



February 7, 2022

Sarah DelNegri
Flynn Engineering
241 Commercial Boulevard
Lauderdale-By-The-Sea, FL 33308

Subject: **WATER AND WASTEWATER CAPACITY AVAILABILITY LETTER**
The Arcadian – DRC Case No. UDP-S21043
640 NW 7th Ave, Fort lauderdale, FL 33311

Dear Ms. DelNegri,

According to the information submitted, the project consists of a construction of a mixed development that includes 492 condominium units, 7,350 SF of merchandising space and 7,350 FF of restaurant space. There are proposed water connections to City of Fort Lauderdale (City) utilities along NW 6th Avenue and sewer connections to utilities along NW 7th Avenue. This project lies within the City's Pump Station (PS) A-104 basin and will increase the average day water demand by approximately 0.0942 million gallons per day (MGD) and the average day sewer demand by approximately 0.0714 MGD. The existing water infrastructure will require improvements to accommodate flow increase from proposed development. The existing sewer infrastructure has the capacity to support the proposed development and no improvements are needed.

If there are changes to the proposed development after issuance of this capacity availability letter, the Owner or Owner's authorized representative shall submit a revised request based on the updated plans. Failure to seek approval prior to changing the plans may result in revocation of permit and capacity allocation. 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) 828-5862.

Sincerely,

Igor Vassiliev, P.E.
Project Manager II

Enclosures: Water and Wastewater Capacity Analysis

cc: Alan Dodd, P.E., 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

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

**The Arcadian – DRC Case No. UDP-S21043
640 NW 7th Ave, Fort lauderdale, FL 33311**

PROJECT AND DESCRIPTION

The project consists of a construction of a mixed development that includes 492 condominium units, 7,350 SF of merchandising space and 7,350 FF of restaurant space.

DESCRIPTION OF EXISTING UTILITIES

Water: The site is currently served by a 6-inch water main along NW 6th Avenue, east of the project site. See Figure 1.

Wastewater: The site is currently served by an 8-inch gravity sewer main to the west of the project site along NW 7th Avenue. See Figure 2.

Pumping Station: The site is served by PS A-104 which is located along NW 3rd Avenue.

SUMMARY OF ANALYSIS AND REQUIRED ACTION

The existing water infrastructure will require improvements to accommodate flow increase from proposed development. The existing sewer infrastructure has the capacity to support the proposed development and no improvements are needed.

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Figure 1 – City Water Atlas



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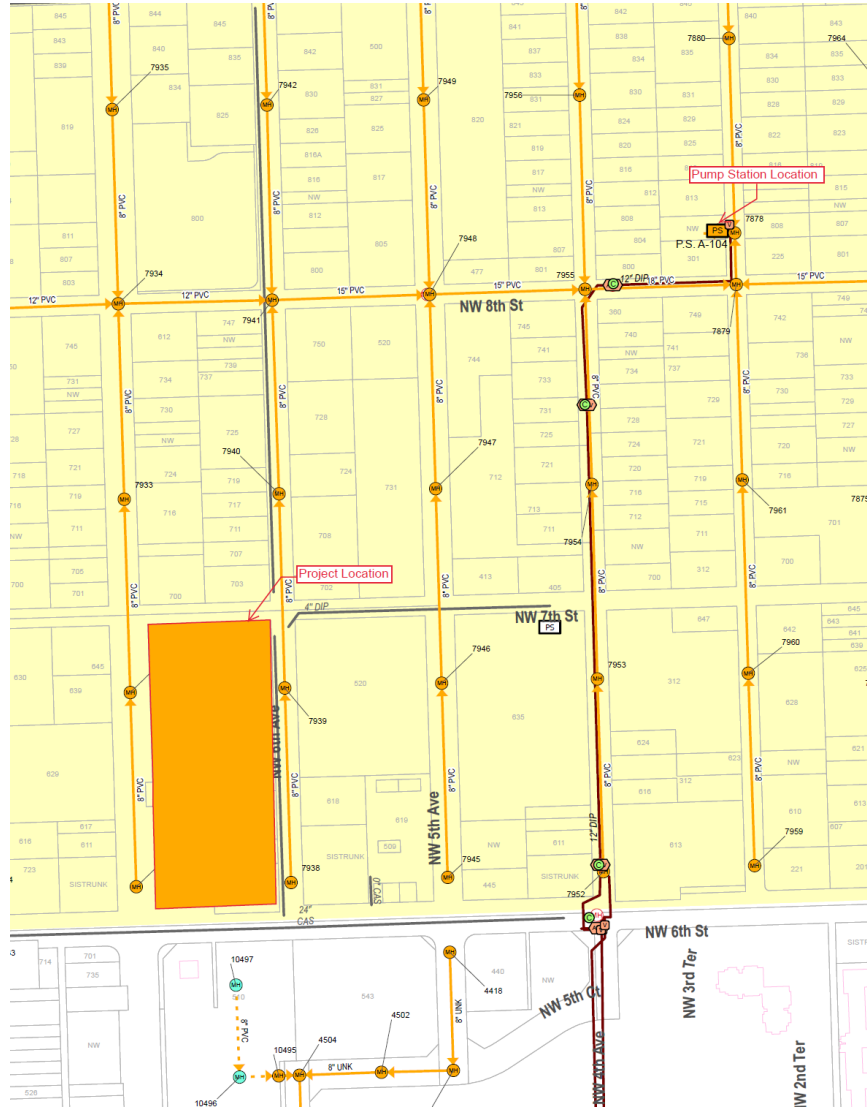
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Figure 2 – City Sewer Atlas



