Engineering and Land Surveying, P.C.

WATER SUPPLY

Concept to Completion.

WATER SUPPLY

At KC Engineering and Land Surveying, P.C. (KC), our interdisciplinary team ensures responsible solutions tailored to planning challenges and specific clients' needs.

KC's water supply group combines experience and insight to create long-term water solutions that manage water resources and provide safe and reliable drinking water supplies.

We have years of solid, comprehensive experience in developing new water sources as well as improving and expanding existing delivery systems. We have located sources of supply and designed treatment, storage, and distribution systems for scores of municipalities, over 50 major residential developments, and numerous industrial plants, shopping centers, and hotels.

KC achieves water solutions with a balanced approach to the water cycle including sourcing, treatment, transport, reuse and recovery, and return to the environment. Our services include master planning, geographic information system (GIS), structural assessment, hydraulic modeling, and rehabilitation. KC can assist in planning, inspection, maintenance, and regulatory compliance. We approach each project with innovative and creative expertise to deliver comprehensive environmental engineering and management consulting services that solve the most intricate water challenges.

We are continually on call to assist during emergencies and provide quick conceptual responses to meet the needs of each client. In hundreds of assignments, we have proven our ability to execute intricate projects while meeting budget and delivery deadlines.

Services

Automatic Meter Reading

Chemical Addition & Containment

Chlorination

Community Liaising

Distribution Systems

Emergency Backup Power

Environmental Analyses

Filtration

Laboratory Facilities

New Source Identification

O&M Manual Drafting

Plant Operation & Training

Pressure Reducing Valves

Pump Stations

Surface Water Supplies

Tankage

Treatment

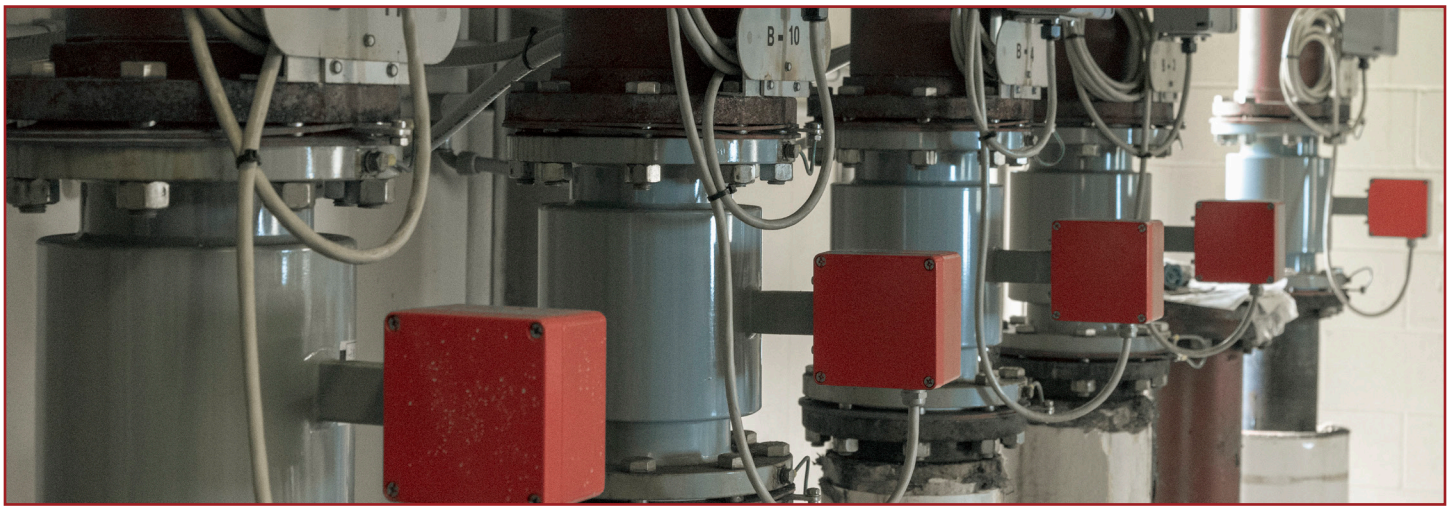
UV Disinfection

Well Systems

KC's water supply group consists of skilled water, wastewater, civil, and environmental engineers with experience in all aspects of water collection, supply, and treatment, including water treatment plants, wells, drainage plans, stormwater management, water mains, and catch basins.

Water Storage Tanks, Wallkill, NY | The Wallkill Consolidated Water District has 8 storage tanks built between 1987 and 2000. The total storage volume is 11M gallons. All of the tanks are welded steel and cylindrical in shape. KC provided the conceptual upgrade plan, design, preparation of contract documents, and engineering services during construction and startup. Key project components included: Tower Drive (low pressure system): 76' by 59' 2M gallon tank and 54' by 59' 1M gallon tank; Inwood Road (low pressure system): 86' by 47' 2M gallon tank; Overhill Road (low pressure system): 60' by 51.5' 1M gallon tank; Connors Road (high pressure system): 96' by 39' 2M gallon tank and 68' by 38' 1M gallon tank; and Washington Heights (Washington Heights pressure system): 45' by 82' two 1M gallon tanks.

