
INFRASTRUCTURE AND ENERGY

Chapter Twelve

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Introduction

The 51.88 acre site located along NYS Route 312 opposite the Terravest Corporate Park and Exit 19 of I-84. It is bounded by NYS Route 312 to the west, I-84 to the south, Metro North Railroad to the east, and residential property to the north.

This primary proposal consists of mercantile/retail development, a bank, and a restaurant. Currently there are no buildings of this type on this property.

A. WATER Existing Conditions

The project site currently has one on-site well providing potable water for a private residence. There is no fire protection service immediately available for the site. The well on the project site has very little yield and would not appear to be able to support the needs of this project. No new test wells have been drilled on the project site to determine what new wells might yield for potential support of this project.

All buildings in the Terravest Corporate Park get their potable water from individual wells. The buildings in Terravest Corporate Park are also protected by a fire protection system from an existing 428,000 gallon water storage tank behind Westchester Tractor. The piping from this existing tank extends to effectively create a loop that follows a portion of International Boulevard and Geneva Road. The tank is currently filled from an on-site well.

Potential Impacts of the Proposed Project

The proposed Crossroads 312 project will require both potable water and fire protection service. Fire protection service for Crossroads 312 will be extended from the existing fire protection system in the Terravest Corporate Park across NYS Route 312 to the proposed development.

The existing water storage tank and fire protection piping system will be modified to become a combined water system by the project engineers, BVH Integrated Systems, Inc.. This combined system will have treated potable water in the storage tank which can then be connected to the proposed buildings and provide both potable water and fire protection water. New backflow preventers will be installed at each building (new and existing) connected to the system.

A new water treatment system will be added to the existing system making all the water in the tank and piping potable. The existing tank and piping will be disinfected, flushed and tested before converting into the combined system. The existing piping system from the tank will remain in place but will be flushed and disinfected as the system changes over to a combined system.

The new combined system and water storage tank will be filled from existing wells in the Terravest Corporate Park. New piping will be installed connecting two existing wells in the Terravest Development north of Zimmer Road and east of the Town Park. These wells were previously evaluated during the Terravest Corporate Park phase 2 & 3 development that was approved in 2004 and will provide the water necessary to maintain the levels in the tank and the needs of the combined system. The existing well near the water storage tank will also be maintained.

Fire Protection Design Considerations

Buildings will be designed in accordance with the New York State “Fire Code and Property Maintenance Code of New York State” and the “Building Code of the New York State”. Sprinkler systems will be designed in accordance with NFPA 13 and standpipe systems will be designed in accordance with NFPA 14. Based on extra hazard occupancy of the warehouse area of the building, projected sprinkler demand is 1400 gpm plus hose allowance of 500 gpm for total 1900 gpm.

Based on the Insurance Service Office (ISO) criteria the Needed Fire Flow (NFF) is estimated at 2,500 GPM for a 2 hour duration, or 300,000 gallons. The proposed combined system will have the capacity to provide this design flow for the 2 hour duration and the daily potable usage for the proposed development from the 428,000 gallon tank.

The water storage tank will have a circulation line to keep the water in the tank disinfected. Fire hydrants will be installed to provide a Fire Department connection to this water source. The fire hydrants will be specified to meet the Town of Southeast standards. Applicable chapters of the “Recommended Standards for Water Works”, the Putnam County Health Department Regulations will be included in the system design.

New hydrants will be placed along the system near buildings and at other locations which will be coordinated with the local Fire Department. These hydrants also will be used for periodic flushing of the combined water mains.

Potable Water Supply Design Considerations

The potable water system will extend from a combined main to each building that is being proposed for the Crossroads 312 development. New pumps will be installed near the water storage tank at the Terravest Park to accommodate the flows for the Crossroads 312 development and the Terravest Corporate Park. Expansion tanks will be included to address

low flow conditions and should prevent pump short cycling.

The Primary Proposal for this project consists of:

148,000 square feet of retail, general commercial single tenant or multi-tenant building, a 7,000 square foot restaurant (we assumed 100 seats), a 3,000 square foot bank, and 28,000 square feet of general retail.

Based on the descriptions above, the anticipated water usage is:

Retail (single/multi)	148,000 sf x 0.011 x 1.5=	2,440 gallons per day (gpd)
Restaurant	100 seats x 35 gal./seat=	3,500 gpd
Bank	2 toilets x 400 x .80=	640 gpd
<u>General Retail</u>	<u>28,000 sf x 0.011 x 1.5=</u>	<u>462 gpd</u>
Total		7,042 gpd

Based on the descriptions above, the grey water usage would be:

Retail (single/multi)	2,440 gpd x 0.7 =	1,708 gpd
Restaurant	3,500 gpd x 0.3 =	1,050 gpd
Bank	640 gpd x 0.7 =	448 gpd
<u>General Retail</u>	<u>462 gpd x 0.7 =</u>	<u>323 gpd</u>
Total		3,529 gpd

More information is provided in the Sanitary Chapter of this report. The water supply wells previously drilled and tested in the Terravest Corporate Park will be utilized as a water source for this project. Multiple wells will supply water to the existing 428,000 gallon fire protection tank located in the Terravest Corporate Park.

There are two existing wells in Terravest Corporate Park: Well #1 has a capacity of 70 gpm and Well #2 with capacity of 35 gpm. The yield tests on these wells were performed in 1998 and 2002. Water samples were tested by the New York State certified laboratory in 2002. The reported test results are within the standards set by the New York State Department of Health.

As the tank and the existing fire service distribution piping is converted to a combined water/fire system. A new 12" water/fire main will be extended to the Crossroads 312 project and connect to a 10" water/fire distribution loop. The combined main and loop will accommodate the NFF to the Crossroads 312 development. The new pumps will be designed to provide the required domestic and fire flows.

The existing water storage tank will satisfy daily water requirement.

The location of the existing facilities and the proposed system is shown on drawing C-4 "Water and Recycled Water Plan" as part of the site plan set and included on Map #46.

B. ELECTRIC, TELEPHONE, and GAS SUPPLY

NYSEG has been contacted and given preliminary loads for the project. NYSEG has responded with letters acknowledging the project loads and their ability to provide service to the project.

Existing Conditions

The existing site is relatively undeveloped and has minimal service to a residence.

Proposed Conditions

The Primary Proposal for this project consists of:

1. 148,000 square feet of retail
 - a. 1600 Amps @ 480/277 3 ϕ , 4 wires
 - b. 1000 KVA electrical service
 - c. 5000 MBH gas service
2. 7,000 square foot restaurant
 - a. 1200 Amps @ 120/208 3 ϕ , 4 wires
 - b. 300 KVA service
 - c. 1500 MBH gas service
3. 3,000 square foot bank
 - a. 400 Amps @ 120/208 3 ϕ , 4 wires
 - b. 100 KVA service
 - c. 120 MBH gas service
4. 28,000 square feet of general retail.
 - a. 1000 Amps @ 120/208 3 ϕ , 4 wires
 - b. 300 KVA service
 - c. 1100 MBH gas service
5. Owner service for site lighting and signage.
 - a. 200 Amps @ 120/208 3 ϕ , 4 wires
 - b. 75 KVA service

C. Mitigation Measures Proposed

There is adequate service available at the street. There is no mitigation necessary, see Map#47, Electric, Telecommunications and Gas Plan.