



UNITED STATES MARINE CORPS
MARINE CORPS INSTALLATIONS EAST-MARINE CORPS BASE
PSC BOX 20005
CAMP LEJEUNE NC 28542-0005

MCIEAST-MCB CAMLEJO 5090.10A
G-F/BEMD
APR 26 2017

MARINE CORPS INSTALLATIONS EAST-MARINE CORPS BASE CAMP LEJEUNE
ORDER 5090.10A

From: Commanding General
To: Distribution List

Subj: INSTALLATION RESTORATION PROGRAM/HAZARDOUS WASTE SITE
CLEANUP IMPLEMENTATION

Ref: (a) Navy/Marine Corps Installation Restoration Manual of
August 2006 (NOTAL)
(b) Comprehensive Environmental Response, Compensation,
and Liability Act (CERCLA) of 1980, 42 U.S.C. 9601
and Superfund Amendments and Reauthorization Act
(SARA) of 1986 (NOTAL)
(c) Resource Conservation and Recovery Act (RCRA), 42
U.S.C. 6901 (NOTAL)
(d) 40 CFR 300 (NOTAL)
(e) 40 CFR 264 (NOTAL)
(f) OPNAVINST 8020.15A - MCO 8020.13A (NOTAL)
(g) MCO P5090.2A (NOTAL)
(h) Federal Facilities Agreement of 13 February 1991
(NOTAL)
(i) Appropriations Bill 102-154 (NOTAL)
(j) Marine Corps Base Camp Lejeune Installation
Restoration Program Restoration Advisory Board
Charter, 14 Dec 2004

Encl: (1) Installation Restoration (IR) Program Site List
(2) Active Installation Restoration (IR) Program Sites
(3) Munitions Response Program (MRP) Site List
(4) Active Munition Response Program Sites
(5) Solid Waste Management Unit (SWMU) Site List
(6) Active Solid Waste Management Unit Program Sites

1. Situation

a. In the past, a lack of stringent legislation regulating the disposal of hazardous materials led to the nationwide use of expedient disposal methods that threatened human health and the overall quality of the environment. Past hazardous waste

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disposal practices included, in part, burial, burning, or dumping. Although acceptable at the time, these disposal methods have caused long-term problems through the release of hazardous pollutants into the soil and groundwater. Nationally, residential and municipal wells have been contaminated by hazardous wastes improperly dumped or buried many years ago. In some cases, residential and commercial developments have been built on old disposal sites, resulting in serious human health problems. These environmental and health problems have led to greatly increased national concerns regarding past disposal practices.

b. For many years, the Marine Corps has used hazardous materials and produced large quantities of hazardous waste during normal operations. Therefore, the Department of the Navy (DON) established the Navy/Marine Corps IR Program, per the Department of Defense (DoD) concept plan, to identify, evaluate, control, and correct past deficient waste disposal sites and practices. Similar to other DON environmental programs, the IR Program is oriented towards compliance with Federal and state environmental laws and regulations. The IR Program consists of identifying the presence of hazardous wastes and evaluating effects on the environment, as well as identifying and programming any required corrective measures.

c. To properly prevent and address the various types of contamination and adhere to respective regulatory requirements, the Marine Corps Base, Camp Lejeune (MCB CAMLEJ) IR Program is managed through three separate programs. However, to be consistent with program nomenclature as described in reference (a), all Environmental Restoration activities will continue to be referred to collectively as the IR Program. All Environmental Restoration activities aboard MCB CAMLEJ and Marine Corps Air Station, New River (MCAS NR) are managed by MCB CAMLEJ.

(1) IR Program: The purpose of the IR Program is to reduce the risk to human health and the environment from legacy waste disposal operations and hazardous substance releases. The IR Program adheres to the CERCLA regulatory framework contained in reference (b). Investigative and remedial activities are conducted in partnership with the U.S. Navy, the U.S. Environmental Protection Agency (EPA), and the North Carolina Department of Environmental Quality (NCDEQ).

(2) Munitions Response Program (MRP): The MRP addresses response actions at munitions response sites (MRS) where munitions and explosives of concern (MEC) and munitions constituents (MC) are present or suspected to be present in the environment. The MRP also adheres to the CERCLA regulatory framework.

(3) Solid Waste Management Unit (SWMU) Program: The SWMU Program addresses contaminated sites where the process that generated the contamination is still in operation, or the contamination is from a recent release. SWMU sites are regulated by the Resource Conservation and Recovery Act (RCRA) corrective action guidelines as described in the Base Hazardous and Solid Waste Amendment (HSWA) permit. All IR Program sites are assigned SWMU numbers on the HSWA permit. Investigative and remedial activities are conducted under the guidance of NCDEQ.

d. Depending on site conditions, contaminants identified, and funding, sites may transfer between the IR and SWMU programs, as well as the Underground Storage Tank Program (petroleum releases regulated under RCRA), which is not discussed in this Order. Should a transfer occur, notification to the appropriate regulatory officials should be completed to document the transfer.

e. Management processes for the IR and MRP programs maintain the same framework for response actions under CERCLA as described in the processes below.

(1) Preliminary Assessment/Site Inspection (PA/SI). The PA/SI involves an extensive review and evaluation of existing records located at the Installation and elsewhere, an examination of the activity's waste disposal history, and identification of any potential or existing groundwater pollution problems at the Installation.

(a) Water and Air Research Incorporated completed the initial PA/SI of MCB CAMLEJ in April 1983, under the direction of the Naval Energy and Environmental Support Activity, Port Hueneme, California. Based on information from historical records, aerial photographs, field inspections, and personnel interviews, a total of 76 potentially contaminated sites were identified. Each site was evaluated with regard to contamination characteristics, migration pathways, and pollutant

receptors. The study concluded that while none of the sites posed an immediate threat to human health or the environment, 22 sites warranted further investigation to assess potential long-term impacts. Since the initial PA/SI, 47 additional sites have been added to the list, including other sites that were identified in the 1983 PA/SI, bringing the total number of IR Program sites that have been assessed to 69 as of the date of this Order. An additional 22 sites were included in the 1983 PA/SI but received no further action (NFA) status without assessment.

