- FINAL -

SITE SAFETY AND HEALTH PLAN

FOR

Installation Restoration (IR) Site 1 – Former Drum Marshalling Area
Non-Time Critical Removal Action
Naval Weapons Industrial Reserve Plant, Bethpage, NY

Contract No. N62472-05-D-0031
Delivery Order No. 0002

Prepared for:

Naval Facilities Engineering Command Mid-Atlantic Division
Northeast IPT
9472 Maryland Avenue, Building Z-144
Norfolk, Virginia 23511

Prepared by:

ECOR Federal Services, LLC
21 South High Street, 2nd Floor
West Chester, PA 19382

May 2009

SSHP SIGNATURE PAGE

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_____
David Jones, CIH

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Date

This Site Safety and Health Plan has been prepared to meet the requirements of: Occupational Safety and Health Administration standards, 29 CFR Part 1910 and 29 CFR Part 1926; and the Naval Facilities Engineering Command (NAVFAC) Washington Statement of Work (SOW) and Specifications for *Installation Restoration Site 1 – Former Drum Marshalling Area, Bethpage, New York*, dated 23 July 2008.

SSHP APPROVAL PAGE

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APPROVAL: SITE SAFETY AND HEALTH PLAN

The following key ECOR Federal Services, LLC (EFS) and EFS-subcontracted project personnel have reviewed and have agreed to implement and comply with requirements of the Site Safety and Health Plan established by EFS for the above-indicated contract and specified work activities.

TITLE	NAME	SIGNATURE	DATE
Project Manager	Gregory Birch		
Project Superintendent	John Hudacek		
Site Safety and Health Officer	John Hudacek		
Corporate Safety and Health Manager	David Jones, CIH		

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ABBREVIATIONS AND ACRONYMS

AIHA	American Industrial Hygiene Association
ANSI	American National Standards Institute
bgs	Below Ground Surface
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
CSHM	Corporate Health and Safety Manager
CIH	Certified Industrial Hygienist
CPR	Cardiopulmonary Resuscitation
CSP	Certified Safety Professional
dBA	Decibels on the A-weighted Scale
DOT	U.S. Department of Transportation
EPA	U.S. Environmental Protection Agency
ºF	Degrees Fahrenheit
GFCI	Ground Fault Circuit Interrupter
HazWOPER	Hazardous Waste Operations and Emergency Response
kV	Kilovolt
LPM	Liters per Minute
µm	Micrometer
$\mu m/m^3$	Micrograms per cubic meter
mg/m^3	Milligrams per cubic meter
mm	Millimeter
MSDS	Material Safety Data Sheet
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
ppm	Parts per Million
psi	Pounds per Square Inch
PEL	Permissible Exposure Limit
PM	Project Manager
PPE	Personal Protective Equipment
SS	Site Superintendent
S&H	Safety and Health
SOW	Statement of Work
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
STEL	Short-Term Exposure Limit
TLV	ACGIH Threshold Limit Value
TWA	Time-Weighted Average
VOC	Volatile Organic Compound

1.0 BACKGROUND

This Site Safety and Health Plan (SSHP) presents safety and health (S&H) procedures to be implemented by ECOR Federal Services, LLC (EFS) for services associated with the Installation Restoration (IR) Site 1 – Former Drum Marshalling Area at Naval Weapons Industrial Reserve (NWIRP) in Bethpage, New York. EFS's project work will be conducted under Naval Engineering Facilities Command (NAVFAC) Contract No. N62472-05-D-0031.

The SSHP has been prepared to meet the requirements of: U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) standards, Title 29 Code of Federal Regulations (CFR) Part 1910 and 29 CFR Part 1926 including requirements of the Hazardous Waste Operations and Emergency Response (HazWOPER) Standard (29 CFR 1926.65); Department of the Navy Environmental Restoration Program Manual (August 2006); U. S. Army Corps of Engineers, Safety and Health Requirements Manual, EM 385-1-1; and the NAVFAC Specifications and Statement of Work (SOW) for the *Installation Restoration Site 1 – Former Drum Marshalling Area, NWIRP, Bethpage, New York,* dated 23 July 2008.

Project activities involve site preparation, demolition of seven concrete pads, three steel buildings, a steel retaining wall, a concrete block building, and the upper six feet of a settling tank (located on the southern side of Building 03-13), and transportation and disposal of debris generated at IR Site 1. Potential chemical hazards that may be encountered during the project activities are PCBs (<25 milligrams per kilogram [mg/kg] in soil), chromium (≤230 mg/kg in soil), and cadmium (≤39 mg/kg in soil). Dust particulates may also be encountered during the demolition of some of the structures.

The purpose of the SSHP is to identify and evaluate S&H hazards at the project worksite and to prescribe safety control measures to be implemented. This plan:

- Provides background information related to the project
- Assigns responsibilities for SSHP implementation
- Identifies site hazards and hazard control measures
- Describes the exposure monitoring program
- Establishes requirements for site control and personal protective equipment (PPE)
- Discusses standard safety procedures and designates emergency response plans
- Reviews training, medical surveillance, and record keeping programs to be implemented at the site

The SSHP will be primarily implemented by the EFS Project Manager (PM), Site Superintendent (SS), Site Safety and Health Officer (SSHO), and Safety and Health Manager (SHM) in coordination with the Navy. Compliance with the SSHP is required of all EFS personnel, subcontractors, and associated third parties on site. A copy of the SSHP and supporting ECOR health and safety program documents will be maintained on site during work activities and will be available for inspection and review at all times. Field personnel will review the SSHP before site work and will sign an "SSHP Review" acknowledgment form (see Appendix A - SSHP Forms) indicating that they have reviewed the SSHP.

The content of the SSHP may be revised and/or amended should additional information become available regarding the hazards present at the site and/or should significant changes occur in the scope of work, operational procedures, site hazards, and/or hazard control measures. The SSHP may be modified by the SSHO upon review and approval of the Navy, PM, and SHM. Field personnel are informed of changes to the SSHP through safety meetings and written addendum or revision to the SSHP.

1.1 Site Location and Description

NWIRP Bethpage is located in east-central Nassau County, Long Island, New York, approximately 30 miles east of New York City (Figure 1). The Navy's property originally totaled approximately 109.5 acres and was formerly a Government-Owned Contractor-Operated (GOCO) facility that was operated by the Northrop Grumman Corporation (NGC) until September 1998. By April 2008, all of the property except for 9 acres was transferred to Nassau County. This project is being conducted on the 9-acre parcel retained by the Navy (Figure 2). NWIRP Bethpage is bordered on the north, west, and south by property owned, or formerly owned by NGC. The NGC property covered approximately 605 acres. The property on the east consists of a residential neighborhood. The activities associated with this SSHP are to be completed at IRP Site 1 located east of demolition activities. Figures 4 through 7 present the horizontal and vertical extent of contamination. Approximately 200 to 300 drums were stored at these locations at any given time. All drums of waste which were stored at these areas were taken offsite by a private contractor for treatment and disposal.

Investigations at the site identified elevated concentrations of volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), and metals in surface (0 to 2 feet below ground surface [bgs]) and subsurface soils (2 to 15 feet bgs) at IRP Site 1, which may pose unacceptable risk to specific future human receptors. Some soils contain PCBs at a concentration greater than 50 mg/kg (a New York State value for Resource Conservation and Recovery Act (RCRA) hazardous waste); however, removal and disposal of PCB-contaminated soil is not within the scope of this project. As part of the removal action, the Navy is demolishing surface structures at IRP Site 1 as the first step in an overall program to address contaminants in surface and subsurface soils.

All demolition activities will take place within IRP Site 1, and be conducted within the top 6 feet of the existing ground surface. Figure 4 presents the horizontal extent of total PCB contamination within the IRP Site 1 surface soils, Figure 5 presents the estimated horizontal extent of total PCB contamination within the IRP Site 1 subsurface soils, Figure 6 presents the horizontal extent of chromium contamination at the IRP Site 1 surface soil, and Figure 7 presents the horizontal extent of cadmium contamination within the IRP Site 1 surface soil.

1.2 Primary Work Tasks

1.2.1 Mobilization and Site Preparation

Mobilize personnel and equipment, set up and maintenance of decontamination and equipment lay down areas, and general site clean-up. Conduct utility clearance and obtain dig permits. Receive and inspect equipment and install sediment and erosion controls. Establish and demarcate site work zones and regulated areas.

1.2.2 Demolition

All items identified in the SOW will be demolished. These items include concrete pads, steel buildings, steel retaining wall, concrete block building, and upper six feet of concrete settling tanks located on the southern side of Building 03-13. Material generated through the demolition process shall be segregated, sampled, and disposed of accordingly. As noted above, hazardous waste disposal is not included in this project and any such materials identified during this will be stockpiled for later disposal by the Navy.

1.2.3 Well Abandonment

Twenty-four air injection/soil vapor air extraction wells will be abandoned during this project. The wells are 2-inch diameter PVC casing and screen. Eleven air injection wells (2-foot screen interval) to an approximate depth of 65 feet and 13 air extraction wells (15-foot screen interval) to an approximately depth of 60 feet will be abandoned. The wells will be abandoned by first filling the screened interval with Number 2 (20/30 mesh), well gravel to a height of 2 feet above the top screen. The well will then be filled with a cement/bentonite grout mix (7 gallons of water per 94-pound bag of cement and 6 pounds of bentonite mixture) through a tremie pipe to 2 to 3 feet bgs and the top of the well will be cut at this depth. For wells located within the limit of excavation, the cement/bentonite grout mix will be filled to approximately 6 feet bgs (the excavation depth) and the top of the well will be cut at this depth.

