

# Memorandum



**Date:** MAY 26 2010

**To:** Honorable Chairman Dennis C. Moss  
and Members, Board of County Commissioners

**From:** George M. Burgess  
County Manager

**Subject:** Water and Sewer Improvements along the Bird Road Corridor Area

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On March 2, 2010, the Board of County Commissioners (Board) adopted Resolution R-263-10 requiring preparation of a cost estimate for water and sewer infrastructure improvements necessary to support commercial and residential redevelopment of the Bird Road Corridor Area. The attached estimate based on conceptual designs was prepared by the Water and Sewer Department. The estimated infrastructure costs are \$1.75 million for water line upgrades and \$19.51 million for sewer service upgrades.

If you need additional information, please contact John Renfrow, Director, Water and Sewer Department at 786-552-8086 or me directly.

## Attachment

c: Howard Piper, Special Assistant to the County Manager  
John W. Renfrow, P.E., Director, Water and Sewer Department  
Charles Anderson, Commission Auditor

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**Cost Estimate for Water and Sewer Improvements for  
the Bird Road Corridor Area**



May 2010

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## **SUMMARY**

As requested by the Board of County Commissioners (Board) the Water and Sewer Department prepared a preliminary estimate of the water and sewer infrastructure improvements necessary to support development along the Bird Road Corridor area. The estimate was prepared in response to the needs identified in the Bird Road Charrette Report presented to the Board of on April 6, 2010.

The water infrastructure improvements needed are relatively moderate and will require upgraded fire protection systems costing approximately \$1.7 million fire hydrants and additional water mains. The required sewer infrastructure upgrades are significant and will require more than 49,000 feet of new piping and four additional pump stations to serve the area. The sewer upgrades will cost an estimated \$19.5 million.

The infrastructure estimates were developed based on conceptual designs and will be revised when actual designs are developed and are expected to change based on actual field conditions that may impact actual construction costs. Field conditions include factors such as line relocations, additional permit conditions, and any required land and rights-of-way acquisitions.

## **BACKGROUND**

On May 9, 2006, the Board adopted Resolution No. R-564-06 directing the County Manager to organize a charrette and facilitate the preparation of a charrette report for the Bird Road area between the Palmetto Expressway and the Florida Turnpike. The Department of Planning and Zoning (P&Z) lead the effort and established of a steering committee comprised of area stakeholders to complete the corridor study process. The Department held 20 public meetings, including 13 steering committee meetings, a Bird Road Corridor Study Town Hall meeting, and a 2-day charrette design workshop.

The resulting Bird Road Corridor Study Report (Study) was prepared with the assistance of the steering committee and other agencies, including the Florida Department of Transportation, Miami-Dade Public Schools, and the following County Departments: Building and Neighborhood Compliance, Environmental Resources Management, Fire Rescue, Transit, Park and Recreation, Property Appraiser, Public Works and Water and Sewer (WASD). The Study addressed the unincorporated area bounded by SW 32<sup>nd</sup> Street to the north, SW 48<sup>th</sup> Street to the south, the Florida Turnpike to the west, and the Palmetto Expressway to the east.

The Board approved the Bird Road Corridor Study Report on April 6, 2010 (Resolution R-356-10) which identified the lack of water and sewer infrastructure as the single most important impediment to the commercial and residential redevelopment of the Bird Road Corridor. The Study also identified the areas where adequate water and sewer infrastructure existed and areas where improvements were needed.

On March 2, 2010, the Board adopted Resolution R-263-10 directing staff to prepare an estimate of the costs of water and sewer infrastructure improvements necessary for the redevelopment of the Bird Road Corridor area. WASD staff evaluated the adequacy of the existing water and sewer infrastructure, reviewed conceptual designs for the proposed water and sewer system upgrades, and developed preliminary cost estimates. The following summarizes the department's findings.

## **EXISTING WATER AND SEWER SYSTEMS**

The Bird Road Corridor area is divided into the following four neighborhoods (see Figure 1 attached).

