KELLY, COLLINS & GENTRY, INC.
ENGINEERING / PLANNING

TRANSMITTAL

TO: Ms. Ruth E. Grady, E.I. St. Johns River Water Management District Department of Water Resources 975 Keller Road Altamonte Springs, FL 32714-1618	**DATE:** May 3, 2007 **KCG JOB#:** 432.020 **RE:** **7-Eleven Hancock Rd. And SR 50 Application #42-069-67971-2 Associated Permit Number #42-069-67971-1**

Delivered by: [X] Fed Ex [ ] US-Mail [ ] Courier [ ] Hand Delivered

WE ARE SENDING YOU the following items:
[X] Attached [ ] Under Separate Cover via
[ ] Shop Drawings [ ] Prints [X] Plans [ ] Samples
[ ] Copy of Letter [ ] Change Order [ ] Specifications [ ]_____

COPIES	DATE	NO.	DESCRIPTION
3	05/03/07		Response Letter
3	05/03/07		Application Form Section A
3	09/19/07		Application Fee (attached with Section A; check #5966 $50.00)
3	05/03/07		Application Form Section C
3	05/03/07		Application Form Section E
3	05/03/07		Drainage Calculations
3	04/24/07		Plan Sheet C-4, C-4B and C-5
3	01/31/07		Retaining Wall Construction Plans

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THESE ARE TRANSMITTED As Checked Below:
[X] For approval [ ] Approved as submitted [X] Resubmit __3__ copies for approval
[ ] For your use [ ] Approved as noted [ ] Submit _____ copies for distribution
[X] As requested [ ] Returned for corrections [ ] Return _____ corrected prints
[ ] For review and comment

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REMARKS: Should you have any questions, please do not hesitate to contact us.

CC: Jim Bartoe
Emily Brown
432/3.2

SIGNED:
NAME: Antje A. Dardin
TITLE: Project Engineer

N \COMMON\1 1projec\Trycon\SouthHancock\Permits\SJRWMD\Pond Modification\SJRWMD_05-03-07 TRA wpd

KCG KELLY, COLLINS & GENTRY, INC.

ENGINEERING / PLANNING

May 3, 2007

Ms. Ruth E. Grady
St. Johns River Water Management District
Department of Water Resources
975 Keller Road
Altamonte Springs, FL 32714-1618

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Re: 7-Eleven at SR 50 and Hancock Road;
Application Number 42-069-67971-2
Associated Permit Number 42-069-67971-1

Dear Ms. Grady:

In response to your comments requesting additional information on the 7-Eleven at SR 50 and Hancock Road, we are pleased to offer the following responses to your comments:

1. Please submit a new application form (Section A) and include the information listed in Sections C and E (3 copies each) and any other information necessary to demonstrate conformance with applicable District criteria.
Please find attached revised application form Section A, C and E.

2. The application fee for a Standard Stormwater ERP is $350.00 for project areas greater than one acre and $200.00 for project areas less than or equal to one acre. Please note that the $150.00 fee submitted with the August 14, 2006, Letter of Modification request has been applied to the application fee for the standard permit. Accordingly, please clarify the project acreage.

   a. If the proposed project is greater than one acre, please submit a check for the $150.00 balance due to the St. Johns River Water Management District.
   N/A

   b. If the proposed project is less than or equal to one acre, please submit a check for the $50.00 balance due to the St. Johns River Water Management District.
   The project area of the pond modification is 0.47 acres (modified pond area). Please find attached a check ($50.00) for the remaining application fee.

3. Please clarify the owner(s) of the existing retention pond. Is it the Solo Development Corporation (as indicated on the District permit) or the Maury L. Carter Management Corporation (as indicated in the authorization letter)? If the

1700 NORTH ORANGE AVENUE, SUITE 400, ORLANDO, FLORIDA 32804
407/ 898-7858, FAX: 407/ 898-1488

event that the pond is owned by the Solo Development Corporation, provide documentation from a duly authorized representative of that corporation allowing the proposed modifications to their stormwater management system.
The owner of the existing retention pond is South Hancock Ltd., with the general partner being Maury L. Carter Management Corporation. Please see attached Letter of Authorization.

4. Please provide a revised *Sheet C-4* of the construction plans (3 copies) drawn with a clearer print quality and including the following information:
Please see attached sheet C-4B which indicates the limits of the proposed modification.

   - Clearly delineate the limits of the proposed modifications.
     The pond modification area is 0.47 acres.

   - Clearly show all pertinent information and invert elevations relating to the proposed modifications, including the area encompassing the pond outfall weir/structure.
     Please see attached sheet C-4B.

   - Ensure consistency with the parameters utilized in the routing calculations.
     Please see attached drainage calculations.

   Be advised that this information is necessary to validate the parameters utilized in the calculations.

5. Please address and/or provide the following with respect to the water quality and quantity analysis submitted:

   a. Please provide a copy of the site-specific soils information to support the parameters utilized in the recovery analysis.
   Please see attached Geotechnical Investigation by "Andreyev Engineering, Inc."

   b. The pond bottom elevation (200.00 feet) utilized in the water quality and quantity analysis does not appear to be consistent with that (201.00 feet) indicated on the construction plans. Please clarify and revise where appropriate, for accuracy with the post development condition.
   The modified pond bottom will be at elevation 200. Please see attached sheet C-4B.

   c. The plans submitted indicate that retaining walls will encompass portions of the modified pond. It also appears that the recovery analysis did not incorporate an average horizontal hydraulic conductivity value due to the presence of the stormwater pond retaining walls. Please clarify, and revise the recovery analysis to account for the presence of the retaining walls.
   Please see attached recovery analysis.

You may wish to reference the *PONDS 3.2 Technical Memo, 1st issue date: June 20, 2001, 2nd issue dated: January 25, 2002, subject: How to model the horizontal hydraulic conductivity value to model the effect of a partially penetrating or completely penetrating retaining wall/clay core around a retention pond* for further clarification on this issue.

Submit any revised plans and calculations.

6. The plans submitted indicate that retaining walls (*structural design by others*) will encompass portions of the modified pond. Accordingly:

   a. Please provide all assumptions and calculations used in the design of the proposed retaining walls. Include a stability analysis.

   b. Provide the construction plans for the retaining walls.

   Be advised that this information is needed to demonstrate that the proposed stormwater pond retaining walls are adequately stable and do not have the potential for failure.
   Please see attached retaining wall Construction Plans by Patel Consultants, Inc..

7. The erosion and sediment control best management practices to be utilized during construction of the proposed modifications appears to include the use of hay bales. Please note that the District has found that staked hay bales are an ineffective measure for erosion, sediment, and turbidity control. Accordingly, please remove from the plans all details and reference notes indicating that the staked hay bale measures will be utilized for erosion and sediment control.
   Please see attached revised construction plans.

Should you have any questions, please do not hesitate to call us.

Sincerely,
KELLY, COLLINS & GENTRY, INC.

Scott M. Gentry, P.E.
Principal

cc: Jim Bartoe
Emily Brown
432/3.2

67971-2

Fee Receipt

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
P. O. Box 1429
Palatka, FL 32178-1429

Date: May. 04, 2007

RECEIPT #: 39198
By: Cecilia Tyne

RECEIVED FROM: Gemco Inc

THE SUM OF: $50.00

FOR: Application Fee

FEE DETAIL INFORMATION

F/A Receipt	A-031893	$50.00

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(39198)
DATE 5/04/2007
A 031893

RECEIVED OF Gemco Inc.

ADDRESS

DOLLARS $ 50.00

ACCT NO 5966

☐ CASH ☑ CHECK

☐ MONEY ORDER ☐ DRAFT

FOR Rec'd Appl. Fee

803

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
P.O. Box 1429
Palatka, Florida 32178-1429

by Cecilia Tyne
Thank You

Daryl M. Carter, President
Maury L. Carter Management Corporation
3333 S. Orange Avenue, Suite 200
Orlando, FL 32806-8500

LETTER OF AUTHORIZATION

This letter authorizes Scott Gentry, P.E. of Kelly, Collins, & Gentry, Inc. to act as my agent with City of Clermont, Lake County, St. Johns River Water Management District, and Florida Department of Environmental Protection in an effort to receive all permits and approvals necessary for the construction and development of the retention pond located south of S.R. 50 and east of Hancock Road.

SOUTH HANCOCK, LTD
a Florida limited partnership

By: MAURY L. CARTER MANAGEMENT CORPORATION, a Florida corporation, its General Partner

Daryl M. Carter, President

Date: February 14 2007

STATE OF FLORIDA
COUNTY OF ORANGE

The foregoing instrument was acknowledged before me this 14th day of February 2007 by DARYL M. CARTER, PRESIDENT OF MAURY L. CARTER MANAGEMENT CORPORATION who is personally known to me.

WITNESS my hand and official seal in the County and State last aforesaid this 14th day of February 2007.

Joan M. Fisher, Notary Public

NOTARY PUBLIC STATE OF FLORIDA
JOAN M. FISHER
MY COMMISSION # DD 439531
EXPIRES: July 16, 2009
Bonded Thru Budget Notary Services

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FOR AGENCY USE ONLY

ACOE Application #	SJR Application #
Date Application Received	Date Application Received
Proposed Project Lat: ° ' "	Fee Received $
Proposed Project Long: ° ' "	Fee Receipt #
Date Received	Project Use Codes
Assigned Reviewers	Reviewer #'s

SECTION A

Are any of the activities described in this application proposed to occur in, on, or over wetlands or other surface waters? ___ **yes** ☑ **no**

A. Type of Environmental Resource Permit Requested (check at least one)

____ Noticed General - include information requested in Section B.
____ Standard General (Single Family Dwelling) - include information requested in Sections C and D.
☑ Standard General (all other projects) - include information requested in Sections C and E.
____ Individual (Single Family Dwelling) - include information requested in Sections C and D.
____ Individual (all other projects) - include information requested in Sections C and E.
____ Conceptual - include information requested in Sections C and E.
____ Mitigation Bank Permit (construction) - include information requested in Sections C and F. (If the proposed mitigation bank involves the construction of a surface water management system requiring another permit defined above, check the appropriate box and submit the information requested by the applicable section.)
____ Mitigation Bank (conceptual) - include information requested in Sections C and F.
____ Standard General Stormwater - include information requested in Sections C and H
____ Individual Stormwater - include information requested in Sections C and H

B. Type of activity for which you are applying (check at least one)

____ Construction and operation of a new system including dredging or filling in, on or over wetlands and other surface waters.
____ Alteration and operation of an existing system which was not previously permitted by a WMD or DEP.
☑ Modification of a system previously permitted by a WMD or DEP. Provide previous permit numbers:
42-069-67971-1

☑ Alteration and operation of a system
___ Abandonment of a system
___ Removal of a system
___ Extension of permit duration
___ Construction and operation of additional phases of a system

C. Are you requesting authorization to use State Owned Submerged Lands? ___ yes ☑ no
(If yes, include the information requested in Section G.)

D. For activities in, on or over wetlands or other surface waters, check type of federal dredge and fill permit requested:

____ Individual ____ Programmatic General
____ General ____ Nationwide

E. Are you claiming to qualify for an exemption? ___ yes ☑ no
If yes provide rule number if known_____.

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OWNER(S) OF LAND	ENTITY TO RECEIVE PERMIT (IF OTHER THAN OWNER)
NAME Daryl M. Carter	NAME
ADDRESS 3333 S. Orange Ave., Suite 200	ADDRESS
CITY, STATE, ZIP Orlando, FL 32806-8500	CITY, STATE, ZIP
COMPANY AND TITLE South Hancock, LTD, President	COMPANY AND TITLE
TELEPHONE (407) 422-3144 FAX (407) 422-3155	TELEPHONE ( ) FAX ( )
AGENT AUTHORIZED TO SECURE PERMIT (IF AN AGENT IS USED)	**CONSULTANT (IF DIFFERENT FROM AGENT)**
NAME Scott M. Gentry, P.E.	NAME
COMPANY AND TITLE Kelly, Collins & Gentry, Inc.	COMPANY AND TITLE
ADDRESS 1700 N. Orange Ave., Suite 400	ADDRESS
CITY, STATE, ZIP Orlando, FL 32804	CITY, STATE, ZIP
TELEPHONE (407) 898-7858 FAX (407) 898-1488	TELEPHONE ( ) FAX ( )

Name of project, including phase if applicable 7-Eleven at SR 50 and Hancock Road
Is this application for part of a multi-phase project? ___ yes [☑] no
Total applicant-owned area contiguous to the project 5.63 ac
Total project area for which a permit is sought 5.63 ac **(including 1.54 of Hancock Rd.)**
Impervious area for which a permit is sought 3.96 ac **(including impervious of road improvement)**
What is the total area (metric equivalent for federally funded projects) of work in, on, or over wetlands or other surface waters? **N/A**
_____ acres _____ square feet _____ hectares _____ square meters
If a docking facility, the number of proposed new slips _____.
Project location (use additional sheets, if needed)
County(ies) Lake
Section(s) 29S Township(s) 22S Range(s) 26E
Section(s) _____ Township(s) _____ Range(s) _____
Land Grant name, if applicable _____
Tax Parcel Identification Number _____
Street address, road, or other location SE corner of SR 50 and Hancock Road
City, Zip Code if applicable Clermont

Describe, in general terms, the proposed project, system or activity.

Modification of an existing retention pond area (area 0.47 acres).

If there have been any pre-application meetings, including at the project site, with regulatory staff, please list the date(s), location(s), and names of key staff and project representatives.

Please identify by number any MSSW/Wetland Resource/ERP/ACOE permits pending, issued or denied for projects at the location and any related enforcement actions.

Agency	Date	No.\Type of Application	Action Taken(Pending/Issued/Denied)
SJRWMD	03/20/01	42-069-67971-1	Issued

Note: The following information is required for projects proposed to occur in, on or over wetlands or other surface waters that need a federal dredge and fill permit and/or authorization to use state owned submerged lands . Please provide the names ,addresses and zip codes of property owners whose property directly adjoins the project (excluding applicant). Please attach a plan view showing the owner's names and adjoining property lines. Attach additional sheets if necessary.

1. 2.

3. 4.

By signing and submitting this application form, I am applying, or I am applying on behalf of the applicant, for the permit and any proprietary authorizations identified above, according to the supporting data and other incidental information filed with this application. I am familiar with the information contained in this application, and represent that such information is true complete and accurate. I understand this is an application and not a permit, and work prior to approval is a violation. I understand that this application and any permit issued or proprietary authorization issued pursuant thereto, does not relieve me of any obligation for obtaining any other required federal, state, water management district or local permit prior to commencement of construction. I agree, or I agree on behalf of my corporation, to operate and maintain the permitted system unless the permitting agency authorizes transfer of the permit to a responsible operation entity. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S., and 18 U.S.C. Section 1001.

Scott M. Gentry, P.E.

Typed/Printed Name of Applicant (If no Agent is used) or Agent (If one is so authorized below)

Signature of Applicant/Agent Date

(Corporate Title if applicable)

An Agent May Sign Above <u>Only</u> If The Applicant Completes The Following:

I hereby designate and authorize the agent listed above to act on my behalf, or on behalf of my corporation, as the agent in the processing of this application for the permit and/or proprietary authorization indicated above; and to furnish, on request, supplemental information in support of the application. In addition, I designate and authorize the above-listed agent to bind me, or my corporation, to perform any requirement which may be necessary to procure the permit or authorization indicated above. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S., and 18 U.S.C. Section 1001.

Typed/Printed Name of Applicant Signature of Applicant Date

(Corporate Title if applicable)

<u>Please note: The applicant's original signature (not a copy) is required above.</u>

Person Authorizing Access To The Property Must Complete The Following:

I either own the property described in this application or I have legal authority to allow access to the property, and I consent, after receiving prior notification, to any site visit on the property by agents or personnel from the Department of Environmental Protection, the Water Management District and the U.S. Army Corps of Engineers necessary for the review and inspection of the proposed project specified in this application. I authorize these agents or personnel to enter the property as many times as may be necessary to make such review and inspection. Further, I agree to provide entry to the project site for such agents or personnel to monitor permitted work if a permit is granted.

Scott M. Gentry, P.E.

Typed/Printed Name Signature Date

Principal

(Corporate Title if applicable)

67971-2

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MAY 04 2007

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ALTAMONTE SVC. CTR.

7-11 at S. R. 50 and Hancock Road, Clermont, Florida

67971-2

Application No. 42-069-67971-2

Section E
Information For Standard General, Individual, Conceptual Environmental Resource Permits For Projects Not Related To A Single Family Dwelling Unit

I. Site Information

a. Provide a map(s) of the project area and vicinity delineating USDA/SCS soil types.
See exhibits in drainage calculations by KCG, Inc.

b. Provide recent aerials, legible for photo interpretation with a scale of 1" = 400 ft, or more detailed, with project boundaries delineated on the aerial.
See exhibits in drainage calculations by KCG, Inc.

c. Identify the seasonal high water or mean high tide elevation and normal pool or mean low tide elevation for each on site wetland or surface water, including receiving waters into which runoff will be discharged. Include dates, datum, and methods used to determine these elevations.
See "Geotechnical Investigation" by Andreyev Engineering, Inc.

d. Identify the wet season high water tables at the locations representative of the entire project site. Include dates, datum, and methods used to determine these elevations.
See "Geotechnical Investigation" by Andreyev Engineering, Inc.

