



DEPARTMENT OF THE ARMY  
JACKSONVILLE DISTRICT CORPS OF ENGINEERS  
2170 SW Canal Street  
Stuart, FL 34997

REPLY TO  
ATTENTION OF

**MAY 21 2007**

Regulatory Division  
Special Projects and Enforcement Branch  
SAJ-2007-2761 (NW-AAZ)

South Florida Water Management District  
Attn: Carol Wehle  
3301 Gun Club Road  
West Palm Beach, FL 33416

Dear Ms. Wehle:

Your application for a Department of the Army permit received on May 8, 2007, has been assigned number SAJ-2007-2761 (NW-AAZ). A review of the information and drawings provided shows the proposed work is to remove muck sediments at three sites in Lake Okeechobee (Lake): Fisheating Bay, South Bay, and Eagle Bay Island. The Fisheating Bay site is located north of the City of Moore Haven and west of the Harney Pond Canal in Section 24, Township 40 South, Range 32 East, Glades County, Florida. The South Bay site is located close to the City of Belle Glade just off the shore of Tory Island, Sections 12, 14, and 23, Township 43 South, Range 36 East, Palm Beach County, Florida. The Eagle Bay Island site is located close to the City of Okeechobee in Section 24, Township 40 South, Range 32 East, Okeechobee County, Florida.

At Fisheating Bay, approximately 640,000 cubic yards of muck would be removed from 400 acres of Lake bottom. The muck is approximately 1 foot in depth. Dry muck removal bulldozers would remove muck and sediment to the primary sand bottom. The material would be temporarily stored along the lakeward side of the Herbert Hoover Dike (HHD) west of the Fisheating Bay site. A six-foot berm separates the Lake from the HHD. Approximately 200 feet of upland exists between the berm and the HHD. The excavated material will be placed in the 200-foot wide area, ten feet in height, and extend 1.5 miles in length. The disposal site extends to approximately 40 acres along the toe of the HHD.

At South Bay, approximately 1.3 million cubic yards of muck would be removed from 400 acres. The muck is approximately 2 feet in depth. Dry muck removal bulldozers will remove muck and sediment to the primary sand bottom. The material would be temporarily stored at the outer loop of the Tory Island Campground, which is owned by the City of Belle Glade. The excavated material would be placed over approximately 45 acres and be seven feet in height. The island is separated from the Lake by a 7-foot man-made berm. The berm will prevent the re-introduction of this material into surface waters. Within six months after dredging, the spoil material will be relocated by barge to an area south of the Lake in the Everglades Agricultural Area.

At Eagle Bay Island, approximately 450,000 cubic yards of muck would be removed from 280 acres. The muck is approximately 1 foot in depth. Dry muck removal bulldozers will remove muck and sediment to the primary sand bottom. The material would be temporarily stored offsite at Spoil Site B within the Lemkin Creek Urban Stormwater Facility. The Lemkin Creek Urban Stormwater Facility consists of District-owned land with the capacity of storing and immobilizing the muck sediments. At Spoil Site B, the spoil will be deposited on forty-four acres of the upland grassy area, approximately seven feet in height.

The Supreme Court handed down a decision on June 19, 2006, in the Rapanos and Carabell cases. That decision addresses the scope of Clean Water Act jurisdiction over certain waters of the United States, including wetlands. We anticipate that the decision will lead the Corps and the U.S. Environmental Protection Agency to make some changes in our scope of jurisdiction.

Your project includes activities, which are regulated under the current interpretation of Federal jurisdiction under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. Your project includes special conditions that require compensatory mitigation for impacts to areas of Federal jurisdiction. Any changes to our scope of jurisdiction could require reassessment of these mitigation requirements and/or other project modification. You will have an opportunity to re-address the terms or conditions of this authorization following issuance of the anticipated EPA/Army substantive Rapanos/Carabell guidance, if such guidance affects Federal jurisdiction on your permit site.

Your project, as depicted on the enclosed drawings, is authorized by Nationwide Permit (NWP) Number 27. In addition, project specific conditions have been enclosed. This verification is valid until **May 21, 2009**. Please access the U.S. Army Corps of Engineers' Jacksonville District's Regulatory web address at

<http://www.saj.usace.army.mil/permit/permitting/nwp.htm> to access web links to view the Final Nationwide Permits, Federal Register Vol. 72, dated March 12, 2007, the Corrections to the Final Nationwide Permits, Federal Register Vol. 72, dated May 8, 2007, and the List of Regional Conditions. These files contain the description of the Nationwide Permit authorization, the Nationwide Permit general conditions, and the regional conditions, which apply specifically to this verification for NWP 27. Additionally, enclosed is a list of the six General Conditions, which apply to all Department of the Army authorizations. You must comply with all of the special and general conditions and any project specific condition of this authorization or you may be subject to enforcement action. In the event you have not completed construction of your project within the specified time limit, a separate application or re-verification may be required.

The following special conditions are included with this verification:

1. Within 60 days of completion of the authorized work or at the expiration of the construction window of this permit, whichever occurs first, the Permittee shall submit as-built drawings of the authorized work and a completed As-Built Certification Form (Attachment 1) to the Corps. The drawings shall be signed and sealed by a registered professional engineer and include the following:

- a. A plan view drawing of the location of the authorized work footprint (as shown on the permit drawings) with an overlay of the work as constructed in the same scale as the attached permit drawings (8½-inch by 11-inch). The drawing should show all "earth disturbance," including wetland impacts, water management structures, and any on-site mitigation areas.

- b. List any deviations between the work authorized by this permit and the work as constructed. In the event that the completed work deviates, in any manner, from the authorized work, describe on the As-Built Certification Form the deviations between the work authorized by this permit and the work as constructed. Clearly indicate on the as-built drawings any

deviations that have been listed. Please note that the depiction and/or description of any deviations on the drawings and/or As-Built Certification Form does not constitute approval of any deviations by the U.S. Army Corps of Engineers.

c. The Department of the Army Permit number.

d. Include pre- and post-construction aerial photographs of the project site, if available.

2. Reduction and/or elimination of turbid water conditions in adjacent water bodies and wetlands are to be achieved through the use of silt curtains or turbidity screens in the construction area during periods of fill placement.

3. Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date.

