



# Onondaga Lake Remedial Design Work Plan

## March 2009

The Onondaga Lake Remedial Design Work Plan consisting of [Part A](#) (PDF, 428Kb), [Part B](#) (PDF, 465Kb) and [Part C](#) (PDF, 507Kb) has been prepared by Parsons on behalf of Honeywell International Inc. (Honeywell) and presents the activities and sequencing necessary to complete remedial design of the remedy selected in the Record of Decision (ROD) issued by the New York State Department of Environmental Conservation (NYSDEC) and the United States Environmental Protection Agency (USEPA) Region 2 in 2005 for the Onondaga Lake Bottom subsite. The NYSDEC and Honeywell have agreed to conditions under which Honeywell will design and implement the selected remedy, as set forth in the Consent Decree (United States District Court, Northern District of New York, 2007) (89-CV-815). The selected remedy provides for:

- dredging and proper management of as much as approximately 2,653,000 cubic yards of contaminated sediments and wastes;
- construction of an isolation cap over an estimated 425 acres in shallower areas (the littoral zone);
- construction of a thin-layer cap over an estimated 154 acres in the deeper areas (the profundal zone);
- performance of a pilot study that evaluates methods to prevent the formation of methylmercury in the deeper areas;
- re-establishment of habitat impacted by implementation of the remedy and enhancement of habitat in certain near-shore areas;
- monitored natural recovery (MNR) in portions of the deeper areas (the profundal zone);
- implementation of institutional controls; and
- long-term operation, maintenance and monitoring.

Given the central role played by the lake in the surrounding community, Honeywell is strongly committed to the implementation of the selected remedy that will help restore this important resource and enhance the overall quality of life within the community. The overall goal for remedial design and construction is to achieve the remedial action objectives (RAOs) and preliminary remediation goals (PRGs) developed as part of the Onondaga Lake Feasibility Study (Parsons, 2004) and set forth in the ROD. RAOs are identifiable goals to protect human health and the environment. PRGs are specific goals to achieve the RAOs and address the three primary affected media within the lake: sediment, biological tissues, and surface water.

The selected remedy relies upon the control of upland areas that contribute or have contributed contamination to Onondaga Lake. Remediation of contaminant sources is underway at multiple upland sites. Honeywell, under supervision from the NYSDEC, is nearing completion of remediation at the former Linden Chemical and Plastics (LCP) Bridge Street site which was once one of the primary sources of mercury to Onondaga Lake. In 2005, Honeywell also began the Willis/Semet interim remedial measure (IRM) which includes the construction and operation of a groundwater treatment plant and underground barrier wall along the southwest shoreline of Onondaga Lake to control ongoing

releases of contaminated groundwater from upland sites/sources.

Honeywell has conducted extensive pre-design activities to support design of the selected remedy and to supplement data collected by Honeywell and by others for the Remedial Investigation (TAMS Consultants, 2002) from 1992 to 2002. Pre-design activities have included Feasibility Study (Parsons, 2004) analyses, design-related investigation activities, bench-scale tests, siting of the Sediment Consolidation Area (SCA), nitrate addition/oxygenation evaluations, cultural resource assessment, wetlands and floodplain assessment, IRM design and construction, and coordination with other lake programs/projects. Design-related investigation activities have been conducted since 2005 to accelerate the design process and include: geotechnical testing and a settlement pilot study at the SCA; geophysical surveys; sediment sampling for chemical and geotechnical analyses; in-situ geotechnical testing of sediments; surface water and porewater sampling and analysis; seepage meter and Geoprobe™ measurements; sediment cores and borehole drilling to evaluate groundwater discharge and delineate contaminant extent; and installation and monitoring of two meteorological stations. These activities have provided more than 400 sediment cores, 60 borings, 7,300 environmental samples, and 120,000 chemical and geotechnical analyses through 2007 to support design of the selected remedy. Additional predesign activities will be conducted as necessary to support the remedial design.

Honeywell will design and construct the lake bottom remedy on an accelerated basis, to the extent possible, using expedited pre-design, design, and construction of critical path components. The remedial design will include the preparation of four initial design submittals (IDSs):

- SCA Civil and Geotechnical;
- Dredging, SCA, and Water Treatment Operations;
- Sediment Cap and Dredge Area and Depth; and
- Thin-layer Capping, Nitrate Addition/Oxygenation, and MNR in Sediment Management Unit (SMU)-8.

Following completion of each IDS, Honeywell will prepare subsequent design submittals (e.g., intermediate and final designs) and specifications to construct the remedial design for the lake bottom. Subsequent design submittals will include supporting plans to the remedial design, such as a Health and Safety Plan. The remedial design process and sequencing of submittals allows for the acceleration of critical path activities including construction of the water (supernatant) treatment facility and the SCA and initiation of dredging within five years from entry of the Consent Decree.

Several organizations will be directly involved in the performance and review of the remedial design. Honeywell has retained professional consultants and subject matter experts to perform the technical, engineering, and analytical aspects of the remedial design, including preparation of the design submittals. The NYSDEC and USEPA will review and approve plans, drawings, reports, and schedules submitted for the pre-design, remedial design, and remedial action. The NYSDEC will be assisted by retained professional consultants to assist in the oversight of pre-design investigation activities and remedial design review. Honeywell will distribute documents approved or accepted by NYSDEC within 14 days to the six public document repositories located in Syracuse, New York and vicinity.