1.2.4 Restoration

In areas where concrete is removed, the area will be restored to pre-existing grade for the area. For areas in which removal activities are 12 inches or less in depth, fill material is not required. For areas in which removal activities extend below 12 inches in depth, off site clean fill material will be used to fill the excavation depth within 12 inches of original grade. Any such fill material will be from NYDEC-approved borrow pits and will be approved by the Navy prior to placement on site. Where excavations of settling tanks extend to approximately 5 feet below grade, it is anticipated that most soils surrounding the top of the tank will be removed to approximately 6 feet below the top prior to demolition. These soils can be returned to the area and the area regarded to minimize soil erosion and sloped to direct surface water away from storm drains. After regrading and fill, temporary surface treatment consisting of straw with seed on soil capable of sustaining vegetation will be applied.

2.0 PROJECT ORGANIZATION

This section of the SSHP provides information on project personnel, key EFS project personnel, and a description of EFS personnel S&H responsibilities.

2.1 Key Project Personnel

Key project personnel are identified in the project "Emergency Contact List" (Appendix B.). Personnel that will be listed include those individuals serving in the following functions:

- Bethpage Facilities Manager (ECOR Solutions, Inc.)
- Project Manager (EFS)
- Site Superintendent (EFS)
- Site Safety and Health Officer (EFS)
- Corporate Safety and Health Manager (EFS)

2.2 EFS Personnel Health and Safety Responsibilities

2.2.1 Project Manager

The PM is responsible for overall direction, coordination, technical consistency, and review of the project contract. PM S&H responsibilities are listed below:

- Direct, coordinate, and implement the project delivery order
- Review and approve the SSHP
- Emphasize the importance of safety and hold personnel accountable for safe work performance
- Enforce implementation and compliance with the SSHP and S&H procedures
- Provide resources and support to the SS and SSHO for effective completion of duties
- Monitor and evaluate S&H performance of project operations
- Communicate with the Navy to evaluate and resolve S&H issues

2.2.2 Site Superintendent

The SS the on site Project Site Superintendent and is charged with the overall responsibility for the successful completion of EFS field operations. SS S&H responsibilities are listed below:

- Prepare and organize project activities on site
- Review and approve the SSHP
- Provide equipment and materials for project operations
- Emphasize the importance of safety and hold personnel accountable for safe work performance
- Enforce implementation and compliance with the SSHP and S&H procedures
- Ensure immediate correction of unsafe work conditions and/or unsafe work practices
- Monitor and evaluate S&H performance of project operations
- Communicate with the Navy to evaluate and resolve S&H issues
- Ensure that all on site personnel have reviewed and understand the SSHP

2.2.3 Site Safety and Health Officer

The SSHO is the on site project S&H supervisor. The SSHO is present during fieldwork activities. If he must be absent from the site, the S&H duties must be delegated to another qualified responsible party at the site. SSHO S&H responsibilities are listed below:

- Review and approve the site-specific SSHP
- Maintain copies of the SSHP and supporting ECOR corporate health and safety documents on site during field activities
- Implement provisions of the SSHP and the EFS Safety and Health Program
- Require that site personnel meet training, medical surveillance, and field experience requirements
- Conduct site orientation training, SSHP review, and daily safety meetings
- Emphasize the importance of safety and hold personnel accountable for safe work performance
- Review site hazards and establish safety control measures

- Maintain a hazardous substance inventory list and copies of material safety data sheets (MSDS)
- Maintain safety equipment and supplies
- Perform inspections for safe work operations
- Enforce implementation and compliance with the SSHP and S&H procedures
- Direct decontamination procedures to be used
- Perform and/or coordinate site exposure monitoring
- Report safety violations or S&H concerns promptly to the PM
- Ensure immediate correction of unsafe work conditions and/or unsafe work practices
- Monitor and evaluate S&H performance of project operations
- Maintain S&H records
- Report and investigate accidents and incidents
- Communicate with the Navy to evaluate and resolve S&H issues

2.2.4 Corporate Safety and Health Manager

The CSHM is the Corporate Safety & Health Manager who has S&H responsibilities that are listed below:

- Develop, sign, and date the SSHP prior to submittal
- Evaluate air monitoring data, if needed, and adjust engineering controls, work practices and PPE as needed
- Review accident reports and safety inspection reports
- Review S&H inspections and audits as scheduled by the PM
- Provide S&H technical assistance to the PM, SS, and SSHO

2.2.5 Subcontractors

Subcontractors will be used to provide selected services associated with performance of project work. Subcontractors who come on site to perform fieldwork and/or enter controlled areas of the site are subject to SSHP requirements. Subcontractor S&H responsibilities are listed below:

- Provide copies of required S&H training and certification documents to the SSHO, as applicable (i.e., licenses, training certifications, medical clearance [fitness for duty] certification, first-aid/cardiopulmonary resuscitation [CPR] training, respirator fit testing, etc.)
- Provide, before site work, a hazardous substances inventory list and copies of applicable MSDSs to the SSHO for hazardous substances to be brought on site by the subcontractor
- Enforce applicable SSHP requirements with subcontractor employees
- Review, understand, and comply with the SSHP and safety instructions from the SSHO, or other competent authority
- Observe the buddy system during work activities
- Promptly report unsafe work conditions, unsafe work practices, and violations of the SSHP to the subcontractor supervisor and the SSHO
- Immediately report all injuries or illnesses to the subcontractor supervisor and the SSHO

2.2.6 Site Personnel

Site personnel S&H responsibilities are listed below:

- Understand and comply with the SSHP and instructions of the SSHO or other competent authority
- Promptly report any unsafe work conditions or unsafe work practices
- Immediately report all injuries or illnesses to their direct supervisor and the SSHO
- Observe the buddy system during work activities

3.0 SITE HAZARDS

Site hazards and hazard control measures for chemical, physical, and biological hazards that are likely to be encountered during project work are reviewed in this section of the SSHP.

3.1 Chemical Hazards

3.1.1 Hazardous Substances Potentially Present at IR Site 1

The primary chemical hazards that may be encountered during project fieldwork are PCBs, chromium, cadmium, silica.

Table 3.1.1 provides chemical hazard information for anticipated site contaminants. The table includes a summary of the health effects, potential routes of entry, and the OSHA permissible exposure limits (PELs) or American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit values (TLVs) for these hazardous substances (lowest value).

TABLE 3.1.1: CHEMICAL HAZARD INFORMATION

Compound	*Exposure Limits*	*Primary Health Effects / Other Comments*
Polychlorinated biphenyl, (PCB)	1 mg/m^3 (TLV-TWA) (SKIN) - 42% chlorine PCB; 0.5 mg/m^3 (TLV-TWA) (SKIN) - 54% chlorine PCB	Inhalation, ingestion and dermal routes of exposure. Eye, skin, and respiratory irritation; chloracne dermatitis; possible liver damage; suspected carcinogen
Silca Dust	0.1 mg/m^3 over 8-hr (TWA) 0.05 mg/m^3 <10-hr/day , 40-hr/week (TWA)	Inhalation, eye, skin, and respiratory irritation; silicosis; crystalline silica has been classified as a human lung carcinogen.
Cadmium	0.01 mg/m^3 (TLV-TWA); 0.002 mg/m^3 – respirable (TLV-TWA)	Inhalation, ingestion and dermal routes of exposure. Eye, skin and respiratory irritation; pulmonary edema; central nervous system effects; nasal perforation; kidney damage; anemia; suspected carcinogen
Chromium	0.5 mg/m^3 (TLV-TWA) Cr III only	Inhalation, ingestion and dermal routes of exposure. Eye, skin and respiratory irritation; skin and nasal ulcerations; possible lung fibrosis
Lead and inorganic compounds	30 $\mu g/m^3$ (Action Level); 50 $\mu g/m^3$ (PEL)	Inhalation, ingestion and dermal routes of exposure. Gastrointestinal disturbances; anemia; neuromuscular dysfunction; encephalopathy; eephropathy

LEGEND:

mg/m^3:	Milligrams per cubic meter
$\mu g/m^3$:	Micrograms per cubic meter
TLV-TWA:	American Conference of Governmental Industrial Hygienists (ACGIH) time-weighted average (TWA) Threshold Limit Value.
SKIN:	Skin notation (may be absorbed into bloodstream through skin, mucous membranes, and/or eye, and contribute to overall exposure)

3.1.2 Hazardous Substances Brought to the Site with Anticipated Use at IR Site 1

A listing of hazardous substances with anticipated use during site fieldwork is provided below. A Hazardous Substances Inventory List will be prepared by the SSHO. The SSHO will maintain MSDSs for hazardous substances to be used during site work.

- Fuels: Diesel and gasoline fuel for vehicles and equipment
- Lubricants: Oil, grease, and other lubricants for equipment
- Fire Extinguishing Agent: Dry chemical for fire extinguishers

3.2 Physical Hazards

The primary physical hazards that may be encountered during site work are indicated below. The following information describes physical hazard safety control measures to be used.

3.2.1 Fire Protection and Hot Work

Fuel will be used to operate equipment. Hot work (work that uses a flame or creates sparks) is not anticipated during demolition. If hot work is necessary, fire extinguishers will be available on site and a fire watch posted in accordance with requirements contained in EM 385-1-1. Hot work permit procedures will be implemented in the unlikely event hot work operations become necessary.

