Seminole Electric
COOPERATIVE, INC.
IN PARTNERSHIP WITH THOSE WE SERVE

January 28, 2011

Mr. Michael Halpin, P.E.
Program Administrator
Office of Siting Coordination
Department of Environmental Protection
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000

Re: Seminole Electric Cooperative, Inc.
Seminole Generating Station, Putnam County, Florida
Power Plant Certification No. PA78-10
Post-Certification Amendment to Application

Dear Mr. Halpin:

Pursuant to Section 403.5113(1)(a), Florida Statutes, and Rule 62-17.205, Florida Administrative Code, please accept this letter and the attachment hereto as an additional post-certification amendment to the Seminole Electric Cooperative, Inc. ("Seminole") Site Certification Application ("Application") for the Seminole Generating Station in Putnam County, Florida. This post-certification amendment addresses a proposed 1,525 square foot (ft^2) concrete slab near an existing welding shop, a proposed 15- by 30-ft storage shed in an existing lube oil storage area, and a proposed 1,320 ft^2 concrete slab near an existing EPF maintenance building.

Additional details concerning the proposed concrete slabs and the small shed are included in the attachment, which is a report authored by Ivan Chou, P.E., of Environmental Consulting and Engineering, Inc. (ECT). As explained in the ECT Report, existing stormwater pond #1 has sufficient storage and attenuation capacity to accommodate the 1,525 ft^2 slab; additionally the storage shed will not add to stormwater runoff because it will be built on an area already covered by impervious asphalt. The ECT Report also concludes that the 1,320 ft^2 slab will not have any stormwater impacts because it will be constructed in an area that drains into retention ponds that feed into the plant reuse/treatment system.

Based on the foregoing, Seminole requests concurrence from the Office of Siting Coordination that the 1,525 ft^2 concrete slab, the proposed storage shed, and the 1,320 ft^2 concrete slab, as described herein, are acceptable as a post-certification amendment to the Site Certification Application.

16313 North Dale Mabry Highway P.O. Box 272000 Tampa, Florida 33688-2000
Telephone 813.963.0994 Fax 813.264.7906 www.seminole-electric.com

Very truly yours,

Mike Roddy
Manager of Environmental Affairs
Seminole Electric Cooperative, Inc.

cc: Ann Seiler
Allen Hubbard
James Alves

ECT
Environmental Consulting & Technology, Inc.

December 17, 2010
ECT No. 101023-0100

Mr. Robert Yarbrough
Seminole Electric Company
P.O. Box 272000
Tampa, FL 33688-200

Subject: Seminole Electric Cooperative Inc.'s (SECI's) Seminole Generating Station (SGS)

Dear Robert:

Environmental Consulting & Technology, Inc. (ECT), is submitting this hydraulic analysis to assess stormwater runoff from the proposed 1,525 square foot (ft^2) concrete slab near an existing welding shop, a proposed 15- by 30-ft shed in an existing lube oil storage area, and the proposed 1,320 ft^2 concrete slab near an existing EPF maintenance building.

Background

To manage the stormwater from the newly constructed selective catalytic reduction (SCR) system at the SGS Units 1 and 2, Burns & McDonnell (B&M) conducted detention pond design and hydraulic calculations for ponds #1 and #2 (December 2006, B&M), which was reviewed and approved by the Florida Department of Environmental Protection (FDEP). The purpose of this hydraulic analysis is to ensure that the existing detention ponds are capable of handling the stormwater runoff from the proposed concrete slabs.

Concrete Slab near Welding Shop and the Lube Storage Shed

SECI plans to construct a 1,525 ft^2 concrete slab on mostly grassy areas adjacent to an existing welding shop (Figures 1 and 2). The purpose of the concrete slab is for equipment staging before fabrication. The slab addition will slightly increase the impervious surface area and thus more stormwater runoff to the detention pond #1. In addition, SECI plans to construct a 15- x 30-ft shed to store lube oil in an area currently covered by impervious asphalt (Figure 2). The lube oil storage area also drains into detention pond #1. The construction of the proposed storage shed will not have any hydrologic impact because it will be constructed on an existing impervious area. To assure that the existing pond #1 has sufficient storage capacity to attenuate the runoff from the concrete slab, ECT conducted a hydraulic/hydrologic analysis as described in the following paragraphs.

The existing welding shop and the proposed 1,525 ft^2 concrete slab are located in the stormwater basin #1, a 41.96-acre area that drains into a 3-acre wet detention pond. The stage/area and stage/volume of the stormwater pond #1 are presented in Table 1. The 1,320 ft^2 concrete slab near the EPF maintenance building is not located within basin #1.

3701 Northwest
98th Street
Gainesville, FL
32606

(352)
332-0444

FAX(352)
332-6722

Table 1. SECI SGS Pond #1 Stage-Area-Volume Data

Elevation (FT-NGVD)	Area (acres)	Volume (acre-feet)
67.00	1.70	0.00
67.50	1.74	0.86
68.00	1.79	1.74
68.50	1.83	2.65
69.00	1.87	3.57
69.50	1.92	4.52
70.00	1.97	5.49
70.50	2.01	6.49
71.00	2.06	7.50
71.50	2.16	8.56
72.00	2.27	9.67
73.00	2.46	12.04
74.00	2.75	14.64
74.25	2.79	15.34
74.50	2.88	16.05
75.00	3.02	17.53
75.50	3.16	19.07
76.00	3.30	20.69

Source: ECT, 2010.

The discharge structure of the retention pond #1 includes a 7-inch diameter bleed-down orifice with an invert elevation of 72.0 ft-NGVD, a 5- by 6-ft concrete drop inlet with an overflow elevation of 74.25 ft-NGVD, and a 20-ft-wide emergency spillway with a top elevation of 75.55 ft-NGVD. The drawings of the stormwater detention pond #1 and its flow control structure are presented in Attachment A.

To evaluate the attenuation capacity of the stormwater pond #1, hydraulic and hydrologic analyses were conducted, using HEC-HMS model, for both the pre-SCR and post-concrete slab conditions. Figure 2 shows the land use information for the stormwater basin #1, including the proposed 1,525 ft^2 concrete slab near the welding shop. The curve number (CN) calculations for the pre-SCR and post-concrete slab conditions are presented in Table 2.

Table 2. CN Computation

Land use	CM	Area (acres)	
		Pre-SCR	Post-concrete slab
Grass	61	18.59	7.10
Gravel	85	8.06	1.22
Structures and pavement	98	15.31	27.13
Pond	100	0	3.30
Pond vicinity	70	0	3.21
Total		41.96	41.96

Source: ECT, 2010.

The 27.13-acre structure and pavement area for the post-concrete slab condition includes 7.42 acres of buildings and sheds, 0.5 acre of tanks, and 19.21 acres of pavement. Both structure/pavement and gravel areas are considered as impervious. The computed weighted CNs for the pre-SCR and post-concrete slab conditions are 79.1 and 89.4, respectively.

The results of the HEC-HMS modeling for mean annual maximum, 25-year 24-hour, and 100-year 24-hour storms are presented in Attachment B and summarized as follows:

Table 3. HEC-HMS Model Results

Storm Event	Pond #1 Peak Discharge (cfs)		Post-Concrete Slab Pond #1 Peak Stage (ft)
	Pre-SCR	Post-Concrete Slab	
Average (4.5 inches)	49.5	30.7	74.78
25-year, 24-hour (8 inches)	96.9	82.7	75.36
100-year, 24-hour (10 inches)	124.3	108.6	75.60

Source: ECT, 2010.

The HEC-HMS results indicate that the peak discharge of the pond #1 under the post-concrete slab condition is less than the peak discharge under the pre-SCR condition for mean annual maximum, 25-year, and 100-year storm events. In addition, the freeboard in pond #1 at peak stage under a 100-year storm event is 1.4 ft (the stormwater pond #1 berm elevation is 77 ft-NGVD).

Therefore, the existing stormwater pond #1 has sufficient storage and attenuation capacity to accommodate the proposed concrete slab near the welding shop.

Concrete Slab near EPF Maintenance Building

Figure 3 shows the location of a proposed 33- by 40-ft concrete slab in a currently gravel area at the north end of the existing EPF maintenance building. The purpose of this concrete slab is to increase the work area on a level surface and prevent slipping hazard on loose gravel. The runoff from the proposed concrete slab drains north and east and into four inter-connected retention ponds. These retention ponds are part of the onsite wastewater system. The pond water is either re-used or treated and does not contribute stormwater discharge to receiving waters. Therefore, the proposed 1,320 ft^2 concrete slab near the EPF maintenance building will not have adverse hydrological impact.

If you have any questions regarding this letter report, please contact me.

Sincerely,

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.

Ivan B. Chou, P.E. 30688
Principal Engineer

IVAN B. CHOU
LICENSE
No. 30688
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

12-17-2010
Date

IBC/tsw
Enclosures

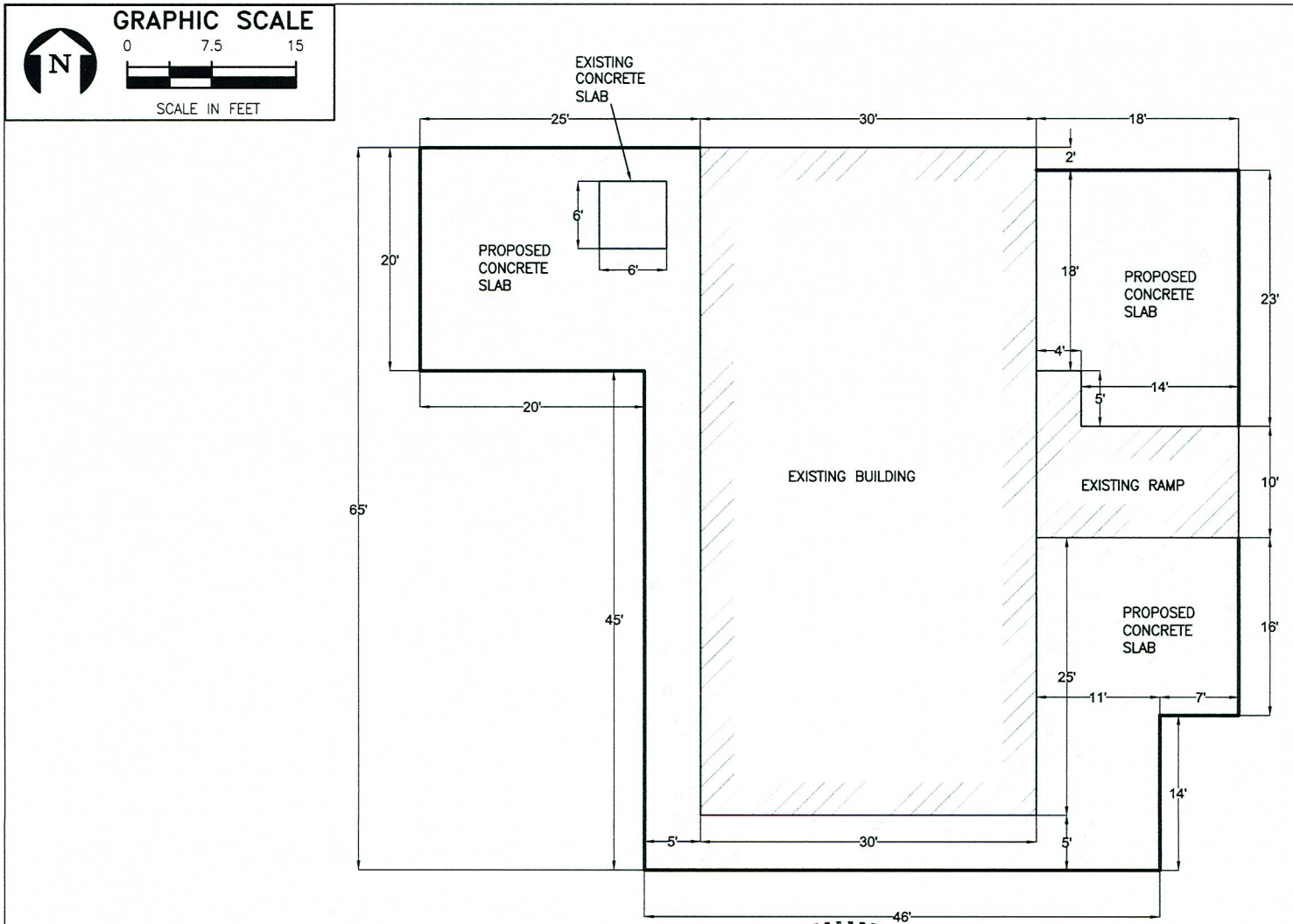


FIGURE 1.