4. Prior to any ground disturbance, areas proposed for muck removal or haul roads at the South Bay, Fisheating Bay, and Eagle Bay Island must be subjected to a reconnaissance level cultural resource assessment survey by a qualified professional archaeologist to determine if archaeological or historic resources are present.

5. Prior to any ground disturbance, the archaeologist will present a training session for the contractors to be aware of possible unanticipated finds. Periodic monitoring by a qualified professional archaeologist must be conducted during the soil removal phase.

6. If prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, the permitted project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The permittee, or other designee, should contact the Florida Department of State, Division of Historic Resources, Review and Compliance Section at 850/245-6333 or 800/847-7278, as well as appropriate permitting agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources.

7. If the Lake levels rise to a level that the spoil material stored along the Herbert Hoover Dike at the Fisheating Bay site is inundated, the applicant shall remove the spoil material within 15 days of initial inundation, or provide adequate protective measures to the Corps' satisfaction to ensure the spoil material is not inundated.

8. The placement of the spoil material shall not impact wetlands or open waters, with the exception of the temporary spoil disposal site located at Tory Island. The placement of spoil material at Tory Island shall not impact open waters.

9. The applicant shall maintain all disposal areas and implement protective measures necessary to contain all material on the disposal site as well as prevent any material from entering into any wetland or water body.

10. The applicant shall remove all spoil material from the Tory Island site and adjacent to the Herbert Hoover Dike at the Fisheating Bay site within six months of fill placement. The applicant shall notify the Corps of the location of the permanent disposal sites prior to placement.

11. Within sixty days of the date of this permit, the applicant shall provide the Corps with a mitigation and restoration plan for Tory Island for the Corps review and approval. The mitigation and restoration plan shall be provided to:

U.S. Army Corps of Engineers  
Jacksonville District  
Regulatory Division, Enforcement Section  
P.O. Box 4970  
Jacksonville, FL 32232-0019

A courtesy copy will also be provided to:

U.S. Army Corps of Engineers  
2170 SW Canal Street  
Stuart, FL 34997

12. Within thirty days of spoil removal along the HHD at the Fisheating Bay site, the permittee shall restore the dike to the specifications approved by the Corps. All designs shall be provided to:

U.S. Army Corps of Engineers  
Jacksonville District  
Regulatory Division, Enforcement Section  
P.O. Box 4970  
Jacksonville, FL 32232-0019

A courtesy copy will also be provided to:

U.S. Army Corps of Engineers  
Jacksonville District  
Construction and Operations Division  
P.O. Box 4970  
Jacksonville, FL 32232-0019

13. If it is discovered that additional temporary storage sites are needed for placement of excavated muck, the applicant shall notify the Corps for review and approval of new site selections for any additional temporary disposal sites prior to utilization.

14. The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structures or work herein authorized, or if in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

15. Since a portion of the proposed work is located within the Federal right-of-way for the Federal Channel, **a Department of the Army Consent to Easement is also required prior to commencement of construction.** By copy of this letter, the permit is being forwarded to the Corps Real Estate Division for action on the Consent.

This letter of authorization does not obviate the necessity to obtain any other Federal, State, or local permits, which may be required. In Florida, projects qualifying for this NWP must be authorized under Part IV of Chapter 373 by the Department of Environmental Protection, a water management district under §. 373.069, F.S., or a local government with delegated authority under §. 373.441, F.S., and receive Water Quality Certification (WQC) and Coastal Zone Consistency Concurrence (CZCC) (or a waiver), as well as any authorizations required by the State for

the use of sovereignty submerged lands. You should check State-permitting requirements with the Florida Department of Environmental Protection or the appropriate water management district.

This letter does not give absolute Federal authority to perform the work as specified on your application. The proposed work may be subject to local building restrictions mandated by the National Flood Insurance Program. You should contact your local office that issues building permits to determine if your site is located in a flood-prone area, and if you must comply with the local building requirements mandated by the National Flood Insurance Program.

If you are unable to access the internet or require a hardcopy of any of the conditions, limitations, or expiration date for the above referenced NWP, please contact Alisa Zarbo by telephone at 772-219-8418, by fax at 772-219-9162 or by email at Alisa.A.Zarbo@saj02.usace.army.mil.

Thank you for your cooperation with our permit program.

Sincerely,



David S. Hobbie  
Chief, Regulatory Division

Enclosures

Copies Furnished:  
CESAJ-RD-PE

SELF-CERTIFICATION STATEMENT OF COMPLIANCE

Permit Number: NW 27

Application Number: SAJ-2007-2761

Permittee's Name & Address (please print or type): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_

Location of the Work: \_\_\_\_\_

\_\_\_\_\_

Date Work Started: \_\_\_\_\_ Date Work Completed: \_\_\_\_\_

Description of the Work (e.g., bank stabilization, residential or commercial filling, docks, dredging, etc.): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Acreage or Square Feet of Impacts to Waters of the United States:

\_\_\_\_\_

Describe Mitigation completed (if applicable): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Describe any Deviations from Permit (attach drawing(s) depicting the deviations): \_\_\_\_\_

\_\_\_\_\_

\*\*\*\*\*

I certify that all work, and mitigation (if applicable) was done in accordance with the limitations and conditions as described in the permit. Any deviations as described above are depicted on the attached drawing(s).

