

City of Geneva WWTF Detailed Scope of Services for Study of Water Reuse for the Settler's Hill Golf Course

In late 2025, the City of Geneva was approached about the feasibility of providing irrigation water to the Settler's Hill Golf Course from the Geneva Wastewater Treatment Facility (WWTF) treated effluent. The golf course is located at 919 E Fabyan Parkway, approximately a half mile southeast of the WWTF, on property owned by the Kane County Forest Preserve District. The golf course is the site of a closed county landfill and the current irrigation water supply has become contaminated.

CDM Smith is currently at the 90% design phase for solids handling improvements at the WWTF, including new waste activated sludge (WAS) tanks and sludge thickening, dewatering, and conveying improvements. If water reuse is determined to be feasible, the design and construction of associated improvements could be incorporated into this project.

Many states allow for the reuse of disinfected secondary effluent for restricted non-potable uses such as landscape irrigation or industrial cooling. Illinois EPA under HB 2391 is proposing to expand water reuse for industrial and other applications, in addition to irrigation. There is no federal regulation for water reuse, and standards for treatment and reuse are governed by individual states.

CDM Smith will perform the following scope of work.

Scope of Work

Task 1 – Meetings, Project Management, and Quality Control

CDM Smith will perform the following tasks to maintain the project on schedule, within budget and quality of work products:

- Project Kick-Off Meeting
 - CDM Smith will prepare for and conduct a kick-off meeting for the project, including discussion of other potential water reuse opportunities. The kick-off meeting will include a site visit to review the connection requirements to the golf course irrigation system and to review **potential locations for transmission, treatment, and storage.**
- CDM Smith will attend virtual monthly progress meetings during the estimated 4- month project duration. CDM Smith will prepare and distribute meeting minutes of each meeting as appropriate. This task also includes monthly project status review management meetings, and periodic internal team meetings.
- Project Quality Control (QC) Technical Review
- An independent reviewer will be assigned to this project to perform review of the final deliverable..

Task 2 – Data Collection and Alternatives Analysis

Task 2.1 – Information and Data Collection

CDM Smith will review data either already obtained or made available by the City. These data include the following:

- Review of current state regulations (and pending) related to water reuse
- WWTP operating data and water quality data
- Layout of the golf course irrigation system
- Golf course irrigation water demand and water quality requirements

Task 2.2 – Establish Design Condition

CDM Smith will determine the treatment limits that must be met. Based on the water quality requirements/limits from the agencies, CDM Smith will develop design criteria for the water reuse treatment system.

Task 2.3 – Alternatives Analysis

CDM Smith will conduct an alternatives analysis that will evaluate the following:

- **Confirm the required flow to the golf course. It is assumed that the golf course would continue use of their irrigation water reservoir and pumping system and that the new reuse water pumping system would discharge to this reservoir.**
- Evaluate alternative treatment systems to meet the required treatment limits for the reuse facility. It is assumed that the reuse system would treat an applicable portion of the secondary effluent. The treatment system could include:
 - Feed for secondary effluent source water, which could include existing plant water system or new reuse source water feed pumps.

Additional treatment if required such as nitrogen removal, , or filtration (cloth filter/microfiltration/ultrafiltration).
 - Disinfection (Ultraviolet light/chlorine)
 - New Storage tank or reuse of existing tank not in service.
 - Effluent pumps
 - Chemical addition
 - Controls and flow meter
- Evaluate alternative locations within the Geneva WWTF site for the reuse treatment system and associated water storage tank. It is assumed that either new pumps will be installed or flow from the plant water system will be sent to the reuse treatment system. Use of the existing excess flow chlorination system will be evaluated. It is also assumed that the reuse

treatment system will be designed to operate 24 hours per day when in use and that the flow rate will be based on meeting the golf course peak day demand.

- Contact process equipment manufacturers to obtain design requirements, layouts and costs for the various components of the treatment train. ← **and transmission main.**
- **Develop routes for the transmission main from the WWTF to the connection at the golf course reservoir.**
- Develop preliminary layouts for the treatment system.
- **Develop a Preliminary Opinion of Probable construction cost.** ← **that includes suggested WWTF improvements as well as transmission main design and installation**
- Develop a construction schedule based on a design-bid-build delivery method and incorporate into the solids handling improvements project.

Task 2.4 – Technical Memorandum

The above evaluations will be summarized in a technical memorandum. A draft copy of the memorandum will be submitted to the City and will be presented in a virtual review workshop with the City. The City will provide written comments on the draft report for CDM Smith to address. CDM Smith will address the review comments and submit a final memorandum to the City.

Schedule

CDM Smith estimates a 4-month duration for these services. The draft technical memorandum will be issued within 3 months of the notice to proceed.

Fee

CDM Smith proposes to complete the above tasks for a not-to-exceed fee of \$54,800 to be billed on an hourly rate basis. Invoices will be submitted monthly consistent with work performed for the prior month. Other direct costs, such as printing and mileage will be billed at cost.