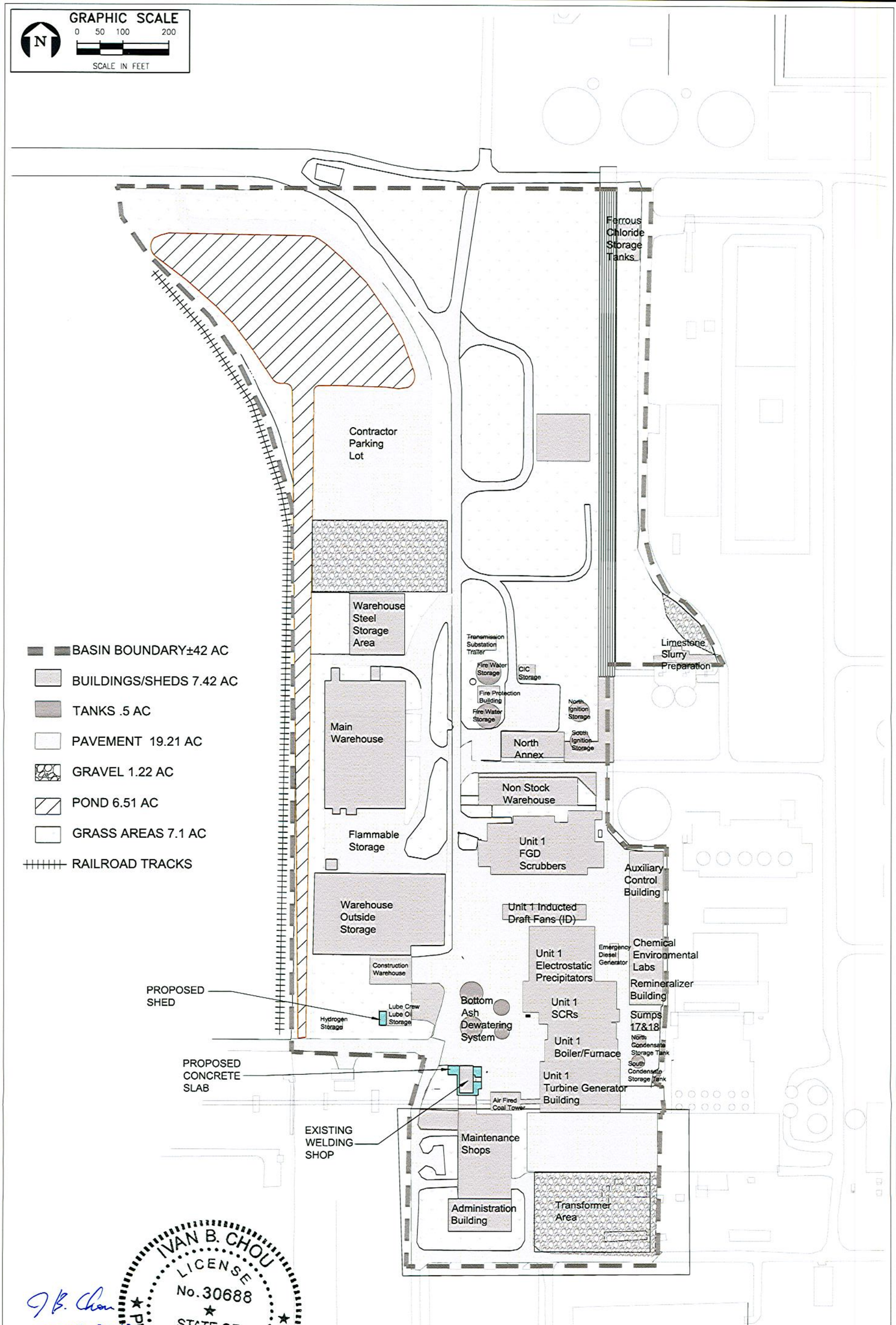
SGS WELDING SHOP SITE PLAN

Source: ECT, 2010.

IVAN B. CHOU
LICENSE
No. 30688
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Jr B. Chou
12-17-2010

ECT
Environmental Consulting & Technology, Inc.



IVAN B. CHOU
LICENSE
No. 30688
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

I.B. Chou
12-17-2010

FIGURE 2.
SEMINOLE GENERATING STATION STORMWATER BASIN #1 LAND USE
SEMINOLE ELECTRIC COOPERATIVE, INC.

Source: ECT, 2010.

ECT
Environmental Consulting & Technology, Inc.

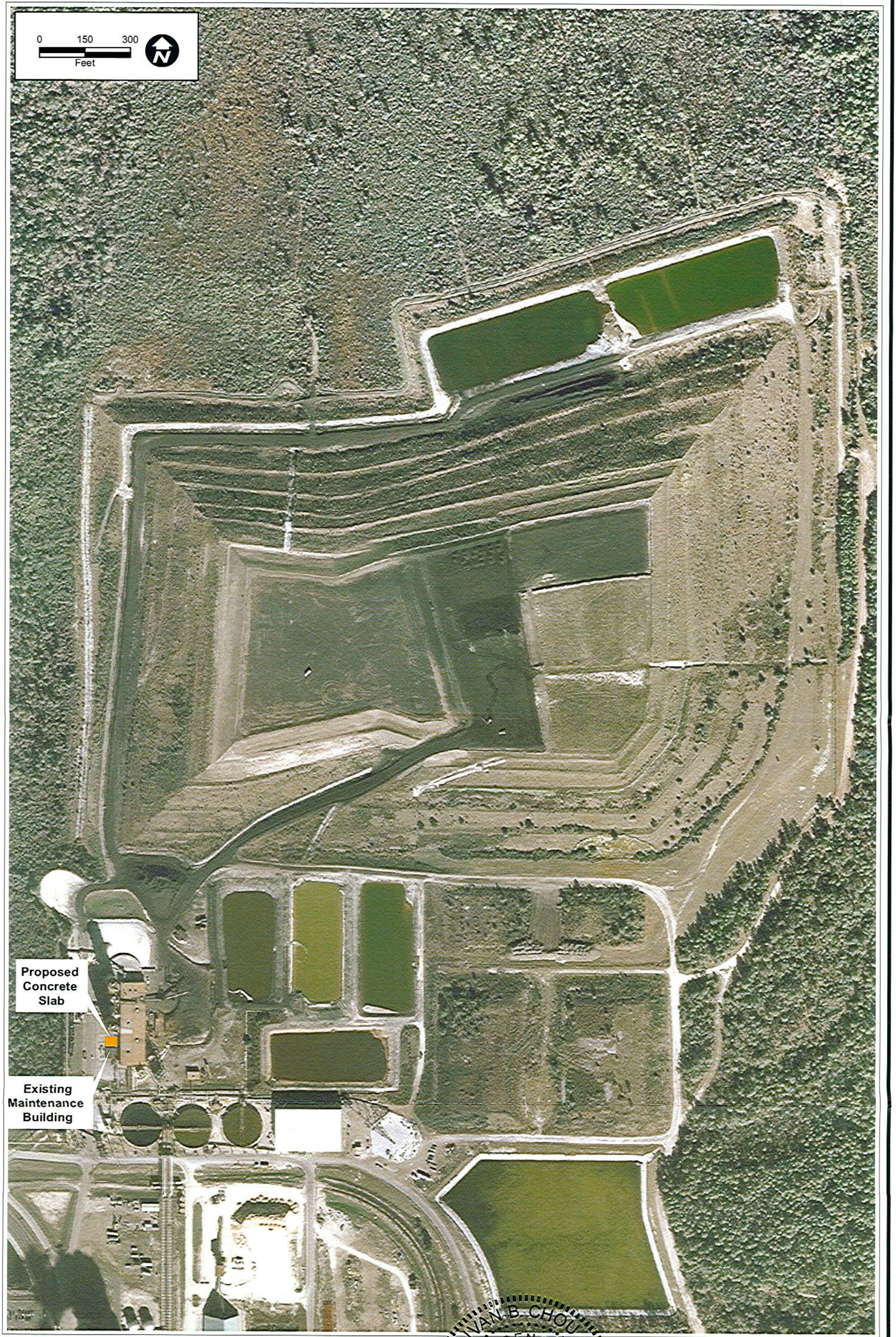


FIGURE 3.
PROPOSED CONCRETE SLAB NEAR EPF MAINTENANCE BUILDING

Sources: ECT,2010.

IVAN B. CHOU
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No. 30688
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PROFESSIONAL ENGINEER

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12-17-10

ECT
Environmental Consulting & Technology, Inc.

