PROJECT ADDRESS: 501 NE 4th Street

Date request was received:5/10/2022

DRC CASE#: UDP-S22020

Project Name: Flagler SV

IF NO DRC CASE NUMBER PROVIDED, WATER & SEWER AVAILABILITY LETTER TO BE PROVIDED UPON PAYMENT OF ENCLOSED A/R INVOICE.

*******IMPORTANT INFORMATION*******

The following analysis is only VALID FOR A PERIOD OF ONE YEAR FROM THE DATE OF ISSUANCE. After which point, a reanalysis must be conducted to ensure adequate availability for projects.

☐ Water and Sanitary Sewer Capacity Allocation Letter (Small Project) ……...$960

☐ Modifications to small project that require capacity re-analysis……$960

☑ Water and Sanitary Sewer Capacity Allocation Letter (Large Project) ……$2,400

☐ Modifications to large project that require capacity re-analysis……$2,400

September 23, 2022

Stephen Botek
Botek Thurlow Engineering, Inc.
3409 NW 9th Avenue, Suite 1102
Fort Lauderdale, FL 33309

Subject: **WATER AND WASTEWATER CAPACITY AVAILABILITY LETTER**
Flagler SV – DRC Case No. UDP-S22020
501 NE 4th Street, 33301

Dear Mr. Botek,

According to the information submitted, the project consists of a construction of a 270-unit condominium building with 5,000 SF of office area. There are proposed water and sewer connections to City of Fort Lauderdale (City) utilities along NE 5th Avenue. This project lies within the City's Pump Station (PS) A-21 basin and will increase the average day water demand by approximately 0.0561 million gallons per day (MGD) and the average day sewer demand by approximately 0.0386 MGD.

The following project is the City's major initiative within basin A-21:

Project # 12605 – New Pumping Station Flagler Village A-24
Estimated Construction Completion: Fiscal Year 2024

Currently, the existing sewer infrastructure does not have the capacity to support the proposed development. However, upcoming CIP project # 12605 will create Basin / Pump Station A-24 to handle the increased demand in committed NAPOT to A-21. This project will be within Basin A-21.

No improvements are needed to the existing Potable Water infrastructure based on this analysis.

Please be advised that the proposed Flagler Village Pump Station A-24 is estimated to become operational sometime during Fiscal Year 2024 provided unforeseen circumstances are not encountered. Therefore, the timeline of all improvements must be coordinated well in advance with the City. Any Certificate of Occupancy will not be issued until the expanded wastewater system is fully functional.

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., Assistant Public Works Director
Daniel Rey, P.E., City Engineer
File: Water and Sewer Capacity Letters

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

Flagler SV – DRC Case No. UDP-S22020
501 NE 4th Street, 33301

PROJECT AND DESCRIPTION

The project consists of a construction of a 270-unit condominium building with 5,000 SF of office area.

DESCRIPTION OF EXISTING UTILITIES

Water: The site is currently served by an 8-inch water main along NE 5th Avenue, west of the project site. See Figure 1.

Wastewater: The site is currently served by a 12-inch gravity sewer main to the north of the project site along NE 5th Avenue. See Figure 2.

Pumping Station: The site is served by PS A-21 which is located along NE 2nd Avenue.

SUMMARY OF ANALYSIS AND REQUIRED ACTION

The existing potable water infrastructure has the capacity to support the proposed development and no improvements are needed. The existing sewer infrastructure does not have the capacity to support the proposed development and improvements will be required to upsize gravity sewer system so it can handle the projected flow increase.

The upcoming CIP project # 12605 will create Basin / Pump Station A-24 to handle the committed NAPOT. This project will be within Basin A-21 and A-7. The proposed PS A-24 shall be constructed and on-line prior to the proposed development seeking a Certificate of Occupancy.