\_\_\_\_\_  
Signature of Permittee

\_\_\_\_\_  
Date

GENERAL CONDITIONS

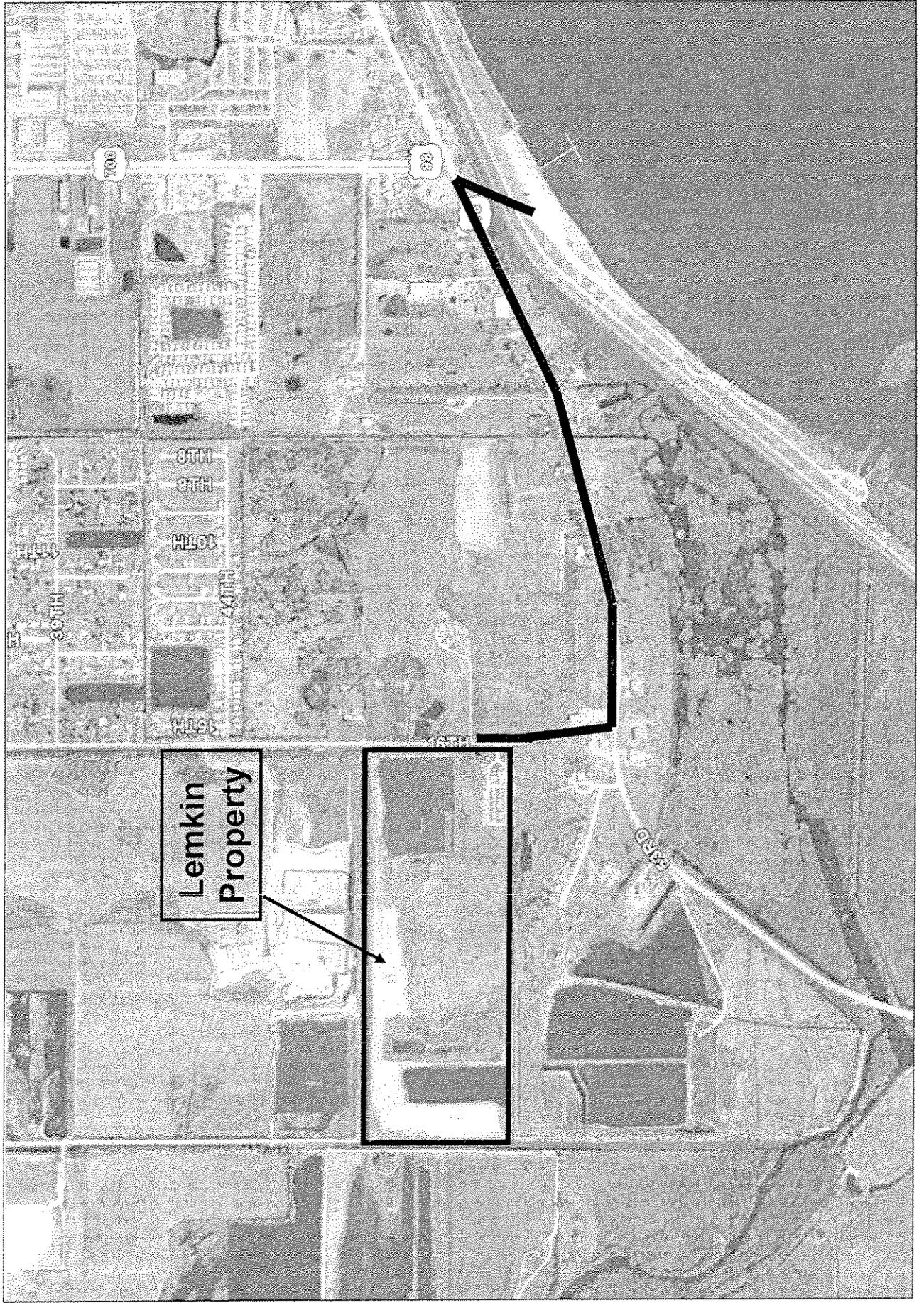
33 CFR PART 320-330

PUBLISHED FEDERAL REGISTER DATED 13 NOVEMBER 1986

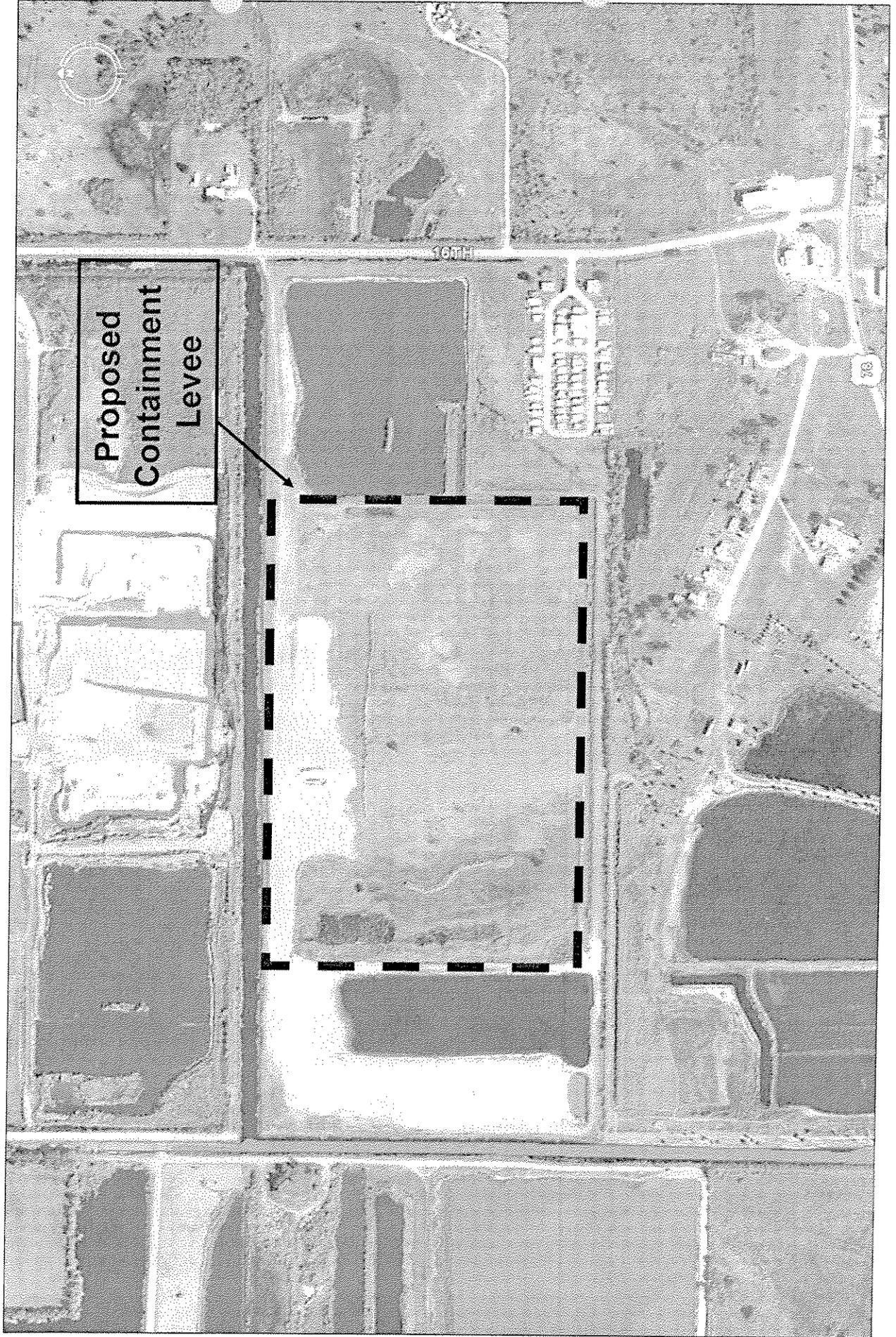
1. The time limit for completing the work authorized ends on date identified in the letter. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort of if the site is eligible for listing in the National Register of Historic Places.
4. If you sell the property associated with this permit you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.



