

**DRAINAGE STATEMENT**

**FOR**

**HIGHLAND DUNES**

**P.B.A. Holdings**

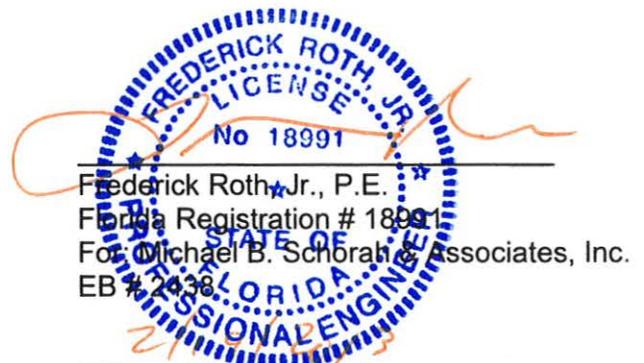
**February 18, 2013**

**Palm Beach County, Florida**



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Date

## **I. INTRODUCTION**

P.B.A. Holdings is proposing to construct a mixed-use development in the central portion of Palm Beach County, Florida. The site, which encompasses approximately 1,210 acres, is located north and adjacent to State Rd. 80 and east of and adjacent to the South Florida Water Management District L-8 Canal. These lands are located in Sections 21, 22, 27, 28 and 33, Township 43S, Range 40E in unincorporated Palm Beach County.

The preliminary schematic master site plan for this project, known as Highland Dunes, has been prepared by Urban Design Kilday Studio, Inc. That plan shows a mixed-use development including single-family lots, school parcel, commercial areas, park and recreational areas along with the roadways, lakes, and open spaces. This conceptual layout also includes flow ways and dry detention areas as a part of the water management system required to serve this site.

The purpose of this report is to identify general criteria for a practical and economical system to drain and control the stormwater runoff from the proposed development. These criteria will provide a design basis for a functional positive delay drainage system. The objectives of that system, based on the rainfall and durations for the design storm events, will be to provide a drainage system that will meet the established criteria for site grading and storage and to limit the post-development discharge from this site so that it will be within the regulatory limits.

## **II. EXISTING FACILITIES**

Review of available topographical data for this parcel (survey by Michael B. Schorah & Associates, Inc.) indicates that the existing Site conditions include a somewhat level surface condition which exists at an average surface elevation of approximately 23' NGVD. The Site is currently being used as an agricultural operation (tree farm). This site had previously undergone a major filling operations in association with the mining (dredging) operations of the Palm Beach Aggregates Site, as situated along the west side of the SFWMD L-8 Canal, just north of Southern Boulevard. The Project Site filling operations established the plateau elevation of approximately 23' NGVD with perimeter grade berm conditions of approximately 30' NGVD along the south, east and north sides and 40' NGVD along the west side (L-8 Canal area).

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The proposed Project Site is located within the SFWMD C-51 Canal Basin. More specifically, the Site is located within Sub-Basin No. 1 and includes specific requirements and limitations relative to flood plain level impacts, compensation, allowable discharge rate, and related development conditions. The site filling operation was included in the SFWMD permitting for the mining operation of the Palm Beach Aggregates Facility. That permit addressed issues related to the C-51 flood plain criteria.

The proposed Project Conceptual Site Plan yields a variety of options to pursue continued compliance with the C-51 Basin Rule requirements relative to the established vertical flood plain consideration (14.2' NGVD flood level), and the requirements associated with the C-51 Basin as a whole. This includes the requirement to provide a minimum of 0.5 inches of initial runoff dry detention/retention to improve water quality (concerns with initial stormwater runoff quality), and limited the peak discharge from the Sub-Basin No. 1 area to 48 cfs under the basin design event analysis.

### **III. PROPOSED DRAINAGE SYSTEM**

Under the present conceptual Site Plan for the proposed Project Site, the intent is to use the defined depressed dry detention areas as much as feasible for initial collection of rear yard area runoff and also to support peak storm event storage with positive recovery of the overall system via the proposed legal positive discharge to the C-51 Canal. Although the proposed Project Site will be unusually high relative to the groundwater table condition, the design of the stormwater drainage conveyance system will continue to be based on Palm Beach County criteria relative to the onsite stormwater management system peak stage conditions for the respective storm events.

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Due to the elevation of the Site and the considerable quantity of depressed dry detention area, it is anticipated the peak stage conditions, as typically control the conveyance system pipe sizing analysis, will be at levels which will allow for a degree of pipe size reduction due to the availability of a greater differential elevation between the stormwater management peak stage elevations and the minimum road elevations.

The flow way system, as proposed, extends to the north side of the site at two (2) locations. It is intended that pipe connections will be included at these locations connecting to the future Okeechobee Blvd. right-of-way. The surface water management system for the project will be designed to include the expected runoff from the Okeechobee Blvd. right-of-way as required by the County.

This project was previously proposed and approved for development in 2005. At that time a surface water management system was designed and a SFWMD permit was issued for the project (SFWMD permit no. 50-07467-P). That permit, which separated this 1210 acre site from the overall Palm Beach Aggregates site (2036 (±) acre site), included a conceptual permit for the entire project and a construction and operation permit for the first phase of development. The current project site plan matches the previously approved plan and the proposed surface water management plan will include all of the elements originally incorporated in the above referenced permit. Any additional or modified permit criteria will be addressed in the current permit submittal. Note that the connection to the legal positive outfall to the C-51 canal will remain as shown on the previous permit.

Based on the information presented herein, it is our opinion that it will be possible to design and construct this site so that the grading, drainage and storm water systems will be capable of meeting the applicable regulatory requirements.