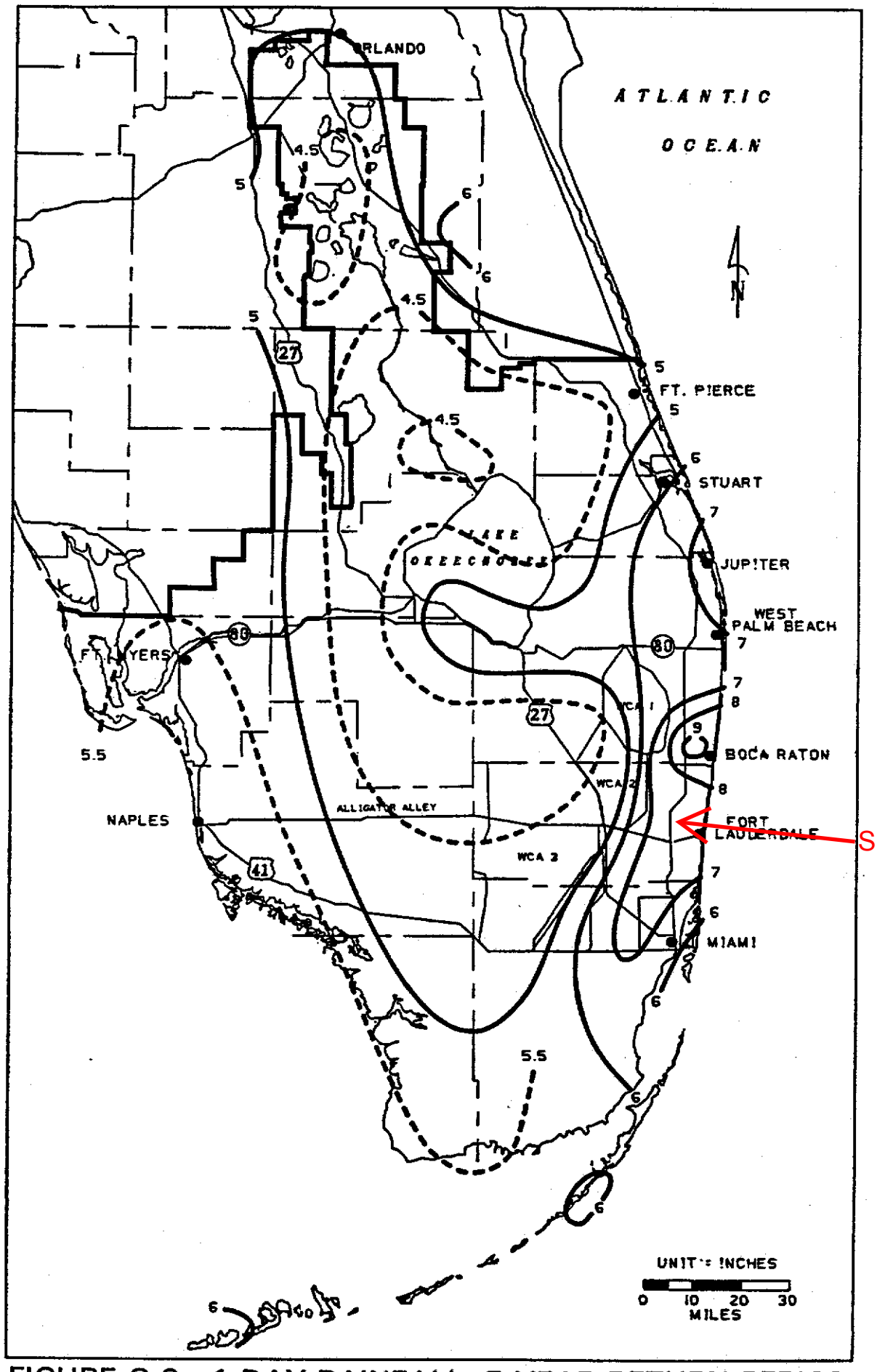


FIGURE C-3. 1-DAY RAINFALL: 5-YEAR RETURN PERIOD

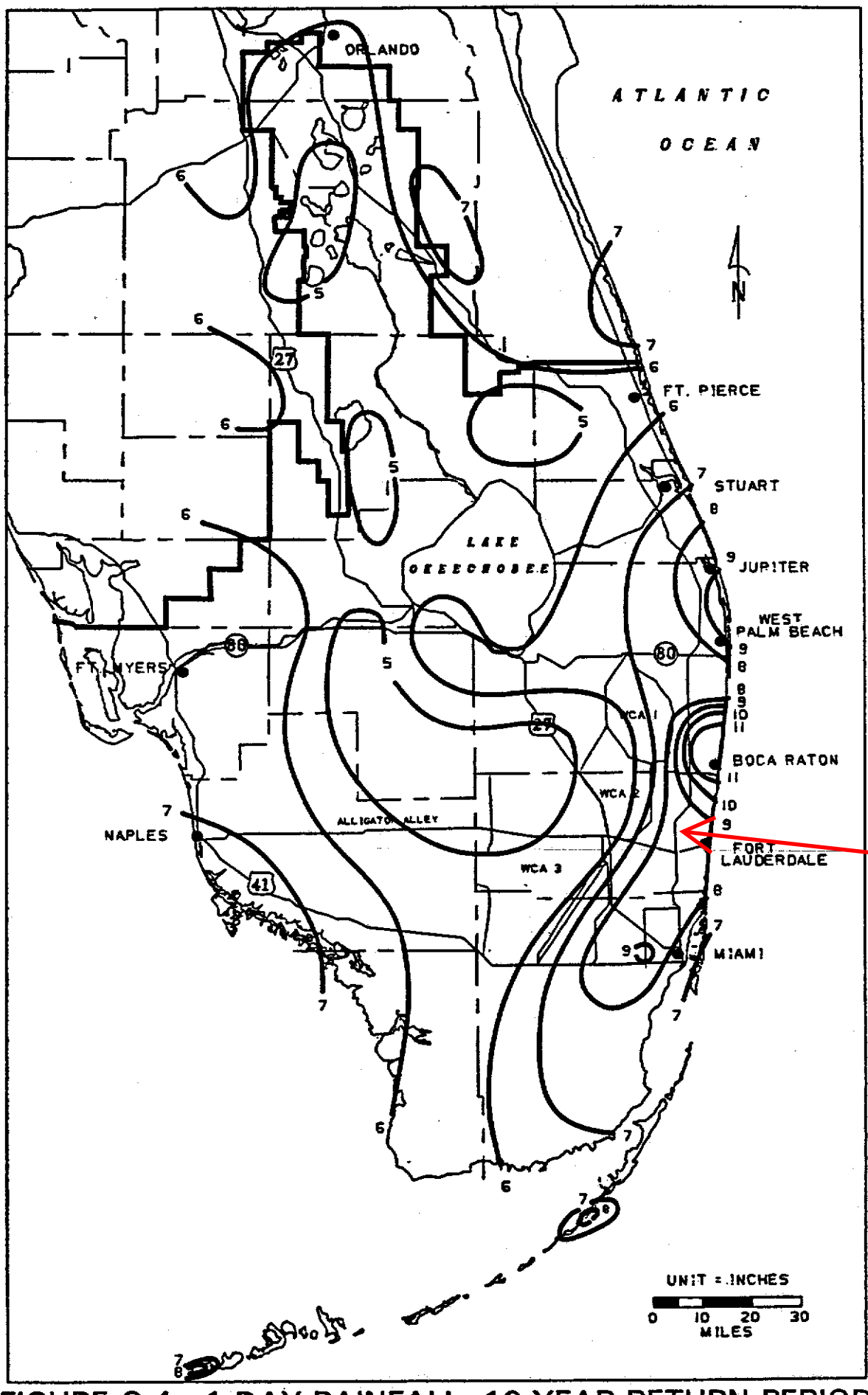


FIGURE C-4. 1-DAY RAINFALL: 10-YEAR RETURN PERIOD

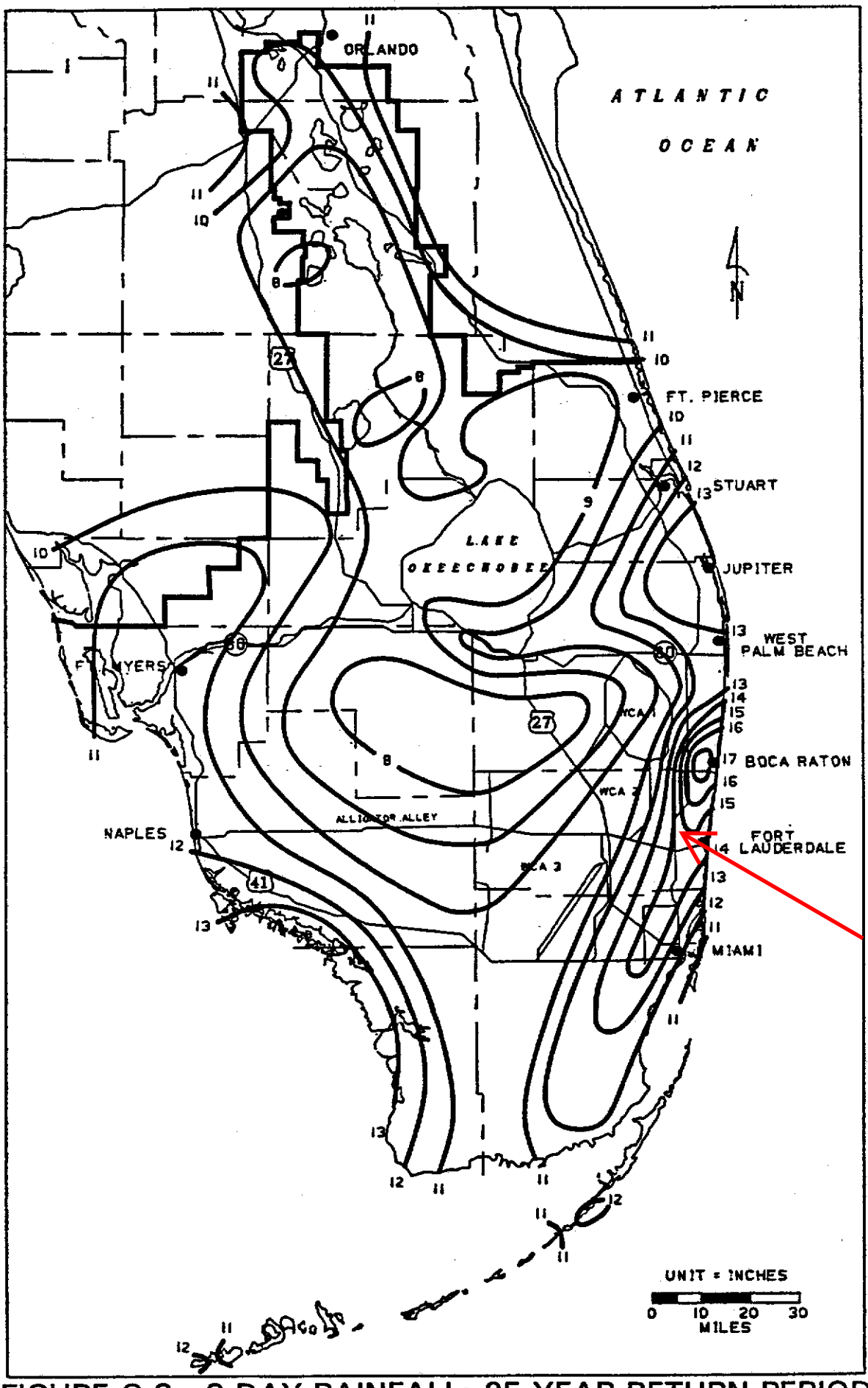


FIGURE C-8. 3-DAY RAINFALL: 25-YEAR RETURN PERIOD

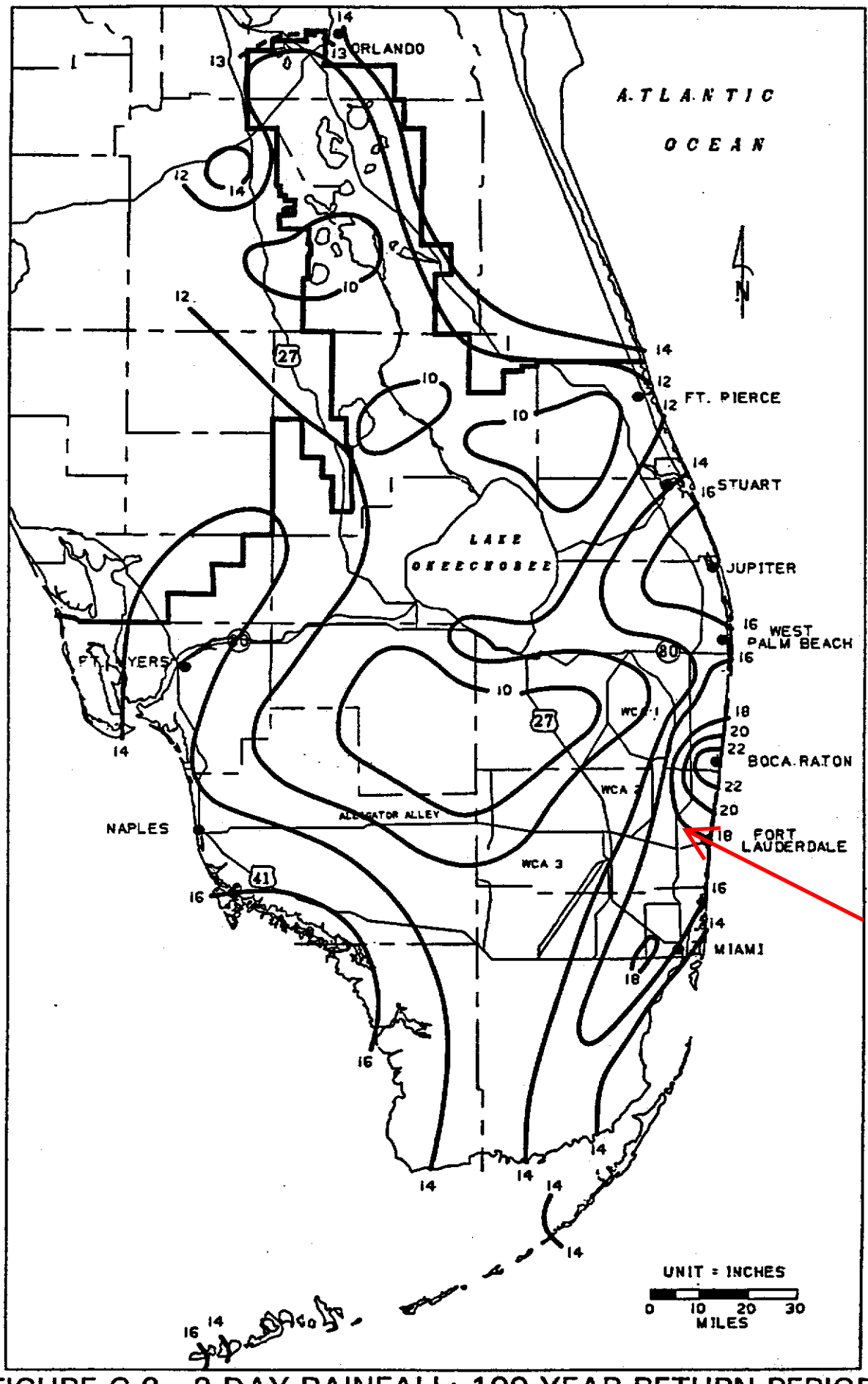
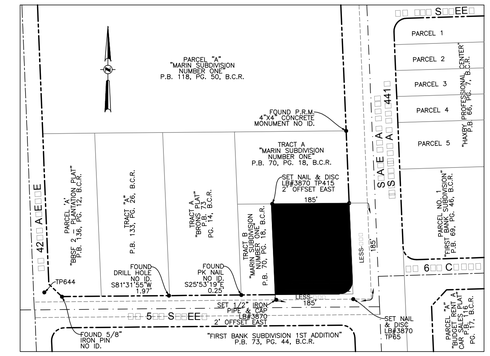


