

## 8.0 COST ESTIMATE

Table 8-1 presents the construction cost estimate for the upgrade and expansion of the Great Neck WPCD wastewater treatment plant to 5.3 mgd. The estimate is based on the mid-point of construction and includes the following add-ons and contingencies:

- Contractor Overhead: 5%
- Contractor Profit: 5%
- Bonds and Insurance: 5%
- Design Contingency: 5%
- Escalation to Mid-Point of Construction: 3%/year

Appendix A includes a detailed breakdown of the cost estimate. The major components of the work, as identified in the estimate, are as follows:

Connection from the Village of Great Neck Plant: Includes estimated costs for the installation of a new sewer to transport flow from the Village of Great Neck's sanitary collection system to the upgraded and expanded GNWPCD wastewater treatment plant.

Headworks Pretreatment Building: Includes estimated cost for upgrading and expanding the existing Influent Screening System, including a new influent diversion manhole, automatic screens, screenings washer/compactor system, vortex grit chamber, grit handling system, CEPT system, and associated improvements. Refer to Section 6.3 for additional details on the Influent Screening System

Primary Settling Tanks: Includes estimated costs for upgrading the existing Primary Sludge Pumping Station, and associated improvements. Refer to Section 6.4 for additional details on the Primary Settling Tanks.

Oxidation Ditch Pumping Station: Includes estimated costs for construction of a new Oxidation Ditch Pumping Station, including the installation of new pumps, new piping, concrete structure, and associated equipment. Refer to Section 6.5 for additional details on the Oxidation Ditch Pumping Station.

Oxidation Ditch System: Includes estimated costs for constructing a new Oxidation Ditch System, including a new foundation system, new reinforced concrete tank, aeration equipment, pumps, controls, and associated components. Refer to Section 6.6 for additional details on the Oxidation Ditch System.

Final Settling Tanks and RAS/WAS Pumping Station: Includes estimated costs for constructing new Final Settling Tanks, including new foundation systems, new reinforced concrete tanks, sludge collection mechanisms, RAS/WAS Pumping Station, piping, and associated components. Refer to Section 6.8 for additional details on the Final Settling Tanks.

UV Disinfection: Includes estimated costs for new UV Disinfection System, including modifications to existing structures and associated electrical costs. Refer to Section 6.10 for additional details on the UV Disinfection System.

Effluent Pumping Station: Estimated costs for the upgrade of the existing Effluent Pumping Station, including the installation of new pumps, valves, piping, controls and associated improvements. Refer to Section 6.11 for additional details on the Effluent Pumping Station.

Gravity Belt Thickeners: Estimated costs for the installation of a Gravity Belt Thickener System within the existing Sand Filter Building, including the demolition of the existing sand filter systems and the installation of new Gravity Belt Thickeners, sludge piping, sludge pumping systems, polymer storage and feed system, and associated components. Refer to Section 6.12 for additional details on the Gravity Belt Thickeners.

Sludge Digestion System: Estimated costs for the repair of the floating cover on existing Digester No. 1. Refer to Section 6.13 for additional details on the Sludge Digestion System.

Electrical Service and Distribution System: Estimated costs for the upgrade of the existing Electrical Service and Distribution System, including replacement of the existing generator, electrical service, switchgear, transfer switch, conduit and wiring, as required for the proposed plant modifications. Refer to Section 6.16 for additional details on the Electrical Service and Distribution System.

Demolition, Site Work and Miscellaneous Plant Upgrades: Estimated costs for the demolition of miscellaneous structures on-site, as well as new site work, including upgrade of the plant water system, site lighting system, and installation of site pavement, curbs and storm water management system.

Decommissioning of the VGN Wastewater Treatment Plant: Includes estimated costs for demolition and removal of the existing on-site building, tanks, equipment, structures, utilities, roadway pavement, and removal and off-site disposal of the remaining wastewater liquids and sludge, and backfill of excavations with clean fill and top soil to match the existing grades.

**Table 8-1**

**GNWPCD WWTP UPGRADE AND EXPANSION TO 5.3 MGD  
PRELIMINARY CONSTRUCTION COST ESTIMATE**

<u>Item</u>	<u>Estimated Construction Cost</u> <sup>1</sup>
General Requirements	\$ 6,540,000
Headworks Pretreatment Building	1,745,000
Primary Settling Tanks	197,000
Oxidation Ditch Pumping Station	643,000
Oxidation Ditch System	6,830,000
Final Settling Tanks and RAS/WAS Pumping Station	5,063,000
UV Disinfection	808,000
Gravity Belt Thickeners/Effluent Pumping Station	1,873,000
Sludge Digestion System	185,000
Electrical Service and Distribution System	1,936,000
Plant SCADA System and Associated Upgrades	671,000
Demolition, Site Work and Misc. Plant Upgrades	<u>7,448,000</u>
<b>SUBTOTAL</b>	<b>\$33,939,000</b>
Contractor Overhead	1,914,000
Contractor Profit	2,031,000
Bonds and Insurance	1,894,000
Design Contingency	1,989,000
Escalation to Mid-Point of Construction	3,024,000
Unit Prices:	
Interconnecting Sewer	2,140,000
Decommissioning of VGN WWTP	1,600,000
Additional Unit Prices	<u>4,426,000</u>
<b>TOTAL</b>	<b>\$52,957,000</b>

1. Estimated costs rounded up to nearest \$1,000. Costs for engineering, legal, administration, etc., not included.