FACT SHEET

GM -38 Area Groundwater Remedy
Bethpage, New York

INSTALLATION RESTORATION PROGRAM

Naval Weapons Industrial Reserve Plant • Bethpage, New York • April 16, 2008

AVAILABILITY SESSION
SPONSORED BY:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NAVFAC Naval Facilities Engineering Command

Tetra Tech

The United States Navy prepared this fact sheet to update the community on activities that will be conducted as part of the GM-38 Area Groundwater Remedy.

The Department of the Navy (Navy) has completed the first of two "phases" of the GM-38 Area Groundwater Remedy. The first phase was completed in July 2005 and consisted of pre-design field activities in the areas of Herman Avenue, North Herman Avenue, South Windhorst Avenue, and North Windhorst Avenue. These pre-design activities consisted of installing groundwater wells (six monitoring, two recovery, and one injection) and conducting groundwater pump tests. The start of the second phase or construction phase is scheduled to begin in the Spring 2008.

PROJECT STATUS

The United State Navy is the lead agency that is implementing this remedy. The lead regulatory agency providing oversight of the Navy's activities is the New York State Department of Environmental Conservation (NYSDEC).

For purpose of providing further information of the GM-38 Area project and other Navy projects ongoing at the NWIRP Bethpage facility, a Restoration Advisory Board (RAB) meeting is scheduled for 7:00 p.m. on Wednesday, April 16, 2008. This meeting is open to the general public and will be held at the Bethpage Community Center located at 103 Grumman Road in Bethpage, New York.

GROUNDWATER REMEDY

DESCRIPTION

A Public Meeting on Operable Unit 2 to address offsite groundwater contamination was held on December 13, 2000. The GM-38 Area is part of OU2. Since that time, the Navy and Northrop Grumman have been implementing various actions that have served to remediate contaminated groundwater or otherwise ensure the continued protection of public health from

groundwater contamination. These activities include the following:

- A groundwater pump and treat system constructed at the southern/ southwestern boundary of Northrop Grumman property. This system has been operating successfully since the late 1990s.
- Installation of groundwater monitoring wells located between Hempstead Turnpike and the Southern State Parkway to ensure adequate notification of potential impacts to water districts. These wells were installed in the early 2000's.
- Funding for treatment systems constructed at local water district well fields. Three systems associated with the Bethpage Water District were constructed in the 1990s. Additional treatment systems may be necessary in the future.
- Additional off-site areas are also under investigation by the Navy.

On March 29, 2001 and April 30, 2003, the OU2 Record of Decision was issued by NYSDEC and the Navy, respectively. As a requirement of the OU2 Record of Decision, a groundwater remedy for GM-38 Area was selected. The goal is to locally reduce the concentration of volatile organic compounds (VOC) in groundwater in this area to accelerate the overall remediation of groundwater contamination in the general area. The GM-38 Area groundwater remedy consists of four elements: extracting VOC-contaminated groundwater using wells, treating groundwater with air stripping, treating air emissions with a granular activated carbon filter and returning treated water to a groundwater system using injection wells.

REMEDIAL SYSTEM DESIGN

GROUNDWATER MODELING

Groundwater modeling was used to support the remedial design by assessing the groundwater flow and VOC migration. The groundwater model assisted in the design of the remedial system, the long-term planning for system operation, and to determine the long-term effects of the system's operation on local water supply. This state-of-the-art computer groundwater model focused on the GM-38 Area and was updated with recent groundwater quality and local public supply pumpage data. The groundwater model also used "particle tracking" to identify "capture zones" of recovery wells, and "contaminant transport" to evaluate changes in VOC concentrations in groundwater over time.

REMEDIAL ALTERNATIVES

Several remedial alternatives were evaluated using groundwater modeling; no active remediation, and two-and three-well pumping scenarios. The variations of the pumping system components included; the duration of pumping, pumping rates, screen zones, location, and number of remedial wells. The variation of the recharge system components included the location and method of the treated water discharge.

DESIGN CRITERIA

The remedial design will include groundwater extraction, treatment, and discharge systems. The system is designed to operate for a life of approximately 10 years and will comply with all federal, state, and local codes and regulations.

The remedial system is designed for the mass removal of VOCs, primarily chlorinated solvents, from the local aquifer system. A treatability study was conducted to develop system efficiencies. The system will be designed to treat groundwater at a flow of 1,100 gallons per minute from two recovery wells. The treated groundwater will be re-introduced into the aquifer via four injection wells.

All activities will be conducted on public property, including Town and State right-of-ways for roads and utilities, as well as a small section of property owned by the Long Island Rail Road. Drilling and construction

will normally be restricted to normal business hours.

