

Part III. ENVIRONMENTAL RESOURCE IMPACTS

13. WETLANDS

Background

The Project area consists of approximately ±500 acres, which were historically wetlands that were part of broad Sawgrass flats in the greater Everglades ecosystem ultimately flowing into Biscayne Bay. Over time, the Property was converted to agricultural use and has been most recently utilized as a C&D debris landfill and Material Recycling Facility (MRF). Portions of the perimeter of the Site are surrounded by a berm and a storm water treatment system has been constructed in conformance with State water quality standards. Several Florida Department of Environmental Protection (FDEP) and Miami-Dade County Department of Environmental Resource Management (DERM) permits have been issued for the existing construction and demolition use.

Historically, the Site was entirely underlain by hydric soils. According to the USDA Natural Resources Conservation Service (NRCS) Soil Survey for Dade County Area, Florida (issued January 1996), much of the Property is composed of Dania Muck, Depressional as shown on **Map E (R2) – Soil Map** located in **Question 9 - Maps**. “Dania Muck, Depressional” is described as a shallow, nearly level, very poorly drained soil located in poorly defined drainage-ways and adjacent to deeper organic soils within Sawgrass marshes. Most areas are typically ponded for 9 to 12 months in most years and support natural vegetation, which consists of Cattail and Sawgrass. Dania Muck is listed as a hydric soil.

Most of the remaining Property is underlain by the Lauderhill Muck, Depressional soil type. Areas with Lauderhill Muck are shallow, nearly level, very poorly drained soil located in poorly defined drainage-ways and adjacent to deeper organic soils within Sawgrass marshes. Most areas are typically ponded for 9 to 12 months in most years and support natural vegetation, which consists of Cattail and Sawgrass. Areas that are drained may become dominated by Brazilian Pepper and Melaleuca. Lauderhill Muck is also listed as a hydric soil.

According to the Miami-Dade County Soil Survey, the extreme southern portion of the Property is mapped as Udorthent soil. This condition is a result of the rock mining activity to the south, which has resulted in the deposition of fill on lands adjacent to the mining activities.

Nearly all soils on the Property have been altered through oxidation resulting from drainage and water management activities. In addition, because of the historical construction and demolition land filling activities, fill has been placed on the Site to facilitate the construction of storm water management systems as well as to implement requirements of regulatory permits for the landfill activities. Consequently, vegetation patterns have been altered due to land clearing, hydrologic manipulations and the placement of fill.

Hydrologically, a number of activities have significantly altered the historic water flow through the Site as well as the natural hydro-periods. Originally, the Property was part of a wetland community within the extensive coastal everglades system. Water

ponded on the Site through much of the rainy season and thick muck layers have developed as a result. With the growth of Miami-Dade County the need for food supplies became greater and the area was converted to agricultural use, primarily for cattle grazing. To improve the soil conditions and convert the area to suitable grazing conditions for cattle ranches, ditches were constructed to move ponded water to Biscayne Bay. The construction of extensive drainage systems resulted in a general lowering of the water table and shift in vegetation communities to a more transitional community type.

With the northward expansion of urban development and the construction of better drainage features, canals and ditches, the remaining wetland communities no longer experienced significant ponding through the summer months and the vegetation shifted to an even drier community type. These soil disturbances and major alterations in drainage patterns enabled the establishment invasive and exotic plant species found On-Site today.

- A. **1. Acreage and percentage of Property which is currently wetlands. These wetlands should be shown on Map F, Vegetation Associations, and identified by individual reference numbers. (These numbers should be utilized in responding to the other sub-questions.)**

Evaluation and Documentation Protocol-Wetlands and Vegetation

The Property was evaluated for the presence of wetland areas pursuant to the applicable Florida wetland delineation protocol contained in Section 373.019 Florida Statutes (F.S.), and the techniques included in 62-340 Florida Administrative Code (F.A.C.) and by the *US Army Corps of Engineers Wetland Delineation Manual* (1987). The wetland evaluation and review were incorporated into the evaluation of vegetation inside the Property. A set of wetland functional analysis score sheets that have been prepared for the wetland permitting review processes are included as **Exhibits 13.1 – Uniform Mitigation Assessment Methodology (UMAM)** score sheets and **Exhibit 13.2 – Wetland Assessment Technique for Environmental Review (W.A.T.E.R.)** score sheets. Initial techniques used to determine the potential extent of wetland areas On-Site include the review of past wetland permits with impacts to wetland areas On-Site and a review of recent and historic aerial photographs for potential wetland areas. Subsequent field analysis was conducted to confirm the current On-Site conditions concerning vegetation, surface hydrology and soils. The preliminary analysis and initial On-Site vegetation surveys provided the primary data and information on the wetland characteristics On-Site. An additional intensive evaluation of the hydrology and a soil profile was conducted in areas that were preliminarily identified as possessing potential wetland characteristics. The areas confirmed as containing the three required wetland parameters, two confirmed parameters for the State of Florida determination, have been delineated on a suitably scaled map of the Property and are included in **Map F.1 (R2) – Vegetation Associations** and **Map F.2 (R2) – Wetlands** located in **Question 9 - Maps**.

