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**US NAVY NORTHERN DIVISION  
REMEDIAL ACTION CONTRACT (RAC)  
CONTRACT NO. N62472-94-D-0398  
DELIVERY ORDER NO. 0011  
FOSTER WHEELER ENVIRONMENTAL CORPORATION**

**REMEDIAL ACTION WORK PLAN  
FOR  
MELVILLE NORTH LANDFILL  
AT  
NAVAL EDUCATION AND TRAINING CENTER  
NEWPORT, RHODE ISLAND  
NOVEMBER 1998**

**Prepared for  
U.S. Navy Northern Division**

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CONTRACT NO. <b>N62472-94-D-0398</b>	DELIVERY ORDER # <b>0011 (Tank 50, RI)</b>	ACTIVITY LOCATION <b>Naval Education and Training Center - Newport, RI</b>
PROJECT TITLE: <b>Melville North Landfill at Naval Education and Training Center (NETC), Newport, RI</b>		
FROM: <b>Foster Wheeler Environmental Corp. - Program QCM: Mark Miller</b>		DATE November 13, 1998
TO: ROICC <b>R. Krivanskas (2Copies)</b>		DATE November 13, 1998

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ITEM NO.	SUBMITTAL DESCRIPTION	PREPARED/ SUBMITTED BY	APPROVED	DISAPPROVED	REMARKS
8	SD-08, Statement	P. Dowling for			
	Draft Remedial Action Work Plan	Mark Miller			

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## 1. INTRODUCTION

Foster Wheeler Environmental Corporation (FWENC) is pleased to submit this remedial action work plan to the Department of the Navy (Navy) in response to Delivery Order 0011. This work plan describes the work that will be performed to remove approximately 40,000 cubic yards of contaminated soil at the Melville North Landfill at the Naval Education and Training Center (NETC) in Newport, Rhode Island. Work described includes mobilization, site preparation, staging area preparation, soil excavation, confirmation sampling, waste characterization, offsite soil disposal, site restoration, and demobilization. Sections 1, 4, 5, and 9 were prepared, in part, by information provided by Tetra Tech NUS Inc (TTNUS).

### 1.1 PROJECT BACKGROUND

NETC is located in the City of Newport, and Towns of Middletown and Portsmouth, Rhode Island on the western shore of Aquidneck Island facing the east passage of Narragansett Bay. The Melville North Landfill site is located in the northwest portion of NETC on the shoreline of Narragansett Bay in the Town of Portsmouth. The site is approximately 10 acres in size and was used as a landfill from World War II until 1955. The site was excecised to the State of Rhode Island in September 1983, and was sold to Melville Marine Industries six months later. Since ownership of the site was transferred to the State of Rhode Island prior to NETC being placed on the National Priorities List (NPL) in November 1989, remediation activities at the landfill will be performed in accordance with the Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Matenal Releases (Remediation Regulations).

Access to the Melville North Landfill site is from Defense Highway. The site is bound to the west by Narragansett Bay, to the east by the Penn Central railroad tracks and Defense Highway, to the north by vegetated wetlands, and to the south by a wooded upland area. The topography of the site is relatively flat with elevation drops between 5 and 10 feet along the shoreline and an increase in elevation between 5 and 10 feet along Defense Highway.

The landfill reportedly received a variety of waste materials from World War II until 1955. These wastes include spent acids, various waste oils, solvents, waste paints, and possibly polychlorinated biphenyl's (PCBs). Initial inspections of the site also revealed mounds of oil-soaked soil and surface areas that were covered with oil and oil sludge. It was reported that the mounds of oil-soaked soil came from disposal of the oil sludge material generated while cleaning fuel supply tanks at the nearby tank farms, or from cleanup operations of various oil spills.

Previous removal actions have been conducted at the Melville North Landfill by OHM in 1995 and by FWENC in 1996. The remedial actions were primarily conducted in response to the findings in the Phase II RI/FS conducted by Brown & Root Environmental. These actions included excavation and disposal of TPH and PCB contaminated soils, stabilization and disposal of lead-contaminated soils, and backfilling the excavations with imported offsite borrow material. At the completion of the remedial actions, a Site

Investigation was conducted between November 1996 and April 1997 by Brown & Root Environmental to delineate the nature and extent of the contamination remaining at the site, to determine any impacts from the site to the groundwater or to Narragansett Bay, and to determine if threats to human health and the environment were present. The investigation revealed that approximately 40,000 cubic yards of contaminated soil require removal from the Melville North Landfill to remediate the site to the Rhode Island Department of Environmental Management (RIDEM) Residential Direct Exposure Criteria and the RIDEM GB Leachability Criteria.

## **1.2 OBJECTIVES**

The objective of the remedial action at the Melville North Landfill is to remove and dispose of approximately 40,000 cubic yards of contaminated soil from the site in order to achieve the residential soil clean-up criteria specified by the State of Rhode Island. To complete this objective, the contaminated soil will be excavated from the site and hauled to a staging area that will be constructed at Tank Farm 4. Samples of the excavated soil will be collected at the staging area and sent offsite for laboratory analysis. Based on the sample results, an appropriate offsite disposal facility will be selected for the contaminated soils to be sent to. Upon completion of the soil excavation activities, confirmation samples will be taken from the base and side walls of each excavation to demonstrate that all of the contaminated soil has been removed. Clean soil will be placed in each excavation when the confirmation sample results indicate that the clean-up criteria have been achieved. The specific tasks associated with the remedial action at the Melville North Landfill site are discussed in detail in Sections 6 through 10 of this Work Plan.

## 2. PROJECT MANAGEMENT

FWENC will assemble a Project Management Team that will be responsible for all technical and administrative aspects of the remediation project at the Melville North Landfill. The technical responsibilities of the team include: assuring that the remediation activities are completed in accordance with the approved Remedial Action Work Plan and the State of Rhode Island Remediation Regulations; management of all construction activities including work performed by Subcontractors; and complying with all applicable local, state and federal regulations. Included among the team's administrative responsibilities are establishing and maintaining project communications, controlling the cost and schedule of the project, document control, and conducting routine project status meetings.

### 2.1 PROJECT TEAM ORGANIZATION

The project management team organization chart is included as Attachment 2. The following personnel are considered to be key team members for the performance of this project:

Project Manager, C. Tippmann: The responsibility of the Project Manager is general oversight of all facets of the project. He will be responsible for the oversight, resource allocation, scheduling and quality control of the Project. He reports to the Program Manager and is first point of contact for the Contracting Officer's Technical Representative (COTR) and the Design Navy Technical Representative (NTR).

Project Superintendent, D. Sullivan: The Superintendent will be responsible for all on site construction activities including supervision of craft labor and subcontractors and control of materials and equipment. The Project Superintendent reports directly to the Project Manager and Design NTR and interfaces with the Project Engineer and Quality Control Representative on a daily basis to ensure that quality control standards are being met.

Project Engineer, B. Conley: The responsibility of the Project Engineer is to provide guidance to the field construction staff relating to compliance with the Remediation Regulations and the Remedial Action Work Plan, and to prepare technical plans and submittals. The Project Engineer reports directly to the Project Superintendent.

Project Procurement Engineer, E. Federico: The Project Procurement Engineer is responsible for procurement of materials and equipment and reports directly to the Project Superintendent.

Project Controls Engineer, E. O'Brien: The Project Controls Engineer is responsible for project controls, including scheduling, invoicing, and financial reporting and reports directly to the Project Superintendent.

Health and Safety Manager, G. Copp: The Health and Safety Manager (HSM) is responsible for general oversight of the health and safety procedures used on this project. He will consult with and give direction to the Site Health and Safety Officer.

Site Health and Safety Officer, P. Mooney: The Site Health and Safety Officer (SHSO) will be responsible for the overall health and safety of all employees on site. The SHSO will be responsible for daily health and safety monitoring, implementation of all health and safety procedures and requirements, and maintenance of health and safety records. The SHSO will have the authority to shut down any operation that is deemed by him to be unsafe. He will report to the HSM and will interface closely with the Project Superintendent.

Quality Control Manager, M. Miller: The Quality Control Manager (QCM) is responsible for approval and oversight of quality control activities and procedures used on the project. He will provide direction to the Site Quality Control Representative.

Site Quality Control Representative, P. Mooney: The Site Quality Control Representative will be responsible for performing inspection and surveillance activities and for documenting results of these activities as required to achieve the quality of construction required by the Remediation Regulations and the Remedial Action Work Plan. He will report to the program QC manager and will interface with the Project Engineer and Project Superintendent.

## **2.2 PROJECT COMMUNICATION**

Lines of communication between Foster Wheeler Environmental and other Project Team members will be as shown in the Project Organization Chart in Attachment 2. Communication between FWENC and NETC Security, Public Works, NETC Environmental, and other departments will be through the Construction NTR in the office of the Resident Officer in Charge of Construction (ROICC).

## **2.3 PROJECT SCHEDULE**

The Construction Schedule for the Melville North Landfill project is included as Attachment 3

## **2.4 DOCUMENT CONTROL**

Quality control records, field and laboratory test reports, submittals and approvals, as-built drawings, changes to the contract, updated construction schedules, invoices, daily reports, and all other project record documents, as required, will be maintained in the project files. The files will be located in the site office and will be available for review by the Navy.

The Submittal Register, which summarizes the submittal requirements outlined in the Quality Control Plan, is included as Attachment 4. Distribution and processing of the submittals is described in the Quality Control Plan.

Technical changes to the work identified by FWENC, technical questions concerning regulations and specifications, and reporting of non-conforming items will be documented by the submittal of Field Change Requests, Requests For Information and Non-Conformance Reports respectively. These documents will be prepared by members of the Project Management Team and distributed to the Navy for disposition. A copy of these documents will be maintained in the project files. Samples of the reports and

the Formats that will be used for these reports and the daily reports are included in the Quality Control Plan.

## **2.5 PROJECT MEETINGS**

### Pre-construction

Before any physical work begins on the site, the Foster Wheeler Environmental project staff and the Navy and their representatives will meet to discuss coordination of the project. Items to be discussed in this meeting will include access to the site, working hours, specific health and safety issues and general scheduling of the work.

### Weekly QC/ Progress Meeting

QC/Progress Meetings will be conducted once a week. The meetings will be held at the FWENC field office unless otherwise requested by the Navy. The Environmental Protection Agency (EPA) and RIDEM can participate in the weekly meetings by telephone by calling the NorthDiv Design NTR, who will then connect them and NorthDiv into the meeting. In the event that NorthDiv will not be participating by telephone in any given week, the EPA and RIDEM should call directly to the site trailer. Meeting minutes will be distributed by e-mail or fax within two business days of the meeting.

### **3. FIELD ADMINISTRATIVE PROCEDURES**

#### **3.1 DAILY SAFETY MEETING**

FWENC supervisory personnel will hold daily safety meetings to advise the workers of proper methods of performing the work planned for the day. The topics of discussion will be listed on a sign-in sheet and the sheet will be kept as a record of the meeting.

#### **3.2 STATUS REPORTS**

FWENC will prepare monthly status reports of the current condition of the project. The status reports will include a Technical Progress Report, Non-Compliance Report, Cost Performance Report, Project Schedule, updated Submittal Register, Government Materials Tracking Report, Variance Analysis Report, and a Waste Materials Report.

#### **3.3 DAILY REPORT/CQC REPORT**

Every day that work is performed, FWENC will prepare and submit a Daily Report/CQC Report to the Navy ROICC. The report will summarize the daily construction activities, list the manpower and equipment that were in use, list the materials and equipment that were received, and summarize the quality control testing and inspection that was performed. The report will be submitted to the Navy on the following business day.

#### **3.4 SUBMITTAL REGISTER**

The CQC representative will prepare and continually update a Submittal Register to document quality control for materials, inspection, and testing. The Submittal Register will be maintained on site and will be available for review.

#### **3.5 REGULATORY AGENCY PERSONNEL SITE VISITS**

Regulatory agency personnel who visit the site and who have questions or comments concerning the work will give those questions or comments, in writing, to the project superintendent, who will then forward them to the Navy NTR.

## 4. REMEDIAL OBJECTIVES

The Remedial Objectives for the remedial action project at the Melville North Landfill were established in accordance with Section 9.02 of the Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations). The information presented in this section was prepared by Tetra Tech NUS, Inc.

### 4.1 SOIL OBJECTIVES

The objective of this remedial action project is to remove and dispose off site the contaminated soils at the Melville North Landfill in accordance with the Remediation Regulations. The following soil remediation goals are the basis for the soil excavation activities to be conducted during the project:

- Arsenic - 1.7 mg/kg throughout the vadose zone RIDEM Residential Direct Exposure Criteria (RDEC) (to be refined after completion of arsenic background study).
- Lead - 150 mg/kg throughout the vadose zone (RIDEM RDEC).
- Total Petroleum Hydrocarbons (TPH) - 1000 mg/kg or ppm throughout the vadose zone (RIDEM RDEC). The residential TPH standard requires site compliance with RIDEM RDEC for all other substances for the classification.
- Non-aqueous phase liquids (NAPLs) - None in any environmental medium in the vadose or saturated zones, a condition considered as exceeding the RIDEM Upper Concentration Limits in soil and groundwater (see Section 8.07 - RIDEM Remediation Regulations).
- RIDEM GB Leachability Criteria - Not to exceed GB leachability criteria.

These remedial goals are consistent with the future land use (marina) in the vicinity of the impacted area. The remedial objectives also take into account the potential for hazardous substances and TPH to leach into the GB-classified groundwater from these impacted soils, as well as to migrate to the intertidal zone and the adjacent wetlands (surface water and sediments).

Additional soil remediation goals will be applied to areas containing elevated concentrations of polychlorinated biphenyls (PCBs). In addition to the soil remediation goals listed above, the following remedial objective will apply to these areas:

- PCBs - 10 mg/kg or ppm throughout the vadose zone (RIDEM RDEC)

Other requirements and guidance specific to the excavation activities planned for the impacted area include:

- Rhode Island Hazardous Waste Management Act of 1978 (RIGL 23-19.1 et seq.) - Hazardous Waste Management Rules and Regulations
- Rhode Island Groundwater Protection Act (RIGL 46-13.1) - Protection of Groundwater
- Rhode Island Water Pollution Control Act - Rhode Island Water Quality Regulations (RIGL 46-12, et seq)
- Rhode Island Pollutant Discharge Elimination Systems (RIGL 46-12, et seq)
- Rhode Island Coastal Resources Management Law (RIGL, Title 46, Chapter 23) and Regulations
- Rhode Island Wetlands Laws (RIGL 2-1-18 et seq)
- RCRA: (40 CFR 262) - Generator Requirements for Manifesting Waste for Off-Site Disposal; (40 CFR 263) - Transporter Requirements for Off-Site Disposal; (40 CFR 264.90-254.101, Subpart F) - Groundwater Protection; (40 CFR. 110-118, Subpart G) - Closure/Post Closure Requirements
- Federal Hazardous Materials Transportation Act (40 CFR 170, 171) - Rules for Transportation of Hazardous Materials
- Federal Land Disposal Restrictions (40 CFR 268)
- Federal Toxic Substances Control Act (40 CFR 761.125)
- Federal Clean Water Act: (40 CFR 121) - Ambient Water Quality Standards; (40 CFR 122-125) - National Pollutant Discharge Elimination (NPDES) Permit Requirements; (40 CFR 410.15) - Effluent Discharge Limitations
- Federal Executive Order 11990 - Statement on Proceedings of Floodplain Management (40 CFR 6, Appendix A)
- Federal Coastal Zone Management Act (16 USC Section 1451 et seq)

- Federal Executive Order 11988 - Statement on Proceedings of Wetlands Protection (40 CFR 6, Appendix A)

#### **4.2 GROUNDWATER OBJECTIVES**

No remediation of groundwater is anticipated as part of this remedial action. The groundwater underlying and in the vicinity of the Melville North Landfill has not been found to exceed the RIDEM GB groundwater standards designated for the area.

## 5. PROPOSED REMEDY

The proposed remedy at the Melville North Landfill includes excavating approximately 40,000 cubic yards (cy) of contaminated soil, stockpiling the soil for characterization, and disposing of the soil at an approved off-site facility. The contaminated soil is located in three areas of the site, as identified in Figure 2. Soil removal is estimated as 7,000 cy from Excavation No.1; 28,900 cy from Excavation No. 2; and 300 cy from Excavation No. 3. Soils from Excavations Nos. 1 and 2 are contaminated both above and below the groundwater table. No contaminated soils are expected from below the groundwater table at Excavation No. 3. Excavated soils will be transported to a temporary staging/stockpiling area that will be constructed at Tank Farm 4 (Figure 3). One grab sample will be collected from each truckload of excavated material to determine the appropriate stockpile in which the soil will be segregated. The grab samples will be screened with a flame ionization detector (FID), and inspected for visible petroleum contamination and odor. The majority of the soil is expected to be classified as non-hazardous material as defined by the State of Rhode Island. Soils that are suspected of containing PCBs will be characterized on the site and directly loaded into trucks for offsite disposal. The soils will be segregated as follows:

- Unimpacted Soils - material exhibiting a FID response less than 10 ppmv and no visible petroleum contamination or odors
- Rhode Island Regulated Soil - material exhibiting a FID response greater than 10 ppmv and/or visible petroleum contamination or odors
- Restricted Non-Hazardous Soil - material exhibiting a FID response greater than 100 ppmv and/or visible petroleum contamination or odors
- Hazardous Waste Soil - material exhibiting a FID response greater than 1000 ppmv and/or visible petroleum contamination or odors

Once the excavated material has been staged in the appropriate stockpile, waste characterization samples will be collected for laboratory analysis. The analytical results from the waste characterization sampling will be the basis for determining the appropriate offsite disposal location. Waste characterization sampling is discussed in Section 10 of this work plan.

To satisfy Sections 9.06 and 9.18 of the Remediation Regulations, confirmation samples will be collected at the vertical and horizontal limits of the excavation areas to demonstrate that the remedial objectives have been achieved. Samples will be collected as outlined in Section 9 of this work plan. If the analytical results from the confirmation samples indicate that contamination extends beyond the originally defined

excavation limits, additional soil will be excavated under the direction of the Contracting Officer. If the analytical results from the confirmation sampling confirm that the remedial objectives have been met, the excavation areas will be backfilled. The specific construction activities that will be performed to complete the remedial action are discussed in Section 7 of this work plan.

## 6. REMEDIAL ACTIVITIES

### 6.1 ANTICIPATED TASKS

FWENC has reviewed the Statement of Services from the Navy, and the State of Rhode Island Remediation Regulations and has determined that the following major activities, not necessarily in the order listed, will be performed:

- Perform surveying.
- Install sedimentation and erosion control measures.
- Perform tree and vegetation clearing.
- Construct stabilized construction entrance.
- Abandon all of the existing monitoring wells.
- Establish exclusion zones and contamination reduction zones.
- Construct the soil staging area at Tank Farm 4.
- Excavate contaminated soils from the three excavation areas.
- Collect soil samples for field screening, waste characterization, and confirmation of regulatory compliance.
- Perform transportation and offsite disposal of contaminated soils.
- Backfill the three excavation areas with common fill.
- Establish vegetative growth over the site.
- Perform site cleanup restoration at the landfill site and at Tank Farm 4.
- Demobilize resources.

