

## Restoration of the Harlem Meer

### *The Central Park Conservancy*

#### *New York, NY*

As part of the overall restoration of the Harlem Meer, the northern most pond in Central Park, Princeton Hydro was contracted to conduct three specific projects. The first involved the review and comment on the proposed aquascaping plan for the pond. Recommendations provided the types, arrangement, and densities of plants needed to enhance the pond's aesthetics while simultaneously minimizing related short and long-term shoreline maintenance. Within this context, Princeton Hydro also supplied recommendations for edge materials to be used along the non-vegetated sections of the shoreline that would function both as a visual amenity and alleviate localized erosion problems.

The second task involved the development and implementation of a water quality monitoring program. The program was to be conducted by Central Park Conservancy staff for the purpose of routinely testing and tracking the status of the pond. Princeton Hydro prepared a sampling protocol, identified the needed sampling equipment, and developed standardized data reporting sheets.

The third task consisted of a baseline assessment of the Meer's hydrologic budget and pollutant load. Using a modification of TR-20, Princeton Hydro developed estimates of the monthly average inflow to the pond. Loading coefficients were assigned to the various land use elements contained within the Meer's watershed. With these, pollutant load estimates were computed for TP, TN and TSS on an annual scale. Based on these data, it was recommended that the pond's algae-related water quality problems could be best controlled by decreasing the amount of available phosphorus. Doing so would decrease the magnitude of algae blooms, decrease the occurrence of blue green algae, and avoid the need for copper sulfate treatments. An alum injection system, consisting of a network of alum diffusers and small aerators, was installed in the pond. The system administers a dose of alum into the pond at a set rates on a daily basis or following a storm event. The alum diffuser network was one of the first of its kind installed in the country.