As a result of historical alteration and land use activities, the Property is currently composed of a plant mosaic dominated by invasive exotic and undesirable vegetation and open cleared areas. All remnant areas meeting the definition of wetlands are shown on **Map F.1 (R2) – Vegetation Associations** and **Map F.2 (R2)**

– **Wetlands** located in **Question 9 - Maps**. There is a total of 104 acres of disturbed wetlands on the Property (approximately 20 percent of the total area). No native or high quality natural wetland systems were observed within the Property boundaries. The existing low quality wetland systems remaining On-Site are dominated by an association of the invasive exotic Punk Tree (*Melaleuca quinquenervia*), Brazilian Pepper (*Schinus terebinthifolius*), Australian Pine (*Casuarina equisetifolia*) and ruderal vegetation in cleared areas. All On-Site wetlands are shown on **Map F.2 (R2) – Wetlands**. These wetland areas have been significantly impacted by past clearing activities, adjacent rock mining activities, On-Site C&D landfill related uses, off-road vehicle use, and drainage. **Table 13.A.1 (R2) – Wetland Acreage** provides a list of the wetlands existing on the Property.

Table 13.A.1 (R2) Wetland Acreage		
Habitat Type	FLUCCS	Acreage
Melaleuca	6190	86
Disturbed Wet Prairie	6430	17
Ditch	5103	1
Total Wetland Acreage		104

Source: RS Environmental Consulting, Inc.

As shown on **Map F.2 (R2) – Wetlands**, the larger wetland communities on the Property are dominated by a dense canopy of Melaleuca. These Melaleuca wetlands form the majority of the wetlands On-Site, approximately 86 acres of the total 104 wetland acres. Because of this dense canopy, there is little vegetation in the sub-canopy and minimal ground cover. The understory contains Trema (*Trema micrantha*), Strangler Fig (*Ficus aurea*), Ear-Leaf Acacia (*Acacia auriculiformis*), and Saltbush (*Baccharis halimifolia*), with is some remnant Shield Fern, Leather Fern and Sawgrass in the ground cover and in some locations Southern Frogfruit. Continued water manipulations has resulted in lowered hydrologic patterns resulting from the canal to the north, drainage ditches on the Property, and the rock mining operations on adjacent properties and has altered the ability of these wetlands to continue to support obligate wetland species. These Melaleuca wetlands, as with all wetlands on the Property, are isolated and have no direct connection to off-site water bodies or adjacent wetland communities. This isolation is a result of the construction of berms surrounding the C&D landfill, construction of access roads for agricultural operations, adjacent rock mining operations and construction of County roads.

The Disturbed Wet Prairie habitat includes Sawgrass, Bushy Bluestem and Coinwort (*Centella asiatica*), with any combination of these filling at least 20 percent of the overall plant coverage. Other species found included Common Frogfruit (*Phyla nodiflora*), Primrose Willow (*Ludwigia peruviana*), Water Primrose (*Ludwigia octovalvis*), Dog Fennel (*Eupatorium sp.*), Goldenrod (*Solidago sp.*), Ragweed, and Beggar-ticks. This habitat type includes approximately 17 acres On-Site.

Perimeter ditches were noted around portions of the Property. Although too small to be mapped, these ditches were typically included in the narrow exotic hardwood land cover type on the outer perimeter of the Property. Smaller ditch-like areas were noted with the interior of the Site as well. Some of these areas were inundated and contained hydrophytes such as Sawgrass, Spadderdock (*Nuphar lutea* subsp.

advena), Creeping Ox-Eye (*Wedelia trilobata*), and Sword Fern (*Nephrolepis sp.*). Vegetation at the top of bank of these artificial features was typically dominated by exotic hardwood species including Brazilian Pepper, Australian Pine, and Guava (*Psidium guajava*). This habitat type includes approximately 1 acre On-Site.

2. Historic hydroperiods and seasonal water elevations of on-site wetlands.

October Water Level for this Project is +3.5 NGVD and May Water Level is +2.8 NGVD. Both the hydroperiod and water levels for this area have been reduced due to the drainage of the Property for the C&D landfill.

3. Acreage and location of wetlands which are to be preserved in their natural or existing state, including proposed hydro periods, seasonal water elevations and methods for preservation.

Because of the highly disturbed nature of the remaining wetland habitat found within the Project area the entire Site is proposed to be developed. Any preservation of remnant wetland areas On-Site would not provide any high-quality wetland habitat with any significant wetland functions or valuable fish and wildlife habitat.

4. Acreage and location of wetlands which are to be enhanced in their natural or existing state, including proposed hydroperiods, seasonal water elevations and methods of enhancement.

As stated in the response to A.3, there is no pristine or high-quality wetland habitat remaining On-Site that would be feasible for enhancement of any kind. Any efforts toward restoration of wetland habitat would face significant obstacles to achieving suitable hydrology for the establishment of suitable wetland plant species. Furthermore, with the existence of nuisance and exotic plant species on adjoining properties there would be continual invasive plant species control required to maintain wetland communities.

5. Actions taken to minimize or mitigate impacts on wetland areas, including maintaining the hydro period and providing buffers.