Procedures for fire hazards and fire protection include:

- Smoking is not allowed in areas where flammable or combustible materials are present
- Fires and open flame devices must not be left unattended
- Portable multipurpose fire extinguishers will be maintained on site at all times, kept fully charged, inspected monthly, and serviced annually. Fire extinguishers are to be placed within 75 feet of active work areas where flammable or combustible materials are present
- OSHA-approved metal safety cans, painted red with a yellow stripe, that have self-closing lids and flame arrestors should be used to store small quantities of flammable liquids
- Static electricity generating equipment requires bonding and grounding whenever transferring flammable or combustible liquids or when working in areas where these materials are present

3.2.2 Underground and Overhead Utilities

Underground and/or overhead utility lines may be present at the IR Site 1. Subsurface work requires utility clearance procedures. The presence of overhead utilities will be surveyed before bringing equipment with high extensions (e.g., heavy equipment, dump trucks, aerial lift, and crane) into a work area.

Underground and overhead utility safety precautions include:

- The work area must be surveyed to identify underground utilities before subsurface work activity. Utility clearance procedures are implemented for drilling, excavation, and/or other subsurface work activity by contacting the local utility locating organization before subsurface activity is conducted
- The work area must be surveyed for overhead utilities and safety measures established before bringing equipment with high extensions on site (e.g., heavy equipment, dump trucks, aerial lift, and crane). Equipment that has high overhead projections is not allowed to operate within a 10-foot radius (minimum distance) of overhead power lines. Overhead high-voltage power lines more than 50,000 volts require additional distance. Verify the voltage of the overhead lines and check against EM 385-1-1 Section 11, Table 11-1 to ensure that the required minimum distance from overhead lines is maintained. EM 385-1-1, paragraph 11(E), requires the following minimum clearance from energized overhead electrical lines for the indicated voltages: 0-50 kV (9.8 feet); 51-200 kV (14.7 feet); 201-300 kV (19.7 feet); 301-500 kV (24.6 feet); 501-750 kV (34.4 feet); and 751-1,000 kV (44.3 feet)
- When crossing underneath high-voltage power lines: Use a spotter to help the equipment operator monitor the distance from overhead lines; post caution overhead line signs near the approach to the overhead lines; and set up and demarcate a designated crossing area for the equipment to cross underneath the power lines
- Emergency contact information for applicable utilities (i.e., electrical, natural gas, water, telephone, cable) will be determined and kept at the project site.
- In the event of contact with a utility line: Remove personnel from the area and control access to the affected area. Contact the utility company for immediate service

3.2.3 Heavy Equipment Operation

Heavy equipment will be used for earthwork and demolition. Ground personnel will at times be working in the general vicinity of equipment operation. Heavy equipment will be inspected daily for maintenance and operational deficiencies and such inspections documented. Ground personnel will position themselves out of the swing radius of operating heavy equipment whenever possible. When not possible, ground personnel will coordinate with equipment operators to ensure safety. Personnel will not be allowed to walk underneath loaded buckets. Ground personnel will wear high-visibility safety vests and be required to maintain visual contact with equipment operators. Hand signals will be established.

Heavy equipment operation safety procedures include:

- Only experienced personnel will operate excavation equipment on site
- Heavy equipment will have rollover protection, seat belts, good functioning brakes, fire extinguisher, and operating backup alarms and horns. Equipment will be checked daily at the beginning of each work shift and such inspection recorded by the equipment operator on a "Heavy Equipment Inspection Report" form so that the following systems and parts are in good working order: Service, emergency and parking brakes; tires/tracks; horn; steering mechanism; coupling devices; seat belts; operating controls; safety devices; fire extinguisher; cracked or broken glass, and backup alarms
- Excavation work areas will be properly marked and guarded with barriers and/or caution tape to prevent unauthorized personnel entry and to prevent personnel from falling into open holes
- Workers will be required to wear high-visibility safety vests with reflective striping when working around heavy equipment
- Workers will be cautioned to look carefully where they walk to avoid moving equipment. Concurrent operations will be curtailed to prevent workers from being placed in dangerous proximity to moving heavy equipment
- Before entering the swing radius of operated heavy equipment, ground personnel must gain unobstructed eye contact with the equipment operator. Unobstructed eye contact with the equipment operator must be maintained at all times while working within the swing radius of the equipment. As a courtesy, ground personnel should "signal" the equipment operator when they are exiting the swing radius of the heavy equipment
- Personnel are not permitted to ride as passengers on heavy equipment
- Whenever equipment is parked, the parking brake will be set, and wheels will be chocked when on inclines. Bulldozer blades, hoe buckets, truck beds and the like will be fully lowered or blocked when not in use. Parts of machinery held aloft, such as hoe buckets or truck beds, will be blocked or cribbed before employees are allowed to work under or between them
- Dust control measures (i.e., water application) may be used (as needed) to minimize airborne dust during heavy equipment operation

3.2.4 Vehicle and Equipment Traffic

Concurrent operation of mobile equipment, vehicles, and the presence of ground personnel may occur during site work. Traffic patterns will be established and reviewed during safety meetings. Spotters will be used for backing vehicles into tight work areas.

Vehicle and equipment traffic safety procedures include the following:

- Workers will be cautioned to look carefully where they walk to avoid vehicles and moving equipment and to maintain eye contact with equipment operators when I the vicinity of heavy equipment
- Use traffic signs, barricades, flashers, delineators, traffic cones, caution tape, or flagmen (as needed) around work areas with vehicle or equipment traffic
- The PM, SS, and/or SSHO will establish vehicle and equipment traffic patterns to be used. Traffic haul routes have been identified and will be reviewed during daily safety meetings
- Drivers will ensure areas are clear before backing vehicles and will use a spotter
- Drivers will watch for overhead utility line clearance and use spotters when in the vicinity of energized overhead utility lines

- When outside of vehicles, drivers will wear hard hats and other prescribed PPE, as directed in this HASP
- Drivers will keep vehicle windshields and mirrors clean

3.2.5 Material Handling

Material handling involving lifting and carrying of materials will be required. Personnel will review proper lifting techniques during safety meetings.

Procedures for material handling, storage, and disposal include:

- Material handling devices should be used for handling heavy or bulky items whenever possible over manual material handling. Whenever handling heavy or bulky items, the material handling needs should be evaluated in terms of weight, size, distance, and path of movement. The following hierarchy for selection of material handling means should be used: Elimination of material handling needs by engineering; movement of material by mechanical device (i.e., lift truck, overhead crane, conveyor, etc.); movement by manual means with handling aid (i.e., dolly, cart, etc.); and movement using safe lifting techniques
- Personnel will be trained in safe lifting procedures including: Size up the load first, get help if the load is bulky, heavy, or of unwieldy length; be sure of footing, lift with your legs while keeping your back straight, keep your balance, do not twist under strain or jerk the load, and keep the load close to your body
- When two or more persons are carrying long material together, all persons must carry the material on the same shoulder and lift or lower the material in unison

3.2.6 Tools, Machinery and Equipment Use

Hand and power tools may be used. Tools will be used according to design. Power tools requiring electrical cords will use ground fault circuit interrupters (GFCIs).

Tools, machinery, and equipment use safety procedures include:

- Equipment and tool inspection and maintenance are required to promote safe condition for the intended use. Tools and equipment shall be inspected daily or before each use for defects. Tools that are burred, broomed, mushroomed, have split or loose handles; worn or sprung jaws; or are generally unsafe will be turned in to the SSHO
- Defective or unsafe equipment must be tagged as defective until repaired or otherwise made acceptable. Defective or unsafe equipment will be removed to a secure place to prevent inadvertent use. Repaired items must be re-inspected by the SSHO before being placed back into service
- Equipment must be used only for the purpose for which it was designed (do not use a wrench for a hammer, screwdriver for a chisel, pliers for a wrench, pipe or stilson wrenches as a substitute for other wrenches, or a pipe handle-extension or a "cheater" on a wrench). All modifications, extensions, replacement parts, or repairs of equipment must maintain at least the same factor of safety as the original equipment
- Equipment containing liquid systems (i.e., fuel, hydraulic, lubrication, etc.) are to be inspected daily so that such systems (e.g., hoses, tubing, hydraulic lines, etc.) are in good operating condition and that plugs, stoppers, valves, etc., are properly seated
- Tools, equipment, or material should not be thrown up or down from one working level to another. A hand line should always be used to lift or lower tools
- Nails or spikes should not be left protruding from planks, boards, or other timbers. Nails or spikes should be pulled out or clinched (bent over) into the wood
- Machinery or equipment must not be operated without proper training.
- Loose or frayed clothing, dangling ties, rings, etc., must not be worn around moving machinery or other mechanical sources of entanglement

- Work should not be performed under vehicles supported by jacks or chain hoists, without protective blocking that will prevent injury if jacks or hoists fail
- Electrical power tools, lighting equipment, etc. must be properly grounded by using three-wire receptacles and extension cords rated for the amperage required. GFCIs should be used with temporary electrical systems or other proper grounding system
- Portable electric tools must not be lifted or lowered by means of a power cord. Electrical equipment cords should be kept coiled when not in use. When electrical equipment is in use, cords should be protected and positioned to avoid being run over by vehicles or equipment
- Machinery must not be repaired or adjusted while in operation. Oiling of moving parts must not be attempted except on equipment that is designed or fitted with safeguards to protect the person performing the work

3.2.7 Electrical Equipment

Fuel-powered generators will be used to provide electrical power on site. GFCIs will be used and electrical extension cords inspected should portable electrical equipment be needed.