II. Environmental Considerations

a. Provide results of any wildlife surveys that have been conducted on the site, and provide any comments pertaining to the project from the Florida Game and Fresh Water Fish Commission and the U.S. Fish and Wildlife Service.
N/A

b. Provide a description of how water quantity, quality, hydroperiod, and habitat will be maintained in on-site wetlands and other surface waters that will be preserved or will remain undisturbed.
N/A

c. Provide a narrative description of any proposed mitigation plans, including purpose, maintenance, monitoring, and construction sequence and techniques, and estimated costs.
N/A

d. Describe how boundaries of wetlands or other surface waters were determined. If there has ever been a jurisdictional declaratory statement, a formal wetland determination, a formal determination, a validated informal determination, or a revalidated jurisdictional determination, provide the identifying number.
N/A

e. Impact Summary Tables:

1. For all projects, complete Table 1, 2 and 3 as applicable.
N/A

2. For docking facilities or other structures constructed over wetlands or other surface waters, provide the information requested in Table 4.
N/A

3. For shoreline stabilization projects, provide the information requested in Table 5.

N/A

III. Plans

Provide clear, detailed plans for the system including specifications, plan (overhead) views, cross sections (with the locations of the cross sections shown on the corresponding plan view), and profile (longitudinal) views of the proposed project. The plans must be signed and sealed by an appropriate registered professional as required by law. Plans must include a scale and a north arrow. These plans should show the following:

a. Project area boundary and total land area, including distances and orientation from roads or other land mark.
See construction plans and survey.

b. Existing land use and land cover (acreage and percentages), and on-site natural communities, including wetlands and other surface waters, aquatic communities, and uplands. Use the Florida Land Use Cover & Classification System (FLUCCS) (Level 3) for projects proposed in the South Florida Water Management District, the St. Johns River Water Management District, and the Suwannee River Water Management District and use the National Wetlands Inventory (NWI) for projects proposed in the Southwest Florida Water Management District. Also identify each community with a unique identification number which must be consistent in all exhibits.
See survey.

c. The existing topography extending at least 100 feet off the project area, and including adjacent wetlands and other surface waters. All topography shall include the location and a description of known benchmarks, referenced to NGVD. For systems water ward of the mean high water (MHW) or seasonal high water lines, show water depths, referenced to mean low water (MLW) in tidal areas or seasonal low water in non-tidal areas, and list the range between MHW and MLW. For docking facilities, indicate the distance to, location of, and depths of the nearest navigational channel and access routes to the channel.
See survey.

d. If the project is in the known flood plain of a stream or other water course, identify the flood plain boundary and approximate flooding elevation. Identify the 100-year flood elevation and flood plain boundary of any lake, stream or other watercourse located on or adjacent to the site.
See construction plans and survey.

e. The boundaries of wetlands and other surface waters within the project area. Distinguish those wetlands and other surface waters that have been delineated by any binding jurisdictional determination.
See survey.

f. Proposed land use, land cover and natural communities (acreage and percentages), including wetlands and other surface waters, undisturbed uplands, aquatic communities, impervious surfaces, and water management areas. Use the same classification system and community identification number used in III (b) above.
See construction plans.

g. Proposed impacts to wetlands and other surface waters, and any proposed connections/outfalls to other surface waters or wetlands
N/A

h. Proposed buffer zones.
See construction plans.

i. Pre and post-development drainage patterns and basin boundaries showing the direction of flows, including any off-site runoff being routed through or around the system; and connections between wetlands and other surface waters.
See construction plans and drainage calculations by KCG, Inc.

j. Location of all water management areas with details of size, side slopes, and designed water depths.
See construction plans.

k. Location and details of all water control structures, control elevations, any seasonal water level regulation schedules; and the location and description of benchmarks (minimum of one benchmark per structure).
See construction plans.

l. Location, dimensions and elevations of all proposed structures, including docks, seawalls, utility lines, roads, and buildings.
See construction plans.

m. Location, size, and design capacity of the internal water management facilities.
See construction plans and drainage calculations.

n. Rights-of-way and easements for the system, including all on-site and off-site areas to be reserved for water management purposes, and rights-of-way and easements for the existing drainage system, if any.
N/A

o. Receiving waters or surface water management systems into which runoff from the developed site will be discharged.
See construction plans.

p. Location and details of the erosion, sediment and turbidity control measures to be implemented during each phase of construction and all permanent control measures to be implemented in post-development conditions.
See construction plans.

q. Location, grading, design water levels, and planting details of all mitigation areas.
See construction plans.

r. Site grading details, including perimeter site grading
See construction plans.

s. Disposal site for any excavated material, including temporary and permanent disposal sites.
N/A

t. Dewatering plan details.
N/A

u. For marina facilities, locations of any sewage pumpout facilities, fueling facilities, boat repair and maintenance facilities, and fish cleaning stations.
N/A

v. Location and description of any nearby existing offsite features (such as wetland and other surface waters, stormwater management ponds, and building or other structures) which might be affected by or affect the proposed construction or development such as stormwater management ponds, buildings or other structures, wetlands or other surface waters.
N/A

w. For phased projects, provide a master development plan.
N/A

IV. Construction Schedule and Techniques

Provide a construction schedule, and a description of construction techniques, sequencing and equipment. This information should specifically include the following:

a. Method for installing any pilings or seawall slabs.
N/A

b. Schedule of implementation of a temporary or permanent erosion and turbidity control measures.
See construction plans.

c. For projects that involve dredging or excavation in wetlands or other surface waters, describe the method of excavation, and the type of material to be excavated.
N/A

d. For projects that involve fill in wetlands or other surface waters, describe the source and type of fill material to be used. For shoreline stabilization projects that involve the installation of riprap, state how these materials are to be placed, (i.e., individually or with heavy equipment), and whether the rocks will be underlain with filter cloth.
N/A

e. If dewatering is required, detail the dewatering proposal including the methods that are proposed to contain the discharge, methods of isolating dewatering areas, and indicate the period dewatering structures will be in place. *(Note a consumptive use or water use permit may be required)*
N/A

f. Methods for transporting equipment and materials to and from the work site. If barges are required for access, provide the low water depths and draft of the fully loaded barge.
Equipment and materials will be trucked to the site.

g. Demolition plan for any existing structures to be removed.
N/A

h. Identify the schedule and party responsible for completing monitoring, record drawings, and as-built certifications for the project when completed.
To be determined later.

V. Drainage Information

a. Provide pre-development and post-development drainage calculations, signed and sealed by an appropriate registered professional, as follows:

1. Runoff characteristics, including area, runoff curve number or runoff coefficient, and time of concentration for each drainage basin.
See drainage calculations.

2. Water table elevations (normal and seasonal high) including aerial extent and magnitude of any proposed water table draw down.
See "Geotechnical Investigation" by Andreyev Engineering, Inc.

3. Receiving water elevations (normal, wet season, design storm).
See "Geotechnical Investigation" by Andreyev Engineering, Inc.

4. Design storms used including rainfall depth, duration, frequency, and distribution.
See drainage calculations.

5. Runoff hydrograph(s) for each drainage basin, for all required design storm event(s).
See drainage calculations.

6. Stage-storage computations for any area such as a reservoir, closed basin, detention area, or channel, used in storage routing.
See drainage calculations.

7. Stage-discharge computations for any storage areas at a selected control point, such as control structure or natural restriction.
See drainage calculations.

8. Flood routings through on-site conveyance and storage areas.
N/A

9. Water surface profiles in the primary drainage system for each required design storm event(s).
N/A

10. Runoff peak rates and volumes discharged from the system for each required design storm event(s).
See drainage calculations.

11. Tail water history and justification (time and elevation).
See drainage calculations.

12. Pump specifications and operating curves for range of possible operating conditions (if used in system).
N/A

b. Provide the results of any percolation tests, where appropriate, and soil borings that are representative of the actual site conditions.
N/A

c. Provide the acreage, and percentages of the total project, of the following:

1. Impervious surfaces, excluding wetlands.
3.96 Acres

2. Pervious surfaces (green areas not including wetlands).
1.67 Acres

3. Lakes, canals, retention areas, other open water areas.
0.44 Acres

4. Wetlands.
N/A

d. Provide an engineering analysis of flood plain storage and conveyance (if applicable), including:
N/A

1. Hydraulic calculations for all proposed traversing works.
N/A

2. Backwater water surface profiles showing upstream impact of traversing works.
N/A

3. Location and volume of encroachment within regulated flood plain(s).
N/A

4. Plan for compensating flood plain storage, if necessary, and calculations required for determining minimum building and road flood elevations.
N/A

e. Provide an analysis of the water quality treatment system including:

1. A description of the proposed stormwater treatment methodology that addresses the type of

treatment, pollution abatement volumes, and recovery analysis.
See drainage calculations.

2. Construction plans and calculations that address stage-storage and design elevations, which demonstrate compliance with the appropriate water quality treatment criteria.
See drainage calculations.

f. Provide a description of the engineering methodology, assumptions and references for the parameters listed above, and a copy of all such computations, engineering plans, and specifications used to analyze the system. If a computer program is used for the analysis, provide the name of the program, a description of the program, input and output data, two diskette copies, if available, and justification for model selection.
See drainage calculations.

VI. Operation and Maintenance and Legal Documentation

a. Describe the overall maintenance and operation schedule for the proposed system.

b. Identify the entity that will be responsible for operating and maintaining the system in perpetuity if different than the permittee, a draft document enumerating the enforceable affirmative obligations on the entity to properly operate and maintain the system for its expected life, and documentation of the entity's financial responsibility for long term maintenance. If the proposed operation and maintenance entity is not a property owner's association, provide proof of the existence of an entity, or the future acceptance of the system by an entity which will operate and maintain the system. If a property owner's association is the proposed operation and maintenance entity, provide copies of the articles of incorporation for the association and copies of the declaration, restrictive covenants, deed restrictions, or other operational documents that assign responsibility for the operation and maintenance of the system. Provide information ensuring the continued adequate access to the system for maintenance purposes. Before transfer of the system to the operating entity will be approved, the permittee must document that the transferee will be bound by all terms and conditions of the permit.

c. Provide copies of all proposed conservation easements, storm water management system easements, property owner's association documents, and plats for the property containing the proposed system.

d. Provide indication of how water and waste water service will be supplied. Letters of commitment from off-site supplies must be included.

e. Provide a copy of the boundary survey and/or legal description and acreage of the total land area of contiguous property owned/controlled the applicant.
See survey.

VII. Water-Use

a. Will the surface water system be used for water supply, including landscape irrigation, or recreation, etc.?
N/A

b. If a Consumptive Use or Water Use permit has been issued for the project, state the permit number.
N/A

c. If no Consumptive Use or Water Use permit has been issued for the project, indicate if such a permit will be required and when the application for a permit will be submitted.
N/A

d. Indicate how any existing wells located within the project site will be utilized or abandoned.

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SECTION C

Environmental Resource Permit
Notice of Receipt Of Application

This information is required in addition to that required in other sections of the application. Please submit five copies of this notice of receipt of application and all attachments. Please submit all information on 8 1/2 x 11" paper.

Project Name: 7-11 at SR 50 and Hancock Road County: Lake County
Owner: South Hancock, LTD
Applicant: South Hancock, LTD
Applicant's Address: 3333 S. Orange Ave., Suite 200, Orlando, FL 32806-8500

1. Indicate the project boundaries on a USGS quadrangle map reduced or enlarged as necessary to legibly show the entire project. If not apparent from the quad map, attach a location map showing a north arrow and a graphic scale; Section(s), Township(s), and Range(s); and sufficient detail to allow a person unfamiliar with the site to find it. **Attached.**

2. Provide the names of all wetlands, or other surface waters that would be dredged, filled, impounded, diverted, drained, or would receive discharge (either directly or indirectly), or would otherwise be impacted by the proposed activity, and specify if they are in an Outstanding Florida Water or Aquatic Preserve:
N/A

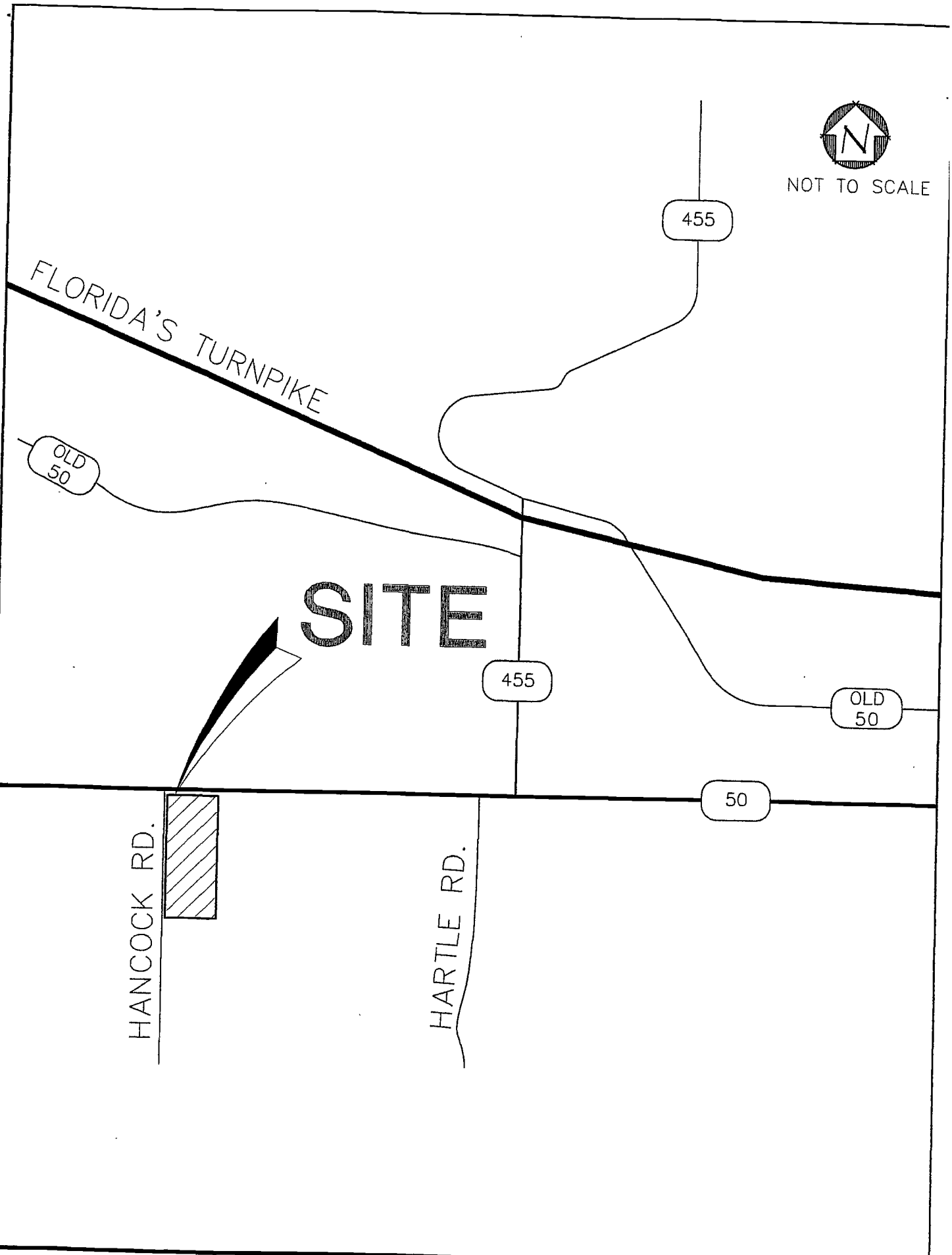
3. Attach a depiction (plan and section views), which clearly shows the works or other facilities proposed to be constructed. Use a scale sufficient to show the location and type of works. Use multiple sheets, if necessary. **Attached.**

4. Briefly describe the proposed project (such as "construct a deck with boatshelter", "replace two existing culverts", "construct surface water management system to serve 150 acre residential development"):
Modification of an existing retention pond area.