As stated in the response to A.3, above, the entire Property is proposed to be developed. With the significant adverse impacts to historic hydrologic patterns, the amount of fill and C&D debris that has been placed on the Property from the landfill activity, and with all of the exotic plant species existing on neighboring property, preservation of any remnant wetland areas On-Site would not result in maintaining high-quality wetland habitat that would provide significant wetland functions or provide viable fish and wildlife habitats. Furthermore, the nuisance and exotic plant species on adjoining properties would require continual invasive plant species control to maintain the wetland communities.

It is anticipated that the Project will require mitigation to off-set impacts to the disturbed wetlands. The mitigation plan to off-set these impacts, is expected to consist of the purchase of credits at a local mitigation bank.

6. Acreage and location of wetlands which will be disturbed or altered, including a discussion of the specific alterations and disturbances.

Since the entire Property is proposed to be developed, all 104 acres of the remaining disturbed wetlands as shown on **Map F.2 (R2) – Wetlands** are to be removed.

7. Precautions to be taken during construction to protect wetland areas.

Since all of the remaining wetlands On-Site are proposed to be filled, no plan for the protection of remaining wetlands will be required. All proper turbidity precautions will be taken to prevent erosion and discharge of turbidity to adjacent Property. Silt fences will be properly installed to surround the Property and will be maintained during all construction activities. Please see **Exhibit 13.3 – Conceptual Silt Fence Barrier Locations**.

A secondary impact analysis has been conducted for the wetlands within Section 17 adjacent to the proposed work associated with the closure of the landfill and construction of the commercial facility. The analysis includes the assumption that secondary impacts extend 25 feet from either the edge of construction or from the toe of slope of any road construction on property not owned by the Applicant consistent with traditional secondary impact analysis associated with the impact review for the SFWMD. Note that impacts to wetlands owned by the Applicant are dealt with through direct impact analysis.

Because of the configuration of the Project, the Golden Glades right-of-way in the north central portion of the Project is enclosed by the proposed commercial and retail development portions of the Project. As a result of this configuration, secondary wetland impacts have been calculated for both the north and south boundaries of the entire right-of-way within the Project boundaries. The results of this analysis indicate that there will be 6.06 acres of secondary wetland impacts to the Golden Glades right-of-way.

As part of the overall secondary impact analysis, the secondary wetland impacts of the construction of roads were also considered. The roads considered as part of the overall secondary impact analysis include NW 97 Avenue from NW 154 Street to NW 170 Street, NW 107 Avenue from theoretical NW 107 Street to theoretical NW 162 Street, and NW 162 Street from NW 97 Avenue to NW 102 Avenue. The locations of these streets being considered in the secondary impact analysis are shown in **Exhibit 13.3 – Conceptual Silt Fence Barrier Locations**. The results of the analysis anticipate that there will be 6.06 acres of secondary impacts associated with the construction of roads around the Project that ultimately will have to be built. The individual secondary impacts for each road are shown in **Exhibit 13.4 – Secondary Wetland Impacts**. Please note that secondary impacts to wetlands north of the Project Site are not anticipated due to the Golden Glades Canal that lies immediately north of NW 170th Street because of the lack of any vegetated-shelf along the banks and the steep banks of the canal.

Finally, it is not anticipated that there will be any secondary wetland impacts to the rock mining lakes to the south and west of the Project Site due to the heavily impacted nature of the existing mining operations.

8. If available, provide jurisdictional determinations

There are no exiting jurisdictional determinations for the Property. Portions of the of the Site may contain areas that are jurisdictional to the US Army Corps of Engineers (ACOE), the State of Florida South Florida Water Management District (SFWMD) or the FDEP depending on which state agency decides to pursue permitting for the Site, and DERM pursuant to the environmental regulations of the respective agencies. All wetlands and surface waters will be evaluated according to each agency's specific criterion.

With the recent *Rappanos* ruling by the U.S. Supreme Court and subsequent guidance published by the U.S. Environmental Protection Agency and US ACOE, consultation with the Corps will be necessary to determine the extent of any federal jurisdictional wetlands on the Property. Although there are no direct hydrologic connections to navigable waterways, the Applicant will coordinate with the Corps to determine if there is any "significant nexus" to the nearby canal located to the north of the Property.

B. Provide any proposed plans (conceptual or specific) for created or enhanced wetland areas, including littoral lake slopes, buffers, vegetative species to be planted, etc.

The analysis of the Property has significant listed species or On-Site habitat areas of sufficient quality to require preservation in their present state or location.

The wetland mitigation plan will consist of the purchase of wetland credits at a local mitigation bank. The options in Miami-Dade County include the Florida Power & Light Everglades Mitigation Bank (EMB), the Hole-in-the-Donut Mitigation Bank (HID) and any other acceptable mitigations banks. The Applicant will work with the SFWMD (or FDEP), Miami-Dade County DERM and the Corps (if required) through the environmental permitting processes to determine the appropriate number of credits required and then pursue the purchase of wetland credits, as may be required by the applicable regulatory agencies.