3.2.8 Noise Exposure

Noise exposure above 85 decibels on the A-weighted scale (dBA) is expected when working near or operating machinery and equipment (e.g., generators, compressors, etc.).

The operation of equipment and machinery at the site may generate excessive noise levels and requires:

- Site personnel working in the immediate area of heavy equipment or power tools/equipment are required to use hearing protection (e.g., foam ear plugs). The SSHO will review hearing conservation during daily safety meetings and establish guidelines to be utilized by site personnel
- A sound level meter will be used to confirm the noise level where noise exceeding the OSHA PEL is suspected to exist. The maximum noise level for ECOR workers is 85-dB(A). Levels above this will require the use of hearing protection. Hearing protection will be provided at no cost to the workers
- Activities that require hearing protection: Jack-hammering, use of gas-operated chainsaws and grinders; or while performing work in proximity (within 30-ft.) of gas generators, pile-driving equipment, hydro-demolition equipment (pressure washer), or other equipment known or suspected to produce noise levels in excess of acceptable OSHA exposure levels
- Audiometric testing is performed during the baseline and subsequent annual physicals of all employees who are required to take examinations as a requirement of their employment (not including persons whose sole duty is administrative, office-type work)

3.2.9 Heat Stress

The American Conference of Governmental Industrial Hygienists Threshold Limit Values (TLV) are found in Table 3.2.9-1. These TLVs are based on acclimatized (2 weeks or more in the environment); fully clothed workers with adequate water intake, without exceeding the deep-body temperature of 100.4° (F). Workers introduced into this environment must be given adequate time (determined by the physical condition of the work and consultation with the SSHO) to acclimate to the new environment. The Wet Bulb Globe Temperature (WBGT) is the calculation of the ambient air temperature, radiant energy, air velocity and the moisture content of air.

To effectively monitor the effects of heat upon employees, the WBGT will be determined hourly and recorded in the WBGT log. The SSHO will modify work activities in accordance with Table 3.2.9-1.

Table 3.2.9-1: Permissible Heat Exposure TLV –WBGT in Celsius (Fahrenheit)

Allocation of Work in a Cycle of Work and Recovery	Work Load		
	Light	Moderate	Heavy
75% - 100%	31.0	28.0	--
50% - 75%	31.0	29.0	27.5
25% - 50%	32.0	30.0	29.0
0% - 25%	32.5	31.5	30.0

As workload increases, the heat stress impact on an unacclimated worker is exacerbated. The permissible heat exposure TLV must be reduced by 2.5° C until fully acclimatized. If required, workers wearing semi-permeable or impermeable PPE will be monitored by the SSHO when work area ambient air temperatures exceed 70°F. Work cycles will be shortened when the worker's heart rate exceeds 110 beats per minute (BPM). If the heart rate does not decrease, the next work cycle will be shortened by one-third.

When additional PPE is added because of harmful substances, a correction to the WBGT must be applied in accordance with Table 3.2.9-2.

Table 3.2.9-2 WBGT Correction Factors in °C for Added PPE and Clothing

Clothing Type	Clo Value*	WBGT Correction
Summer work clothes	0.6	0
Cotton Coveralls	1.0	-2
Winter work clothes	1.4	-4
Water barrier, permeable	1.2	-6

* Clo Value – Insulation value of clothing.

Work Load Categories

Heat produced by the body and the environmental heat combined determine the total heat load on a worker. The workload category for each task should be established and the heat exposure limit pertinent to the workload evaluated against the applicable standards. The workload categories are:

- Light Work (up to 200 kcal/hr. or 800 Btu/hr.), e.g., sitting, standing to control machines, performing light hand or arm work
- Moderate Work (200-350 Kcal/hr. or 800-1400 Btu/hr.), e.g., walking with moderate lifting or pushing
- Heavy Work (350-500 kcal/hr. or 1400-200 Btu/hr.), e.g., pick and shovel work, PPE level A, B, & C work; jack hammering, outside strenuous work

Water and Salt Supplementation. During hot weather or when the worker is exposed to artificially generated heat, potable drinking water must be made available. Workers will be encouraged to increase water intake in small amounts equal to one cup about every 20 minutes). The water will be iced and will be placed close to the workplace.

The workers will be encouraged to increase salt in their diet during periods of elevated temperature. Salted water or salt tablets will not be provided. Providing "salted water" is not advisable, as those with heart conditions or high blood pressure may not be able to tolerate the extra salt.

Other Considerations

Clothing. The expectation is that all of the tasks required under the scope of work for this project will be accomplished under Modified Level D or Level D attire.

Acclimation and Fitness. Personnel assigned to this project will be acclimatized prior to the commencement of heavy exertion. The recommended TLVs are valid for "acclimated" workers who are physically fit. The TLVs will be adjusted for each worker, and will accommodate their physical abilities and general health condition. Persons with chronic diseases, such as heart conditions, diabetes, or those on physician-prescribed medication, etc., will be allowed to work within the range of their physician's-established limitations. In any case, any employee who displays disorientation, confusion, malaise, irritability, or chills will be evaluated for heat injury. A buddy system will be used to monitor heat injury status of employees.

Health Effects. ECOR's policy is that anyone suspected of having any of the heat illnesses will be evaluated in a medical treatment facility as these illnesses can progress from one to another and trained medical personnel are required to assess and treat such illnesses. The typical health effects of various heat illnesses are tabulated below:

TABLE 3.2.9-3 Heat Disorders and First Aid Measures

Heat Stress Disorders	Signs and Symptoms	First Aid Measures
Heatstroke	Hot dry skin, usually red, mottled, or cyanotic (blue). Confusion, loss of consciousness, or convulsions. Core Temperature may exceed 104° F. Hallmark sign is cessation of sweating.	• Remove the individual to a shady location • Immediately begin cooling with chilled water by wrapping in a wet sheet or by dousing the individual's clothing • Begin vigorous fanning • Seek immediate medical attention
Heat Syncope	Fainting while standing erect and immobile in heat	• Remove to cooler environment, lie down, and rest • Seek immediate medical attention
Heat Exhaustion	Fatigue, nausea, headache, and giddiness. Skin is clammy and moist, complexion may be pale, muddy, or flushed. May faint on standing with rapid, thready pulse, and low blood pressure	• Remove to cooler environment, lie down, and rest • Give plenty of fluids • Seek immediate medical attention
Heat Cramps	Painful spasms of muscles used during work; onset during or after work.	• Salted fluids or sports drink by mouth may be administered but definitive treatment should be rendered physician • Seek immediate medical attention

3.2.10 Inclement Weather and Adverse Environmental Conditions

In cases of inclement weather for outside work locations or other adverse environmental conditions (i.e., strong winds, rain, snow, lightning, hurricane, tornado, earthquake) the following safety instructions are required:

- Presence of strong winds requires stoppage of affected work activities at elevated work locations (e.g., towers, roofs, ladders, scaffolds, platforms) and stoppage of use of equipment whose safe operation can be affected by high winds (i.e., drill rigs, man lifts, scissor lifts, cranes)

- Presence of heavy rain or snow requires stoppage of affected work activities where the heavy rain or snow can create safety hazards due to limited visibility, wet work surfaces, slippery equipment controls, increased electrical hazards, cold stress, etc.

- Presence of lightning requires stoppage of affected work activities where lightning presents an increased safety hazard of electrocution (e.g., cranes, heavy equipment, drill rigs, tanks, towers)

- Occurrence of a hurricane, tornado, or earthquake requires stoppage of affected work activities and evacuation of personnel from excavations and trenches, confined spaces, and buildings of questionable stability

- In case of work stoppage due to inclement weather conditions or other adverse environmental conditions, work will not resume until an all clear signal has been communicated by the SSHO to affected personnel. In case of work stoppage due to lightning, an all clear will not be given until no lightning has appeared in the area for a period of 10 minutes

- In the case of severe weather conditions, emergency evacuation procedures shall be established where high winds, strong storms, tornadoes, hurricanes, and floods are a potential occurrence. The SSHO shall monitor the local weather conditions and advise the PM when the U.S. Weather Service issues severe storm warnings. When a severe weather warning is issued, the PS and SSHO will begin taking actions to secure the worksite. In the event of impending severe weather conditions, personnel will be advised of the hazard, and an evacuation order will be issued by the SSHO. All site personnel shall immediately evacuate the work area to a designated location (i.e., hotel.) The SSHO will notify the PM and advise him that all site personnel are evacuating the area. The SSHO shall maintain contact with site personnel and provide the PM with periodic updates as to the whereabouts of all site personnel. Site personnel shall remain outside the evacuation area at a designated location until notified by the PM that it is safe to return to the work area. After severe weather conditions have passed, the PS and SSHO will mobilize to the worksite, inspect the condition and security of the site, and make any necessary response actions to correct unacceptable conditions.

3.2.11 Miscellaneous Physical Hazards

General safety hazards will be present during all project tasks. Poor housekeeping, uneven or slippery walking surfaces and other slip, trip and fall hazards; poor illumination, and overhead obstructions are primary hazards. General safety information will be communicated during daily safety meetings.

Miscellaneous physical hazards and safety procedures to be followed are reviewed with personnel in safety meetings and may include discussion of the following topics:

- Poor housekeeping
- Poor illumination
- Overhead obstructions
- Sharp objects
- Uneven walking surfaces
- Slippery work surfaces
- Tripping hazards
- Fall hazards

3.3 Biological Hazards

Biological hazards that may potentially be encountered during site work include:

- Poisonous snakes
- Poisonous spiders
- Rodents
- Ants and bees
- Mosquitoes

3.3.1 Poisonous Snakes

Poisonous snakes (i.e., rattlesnake) may be encountered during site work. The rattlesnake has a series of dark and light bands near the tail just before the rattles that are different from the rest of the body. Rattlesnake bite signs and symptoms of envenomation include: fang marks; metallic or rubbery taste in mouth; tingling of the tongue; numbness; swelling within 10 minutes of bite; nausea, weakness, temperature change; and discoloration within 3 to 6 hours.