FIGURE C-9. 3-DAY RAINFALL: 100-YEAR RETURN PERIOD

LEGEND

- CONCRETE
- ASPHALT PAVEMENT
- PAVERS
- 10.00 ELEVATION
- OHW OVERHEAD WIRES
- STM UNDERGROUND STORM SEWER LINE
- SAN UNDERGROUND SANITARY SEWER LINE
- NON-VEHICULAR ACCESS LINE
- ℄ CENTERLINE
- O.R.B. OFFICIAL RECORDS BOOK
- P.B. PLAT BOOK
- PG. PAGE
- B.C.R. BROWARD COUNTY RECORDS
- D.C.R. MIAMI-DADE COUNTY RECORDS
- TP TRAVERSE POINT (FOR FIELD INFORMATION ONLY)
- 1/4 CORNER
- R RADIUS
- CA CENTRAL ANGLE
- A ARC
- PALM TREE
- OAK TREE
- UNIDENTIFIED TREE



VICINITY MAP
NOT TO SCALE

LEGAL DESCRIPTION:
THE SOUTH 185 FEET OF THE EAST 185 FEET OF TRACT 8, AS MEASURED ALONG THE EAST AND SOUTH LINES OF SAID TRACT 8, OF "FLORIDA FRUIT LANDS COMPANY'S SUBDIVISION NO. 1", OF SECTION 1, TOWNSHIP 50 SOUTH, RANGE 41 EAST OF BROWARD COUNTY, FLORIDA, ACCORDING TO THE MAP OR PLAT THEREOF, RECORDED IN PLAT BOOK 2, PAGE 17, OF THE PUBLIC RECORDS OF MIAMI-DADE COUNTY, FLORIDA; LESS THE SOUTH 10 FEET AND THE EAST 35 FEET THEREOF, AND EXCEPTING THEREFROM ALL THAT PART OF SAID TRACT LYING EXTERIOR TO THE ARC OF A 25 FOOT RADIUS CURVE, TANGENT TO THE SOUTH AND EAST LINES OF SAID PARCEL. THE SOUTH LINE OF SAID TRACT 8 LYING 15 FEET NORTH OF THE SOUTH LINE OF THE NORTHEAST 1/4 OF SAID SECTION 1 AND THE EAST LINE OF SAID TRACT 8 LYING 15 FEET WEST OF THE EAST LINE OF THE NORTHEAST 1/4 OF SAID SECTION 1.

SAID LANDS ARE NOW LYING, BEING AND SITUATE IN BROWARD COUNTY, FLORIDA.

NOTES:
1) THIS SITE CONTAINS 26,090 SQUARE FEET (0.5989 ACRES) MORE OR LESS.
2) ELEVATIONS ARE BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988. BROWARD COUNTY BENCHMARK: 0368; ELEVATION: 8.949 FEET.
3) FLOOD ZONE: V; BASE FLOOD ELEVATION: NONE; PANEL:120054 0364H; MAP DATE: 8/18/14.
4) THIS SITE LIES IN SECTION 1, TOWNSHIP 50 SOUTH, RANGE 41 EAST, BROWARD COUNTY, FLORIDA.
5) BEARINGS ARE BASED ON THE NORTH RIGHT-OF-WAY LINE OF NW 5TH STREET BEING S89°28'42"W.
6) REASONABLE EFFORTS WERE MADE REGARDING THE EXISTENCE AND THE LOCATION OF UNDERGROUND UTILITIES. THIS FIRM, HOWEVER, DOES NOT ACCEPT RESPONSIBILITY FOR THIS INFORMATION. BEFORE EXCAVATION OR CONSTRUCTION CONTACT THE APPROPRIATE UTILITY COMPANIES FOR FIELD VERIFICATION.
7) THIS SURVEY IS CERTIFIED EXCLUSIVELY TO: MDM SERVICES, INC.
8) THE HORIZONTAL POSITIONAL ACCURACY OF WELL DEFINED IMPROVEMENTS ON THIS SURVEY IS ±0.2'. THE VERTICAL ACCURACY OF ELEVATIONS OF WELL DEFINED IMPROVEMENTS ON THIS SURVEY IS ±0.1'.
9) THIS SITE CONTAINS 9 TOTAL PARKING SPACES (8 REGULAR & 1 DISABLED).
10) THIS SURVEY WAS PREPARED WITHOUT BENEFIT OF A COMMITMENT FOR TITLE INSURANCE. ONLY PLATTED OR KNOWN EASEMENTS ARE DEPICTED HEREON.

CERTIFICATE:
I HEREBY CERTIFY: THAT THIS SKETCH OF SURVEY MEETS THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES ("DOACS") CHAPTER 5J-17, FLORIDA ADMINISTRATIVE CODE, PURSUANT TO SECTION 472.027, FLORIDA STATUTES.

NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

☐ JOHN F. PULICE, PROFESSIONAL SURVEYOR AND MAPPER LS2691
☐ BETH BURNS, PROFESSIONAL SURVEYOR AND MAPPER LS6136
☐ VICTOR R. GILBERT, PROFESSIONAL SURVEYOR AND MAPPER LS6274
STATE OF FLORIDA

NO.	REVISIONS	BY
5		
4		
3		
2		
1		

MDM PLANTATION
501 SOUTH STATE ROAD 7
PLANTATION, FLORIDA 33317
LOT 65

BOUNDARY AND TOPOGRAPHIC SURVEY

PULICE LAND SURVEYORS, INC.
5381 NOB HILL ROAD
SUNRISE, FLORIDA 33351
TELEPHONE: (954) 572-1777
FAX: (954) 572-1778
E-MAIL: surveys@pulicelandsurveyors.com
WEBSITE: www.pulicelandsurveyors.com
CERTIFICATE OF AUTHORIZATION LB#3870

DRAWN BY: B.E.	SCALE: 1" = 20'	FILE: MDM SERVICES, INC.
CHECKED BY: J.F.P.	SURVEY DATE: 05.22.17	ORDER NO.: 62974

Subsection: Unit Hydrograph Equations

Unit Hydrograph Method (Computational Notes)
Definition of Terms

At	Total area (acres): At = Ai+Ap
Ai	Impervious area (acres)
Ap	Pervious area (acres)
CNi	Runoff curve number for impervious area
CNp	Runoff curve number for pervious area
fLoss	f loss constant infiltration (depth/time)
gKs	Saturated Hydraulic Conductivity (depth/time)
Md	Volumetric Moisture Deficit
Psi	Capillary Suction (length)
hK	Horton Infiltration Decay Rate (time^-1)
fo	Initial Infiltration Rate (depth/time)
fc	Ultimate(capacity)Infiltration Rate (depth/time)
Ia	Initial Abstraction (length)
dt	Computational increment (duration of unit excess rainfall) Default dt is smallest value of 0.1333Tc, rtm, and th (Smallest dt is then adjusted to match up with Tp)
UDdt	User specified override computational main time increment (only used if UDdt is => .1333Tc)
D(t)	Point on distribution curve (fraction of P) for time step t
K	2 / (1 + (Tr/Tp)): default K = 0.75: (for Tr/Tp = 1.67)
Ks	Hydrograph shape factor = Unit Conversions * K: = ((1hr/3600sec) * (1ft/12in) * ((5280ft)**2/sq.mi)) * K Default Ks = 645.333 * 0.75 = 484
Lag	Lag time from center of excess runoff (dt) to Tp: Lag = 0.6Tc
P	Total precipitation depth, inches
Pa(t)	Accumulated rainfall at time step t
Pi(t)	Incremental rainfall at time step t
qp	Peak discharge (cfs) for 1in. runoff, for 1hr, for 1 sq.mi. = (Ks * A * Q) / Tp (where Q = 1in. runoff, A=sq.mi.)
Qu(t)	Unit hydrograph ordinate (cfs) at time step t
Q(t)	Final hydrograph ordinate (cfs) at time step t
Rai(t)	Accumulated runoff (inches) at time step t for impervious area
Rap(t)	Accumulated runoff (inches) at time step t for pervious area
Rii(t)	Incremental runoff (inches) at time step t for impervious area
Rip(t)	Incremental runoff (inches) at time step t for pervious area
R(t)	Incremental weighted total runoff (inches)
Rtm	Time increment for rainfall table
Si	S for impervious area: Si = (1000/CNi) - 10
Sp	S for pervious area: Sp = (1000/CNp) - 10
t	Time step (row) number
Tc	Time of concentration
Tb	Time (hrs) of entire unit hydrograph: Tb = Tp + Tr
Tp	Time (hrs) to peak of a unit hydrograph: Tp = (dt/2) + Lag
Tr	Time (hrs) of receding limb of unit hydrograph: Tr = ratio of Tp

Storm Event	3yr1d
Return Event	3 years
Duration	24.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.250 hours
Area (User Defined)	0.553 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.033 hours
Flow (Peak, Computed)	1.54 ft³/s
Output Increment	0.100 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	1.52 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	0.553 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.9 in
Runoff Volume (Pervious)	0.182 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.181 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.250 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	2.50 ft³/s

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 3 years
Storm Event: 3yr1d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	8.00	8.00	8.00	8.00	8.00
0.500	8.00	8.00	8.00	8.00	8.00
1.000	8.00	8.00	8.00	8.00	8.00
1.500	8.00	8.00	8.00	8.00	8.00
2.000	8.00	8.00	8.00	8.00	8.00
2.500	8.00	8.00	8.00	8.00	8.00
3.000	8.00	8.00	8.00	8.00	8.00
3.500	8.00	8.00	8.00	8.00	8.00
4.000	8.00	8.00	8.00	8.00	8.00
4.500	8.00	8.00	8.00	8.00	8.00
5.000	8.00	8.00	8.00	8.00	8.00
5.500	8.00	8.00	8.00	8.00	8.00
6.000	8.00	8.00	8.00	8.00	8.00
6.500	8.01	8.01	8.01	8.01	8.02
7.000	8.02	8.02	8.03	8.03	8.04
7.500	8.05	8.05	8.06	8.07	8.08
8.000	8.08	8.09	8.10	8.11	8.13
8.500	8.14	8.15	8.16	8.18	8.20
9.000	8.21	8.23	8.25	8.25	8.26
9.500	8.26	8.27	8.27	8.28	8.28
10.000	8.29	8.29	8.30	8.31	8.31
10.500	8.32	8.33	8.34	8.35	8.36
11.000	8.37	8.38	8.40	8.42	8.44
11.500	8.46	8.49	8.52	8.56	8.61
12.000	8.67	8.72	8.77	8.81	8.84
12.500	8.86	8.89	8.91	8.92	8.93
13.000	8.94	8.95	8.96	8.97	8.97
13.500	8.98	8.99	8.99	9.00	9.00
14.000	9.00	9.01	9.01	9.01	9.01
14.500	9.02	9.02	9.02	9.02	9.03
15.000	9.03	9.03	9.03	9.03	9.03
15.500	9.04	9.04	9.04	9.04	9.04
16.000	9.05	9.05	9.05	9.05	9.05
16.500	9.05	9.05	9.06	9.06	9.06
17.000	9.06	9.06	9.06	9.06	9.07
17.500	9.07	9.07	9.07	9.07	9.07
18.000	9.07	9.07	9.08	9.08	9.08
18.500	9.08	9.08	9.08	9.08	9.08
19.000	9.09	9.09	9.09	9.09	9.09
19.500	9.09	9.09	9.09	9.09	9.10
20.000	9.10	9.10	9.10	9.10	9.10
20.500	9.10	9.10	9.10	9.10	9.10

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 3 years
Storm Event: 3yr1d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.000	9.11	9.11	9.11	9.11	9.11
21.500	9.11	9.11	9.11	9.11	9.11
22.000	9.12	9.12	9.12	9.12	9.12
22.500	9.12	9.12	9.12	9.12	9.12
23.000	9.12	9.12	9.12	9.13	9.13
23.500	9.13	9.13	9.13	9.13	9.13
24.000	9.13	(N/A)	(N/A)	(N/A)	(N/A)

Storm Event	5yr1d
Return Event	5 years
Duration	24.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.250 hours
Area (User Defined)	0.553 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.033 hours
Flow (Peak, Computed)	2.02 ft³/s
Output Increment	0.100 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	2.00 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	0.553 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.2 in
Runoff Volume (Pervious)	0.241 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.240 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.250 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	2.50 ft³/s