Exhibit 13.1

Uniform Mitigation Assessment Methodology (UMAM)

BEACON COUNTYLINE MITIGATION PLAN

Mitigation Calculations (With Secondary Impacts)

Beacon Countyline - EMB Calculations			
Wetland Type	Acreage	WATER SCORE	Credits Needed
Melaleuca/Forested	87	0.47	41.7
Prairie	16	0.46	7.5
Total	103	N/A	49.2

Beacon Countyline - HID Calculations			
Wetland Type	Acreage	Ratio (:1)	Credits Needed
Melaleuca	87	1	87
Prairie	16	1.5	24
Total	103	N/A	111

Beacon Countyline Roads - EMB Calculations*			
Wetland Type	Acreage	WATER SCORE	Credits Needed
Assume Melaleuca	9.1	0.47	4.36

Beacon Countyline Roads - HID Calculations *			
Wetland Type	Acreage	Ratio:1	Credits Needed
Assume Melaleuca	9.1	1*	9.1

Beacon Countyline Secondary Impacts - HID Calculations			
Wetland Type	Acres (assume 25' wide)	Secondary Impact (assume 25% loss)	Credits Needed (Assume 1:1 Ratio)
Commercial Site **	6.06	1.52	1.52
Roads *	6.06	1.52	1.52
Total	12.12	3.04	3.04

Beacon Countyline Secondary Impacts - EMB Calculations			
Wetland Type	Acreage	WATER SCORE (Pre)	WATER SCORE (Post)
Commercial Site Assume Melaleuca	6.06	0.47	0.37
Roads Assume Melaleuca	6.06	0.47	0.37
Total	12.12	N/A	N/A

BEACON COUNTYLINE MITIGATION PLAN

Beacon Countyline Total - EMB Calculations			
Wetland Type	Credits Needed	WATER SCORE	Credits Needed
Direct	87	0.47	41.7
Secondary	16	0.46	7.5
Total	103	N/A	49.2

Beacon Countyline Total - HID Calculations			
Wetland Type	Acreage	Ratio (:1)	Credits Needed
Melaleuca	87	1	87
Prairie	16	1.5	24
Total	103	N/A	111

Note: These numbers represent an estimate of mitigation needed based upon current regulations and best available information. Final numbers will be confirmed by regulatory agencies during the permitting process. Secondary wetland impacts have not yet been included in the calculations.

* Roads include NW 97th Avenue (from NW 154th Street to NW 170th Street); NW 162nd Street; and NW 107th Avenue (from NW 154th Street to NW 162nd Street)

** Golden Glades ROW - assume 25' of impact on each side of ROW for the entire 1 mile length

Exhibit 13.2

Wetland Assessment Technique for Environmental Review (W.A.T.E.R.)

Mitigation Bank Wetland Function Evaluation Matrix

Project: Beacon Countyline

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

Reviewer: Ken Huntington
 Date: 11/27/2007

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Melaleuca	Wet Prairie	Ditch			
1. Fish & Wildlife Functions Apply to freshwater, saltwater, brackish and mitigation systems								
a. Waterfowl, wading birds, wetland dependent, or aquatic birds of prey. (Mit. Bank - High specie count w/ low pop. #'s score 1)	7 or more species commonly observed	3	1.5	1.5	2			
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
b. Fish (Mit. Bank - High specie count w/ low pop. #'s score 1 Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	N/A	N/A	2			
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
c. Mammals (Mit. Bank - High specie count w/ low pop. #'s score 1 Restoration that causes 12% pop. Increases-higher score)	Top predator (carnivore) &/or large mammals	3	3	3	1			
	Medium sized mammals , (adult weight > 6 lbs.)	2						
	Small animals (rodents, etc.) , (adult weight < 6 lbs.)	1						
	0 species present	0						
d. Aquatic macroinvertebrates, amphibians (Mit. Bank - High specie count w/ low pop. #'s score 1 Restoration that causes 12% pop. Increases-higher score)	7 or more species commonly observed	3	1.5	1.5	2			
	3-6 species commonly observed	2						
	1-2 species commonly observed	1						
	0 species commonly observed	0						
e. Aquatic reptiles (Mit. Bank - High specie count w/ low pop. #'s score 1 Restoration that causes 12% pop. Increases-higher score)	Large species observed	3	1	1	2			
	Aquatic turtles	2						
	Snakes & lizards	1						
	No evidence of species present	0						