5. Specify the acreage of wetlands or other surface waters, if any, that are proposed to be disturbed, filled, excavated, or otherwise impacted by the proposed activity:
N/A

6. Provide a brief statement describing any proposed mitigation for impacts to wetlands and other surface waters (attach additional sheets if necessary):
N/A

FOR AGENCY USE ONLY
Application Name:
Application Number:
Office where the application can be inspected:
Date to be posted: Date to be removed:

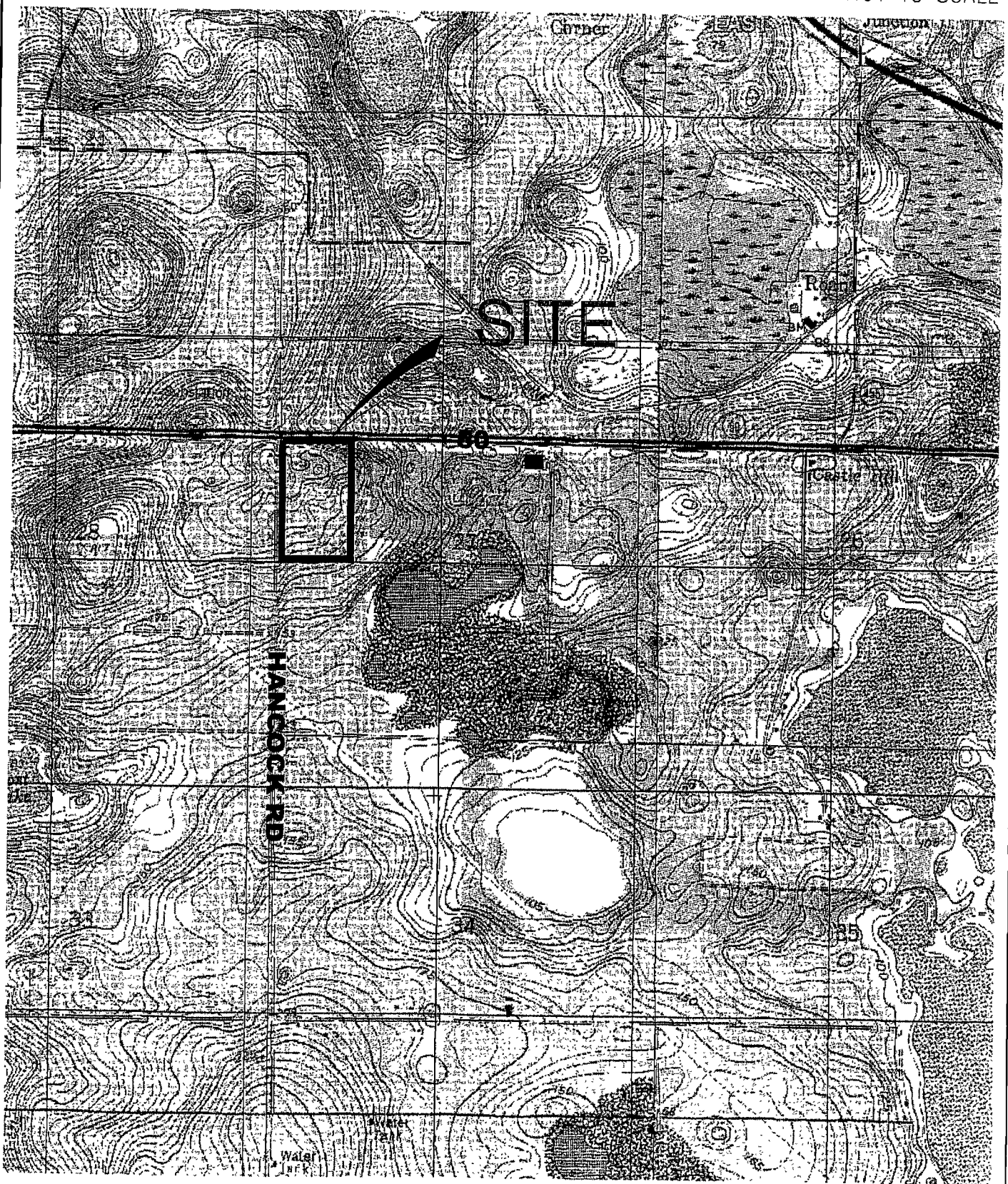


KELLY, COLLINS & GENTRY, INC.
ENGINEERING / PLANNING

7-11 HANCOCK
ORLANDO, FLORIDA

LOCATION MAP

NOT TO SCALE



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ENGINEERING / PLANNING

7-11 HANCOCK ORLANDO, FLORIDA

USGS MAP

STATE ROAD 50

HANCOCK ROAD

EXISTING TYPE "C" INLET
F.D.O.T. INDEX # 232
W/ TRAFFIC
BEARING GRATE
TOP ELEV. 209.37
S INV 204.52

EXIST. 45 LF-15" RCP

REMOVE
EXISTING M.E.S.
F.D.O.T.
INDEX # 272
INV 204.00
REMOVE 15'± OF PIPE

EXIST. 37 LF
18" RCP

EXISTING INLET
TOP 211.20
S INV 204.56
NW INV 206.00

LIMIT OF CONSTRUCTION

EXIST. MES
INV 204.00

PROVIDE 30'
OF GUARDRAIL

TW 208.00
BW 208.00

352 LF ~
18" RCP

WM

206.50

207.00

10' LANDSCAPE
BUFFER

TW 208.00
BW 200.00

250'

5' FLAT

POND MODIFICATION AREA
0.47 ACRES

PROVIDE 70'± GUARDRAIL
@ TOP OF WALL, SEE DETAIL

TW 212.34
BW 200.00

212.20

211.24

212.00

210.90

210.20

210.50

249 LF ~

213.50

210.50

210.6

N00°46'39"E 555.27'

208.25

210.84

212.20

211.70

212.10

SAN. MANHOLE
TOP EL. 222.07

EXISTING
7-11
ONE STOP
GAS CONVENIENCE
STORE NO. 8010
BLD. F.F. = 213.03

SAW-CUT &
MATCH EXIST.
GRADE.

TW 208.00
BW 208.00

REMOVE 25'± OF EXIST. PIPE & RELOCATE MES.

PROVIDE 70' OF GUARDRAIL ON TOP OF WALL

TW 208.00
BW 203.00

PROPOSED INV
THROUGH WALL
202.00

AB-1

12 LF-24" RCP

EXIST. 163 LF-24" RCP

MES TO BE
REMOVED

TW 212.16
BW 202.00

212.58

MATCH EXIST.
GRADE
EL. 211.50 ±

H.P.

H.P.

REMOVE 35'± OF EXIST. RCP

211.00

5' TAPER TO MATCH
EXIST. GRADE

TW 212.29
BW 210.00

EXISTING INLET
TOP EL. 211.10±
INV EL. 203.00±

MATCH EXIST. EP
ELEV. 211.7±.
(FIELD VERIFY)

EXISTING MH
TOP EL. 211.50±
INV EL. 202.81±

PROVIDE 85' ± OF GUARDRAIL ON TOP OF WALL.
SEE DETAIL.

3-60" RCP WITH
2' GAPS BETWEEN.

NOTE:
CONTRACTOR TO VERIFY EXISTING STRUCTURE ELEVATIONS PRIOR TO CONSTRUCTION ACTIVITY.

S-30 S-31 S-32 S-33 S-1 S-16

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.

LEGEND

- SILT FENCE & LIMIT OF CONSTRUCTION
- 94.50 PROPOSED SPOT ELEVATION AT EP AND HARDSCAPES UNLESS STATED OTHERWISE
- S-1 STORM STRUCTURE IDENTIFICATION
- 92.50 EXISTING SPOT ELEV.
- 183 PROPOSED CONTOUR ELEVATION
- STORMWATER SURFACE FLOW
- C.O. CLEAN OUT
- RDC ROOF DRAIN CONNECTION
- BORING LOCATION

STORM SEWER SCHEDULE

DESIGNED TO BASE TRAFFIC BEARING GRATE

S-30 PROPOSED MES
F.D.O.T. INDEX # 272
INV. ELEV.= 202.00

S-31 PROPOSED CURB INLET TYPE J BOTTOM W/ TYPE 5 TOP
TOP ELEV.= 212.24
INV. ELEV. MATCH EXIST. PIPE INV. ELEV.= 202.18±

S-32 PROPOSED TYPE "D" INLET
F.D.O.T. INDEX # 232
TOP ELEV.= 211.00
INV. ELEV.= 200.00

S-33 PROPOSED TYPE "E" INLET
F.D.O.T. INDEX # 232
TOP ELEV.= 209.05
INV. ELEV. = 204.37±
(MATCH EXIST. PIPE)

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FOR REVIEW ONLY

CERT. OF AUTHORIZATION # 7360

SCOTT M. GENTRY, P.E.
FLORIDA REGISTRATION 44677
NOT VALID FOR CONSTRUCTION UNLESS SIGNED IN THIS BLOCK

KCG
KELLY, COLLINS & GENTRY, INC.
1700 PINARS GRANTED AVENUE, SUITE 400
ORLANDO, FLORIDA 32804
(407) 540-7900 FAX (407) 895-1455

6			
5			
4			
3			
2	4/17/07	SHOW PHASE 2 CONSTRUCTION	
1	4/11/07	REVISION	
	DATE		

PREPARED FOR:
TRYCON ASSOCIATES

HANCOCK COMMONS
CLERMONT, FLORIDA

PAVING, GRADING & DRAINAGE PLAN

DRAWN: JRB
DESIGN: CAG
CHECKED: SMG
JOB NO.: 432.000
DATE: 4/24/07

SHEET
C-4B

M:\11CADD\TRYCON\SOUTH_HANCOCK\CONST\REV_4_17_07\PLAN_POND-MOD.DWG, 05/03/2007 1:50:34 PM

7-ELEVEN
S. R. 50 & HANCOCK ROAD

LAKE COUNTY, FLORIDA

DRAINAGE CALCULATIONS
POND MODIFICATION

PREPARED BY:

KELLY, COLLINS & GENTRY, INC.
1700 N. ORANGE AVENUE, SUITE 400
ORLANDO, FLORIDA 32804

DATE: MAY 3, 2007

TABLE OF CONTENTS

DRAINAGE CALCULATIONS

STAGE-STORAGE AND TREATMENT VOLUME CALCULATION

MODIFIED - DRY RETENTION AREA

Stage [ft]	Area [sf]	Area [ac]	Incremental Storage [cf]	Cumulative Storage [cf]	Cumulative Storage [af]
200	2,934	0.07		0.00	0.00
			9,058		
202	6,124	0.14		9,058	0.21
			14,818		
204	8,694	0.20		23,876	0.55
			63,043		
209	16,523	0.38		86,919	2.00
			17,905		
210	19,287	0.44		104,824	2.41

TREATMENT VOLUME CALCULATION:

Site Area =	5.63 ac	(incl. 1.54 ac of Hancock Rd. improvements)	
Impervious Area =	3.96 ac		
0.5" over site area =	10,218 cf		0.23 af
1.25" over impervious area =	**17,969 cf**		**0.41 af**
On-Line Retention - Additional 0.5" over Drainage Area			
0.5" over site area =	10,218 cf		0.23 af
Treatment vol. required =	**28,187 cf**		**0.65 af**

Since the site is located in a landlocked basin, the pond is designed to retain the difference in post-development runoff volume versus the pre-development runoff volume for the 25-year / 96-hour storm event.

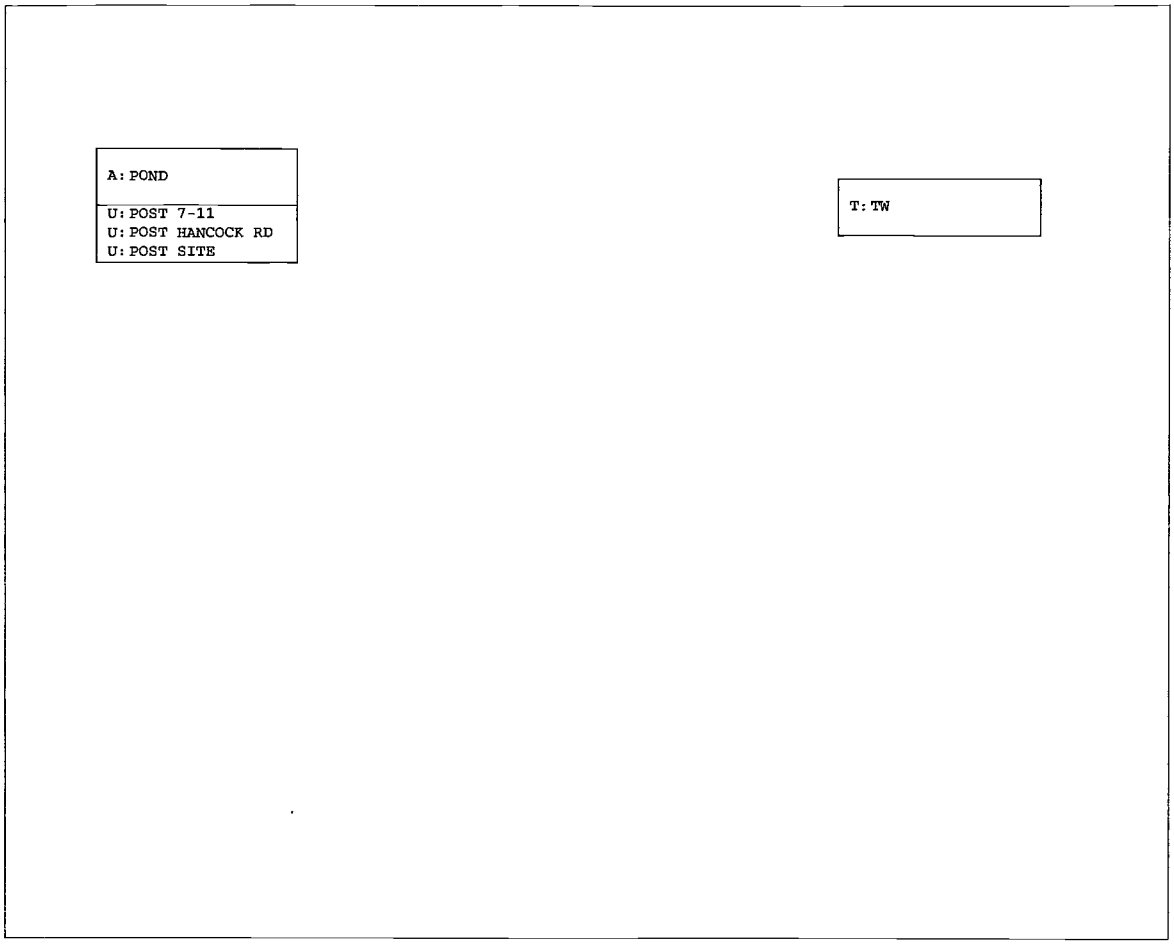
Pre-development runoff volume (25-year / 96-hour storm) =	71,244 cf	1.64 af
Post-development runoff volume (25-year / 96-hour storm) =	174,551 cf	4.01 af
Pre-Post runoff volume required =	**103,307 cf**	**2.37 af**
Volume provided @ stage =	**209.92 ft**	**209.92 ft**

ICPR-ROUTING

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

Basins
O Overland Flow
U SCS Unit Hydro
S Santa Barbara

Links
P Pipe
W Weir
C Channel
D Drop Structure
B Bridge
R Rating Curve
H Breach



Basin Name: POST 7-11
Group Name: BASE
Simulation: 25YR96HR
Node Name: POND
Basin Type: SCS Unit Hydrograph

POST 7

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 1.33
Comp Time Inc (min): 1.33
Rainfall File: Sjrwmd96
Rainfall Amount (in): 11.000
Storm Duration (hrs): 96.00
Status: Onsite
Time of Conc (min): 10.00
Time Shift (hrs): 0.00
Area (ac): 1.730
Vol of Unit Hyd (in): 1.000
Curve Number: 73.400
DCIA (%): 0.000

Time Max (hrs): 60.02
Flow Max (cfs): 7.499
Runoff Volume (in): 7.593
Runoff Volume (ft3): 47686.418

Basin Name: POST HANCOCK RD
Group Name: BASE
Simulation: 25YR96HR
Node Name: POND
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 2.00
Comp Time Inc (min): 2.00
Rainfall File: Sjrwmd96
Rainfall Amount (in): 11.000
Storm Duration (hrs): 96.00
Status: Onsite
Time of Conc (min): 15.00
Time Shift (hrs): 0.00
Area (ac): 1.540
Vol of Unit Hyd (in): 1.000
Curve Number: 84.300
DCIA (%): 0.000

Time Max (hrs): 60.07
Flow Max (cfs): 6.488
Runoff Volume (in): 9.040
Runoff Volume (ft3): 50533.891

Basin Name: POST SITE
Group Name: BASE
Simulation: 25YR96HR
Node Name: POND
Basin Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256
Peaking Fator: 256.0
Spec Time Inc (min): 2.67
Comp Time Inc (min): 2.67
Rainfall File: Sjrwmd96
Rainfall Amount (in): 11.000
Storm Duration (hrs): 96.00
Status: Onsite
Time of Conc (min): 20.00
Time Shift (hrs): 0.00
Area (ac): 2.360
Vol of Unit Hyd (in): 1.000
Curve Number: 83.300
DCIA (%): 0.000

Time Max (hrs): 60.09
Flow Max (cfs): 8.657
Runoff Volume (in): 8.910
Runoff Volume (ft3): 76330.777

PRE

```
          Basin Name: PRE 1
          Group Name: BASE
          Simulation: 25YR96HR
           Node Name: PRE
          Basin Type: SCS Unit Hydrograph

     Unit Hydrograph: Uh256
       Peaking Fator: 256.0
 Spec Time Inc (min): 4.00
 Comp Time Inc (min): 4.00
       Rainfall File: Sjrwmd96
Rainfall Amount (in): 11.000
Storm Duration (hrs): 96.00
              Status: Onsite
  Time of Conc (min): 30.00
    Time Shift (hrs): 0.00
           Area (ac): 4.090
Vol of Unit Hyd (in): 1.000
        Curve Number: 39.000
            DCIA (%): 0.000

      Time Max (hrs): 60.20
      Flow Max (cfs): 3.493
  Runoff Volume (in): 2.634
 Runoff Volume (ft3): 39112.773
```

```
          Basin Name: PRE 2
          Group Name: BASE
          Simulation: 25YR96HR
           Node Name: PRE
          Basin Type: SCS Unit Hydrograph

     Unit Hydrograph: Uh256
       Peaking Fator: 256.0
 Spec Time Inc (min): 2.00
 Comp Time Inc (min): 2.00
       Rainfall File: Sjrwmd96
Rainfall Amount (in): 11.000
Storm Duration (hrs): 96.00
              Status: Onsite
  Time of Conc (min): 15.00
    Time Shift (hrs): 0.00
           Area (ac): 1.540
Vol of Unit Hyd (in): 1.000
        Curve Number: 60.200
            DCIA (%): 0.000

      Time Max (hrs): 60.07
      Flow Max (cfs): 4.524
  Runoff Volume (in): 5.748
 Runoff Volume (ft3): 32131.359
```

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

Name: POST 7-11 Node: POND Status: Onsite
Group: BASE Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sjrwmd96 Storm Duration(hrs): 96.00
Rainfall Amount(in): 11.000 Time of Conc(min): 10.00
Area(ac): 1.730 Time Shift(hrs): 0.00
Curve Number: 73.40 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: POST HANCOCK RD Node: POND Status: Onsite
Group: BASE Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sjrwmd96 Storm Duration(hrs): 96.00
Rainfall Amount(in): 11.000 Time of Conc(min): 15.00
Area(ac): 1.540 Time Shift(hrs): 0.00
Curve Number: 84.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: POST SITE Node: POND Status: Onsite
Group: BASE Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Sjrwmd96 Storm Duration(hrs): 96.00
Rainfall Amount(in): 11.000 Time of Conc(min): 20.00
Area(ac): 2.360 Time Shift(hrs): 0.00
Curve Number: 83.30 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: PRE 1 Node: PRE Status: Onsite
Group: BASE Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Flmod Storm Duration(hrs): 96.00
Rainfall Amount(in): 11.000 Time of Conc(min): 30.00
Area(ac): 4.090 Time Shift(hrs): 0.00
Curve Number: 39.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: PRE 2 Node: PRE Status: Onsite
Group: BASE Type: SCS Unit Hydrograph