The following is a list of the types of equipment to be used:

- Drill Rig
- 20,000-Gallon Storage Containers
- Earthmoving: Hydraulic Excavator,
- Track Dozer, Wheel Loaders, Backhoes
- Trench Boxes and Sheeting/Shoring
- Compaction: Vibratory Compaction Rollers, Trench Rollers, Plate Tampers
- Concrete Tools: Forms, Vibrator, Power Trowel, Screed, Bull Float
- Cranes: Stinger and Truck
- Rough Terrain Fork Lift

COMMUNITY IMPACT MINIMIZATION MEASURES

To ensure minimal impact on the community, the following measures will be taken:

- Full Time Management and Supervision by NAVY Contractor, Tetra Tech EC
- Work Within Normal Business Hours as Required by Town of Oyster Bay
- Weekly Project Status Updates to Town of Oyster Bay Officials
- Dust Control via Water and/or Suppression Products
- Site Restoration to Include Earthen Berms and Plantings to Create Visual Barriers
- Allow Building Color Selection by Town of Oyster Bay
- Minimize Exterior Building Lighting and Specify Lights with Motion Detectors and Shrouds
- Specify Equipment with Silencers or Other Mechanical Methods for Noise Control
- Automatic Plant Shutdown/Manual Restart Based on Specific Operating Conditions
- Fire Detection and Alarm System
- Install Chain Link Fence with Privacy Screening Strips Around the Plant
- Security Alarm System

TENTATIVE PROJECT SCHEDULE

PHASE I

Pre-design Investigation (completed July 2005)

Pre-Design Treatability Study (completed June 2005)

90% Draft Final Design (submitted for public comment on November 11, 2005)

PHASE II

Final Design (submitted on May 8, 2006)

Real Estate Access Agreements (completed in 2007)

Full-scale Construction (Start Spring 2008)

Full-scale Operation (Start Summer 2009)

PHASE III

Plant Decommissioning (2019 or later)

PROJECT CONTACT INFORMATION

United States NAVY
Mid-Atlantic Naval Facilities Engineering Command
Remedial Project Manager: Lora Fly
Phone: 757/444-0781

Naval Weapons Industrial Reserve Plant
Facility Manager: Al Taormina
Phone: 516/346-0344

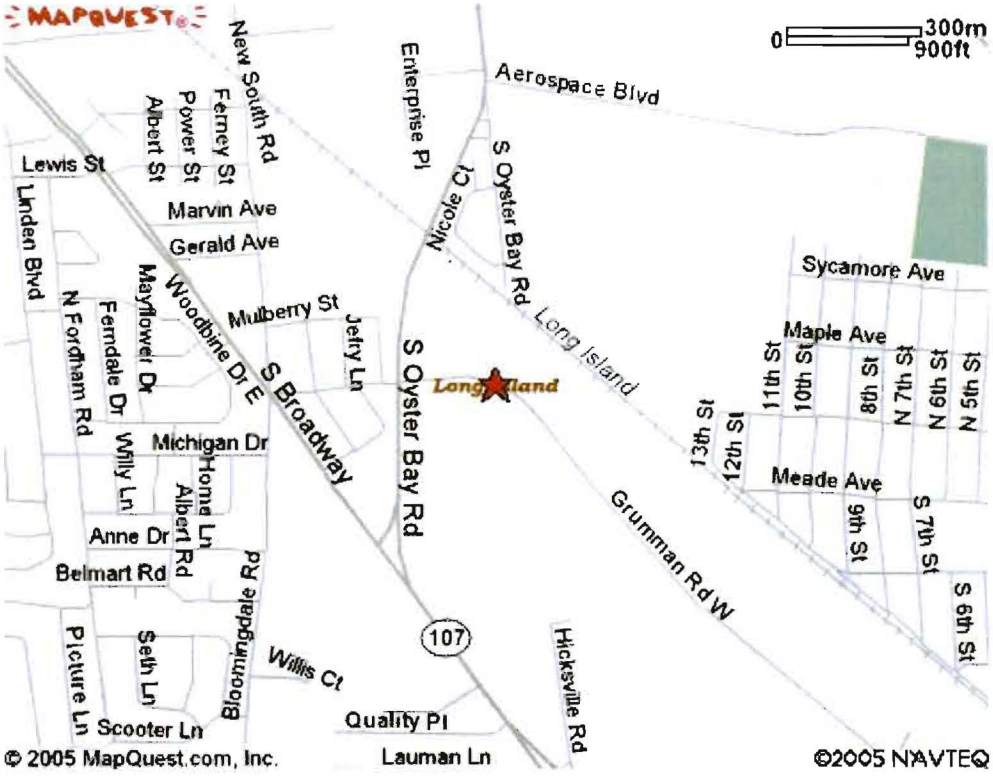
Remedial Contractor
Tetra Tech EC, Inc
Project Manager: Stavros Patselas
215/702-4000
Construction Site Superintendent: TBD

Town of Oyster Bay
Public Works: 516/677-5930

New York State Department of Environmental Conservation
Remedial Bureau A
Project Manager: Steven Scharf
Phone: 518/402-9620

NYSDEC Region I Public Affairs:
Bill Fonda 631/444-0249

Bethpage Community Center is located at 103 Grumman Road in Bethpage, NY



For purpose of providing further information of the GM-38 Area project and other Navy projects ongoing at the NWIRP Bethpage facility, a Restoration Advisory Board (RAB) meeting is scheduled for 7:00 p.m. on Wednesday, April 16, 2008. This meeting is open to the general public and will be held at the Bethpage Community Center located at 103 Grumman Road in Bethpage, New York.