CITY OF
FORT LAUDERDALE

August 16, 2018

Blake Kidwell
Flynn Engineering Services, P.A.
241 Commercial Boulevard
Lauderdale-By-The-Sea, Florida 33308

Subject: **WATER AND WASTEWATER CAPACITY AVAILABILITY LETTER**
Beach Boy Plaza, DRC Case No. R18011
401 South Fort Lauderdale Beach Boulevard, Fort Lauderdale

Dear Mr. Kidwell,

According to the information submitted the project consists of construction of a multiuse building with a proposed 205 hotel units, 11,310 square feet of merchandising and 6,300 square feet of restaurant space. Existing merchandising and restaurant space is to remain on-site.

Water connections to City of Fort Lauderdale (City) utilities are proposed along Seabreeze Boulevard. . According to the information submitted, the project will increase water and sewer demand by 0.060 million gallons per day (MGD). The Department of Sustainable Development (DSD) will review and approve such flow calculations. Furthermore, if DSD staff issues comments on the proposed flow calculations after the issuance of this capacity availability letter, the consultant shall request a revised letter with the correct approved flow calculations.

The determination of capacity availability is based upon tools and data analysis as of the date of this letter. Availability of capacities, as calculated in the attached analysis, is not guaranteed and no existing system capacity shall be considered “committed” for this project until a permit has been issued and all fees have been paid. The City reserves the right to re-evaluate the availability of capacities at the time of permit application. If sufficient capacities are not available, the City may deny the permit application or ask the Owner/Developer to submit an alternate design prior to approval. Information contained in this letter will expire one year from the date issued.

Should you have any questions or require any additional information, please contact me at (954) 828-5850.

Sincerely,

Daniel Fisher, P.E.
Project Manager II

Enclosures: Water and Wastewater Capacity Analysis
cc: Nancy Gassman, Ph.D., Interim Deputy Public Works Director
Talal Abi-Karam, P.E., Assistant Public Works Director
Dennis Girisgen, P.E., City Engineer
File: Water and Sewer Capacity Letters

City of Fort Lauderdale
Public Works Department
Water and Wastewater Capacity Analysis

Beach Boy Plaza, DRC Case No. R18011
401 South Fort Lauderdale Beach Boulevard, Fort Lauderdale

PROJECT AND DESCRIPTION

construction of a multiuse building with a proposed 205 hotel units, 11,310 square feet of merchandising and 6,300 square feet of restaurant space. Existing merchandising and restaurant space is to remain on-site.

DESCRIPTION OF EXISTING UTILITIES

Water: The site is currently served by a 6-inch water main located along Seabreeze Boulevard which connects to a 12-inch water main along Las Olas Boulevard. See Figure 1.

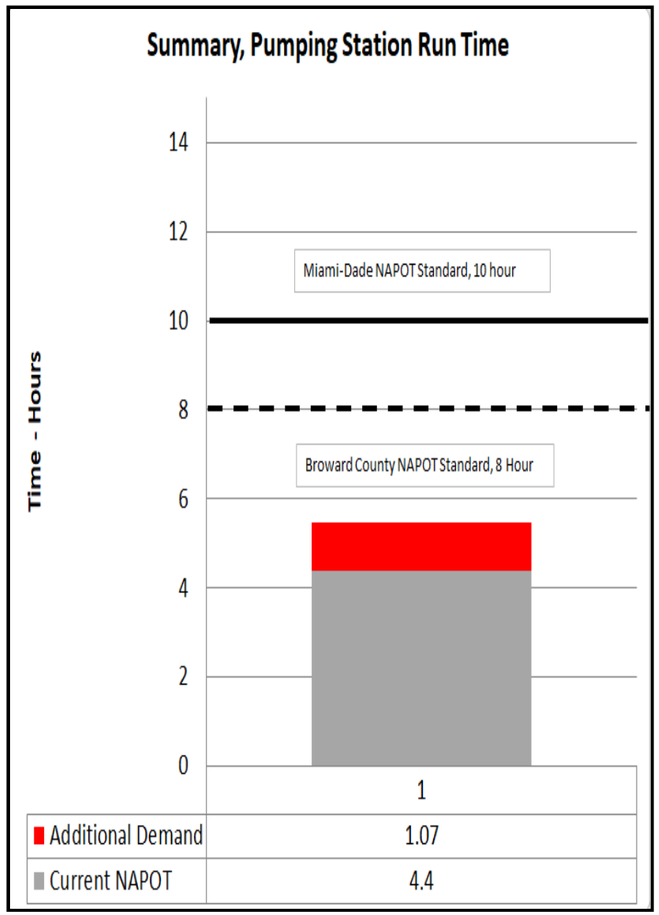
Wastewater: The site is currently served by a 10-inch gravity sewer main which conveys flow downstream to a 12-inch, 15-inch and to pumping station D-31 (PS D-31).