# Lemkin Creek Location Map



# Lemkin Creek Area B







South Bay



South Bay





# Engineering Division Calculations

Project Spoil Area / Scraped Volumes

Page No. 1 of 2

Subject South Bay

Job No. / Program Code \_\_\_\_\_

Designer Sam Palermo

Date 5/10/07

Checked By Don Welch

Date 5/15/07

## South Bay

Area to be Scraped  $400 \text{ acres} \times \frac{43560 \text{ ft}^2}{1 \text{ acre}} = 17,424,000 \text{ ft}^2 \times \frac{1}{2} \text{ ft deep (low estimate)}$   
 $= 8,712,000 \text{ ft}^3 \times \frac{1 \text{ cy}}{27 \text{ ft}^3} = \boxed{322,666 \text{ cy low estimate}}$

$400 \text{ acres} \times \frac{43560 \text{ ft}^2}{1 \text{ acre}} = 17,424,000 \text{ ft}^2 \times 2 \text{ ft deep (high estimate)}$   
 $= 34,848,000 \text{ ft}^3 \times \frac{1 \text{ cy}}{27 \text{ ft}^3} = \boxed{1,290,666 \text{ cubic yards (high estimate)}}$

## Spoil Area

$45 \text{ acres} \times \frac{43560 \text{ ft}^2}{1 \text{ acre}} = 1,960,200 \text{ ft}^2 \times 7 \text{ ft (deep)} = 13,721,400 \text{ ft}^3$   
 $13,721,400 \text{ ft}^3 \times \frac{1 \text{ cy}}{27 \text{ ft}^3} = \boxed{508,200 \text{ cy Spoil disposal}}$

\* Temporary spoil location shall be cleaned out and refilled if dredged volumes exceed 500K cy.

\* See attached page for locations





# Engineering Division Calculations

Project Lemkin Creek  
 Subject Disposal  
 Designer SOM Palermo  
 Checked By Jon Welch

Page No. 1 of 2  
 Job No. / Program Code \_\_\_\_\_  
 Date 5/14/07  
 Date 5/15/07

## EMILIE BAY ISLAND

Area to be scraped  $280 \text{ acres} \times \frac{43560 \text{ ft}^2}{1 \text{ acre}} = 12,196,800 \text{ ft}^2 \leftarrow .5 \text{ ft deep (Low estimate)}$

$$6,098,400 \text{ ft}^3 \times \frac{1 \text{ cy}}{27 \text{ ft}^3} = \boxed{225,866 \text{ cy low estimate}}$$

$280 \text{ acres} \times \frac{43560 \text{ ft}^2}{1 \text{ acre}} = 12,196,800 \text{ ft}^2 + 1 \text{ foot deep (high est.)}$

$$12,196,800 \text{ ft}^3 \times \frac{1 \text{ cy}}{27 \text{ ft}^3} = \boxed{451,733 \text{ cy high estimate}}$$

## Spoil Disposal

$44 \text{ acres} \times \frac{43560 \text{ ft}^2}{1 \text{ acre}} = 1,916,640 \text{ ft}^2 + 7 \text{ ft (high stack pile)}$

$$= 13,416,480 \text{ ft}^3 \times \frac{1 \text{ cy}}{27 \text{ ft}^3} = \boxed{496,906 \text{ cy Spoil area}}$$

\* see attached page for locations.



# Engineering Division Calculations

Project Runoff/Rational Method  
 Subject Lenkin Creek  
 Designer Sam Palermo  
 Checked By Don Nell

Page No. \_\_\_\_ of \_\_\_\_  
 Job No. / Program Code \_\_\_\_  
 Date 5/11/07  
 Date 5/15/07

EAGLE BAY Island Spoil Site Lenkin Creek

$Q = C \cdot I \cdot A$  Spoil site is 44 acres

$C = 0.21$ . Good condition (grass cover larger than 75% of area)

$$i = \text{in/hr} = 1''/\text{day} \cdot \frac{1 \text{ day}}{24 \text{ hr}} = 0.04167 \text{ in/hr}$$

$$Q = C \cdot i \cdot a$$

$$= (0.21) (0.04167 \frac{\text{in}}{\text{hr}}) (44 \text{ acres}) = 0.385 \text{ cfs}$$

0.77 acre-feet of water per day



# Engineering Division Calculations

Project Low Lake Stage Projects  
 Subject Lake Okeechobee EOC  
 Designer Sam Palermo  
 Checked By DON WELL

Page No. 1 of 2  
 Job No. / Program Code \_\_\_\_\_  
 Date 5/11/07  
 Date 5/15/07

### Fisheating Bay

Area to be scraped  $400 \text{ acres} \times \frac{43560 \text{ ft}^2}{1 \text{ acre}} = 17,424,000 \text{ ft}^2 \times \frac{3}{4} \text{ ft (low estimate)}$

$13,068,000 \text{ ft}^3 \cdot \frac{1 \text{ cy}}{27 \text{ ft}^3} = \boxed{484,000 \text{ cubic yards (low estimate)}}$

$400 \text{ acres} \times \frac{43560 \text{ ft}^2}{1 \text{ acre}} = 17,424,000 \text{ ft}^2 \times 1 \text{ ft (high estimate)} =$

$= 17,424,000 \text{ ft}^3 \cdot \frac{1 \text{ cy}}{27 \text{ ft}^3} = \boxed{645,333 \text{ cubic yards (high estimate)}}$