Unit Hydrograph: Uh256 Peaking Factor: 256.0
Rainfall File: Flmod Storm Duration(hrs): 96.00
Rainfall Amount(in): 11.000 Time of Conc(min): 15.00
Area(ac): 1.540 Time Shift(hrs): 0.00
Curve Number: 60.20 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

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

Name: POND Base Flow(cfs): 0.000 Init Stage(ft): 200.000
Group: BASE Warn Stage(ft): 210.000
Type: Stage/Area

Stage(ft)	Area(ac)
200.000	0.0700
202.000	0.1400
204.000	0.2000
209.000	0.3800
210.000	0.4400

Name: TW Base Flow(cfs): 0.000 Init Stage(ft): 190.000
Group: BASE Warn Stage(ft): 190.000
Type: Time/Stage

Time(hrs)	Stage(ft)
0.00	190.000
12.00	190.000
30.00	190.000
260.00	190.000

==== Cross Sections ====

==== Operating Tables ====

==== Pipes ====

==== Channels ====

==== Drop Strcutures ====

==== Weirs ====

==== Bridges ====

==== Breaches ====

==== Rating Curves ====

==== Hydrology Simulations ====

Name: 10YR24HR
Filename: M:\STORMWATER_PERMITS\HANCOCK COMMONS\7-11\DRAINAGE CALCULATIONS\10YR24HR.R32

Override Defaults: Yes
Storm Duration(hrs): 24.00
Rainfall File: Flmod
Rainfall Amount(in): 7.20

Time(hrs)	Print Inc(min)
30.000	15.00

Name: 25YR96HR
Filename: M:\Stormwater_permits\Hancock Commons\7-11\Drainage Calculations\25YR96HR.R32

Override Defaults: Yes
Storm Duration(hrs): 96.00
Rainfall File: Sjrwmd96
Rainfall Amount(in): 11.00

Time(hrs) Print Inc(min)

96.000	15.00

==== Routing Simulations ====

Name: 10YR24HR Hydrology Sim: 10YR24HR
Filename: M:\STORMWATER_PERMITS\HANCOCK COMMONS\7-11\DRAINAGE CALCULATIONS\10YR24HR.I32

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

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

Time(hrs)	Print Inc(min)
30.000	15.000

Group	Run
BASE	Yes

Name: 25YR96HR Hydrology Sim: 25YR96HR
Filename: M:\Stormwater_permits\Hancock Commons\7-11\Drainage Calculations\25YR96HR.I32

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

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

Time(hrs)	Print Inc(min)
96.000	15.000

Group	Run
BASE	Yes

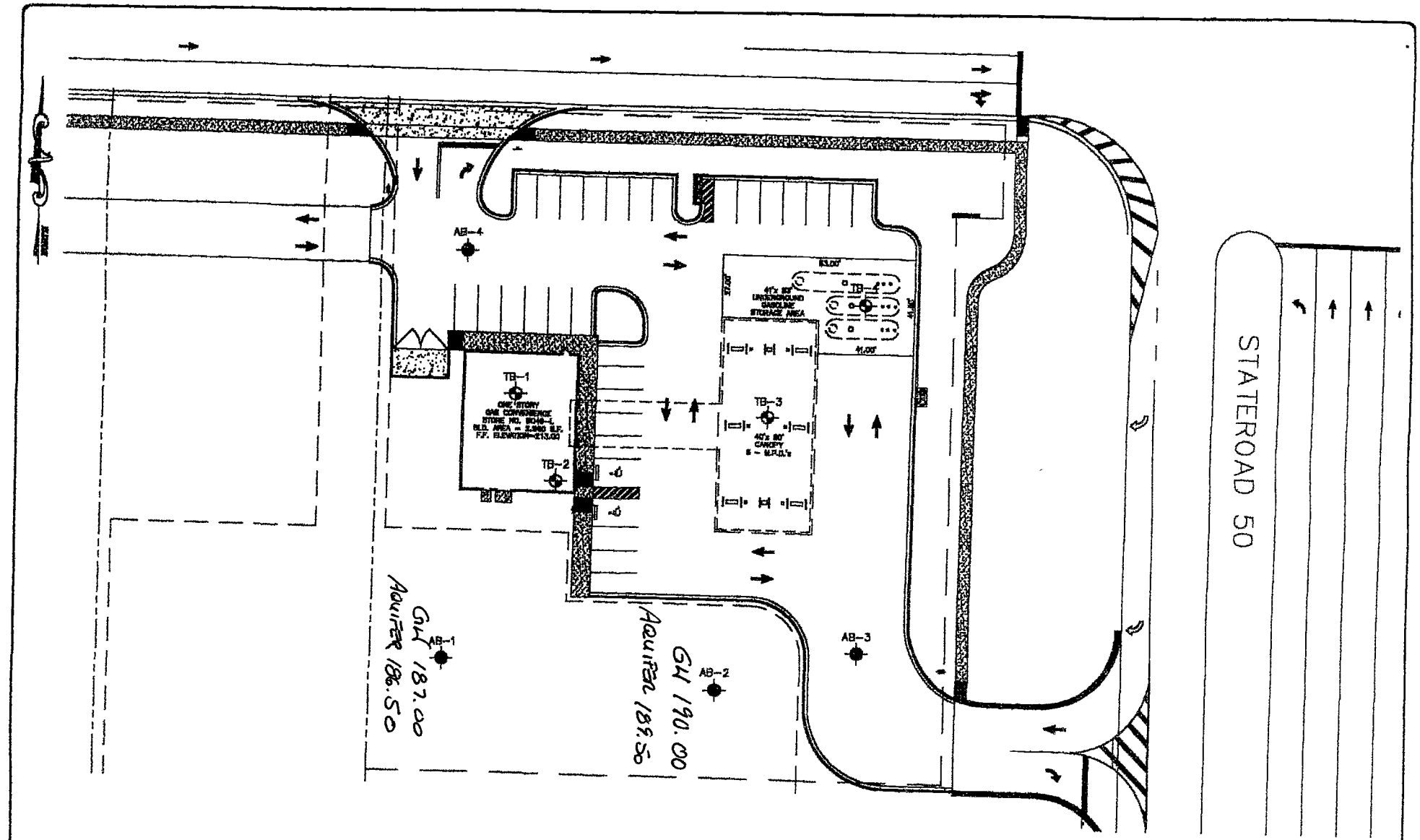
Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
POND	BASE	10YR24HR	24.01	209.762	210.000	0.0050	18544	12.00	14.671	0.00	0.000
TW	BASE	10YR24HR	0.00	190.000	190.000	0.0000	0	0.00	0.000	0.00	0.000
POND	BASE	25YR96HR	95.99	213.000	210.000	0.0050	27006	60.00	21.976	0.00	0.000
TW	BASE	25YR96HR	0.00	190.000	190.000	0.0000	0	0.00	0.000	0.00	0.000

WEIGHTED HYDRAULIC CONDUCTIVITY CALCULATION

WEIGHTED HYDRAULIC CONDUCTIVITY

Based on "POND 3.2" Technical Memo (06/2001 and 01/2002)

Horizontal hydraulic conductivity =	11.00 ft/day	(see Geotechnical Study)
Base of Aquifer Elevation =	189.50 ft	(see Geotechnical Study)
Seasonal High Grondwater Table Elevation =	190.00 ft	(see Geotechnical Study)
Design High Water Elevation =	209.00 ft	
Bottom Elevation of Retaining Wall =	198.00 ft	
Pond Bottom Elevation =	200.00 ft	
h_1 =	19.00 ft	(208 ft - 190 ft)
h_2 =	8.00 ft	(198 ft - 190 ft)
Segment of pond perimeter with no wall (50%) =	5.5 ft/day	
Segment of pond perimeter with wall =	2.32 ft/day	(50% x (h_2/h_1) x 11ft/day
Weighted k_h =	**7.82 ft/day**	



LEGEND:

- SPT BORING LOCATION
- AUGER BORING LOCATION

Andreyev Engineering, Inc.

GEOTECHNICAL INVESTIGATION
7-ELEVEN SERVICE STATION
ON HANCOCK ROAD
CLERMONT, LAKE COUNTY, FL.

SITE PLAN

FIGURE 1

SCALE:	DATE: 6/23/03	ENGINEER: PC
1"=60'	PN: CPGT-03-133	DRAWN BY: DS

Depth to Confining Layer (ft)	15
Depth to Seasonal High Groundwater Table (ft)	14.5
Horizontal Saturated Hydraulic Conductivity (ft/day)	11
Vertical Unsaturated Hydraulic Conductivity (ft/day)	8
Soil Storage Coefficient	0.20

Factors of safety have been assigned to the horizontal saturated and vertical unsaturated hydraulic conductivity values. Additional factors of safety are not required.

Buried Tanks

Based on the field investigation, the soils are considered suitable for support of conventionally designed and constructed buried fuel storage tanks, provided that proper site soil preparation and soil densification are carried out prior to installation. The natural soils and/or fill should be densified to 95% of the Modified Proctor maximum density to a minimum depth of 2 feet below the bottom of tank foundations. The seasonal high groundwater table in the area of the tanks is expected to be greater than 20 feet below existing grade. Therefore, the buoyancy effects of the tank do not need to be considered in the design.

For purposes of estimating lateral earth pressures against the tanks constructed below grade assuming fine sand backfill soils are used, we recommend a Rankine passive earth pressure coefficient of 3.0 and an active earth pressure coefficient of 0.33. The soil to wall friction coefficient for the soils encountered on-site is approximately 0.38. These earth pressure coefficients are recommended because fill will be compacted against the walls or tanks and they are not free to move or yield. One method of calculating the estimated lateral earth pressure is to assume an equivalent fluid pressure distribution with a soil unit weight (compacted structural sand or gravel fill) of 120 pcf above the watertable and 65 pcf for sands below the water table. The equivalent fluid pressure is calculated by multiplying the earth pressure coefficient by the vertical effective soil pressure (unit weight multiplied by depth). This earth pressure criterion does not include a factor of safety or effects of surcharge loadings at the surface. The walls (and slab) should be designed for hydrostatic loads (and uplift), with the seasonal high groundwater table at a depth of 20 feet below the existing grade.

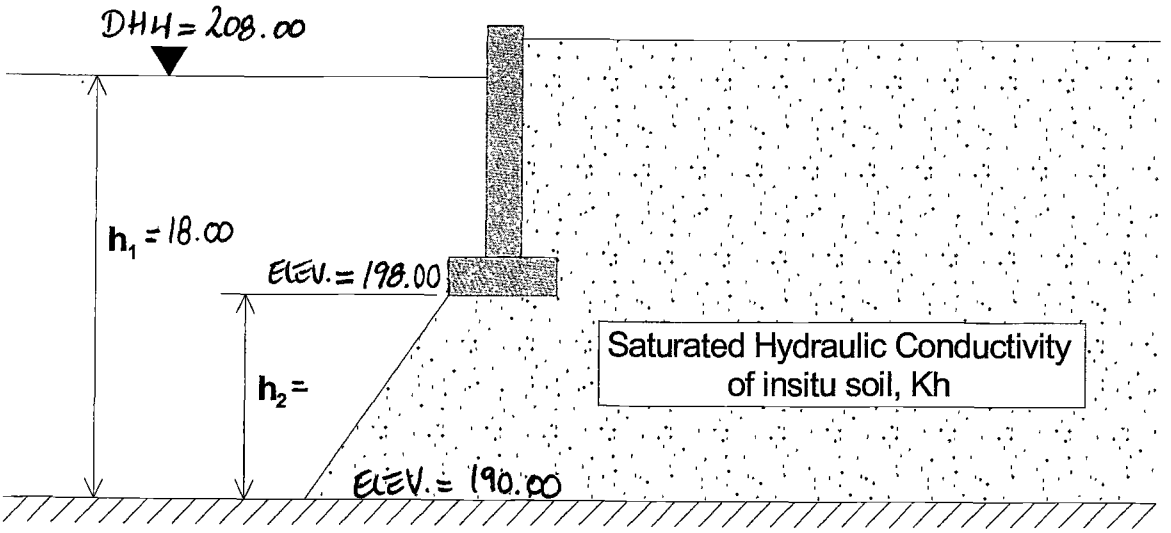
PONDS 3.2 Technical Memo

Module:	Refined Method
1st issue date:	June 20, 2001
2nd issue date:	January 25, 2002
subject:	How to modify the horizontal hydraulic conductivity value to model the effect of a partially penetrating or completely penetrating retaining wall/clay core around a retention pond

In some real-world cases, there is a retaining wall or clay core which partially or completely circumscribes a stormwater pond. The retaining wall or clay core may fully or partially penetrate the full depth of the aquifer. Such a barrier reduces the lateral seepage of ground water through the perimeter of the pond. If the wall completely surrounds the pond and the barrier fully penetrates the aquifer, then there is no theoretical lateral seepage and the horizontal hydraulic conductivity is zero.

This memo describes how to manually adjust the horizontal hydraulic conductivity to account for such barriers which do not completely cut off the lateral flow of ground water.

Use a weighted average horizontal hydraulic conductivity. Consider the following figure...



$$k_{avg} = \left(\frac{L_{unwalled}}{L_{total}} \times k_h \right) + \left(\frac{L_{walled}}{L_{total}} \times \frac{h_2}{h_1} \times k_h \right)$$

where

$L_{unwalled}$ is the length of perimeter with no wall
L_{walled} is the length of permiter with wall
L_{total} is the total perimeter length

Example #1

Effective perimeter of pond = 200 ft
Length of wall = 200 ft
Average water level in pond = +100 ft NGVD
Base of aquifer= +90 ft NGVD
Bottom elevation of wall = +95 ft NGVD
Horizontal hydraulic conductivity = 20 ft/day

Use a weighted average horizontal hydraulic conductivity of....

Segment of pond perimeter with no wall	+	Segment of pond perimeter with wall	=	Weighted k_h
0% × 20 ft/day	+	100% × [(95-90)/(100-90)] × 20	=	10 ft/day

Example #2

Effective perimeter of pond = 200 ft
Length of wall = 100 ft
Average water level in pond = +100 ft NGVD
Base of aquifer= +90 ft NGVD
Bottom elevation of wall = +90 ft NGVD
Horizontal hydraulic conductivity = 20 ft/day

Use a weighted average horizontal hydraulic conductivity of....

Segment of pond perimeter with no wall	+	Segment of pond perimeter with wall	=	Weighted k_h
50% × 0 ft/day	+	50% × 20 ft/day	=	10 ft/day

Example #3

Effective perimeter of pond = 200 ft
Length of wall = 100 ft
Average water level in pond = +100 ft NGVD
Base of aquifer= +90 ft NGVD
Bottom elevation of wall = +95 ft NGVD
Horizontal hydraulic conductivity = 20 ft/day

Use a weighted average horizontal hydraulic conductivity of....

Segment of pond perimeter with no wall	+	Segment of pond perimeter with wall	=	Weighted k_h
50% × 20 ft/day = 10	+	50% × [(95-90)/(100-90)] × 20 = 5	=	15 ft/day

RECOVERY ANALYSIS

PONDS Version 3.2.0145
Retention Pond Recovery - Refined Method

Devo Seereeram, Ph.D., P.E.

Project Data

Project Name:	7-11 Hancock Road - Pond Modification
Simulation Description:	Pond Recovery Analysis - Treatment Volume
Project Number:	254.000
Engineer :	AAD
Supervising Engineer:	SMG
Date:	04-27-2007

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	189.50
Water Table Elevation, [WT] (ft datum):	190.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	7.82
Fillable Porosity, [n] (%):	30.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day):	8.0
Maximum Area For Unsaturated Infiltration, [Av] (ft^2):	19287.0

=> WEIGHTED AVERAGE

Geometry Data

Equivalent Pond Length, [L] (ft):	275.0
Equivalent Pond Width, [W] (ft):	70.0

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
200.00	2934.0
202.00	6124.0
204.00	8694.0
209.00	16523.0
210.00	19287.0

Discharge Structures

Discharge Structure #1 is inactive

Discharge Structure #2 is inactive

Discharge Structure #3 is inactive

Scenario Input Data

Scenario 1 :: Slug Load = Treatment Volume = 28,187 cf

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

Treatment Volume (ft^3) 28187

Initial ground water level (ft datum) 190.00

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
1.000	6.000	11.000
2.000	7.000	12.000
3.000	8.000	13.000
4.000	9.000	14.000
5.000	10.000	

Detailed Results :: *Scenario 1 :: Slug Load = Treatment Volume = 28,187 cf*

Elapsed Time (hours)	Inflow Rate (ft^3/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft^3/s)	Overflow Discharge (ft^3/s)	Cumulative Inflow Volume (ft^3)	Cumulative Infiltration Volume (ft^3)	Cumulative Discharge Volume (ft^3)	Flow Type
0.000	4697.8330	0.0000	190.000	0 00000	0.00000	0.0	0.0	0.0	N.A.
0.002	4697.8330	0.0000	204.475	0.27165	0.00000	28187.0	1.6	0.0	U/P
24.000	0.0000	0.0000	----	----	----	28187.0	28187.0	0.0	dry
48.000	0.0000	0.0000	----	----	----	28187.0	28187.0	0.0	dry
72.000	0.0000	0 0000	----	----	----	28187.0	28187.0	0.0	dry
96.000	0 0000	0.0000	----	----	----	28187.0	28187.0	0.0	dry
120.000	0.0000	0.0000	----	----	----	28187.0	28187.0	0 0	dry
144.000	0.0000	0.0000	----	----	----	28187.0	28187.0	0.0	dry
168.000	0.0000	0.0000	----	----	----	28187.0	28187.0	0.0	dry
192.000	0.0000	0.0000	----	----	----	28187.0	28187.0	0.0	dry
216.000	0.0000	0.0000	----	----	----	28187.0	28187.0	0.0	dry
240.000	0.0000	0.0000	----	----	----	28187.0	28187.0	0.0	dry
264.000	0.0000	0.0000	----	----	----	28187.0	28187.0	0.0	dry
288.000	0.0000	0.0000	----	----	----	28187.0	28187.0	0.0	dry
312.000	0.0000	0 0000	----	----	----	28187.0	28187.0	0.0	dry
336.000	0.0000	0.0000	----	----	----	28187.0	28187.0	0.0	dry

Summary of Results *:: Scenario 1 :: Slug Load = Treatment Volume = 28,187 cf*

	Time (hours)	Stage (ft datum)	Rate (ft^3/s)	Volume (ft^3)
Stage				
Minimum	0.000	190.00		
Maximum	0.002	204.48		
Inflow				
Rate - Maximum - Positive	0.002		4697.8330	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			28187.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	336.000			28187.0
Infiltration				
Rate - Maximum - Positive	0.002		0.2716	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			1.6
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	336.000			28187.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	336.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	72.000	0.00		28187.0

PONDS Version 3.2.0145
Retention Pond Recovery - Refined Method
Copyright 2000
Devo Seereeram, Ph.D., P.E.

