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OFFICE OF THE CITY MANAGER  
NO. LTC # 235-2009


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LETTER TO COMMISSION

TO: Mayor Matti Herrera Bower and Members of the City Commission

FROM: Jorge M. Gonzalez, City Manager 

DATE: September 8, 2009

SUBJECT: Orchard Park Drainage Concerns – 46<sup>th</sup> Street and Royal Palm Avenue

The purpose of this LTC is to provide the Mayor and City Commission with an update regarding the flooding issues affecting the Orchard Park Neighborhood, more specifically the portion of the neighborhood around 46<sup>th</sup> Street and Royal Palm Avenue.

## **Background – Stormwater Management Program Master Plan**

In October 1997, the City accepted the Comprehensive Stormwater Management Program Master Plan (Master Plan) prepared by CH2MHill. This document was developed to satisfy the City's National Pollutant Discharge Elimination System (NPDES) permit condition, which requires the development of a plan for investigating and analyzing the City's stormwater system. The Master Plan delineated over one-hundred sixty (160) individual basins and prioritized them based on pollutant loading, pollutant concentration, flooding potential, complaints, and City staff rankings. Thirty-four (34) of the basins were designated as high-priority drainage basins. Miami-Dade County requires that under the five-year, twenty-four hour storm criteria, roads must be passable allowing flooding to the crown of the street, or within 15 feet of occupied buildings, whichever is lower. Consequently, the study identified only these thirty-four (34) high-priority basins as eligible under the five-year storm criteria to receive stormwater revenue bond funds from the City for drainage system improvements.

## **The Orchard Park Neighborhood**

The Orchard Park Neighborhood is located east of the Nautilus West Neighborhood and covers approximately 152 acres. The area is bounded by Surprise Lake on the north, Arthur Godfrey Road on the south, Indian Creek on the east, and Biscayne Waterway on the west. The Orchard Park Neighborhood is comprised of four (4) drainage basins whose existing drainage systems consist of catch basins located at low-lying areas which are interconnected and discharge through four (4) existing outfalls. These four (4) drainage basins were designated by the Master Plan as medium-priority basins and thus, no significant storm drainage improvements were planned or built. It should be noted, that although conditions at the time of the creation of the Master Plan did not warrant classifying this area as a high-priority basin, following the consequences of intense storm events, tidal conditions and subsequent resident complaints, the same locations throughout the City including the intersection of 44<sup>th</sup> and Royal Palm in the Orchard Park Neighborhood have been designated within Public Works as one of the hot spots, or areas of concern which have thus warranted special attention to address what appears to be excessive flooding conditions that are impacting private property.

The stormwater flooding in "hot spot" areas have substantial impacts on private property, while the "nuisance flooding" impacts affect mostly the right-of-way and public property.

#### **Drainage Impacts at 46<sup>th</sup> Street and Royal Palm Avenue**

The unprecedented flooding observed at the intersection of 44<sup>th</sup> and Royal Palm Avenue into private property triggered its designation of a "hot spot" area and a subsequent drainage analysis resulted in the programming of capital improvements at this location, into the Fiscal Year 2009-2010 Capital Budget.

The associated complaints and observed flooding just north of this intersection, at the intersection of 46<sup>th</sup> Street and Royal Palm Avenue, on the other hand, have only qualified this area as a "suspect location" which warrants further investigation before it is either qualified as a "hot spot" or "nuisance flooding" area and subsequent programming is properly defined.

Nevertheless, an expeditious solution is in order and the Public Works Department, Engineering Division is utilizing internal resources to investigate this area in greater detail and develop some mitigation measures to reduce the drainage problems in the area. Moreover, if the drainage results provide feedback that such area is of a "hot spot" nature, then City staff will proceed in developing a programmed solution to this problem.

The ongoing hydraulic modeling in this area will help understand the current level of service of the drainage system and the parameters that cause drainage problems at this intersection. This analysis will look at the behavior of the watershed under its current level of service when impacted by the 5yr/24hr storm event and the extents of flooding resulting from a storm event of this magnitude under current conditions. The Public Works Department expects the engineering analysis to be completed in about 30 days. Once the results are completed, the Public Works Department will provide subsequent feedback as to the solutions that are warranted to mitigate the observed flooding in the area.

  
JMG/TF/FHB/PV

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