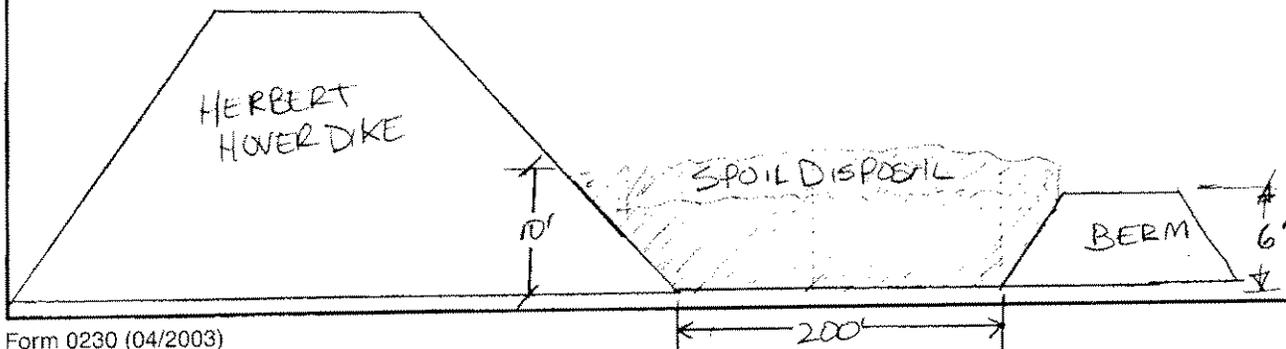
### Spoil Disposal 200ft x 1.5 miles = 36 acres

$36 \text{ acres} \times \frac{43560 \text{ ft}^2}{1 \text{ acre}} = 1,568,160 \text{ ft}^2 \times 10 \text{ ft} = 15,681,600 \text{ ft}^3 \cdot \frac{1 \text{ cy}}{27 \text{ ft}^3}$

$\boxed{580,800 \text{ cy of Storage}}$

### Profile of Storage location

\* Not to scale  
 \* See attached page for location





# Engineering Division Calculations

Project Runoff / Rational Method

Page No. 2 of 2

Subject FBS

Job No. / Program Code \_\_\_\_\_

Designer Sam Palermo

Date 5/11/07

Checked By Don Welch

Date 5/16/07

Fiskeating Bay Spoil disposal

$$Q = C i a = (0.21) \left( \frac{0.04167}{\text{in/hr}} \right) (36 \text{ acres}) = 0.315 \text{ cfs}$$

0.63 acre-feet per day

Very minimal water



# Engineering Division Calculations

Project SOUTH BAY DISPOSAL

Page No. 1 of 1

Subject APPROXIMATE DIMENSIONS

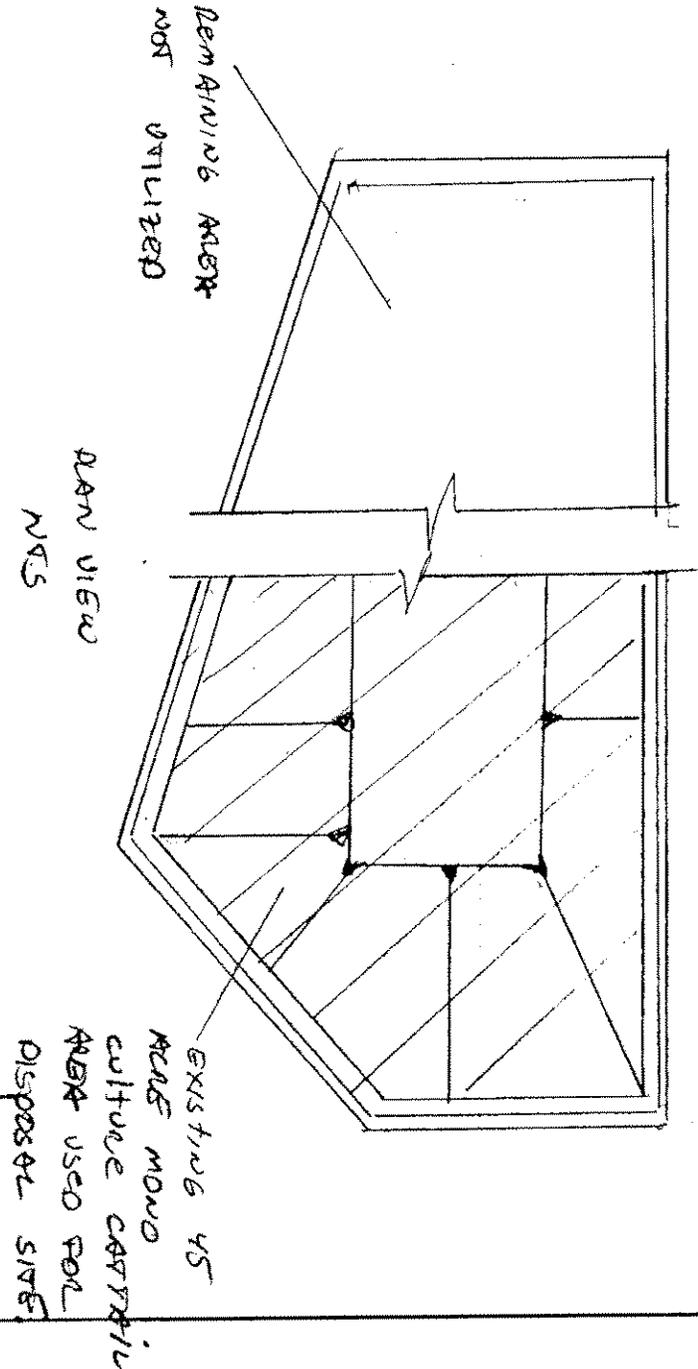
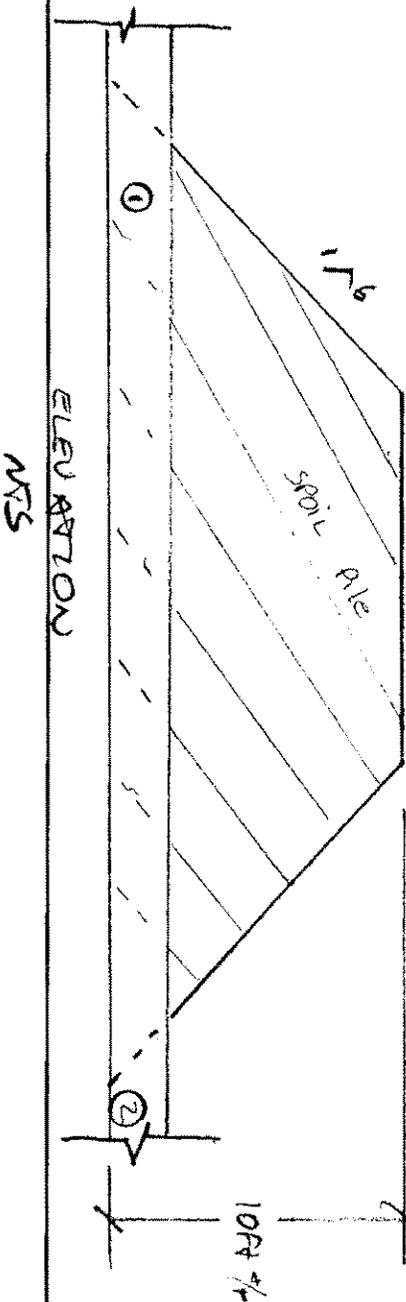
Job No. / Program Code \_\_\_\_\_

