

Draft

Technical Specifications Remedial Action for SWMU 31/32

Naval Station Roosevelt Roads
RCRA/HSWA Permit No. PR2170027203
Ceiba, Puerto Rico



Prepared For
Department of the Navy
Atlantic Division
Naval Facilities Engineering Command
Norfolk, Virginia

Contract No. N62470-95-D-6007
CTO-0033

August 14, 2000

Prepared by



Baker
Environmental, Inc.

CDM
Federal Programs Corp.

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION, NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA

LANTDIV RAC Contract No.
N62470-95-D-6007

REMEDIAL ACTION FOR SWMU 31/32
NAVAL STATION ROOSEVELT ROADS, CEIBA, PUERTO RICO

Designed by:

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Date: _____

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SECTION 01115

GENERAL PARAGRAPHS (REMEDIAL ACTION CONTRACTS)

09/99

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
29 CFR 1926	Safety and Health Regulations for Construction
29 CFR 1926-SUBPART V	Power Transmission and Distribution

CORPS OF ENGINEERS (COE)

COE EP 1110-1-8	(1997) Construction Equipment Ownership and Operating Expense Schedule
COE EM-385-1-1	(1996) Safety and Health Requirements Manual

FEDERAL STANDARDS (FED-STD)

FED-STD-595	(Rev. B) Colors Used in Government Procurement
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MILITARY STANDARDS (MIL-STD)

MIL-STD-461	(Rev. D) Control of Electromagnetic Interference Emissions and Susceptibility
MIL-STD-462	(Rev. D) Measurement of Electromagnetic Interference Characteristics

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 241	(1996) Safeguarding Construction, Alteration, and Demolition Operations
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1.2 SUBMITTALS

Submit the following in accordance with Section C, Part 7.0, of the basic contract.

SD-01 Preconstruction Submittals

Work Plan; G

SD-11 Closeout Submittals

As-Built records; G

Environmental Conditions Report; G

Status reports; G

QC meeting minutes; G

Test Results Summary Report; G

Contractor Production Report; G

QC Report; G

Rework Items List; G

Environmental Quality Board permits; G

Contractor's Closeout Report; G

1.3 WORK PLAN

Submit a Work Plan consisting of the following elements:

- a. Narrative: Provide a brief description of the project objectives, scheduling, construction methods, removal and excavation procedures, and storage, transportation, and treatment requirements; and a detailed sequence of events for the construction, extraction, and treatment methods.
- b. Technical Specifications: Provide, in an amendment format, any additional specifications and any modifications to the contract specifications required to accurately describe the materials and work procedures envisioned to satisfy the requirements of the delivery order. Contact Code 406, Specifications Branch, Engineering and Design Division, LANTNAVFACENCOM, (757) 322-4301, for availability of guide specification sections for those sections required, but not included in the contract documents.
- c. Shop drawings: Shop drawings shall detail and describe components of the project not currently indicated on the contract drawings such that the shop drawings and the contract drawings, when taken together, provide a complete representation of the project requirements. Shop drawings shall be prepared and sealed by a registered professional engineer. Shop drawings shall include:
 - (1) Erosion Control Plan in accordance with State and local regulations.
- d. Environmental Protection Plan: At the preconstruction conference, meet with the Resident Officer in Charge of Construction's (ROICC's) Navy Technical Representative (NTR) to discuss environmental protection requirements for the project. Prepare and submit an Environmental Protection Plan in accordance with Section C, Part 4.0, of the basic contract, and as specified

herein.

(1) Hazardous materials (HM) to be brought onto the station: Any hazardous materials planned for use on the station shall be included in the station Hazardous Material Tracking Program maintained by the safety department. To assist in this effort, the Contractor shall submit a list (including quantities) of HM to be brought to the station and copies of the corresponding material safety data sheets (MSDS). This list shall be submitted to the ROICC NTR. At project completion, any hazardous material brought onto the station shall be removed from the site by the Contractor.

The Contractor shall account for the quantity of HM brought to the station, the quantity used or expended during the job, and the leftover quantity which (1) may have additional useful life as a HM and shall be removed by the Contractor, or (2) may be a hazardous waste, which shall then be removed as specified herein.

(2) Hazardous waste (HW) generated: The Environmental Protection Plan shall list and quantify any HW to be generated during the project.

(3) Storage of hazardous waste: In accordance with station regulations, hazardous waste shall be stored near the point of generation up to a total quantity of one quart of acutely hazardous waste or 55 gallons of hazardous waste. Any volume exceeding these quantities shall be moved to an HW permitted area within 3 days. Prior to generation of HW, contact the ROICC NTR for labeling requirements for storage of hazardous wastes.

(4) Minimization of hazardous waste: In accordance with station regulations, the Contractor should substitute materials as necessary to reduce the generation of HW and include a statement to that effect in the Environmental Plan.

(5) Environmental conditions likely to be encountered during this project: Contact the ROICC NTR for conditions in the area of the project which may be subject to special environmental procedures. Include this information in the Preconstruction Survey. Describe in the Environmental Plan any permits required prior to working the area, and contingency plans in case an unexpected environmental condition is discovered.

(6) Permitting plans for any transportation and disposal, excavation, or construction of hazardous waste that will require an environmental permit from an issuing agency: The Contractor is responsible for generating the permits and delivering the completed documents to the ROICC NTR. The ROICC NTR will review the permits and the Contractor shall file the documents with the appropriate agency and complete disposal with the approval of the ROICC NTR. Correspondence with the State concerning the environmental permits and completed permits shall be delivered to the ROICC NTR.