### 6.2 MANPOWER REQUIREMENTS

FWENC estimates that the following union craft labor will be required for the proposed activities:

- General Operations
 

Operating Engineers -	4
Laborers -	5
Teamsters -	3

**6.3 EQUIPMENT REQUIREMENTS**

Major construction equipment that will be used on this project will include the following. The Project Superintendent will substitute/add equipment as required.

1. D-6 Bulldozer
2. Cat. 330 Excavator
3. (3) 30 Ton Off Road Dump Trucks
4. (2) 3cu. yd Loader
5. 15 ton vibratory roller

**6.4 CONSTRUCTION QUALITY CONTROL**

A Construction Quality Control Plan has been prepared for this project. Construction Quality Control (CQC) will be performed onsite by the QC Representative. He will be responsible for ensuring that construction conforms to the requirements of the Remedial Action Work Plan and the State of Rhode Island Remediation Regulations. This includes material testing, documentation of results, reporting results to the project superintendent, reporting deficiencies and certifying that all submittals are in compliance with contract requirements.

Quality control inspection and testing will be performed in accordance with the Remedial Action Work Plan, the State of Rhode Island Remediation Regulations and the Quality Control Plan. Testing encompasses geotechnical testing of soil materials, analytical testing of excavated material, and general testing and inspection of materials and workmanship to ensure compliance with the work plan. Testing will be conducted both on site and off site. Subcontracted testing laboratories will be utilized for geotechnical and analytical testing.

**6.5 HEALTH AND SAFETY REQUIREMENTS**

The site-specific Health and Safety Plan (HASP) provides requirements and guidelines that will be utilized in the field to protect the health and safety of workers. The SHSO will provide oversight of activities to ensure conformance with the HASP. The SHSO will supervise operations and be responsible for conducting site health and safety training/briefings, air and dust monitoring during operations, personnel monitoring, enforcing/modifying levels of Personal Protective Equipment (PPE), ensuring compliance with decontamination procedures, maintaining monitoring equipment, and documenting and reporting all health and safety related accidents or injuries.

The SHSO will conduct regular site safety inspections. Weekly and monthly reports will be prepared and submitted to the Health and Safety Manager. Daily health and safety reports will also be prepared and submitted with the daily report.

The following are specific components of the HASP that affect the daily activities of workers:

- A hazard assessment has been prepared for the major aspects of the project. Chemical, physical, and biological hazards associated with the project have been identified. Activity hazard analyses have been prepared to define the specific risks and means of mitigation that are associated with daily construction activities.
- Control measures to reduce the risk of exposure to chemical, physical, and biological hazards.
- Specific training requirements that will enable workers to operate at the site and improve their awareness of health and safety are presented in the HASP.
- Control of site operations, use of PPE, site safety equipment, and on-site communications.
- Real-time air monitoring and medical surveillance procedures are included in the HASP.
- Decontamination procedures, including contamination prevention, personnel decontamination, equipment decontamination, and disposal procedures, have been defined for site work.

## **6.6 PROCEDURES FOR DECONTAMINATION**

This section describes the procedures necessary to ensure that both personnel and equipment are free from contamination when leaving the work site, either at the end of each day, during scheduled breaks, and/or upon completion of the project, when leaving a contaminated or potentially contaminated area and entering a clean one, and when completing a task involving handling contaminated material prior to beginning a clean task. Decontamination procedures are included in the site-specific HASP.

### **6.6.1 Personnel Decontamination**

The following site activities present an opportunity for personnel contamination:

- Excavation and stockpiling of landfill waste material.
- Decontamination of equipment.

FWENC will apply engineering and/or work practice controls as a means of protecting personnel in performance of site-specific tasks. Engineering controls will be implemented to reduce and maintain employee exposure to or below safe levels for those tasks that include possible exposure to contaminants. When engineering controls are impractical or insufficient to protect employees during site operations, FWENC will use PPE to perform certain tasks.

Any personnel exposed to possible contamination during daily activities will follow the decontamination procedures outlined in Section 8.2 of the HASP. Decontamination procedures will ensure that material which workers may have contacted in the Exclusion Zone (EZ) does not result in personal exposure and is not spread to clean areas of the site. The EZ will be limited to the work areas that are considered or

suspected to be contaminated, which will be revised and updated daily as waste material is exposed and subsequently backfilled with clean material.

### **6.6.2 Equipment Decontamination**

All contaminated equipment will be decontaminated when switching from a contaminated task to a clean one and prior to being demobilized from the site. Decontamination procedures may include sweeping, wiping, scraping, or steam cleaning the exterior of the equipment in accordance with Section 8.2 of the HASP. Personnel performing decontamination tasks will wear the proper PPE as prescribed in the HASP. Water generated during equipment decontamination will be collected for treatment or offsite disposal.

### **6.6.3 Disposal**

Decontamination solids, liquids and used PPE will be collected and disposed of at an approved offsite disposal facility. These materials will be sampled and characterized as required by the disposal facility prior to being disposed of.

## **6.7 SITE SECURITY/SITE ACCESS**

FWENC will maintain security at the Melville North Landfill site and at the Tank Farm 4 staging area by installing a security gate across the entrance to each of the sites. The gates will be locked by FWENC personnel at the end of each work day. Access to the sites will be monitored through use of a sign-in sheet that will be located in the office support trailer. Signs will be posted at the site entrances informing visitors to sign-in at the office support trailer.

## 7. REMEDIAL CONSTRUCTION

This section provides a description of the major tasks that will be performed to accomplish the objectives of the remedial action. Tasks will be performed in accordance with the State of Rhode Island Remediation Regulations, the Remedial Action Work Plan, the Construction Quality Control Plan, and the site specific Health and Safety Plan.

### 7.1 MOBILIZATION

Temporary construction offices and facilities, lay down, staging and material storage areas, stabilized construction entrances, and haul roads will be installed as part of the mobilization task. Temporary facilities will include an office trailer, a washroom trailer, a craft trailer, one or more storage containers, and portable toilets. Utility connections will be made to power, water and communications. Utility work will be coordinated with the Navy. Arrangements will be made for mail delivery and solid waste and sewage disposal services. Administrative staff, craft labor and equipment will be mobilized to the site as part of this task. The layout of the temporary facilities is outlined in the Site Layout Plan, Figure 1.

The stabilized construction entrance will consist of a layer of one to three inch diameter processed stone that will be installed at the entrances to the landfill site and to Tank Farm 4. The stone layer will collect soils from equipment and vehicle tires prior to them leaving the site. A layer of woven geotextile will be installed beneath the gravel if the existing ground appears soft or unstable. The site haul roads will be constructed with imported gravel fill, and upgraded as necessary. The material will be installed according to standard construction practices.

### 7.2 SITE PREPARATION

#### 7.2.1 Erosion and Sediment Controls

Prior to site disturbance, perimeter soil erosion and sediment control devices will be constructed as discussed in the Soil Erosion and Sediment Control Plan (Attachment 7). Silt fence will be installed along the perimeter of Excavation Areas 1 and 2 on the downgradient and lateral gradient sides. Excavation Area 3 will have silt curtain installed on the seaward perimeter to control the migration of sediments. During construction, erosion and sediment control features will be inspected and maintained on a daily basis. Accumulated sediment will be removed from the erosion and sediment controls as needed. Erosion and sediment controls are discussed in further detail in the attached Soil Erosion and Sediment Control Plan.

#### 7.2.2 Site Survey

An initial site survey will be conducted to establish the controls required to perform routine construction surveys. The horizontal and vertical locations of several existing landmarks will be verified with the site topography map prior to beginning the initial site survey. The limits of the three excavation areas, the

project baseline, and several temporary benchmarks will be established as part of the initial site survey. The initial site survey will be performed by a licensed surveying company.

### **7.2.3 Monitoring Well Abandonment**

All nineteen of the existing monitoring wells at the landfill site are scheduled to be abandoned as part of the remedial action. The monitoring wells will be abandoned in accordance with Appendix 1, Section 13 of the State of Rhode Island Final Regulations. In addition to abandoning the monitoring wells, five PVC standpipes that protrude from the existing ground surface of the landfill will also be abandoned. The standpipes will be removed from the ground and backfilled with soil. The PVC pipe material will be disposed offsite as solid waste.

### **7.2.4 Clearing**

Clearing will be performed as needed within the limits of disturbance. Trees and brush will generally be cleared to 6-inches above the ground surface. The wood debris generated from the clearing activities will be processed through a chipper to create wood chips of 4-inch diameter maximum particle size. The wood chips will be stockpiled onsite and spread over the site upon completion of the remedial activities. Tree stumps that remain in any of the excavation areas after the clearing activities are completed will be excavated with the contaminated soil and disposed of offsite.

## **7.3 STAGING AREA PREPARATION**

All of the non-PCB contaminated soil that is excavated from the Melville North Landfill will be transported and stockpiled at a staging area that will be constructed at Tank Farm 4. The specific location of the staging area is shown on Figure 3. Approximately 12-inches of the existing soil within the staging area footprint will be removed and temporarily stockpiled while the staging area is in use. A 40-mil thick polyethylene liner will be installed over the staging area subgrade for containment of the excavated soil. Soil berms will be constructed over the liner to separate and delineate four discrete stockpile areas within the staging area. Water that collects within the stockpile area will be pumped, if necessary, for treatment or disposal. Upgradient flow directed toward the staging area will be diverted through earthen swale that will be constructed.

Access to the four stockpiles within the staging area will be by a gravel road that will be constructed adjacent to the upgradient side of the staging area. Trucks that are hauling contaminated soil from the Melville North Landfill site will use the gravel road to access the appropriate stockpile. The gravel road will also be used for loading contaminated soil into offsite disposal vehicles.

Once all of the contaminated soil has been removed from the staging area, the polyethylene liner and the silt fence will be removed and disposed of offsite. The existing soil that was removed from the staging area footprint will be installed over the area, and the area will be seeded.

**7.4 SOIL EXCAVATION**

Soil excavation will generally be conducted within the limits of the three Excavation Areas identified on Figure 2. The limit of each excavation area was mapped out by FWENC based on sample locations that exceeded the RIDEM RDEC and the RIDEM GB Leachability Criteria as determined in the Site Investigation conducted by TTNUS. Field screening, laboratory confirmation sampling and visual inspection will be used during the soil excavation activities to more accurately delineate the vertical and horizontal limits of each excavation area.

Excavation will begin once a given area has been staked out by the surveyors and the necessary erosion and sediment controls are in place. Soil will be excavated and directly loaded into off-road dump trucks for transportation to the soil staging area at Tank Farm 4. Soil that is contaminated with PCBs will be directly loaded into trucks for offsite disposal. It is estimated that 7,000 cubic yards of soil will be removed from Excavation Area 1; 28,900 cubic yards from Excavation Area 2; and 300 cubic yards from Excavation Area 3. Excavation in each of the three excavation areas will continue until it is determined by field screening and laboratory confirmation sampling that the remedial action objectives have been achieved as discussed in Section 9 of this work plan. Open excavations will have high visibility fence and/or caution tape placed around them to clearly mark the areas prior to being backfilled.

**7.5 SOIL STAGING**

Excavated soils will be staged in four separate stockpiles at the Tank Farm 4 staging area according to field screening results and visual inspection of each truckload of material. A grab sample will be taken from each truckload of material and screened with a flame ionization detector (FID) prior to being transported to the staging area. Segregation of the four stockpiles will be as follows:

- Unimpacted Soils – soil exhibiting a FID response less than 10 ppmv and no visible petroleum contamination or odors
- Rhode Island Regulated Soil – soil exhibiting a FID response greater than 10 ppmv and/or visible petroleum contamination or odors
- Restricted Non-Hazardous Soil – soil exhibiting a FID response greater than 100 ppmv and/or visible petroleum contamination or odors
- Potentially Hazardous Waste Soil – soil exhibiting a FID response greater than 1000 ppmv and/or visible petroleum contamination or odors.

The stockpiles will be maintained by a front-end loader that will remain in the staging area at all times. Each of the stockpiles will be covered during inclement weather with poly sheeting, and caution tape will be placed across the staging area entrance at the end of each day. The excavated soil will remain in the stockpiles until waste characterization of the material has been completed.

**7.6 BACKFILL**

Upon receipt of confirmation sample results that meet or exceed the remedial objectives, sections of the three excavations areas will be backfilled with imported common borrow and/or unimpacted site soils. Imported common borrow will be a clean, unclassified material with soil characteristics that allow it to be compacted to 85% of ASTM D698. The material will have a six-inch maximum particle size and be free of debris, roots, wood, scrap metal, vegetation, refuse, soft unsound particles, and frozen, deleterious, or objectionable materials. Backfill material will be installed such that the clean or unimpacted soil will not come in contact with material that remains to be excavated. Installation of the backfill material will generally be in one to two foot lifts followed by compaction with a vibratory roller. In-place density testing of the compacted backfill will be performed at a rate of 4 tests per acre to demonstrate that the material has been placed to achieve 85% of ASTM D698. If there are sections within an excavation area that require backfill to be installed below the water table, coarse sand or stone will be installed to the top of the water table.

**7.7 OFFSITE DISPOSAL**

Offsite disposal of excavated soils will occur once the waste characterization analytical results have been received, and a disposal facility for the material has been approved. Soils that are suspected of containing PCBs will be characterized in-place, and will be loaded directly into the offsite disposal trucks at the landfill site. The disposal trucks will access the landfill site on the clean site haul roads or on undisturbed sections of the site. Soil that has been excavated and hauled to the soil staging area at Tank Farm 4 will be loaded on to the disposal trucks at the soil staging area. The disposal trucks will access the staging area on a clean gravel haul road, and be loaded by the front-end loader that remains in the stockpile area. Transportation and disposal of all excavated soils will be in accordance with Local, State, and Federal Regulations.

**7.8 SITE RESTORATION**

Site restoration activities will be conducted to restore the landfill site and the Tank Farm 4 soil staging area back to their natural conditions. The landfill site will be restored by installing a layer of topsoil over the backfill material, and seeding the area with grass. Silt fence will be removed from all areas and disposed of as solid waste. Silt curtain will be removed from Narragansett Bay and will be washed if necessary.

The soil staging area will be restored by removing the 40-mil liner material and silt fence, and disposing of them as solid waste. Soil that was stockpiled while creating the staging area will be spread to match the surrounding grade and seeded with grass. Any fencing, gates, or site access roads will be removed or restored as required by the Navy.

## **7.9 DEMOBILIZATION**

Following completion of construction activities, temporary facilities and utilities, personnel, equipment and materials will be removed from the site and the support zone area will be restored. Construction equipment will be cleaned before leaving the site.

## **7.10 SUBCONTRACTED WORK**

The following tasks will be performed by subcontractors to FWENC:

- surveying
- clearing and grubbing
- monitoring well abandonment
- geotechnical and analytical testing
- off-site transportation and disposal

FWENC will self-perform all of the other work.

## **7.11 DUST CONTROL**

Dust control measures will be implemented during active construction on site. Water will be applied by a water truck to work areas, haul roads, and access roads as often as required to prevent excessive dust emissions.

## 8. MATERIAL HANDLING

FWENC will employ numerous methods during the remedial action at the Melville North Landfill to prevent contaminated soils from coming in contact with clean areas. Material handling protocols will be implemented during soil excavation, transportation and stockpiling to accomplish this objective. The following material handling protocols will be implemented during the remedial action:

- Off road dump trucks will be staged on clean haul roads or undisturbed sections of the site while being loaded with excavated material.
- Off road dump trucks will be equipped with a tailgate, and will not be loaded above the side walls of the truck body to prevent material spillage during transport to Tank Farm 4.
- Material excavated from Excavation Area 3 will be dewatered adjacent to the excavation, if necessary, prior to being transported to Tank Farm 4. Other soil that is excavated from below the water table will be dewatered within its excavation area prior to transport. This will prevent free water from being transported to the staging area.
- Prior to leaving the landfill site, the outside of each truck will be inspected to ensure that no loose soil is present.
- Each of the four stockpiles at the Tank Farm 4 staging area will be assigned a number between one and four. Based on the field screening results of the excavated material, each truck load of material will be assigned a number according to which pile it is to be stockpiled in. The truck driver will be given a sheet of paper that indicates the stockpile designation. This will be transferred to the workers at the staging area to ensure that the material is stockpiled in the proper location.
- All of the offsite disposal trucks will be staged on clean gravel or undisturbed sections of the site while being loaded from the staging area, or from the PCB soil area.

## 9. CONFIRMATION SAMPLING

Confirmation sampling will be performed at the three excavation areas to demonstrate that the remedial objectives for the site have been achieved. Confirmation sampling will begin once the field screening results indicate that contaminated soils have been excavated to their horizontal and vertical extent. Field screening will typically be performed every 25 linear feet along the perimeter and base of each excavation area. An FID reading less than 10 ppmv, a field test kit reading of less than 300 ppm (i.e. PetroFLAG by Dexsil), and no visible petroleum contamination or odors will be field screening indicators that confirmation sampling can begin. Confirmation sample locations and results will be used to satisfy Sections 9.06 (Points of Compliance) and 9.18 (Compliance Determination) of the Remediation Regulations as discussed below.

Confirmation samples will be collected every 50 linear feet from the perimeter of each excavation area, and at the base of each 50-foot by 50-foot grid. The soil at the perimeter sampling locations will be screened at each one-foot vertical increment with an FID to determine the depth at which the sample will be taken. The location with the highest FID reading will be designated as the sample location. The sample at the base of each 50-foot by 50-foot grid will generally be taken from the center of the grid. The confirmation samples will be submitted to a Navy-approved and RIDEM-certified laboratory for analysis. Each sample will be analyzed for TPH (EPA Method 8100), arsenic (EPA Method 6010, 7060, or equivalent), and lead (EPA Method 6010, 7420, or equivalent).

Every fourth sample location from the perimeter and one sample location from the base of each excavation area will be used as Points of Compliance in accordance with Section 9.06 of the Remediation Regulations. Samples will be collected to confirm that all soils exceeding the remediation goals have been removed from the site. Sample analysis for arsenic, lead, and TPH will be conducted to determine compliance with soil remedial objectives based on direct exposure to humans engaged in residential activities (Soil remedial objectives will be refined after the arsenic background study is completed). Analysis of VOCs (EPA Method 8260), SVOCs (EPA Method 8270), and synthetic precipitation leaching procedure (SPLP) metals (EPA Method 1312 for procedure, EPA Method 6010, except mercury by EPA Method 7470 for analysis) will be conducted to determine compliance with GB leachability criteria, or with GA leachability criteria for analytes with no promulgated GB criteria. In addition, the points of compliance will be evaluated to ensure that no NAPLs remain in any environmental media (soil or groundwater) and that no physical evidence of petroleum-based contamination remains on site following excavation.