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 5 years
Storm Event: 5yr1d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	8.00	8.00	8.00	8.00	8.00
0.500	8.00	8.00	8.00	8.00	8.00
1.000	8.00	8.00	8.00	8.00	8.00
1.500	8.00	8.00	8.00	8.00	8.00
2.000	8.00	8.00	8.00	8.00	8.00
2.500	8.00	8.00	8.00	8.00	8.00
3.000	8.00	8.00	8.00	8.00	8.00
3.500	8.00	8.00	8.00	8.00	8.00
4.000	8.00	8.00	8.00	8.00	8.00
4.500	8.00	8.00	8.00	8.00	8.00
5.000	8.00	8.00	8.00	8.00	8.00
5.500	8.00	8.01	8.01	8.01	8.01
6.000	8.02	8.02	8.03	8.03	8.04
6.500	8.04	8.05	8.06	8.07	8.08
7.000	8.08	8.09	8.11	8.12	8.13
7.500	8.14	8.16	8.17	8.18	8.20
8.000	8.21	8.23	8.25	8.25	8.26
8.500	8.26	8.27	8.27	8.28	8.28
9.000	8.29	8.29	8.30	8.30	8.31
9.500	8.32	8.32	8.33	8.34	8.35
10.000	8.36	8.36	8.37	8.38	8.40
10.500	8.41	8.42	8.43	8.45	8.47
11.000	8.48	8.50	8.51	8.52	8.53
11.500	8.54	8.55	8.58	8.64	8.71
12.000	8.78	8.86	8.92	8.97	9.00
12.500	9.02	9.04	9.05	9.06	9.07
13.000	9.07	9.08	9.08	9.09	9.09
13.500	9.10	9.10	9.11	9.11	9.11
14.000	9.12	9.12	9.12	9.13	9.13
14.500	9.13	9.13	9.14	9.14	9.14
15.000	9.15	9.15	9.15	9.15	9.16
15.500	9.16	9.16	9.16	9.16	9.17
16.000	9.17	9.17	9.17	9.17	9.18
16.500	9.18	9.18	9.18	9.18	9.19
17.000	9.19	9.19	9.19	9.19	9.19
17.500	9.20	9.20	9.20	9.20	9.20
18.000	9.20	9.21	9.21	9.21	9.21
18.500	9.21	9.21	9.22	9.22	9.22
19.000	9.22	9.22	9.22	9.22	9.22
19.500	9.23	9.23	9.23	9.23	9.23
20.000	9.23	9.23	9.24	9.24	9.24
20.500	9.24	9.24	9.24	9.24	9.24

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 5 years
Storm Event: 5yr1d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.000	9.24	9.25	9.25	9.25	9.25
21.500	9.25	9.25	9.25	9.25	9.26
22.000	9.26	9.26	9.26	9.26	9.26
22.500	9.26	9.26	9.26	9.26	9.27
23.000	9.27	9.27	9.27	9.27	9.27
23.500	9.27	9.27	9.27	9.27	9.27
24.000	9.28	(N/A)	(N/A)	(N/A)	(N/A)

Storm Event	10yr1d
Return Event	10 years
Duration	24.000 hours
Depth	8.8 in
Time of Concentration (Composite)	0.250 hours
Area (User Defined)	0.553 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.033 hours
Flow (Peak, Computed)	2.40 ft³/s
Output Increment	0.100 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	2.38 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	0.553 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	6.3 in
Runoff Volume (Pervious)	0.288 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.287 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.250 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	2.50 ft³/s

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 10 years
Storm Event: 10yr1d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	8.00	8.00	8.00	8.00	8.00
0.500	8.00	8.00	8.00	8.00	8.00
1.000	8.00	8.00	8.00	8.00	8.00
1.500	8.00	8.00	8.00	8.00	8.00
2.000	8.00	8.00	8.00	8.00	8.00
2.500	8.00	8.00	8.00	8.00	8.00
3.000	8.00	8.00	8.00	8.00	8.00
3.500	8.00	8.00	8.00	8.00	8.00
4.000	8.00	8.00	8.00	8.00	8.00
4.500	8.00	8.00	8.00	8.00	8.00
5.000	8.00	8.01	8.01	8.01	8.02
5.500	8.02	8.03	8.03	8.04	8.05
6.000	8.05	8.06	8.07	8.08	8.09
6.500	8.10	8.11	8.12	8.13	8.15
7.000	8.16	8.18	8.19	8.21	8.23
7.500	8.25	8.25	8.26	8.26	8.27
8.000	8.27	8.27	8.28	8.28	8.29
8.500	8.30	8.30	8.31	8.31	8.32
9.000	8.33	8.34	8.34	8.35	8.36
9.500	8.37	8.38	8.39	8.40	8.41
10.000	8.42	8.43	8.44	8.46	8.47
10.500	8.49	8.50	8.51	8.51	8.52
11.000	8.53	8.54	8.55	8.56	8.57
11.500	8.58	8.60	8.64	8.70	8.79
12.000	8.88	8.97	9.02	9.05	9.07
12.500	9.09	9.11	9.13	9.14	9.15
13.000	9.15	9.16	9.17	9.17	9.18
13.500	9.18	9.19	9.19	9.20	9.20
14.000	9.21	9.21	9.21	9.22	9.22
14.500	9.23	9.23	9.23	9.23	9.24
15.000	9.24	9.24	9.25	9.25	9.25
15.500	9.26	9.26	9.26	9.26	9.27
16.000	9.27	9.27	9.27	9.27	9.28
16.500	9.28	9.28	9.28	9.29	9.29
17.000	9.29	9.29	9.29	9.30	9.30
17.500	9.30	9.30	9.30	9.31	9.31
18.000	9.31	9.31	9.31	9.31	9.32
18.500	9.32	9.32	9.32	9.32	9.33
19.000	9.33	9.33	9.33	9.33	9.33
19.500	9.33	9.34	9.34	9.34	9.34
20.000	9.34	9.34	9.35	9.35	9.35
20.500	9.35	9.35	9.35	9.35	9.35

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 10 years
Storm Event: 10yr1d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.000	9.36	9.36	9.36	9.36	9.36
21.500	9.36	9.36	9.37	9.37	9.37
22.000	9.37	9.37	9.37	9.38	9.38
22.500	9.38	9.38	9.38	9.38	9.38
23.000	9.38	9.38	9.38	9.39	9.39
23.500	9.39	9.39	9.39	9.39	9.39
24.000	9.39	(N/A)	(N/A)	(N/A)	(N/A)

Storm Event	25yr3d
Return Event	25 years
Duration	72.000 hours
Depth	15.0 in
Time of Concentration (Composite)	0.250 hours
Area (User Defined)	0.553 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	60.000 hours
Flow (Peak, Computed)	3.86 ft³/s
Output Increment	0.100 hours
Time to Flow (Peak Interpolated Output)	60.000 hours
Flow (Peak Interpolated Output)	3.86 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	0.553 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	12.2 in
Runoff Volume (Pervious)	0.563 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.562 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.250 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	2.50 ft³/s

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 25 years
Storm Event: 25yr3d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	8.00	8.00	8.00	8.00	8.00
0.500	8.00	8.00	8.00	8.00	8.00
1.000	8.00	8.00	8.00	8.00	8.00
1.500	8.00	8.00	8.00	8.00	8.00
2.000	8.00	8.00	8.00	8.00	8.00
2.500	8.00	8.00	8.00	8.00	8.00
3.000	8.00	8.00	8.00	8.00	8.00
3.500	8.00	8.00	8.00	8.00	8.00
4.000	8.00	8.00	8.00	8.00	8.00
4.500	8.00	8.00	8.00	8.00	8.00
5.000	8.00	8.00	8.00	8.00	8.00
5.500	8.00	8.00	8.00	8.00	8.00
6.000	8.00	8.00	8.00	8.00	8.00
6.500	8.00	8.00	8.00	8.00	8.00
7.000	8.00	8.00	8.00	8.00	8.00
7.500	8.00	8.00	8.00	8.00	8.00
8.000	8.00	8.00	8.00	8.00	8.00
8.500	8.00	8.00	8.00	8.00	8.00
9.000	8.00	8.01	8.01	8.01	8.01
9.500	8.01	8.01	8.01	8.01	8.02
10.000	8.02	8.02	8.02	8.02	8.03
10.500	8.03	8.03	8.03	8.04	8.04
11.000	8.04	8.04	8.05	8.05	8.05
11.500	8.05	8.06	8.06	8.06	8.07
12.000	8.07	8.08	8.08	8.08	8.09
12.500	8.09	8.10	8.10	8.10	8.11
13.000	8.11	8.12	8.12	8.13	8.13
13.500	8.14	8.14	8.14	8.15	8.16
14.000	8.16	8.16	8.17	8.17	8.18
14.500	8.19	8.19	8.20	8.20	8.21
15.000	8.21	8.22	8.22	8.23	8.24
15.500	8.24	8.25	8.25	8.25	8.25
16.000	8.25	8.26	8.26	8.26	8.26
16.500	8.26	8.26	8.26	8.26	8.27
17.000	8.27	8.27	8.27	8.27	8.27
17.500	8.27	8.28	8.28	8.28	8.28
18.000	8.28	8.28	8.29	8.29	8.29
18.500	8.29	8.29	8.29	8.29	8.30
19.000	8.30	8.30	8.30	8.30	8.30
19.500	8.31	8.31	8.31	8.31	8.31
20.000	8.31	8.32	8.32	8.32	8.32
20.500	8.32	8.32	8.33	8.33	8.33

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 25 years
Storm Event: 25yr3d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.000	8.33	8.33	8.33	8.34	8.34
21.500	8.34	8.34	8.34	8.35	8.35
22.000	8.35	8.35	8.35	8.35	8.36
22.500	8.36	8.36	8.36	8.36	8.37
23.000	8.37	8.37	8.37	8.37	8.38
23.500	8.38	8.38	8.38	8.38	8.38
24.000	8.39	8.39	8.39	8.39	8.40
24.500	8.40	8.40	8.41	8.41	8.41
25.000	8.42	8.42	8.42	8.43	8.43
25.500	8.43	8.43	8.44	8.44	8.45
26.000	8.45	8.45	8.46	8.46	8.46
26.500	8.46	8.47	8.47	8.47	8.48
27.000	8.48	8.48	8.49	8.49	8.50
27.500	8.50	8.50	8.50	8.50	8.50
28.000	8.51	8.51	8.51	8.51	8.51
28.500	8.51	8.51	8.51	8.52	8.52
29.000	8.52	8.52	8.52	8.52	8.52
29.500	8.52	8.53	8.53	8.53	8.53
30.000	8.53	8.53	8.53	8.53	8.54
30.500	8.54	8.54	8.54	8.54	8.54
31.000	8.54	8.55	8.55	8.55	8.55
31.500	8.55	8.55	8.55	8.56	8.56
32.000	8.56	8.56	8.56	8.56	8.56
32.500	8.56	8.57	8.57	8.57	8.57
33.000	8.57	8.57	8.57	8.58	8.58
33.500	8.58	8.58	8.58	8.58	8.59
34.000	8.59	8.59	8.59	8.59	8.59
34.500	8.59	8.59	8.60	8.60	8.60
35.000	8.60	8.60	8.60	8.61	8.61
35.500	8.61	8.61	8.61	8.61	8.61
36.000	8.62	8.62	8.62	8.62	8.62
36.500	8.62	8.62	8.63	8.63	8.63
37.000	8.63	8.63	8.63	8.64	8.64
37.500	8.64	8.64	8.64	8.64	8.64
38.000	8.65	8.65	8.65	8.65	8.65
38.500	8.65	8.66	8.66	8.66	8.66
39.000	8.66	8.66	8.66	8.67	8.67
39.500	8.67	8.67	8.67	8.67	8.68
40.000	8.68	8.68	8.68	8.68	8.68
40.500	8.68	8.69	8.69	8.69	8.69
41.000	8.69	8.70	8.70	8.70	8.70
41.500	8.70	8.70	8.70	8.71	8.71

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 25 years
Storm Event: 25yr3d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
42.000	8.71	8.71	8.71	8.71	8.72
42.500	8.72	8.72	8.72	8.72	8.72
43.000	8.73	8.73	8.73	8.73	8.73
43.500	8.73	8.74	8.74	8.74	8.74
44.000	8.74	8.74	8.75	8.75	8.75
44.500	8.75	8.75	8.75	8.76	8.76
45.000	8.76	8.76	8.76	8.76	8.77
45.500	8.77	8.77	8.77	8.77	8.77
46.000	8.78	8.78	8.78	8.78	8.78
46.500	8.78	8.79	8.79	8.79	8.79
47.000	8.79	8.79	8.80	8.80	8.80
47.500	8.80	8.80	8.81	8.81	8.81
48.000	8.81	8.81	8.81	8.82	8.82
48.500	8.82	8.82	8.82	8.83	8.83
49.000	8.83	8.83	8.83	8.84	8.84
49.500	8.84	8.84	8.84	8.85	8.85
50.000	8.85	8.85	8.85	8.86	8.86
50.500	8.86	8.86	8.86	8.87	8.87
51.000	8.87	8.87	8.88	8.88	8.88
51.500	8.88	8.89	8.89	8.89	8.89
52.000	8.90	8.90	8.90	8.91	8.91
52.500	8.91	8.92	8.92	8.92	8.93
53.000	8.93	8.93	8.94	8.94	8.94
53.500	8.95	8.95	8.96	8.96	8.97
54.000	8.97	8.98	8.98	8.98	8.99
54.500	8.99	9.00	9.00	9.01	9.01
55.000	9.01	9.01	9.02	9.02	9.02
55.500	9.03	9.03	9.03	9.03	9.04
56.000	9.04	9.04	9.05	9.05	9.06
56.500	9.06	9.06	9.07	9.07	9.07
57.000	9.08	9.08	9.09	9.09	9.09
57.500	9.10	9.10	9.11	9.11	9.12
58.000	9.12	9.13	9.13	9.14	9.14
58.500	9.15	9.15	9.16	9.17	9.18
59.000	9.18	9.19	9.20	9.21	9.22
59.500	9.23	9.25	9.29	9.35	9.42
60.000	9.50	9.60	9.72	9.80	9.85
60.500	9.90	9.94	9.97	10.00	10.02
61.000	10.04	10.06	10.08	10.10	10.11
61.500	10.13	10.14	10.16	10.17	10.18
62.000	10.19	10.21	10.22	10.23	10.24
62.500	10.25	10.26	10.26	10.27	10.28