(7) Environmental Protection Plan format

ENVIRONMENTAL PROTECTION PLAN

Contracting Organization
Address and Phone Numbers

1. Hazardous materials to be brought onto the station
 2. MSDS package
 3. Employee training documentation
 4. HW storage plan
 5. HW to be generated
 6. Preconstruction Survey results
 7. Permitting requirements identified
- e. Health and Safety Plan: Provide a site specific Health and Safety Plan (HASP) in accordance with Section C, Part 3.0, of the basic contract. The HASP shall include, but is not limited to, the following:
- (1) Names of the health and safety officer and names of alternates responsible for health and safety.
 - (2) 29 CFR 1910.
 - (3) 29 CFR 1926.
 - (4) 29 CFR 1926-SUBPART V, tagout and lockout procedures.
 - (5) Contract Clause "FAR 52.236-13, Accident Prevention."
 - (6) Contract Clause "FAR 52.223-3, Hazardous Material Identification and Material Safety Data."
 - (7) NFPA 241.
- f. QC Plan: Provide a QC Plan in accordance with Section C, Part 6.0, of the basic contract, and as specified herein.
- (1) Table of Contents
 - I. QC ORGANIZATION
 - II. NAMES AND QUALIFICATIONS
 - III. DUTIES, RESPONSIBILITY, AND AUTHORITY OF QC PERSONNEL
 - IV. OUTSIDE ORGANIZATIONS
 - V. APPOINTMENT LETTERS
 - VI. SUBMITTAL PROCEDURES AND INITIAL SUBMITTAL REGISTER
 - VII. TESTING LABORATORY INFORMATION
 - VIII. TESTING PLAN AND LOG
 - IX. PROCEDURES TO COMPLETE REWORK ITEMS
 - X. DOCUMENTATION PROCEDURES
 - (2) Submittal Register: As part of the QC Plan, submit a completed Submittal Register to document quality control for materials, inspection, and testing in accordance with Section C, Part 7.0 of the basic contract. A copy of the Submittal Register is provided at the end of this section.
 - (3) Testing laboratory qualifications: As part of the QC Plan, submit qualifications for each laboratory which shall be used in

accordance with Section C, Part 6.0, of the basic contract. Laboratories engaged in hazardous materials testing shall meet the requirements of Section C, Part 6.0 of the basic contract.

- g. Sampling and Analysis Plan: Provide a Sampling and Analysis Plan describing sampling and analyses requirements for the delivery order. The plan shall contain a Field Sampling Plan and a Quality Assurance Plan.

1.3.1 Forwarding Preconstruction Submittals

Within 45 calendar days of issuance of the delivery order, and before procurement, fabrication, or mobilization, submit to the Commander, LANTNAVFACENGCOM, Code 18 Mr. Christopher T. Penny, 1510 Gilbert Street, Norfolk, VA 23511-2699, Architect-Engineer, Baker Environmental, Inc, 420 Rouser Road, Coraopolis, PA 15108, and to distribution as directed by the Code 18 NTR, the Work Plan, complete as specified. The Architect-Engineer shall review the Work Plan for the Code 18 NTR to determine compliance of the Contractor's Work Plan with the requirements of the contract documents for this delivery order.

1.3.2 Review Comments

The Contractor's Work Plan shall be reviewed. The Code 18 NTR shall compile and coordinate Government review comments, and forward consolidated review comments to the Contractor. Review comments on the Work Plan shall be resolved, and Work Plan modified as required. After the correction of the Work Plan, submit one corrected final copy to the Commander, LANTNAVFACENGCOM, Code 18 Mr. Christopher T. Penny, 1510 Gilbert Street, Norfolk, VA 23511-2699 for final review. The Work Plan shall be approved prior to commencement of any other work associated with this delivery order.

1.4 RECORDS

1.4.1 As-Built Records

Maintain two sets of full size contract drawings and two sets of full size approved shop drawings marked to show any deviations which have occurred, including buried or concealed construction and utility features revealed during the course of construction. Record horizontal and vertical locations of buried utilities that differ from the contract drawings. These drawings shall be available for review by the ROICC NTR at any time. At the completion of the work, deliver marked sets of the contract drawings to the ROICC NTR. The Contractor shall indicate on the drawings the locations of confirmation samples. The Contractor shall incorporate shop drawing deviations, and deliver one complete set of the shop drawings to the ROICC NTR.

1.4.2 Environmental Conditions Report

Prior to starting work, perform a preconstruction survey with the ROICC NTR. Take photographs showing existing environmental conditions on and adjacent to the site. Prior to starting work, submit the results of the survey in an Environmental Condition Report to the ROICC NTR.

1.4.3 Contract Management System (CMS)

The CMS shall be a system able to provide, as a minimum, the activities in sorts or groups as specified in the basic contract and any subsequent

delivery orders.

- a. Status reports: Status reports shall comply with the basic contract and any subsequent delivery orders. Submit a Technical Progress Report, Cost Performance Report, modification log, time-scaled logic diagram, and Waste Materials Report. Submit the first delivery order status report approximately 15 days after the end of the month in which the Contractor's Work Plan was approved. Thereafter, submit status reports every 30 days. Status report periods shall be consistent with the invoice reporting periods.

1.4.4 QC Meeting Minutes

The QC representative shall document QC meetings by delivering copies of the minutes to the ROICC NTR within 3 calendar days after each QC meeting. The submittals shall comply with Section C, Part 6.0 of the basic contract.

1.4.5 Test Results Summary Report

A summary report of field tests and laboratory analytical results shall be submitted to the ROICC NTR within 30 days after laboratory receipt of samples and in accordance with Section C, Part 6.0 of the basic contract.

1.4.6 Contractor Production Report (CPR)

The CPR shall be prepared and submitted daily to the ROICC NTR in accordance with Section C, Part 6.0, of the basic contract.

1.4.7 QC Report

The QC Report shall be submitted by the QC representative to the ROICC NTR every day work is performed, material is delivered, direction is pending, or a labor force is present in accordance with Section C, Part 6.0, of the basic contract.

