CITY OF
FORT LAUDERDALE

February 19, 2019

Nicholas Harrison
Flynn Engineering Services, P.A.
241 Commercial Boulevard
Lauderdale-by-the-Sea, Florida 33308

Subject: **WATER AND WASTEWATER CAPACITY AVAILABILITY LETTER**
**629 Residences – DRC Case No. R19002**
**629 SE 5th Avenue, Fort Lauderdale, Florida 33301**

Dear Mr. Harrison,

According to the information submitted, the project consists of demolishing three existing residences and an office and constructing a 33-floor residential building consisting of 249 units. Water connections to City of Fort Lauderdale (City) utilities are proposed along the east side of the property along SE 5th Avenue. Sanitary sewer connections are proposed along the west side of the property along SE 4th Avenue. According to the information submitted, the project will increase water and sewer demand by 0.060 million gallons per day (MGD). This project lies within the City's Pump Station (PS) A-11 basin. The following projects are a few of the City's major initiatives within this basin:

Project #12412 – Pump Station A-16 Upgrade
Estimated Design Completion: May 2019
Estimated Construction Completion: February 2020

Project #12464 – Tarpon River A-11 Sewer Basin Rehab
Estimated Design Completion: December 2019
Estimated Construction Completion: December 2020

We believe that once these projects are complete there will be sufficient capacity in the sanitary sewer system to accommodate the proposed development. Further, with the understanding that this project would not seek a Certificate of Occupancy prior to December 2020, we are confident that the described infrastructure improvements will be complete and can accommodate the proposed project's calculated demands.

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) 828-6126.

Sincerely,

Thomas Lawrence, P.E.
Project Manager II

Enclosures: Water and Wastewater Capacity Analysis
cc: Joe Kenney, P.E., Assistant Public Works Director
Talal Abi-Karam, P.E., Assistant Public Works Director
Omar Castellon, P.E., Chief Engineer
Dennis Girisgen, P.E., City Engineer
File: Water and Sewer Capacity Letters

CITY OF FORT LAUDERDALE

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

**629 Residences – DRC Case No. R19002**
**629 SE 5th Avenue, Fort Lauderdale, Florida 33301**

**PROJECT AND DESCRIPTION**

Construction of a 33-story 249-unit residential building with a parking garage.

**DESCRIPTION OF EXISTING UTILITIES**

**Water:** The site is currently served by a 12-inch water main to the east of the property along SE 5th Avenue and a 6-inch water main to the west of the property along SE 4th Avenue. See Figure 1.

**Wastewater:** The site is currently served by an 8-inch gravity sewer main to the west of the property along SE 4th Avenue. See Figure 2.

**Pumping Station:** The site is served by Pump Station (PS) A-11 which is located near the intersection of SE 7th Street and SW Flagler Avenue.

**SUMMARY OF ANALYSIS AND REQUIRED ACTION**

The existing water and sewer infrastructure has sufficient capacity to serve the project with no improvements required.