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 25 years
Storm Event: 25yr3d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
63.000	10.29	10.30	10.31	10.31	10.32
63.500	10.33	10.34	10.35	10.35	10.36
64.000	10.37	10.38	10.38	10.39	10.39
64.500	10.40	10.40	10.41	10.42	10.42
65.000	10.43	10.43	10.43	10.44	10.45
65.500	10.45	10.45	10.46	10.46	10.47
66.000	10.47	10.48	10.48	10.49	10.49
66.500	10.50	10.50	10.51	10.51	10.52
67.000	10.52	10.53	10.53	10.54	10.54
67.500	10.55	10.55	10.56	10.56	10.57
68.000	10.57	10.58	10.58	10.58	10.59
68.500	10.59	10.59	10.60	10.60	10.60
69.000	10.61	10.61	10.61	10.62	10.62
69.500	10.62	10.63	10.63	10.63	10.64
70.000	10.64	10.64	10.65	10.65	10.65
70.500	10.66	10.66	10.66	10.67	10.67
71.000	10.67	10.68	10.68	10.68	10.69
71.500	10.69	10.69	10.70	10.70	10.70
72.000	10.71	(N/A)	(N/A)	(N/A)	(N/A)

Storm Event	100yr3d
Return Event	100 years
Duration	72.000 hours
Depth	18.0 in
Time of Concentration (Composite)	0.250 hours
Area (User Defined)	0.553 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	60.000 hours
Flow (Peak, Computed)	4.70 ft³/s
Output Increment	0.100 hours
Time to Flow (Peak Interpolated Output)	60.000 hours
Flow (Peak Interpolated Output)	4.70 ft³/s

Drainage Area	
SCS CN (Composite)	79.000
Area (User Defined)	0.553 acres
Maximum Retention (Pervious)	2.7 in
Maximum Retention (Pervious, 20 percent)	0.5 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	15.2 in
Runoff Volume (Pervious)	0.698 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.697 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.250 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	2.50 ft³/s

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 100 years
Storm Event: 100yr3d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	8.00	8.00	8.00	8.00	8.00
0.500	8.00	8.00	8.00	8.00	8.00
1.000	8.00	8.00	8.00	8.00	8.00
1.500	8.00	8.00	8.00	8.00	8.00
2.000	8.00	8.00	8.00	8.00	8.00
2.500	8.00	8.00	8.00	8.00	8.00
3.000	8.00	8.00	8.00	8.00	8.00
3.500	8.00	8.00	8.00	8.00	8.00
4.000	8.00	8.00	8.00	8.00	8.00
4.500	8.00	8.00	8.00	8.00	8.00
5.000	8.00	8.00	8.00	8.00	8.00
5.500	8.00	8.00	8.00	8.00	8.00
6.000	8.00	8.00	8.00	8.00	8.00
6.500	8.00	8.00	8.00	8.00	8.00
7.000	8.00	8.00	8.00	8.00	8.00
7.500	8.00	8.01	8.01	8.01	8.01
8.000	8.01	8.01	8.02	8.02	8.02
8.500	8.02	8.02	8.03	8.03	8.03
9.000	8.03	8.04	8.04	8.04	8.05
9.500	8.05	8.06	8.06	8.06	8.07
10.000	8.07	8.08	8.08	8.08	8.09
10.500	8.09	8.10	8.10	8.11	8.11
11.000	8.12	8.12	8.13	8.13	8.14
11.500	8.14	8.15	8.16	8.16	8.17
12.000	8.17	8.18	8.19	8.20	8.21
12.500	8.21	8.22	8.23	8.23	8.24
13.000	8.25	8.25	8.25	8.25	8.26
13.500	8.26	8.26	8.26	8.26	8.26
14.000	8.26	8.27	8.27	8.27	8.27
14.500	8.27	8.27	8.28	8.28	8.28
15.000	8.28	8.28	8.28	8.29	8.29
15.500	8.29	8.29	8.29	8.30	8.30
16.000	8.30	8.30	8.30	8.31	8.31
16.500	8.31	8.31	8.31	8.32	8.32
17.000	8.32	8.32	8.32	8.33	8.33
17.500	8.33	8.33	8.33	8.34	8.34
18.000	8.34	8.34	8.35	8.35	8.35
18.500	8.35	8.36	8.36	8.36	8.36
19.000	8.36	8.37	8.37	8.37	8.37
19.500	8.38	8.38	8.38	8.38	8.38
20.000	8.39	8.39	8.39	8.39	8.40
20.500	8.40	8.40	8.40	8.41	8.41

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 100 years
Storm Event: 100yr3d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.000	8.41	8.41	8.42	8.42	8.42
21.500	8.42	8.43	8.43	8.43	8.43
22.000	8.44	8.44	8.44	8.44	8.45
22.500	8.45	8.45	8.46	8.46	8.46
23.000	8.46	8.47	8.47	8.47	8.47
23.500	8.48	8.48	8.48	8.49	8.49
24.000	8.49	8.49	8.50	8.50	8.50
24.500	8.50	8.50	8.51	8.51	8.51
25.000	8.51	8.51	8.51	8.52	8.52
25.500	8.52	8.52	8.52	8.52	8.53
26.000	8.53	8.53	8.53	8.53	8.53
26.500	8.53	8.54	8.54	8.54	8.54
27.000	8.54	8.54	8.55	8.55	8.55
27.500	8.55	8.55	8.55	8.55	8.56
28.000	8.56	8.56	8.56	8.56	8.57
28.500	8.57	8.57	8.57	8.57	8.57
29.000	8.57	8.58	8.58	8.58	8.58
29.500	8.58	8.59	8.59	8.59	8.59
30.000	8.59	8.59	8.60	8.60	8.60
30.500	8.60	8.60	8.61	8.61	8.61
31.000	8.61	8.61	8.61	8.62	8.62
31.500	8.62	8.62	8.62	8.63	8.63
32.000	8.63	8.63	8.63	8.63	8.64
32.500	8.64	8.64	8.64	8.64	8.65
33.000	8.65	8.65	8.65	8.65	8.65
33.500	8.66	8.66	8.66	8.66	8.66
34.000	8.67	8.67	8.67	8.67	8.67
34.500	8.68	8.68	8.68	8.68	8.68
35.000	8.68	8.69	8.69	8.69	8.69
35.500	8.69	8.70	8.70	8.70	8.70
36.000	8.70	8.70	8.71	8.71	8.71
36.500	8.71	8.72	8.72	8.72	8.72
37.000	8.72	8.72	8.73	8.73	8.73
37.500	8.73	8.74	8.74	8.74	8.74
38.000	8.74	8.74	8.75	8.75	8.75
38.500	8.75	8.76	8.76	8.76	8.76
39.000	8.76	8.77	8.77	8.77	8.77
39.500	8.77	8.78	8.78	8.78	8.78
40.000	8.78	8.79	8.79	8.79	8.79
40.500	8.79	8.80	8.80	8.80	8.80
41.000	8.80	8.81	8.81	8.81	8.81
41.500	8.81	8.82	8.82	8.82	8.82

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 100 years
Storm Event: 100yr3d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
42.000	8.83	8.83	8.83	8.83	8.83
42.500	8.83	8.84	8.84	8.84	8.84
43.000	8.85	8.85	8.85	8.85	8.85
43.500	8.86	8.86	8.86	8.86	8.86
44.000	8.87	8.87	8.87	8.87	8.88
44.500	8.88	8.88	8.88	8.88	8.89
45.000	8.89	8.89	8.89	8.89	8.90
45.500	8.90	8.90	8.90	8.90	8.91
46.000	8.91	8.91	8.91	8.91	8.92
46.500	8.92	8.92	8.92	8.93	8.93
47.000	8.93	8.93	8.93	8.94	8.94
47.500	8.94	8.94	8.95	8.95	8.95
48.000	8.95	8.95	8.96	8.96	8.96
48.500	8.96	8.97	8.97	8.97	8.97
49.000	8.98	8.98	8.98	8.98	8.99
49.500	8.99	8.99	8.99	9.00	9.00
50.000	9.00	9.00	9.00	9.00	9.01
50.500	9.01	9.01	9.01	9.01	9.01
51.000	9.02	9.02	9.02	9.02	9.02
51.500	9.02	9.02	9.03	9.03	9.03
52.000	9.03	9.03	9.04	9.04	9.04
52.500	9.04	9.04	9.05	9.05	9.05
53.000	9.05	9.06	9.06	9.06	9.06
53.500	9.07	9.07	9.07	9.07	9.08
54.000	9.08	9.08	9.09	9.09	9.09
54.500	9.10	9.10	9.10	9.11	9.11
55.000	9.11	9.12	9.12	9.12	9.13
55.500	9.13	9.14	9.14	9.14	9.15
56.000	9.15	9.16	9.16	9.16	9.17
56.500	9.17	9.18	9.18	9.19	9.19
57.000	9.20	9.20	9.21	9.21	9.22
57.500	9.22	9.23	9.23	9.24	9.25
58.000	9.25	9.26	9.26	9.27	9.28
58.500	9.28	9.29	9.30	9.31	9.32
59.000	9.32	9.33	9.35	9.36	9.37
59.500	9.39	9.41	9.45	9.53	9.69
60.000	9.90	10.10	10.26	10.35	10.42
60.500	10.47	10.52	10.56	10.59	10.62
61.000	10.64	10.67	10.69	10.71	10.73
61.500	10.75	10.76	10.78	10.80	10.81
62.000	10.83	10.84	10.86	10.87	10.88
62.500	10.89	10.90	10.91	10.92	10.93

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)
Scenario: Base

Return Event: 100 years
Storm Event: 100yr3d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
63.000	10.94	10.95	10.96	10.97	10.98
63.500	10.99	11.00	11.01	11.02	11.03
64.000	11.04	11.05	11.06	11.06	11.07
64.500	11.08	11.08	11.09	11.10	11.10
65.000	11.11	11.11	11.12	11.13	11.13
65.500	11.14	11.14	11.15	11.16	11.16
66.000	11.17	11.17	11.18	11.18	11.19
66.500	11.20	11.20	11.21	11.21	11.22
67.000	11.23	11.23	11.24	11.24	11.25
67.500	11.26	11.26	11.27	11.27	11.28
68.000	11.29	11.29	11.30	11.30	11.30
68.500	11.31	11.31	11.32	11.32	11.32
69.000	11.33	11.33	11.34	11.34	11.34
69.500	11.35	11.35	11.36	11.36	11.36
70.000	11.37	11.37	11.37	11.38	11.38
70.500	11.39	11.39	11.39	11.40	11.40
71.000	11.41	11.41	11.41	11.42	11.42
71.500	11.43	11.43	11.43	11.44	11.44
72.000	11.45	(N/A)	(N/A)	(N/A)	(N/A)

Post-Development

MDM Services, Inc.

MDM South Florida
3251 SW 13th Dr., Suite D
Deerfield Beach, FL 33442
Tel: 954 427-3076

SURFACE WATER MANAGEMENT CALCULATION, POST-DEVELOPMENT CONDITION

1) BREAKDOWN BY PROPOSED LAND USE

Building:	2484 sf	0.0570 ac	10.35%
Impervious pavement:	11358 sf	0.2607 ac	47.32%
Pervious pavement:	2146 sf	0.0493 ac	8.94%
Grassed open space:	7872 sf	0.1807 ac	32.79%
Grassed overhang:	144 sf	0.0033 ac	0.60%
Pervious:	10162 sf	0.2333 ac	42.33%
Impervious:	13842 sf	0.3178 ac	57.67%
Total Site:	24004 sf	0.5511 ac	100.00%

2) FLOOD AND RAINFALL CRITERIA

3 year, 1 day storm.....	6.30	inches
5 year, 1 day storm.....	7.70	inches
10 year, 1 day storm.....	8.80	inches
25 year, 3 day storm.....	15.00	inches
100 year, 3 day storm.....	18.00	inches
Water control elevation.....	2.50	ft.navd.88
Minimum roadway crown	8.00	ft.navd.88
Finished floor elevation.....	9.50	ft.navd.88
Rainfall distribution	II FL	
Hydrograph shape (peak rate) factor	256	

3) COMPUTE SOIL MOISTURE STORAGE

Average pervious elevation	8.25	ft.navd.88
Depth to the water table	5.75	ft.
Assuming compaction with 25% voids reduction, available ground storage is.....	8.18	inches
Ground Storage available under pervious areas of the site:	0.16	cu.ft.
Converting to equivalent site wide moisture storage,S:	3.46	inches
SCS Curve Number CN = 1000 / (S+10)	74	

4) WATER QUALITY REQUIREMENTS

i) Based on the first 1 inch of runoff over the entire site

Total site area, [A]	0.5511	ac.
Required detention, [D=A/12]	0.0459	ac.ft.

ii) Based on 2.5 inches times percent impervious

Site area (excluding lake & building), Alb	0.4940	ac
Impervious area (excluding lake & building), Ilb	0.2607	ac
Percent impervious	52.78	%
To be treated, [T]	1.32	in
Required detention, [D=T*A/12]	0.0606	ac.ft.

Use bigger number

iii) Additional 0.5 inches of runoff over the entire site:

Site area (excluding lake), [A]	0.5511	ac
Required detention, [D=A/2/12]	0.0230	ac.ft.
Total:	0.0836	ac.ft.

5) FRENCH DRAIN EXFILTRATED VOLUME CALCULATION (FOR WATER QUALITY)

Water Control elevation	2.50	ft.navd.88
Finish Grade	8.00	ft.navd.88
Hydraulic conductivity, K	8.30E-05	cfs/sf-fh
Top of trench elevation	6.00	ft.navd.88
Bottom of trench elevation	0.00	ft.navd.88
Trench width, W	6.00	ft
Pipe diameter	2.00	ft
Pipe invert elevation	3.50	ft.navd.88
Depth from surface to water table, H2	5.50	ft
Non saturated trench depth, Du	3.50	ft
Saturated trench depth, Ds	3.00	ft
Check for conservative formula, W>2x(Du+Ds), Ds>Du	false	

$$V = L \times [K(H_2 W + 2H_2 D_u - D_u{}^2 + 2H_2 D_s) + (1.39 \cdot 10^{-4}) W D_u]$$

Trench length provided On-Site, L =	95	ft
Volume stored in Exfiltration Trench, V=	0.0837	ac.ft.

6) FRENCH DRAIN EXFILTRATED VOLUME CALCULATION (FOR WATER QUANTITY)

Water Control elevation	2.50	ft.navd.88
Finish Grade	8.00	ft.navd.88
Hydraulic conductivity, K	8.30E-05	cfs/sf-fh
Top of trench elevation	6.00	ft.navd.88
Bottom of trench elevation	0.00	ft.navd.88
Trench width, W	6.00	ft
Pipe diameter	2.00	ft
Pipe invert elevation	4.00	ft.navd.88
Depth from surface to water table, H2	5.50	ft
Non saturated trench depth, Du	3.50	ft
Saturated trench depth, Ds	3.00	ft
Check for conservative formula, W>2x(Du+Ds), Ds>Du	false	

$$V = \frac{L}{2} \times [K(H_2 W + 2H_2 D_u - D_u{}^2 + 2H_2 D_s) + (1.39 \cdot 10^{-4}) W D_u]$$

Trench length provided On-Site, L =	305	ft
Volume stored in Exfiltration Trench, V=	0.1344	ac.ft.