Mitigation Bank Wetland Function Evaluation Matrix

Project: Beacon Countyline

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

Reviewer: Ken Huntington
 Date: 11/27/2007

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Melaleuca	Wet Prairie	Ditch			
2. Vegetative Functions Apply to freshwater, saltwater, brackish and mitigation systems								
a. Overstory/shrub canopy	Desirable trees/shrub healthy & providing appropriate habitat (seedlings present) & no inappropriate species	3	1.5	1	N/A			
	Desirable trees/shrubs exhibit signs of stress (no seedlings) few inappropriate species present	2						
	Inappropriate trees/shrubs shading or overcoming desirable tree/shrubs	1						
	Very little or no desirable tree/shrubs present (evidence suggests there should be)	0						
b. Vegetative ground cover	Assessment area exhibits <2% inappropriate herbaceous ground cover for specific wetland systems and groundcover is present	3	2	2	2			
	Assessment area contains >2% but <30% inappropriate herbaceous groundcover, or lack of groundcover >2% but < 30%	2						
	Assessment area contains >30% to <70% inappropriate herbaceous groundcover, or lack of ground cover >30% to <70%	1						
	Assessment area >70% inappropriate herbaceous groundcover or lack of groundcover >70%	0						
c. Periphyton mat coverage	Periphyton (Blue-green algae) present with average mat thickness >1 1/4 in. (measure active & dead layer)	3	0	0	0			
	Periphyton (Blue-green algae) present with average mat thickness between 3/4 in. to 1 1/4 in. (active & dead layer)	2						
	Periphyton (Blue-green algae) present with average mat thickness between 1/4 in. to 3/4 in. (active & dead layer)	1						
	Periphyton (Blue-green algae) not present or if present with average thickness of 0.0 to 1/4 in. (active & dead layer)	0						
d. Category 1 and Category 2 exotic plants or (non-native) species	< (or = to) 1% exotic plant cover	3	1	1	1			
	>1% to 10% exotic plant cover	2						
	>10% to 65% exotic plant cover	1						
	> 65% exotic plant cover	0						
e. Habitat diversity (vegetative) <i>(within assessment area)</i>	>3 native species communities on site within assessment area	3	1	1	1			
	2 or 3 native specie communities on site within assessment area	2						
	1 native species community with 75% to 90% coverage within assessment area	1						
	1 native species community has > 90% coverage within assessment area	0						
f. Biological diversity within 3000 feet <i>(approximately 1/2 mile from edge of assessment area)</i>	> 3 alternative habitats available (including upland)	3	2	2	2			
	2 to 3 alternative habitats	2						
	1 alternative habitat	1						
	Same habitat type, or inappropriate / impacted	0						

Mitigation Bank Wetland Function Evaluation Matrix

Project: Beacon Countyline

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews

Reviewer: Ken Huntington

Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

Date: 11/27/2007

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Melaleuca	Wet Prairie	Ditch			
3. Hydrologic Functions								
a. Surface water hydrology / sheet flow <i>Apply to freshwater, saltwater, brackish and mitigation systems</i>	Major connection (<i>Flowing water/ river or floodplain/ uniform flow through natural systems</i>)	3	1	1	1			
	Moderate connection (<i>Natural restriction of flow or Flowing water due to hydrologic engineering</i>)	2						
	Minor connection (<i>Runoff collection point, or uneven flow due to berms, ditches, roadways etc.</i>)	1						
	Hydrologically isolated, no net lateral movement	0						
b. Hydroperiod (normal year) fresh systems	> 8 months inundated with no reversals & every year drydown	3			2			
	>5 months < 8 months or >5 years continuous inundation (look for strong water stains on persistent vegetation)	2						
	>1 month < 5 months, with possible reversals (look for soft or less distinct water stains on persistent vegetation)	1						
	< 4 weeks cumulative annual inundation or < 2 weeks continuous inundation	0						
b-1 Alternate to b. for Short Hydroperiod (normal year) fresh systems:	>10 weeks of continuous inundation including soil saturation	3	2	2				
	> 6 weeks but <10 weeks of continuous inundation including soil saturation	2						
	>2 weeks but <6 weeks of inudation, including soil saturation	1						
	<2 weeks of continous inundation	0						
b-2 Alternate to b. for Saltwater, brackish (tidal) systems	Inundated by >90% high tides							
	Inundated by "spring" high tides (bi-monthly)	2						
	Inundated by "extreme high" tides only (biannually)	1						
	Inundated by storm surges only	0						
b-3 Alternate to b. for High Marsh (<i>Juncus-Distichlis</i>)	Inundated by high "spring" tides (monthly) and flushed by fresh water sheeflow every 10 days average	3						
	Inundated by high "spring" tides (monthly) and flushed by fresh water sheeflow every 30 days on the average	2						
	Inundated by high "spring" tides (monthly) and exposed to rain only	1						
	Inundated by >50% high tides and exposed to rain only	0						
b-4 Alternate to b. for Riverine systems	Inundated by high tides (daily) and/or recieves and maintains fresh water at least into first half of dry season	3						
	Inundated by high tides (daily) and/or recieves and maintains fresh water during rainy season only	2						
	Inundated by high tides (daily) and/or recieves fresh water but does not maintain (reversal) during rainy season	1						
	Inundated by spring tides (bi-monthly) and/or experiences frequent reversals of fresh water (flashy)	0						