Pumping Station: The site is served by PS D-31 which is located at 201 Las Olas Circle.

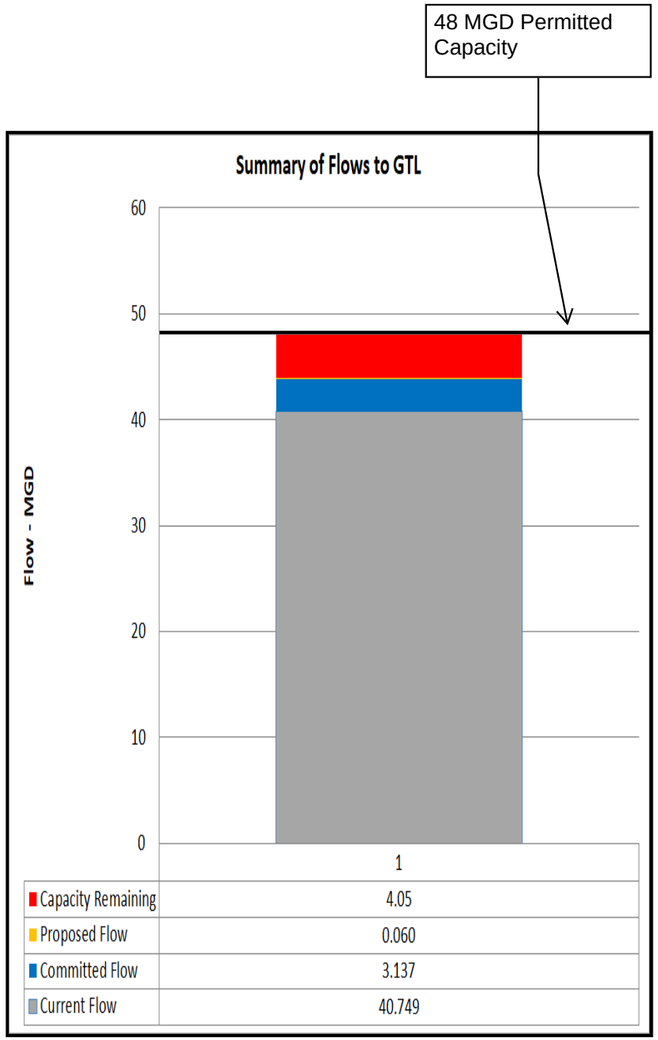
SUMMARY OF ANALYSIS AND REQUIRED ACTION

Existing water and sewer infrastructure have sufficient capacity to serve the project with no improvements required.