7) STAGE-STORAGE CALCULATION

Linear storage in pervious areas

Total area, At:	0.2333	ac
Bottom Elev, Eb	7.00	ft.navd.88
Top Elev, Et	9.50	ft.navd.88
Volume	0.2916	ac.ft.

Vertical storage in pervious areas

Total area, At:	0.2333	ac
Bottom Elev, Eb	9.50	ft.navd.88
Top Elev, Et	10.50	ft.navd.88
Volume	0.2333	ac.ft.

Linear storage in impervious areas

Total area, At:	0.2607	ac
Bottom Elev, Eb	8.00	ft.navd.88
Top Elev, Et	9.50	ft.ngvd.
Volume	0.1956	ac.ft.

Vertical storage in impervious areas

Total area, At:	0.2607	ac
Bottom Elev, Eb	9.50	ft.navd.88
Top Elev, Et	10.50	ft.navd.88
Volume	0.2607	ac.ft.

8) STAGE-STORAGE TABLE

Stage ft.	French Drain 1 ac.ft.	French Drain 2 ac.ft.	Green Linear 0.23	Green Vertical 0.23	Pav't Linear 0.26	Pav't Vertical 0.26	Storage ac.ft.
			7.00 9.50	9.50 10.50	8.00 9.50	9.50 10.50	
2.50	0.0000	0.0000					0.0000
3.00	0.0213	0.0342					0.0555
3.50	0.0275	0.0442					0.0717
4.00	0.0338	0.0542					0.0880
4.50	0.0400	0.0642					0.1042
5.00	0.0463	0.0743					0.1206
5.50	0.0525	0.0843					0.1368
6.00	0.0588	0.0943					0.1531
6.50	0.0650	0.1043					0.1693
7.00	0.0712	0.1144	0.0000				0.1856
7.50	0.0775	0.1244	0.0117				0.2135
8.00	0.0837	0.1344	0.0467		0.0000		0.2648
8.50	0.0837	0.1344	0.1050		0.0217		0.3448
9.00	0.0837	0.1344	0.1866		0.0869		0.4916
9.50	0.0837	0.1344	0.2916	0.0000	0.1956	0.0000	0.7053
10.00	0.0837	0.1344	0.2916	0.1166	0.1956	0.1304	0.8219
10.50	0.0837	0.1344	0.2916	0.2333	0.1956	0.2607	0.9386

Storm Event	3yr1d
Return Event	3 years
Duration	72.000 hours
Depth	6.3 in
Time of Concentration (Composite)	0.250 hours
Area (User Defined)	0.551 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.033 hours
Flow (Peak, Computed)	1.34 ft^3/s
Output Increment	0.100 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	1.32 ft^3/s

Drainage Area	
SCS CN (Composite)	74.000
Area (User Defined)	0.551 acres
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	3.4 in
Runoff Volume (Pervious)	0.158 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.158 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.250 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	2.50 ft^3/s
Unit peak time, Tp	0.167 hours

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	2.50	2.50	2.50	2.50	2.50
0.500	2.50	2.50	2.50	2.50	2.50
1.000	2.50	2.50	2.50	2.50	2.50
1.500	2.50	2.50	2.50	2.50	2.50
2.000	2.50	2.50	2.50	2.50	2.50
2.500	2.50	2.50	2.50	2.50	2.50
3.000	2.50	2.50	2.50	2.50	2.50
3.500	2.50	2.50	2.50	2.50	2.50
4.000	2.50	2.50	2.50	2.50	2.50
4.500	2.50	2.50	2.50	2.50	2.50
5.000	2.50	2.50	2.50	2.50	2.50
5.500	2.50	2.50	2.50	2.50	2.50
6.000	2.50	2.50	2.50	2.50	2.50
6.500	2.50	2.50	2.50	2.50	2.50
7.000	2.50	2.50	2.50	2.50	2.50
7.500	2.50	2.50	2.50	2.50	2.50
8.000	2.50	2.50	2.50	2.50	2.50
8.500	2.50	2.51	2.51	2.51	2.51
9.000	2.51	2.51	2.51	2.51	2.51
9.500	2.52	2.52	2.52	2.52	2.52
10.000	2.53	2.53	2.53	2.54	2.54
10.500	2.54	2.55	2.55	2.56	2.56
11.000	2.57	2.57	2.58	2.59	2.60
11.500	2.61	2.63	2.66	2.73	2.81
12.000	2.90	3.00	3.27	3.48	3.65
12.500	3.81	3.95	4.07	4.15	4.21
13.000	4.27	4.32	4.37	4.41	4.45
13.500	4.50	4.53	4.57	4.60	4.63
14.000	4.67	4.70	4.73	4.75	4.78
14.500	4.81	4.84	4.86	4.89	4.91
15.000	4.93	4.95	4.98	5.00	5.02
15.500	5.04	5.06	5.09	5.10	5.12
16.000	5.14	5.16	5.18	5.20	5.22
16.500	5.23	5.25	5.27	5.29	5.30
17.000	5.32	5.33	5.35	5.37	5.38
17.500	5.40	5.42	5.43	5.44	5.46
18.000	5.47	5.49	5.50	5.51	5.53
18.500	5.54	5.56	5.57	5.58	5.60
19.000	5.61	5.62	5.63	5.65	5.66
19.500	5.67	5.69	5.70	5.71	5.72
20.000	5.73	5.75	5.76	5.77	5.78
20.500	5.79	5.80	5.81	5.82	5.83
21.000	5.84	5.85	5.86	5.87	5.88

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Return Event: 3 years
Storm Event: 3yr1d

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.500	5.89	5.91	5.92	5.93	5.95
22.000	5.96	5.97	5.99	5.99	6.00
22.500	6.01	6.01	6.02	6.03	6.04
23.000	6.05	6.06	6.07	6.07	6.08
23.500	6.09	6.10	6.11	6.12	6.13
24.000	6.13	6.14	6.15	6.15	6.15
24.500	6.15	6.15	6.15	6.15	6.15
25.000	6.15	6.15	6.15	6.15	6.15
25.500	6.15	6.15	6.15	6.15	6.15
26.000	6.15	6.15	6.15	6.15	6.15
26.500	6.15	6.15	6.15	6.15	6.15
27.000	6.15	6.15	6.15	6.15	6.15
27.500	6.15	6.15	6.15	6.15	6.15
28.000	6.15	6.15	6.15	6.15	6.15
28.500	6.15	6.15	6.15	6.15	6.15
29.000	6.15	6.15	6.15	6.15	6.15
29.500	6.15	6.15	6.15	6.15	6.15
30.000	6.15	6.15	6.15	6.15	6.15
30.500	6.15	6.15	6.15	6.15	6.15
31.000	6.15	6.15	6.15	6.15	6.15
31.500	6.15	6.15	6.15	6.15	6.15
32.000	6.15	6.15	6.15	6.15	6.15
32.500	6.15	6.15	6.15	6.15	6.15
33.000	6.15	6.15	6.15	6.15	6.15
33.500	6.15	6.15	6.15	6.15	6.15
34.000	6.15	6.15	6.15	6.15	6.15
34.500	6.15	6.15	6.15	6.15	6.15
35.000	6.15	6.15	6.15	6.15	6.15
35.500	6.15	6.15	6.15	6.15	6.15
36.000	6.15	6.15	6.15	6.15	6.15
36.500	6.15	6.15	6.15	6.15	6.15
37.000	6.15	6.15	6.15	6.15	6.15
37.500	6.15	6.15	6.15	6.15	6.15
38.000	6.15	6.15	6.15	6.15	6.15
38.500	6.15	6.15	6.15	6.15	6.15
39.000	6.15	6.15	6.15	6.15	6.15
39.500	6.15	6.15	6.15	6.15	6.15
40.000	6.15	6.15	6.15	6.15	6.15
40.500	6.15	6.15	6.15	6.15	6.15
41.000	6.15	6.15	6.15	6.15	6.15
41.500	6.15	6.15	6.15	6.15	6.15
42.000	6.15	6.15	6.15	6.15	6.15
42.500	6.15	6.15	6.15	6.15	6.15

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
43.000	6.15	6.15	6.15	6.15	6.15
43.500	6.15	6.15	6.15	6.15	6.15
44.000	6.15	6.15	6.15	6.15	6.15
44.500	6.15	6.15	6.15	6.15	6.15
45.000	6.15	6.15	6.15	6.15	6.15
45.500	6.15	6.15	6.15	6.15	6.15
46.000	6.15	6.15	6.15	6.15	6.15
46.500	6.15	6.15	6.15	6.15	6.15
47.000	6.15	6.15	6.15	6.15	6.15
47.500	6.15	6.15	6.15	6.15	6.15
48.000	6.15	6.15	6.15	6.15	6.15
48.500	6.15	6.15	6.15	6.15	6.15
49.000	6.15	6.15	6.15	6.15	6.15
49.500	6.15	6.15	6.15	6.15	6.15
50.000	6.15	6.15	6.15	6.15	6.15
50.500	6.15	6.15	6.15	6.15	6.15
51.000	6.15	6.15	6.15	6.15	6.15
51.500	6.15	6.15	6.15	6.15	6.15
52.000	6.15	6.15	6.15	6.15	6.15
52.500	6.15	6.15	6.15	6.15	6.15
53.000	6.15	6.15	6.15	6.15	6.15
53.500	6.15	6.15	6.15	6.15	6.15
54.000	6.15	6.15	6.15	6.15	6.15
54.500	6.15	6.15	6.15	6.15	6.15
55.000	6.15	6.15	6.15	6.15	6.15
55.500	6.15	6.15	6.15	6.15	6.15
56.000	6.15	6.15	6.15	6.15	6.15
56.500	6.15	6.15	6.15	6.15	6.15
57.000	6.15	6.15	6.15	6.15	6.15
57.500	6.15	6.15	6.15	6.15	6.15
58.000	6.15	6.15	6.15	6.15	6.15
58.500	6.15	6.15	6.15	6.15	6.15
59.000	6.15	6.15	6.15	6.15	6.15
59.500	6.15	6.15	6.15	6.15	6.15
60.000	6.15	6.15	6.15	6.15	6.15
60.500	6.15	6.15	6.15	6.15	6.15
61.000	6.15	6.15	6.15	6.15	6.15
61.500	6.15	6.15	6.15	6.15	6.15
62.000	6.15	6.15	6.15	6.15	6.15
62.500	6.15	6.15	6.15	6.15	6.15
63.000	6.15	6.15	6.15	6.15	6.15
63.500	6.15	6.15	6.15	6.15	6.15
64.000	6.15	6.15	6.15	6.15	6.15

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
64.500	6.15	6.15	6.15	6.15	6.15
65.000	6.15	6.15	6.15	6.15	6.15
65.500	6.15	6.15	6.15	6.15	6.15
66.000	6.15	6.15	6.15	6.15	6.15
66.500	6.15	6.15	6.15	6.15	6.15
67.000	6.15	6.15	6.15	6.15	6.15
67.500	6.15	6.15	6.15	6.15	6.15
68.000	6.15	6.15	6.15	6.15	6.15
68.500	6.15	6.15	6.15	6.15	6.15
69.000	6.15	6.15	6.15	6.15	6.15
69.500	6.15	6.15	6.15	6.15	6.15
70.000	6.15	6.15	6.15	6.15	6.15
70.500	6.15	6.15	6.15	6.15	6.15
71.000	6.15	6.15	6.15	6.15	6.15
71.500	6.15	6.15	6.15	6.15	6.15
72.000	6.15	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Unit Hydrograph Summary
Label: CATCHMENT BASIN

Storm Event	5yr1d
Return Event	5 years
Duration	72.000 hours
Depth	7.7 in
Time of Concentration (Composite)	0.250 hours
Area (User Defined)	0.551 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.033 hours
Flow (Peak, Computed)	1.81 ft^3/s
Output Increment	0.100 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	1.79 ft^3/s

Drainage Area	
SCS CN (Composite)	74.000
Area (User Defined)	0.551 acres
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	4.7 in
Runoff Volume (Pervious)	0.214 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.214 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.250 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	2.50 ft^3/s
Unit peak time, Tp	0.167 hours

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	2.50	2.50	2.50	2.50	2.50
0.500	2.50	2.50	2.50	2.50	2.50
1.000	2.50	2.50	2.50	2.50	2.50
1.500	2.50	2.50	2.50	2.50	2.50
2.000	2.50	2.50	2.50	2.50	2.50
2.500	2.50	2.50	2.50	2.50	2.50
3.000	2.50	2.50	2.50	2.50	2.50
3.500	2.50	2.50	2.50	2.50	2.50
4.000	2.50	2.50	2.50	2.50	2.50
4.500	2.50	2.50	2.50	2.50	2.50
5.000	2.50	2.50	2.50	2.50	2.50
5.500	2.50	2.50	2.50	2.50	2.50
6.000	2.50	2.50	2.50	2.50	2.50
6.500	2.50	2.50	2.50	2.50	2.50
7.000	2.50	2.50	2.50	2.50	2.50
7.500	2.50	2.51	2.51	2.51	2.51
8.000	2.51	2.51	2.51	2.51	2.51
8.500	2.52	2.52	2.52	2.52	2.52
9.000	2.53	2.53	2.53	2.53	2.54
9.500	2.54	2.54	2.55	2.55	2.56
10.000	2.56	2.56	2.57	2.57	2.58
10.500	2.59	2.59	2.60	2.61	2.62
11.000	2.62	2.63	2.64	2.66	2.67
11.500	2.69	2.71	2.77	2.85	2.97
12.000	3.33	3.77	4.14	4.42	4.64
12.500	4.85	5.04	5.19	5.29	5.38
13.000	5.45	5.52	5.58	5.64	5.69
13.500	5.74	5.79	5.84	5.88	5.92
14.000	5.96	6.00	6.04	6.08	6.12
14.500	6.15	6.19	6.22	6.25	6.28
15.000	6.31	6.34	6.37	6.40	6.43
15.500	6.46	6.48	6.51	6.54	6.56
16.000	6.59	6.61	6.63	6.66	6.68
16.500	6.70	6.72	6.75	6.77	6.79
17.000	6.81	6.83	6.85	6.87	6.89
17.500	6.91	6.93	6.95	6.97	6.99
18.000	7.00	7.01	7.02	7.03	7.04
18.500	7.06	7.07	7.08	7.09	7.10
19.000	7.10	7.11	7.12	7.13	7.14
19.500	7.15	7.16	7.17	7.18	7.19
20.000	7.20	7.21	7.22	7.22	7.23
20.500	7.24	7.25	7.26	7.26	7.27
21.000	7.28	7.29	7.29	7.30	7.31