Designer DON NUELLE

Date 5/15/07

Checked By Don Nuelle

Date 5/15/07



- ① EXISTING 3' HIGH BERM
- ② MAIN STAIN 20' CLEARANCE TO SLOPE TO TOP OF SLOPE



# Engineering Division Calculations

Project Muck Removal Permit.

Page No. 1 of 1

Subject TYPICAL Spoil Disposal Lay out.

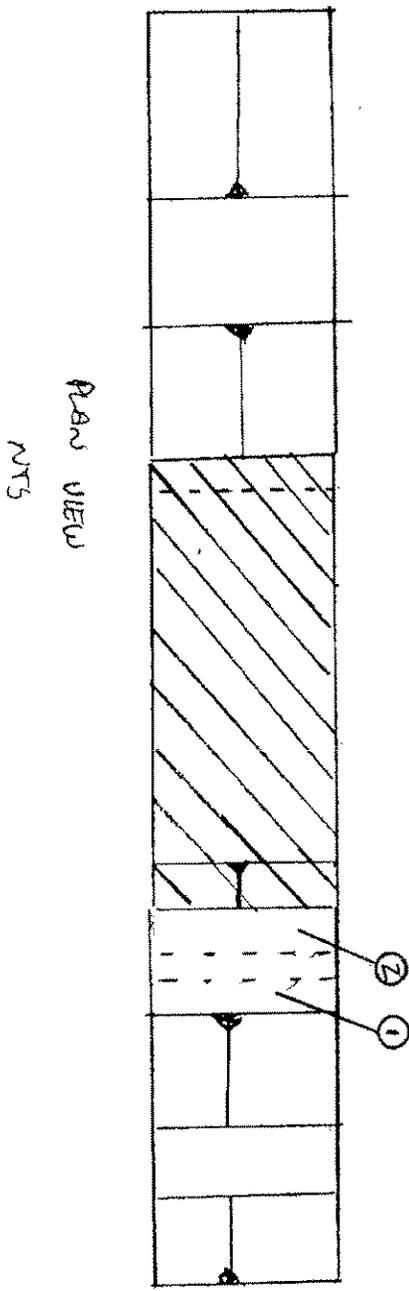
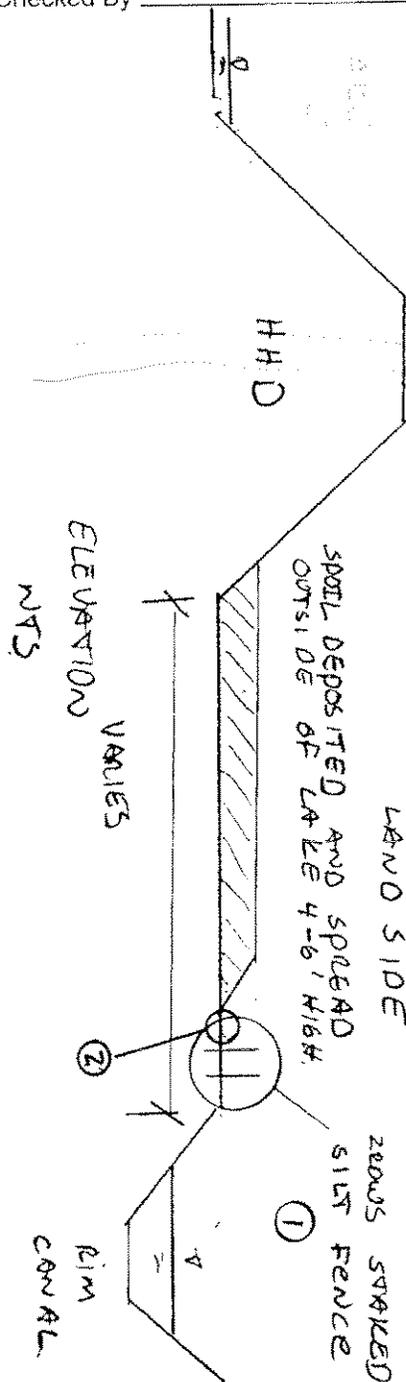
Job No. / Program Code \_\_\_\_\_

Designer DON NVELLE

Date 5/15/07

Checked By \_\_\_\_\_

Date \_\_\_\_\_



- HHAD OUTSIDE OF LAKE DISPOSAL.
- ① Maintain 20' clear distance from outermost row of silt fence to canal top of bank.
  - ② Maintain 20' clear distance from spoil deposition pile toe of slope to nearest row of silt fence



