

**SOIL MANGEMENT PLAN FOR  
WESTHORE LANDINGS - REVISION 1  
Tampa, Florida**

**22 April 2008**

**Prepared For:**  
**Westshore Community Development Corporation**  
3109 West Dr. Martin Luther King Jr. Blvd., Suite 140  
Tampa, Florida 33607

**Prepared By:**  
**Geosyntec**   
consultants

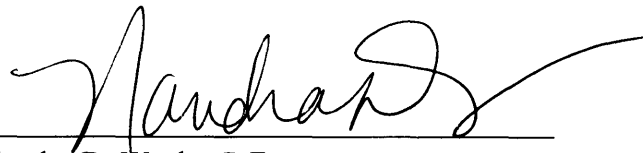
engineers | scientists | innovators

2258 Riverside Avenue  
Jacksonville, Florida 32204  
PH 904-388-8821

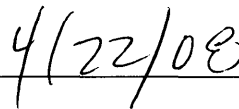
---

**PROFESSIONAL CERTIFICATION AND APPROVAL**

Based on the information contained in the attached document titled "Soil Management Plan for Westshore Landings - Revision 1" dated 22 April 2008, I hereby certify that the scope of work described in the above-referenced document was prepared in accordance with appropriate engineering standards of practice.



Nandra D. Weeks, P.E.  
Geosyntec Consultants  
2258 Riverside Avenue  
Jacksonville, Florida 32204  
Florida P.E. License No. 45428  
Expiration Date: 28 February 2009



Date

**TABLE OF CONTENTS**

1. SOIL MANAGEMENT PLAN DESCRIPTION ..... 1

    1.1 Overview ..... 1

    1.2 Site Location and Description ..... 1

    1.3 Purpose of the Plan ..... 2

2. SITE PREPARATION AND MANAGEMENT OF CONTAMINATED SOILS ... 3

    2.1 Known and Anticipated Conditions ..... 3

    2.2 Regrading of Existing Site Soils ..... 3

    2.3 Site Safety ..... 4

    2.4 Excavations Greater than Two Feet ..... 4

    2.5 Contingency Procedures ..... 5

3. SOIL COVER AND STORMWATER MANAGEMENT SYSTEM ..... 7

    3.1 Overview ..... 7

    3.2 Soil Cover System ..... 7

    3.3 Stormwater Management System ..... 7

    3.4 Closure Certification ..... 8

4. COVER INSPECTION AND MAINTENANCE PLAN ..... 9

**LIST OF DRAWINGS**

- Drawing 1. Soil Remediation Finished Grading Plan
- Drawing 2. Soil Remediation Grading Specification Plan
- Drawing 3. Soil Remediation Stormwater System Lining Plan

## **1. SOIL MANAGEMENT PLAN DESCRIPTION**

### **1.1 Overview**

As required by the Hillsborough County Environmental Protection Commission (HCEPC), this Soil Management Plan has been prepared by Geosyntec Consultants (Geosyntec) for its client, Westshore Community Development Corporation (WCDC), to address issues related to soil management for the proposed development, known as Westshore Landings. This development consists of construction of seventeen condominium buildings, and paved and landscaped areas encompassing most of the site, covering a total area equal to approximately 3.7 acres. In addition, this plan also addresses the stormwater management system, specifically the use of lined stormwater management system structures to manage stormwater runoff.

### **1.2 Site Location and Description**

The subject site is located in the vicinity of 1522 North Clark Avenue, Tampa, Florida, Section 16, Township 29, Range 18. The site is part of a larger parcel known as Landfill #34 closed in 1950. Much of the area previously encompassed by the landfill has been redeveloped. By 1966, the subject site was developed as the Hillsborough County Work Release Facility. The facility was demolished; however, at least a portion of the foundation remains.