Mitigation Bank Wetland Function Evaluation Matrix

Project: Beacon Countyline

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

Reviewer: Ken Huntington
 Date: 11/27/2007

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Melaleuca	Wet Prairie	Ditch			
3. Hydrologic Functions continued								
c. Hydropattern (fresh system)	>1 ft. water depth for at least 2.5 months and <6 in. for >1 month (measure water mark/ lichen line), or water depth ideal for specific wetland system.	3	1	1	2			
	>6 in to 1 ft. for at least 2.5 months (measure water mark/ lichen line) or water depth borderline over or under for specific wetland system	2						
	<6 in. for at least 2.5 months (measure water mark/ lichen line) or water depth incorrect for specific wetland system	1						
	<6 in. in association with either canals, ditches, swales, culverts, pumps, and/or wellfields, or these factors cause water depth to be too deep for specific system.	0						
c-1 Alternate to c. for Saltwater, brackish (tidal) systems	>1 ft. water depth <2 ft. on 90% high tides	3						
	> 6 in. water depth <1 ft. on >50% high tides	2						
	< 6 in. water depth , but > than saturated	1						
	Saturated by saline water table only	0						
c-2 Alternate to c. for High Marsh (Juncus-Distichlis)	>10 in. water depth <2 ft. on regular basis during growing season	3						
	>5 in. to 10in. water depth on regular basis during growing season	2						
	>1 in. to 5 in. water depth on regular basis during growing season	1						
	>0.0 in. to 1 in. water depth sporadically during growing season	0						
c-3 Alternate to c. for Riverine systems	>2 ft. water depth (main channel) <6 ft. for 8 months	3						
	>2 ft. water depth (main channel) <4 ft. for 6 months	2						
	>1 ft. water depth (main channel) <2.5 ft. for 4 months	1						
	<1 ft. water depth, but dry for >4 weeks (dry season)	0						

Mitigation Bank Wetland Function Evaluation Matrix

Project: Beacon Countyline

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

Reviewer: Ken Huntington
 Date: 11/27/2007

Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Melaleuca	Wet Prairie	Ditch			
3. Hydrologic Functions continued								
d. Water Quality	No indication of poor water quality (lab testing required, all values within acceptable range)	3	1	1	1			
	No visual indicators of poor water quality observed (1 value just over or under acceptable range)	2						
	Visual indicators of poor water quality questionable (2 values over or under acceptable range)	1						
	Visual indicators of poor water quality observed or lab verified (values are out of acceptable range)	0						
e. Intactness of historic topography (soil disturbance)	Unaltered	3	1	1	1			
	Slightly altered soil disturbance, < 10% of assessment area	2						
	Moderately altered soil disturbance, < 25% of assessment area	1						
	Extremely altered soil disturbance, may exceed 50% of assessment area	0						
f. Soils, organic (fresh systems)	Organic soil classified hydric soil >12 in. or any thickness over bedrock/caprock with perched water table and either condition covering >90% of surface area	3	2	2	1			
	Organic soil classified hydric soil >6 in. but <12 in. and covering >90% of surface area	2						
	Organic soil classified hydric soil >1 in. but <6 in. and covering >50% but <90% of surface area	1						
	Organic soil classified non-hydric soil <1 in. for >50% of surface area	0						
f-1 Alternate to f. for Freshwater, saltwater systems	Sandy soil classified hydric soil with distinct mottling and concretions present in greater than 40% of horizon.	3						
	Sandy soil classified hydric soil with mottling and concretions present in > 20% but < 40% of horizon.	2						
	Sandy soil classified hydric soil with light or sparse mottling and concretions < 2 mm diameter or < 20% of horizon.	1						
	Sandy soil exhibits strong evidence of disturbance or mechanical manipulations or is fill material.	0						
f-2 Alternate to f. for Freshwater, saltwater, brackish (tidal) systems	Calcareous loam >12 in. and >90 % of surface area	3						
	Calcareous loam >6 in. to <12 in. and >90% of surface area	2						
	Calcareous loam >1 in. to <6 in. and covering >50% but <90% of surface area	1						
	Calcareous loam <1 in. for >50% of surface area	0						

Mitigation Bank Wetland Function Evaluation Matrix

Project: Beacon Countyline

W.A.T.E.R. - Wetland Assessment Technique for Environmental Reviews
 Based on WBI, WQI, WRAP, HGM and 4th Priority Project List (PPL) with technical advise from
 EPA, FDEP, ACOE, NMFS, USF & W, SFWMD & Dade County