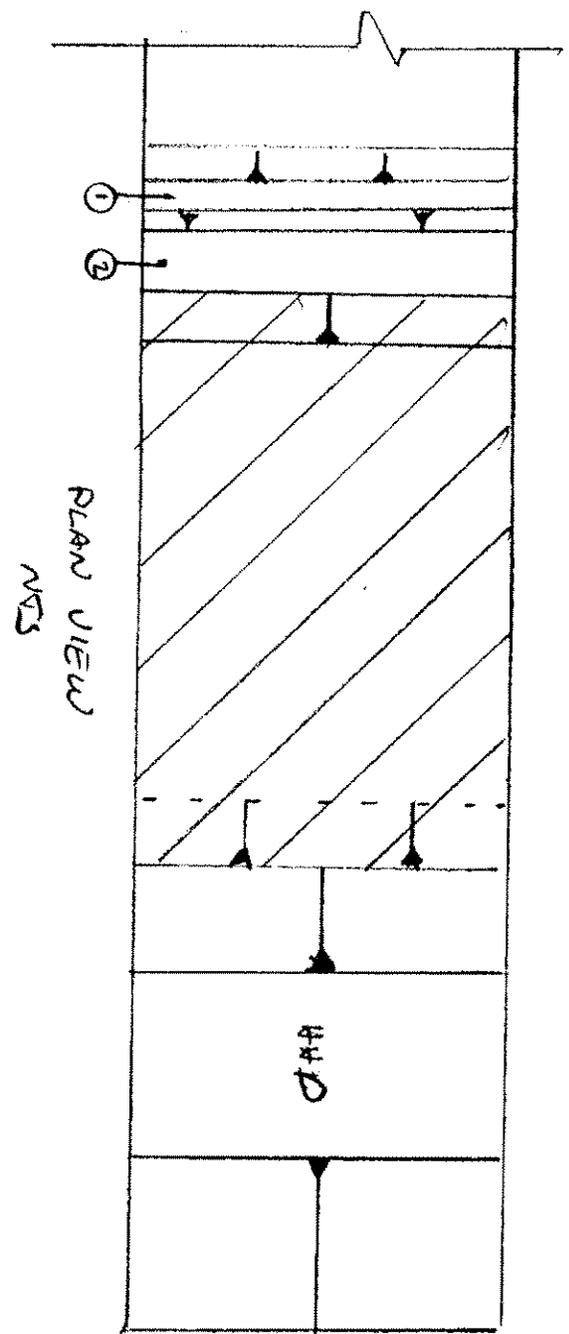
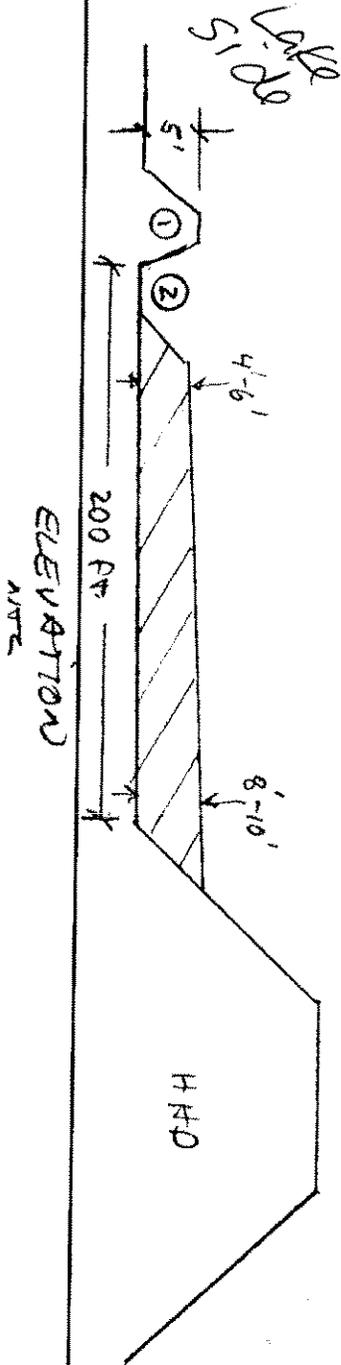
# Engineering Division Calculations

Project FISH EATING BAY DISPOSAL Page No. 1 of 1

Subject APPROXIMATE DIMENSIONS Job No. / Program Code \_\_\_\_\_

Designer DON MUEHLER Date 5/15/07

Checked By \_\_\_\_\_ Date \_\_\_\_\_



- ① EXISTING 5' HIGH BEAM
- ② 20 FT CLEARANCE TOE OF SLOPE TO TOE OF SLOPE.