Project Data

Project Name:	7-11 Hancock Road - Pond Modification
Simulation Description:	Pond Recovery Analysis - Storage Volume
Project Number:	254.000
Engineer :	AAD
Supervising Engineer:	SMG
Date:	04-27-2007

Aquifer Data

Base Of Aquifer Elevation, [B] (ft datum):	189.50
Water Table Elevation, [WT] (ft datum):	190.00
Horizontal Saturated Hydraulic Conductivity, [Kh] (ft/day):	7.82
Fillable Porosity, [n] (%):	30.00
Unsaturated Vertical Infiltration Rate, [Iv] (ft/day):	8.0
Maximum Area For Unsaturated Infiltration, [Av] (ft^2):	12964.0

⇒ WEIGHTED AVERAGE

Geometry Data

Equivalent Pond Length, [L] (ft):	275.0
Equivalent Pond Width, [W] (ft):	70.0

Ground water mound is expected to intersect the pond bottom

Stage vs Area Data

Stage (ft datum)	Area (ft^2)
200.00	2934.0
202.00	6124.0
204.00	8694.0
209.00	16523.0
210.00	19287.0

Discharge Structures

Discharge Structure #1 is inactive

Discharge Structure #2 is inactive

Discharge Structure #3 is inactive

Scenario Input Data

Scenario 1 :: Slug Load = Storage Volume = 103,307 cf

Hydrograph Type: Slug Load
Modflow Routing: Routed with infiltration

Treatment Volume (ft^3) 103307

Initial ground water level (ft datum) 190.00

Time After Storm Event (days)	Time After Storm Event (days)	Time After Storm Event (days)
1.000	6.000	11.000
2.000	7.000	12.000
3.000	8.000	13.000
4.000	9.000	14.000
5.000	10.000	

Detailed Results :: *Scenario 1 :: Slug Load = Storage Volume = 103,307 cf*

Elapsed Time (hours)	Inflow Rate (ft^3/s)	Outside Recharge (ft/day)	Stage Elevation (ft datum)	Infiltration Rate (ft^3/s)	Overflow Discharge (ft^3/s)	Cumulative Inflow Volume (ft^3)	Cumulative Infiltration Volume (ft^3)	Cumulative Discharge Volume (ft^3)	Flow Type
0.000	17217.8300	0.0000	190.000	0.00000	0.00000	0.0	0.0	0.0	N.A
0.002	17217.8300	0.0000	209.921	0.27172	0.00000	103307.0	1.6	0 0	U/P
24.000	0.0000	0.0000	202.611	0.58942	0.00000	103307.0	90267.1	0.0	U/S
48.000	0.0000	0.0000	200.445	0.07546	0.00000	103307.0	101845.0	0.0	S
72.000	0.0000	0.0000	199.196	0.00846	0.00000	103307.0	103307.0	0.0	S
96.000	0.0000	0.0000	198.450	0.00000	0.00000	103307.0	103307.0	0.0	S
120.000	0.0000	0.0000	197.888	0.00000	0.00000	103307.0	103307.0	0.0	S
144 000	0.0000	0.0000	197.443	0.00000	0.00000	103307.0	103307.0	0 0	S
168.000	0.0000	0.0000	197.077	0.00000	0.00000	103307 0	103307.0	0.0	S
192.000	0.0000	0.0000	196.768	0.00000	0.00000	103307.0	103307.0	0.0	S
216.000	0.0000	0.0000	196.503	0.00000	0.00000	103307.0	103307.0	0.0	S
240.000	0.0000	0.0000	196.271	0.00000	0.00000	103307.0	103307.0	0.0	S
264.000	0.0000	0.0000	196.065	0.00000	0.00000	103307.0	103307.0	0.0	S
288.000	0.0000	0.0000	195.881	0.00000	0.00000	103307.0	103307.0	0 0	S
312.000	0.0000	0.0000	195.715	0.00000	0.00000	103307.0	103307.0	0.0	S
336.000	0.0000	0.0000	195.564	----	----	103307 0	103307.0	0.0	N.A.

Summary of Results :: *Scenario 1 :: Slug Load = Storage Volume = 103,307 cf*

	Time (hours)	Stage (ft datum)	Rate (ft^3/s)	Volume (ft^3)
Stage				
Minimum	0.000	190.00		
Maximum	0.002	209.92		
Inflow				
Rate - Maximum - Positive	0.002		17217.8300	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	0.002			103307.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	336.000			103307.0
Infiltration				
Rate - Maximum - Positive	24.000		0.5894	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	72.000			103307.0
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	336.000			103307.0
Combined Discharge				
Rate - Maximum - Positive	None		None	
Rate - Maximum - Negative	None		None	
Cumulative Volume - Maximum Positive	None			None
Cumulative Volume - Maximum Negative	None			None
Cumulative Volume - End of Simulation	336.000			0.0
Discharge Structure 1 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 2 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Discharge Structure 3 - inactive				
Rate - Maximum - Positive	disabled		disabled	
Rate - Maximum - Negative	disabled		disabled	
Cumulative Volume - Maximum Positive	disabled			disabled
Cumulative Volume - Maximum Negative	disabled			disabled
Cumulative Volume - End of Simulation	disabled			disabled
Pollution Abatement:				
36 Hour Stage and Infiltration Volume	N.A.	N.A.		N.A.
72 Hour Stage and Infiltration Volume	72.000	199.20		103307.0

PRELIMINARY GEOTECHNICAL INVESTIGATION

Andreyev Engineering, Inc.

CLERMONT OFFICE
721 West Avenue
Clermont, Florida 34711
352-241-0508
Fax: 352-241-0977
Email: ANDENGI@AOL.COM

▼ Groundwater ▼ Environmental ▼ Geotechnical ▼ Construction Materials Testing

February 17, 1999
Project No. CPGT-99-008

TO: Maury L. Carter & Associates, Inc.
Post Office Box 568821
Orlando, Florida 32856-8821
Attention: Mr. Jeff Douglas

SUBJECT: **Preliminary Geotechnical Investigation,**
Proposed 4 Acre Development on State Road 50 and Hancock Road,
Clermont, Lake County, Florida

Dear Mr. Gentry:

In accordance with your request, Andreyev Engineering, Inc. has completed a preliminary geotechnical investigation of the above referenced property. Our investigation consisted of drilling a series of soil borings at the site for the purpose of characterizing subsurface conditions and assessment of general site suitability for construction of a commercial development. The following preliminary report presents the results of our investigations.

SITE LOCATION AND DESCRIPTION

The subject site will consist of a 4 acre commercial development. The property is located immediately south of SR 50, and east of Hancock Road, in Clermont, Lake County.

The subject property currently consists of vacant, undeveloped land which was formerly occupied by orange grove. The subject site is located on the south side of State Road 50, and the east side of Hancock Road. Based on review of the USGS Quadrangle map for this property the site grades from a high of approximately +235 ft-NGVD in the central portion to +215 ft-NGVD in the north portion. The USGS Quadrangle map encompassing the subject site is presented on **Figure 1**. Site reconnaissance indicates that minor earth moving activity has occurred in the south portion of the property.

We understand that a commercial development is proposed and that site elevations will be cut as much as 20 feet across the site. The proposed cutting will be in order to match elevations of the adjacent State Road 50 and Hancock Road. A location plan showing the boundary of the subject property is presented on **Figure 2**.

SCOPE OF INVESTIGATION

The purpose of our investigation was to characterize the soil and groundwater conditions across the site for assessment of the general suitability of the property for the intended commercial development. For this purpose the following investigation was conducted:

1. Drilled 4 Standard Penetration Test (SPT) borings to 50 feet deep to assess the shallow soil conditions across the site.

2. Drilled 2 auger borings to 40 feet deep at the location of potential stormwater retention areas.

3. Classified the encountered soils per the Unified soil classification system and evaluated the results, identified soil types for the purpose of foundation, roadway pavement design and retention pond design.

4. Prepared this summary report with investigation results in the form of drafted soil profiles, conclusions and preliminary recommendations.

FIELD INVESTIGATION AND RESULTS

Exploratory Drilling

A total of two (2) auger borings (designated as AB-1 and AB-2) and four (4) SPT borings (designated as TB-3 through TB-6) were drilled at the site. The boring locations were chosen based on the boundary survey provided by you and were located in the field by an engineer. Representative soil samples were collected at each change of soil strata for visual classification. The approximate location of the borings are presented on **Figure 2**, attached.

The results of the SPT borings are presented in the form of soil profiles on **Figure 3**. Soil stratification is based on review of recovered soil samples and interpretation of the field boring logs by a geotechnical engineer. The soil classification was performed using the Unified Soil Classification System.

Based on the field exploration and visual classification, the soil conditions generally consisted of a surface layer of grayish brown to orangish brown fine sand (stratum 1) extending to depths ranging from 4.5 to 18 feet below existing grade. Borings drilled in the north and central portions of the property (TB-3 through TB-5) encountered a surface layer of fill material (stratum 2) extending to depths of between 1 and 7 feet below grade. Underlying the surficial soils, the borings encountered a layer of orangish brown to reddish brown slightly clayey sand (stratum 3) to depths of between 22 and 28 feet, followed by light yellowish brown to white slightly silty sand to the maximum boring termination depth of 50 feet.

Soil Density

The relative density of the sand is determined based on the standard penetration resistance value, or N value. Based on the SPT-N values, the surficial sands and fill are generally in a very loose to medium dense state. The underlying stratum 3 clayey sand is in a stiff state, followed by the stratum 4 slightly silty sand which is in a medium dense to dense state. The SPT-N values are presented adjacent to the soils profiles on **Figure 3.**

Groundwater Table

The groundwater table was not encountered in any of the borings to the maximum termination depth of 50 feet below existing grade. Based on review of adjacent surface water features such as lakes and an open water mine pit located to the southeast, water levels in these features occur at approximate elevation+85 to +100 ft-NGVD. This indicates that groundwater beneath the site probably occurs at depths in excess of 75 feet.

EVALUATIONS AND RECOMMENDATIONS

Mass Grading

We understand that the subject property will be cut significantly in order to match adjacent roadway grades of State Road 50 and Hancock Road. Cuts of between 15 and 20 feet are anticipated. Based on the results of the borings, the soils which will be exposed following site cutting will primarily consist of the stratum 1 fine sands and/or stratum 3 slightly clayey sand, depending on the depth of removal. These soils are generally considered acceptable for support of structures associated with the development, including beneath foundations, pavement areas and buried utility lines.

Building Areas

Based on the results of this investigation the subject property is generally considered suitable for the intended construction of commercial buildings and pavement areas. The encountered soils indicate that these areas are suitable for construction of buildings and pavement provided that proper site preparation is carried out prior to construction. Site preparation would likely consist of site grading, leveling and compaction. In areas where stratum 3 soils are exposed, we recommend undercutting a few feet below pavement areas and foundation footers to prevent excess moisture from contacting the bottom of the base and/or footers. Once the design has progressed we will be available to conduct the appropriate analyses for sizing of foundations and pavement, and provide more detailed construction recommendations.

Retention Area

Based on the results of the borings, it is our opinion that the site soil and groundwater conditions are suitable for construction and operation of dry retention areas. However, a separation of approximately 5 feet should be maintained between the bottom of the retention areas and the stratum 3 clayey sand layer. Depending on the degree of cutting in the pond

areas, stratum 3 may be exposed or may be close to the pond bottom. If adequate separation cannot be achieved, the clayey sand must be removed entirely beneath the pond area in order to access the underlying stratum 4 slightly silty sand. For preliminary design purposes, the coefficient of hydraulic conductivity of the surficial stratum 1 sands is expected to be on the order of 30 to 50 feet per day. The underlying stratum 4 is expected to have a coefficient of hydraulic conductivity on the order of 10 to 20 feet per day. Actual field testing of the hydraulic conductivity must be conducted prior to design and permitting. Once the pond locations and configurations have been established we will be available to conduct the additional field testing and appropriate analyses.

CLOSURE

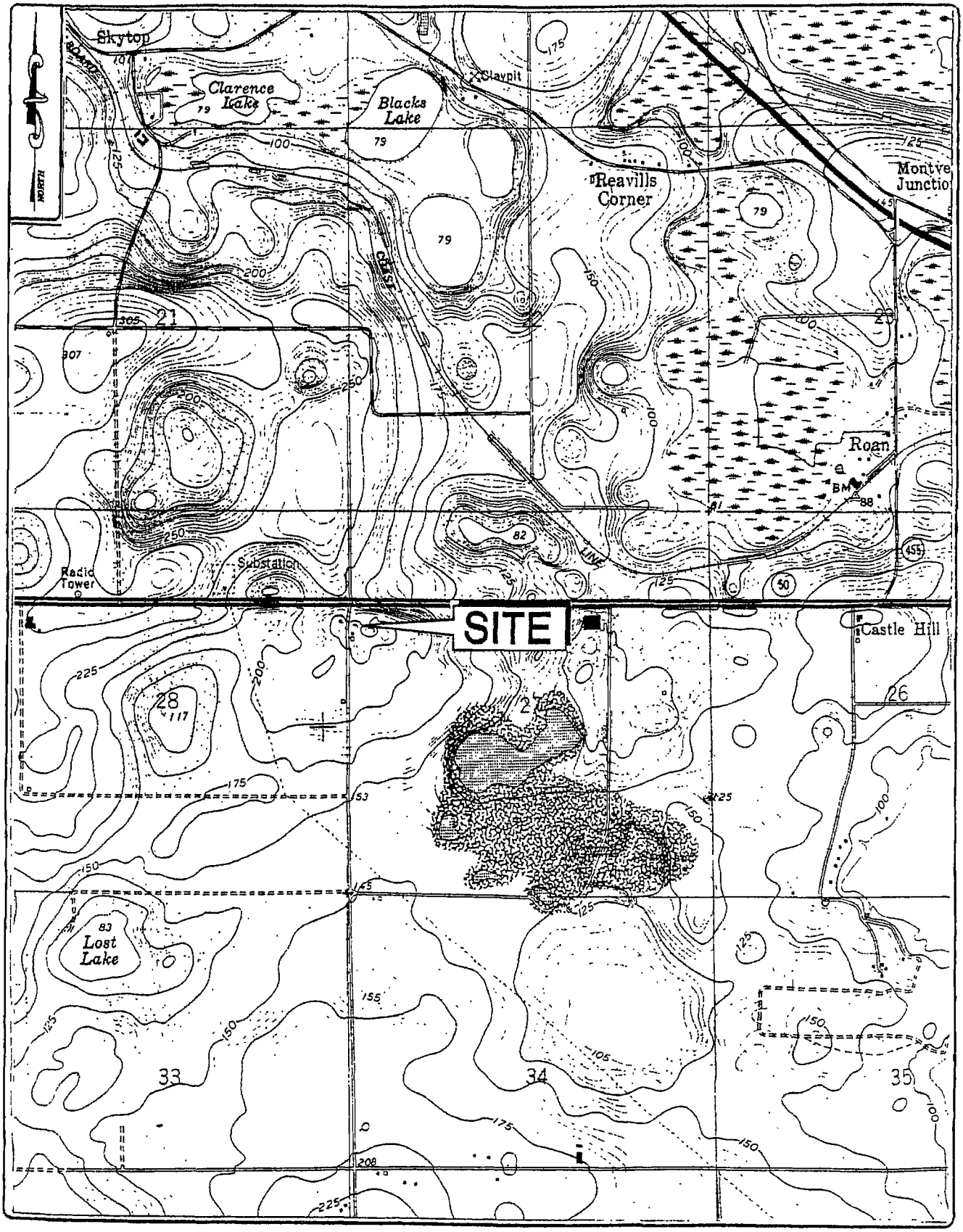
We appreciate the opportunity to provide our services on this project and trust that this report will be helpful for your preliminary design purposes. Should you have any questions concerning this report please do not hesitate to contact the undersigned.

Sincerely,

ANDREYEV ENGINEERING, INC.