(b) To identify all former and active ranges on MCB CAMLEJ and MCAS NR, an Archives Search Report (ASR) and a Range Identification and Preliminary Range Assessment were performed by the United States Army Corps of Engineers in February 2000. From these reports it was determined that 22 potentially contaminated former military ranges qualified for closure under the MRP. Since the ASR was completed, nine additional MRP sites have been identified through closure of former ranges or identification of munitions disposal areas, bringing the total number of MRP sites to 31. Although the PA phase of the PA/SI was completed through the ASR, SI phases at each site have been conducted or are currently being performed under the MRP.

(2) Remedial Investigation/Feasibility Study (RI/FS). An RI/FS verifies problems identified by the PA/SI through physical and/or analytical testing and monitoring of suspected hazardous pollutants. RI/FS studies include, but are not limited to, soil, sediment, surface water, soil gas, indoor air, and groundwater sampling and analysis, pollutant characterization, detailed analysis of remedial alternatives, and human and environmental health effects potentially induced by a respective IR or MRP site. RI/FS studies for IR and MRP sites at MCB CAMLEJ and MCAS NR, as identified for further investigation, have been, are, or will be conducted by a private contractor through the Mid-Atlantic Division, Naval Facilities Engineering Command (NAVFACENGCOM). PA/SI studies and RI/FS studies for IR and MRP sites are funded from Environmental Restoration, Navy (ER,N) funds managed by NAVFACENGCOM.

(3) Remedial Design/Remedial Action (RD/RA). The RI/FS study may indicate the need for remedial actions. First priority will be given to remedial actions to control contamination migrating from Marine Corps property when such

migration poses an immediate threat to human health at the Installation or within an adjacent community. RD/RA for IR and MRP sites are programmed utilizing ER,N funds, and may include Land Use Controls (LUCs) and long-term monitoring of groundwater, soil gas, and/or indoor air.

(4) Response Complete (RC). Once remedial action objectives have been met the site is considered to be RC. This phase is documented in a Remedial Action Completion Report. LUCs, if any, will be administratively removed from the site at this time.

(5) Decision Documents. If an RI/FS has been completed, the selected remedy, even if it is no further action, is detailed in a Record of Decision (ROD) document. The ROD is signed by the Commanding General of Marine Corps Installations East (MCIEAST)-MCB CAMLEJ, the State of North Carolina, and the EPA. If no further action is determined prior to completion of an RI/FS, the selected remedy (no further action) is documented in a No Action Decision Document, which is signed only by the Commanding General of MCIEAST-MCB CAMLEJ.

f. Response actions under the RCRA framework follow a similar process as under CERCLA, but are permitted by NCDEQ under the Base HSWA permit. Depending on the type of RCRA corrective action and site history, funding for RCRA regulated sites may be procured either through the MCB CAMLEJ portion of the USMC Operations and Maintenance account (Activity Funds) or through ER,N funds managed by NAVFACENGCOM. Funding eligibility determinations are made by both NAFACENGCOM and Marine Corps Installations Command (MCICOM).

(1) RCRA Facility Assessment (RFA). In accordance with the HSWA of 1984, EPA and NCDEQ conducted an RFA site inspection at MCB CAMLEJ and MCAS NR from 9-13 January 1989. An RFA report was prepared to present the results of an extensive file survey and the RFA site inspection, as required by Section 3004(u). The RFA report also integrated DON's future RCRA/HSWA responsibilities with ongoing CERCLA/SARA activities at MCB CAMLEJ and MCAS NR. An additional RFA was performed in July 1996 to include units such as landfills, surface impoundments, waste piles, tanks, container storage, septic tanks, drain fields, wastewater treatment plants and storm water conveyances. To date, 179 SWMU sites have been identified on MCB CAMLEJ and MCAS NR.

(2) SWMU Assessment Report (SAR). For all newly discovered sites, a SAR is to be submitted upon direction of the State. The SAR may include sampling of the release area, or an evaluation of the site and recommendation for further investigation, interim remedial measures, or NFA. The Installation may elect to move directly to an Interim Measure (IM), a Confirmatory Sampling Investigation (CSI), or a RCRA Facility Investigation (RFI) in lieu of preparing a SAR.

(3) CSI. If there is reason to suspect a release has occurred, a CSI is warranted to evaluate if site contamination is present at concentrations that would require remedial action. CSIs traditionally include only soil sampling, with the assumption that if the soil samples are contaminated (exceed screening criteria) then the underlying groundwater may be contaminated. If soil contamination is encountered during the CSI, a Phase II CSI may be conducted to further delineate the soil contamination and to conduct groundwater sampling. Based on the findings, the Installation may elect to move directly to an IM or RFI in lieu of conducting a CSI.

(4) RFI. An RFI may be performed to characterize the site and to evaluate the risk associated with exposure to site contaminants. Fate and transport of the site contaminants are evaluated, and a baseline human health risk assessment and a screening level or baseline ecological risk assessment (if there are ecological receptors) would be performed in conjunction with the RFI. The RFI is intended to provide a basis for decision on future response actions or NFA.

(5) IM. An IM is an action necessary to minimize or prevent the further migration of contaminants and limit actual or potential human and environmental exposure to contaminants while long-term corrective action remedies are evaluated and implemented. IMs may be conducted at any point in the RCRA corrective action process, and are typically implemented either upon discovery of a current threat to human health or the environment, or upon completion of delineation. For remedial measures that are simple and relatively low-cost, IMs are often conducted before the Corrective Measures Study (CMS), and may lead to removal of site contamination and NFA. IMs may address only elevated levels of contamination, resulting in the remaining portion of the site under LUCs or long-term monitoring (LTM).

(6) CMS. A CMS is used to identify and develop remedial alternatives, evaluate the alternatives, and justify corrective measures at a SWMU. Remedial Goal Objectives are often developed during the CMS to identify corrective action levels that would be within acceptable risk levels for the proposed receptors. As described in the HSWA Permit, the alternative technology types and process options are screened on the basis of the qualitative evaluation of four criteria: performance, reliability, implement ability, and safety. Relative cost is also used in the evaluation of technology options.