ATTACHMENT A

STORMWATER DETENTION POND #1
PLANS AND SECTIONS

Seminole Electric
COOPERATIVE, INC.
IN PARTNERSHIP WITH THOSE WE SERVE

Seminole Generating Station
Palatka, Florida (Putnam County)

2006

41262

Contract Drawings

GENERAL DRAWINGS

DWG. NO.	TITLE
1C0150	COVER-INDEX
1C0151	LEGEND, ABBREVIATIONS, VICINITY MAP & NOTES

REFERENCE DRAWINGS

DWG. NO.	TITLE
1M146	FIRE PROTECTION PIPING-YARD
CM-35509-001-0035	PURGE WATER TREATMENT SYSTEM - TREATED PURGE WATER - PIPELINE ROUTING
SC-35169-001-0000	TELEPHONE CABLE LOCATION PLAN
SE-25003-001-0000	ELECTRIC UTILITY SERVICE FOR NEW WAREHOUSE

CIVIL DRAWINGS

DWG. NO.	TITLE
1C0152	OVERALL SITE PLAN
1C0153	DEMOLITION, FENCING & EROSION CONTROL PLAN - SHEET 1
1C0154	DEMOLITION, FENCING & EROSION CONTROL PLAN - SHEET 2
1C0155	GRADING PLAN - SHEET 1
1C0156	GRADING PLAN - SHEET 2
1C0157	GRADING SECTIONS (EAST)
1C0158	NOT USED
1C0159	NOT USED
1C0160	NOT USED
1C0161	NOT USED
1C0162	GRADING SECTIONS (WEST) - SHEET 1
1C0163	GRADING SECTIONS (WEST) - SHEET 2
1C0164	GRADING SECTIONS (WEST) - SHEET 3
1C0165	ROAD PROFILES
1C0166	MISCELLANEOUS DETAILS - SHEET 1
1C0167	MISCELLANEOUS DETAILS - SHEET 2
1C0168	MISCELLANEOUS DETAILS - SHEET 3
1C0169	NOT USED
1C0170	POND 1 (WEST) DETAILS - SHEET 1
1C0171	POND 1 (WEST) DETAILS - SHEET 2
1C0172	POND 2 (EAST) DETAILS - SHEET 1
1C0173	POND 2 (EAST) DETAILS - SHEET 2

ELECTRICAL DRAWINGS

DWG. NO.	TITLE
2 1E5600	ROADWAY LIGHTING PLAN
2 1E5601	LIGHTING AND FENCE GROUNDING DETAILS

ONE OR TWO CHARACTER DISCIPLINE DESIGNATOR (MAY NOT BE PRESENT IF CALLOUT AND TITLE ARE ON DRAWINGS WITHIN THE SAME DISCIPLINE)

A / FP001

LETTER OR NUMBER DESIGNATOR

DRAWING SEQUENCE NUMBER INDICATES WHERE DETAIL IS SHOWN OR TAKEN FROM (MAY NOT BE PRESENT IF CALLOUT AND TITLE ARE ON THE SAME DRAWING)

SECTION, DETAIL, AND ELEVATION SYMBOL IDENTIFIERS

A / FP001 A / FP001

SECTION CALLOUT EXAMPLE

A / FP001

DETAIL CALLOUT EXAMPLE

B / A001

ELEVATION CALLOUT EXAMPLE

THE WORD 'SECTION' MAY BE REPLACED WITH 'ELEVATION' OR 'DETAIL'

SECTION A / 001

SECTION, DETAIL, OR ELEVATION TITLE EXAMPLE

SECTION, DETAIL, AND ELEVATION IDENTIFICATION SYSTEM

no.	date	by	ckd	description
0	10/10/06	JCE	JWG	ISSUED FOR BID
1	12/12/06	JCE	JWG	DELETED REFERENCE DRAWINGS CE-25007-000-0006, CM-25007-000-0018, 1M145, 1M153 AND MECHANICAL DRAWING CM-35659-000-0001-0001
	12/22/06	JCE	JWG	ISSUED AS BID AND FOR CONSTRUCTION
2	8/27/07	JCE		CONFORMING TO CONSTRUCTION RECORDS

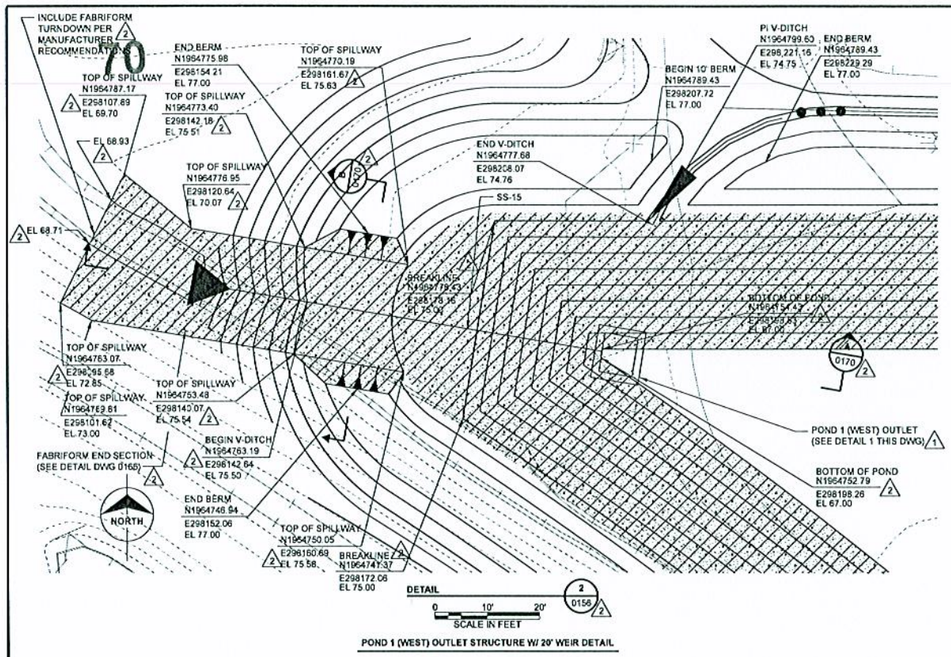
Burns & McDonnell SINCE 1898

Units 1 & 2 - SGS Pollution Control Upgrade
Site Preparation
Contract #110

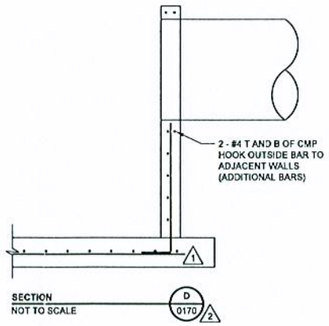
Cover - Index

11/14/2007

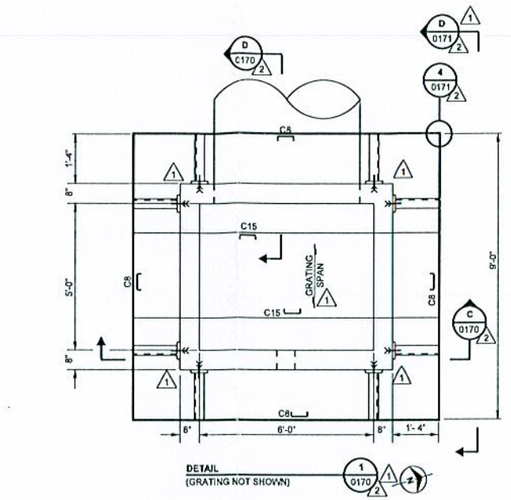
J:\Seminole\41262\CADD\CIVIL\Contract 1\1C0150.dgn



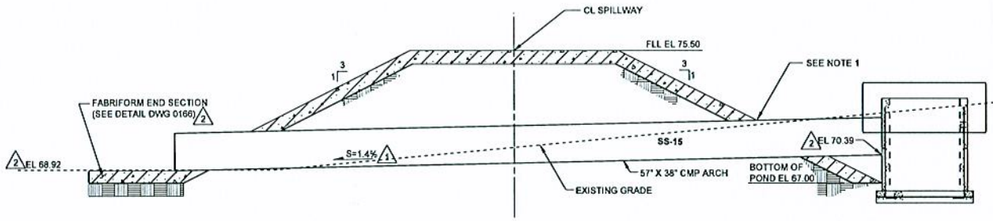
POND 1 (WEST) OUTLET STRUCTURE W/ 20' WEIR DETAIL



SECTION
NOT TO SCALE
D 0170



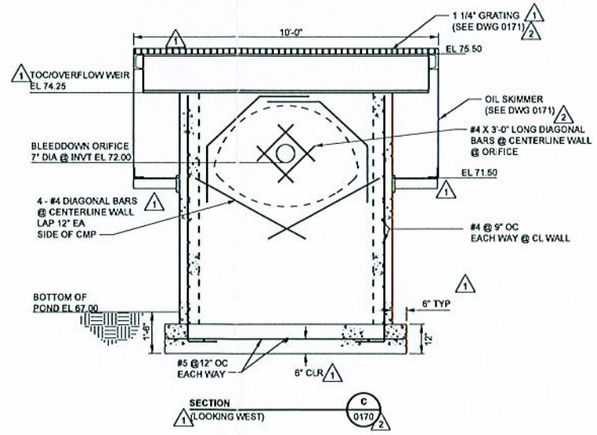
DETAIL
(GRATING NOT SHOWN)
1 0170



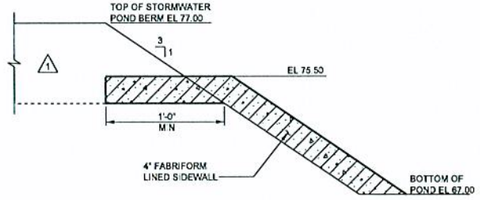
SECTION
NOT TO SCALE
A 0170

NOTES:

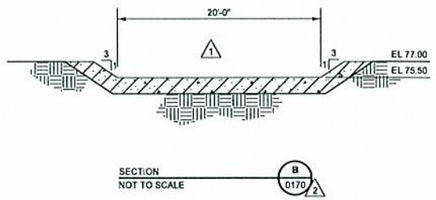
1. FOR SS-15, BACKFILL FIRST FIVE FEET FROM FACE OF EMBANKMENT WITH COHESIVE MATERIAL AS SPECIFIED IN SECTION 02301-2.01.C.1. DO NOT USE GRANULAR BEDDING MATERIAL IN FIRST FIVE FEET OF TRENCH.
2. AVERAGE GROUNDWATER ELEVATION FOR POND 1 (WEST) IS 72.25' (APPROX).



POND 1 (WEST) OUTLET DETAIL
NOT TO SCALE



POND 1 (WEST) SIDEWALL LINING
NOT TO SCALE



SECTION
NOT TO SCALE
B 0170

no.	date	by	ckd	description
0	10/10/06	JCE	JWG	ISSUED FOR BID
1	10/30/06	JCE	CLG	ADDED GRATING, CHANGED SLOPE OF SS-1
	10/31/06	JCE	CLG	ISSUED WITH ADDENDUM NO 1
	12/22/06	JCE	CLG	ISSUED AS BID AND FOR CONSTRUCTION
2	8/27/07	JCE		CONFORMING TO CONSTRUCTION RECORDS

Burns & McDonnell SINCE 1898
9400 Ward Parkway, Kansas City, MO
Florida Certificate of Authorization Number 253

Seminole Electric COOPERATIVE, INC.
IN PARTNERSHIP WITH THOSE WE SERVE

location: SEMINOLE GENERATING STATION (UNIT 1 & 2)
title: POND 1 (WEST) DETAILS - SHEET 1
drawn: C. ALTES — date: AUGUST 1, 2006
design: J. EICHENBERGER — date: JULY 31, 2006
checked: J. GANDER — date: SEPT 15, 2006
project/contract no.: 41262/110
sh.___of___
dwg no: 1C0170
system:
rev. 2

U:\Seminole\41262\CAD\DWG\Contract 1\C\0170.dgn
acad #: 1C0170.DGN
11/14/2007

RADIUS SCHEDULE		
RADII NO	RADIUS FT	CENTER LOCATION
R1	20.00	N1964488.95 E298722.86
R2	20.00	N1964180.33 E298748.96
R3	20.00	N1964426.87 E298535.96
R4	20.00	N1964202.05 E298533.96
R5	22.00	N1964537.08 E298243.84
R6	620.00	N1964332.51 E298186.78
R7	805.00	N1964088.33 E297748.75
R8	48.50	N1964298.80 E298875.37
R9	48.50	N1964173.84 E297875.12

KEY NOTES:

1. CL PARKING ROW N1964396.33 E298739.96
2. CL PARKING ROW N1964398.33 E298539.96
3. CL PARKING ROW N1964332.33 E298739.96
4. CL PARKING ROW N1964332.33 E298539.96
5. CL PARKING ROW N1964268.33 E298739.96
6. CL PARKING ROW N1964268.33 E298539.96
7. CL PARKING ROW N1964204.33 E298739.96
8. CL PARKING ROW N1964204.33 E298539.96
9. PC ROAD 4 (CURVE 1) STA 0+02.50 N1964837.25 E298220.90 EL 78.00
10. PI ROAD 4 (CURVE 1) N1964481.60 E298221.42 EL76.00
11. PT ROAD 4 (CURVE 1) STA 0+38.26 N1964814.07 E298243.29 EL 78.00
12. PC ROAD 4 (CURVE 2) STA 2+87.72 N1964808.07 E298492.59 EL 77.01
13. PI ROAD 4 (CURVE 2) N1964807.73 E298501.86 EL 77.05
14. PT ROAD 4 (CURVE 2) PC ROAD 4 (CURVE 3) STA 3+04.93 N1964803.12 E298500.03 EL 77.08
15. PI ROAD 4 (CURVE 3) N1964485.50 E298591.81 EL 78.28
16. PT ROAD 4 (CURVE 3) PC ROAD 4 (CURVE 4) STA 7+19.55 N1964470.32 E298754.99 EL 78.95
17. PI ROAD 4 (CURVE 4) N1964475.45 E298754.63 EL78.97
18. PT ROAD 4 (CURVE 4) STA 7+28.72 N1964479.38 E298753.65 EL 78.97
19. N1964798.02 E298756.97 EL 77.00
20. N1964704.16 E298740.29 EL 73.00
21. N1964823.02 E298859.93 EL 75.00
22. N1964820.64 E298781.09 EL 75.00
23. N1964820.64 E298833.73 EL 75.00
24. N1964818.79 E298818.35 EL 78.00
25. LIMITS OF PARKING N1964692.91 298818.35 EL 78.00
26. LIMITS OF PARKING N1964446.97 E298516.96 EL 78.02

CURVE DATA ROAD 4 (CURVE 3) Δ = 41° 07' 04" D = 9° 55' 01" R = 577.75' T = 216.69' L = 414.82'

CURVE DATA ROAD 4 (CURVE 4) Δ = 18° 26' 51" D = 179° 02' 58" R = 32.00' T = 4.58' L = 9.10'

CURVE DATA ROAD 4 (CURVE 2) Δ = 30° 55' 56" D = 179° 02' 58" R = 32.00' T = 8.74' L = 17.28'

CURVE DATA ROAD 4 (CURVE 1) Δ = 88° 37' 17" D = 245° 06' 44" R = 23.00' T = 22.45' L = 35.58'

N1964043.31 E298786.35 EL 73.00

N1964698.50 E298738.89 EL 74.00

N1964813.69 E298854.30 EL 76.00

BEGIN V-DITCH N1964828.66 E298409.13 EL 75.00

BEGIN 25' TRANSITION (SEE DWG 0167) N1964810.16 E298405.63 EL 76.82

END V-DITCH N1964837.66 E298246.10 EL 73.07

BEGIN ROAD 4 STA 0+00.00 N1964539.75 E298220.84 EL 78.24

PI V-DITCH N1964826.83 E298507.80 EL 74.42

END V-DITCH N1964832.17 E298432.04 EL 73.80

BEGIN V-DITCH N1964794.48 E298434.61 EL 75.50

END 25' TRANSITION (SEE DWG 0167) N1964809.56 E298430.62 EL 76.73

BEGIN BERM N1964786.66 E298802.41 EL 77.00

BOTTOM OF POND 1 N1964754.43 E298500.75 EL 87.00

BOTTOM OF POND 1 N1964754.43 E298195.83 EL 87.00

END V-DITCH N1964728.86 E298146.55 EL 73.99

PI 10' BERM N1964769.43 E298060.59 EL 77.00

BOTTOM OF POND 1 N1964490.33 E298692.26 EL 87.00

END 8' FBD N1964478.33 E298486.45 EL 71.00

PI 10' BERM N1964455.33 E298422.67 EL 77.00

PI V-DITCH N1964477.41 E298670.99 EL 77.74

BEGIN V-DITCH N1964446.33 E298770.00 EL 78.87

END ROAD 4 STA 7+52.70 N1964446.33 E298754.90 EL 78.00

N1964251.18 E298889.78 EL 78.00

N1964221.36 E298892.73 EL 78.00

N1964213.17 E298846.73 EL 78.00

N1964267.72 E298836.50 EL 78.00

N1963992.65 E299098.16 EL 79.00

N1963992.23 E299033.91 EL 77.00

N1963990.87 E299045.27 EL 78.00

N1963990.19 E298970.50 EL 78.00

N1963874.26 E299098.16 EL 79.00

N1963809.73 E299036.54 EL 79.00

N1963809.73 E299093.51 EL 79.00

PROVIDE 8 HANDICAPPED PARKING STALLS (SEE DETAIL DWG 0167)

LIMITS OF PARKING N1964160.33 E298760.96 EL 78.98

LIMITS OF PARKING N1964160.33 E298516.96 EL 77.95

N1964431.18 E298405.82 EL 78.00

BEGIN V-DITCH N1964445.76 E298418.66 EL 76.09

END 10' BERM N1964455.33 E298464.83 EL 77.00

BEGIN 8' FBD N1964236.60 E298487.42 EL 71.30

LINE NEW PORTION OF DITCH WITH FABR-FORM TO MATCH EXISTING AND MATCH TOP OF SLOPE ON THE EAST SIDE BELOW THE PARKING LOT

REMOVE FABR-FORM FROM PORTIONS OF EXISTING DITCH TO BE BACKFILLED

BOTTOM OF POND 1 N1964490.33 E298443.03 EL 87.00

CL ROAD 4

VARIES

S=1.24%

S=0.32%

S=0.85%

4:1

7:1

R1 R2 R3 R4 R5 R6 R7 R8 R9

SS-12 SS-13 SS-14 SS-15 SS-16

E299000 E298500 N1965500 N1965000 N1964500 N1964000 N1963500

NOTES:

1. ALL SLOPES ARE 3:1, UNLESS OTHERWISE NOTED
2. SECTIONS E THRU M ARE CUT EVERY 100 FEET ALONG CENTERLINE OF ROAD (SEE DWGS 0162 & 0163).

NORTH

0 60' 120'

SCALE IN FEET

no.	date	by	ckd	description
0	10/10/06	JCE	JWG	ISSUED FOR BID
1	12/12/06	JCE	JWG	REMOVED DETAIL 3; REVISED RADII; REVISED SECTION CALLOUTS; REVISED NOTE 2
	12/22/06	JCE	JWG	ISSUED AS BID AND FOR CONSTRUCTION

no.	date	by	ckd	description
2	12/22/06	JCE	JWG	REMOVED SS-12, REVISED GRADING AND KEY NOTES
	12/22/06	JCE	JWG	ISSUED FOR PCO #1
3	6/27/07	JCE		CONFORMING TO CONSTRUCTION RECORDS

no.	date	by	ckd	description

no.	date	by	ckd	description

no.	date	by	ckd	description

Burns & McDonnell ENGINEERING COMPANY, INC. 9400 Ward Parkway, Kansas City, MO Florida Certificate of Authorization Number 253

Seminole Electric COOPERATIVE, INC. IN PARTNERSHIP WITH THOSE WE SERVE

location: SEMINOLE GENERATING STATION (UNIT 1 & 2)

title: GRADING PLAN - SHEET 2

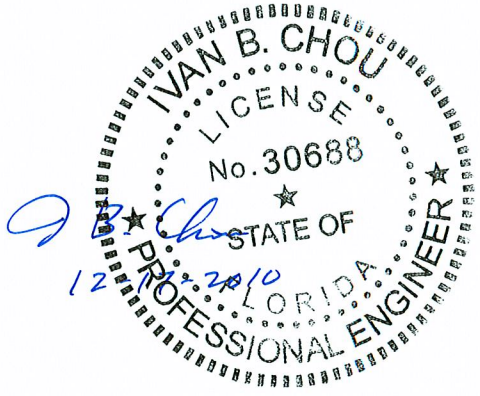
drawn: C. ALTES	date: AUGUST 1, 2006	project/contract no.: 41262/110	sh. ___ of ___
design: J. EICHENBERGER	date: JULY 31, 2006	dwg no: 1C0156	system:
checked: J. GANDER	date: SEPT 15, 2006		rev. 3

