



CITY OF RIVIERA BEACH – MEMORANDUM

TO: HON. MAYOR, CHAIRPERSON AND BOARD

THROUGH: JONATHAN EVANS, CITY MANAGER, MPA, MBA, ICMA-CM, CITY

FROM: JONATHAN BATISTA, ACTING EXECUTIVE DIRECTOR

SUBJECT: **INFILTRATION AND INFLOW (I&I) SANITARY SEWER EVALUATION SURVEY**

DATE: NOVEMBER 18, 2020

CC: GENERAL PUBLIC

Background:

The City of Riviera Beach Utility Special District wastewater collection system consists of gravity sewer piping and manholes that convey wastewater to fifty-one (51) lift stations, as shown in Exhibit A of the EAC proposal, owned and operated by the City of Riviera Beach Utility Special District. The lift stations pump the collected wastewater through a force main to the East Central Regional Wastewater Reclamation Facility which is owned and operated by the City of West Palm Beach. The City maintains approximately 169 miles of gravity sewer between 2-inches and 30-inches in diameter of various material types including cast iron, ductile iron, polyvinyl chloride (PVC) and vitrified clay pipe (VCP).

Infiltration into a sanitary sewer collection system occurs when groundwater enters through cracks and/or leaks in the sewer pipe. Groundwater enters these cracks when the gravity sewers are lower than the groundwater table or during heavy rainfall events. Inflow occurs when storm water entering the sanitary sewer system from direct or indirect connections from storm drains, roof drains, broken manholes, etc. Excessive Infiltration and Inflow (I&I) in a wastewater collection system results in surcharging, overflows, system backups and overloads sewer lines and is costly to the collection and treatment utility.



The City of Riviera Beach 2013 Master Plan indicated that the CRBUD should undertake an I&I study and a Sanitary Sewer Evaluation Survey (SSES) of the City's wastewater collection system to identify contributing factors that result in increased operation and maintenance cost to the utility. The survey should be conducted in three phases:

- Phase 1 I&I Study to estimate the proportions of Infiltration, Inflow and wastewater at the collection basin level
- Phase 2 SSES identification of defects including manhole inspections, CCTV and smoke testing to develop a rehabilitation plan
- Phase 3 Implementation of the Rehabilitation Plan identified in Phase 2 and post-rehabilitation flow measurement

In order to determine the extent of the evaluation of the sanitary sewer system, EAC Consulting is recommending that a Collection Basin Prioritization Study be performed first as Phase 1 identified above and will consist of night-time flow monitoring at forty-nine (49) lift stations (excluding the master stations) to determine the extent of I&I in each collection basin.

Citywide Goal:

Accelerate operational excellence.

Budget/Fiscal Impact:

Project Number 18148, Sanitary Sewer Relining, in an amount not to exceed \$159,378.00.

Recommendation(s):

Staff recommends that the Board approve the proposal by EAC Consulting, Inc. to undertake an I&I Study and a Sanitary Sewer Evaluation Survey.