(7) Corrective Measures Implementation. After the specific remedial technology is selected and approved, the corrective measures are implemented. The implementation includes preparing a Corrective Measures Design and conducting the RA. It may also include preparing a community involvement plan, LUC Implementation Plan, LTM plan, and the routine reports associated with RA operation.

g. LUCs. Part of the corrective measures for IR, MRP, and SWMU sites may include LUCs. LUCs are documented in the Base Master Plan and Geographic Information System to ensure they are adhered to. In addition, if LUCs are mandated by the State and EPA, a Notice of Contaminated Site is filed in Onslow County real property records in accordance with North Carolina General Statutes 143B-279.9 and 143B-279.10. Common LUCs used aboard MCB CAMLEJ and MCAS NR are defined below:

(1) Intrusive Activities Control (soil and groundwater). Restrict intrusive activities within the extent of soil and/or groundwater contamination remaining in-place above concentrations that allow for unlimited use/unrestricted exposure (UU/UE).

(2) Intrusive Activities Control (munitions and explosives of concern [MEC]). Restrict intrusive activities within the munitions response area with potential explosive safety hazards. Require unexploded ordnance (UXO) technical support for any intrusive activities and munitions safety awareness training for Base personnel and subcontractors working or living within the site. Because of the potential acute hazard caused by MEC at suspect munitions sites, this restriction may apply to MRP sites still under investigation, even if LUCs have not been officially mandated by the state and

EPA. At a minimum, "3R" UXO Safety Awareness Training may be required.

(3) Non - Industrial Use Control (soil and groundwater). Prohibit non - industrial land use (i.e., residential use) within the extent of soil and/or groundwater contamination remaining in-place above concentrations that allow for non-industrial use.

(4) Industrial/Non - Industrial Use Control (vapor intrusion). Prior to construction or building renovations, evaluate existing and future buildings and land use for potential vapor intrusion pathways within the extent of groundwater contamination remaining in-place above concentrations that allow for UU/UE. This LUC boundary typically encompasses the area within 100 feet of surficial and Castle Hayne groundwater chemicals of concern exceeding cleanup levels.

(5) Industrial/Non - Industrial Use Control (MEC). Prohibit and/or evaluate future buildings and land use where MEC may remain in-place.

(6) Aquifer Use Control. Prohibit the withdrawal and use of groundwater (i.e., potable use), except for environmental monitoring, where groundwater contamination remains in-place above concentrations that allow for UU/UE.

(7) Access Control. Physical barriers to protect personnel from contact with site hazards.

(8) "3R" UXO Safety Awareness Training. UXO safety awareness training to be provided to all Base personnel and contractors working or living within the site. Even if an MRP site receives NFA status, this LUC may still be required, as there is rarely a 100 percent guarantee that all MEC has been removed from a site. This LUC generally applies to active MRP sites still under assessment, as well, because of the potential acute hazard caused by munitions.

2. Cancellation. MCIEAST-MCB CAMLEJO 5090.10.

3. Mission

a. MCB CAMLEJ will develop policy, prescribe procedures, and assign responsibilities for the implementation of the IR Program for the cleanup of past and newly discovered hazardous waste sites located aboard MCB CAMLEJ and MCAS NR.

b. Summary of Revision. This Order has been revised in its entirety and should be thoroughly reviewed.

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent. The Marine Corp's policy, under references (f) and (g), is to comply with local, state, and Federal regulations concerning investigation and remediation of hazardous waste sites. This Order implements the IR Program to determine where hazardous wastes have been deposited in the past, assess the present and future environmental and health effects of the wastes, and provide for control measures and remediation.

(2) Concept of Operations. This policy and guidance applies to all contractors, DoD agencies, military organizations and other authorized activities located on the MCB CAMLEJ and MCAS NR complex and applies to all known and discovered hazardous waste sites. This Order formally establishes the IR Program for MCB CAMLEJ and MCAS NR complex per references (a) through (h). Reference (d) establishes significant requirements for Federal facilities concerning CERCLA regulated sites. It defines the process for the identification, evaluation, and remediation of past hazardous waste sites under reference (b). Reference (e) defines the process for the identification, evaluation and remediation of past hazardous waste sites under reference (c).

b. Tasks

(1) The Director Environmental Management Division shall be assigned responsibility for implementation of the IR Program at MCB CAMLEJ and MCAS NR.

(2) The IR Program Manager, Environmental Quality Branch (EQB), shall be designated the Installation point of contact to establish, direct, maintain, and coordinate the MCB

CAMLEJ and MCAS NR IR Program. The IR Program Manager will coordinate accomplishment of specific tasks with the Environmental Compliance Branch, the Environmental Conservation Branch (ECB), the EQB, the Environmental Affairs Department-MCAS NR, the Office of the Staff Judge Advocate (SJA), the Public Affairs Office (PAO), Eastern Area Counsel Office (EACO), AC/S, G-3/5, AC/S, G-4, AC/S, G-F, Resident Officer in Charge of Construction (ROICC), and Regional Installation Geospatial Information & Services Office. The IR Program Manager is responsible for long-term planning and management to accomplish the goals and objectives of the MCB CAMLEJ and MCAS NR IR Program. Responsibilities include:

(a) Documentation of IR, MRP, and SWMU program studies and actions to include the maintenance of the administrative record. Details on the specific phases of each program can be found in references (a) and (g) and in Section 1 of this Order.

(b) Establishment, implementation, and co-chairing of a Restoration Advisory Board to review and comment on MCB CAMLEJ actions and proposed actions with respect to releases or threatened releases of hazardous substances from IR and MRP sites (SWMU program sites are RCRA permitted and information is distributed through the permit process). Membership shall include EPA, DoD, appropriate state and local authorities, Natural Resource Trustees, and representatives of the affected community. Details of the Restoration Advisory Board can be found in reference (j).

(c) Development and implementation of a concise action plan in accordance with the IR Program's short and long-term objectives incorporating references (h) and (i).

(d) Compliance with Federal and state regulations under references (b) through (e) and others as appropriate.

(e) Identification of program requirements and projects and forwarding of funding requirement information to Commandant of the Marine Corps, Headquarters, U.S. Marine Corps and MCICOM, GF-5.

