

Demobilization, including removal of all temporary facilities and equipment, was completed on December 14, 2001. A site inspection completed in November 2001 identified an area along the shoreline containing miscellaneous metal debris. This material was removed in December 2001. Additional areas with vitrified landfill debris were observed in January and March 2002. These materials were removed in March 2002 (Foster Wheeler, 2003a). Confirmation samples were collected and after the area was determined to be clean, the area was backfilled. A final inspection conducted on March 28, 2002, verified that all debris had been removed (Foster Wheeler, 2003a).

### **2.3.3 Operations and Maintenance**

#### Source Control

Following completion of the above-referenced elements of the source control remedy, the 30-year operations and maintenance (O&M) period commenced. Based on the O&M plan (Foster Wheeler, 1997), the O&M program includes the following activities:

- Annual collection and analysis of groundwater and landfill gas samples;
- Quarterly and semi-annual inspection and repair of the landfill cap system, as necessary;
- Annual survey of stone revetment and settling platform; and
- Annual mowing of the landfill cover.

The O&M plan (Foster Wheeler, 1997) specified quarterly monitoring of all wells for 3 years (1997-1999). After 3 years the frequency of monitoring would be reduced to annual events along with a reduction in the number of monitoring wells sampled. At the direction of the Navy, all wells were sampled annually in 2000, 2001, and 2002 (often some of the wells were dry or there was too little water to collect a sample). Landfill inspections were also continued on quarterly basis for first five years of O&M (1997-2002). Landfill inspections are also required after any storm event with wind speeds greater than 50 mph or 5 inches of rain. The landfill inspections included: cap, stormwater drainage system, revetment, gas monitoring wells and vents, access road, perimeter fence, vegetation, and groundwater monitoring wells. The actual and planned monitoring and maintenance activities and frequencies for the landfill are summarized in Table 2-1. Groundwater and landfill gas monitoring results and landfill inspection observations are discussed in Section 2.4.2.

#### Marine Sediment/Management of Migration

Following implementation of the restoration components of the mitigation plan (clean backfill, construction of artificial reefs and eelgrass restoration), followup habitat monitoring was conducted in the spring, summer, and fall of 2003. Post-dredging habitat monitoring includes assessments of: the aquatic habitat in the backfilled and restored area; the expansion of eel grass into the dredged area; monitoring of two seeded areas and one transplant area; and the habitat value provided by artificial reefs placed offshore in 2001 (SAIC, 2004). The monitoring results are discussed in Section 2.4.2.

A separate monitoring effort is required for the marine environment as a long-term monitoring program (LTMP). The LTMP has two elements, one for the dredged area (nearshore and elevated-risk offshore) and one for the offshore area. In the dredged area, porewater chemistry, biota, toxicity, and benthic community structure are to be evaluated for the first five years (ROD assumed years 1, 2, and 5) after RA completion. In the offshore area, sediment chemistry, biota, toxicity and benthic community structure are to be evaluated in the long term (up to 30 years). The LTMP is currently being scoped and a work plan is being prepared.

# **Five-Year Review**

**for**

**Naval Station Newport  
Newport, Rhode Island**



**Engineering Field Activity Northeast  
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