Hayduk Engineering, LLC

NEWSLETTER

Summer 2021

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LAKEBRIDGE CLUB INVESTIGATIVE REPORT

An Old HE Project Comes Back Decades Later

Lakebridge Club (LBC) is an existing 200-unit condominium community located in Kings Park, NY and was one of the early projects engineered by Hayduk Engineering in the mid-1980s. Recently the community had been experiencing issues with their stormwater system therefore HELLC was retained last year by the Homeowners Association (HOA) to investigate the

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Hayduk Engineering has been listed by Engineering News Record as one of the **top 100 Design Firms in NY**.

Hayduk Engineering recently received the "**Top Assisted Living Project**" award from Long Island Business News for participation on Kaplan Development Group's All American Assisted Living Facility in Coram, NY. Hayduk Engineering provided civil/site engineering services, sanitary engineering services, and engineering during construction services on the project from the due diligence phase to project completion.

causes of the stormwater issues and make recommendations for how to restore, operate, and maintain the system going forward.

Typical pond; some fountains were added by HOA over the years.

LBC was constructed starting in the late 1980s by the original developer, Reha Associates / Lakebridge Club Associates. Hayduk Engineering was in charge of civil and site engineering, roads, grading, drainage, water supply and distribution, sewer collection, and pumping station and force main design to the County Sewer District. We also performed engineering during construction services, and technical inspection of site, civil and sanitary construction.

During the early planning stages of the project, the developer outlined his vision for the design of the project, including a significant number of ponds throughout the community. He specifically did not desire to have a stormwater recharge basin onsite, and so it fell to Hayduk Engineering to devise a way to handle the site storm drainage and yet satisfy the developer's mandate. Our solution was cornerstoned in making the aesthetic ponds also serve as storm drainage storage and recharge units as well without this being visibly obvious and thus negatively impacting the aesthetics of the community. This involved underground, perimeter leaching trenches surfaced with stone rip-rap around the ponds, obscured with aesthetic and environmentally viable vegetation; interconnecting piping with electrically operated butterfly valve chambers from the highest to the lowest pond; a recirculation pumping station and force main to return the flow to the upper pond; a make-up water well and level controls to maintain proper water levels during storms and during dry periods; some supplementary leaching pools in outlying areas, and an emergency overflow to a pre-existing neighboring recharge basin.

Fast forward to current times. As commonly takes place after a sponsor (developer) turns a

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new community over to the HOA, continuity and transfer of information from one administration to the next suffers over the years as residents and Board members change. Accordingly, there was limited documentation, design data, and historical information still available to current HOA and management personnel, particularly regarding the uniquely designed stormwater system. Therefore, there was minimal and somewhat inaccurate understanding of how the system was designed to operate, where the major components are located, and what routine maintenance was required for the system to function properly. Area(s) of the community had been experiencing flooding at times. Some of the ponds intermittently experienced higher than normal water levels. Neither the make-up water well nor the recirculation pumping station would run in automatic mode. Some ponds had appeared in the past to be leaking.

One of the ponds was modified in 2017 and was reshaped to be significantly smaller in footprint. That perimeter leaching trench was demolished and a new PVC liner was installed in the pond, replacing the existing bentonite clay liner. Other related changes had been made over the years as well, all with good intentions that the problematic issues were being addressed, but without the benefit of knowing the design intent and the underground and less than obvious components of the systems.

HELLC put together a team of our in-house personnel. Because of his personal historical experience at LBC, the team was headed up by principal Stephen G. Hayduk, P.E., who brought in two specialty mechanical and electrical contractors to participate in the site investigation phase and with whom we identified the defects and maintenance requirements necessary to return the system to its original, operable condition.

Lakebridge Club is a beautiful community with an environmentally viable, aesthetic, and functioning (drainage-wise) system of ponds which can once again enhance the community for years to come. The unique design which we developed in the 1980s has been replicated many times by other designers and engineers over the decades. Regarding our report, in the words of the HOA president, “This is an excellent detailed document, exactly what we were looking for.” ■

VILLAGE IN THE WOODS PRELIMINARY TREATMENT UPGRADES

► Village in the Woods is a 41+ acre cooperative community comprised of several hundred housing units in 23 buildings in Selden, NY. The community was constructed in the early 1970’s, originally referred to as “White Oaks”. The community is serviced by an extended aeration wastewater treatment plant that was built with the original construction and was later modified to include denitrification filters and chemical storage and feed systems to meet subsequent permit requirements.

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Hayduk Engineering was retained by the community in 2016 to serve as the "Engineer of Record" for their wastewater treatment plant. The Suffolk County Department of Health Services requires the owners of all privately-owned wastewater treatment plants to retain the services of an engineer to provide consulting and engineering services related to the facility on an expedited on-call basis.

Since 2016, we have been involved in several upgrades to the plant, including a replacement of their 1,300-foot-long force main, development of a Spill Prevention Report for their chemical bulk storage system, and replacement of their emergency generator, including conversion from diesel fueled to natural gas. Most recently, the facility was experiencing significant issues with rags and solids clogging their influent equalization tank pumps. This situation resulted in several other problems and ultimately caused the operator to cease the use of their denitrification filters.

Hayduk Engineering performed an evaluation of the facility and determined that their existing manually cleaned coarse bar screen was insufficient to remove the rags and solids from the influent stream to the facility that was causing the issues. It was also determined at that time that their equalization tank required upgrades. We prepared an engineering design report and plans and specifications to install a new auger-type fine screen, new equalization tank pumps, supports, guiderails, and discharge piping, and a new crossover bridge inside the facility due to piping modifications.

The new screen and equalization tank upgrades have been in operation since April 2021 and the operator has received no emergency calls since that time. ■

OTHER COMPANY NEWS

NEW HIRES

Rebecca Brelsford
Administrative Assistant

Marlon Williams
Assistant Team Leader,
Biennial Bridge Inspection

Kyle Dittmar
Staff Engineer

Timothy Moy
Staff Engineer

Timothy Miscia
Staff Engineer

RECENT CONTRACT DESIGNATIONS

PRIME
Town of Southampton Hampton Bays Downtown Overlay Sewer District – Map and Plan Report, wastewater engineering services.

PRIME
Town of Smithtown Wireless Blvd Drainage Improvements – Civil engineering services and construction inspections.

PRIME
Memorial Sloan Kettering Cancer Center Commack Sewer Connection Project – Wastewater engineering services.

SUB
Nassau County DPW Knott Drive, Morgan Park, Viola Drive, and Roslyn Village Sewage Pumping Stations Upgrades Project – Wastewater engineering services.

SUB
NYSTA 27 Service Plazas Reconstruction – Civil/site engineering for reconstruction of 10 service plazas.

SUB
MTA Bridges & Tunnels Biennial Bridge Inspections at Bronx-Whitestone Bridge, Queens-Midtown and Hugh L. Carey Tunnels, Henry Hudson Bridge, Marine Parkway Bridge, and Cross Bays Bridge – Bridge and tunnel inspection services.

ANNOUNCEMENTS

Daniel J. Stahl passes P.E. exam and obtains license in PA.

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Stephen A. Hayduk, P.E. inducted into the NYWEA S.S.S.S.S and presented bronze shovel.