(f) Coordination with the EPA, appropriate state and local authorities, the IR Program Restoration Advisory Board,

Natural Resource Trustees, environmental groups, DoD, Navy and Marine Corps representatives, and the local community.

(g) Negotiation of all agreements related to the IR Program.

(h) Notification of any IR, MRP, or SWMU Program site requiring no further action and/or being deleted from reference (h) and enclosures (1) through (6) to all interested parties.

(i) Development and implementation of a formal Community Involvement Plan (CIP) for the IR Program. Guidelines are detailed in references (a), (g), and (h).

(j) Coordination, direction, and evaluation of IR Program work, assurance of compliance with the National Oil and Hazardous Substances Pollution Contingency Plan, and recommend action for decisions. Based on reference (a), the IR Program Manager's "period of responsibility begins prior to initiation of the RI/FS (for CERCLA regulated sites), and continues through design, [remedial action (RA)], No Further Response Action Planned phase, or deletion of the site from the [National Priorities List (NPL)]."

(k) Coordination with staff experts in the ECB and the EQB to ensure mitigation of environmental impacts of RA's on the affected resources and review proposed actions through the National Environmental Policy Act (NEPA) process for impact to the IR, MRP, or SWMU Programs.

(3) The Director Eastern Area Counsel Office shall:

(a) Provide legal advice and recommendations to ensure compliance with Federal and state regulations.

(b) Provide assistance in developing necessary interagency agreements required that are related to and resulting in Records of Decision.

(c) Assist in citizen suits and other legal considerations such as Tort Claims, personal liability, and Freedom of Information Act requests.

(4) The Director, Public Affairs Office shall:

(a) Develop PA guidance concerning IR program activities.

(b) Serve as the initial point of contact for inquiries from environmental groups, private citizens, and the media.

(5) The Resident Officer In Charge of Construction shall:

(a) Manage construction associated with remedial actions (RA).

(b) Ensure that the work is accomplished in accordance with plans and specifications, and in a fashion that protects human health and the environment.

(c) Oversee procedures to ensure compliance with the Occupational Safety and Health Act regulations (29 CFR 1910), as well as review the contractor's Health and Safety Plans, ensuring that any comments are addressed and necessary revisions are made by the contractor.

(d) Ensure that the approved Quality Assurance/Quality Control plan is followed, both for implementing the selected alternative and for accomplishing field sampling to verify that cleanup levels are attained.

(e) Contract administration and management between MCB CAMLEJ and RA contractors engaged in remedial designs/actions.

(f) Coordinate with the IR Program Manager prior to making contract modifications or field changes; as the RA has been agreed to in consultation with regulatory agencies. In addition, the IR Program Manager will not give direction to contractors managed through the ROICC.

(g) Ensure before the completion of the contract/delivery order, representatives from EQB and the ROICC office must jointly inspect the constructed remedial system.

(h) Verify existing LUCs are adhered to for military construction projects not associated with RA. Notify the IR Program Manager should the ROICC determine that existing LUCs were not incorporated into a military construction project prior to start.

(6) All commands and organizations charged with planning or implementing construction projects (including underground utility installation), field activities, and troop training exercises shall coordinate and ensure that those activities do not affect and are not affected by the IR, MRP or SWMU sites identified in enclosures (1) through (6). This includes the adverse human health effects, which may arise from exposure of personnel, as well as site disturbance, which may exacerbate contamination and/or complicate the remediation process. All such activities in the proximity of identified IR, MRP, and SWMU sites should be coordinated with the Director, EMD, via the NEPA process, to ensure protection of human health and to maintain the remedial process. Enclosures (2), (4), and (6) are maps identifying the general location of active IR, MRP, and SWMU Program sites. If any planned activities are in the proximity of any site denoted on enclosures (2), (4), and (6), the organization planning the activity should contact the IR Program Manager for more detailed site information. As these areas may change over time, it is recommended that the Base IR Program Manager be contacted for updated maps as appropriate. Site-specific figures can also be provided upon request through the IR Program Manager.

c. Coordinating Instructions. Intrusive Activities: Any planned activity that potentially impacts on IR, MRP, or SWMU site or is to occur within 500 feet of the outer perimeter of an IR, MRP, or SWMU site, must be coordinated through the IR Program Manager, EMD before commencing. Coordination may be done via the NEPA process. Any individual/organization discovering either a previously unidentified hazardous substance or any buried or abandoned material deemed as suspicious or odd in appearance should call immediately to notify the IR Program Manager, EMD at (910) 451-5068 and secure the site to the best extent possible to avoid disturbance of any contaminated material. Intrusive Activity training is provided annually by the IR Program section of the EMD to include the distribution of updated IR Program site maps as appropriate.

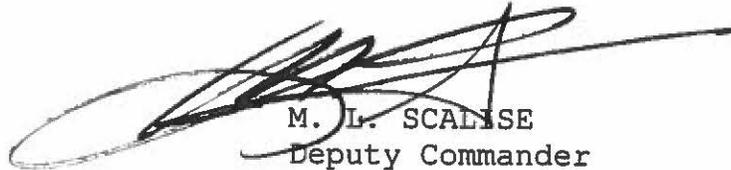
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5. Administration and Logistics. Not applicable.

6. Command and Signal

a. Command. This Order is applicable to MCB CAMLEJ and MCAS NR, subordinate commands, and all tenant organizations.

b. Signal. This Order is effective the date signed.



