

The North River Wastewater Treatment Plant (WWTP) is owned and operated by the New York City Department of Environmental Protection (DEP) and serves approximately 550,000 people on the west side of Manhattan. The plant is a secondary treatment plant with a design dry weather flow of 170 million gallons per day (MGD), and a peak wet weather flow of 340 MGD, located in the Borough of Manhattan, at 725 West 135th Street, New York, NY. It treats a combination of wastewater and stormwater collected along the west side of Manhattan through a series of wet-stream treatment and solid-stream processing systems that require significant heat and power. One by-product of the solid-stream processing is methane gas, which can be used to generate heat, power, or both.

The plant currently implements cogeneration of heat and power through direct drive engine driven pumps and aeration blowers that are necessary for providing treatment. The existing tri-fuel pump and blower engines (10 total) are nearing the end of their useful life and are due for a major overhaul or replacement. The proposed project is the replacement of the old existing direct drive engines with electrification of the Plant and the installation of electricity generating cogeneration facilities. The purpose of the proposed project is to improve operations and reliability, reduce greenhouse gas emissions (GHG), and provide cost effective solutions over the existing engine driven pump and blower systems.

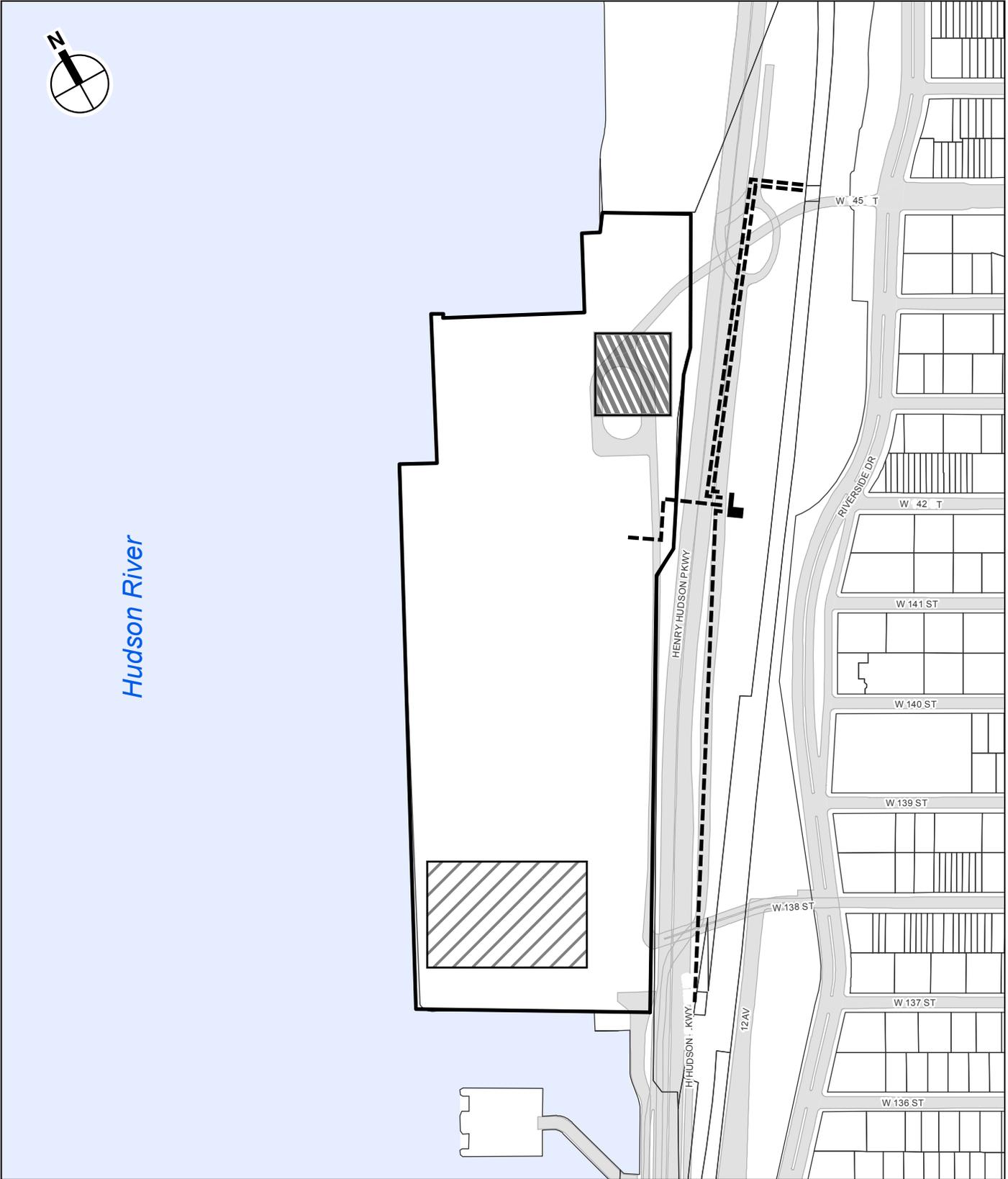
The existing facility currently has five (5) 1,700 brake horsepower (bhp) Enterprise model DGSR-46 compression ignition reciprocating engines used to provide power to operate the main sewage pumps (the “pump engines”) and five (5) 940 bhp Mirrlees Blackstone KP5 major compression ignition reciprocating engines used to provide power to operate the air blowers for the aeration tanks (the “blower engines”). All five of the pump engines are operational; however, only three of the five blower engines are operational. The existing engines operate on a combination of natural gas, digester gas, and/or No. 2 fuel oil.