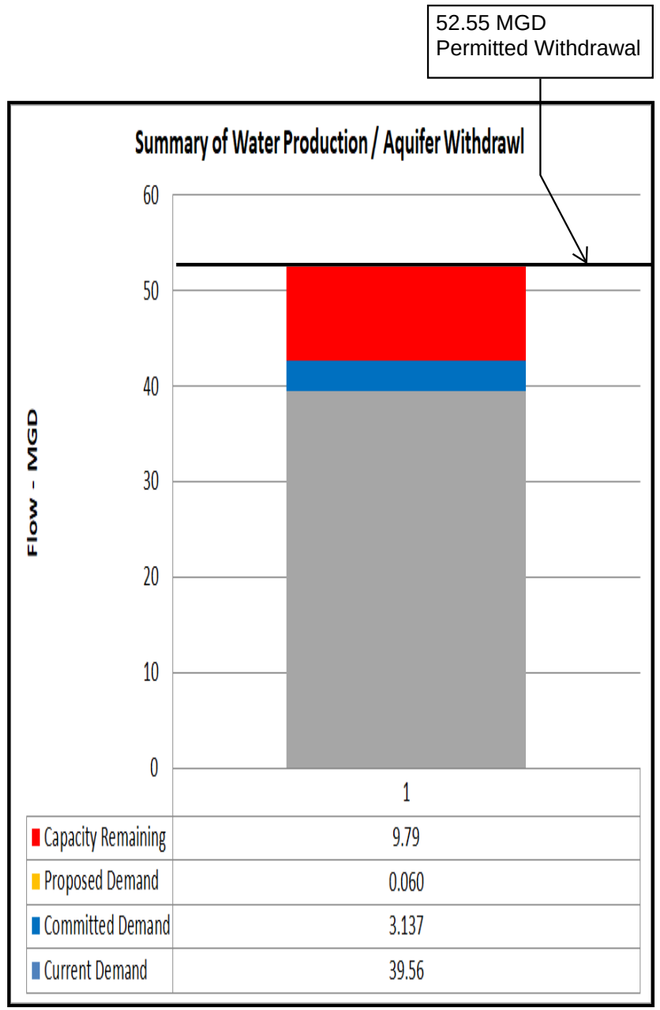
Graphical Summary of Analysis



* All units in time - Hours



* All units in Flow - MGD



* All units in Flow - MGD

Figure 1 – City Water Atlas

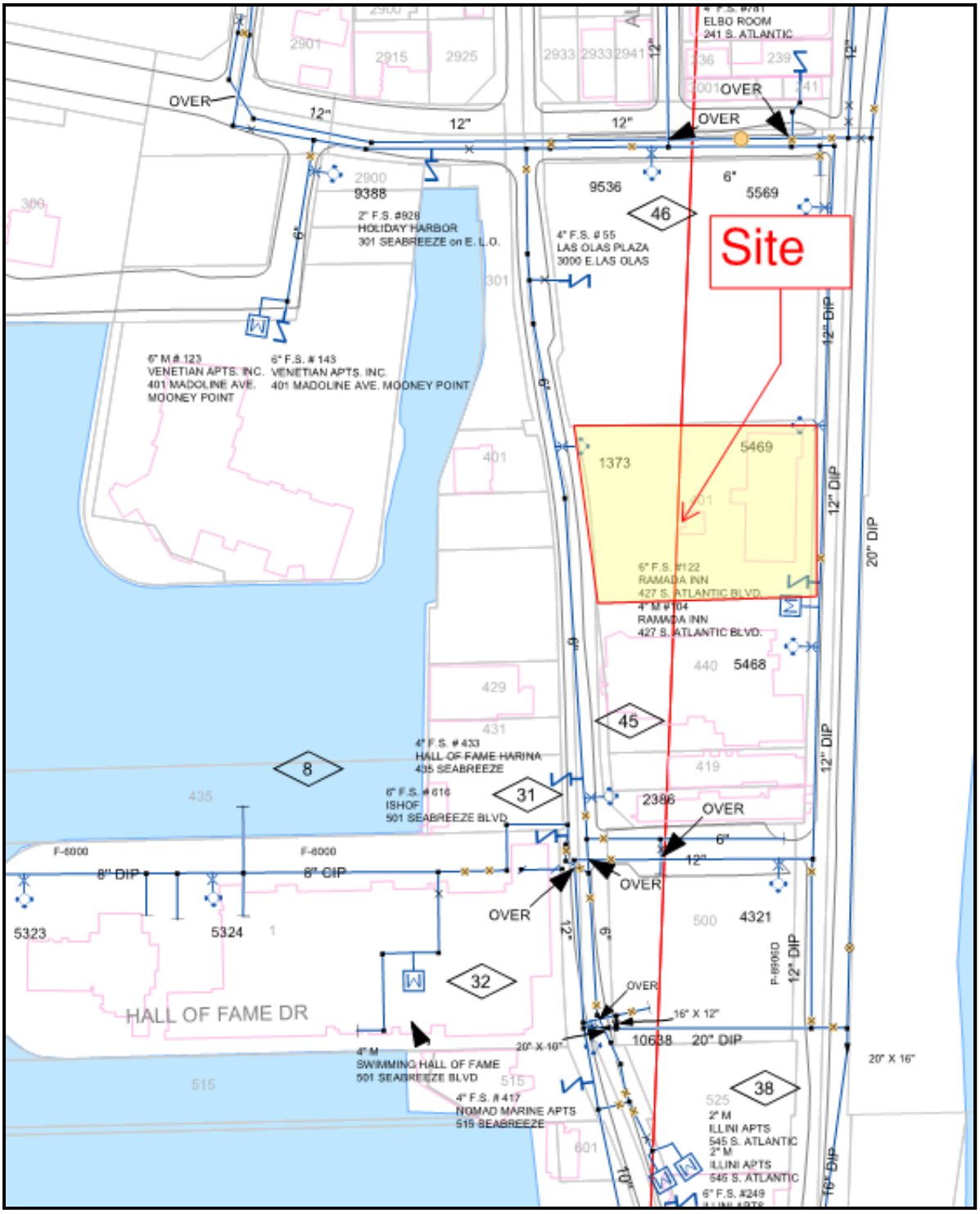
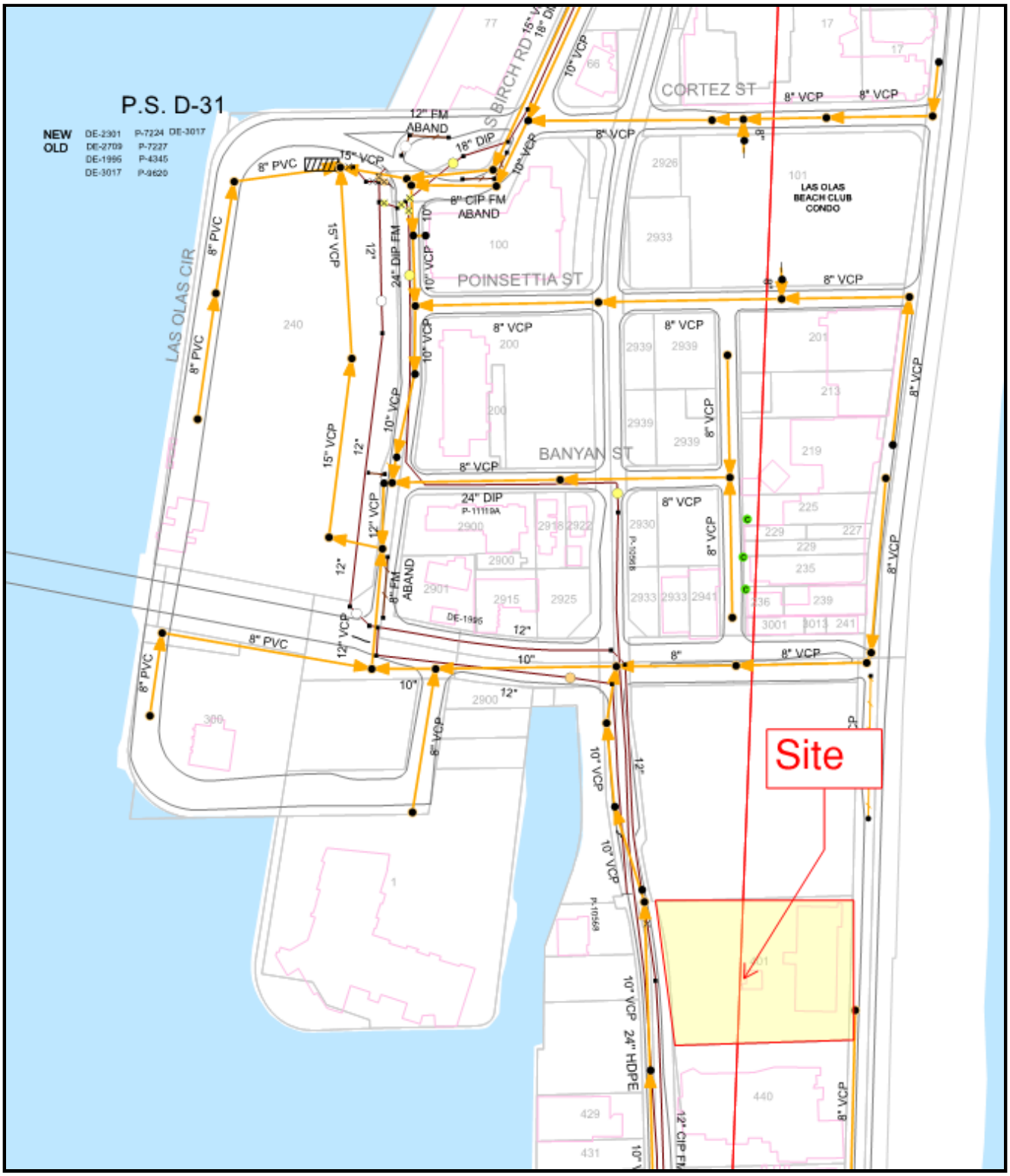


Figure 2 – City Sewer Atlas



WATER CAPACITY ANALYSIS

Requested Demand: Based on the applicant's site plan and building use information the estimated additional potable water demand is 59,964 per day (GPD), which equates to 0.060 million gallons per day (MGD). Water use demands are calculated based on the City's "*Guidelines for the Calculations of Sanitary Sewer Connection Fees"*.