M. L. SCALISE
Deputy Commander

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Installation Restoration (IR) Program Site List

I. List of Active Installation Restoration Program Sites

<u>IR #</u>	<u>SITE DESCRIPTION</u>
IR-3	Old Creosote Plant
IR-6	Storage Lots 201 and 203
IR-35	Camp Geiger Fuel Farm
IR-36	Camp Geiger Dump Area Near Sewage Treatment Plant
IR-37	Camp Geiger Area Surface Dump
IR-49	MCAS NR Suspected Minor Dump
IR-69	Rifle Range Chemical Dump
IR-73	Courthouse Bay Liquid Disposal Area
IR-78	Hadnot Point Industrial Area
IR-82	Piney Green Road VOC Area
IR-86	Tank Area AS419-AS421 at MCAS NR
IR-88	Building 25 Base Dry Cleaners
IR-89	STC-868 Former DRMO
IR-93	Building TC-942 Tanks
IR-96	Building 1817 UST
IR-110	Demolished Water Towers with Soils Containing Lead-Based Paints

II. List of Installation Restoration Program Sites Where Remedy in Place is to Maintain Land Use Controls

<u>IR #</u>	<u>SITE DESCRIPTION</u>
IR-2	Former Nursery/Day Care Center
IR-10	Original Base Dump
IR-15	Montford Point Burn Landfill Area
IR-16	Former Montford Point Burn Dump
IR-21	Transformer Storage Lot 140
IR-28	Hadnot Point Burn Dump
IR-41	Camp Geiger Dump Near Former Trailer Park
IR-43	Agan Street Dump
IR-44	Jones Street Dump
IR-54	Crash Crew Fire Training Burn Pit
IR-63	Verona Loop Dump
IR-65	Engineer Area Dump
IR-68	Rifle Range Dump
IR-74	Mess Hall Grease Dump Area

IR-80 Paradise Point Golf Course Maintenance Area
IR-84 Building 45

**III. List of Installation Restoration Program Sites that
Require No Further Action**

<u>IR #</u>	<u>SITE DESCRIPTION</u>
PA Site	HPIA Buildings 1120 (Auto Hobby Shop), 1409(Carpenter/Boat Repair), and 1512 (Auto Repair Shop)
PA Site	MCAS NR Buildings SAS113 (Auto Hobby Shop), AS116 (Vehicle Maintenance Shop), and AS119 (Vehicle Maintenance Shop)
PA Site	Montford Point Buildings M119 (Weapons/Auto Maintenance) and M315 (Laundry Pickup Facility)
IR-1	French Creek Liquids Disposal Area
IR-4	Sawmill Road Construction Debris Dump
IR-5	Piney Green Road
IR-7	Tarawa Terrace Dump
IR-8	Flammable Storage Warehouse Building TP-451 and TP-452
IR-9	Firefighting Training Pit at Piney Green Road
IR-12	EOD-1 Range (Formerly EOD (G-4A))
IR-13	Golf Course Construction Dump Site
IR-14	Knox Area Riprap
IR-17	Montford Point Area Riprap
IR-18	Watkins Village (E) Site
IR-19	Naval Research Lab Dump
IR-20	Naval Research Lab Incinerator
IR-23	Roads and Grounds Building 1105
IR-24	Industrial area Fly Ash Dump
IR-25	Base Incinerator
IR-27	Naval Hospital Area Riprap
IR-30	Sneads Ferry Road Fuel Tank Sludge Area
IR-31	Engineer Stockade - G4 Range Road
IR-32	French's Creek
IR-33	Onslow Beach Road
IR-34	Ocean Drive
IR-38	Camp Geiger Construction Dump
IR-39	Camp Geiger Construction Slab Dump
IR-40	Camp Geiger Area Borrow Pit

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IR-42 Building 705 BOQ Dump
IR-46 MCAS NR Main Gate Dump
IR-47 MCAS NR Riprap Near Stick Creek
IR-48 MCAS NR Mercury Dump
IR-50 MCAS NR Small Craft Berthing Riprap
IR-51 MCAS NR Football Field

IR #**SITE DESCRIPTION**

IR-52 MCAS NR Direct Refuel Depot
IR-53 MCAS NR Warehouse Building 3525 Area
IR-55 Air Station East Perimeter Dump
IR-56 MCAS NR Oiled Roads to Marina
IR-57 Runway 36 Dump
IR-58 MCAS NR Tank Training Area
IR-59 MCAS NR Infantry Training Area
IR-60 EOD K-326 Range
IR-61 Rhodes Point Road Dump
IR-62 Race Course Area Dump
IR-64 Marines Road - Sneads Ferry Road MOGAS
Spill
IR-66 AMTRAK Landing Site and Storage Area
IR-67 Engineers TNT Burn Site
IR-70 Oak Grove Field - Surface Dump
IR-71 Oak Grove Buried Dump
IR-72 Oak Grove Coal Pile
IR-75 MCAS NR Basketball Court Site
IR-76 MCAS NR Curtis Road Site
IR-85 Camp Johnson Battery Dump
IR-87 MCAS NR Officers' Housing Area (Formerly Site A)
IR-90 Building BB-9 Tanks
IR-91 Building BB-51 Tanks
IR-92 Building BB-246 Tanks
IR-94 PCX Service Station (Building 1613)
IR-95 Animal Dipping Vat Sites