# Engineering Division Calculations

AREA B

Project Lemkin Creek Disposal

Page No. 1 of 1

Subject APPROXIMATE DIMENSIONS

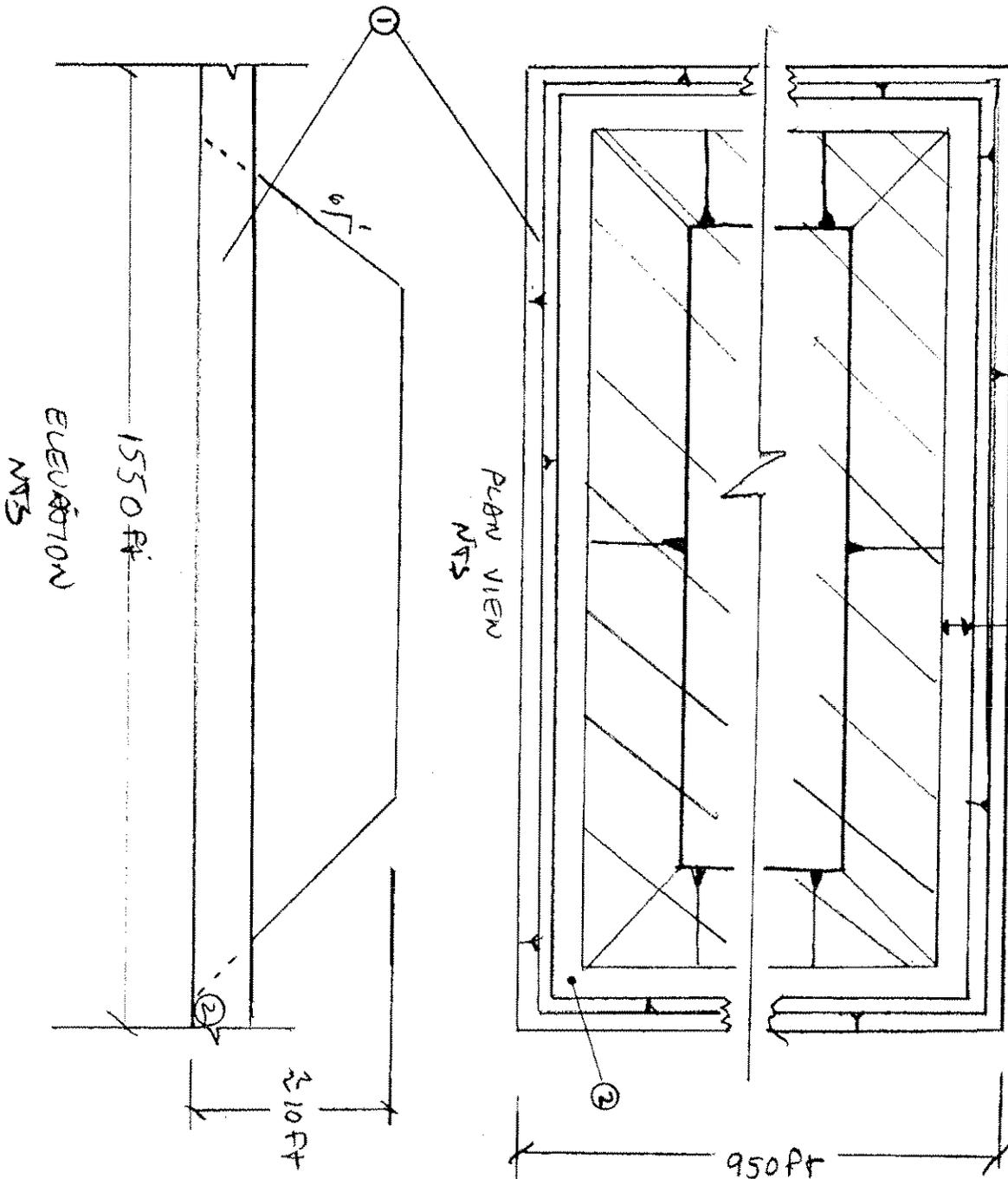
Job No. / Program Code \_\_\_\_\_

Designer Don Nuelle

Date 5/15/07

Checked By \_\_\_\_\_

Date \_\_\_\_\_



- ① 5' HIGH PERIMETER CONCREMENT BEAM.
- ② 20' CLEAR DISTANCE TO OF SLOPE TO TOP OF SLOPE.

Muck Removal Permit Info Needs- 5/14/07

SFWMD

1. Paragraph on coordination between scientists, engineers, and contractors in the field.

The contractors, engineers and construction managers will be teamed with wetland scientists and biologists in the field for frequent decision making regarding where to dig and how deep to dig. All earthwork shall be guided by the decision making process of the wetland scientists and biologists to achieve maximum environmental benefit which is the main objective of the project. All native wetland communities within the work area will be delineated by the scientific community in the field and staked off accordingly so that impacts to existing wetlands are minimized.

2. Typical drawing of levee, berm, and turbidity barriers if material is placed outside of the HHD.

See attachment labeled "TypicalOutsideHHD\_2"

3. Brief description of how geotextile material will be used/removed associated with haul route.

A thin hard plastic mesh is placed along the haul routes to distribute the wheel load of the trucks over a larger area thus making the surface harder and easier to drive on. Once the project is completed the mesh is removed and stored for future use.

4. Location map of Lemkin Creek

See attachment "Lemkin Creek Maps"

5. Figure of Lemkin Creek with disposal site B highlighted

See attachment "Lemkin Creek Maps"

6. Height of existing containment berms

- Fisheating Bay: 5' above natural grade.
- South Bay: 7' above natural grade.
- Lemkin Creek to be 5' above natural grade.

7. Dimensions (HWL) of spoil disposal sites/hand drawing of typical spoil mound with max height 18 ft NGVD identified

See attachment labeled "DisposalDrawings\_7"



8. Revised calculations of spoil quantities

See attachments labeled “FisheatingBayCalcs\_8”, “SouthBayCalcs\_8”, and “EagleBayCalcs\_8”

9. Identification of anticipated haul routes

See attachments labeled with haul routes

FDEP

1. Coordinate with fuel tanks program to determine what conditions/concerns need to be captured in permit

## TORRY ISLAND WETLAND RESTORATION PLAN FOR SOUTH BAY TEMPORARY DISPOSAL SITE

The South Florida Water Management District (DISTRICT) and the Florida Fish and Wildlife Conservation Commission (COMMISSION) have undertaken an on-going restoration enhancement project on Torry and Ritta Islands along the southern shore of Lake Okeechobee (Attachment A). Some of the earthen berms that were constructed during the time that the islands were used for commercial agriculture were removed in an effort to re-establish hydrologic connections between the lake and the islands. The project also involves the removal of exotic vegetation from the islands and the re-planting of native vegetation such as pond apple, willow and spike rush.

In addition, non-inundated areas on the islands will be maintained for the proliferation of the Okeechobee gourd, (*Cucurbita okeechobeensis* sp.), which is a vine that was once commonly found in the extensive pond apple forest surrounding Lake Okeechobee in Palm Beach County, and in the Everglades, but was almost completely destroyed as early as 1930 (USFWS, 1999). The plant is now on the Florida and Federal endangered species list. The documented population of Okeechobee gourd around the southeastern shore of the lake is strongly associated with Torry muck, a soil formed in the extensive pond apple forests that once surrounded Lake Okeechobee (USFWS, 1999).

As part of this restoration, the District has undertaken the replanting of native pond apples (*Annona glabra*) along the walkways and in the northern portion of an approximately 100-acre section of degraded wetland encircled by one of these dikes. The City is constructing several hiking trails and a multi-use trail to various parts of Torry Island, as part of Belle Glade's long range plans for the island.

The southern portion of the 100-acre wetland, which is currently 90-95% cattail, is the proposed temporary disposal site for the South Bay muck removal project underway as part of drought-related restoration efforts in the lake. Once a permanent disposal location is identified, the muck material will be removed from this temporary disposal site and the site will be returned to its existing elevation. In addition, pond apple and other native vegetation will continue to be planted on the approximately 100-acre tract on Torry Island bounded by the southern leg of the inner trail and the outer trail of the Belle Glade Nature Center. This area is ideal for planting nursery reared pond apple since it is presently diked off from the lake and can therefore be temporarily maintained in a non-inundated state, to permit establishment of new trees. Bathymetric survey data for this area suggests that except for a deeper central region, most of the area would support pond apple at appropriate depth, even at maximum schedule lake stage.

### REFERENCES

USFWS. 1999. *South Florida Multi-Species Recovery Plan- a Species Plan, An Ecosystem Approach*. United States Fish and Wildlife Service, Southeast Region, Atlanta, GA.