Rattlesnake precautions include: Avoid walking in areas known to be populated with snakes. If a snake is encountered, look around, there may be others, then turn around and walk away on the same path traveled.

Rattlesnake bite first-aid procedures are: Summon emergency medical help immediately; have victim stay calm and remain motionless, if possible; position victim so that bite is kept below heart level, if possible; do not use ice, cold packs, sprays, alcohol, or any drugs; do not use tight tourniquet, apply light constricting band above bite (be able to insert finger under band) and do not release band, unless too tight from swelling; do not make incision across bite to suck out venom; and do not wait to see if symptoms develop, seek medical attention as soon as possible.

3.3.2 Poisonous Spiders

Poisonous spiders, such as the black widow spider or the brown recluse spider, may be encountered during site work. Spiders are usually found in dark, cool, protected areas and such areas should be inspected before placing hands or feet in these areas. Poisonous spiders are commonly found in woodpiles, sheds, basements, garages, and privies.

The primary species of black widow spider encountered has a glossy black appearance with an orange-red hourglass shape on the underside of the body. Black widow spider bite signs and symptoms are: initial pain followed by dull, occasionally numbing pain in the affected extremity; pain and cramps in one or several of the large body muscles; abdominal pain and cramping; sweating, increased salivation, anxiety, weakness, headache, and dizziness; and severe cases can result in uncontrollable muscle spasms, coma, and respiratory failure. Black widow spider bite first-aid procedures are: wash wound; apply a cold pack; and get medical care

The brown recluse spider is also known as the “violin or fiddle back” spider and is light brown in color with a darker brown violin-like marking on the top of the body. The brown recluse spider is non-aggressive, and most bites occur when the spider is trapped in clothing being put on, stepped on, and when areas where the spider resides are disturbed. Brown recluse spider bite signs and symptoms are: Localized burning sensation within 2 hours to 8 hours with itching and redness; small blanched area around immediate bite area appears; reddened area enlarges and becomes purple during subsequent 1 hour to 8 hours; and fever, malaise, stomach cramps, nausea, vomiting, and some cases have resulted in death. Brown recluse spider bite first-aid procedures are: wash wound; apply a cold pack; and seek immediate medical care.

3.3.3 Rodents

Rodents include rats, mice, squirrels, and other related mammals and are characterized by gnawing and nibbling traits. Rodents can act as a vector for many diseases that may be transmitted directly or through other vectors such as fleas or ticks. Diseases that can be transmitted include plague, typhus, leptospirosis, relapsing fever, and others including hantavirus pulmonary syndrome.

3.3.4 Ants and Bees

Ant bites and bee stings can be deadly to those who are hypersensitive. Anaphylactic shock can occur to sensitized individuals upon receiving a single sting once they are sensitized to the ant or bee venom. Signs and symptoms of envenomation are usually local pain, redness, itching, and swelling. Sensitive individuals may have more serious symptoms such as welts, itching palms and feet, headache, nausea, vomiting, labored breathing, and in severe cases respiratory paralysis or heart failure. Individuals who are hypersensitive should carry a kit containing an antihistamine and epinephrine. Individuals who have been stung and appear to be in distress will be evacuated to a medical treatment facility for evaluation.

3.3.5 Mosquitoes

Infected mosquitoes can act as a vector for many diseases including West Nile Virus. West Nile encephalitis is caused by the West Nile virus, a flavivirus commonly found in Africa, West Asia, and the Middle East. Encephalitis is an inflammation of the brain and can be caused by viruses and bacteria, including viruses transmitted by mosquito bites. Transmission is a vicious circle. Mosquitoes become infected when they feed on infected birds. The virus gets into the mosquito's salivary glands. Then the mosquito bites a human or an animal, injecting the virus, which can multiply and cause illness. Symptoms vary depending on the severity of the infection. Mild infections include flu-like symptoms: fever, headaches and body aches, skin rash, and swollen lymph glands. Severe infections include symptoms such as higher fever, neck stiffness, disorientation, coma, paralysis, convulsions, and muscle weakness.
The methods of reducing risks of transmission of West Nile Virus include staying indoors at dawn, dusk, and in the early evening, wearing long-sleeved shirts and long pants when outdoors, spraying clothing with repellents containing Permethrin or DEET, and applying insect repellent sparingly to exposed skin.

3.4 Radiological Hazards

Radiological hazards are not expected for site work.

3.5 Ordnance and Explosives Hazards

Ordnance and explosive materials are not expected for site work.

3.6 Dust Control

Dust will be primarily controlled at work sites using water spray application.

3.7 Activity Hazard Analyses

AHAs are prepared before beginning each major phase of work operations. The AHA reviews hazards and control measures for primary site tasks. The AHA defines the activities to be performed and identifies the sequence of work, specific hazards anticipated, and control measures to be implemented to eliminate or reduce hazards to an acceptable level. Work does not proceed on that phase of work until the AHA has been accepted and the AHA has been reviewed with personnel involved with the activity. The AHA is reviewed and modified to address changing site conditions or operations. AHA modification occurs with the concurrence of the CSHM, PM, SS, SSHO.

AHAs for the following major project tasks are provided in Appendix C.

- Mobilization and Site Preparation
- Sampling
- Well Abandonment
- Demolition of Structures
- Site Restoration and Demobilization

4.0 EXPOSURE MONITORING

We do not anticipate that personal monitoring will be required; however, air monitoring may be necessary to determine personnel exposures to chemical contaminants and/or physical agents during various project activities. The SSHO, or designee, will be responsible for conducting air monitoring activities during field operations where there is potential exposure to airborne contaminants above OSHA eight-hour time-weighted average (TWA) and 15-minute short-term exposure limit (STEL) PELs or ACGIH TLVs. If personal air monitoring is conducted, site workers will have access to air monitoring results and results will be posted at the project site. A description of the plan for exposure monitoring to be implemented during the project is provided in this section of the SSHP.

4.1 Air Contaminants

Air contaminants that may potentially be encountered during project fieldwork operations are silica dust particulates generated during the demolition of the concrete pads. Continuous or prolonged exposure to crystalline silica (silica) dust will be controlled by proper engineering controls (wetting) during chipping, jack-hammering, drilling, sawing, and sweeping of masonry or concrete.

The work activities described below will be followed to reduce exposure:

- Masonry and concrete cutting, sawing, sweeping, grinding, chipping, jack-hammering, and drilling will be performed by using wetting agents or continuous misting to reduce the amount of airborne silica dust. Masonry will be cut with a wet-saw, followed by prompt cleanup. Electrical wet-sawing equipment will be used with proper grounding connections and ground-fault- circuit interrupters (GFCI) plugs to prevent electrical shock
- Prompt cleanup and disposal shall be performed when the dust and debris is wet or saturated to prevent the materials from drying and becoming airborne. Cleanup of silica-containing material will be accomplished by sweeping compound or wet-misting
- Dust control and cleanup will be routinely performed on the site. If the dust contains airborne silica and is not controlled, then all that work on the site or work-area must wear an approved dust mask

The following is considered to assist in prevention of work overexposure to silica:

- Personal air monitoring, respiratory protection and engineering controls reviewed by a SSHO, to determine the test results from airborne sampling
- Fit testing, safety orientation and possible medical surveillance if test results show a high exposure to silica

4.2 Exposure Monitoring Plan

Exposure monitoring may be needed to during the project scope of work. Exposure monitoring is to be completed by the SSHO, designee, and/or other responsible party (if required). Should action level concentrations be exceeded, response actions will be initiated to implement engineering controls, safe work practices, upgrade or downgrade in PPE, work stoppage, emergency evacuation, and notification and evaluation by the PM and SSHO. The SSHO is responsible for maintaining copies of applicable monitoring records (i.e., personal exposure monitoring results, pre and post-sampling calibration checks, etc.) at the site for the duration of the project.

TABLE 4.2: EXPOSURE MONITORING PLAN					
Exposure Element	**Method**	**Tasks**	**Frequency**	**Action Levels**	**Action**
Volatile Organic Compounds	RAE Systems MiniRAE 2000, Thermo	Tasks where exposure to VOCs may occur	Initial and periodic monitoring of work areas and worker breathing zone	> 5ppm ≤50ppm VOCs	Stop work. Contact the SSHO to evaluate
Dust	Thermo MIE pDR-1000 DataRam	Tasks where exposure to silica dust may occur	Initial and periodic monitoring of work areas and worker breathing zone	> 0.1 mg/m3 8hr TWA	Institute engineering controls (wetting)
Heat stress	Radial pulse for heart rate	Tasks where elevated ambient temperatures (greater than 70ºF), moderate to heavy work loads, and impermeable protective clothing is being used	Initial baseline and periodic monitoring at the end and beginning of each work period	Baseline: HR greater than 110 bpm Next: HR greater than 110 bpm HR slow recovery to less than 110 bpm	Reduce next work period by one-third. Reduce next work period by one-third Alert SSHO to evaluate
Heat Stress	WBGT Meter	All	Hourly when temp > 70 F	Per work/rest cycle ration contained in this document.	Modify work activities as required.