For areas identified as containing elevated levels of PCBs, confirmatory sampling will be conducted as above with the addition of PCB analysis (EPA Method 8082). Immunoassay field screening may be used to determine the horizontal and vertical extent of the PCB contamination prior to collecting confirmation samples.

Compliance with the soil remedial objectives will be demonstrated by confirming that the analytical data for each excavation area meet all the following criteria:

- No single sample result exceeds any soil remedial objective by a factor of 5
- No more than 10 percent of the individual sample results exceed any soil remedial objectives
- No single sample is identified as containing NAPLs

## 10. WASTE CHARACTERIZATION

All of the soil excavated from the Melville North Landfill site will be stockpiled at the Tank Farm 4 staging area in four separate stockpiles based on the FID field screening results. The stockpiles will consist of soils exhibiting an FID reading less than 10 ppmv, greater than 10 ppmv, greater than 100 ppmv, and greater than 1000 ppmv. FWENC will collect composite waste characterization samples from each of the stockpiles prior to disposing of the soil offsite. Waste characterization samples will be composite samples taken from five locations within each of the stockpiles. The samples will be analyzed for VOCs, SVOCs, PCBs, RCRA 8 Metals, TPH, Flash, pH, Reactivity, and any other parameters required by the disposal facility. Soils that are suspected of containing PCBs will have composite waste characterization samples taken prior to the material being excavated.

To minimize the quantity of soil that will be stockpiled at the Tank Farm 4 staging area, FWENC may collect waste characterization samples once a stockpile reaches approximately 500 cubic yards in size. Excavated soil that is placed in any given stockpile after the waste characterization samples have been taken will be separated from the stockpile and sampled with the next round of waste characterization.

The final disposal facility for the excavated soils will be selected based on the laboratory analytical results. All of the waste materials generated during the remedial action will be labeled, stored, manifested, and transported in accordance with all applicable State and Federal regulations.

## 11. REGULATORY COMPLIANCE

### 11.1 WETLAND ACTIVITIES

Tidal and freshwater wetlands are present in the planned excavation area. Removal of buried wastes will require disturbance to wetlands currently associated with the landfill. Work within wetlands will comply with the requirements of Section 10 of the Rivers and Harbors Act of 1899 for work within navigable waters of the United States and Section 404 of the Clean Water Act for excavation and fill in jurisdictional wetlands. Compliance requires restoration of disturbed wetlands and obtaining the appropriate 404 permit, 401 Water Quality Certification from the Army Corps of Engineers (ACOE), and state permits administered by Rhode Island Department of Environmental Management (RIDEM) for freshwater wetlands and Rhode Island Coastal Resource Management Council (CRMC) for tidal wetlands.

Based upon the planned site activities, it is anticipated that impacts to wetlands will be greater than one acre rendering site related work in wetlands ineligible for approval under an ACOE Rhode Island programmatic general permit. Therefore, an individual permit would be required. An individual permit application will be prepared and submitted to the ACOE by the Navy.

Activities, in freshwater wetlands, required by the RIDEM Division of Site Remediation for cleanup of contamination are exempt from obtaining written authorization provided they meet the general conditions of Rule 6.01 and the specific conditions of Rule 6.05 for Site Remediation. The work plan will be submitted to RIDEM by the Navy for review and compliance with Rules 6.01 and 6.05 conditions. These conditions large address minimization of impacts, protection of wetlands functions and values, implementation of best management procedures and restoration.

Tidal waters associated with the site are designated as Type 4 Waters under the Rhode Island Coastal Resources Management Program. Activities in Rhode Island's tidal waters, on a shoreline abutting tidal waters or within the 200-foot area landward and contiguous to all coastal features require CRMC assent prior to conducting these activities. The planned activities would be authorized under a Category B Council Assent. An application for CRMC assent will be prepared and submitted by the Navy.

### 11.2 MONITORING WELL ABANDONMENT

Well abandonment procedures will conform to Rhode Island Department of Environmental Management (RIDEM) well abandonment requirements as published in Section 13.2 of Appendix I of the "Rules and Regulations for Groundwater Quality Monitoring Well Construction Standards and Abandonment Procedures." A well abandonment permit is not required. However, the substantive requirements of the well abandonment regulations will be followed for each of the wells abandoned.

### 11.3 STORM WATER DISCHARGE FROM CONSTRUCTION ACTIVITIES

The construction activities at Melville North Landfill will result in the disturbance of greater than 5 acres of ground area. This disturbance requires the need to comply with the National Pollutant Discharge

Elimination System (NPDES) regulations for storm water discharges coming from the construction activities. A NPDES Stormwater Permit for Construction Activities will be obtained from RIDEM will be required for this activity. Foster Wheeler will prepare and submit an application for coverage under the Statewide General Permit and the required Stormwater Pollution Prevention Plan. It is anticipated that FWENC will be required to sign the permit as a co-permittee with the Navy.

There is no specific effluent limitation or monitoring required for this type of discharge, however no discharge of hazardous substances to surface waters will be permitted. Foster Wheeler will be required to perform inspections of soils and erosion controls bi-weekly and after each precipitation event and to document all inspections in writing. RIDEM will be notified immediately if any of the Soil and Erosion controls as found to be ineffective or inoperative.

#### **11.4 EARTH MOVING OPERATIONS**

All excavation, grading and earth moving operation will be conducted in accordance with the Stormwater Pollution Prevention Plan, which will be prepared by FWENC for the project activities. Wetlands and wetland buffer zones have been delineated by TTNUS as depicted in Figure 4. Construction activities in the wetlands and wetland buffer zones will be conducted in accordance with RIDEM regulations and ACOE 404 permit requirements.

#### **11.5 DREDGING ACTIVITIES**

Excavation and dredging activities to be conducted below the high tide limit along the shoreline of Narragansett Bay are regulated by the ACOE and the CRMC and will require permit authorization. All project activities in wetlands are reviewed collectively and since total acreage impacted exceeds one acre an individual permit will be required. The Navy will include a request for dredging activities in the application to the ACOE and the CRMC. All dredging activities will use Best Management Practices to ensure that sedimentation will not occur in Narragansett Bay. All dredged sediments will be disposed off-site with other landfill wastes in accordance with RIDEM Solid and hazardous wastes regulations.

#### **11.6 COASTAL ZONE CONSISTENCY DETERMINATION**

A coastal zone consistency determination is required from the Rhode Island CRMC for the landfill excavation, shoreline dredging, and wetland replacement activities. All activities are required to be consistent to the maximum extent practicable with the requirements of the Rhode Island Coastal Resources Management Program. Also, the ACOE will make its authorization for shoreline dredging contingent upon the receipt of the consistency determination from the CRMC. The Navy is responsible for submitting a coastal zone consistency determination to the CRMC for review at least 45 - 60 days prior to the desired start date of site activities.

**11.7 AIR POLLUTION CONTROL****11.7.1 Fugitive Dust and Odor Emissions**

Fugitive dust and/or odor emissions may result during landfill excavation operations. Consequently, engineering controls will be used to control dust and or odor emissions. This will include keeping surfaces adequately wet during intrusive activities and covering stockpiles and materials being transported to prevent fugitive dust emissions. It is anticipated that petroleum odors may be generated during excavation of oily wastes. Other odors may be generated as wastes are excavated. Strong odors are not anticipated because wastes landfilled were industrial not putrescible /garbage type wastes. Air monitoring will be performed in accordance with Section 7.0 of the HASP to monitor dust levels at the site.

**11.8 WASTE MANAGEMENT**

All excavated waste materials and contaminated sediments will be disposed off-site in accordance with with RIDEM Solid and Hazardous Waste Regulations. As wastes are excavated they will be field screened for organic vapors with a Flame Ionization Detection instrument (FID) and segregated based upon FID readings. Similar wastes will be stockpiled together and sampled and analyzed to determine waste classification in accordance with a RIDEM approved Waste Sampling and Analysis Plan. Waste materials that may not be suitable for stockpiling include liquid wastes and drums containing liquid. Uncontainerized liquid wastes encountered during excavation will be allowed to settle into the excavation. Drums or other intact waste containers encountered during excavation will be overpacked in DOT-approved containers and staged on site pending further direction from the Navy.

The following waste materials will be generated during remedial activities:

- Construction debris and industrial wastes containing spent acids, waste solvents and paints, oily and petroleum wastes, and PCB's..
- Sediments from dredging activities.
- Uncontaminated above grade vegetative waste generated during clearing activities on existing landfill soil cap.
- Potentially contaminated vegetative waste in contact with buried site wastes generated during grubbing activities.
- Uncontaminated soils from excavation of existing landfill soil cap.
- PPE consisting of Tyvec, booties, gloves, etc. from intrusive activities in potentially contaminated waste materials.
- Decontamination solids and liquids.

All disposal facilities and transporters used for off site disposal will be approved in accordance with FWENC Corporate Regulatory Compliance Procedure EHS 1-4 and will be approved by the Navy prior to being used. FWENC will prepare all waste documentation (profiles, Bills of Lading, manifests) for Navy review and signature. FWENC personnel will not sign any waste documentation without written authorization of the Navy and approval from the FWENC Legal Department.

#### **11.8.1 Landfilled Wastes and Dredged Sediments**

Landfilled wastes and dredged sediments will be field screened as they are excavated and stockpiled with similar wastes pending waste classification sampling and analysis. Wastes, which are found to be RCRA characteristically hazardous, will be disposed at an out of state permitted RCRA hazardous waste facility. No RCRA listed wastes are expected to be encountered because wastes were originally disposed prior to the existence of the RCRA hazardous waste regulations. PCB wastes containing greater than 50 PPM of PCB's will be disposed at an out of state permitted TSCA landfill. Non-hazardous wastes will be landfilled at a non-hazardous solid waste landfill located in either Rhode Island or Massachusetts. If intact or non-intact waste drums containing liquid or free product are encountered during landfill excavation activities, they will be excavated, overpacked in DOT-approved containers, and staged on site pending further direction from the Navy. This will be considered a change in site conditions. Any such drums will not be crushed, emptied or otherwise disposed on site until direction is received from the Navy.

Non-intact drums that do not contain liquids will be considered as debris and will be stockpiled with other landfill wastes.

#### **11.8.2 Construction and Demolition Debris**

Construction and demolition debris consisting of wood, concrete, metal and other materials will be generated during excavation activities. This debris will be broken into manageable pieces if necessary, and stockpiled for waste classification sampling and disposal. Off site recycling of metal debris may be considered a more cost effective option if the cost to source separate and handle the debris does not outweigh the cost difference for landfill disposal as a commingled waste. It is not anticipated that recycling of non-metal debris will be possible because the presence of potential hazardous contamination will render the debris unacceptable for recycling. Sampling and analysis of the waste material will be conducted as necessary in accordance with the RIDEM approved Sampling and Analysis Plan disposal facility's requirements.

#### **11.8.3 Uncontaminated Vegetative Waste**

Uncontaminated vegetative waste generated from surficial clearing activities will be chipped onsite and stockpiled during the remedial activities. The material will be spread over the backfilled landfill upon completion of the remedial activities.

#### **11.8.4 Potentially Contaminated Vegetative Waste**

Potentially contaminated vegetative waste generated from below grade grubbing operations within the landfill that may have come in contact with waste materials or contaminated soils will be chipped on-site and stockpiled with other site wastes for waste classification sampling and off-site disposal.

#### **11.8.5 PPE**

PPE (tyvec, gloves, booties) generated during intrusive work that is potentially contaminated with site wastes will be placed in rolloff containers and sampled for waste classification. Non-hazardous PPE will be disposed off-site at a permitted RCRA Subtitle D solid waste landfill. If hazardous, PPE will be disposed at a permitted RCRA Subtitle C hazardous waste facility. PPE will be sampled in accordance with the Sampling and Analysis Plan and disposal facility requirements. Any PPE generated during clean work activities, will be considered clean and will be disposed of off site as non-hazardous solid waste at a permitted Subtitle D solid waste landfill.

#### **11.8.6 Decontamination Solids**

Decontamination solids generated from decontamination of equipment that had been in contact with site wastes will be field screened for VOCs and stockpiled with similar wastes pending waste classification sampling and analysis for off-site disposal in either a RCRA Subtitle D solid waste facility or in a RCRA Subtitle C hazardous waste facility.

#### **11.8.7 Liquid Wastes**

Potential sources of liquid wastes on site include decontamination water, surface water, subsurface water, and water or free product from intact or non-intact drums. Decontamination water generated from in-place decontamination of equipment will be containerized in drums or portable tanks, sampled and analyzed for waste characterization in accordance with the Sampling and Analysis Plan and the disposal facility's requirements and ultimately disposed off-site at a permitted facility. Surface and subsurface water that collects in an area of the site that requires pumping will be containerized and characterized in accordance with the disposal facility's requirements. If the collected water does not require pumping, it will be allowed to settle into the landfill. Intact and non-intact drums found to contain liquid or free product will be excavated from the landfill, placed in DOT-approved containers, and staged on site pending further direction from the Navy.

### **11.9 TSCA/PCB WASTE MANAGEMENT**

Any PCB wastes generated from decontamination of PCB contaminated equipment will be managed on site in accordance with the generator storage requirements in 40 CFR 761.65. Since site wastes were disposed prior to 1978, they are not subject to the Anti-dilution Provisions of the TSCA disposal regulations and will be classified for disposal solely upon their PCB concentration as found. All wastes containing greater than or equal to 50 PPM of PCB's will be disposed at a permitted TSCA Facility. All

wastes containing less than 50 PPM of PCB's will be disposed at a permitted solid waste facility. PCB wastes will be handled and stored in accordance with TSCA requirements.

### **11.9.1 Requirements for PCB Storage:**

#### **11.9.1.1 PCB Stockpiles**

Bulk PCB wastes shall be stored in stockpiles for a period not to exceed 180 days. Stockpiles used for PCB wastes will be constructed in accordance with requirements under 40 CFR 761.65(c)(9):

- Stockpile shall be designed and operated to prevent dispersal by wind using means other than wetting
- The stockpile shall be equipped with a liner which is designed, constructed and installed to prevent migration of wastes through the liner into the underlying soils
- The liner shall be chemically compatible with the wastes and shall be of sufficient thickness and strength to prevent failure due to pressure gradients, physical contact with the waste, climatic conditions and the stresses of liner installation and daily operation
- The liner shall be placed upon a base or foundation capable for supporting the liner that will resist failure from pressure gradients, settlement, compression or uplift.
- The liner shall be equipped with a cover which will prevent contact with precipitation and is secured to prevent removal by winds under normal seasonal climatic conditions
- The liner shall be equipped with run-on controls which will prevent stormwater flow onto the stored waste during peak discharge during at least a 25 year storm and shall have capacity to store at least the water volume from a 24 hour, 25 year storm. The stormwater collection system will be emptied expeditiously after storms to maintain the design capacity of the system.

#### **11.9.1.2 PCB Containers**

- Non-bulk solids and liquid PCB wastes must be placed in containers that meet DOT 1A1 or 1A2 specification.
- All PCB wastes containing greater than 50 ppm PCBs must be removed from storage and disposed within one year of the date it was placed in storage. It is recommended that waste should be removed from storage within 9 months to allow the disposal facility three months time to dispose of the waste.
- All storage areas must be inspected at least once every 30 days.
- A written inspection log and drum inventory must be maintained. The inventory should contain the date each drum was placed in storage and the date each drum was removed

from storage. The drums should be individually numbered to ease tracking. The drum inventory shall be maintained in a field logbook or on a PC Spreadsheet.

- Each PCB container must be labeled with a Large PCB Marking Label (6 inches on each side). Commercially available PCB labels will be used.
- Each container must be marked with date on which the PCB waste was placed in the container.
- The storage area must be managed to allow the containers to be located by the date they were placed in storage.
- The storage area must have adequate aisle space and drum labels should be facing the aisles.
- The storage area must be marked with a Large PCB Marking Label (6 inches on each side). Commercially available PCB labels should be used.
- A Notification of PCB Activity Form (EPA Form 7710-53) form must be submitted to the EPA Headquarters to obtain an EPA Generator's ID Number. The Generator ID Number must be obtained prior to any off-site shipment of PCB wastes
- An EPA Hazardous Waste Manifest must be used for all off-site shipments of PCB wastes.
- All PCB wastes greater than 50 PPM PCBs must be disposed at a TSCA permitted disposal facility.
- A Certificate of Disposal must be received from permitted disposal facility for each shipment of PCB wastes. The certificate must be retained in the generator's records.

#### **11.9.2 Storage Requirements for Greater Than 30-Day Container Storage:**

- Storage area must have roof and walls to prevent precipitation from contacting stored PCB containers.
- The floor must have a continuous 6" high curb and both the floor and wall must be constructed of a continuous smooth material such as concrete or metal. The floor and curbing must not contain cracks, leaks, valves, floor drains or other openings that would allow PCB material to escape. EPA has stated in their "PCB Question and Answer Manual" that they consider a portable pan to offer adequate containment as long as it meets these requirements.
- The containment area must hold at least two times the internal volume of the largest PCB container or stored within or 25% of the total volume of all the containers whichever is greater.

### **11.9.3 Storage Requirements for Temporary (Less Than 30-day) Storage**

Certain PCB wastes can be stored on-site for up to 30 days without having to meet the storage area requirements for adequate roof, walls, flooring and secondary containment.

The following items can be stored outside in an uncovered area for less than 30 days:

- Non-leaking PCB Articles and PCB Equipment (capacitors, transformers etc.).
- Leaking PCB Articles and Equipment if placed in a non-leaking PCB Container with absorbent to absorb all free liquids.
- PCB containers containing non-liquid PCBs such as soil, debris etc.
- PCB liquids between 50 and 500 PPM PCBs provided that a Spill Prevention Control and Countermeasure Plan (SPCC) is prepared for the temporary storage area and each drum is labeled to indicate that it does not contain greater than 500 PPM PCBs.

### **11.9.4 PCB Waste Manifesting**

Foster Wheeler Environmental will be responsible for preparation of the Hazardous Waste Manifests for PCB disposal. All manifests will be reviewed and signed by the Navy as generator of the waste. Manifests will be carried by the transporters and will include the following:

- The generator's name, mailing address, site address if different from the mailing address, and phone number;
- The generator's EPA I.D. number;
- The hauler (or haulers) name, phone number;
- The hauler (or haulers) EPA I.D. number;
- The treatment, storage or disposal facility's name, address, and telephone number (designated facility);
- The treatment, storage, or disposal facility's EPA I.D. number;
- The name, type, and quantity of hazardous waste being shipped, proper DOT shipping name, hazard class, and I.D. number;
- Special handling instructions and any other information required on the form to be supplied by the generator; and
- The proper codes that accurately describe the shipment of hazardous waste.