Figure 1 – City Water Atlas

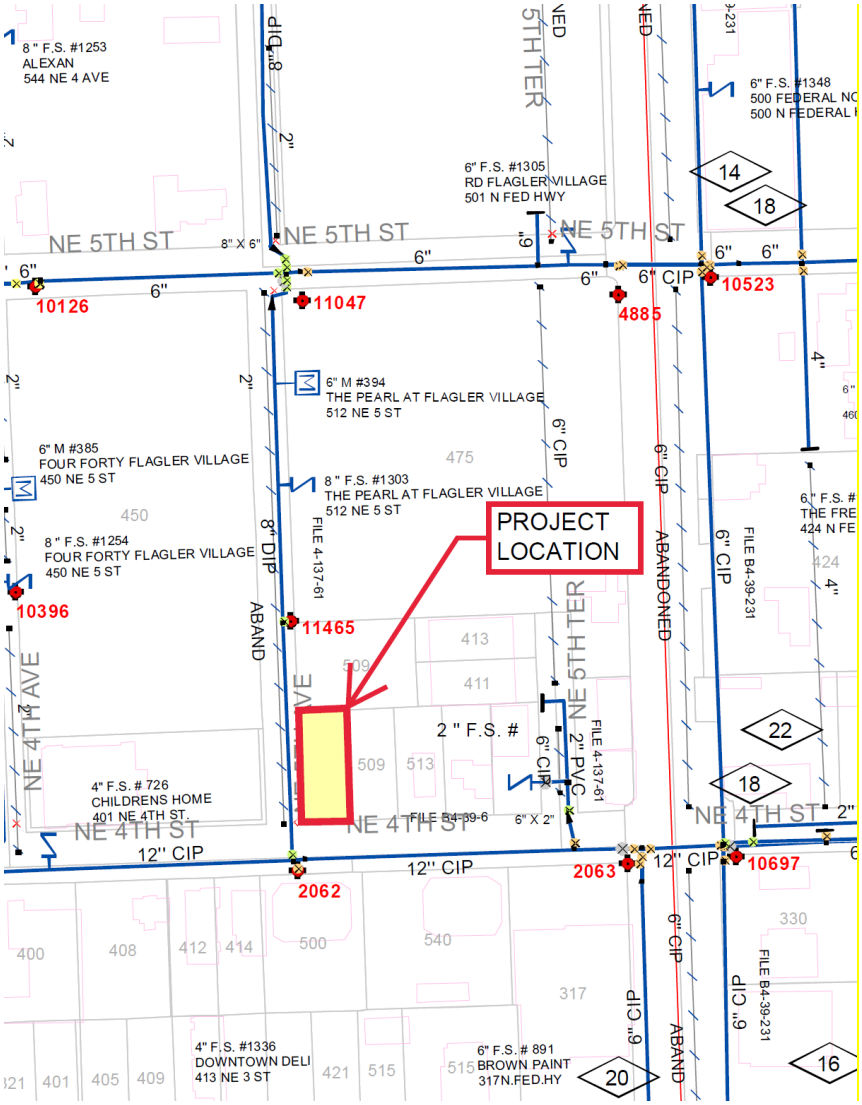
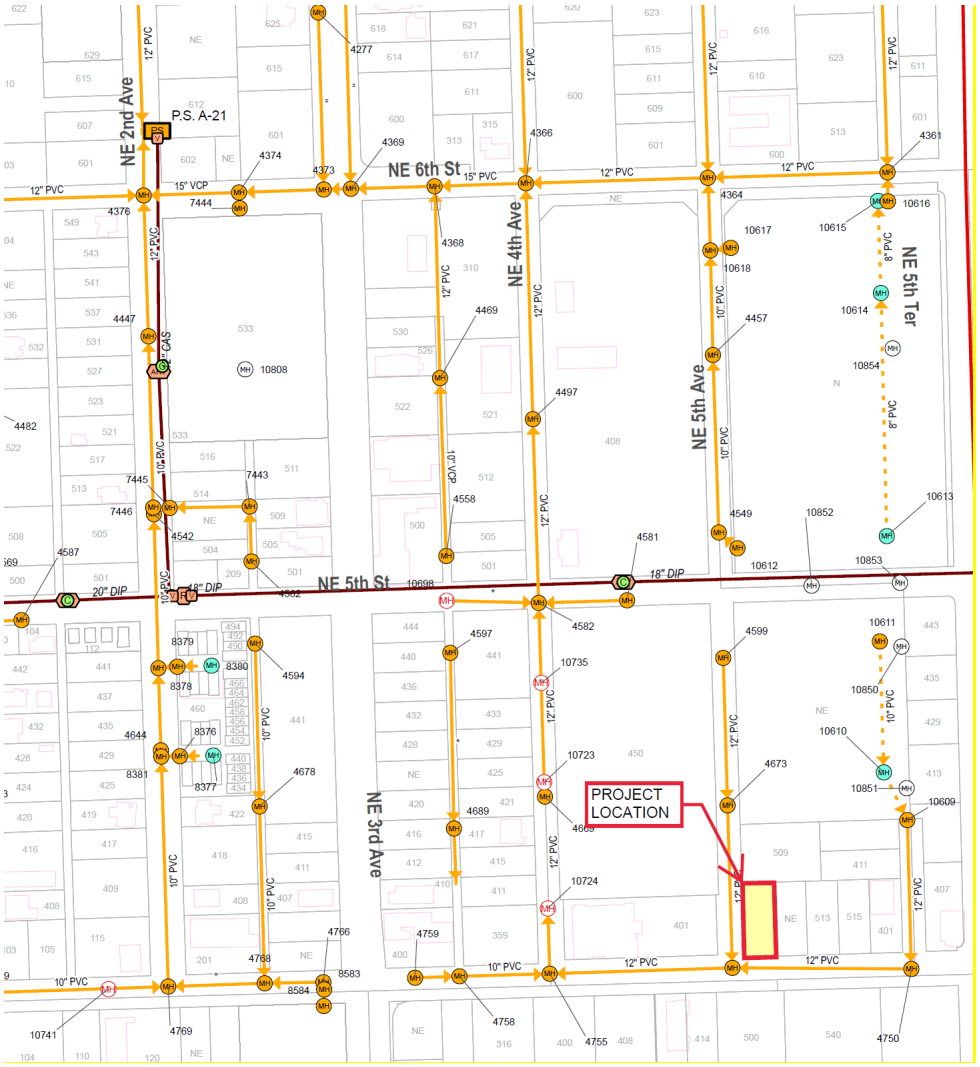