acad #: 1C0156.DGN

10/10/2006

ATTACHMENT B

HEC-HMS MODEL INPUT/OUTPUT



HEC-HMS MODELING OF SEMINOLE – POND 1

INPUT

Design Storms

Precipitation

Met Name: Mean Annual Maximum

Method:	Type 2
*Depth (IN)	4.5

Precipitation

Met Name: 25 Yr 24 Hr

Method: Type 2

*Depth (IN) 8

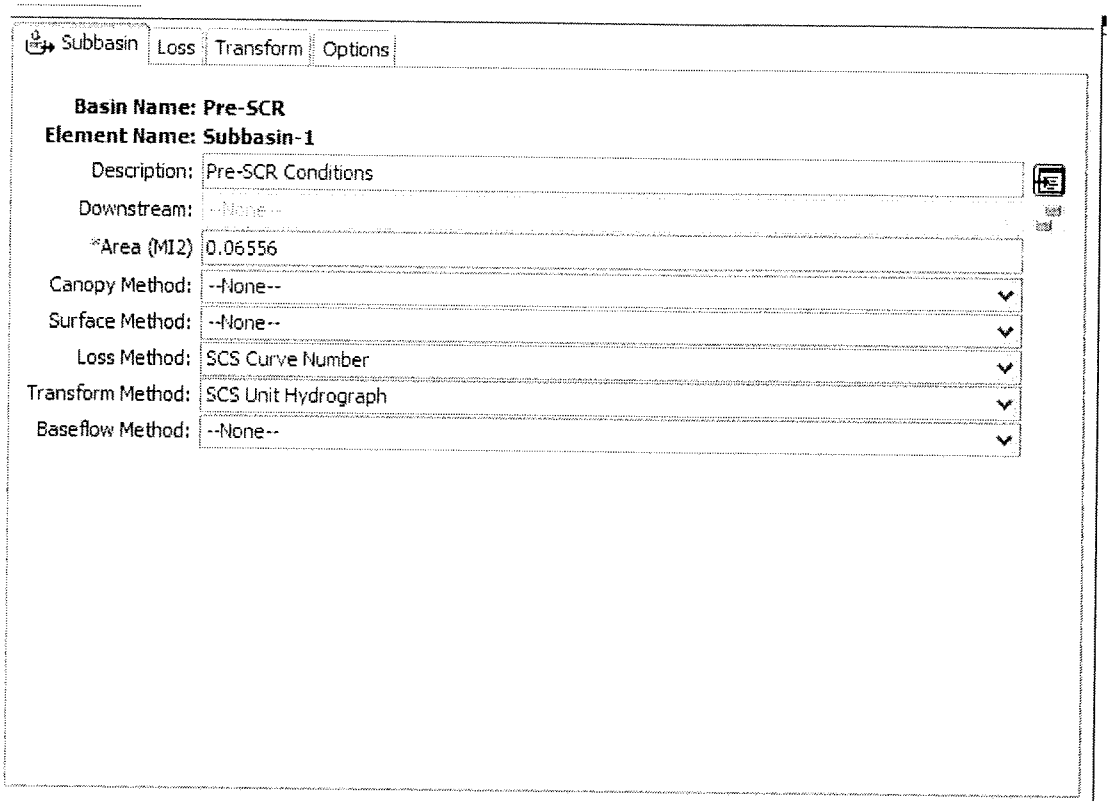
Precipitation

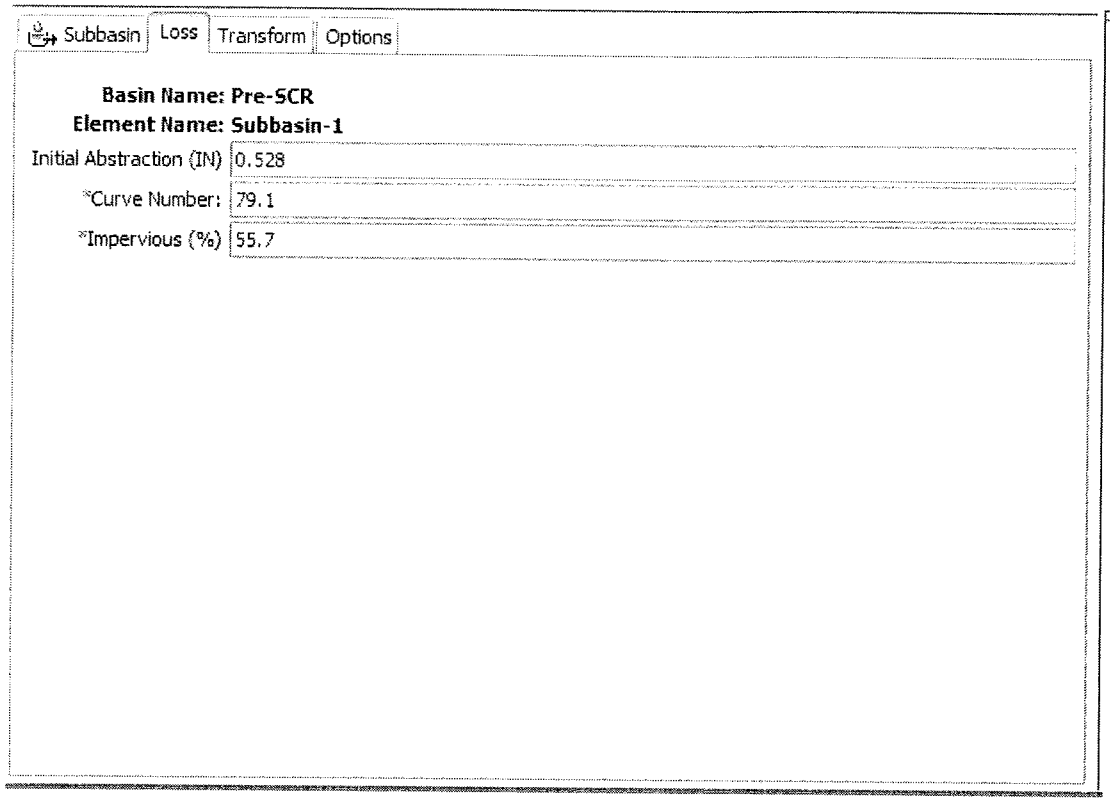
Met Name: 100 Year 24 Hr

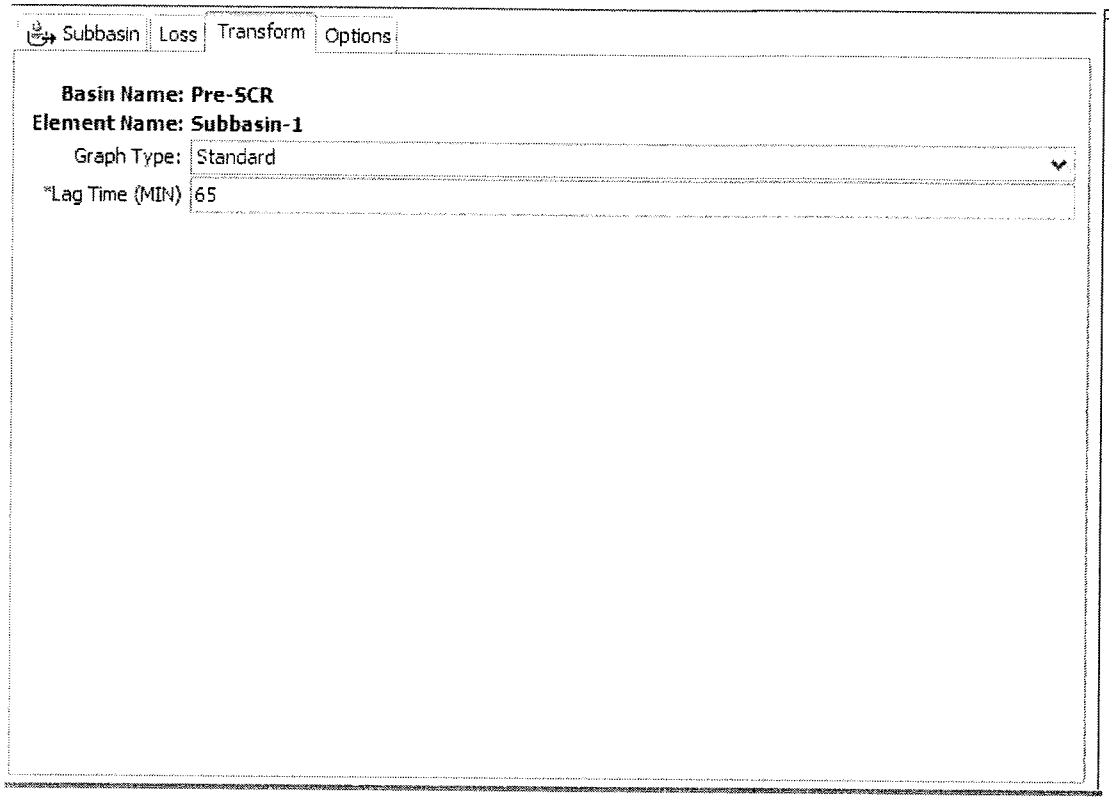
Method:	Type 2
*Depth (IN)	10

Pre-SCR Condition

Basin Input

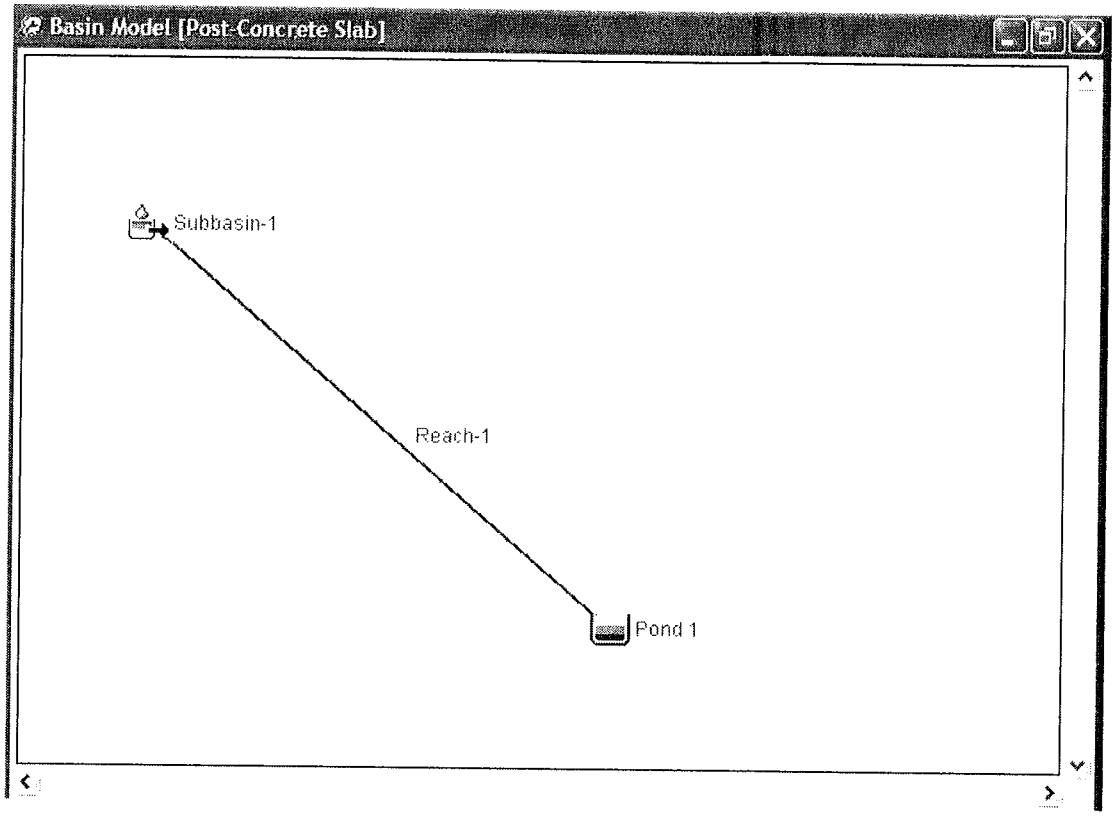


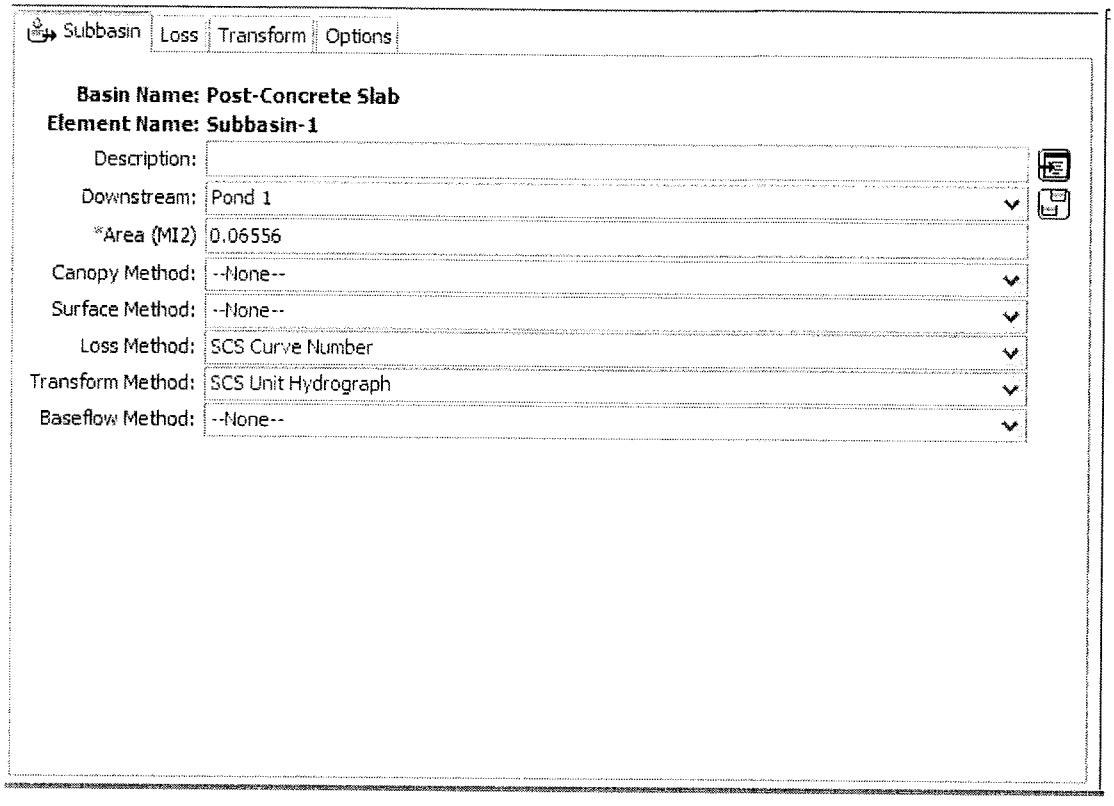

Subbasin
Loss
Transform
Options
Basin Name: Pre-SCR
Element Name: Subbasin-1
Initial Abstraction (IN)
0.528
*Curve Number:
79.1
*Impervious (%)
55.7