LEGEND:

SSHO:	Site Safety and Health Officer
ppm:	Parts per million
PEL:	Occupational Safety and Health Administration (OSHA) 8-hour Time-Weighted Average (TWA) Permissible Exposure Limit
ºF:	Degrees Fahrenheit
HR:	Heart rate measured by checking radial pulse rate
bpm:	Beats per minute.

5.0 SITE CONTROL

Site control procedures are established to: restrict access to controlled areas of the worksite, identify means for site communication, and establish measures for site security.

5.1 Site Work Zones

Site work zones are established based on the type of operations to be conducted in the work zone, potential for exposure to contaminants, and potential for contact with other safety hazards. The establishment of controlled work zones (i.e., regulated area) may be required only during specific operations identified by the SSHO. Site work zone requirements are established to limit access to work areas to authorized personnel, prevent the spread of contamination from the work area, establish site communication, and site security measures.

Work zone demarcation will be established through use of caution tape or other means (e.g., barricades, fencing, signs, etc.) as approved by the SSHO.

5.2 Site Control Log

A log of personnel visiting, entering, or working at the site will be maintained. A "Site Control Log" form will be completed daily. This log includes entries for the date, name, organization, and time entering and exiting the site. The Site Control Log is maintained on site by the SSHO. All personnel are required to report and sign upon arrival at the site. Personnel who wish to enter a controlled area at the site must provide to the SSHO copies of required training, medical fitness for duty, and respirator fit testing documentation before entry is authorized. All personnel are required to complete the Site Control Log daily by signing out upon exiting the site.

5.3 Site Communications

Site communications are critical to allow for expedient communication of operational instructions, safety information, and emergency communications, and include:

- A telephone will be maintained on site with the EFS SS and/or SSHO
- Emergency communication instructions are in the emergency action plan section of the SSHP

5.4 Site Security

Site security measures are required to prevent unauthorized access to controlled areas of the site. Site security measures include:

- Personnel are required to check-in and sign in on the "Site Control Log" before entering controlled areas of the site. Unauthorized persons are not allowed into the controlled areas of the site
- Temporary fencing, barricades, signs, and/or caution tape will be used for delineation of controlled areas, if needed

6.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment may be required for certain field operations based on the potential for contaminant exposures. The SSHO and CSHM will establish appropriate levels of protection for each work activity based on review of historical site information, existing contaminant data, and evaluation of the potential for exposure. The SSHO and CSHM will establish action levels for upgrade or downgrade in the initial minimum levels of protection.

PPE requirements will be referenced to the U.S. Environmental Protection Agency (EPA) levels of protection system that consists of four levels of protection (A-D) as described below:

Level A Protection: Level A protection is worn when the highest level of respiratory, eye, and skin protection is needed. Level A protection is used for initial entry into confined spaces, entry into areas with vapor hazards, and entry into areas where the hazard of significant exposure to unknown contaminant concentrations exists.

Level B Protection: Level B protection is worn when the highest level of respiratory and eye protection is needed, but a lesser level of skin protection is needed than for Level A. Level B protection is used for initial entry into confined spaces, entry into areas with significant skin and respiratory hazards, and entry into areas where the hazard of significant exposure to unknown contaminant concentrations exists.

Level C Protection: Level C protection is worn when a similar level of skin protection as Level B is needed, but a lower level of respiratory protection is needed. Level C protection is used when limited skin hazards exist and concentrations of contaminants are within the protection factor of an air-purifying respirator.

Level D Protection: Level D protection is worn when minimal protection is needed and activities are not likely to involve direct contact with contaminated materials. Modified Level D protection is used when some skin protection is desired for protection against accidental skin contact with contaminants.

6.1 PPE Requirements

It is anticipated that Modified Level D, and Level D protection use may be required for project activities. No Level A, B, or C protection work is anticipated under the Scope of Work for this project. The primary basis for the level of protection selection is as follows:

- Modified Level D protection for work where there is no potential for significant air contaminant exposure and protective clothing is used for protection from accidental contact with contaminants

  Modified Level D protection consists of:

  - Disposable coveralls (Kleenguard® or Tyvek® for dust exposure; Polyethylene Tyvek® for incidental splash protection; PVC for liquid contact protection)
  - Boots, steel-toed/shank, chemical-resistant (PVC or equivalent) or boot covers (PVC or latex) over leather steel-toed work boots
  - Gloves, inner, chemical-resistant (surgical nitrile) and outer leather or sturdy work gloves
  - Hard hat; safety glasses with side shields; hearing protection; and high-visibility safety vest with reflective striping (if vehicle or equipment traffic is present)

- Level D protection for work where there is no significant potential for contaminant exposure.

  Level D protection consists of:

  - Coveralls or standard work clothing
  - Steel-toed work boots (leather)
  - Gloves (if material handling-cotton or leather)
  - Hard hat; safety glasses with side shields; face shield (polycarbonate for pressure washing); ear plugs (if noise levels more than 85 dBA); and high-visibility safety vest with reflective striping (if vehicle or equipment traffic is present)

- Level D protection will be used for site preparation, demolition, waste disposal sampling, and site restoration activities

6.2 PPE for Government Personnel

EFS will make available for use by visitors, three sets of PPE and clothing (excluding respirators and safety shoes that will be provided by the individual), as required for entry into the work area. The PPE will be stored in a container and clearly marked "FOR USE BY GOVERNMENT ONLY."

6.3 PPE Maintenance

- PPE is required as directed by the SSHP or the SSHO
- Personnel are responsible for proper use of required PPE
- Torn protective clothing or damaged PPE will be immediately repaired or replaced
- Contaminated PPE will be disposed of properly (as contaminated waste)
- Maintenance of reusable personal issue PPE (e.g., hardhats, safety glasses, etc.) is the responsibility of each worker for individually assigned equipment
- Personnel are responsible for proper maintenance, cleaning, storage, and use of individually assigned respirators. Respirators will be cleaned after each use, placed in a plastic bag, and inspected before using again.

7.0 Decontamination

Personnel and equipment decontamination may be required for site work.

7.1 Personnel Decontamination

General personnel decontamination requirements include:

- The SSHO must review specific decontamination procedures with personnel required to enter controlled work zones of the site and will monitor and ensure use of prescribed decontamination procedures
- Personnel will be instructed to minimize contact with contaminants, to the extent feasible, to reduce the potential for personal or equipment contamination
- Personnel decontamination occurs at the decontamination station established within each work location.
- Personnel must clean, remove, and place contaminated disposable protective clothing in marked containers before leaving the work zone.
- Workers will be instructed to practice good personal hygiene by washing the face, hands, and forearms before eating, drinking, smoking, etc.

7.1.1 Decontamination Procedures – Dry Method

A dry decontamination method will be used when there is limited contact with contaminants and when the SSHO has determined that a wet decontamination method is not needed. The decontamination sequence will be completed as follows:

Station 1 - Equipment Drop: Deposit used equipment on sheet plastic or in container with plastic liner.

Station 2 - Outer Boot Covers and Outer Gloves Removal: Remove outer boot covers and outer gloves. Deposit in container with plastic liner.

Station 3 - Boots and Outer Garment Removal: Remove boots and suit and deposit in containers with plastic liners.

Station 4 - Respirator Face Piece and Inner Gloves Removal: Remove respirator face piece (avoid touching face with fingers) and deposit on sheet plastic or in plastic bag. Remove inner gloves.

Following dry decontamination, personnel should immediately proceed to the nearest available facilities and thoroughly wash hands and face, before eating, drinking, or smoking.

7.1.2 Decontamination Procedures – Wet Method

A wet decontamination method will be used when there is significant contact with contaminants (i.e., contact with liquid contaminants, muddy surface contamination, other heavy contamination) and when the SSHO has determined it is necessary. The decontamination sequence should be completed as follows:

Station 1 - Equipment Drop: Deposit used equipment on sheet plastic or in container with plastic liner.

Station 2 - Boots and Outer Garments Wash/Rinse: Scrub outer boots, outer gloves, and suit with detergent/water solution. Rinse off with water.

Station 3 - Outer Boot Covers and Outer Gloves Removal: Remove outer boot covers and outer gloves. Deposit in container with plastic liner.

Station 4 - Cartridge/Canister or Mask Change-Out: Change-out APR cartridges/canister or face piece as needed. For respirator change-out and return to EZ, don new outer gloves and boot covers, tape at joints, and return to EZ. For entry into the support zone, continue decontamination sequence.

Station 5 - Boots and Outer Garment Removal: Remove boots and suit and deposit on sheet plastic or in containers with plastic liners.

Station 6 - Respirator Face Piece and Inner Gloves Removal: Remove respirator face piece (avoid touching face with fingers) and deposit on sheet plastic or in plastic bag. Remove inner gloves.

Station 7 - Field Wash: Wash hands and face thoroughly.

7.2 Equipment Decontamination

Procedures are required to prevent the spread of contamination from vehicles and equipment used in the work zone to offsite areas. Equipment will be decontaminated by procedures established by the SSHO.

7.2.1 Equipment Decontamination Facilities and Procedures

A decontamination facility (decontamination pad) may be established for decontamination of vehicles and equipment. Equipment will be decontaminated by procedures established by the SSHO and include:

- Vehicles and equipment used in the work zone that may contact their tires/tracks with contaminated surfaces will be minimized to the extent possible

- Dirt will be brushed or scraped off of vehicles and heavy equipment to remove visible materials before moving from the work zone. As needed, a pressure washer will be used for equipment decontamination

- Following decontamination, the equipment will be inspected and an "Equipment Decontamination Release Authorization" form will be prepared by the SSHO to document decontamination, before equipment will be allowed to move off site.