Figure 2 – City Sewer Atlas



WATER CAPACITY ANALYSIS

Requested Demand: Based on the applicant's site plan and building use information, the estimated average day potable water demand is approximately 56067 gallons per day (GPD), which equates to 0.0561 MGD. Average day water use demands are calculated by reducing the calculated max day water use demands by a factor of 1.18. 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 8-inch water main along NE 5th Avenue. The InfoWater hydraulic model was analyzed to determine the impact of this project on the existing 8-inch water main.

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 38.91 MGD. The previously committed demand from development projects in the permitting or the construction stage is 5.48 MGD. Combining these figures with the demand from the proposed project of 0.0561 MGD, the required production would be 44.45 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.

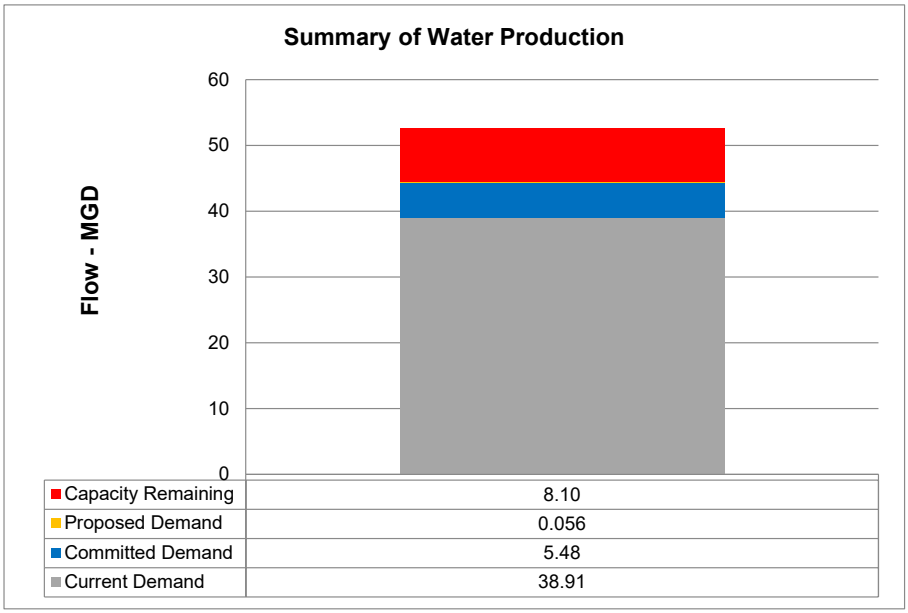


Figure 3

WASTEWATER CAPACITY ANALYSIS

Requested Demand: Based on the applicant's site plan and building use information, the estimated average day sewer use demand is approximately 38593 GPD, which equates to 0.0386 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 12-inch gravity sewer main to the west of the project site along NE 5th Avenue. 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 some pipes downstream of the proposed development will flow higher than the City's governance plan threshold of 70% during peak flows. Therefore, these pipes downstream of the developments do not have adequate capacity to serve the project.

Evaluation of impact on pumping station: PS A-21 has a duty point of 978 gallons per minute (GPM) and has a Nominal Average Pumping Operating Time (NAPOT) of approximately 7.28 hours per day. Based on projected sewage flows, the pumping run times would increase approximately 39 minutes per day. Additionally, there are other committed flows from proposed developments within the PS A-21 basin resulting in 1242.39 minutes of additional runtime. PS A-21 will have a NAPOT of 28.65 hours once the proposed developments are complete, greater than the recommended average of 10 hours per day. See Figure 4 below.