1.4.8 Rework Items List

The QC representative shall deliver a copy of the Rework Items List to the ROICC NTR on a monthly basis in accordance with Section C, Part 6.0, of the basic contract.

1.4.9 Contractor's Closeout Report

Submit upon completion of the project. This report shall include: introduction, summary of action, final Health and Safety Report, summary of record documents, field changes and contract modification, final documents, complete set of field test and laboratory analytical results, complete set of data validation results, documentation of offsite transportation and treatment of materials, QC Summary Report, and final cost data.

1.5 FORWARDING SUBMITTALS

After approval of the work plan, and before procurement or fabrication, submit, except as specified otherwise, to the Commander, LANTNAVFACENCOM, Code 18 Mr. Christopher T. Penny, 1510 Gilbert Street, Norfolk, VA 23511-2699, Architect-Engineer, Baker Environmental, Inc., 420 Rouser Road, Coraopolis, PA 15108, the shop drawings and technical data required in the technical sections of this specification. The Architect-Engineer for this project shall review and provide surveillance for the ROICC NTR to

determine if Contractor-approved submittals comply with the contract requirements, and shall review and approve for the ROICC NTR those submittals not permitted to be Contractor approved to determine if submittals comply with the contract requirements. At each "Submittal" paragraph in the individual specification sections, a notation "G," following a submittal item, indicates the Architect-Engineer, acting as the agent for the ROICC NTR, is the approving authority for that submittal item. One copy of the transmittal form for submittals shall be forwarded to the ROICC NTR.

1.6 PROJECT DESCRIPTION

This work includes the preparation of a work plan as previously described, and the provision of asphalt cap for SWMU 31/32 site restoration, and other related work.

1.7 LOCATION

The work shall be located at Naval Station Roosevelt Roads (NSRR), Ceiba, Puerto Rico approximately as shown. The exact location shall be as indicated by the ROICC NTR.

1.8 DESCRIPTION OF CONTAMINANTS PRESENT

Surface soils at the project sites have been contaminated with Dioxin. Site characterization activities conducted at each site have indicated contaminant levels of dioxin that range from "not detected" to 43.0 ppb. The results of the chemical analyses for the soil borings at each site are indicated in the reference documents. The above list of contaminants may not be all inclusive.

Boring logs for soil borings performed at the project site, during site characterization activities are shown in the referenced documents.

1.9 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK

The Contractor shall be required to (a) commence work on the Work Plan within 5 calendar days after receiving the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 90 calendar days after receiving the notice to proceed. The time stated for completion shall include final cleanup of the premises and the restoration of the site.

1.10 PROJECT INFORMATION

1.10.1 Contract Drawings

Contract drawings are as follows:

<u>DWG No.</u>	<u>EFD DWG. No.</u>	<u>NAVFAC DWG No.</u>	<u>Title</u>
T-1			Cover Sheet and General Notes
C-1			Existing Conditions Plan - SWMU 31/32
C-2			Asphalt Cap Plan - SWMU 31/32
C-3			Civil Details

1.10.2 Reference Reports

The following reference reports are available for examination in the office of the Code 18 NTR and are intended only to show the existing conditions. The reports and drawings are the property of the Government and shall not be used for any purpose other than that intended by the specification.

Reports

- a. "Final Corrective Measures Study Final Report SWMU 31/32, Naval Station Roosevelt Roads, Ceiba, Puerto Rico", Baker Environmental, Inc., April 17, 2000.

1.11 SCHEDULING

The project will remain in operation during the entire construction period. The Contractor shall schedule the work as to cause the least amount of interference with station operations. Work schedules shall be subject to the approval of the ROICC NTR. Permission to interrupt station roads shall be requested in writing a minimum of 15 calendar days prior to the desired date of interruption. Notify the ROICC NTR 48 hours prior to starting excavation.

1.11.1 Regular Work Hours

Regular working hours shall consist of an 8 1/2 hour period established by the ROICC NTR, Monday through Friday, excluding Government holidays.

1.11.2 Work Outside Regular Hours

Work outside regular hours requires ROICC NTR approval. Contractor shall submit an application to the ROICC NTR, 2 regular working days prior to the scheduled working date, to allow ample time to enable satisfactory arrangements to be made by the Government for inspecting the work in progress. At night, the Contractor shall light the different parts of the work in an approved manner.

1.12 SECURITY REQUIREMENTS

The Contractor shall comply with the general security requirements as stipulated in Section C, Part 2.0, of the basic contract. In addition, the Contractor shall comply with the NSRR personnel security requirements.

1.13 STORAGE AND TEMPORARY BUILDINGS

1.13.1 Storage in Existing Buildings

Storage in existing buildings shall not be allowed.

1.13.2 Open Site Storage Size and Location

The open site available for storage, laydown, and decontamination shall be confined to the areas indicated by the ROICC NTR.

1.13.3 Trailers, Storage, and Temporary Buildings

Locate trailers, storage, and temporary buildings where directed and within the indicated operations area. Trailers or storage buildings shall be permitted where space is available subject to the approval of the ROICC NTR. The trailers or storage buildings shall be suitably painted and kept in a good state of repair. Failure of the Contractor to maintain the

trailers or storage buildings in good condition shall be considered sufficient reason to require their removal. Trailers shall be anchored to resist high winds and shall meet applicable State or local standards for anchoring mobile trailers. A sign that conforms to the following requirements and shows the company name, phone number, and emergency phone number, shall be mounted on the trailer or building.

Graphic panel: Aluminum, painted blue; FED-STD-595 25053

Copy: Screen painted or vinyl die-cut, white, Univers 65 u/lc typeface.

1.14 UTILITY SERVICES

1.14.1 Temporary Utilities

Reasonable amounts of utilities shall be made available without charge. The Contractor shall be responsible for making connections, providing transformers and meters, and making disconnections. Contractor shall provide backflow preventer devices on connections to domestic water lines. Under no circumstances will taps to base fire hydrants be allowed for obtaining domestic water.