**Figure 1 – City Water Atlas**

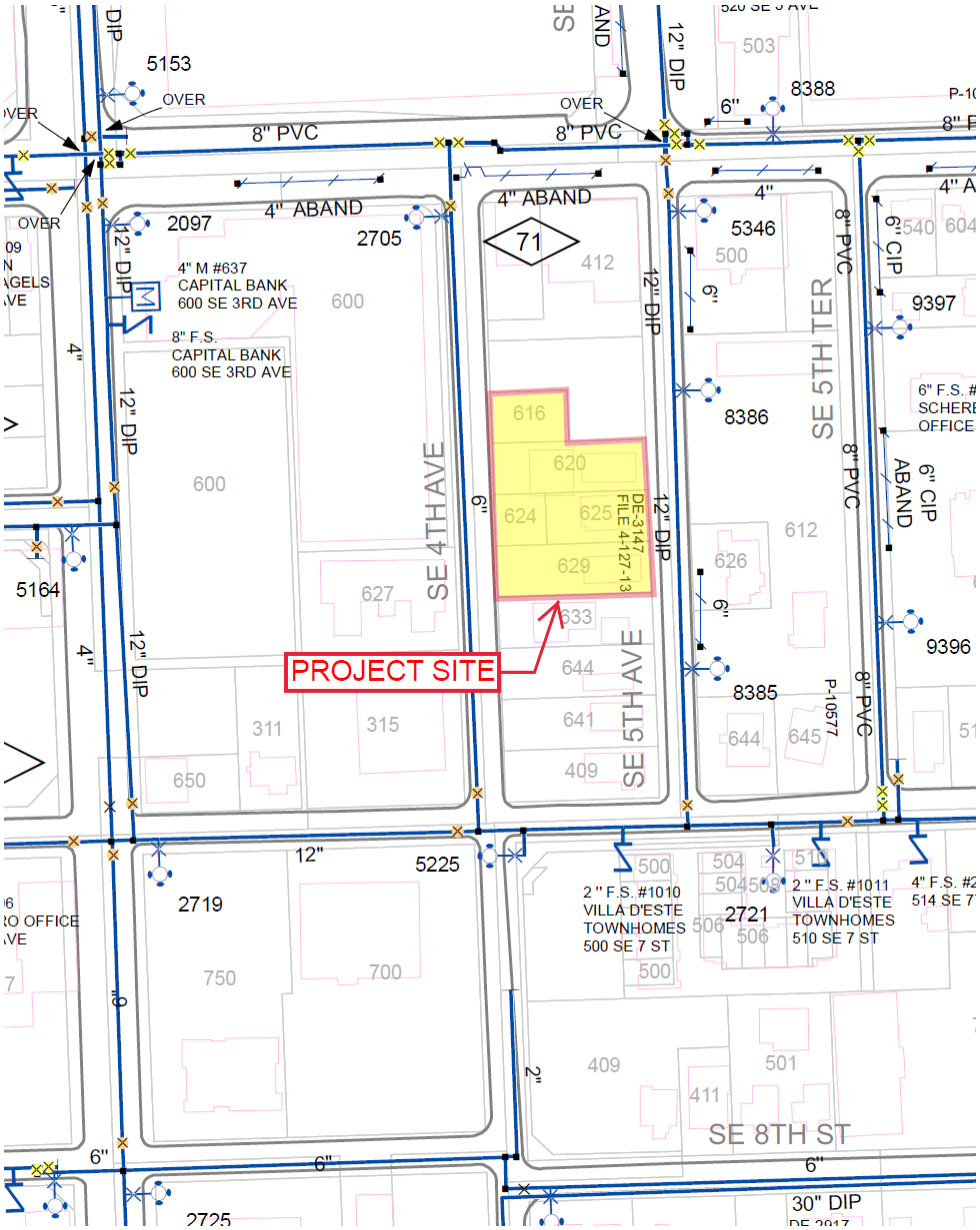