Before allowing the manifested waste to leave the property, the appropriate Navy representative will:

- Sign the manifest certification by hand;
- Obtain the handwritten signature of the initial hauler and date of acceptance on the manifest;

- Retain one copy; and
- Give the remaining copies of the manifest form to the hauler.

#### **11.9.5 Hazardous Waste**

A RCRA determination will be made to determine if the material is a RCRA hazardous waste (40 CFR 261.11). RCRA regulations define hazardous waste as (1) a listed waste under 40 CFR 261.31,.32, and .33 , or (2) characteristic for ignitability, corrosivity, reactivity, or toxicity as defined in 40 CFR 261.21, .22, .23, and .24.

#### **11.9.6 Listed Hazardous Waste**

Based upon site history and past operations, the presence of listed hazardous wastes is not anticipated at Melville North Landfill because the wastes were disposed prior to the existence of the RCRA listed hazardous waste codes. Site wastes shall be regulated as RCRA wastes solely because the waste exhibits a RCRA characteristic.

#### **11.9.7 Characteristic Hazardous Waste**

A solid waste is a characteristic hazardous waste if it exhibits any of the following characteristics:

- Ignitability (D001)
- Corrosivity (D002)
- Reactivity (D003)
- Toxicity (D004-D043)

The full definition of these characteristics is provided in 40 CFR Part 261.21-.24.

Historical data indicated that spent acids, waste paints and solvents and petroleum sludges were disposed at the Melville North Landfill. Site wastes may be RCRA Corrosive or Ignitable or may exhibit RCRA Toxicity based upon the presence of RCRA metals or organics above TCLP regulatory levels. Wastes will be field screened for volatile organics and stockpiled pending full waste characterization sampling. Wastes will be analyzed for RCRA Ignitability, Corrosivity, Reactivity and Toxicity at a frequency specified in the RIDEM approved Sampling and Analysis Plan prior to selection an off-site disposal facility.

#### **11.9.8 Land Disposal Restrictions**

The Land Disposal Restrictions (LDRs) prohibit placement of hazardous wastes on or in the land, except in an EPA approved corrective action management unit. The LDRs specify treatment technologies and

treatment standards for RCRA hazardous wastes. All RCRA Characteristic wastes will be subject to the treatment standards for any Underlying Hazardous Characteristic identified in the waste in addition to the wastes primary hazardous characteristic. The Regulatory Specialist will identify LDRs for site generated RCRA wastes and will prepare Generator Land Disposal Restricted Waste Notification and Certification forms required for all off-site hazardous waste shipments. The Notification and Certification forms will be provided to the Navy for review and signature prior to off-site waste shipments.

#### **11.9.9 Solid Waste**

Solid waste are those materials defined by 40 CFR 262.1 as drilling wastes, garbage, refuse, sludge, and other discarded material including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, and agricultural operation and from community activities. Site generated solid wastes that do not exhibit any RCRA characteristics are regulated as non-hazardous wastes and will be disposed of in permitted Subtitle D solid waste facilities. All Subtitle D solid wastes facilities to be used for site waste disposal will be submitted to the Navy for approval prior to off-site shipment.

#### **11.9.10 Waste Management Permit/Approval Requirements**

There are no permitting requirements for the off-site disposal of hazardous and non-hazardous wastes generated during closure of the Melville North Landfill. Foster Wheeler Environmental is responsible for obtaining disposal approvals from the off-site disposal facilities. The Navy is responsible for obtaining RCRA Notification of Hazardous Waste Activity and TSCA Notification of PCB Activity Forms to RIDEM and EPA to obtain Generator's Hazardous Waste and PCB Generator Numbers. If requested, FWENC will assist the Navy in completing and submitting these notification forms.

#### **11.9.11 Waste Minimization**

Waste minimization is a prime objective of the project team during the project activities. The principal components of this program include:

- Incorporating waste minimization into all planning activities
- Segregation of waste streams
- Re-use/recycling of materials where possible
- Minimizing use of hazardous materials
- Do not contaminate materials unnecessarily
- Decontaminate and re-use equipment when practical
- Employ strict inventory control of hazardous materials
- Minimize the amount of environmental media generated using dedicated equipment to minimize decontamination requirements and decontamination wastes generated

Each of the above steps will reduce the amounts of contaminated wastes being generated. Site inspections will be conducted by both the Regulatory Specialist and the Quality Control System Manager (QCSM) to monitor site compliance and waste minimization activities.

#### **11.9.12 Segregation/Screening**

Waste will be segregated based upon the knowledge of the waste, including its location, potential chemical composition, appearance, odor, and field monitoring results. Similar wastes will be consolidated together for waste characterization sampling. Non-hazardous waste will be segregated from hazardous waste when ever possible. The intent is to segregate waste into categories that are intended to facilitate waste classification, minimize treatment and disposal costs, and match the acceptance criteria of the disposal facilities.

#### **11.9.13 Containerization**

After classification, wastes will be placed in DOT specification containers for off-site disposal. Bulk and non-bulk containers will be considered based on volumes of waste generated. Lined dump trailers and rolloff containers will be used for large volume wastes such as soil, debris and PPE. Smaller volume wastes such as decon water will be stored in non-bulk containers pending off-site disposal. DOT specification 1A1 (closed top) and 1A2 (open top) steel drums are suitable for the non-bulk waste streams such as non-decon water.

#### **11.9.14 Accumulation/Storage**

All stockpiles, containers and portable tanks will be staged at the soil staging area located at Tank Farm 4. The location will be approved by the Navy and RIDEM and will be used for the storage of all hazardous and non-hazardous waste generated by project activities. When test results are received, the Regulatory Specialist will initiate off-site disposal approvals and transportation services. Hazardous waste will be stored on-site for less than 90 days from the point of generation unless a generator storage limit extension is obtained from RIDEM. The Regulatory Specialist will complete any requests for extension and submit them to the Navy for review and signature prior to submittal to RIDEM for approval.

The Site Superintendent is responsible for identifying the emergency coordinator for the waste accumulation/storage area(s). The emergency coordinator is responsible for coordinating any emergency response activities related to waste storage area spills/releases. The following information will be posted at the accumulation area(s) at all times:

- Name/phone number of emergency coordinator
- Location of fire extinguisher and spill control materials

- Telephone number of the base fire department
- Signage "Authorized Personnel Only"

#### **11.9.15 Container Inspections**

Waste container accumulation areas will be inspected weekly by project personnel while the field work is in progress to ensure proper labeling and secure closure, and to assess the condition of each container, the number of containers, and the condition of the storage area. Any signs of deterioration, leaking, or dents will be noted and containers will be immediately overpacked, if necessary. Inspection results will be documented in writing, and the date and time of inspection and the inspector's signature will be provided on each inspection log.

#### **11.9.16 Container Marking and Labeling**

At the time of generation, all waste containers will be marked in indelible ink, paint, or grease pencil with the following information:

- Source and location
- Contents of material in the container (type of material and expected hazards)
- Accumulation start date (the date the first drop of material was put in the container)
- Date container was sampled
- Special handling instructions
- HAZARDOUS WASTE label on known or suspected hazardous waste

Upon receipt of analytical results, containers will be immediately labeled with commercially available labels. Within five days of receiving analytical results, project personnel will contact the Navy if the waste is determined to not be hazardous. After concurrence from the Navy, the hazardous waste label will be removed and the container will then be relabeled with a NON-HAZARDOUS label. Based upon final classification, the Regulatory Specialist will select a DOT proper shipping name for any material meeting a DOT hazard class. The Regulatory Specialist will direct application of any required DOT markings and labels specific to the proper shipping name. The Regulatory Specialist will also specify required placarding based upon the proper shipping name selected. Completion of the EPA Hazardous Waste Label meets the DOT requirements for consignor/consignee, name, address, and contents.

#### **11.9.17 Sampling and Waste Classification**

A full sampling/analytical program, including analytical methods for constituents of concern, is outlined in the SAP. The classification of each waste stream will be based upon legally defensible analytical results from the waste characterization sampling. The Regulatory Specialist will submit the documentation

supporting each waste stream classification to the Navy. The Navy will be responsible for approving all waste classifications.

#### **11.9.18 Spill Prevention Procedures**

The project personnel will take the necessary precautions to prevent the possible release of contaminants to the environment during all phases of the investigative and remedial action. In the event of a spill, the site personnel will perform the following at a minimum:

- Immediately notify the Navy
- Notify the FWENC Regulatory Specialist, who will address federal and state requirements for reportable spills
- Take immediate measures, utilizing properly protected personnel, to control and contain the spill
- Isolate the hazardous area and keep all unnecessary personnel out of the area
- Stay upwind and stay out of low areas
- Keep combustibles away from the spill materials
- Use water spray or other approved methods to reduced vapors, gases, and/or dust emissions

#### **11.9.19 Manifest Packages**

Both hazardous and non-hazardous waste will be generated during this project. Since the State of Rhode Island has its own Hazardous Waste Manifest, the Rhode Island Manifest will be used unless the waste receiving state has its own manifest requirements. Non-hazardous waste will be shipped on a bill of lading or non-hazardous waste manifest. The principal components of the completed manifest package that will be submitted to the Navy may include:

- Hazardous waste manifests
- Hazardous material shipping papers
- Waste profile sheets
- LDR notification and certification forms

Supporting information will contain:

- Waste disposal history
- Analytical results
- Material Safety Data Sheets
- Information reviewed in identifying the proper waste code

- DOT waste packaging, labeling, marking, manifesting, and placard requirements

#### **11.9.20 Manifest Package Preparation and Submittal**

FWENC will prepare the complete manifest package including waste characterization, waste profiles/approvals, LDR certifications, and manifests/bills of lading.

FWENC will submit to the Navy for review and signature a reproducible copy of the complete manifest package for each individual waste stream as soon as possible after waste classification and disposal facility approvals have been obtained. The Navy will be responsible for signing all hazardous waste manifests, Land Disposal Restricted Waste Notification/Certification forms, and bills of lading for off-site waste shipments. The Regulatory Specialist will hold the original complete manifest package and make corrections based on the Navy review, prior to off-site shipment.

Within 24 hours of the transporter signature and off-site shipment, the project personnel will provide the Navy with two copies of the manifest (signed by the generator and the original transporter) and the remainder of the approved complete manifest package.

No waste will be transported prior to the approval of the complete manifest package and signature of the manifests and shipping documents by the NAVY. FWENC will not sign waste profiles or manifest packages without written authorization from the Navy and approval of FWENC Legal Council.

#### **11.9.21 Manifest Reporting Requirements**

Under RIDEM regulations, two copies of each manifest must be sent to RIDEM. FWENC will provide the Navy with all generator copies of the signed manifest. The Navy is responsible for submitting the required copy to RIDEM. The second copy will be sent to RIDEM by the TSDf after the TSDf facility has signed the manifest.

#### **11.9.22 Record Keeping Requirements**

Records must be kept for all hazardous waste activities. Records to be retained include all hazardous waste manifests, Land Disposal Restricted Waste Notification forms, Generator Biennial Reports, manifest exception reports, bills of lading for non-hazardous waste shipments, and records of any test results, waste analyses, and waste profile sheets for at least three years after the waste was disposed. FWENC will retain photocopies of all waste documentation in the project file and will forward original copies of all manifests, LDR forms and Bills of Lading to the Navy. The project team will provide all information necessary for the Navy to file the Biennial Report (EPA Form 8700-13A) by March 1 of each even numbered year. This information will be included in the Closure Report.

**11.9.23 Discrepancy Reports**

Any discrepancies due to differences between the quantities or types of wastes designated on the manifest or shipping papers and the quantity or type of wastes a facility actually receives must be reported. Foster Wheeler Environmental will investigate these discrepancies, rectify the identified discrepancy, and report to the NAVY within 15 days after receipt of the waste by the disposal facility. This information will also be presented in the Closure Report.

**11.9.24 Exception Reports**

If by the 35th day after the transporter signs the manifest, the Navy has not received a signed copy of the signed manifest from the TSD, FWENC will contact the TSD by phone to obtain a signed copy. If the Navy has not received a signed copy of the manifest by the 38th day, an exception report will be prepared. This exception report will be submitted to the Navy for review and approval no later than day 40. Foster Wheeler Environmental will document all calls to locate shipments and submit the documentation with the exception report. The Navy will submit the signed exception report to the EPA Regional Administrator prior to the 45th day. All exception reports will also be presented in each Closure Report.

**11.10 DOT HAZARDOUS MATERIAL TRANSPORTATION**

All waste materials destined for off-site material are expected to be non-hazardous and will not meet the definition of a DOT hazardous material, however in the event hazardous materials are encountered, FWENC will follow the following requirements for waste and sample shipments. Hazardous materials will be properly classed, described, packaged, marked, labeled and in condition for shipment as required by 49 CFR 171.

Waste that does not exhibit one of the nine DOT hazard class characteristics (i.e., explosive, flammable, poison, combustible, etc.) is not regulated under DOT rules for the transportation of hazardous material. If waste is suspected to be hazardous, then it will be shipped under the suspected hazard class. If a particular hazard class is unable to be determined, then the soil or water may be shipped under either of the following:

Shipping Name	Hazard Class	ID Number	Packing Group	Label
Environmentally hazardous substances, liquid, n.o.s.	9	UN3082	III	CLASS 9
Environmentally hazardous substances, solid, n.o.s.	9	UN3077	III	CLASS 9

When using either one of these "n.o.s." (not otherwise specified) shipping names, at least two technical names must follow (i.e., "Environmentally hazardous substances, liquid, n.o.s. [Benzene and Acetone]").

The shipping name, identification number, packing group, instructions, cautions, weights, EPA waste code numbers and consignee/consignor designations will be marked on packages for shipment. Labeling provides information regarding the DOT hazard class.

The label to be placed on material will depend upon the results of sampling. Once the waste is characterized, reference should be made to the Hazardous Materials Table in 49 CFR 172.101 to determine the appropriate label. The package (or drum) will be marked and labeled as specified in 49 CFR 172.301.

The person offering hazardous material for shipment will offer placards (49 CFR 172.506). Any quantity of material listed in Table 1 of the regulations will be placarded. However, if there is less than 1,000 lb. of a Table 2 material, no placard is required. No Class 9 placard is required for domestic shipments. If a placard is required, the label referenced above will be affixed on each side and each end of the vehicle(s).

Hazardous material shipping papers will have the following description of the hazardous material, in the following order:

- Proper shipping name;
- Hazard class or division;
- Identification number;
- Packaging group;
- Total quantity (must appear either before or after the above information); and
- Technical and chemical group names may be entered in parentheses between the proper shipping name and hazard class or following the basic description (e.g., "Flammable liquids, n.o.s. [contains xylene and benzene], 3 UN1993, PG II").

Other required information includes:

- EPA identification (manifests);
- Emergency Response Guidebook numbers;
- Twenty-four-hour emergency response number, supplied by the generator and answered by a knowledgeable person;
- Signatures; and
- Shipper's certification.

All FWENC and subcontractor personnel involved in DOT Hazardous Material Shipment activities will have been trained in accordance with personnel training requirement outlined in 49 CFR 172 Subpart H.

**11.10.1 Waste Transporter Selection**

To ensure safe transport of the waste, only transporters who have demonstrated competence and the required license and permits for transporting waste will be used. Foster Wheeler Environmental policies and procedures for subcontracting will be followed. Transporter EPA/State identification numbers will be kept in project and compliance files. Trucks will be covered to prevent fugitive releases of material during transport.

## **12. FINAL REPORT**

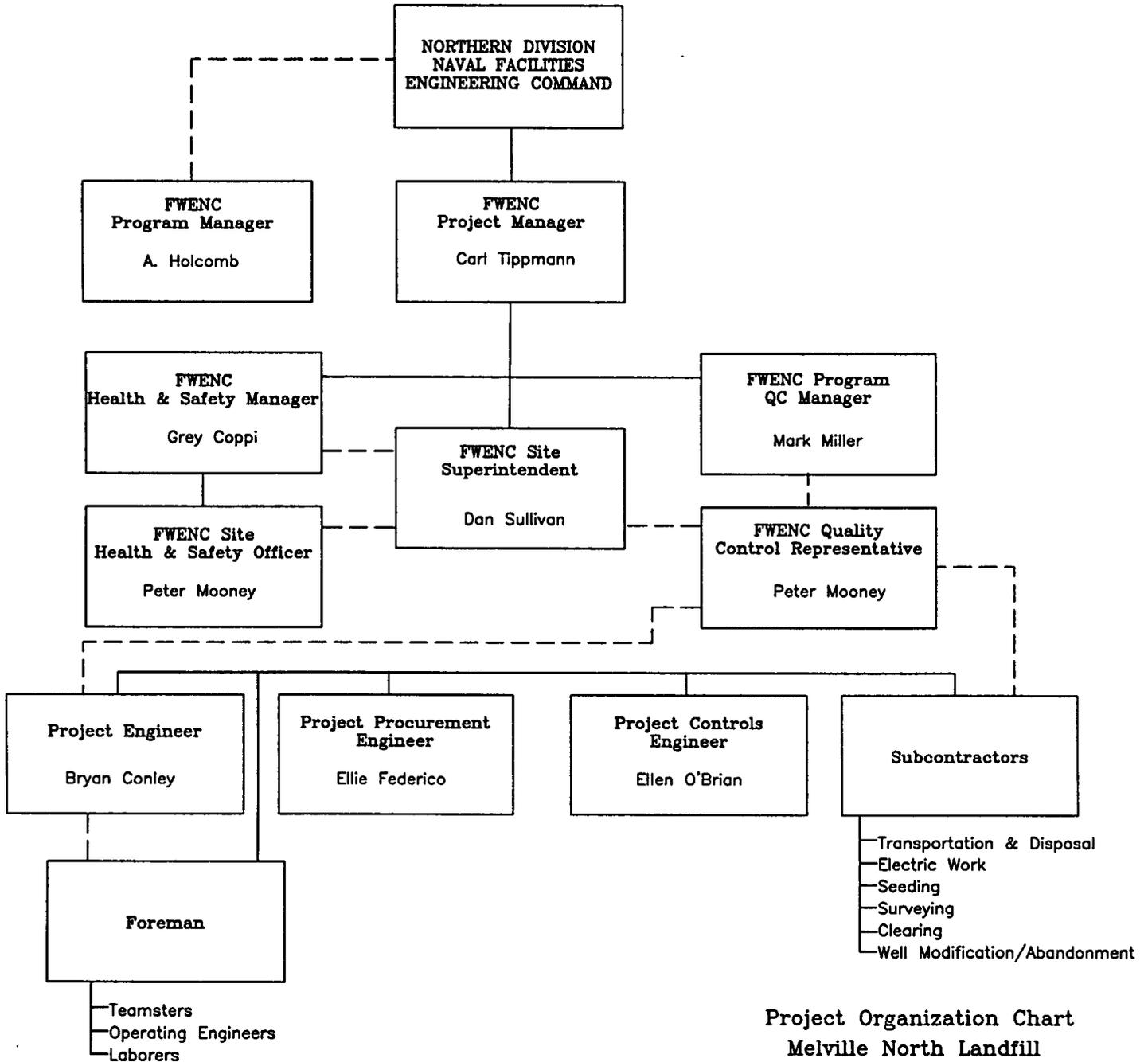
Upon completion of the remedial activities, FWENC will prepare and submit a closeout report to document the remedial activities that were conducted at the Melville North Landfill and to fulfill the requirements of Section 9.19 of the Remediation Regulations. The report will contain a description of the remedial activities conducted at the site, the field screening, confirmation sampling and waste characterization analytical results, field QC inspection reports, weekly progress reports, and manifest records for all of the material that was disposed of offsite. The report will contain a signed statement from the Professional Engineer in charge of the project to certify that the work has been completed in accordance with the Remediation Regulations. The report will be submitted for Navy review within 60 days of completion of the waste disposal activities.