The Contractor shall not operate nor disturb the setting of control devices in the station utilities system, including water, sewer, electrical, and steam services. The Government shall operate the control devices as required for normal conduct of the work. The Contractor shall notify the ROICC NTR, giving 15 days' advance notice when such operation is required.

1.14.2 Utility Cutovers and Interruptions

Make utility cutovers and interruptions outside regular working hours. Conform to procedures specified herein for work outside regular working hours. Ensure that new utilities are complete, except for the connection, before interrupting the existing service.

1.15 RESTRICTIONS ON EQUIPMENT

1.15.1 Radio Transmitter Restrictions

The Contractor shall conform to the restrictions and procedures for the use of radio transmitting equipment, as directed by the ROICC NTR. Do not use transmitters without prior approval.

1.16 EQUIPMENT OWNERSHIP AND OPERATING EXPENSE SCHEDULE

In conjunction with the Contract Clause "DFARS 252.236-7000, Modification Proposals-Price Breakdown," and where actual ownership and operating costs of construction equipment cannot be determined from Contractor accounting records, equipment use rates shall be based upon the applicable provisions of the COE EP 1110-1-8.

1.17 PUBLIC RELEASE OF INFORMATION

Contractor shall comply with requirements stated in Section C, Part 2.0, of the basic contract.

1.18 STORM PROTECTION

Contractor shall conduct storm protection measures in accordance with the requirements of Section C, Part 2.0, of the basic contract, and as specified herein.

1.18.1 Hurricane Condition of Readiness

Unless directed otherwise, comply with:

- a. Condition ONE (sustained winds of 50 knots or greater expected within 12 hours): Secure the jobsite, and leave Government premises.
- b. Condition TWO (sustained winds of 50 knots or greater expected within 24 hours): Curtail or cease routine activities until securing operation is complete. Reinforce or remove form work and scaffolding. Secure machinery, tools, equipment, materials, or remove from the jobsite. Expend every effort to clear missile hazards and loose equipment from general base areas. Contact ROICC NTR for weather and condition of readiness (COR) updates and completion of required actions.
- c. Condition THREE (sustained winds of 50 knots or greater expected within 48 hours): Maintain Condition FOUR requirements and commence securing operations necessary for Condition ONE which cannot be completed within 18 hours. Cease routine activities which might interfere with securing operations. Commence securing and stow gear and portable equipment. Make preparations for securing buildings. Review requirements pertaining to Condition TWO and continue action as necessary to attain Condition THREE readiness. Contact ROICC NTR for weather and COR updates and completion of required actions.
- d. Condition FOUR (sustained winds of 50 knots or greater expected within 72 hours): Normal daily jobsite cleanup and good housekeeping practices. Collect and store in piles or containers scrap lumber, waste material, and rubbish for removal and disposal at the close of each work day. Maintain the construction site including storage areas, free of accumulation of debris. Stack form lumber in neat piles less than 4 feet high. Remove debris, trash, or objects that could become missile hazards. Contact ROICC NTR for COR updates and completion of required actions.

1.19 ENVIRONMENTAL PROTECTION REQUIREMENTS

Provide and maintain, during the life of the delivery order, environmental protection as defined in Section C, Part 4.0, of the basic contract, and as specified herein.

1.19.1 Environmental Quality Board Permits

The Contractor is advised that the work under this contract will require obtaining certain permits from the local Environmental Quality Board (EQB).

These permits may include a (1) Solid Waste Generating Activity Permit (D:-3), (2) Permit to Construct an Emission Source, (3) Permit to Operate an Emission Source, (4) Asbestos Removal Permit, (5) Erosion and Sedimentation Control Plan (CESI Plan), or (6) NPDES Storm Water Discharge Permit. Obtaining of these permits from the EQB will require a Preliminary Environmental Assessment (PEA). The PEA will be on file at the office of the Officer in Charge of Construction, Puerto Rico Area and may be obtained

therefrom. If needed for the project, the PEA will be provided to the Contractor at the preconstruction conference. Obtaining of required permits will be necessary prior to beginning any construction.

1.19.2 Fire Protection

Comply with COE EM-385-1-1, NFPA 241, and activity fire regulations. Post the activity fire poster in conspicuous locations and at telephones in construction trailers.

1.20 PRECONSTRUCTION CONFERENCE

After approval of the Work Plan, but prior to commencement of any work at the site, Contractor shall meet with the ROICC NTR to discuss and develop a mutual understanding relative to the administration of the HASP, preparation and submission of submittals, scheduling, programming, and prosecution of the work. Major subcontractors who will be engaged in the work shall also attend.

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 CLEANING UP

During the progress of the remediation, the work area and adjacent areas shall be kept clean and free of rubbish, surplus materials, and unneeded construction equipment. No material or debris shall be allowed to flow or wash into watercourses, ditches, gutters, drains, or pipes. Upon completion of the work, sweep paved areas and rake clean landscaped areas. Remove waste and surplus materials, rubbish, and construction facilities from the site.

-- End of Section --

SECTION 01575

TEMPORARY ENVIRONMENTAL CONTROLS

03/00

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

29 CFR 1910	Occupational Safety and Health Standards
40 CFR 122.26	EPA National Pollutant Discharge Elimination System Permit Regulations
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 262	Generators of Hazardous Waste
40 CFR 263	Transporters of Hazardous Waste
40 CFR 264	Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 265	Interim Status Standard for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities
40 CFR 300	National Oil and Hazardous Substances Pollution Contingency Plan
49 CFR 171	General Information, Regulations, and Definitions
49 CFR 172	Hazardous Materials, Tables, and Hazardous Materials Communications Regulations
49 CFR 178	Shipping Container Specifications

ENVIRONMENTAL PROTECTION AGENCY (EPA)

EPA 832-R-92-005	Storm Water Management for Construction Activities
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1.2 CONTRACTORS LIABILITIES FOR ENVIRONMENTAL PROTECTION

Contractors shall complete and provide environmental training documentation for training required by Federal, State, and local regulations.