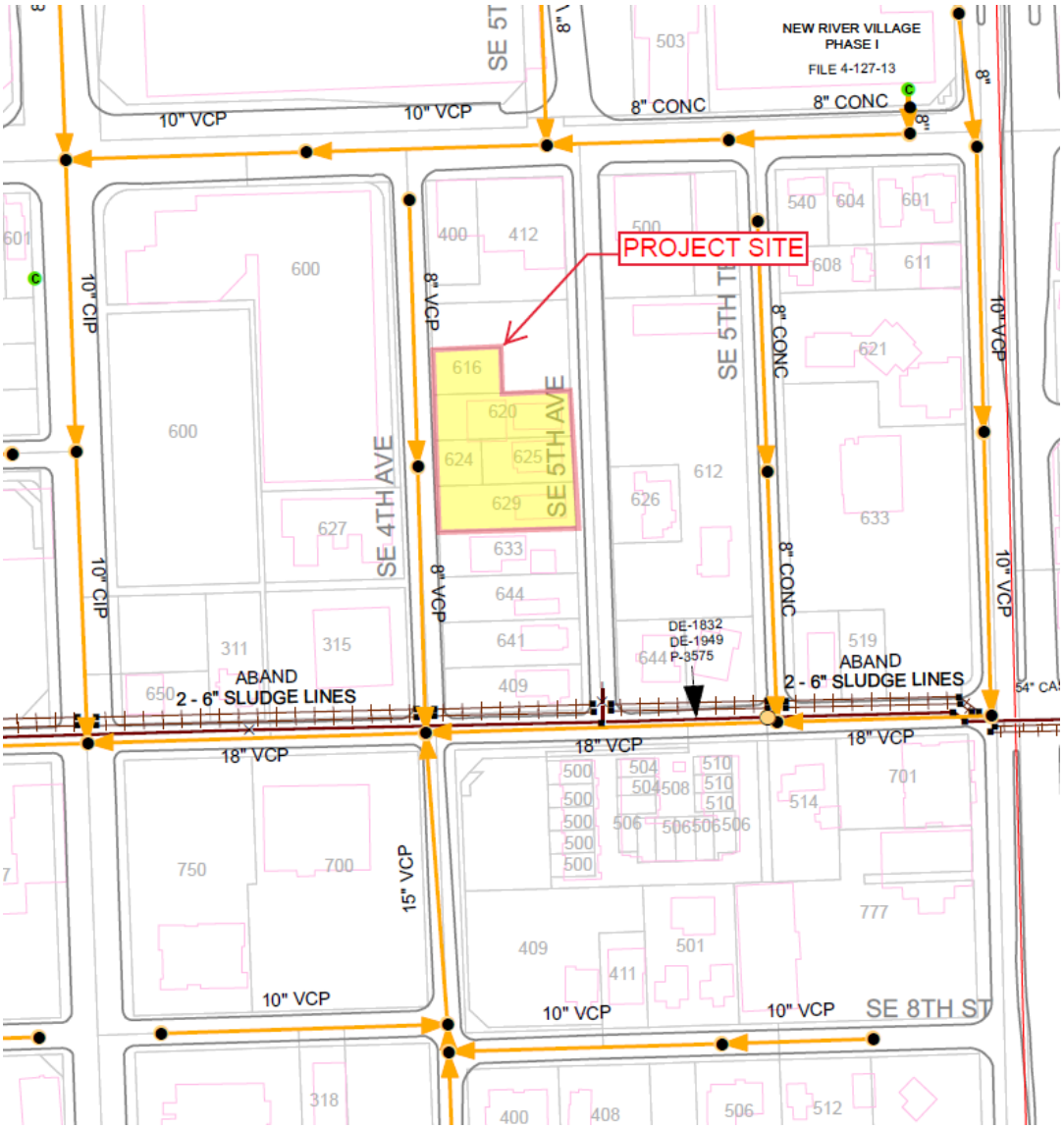