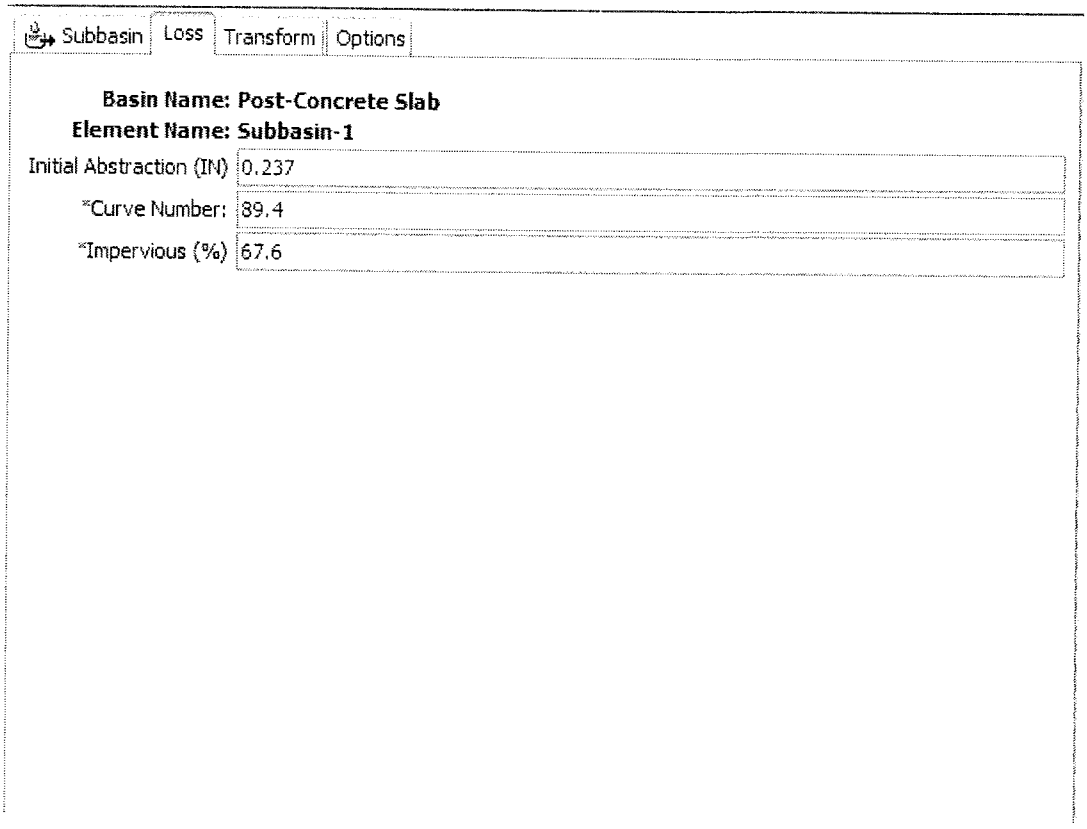

Subbasin
Loss
Transform
Options
Basin Name: Pre-SCR
Element Name: Subbasin-1
Graph Type:
Standard
*Lag Time (MIN)
65

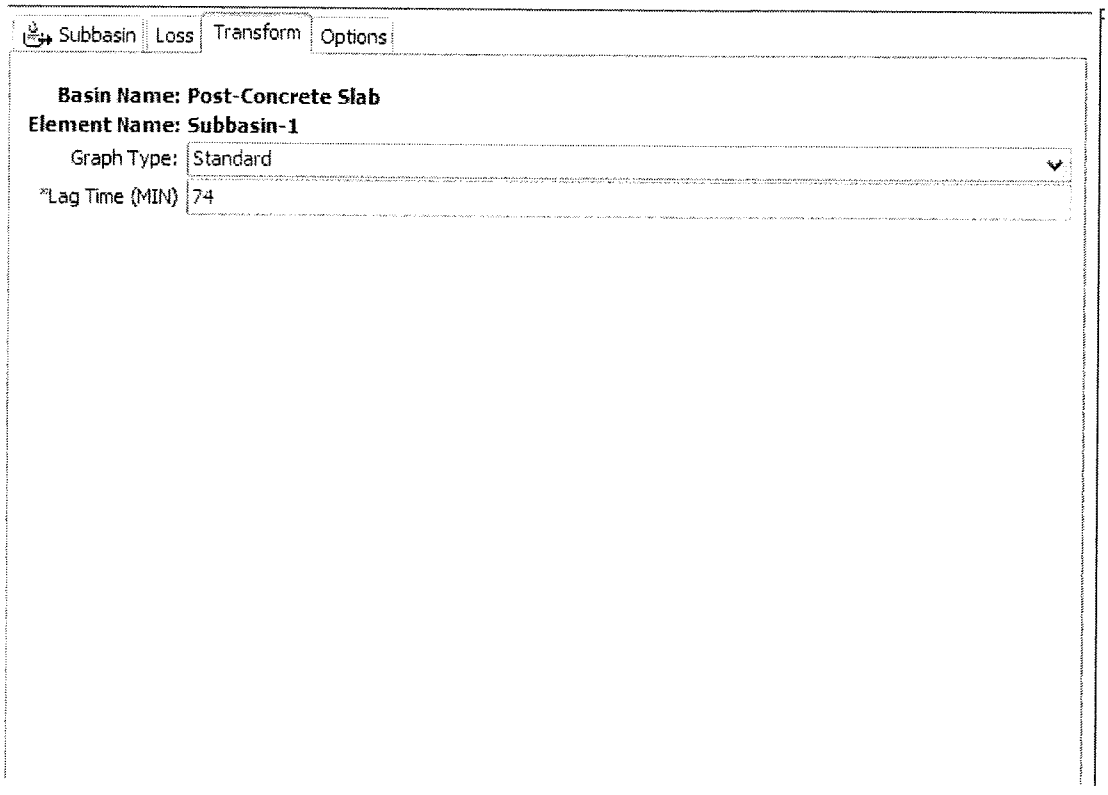
Post-Concrete Slab Condition

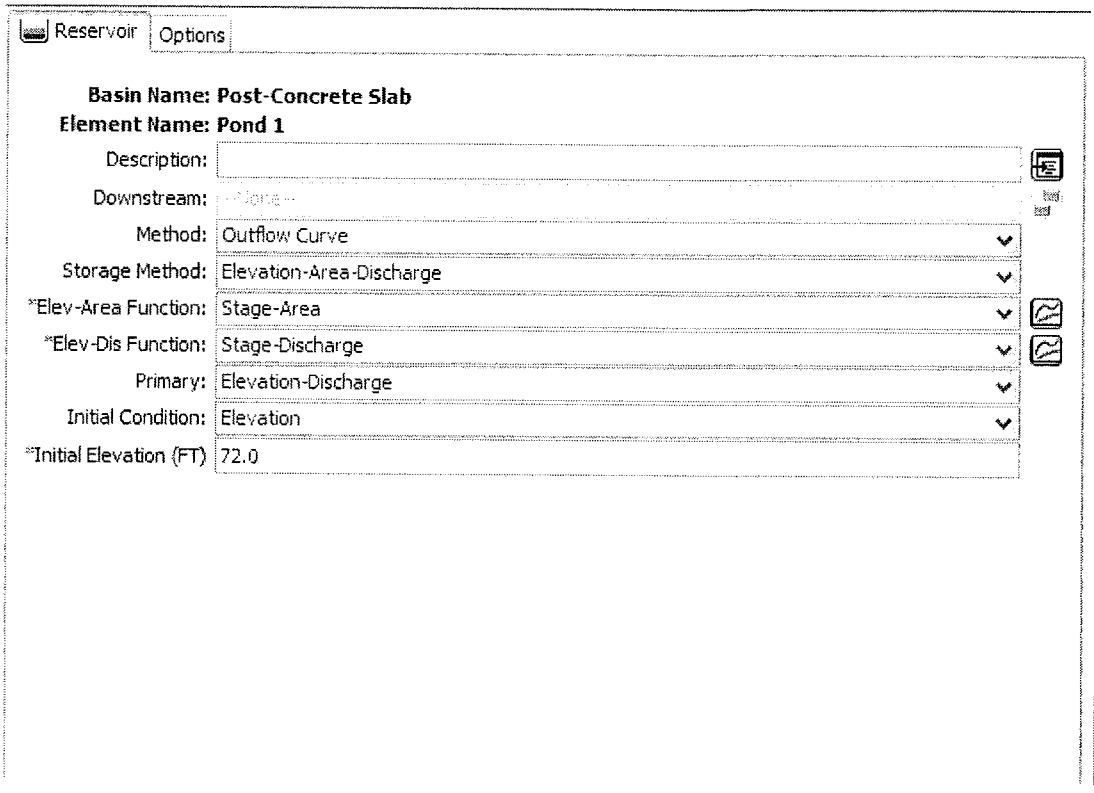
Basin Input




Subbasin
Loss
Transform
Options
Basin Name: Post-Concrete Slab
Element Name: Subbasin-1
Description:
Downstream: Pond 1
*Area (MI2) 0.06556
Canopy Method: --None--
Surface Method: --None--
Loss Method: SCS Curve Number
Transform Method: SCS Unit Hydrograph
Baseflow Method: --None--


Subbasin
Loss
Transform
Options
Basin Name: Post-Concrete Slab
Element Name: Subbasin-1
Initial Abstraction (IN)
0.237
*Curve Number:
89.4
*Impervious (%)
67.6


Subbasin
Loss
Transform
Options
Basin Name: Post-Concrete Slab
Element Name: Subbasin-1
Graph Type:
Standard
*Lag Time (MIN)
74


Reservoir
Options
Basin Name: Post-Concrete Slab
Element Name: Pond 1
Description:
Downstream:
--None--
Method:
Outflow Curve
Storage Method:
Elevation-Area-Discharge
*Elev-Area Function:
Stage-Area
*Elev-Dis Function:
Stage-Discharge
Primary:
Elevation-Discharge
Initial Condition:
Elevation
*Initial Elevation (FT)
72.0