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.500	7.32	7.33	7.34	7.35	7.36
22.000	7.37	7.38	7.39	7.39	7.40
22.500	7.40	7.41	7.41	7.42	7.43
23.000	7.43	7.44	7.45	7.45	7.46
23.500	7.47	7.47	7.48	7.49	7.49
24.000	7.50	7.50	7.50	7.50	7.50
24.500	7.50	7.50	7.50	7.50	7.50
25.000	7.50	7.50	7.50	7.50	7.50
25.500	7.50	7.50	7.50	7.50	7.50
26.000	7.50	7.50	7.50	7.50	7.50
26.500	7.50	7.50	7.50	7.50	7.50
27.000	7.50	7.50	7.50	7.50	7.50
27.500	7.50	7.50	7.50	7.50	7.50
28.000	7.50	7.50	7.50	7.50	7.50
28.500	7.50	7.50	7.50	7.50	7.50
29.000	7.50	7.50	7.50	7.50	7.50
29.500	7.50	7.50	7.50	7.50	7.50
30.000	7.50	7.50	7.50	7.50	7.50
30.500	7.50	7.50	7.50	7.50	7.50
31.000	7.50	7.50	7.50	7.50	7.50
31.500	7.50	7.50	7.50	7.50	7.50
32.000	7.50	7.50	7.50	7.50	7.50
32.500	7.50	7.50	7.50	7.50	7.50
33.000	7.50	7.50	7.50	7.50	7.50
33.500	7.50	7.50	7.50	7.50	7.50
34.000	7.50	7.50	7.50	7.50	7.50
34.500	7.50	7.50	7.50	7.50	7.50
35.000	7.50	7.50	7.50	7.50	7.50
35.500	7.50	7.50	7.50	7.50	7.50
36.000	7.50	7.50	7.50	7.50	7.50
36.500	7.50	7.50	7.50	7.50	7.50
37.000	7.50	7.50	7.50	7.50	7.50
37.500	7.50	7.50	7.50	7.50	7.50
38.000	7.50	7.50	7.50	7.50	7.50
38.500	7.50	7.50	7.50	7.50	7.50
39.000	7.50	7.50	7.50	7.50	7.50
39.500	7.50	7.50	7.50	7.50	7.50
40.000	7.50	7.50	7.50	7.50	7.50
40.500	7.50	7.50	7.50	7.50	7.50
41.000	7.50	7.50	7.50	7.50	7.50
41.500	7.50	7.50	7.50	7.50	7.50
42.000	7.50	7.50	7.50	7.50	7.50
42.500	7.50	7.50	7.50	7.50	7.50

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
43.000	7.50	7.50	7.50	7.50	7.50
43.500	7.50	7.50	7.50	7.50	7.50
44.000	7.50	7.50	7.50	7.50	7.50
44.500	7.50	7.50	7.50	7.50	7.50
45.000	7.50	7.50	7.50	7.50	7.50
45.500	7.50	7.50	7.50	7.50	7.50
46.000	7.50	7.50	7.50	7.50	7.50
46.500	7.50	7.50	7.50	7.50	7.50
47.000	7.50	7.50	7.50	7.50	7.50
47.500	7.50	7.50	7.50	7.50	7.50
48.000	7.50	7.50	7.50	7.50	7.50
48.500	7.50	7.50	7.50	7.50	7.50
49.000	7.50	7.50	7.50	7.50	7.50
49.500	7.50	7.50	7.50	7.50	7.50
50.000	7.50	7.50	7.50	7.50	7.50
50.500	7.50	7.50	7.50	7.50	7.50
51.000	7.50	7.50	7.50	7.50	7.50
51.500	7.50	7.50	7.50	7.50	7.50
52.000	7.50	7.50	7.50	7.50	7.50
52.500	7.50	7.50	7.50	7.50	7.50
53.000	7.50	7.50	7.50	7.50	7.50
53.500	7.50	7.50	7.50	7.50	7.50
54.000	7.50	7.50	7.50	7.50	7.50
54.500	7.50	7.50	7.50	7.50	7.50
55.000	7.50	7.50	7.50	7.50	7.50
55.500	7.50	7.50	7.50	7.50	7.50
56.000	7.50	7.50	7.50	7.50	7.50
56.500	7.50	7.50	7.50	7.50	7.50
57.000	7.50	7.50	7.50	7.50	7.50
57.500	7.50	7.50	7.50	7.50	7.50
58.000	7.50	7.50	7.50	7.50	7.50
58.500	7.50	7.50	7.50	7.50	7.50
59.000	7.50	7.50	7.50	7.50	7.50
59.500	7.50	7.50	7.50	7.50	7.50
60.000	7.50	7.50	7.50	7.50	7.50
60.500	7.50	7.50	7.50	7.50	7.50
61.000	7.50	7.50	7.50	7.50	7.50
61.500	7.50	7.50	7.50	7.50	7.50
62.000	7.50	7.50	7.50	7.50	7.50
62.500	7.50	7.50	7.50	7.50	7.50
63.000	7.50	7.50	7.50	7.50	7.50
63.500	7.50	7.50	7.50	7.50	7.50
64.000	7.50	7.50	7.50	7.50	7.50

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
64.500	7.50	7.50	7.50	7.50	7.50
65.000	7.50	7.50	7.50	7.50	7.50
65.500	7.50	7.50	7.50	7.50	7.50
66.000	7.50	7.50	7.50	7.50	7.50
66.500	7.50	7.50	7.50	7.50	7.50
67.000	7.50	7.50	7.50	7.50	7.50
67.500	7.50	7.50	7.50	7.50	7.50
68.000	7.50	7.50	7.50	7.50	7.50
68.500	7.50	7.50	7.50	7.50	7.50
69.000	7.50	7.50	7.50	7.50	7.50
69.500	7.50	7.50	7.50	7.50	7.50
70.000	7.50	7.50	7.50	7.50	7.50
70.500	7.50	7.50	7.50	7.50	7.50
71.000	7.50	7.50	7.50	7.50	7.50
71.500	7.50	7.50	7.50	7.50	7.50
72.000	7.50	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Unit Hydrograph Summary
Label: CATCHMENT BASIN

Storm Event	10yr1d
Return Event	10 years
Duration	72.000 hours
Depth	8.8 in
Time of Concentration (Composite)	0.250 hours
Area (User Defined)	0.551 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	12.033 hours
Flow (Peak, Computed)	2.19 ft³/s
Output Increment	0.100 hours
Time to Flow (Peak Interpolated Output)	12.000 hours
Flow (Peak Interpolated Output)	2.17 ft³/s

Drainage Area	
SCS CN (Composite)	74.000
Area (User Defined)	0.551 acres
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	5.6 in
Runoff Volume (Pervious)	0.259 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.259 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.250 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	2.50 ft³/s
Unit peak time, Tp	0.167 hours

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	2.50	2.50	2.50	2.50	2.50
0.500	2.50	2.50	2.50	2.50	2.50
1.000	2.50	2.50	2.50	2.50	2.50
1.500	2.50	2.50	2.50	2.50	2.50
2.000	2.50	2.50	2.50	2.50	2.50
2.500	2.50	2.50	2.50	2.50	2.50
3.000	2.50	2.50	2.50	2.50	2.50
3.500	2.50	2.50	2.50	2.50	2.50
4.000	2.50	2.50	2.50	2.50	2.50
4.500	2.50	2.50	2.50	2.50	2.50
5.000	2.50	2.50	2.50	2.50	2.50
5.500	2.50	2.50	2.50	2.50	2.50
6.000	2.50	2.50	2.50	2.50	2.50
6.500	2.50	2.50	2.50	2.50	2.50
7.000	2.51	2.51	2.51	2.51	2.51
7.500	2.51	2.51	2.51	2.52	2.52
8.000	2.52	2.52	2.52	2.53	2.53
8.500	2.53	2.53	2.54	2.54	2.54
9.000	2.55	2.55	2.55	2.56	2.56
9.500	2.57	2.57	2.57	2.58	2.59
10.000	2.59	2.60	2.60	2.61	2.62
10.500	2.63	2.63	2.64	2.65	2.67
11.000	2.68	2.69	2.70	2.72	2.74
11.500	2.76	2.79	2.86	2.97	3.36
12.000	3.89	4.42	4.87	5.19	5.46
12.500	5.71	5.94	6.11	6.24	6.34
13.000	6.42	6.51	6.58	6.65	6.71
13.500	6.77	6.83	6.88	6.93	6.98
14.000	7.02	7.05	7.07	7.10	7.12
14.500	7.15	7.17	7.19	7.21	7.24
15.000	7.26	7.28	7.30	7.32	7.33
15.500	7.35	7.37	7.39	7.41	7.43
16.000	7.44	7.46	7.48	7.49	7.50
16.500	7.51	7.52	7.53	7.54	7.54
17.000	7.55	7.56	7.57	7.58	7.58
17.500	7.59	7.60	7.61	7.61	7.62
18.000	7.63	7.63	7.64	7.65	7.65
18.500	7.66	7.67	7.67	7.68	7.68
19.000	7.69	7.70	7.70	7.71	7.71
19.500	7.72	7.73	7.73	7.74	7.74
20.000	7.75	7.76	7.76	7.77	7.77
20.500	7.78	7.78	7.79	7.79	7.80
21.000	7.80	7.81	7.81	7.82	7.82

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.500	7.83	7.83	7.84	7.84	7.85
22.000	7.86	7.86	7.87	7.87	7.88
22.500	7.88	7.88	7.89	7.89	7.89
23.000	7.90	7.90	7.91	7.91	7.92
23.500	7.92	7.92	7.93	7.93	7.94
24.000	7.94	7.94	7.95	7.95	7.95
24.500	7.95	7.95	7.95	7.95	7.95
25.000	7.95	7.95	7.95	7.95	7.95
25.500	7.95	7.95	7.95	7.95	7.95
26.000	7.95	7.95	7.95	7.95	7.95
26.500	7.95	7.95	7.95	7.95	7.95
27.000	7.95	7.95	7.95	7.95	7.95
27.500	7.95	7.95	7.95	7.95	7.95
28.000	7.95	7.95	7.95	7.95	7.95
28.500	7.95	7.95	7.95	7.95	7.95
29.000	7.95	7.95	7.95	7.95	7.95
29.500	7.95	7.95	7.95	7.95	7.95
30.000	7.95	7.95	7.95	7.95	7.95
30.500	7.95	7.95	7.95	7.95	7.95
31.000	7.95	7.95	7.95	7.95	7.95
31.500	7.95	7.95	7.95	7.95	7.95
32.000	7.95	7.95	7.95	7.95	7.95
32.500	7.95	7.95	7.95	7.95	7.95
33.000	7.95	7.95	7.95	7.95	7.95
33.500	7.95	7.95	7.95	7.95	7.95
34.000	7.95	7.95	7.95	7.95	7.95
34.500	7.95	7.95	7.95	7.95	7.95
35.000	7.95	7.95	7.95	7.95	7.95
35.500	7.95	7.95	7.95	7.95	7.95
36.000	7.95	7.95	7.95	7.95	7.95
36.500	7.95	7.95	7.95	7.95	7.95
37.000	7.95	7.95	7.95	7.95	7.95
37.500	7.95	7.95	7.95	7.95	7.95
38.000	7.95	7.95	7.95	7.95	7.95
38.500	7.95	7.95	7.95	7.95	7.95
39.000	7.95	7.95	7.95	7.95	7.95
39.500	7.95	7.95	7.95	7.95	7.95
40.000	7.95	7.95	7.95	7.95	7.95
40.500	7.95	7.95	7.95	7.95	7.95
41.000	7.95	7.95	7.95	7.95	7.95
41.500	7.95	7.95	7.95	7.95	7.95
42.000	7.95	7.95	7.95	7.95	7.95
42.500	7.95	7.95	7.95	7.95	7.95

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
43.000	7.95	7.95	7.95	7.95	7.95
43.500	7.95	7.95	7.95	7.95	7.95
44.000	7.95	7.95	7.95	7.95	7.95
44.500	7.95	7.95	7.95	7.95	7.95
45.000	7.95	7.95	7.95	7.95	7.95
45.500	7.95	7.95	7.95	7.95	7.95
46.000	7.95	7.95	7.95	7.95	7.95
46.500	7.95	7.95	7.95	7.95	7.95
47.000	7.95	7.95	7.95	7.95	7.95
47.500	7.95	7.95	7.95	7.95	7.95
48.000	7.95	7.95	7.95	7.95	7.95
48.500	7.95	7.95	7.95	7.95	7.95
49.000	7.95	7.95	7.95	7.95	7.95
49.500	7.95	7.95	7.95	7.95	7.95
50.000	7.95	7.95	7.95	7.95	7.95
50.500	7.95	7.95	7.95	7.95	7.95
51.000	7.95	7.95	7.95	7.95	7.95
51.500	7.95	7.95	7.95	7.95	7.95
52.000	7.95	7.95	7.95	7.95	7.95
52.500	7.95	7.95	7.95	7.95	7.95
53.000	7.95	7.95	7.95	7.95	7.95
53.500	7.95	7.95	7.95	7.95	7.95
54.000	7.95	7.95	7.95	7.95	7.95
54.500	7.95	7.95	7.95	7.95	7.95
55.000	7.95	7.95	7.95	7.95	7.95
55.500	7.95	7.95	7.95	7.95	7.95
56.000	7.95	7.95	7.95	7.95	7.95
56.500	7.95	7.95	7.95	7.95	7.95
57.000	7.95	7.95	7.95	7.95	7.95
57.500	7.95	7.95	7.95	7.95	7.95
58.000	7.95	7.95	7.95	7.95	7.95
58.500	7.95	7.95	7.95	7.95	7.95
59.000	7.95	7.95	7.95	7.95	7.95
59.500	7.95	7.95	7.95	7.95	7.95
60.000	7.95	7.95	7.95	7.95	7.95
60.500	7.95	7.95	7.95	7.95	7.95
61.000	7.95	7.95	7.95	7.95	7.95
61.500	7.95	7.95	7.95	7.95	7.95
62.000	7.95	7.95	7.95	7.95	7.95
62.500	7.95	7.95	7.95	7.95	7.95
63.000	7.95	7.95	7.95	7.95	7.95
63.500	7.95	7.95	7.95	7.95	7.95
64.000	7.95	7.95	7.95	7.95	7.95