**Figure 2 – City Sewer Atlas**



## WATER CAPACITY ANALYSIS

**Requested Demand:** Based on the applicant's site plan and building use information the estimated potable water demand is approximately 60,360 gallons 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 12-inch water main along SE 5th Avenue to the east of the property. The InfoWater hydraulic model was analyzed to determine the impact of this project on the existing 12-inch water main and it was determined it 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 rolling average production at the two plants is 39.45 MGD. The previously committed demand from the development projects in the permitting or the construction stage is 4.364 MGD. Combining these figures with the demand from the proposed project of 0.060 MGD, the required production would be 43.87 MGD. This is less than the allowable withdrawal limit of 52.55 MGD. Therefore, the water plants have sufficient capacity to serve this project. See Figure 3 below.

**Recommended Water Infrastructure Improvements:** No improvements required.

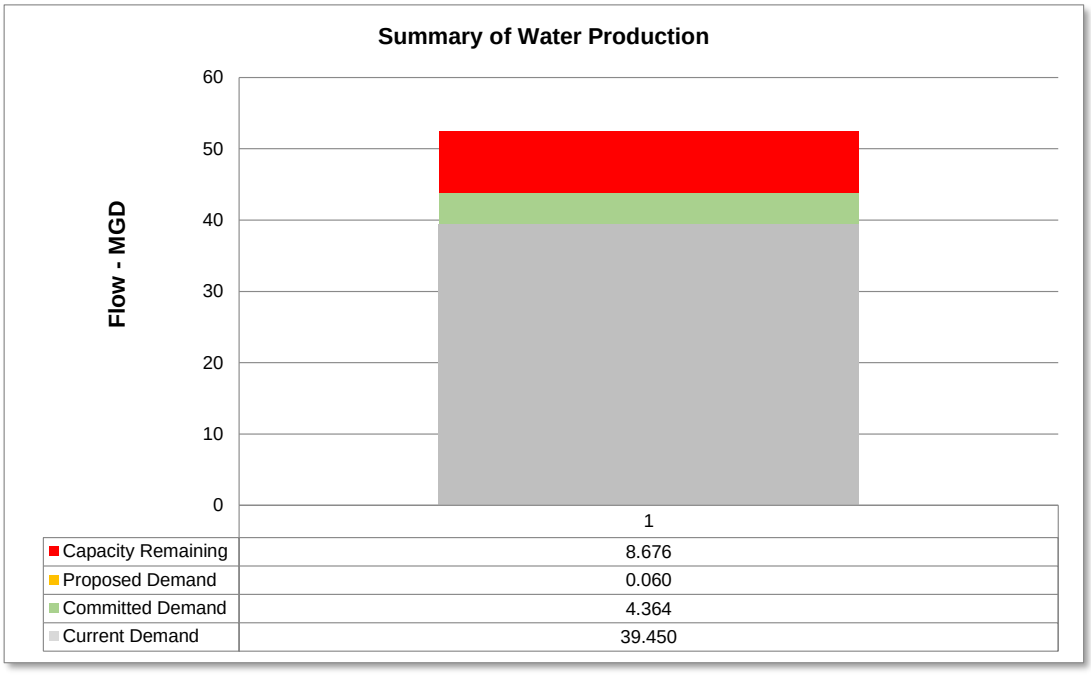



*Figure 3*

**WASTEWATER CAPACITY ANALYSIS**

**Requested Demand:** Based on the applicant's site plan and building use information the estimated additional potable water demand is 60,360 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). 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 an 8-inch gravity sewer main along SE 4th Avenue to the west of the property.

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 the 8-inch diameter pipe will flow approximately 45% full, which is less than the ASCE-recommended 50%. The City has used a peak hourly flow factor of 3.0. Therefore, the 8-inch pipe is adequate to serve the project.

**Evaluation of impact on pumping station:** PS A-11 has a capacity of 1045 gallons per minute (GPM) and has a Nominal Average Pumping Operating Time (NAPOT) of approximately 6.8 hours per day. Based on projected sewage flows, the pumping run times would increase approximately 58 minutes per day. Additionally, there are other committed flows from proposed developments within the PS A-11 basin resulting in 7.5 hours of additional runtime. PS A-11 will have a NAPOT of 15.3 hours once the proposed developments are complete, greater than the recommended average of 10 hours per day (see Figure 4). There are a couple of projects pertaining to PS A-11 that will increase capacity in the near future:

Project #12412 – Pump Station A-16 Upgrade
Estimated Design Completion: May 2019
Estimated Construction Completion: February 2020

Project #12464 – Tarpon River A-11 Sewer Basin Rehab
Estimated Design Completion: December 2019
Estimated Construction Completion: December 2020

The completion of these projects will create additional capacity for PS A-11 and the pump station will be able to accommodate the proposed development.