Water System Modernization, Wallkill, NY | The goal of this project was to provide a supervisory control and data acquisition system (SCADA) to monitor all of the facilities that serve the Wallkill Consolidated District. This system will allow for faster emergency response times and remote monitoring of critical system processes. The scope of this project and the interdependence of the facilities in the Wallkill Consolidated Water District required close attention to the order in which the work was performed. By maintaining a strict order of tasks, water service interruption was successfully avoided.



> KC achieves water solutions with a balanced approach to the water cycle, from sourcing, treatment, transport, and reuse and recovery to return to the environment.

East of Hudson Watershed Corporation (EOHWC) Stormwater Retrofit Projects (SRPs); Northern Westchester, Putnam, and Dutchess Counties, NY | KC was awarded several projects with EOHWC to provide design, permitting, and construction phase services for a series of SRPs that helped meet the requirements for phosphorus reduction as defined by the NYSDEC. The goal of each project was to reduce the levels of phosphorus in stormwater runoff. At this site, located in the watershed of the New York City water supply system east of the Hudson River, reduction of phosphorus helped to protect the water quality and comply with the Municipal Separate Storm Sewer System (MS4).

Adirondacks Welcome Center, Warren County, NY | This project served to construct a new I-87 northbound welcome center in West Glens Falls, NY. The new facility replaced an existing rest area in excess of 25 years old. The new Adirondacks Welcome Center included construction of a new building with parking lot and boat inspection areas, lighting, a new septic system, waterline work, and utility upgrades.

As subconsultant, KC was responsible for assisting NYSDOT with reviewing and reapplying for NYSDEC State Pollutant Discharge Elimination System (SPDES), water connection system design, and septic system permitting.

KC also provided detailed design for water supply, wastewater septic, and stormwater systems; design survey and mapping for confirmation of existing infrastructure; preliminary building and site construction cost estimating; and existing utilities identification and coordination. KC also developed site drainage, sanitary system, and grading design alternatives; identified existing drainage basins to determine the impact of proposed construction on erosion and sedimentation; developed the Stormwater Pollution Prevention Plan (SWPPP); and prepared cross sections to outline existing ground and proposed roadway surfaces.

Rykowski Water Treatment Plant, Wallkill, NY | The Rykowski Lane Water Supply and Treatment System consists of six wells and a water treatment plant. The Orange County Department of Health ruled that additional treatment should be added to the plant due to particles of similar size to Giardia and Cryptosporidium found in nearby wells. KC prepared a conceptual upgrade plan. The chosen treatments included a coagulant to improve the filtration of the particles and an ultraviolet disinfection system, which provided additional capacity to achieve 5 log removal. KC also provided the conceptual upgrade plan, design, preparation of contract documents, and engineering services during startup and construction.

LaGuardia Airport Trunk Main Relocation, Queens, NY | This project included utility trunk line relocations and temporary utilities inside LaGuardia Airport (LGA). The scope included engineering services for the connection of existing utilities, maintaining uninterrupted service to all infrastructures inside and outside of the project limits, and tees and valves for future use by the LGA's Central Terminal Building, garages, and roadway. The project also improved serviceability of the utilities. KC prepared final design and contract documents for the installation of utilities north of the Grand Central Parkway, the relocation of utilities at Parking Lots 1 and 4, and the installation of a gas distribution center.

Hudson Valley Resort and Spa WTP Filtration, Kerhonkson, NY | KC designed a water filtration system for the Hudson Valley Resort and Spa in Kerhonkson, NY. The resort had ground water under the direct influence (GWUDI) of surface water. KC performed the necessary engineering services in connection with this water system modification project including the engineer's report, plans, and specifications. KC also assisted the owner in obtaining bids, reviewing submittals, and supervising construction. The existing water treatment facility at the resort was modified by adding bag filtration. Two independent trains of filter units were installed. The bag filtration provides the necessary treatment for GWUDI while minimizing construction and operation costs.

Engineering Evaluation of a Treatment System for Well #3, Warwick, NY | This project entailed performing an engineering evaluation to determine the best option for providing an additional water source to the Village of Warwick. Options evaluated for the backup source included Well #3 or the development of another new well. Well #3 has an average yield capacity of 250 GPM and can yield up to 400,000 GPD. Well #3 was known to be GWUDI of surface water and needed either treatment or pumping to the microfiltration plant before use as a primary source.

KC performed a preliminary investigation and presented a recommendation to the Village. KC also prepared a preliminary design concept, capital and life cycle cost analysis, and an engineer's report for the preferred option.

KC Engineering and Land Surveying, P.C.

Diversified. Multidisciplined.

KC Engineering and Land Surveying, P.C. (KC) is a diversified, multidisciplined consulting engineering firm. Since 1983, KC has provided our public and private sector clients with a comprehensive range of professional services using only the latest technical equipment. The corporate headquarters of the firm is located in New York City with a branch office in Newburgh, NY. KC has extensive experience with government agencies, municipalities, and private clients; a diverse, professional staff; and an impeccable record of services rendered.

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