Paired Data | Table | Graph

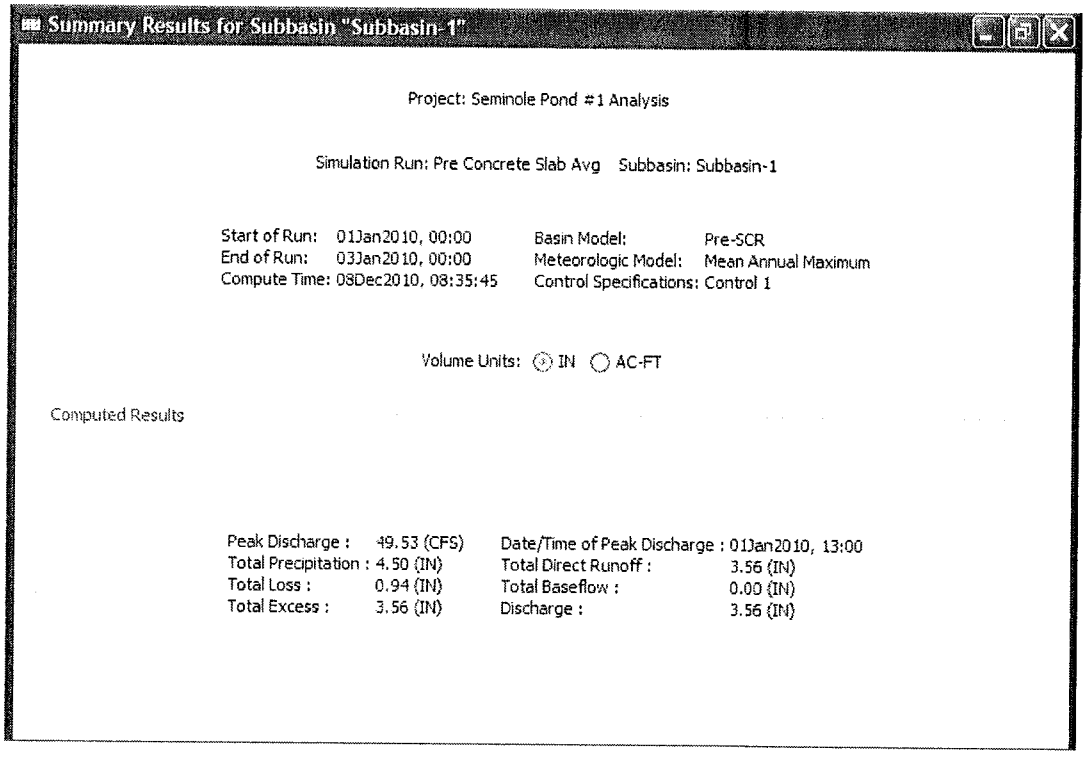
Elevation (FT)	Area (AC)
67.0000	1.69940
67.5000	1.74280
68.0000	1.78610
68.5000	1.83030
69.0000	1.87450
69.5000	1.92050
70.0000	1.96640
70.5000	2.01120
71.0000	2.05590
71.5000	2.16340
72.0000	2.27090
73.0000	2.46340
74.0000	2.75360
74.2500	2.78630
74.5000	2.88440
75.0000	3.01520
75.5000	3.15780
75.5500	3.17206
75.6050	3.18776
76.0000	3.30040

Paired Data | Table | Graph

Elevation (FT)	Discharge (CFS)
72.000	0.00
73.000	1.08
74.000	1.68
74.250	1.80
74.500	10.41
75.000	46.27
75.500	97.31
75.550	103.09
75.610	110.21
76.000	174.95

OUTPUT

Summary Table for Mean Annual Maximum: Pre-SCR Condition



Summary Results for Subbasin "Subbasin-1"

Project: Seminole Pond #1 Analysis

Simulation Run: Pre Concrete Slab Avg Subbasin: Subbasin-1

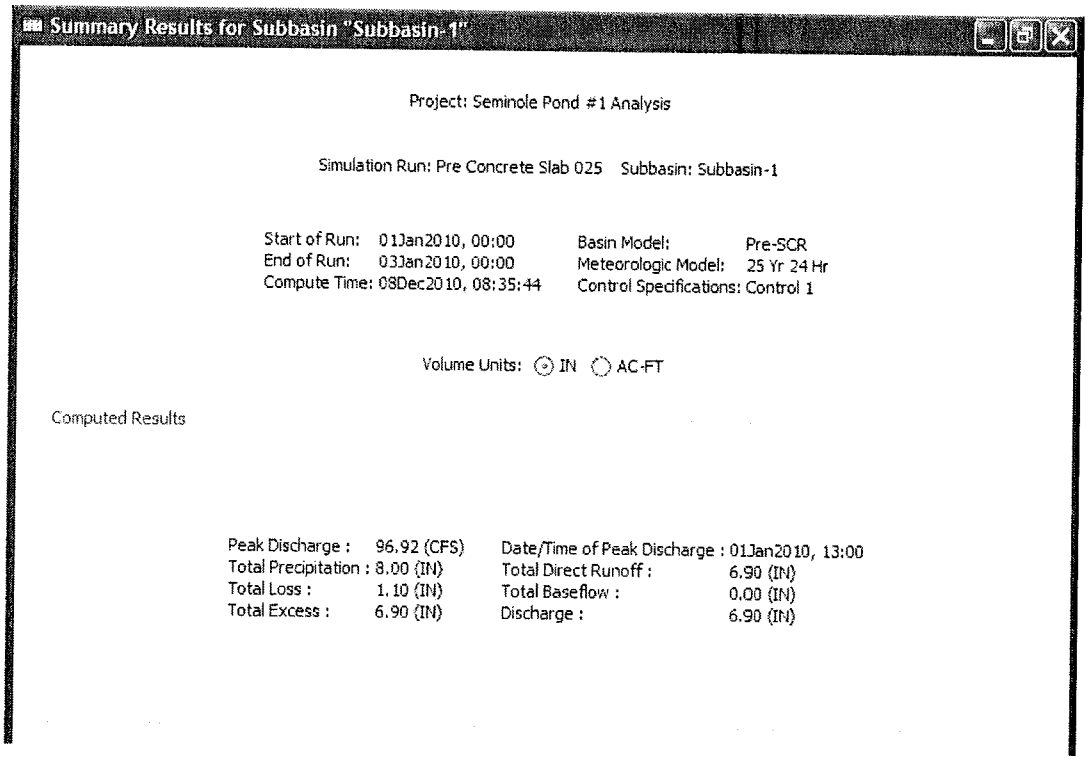
Start of Run:	01Jan2010, 00:00	Basin Model:	Pre-SCR
End of Run:	03Jan2010, 00:00	Meteorologic Model:	Mean Annual Maximum
Compute Time:	08Dec2010, 08:35:45	Control Specifications:	Control 1

Volume Units: (•) IN ( ) AC-FT

Computed Results

Peak Discharge :	49.53 (CFS)	Date/Time of Peak Discharge :	01Jan2010, 13:00
Total Precipitation :	4.50 (IN)	Total Direct Runoff :	3.56 (IN)
Total Loss :	0.94 (IN)	Total Baseflow :	0.00 (IN)
Total Excess :	3.56 (IN)	Discharge :	3.56 (IN)

Summary Table for 25-Yr, 24-Hr: Pre-SCR Condition



Summary Results for Subbasin "Subbasin-1"

Project: Seminole Pond #1 Analysis

Simulation Run: Pre Concrete Slab 025 Subbasin: Subbasin-1

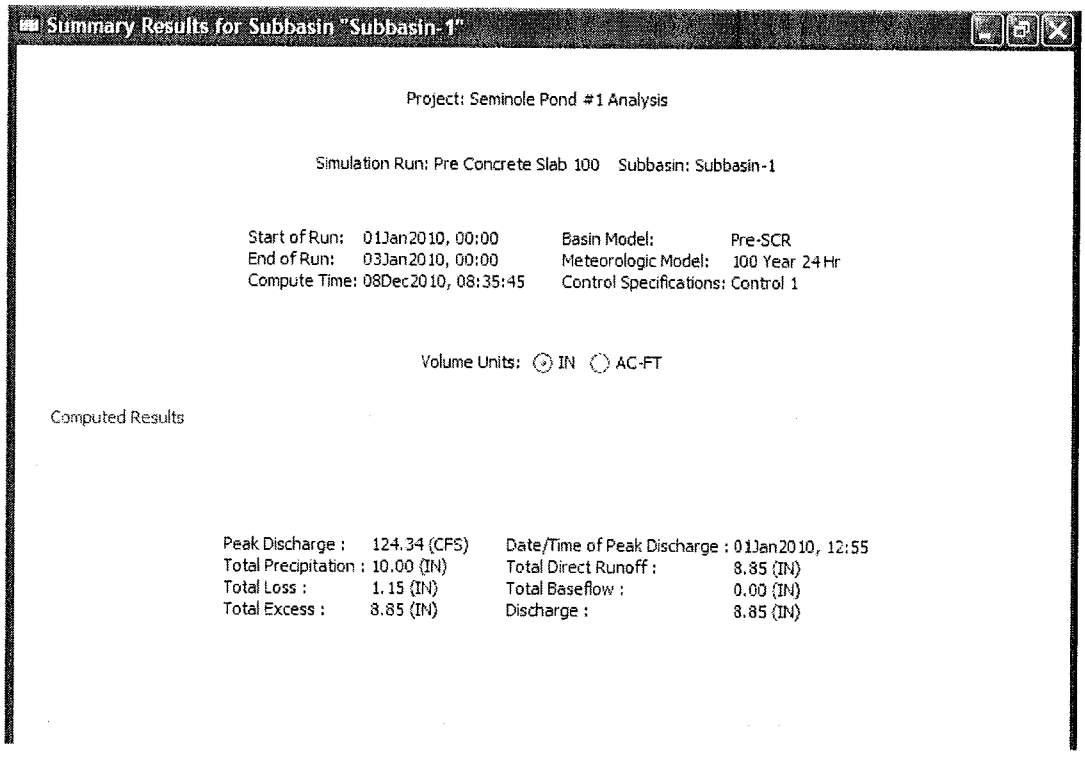
Start of Run:	01Jan2010, 00:00	Basin Model:	Pre-SCR
End of Run:	03Jan2010, 00:00	Meteorologic Model:	25 Yr 24 Hr
Compute Time:	08Dec2010, 08:35:44	Control Specifications:	Control 1

Volume Units: (•) IN ( ) AC-FT

Computed Results

Peak Discharge :	96.92 (CFS)	Date/Time of Peak Discharge :	01Jan2010, 13:00
Total Precipitation :	8.00 (IN)	Total Direct Runoff :	6.90 (IN)
Total Loss :	1.10 (IN)	Total Baseflow :	0.00 (IN)
Total Excess :	6.90 (IN)	Discharge :	6.90 (IN)

Summary Table for 100-Yr, 24-Hr: Pre-SCR Condition



Summary Results for Subbasin "Subbasin-1"