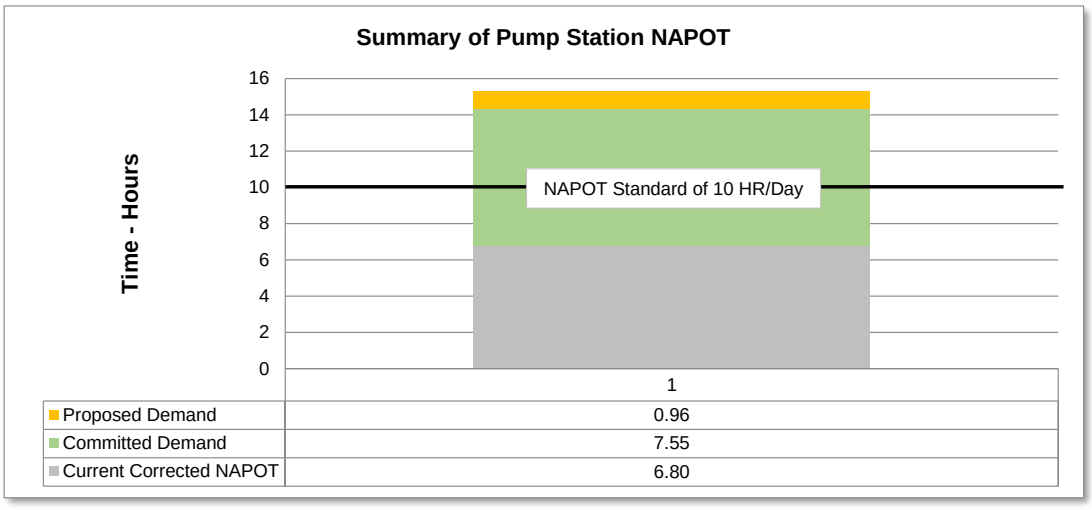



*Figure 4*

**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 37.624 MGD. Combining the committed flows for previously approved projects of 4.364 MGD plus the 0.060 MGD net contribution from the project results in a total projected flow of 42.05 MGD. This is less than the permitted treatment plant capacity of 48 MGD. Therefore, the treatment plant has sufficient capacity to serve this project. See Figure 5 below.

**Recommended Wastewater Infrastructure Improvements:** No improvements required.

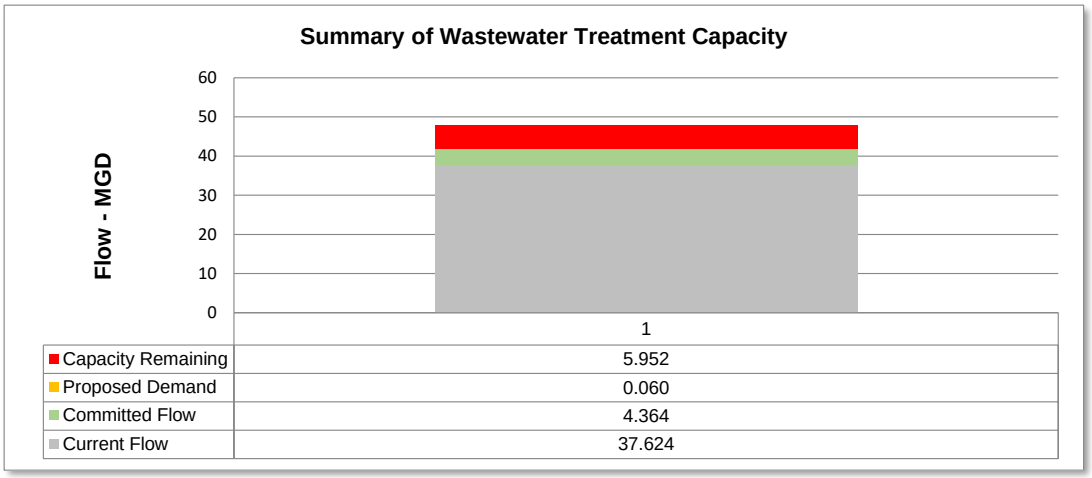



*Figure 5*