T. Scott Cavin, P. E.
Vice President, Clermont Branch Manager
Florida Registration No. 48125

FIGURES



REFERENCE:
U.S.G.S. CLERMONT EAST, FLA.
QUADRANGLE MAP
DATED 1962
PHOTOREVISED 1980
SECTION 27
TOWNSHIP 22 SOUTH
RANGE 26 EAST

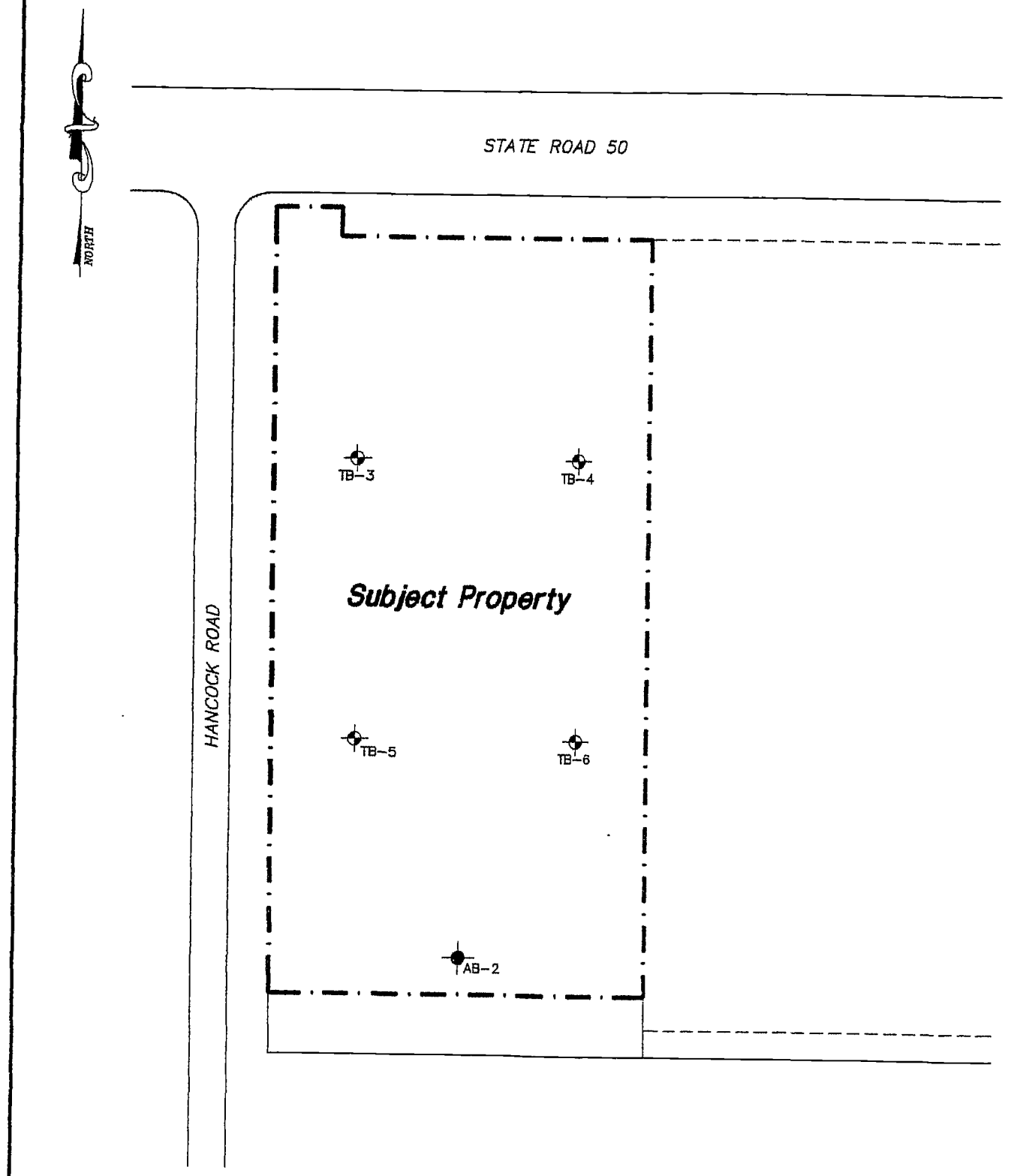
Andreyev Engineering, Inc.

SCALE:	DATE: 2/16/99	ENGINEER: SC
1"=2000'	PN: CPGT-99-008	DRAWN BY: MK

GEOTECHNICAL INVESTIGATION
4 ACRE PROPERTY ON HWY. 50 & HANCOCK RD.
LAKE COUNTY, FLORIDA

VICINITY MAP

FIGURE 1



LEGEND

- AUGER BORING LOCATION
- SPT BORING LOCATION

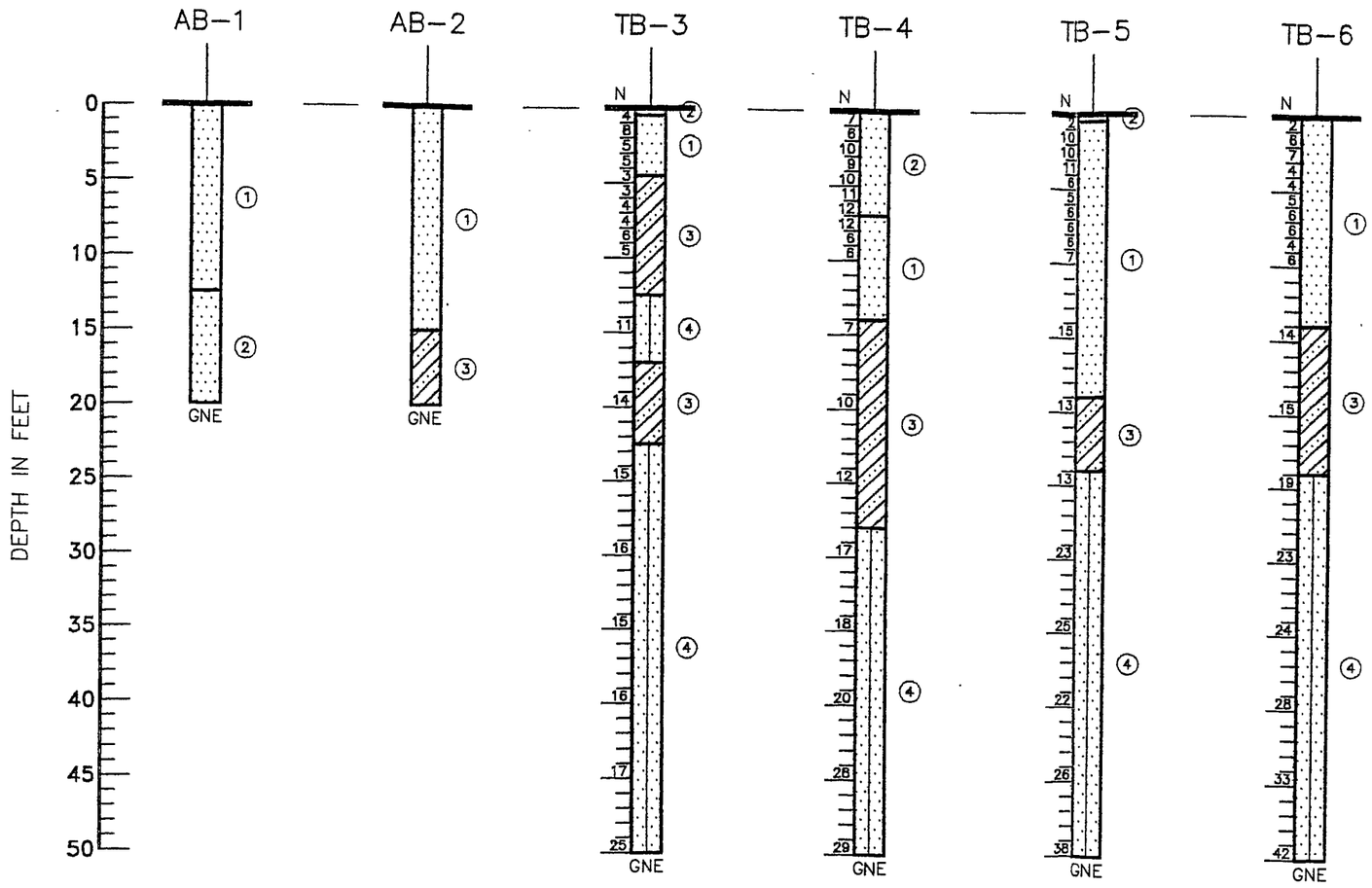
Andreyev Engineering, Inc.

SCALE:	DATE: 2/16/99	ENGINEER: SC
1"=100'	PN: CPGT-99-008	DRAWN BY: MK

GEOTECHNICAL INVESTIGATION
4 ACRE PROPERTY ON HWY. 50 & HANCOCK RD.
LAKE COUNTY, FLORIDA

LOCATION PLAN

FIGURE 2



LEGEND

① GRAYISH BROWN TO ORANGISH BROWN FINE SAND (SP)

② GRAYISH BROWN FINE SAND WITH ORANGISH BROWN SLIGHTLY CLAYEY FINE SAND AND GRAVEL DEBRIS, FILL (SP)(SP-SC)

③ ORANGISH BROWN TO REDDISH BROWN SLIGHTLY CLAYEY FINE TO MEDIUM SAND (SP-SC)

④ LIGHT YELLOWISH BROWN TO WHITE SLIGHTLY SILTY FINE TO MEDIUM SAND (SP-SM)

(SP) UNIFIED SOIL CLASSIFICATION GROUP SYMBOL

GNE GROUNDWATER NOT ENCOUNTERD

N STANDARD PENETRATION RESISTANCE, IN BLOWS PER FOOT

Andreyev Engineering, Inc.

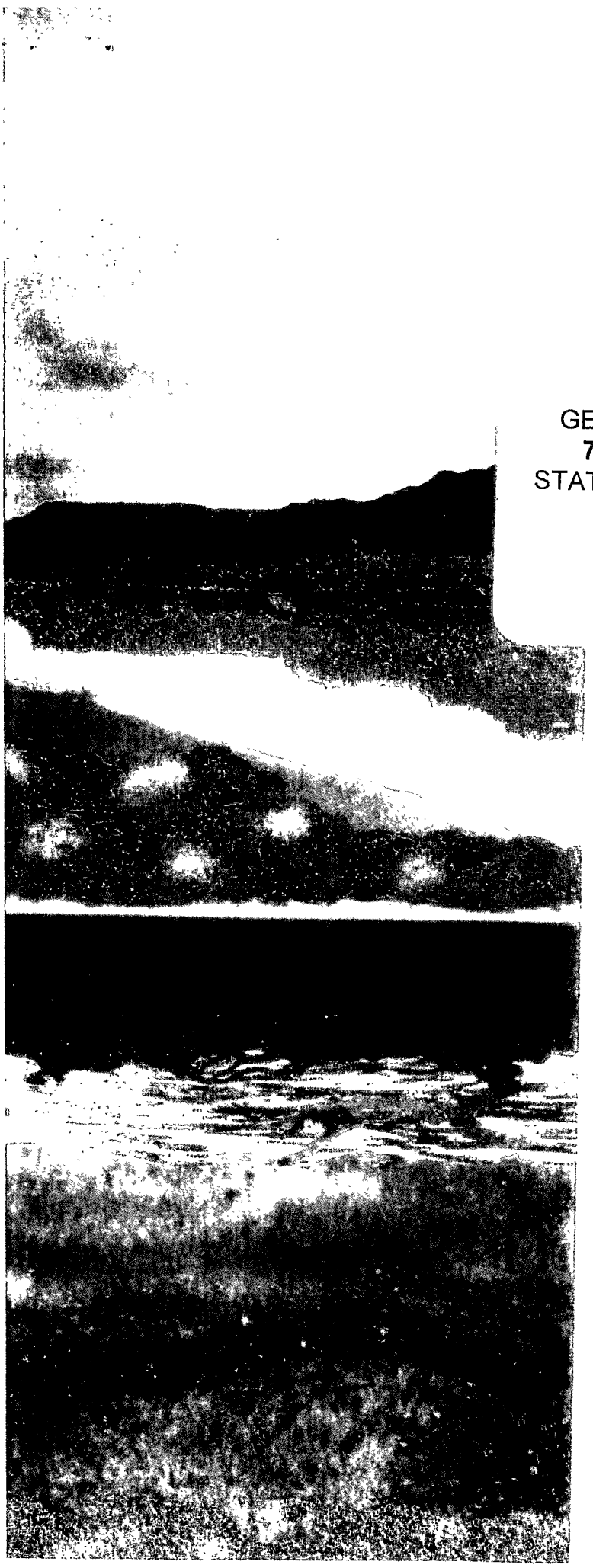
GEOTECHNICAL INVESTIGATION
4 ACRE PROPERTY ON
HWY. 50 & HANCOCK RD.
LAKE COUNTY, FLORIDA

SOIL PROFILES

FIGURE 3

SCALE:	DATE: 2/16/99	ENGINEER: SC
1"=10'	PN: CPGT-99-008	DRAWN BY: MK

GEOTECHNICAL INVESTIGATION



GEOTECHNICAL INVESTIGATION
7-ELEVEN SERVICE STATION
STATE ROAD 50 AT HANCOCK ROAD
CLERMONT, LAKE COUNTY
FLORIDA

Andreyev Engineering, Inc.

- *Groundwater*
- *Environmental*
- *Geotechnical*
- *Materials Testing*

Andreyev Engineering, Inc.

CLERMONT OFFICE
1170 W. Minneola Avenue
Clermont, Florida 34711
352-241-0508
Fax: 352-241-0977

▼ Groundwater ▼ Environmental ▼ Geotechnical ▼ Construction Materials Testing

June 23, 2003
Project No. CPGT-03-133

TO: **Kelly, Collins & Gentry, Inc.**
1700 N. Orange Avenue, Suite 400
Orlando, Florida 32804
Attention: Mr. Jack Hawkins

SUBJECT: **Geotechnical Engineering Study,** Proposed 7-Eleven Service Station Project, State Road 50 at Hancock Road, Clermont, Lake County, Florida

Dear Mr. Hawkins:

As you requested, Andreyev Engineering, Inc. (AEI) has completed a geotechnical investigation for the above referenced project. This work has been conducted in accordance with our proposal dated May 13, 2003. The following report presents the findings of the study.

SITE LOCATION AND DESCRIPTION

The subject site is located on the southeast corner of the intersection of State Road 50 and Hancock Road in Clermont, Lake County. The proposed project consists of construction of a 7-Eleven gas service station including one 2,960 square feet convenience store building, one canopy area with fuel dispensing island, an underground storage tank area, adjoining paved driveway/parking areas, and one stormwater retention area. Earthwork activities are being conducted on the subject property. No surface water features are located on the subject property. A location plan showing the approximate layout of the project is presented on the attached **Figure 1**.

PURPOSE AND SCOPE OF INVESTIGATION

The purpose of this study was to explore the general subsurface conditions across the property and to provide recommendations for site preparation, foundation bearing capacity, pavement section design, and water retention area design. To accomplish this purpose, the following tasks were performed:

- Drilled two (2) Standard Penetration Test (SPT) borings to a depth of 20 feet in the proposed convenience store building.
- Drilled one (1) Standard Penetration Test (SPT) boring to a depth of 20 feet in the proposed canopy area.

- Drilled one (1) Standard Penetration Test (SPT) boring to a depth of 20 feet in the proposed underground storage tank area.
- Drilled two (2) auger borings to a depth of 15 feet in the proposed water retention area.
- Drilled two (2) auger borings to a depth of 7 feet within the proposed paved driveway/parking area.
- Collected one (1) undisturbed tube soil sample to determine the vertical coefficient of permeability of the soils at the proposed water retention area.
- Conducted engineering analysis including evaluation of encountered soil conditions, identification of confining layers and any unsuitable soil conditions. Provided engineering recommendations for site preparation, minimum footing size, allowable bearing capacity, pavement section design, and water retention area design.
- Prepared this report presenting the results of our investigation including boring results in profile form, evaluation of site conditions and recommendations.

S.C.S. SOIL SURVEY

The "Soil Survey of Lake County, Florida" published by the U.S. Department of Agriculture Soil Conservation Service (S.C.S.) was reviewed. The dominant shallow soil types identified at the site consist of Astatula sand 0 to 5 percent slopes, Astatula sand 5 to 12 percent slopes and Astatula sand 12 to 40 percent slopes. The description of these soils are as follows:

- Astatula sand, 0 to 5 percent slopes. This is a nearly level to gently sloping, excessively drained sandy soil. The water table is at a depth of more than 120 inches. Permeability is very rapid throughout the profile. The hydrologic group for Astatula fine sand, 0 to 5 percent slopes is "A".
- Astatula sand, 5 to 12 percent slopes. This is a sloping to strongly sloping, excessively drained sandy soil. The water table is at a depth of more than 120 inches. Permeability is very rapid throughout the profile. The hydrologic group for Astatula fine sand, 5 to 12 percent slopes is "A".
- Astatula sand, 12 to 40 percent slopes. This is a very steep, excessively drained sandy soil. The water table is at a depth of more than 120 inches. Permeability is very rapid throughout the profile. The hydrologic group for Astatula fine sand, 12 to 40 percent slopes is "A".

SUBSURFACE CONDITIONS

Soil Conditions

The soil boring locations are presented on **Figure 1**. The results of the subsurface exploration program, including the soil stratification profiles and pertinent exploration information, such as SPT "N"-values and groundwater levels, are graphically presented on **Figure 2.** Soil stratification was based on the review of recovered soil samples and interpretation of the field boring logs. The stratification lines represent the approximate boundaries between soil types; the actual transition may be gradual. The soil strata were visually classified using the Unified Soils Classification System.