1.3 DEFINITIONS

1.3.1 Sediment

Soil and other debris that have eroded and have been transported by runoff water or wind.

1.3.2 Solid Waste

Garbage, refuse, debris, sludge, or other discharged material (except hazardous waste as defined in paragraph entitled "Hazardous Waste" resulting from domestic, industrial, commercial, mining, or agricultural operations and from community activities.

1.3.3 Sanitary Waste

Wastes characterized as domestic sanitary sewage.

1.3.4 Rubbish

Combustible and noncombustible wastes such as paper, boxes, glass, crockery, metal, lumber, cans, and bones.

1.3.5 Debris

Combustible and non-combustible wastes such as ashes and waste materials resulting from construction or maintenance and repair work, leaves, and tree trimmings.

1.3.6 Hazardous Waste

Hazardous waste as defined in 40 CFR 261; or as defined by applicable State and local regulations.

1.3.7 Chemical Wastes

This includes salts, acids, alkalies, herbicides, pesticides, and organic chemicals.

1.3.8 Hazardous Materials

Hazardous materials are defined in 49 CFR 171 and listed in 49 CRT 172.

1.3.9 Oily Waste

Petroleum products and bituminous materials.

1.4 SUBMITTALS

Submit the following in accordance with Section C, Part 7.0, of the basic contract.

1.4.1 SD-05, Design Data

Job-mix Formula GText

1.4.2 SD-07, Certificates

Stone Base Course G

1.4.3 SD-08, Statement

Environmental protection plan; G

MSDS for Class I ODS waived product; G

Environmental Quality Board Permits; G

Work Schedule; G

1.4.4 Records

1.4.4.1 Solid Waste Disposal Permit

Submit one copy of a State and local permit or license for the solid waste disposal facility.

1.4.4.2 Disposal Permit for Hazardous Waste

Submit a copy of the applicable EPA and State permits, manifests, or licenses for transportation, treatment, storage, and disposal of hazardous waste by permitted facilities.

1.4.4.3 Permit to Transport Hazardous Waste

Submit one copy of the IPA or State permit license, or regulation for the transporter who will ship the hazardous waste to the permitted Treatment, Storage, and Disposal (TSD) facility.

1.4.4.4 Hazardous Waste Certificate

Submit written certification that hazardous waste turned in for disposal was generated on Government property and is identified, packaged, and labeled in accordance with 40 CFR 261, 40 CFR 262, and 40 CFR 263.

1.5 ENVIRONMENTAL PROTECTION REQUIREMENTS

Provide and maintain, during the life of the contract, environmental protection as defined. Plan for and provide environmental protective measures to control pollution that develops during normal construction practice. Plan for and provide environmental protective measures required to correct conditions that develop during the construction of permanent or temporary environmental features associated with the project. Comply with Federal, State, and local regulations pertaining to the environment, including water, air, solid waste, hazardous waste and substances, oily substances, and noise pollution.

1.6 ENVIRONMENTAL PROTECTION PLAN

1.6.1 Contents of Environmental Protection Plan

- a. Include any hazardous materials (HM) planned for use on the station shall be included in the station HM tracking program maintained by the safety department. To assist this effort, submit a list (including quantities) of HM to be brought to the station and copies of the corresponding material safety data sheets (MSDS). Submit this list to the Contracting Officer. At

project completion, remove any hazardous material brought to the station. Account for the quantity of HM brought to the station, the quantity used or expended during the job, and the leftover quantity which (1) shall be removed by the Contractor, or (2) may be hazardous waste, which shall then be removed as specified herein.

- b. The Environmental Protection Plan shall list and quantify any Hazardous Waste (HW) to be generated during the project.
- c. In accordance with station regulations, store HW near the point of generation up to a total quantity of one quart of hazardous waste or 55 gallons of hazardous waste. Move any volume exceeding these quantities to a HW permitted area within 3 days. Prior to generation of HW, contact the Contracting Officer for labeling requirements for storage of hazardous wastes.
- d. In accordance with station regulations, substitute materials as necessary to reduce the generation of HW and include a statement to that effect in the Environmental Plan.
- e. Contact the Contracting Officer for conditions in the area of the project which may be subject to special environmental procedures. Include this information in the Preconstruction Survey. Describe in the Environmental Protection Plan any permits required prior to working the area, and contingency plans in case an unexpected environmental condition is discovered.
- f. Obtain permits for handling HW, and deliver completed documents to Contracting Officer for review. File the documents with the appropriate agency, and complete disposal with the approval of Contracting Officer. Deliver correspondence with the State concerning the environmental permits and completed permits to Contracting Officer.

1.6.2 Environmental Protection Plan Format

The Environmental Protection Plan shall follow the following format:

ENVIRONMENTAL PROTECTION PLAN

Contractor Organization

Address and Phone Numbers

1. Hazardous materials to be brought onto the station
2. MSDS package
3. Employee training documentation
4. HW storage plan
5. HW to be generated
6. Preconstruction survey results
7. Permitting requirements identified

1.6.3 Environmental Plan Review

Fourteen days after the environmental protection meeting, submit the proposed Environmental Protection Plan for further discussion, review, and approval.

1.6.4 Preconstruction Survey

Perform a preconstruction survey of the project site with the Contracting Officer, and take photographs showing existing environmental conditions in and adjacent to the site.