Assessment activities performed by Geosyntec in 2007 indicate that very little waste remains at the site. In fact, limited waste was only sporadically observed within twelve test pits excavated in March 2007. It appears that the waste may have been removed and replaced with soil fill material (most likely when the Hillsborough County Work Release Facility was constructed). Alternatively, this area may have been historically topographically low and filled with soil material to bring it up to grade (in lieu of filled with waste). Although there has been very little waste found at the site, analytical testing of the surface soils (top two ft) has indicated the presence of some metals and polycyclic aromatic hydrocarbons (PAHs) above the residential cleanup target levels, as documented in a letter report prepared by Geosyntec dated 12 September 2007 previously submitted to the HCEPC. For the purposes of this document, soils above cleanup target levels are termed “contaminated soils” and referred to herein as such.

### **1.3 Purpose of the Plan**

The purpose of the Soil Management Plan is to provide procedures for regrading the existing site and providing two ft of cover soils over the potentially exposed areas in a manner that ensures protection of human health and the environment. The exposed areas include landscaped or grassed areas (and sidewalk areas due to practical constructability issues). As such, this document provides procedures for: (i) regrading the existing fill/soil material at the subject site; (ii) placing 2-ft of cover material (imported clean fill) over the exposed areas; (iii) constructing a stormwater management system; and (iv) monitoring the performance of the soil cover. In the remaining sections of this plan, the existing material at the site will be referred to as existing soils and the cover soils will be referred to as fill.

## **2. SITE PREPARATION AND MANAGEMENT OF CONTAMINATED SOILS**

### **2.1 Known and Anticipated Conditions**

Based on the existing and proposed final grades at the site, Water Resource Associates, Inc. (WCDC's civil site design firm) believes that all existing site soils can be managed within the property boundaries of the subject site. There are some unknowns that impact the volume of on-site soils to be managed, including the depth of the existing foundation that remains from the Hillsborough County Work Release Facility, which encompasses a fairly large area of the site. It is possible that some existing soils may need to be transported and disposed of off site at a Class I landfill; however, the remainder of this document assumes that all existing soils will be managed within site boundaries. Any contaminated soils requiring off-site disposal will be stockpiled after excavation, placed on plastic sheeting and covered with a tarp to prevent erosion and contact with potentially clean soils. Based on available analytical information, this document assumes that all surface soils are contaminated. Additional testing has been proposed to HCEPC to confirm this assumption.

### **2.2 Regrading of Existing Site Soils**

Prior to regrading of existing site soils, additional analytical testing will be performed in proposed building areas, within the footprint of the proposed stormwater management pond, underneath the entrance road, and within courtyard and open (grassed areas) in accordance with Geosyntec's response to comments letter to HCEPC dated 22 April 2008. The results of the analytical testing will be used to characterize soils as "clean" or "contaminated". Site soils that have one or more constituents above applicable screening criteria will be deemed to be "contaminated" for the purpose of this plan. Management of soils will be performed as follows:

- Existing site soils will be graded to ensure a minimum allowance of two ft of imported clean fill in all sodded, landscaped, and sidewalk areas.
- Contaminated soils located in the areas that will be sodded, landscaped, and covered with sidewalk that require relocation due to final grades will be placed underneath building foundations or paved areas where existing soils have been demonstrated to be contaminated.

- Contaminated soils will be stockpiled on plastic sheeting and covered with a tarp or otherwise placed directly on contaminated areas requiring fill.
- If soils underlying a specific building are characterized as “clean” based on analytical testing, no contaminated soils will be placed in these areas. If fill is required in these areas, then clean fill will be placed to bring the area to the final proposed grades.
- Any “clean” site soils requiring excavation due to final grades or construction of stormwater appurtenances may be placed within any proposed building footprint or paved area to achieve desired final elevations. Clean site soils must be established through analytical testing as described herein.
- For the purposes of relocation of contaminated soils under this plan, confirmation of contamination in either the 0 to 6 inch BLS or 6 to 24 inch BLS interval, WCDC may consider the entire 0 to 2 ft BLS strata to be contaminated in the area designated (for example, under the building).
- The selected contractor will be required to provide spot elevations certified by a licensed land surveyor in all sodded, landscaped, and sidewalk areas to establish a baseline prior to placement of imported clean fill. Spot elevations will be established on a minimum 20-ft grid once grading is complete.