The following 5 strata were identified in the borings:

STRATUM NO.	DESCRIPTION	USCS GROUP	AASHTO GROUP
1	Light orangish brown and orangish brown slightly silty fine sands mixed	SP	A-3
2	Orange slightly silty to silty fine sand	SP-SM, SM	A-3, A-2-4
3	Light orange slightly silty to silty fine sand	SP-SM, SM	A-3, A-2-4
4	Light yellow to yellowish brown fine sand	SP	A-3
5	Very light yellowish brown fine sand	SP	A-3

USCS = Unified Soil Classification System
AASHTO = American Association of State Highway Officials

In general, the soils encountered in the borings consisted of a surficial layer of light orangish brown and orangish brown slightly silty fine sands mixed (stratum 1) extending from the ground surface to a depth of 1 foot followed by orange slightly silty to silty fine sand (stratum 2) to depths of 5 to 13.5 feet below existing grade. Underlying these soils, the borings encountered light orange slightly silty fine sand (stratum 3) to depths of 7 to 9 feet followed by light yellow to yellowish brown fine sand (stratum 4) and very light yellowish brown fine sand (stratum 5) to the maximum boring depth of 20 feet below existing grade.

Soil Density

Based on the SPT-N values obtained from the borings, the soils were generally observed to exist in a loose state from ground surface to a depth of 5 feet, then become loose to medium dense from 5 feet to the maximum boring depth of 20 feet below existing grade.

SPT-N Value	Density of Sand
0-4	Very Loose
4-10	Loose
10-30	Medium Dense
30-50	Dense
>50	Very Dense

The results of the SPT-N values are indicated adjacent to the soil profiles on the attached **Figure 2.**

Groundwater Conditions

The groundwater table was not encountered in the borings to the maximum boring depth of 20 feet below existing grade. For purposes of designing the water retention areas and setting roadway grades, it should be assumed that the normal seasonal high groundwater level exists at the termination depths of the deeper borings.

Laboratory Hydraulic Conductivity Tests

One (1) undisturbed tube soil samples was collected and a laboratory hydraulic conductivity test was performed to determine the vertical saturated hydraulic conductivity coefficient of the tested soils in the proposed water retention area. The vertical hydraulic conductivity tests were performed using the falling head method.

Based on the test results, the vertical saturated hydraulic conductivity of the orange slightly silty to silty fine sand (stratum 2) layer was measured to be at 11.3 feet/day. The results of the hydraulic conductivity test is presented adjacent to the soil profile and at the tested depth on **Figure 2.**

EVALUATION AND RECOMMENDATIONS

General

Based on the results of this investigation and our evaluation of the encountered subsurface conditions, it is our opinion that the subject site is generally suitable for the intended development. No unsuitable conditions such as excessively loose soil zones or highly plastic clays were encountered and the groundwater table was sufficiently deep so as not be a site constraint. The encountered soils are considered suitable to support the proposed building structures on a conventionally designed shallow foundation system, provided that proper site soil preparation and soil densification are carried out.

Foundation Support

Using the results of soil borings and density readings, a foundation support analysis was conducted for the proposed building. Based on our evaluation of potential site densification improvements, we conclude that the proposed structure can be supported on a conventionally designed shallow foundation system. Detailed recommendations for site soil preparation and minimum compaction efforts are included in **Appendix A** of this report. The recommendations in **Appendix A** must be strictly followed and a geotechnical engineer must be present during site soil preparation and densification efforts to assure that the soils are properly prepared and compacted.

Provided that the site soils have been properly prepared and compacted, as specified in this report, the structure can be supported on conventional shallow foundations, sized on the basis of an allowable soil contact pressure of 2,500 pounds per square foot (psf). For isolated column spread footings, a minimum footing width of 2.5 feet should be provided. For continuous wall footings, a minimum footing width of 1.5 feet should be provided. The bottom of continuous and individual exterior column footings should be placed at a minimum of 18 inches below the lowest adjacent finished grade. The top of interior footings may be placed directly below the floor slab on grade.

Pavement Design

In general, the existing shallow subsurface soils are considered suitable for support of a flexible (limerock), semi-flexible (soil-cement), or rigid (concrete) type pavement base after subgrade preparation. The use of one system over another is normally governed by the depth to the encountered and/or seasonal high groundwater table. Soil cement is typically used in areas where groundwater levels are within 1.5 feet of the proposed bottom of the base course. For this site the groundwater table is sufficiently deep so that any of the 3 pavement options is available.

Recommended sections for both semi-flexible and flexible pavement are as follows:

Soil-Cement Base

1-1/2" asphaltic concrete wearing surface
6" soil-cement base designed and constructed in accordance with current Portland Cement Association recommended methods. Minimum 7 day compressive strength of 300 psi.
12" subgrade consisting of free draining natural fine sand or fine sand fill. Subgrade to be compacted to a minimum density of 95 percent of the Modified Proctor Maximum Density (AASHTO T-180).

Limerock Base

1-1/2" asphaltic concrete wearing surface
6" limerock base course. quality of limerock to be in accordance with current Florida Department of Transportation specifications and compacted to a minimum density equivalent to 95 percent of the Modified Proctor (AASHTO T-180).
6" stabilized subbase with minimum Florida Bearing Value (FBV) of 50 psi or (LBR) of 40 percent. The subbase should be compacted to a minimum density equivalent to 95 percent of the Modified Proctor Maximum Density (AASHTO T-180) for a depth of 1 foot below pavement subgrade.

Concrete

6" Portland Cement - designed and constructed in accordance with current Portland Cement Association recommended methods with a minimum compressive strength of 3,000 psi. Provide contraction joints at a maximum spacing of 12 feet.
12" subgrade consisting of free draining natural fine sand or fine sand fill. Subgrade to be compacted to a minimum density of 95 percent of the Modified Proctor Maximum Density (AASHTO T-180).

Asphaltic wearing surface for the flexible and semi-flexible sections typically consists of Type S-1 or S-3, meeting current Florida Department of Transportation specifications. The wearing surface should be compacted to a minimum density of 95 percent of the Laboratory Density as determined by the Marshall Stability Test method for the approved job mix formula.

The recommendations presented above are minimum assuming normal light passenger car and pick-up truck traffic with occasional garbage, delivery and fuel trucks. Traffic should not be allowed on the subgrade prior to placement of the base to avoid rutting. The final pavement thickness design should be checked by the project civil engineer using data contained in this report and anticipated traffic conditions.

Water Retention Area

Based on the results of this investigation it is our opinion that the site soil and groundwater conditions are suitable for design of a dry bottom water retention area as part of the stormwater management system. The soil conditions in the borings were observed to consist of well drained sandy soils having a very deep groundwater table. However, excavation of the orange slightly silty to silty fine sand (stratum 2) encountered in the first foot below the pond and backfill with clean fine sand having a fines content of less than 5 percent by weight passing sieve No. 200 is recommended.

Infiltration and recovery analyses must be performed for the water retention areas as required by the St. John's River Water Management District. For this purpose we recommend utilizing the shallow aquifer soil and groundwater parameters presented below.

Depth to Confining Layer (ft)	15
Depth to Seasonal High Groundwater Table (ft)	14.5
Horizontal Saturated Hydraulic Conductivity (ft/day)	11
Vertical Unsaturated Hydraulic Conductivity (ft/day)	8
Soil Storage Coefficient	0.20

Factors of safety have been assigned to the horizontal saturated and vertical unsaturated hydraulic conductivity values. Additional factors of safety are not required.

Buried Tanks

Based on the field investigation, the soils are considered suitable for support of conventionally designed and constructed buried fuel storage tanks, provided that proper site soil preparation and soil densification are carried out prior to installation. The natural soils and/or fill should be densified to 95% of the Modified Proctor maximum density to a minimum depth of 2 feet below the bottom of tank foundations. The seasonal high groundwater table in the area of the tanks is expected to be greater than 20 feet below existing grade. Therefore, the buoyancy effects of the tank do not need to be considered in the design.

For purposes of estimating lateral earth pressures against the tanks constructed below grade assuming fine sand backfill soils are used, we recommend a Rankine passive earth pressure coefficient of 3.0 and an active earth pressure coefficient of 0.33. The soil to wall friction coefficient for the soils encountered on-site is approximately 0.38. These earth pressure coefficients are recommended because fill will be compacted against the walls or tanks and they are not free to move or yield. One method of calculating the estimated lateral earth pressure is to assume an equivalent fluid pressure distribution with a soil unit weight (compacted structural sand or gravel fill) of 120 pcf above the watertable and 65 pcf for sands below the water table. The equivalent fluid pressure is calculated by multiplying the earth pressure coefficient by the vertical effective soil pressure (unit weight multiplied by depth). This earth pressure criterion does not include a factor of safety or effects of surcharge loadings at the surface. The walls (and slab) should be designed for hydrostatic loads (and uplift), with the seasonal high groundwater table at a depth of 20 feet below the existing grade.

CLOSURE

We appreciate the opportunity to participate in this project and we trust that the information presented herein is sufficient for your immediate needs. Should you have any questions or comments concerning the contents of this attached report, please do not hesitate to contact the undersigned.

Sincerely,

ANDREYEV ENGINEERING, INC.

Pablo Colmenares, M.S.
Project Engineer

T. Scott Cavin, P.E.
Vice President
FL Registration No.48125

ATTACHMENT A

Site Preparation Recommendations for Structure Areas

Preparation of the foundation soils should be proceed in a conventional manner, consisting of excavation or filling to the foundation elevation and densification of the solids. The foundation soils should be firm and unyielding. The following are our recommendations for overall site preparation work and mechanical densification. These recommendations, parts of which may be incorporated in the project general specifications, are made as a guide for the design engineer.

1. The entire structure and pavement areas plus 10 foot margin beyond the edge of each area should be stripped and cleared of all surface vegetation and root laden topsoils. Stripping of about 1 foot should be anticipated over the site in general.

2. The building and canopy areas plus a minimum margin of 5 feet beyond the edge of the building area should be compacted using a large diameter, self-propelled or tractor drawn vibratory drum roller until a minimum density of 95% of the Modified Proctor maximum dry density has been achieved to a depth of 2 feet below the compacted surface. The vibratory drum roller should have a minimum static drum weight of 20,000 lbs. and should be capable of exerting a minimum impact energy of 36,000 lbs. (DYNAPAC CA-25 or equivalent should provide acceptable results).

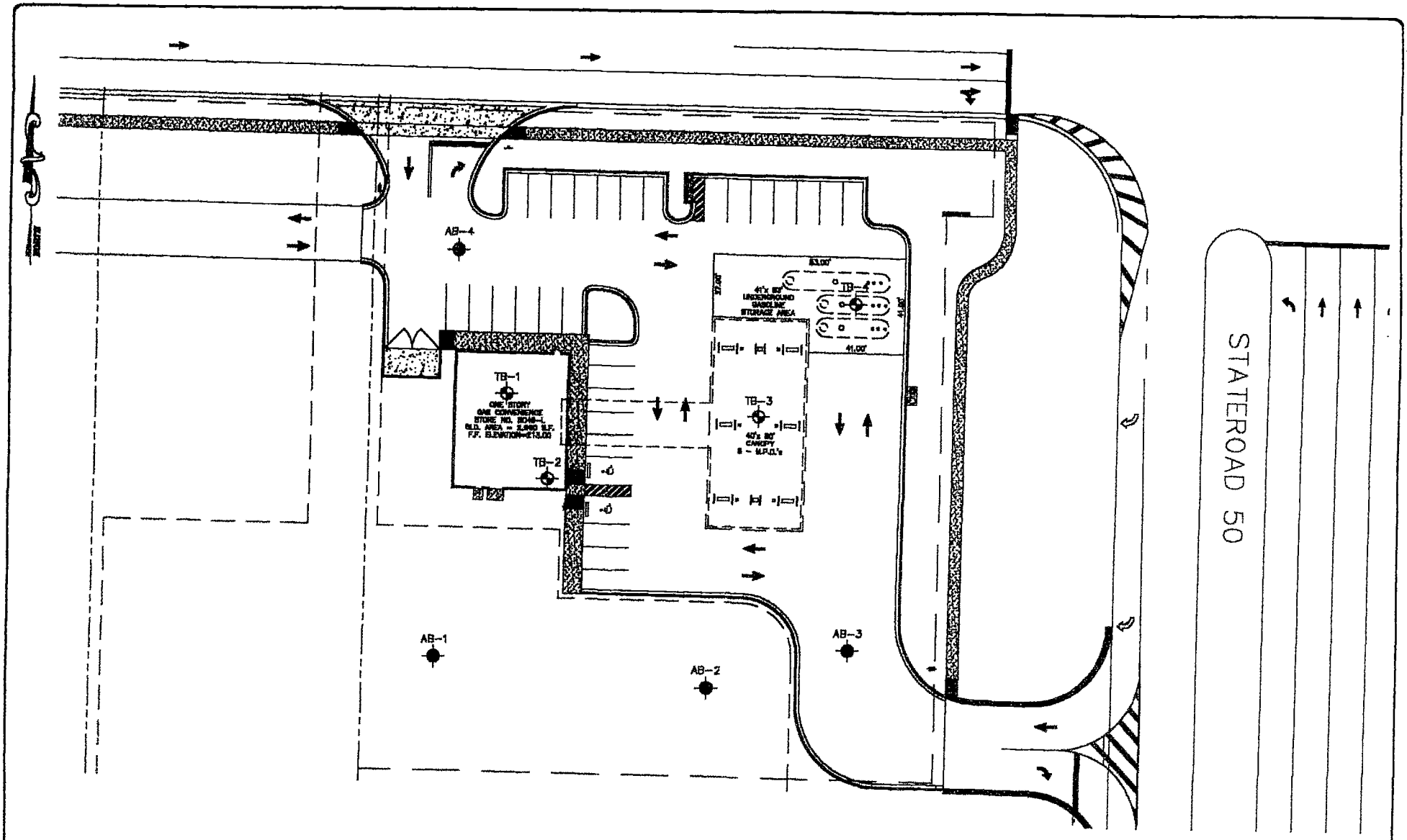
3. Any additional fill required below the building footers and/or slab should consist of fine sand with no more than 12 percent by weight passing the No. 200 sieve. The fill should be placed in loose lifts not exceeding 12 inches in thickness. Each lift should be compacted to at least 95 percent of the ASTM D1557 maximum dry density of the soil.

4. The bottoms of foundation excavations should be re-compacted to at least 95 percent of the ASTM D1557 maximum dry density of the soil for a minimum depth of 2 feet below the bottom of footers. If soft pockets or unstable soils are encountered at the footing level, the unsuitable materials should be removed, backfilled and recompacted. Sand backfill in the footings should be compacted in maximum 8 inch thick loose lifts to at least 95 percent of the ASTM D1557 maximum dry density.

5. Prior to compaction, the moisture content of the natural and fill soils should be adjusted to within 2 percent of the ASTM D1557 optimum moisture content.

6. Andreyev Engineering should be retained to observe site preparation and densification efforts to document the proper completion of the recommendations presented herein. The following recommendations are made for the use of the project design engineer and contractor:

FIGURES



LEGEND:

- SPT BORING LOCATION
- AUGER BORING LOCATION

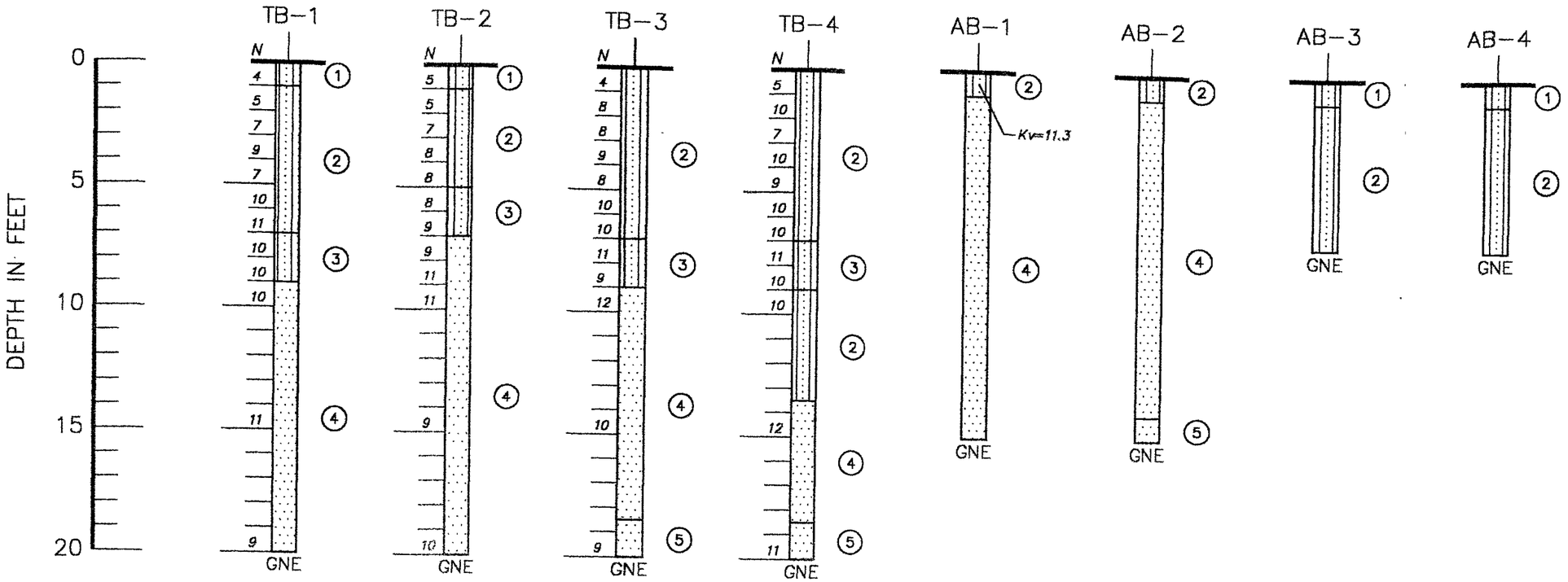
Andreyev Engineering, Inc.

GEOTECHNICAL INVESTIGATION
7-ELEVEN SERVICE STATION
ON HANCOCK ROAD
CLERMONT, LAKE COUNTY, FL.