**ATTACHMENT 1**

**FIGURES**

(LATER)

**ATTACHMENT 2**  
**PROJECT ORGANIZATION CHART**



Legend:  
 ————— Reports to  
 - - - - - Interfaces with

**Project Organization Chart**  
**Melville North Landfill**  
**Naval Education and Training Center**  
**Newport, Rhode Island**  
 prepared for  
 Naval Facilities Engineering Command  
 Lester, Pennsylvania

**ATTACHMENT 3**  
**CONSTRUCTION SCHEDULE**





**ATTACHMENT 4  
SUBMITTAL REGISTER**

### PRECONSTRUCTION SUBMITTAL REGISTER

Contract Number N62472-94-D-0398 D O # 0011

Project Title: Melville North Landfill, NETC Newport

LOCATION: Portsmouth, RI

CONTRACTOR Foster Wheeler Environmental Corporation

		CONTRACTOR ACTION							APPROVING AUTHORITY ACTION					CONTR	
RAWP	SD NO & TYPE OF SUBMITTAL-MATL OR PRODUCT	SPEC PARA NO	CLASSIF/ APPR BY CO *	GOVT OR A/E REVR	TRANS CONTL NO	PLANNED SUBMITTAL DATE	ACT CODE	DATE OF ACTION	DATE FWD TO APPR AUTH / DATE RECD FROM CONTR	DATE FWD TO OTHER REVIEWER	DATE RECD FROM OTHER REVIEWER	ACT CODE	DATE OF ACTION	MAILED TO CONTR / RECD FROM APPR AUTH	REMARKS
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
Plans	SD-08, Statements														
	Remedial Action Work Plan		"G"	ROICC		11/13/98									DRAFT
	Health and Safety Plan		"G"	ROICC		11/13/98									DRAFT
	Soil Sediment and Erosion Control Plan		"G"	ROICC		11/13/98									DRAFT
	Construction Quality Control Plan		"G"	ROICC		11/13/98									DRAFT
Surveying	SD-04, Drawings														
	Preconstruction Survey					4/28/99									
	Subgrade As Built					7/29/99									
	Final Grade As Built					8/20/99									
Erosion Controls	SD-02, Manufacturers Catalog Data														
	Silt Fence					3/31/99									
	Turbidity Curtain					5/31/99									
Staging Area	SD-02, Manufacturers Catalog Data														
	40 mil Liner					3/31/99									
	SD-08, Statements														
	Manufacturers Qualifications					3/31/99									
	Surface Preparation					As Installed									
	SD-09, Reports														
	Manufacturers QC Tests					3/31/99									
	SD-13, Certificates														
Geomembrane					3/31/99										

**ACTION CODES**

NR Not Reviewed      AN Approved as Noted      A Approved  
 RR Disapproved, Revise and Resubmit (Others may be prescribed by the Transmittal Form)

\* Navy Notes Approved by G Contracting Officer  
 Blank CQC Manager

\* NASA Notes Approved by Blank Contracting Officer

\* Army Notes Classification GA Gov't Approval  
 FIO. For Infor ONLY

## PRECONSTRUCTION SUBMITTAL REGISTER

Contract Number: N62472-94-D-0398 D O # 0011

Project Title: Melville North Landfill , NETC Newport

LOCATION: Portsmouth, RI

CONTRACTOR: Foster Wheeler Environmental Corporation

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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)			
Monitoring Wells	SD-02, Manufacturers Catalog Data																	
	Grout					4/10/99												
	SD-09, Reports Well Completion Reports					As Installed									RIDEM			
Excavation	SD-09, Reports																	
	Field Screening					As Excavated									FID for TPH			
	Laboratory Confirmation					As Excavated									FID + 5 days			
Backfill	SD,-09, Reports																	
	TCLP Analytical					5/5/99									Borrow Source			
	Moisture Density Tests Field Density Tests					5/5/99 As Installed												
Disposal	SD-08, Statements																	
	Disposal Facility Qualifications					4/12/99												
	Transport Contractor Qualifications					4/12/99									US DOT			
	SD-09, Reports																	
	Shipping Manifests Return Manifests					As Shipped As Received												
Restoration	SD-02, Manufacturers Catalog Data																	
	Seed Composition					8/1/99												
	SD-09, Reports Topsoil Composition					8/1/99												

ACTION CODES    NR Not Reviewed    AN Approved as Noted    A Approved  
 RR Disapproved, Revise and Resubmit (Others may be prescribed by the Transmittal Form)

\* Navy Notes. Approved by G Contracting Officer  
 Blank CQC Manager

\* NASA Notes. Approved by Blank Contracting Officer

\*Army Notes. Classification GA Gov't Approval  
 FIO For Infor ONLY

**ATTACHMENT 5**  
**RHODE ISLAND FINAL REGULATIONS**  
**APPENDIX 1**  
**SECTION 13**

13.0 Monitoring Well and Piezometer Abandonment:

13.1 General:

(a): All monitoring wells and applicable piezometers as described in Rule 1.0 of this Appendix that are no longer used to gather information on geologic or groundwater properties shall be abandoned pursuant to the provisions of Rule 13.2 of this Appendix. Well abandonment shall take place within 60 days after its use has been terminated, unless a written exemption is received from the Director for continued use.

(b) Innovative wells: Innovative wells as described in Rule 12.0 of this Appendix shall be abandoned at the end of use in order to remove the conduit to groundwater. Abandonment of innovative wells shall consist of removal of the well and grouting of the borehole. Innovative wells are exempted from the abandonment procedures described in Rule 13.2 of this Appendix.

13.2 Abandonment Procedures: The well shall be inspected from the land surface through the entire depth of the well before it is sealed to ensure against the presence of any obstructions that will interfere with sealing operations.

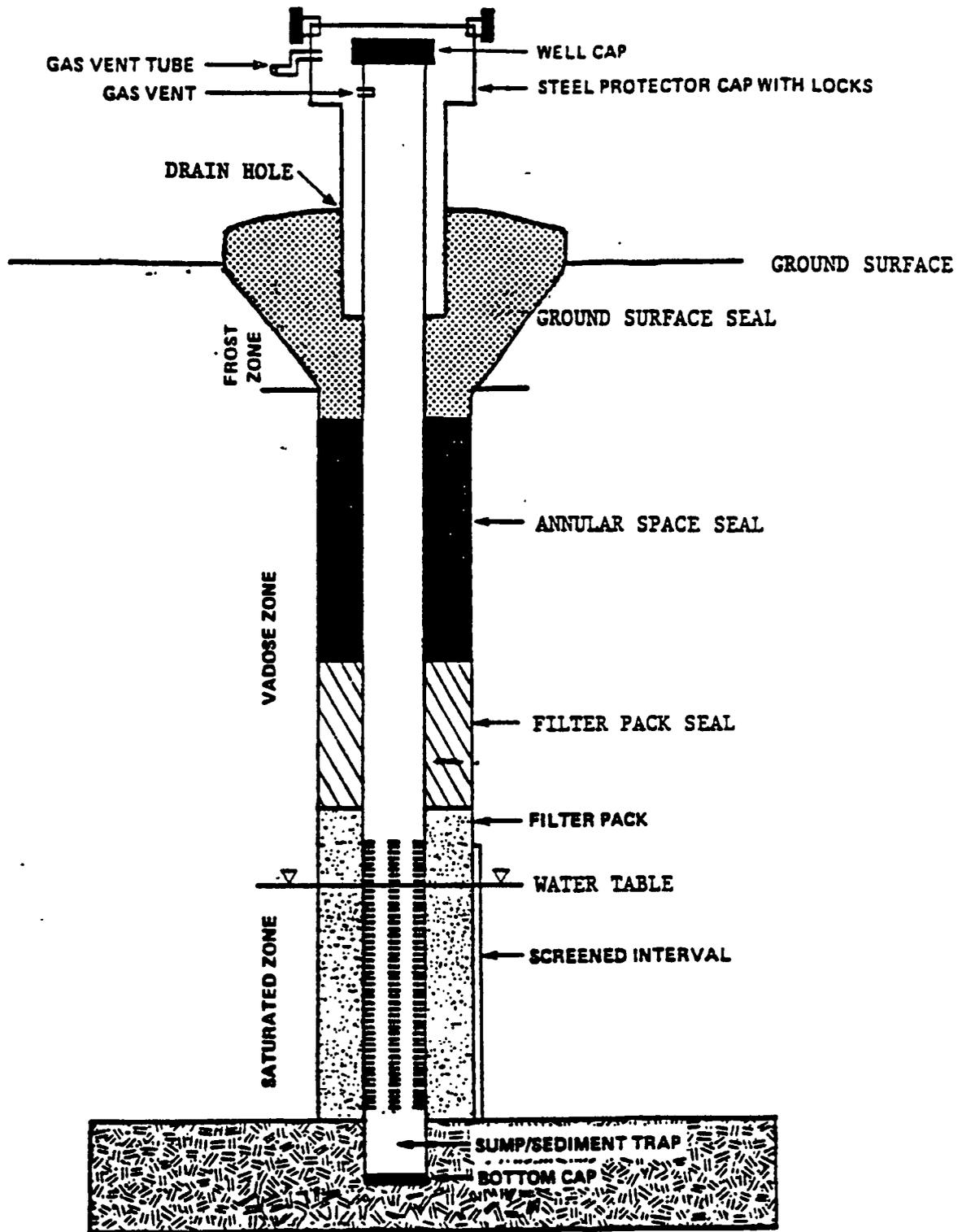
(a) Wells constructed with an impermeable annular seal shall be abandoned by cutting off the casing a minimum of 4 feet below land surface. The remaining casing shall be completely filled with a neat cement grout or bentonite-cement grout. The remaining hole volume shall be backfilled with natural material, with the following exception: where backfilling with natural material would result in a grout plug less than 4 feet long, the hole shall be filled to approximately one foot from the ground surface with the neat cement grout or bentonite-cement grout.

(b) Wells not known to be constructed with an impermeable annular seal shall be abandoned by completely removing the well casing and sealing with neat cement or bentonite-cement grout to approximately one foot from the ground surface. If the casing cannot be removed during the abandonment of a well, the casing shall be thoroughly ripped or perforated from top to bottom, except that perforations will not be required over intervals of the well that are sealed with cement. The screened portion of the well and the annular space between the casing and the drillhole wall shall be effectively and completely filled with cement or bentonite-cement grout applied under pressure.



**CROSS-SECTION OF TYPICAL MONITORING WELL**

After US EPA, 1986, RCRA Groundwater Monitoring Technical Enforcement Guidance Document



**CROSS-SECTION OF TYPICAL MONITORING WELL**

**ATTACHMENT 6**  
**SOIL EROSION AND SEDIMENT CONTROL PLAN**

DRAFT

US NAVY NORTHERN DIVISION  
REMEDIAL ACTION CONTRACT (RAC)  
CONTRACT NO. N62472-94-D-0398  
DELIVERY ORDER NO. 0011  
FOSTER WHEELER ENVIRONMENTAL CORPORATION

SOIL EROSION AND SEDIMENT CONTROL PLAN

FOR

LANDFILL EXCAVATION  
AT THE  
MELVILLE NORTH LANDFILL

PORTSMOUTH, RHODE ISLAND

NOVEMBER 1998

Prepared for

U.S. Navy Northern Division

Revision  
0

Date  
1/21/98

Prepared By  
Michael W. Junghans, P.E.

Approved By

Pages Affected  
all

**DRAFT**

**FOSTER WHEELER ENVIRONMENTAL CORPORATION**  
**SOIL EROSION AND SEDIMENT CONTROL PLAN**  
**FOR**  
**LANDFILL EXCAVATION**  
**AT THE**  
**MELVILLE NORTH LANDFILL**  
**PORTSMOUTH, RHODE ISLAND**  
**NOVEMBER 1998**

**Prepared for**  
**U.S. Navy Northern Division**

Prepared Under the Supervision of:

---

Michael W. Junghans, P.E.

Date: June 1998  
New Jersey P.E. License No. 39877

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- C Calculation (*Runoff Analysis by the Rational Formula*)
- D Reference Drawings
- E Reference Specifications
- F Construction Schedule

## **1. INTRODUCTION**

Foster Wheeler Environmental Corporation (Foster Wheeler Environmental) respectfully submits this Soil Erosion and Sediment Control Plan (SESCP) to the Department of the Navy in response to the Delivery Order entitled "Melville North Landfill Waste Removal and Disposal" located at the Melville NETC Newport, Portsmouth, Rhode Island. The purpose of the SESCO is to describe the methodology to minimize sediment runoff in storm water discharge from the subject site during construction activities. All sediment and erosion control measures are described herein. The activities described in this plan will be conducted as part of the tasks required by the Department of the Navy under Contract No. N62472-94-D-0398, Delivery Order No. 0011.

## **2. PROJECT DESCRIPTION**

### **2.1 SITE HISTORY**

The site is approximately 10 acres in size and was used as a landfill from World War II until 1955. The site was excecised to the State of Rhode Island in September 1983, and was sold to Melville Marine Industries six months later. Since ownership of the site was transferred to the State of Rhode Island prior to NETC being placed on the National Priorities List (NPL) in November 1989, remediation activities at the landfill will be performed in accordance with the Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations).

### **2.2 EXISTING CONDITIONS**

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### 2.3 CONSTRUCTION ACTIVITIES

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The contaminated soil is located in three areas of the site, as identified in Drawing \$\$\$\$. Soil removal is estimated as 7,000 cy from Excavation No. 1; 28,900 cy from Excavation No. 2; and 300 cy from Excavation No. 3. Soils from Excavations Nos. 1 and 2 are contaminated both above and below the groundwater table. No contaminated soils are expected from below the groundwater table at Excavation No. 3.

Excavated soils will be transported to a temporary staging/stockpiling area that will be constructed at Tank Farm 4 (Drawing \$\$\$). Segregated piles from each excavation will then be characterized by laboratory sampling to determine disposal requirements. Stockpiled material will be placed in a bermed areas as presented in Drawing \$\$\$ to prevent run-on and runoff of storm water. Stock piles will also be covered using tarps to prevent mixing with rainwater. Bermed containment areas will be constructed of a using a perimeter earth berm being a minimum of two feet in height. The area will be covered with 40 mil seamed HDPE lined keyed into the summit of the earth berm. Typical sections and details of the proposed earth berms are presented on attached Drawing \$\$\$\$. Rain water will be collected in a depressed area of the berm where it will be removed via vacuum tanker truck at transported to appropriate disposal location.

### 2.4 SOIL INFORMATION

The site soil generally consists three distinct unconsolidated geological units overlying bedrock. The units, in ascending order include: 1). deposited fill consisting of debris and soil cover; 2). stratified drift ; and 3). glacial till. Bedrock is a fine grained metamorphic rock described as foliated graphitic rock including slate, phyllite and schist.

The average thickness of deposited fill material is approximately 4 feet with a maximum thickness of 8 feet. The stratified drift material consists mainly of stratified sand with varying amounts of silt and gravel. Peat is also intermittently through the site at the north and central portions of the landfill.

### **3. SITE DRAINAGE**

(LATER)

### **4. EROSION AND SEDIMENT CONTROL MEASURES**

Soil erosion and sediment control on this project will be conducted in accordance with the Rhode Island Sediment and Erosion Control Manual. The guidelines will be followed through the use of silt fence, hay bales, erosion control matting, riprap, seeding and mulching, and other means. All control measures will comply with Specification Section 02700 - "Erosion Protection and Storm Drainage", Appendix E.

#### **4.1 TEMPORARY EROSION AND SEDIMENT CONTROL**

##### **4.1.1 Silt Fence**

Silt fence will be utilized as a temporary sedimentation control device during construction. Silt fence will be installed to intercept sheet flow from the site and will be located as shown on Drawing \$\$\$, Appendix \$\$\$.

##### **4.1.2 Rock Check Dams and Earth Dikes**

Rock check dams will be utilized within the swales prior to the establishment of adequate vegetation. Rock check dams will be constructed in accordance with Rhode Island Department of Transportation Specification Section 207. Rock check dams will be placed at 100-foot intervals within the swale, but in no case shall they be spaced so that the toe of the upstream dam is higher than the top of the downstream dam. Hay bales may also be installed on 30-foot centers in the drainage swales to act as check dams. Hay bale check dams, if used, will be temporary and will be inspected and maintained during routine erosion and sediment control inspections. Hay bales will be toed to a depth of 3 to 4 inches and all weeds/weed seeds will be removed from the hay bales so that the native grasses and wetland vegetation will establish itself, or other measures will be taken. If erosion of the 3H:1V or steeper side slopes becomes a problem during construction, earth dikes may be constructed at the top of the slope to control run-off. Flexible slope drain pipe will be used to discharge concentrated flow behind earth dikes. All slope drains will have adequate inlet and outlet protection, and will be secured to the slope.

#### **4.1.3 Temporary Seeding and Mulching**

Temporary seeding and mulching will be used to stabilize disturbed areas where construction activity has been temporarily or permanently ceased for a period greater than 14 days, unless the construction activity in the area will resume within 21 days. Organic mulches will be used during mulching operations according to the Rhode Island SESCH guidelines.

#### **4.1.4 Construction Entrance Stabilization**

A 6-inch thick (minimum), crushed stone platform will be installed at the site exit(s) to remove soil from the tires of construction traffic before exiting onto Defense Highway. The crushed stone platform will be underlain by a non-woven geotextile for stabilization. The stone for the platform will be 2-inch crushed stone conforming to the requirements of Column II in Table 1 of Section M.01.09 of the Rhode Island Department of Transportation Standard Specifications. The plan location and details of the stabilized construction entrance are shown on Drawing \$\$\$, Appendix D. Defense Highway will be swept or scraped, as necessary, to remove any excess dirt, mud, or rock tracked from the construction site.

#### **4.1.5 Turbidity Barrier**

Prior to construction of the breakwater, a heavy duty floating turbidity barrier will be placed adjacent to the waterfront excavation area to limit siltation of the harbor during construction activities. The turbidity barrier will be high visibility yellow and will extend the full depth of water at high tide. See Detail \$\$\$ on Drawing \$\$\$, Appendix \$\$\$.