Reviewer: Ken Huntington
 Date: 11/27/2007

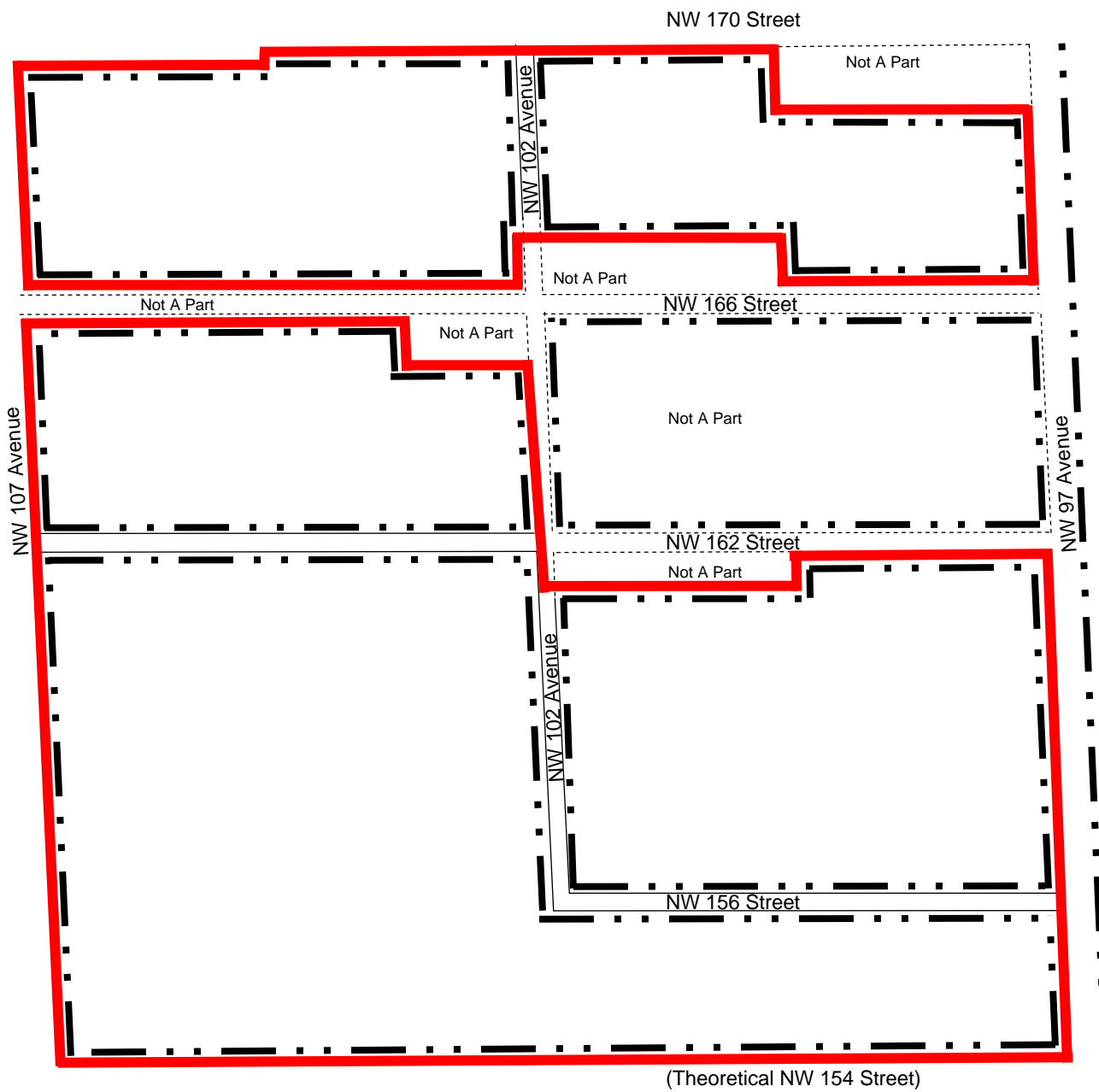
Parameter/ Function	Scoring Criteria	Ratings	Polygon	Polygon	Polygon	Polygon	Polygon	Polygon
			Melaleuca	Wet Prairie	Ditch			
4. Salinity Parameters Apply to freshwater, saltwater, brackish, hypersaline and mitigation systems - Choose 1								
a. Optimum salinity for fresh systems during growing season based on mean high salinity for a normal year. <i>Apply to freshwater systems within 5 miles of the coast</i>	<2 parts per thousand (ppt)	3						
	2 to 3 parts per thousand (ppt)	2						
	4 to 5 parts per thousand (ppt)	1						
	>5 parts per thousand (ppt)	0						
a-1. Alternate to a. Optimum salinity for brackish systems during growing season based on mean high salinity for a normal year. <i>Apply to brackish (tidal) systems only</i>	6 to 8 parts per thousand (ppt)	3						
	9 to 13 parts per thousand (ppt)	2						
	14 to 16 parts per thousand (ppt)	1						
	>16 parts per thousand (ppt)	0						
a-2. Alternate to a. Optimum salinity for saline systems during growing season based on mean high salinity for a normal year. <i>Apply to saline marsh (tidal) systems only</i>	17 to 19 parts per thousand (ppt)	3						
	20 to 22 parts per thousand (ppt)	2						
	23 to 25 parts per thousand (ppt)	1						
	>25 parts per thousand (ppt)	0						
a-3. Alternate to a. Optimum salinity for hypersaline systems during growing season based on mean high salinity for a normal year. <i>Apply to hypersaline (tidal) systems only</i>	26 to 41 parts per thousand (ppt)	3						
	42 to 46 parts per thousand (ppt)	2						
	47 to 51 parts per thousand (ppt)	1						
	>51 parts per thousand (ppt)	0						
a-4 Alternate to a. Optimum salinity for riverine/tidal creek system during growing season based on mean high slainity for a normal year. <i>Apply to riverine systems only</i>	bottom (lower) third between 12 to 25 ppt	3						
	middle third between 5 to 11 ppt.							
	upper (top) third between 0 to 4 ppt.							
	bottom (lower) third between 25 to 32 ppt	2						
	middle third between 6 to 24 ppt.							
	upper (top) third between 0 to 5 ppt.							
	bottom (lower) third between 30 to 40 ppt	1						
	middle third between 8 to 29 ppt.							
upper (top) third between 0 to 7 ppt.								
bottom (lower) third between 35 to 50 ppt	0							
middle third between 10 to 34 ppt.								
upper (top) third between 0 to 9 ppt.								