Legend

-  Installation Area
-  IR Program Sites*
-  Water
-  Road

*Includes Active sites and No Further Action sites with Land Use Controls



1 inch = 1.26 miles
0 0.5 1 1.5 2
Miles

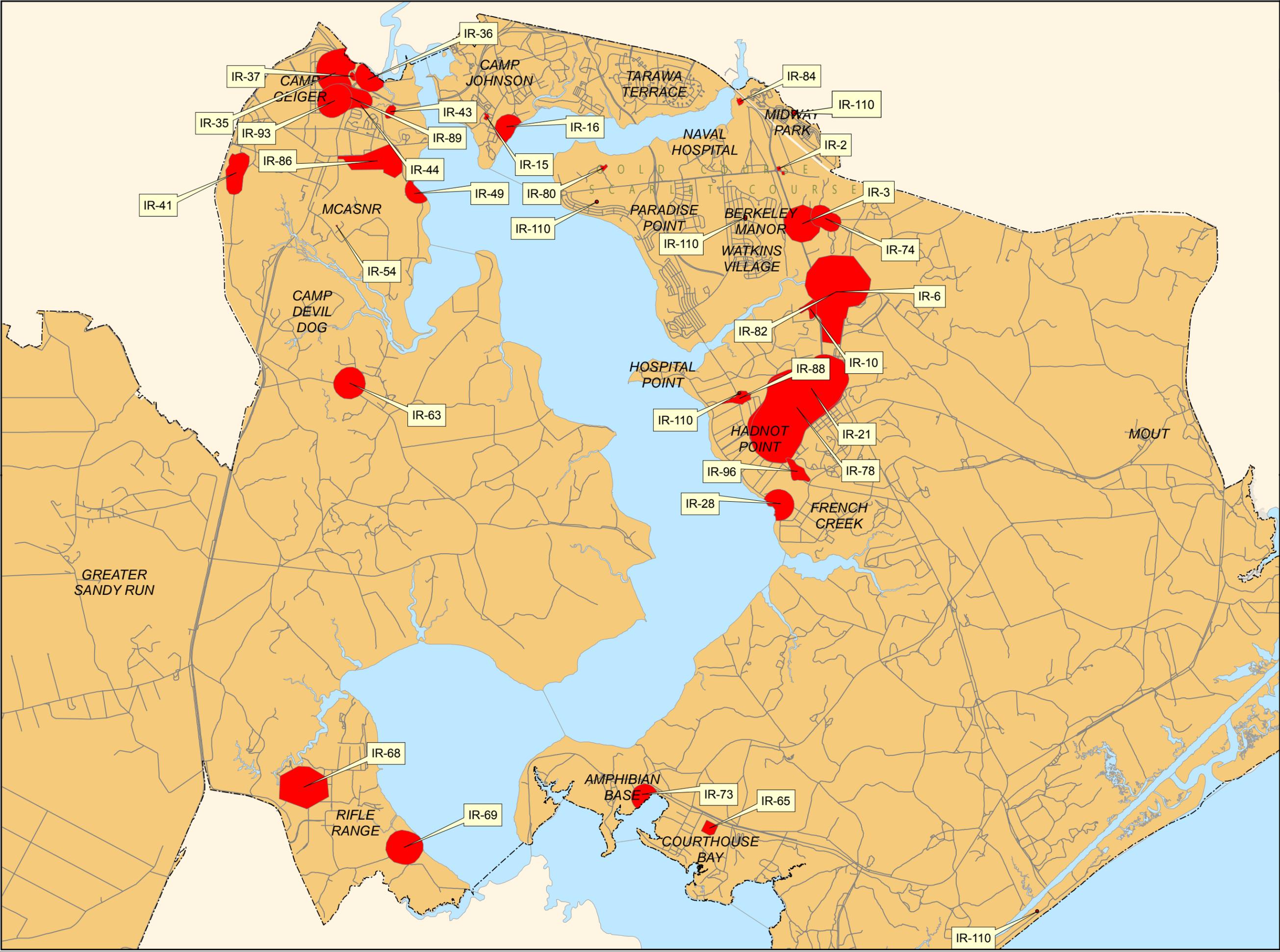


SPHEROID GEODETIC REFERENCE SYSTEM 1980
PROJECTION TRANSVERSE MERCATOR
HORIZONTAL DATUM NORTH AMERICAN DATUM 1983
CONTROLLED BY USGS, NATIONAL GEODETIC SURVEY POINTS

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Munitions Response Program (MRP) Site List

**I. List of Active Munitions Response Program Sites ("3R"
UXO Awareness Training may be Required)**

<u>MR #</u>	<u>SITE DESCRIPTION</u>
UXO-06	D-27, Fortified Beach Assault Area (Archive Search Report [ASR] #2.65)
UXO-22	IR Sites 6 and 82 (OU 2)
UXO-23	D-9 Skeet Range (ASR #2.82)
UXO-24	Camp Geiger Area
UXO-28	Wallace Creek Munitions Response Site
UXO-29	New River Runway Expansion Area (ASR #2.1, 2.167, 2.29)
UXO-30	B-12 Baffled Pistol Range (ASR #2.134)

**II. List of Munitions Response Program Sites Where Remedy
in Place is to Maintain Land Use Controls**

<u>MR #</u>	<u>SITE DESCRIPTION</u>
UXO-19	M-4 Rifle Grenade Range (ASR #2.104) K-22 Practice Hand Grenade Course (ASR #2.111) M115 Hand Grenade Course (ASR #2.168)

**III. List of Munitions Response Program Sites that Require
No Further Action but Require "3R" UXO Awareness
Training for Future Construction Activities**

<u>MR #</u>	<u>SITE DESCRIPTION</u>
UXO-01	Former Live Hand Grenade Course (ASR #2.23)
UXO-02	Unnamed Explosive Range (ASR #2.201)
UXO-03	D-3 Practice Hand Grenade Course (ASR #2.78a and 2.78b)
UXO-07	D-6 Practice Hand Grenade Course (ASR #2.77a and 2.77b)
UXO-10	D-11A, Flame Tank and Flame Thrower Range (ASR #2.136)
UXO-11	B-5, Practice Hand Grenade Course (ASR #2.81)
UXO-16	Gun Positions 41A and 41B (ASR #2.212)
UXO-17	Firing Position #2 (ASR #2.212)

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UXO-21 Gas Chamber (2d MarDiv) (ASR #2.204)
 UXO-27 Gun Position Owl (ASR #2.212)

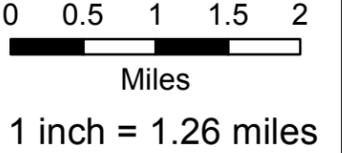
**IV. List of Munitions Response Program Sites that Require
 No Further Action**

<u>MR #</u>	<u>SITE DESCRIPTION</u>
UXO-01	D-6 50-Foot Indoor Rifle and Pistol Range (ASR #2.64)
UXO-04	Knox Trailer Park Grenade (Area A)
UXO-05	Miniature Anti-Tank Range (Tank Battalion Tent Camp, ASR #2.7a, 2.7b, and 2.7c)
UXO-08	2.36" Bazooka Range, Base CS Chamber and NBC Training Trail Lejeune Cantonment (ASR #2.182), and D-7 Gas Chamber (ASR #2.80)
UXO-09	F-9 Triangulation Range (ASR #2.83)
UXO-12	1000-Inch Range (ASR #2.5)
UXO-13	Naval Regional Medical Center
UXO-14	Indoor Pistol Range (ASR #2.199) and Gas Chamber (ASR #2.200)
UXO-15	1000-Inch Range (ASR #2.19)
UXO-18	B-6 50-Foot Small Arms Range (ASR #2.44)
UXO-20	1000-Inch Range Montford Point (ASR #2.32) A-1 50-Foot .22 Caliber Range (ASR #2.87)
UXO-25	Verona Loop (ASR #2.211 and 2.120)
UXO-26	B-3, Gas Chamber (ASR #2.79a and 2.79c)