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
64.500	7.95	7.95	7.95	7.95	7.95
65.000	7.95	7.95	7.95	7.95	7.95
65.500	7.95	7.95	7.95	7.95	7.95
66.000	7.95	7.95	7.95	7.95	7.95
66.500	7.95	7.95	7.95	7.95	7.95
67.000	7.95	7.95	7.95	7.95	7.95
67.500	7.95	7.95	7.95	7.95	7.95
68.000	7.95	7.95	7.95	7.95	7.95
68.500	7.95	7.95	7.95	7.95	7.95
69.000	7.95	7.95	7.95	7.95	7.95
69.500	7.95	7.95	7.95	7.95	7.95
70.000	7.95	7.95	7.95	7.95	7.95
70.500	7.95	7.95	7.95	7.95	7.95
71.000	7.95	7.95	7.95	7.95	7.95
71.500	7.95	7.95	7.95	7.95	7.95
72.000	7.95	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Unit Hydrograph Summary
Label: CATCHMENT BASIN

Storm Event	25yr3d
Return Event	25 years
Duration	72.000 hours
Depth	15.0 in
Time of Concentration (Composite)	0.250 hours
Area (User Defined)	0.551 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	60.000 hours
Flow (Peak, Computed)	3.74 ft³/s
Output Increment	0.100 hours
Time to Flow (Peak Interpolated Output)	60.000 hours
Flow (Peak Interpolated Output)	3.74 ft³/s

Drainage Area	
SCS CN (Composite)	74.000
Area (User Defined)	0.551 acres
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	11.5 in
Runoff Volume (Pervious)	0.527 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.526 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.250 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	2.50 ft³/s
Unit peak time, Tp	0.167 hours

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	2.50	2.50	2.50	2.50	2.50
0.500	2.50	2.50	2.50	2.50	2.50
1.000	2.50	2.50	2.50	2.50	2.50
1.500	2.50	2.50	2.50	2.50	2.50
2.000	2.50	2.50	2.50	2.50	2.50
2.500	2.50	2.50	2.50	2.50	2.50
3.000	2.50	2.50	2.50	2.50	2.50
3.500	2.50	2.50	2.50	2.50	2.50
4.000	2.50	2.50	2.50	2.50	2.50
4.500	2.50	2.50	2.50	2.50	2.50
5.000	2.50	2.50	2.50	2.50	2.50
5.500	2.50	2.50	2.50	2.50	2.50
6.000	2.50	2.50	2.50	2.50	2.50
6.500	2.50	2.50	2.50	2.50	2.50
7.000	2.50	2.50	2.50	2.50	2.50
7.500	2.50	2.50	2.50	2.50	2.50
8.000	2.50	2.50	2.50	2.50	2.50
8.500	2.50	2.50	2.50	2.50	2.50
9.000	2.50	2.50	2.50	2.50	2.50
9.500	2.50	2.50	2.50	2.50	2.50
10.000	2.50	2.50	2.50	2.50	2.50
10.500	2.50	2.50	2.50	2.50	2.50
11.000	2.50	2.50	2.50	2.50	2.50
11.500	2.50	2.50	2.50	2.50	2.50
12.000	2.50	2.50	2.50	2.50	2.50
12.500	2.50	2.50	2.50	2.50	2.50
13.000	2.50	2.50	2.50	2.50	2.50
13.500	2.50	2.50	2.50	2.50	2.51
14.000	2.51	2.51	2.51	2.51	2.51
14.500	2.51	2.51	2.51	2.51	2.51
15.000	2.51	2.51	2.51	2.51	2.51
15.500	2.51	2.51	2.51	2.51	2.51
16.000	2.51	2.51	2.51	2.52	2.52
16.500	2.52	2.52	2.52	2.52	2.52
17.000	2.52	2.52	2.52	2.52	2.52
17.500	2.52	2.52	2.52	2.52	2.52
18.000	2.53	2.53	2.53	2.53	2.53
18.500	2.53	2.53	2.53	2.53	2.53
19.000	2.53	2.53	2.53	2.53	2.53
19.500	2.54	2.54	2.54	2.54	2.54
20.000	2.54	2.54	2.54	2.54	2.54
20.500	2.54	2.54	2.55	2.55	2.55
21.000	2.55	2.55	2.55	2.55	2.55

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.500	2.55	2.55	2.55	2.55	2.55
22.000	2.56	2.56	2.56	2.56	2.56
22.500	2.56	2.56	2.56	2.56	2.56
23.000	2.57	2.57	2.57	2.57	2.57
23.500	2.57	2.57	2.57	2.57	2.57
24.000	2.57	2.58	2.58	2.58	2.58
24.500	2.58	2.58	2.58	2.59	2.59
25.000	2.59	2.59	2.59	2.59	2.60
25.500	2.60	2.60	2.60	2.60	2.60
26.000	2.61	2.61	2.61	2.61	2.61
26.500	2.61	2.62	2.62	2.62	2.62
27.000	2.62	2.63	2.63	2.63	2.63
27.500	2.63	2.63	2.64	2.64	2.64
28.000	2.64	2.64	2.65	2.65	2.65
28.500	2.65	2.65	2.66	2.66	2.66
29.000	2.66	2.66	2.66	2.67	2.67
29.500	2.67	2.67	2.68	2.68	2.68
30.000	2.68	2.68	2.68	2.69	2.69
30.500	2.69	2.69	2.70	2.70	2.70
31.000	2.70	2.70	2.71	2.71	2.71
31.500	2.71	2.71	2.72	2.72	2.72
32.000	2.72	2.73	2.73	2.73	2.73
32.500	2.73	2.74	2.74	2.74	2.74
33.000	2.75	2.75	2.75	2.75	2.75
33.500	2.76	2.76	2.76	2.76	2.77
34.000	2.77	2.77	2.77	2.78	2.78
34.500	2.78	2.78	2.78	2.79	2.79
35.000	2.79	2.79	2.80	2.80	2.80
35.500	2.80	2.81	2.81	2.81	2.81
36.000	2.82	2.82	2.82	2.82	2.83
36.500	2.83	2.83	2.83	2.84	2.84
37.000	2.84	2.84	2.85	2.85	2.85
37.500	2.85	2.86	2.86	2.86	2.86
38.000	2.87	2.87	2.87	2.87	2.88
38.500	2.88	2.88	2.88	2.89	2.89
39.000	2.89	2.89	2.90	2.90	2.90
39.500	2.90	2.91	2.91	2.91	2.92
40.000	2.92	2.92	2.92	2.93	2.93
40.500	2.93	2.93	2.94	2.94	2.94
41.000	2.95	2.95	2.95	2.95	2.96
41.500	2.96	2.96	2.96	2.97	2.97
42.000	2.97	2.98	2.98	2.98	2.98
42.500	2.99	2.99	2.99	2.99	3.00

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
43.000	3.00	3.01	3.02	3.03	3.04
43.500	3.05	3.06	3.07	3.07	3.08
44.000	3.09	3.11	3.12	3.13	3.14
44.500	3.15	3.16	3.16	3.17	3.18
45.000	3.19	3.20	3.21	3.22	3.23
45.500	3.24	3.25	3.26	3.27	3.28
46.000	3.29	3.30	3.31	3.32	3.33
46.500	3.34	3.35	3.36	3.37	3.38
47.000	3.39	3.40	3.41	3.42	3.43
47.500	3.44	3.45	3.46	3.47	3.48
48.000	3.49	3.50	3.51	3.53	3.54
48.500	3.55	3.56	3.57	3.58	3.59
49.000	3.61	3.62	3.63	3.64	3.65
49.500	3.66	3.67	3.68	3.70	3.71
50.000	3.72	3.73	3.74	3.76	3.77
50.500	3.78	3.80	3.81	3.82	3.84
51.000	3.85	3.87	3.88	3.90	3.91
51.500	3.92	3.94	3.95	3.97	3.98
52.000	4.00	4.02	4.04	4.05	4.07
52.500	4.09	4.11	4.13	4.16	4.18
53.000	4.20	4.22	4.24	4.27	4.29
53.500	4.31	4.34	4.37	4.39	4.42
54.000	4.45	4.47	4.50	4.53	4.56
54.500	4.59	4.62	4.65	4.68	4.71
55.000	4.75	4.78	4.81	4.84	4.88
55.500	4.91	4.95	4.98	5.02	5.05
56.000	5.09	5.13	5.17	5.22	5.26
56.500	5.30	5.34	5.38	5.43	5.47
57.000	5.52	5.57	5.62	5.67	5.72
57.500	5.77	5.82	5.88	5.93	5.99
58.000	6.05	6.11	6.17	6.23	6.29
58.500	6.36	6.42	6.50	6.58	6.66
59.000	6.75	6.84	6.94	7.04	7.11
59.500	7.19	7.31	7.53	7.76	8.03
60.000	8.21	8.40	8.52	8.57	8.60
60.500	8.63	8.65	8.67	8.69	8.70
61.000	8.71	8.72	8.74	8.75	8.76
61.500	8.76	8.77	8.78	8.79	8.80
62.000	8.81	8.81	8.82	8.83	8.83
62.500	8.84	8.84	8.85	8.85	8.86
63.000	8.86	8.87	8.87	8.88	8.88
63.500	8.89	8.89	8.90	8.90	8.91
64.000	8.91	8.92	8.92	8.92	8.93

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
64.500	8.93	8.93	8.94	8.94	8.94
65.000	8.95	8.95	8.95	8.96	8.96
65.500	8.96	8.96	8.97	8.97	8.97
66.000	8.98	8.98	8.98	8.99	8.99
66.500	8.99	8.99	9.00	9.00	9.00
67.000	9.00	9.01	9.01	9.01	9.01
67.500	9.01	9.02	9.02	9.02	9.02
68.000	9.02	9.03	9.03	9.03	9.03
68.500	9.03	9.03	9.04	9.04	9.04
69.000	9.04	9.04	9.04	9.04	9.04
69.500	9.05	9.05	9.05	9.05	9.05
70.000	9.05	9.05	9.06	9.06	9.06
70.500	9.06	9.06	9.06	9.06	9.07
71.000	9.07	9.07	9.07	9.07	9.07
71.500	9.07	9.07	9.08	9.08	9.08
72.000	9.08	(N/A)	(N/A)	(N/A)	(N/A)

Subsection: Unit Hydrograph Summary
Label: CATCHMENT BASIN

Storm Event	100yr3d
Return Event	100 years
Duration	72.000 hours
Depth	18.0 in
Time of Concentration (Composite)	0.250 hours
Area (User Defined)	0.551 acres

Computational Time Increment	0.033 hours
Time to Peak (Computed)	60.000 hours
Flow (Peak, Computed)	4.58 ft^3/s
Output Increment	0.100 hours
Time to Flow (Peak Interpolated Output)	60.000 hours
Flow (Peak Interpolated Output)	4.58 ft^3/s

Drainage Area	
SCS CN (Composite)	74.000
Area (User Defined)	0.551 acres
Maximum Retention (Pervious)	3.5 in
Maximum Retention (Pervious, 20 percent)	0.7 in

Cumulative Runoff	
Cumulative Runoff Depth (Pervious)	14.4 in
Runoff Volume (Pervious)	0.660 ac-ft

Hydrograph Volume (Area under Hydrograph curve)	
Volume	0.659 ac-ft

SCS Unit Hydrograph Parameters	
Time of Concentration (Composite)	0.250 hours
Computational Time Increment	0.033 hours
Unit Hydrograph Shape Factor	483.432
K Factor	0.749
Receding/Rising, Tr/Tp	1.670
Unit peak, qp	2.50 ft^3/s
Unit peak time, Tp	0.167 hours

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
0.000	2.50	2.50	2.50	2.50	2.50
0.500	2.50	2.50	2.50	2.50	2.50
1.000	2.50	2.50	2.50	2.50	2.50
1.500	2.50	2.50	2.50	2.50	2.50
2.000	2.50	2.50	2.50	2.50	2.50
2.500	2.50	2.50	2.50	2.50	2.50
3.000	2.50	2.50	2.50	2.50	2.50
3.500	2.50	2.50	2.50	2.50	2.50
4.000	2.50	2.50	2.50	2.50	2.50
4.500	2.50	2.50	2.50	2.50	2.50
5.000	2.50	2.50	2.50	2.50	2.50
5.500	2.50	2.50	2.50	2.50	2.50
6.000	2.50	2.50	2.50	2.50	2.50
6.500	2.50	2.50	2.50	2.50	2.50
7.000	2.50	2.50	2.50	2.50	2.50
7.500	2.50	2.50	2.50	2.50	2.50
8.000	2.50	2.50	2.50	2.50	2.50
8.500	2.50	2.50	2.50	2.50	2.50
9.000	2.50	2.50	2.50	2.50	2.50
9.500	2.50	2.50	2.50	2.50	2.50
10.000	2.50	2.50	2.50	2.50	2.50
10.500	2.50	2.50	2.50	2.50	2.50
11.000	2.50	2.50	2.50	2.50	2.50
11.500	2.50	2.51	2.51	2.51	2.51
12.000	2.51	2.51	2.51	2.51	2.51
12.500	2.51	2.51	2.51	2.51	2.51
13.000	2.51	2.51	2.51	2.51	2.51
13.500	2.51	2.52	2.52	2.52	2.52
14.000	2.52	2.52	2.52	2.52	2.52
14.500	2.52	2.52	2.52	2.52	2.52
15.000	2.52	2.53	2.53	2.53	2.53
15.500	2.53	2.53	2.53	2.53	2.53
16.000	2.53	2.53	2.53	2.54	2.54
16.500	2.54	2.54	2.54	2.54	2.54
17.000	2.54	2.54	2.54	2.54	2.55
17.500	2.55	2.55	2.55	2.55	2.55
18.000	2.55	2.55	2.55	2.56	2.56
18.500	2.56	2.56	2.56	2.56	2.56
19.000	2.56	2.56	2.57	2.57	2.57
19.500	2.57	2.57	2.57	2.57	2.57
20.000	2.57	2.58	2.58	2.58	2.58
20.500	2.58	2.58	2.58	2.58	2.59
21.000	2.59	2.59	2.59	2.59	2.59