1.7 ADMINISTRATIVE REQUIREMENTS

1.7.1 Licenses and Permits

Obtain licenses and permits pursuant to "FAR 52,236-7, Permits and Responsibilities" except for those permits which will be obtained by the Contracting Officer as follows:

- a. Understanding and performing all requirements under Federal, State, interstate, and local environmental laws, regulations and ordinance that are applicable to the work being performed under this contract. This responsibility extends to securing all permits as required under such lay, regulations, and ordinances.
- b. Advising Contractor's agents, employees, and subcontractor's who will perform operations, activities, or services under this contract of these requirements.
- c. Further:
 - (1) Notify the Government promptly upon receipt of regulatory notices, orders, or requests for information, and promptly supply copies to the Government.
 - (2) Comply with environmental regulatory notices or orders to the extent attributable to the Contractor's conduct, regardless of whether or not the Contractor is the name recipient of the notice or order.
 - (3) Correct conditions of environmental noncompliance identified by the Government in the absence of regulatory noncompliance notices. This includes cleaning up any contamination released from contractor operations, whether such contamination is on or off Government property.
- d. Upon Government request, provide the Government and any regulatory agency with information that may be required regarding the actual or potential environmental impacts of Contractor's operations. The information shall be timely and complete and in a form acceptable to the Government and/or the regulatory agency.

For permits obtained by the Contracting Officer, whether or not required by the permit, perform inspections of the work in progress, and submit certifications to the applicable regulatory agency, via the Contracting Officer, that the work conforms to the contract and permit requirements. The inspections and certifications shall be provided through the services of a Professional Engineer, registered in the State where the work is being performed. As a part of the quality control plan, which is required to be submitted for approval by the quality control section, provide a subitem containing the name, P.E. registration number, address, and telephone number of the professional engineer(s) who will be performing the

inspections and certifications for each permit listed above.

1.7.2 Environmental Quality Board Permits for Puerto Rico

The Contractor is advised the work under this contract will require obtaining certain permits from the local Environmental Quality Board (EQB).

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

3.1 PROTECTION OF NATURAL RESOURCES

Preserve the natural resources within the project boundaries and outside the limits of permanent work. Restore to an equivalent or improved condition upon completion of work. Confine construction activities to within the limits of the work indicated or specified. Conform to the national permitting requirements of the Clean Water Act.

3.1.1 Land Resources

Except in areas to be cleared, do not remove, cut, deface, injure, or destroy trees or shrubs without the Contracting Officer's permission. Do not fasten or attach ropes, cables, or guys to existing nearby trees for anchorages unless authorized by the Contracting Officer. Where such use of attached ropes, cables, or guys is authorized, the Contractor shall be responsible for any resultant damage.

3.1.1.1 Protection of Trees

Protect existing trees which are to remain and which may be injured, bruised, defaced, or otherwise damaged by construction operations. Remove displaced rocks from uncleared areas. By approved excavation, remove trees with 30 percent or more of their root systems destroyed.

3.1.1.2 Replacement

Remove trees and other landscape features scarred or damaged by equipment operations, and replace with equivalent, undamaged trees and landscape features. Obtain Contracting Officer's approval before replacement.

3.1.2 Water Resources

3.1.2.1 Oily and Hazardous Substances

Prevent oil or hazardous substances from entering the ground, drainage areas, or local bodies of waters. For oil, fuel oil, or other hazardous substance spills, verbally notify the Contracting Officer immediately. Surround all temporary fuel oil or petroleum storage tanks with a temporary earth berm of sufficient size and strength to contain the contents of the tanks in the event of leakage or spillage.

3.1.3 Fish and Wildlife Resources

Do not disturb fish and wildlife. Do not alter water flows or otherwise significantly disturb the native habitat adjacent to the project and critical to the survival of fish and wildlife, except as indicated or

specified.

3.2 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

Carefully protect in-place and report immediately to the Contracting Officer historical and archaeological items or human skeletal remains discovered in the course of work. Stop work in the immediate area of the discovery until directed by the Contracting Officer to resume work. The Government retains ownership and control over historical and archaeological resources.

3.3 EROSION AND SEDIMENT CONTROL MEASURES

Pick up solid wastes, and place in covered containers which are regularly emptied, Do not prepare or cook food on the project site. Prevent contamination of the site or other areas when handling and disposing of wastes, At project completion, leave the areas clean.

3.3.1 Disposal of Rubbish and Debris

Dispose of rubbish and debris in accordance with the requirements specified below:

3.3.2 Removal to a Government Landfill

Haul rubbish and debris to the Government landfill site indicated or specified.

3.3.3 Garbage Disposal

Place garbage in approved containers; the Government will provide pickup and disposal service.

3.4 CONTROL AND DISPOSAL OF HAZARDOUS WASTES

3.4.1 Hazardous Waste Generation

Handle generated hazardous waste in accordance with 40 CFR 262.

3.4.2 Hazardous Waste Disposal

Dispose of hazardous waste in accordance with Federal, State, and local regulations, especially 40 CFR 263, 40 CFR 264, and 40 CFR 265. Removal of hazardous waste from Government property shall not occur without prior notification and coordination with the Contracting officer. Transport hazardous waste by a permitted, licensed, or registered hazardous waste transporter to a TSD facility. Hazardous waste shall be properly identified, packaged, and labeled in accordance with 49 CFR 172. Provide completed manifest for hazardous waste disposed of off-site to the Contracting Officer within 7 days of disposal. Hazardous waste shall not be brought onto the station.

3.4.3 Hazardous Waste Storage

Store hazardous waste in containers in accordance with 49 CFR 178. Identify hazardous waste in accordance with 40 CFR 261 and 40 CFR 262. Identify hazardous waste generated within the confines of the station by the station's EPA generator identification number.

3.4.4 Pollution Prevention/Hazardous Waste Minimization

The Contractor shall actively pursue minimizing the use of hazardous materials and the generation of hazardous waste while on-base. The Hazardous Waste Management Section of the Environmental Protection Plan shall include the Contractor's procedures for pollution prevention/hazardous waste minimization. For preparing this part of the plan, the Contractor may consult the activity Environmental Office for suggestions and to obtain a copy of the installation's pollution prevention/hazardous waste minimization plan for reference material. If no written plan exists, the Contractor may obtain information by contacting the Contracting Officer. The Contractor shall describe the types of the hazardous materials expected to be used in the construction when requesting information.