Legend

-  Installation Area
-  MRP Program Sites with 3R Training Required
-  MRP Program Sites*
-  Water
-  Road

*Includes Active sites and No Further Action sites with Land Use Controls



SCALE 1:1,000,000

SPHEROID GEODETIC REFERENCE SYSTEM 1980
PROJECTION TRANSVERSE MERCATOR
HORIZONTAL DATUM NORTH AMERICAN DATUM 1983
CONTROLLED BY USGS, NATIONAL GEODETIC SURVEY POINTS

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EDITION 002 SERIES U0160C

18-Jul-16



Solid Waste Management Unit (SWMU) Site List

I. List of Active Solid Waste Management Unit Program Sites

<u>SWMU #</u>	<u>SITE DESCRIPTION</u>
43	IR-11 Pest Control Shop
97	Existing RCRA 90-day Storage Facility (Building S-962)
124	Existing RCRA 90-day Storage Facility (Building AS-4225)
177	UST-333-C 2d Marine Logistics Group (MLG) Inspector's Office
269	816 O/W 8th Engineer 2d MLG
299	AS114-Used Oil AST MCAS Auto Hobby Shop
323	Existing Landfill (Permit # 67-08)
343	Former RCRA OB/OD Facility (G-10)
350	UST-STT61-66 Used oil storage tanks
689	Wash Racks at AS-4101

II. List of Solid Waste Management Unit Program Sites that Require No Further Action but Maintain Land Use Controls

<u>SWMU #</u>	<u>SITE DESCRIPTION</u>
322	IR-29 Base Sanitary Landfill (Permit # 67-03)
423	Building 970 Area-Michael Street Construction Site

III. List of Solid Waste Management Unit Program Sites that Require No Further Action

<u>SWMU #</u>	<u>SITE DESCRIPTION</u>
1	1014 - Container Storage
2	1700 Pond A Base Maintenance
3	236 Backwash MCB CAMLEJ Swimming Pool
4	540 Backwash MCB CAMLEJ Area 5 Training Pool
5	575-Rack 2d Light Armored Reconnaissance Bn, 2d MarDiv Wash Rack
6	A1-Rack 2d Amphibious Assault Bn, 2d MarDiv
10	AS-Curtis Ditch Skimmer MCAS NR 11

11 AS-Longstaff-Ditch Skimmer MCAS NR
12 AS-Primington-Ditch Skimmer
13 AS199-Rack Base Motor Transport
14 AS226 Solvent Reclamation Still
15 AS3003 Ditch Skimmer MCAS NR

SWMU #

SITE DESCRIPTION

16 AS4151 Basin Base Maintenance Oil/Water
Separator/Spill Containment Basin
17 AS5020 MCAS NR Drainage Ditch Skimmer
20 Backwash Pond for Building 670 WTP
21 Backwash pond for Onslow Beach WTP
22 Backwash Basins for Hadnot Point WTP
23 Backwash Ponds for MCAS NR WTP
24 BB-190 Backwash Basin
25 BB9-Basin MCB CAMLEJ (Spill Containment Basin)
26 Industrial Dumpsters, Basewide (169)
27 Non-Industrial Dumpsters, Basewide (2885)
30 FC19 Rack H&S Bn, 2d MLG Wash Rack
31 Grease Traps Basewide (33)
32 H36 Rack HQ Svc Co Eng II MEF Wash Rack
33 Less than 90-Day HW Sites, Basewide (81)
35 M105 Rack
36 Oil/Water Separators Basewide (97)
37 PCB Warehouse TP-464
38 PT33-Pile MCB CAMLEJ
39 S1001 Basin Marine Corps Base
40 Sanitary Sewer Basewide
41 SAS137 Basin Bldg SAS137
42 Silver Recovery Units, Basewide (32)
53 IR-26 Coal Storage Area
89 SCLH785-Basin Base Maintenance
90 SM264 Rack
91 ST32-Construction Debris Soil Pile - Tarawa
Terrace
92 STC872-Pile Defense Logistics Agency
93 Stormwater Collection System
94 TC364 Basin
95 TP45-Rack Truck Driving School
96 Used Oil Tanks Basewide (190)
130 UST-AS-4159-2 Refueling Bay
196 45-Pond MCB CAMLEJ
207 DRMO Yard Near Building TC-861
209 Former SA22-Pile Near Building SA 21

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253 1205-AST H&S Co HQ Svc Co II MEF Used Oil
 254 1408 Base Motor Transport Dumpster
 255 1502-O/W-1 MCB CAMLEJ Logistics Vehicle
 Maintenance
 Oil/Water Separator and Grit Chamber
 256 1700-OW-1 Base Maintenance
 257 1700-OW-2 Base Maintenance
 258 S1745-O/W Truck Company Operations, HQ Battery,
 2d MarDiv
 259 1775 Dumpster

SWMU #**SITE DESCRIPTION**

260 1780-O/W-1 Truck Company Maintenance, HQ Bn
 2d MarDiv
 261 1780-UST-1 Truck Company, Maintenance, HQ Bn,
 2d MarDiv
 262 1780-UST-2 Truck Company, Maintenance, HQ Bn,
 2d MarDiv
 263 1808 Dumpster
 264 2611-Container Gun Club
 265 2615-O/W Officers' Club
 266 2616 Officers' Club BOQ Dumpster
 267 511 2d MarDiv - Recon Bn Dumpster
 268 522 2d MarDiv Dumpster
 270 902 2d MLG Dumpster
 271 AS410 MWR Gas Station Dumpster
 272 AS137-Basin MCAS NR
 273 BA128/BA 105 Dumpster
 274 BB245 Exchange Dumpster
 275 BB48 Construction Shop Dumpster
 276 BB49 Base Maintenance Dumpster
 277 FC120 O/W 2d MLG, Combat Engineer Bn
 278 FC190 2d MLG Dumpster
 279 FC200 O/W 8th Engineering 2d MLG
 280 FC285 AST Maintenance Bn, 2d MLG
 281 H100 2d MarDiv, 8th Marines Dumpster
 282 LCH 4034 MWR Gas Station/7 Day Store Dumpster
 283 FC279 Release 8th Motor Transport 2d MLG
 284 S947-Container Environmental Management Dumpster
 285 S947-O/W Environmental Management
 286 S947-Pile Environmental Management Waste Pile
 287 Site 45 Base Maintenance Dumpster
 289 TT2453 MWR Hobby Shop Dumpster
 290 TT2478 MWR Gas Station Dumpster

