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## **SCHEDULE B**

### **Garden Lane Apartments**

Garden Lane, Town of Yorktown, Westchester County, New York

### **ENGINEER'S REPORT – NARRATIVE OF INFRASTRUCTURE**

### **PEEKSKILL SANITARY SEWER DISTRICT EXTENSION**

### **HUNTERBROOK & HUNTERBROOK 202 SANITARY SEWER DISTRICT EXTENSIONS**

December 2023

### **PROJECT SUMMARY**

Garden Lane Apartments is a proposed two (2) story, twenty (20) unit apartment building located on the eastern side of Garden Lane, in the Town of Yorktown, Westchester County, New York. The Town of Yorktown tax lot identification is Section 35.08 Block 1, part of Lot 27. The project site consists of 1.53-acres. Access to the proposed apartment building will be via two (2) new curb cuts along Garden Lane. Sewer service will be provided via two (2) proposed E-One (Model WH472) pumping units and associated sewer force mains which will connect directly to the existing E-One low pressure force main system located within Garden Lane. The Peekskill Sanitary Sewer District and Hunterbrook and Hunterbrook 202 Sanitary Sewer Districts are adjacent to the subject parcel on its northern and western boundary lines.

The existing Hunterbrook and Hunterbrook 202 Sanitary Sewer Districts serve residential and commercial properties. The existing districts lie within the Westchester County Peekskill Sanitary Sewer District that is served by the Peekskill Wastewater Treatment Plant located in the City of Peekskill, approximately 4.0 miles from the subject parcel. The existing districts are served by a combination of sewer force mains and gravity sewers tributary to the Hunterbrook Sewer District pump station, located at Lakeside Field/Hunterbrook Park, on Hunterbrook Road. The pumping station directs the flow to the Peekskill Sanitary Sewer District, Hollow Brook Interceptor trunk line located within NYS Route 6.



## **SUMMARY OF THE SYSTEM & ADEQUACY OF EXISTING INFRASTRUCTURE**

### **Proposed Sanitary Demand Load Calculations**

The proposed apartment building consists of twelve (12) one-bedroom units and eight (8) two-bedroom units, which will generate the following demand:

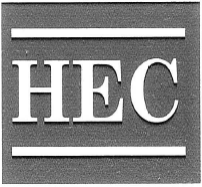
Population = 20 units, w/ 28-bedrooms = 28 people  
Design Flow = 28 people @ 110 gallons/day/person = 3,080 gallons/day  
Average Daily Flow 3,080 @ 24 hour day = 2.14 gallons/minute  
Peak Flow = 4.36 times daily flow = 9.33 gallons/minute

### **Existing Infrastructure Capacity**

- **Hunterbrook and Hunterbrook 202 Sanitary Sewer Districts:** Based on the analysis of the existing system performed by E-One, the existing 2-inch low pressure force main will have adequate capacity to serve the property. Based on correspondence with the Town, the existing sanitary sewer gravity lines at the discharge point of the E-One low pressure force main system, as well as the existing pumping station at located at Lakeside Field/Hunterbrook Park, will have adequate capacity to serve this small increase [3,080 gallons per day] in effluent flow. No upgrade of the pumping station is anticipated.
- **Peekskill Sanitary Sewer District:** The Peekskill Wastewater Treatment Plant services portions of the Towns of Cortlandt, Somers and Yorktown and the City of Peekskill. The existing sanitary sewer treatment plant has a design capacity of 10 million gallons per day. The plant currently treats 6.6 million gallons per day, leaving a 3.4 million gallon per day reserve. Flows from the project site will add an additional 0.00308 million gallons per day to the system. Therefore, the treatment plant has adequate capacity.

### **On-Site Sanitary Sewer Design**

The sanitary sewer system on the project site (as shown schematically on the map and plan which is included in this Schedule B) will consist of two (2) E-One Model WH472 pump systems, a total of 504-linear feet of 1¼-inch diameter SDR 11 HDPE force main, a total of 21-linear feet of 4-inch PVC SDR-35 sewer lateral piping, two (2) property line shutoff valve boxes, and two (2) doghouse cleanout manhole structures, designed and installed in accordance with Ten State Standards and the standards of the Westchester County Department of Health (WCDOH), the Westchester County Department of Environmental Facilities (WCDEF) and the Town of Yorktown.



### **Approvals**

The extension of the Hunterbrook and Hunterbrook 202 Sanitary Sewer Districts will require approval of the Town of Yorktown Town Board. The extension of the Peekskill Sanitary Sewer District will require the approval of the Westchester County Board of Legislators.

### **Sanitary Sewer Specifications**

1. **Pipe Bedding**: The gravity sanitary sewer pipes shall rest on a 6-inch bed of  $\frac{3}{4}$ " crushed stone or washed gravel located on stable and solid soils, subject to other measures necessary to achieve stability.

The force main sewer pipes shall rest on a 6-inch bed of dead sand located on stable and solid soils, subject to other measures necessary to achieve stability.

- a. **Pipe**: All sewer service laterals will be 4-inch diameter PVC SDR-35 bell and spigot assembly with rubber sealing rings conforming to ASTM D-3212.
  - a. Cleanouts will be provided at the property lines or easement lines. A cleanout shall be located in the apartment building and at a maximum spacing of 75' along the service line.
  - b. Service laterals for the building will be placed at a minimum 2.0% slope.
  - c. No bends greater than 45 degrees are permitted from the house trap to the E-One pump stations.

All sewer force main laterals shall be 1 $\frac{1}{4}$ -inch diameter SDR 11 HDPE pipe per ASTM 1248 standard specifications.

2. **Manholes**: Doghouse Cleanout Manholes shall be installed at the connection point of each proposed sewer force main lateral to the existing sewer force main.
3. **Concrete Anchors**: Concrete or approved equal anchors shall be placed at all joints along gravity or force sewer line runs where deemed necessary or as indicated on the plans and shall conform to the details on the construction plans.
4. **Crossings**: Sanitary sewers crossing water mains shall be laid to provide a minimum vertical distance of 18-inches between the outside edges of the pipe. Where the vertical separation cannot be met, the sewer main shall be encased in concrete to a distance of ten feet on either side of crossing, as indicated on the plans.

At crossings, one full length of sewer pipe shall be laid so both joints will be as far from the water main as possible and vice versa.



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Sewer mains and manholes shall be laid at least 10 feet horizontally from any existing or proposed water line. In cases where this is not practical the reviewing authority may allow a deviation with appropriate mitigation, such as encasing the water pipe, supported by data from the design engineer.