8.0 SAFETY POLICY AND PROCEDURES

8.1 Safety Policy

It is the policy of EFS to perform work in a safe manner. Our safety goal at EFS is to have incident-free operations. This goal can only be achieved through total and demonstrated commitment to this safety policy from each individual EFS staff member.

The effective realization of this policy and goal depends on three elements:

- Every accident is preventable
- Effective safety training is provided so that every EFS staff member has the necessary knowledge to identify potential hazards to their own and their co-workers' safety, and the necessary protocols, tools, and equipment to appropriately mitigate the identified hazards
- Each EFS staff member understands that we are all accountable for maintaining our own safety and the safety of our co-workers, at all times and in all situations

The EFS Safety and Health Program:

- Defines procedures and responsibilities necessary to effectively implement this safety policy
- Establishes a basis for safety training, medical monitoring, and record keeping requirements
- Provides rewards for safe work performance via project specific safety incentive programs
- Defines proper safety practices to be used during the performance of our work
- Complies with governmental regulations in the implementation of safe work practices

8.2 Standard Work Procedures

8.2.1 General Safe Work Practices

Site personnel must work in a safe manner and includes, but is not limited to, the following actions:

- Workers must obey directives from the SSHO and personnel who do not comply with safety requirements may be immediately dismissed from the site as required by the PM and SSHO
- The SSHO will conduct on site, a daily tailgate safety meeting before starting work each day to review work operations and to discuss pertinent site safety topics
- Non-prescribed drugs, alcohol, and firearms are not allowed on site
- Workers are not allowed to work if they are intoxicated or if their ability or alertness is impaired because of fatigue, illness, or other conditions that may expose them or others to injury
- Unsafe work conditions, work practices, and defective equipment will be immediately reported to the SSHO

8.2.2 Hazard Communication

- The SSHO will complete a "Hazardous Substance Inventory List" and maintain copies of MSDSs for hazardous substances that are to be used during project work. All site workers will have free access to the hazardous substance list and MSDS
- Site personnel will be informed of the hazardous substances that they will be working with through SSHP review and attendance at daily safety meetings
- The EFS "Hazard Communication Program" standard operating procedure will be referred to for additional guidance and requirements

8.2.3 Sanitation

- Food, beverages, tobacco products, or cosmetics are not allowed in potentially contaminated areas. Eating, drinking, chewing gum or tobacco and smoking are allowed only in designated areas
- Good personal hygiene practices will be followed at all times. Site washing facilities will be provided and personnel will be required to wash their hands and face before breaks, lunch, and departing the work site
- Potable water will be made available for personnel and portable toilets will be provided

8.2.4 Visitors

- Visitors must have prior approval before being admitted to the site
- Visitors must meet applicable medical and training requirements and review pertinent aspects of the SSHP

8.3 Hazard Identification and Evaluation System

The PM, SSHO, and CSHM are responsible for establishing a system for identification and evaluation of workplace hazards for the project. Hazard identification and evaluation are primarily accomplished through implementation of this SSHP. Prior to project implementation, the PM, SSHO, and CSHM review information relating to project work tasks to be completed; methods to be used; working conditions to be encountered; and chemical, physical and/or biological hazards present.

A written SSHP has been prepared that establishes site-specific safety protocols and contains information to protect employees from potential hazards. The SSHP will be revised should additional information become available concerning the hazards present at the site and/or should significant changes occur in the scope of work, operational procedures, site hazards, and hazard control measures. This information is reviewed with site personnel at the jobsite before work operations commence. Additional hazards associated with project operations are also identified and evaluated through daily safety meetings, periodic safety inspections, employee reporting of unsafe or hazardous conditions, and accident investigations and follow up.

8.4 Hazard Correction System

An effective hazard correction system must be established for correction of unsafe or unhealthful work conditions, work practices, and work procedures. These corrective measures will be completed in a timely manner.

If an imminent hazard is identified, the PM and SSHO are notified immediately. Corrective measures are then taken to immediately eliminate the hazard. If the imminent hazard can not be immediately eliminated, personnel will be removed from the work area and the SSHO will evaluate what safety procedures and corrective actions are to be implemented.

If a non-imminent hazard is identified, the SSHO is notified and corrective actions are implemented in a timely manner. Evaluation of the time period allowed for correction of the hazard is at the professional judgment of the SSHO in conjunction with the PM and CSHM. Documentation of the hazards identified and the hazard correction actions taken will be completed on a "Safety Inspection Report" form.

8.5 Safety Compliance System

A safety compliance system will be established to ensure that employees comply with safe work practices and S&H policies and procedures. The system's effectiveness is highly dependent upon the involvement, direct supervision, and enforcement of safety requirements by supervisory personnel. The system includes:

8.5.1 Safety Inspections

The SSHO completes periodic safety inspections of project sites and work areas. The SSHO will complete daily safety inspections of work sites to identify and correct hazards.

The SSHO will record identified safety and health issues and deficiencies and will indicate the actions, timetable, and responsibility for correction of deficiencies on the EFS "Safety Inspection Report" form. The SSHO will conduct follow-up inspections to correct identified deficiencies and will document these inspections in a like manner.

Safety inspections will include work areas, equipment, work practices, training, and work procedures. Noncompliance items with SSHP requirements will be corrected immediately or in a timely manner based on the classification of the hazard as imminent or non-imminent. In the case of unsafe or hazardous machinery, the equipment or area will be "red-tagged" (shut down or evacuated) until the hazard has been corrected. Employees are responsible for inspecting their work areas and equipment for unsafe or hazardous conditions; however, project management will spot check to ensure such inspections are taking place and producing the desired effect. Employees will correct all unsafe conditions and report them immediately to their supervisor. If employees are uncertain as to the degree of hazard associated with a deficiency, they are to stop work and report the situation to the SSHO. Maintenance employees must periodically inspect and/or test field equipment for safe and hazard-free operation.

The PM and/or CSHM may also conduct independent field safety inspections/audits of projects on a periodic basis. The frequency of these inspections will be at the discretion of the PM and CSHM based on the type of job activities and potential hazards to be encountered on the project. Safety inspection report forms completed will be reviewed by the PM and CSHM to monitor hazards identified and corrective actions taken.

8.5.2 Disciplinary Action

EFS policy requires that employees strictly adhere to established safe work practices and procedures. If employees violate safety procedures or rules, they may be disciplined according to the severity of the infraction. Employees who exhibit unsafe work performance will receive disciplinary action from the PM and SSHO in consultation with the CSHM. Disciplinary action can include the following, depending upon the severity of the safety infraction:

- Verbal warning
- Written warning notice
- Termination of employment
- Other disciplinary action

8.5.3 Safety Recognition

Safety recognition and safety incentive programs are initiated for specific projects where a significant improvement in safety compliance and/or safety performance can reasonably be achieved. Such programs are initiated as established by the PM and SSHO in consultation with the CSHM.

8.6 Safety Communication System

A system for communication with employees regarding matters related to S&H will be established and will include employee reporting of identified hazards, safety training, daily safety meetings, safety information postings, and written communications.

8.6.1 Employee Reporting of Identified Hazards

Employees are encouraged and required to inform project supervisors of unsafe or hazardous conditions that are identified. Additionally, employees are encouraged to report observed unsafe work practices by employees, supervisors, or other individuals. Employees may communicate directly with the PM, SSHO, and/or CSHM regarding any safety matter. No employee will be disciplined or otherwise discriminated against for reporting or correcting an unsafe condition. Employees may make anonymous reports of unsafe conditions or violations of safety rules to the SSHO or CSHM for follow-up action.

8.6.2 Training and Safety Meetings

Employees receive safety training regarding potential hazards associated with their work assignments through site orientation briefings, daily safety meetings, and other training. Training and safety meeting information is further reviewed in Section 10 of the SSHP. Copies of certificates of S&H training for site

personnel will be reviewed and maintained by the SSHO. Project personnel including subcontractors are not allowed to conduct fieldwork that requires specific training until such documentation has been presented to the SSHO.

Site orientation briefings that involve review of pertinent aspects of the SSHP will be completed for personnel before initiation of project fieldwork.

Daily safety meetings are held at the job site and are presented by the SSHO and are designed to:

- Provide instruction regarding hazards specific to each employee's job assignment
- Act as safety and health training program to instill safe and healthful work practices
- Remind employees that compliance with safe work practices is required
- Instill a constant sense of safety-consciousness among supervisors and employees
- Provide opportunity for employees to bring forward concerns and ideas about safety issues
- Reassure employees to inform supervisors of work site hazards without fear of reprisal
- Discuss with project personnel safety lessons learned, accidents, near misses, and specific safety requirements for the day's operations

8.6.3 Safety Information Posting and Written Communications

Safety posters, articles, notices, employee exposure monitoring data, and other safety-related information will be posted in an area designated for employee review. The SSHO will maintain safety postings and written safety communications for this project (a project field office is not available).

8.7 Incident Reporting and Investigation

Employees must immediately report all incidents, injuries and illnesses, property damage and liability exposure cases; spills and fires; and near miss incidents to the SS and/or the SSHO.

Should a serious injury occur during the project, the SS and SSHO will immediately report the incident to the PM, CSHM, and the Navy.

The SSHO and affected employee supervisor will make a complete investigation of all incidents and inspect the area or equipment involved (as applicable). This includes completing and filing a "Incident Report by Supervisor," "Incident Statement by Employee," "Incident Statement by Witness," "Injury and Illness Report," "Property Damage, Loss, and General Liability Report;" and/or "Vehicle Accident Report" form, as applicable with the PM within 24 hours of the injury (immediately for serious injury or fatality).