- West Neighborhood
- Linear Park Neighborhood
- Middle Neighborhood

- Tropical Park Neighborhood

Analysis of the existing water distribution system indicated that no additional water transmission lines are necessary to support the redevelopment effort. However, some upgrades are necessary to improve fire protection capabilities.

Regarding the sewage system, public sewage collection facilities exist along the corridor except for the following areas:

- Linear Park Neighborhood - between SW 88 and 97 Avenues on both sides of Bird Road.
- Middle Neighborhood - between SW 97 and 107 Avenues on the south side of Bird Road.  
Four private sewage systems serve four parcels in this area.

The existing sewage collection facilities consist of gravity sewers that flow to pump stations which pump the sewage to the treatment plant.

WASD's sewage collection system consists of a series of collection basins. A basin typically consists of a pump station and all associated gravity sewer lines that collect sewage from properties in the service area. As shown in Table 1, a total of 14 WASD basins serve the Bird Road Corridor area in addition 11 privately owned systems. Each privately owned system each typically serves a single parcel.

**Table 1**  
**Existing WASD Sewage Collection Basins in the Bird Road Corridor Area**

	Basin No.	Neighborhood	Average Flow in gallons per minute	Pump Capacity (gallons per minute)	Average Pump Operation (hrs/day*)
1	0666	West	616	1150	2.86
2	0611	West	71	550	3.45
3	0694	West/Linear Park	56	340	1.65
4	0633	West	6	95	2.57
5	0613	West	79	210	6.39
6	0615	West/Linear Park	47	560	2.98
7	0623	Linear Park	38	270	1.92
8	0624	Linear Park	50	550	2.08
9	0674	Linear Park	44	350	3.17
10	0757	Middle/Tropical Park	41	675	2.16
11	0814	Middle	11	120	4.27
12	0754	Middle/Tropical Park	42	80	1.87
13	0760	Tropical Park	54	1187	1.96
14	0686	Tropical Park	4	790	1.29

\*Maximum allowable hours/day is 10 hours imposed by the State

### **PROPOSED SYSTEM UPGRADES**

In order to support the redevelopment of the Bird Road Corridor area, the following upgrades to the sewage collection system are necessary:

- 42,200 linear feet of 8-inch diameter gravity sewer in areas without sewer mains

- Four (4) new pump stations
- 7,250 linear feet of 8-inch force main to serve the new pump stations

The preliminary cost of the upgrades is estimated to be \$19.51 million as shown in Table 2.

**Table 2  
Proposed Sewer Services Improvements in the Bird Road Corridor Area**

WASD Basin No.	Neighborhood	Gravity Lines (linear feet)	Proposed Force Mains (linear feet)	Additional Pump Stations needed	Preliminary Cost Estimate (\$)
0666	West	2,700	-	-	960,000
0633	West	600	1,650	-	840,000
Proposed	Linear Park	6,200	900	1	3,070,000
0674	Linear Park	5,700	-	-	1,960,000
Proposed	Middle	6,450	1,450	1	3,340,000
Proposed	Middle	14,400	1,900	1	6,130,000
Proposed	Middle/Tropical Park	6,150	1,350	1	3,210,000
<b>Total</b>		<b>42,200</b>	<b>7,250</b>	<b>4</b>	<b>\$19,510,000</b>

Regarding water line improvements additional fire hydrants and associated piping as shown in Table 3 below. A total of 39 additional fire hydrants and 1,990 linear feet of associated 6-inch water mains are needed at a total cost of \$1.75 million.

**Table 3  
Proposed Water Improvements in the Bird Road Corridor Area**

Neighborhood	Additional Fire Hydrants and associated piping	Preliminary Cost Estimate
West	8	\$200,000
Linear Park	12	\$690,000
Middle	9	\$310,000
Tropical Park	10	\$550,000
<b>Total</b>	<b>39</b>	<b>\$1,750,000</b>

The total estimated cost of water and sewer improvements for the Bird Road Corridor area is \$21.26 million. These estimates are based on conceptual designs and are subject to revision as actual field conditions dictate. Field conditions that would impact the overall cost of the improvements include potential utility conflicts, line relocations, additional permit conditions, subsurface soil conditions, and any required land and rights-of-way acquisitions.