#### **4.1.6 Dust Control**

Dust control will be maintained on site throughout the duration of the cap construction activities. Many of the temporary erosion control measures will aid in dust suppression, such as temporary grassing, mulching, and the construction entrance stabilization. Water spraying will be used to reduce the generation of dust during construction, and is expected to generate little, if any, run-off from the site. The frequency of water spraying will be dependent upon the weather conditions at the site.

### **4.2 PERMANENT EROSION AND SEDIMENT CONTROL**

#### **4.2.1 Permanent Seeding and Planting**

Permanent seeding of grass and planting of shrubs and trees will be used over the final graded surface to reduce sediment runoff and increase infiltration. Seeding will commence within 14 days following

cessation of construction. Drawing \$\$\$, Appendix \$\$\$, presents the final planting plan for the site. All planting and seeding will be performed in accordance with Specification Section 02950 - "Landscaping," Appendix E. Mulch will be applied around plantings and on all seeded areas. Mulch will be applied to the seeded swales and other areas, as necessary.

**4.2.2 Dredging**

(LATER)

**5. INSPECTION AND MAINTENANCE**

**5.1 SHORT TERM MAINTENANCE**

Maintenance of the temporary erosion and sediment controls during the course of the construction work will be performed by Foster Wheeler Environmental. A copy of the SESCO will be kept on site at all times for the duration of construction activities. Routine inspections will be performed to assure that erosion and sediment control measures are effective (see attached form, Appendix \$\$\$). Section 212 of the Rhode Island Department of Transportation Specifications will be used as a guideline during the routine inspections. All controls will be inspected on a weekly basis and within 24 hours after any storm event that generates at least 0.25 inches of rainfall in a 24-hour period. The inspections will include checking the silt fence for structural integrity, siltation, and undermining; checking rock check dams for silt accumulation and for proper spacing between check dams; and inspecting the diversion ditches for structural integrity and soil erosion. Significant releases of sediment to off site receiving waters will be reported to RIDEM. The reporting requirements for and the definition of a significant release of sediment will be worked out, and agreed to, by RIDEM. All measures taken to clean up the discharge and steps taken to prevent future releases will also be reported to RIDEM.

Sediment will be removed from erosion and sediment control structures when it has accumulated to a point where the control structures would be ineffective during the next storm event. Sediment removed from the temporary controls will be collected and stockpiled for placement in the landfill subgrade. Sediment temporarily stockpiled on site will be placed in such areas and in such a manner as to minimize wash-off of sediments back into the site drainage system. Silt fence, and hay bales may be used in minimizing wash-off. Before covering the last of the subgrade, sediment deposits will be removed from erosion control features and placed in the landfill subgrade.

Areas of the site that have been permanently seeded will be inspected regularly after seed germination to ensure complete coverage of exposed areas. Temporary erosion and sediment controls will be removed once the disturbed areas have been stabilized.

## **5.2 LONG TERM MAINTENANCE**

(LATER)

## **5.3 PLAN MODIFICATION AND RECORD KEEPING**

Should routine inspection indicate that this plan requires modification to prevent discharge of pollutants from the site, the plan modification and implementation of modified controls will be done within 7 days of the inspection that identified the deficiency.

Records relating to the implementation of the Soil Erosion and Sediment Control Plan will be maintained for 5 years following final stabilization of the site

## **6. SPILL CONTROL AND RESPONSE**

Possible spills include diesel fuel and hydraulic fluid from trucks and heavy equipment operating on site. These and other small hazardous spills/environmental releases will be contained as close to the source as possible. An exclusion zone around the spill area will be established. The material safety data sheets will be consulted to assist in determining the best means of containment and cleanup. For small spills, sorbent materials such as sand, sawdust or commercial sorbents will be placed directly on the substance to contain the spill and aid recovery. Any acid spills will be neutralized prior to attempting recovery. Berms of earthen or sorbent materials will be used to contain the leading edge of the spills. Drainage ways will be blocked to prevent spilled material from leaving the site and entering the harbor. Spill containment materials and recovered spilled material will be properly disposed. The following will be the responsibility of the Emergency Coordinator:

- Determine the nature of major spill components.
- Make sure all unnecessary persons are removed from the spill area.
- Notify appropriate response teams and authorities.
- Prescribe PPE in accordance with the Site-Specific Health and Safety Plan.

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- If a flammable liquid, gas, or vapor is involved, remove all ignition sources and use non-sparking and/or explosive proof equipment to contain or clean up the spill (diesel only vehicles, pumps, etc.)
- Try to stop the leak with appropriate material.
- Remove all surrounding materials that can react or compound with the spill.

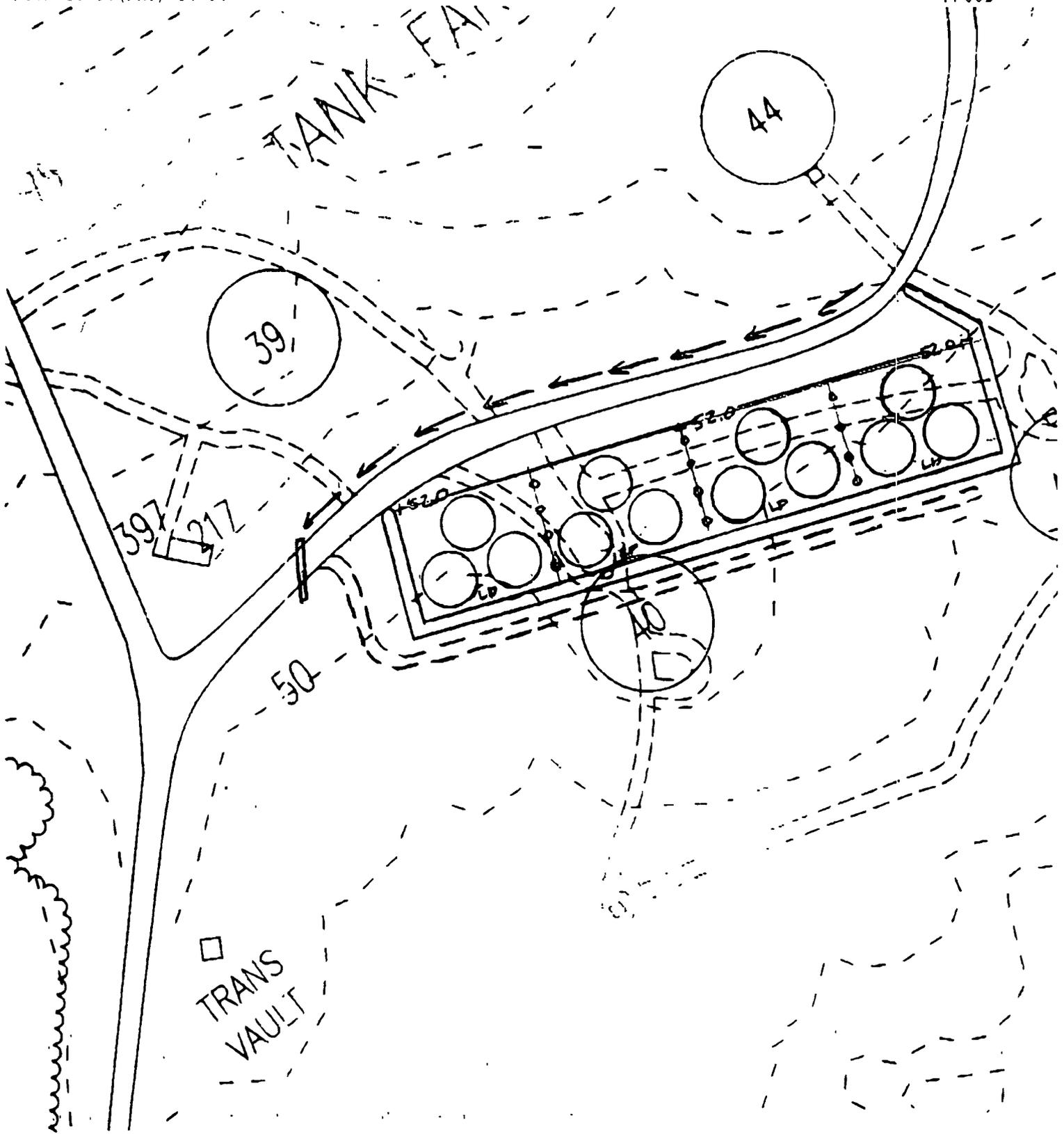
## **7. WASTE DISPOSAL**

Waste material of all types will be disposed of in a manner consistent with federal, state, and local laws and/or regulations.

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**APPENDIX A**

**FIGURES**



**FOSTER WHEELER ENVIRONMENTAL CORPORATION**

BY M. Janshans DATE 11/13/98

SHEET 1 OF 3

CHKD. BY \_\_\_\_\_ DATE \_\_\_\_\_

OFS NO. \_\_\_\_\_ DEPT. NO. \_\_\_\_\_

CLIENT Dept of The Navy

PROJECT Milville North Landfill

SUBJECT EXCAVATED MATERIAL STAGING AREA - CONCEPTUAL DESIGN

FOSTER WHEELER ENVIRONMENTAL CORPORATION

BY M. LANGRISH DATE 11/13/98

CHKD. BY \_\_\_\_\_ DATE \_\_\_\_\_

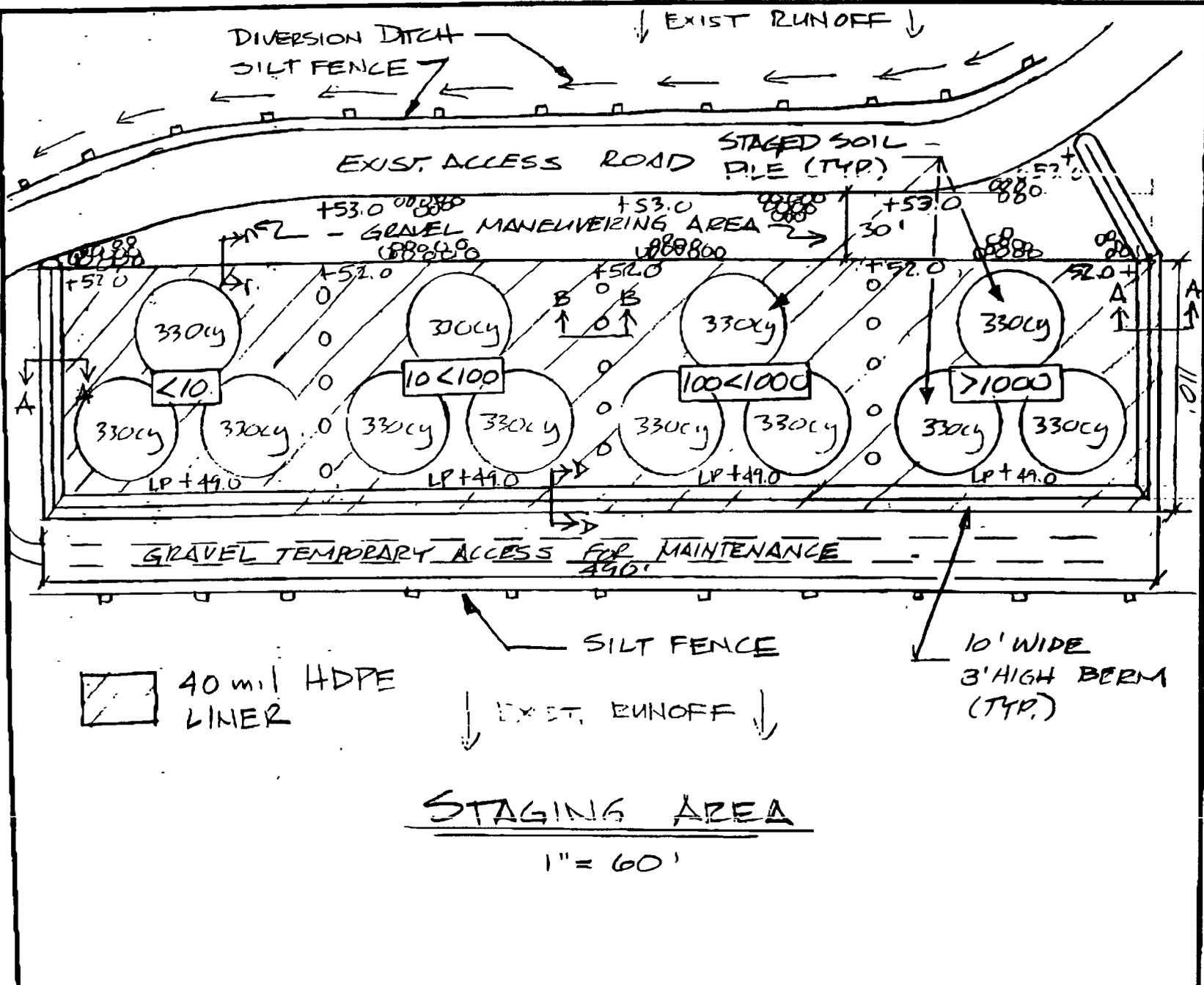
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CLIENT Dept of The Navy

PROJECT McCall's North Island

SUBJECT EXCAVATED MATERIAL STAGING AREA - CONCEPTUAL DESIGN



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# FOSTER WHEELER ENVIRONMENTAL CORPORATION

BY M. JUNGKAS DATE 11/13/98

SHEET 3 OF 3

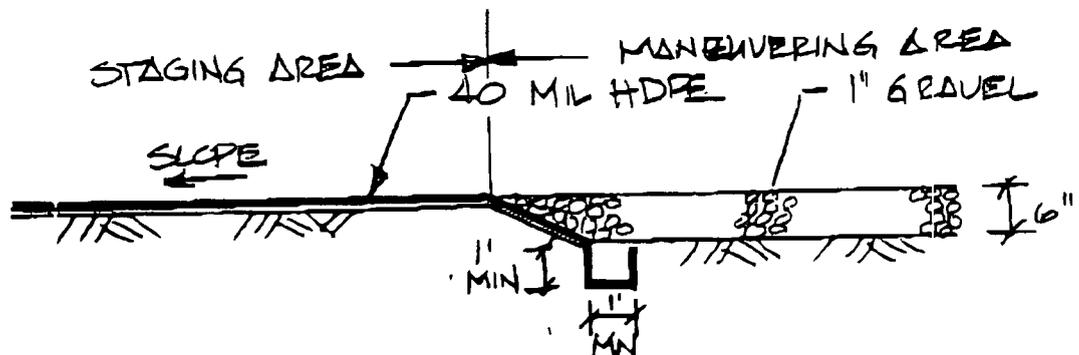
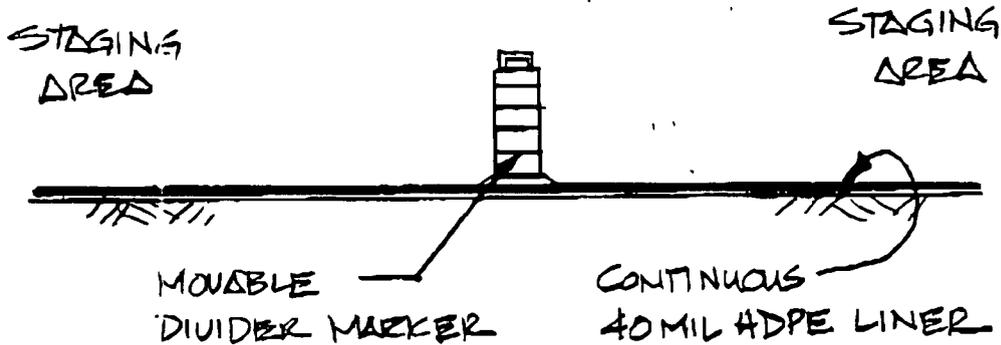
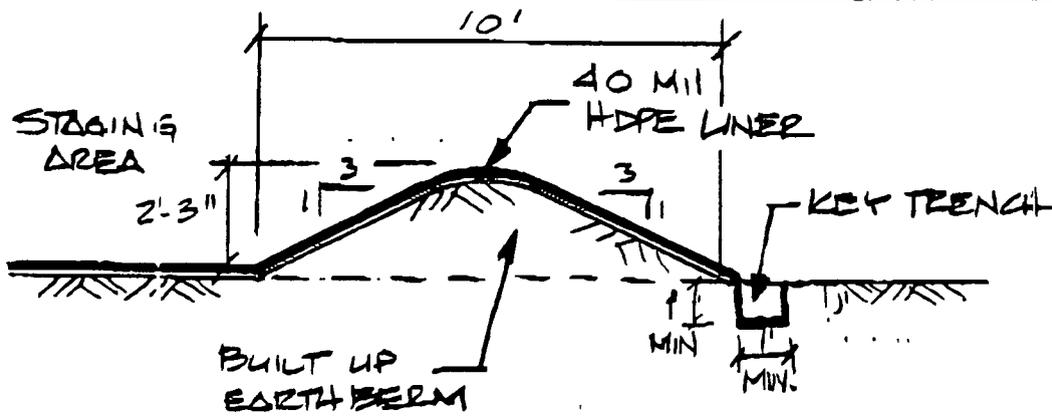
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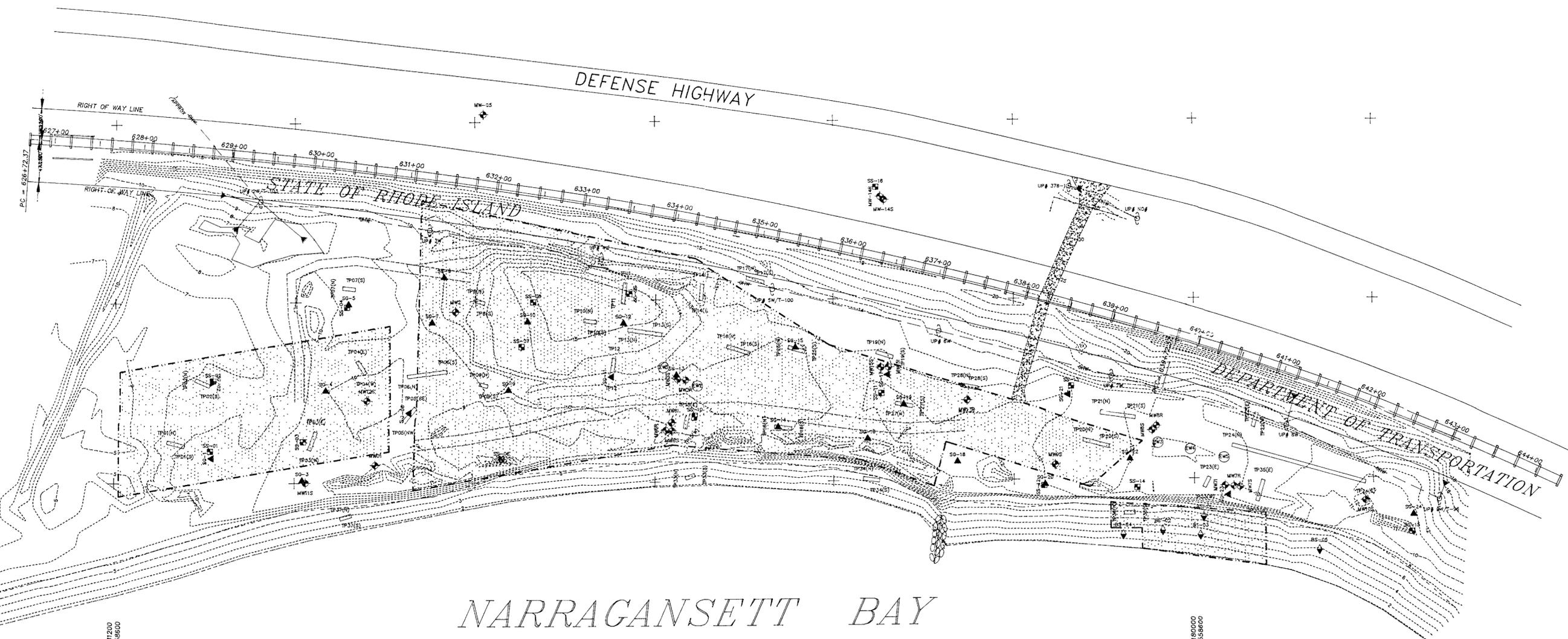
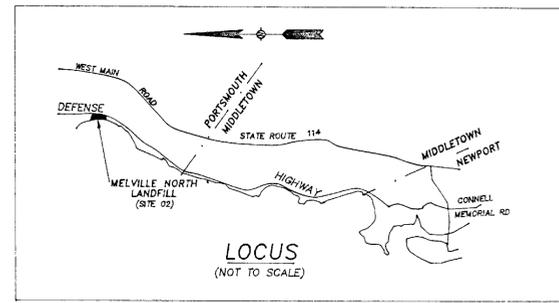
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CLIENT Dept of the Navy