3.4.5 Hazardous Material Control

The Contractor shall include hazardous material control procedures in the Safety Plan. The procedures shall address and ensure the proper handling of hazardous materials, including the appropriate transportation requirements. The Contractor shall submit a MSDS and estimated quantities to be used for each hazardous material to the Contracting Officer prior to bringing the material on base. Typical materials requiring MSDS and quantity reporting include, but are not limited to, oil and latex based painting and caulking products, solvents, adhesives, aerosol, and petroleum products. At the end of the project, the Contractor shall provide the Contracting Officer with the maximum quantity of each material that was present at the site at any one time, the dates the material was present, the amount of each material that was used during the project, and how the material was used. The Contractor shall also ensure that hazardous materials are utilized in a manner that will minimize the amount of hazardous waste that is generated. The Contractor shall ensure that all containers of hazardous materials have NFPA labels or their equivalent. Copies of the MSDS for hazardous materials shall be kept on site at all times and provided to the Contracting Officer at the end of the project. The Contractor shall certify that all hazardous materials removed from the site are hazardous materials and do not meet the definition of hazardous waste per 40 CFR 261.

3.4.6 Petroleum Products

Conduct the fueling and lubricating of equipment and motor vehicles in a manner that protects against spills and evaporation. Properly dispose of all lubricants and excess oil.

3.4.7 Spills of Oil and Hazardous Substances

Take precautions to prevent spills of oil and hazardous material. In the event of a spill, immediately notify the Contracting Officer. Spill response shall be in accordance with 40 CFR 300 and applicable State regulations.

3.4.8 Lead-Acid Batteries

Dispose of lead-acid batteries that are not damaged or leaking at a State-approved battery recycle or at a permitted or interim status hazardous waste TSD facility. For lead-acid batteries that are leaking or have cracked casings, dispose of the electrolyte solution using one of the following alternatives:

- a. An industrial waste water treatment plant, if available and approved by the Contracting Officer for disposing of lead-acid battery electrolyte.
- b. Dispose of the lead-acid battery electrolyte at a permitted or interim status hazardous waste TSD facility.

The management and disposal of waste lead-acid batteries and electrolyte shall comply with requirements for management and disposal of hazardous wastes.

3.4.9 Mercury Control

Prior to starting work, remove thermostats, switches, and other components that contain mercury. Upon removal, place items containing mercury in doubled polyethylene bags, label, and turn over to the Contracting Officer for disposal.

3.5 DUST CONTROL

Keep dust down at all times, including during nonworking periods. Sprinkle or treat, with dust suppressants, the soil at the site, haul roads, and other areas disturbed by operations. Dry power brooming will not be permitted. Instead, use vacuuming, wet mopping, wet sweeping, or wet power brooming. Air blowing will be permitted only for cleaning nonparticulate debris such as steel reinforcing bars. Only wet cutting will be permitted for cutting concrete blocks, concrete, and bituminous concrete. Do not unnecessarily shake bags of cement, concrete mortar, or plaster.

3.6 NOISE

Make the maximum use of low-noise emission products, as certified by the EPA. Blasting or use of explosives will not be permitted without written permission from the Contracting Officer, and then only during the designated times. Confine pile-driving operations to the period between 8 a.m. and 4 p.m., Monday through Friday, exclusive of holidays, unless otherwise specified.

-- End of Section --

SECTION 02741

BITUMINOUS CONCRETE PAVEMENT
09/99

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 698	(1991) Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft (600 kN-m/m))
ASTM D 1188	(1996) Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens
ASTM D 1556	(1990; R 1996) Density and Unit Weight of Soil in Place by the Sand-Cone Method
ASTM D 2726	(1996; Rev. A) Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface-Dry Specimens
ASTM D 2922	(1996) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D 3017	(1996) Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)

DEPARTMENT OF TRANSPORTATION (DOT)

DOT D-6.1	(1988) Uniform Traffic Control Devices for Streets and Highways
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COMMONWEALTH OF PUERTO RICO, DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS, HIGHWAY AUTHORITY (PRHA)

PRHA RBC	(1989) Road and Bridge Construction
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1.2 SUBMITTALS

Submit the following in accordance with Section C, Part 7, of the Basic Contract.

SD-05 Design Data

Job-mix formula; G

SD-07 Certificates

Stone Base Course

1.3 QUALITY ASSURANCE

1.3.1 Modification to References

Except as specified herein or as indicated, work and materials shall be in accordance with the PRHA RBC. The provisions therein for method of measurement and payment do not apply, and references to "Engineer" and "State" shall be interpreted to mean the "Contracting Officer" and the "Federal Government" respectively.

1.3.2 Job-Mix Formula

Submit the mix design, including mixing temperature, for approval. The mix design shall include a certified laboratory analysis of mix composition with marshall stability value, void content, and flow. After mix design approval, job mixes shall conform to the range of tolerances specified in PRHA RBC. An identical mix design previously approved within the past 12 months by the Atlantic Division, Naval Facilities Engineering Command, may be used without further approval, provided that copies of the previous approval are submitted. Obtain acknowledgement of receipt prior to bituminous concrete placement. Submit additional data regarding materials if the source of the materials changes.

1.4 ENVIRONMENTAL REQUIREMENTS

Do not produce or place bituminous concrete when the weather is rainy or foggy, when the base course is frozen or has excess moisture, or when the ambient temperature is less than 40 degrees F in the shade away from artificial heat.

1.5 BARRICADES AND SIGNALS

Provide and maintain temporary signs, signals, lighting devices, markings, barricades, and channelizing and hand signaling devices in accordance with DOT D-6.1 to protect personnel and new construction from damage by equipment and vehicles until the surface is approved by the Contracting Officer.