291 034 Ditch 5th Bn, 10th Marines, 2d MarDiv
 292 1106/1107-Used Oil AST Motor T Auto Hobby Shop
 MWR
 293 1106/1107-O/W Motor T Auto Hobby Shop
 294 1203-O/W Base Maintenance
 295 1601-Used Oil AST 2d MLG
 296 1700-Basin-B Base Maintenance Coal Pile Runoff
 Collection Basin
 297 1780-O/W-2 Truck Company Maintenance, HQ
 Battery, 2d MarDiv
 298 1780-OW-3 Near Building 1780
 300 AS118-Used Oil AST Logistic Motor Transportation
 301 AS4115-AST HMLA 167, MAG 26, 2D MAW
 302 AS563 AST, HMH 362 (AS 566)
 303

SWMU #

SITE DESCRIPTION

304 BA103-O/W Motor Transport, 2d Recon Bn, 2d MarDiv
 305 BB224-Pile MCB CAMLEJ
 306 FC230-O/W-1 8th Communications BN, II MEF
 307 G649-Rack Base Maintenance Wash Rack
 308 GP19-O/W 8th Engineers 2d MLG
 309 NH118 UST
 310 PT33-Pond-O/W MCB Kitchen Grease Dewatering Unit
 311 S1619-O/W 8th Communications Bn, II MEF
 312 S1735-O/W Base Maintenance
 313 S1753-O/W and AST Small Craft Co, HQ Bn
 2d MarDiv
 314 SM187-O/W Marine Corps Combat Service Support
 Schools
 315 SM269-O/W Basin near Building M 200 Containment
 Basin
 316 TC733-O/W School of Infantry-East
 317 TT2453-Release near Building TT 2453
 319 Camp Geiger Wastewater Treatment Plant
 320 Camp Johnson Wastewater Treatment Plant
 321 Courthouse Bay Wastewater Treatment Plant
 324 Hadnot Point Wastewater Treatment Plant
 325 Permitted Hazardous Waste Container Storage
 Facility (Buildings TP-451 and TP-463)
 326 Incinerator NH-100
 327 Onslow Beach Wastewater Treatment Plant
 328 Stormwater Ponds Basewide (12)
 329 Rifle Range Wastewater Treatment Plant
 330 Tarawa Terrace Wastewater Treatment Plant

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331 FC-286-6 2d MLG, Vat 1
 332 FC-286 2d MLG, Vat 2
 333 FC-280 2d MLG, Vat 3
 334 FC-280 2d MLG, Vat 4
 335 FC-280 2d MLG, Vat 5
 336 Paint Stripper Tank Building AS4106, MALS 29
 337 Paint Stripper Tank, Building AS518, MALS 26
 338 FSC-282 2d MLG Storage
 339 Sandblaster, Building AS4146, MALS 26
 342 RCRA Interim Status K-2 OB/OD Facility
 347 UST-S889/S891 Aboveground Storage Tanks (2)
 358 Sneads Ferry Road Battery Dump (Borrow Pit)
 362 Dog 11 Area
 363 M-21 Arresting Gear
 420 Former Hazardous Waste Container Storage
 Facility (Building 490)
 468 UN234 - Septic Tank, AS512
 469 UN1184 - Septic Tank, AS3534

SWMU #**SITE DESCRIPTION**

470 Courthouse Bay BB28 POL Contaminated Site
 471 GSRA Asbestos Shingle Dump Site
 473 Building HP-237 Hydraulic Lifts
 474 Courthouse Bay BB52 Maintenance Facility Dump
 Site
 475 MCAS NR White Street Storm Water Pond
 476 Old Landfill Septic Leachfield
 477 Dogwood Road Mixed Waste Dump Site
 482 GSRA Reserve Center Dump Site
 483 Camp Johnson Battery Dump Site
 484 GSRA Carbon Fiber Soil Contamination
 485 RCRS Used Oil Containment Release
 501 BB-50 Trench
 502 BB-177 Floor Drain
 503 MCAS NR Steam Plant Stockpiled Soils
 506 Asbestos Shingle Pile
 575 Building AS-1000
 576 Parachute Tower Road Drums
 614 Parachute Tower Road Construction - White
 Powder
 670 Demo Range Road Drum Site
 690 Midway Park Former LCH-1353 - Midway Park
 Housing

**IV. List of Solid Waste Management Unit Program Sites
Transferred**

<u>SWMU #</u>	<u>SITE DESCRIPTION</u>
46	Montford Point Dump Site (IR-15)
118	UST-728-2 Gottschalk Marina (Petroleum Remediation Program)
303	AS515-AST-E HMM 266 HMM 261 (IR-86)
318	AS515-O/W Near Building AS 515 (IR-86)
359	Lot 201 Battery Dump (IR-6)
360	UST-1817 Warehouse and Supply (IR-96)
421	Goat Dipping Vat-Marine Road (IR-95)
422	Cow Dipping Vat-Verona Loop (IR-95)
486	FC-100 Buried Oil Filters/POL Site (Petroleum Remediation Program)
504	Sneads Ferry Landfill Debris Site (Solid Waste Management Permit 67-03, SWMU 322)
574	Hazmart Site (IR Program, Operable Unit 1)
615	Building 133 (IR-88)



Legend

- Installation Area
- SWMU Program Sites*
- Water
- Road

*Includes Active sites and No Further Action sites with Land Use Controls



0 0.5 1 1.5 2
Miles
1 inch = 1.26 miles



SCALE 1:1,000,000

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