Project: Seminole Pond #1 Analysis

Simulation Run: Pre Concrete Slab 100 Subbasin: Subbasin-1

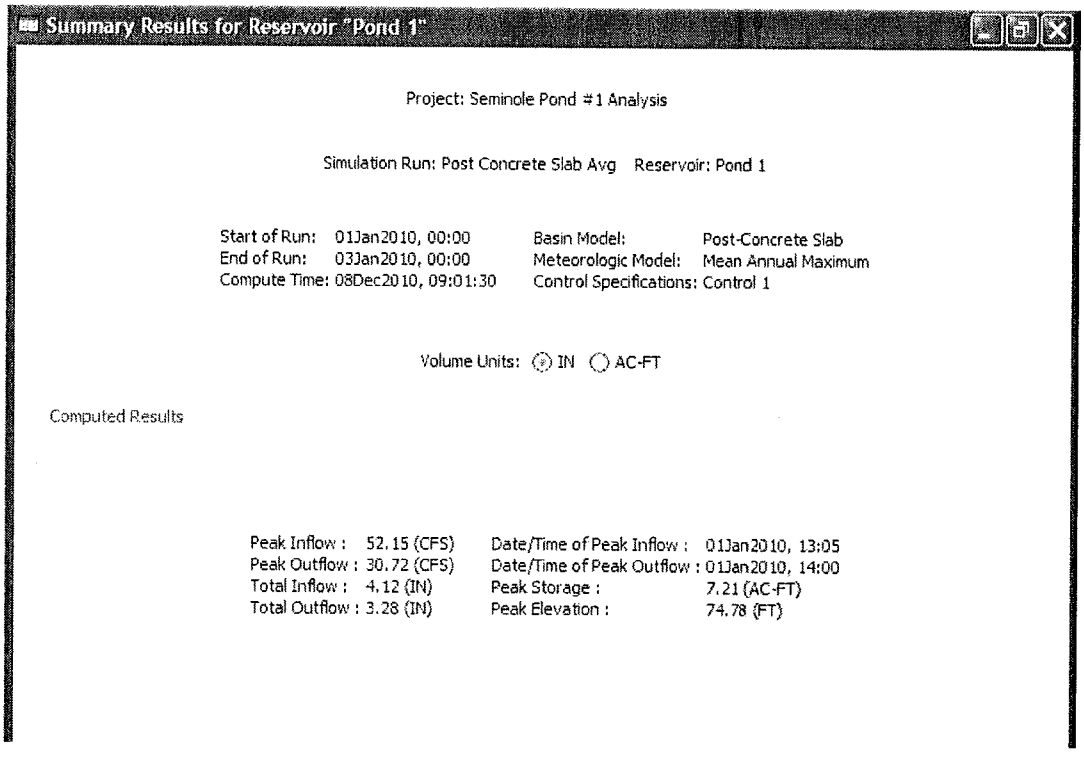
Start of Run:	01Jan2010, 00:00	Basin Model:	Pre-SCR
End of Run:	03Jan2010, 00:00	Meteorologic Model:	100 Year 24 Hr
Compute Time:	08Dec2010, 08:35:45	Control Specifications:	Control 1

Volume Units: (•) IN ( ) AC-FT

Computed Results

Peak Discharge :	124.34 (CFS)	Date/Time of Peak Discharge :	01Jan2010, 12:55
Total Precipitation :	10.00 (IN)	Total Direct Runoff :	8.85 (IN)
Total Loss :	1.15 (IN)	Total Baseflow :	0.00 (IN)
Total Excess :	8.85 (IN)	Discharge :	8.85 (IN)

Summary Table for Mean Annual Maximum: Post-Concrete Slab Condition



Summary Results for Reservoir "Pond 1"

Project: Seminole Pond #1 Analysis

Simulation Run: Post Concrete Slab Avg Reservoir: Pond 1

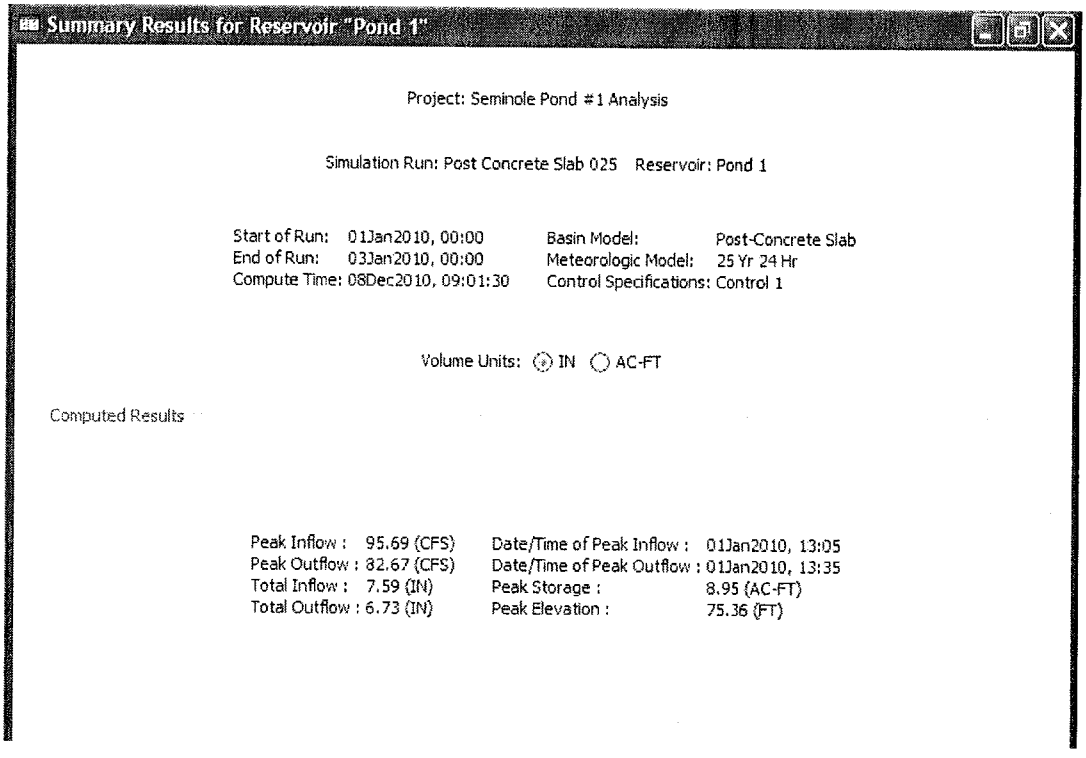
Start of Run:	01Jan2010, 00:00	Basin Model:	Post-Concrete Slab
End of Run:	03Jan2010, 00:00	Meteorologic Model:	Mean Annual Maximum
Compute Time:	08Dec2010, 09:01:30	Control Specifications:	Control 1

Volume Units: (•) IN ( ) AC-FT

Computed Results

Peak Inflow :	52.15 (CFS)	Date/Time of Peak Inflow :	01Jan2010, 13:05
Peak Outflow :	30.72 (CFS)	Date/Time of Peak Outflow :	01Jan2010, 14:00
Total Inflow :	4.12 (IN)	Peak Storage :	7.21 (AC-FT)
Total Outflow :	3.28 (IN)	Peak Elevation :	74.78 (FT)

Summary Table for 25-Yr, 24-Hr: Post-Concrete Slab Condition



Summary Results for Reservoir "Pond 1"

Project: Seminole Pond #1 Analysis

Simulation Run: Post Concrete Slab 025 Reservoir: Pond 1

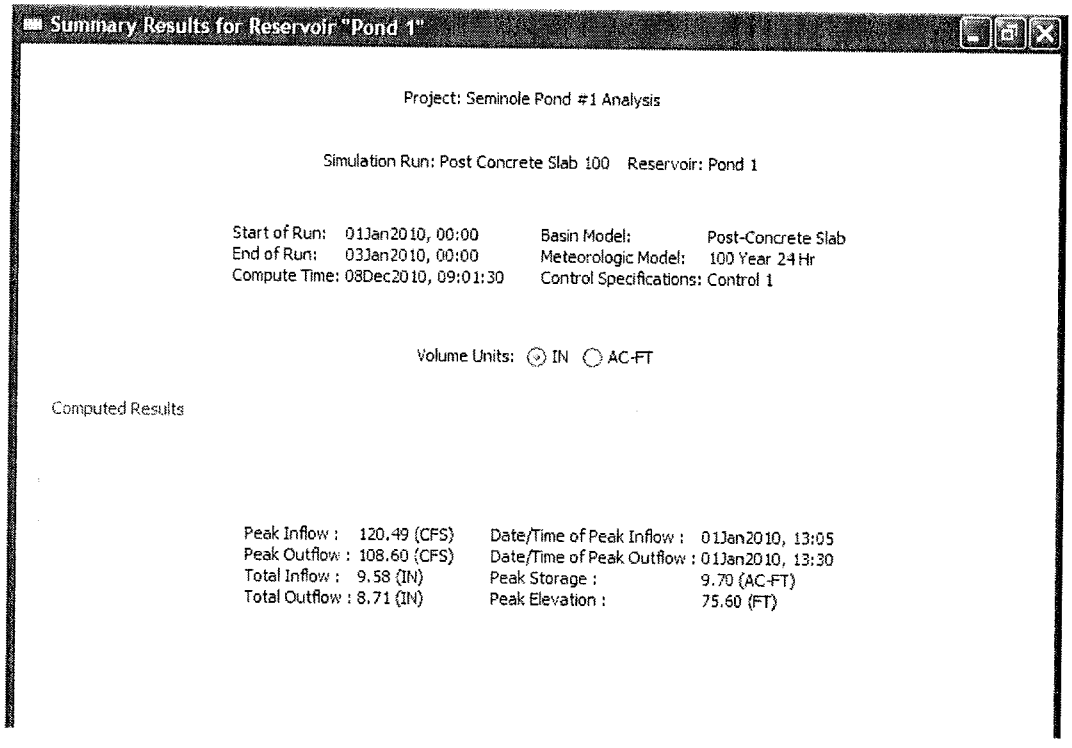
Start of Run:	01Jan2010, 00:00	Basin Model:	Post-Concrete Slab
End of Run:	03Jan2010, 00:00	Meteorologic Model:	25 Yr 24 Hr
Compute Time:	08Dec2010, 09:01:30	Control Specifications:	Control 1

Volume Units: (•) IN ( ) AC-FT

Computed Results

Peak Inflow :	95.69 (CFS)	Date/Time of Peak Inflow :	01Jan2010, 13:05
Peak Outflow :	82.67 (CFS)	Date/Time of Peak Outflow :	01Jan2010, 13:35
Total Inflow :	7.59 (IN)	Peak Storage :	8.95 (AC-FT)
Total Outflow :	6.73 (IN)	Peak Elevation :	75.36 (FT)

Summary Table for 100-Yr, 24-Hr: Post-Concrete Slab Condition



Summary Results for Reservoir "Pond 1"

Project: Seminole Pond #1 Analysis

Simulation Run: Post Concrete Slab 100 Reservoir: Pond 1

Start of Run:	01Jan2010, 00:00	Basin Model:	Post-Concrete Slab
End of Run:	03Jan2010, 00:00	Meteorologic Model:	100 Year 24 Hr
Compute Time:	08Dec2010, 09:01:30	Control Specifications:	Control 1

Volume Units: (•) IN ( ) AC-FT

Computed Results

Peak Inflow :	120.49 (CFS)	Date/Time of Peak Inflow :	01Jan2010, 13:05
Peak Outflow :	108.60 (CFS)	Date/Time of Peak Outflow :	01Jan2010, 13:30
Total Inflow :	9.58 (IN)	Peak Storage :	9.70 (AC-FT)
Total Outflow :	8.71 (IN)	Peak Elevation :	75.60 (FT)