PART 2 PRODUCTS

2.1 MATERIALS

2.1.1 Bituminous Concrete Mix

PRHA RBC, Specification 401, Type S-1, for material and mix. Provide crushed stone aggregates for the bituminous mix.

2.1.1.1 Recycled Asphalt Material

Bituminous concrete mix may contain a maximum of 25 percent by weight of the total aggregate material, reclaimed asphalt pavement (RAP). Mix design shall meet the requirements for the type of bituminous concrete specified. Clearly state the viscosity of reclaimed asphalt cement, grade of new asphalt cement, properties of recycling agent if used, and percentage of each in the mix. Combine asphalts and recycling agents to achieve a viscosity of 2000 plus or minus 400 poises at 140 degrees F. Furnish a new job mix formula for each change in percentage of RAP material used.

2.1.2 Stone Base Course

PRHA RBC, Specification 703-4, Grading Class A or B.

2.1.3 Bituminous Tack Coat

PRHA RBC, Specification 407. Emulsified asphalts shall be diluted at the rate of one part water to one part asphalt.

2.2 MIX PLANT

PRHA RBC, Specification 401-3.

PART 3 EXECUTION

3.1 INSTALLATION AND APPLICATION

Provide a tack coat and a bituminous concrete overlay on existing pavement within the limits of asphalt cap. All unpaved areas within the limits of the asphalt cap install a stone base course, and a bituminous concrete surface course. The unpaved subgrade surface will not be excavated or graded. Proper grade and positive drainage will be achieved by increasing the minimum thickness and grading the surface of the stone base course.

3.1.1 Stone Base Course Placement

Begin spreading base material at the point nearest the source of supply. Permit traffic and hauling over the base. Fill ruts formed by traffic and reroll. After base course placement, continue machining and rolling until surface is smooth, compacted, well bonded, and true to the designed cross section. Compact to 100 percent ASTM D 698 maximum dry density. Maintain the base smooth and true to grade and cross section until bituminous concrete placement. Maintain minimum required thickness and increase as necessary to maintain grade.

3.1.2 Bituminous Tack Coat Placement

Provide tack coat on existing pavement to be overlaid at the rate of 0.10 gallon residual asphalt per square yard. Thoroughly clean surfaces to receive the tack coat immediately prior to application of tack coat. Tack coat shall be tacky at the time of bituminous concrete placement.

3.1.3 Bituminous Concrete Application

3.1.3.1 Placing Temperature

Minimum temperature of bituminous concrete during placement into mechanical spreader shall be 225 degrees F. Mixtures which have a lower temperature shall be rejected.

3.1.3.2 Joints

Where new pavement abuts existing bituminous pavement, cut existing surface course along straight lines approximately 6 inches from edge. Cuts shall be vertical and extend the full depth of the surface course. Prior to bituminous concrete placement, apply asphalt cement to exposed edges of cold joints.

3.1.3.3 Spreading and Finishing Equipment

Spread the bituminous concrete to a uniform density and produce a smooth finish, true to cross section and free from irregularities. Provide adjustable screeds to shape the surface to true cross section.

3.1.3.4 Bituminous Concrete Placement

As continuous as possible. Place in maximum 2 inch lifts. Avoid passing rollers over unprotected edges of bituminous concrete prior to bituminous concrete cooling. If rollers pass over unprotected edges of bituminous concrete prior to cooling, cut bituminous concrete back to expose full depth of bituminous concrete. Immediately prior to resumption of bituminous concrete placement, coat exposed edges of bituminous concrete with asphalt cement. When bituminous concrete placement resumes, rake the hot bituminous concrete against asphalt cement and compact.

3.1.3.5 Featheredges

Accomplish featheredging by raking out the larger aggregate as necessary and sloping the pavement uniformly throughout the featheredge to create a smooth transition. Unless indicated otherwise, featheredge transition shall be 10 feet.

3.1.3.6 Compaction

PRHA RBC for equipment and compaction procedures, modified to compact bituminous concrete to 96 percent of maximum laboratory density. Finished surface shall be uniform in texture and appearance and free of cracks and creases.

3.1.3.7 Protection

No vehicular traffic shall be allowed on pavement for a minimum of 6 hours after final rolling, or until bituminous concrete has cured, whichever is longer.

3.2 FIELD QUALITY CONTROL

3.2.1 Sampling

Provide new materials where samples are taken. Take the number and size of samples required to perform the following tests.

3.2.1.1 Bituminous Concrete Sampling

- a. Job Mix: Take one initial sample and one sample for every 400 tons or fraction thereof.
- b. Thickness: Take one sample for every 500 square yards or fraction thereof.
- c. Density: One field test for every 1000 square yards or fraction thereof, and one laboratory test for the project. Provide minimum 4 inch diameter cores if nuclear testing is not used.

3.2.1.2 Stone Base Course Sampling

- a. Thickness: Take one sample for every 500 square yards or fraction thereof.

- b. Density: One field test for every 1000 square yards or fraction thereof, and one laboratory test for the project.

3.2.2 Testing

Provide for each sample.

3.2.2.1 Bituminous Concrete Testing

- a. Job Mix: Determine gradation and bitumen content.
- b. Thickness: Maximum allowable deficiency shall be 1/4 inch less than the indicated thickness. Average thickness shall be as indicated.
- c. Density, In Place: ASTM D 2922 and ASTM D 3017; cored sample ASTM D 1188 or ASTM D 2726.

3.2.2.2 Stone Base Course Testing

- a. Thickness: Maximum allowable deficiency shall be 1/2 inch less than the indicated thickness. Average thickness shall be as indicated.
- b. Density: ASTM D 1556 or ASTM D 2922 and ASTM D 3017.

-- End of Section --