PROJECT Melville North Landfill

SUBJECT EXCAVATED MATERIAL STAGING - CONCEPTUAL DESIGN





NARRAGANSETT BAY

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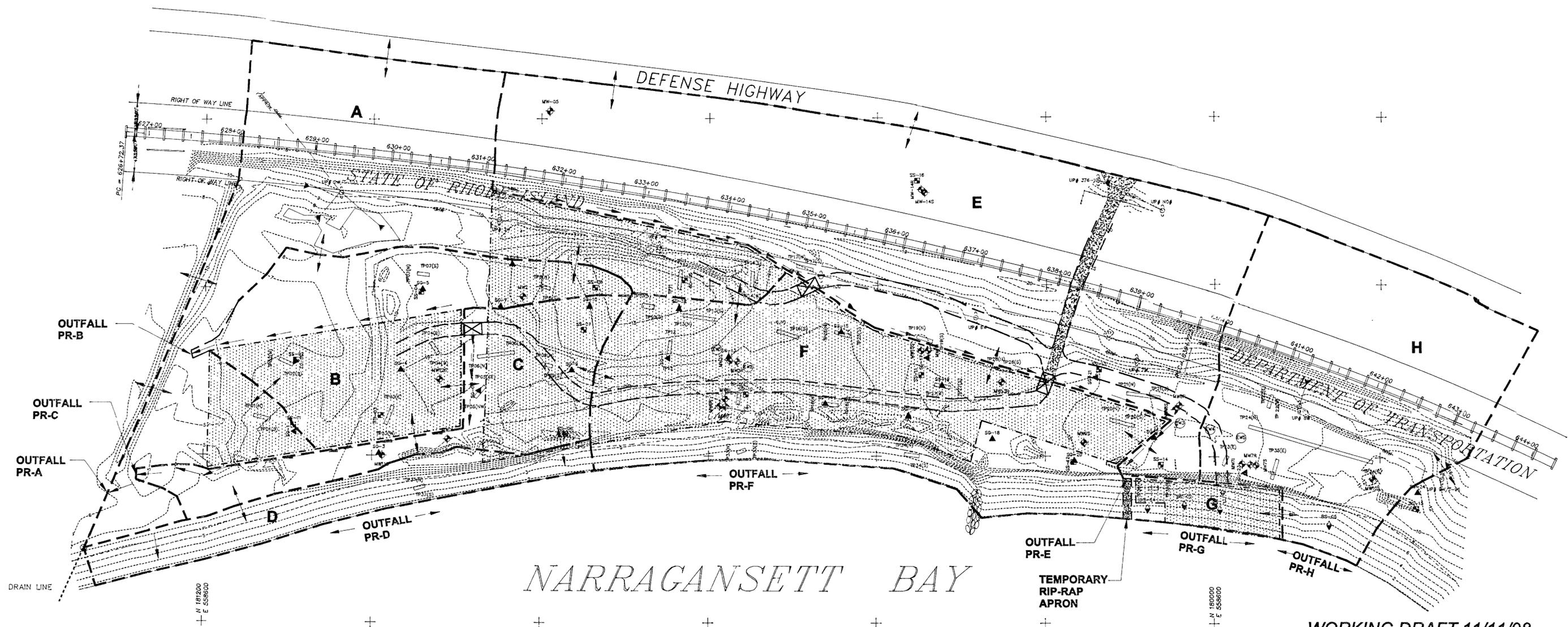
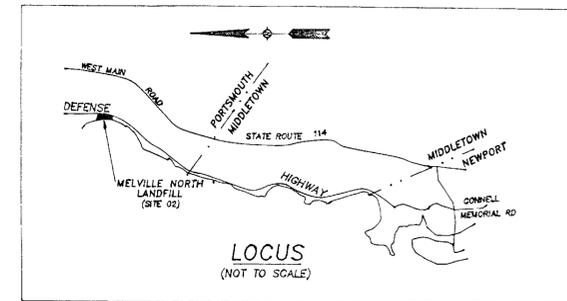
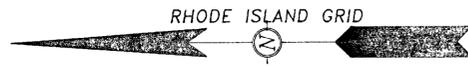
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CONSTRUCTION OF THE PROJECT

MELVILLE NORTH LANDFILL				
NAVAL EDUCATION TRAINING CENTER PORTSMOUTH, RHODE ISLAND				
LIMITS OF EXCAVATION				
<b>FOSTER WHEELER ENVIRONMENTAL CORPORATION</b> LIVINGSTON, NEW JERSEY				
DEPT	DESIGNED	PREPARED	CHECKED	APPROVED
CE		J.R.		
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1"=60'-0"				

CAD FILE NAME: ME1199A.DWG DATE: 11/11/98  
PLOT SCALE: 1"=60' TIME: 10:55 AM

REV	REVISION DESCRIPTION	PREPARED	CHECKED	APPROVED	DATE



WORKING DRAFT 11/11/98

- LEGEND:**
- DITCH CROSSING
  - CONST. ROADS
  - DRAINAGE DIVIDE
  - DIVERSION DITCH
  - LIMITS OF EXCAVATION

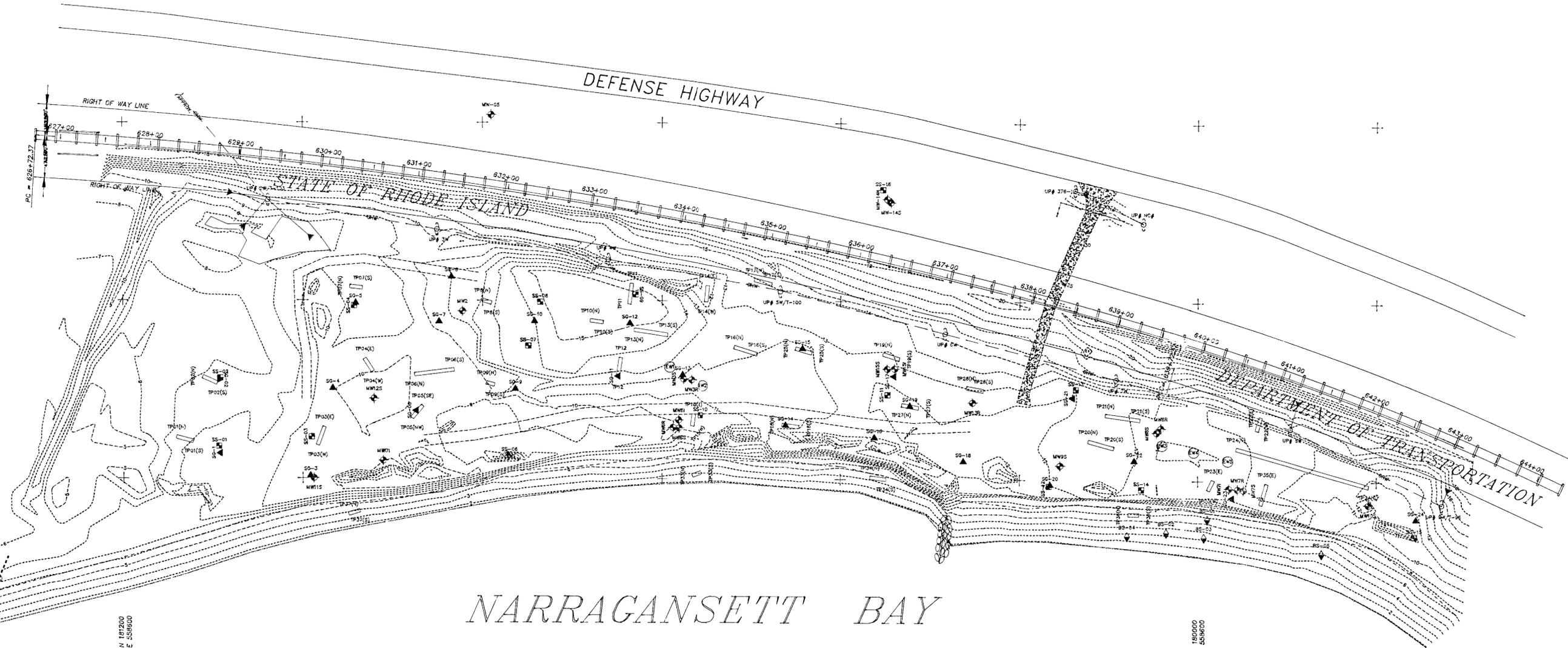
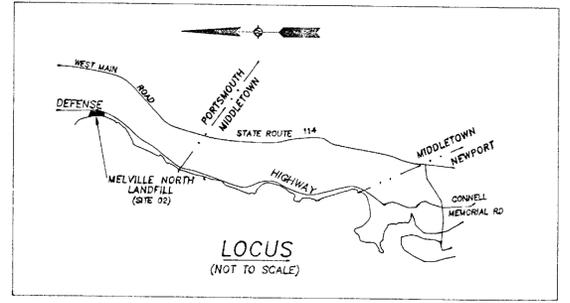
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CONSTRUCTION OF THE PROJECT"

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NAVAL EDUCATION TRAINING CENTER PORTSMOUTH, RHODE ISLAND					
PROPOSED STORM WATER MANAGEMENT					
FOSTER WHEELER ENVIRONMENTAL CORPORATION LIVINGSTON, NEW JERSEY					
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- 5--- CONTOUR
- ROAD EDGE
- TRASH LINE
- WATER EDGE
- ○ ○ ○ ○ STONE JETTY
- CONCRETE MONUMENT
- ○ ○ ○ ○ GPS LOCATION
- ○ ○ ○ ○ CHAIN LINK FENCE
- x---x--- POST & WIRE FENCE
- DRAIN PIPE
- ⊗ DRAIN MANHOLE
- TP-24N TEST PIT LOCATION
- ▲ SS-07 SOIL SURFACE SAMPLE LOCATION
- ▲ SG-18 SOIL GAS SAMPLE LOCATION
- ▲ MW2R MONITORING WELL
- ▲ EW2R EXTRACTION WELL LOCATION
- ▲ BS-04 BREAKOUT SAMPLE LOCATION
- OHW --- OVER HEAD WRES
- UP# 7W ○ UTILITY POLE
- GUY WIRE

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MELVILLE NORTH LANDFILL

NAVAL EDUCATION TRAINING CENTER  
PORTSMOUTH, RHODE ISLAND

Existing Site Conditions

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LIVINGSTON, NEW JERSEY

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**APPENDIX B**

**INSPECTION FORM FOR EROSION CONTROL STRUCTURES**

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**US NAVY NORTHERN DIVISION  
REMEDIAL ACTION CONTRACT (RAC)  
CONTRACT NO. N62472-94-D-0398  
DELIVERY ORDER NO. 0011  
FOSTER WHEELER ENVIRONMENTAL CORPORATION**

**SOIL EROSION AND SEDIMENT CONTROL PLAN**

**FOR**

**LANDFILL EXCAVATION  
AT THE  
MELVILLE NORTH LANDFILL**

**PORTSMOUTH, RHODE ISLAND**

**NOVEMBER 1998**

**Prepared for**

**U.S. Navy Northern Division**

Revision  
0

Date  
1/21/98

Prepared By  
Michael W. Junghans, P.E.

Approved By

Pages Affected  
all

**DRAFT**

**FOSTER WHEELER ENVIRONMENTAL CORPORATION**  
**SOIL EROSION AND SEDIMENT CONTROL PLAN**  
**FOR**  
**LANDFILL EXCAVATION**  
**AT THE**  
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**PORTSMOUTH, RHODE ISLAND**  
**NOVEMBER 1998**

**Prepared for**  
**U.S. Navy Northern Division**

Prepared Under the Supervision of:

---

Michael W. Junghans, P.E.

Date: June 1998  
New Jersey P.E. License No. 39877

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2.2 EXISTING CONDITIONS.....	1
2.3 CONSTRUCTION ACTIVITIES .....	2
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- A Figures
- B Inspection Form for Erosion Control Structures
- C Calculation (*Runoff Analysis by the Rational Formula*)
- D Reference Drawings
- E Reference Specifications
- F Construction Schedule

## **1. INTRODUCTION**

Foster Wheeler Environmental Corporation (Foster Wheeler Environmental) respectfully submits this Soil Erosion and Sediment Control Plan (SESCP) to the Department of the Navy in response to the Delivery Order entitled "Melville North Landfill Waste Removal and Disposal" located at the Melville NETC Newport, Portsmouth, Rhode Island. The purpose of the SESCO is to describe the methodology to minimize sediment runoff in storm water discharge from the subject site during construction activities. All sediment and erosion control measures are described herein. The activities described in this plan will be conducted as part of the tasks required by the Department of the Navy under Contract No. N62472-94-D-0398, Delivery Order No. 0011.

## **2. PROJECT DESCRIPTION**

### **2.1 SITE HISTORY**

The site is approximately 10 acres in size and was used as a landfill from World War II until 1955. The site was excecised to the State of Rhode Island in September 1983, and was sold to Melville Marine Industries six months later. Since ownership of the site was transferred to the State of Rhode Island prior to NETC being placed on the National Priorities List (NPL) in November 1989, remediation activities at the landfill will be performed in accordance with the Rhode Island Rules and Regulations for the Investigation and Remediation of Hazardous Material Releases (Remediation Regulations)

### **2.2 EXISTING CONDITIONS**

NETC is located in the City of Newport, and Towns of Middletown and Portsmouth, Rhode Island on the western shore of Aquidneck Island facing the east passage of Narragansett Bay. The Melville North Landfill site is located in the northwest portion of NETC on the shoreline of Narragansett Bay in the Town of Portsmouth. Access to the Melville North Landfill site is from Defense Highway. The site is bound to the west by Narragansett Bay, to the east by the Penn Central railroad tracks and Defense Highway, to the north by vegetated wetlands, and to the south by a wooded upland area. The topography of the site is relatively flat with elevation drops between 5 and 10 feet along the shoreline and an increase in elevation between 5 and 10 feet along Defense Highway.

### 2.3 CONSTRUCTION ACTIVITIES

The proposed remedy at the Melville North Landfill includes excavating approximately 40,000 cubic yards (cy) of contaminated soil, stockpiling the soil for characterization, and treating/disposing the soil at an approved off-site facility.

The contaminated soil is located in three areas of the site, as identified in Drawing \$\$\$\$. Soil removal is estimated as 7,000 cy from Excavation No. 1; 28,900 cy from Excavation No. 2; and 300 cy from Excavation No. 3. Soils from Excavations Nos. 1 and 2 are contaminated both above and below the groundwater table. No contaminated soils are expected from below the groundwater table at Excavation No. 3.

Excavated soils will be transported to a temporary staging/stockpiling area that will be constructed at Tank Farm 4 (Drawing \$\$\$). Segregated piles from each excavation will then be characterized by laboratory sampling to determine disposal requirements. Stockpiled material will be placed in a bermed areas as presented in Drawing \$\$\$ to prevent run-on and runoff of storm water. Stock piles will also be covered using tarps to prevent mixing with rainwater. Bermed containment areas will be constructed of a using a perimeter earth berm being a minimum of two feet in height. The area will be covered with 40 mil seamed HDPE lined keyed into the summit of the earth berm. Typical sections and details of the proposed earth berms are presented on attached Drawing \$\$\$\$. Rain water will be collected in a depressed area of the berm where it will be removed via vacuum tanker truck at transported to appropriate disposal location.

### 2.4 SOIL INFORMATION

The site soil generally consists three distinct unconsolidated geological units overlying bedrock. The units, in ascending order include: 1). deposited fill consisting of debris and soil cover; 2). stratified drift ; and 3). glacial till. Bedrock is a fine grained metamorphic rock described as foliated graphitic rock including slate, phyllite and schist.

The average thickness of deposited fill material is approximately 4 feet with a maximum thickness of 8 feet. The stratified drift material consists mainly of stratified sand with varying amounts of silt and gravel. Peat is also intermittently through the site at the north and central portions of the landfill.

### 3. SITE DRAINAGE

(LATER)

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Soil erosion and sediment control on this project will be conducted in accordance with the Rhode Island Sediment and Erosion Control Manual. The guidelines will be followed through the use of silt fence, hay bales, erosion control matting, riprap, seeding and mulching, and other means. All control measures will comply with Specification Section 02700 - "Erosion Protection and Storm Drainage", Appendix E.

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Temporary seeding and mulching will be used to stabilize disturbed areas where construction activity has been temporarily or permanently ceased for a period greater than 14 days, unless the construction activity in the area will resume within 21 days. Organic mulches will be used during mulching operations according to the Rhode Island SESCH guidelines.

#### **4.1.4 Construction Entrance Stabilization**

A 6-inch thick (minimum), crushed stone platform will be installed at the site exit(s) to remove soil from the tires of construction traffic before exiting onto Defense Highway. The crushed stone platform will be underlain by a non-woven geotextile for stabilization. The stone for the platform will be 2-inch crushed stone conforming to the requirements of Column II in Table 1 of Section M.01.09 of the Rhode Island Department of Transportation Standard Specifications. The plan location and details of the stabilized construction entrance are shown on Drawing \$\$\$, Appendix D. Defense Highway will be swept or scraped, as necessary, to remove any excess dirt, mud, or rock tracked from the construction site.

