

**TO:** John Paul Castro, City of Key West

**COPIES:** John Bartelmo, CH2MHIL / OMI, Inc.

**FROM:** Ricky Collins, CH2MHILL / OMI, Inc.

**DATE:** February 2, 2016

**SUBJECT: Lift Station “D” Pump Repair**

**Action statement:**

To repair pump for L/S “D”.

**Background:**

Station “D” is the most critical location of any pump station on the island due to the large collection system sewage flow it receives. It is equipped with three 110 h.p. Flygt submersible pumps, and has been modified so that all three pumps can be operated if commercial power is available. In the event of flooding, it is imperative that this station is operable. Should one pump fail, over one million gallons of sewage per day is not transported to the WWTP. If two pumps were to fail, the loss would be quadrupled.

**Purpose and Justification:**

Flygt builds pumps on demand. This means a long lead time if a pump were needed under emergency circumstances. Having a backup pump will ensure our ability to maintain flow under emergency conditions. Station “D” receives sewage flow from pump stations E, F, G, J, K, M, R, O, and D/A as well as the gravity system around the station. The bottleneck created if a pump fails will most surely result in a public health and environmental concern.

**Options:**

The City could opt to forego the repair of the pump. The disadvantage to this option is that failure of a pump (s) during a high flow condition would result in a major sewage spill.

A second option would be to purchase another brand of pump like Ebara, or Wilo. This option would require a customized fit and redesign of pump guide rails and possibly electronic components. This would not be a cost effective option.

The most practical option is repair of the pump that will give the City continued pumping capacity at a critical lift station.

**Financial Impact:**

Impact to the general sewer fund will be \$ 26,710.00

**Recommendation:**

The pump was sent to Florida Bearing for evaluation and cost quote for, historically Florida Bearings cost estimates has been less than ITT Flygt. The unit was sent to them as a cost saving measure and there previous work has been equal or better than other repair shops.

Disassembly at Florida Bearings shop for evaluation has been performed, other shops like ITT Flygt will not quote on the repair. Several other shops were contacted in an effort to obtain three quotes but was informed verbally that they would give a quote only if the pumps are sent to them first.

Staff recommends the City have the 110-h.p. Flygt submersible pump repaired by Florida Bearing.

References and qualifications are available upon request.