### **2.3 Site Safety**

The site will be secured with chain link fencing (or equivalent) to prevent site access during construction. The gate will be locked at the end of each day’s work in an attempt to keep trespassers from the site.

Workers will participate in a daily tailgate meeting prior to initiating work each day to discuss the anticipated work, potential hazards, and emergency procedures (at a minimum). Workers will be reminded of safe work practices.

### **2.4 Excavations Greater than Two Feet**

Excavating is recognized as one of the most hazardous operations in the construction industry. Standard No. 1926.651, promulgated by the Occupational Safety and Health and Administration, provides specific excavation requirements. For example, where

oxygen deficiency (atmospheres containing less than 19.5 percent oxygen) or a hazardous atmosphere exists or could reasonably be expected to exist, such as in excavations in landfill areas or excavations in areas where hazardous substances are stored nearby, the atmospheres in the excavation are required to be tested before entering excavations greater than 4 ft in depth. Excavation greater than 2 ft will be required when constructing the stormwater pond in the northeast corner of the site, as well as related appurtenances such as the vault system, storm and sanitary structures, and water, fire, storm and sewer pipes. All excavation operations will be performed in accordance with all OSHA regulations. Soil sampling for analytical parameters has been limited to the top two ft of the site, with the exception of the proposed location of the stormwater pond where three soil sample locations will include samples extending to a depth of eight ft BLS or to the groundwater, whichever is encountered first. Trenching completed at the site in 2007 to observe physical conditions indicated consistency of soil material with depth with minimal waste materials. Visual observations and groundwater sampling indicate that levels of contaminants are not expected to vary greatly from the surface soils. Site workers will be notified of the analytical results for soil samples and should use due care when handling soils (wearing gloves when handling soils, frequent hand washing, using dust suppression during dry conditions to prevent breathing of dust, etc.). Unless analytical results indicate that soil samples are not contaminated, soils will be assumed to be contaminated consistent with the data collected to date (one or more constituents above applicable screening criteria). Excavated soils will be stockpiled on plastic sheeting and covered with a tarp to minimize erosion and prevent contact with potentially clean soils in accordance with Section 2.5 below or placed directly in areas requiring fill. If soils from excavations greater than two ft BLS are clean, they can be placed in any area requiring fill.

## **2.5 Contingency Procedures**

The composition of the on-site material is expected to more closely resemble soil fill than solid waste. However, if the following items are encountered during excavation, they will be segregated and disposed of at an appropriate facility: lead-acid batteries, white goods (appliances), all waste tires, electronic devices, oily waste, indecomposable items (e.g., plastics and metals; not wood) greater than six inches in a dimension. Although buried drums are not anticipated, if one or more are encountered, work shall stop immediately and HCEPC will be notified.



As the soils will be regraded on site, creation of large stockpiles of contaminated soils is not anticipated. If excavated contaminated soils cannot be placed directly onto contaminated areas requiring fill, the soils will be stockpiled on plastic sheeting and covered with a tarp. In the event that excessive rainfall or wind is anticipated due to a storm event, the contractor will secure stockpiles by covering the soils with a plastic tarp and securing the edges to prevent erosion and runoff. Silt fence shall be staked and maintained at the perimeter of the site as necessary to prevent silt runoff throughout the duration of construction.

Although odor is not anticipated to be an issue at this site, the Contractor shall investigate potential odor problems if complaints are received from the general public or regulatory agency. If odor is an issue, the Contractor shall use an Odor Control System to control odors from the work area. The system shall be designed, built, operated, and maintained in compliance with industry standards and the manufacturer's specifications.

The Contractor shall also be responsible for dust control in the work area. Dust suppression techniques such as misting may be necessary if weather conditions are dry. In this case, water trucks and misting devices will be present on site.

Due to the condition of the materials being excavated, the regrading operation is not anticipated to create a litter nuisance. However, should litter be created, it will be collected and bagged and disposed of at a Class I landfill.