Cotleur Hearing, Inc.
 W.A.T.E.R. created by: Bill L. Maus
 11/1/1998

Cumulative Score (SC)	22.5	22.0	23.0
Maximum Possible Score (MPS)	48.00	48.00	48.00
W.A.T.E.R. = Cumulative Score/Maximum Possible Score	0.47	0.46	0.48

Exhibit 13.3

Conceptual Silt Fence Barrier Locations



NOTE: The location on the silt fence barriers are conceptual and subject to change during the development process.

Source: PBS&J, Inc., 2008

 Map Not To Scale

Legend:






-  Property Boundary
-  Approximate Location of Silt Fence Barriers
-  On-site Roadway
-  Off-site Roadway

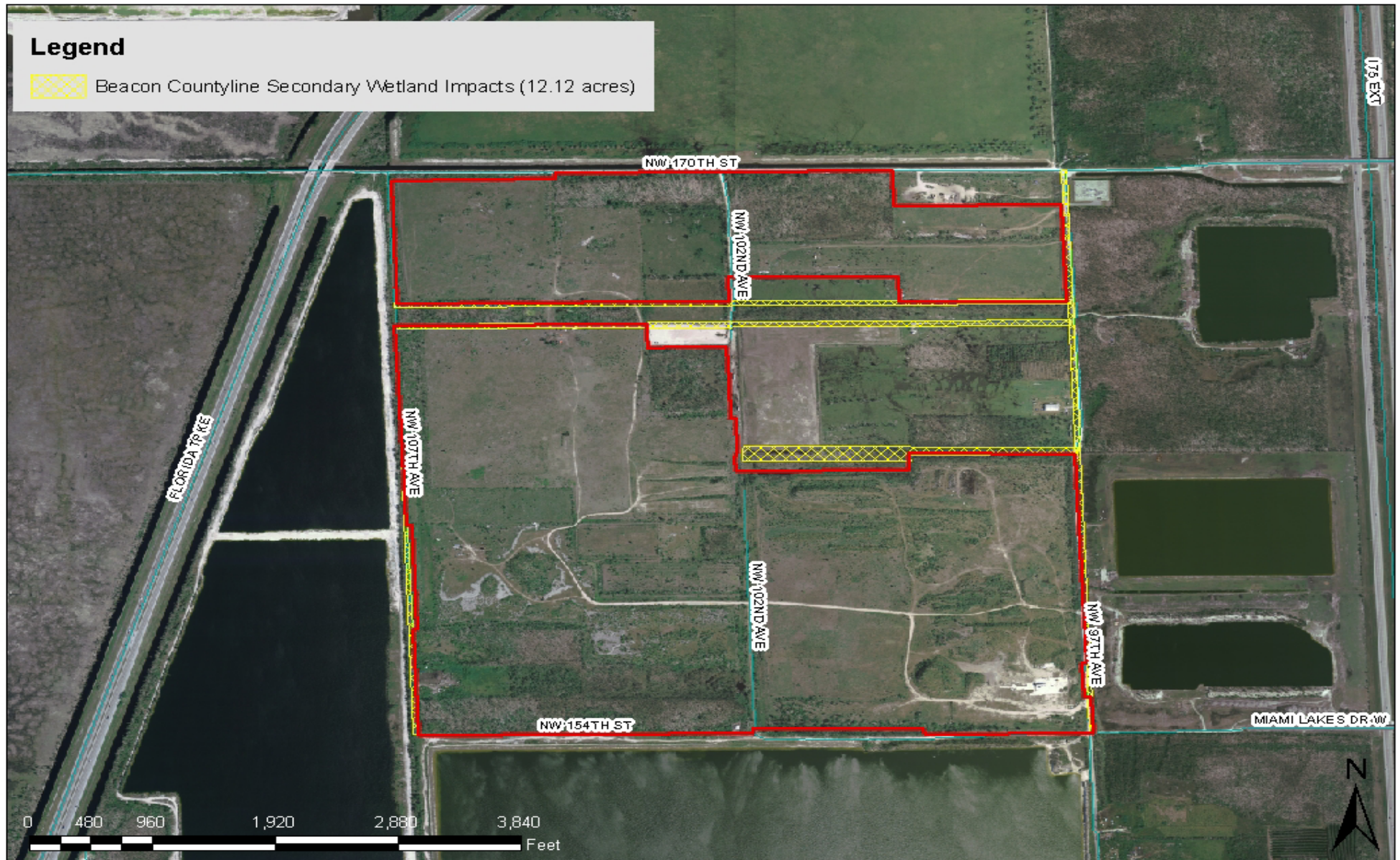
Exhibit 13.3
Conceptual Silt Fence Barrier Locations
Beacon Countyline DRI

Exhibit 13.4

Secondary Wetland Impacts

Legend

 Beacon Countyline Secondary Wetland Impacts (12.12 acres)



BEACON COUNTYLINE DRI

**EAST TURNPIKE BASIN
MIAMI-DADE COUNTY, FLORIDA**

RS PROJECT NUMBER: NA



RS Environmental Consulting, Inc.

RS

P.O. Box 161158
Miami, FL 33116-1158
Phone: (305) 383-3404
Fax: (305) 383-3270
www.rs-env.com

FIGURE 1

SECONDARY WETLAND IMPACTS T-52S, R-40E, S-17

DRAWN BY: DMM

DATE: 7/10/08

CHECKED BY: RWS

SCALE: AS SHOWN