The City's Pump Station Flagler Village A-24 is a major initiative within this basin to reduce the amount of flow handled by the existing PS A-21 and to provide additional capacity within this area. Once PS A-24 is constructed and on-line, there will be sufficient capacity at this new pump station to convey the estimated wastewater demand from the development to the treatment plant.

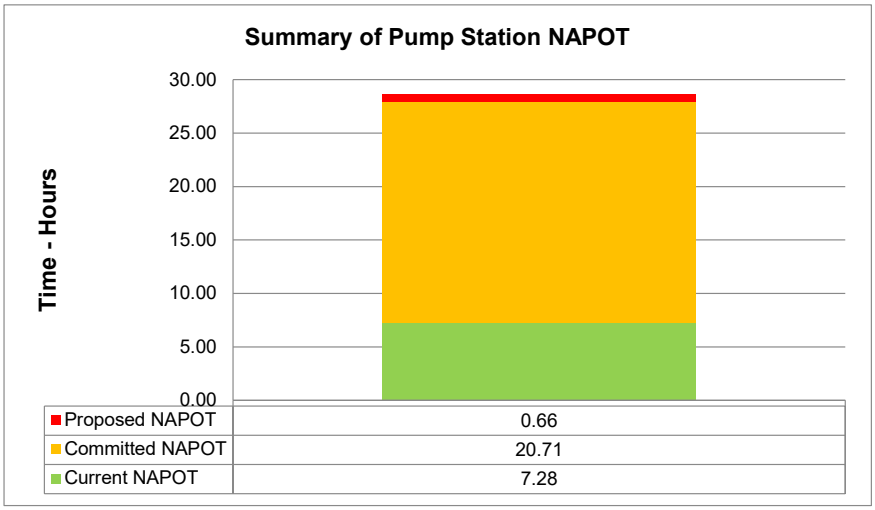


Figure 4

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 42.53 MGD. Combining the committed flows for previously approved projects of 4.70 MGD plus the 0.0386 MGD net contribution from the project results in a total projected flow of 47.27 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.

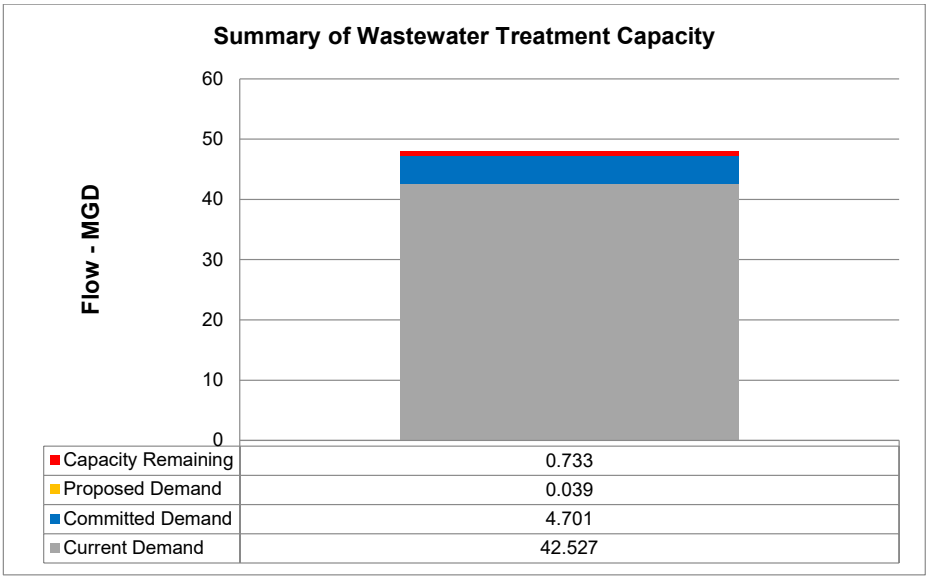


Figure 5

Recommended Wastewater Infrastructure Improvements: PS A-21 does not currently have sufficient capacity to handle the proposed development. The proposed PS A-24 shall be constructed and put in operation prior to the proposed development seeking a Certificate of Occupancy.

The improvements will also be required to upsize gravity sewer system so it can handle the projected flow increase from the development. Approximately 300 feet of 15-inch diameter gravity sewer along NE 6th Street between NE 4th Avenue and NE 3rd Avenue will have to be upsized to 18 inches (see Figure 6 below).


UPSIZE FROM 15
TO 18 INCHES
P.S. A-21
NE 2nd Ave
NE 6th St
NE 4th Ave
NE 5th Ave
NE 5th Ter
NE 5th St
NE 3rd Ave
PROJECT
LOCATION
12" PVC
15" VCP
18" DIP
20" DIP
10" PVC
8" PVC
4" GAS

Figure 6