Evaluation of impact on existing distribution pipe (flow & capacity): According to the site plan the applicant is proposing to utilize the 6-inch water main on Seabreeze Boulevard. The InfoWater hydraulic model was analyzed to determine the impact of this project on the existing 6-inch water. The existing water main has capacity to serve the project.

Evaluation of impact of Permitted Water Plant Capacity: The Fiveash and the Peele Dixie Water Treatment Plants are designed to treat 70 MGD and 12 MGD of raw water respectively (82 MGD total). The total permitted Biscayne aquifer water withdrawals for these plants is limited to 52.55 MGD per the South Florida Water Management District (SFWMD) permit number 06-00123-W.

The current twelve month production at the two plants is 39.56 MGD. The previously committed demand from the development projects in the permitting or the construction stage is 3.137 MGD. Combining these figures with the demand from the proposed project of 0.060 MGD, the required production would be 42.76 MGD. This is less than the allowable withdrawal limit of 52.55 MGD. Therefore, the water plants have sufficient capacity to serve this project.

Recommended Water Infrastructure Improvements: No improvements required.

WASTEWATER CAPACITY ANALYSIS

Requested Demand: Based on the applicant's site plan and building use information the estimated additional potable water demand is 59,964 GPD, which equates to 0.060 MGD (although wastewater is usually 80% of the potable water, a higher, conservative figure has been used for calculations). The total flow from existing and proposed uses; 0.064 MGD will be used to evaluate the gravity sanitary sewers. Sewer use demands are calculated based on the City's "*Guidelines for the Calculations of Sanitary Sewer Connection Fees"*.

Evaluation of impact on existing collection pipe (gravity system capacity): The existing site and adjacent buildings are served by 10-inch gravity sewer mains.

Manual of Practice (MOP) 60, published by American Society of Civil Engineers (ASCE) for the gravity sewer design and used by the City staff, recommends that pipe diameters 15-inch or less be designed to flow half full during peak flows. Based on the tools and information available to the City staff, it has been calculated that each 10-inch diameter pipe will flow 31% full, which less than ASCE is recommended 50%. The City has used a peak hourly flow factor of 3.0, which is higher than 2.2 as noted in the Reiss Report. Therefore, the 10-inch pipes are adequate to serve the project.

Evaluation of impact on pumping station: PS D-31 has a capacity of 1,000 gallons per minute (GPM) and has a Nominal Average Pumping Operating Time (NAPOT) of approximately 4.4 hours per day. Based on projected sewage flows the pumping run times would increase approximately 64 minutes per day for a total of 5.5 hours, which is less than Miami-Dade County' recommended daily average (NAPOT) of 10 hours per day. This run time is more than Broward County's *"Guidelines for Determining Ability to Provide Potable Water and Wastewater Service"*, recommended NAPOT of 8 hours per day. Therefore the pumping station has capacity to serve the project.

.**Evaluation of impact of Permitted Wastewater Plant Capacity:** The City of Fort Lauderdale owns and operates the George T. Lohmeyer Regional Wastewater Treatment Plant (GTL), which provides wastewater treatment for the City of Fort Lauderdale. The Broward County's Environmental Protection and Growth Management Department's (EPGMD) Environmental Licensing & Building Permitting Division's licensed capacity for GTL is 48 MGD-AADF (Million Gallons per Day – Annual Average Daily Flow). The annual average daily flow (AADF) to the plant is 40.749. Combining the committed flows for previously approved projects of 3.137 MGD, plus the 0.060 MGD net contribution from the project, provides a total projected flow of 43.95 MGD. This is less than the permitted treatment plant capacity of 48 MGD. Therefore, the treatment plant has sufficient capacity to serve this project.

Recommended Wastewater Infrastructure Improvements: No improvements required.