SCALE:	DATE: 6/23/03	ENGINEER: PC
1"=60'	PN: CPGT-03-133	DRAWN BY: DS

SITE PLAN

FIGURE 1



LEGEND

- (1) LIGHT ORANGISH–BROWN AND ORANGISH–BROWN SLIGHTLY SILTY FINE SANDS MIXED (SP–SM)
- (2) ORANGE SLIGHTLY SILTY TO SILTY FINE SAND (SP–SM)(SM)
- (3) LIGHT ORANGE SLIGHTLY SILTY TO SILTY FINE SAND (SP–SM)(SM)
- (4) LIGHT YELLOW TO YELLOWISH–BROWN FINE SAND (SP)
- (5) VERY LIGHT YELLOWISH–BROWN FINE SAND (SP)
- *(SP)* UNIFIED SOIL CLASSIFICATION SYSTEM GROUP SYMBOL
- *GNE* GROUNDWATER NOT ENCOUNTERED
- *N* STANDARD PENETRATION RESISTANCE, IN BLOWS PER FOOT
- *Kv* VERTICAL COEFFICIENT OF PERMEABILITY, IN FEET PER DAY

Andreyev Engineering, Inc.

GEOTECHNICAL INVESTIGATION
7–ELEVEN SERVICE STATION
ON HANCOCK ROAD
CLERMONT, LAKE COUNTY, FL.

SOIL PROFILES

FIGURE 2

SCALE:	DATE: 6/23/03	ENGINEER: PC
1"=5'	PN: CPGT–03–133	DRAWN BY: DS

EXISTING SJRWMD PERMIT
#42-069-67971-1

John R. Wehle, Assistant Executive Director

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

POST OFFICE BOX 1429 PALATKA, FLORIDA 32178-1429
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TDD 904-329-4450 TDD SUNCOM 860-4450
FAX (Executive) 329-4125 (Legal) 329-4485 (Permitting) 329-4315 (Administration/Finance) 329-4508

SERVICE CENTERS

618 E. South Street
Orlando, Florida 32801
407-897-4300
TDD 407-897-5960

7775 Baymeadows Way
Suite 102
Jacksonville, Florida 32256
904-730-6270
TDD 904-448-7900

PERMITTING:
305 East Drive
Melbourne, Florida 32904
407-984-4940
TDD 407-722-5865

OPERATIONS:
2133 N. Wickham Road
Melbourne, Florida 32935-8109
407-752-3100
TDD 407-752-3102

354/3.2

RECEIVED
MAR 21 2001
BY:

REGULATION OF STORMWATER MANAGEMENT SYSTEMS

CHAPTER 40C-42, F.A.C.

PERMIT NO. 42-069-67971-1 **DATE ISSUED:** March 20, 2001

A PERMIT AUTHORIZING:

A new stormwater system with stormwater treatment by retention to serve 7 - Eleven SR 50 & Hancock Rd., a 1.73 acre project to be constructed as per plans received by the District on February 26, 2001.

LOCATION:

Section(s): 21 Township(s): 22S Range(s): 26E
Lake County

ISSUED TO:

Solo Development Corp.
908 South Delany Ave.
Orlando, FL 32806

This document shall serve as the formal permit for construction and operation of stormwater management system in accordance with Chapter 40C-42, F.A.C., issued by the staff of the St. Johns River Water Management District on March 20, 2001. This permit is subject to the standard limiting conditions and other special conditions approved by the staff. These conditions are enclosed.

This permit is a legal document and should be kept with your other important records. The permit requires the submittal of an As-built certification and may require submittal of other documents. All information provided in compliance with permit conditions should be submitted to the District office from which the permit was issued. An As-built certification form is attached. Complete this form within 30 days of completion of construction of the permitted system, including all site work.

Upon receipt of the As-built certification, staff will inspect the project site. Once the project is found to be in compliance with all permit requirements, the permit may be converted to its operation phase and responsibility transferred to the operation and maintenance entity in accordance with Chapter 40C-42.028, F.A.C.

Permit issuance does not relieve you from the responsibility for obtaining permits from any federal, state, and/or local agencies asserting concurrent jurisdication over this work. Please note that if dewatering is to occur during any phase of construction or thereafter and the surface water pump(s), wells, or facilities are capable of withdrawing one million gallons of water per day or more, or an average of 100,000 gallons per day or more over a year, and any discharge is to be off-site, you must apply for and obtain a Consumptive Use Permit (40C-2) from the District prior to starting the dewatering. Please contact the District if you need additional information or application materials.

Permittee agrees to hold and save the St. Johns River Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part thereof.

This permit does not convey to Permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the Permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by Permittee hereunder shall remain the property of the Permittee.

This permit may be revoked, modified, or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

In the event you sell your property, the permit will be transferred to the new owner, if we are notified by you within thirty days of the sale. Please assist us in this matter so as to maintain a valid permit for the new property owner.

Thank you for your cooperation, and if this office can be of any further assistance to you, please do not hesitate to contact us.

Joan B. Budzynski

Joan B Budzynski, Supervising Prof Engineer - Orlando
Department of Water Resources

Enclosures: As-built Certification Form
Exhibit A

cc: District Permit File
Agent: Kelly Collins & Gentry
1600 E Robinson St Apt. Ste 400
Orlando, FL 32803

"EXHIBIT A"
CONDITIONS FOR ISSUANCE OF PERMIT NUMBER 42-069-67971-1
SOLO DEVELOPMENT CORP.
DATED MARCH 20, 2001

1. This permit for construction will expire five years from the date of issuance unless otherwise specified by a special condition of the permit.

2. Permittee must obtain a permit from the District prior to beginning construction of subsequent phases or any other work associated with this project not specifically authorized by this permit.

3. Before any offsite discharge from the stormwater management system occurs, the retention and detention storage must be excavated to rough grade prior to building construction or placement of impervious surface within the area served by those systems. Adequate measures must be taken to prevent siltation of these treatment systems and control structures during construction or siltation must be removed prior to final grading and stabilization.

4. The permittee must maintain a copy of this permit complete with all conditions, attachments, exhibits, and permit modification in good condition at the construction site. The complete permit must be available for review upon request by District representatives. The permittee shall require the contractor to review the complete permit prior to commencement of the activity authorized by this permit.

5. All activities shall be implemented as set forth in the plans, specifications and performance criteria as approved by this permit. Any deviation from the permitted activity and the conditions for undertaking that activity shall be considered a violation of this permit.

6. District authorized staff, upon proper identification, must be granted permission to enter, inspect and observe the system to insure conformity with the plans and specifications approved by the permit.

7. Prior to and during construction, the permittee shall implement and maintain all erosion and sediment control measures (best management practices) required to retain sediment on-site and to prevent violations of state water quality standards. All practices must be in accordance with the guidelines and specifications in chapter 6 of the Florida Land Development Manual: A Guide to Sound Land and Water Management (Florida Department of Environmental Regulation 1988), which are hereby incorporated by reference, unless a project specific erosion and sediment control plan is approved as part of the permit, in which case the practices must be in accordance with the plan. If site specific

conditions require additional measures during any phase of construction or operation to prevent erosion or control sediment, beyond those specified in the erosion and sediment control plan, the permittee shall implement additional best management practices as necessary, in accordance with the specification in chapter 6 of the Florida Land Development Manual: A guide to Sound Land and Water Management (Florida Department of Environmental Regulation 1988). The permittee shall correct any erosion or shoaling that causes adverse impacts to the water resources.

8. If the permitted system was designed by a registered professional, within 30 days after completion of the stormwater system, the permittee must submit to the District the following: District Form No. 40C-1.181(13) (As built Certification By a Registered Professional), signed and sealed by an appropriated professional registered in the State of Florida, and two (2) sets of "As Built" drawings when a) required by a special condition of this permit, b) the professional uses "As Built" drawings to support the As Built Certification, or c) when the completed system substantially differs from permitted plans. This submittal will serve to notify the District staff that the system is ready for inspection and approval.

9. If the permitted system was not designed by a registered professional, within 30 days after completion of the stormwater system, the permittee must submit to the District the following: District Form No. 40C-1.181(14) (As built Certification), signed by the permittee and two (2) sets of "As Built" drawings when required by a special condition of this permit, or when the completed system substantially differs from permitted plans. This submittal will serve to notify the District staff that the system is ready for inspection and approval.

10. Stabilization measures shall be initiated for erosion and sediment control on disturbed areas as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven (7) days before the construction activity in that portion of the site has temporarily or permanently ceased.

11. Should any other regulatory agency require changes to the permitted system, the permittee shall provide written notification to the District of the Changes prior to implementation so that a determination can be made whether a permit modification is required.

12. Within thirty (30) days after sale or conveyance of the permitted stormwater management system or the real property on which the system is located, the owner in whose name the permit was granted shall notify the District of such change of ownership. Transfer of the permit shall be in accordance with the provisions of section 40C-612, F.A.C. All terms and conditions of this permit shall be binding upon the transferee. The permittee

transferring the permit shall remain liable for any corrective actions that may be required as a result of any permit violations prior to such sale, conveyance or other transfer.

13. The stormwater management system must be completed in accordance with the permitted and permit conditions prior to the initiation of the permitted use of site infrastructure. The system must be completed in accordance with the permitted plans and permit conditions prior to transfer of responsibility for operation and maintenance of the stormwater management system to a local government or other responsible entity.

14. The operation phase of the permit shall not become effective until the requirements of Condition No. 8 or 9 have been met, the district determines that the system complies with the permitted plans, and the entity approved by the District in accordance with section 40C-42.027, F.A.C., accepts responsibility for operation and maintenance of the system. The permit cannot be transferred to such an approved, responsible operation and maintenance entity until the requirements of section 40C-42.028, F.A.C., are met, and the operation phase of the permit becomes effective. Following inspection and approval of the permitted system by the District in accordance with section 40C-42.028, F.A.C., the permittee shall request transfer of the permit to the responsible approved operation and maintenance entity, if different from the permittee. Until the permit is transferred pursuant to subsection 40C-42.028 (4) F.A.C., the permittee shall be liable for compliance with the terms of the permit.

15. Prior to lot or unit sales, or upon completion of construction of the system, whichever occurs first, the District must receive the final operation and maintenance document(s) approved by the District and recorded, if the latter is appropriate. For those systems which are proposed to be maintained by county or municipal entities, final operation and maintenance documents must be received by the District when maintenance and operation of the system is accepted by the local government entity, Failure to submit the appropriate final document will result in the permittee remaining personally liable for carrying out maintenance and operation of the permitted system.

16. This permit does not eliminate the necessity to obtain any required federal, state, local and special district authorizations prior to the start of any activity approved by this permit. This permit does not convey to the permittee or create in the permittee any property right, or any interest in real property, nor does it authorize any entrance upon or activities on property which is not owned or controlled by the permittee, or convey any rights or privileges other than those specified in the permit and Chapter 40C-42.028, F.A.C.

17. The permittee shall hold and save the District harmless from any and all damages, claims, or liabilities which may arise by reason of the activities authorized by the permit or any use of the permitted system.

18. The permittee shall immediately notify the District in writing of any previously submitted information that is later discovered to be inaccurate.

19. Activities approved by this permit shall be conducted in a manner which do not cause violations of state water quality standards.

20. All wetland areas or water bodies that are outside the specific limits of construction authorized by this permit must be protected from erosion, siltation, scouring or excess turbidity, and dewatering.

21. Prior to construction, the permittee must clearly designate the limits of construction on-site. The permittee must advise the contractor that any work outside the limits of construction, including clearing, may be a violation of this permit.

22. The operation and Maintenance entity shall submit inspection reports to the District two years after the operation phase permit becomes effective and every two years thereafter on District Form EN-46. The inspection form must be signed and sealed by an appropriate registered professional.

23. If the permittee intends to subdivide or sell off any portion of the property containing the stormwater system, then prior to the sale of any lot or parcel, the permittee will need to submit to the District for District approval draft operation and maintenance documents meeting the requirements of Rule 40C-42.027, Florida Administrative Code. Upon written approval by the District, those operation and maintenance documents must be recorded, if appropriate.

24. For those systems that are proposed to be operated and maintained by a governmental or other entity as set forth in Rule 40C-42.027, final operation and maintenance documents must be received and approved by the District upon acceptance by the entity of the operation and maintenance of the system. Failure to submit the appropriate documents will result in the permittee remaining liable for the operation and maintenance of the permitted system.

25. Prior to any construction within the future development area, the appropriate

modification to this permit must be obtained from the District.

Notice Of Rights

1. A person whose substantial interests are or may be determined has the right to request an administrative hearing by filing a written petition with the St. Johns River Water Management District (District), or may choose to pursue mediation as an alternative remedy under Sections 120.569 and 120.573, Florida Statutes, before the deadline for filing a petition. Choosing mediation will not adversely affect the rights to a hearing if mediation does not result in a settlement. The procedures for pursuing mediation are set forth in Sections120.569 and 120.57, Florida Statutes, and Rules 28-106.111 and 28-106.401-.405, Florida Administrative Code. Pursuant to Chapter 28-106 and Rule 40C-1.1007, Florida Administrative Code, the petition must be filed at the office of the District Clerk at District Headquarters, P. O. Box 1429, Palatka, Florida 32178-1429 (4049 Reid St., Palatka, FL 32177) within twenty-six (26) days of the District depositing notice of District decision in the mail (for those persons to whom the District mails actual notice) or within twenty-one (21) days of newspaper publication of the notice of District decision (for those persons to whom the District does not mail actual notice). A petition must comply with Chapter 28-106, Florida Administrative Code.

2. If the Governing Board takes action which substantially differs from the notice of District decision, a person whose substantial interests are or may be determined has the right to request an administrative hearing or may choose to pursue mediation as an alternative remedy as described above. Pursuant to District Rule 40C-1.1007, Florida Administrative Code,the petition must be filed at the office of the District Clerk at the address described above, within twenty-six (26) days of the District depositing notice of final District decision in the mail (for those persons to whom the District mails actual notice) or within twenty-one (21) days of newspaper publication of the notice of its final agency action (for those persons to whom the District does not mail actual notice).
   Such a petition must comply with Rule Chapter 28-106, Florida Administrative Code.

3. A substantially interested person has the right to a formal administrative hearing pursuant to Section 120.569 and 120.57(1), Florida Statutes, where there is a dispute between the District and the party reqarding an issue of material fact. A petition for formal hearing must comply with the requirements set forth in Rule 28-106.201, Florida Administrative Code.

4. A substantially interested person has the right to an informal hearing pursuant to Sections 120.569 and 120.57(2), Florida Statutes, where no material facts are in dispute. A petition for an informal hearing must comply with the requirements set forth in Rule 28-106.301, Florida Administrative Code.

5. A petition for an administrative hearing is deemed filed upon delivery of the petition to the District Clerk at the District headquarters in Palatka, Florida.

6. Failure to file a petition for an administrative hearing, within the requisite time frame shall constitute a waiver of the right to an administrative hearing (Section 28-106.111, Florida Administrative Code).

7. The right to an administrative hearing and the relevant procedures to be followed are governed by Chapter 120, Florida Statutes, and Chapter 28-106, Florida Administrative Code and Section 40C-1.1007, Florida Administrative Code.

Notice Of Rights

8. An applicant with a legal or equitable interest in real property who believes that a District permitting action is unreasonable or will unfairly burden the use of his property, has the right to, within 30 days of receipt of notice of the District's written desision regarding a permit application, apply for a special master proceeding under Section 70.51, Florida Statutes, by filing a written request for relief at the office of the District Clerk located at District headquarters, P. O. Box 1429, Palatka, FL 32178-1429 (4049 Reid St., Palatka, Florida 32177). A request for relief must contain the information listed in Subsection 70.51(6), Florida Statutes.

9. A timely filed request for relief under Section 70.51, Florida Statutes, tolls the time to request an administrative hearing under paragraph no. 1 or 2 above (Paragraph 70.51(10)(b), Florida Statutes). However, the filing of a request for an administrative hearing under paragraph no. 1 or 2 above waives the right to a special master proceeding (Subsection 70.51(10)(b), Florida Statutes).

10. Failure to file a request for relief within the requisite time frame shall constitute a waiver of the right to a special master proceeding (Subsection 70.51(3), Florida Statutes).

11. Any substantially affected person who claims that final action of the District constitutes an unconstitutional taking of property without just compensation may seek review of the action in circuit court pursuant to Section 373.617, Florida Statutes, and the Florida Rules of Civil Procedures, by filing an action in circuit court within 90 days of the rendering of the final District action, (Section 373.617, Florida Statutes).

12. Pursuant to Section 120.68, Florida Statutes, a person who is adversely affected by final District action may seek review of the action in the District Court of Appeal by filing a notice of appeal pursuant to the Florida Rules of Appellate Procedure within 30 days of the rendering of the final District action.

13. A party to the proceeding before the District who claims that a District order is inconsistent with the provisions and purposes of Chapter 373, Florida Statutes, may seek review of the order pursuant to Section 373.114, Florida Statutes, by the Florida Land and Water Adjudicatory Commission, by filing a request for review with the Commission and serving a copy on the Department of Environmental Protection and any person named in the order within 20 days of adoption of a rule or the rendering of the District order.

14. For appeals to the District Court of Appeal, a District action is considered rendered after it is signed on behalf of the District, and is filed by the District Clerk.

15. Failure to observe the relevant time frames for filing a petition for judicial review described in paragraphs #11 and #12, or for Commission review as described in paragraph #13, will result in waiver of that right to review.

Notice Of Rights

Certificate of Service

I HEREBY CERTIFY that a copy of the foregoing Notice of Rights has been sent by U.S. Mail to:

Solo Development Corp.
908 South Delany Ave.
Orlando, FL 32806

at 4:00 p.m. this 20th day of March, 2001.

Division of Permit Data Services
Gloria Lewis, Director

St. Johns River Water Management District
Post Office Box 1429
Palatka, FL 32178-1429
(904) 329-4152

Permit Number: 42-069-67971-1

67971-2

RECEIVED

MAY 04 2007

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