Figure A-1 shows the approximate locations of the various project elements, described in more detail below.

The proposed cogeneration plant will replace all ten (10) of the existing tri-fuel pump and blower engines. The five (5) main sewage pump engines will be replaced with motors and a sixth motor driven main sewage pump will be constructed. The five (5) motor driven aeration blowers, including the engines themselves, will be removed and replaced with approximately twelve to fourteen (12-14) smaller high efficiency motor driven blowers.



Hudson River



-  Project Site Boundary
-  Approximate Location of Engine Room Improvements
-  Approximate Location of Digester/Sludge Handling Improvements
-  Abandoned Substation to be Demolished/Approximate Location of New Park Substation
-  Potential Location of Trenching for New Electrical Duct Bank

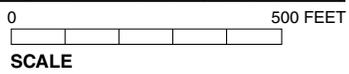


Figure A-1
Location of Project Elements

North River WWTP Cogeneration & Electrification Project

To generate on-site electricity and heat, five (5) new 3.37 megawatt (MW) spark ignited reciprocating engine generators will be installed and interconnected with the Con Edison electrical supply. Four of the five engines would operate at any one time (13.48 MW maximum), with the fifth as a standby unit. The engines would operate on both digester gas and natural gas. Fuel oil would no longer be used. Prior to being supplied to the engines, the digester gas will be treated to remove particulates, moisture, sulfuric acid and siloxanes. Oxidation catalysts would be installed to treat the engine exhaust to meet plant specific requirements for formaldehyde emissions. Waste heat recovery equipment and associated piping sized for the new facility would be installed to improve overall system efficiency. The engines would be housed in the existing engine room and would exhaust through the existing pump engine stacks. Physical stack parameters such as location, height and diameter would remain unchanged. Con Edison will provide increased electrical capacity through reinforcement of the four (4) existing feeders to the plant. New electrical infrastructure would be provided within the facility to accommodate the new cogeneration plant and motor driven equipment, as well as the interconnection with the existing electrical distribution system fed by the utility. All of this work will occur inside the WWTP.

The project will also include improvements to the sludge handling facilities located in the southern end of the WWTP. The type of work is generally replacement in kind and includes new pumps, sludge grinders, instrumentation, and digester gas holder renovations. These improvements will increase digester gas production to enhance operation of the cogeneration facility. All work related to the improvements to the sludge handling facilities will occur inside the WWTP.

Currently, the Riverbank State Park receives power from the North River WWTP. In order to provide the park with service directly from Con Edison, the two electrical feeders serving the park's electrical distribution system will be relocated from the plant's distribution switchgear to a new independent substation. The new park substation will replace an existing abandoned substation located on the eastern side of North River site. Con Edison is currently investigating from where the new park substation will be fed; it is anticipated that the feed will come from either their 135th Street or 145th Street manholes. Either of these options will require that two (2) new concrete encased ductbanks be installed from the Con Edison "point of termination." Con Edison will be required to bring the new park feeders to the DEP property line "point of termination" and DEP will be responsible to run the park feeders from that point to the new substation. It should be noted that the utility will require that two independent electrical duct systems be utilized to ensure separation of the feeders, as an added level of redundancy to any new service of this size. An underground utility survey must first be completed, but the new concrete encased ductbank system could require up to approximately 1,500 feet of trenching on the North River property that will be up to 4 feet wide and 6 feet deep to accommodate each of the two ductbanks. Depending on the determination of Con Edison as to the future power source location, the excavation for the new ductbank may extend from the new substation in a northerly or southerly direction, but not both. This trenching and electrical separation work would occur on

DEP property, mostly outside and to the east of the WWTP building; none of this work will occur within Riverbank State Park, and this work would not impact the operation of the Park.

In addition, the facility may install up to four (4) 2 MW diesel emergency generators during the construction period to provide back-up power to the Plant during emergencies. Once the cogeneration plant is installed and operating, these four emergency generators would be removed. *