### **3. SOIL COVER AND STORMWATER MANAGEMENT SYSTEM**

#### **3.1 Overview**

Drawing 1 of 3 provides the finished grades for the site. Prior to construction of the soil cover comprised on imported clean fill, the site will be mass graded to ensure allowance for a minimum of two ft of imported clean fill in all shaded areas shown on Drawing 2 of 3. Grading will be performed to minimize the amount of material required to be exported off site. Any existing fill/soil exported off the site will be disposed of at a Class I landfill. The Contractor will be instructed to utilize all existing site soils underneath building foundations and paved parking areas to the extent possible to minimize export off site. A brief description of the materials used in the soil cover system, the design of the stormwater management system, and requirements for certification of completion are presented below.

#### **3.2 Soil Cover System**

The thickness of the soil cover will be a minimum of two ft (24 inches) of imported clean fill. The fill material shall consist of soil with no more than 15 percent of the material passing the No. 200 sieve and no more than 15 percent of particles with a dimension greater than one inch. Prior to placement of the fill, the exposed ground surface will be prepared to remove loose materials and rock fragments with a dimension greater than three inches. The clean fill will be placed in loose, horizontal lifts, not exceeding ten inches in thickness, at a moisture content within three percent of optimum. Each lift will be uniformly compacted to at least 92 percent of the maximum standard proctor dry density (ASTM D 698).

#### **3.3 Stormwater Management System**

The stormwater management system was designed by Water Resource Associates, Inc. to meet the requirements of the City of Tampa Stormwater Department and the Southwest Florida Water Management District requirements for water quality treatment and water quantity attenuation. The system, shown on Drawing 3 of 3, is designed to collect and to treat the first ½-inch of runoff over the project site and attenuate the peak discharge such that the post-developed 25-yr peak discharge does not exceed the pre-development 5-yr discharge. The collection system consists of ditch bottom inlets, yard

drains, and manholes interconnected with reinforced concrete pipe and high density polyethylene (HDPE) pipe. The collection system leads to the vertical-walled stormwater pond which is interconnected with a subsurface chamber (vault) system. Both the stormwater pond and the vault are lined with minimum 30-mil polyvinyl chloride (PVC) liner with solvent welded ends and overlaps to isolate the stormwater from the surrounding soil. The stormwater discharges from the pond via a Florida Department of Transportation (FDOT) Type D modified control structure, while water quality bleed-down occurs via a side bank infiltration system, which is also lined with a 30-mil PVC. All discharge leaving the site will be ultimately piped to the existing City of Tampa stormwater culvert running north-south along the western side of the site. By utilizing lined stormwater collection, storage, and conveyance structures, there will be no stormwater discharge on site (hence no infiltration through site soil/fill material to groundwater).

#### **3.4 Closure Certification**

Following completion of construction of the soil cover and the stormwater management system, WCDC or its consultant will submit to HCEPC a certification report of the construction activity. The certification report will specify that the construction of the soil cover and stormwater management system has been completed in accordance with this plan and all applicable requirements. As-built drawings will be provided. The report will be signed by the City and signed and sealed by an independent licensed professional engineer in the State of Florida.

#### **4. COVER INSPECTION AND MAINTENANCE PLAN**

As noted in Section 3 above, a 2-ft thick soil cover will be placed over the final fill material grades for closure of the exposed areas of the subject site, as shown within the shaded areas on Sheet 2 of 3. The cover system will be visually inspected by WCDC or its consultant during construction and on a quarterly basis for a period of one year (minimum) or until the fill is stable. During the inspection, the cover will be observed for signs of erosion, cracks and depressions due to settlement. The observations will be documented on a field form which will be submitted to the HCEPC within one calendar week of the inspection. Photographs documenting the condition of the cover will also be provided to the EPC. Significant depressions (1 ft or more) will be filled with soil, compacted, and regraded to promote positive drainage. HCEPC will be notified if inspections warrant major modifications to the soil cover system.