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
21.500	2.59	2.60	2.60	2.60	2.60
22.000	2.60	2.60	2.60	2.60	2.61
22.500	2.61	2.61	2.61	2.61	2.61
23.000	2.61	2.62	2.62	2.62	2.62
23.500	2.62	2.62	2.62	2.63	2.63
24.000	2.63	2.63	2.63	2.63	2.64
24.500	2.64	2.64	2.64	2.65	2.65
25.000	2.65	2.65	2.66	2.66	2.66
25.500	2.66	2.66	2.67	2.67	2.67
26.000	2.67	2.68	2.68	2.68	2.68
26.500	2.69	2.69	2.69	2.69	2.70
27.000	2.70	2.70	2.70	2.71	2.71
27.500	2.71	2.71	2.72	2.72	2.72
28.000	2.72	2.73	2.73	2.73	2.74
28.500	2.74	2.74	2.74	2.75	2.75
29.000	2.75	2.75	2.76	2.76	2.76
29.500	2.77	2.77	2.77	2.77	2.78
30.000	2.78	2.78	2.78	2.79	2.79
30.500	2.79	2.80	2.80	2.80	2.81
31.000	2.81	2.81	2.81	2.82	2.82
31.500	2.82	2.83	2.83	2.83	2.84
32.000	2.84	2.84	2.84	2.85	2.85
32.500	2.85	2.85	2.86	2.86	2.86
33.000	2.87	2.87	2.87	2.88	2.88
33.500	2.88	2.89	2.89	2.89	2.90
34.000	2.90	2.90	2.91	2.91	2.91
34.500	2.91	2.92	2.92	2.92	2.93
35.000	2.93	2.93	2.94	2.94	2.94
35.500	2.95	2.95	2.95	2.96	2.96
36.000	2.96	2.96	2.97	2.97	2.98
36.500	2.98	2.98	2.99	2.99	2.99
37.000	2.99	3.00	3.01	3.02	3.03
37.500	3.05	3.06	3.07	3.08	3.09
38.000	3.10	3.11	3.12	3.13	3.14
38.500	3.16	3.17	3.18	3.20	3.21
39.000	3.22	3.23	3.24	3.25	3.26
39.500	3.28	3.29	3.30	3.31	3.33
40.000	3.34	3.35	3.36	3.37	3.38
40.500	3.39	3.40	3.42	3.43	3.45
41.000	3.46	3.47	3.48	3.49	3.50
41.500	3.51	3.53	3.54	3.55	3.57
42.000	3.58	3.59	3.60	3.62	3.63
42.500	3.64	3.65	3.66	3.67	3.68

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
43.000	3.70	3.71	3.73	3.74	3.75
43.500	3.76	3.77	3.78	3.80	3.81
44.000	3.82	3.84	3.85	3.87	3.88
44.500	3.89	3.90	3.91	3.92	3.93
45.000	3.95	3.96	3.97	3.99	4.00
45.500	4.02	4.03	4.04	4.05	4.06
46.000	4.07	4.09	4.10	4.11	4.12
46.500	4.14	4.15	4.17	4.18	4.19
47.000	4.21	4.22	4.23	4.24	4.25
47.500	4.27	4.28	4.30	4.31	4.33
48.000	4.34	4.35	4.36	4.38	4.40
48.500	4.41	4.42	4.44	4.45	4.47
49.000	4.48	4.50	4.51	4.53	4.54
49.500	4.56	4.57	4.58	4.60	4.62
50.000	4.63	4.64	4.66	4.67	4.69
50.500	4.71	4.73	4.75	4.76	4.78
51.000	4.80	4.82	4.83	4.85	4.87
51.500	4.89	4.91	4.92	4.94	4.96
52.000	4.98	5.01	5.03	5.06	5.08
52.500	5.10	5.13	5.16	5.18	5.21
53.000	5.24	5.27	5.29	5.32	5.35
53.500	5.39	5.42	5.45	5.49	5.52
54.000	5.56	5.59	5.62	5.66	5.69
54.500	5.73	5.77	5.81	5.85	5.89
55.000	5.93	5.97	6.01	6.06	6.10
55.500	6.15	6.19	6.23	6.28	6.33
56.000	6.38	6.43	6.48	6.53	6.58
56.500	6.63	6.68	6.74	6.79	6.85
57.000	6.91	6.97	7.02	7.05	7.09
57.500	7.13	7.17	7.21	7.25	7.29
58.000	7.33	7.38	7.42	7.46	7.51
58.500	7.53	7.56	7.59	7.62	7.65
59.000	7.68	7.72	7.76	7.81	7.86
59.500	7.91	7.99	8.11	8.29	8.50
60.000	8.63	8.75	8.84	8.90	8.94
60.500	8.97	9.00	9.02	9.03	9.04
61.000	9.05	9.06	9.07	9.08	9.09
61.500	9.10	9.10	9.11	9.12	9.13
62.000	9.13	9.14	9.14	9.15	9.15
62.500	9.16	9.16	9.17	9.17	9.18
63.000	9.18	9.18	9.19	9.19	9.20
63.500	9.20	9.20	9.21	9.21	9.22
64.000	9.22	9.23	9.23	9.23	9.23

Subsection: Time vs. Elevation
Label: SITE STORAGE (OUT)

Time vs. Elevation (ft)

Output Time increment = 0.100 hours
Time on left represents time for first value in each row.

Time (hours)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)	Elevation (ft)
64.500	9.24	9.24	9.24	9.24	9.25
65.000	9.25	9.25	9.25	9.26	9.26
65.500	9.26	9.26	9.27	9.27	9.27
66.000	9.27	9.28	9.28	9.28	9.28
66.500	9.29	9.29	9.29	9.29	9.30
67.000	9.30	9.30	9.30	9.31	9.31
67.500	9.31	9.31	9.32	9.32	9.32
68.000	9.32	9.33	9.33	9.33	9.33
68.500	9.33	9.33	9.34	9.34	9.34
69.000	9.34	9.34	9.34	9.35	9.35
69.500	9.35	9.35	9.35	9.35	9.36
70.000	9.36	9.36	9.36	9.36	9.36
70.500	9.37	9.37	9.37	9.37	9.37
71.000	9.37	9.38	9.38	9.38	9.38
71.500	9.38	9.38	9.39	9.39	9.39
72.000	9.39	(N/A)	(N/A)	(N/A)	(N/A)

Geotechnical Report

FLORIDA ENGINEERING & TESTING, INC.

Phone: (866) 781-6889 •Fax: (866) 784-8550
www.floridaengineeringandtesting.com
250 S.W. 13th Avenue
Pompano Beach, FL 33069

October 23, 2019 **Job Order No.: 19-5076**

Automated Petroleum & Energy Co., Inc.
1201 Oakfield Drive Suite 109
Brandon, Florida 33511

RE: HYDRAULIC CONDUCTIVITY USUAL OPEN - HOLE TEST
Proposed Drainage System
501 North State Road 7
Plantation, Florida

Dear Sir or Madam;

Pursuant to your request, Florida Engineering & Testing, Inc. (FE&T), has completed hydraulic conductivity (usual open-hole) tests on October 17, 2019, at the above referenced site. A total of two (2) hydraulic conductivity tests were performed according to South Florida Water Management District (SFWMD), "Management and Storage of Surface Waters Permit Information Manual", "Usual Open-Hole Test" (see attached field sketch for locations).

The test results are specific to the locations tested. Variations should be expected between the test locations. These results are time and sample dependent since water table conditions are continuously changing. The above referenced test method is affected by the following: specific soil types encountered and fluctuations in the ground water table. Fluctuation in water levels should be anticipated due to surface runoff, tidal influences, seasonal variations, varying ground elevation, construction dewatering and pumping activities in the area. The discovery of any site or subsurface conditions during construction which substantially deviate from the information obtained from our tests is always a possibility and should be reported to us immediately for our evaluation.

Florida Engineering & Testing, Inc., appreciates the opportunity to be of service to you at this phase of your project. If you have any questions or comments, please give us a call. We would be pleased to help any way we can. It has been a pleasure working with you and look forward to doing so in the near future.

Sincerely,

MARK ALAN MESIANO LICENSE No. 48202 STATE OF FLORIDA PROFESSIONAL ENGINEER

10-23-19

Mark A. Mesiano, P.E.
Florida Engineering & Testing, Inc.
Florida Reg. No. 48202
Certificate of Authorization No. 6923

Attachments:
Hydraulic Conductivity Test Results
Field Sketch

Quality QA Assurance

FLORIDA ENGINEERING & TESTING, INC.

Phone: (866) 781-6889 •Fax: (866) 784-8550
www.floridaengineeringandtesting.com
250 S.W. 13th Avenue
Pompano Beach, FL 33069

HYDRAULIC CONDUCTIVITY USUAL OPEN – HOLE TEST

DATE: 10/17/19 **ORDER #:** 19-5076
CLIENT: Automated Petroleum & Energy Co., Inc.
PROJECT: Proposed Drainage System
ADDRESS: 501 North State Road 7 Plantation, Florida
LOCATION: Ex-1 (See Attached Sketch)
DIAMETER OF HOLE: 6 inches **DEPTH OF HOLE:** 10 feet
TESTED BY: C.G. **REPORTED TO:** Client

Gallons/Minute	Elapsed Time in Minutes
3.6	1
3.8	2
2.7	3
2.8	4
2.7	5
2.7	10
2.5	15
2.6	20
2.6	25
2.6	30

Hydraulic Conductivity: K = 8.6×10^{-5} CFS/FT^2 - FT. HEAD

Depth Below Existing Ground Surface (BEGL)	Soil Description
0' - 2'	Light Grayish Brown Slightly Silty Fine Sand with Pea Gravel
2' - 6'	Dark Brown Slightly Silty Fine Sand
6' - 10'	Tan Limestone with Light Brown to Brown Slightly Silty Fine Sand

Water table elevation : 6'0" **Below Existing Ground Surface**

MARK ALAN MESIANO LICENSE No. 48202 STATE OF FLORIDA PROFESSIONAL ENGINEER

MARK A. MESIANO, P.E.
Florida Engineering & Testing, Inc.
Florida Reg. No. 48202
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Quality QA Assurance

FLORIDA ENGINEERING & TESTING, INC.

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www.floridaengineeringandtesting.com
250 S.W. 13th Avenue
Pompano Beach, FL 33069

HYDRAULIC CONDUCTIVITY USUAL OPEN – HOLE TEST

DATE: 10/17/19 **ORDER #:** 19-5076
CLIENT: Automated Petroleum & Energy Co., Inc.
PROJECT: Proposed Drainage System
ADDRESS: 501 North State Road 7 Plantation, Florida
LOCATION: Ex-2 (See Attached Sketch)
DIAMETER OF HOLE: 6 inches **DEPTH OF HOLE:** 10 feet
TESTED BY: C.G. **REPORTED TO:** Client

Gallons/Minute	Elapsed Time in Minutes
3.2	1
2.7	2
2.7	3
2.6	4
2.6	5
2.5	10
2.4	15
2.4	20
2.4	25
2.4	30

Hydraulic Conductivity: K = 8.0×10^{-5} CFS/FT^2 - FT. HEAD

Depth Below Existing Ground Surface (BEGL)	Soil Description
0' - 1'	Light Grayish Brown Slightly Silty Fine Sand and Pea Gravel
1' - 5'	Orangish Brown Slightly Silty Fine Sand
5' - 8'	Grayish Brown Slightly Silty Fine Sand
8' - 10'	Tan Limestone with Light Orangish Brown Slightly Silty Fine Sand

Water table elevation : 6'0" **Below Existing Ground Surface**

10-24-19

MARK A. MESIANO, P.E.
Florida Engineering & Testing, Inc.
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Certificate of Authorization No. 6923

MARK ALAN MESIANO LICENSE No. 48202 STATE OF FLORIDA PROFESSIONAL ENGINEER

Quality QA Assurance

Unit Hydrograph Method (Computational Notes)
Definition of Terms

At	Total area (acres): At = Ai+Ap
Ai	Impervious area (acres)
Ap	Pervious area (acres)
CNi	Runoff curve number for impervious area
CNp	Runoff curve number for pervious area
fLoss	f loss constant infiltration (depth/time)
gKs	Saturated Hydraulic Conductivity (depth/time)
Md	Volumetric Moisture Deficit
Psi	Capillary Suction (length)
hK	Horton Infiltration Decay Rate (time^-1)
fo	Initial Infiltration Rate (depth/time)
fc	Ultimate(capacity)Infiltration Rate (depth/time)
Ia	Initial Abstraction (length)
dt	Computational increment (duration of unit excess rainfall) Default dt is smallest value of 0.1333Tc, rtm, and th (Smallest dt is then adjusted to match up with Tp)
UDdt	User specified override computational main time increment (only used if UDdt is => .1333Tc)
D(t)	Point on distribution curve (fraction of P) for time step t
K	2 / (1 + (Tr/Tp)): default K = 0.75: (for Tr/Tp = 1.67)
Ks	Hydrograph shape factor = Unit Conversions * K: = ((1hr/3600sec) * (1ft/12in) * ((5280ft)**2/sq.mi)) * K Default Ks = 645.333 * 0.75 = 484
Lag	Lag time from center of excess runoff (dt) to Tp: Lag = 0.6Tc
P	Total precipitation depth, inches
Pa(t)	Accumulated rainfall at time step t
Pi(t)	Incremental rainfall at time step t
qp	Peak discharge (cfs) for 1in. runoff, for 1hr, for 1 sq.mi. = (Ks * A * Q) / Tp (where Q = 1in. runoff, A=sq.mi.)
Qu(t)	Unit hydrograph ordinate (cfs) at time step t
Q(t)	Final hydrograph ordinate (cfs) at time step t
Rai(t)	Accumulated runoff (inches) at time step t for impervious area
Rap(t)	Accumulated runoff (inches) at time step t for pervious area
Rii(t)	Incremental runoff (inches) at time step t for impervious area
Rip(t)	Incremental runoff (inches) at time step t for pervious area
R(t)	Incremental weighted total runoff (inches)
Rtm	Time increment for rainfall table
Si	S for impervious area: Si = (1000/CNi) - 10
Sp	S for pervious area: Sp = (1000/CNp) - 10
t	Time step (row) number
Tc	Time of concentration
Tb	Time (hrs) of entire unit hydrograph: Tb = Tp + Tr
Tp	Time (hrs) to peak of a unit hydrograph: Tp = (dt/2) + Lag
Tr	Time (hrs) of receding limb of unit hydrograph: Tr = ratio of Tp