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Lake Bluff Pumping Station - Sewage Storage Basin

Background

The NSWRD's Pumping Station at Sunrise Beach in Lake Bluff is an essential public utility and has been operating in various forms at the toe of the bluff for the last 100 years. Most of the sewage from the Village drains through local sewers to the Pumping Station by gravity. The Pumping Station transfers the sewage through an NSWRD forcemain and interceptor sewer to the Clavey Road Water Reclamation Facility (treatment plant), located about 8.5 miles away in Highland Park. In a typical day, the Pumping Station conveys roughly 500,000 gallons of Village sewage.

In the rare event that the Pumping Station is inoperable (electrical or mechanical failure), sewage continues to flow to the Pumping Station but cannot be pumped away. Sewage eventually backs up in the incoming main until it exceeds the elevation of the Pumping Station and overflows into Lake Michigan through an overflow manhole, down an asphalt flume, and across the parking lot. At least ten such discharges have occurred in the last 20 years.

NSWRD has invested over \$1.6 million into facility improvements since 2000 to improve the Pumping Station's reliability, but the risk of an electrical or mechanical failure still exists that may result in an overflow. In addition, NSWRD is constrained in its ability to maintain either the Pumping Station or the outgoing main because the Pumping Station cannot reasonably be removed from service for repairs. The need for planned shutdowns will only increase as the age of NSWRD's infrastructure increases.

Description of the Plan

The NSWRD's solution to these problems is to construct a 1-million-gallon basin below ground level, this size being adequate to hold approximately two days of the Village's sewage in the event that the Pumping Station is inoperable. Construction of the storage basin requires the reconstruction of the existing asphalt parking lot (to be rebuilt with concrete) between the Pumping Station and Lake Michigan, as well as displacing the existing Lake Bluff Yacht Club storage facilities on the Property. The basin also requires a new above-ground facility to be built: a new diversion structure, which essentially serves as the junction point between the new detention basin and the Pumping Station's wet well. To accommodate the new diversion structure the existing standby generator will be relocated to the east from its existing location in the fenced area near the Pump Station.

In addition, the Plan includes the following amenities for the benefit of users of Sunrise Beach and the public.

A. Aesthetic improvements, including:

1. The relocation of the existing emergency generator for the Pumping Station further towards the bluff.
2. The construction of a louvered screening fence or wall at locations along the perimeter of the Pumping Facility, which will eliminate existing, unsightly, and non-conforming chain-link security fencing.
3. The installation of arborvitae hedges, raised foundation plantings, and curbed planting beds to hold screening plantings and primarily native species.
1. The replacement of the asphalt parking lot with a more durable concrete plaza including decorative elements.
2. A new, unified color scheme for the buildings and generator that will reduce the visual prevalence of the Pumping Station and help camouflage its different elements and architectural styles.

B. Milling and resurfacing of the service road that extends from the top bluff edge to Sunrise Beach.

C. The replacement of an existing degraded metal guardrail along the service road with an attractive wood guardrail.

D. The construction of two heated public bathrooms suitable for year-round use, with one accessible for persons with disabilities. The restrooms will replace unsightly portable toilets that have been located on the Property for visitors to Sunrise Beach.

E. The replacement of one existing beach shower (~4 ft. tall) with two new overhead beach showers.

NSWRD anticipates that construction will start in Spring 2023 and will be completed prior to Memorial Day weekend of 2024. Construction of the Plan will require closure of the South Beach for the 2023 beach season. This timeline is subject to change as, among other risks, additional delays may be introduced outside of NSWRD's control due to weather or other unforeseen events.

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