#### **4.1.5 Turbidity Barrier**

Prior to construction of the breakwater, a heavy duty floating turbidity barrier will be placed adjacent to the waterfront excavation area to limit siltation of the harbor during construction activities. The turbidity barrier will be high visibility yellow and will extend the full depth of water at high tide. See Detail \$\$\$ on Drawing \$\$\$, Appendix \$\$\$.

#### **4.1.6 Dust Control**

Dust control will be maintained on site throughout the duration of the cap construction activities. Many of the temporary erosion control measures will aid in dust suppression, such as temporary grassing, mulching, and the construction entrance stabilization. Water spraying will be used to reduce the generation of dust during construction, and is expected to generate little, if any, run-off from the site. The frequency of water spraying will be dependent upon the weather conditions at the site.

### **4.2 PERMANENT EROSION AND SEDIMENT CONTROL**

#### **4.2.1 Permanent Seeding and Planting**

Permanent seeding of grass and planting of shrubs and trees will be used over the final graded surface to reduce sediment runoff and increase infiltration. Seeding will commence within 14 days following

cessation of construction. Drawing \$\$\$, Appendix \$\$\$, presents the final planting plan for the site. All planting and seeding will be performed in accordance with Specification Section 02950 - "Landscaping," Appendix E. Mulch will be applied around plantings and on all seeded areas. Mulch will be applied to the seeded swales and other areas, as necessary.

#### **4.2.2 Dredging**

(LATER)

### **5. INSPECTION AND MAINTENANCE**

#### **5.1 SHORT TERM MAINTENANCE**

Maintenance of the temporary erosion and sediment controls during the course of the construction work will be performed by Foster Wheeler Environmental. A copy of the SESCO will be kept on site at all times for the duration of construction activities. Routine inspections will be performed to assure that erosion and sediment control measures are effective (see attached form, Appendix \$\$\$). Section 212 of the Rhode Island Department of Transportation Specifications will be used as a guideline during the routine inspections. All controls will be inspected on a weekly basis and within 24 hours after any storm event that generates at least 0.25 inches of rainfall in a 24-hour period. The inspections will include checking the silt fence for structural integrity, siltation, and undermining; checking rock check dams for silt accumulation and for proper spacing between check dams; and inspecting the diversion ditches for structural integrity and soil erosion. Significant releases of sediment to off site receiving waters will be reported to RIDEM. The reporting requirements for and the definition of a significant release of sediment will be worked out, and agreed to, by RIDEM. All measures taken to clean up the discharge and steps taken to prevent future releases will also be reported to RIDEM.

Sediment will be removed from erosion and sediment control structures when it has accumulated to a point where the control structures would be ineffective during the next storm event. Sediment removed from the temporary controls will be collected and stockpiled for placement in the landfill subgrade. Sediment temporarily stockpiled on site will be placed in such areas and in such a manner as to minimize wash-off of sediments back into the site drainage system. Silt fence, and hay bales may be used in minimizing wash-off. Before covering the last of the subgrade, sediment deposits will be removed from erosion control features and placed in the landfill subgrade.

Areas of the site that have been permanently seeded will be inspected regularly after seed germination to ensure complete coverage of exposed areas. Temporary erosion and sediment controls will be removed once the disturbed areas have been stabilized.

## **5.2 LONG TERM MAINTENANCE**

(LATER)

## **5.3 PLAN MODIFICATION AND RECORD KEEPING**

Should routine inspection indicate that this plan requires modification to prevent discharge of pollutants from the site, the plan modification and implementation of modified controls will be done within 7 days of the inspection that identified the deficiency.

Records relating to the implementation of the Soil Erosion and Sediment Control Plan will be maintained for 5 years following final stabilization of the site.

## **6. SPILL CONTROL AND RESPONSE**

Possible spills include diesel fuel and hydraulic fluid from trucks and heavy equipment operating on site. These and other small hazardous spills/environmental releases will be contained as close to the source as possible. An exclusion zone around the spill area will be established. The material safety data sheets will be consulted to assist in determining the best means of containment and cleanup. For small spills, sorbent materials such as sand, sawdust or commercial sorbents will be placed directly on the substance to contain the spill and aid recovery. Any acid spills will be neutralized prior to attempting recovery. Berms of earthen or sorbent materials will be used to contain the leading edge of the spills. Drainage ways will be blocked to prevent spilled material from leaving the site and entering the harbor. Spill containment materials and recovered spilled material will be properly disposed. The following will be the responsibility of the Emergency Coordinator:

- Determine the nature of major spill components.
- Make sure all unnecessary persons are removed from the spill area.
- Notify appropriate response teams and authorities.
- Prescribe PPE in accordance with the Site-Specific Health and Safety Plan.

- If a flammable liquid, gas, or vapor is involved, remove all ignition sources and use non-sparking and/or explosive proof equipment to contain or clean up the spill (diesel only vehicles, pumps, etc.)
- Try to stop the leak with appropriate material.
- Remove all surrounding materials that can react or compound with the spill.

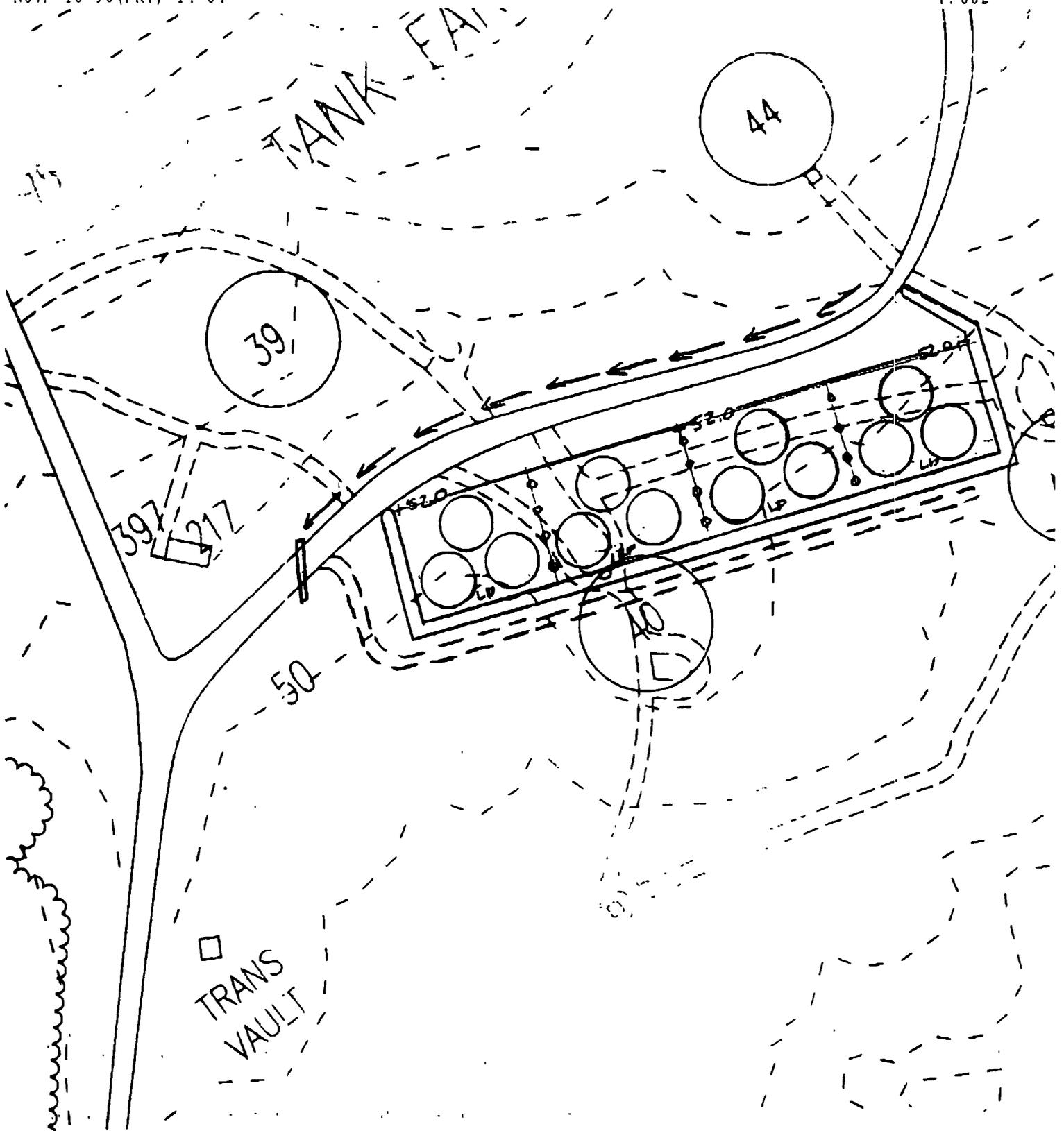
## **7. WASTE DISPOSAL**

Waste material of all types will be disposed of in a manner consistent with federal, state, and local laws and/or regulations.

**DRAFT**

**APPENDIX A**

**FIGURES**



**FOSTER WHEELER ENVIRONMENTAL CORPORATION**

BY M. Jungkans DATE 11/13/98

SHEET 1 OF 3

CHKD. BY \_\_\_\_\_ DATE \_\_\_\_\_

OFS NO. \_\_\_\_\_ DEPT NO \_\_\_\_\_

CLIENT Dept of The Navy

PROJECT Milville North Landfill

SUBJECT EXCAVATED MATERIAL STAGING AREA - CONCEPTUAL DESIGN

FOSTER WHEELER ENVIRONMENTAL CORPORATION

BY M. JUNGKINS DATE 11/13/98

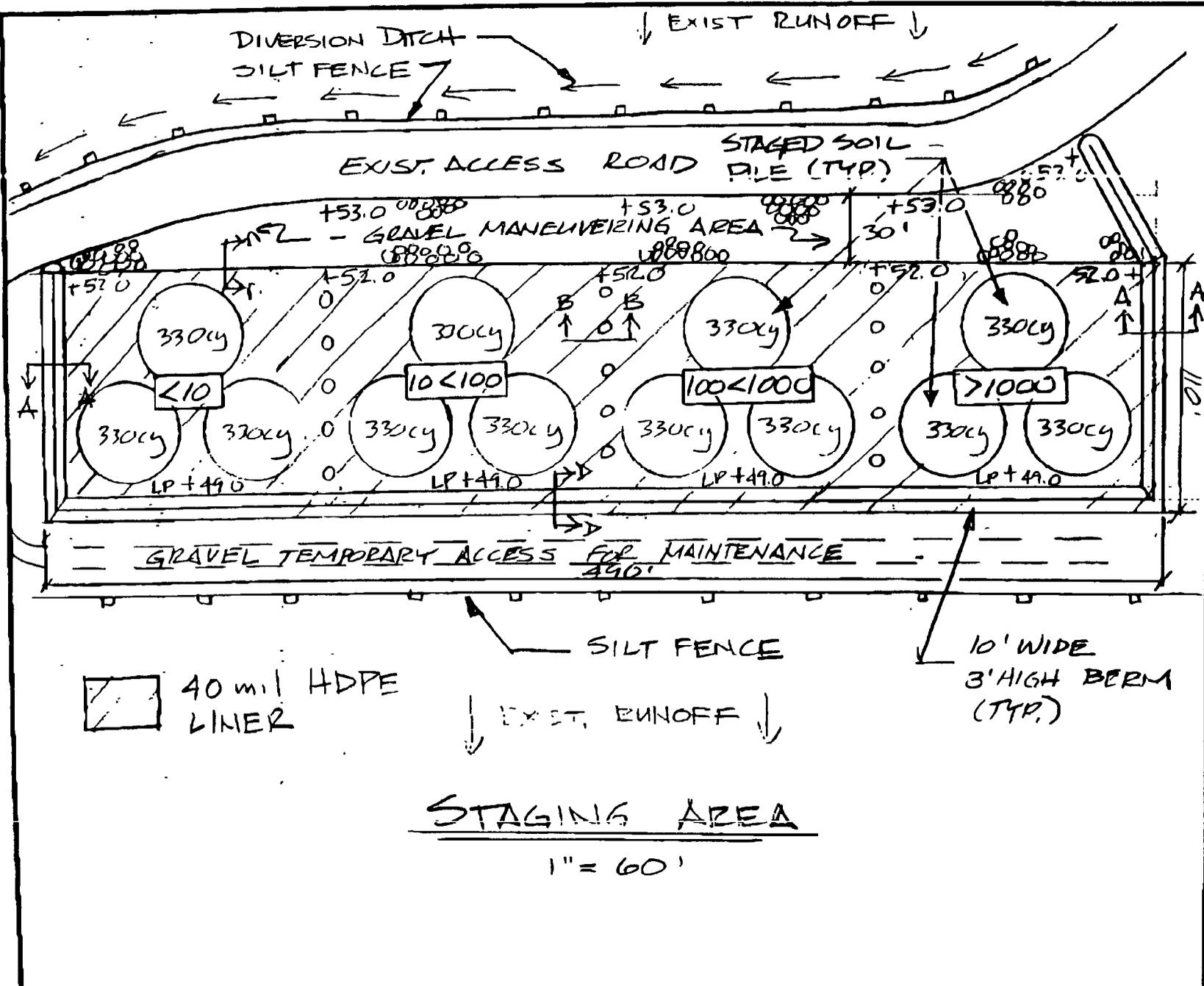
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CLIENT Dept. of The Navy

PROJECT McCall's North Landfill

SUBJECT EXCAVATED MATERIAL STAGING AREA - CONCEPTUAL DESIGN

SHEET 2 OF 3  
DEPT. \_\_\_\_\_  
OFFS NO. \_\_\_\_\_



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FOSTER WHEELER ENVIRONMENTAL CORPORATION

BY M. Langhans DATE 11/13/98

SHEET 3 OF 3

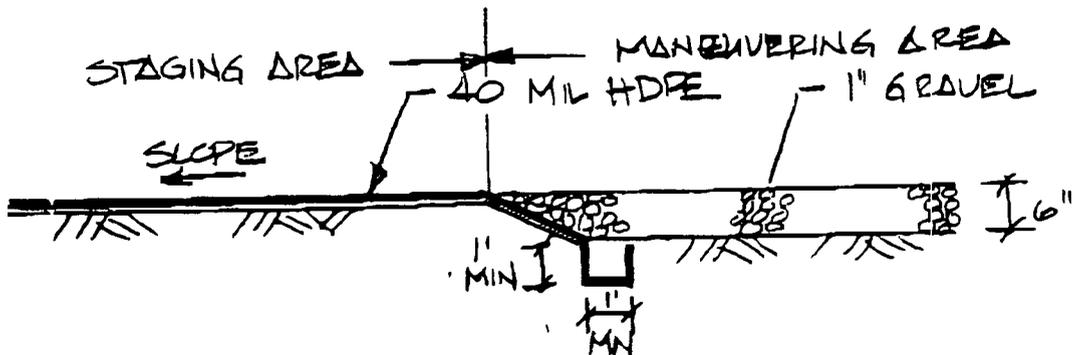
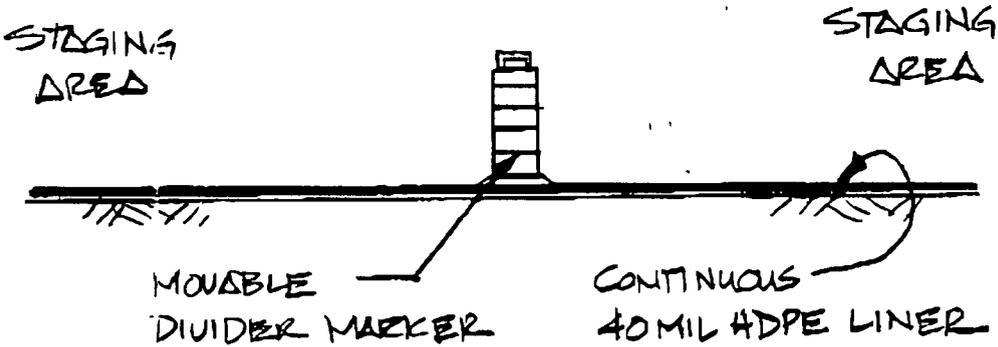
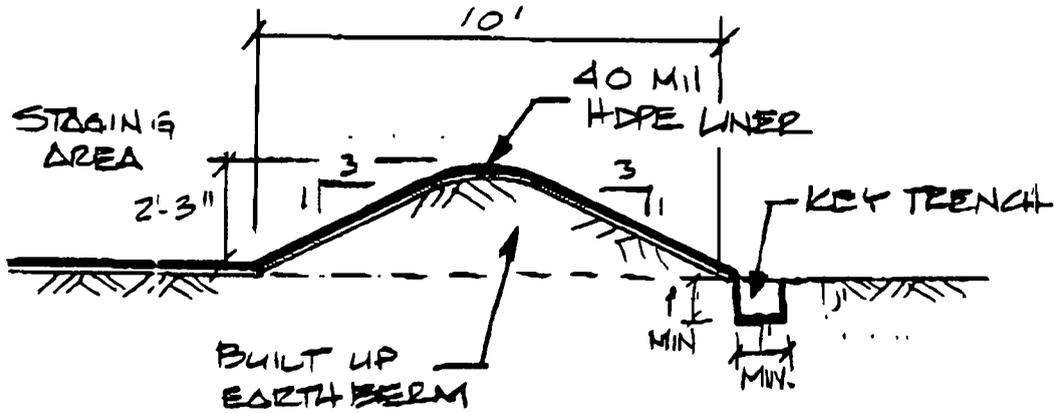
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CLIENT Dept of the Navy

PROJECT Melville North Landfill

SUBJECT EXCAVATED MATERIAL STAGING - CONCEPTUAL DESIGN



**DRAFT**

**APPENDIX B**

**INSPECTION FORM FOR EROSION CONTROL STRUCTURES**

**DRAFT**

**APPENDIX C**  
**CALCULATIONS**

**DRAFT**

**APPENDIX D**

**REFERENCE DRAWINGS**

**DRAFT**

5

## **APPENDIX E**

### **REFERENCE SPECIFICATIONS**

**DRAFT**

**APPENDIX F**

**CONSTRUCTION SCHEDULE**

**DRAFT**

**INSPECTION FORM FOR EROSION CONTROL STRUCTURES  
MELVILLE NORTH LANDFILL  
NETC NEWPORT, RHODE ISLAND**

INSPECTOR \_\_\_\_\_ DATE: \_\_\_\_\_

Location of Control	In Place?	Condition	Sediment-Depth	Washed Out or Overtopped?

MAINTENANCE REQUIRED:

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TO BE PERFORMED BY:

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ON OR BEFORE:

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SIGNATURE:

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