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WATER CAPACITY ANALYSIS

Requested Demand: Based on the applicant’s site plan and building use information, the estimated average day potable water demand is approximately 94164 gallons per day (GPD), which equates to 0.0942 MGD. Average day water use demands are calculated by reducing the calculated max day water use demands by a factor of 1.3 as determined in the City’s Comprehensive Utility Strategic Master Plan. The max day water use demands are calculated using the City’s Guidelines for the Calculations of Sanitary Sewer Connection Fees and are based on City Ordinance No. C-19-29.

Evaluation of impact on existing distribution pipe: According to the site plan, the applicant is proposing to utilize the 6-inch water main along NW 6th Avenue. The InfoWater hydraulic model was analyzed and it was determined that the existing 6-inch water line cannot accommodate the fire flow for the proposed development. In order to meet the fire flow demands the 6-inch line on NW 6th Avenue will have to be upsized to an 8-inch from NW 6th Street to NW 8th Street.

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 38.31 MGD. The previously committed demand from development projects in the permitting or the construction stage is 4.78 MGD. Combining these figures with the demand from the proposed project of 0.0942 MGD, the required production would be 43.19 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: The 6-inch line on NW 6th Avenue will have to be upsized to an 8-inch from NW 6th Street to NW 8th Street.

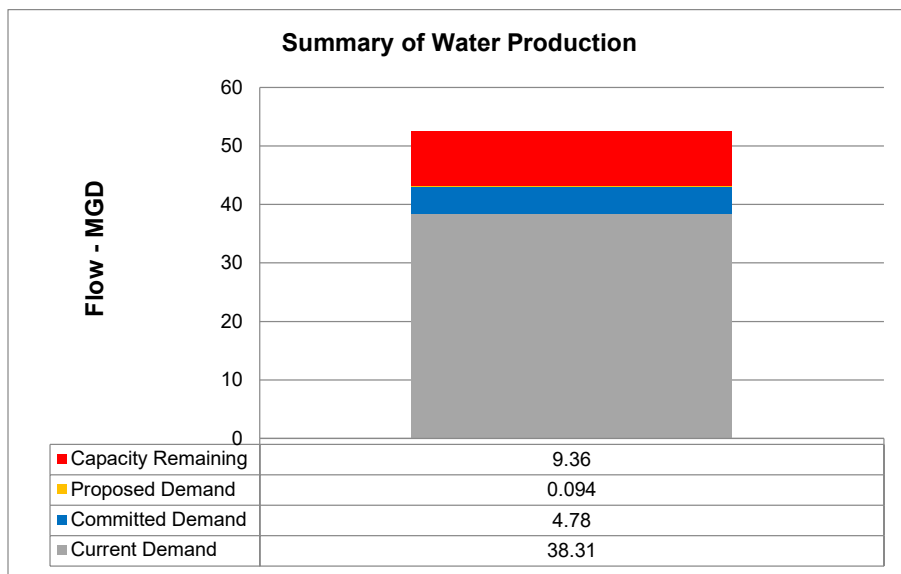


Figure 3

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WASTEWATER CAPACITY ANALYSIS

Requested Demand: Based on the applicant’s site plan and building use information, the estimated average day sewer use demand is approximately 71408 GPD, which equates to 0.0714 MGD. Average day sewer use demands are calculated using the City’s Guidelines for the Calculations of Sanitary Sewer Connection Fees and are based on City Ordinance No. C-19-29.

Evaluation of impact on existing collection pipe: According to the site plan, the applicant is proposing to utilize the 8-inch gravity sewer main to the north of the project site along NW 7th Avenue. 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. The City uses a peak hourly flow factor of 3.0. Accounting for existing flows and based on the tools and information available to the City staff, it has been calculated that the pipes downstream of the proposed development will flow less than the ASCE-recommended 70% during peak flows. Therefore, the pipes downstream of the developments are adequate to serve the project.

Evaluation of impact on pumping station: PS A-104 has a duty point of 1269 gallons per minute (GPM) and has a Nominal Average Pumping Operating Time (NAPOT) of approximately 1.64 hours per day. Based on projected sewage flows, the pumping run times would increase approximately 56 minutes per day. Additionally, there are other committed flows from proposed developments within the PS A-104 basin resulting in 102.87 minutes of additional runtime. PS A-104 will have a NAPOT of 4.29 hours once the proposed developments are complete, less than the recommended average of 10 hours per day. See Figure 4 below.

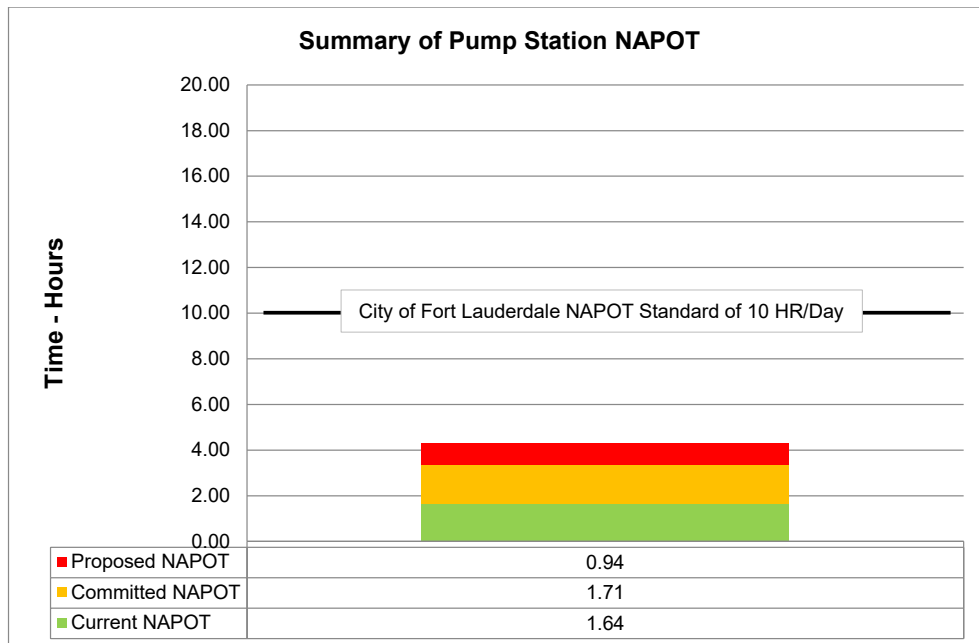


Figure 4

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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 38.42 MGD. Combining the committed flows for previously approved projects of 4.62 MGD plus the 0.0714 MGD net contribution from the project results in a total projected flow of 43.11 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.

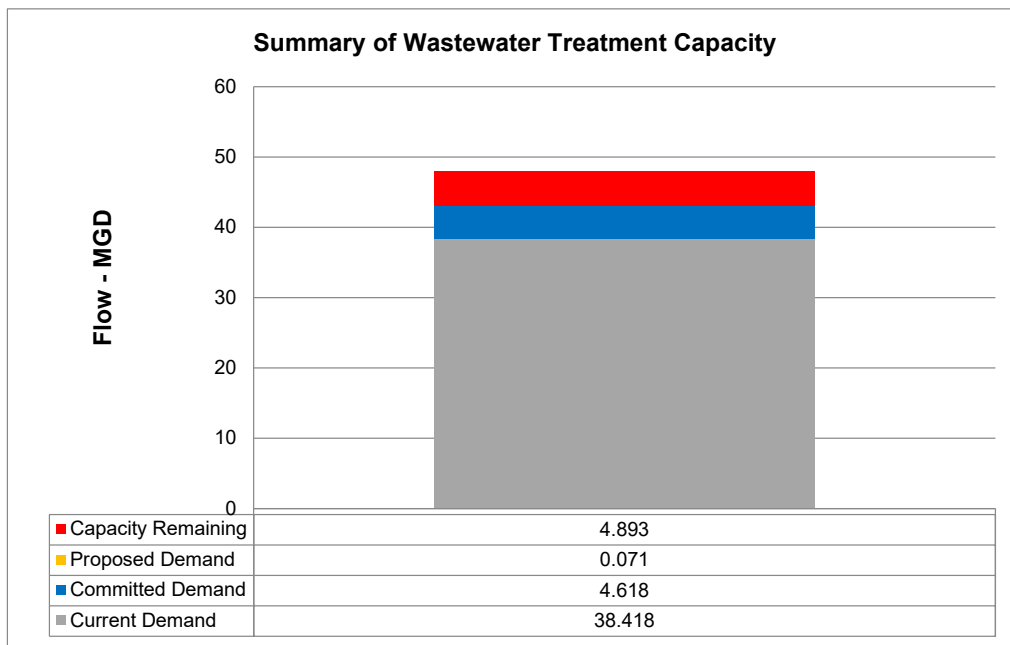


Figure 5

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