All incidents involving hospitalization or a fatality require immediate notification and investigation by the SSHO and the PM. The PM is responsible for OSHA reporting of the incident and will act as the agency interface upon their investigation. The PMs responsible for notifying the jurisdictional OSHA office as soon as possible and no later than 8 hours of the accident. (Note: This notification includes weekend days as 24-hour emergency reporting access is available). The report to OSHA must include: time and date of accident; employer's name, address, and telephone number; name and job title of person reporting the accident; address of the site of the accident; name of person to contact at the site of the accident; name and address of the injured employee; nature of injury; location where the injured employee was moved to; list and identity of other law enforcement agencies present at the site of the accident; and description of the accident and whether the accident scene has been altered.

The SSHO, with the assistance of the PM and SS, will obtain a doctor's first report of injury for every injury or illness requiring medical treatment.

An injured worker is not allowed back to work until a return-to-work notice issued by the treating physician and negative drug and/or alcohol test documentation (as applicable) are presented to the SSHO. Injured workers issued a work restriction shall be under the direct supervision of the SSHO who shall assign work activities until a full duty status clearance has been received.

The PM will make a telephone report for all claims covered under the EFS Workers' Compensation Policy. Reports are made to the workers' compensation insurance claim-reporting center where an employer's first report of injury or illness form is completed over the phone. After reporting a claim to the reporting center, the information is faxed by the reporting center to the claims service office to handle the claim. Any subsequent medical bills and reports received for the claim are forwarded to the PM who will subsequently mail them to the claims service office.

When a worker returns to work after an injury or illness, the PM will contact the claims servicing office to advise them of the actual date of return to work. Questions or inquires are to be directed to the CSHM who will contact the claims service office or the EFS insurance company, as needed.

The PM records each injury or illness on the OSHA Form No. 300 "Log of Work Related Injuries and Illnesses" and the OSHA Form 300A "Summary of Work-Related Injuries and Illnesses." The OSHA 300 form is posted annually no later than May1 (of the following year).

8.8 Site-Specific Procedures

EFS will comply with federal, state, and local requirements for dig permits, hot work permits, and other applicable work permits. Miss Utility will be contacted to determine location of utility services not owned by NWIRP Bethpage.

9.0 EMERGENCY ACTION PLAN

An Emergency Action Plan will be established to address possible on and off-site emergencies that may require site personnel to evacuate the work area. For on-site emergencies, local fire, police, and/or emergency medical service personnel will be notified. For major off-site emergency events that have the potential of impacting the work area (e.g., large fires, gas line breaks, etc.) personnel will be evacuated to a designated rally point. All site personnel are required to immediately notify the SSHO immediately in the event of any type of site emergency. The emergency action plan will be briefed to all project personnel including subcontractors and a copy maintained on site. Prior to commencement of project work activities, the emergency action plan will be drilled to ensure that all personnel understand what to do in the event of an emergency evacuation.

9.1 Site and Emergency Communications

- Cellular telephones will be used for site and emergency communications.
- The SSHO will maintain an "Emergency Contact List" (Appendix B). The SSHO is responsible for designating an emergency hospital and determining the route to the emergency hospital before the start of field operations
- The SSHO will also, as a courtesy, notify the local first responders and inform them of the site activities

9.2 Emergency Supplies

Emergency supplies will be immediately available at the site and will include:

- First-aid kit
- Fire extinguisher
- Spill kit supplies

9.3 Hospital and Route Information

New Island Hospital located at 4295 Hempstead Turnpike; Bethpage, NY is the designated hospital. The hospital, location, and route map are provided as Figure 8. The location and route map will be posted and remain posted on site during field operations.

9.4 Response to Fire Incident

The SSHO will consult with the local fire department before initiating site activities regarding response to fire incidents associated with site work. In the event of a fire, the following will be implemented:

- Large fire (beyond the immediate control of a small on site fire extinguisher): The site alarm will be sounded; personnel will immediately evacuate and assemble at a predetermined location; the fire department will be called; and personnel will not reenter the fire area and will wait for fire departments' arrival
- Small fire (within the immediate control of a small on site fire extinguisher): The site alarm will be sounded; trained personnel will use an on site fire extinguisher to put out the fire

9.5 Response to Chemical Spill

A spill kit will be available on site (located in designated area) with supplies for spill containment and control and includes: absorbent pads; solid absorbent, etc.

In the event of a small chemical spill (i.e., refueling equipment, etc.), the PM and SSHO will be immediately notified. If containment can be done safely without exposure to personnel, the following will be implemented:

Containment of liquid is accomplished through prompt application of absorbents (e.g., absorbent pads or solid absorbent).

In the event of a large uncontrolled chemical spill incident, the PM and SSHO will be immediately notified. The SSHO will obtain information regarding the spill and will respond immediately to the spill location and call the fire department.

9.6 Response to Medical Emergency

In the event of a medical emergency, the following procedures will be implemented:

- The injured person will be removed from immediate danger, first-aid and/or CPR will be administered by trained site personnel
- Emergency medical assistance will be called and will be informed of the following: name and location of person reporting; location of accident or incident, specific directions to the emergency location, phone number from which the person is calling, number of persons needing help, what is currently being done for the victim(s) (for life-threatening injuries, request instructions from emergency services dispatcher), name and affiliation of injured party(ies), description of injuries, summary of the accident including suspected causes and time of occurrence; and temporary control measures taken to minimize further risk
- Nonessential personnel will be evacuated from the work area until the SSHO determines that it is safe for work to resume

The SSHO will designate an individual to accompany or follow the victim to the hospital to assist with any needs that may arise and to report back regarding the victim's status

10.0 TRAINING

Copies of S&H training certificates will be reviewed and maintained by the SSHO. Personnel will not be allowed to perform fieldwork until the SSHO has determined this documentation to be compete and sufficient.

10.1 Site Orientation Briefing

Before the start of work, the SSHO will provide a site orientation briefing to workers related to project operations and SSHP requirements. Daily safety meetings will be conducted at the beginning of each work shift to discuss operational tasks to be completed and pertinent site safety topics. Meetings will be documented and those in attendance will be required to sign the "Tailgate Safety Meeting Record" or equivalent form.

The briefing will include review of (as applicable):

- Provisions of the SSHP
- Facility background and SOW
- Key personnel and S&H responsibilities
- Site hazards anticipated
- Site control procedures
- PPE requirements
- Procedures for reporting unsafe conditions or unsafe work practices
- Procedures for reporting an injury/illness
- Emergency action plan procedures including warning signals, evacuation procedures, and rally points
- Location/route to the emergency hospital

New workers must receive a site orientation briefing and review the SSHP before start of work. Personnel will sign a form documenting that they have reviewed the plan, understand the SSHP requirements, and agree to follow the plan.

10.2 HazWOPER Training

Personnel to include subcontractors involved in hazardous waste activities at the site must have completed hazardous waste operations and emergency response (HazWOPER) training as required by the OSHA "Hazardous Waste Operations and Emergency Response" standard. Certificates of HazWOPER training will be maintained by the SSHO at the site. Copies of current training certification statements will be submitted before initial entry onto the work site. Required HazWOPER training includes the following:

- Worker Training: 40 hours of initial training and 3 days of supervised field experience
- Manager and Supervisor Training: 8 hours of additional specialized manager/supervisor training
- Refresher Training: 8 hours of refresher training annually

10.3 First-Aid/CPR Training

All EFS personnel will have current certification in first aid and CPR as well as participating in the ECOR bloodborne pathogens program which will enable the employee to assist in the initial handling of medical emergencies. At least two persons who are currently certified in first-aid and CPR by the American Red Cross or other approved agency must be on site at all times during site operations. These individuals may perform other duties at the site but must be immediately available to render first-aid or CPR when needed.

10.4 10-Hour OSHA Construction Safety and Health Training

As required by USACE EM 385-1-1, personnel who are assigned as an SSHO shall have completed the 10-Hour OSHA Construction S&H Training class within the last three years. An equivalent course applicable to the work to be performed (i.e., OSHA 500 Trainer Course in Occupational S&H for the Construction Industry) is considered acceptable.

10.5 Health and Safety Documentation

Health and safety documentation records, as applicable, include: MSDSs; S&H training documentation; medical surveillance examination documentation; respirator fit testing forms; SSHP review and safety meeting records;

safety inspection reports; equipment inspection forms; accident reporting and investigation records; and other S&H documents will be maintained by the SSHO.

10.6 SSHP Forms

Completed SSHP forms are maintained on site by the SSHO for the duration of the project. SSHP forms (Appendix A) that may be used during the project are indicated below:

- Air Monitoring Log
- Certificate of Worker/Visitor Acknowledgement
- Equipment Decontamination Log
- First-Aid Treatment Log
- Hazardous Substance Inventory List
- Heavy Equipment Inspection Report
- Incident Reporting and Investigation Procedures Posting
- Incident Report by Supervisor
- Incident Statement by Employee
- Incident Statement by Witness
- Injury and Illness Report
- Property Damage, Loss, and General Liability Report
- Safety Inspection Report
- Site Control Log
- Site Safety and Health Plan Distribution to Subcontractor
- Site Safety and Health Plan Review
- Tailgate Safety Meeting Record
- Bloodborne Pathogens training and program participation

FIGURES

Figure 1. NWIRP IRP Site 1 Regional Map

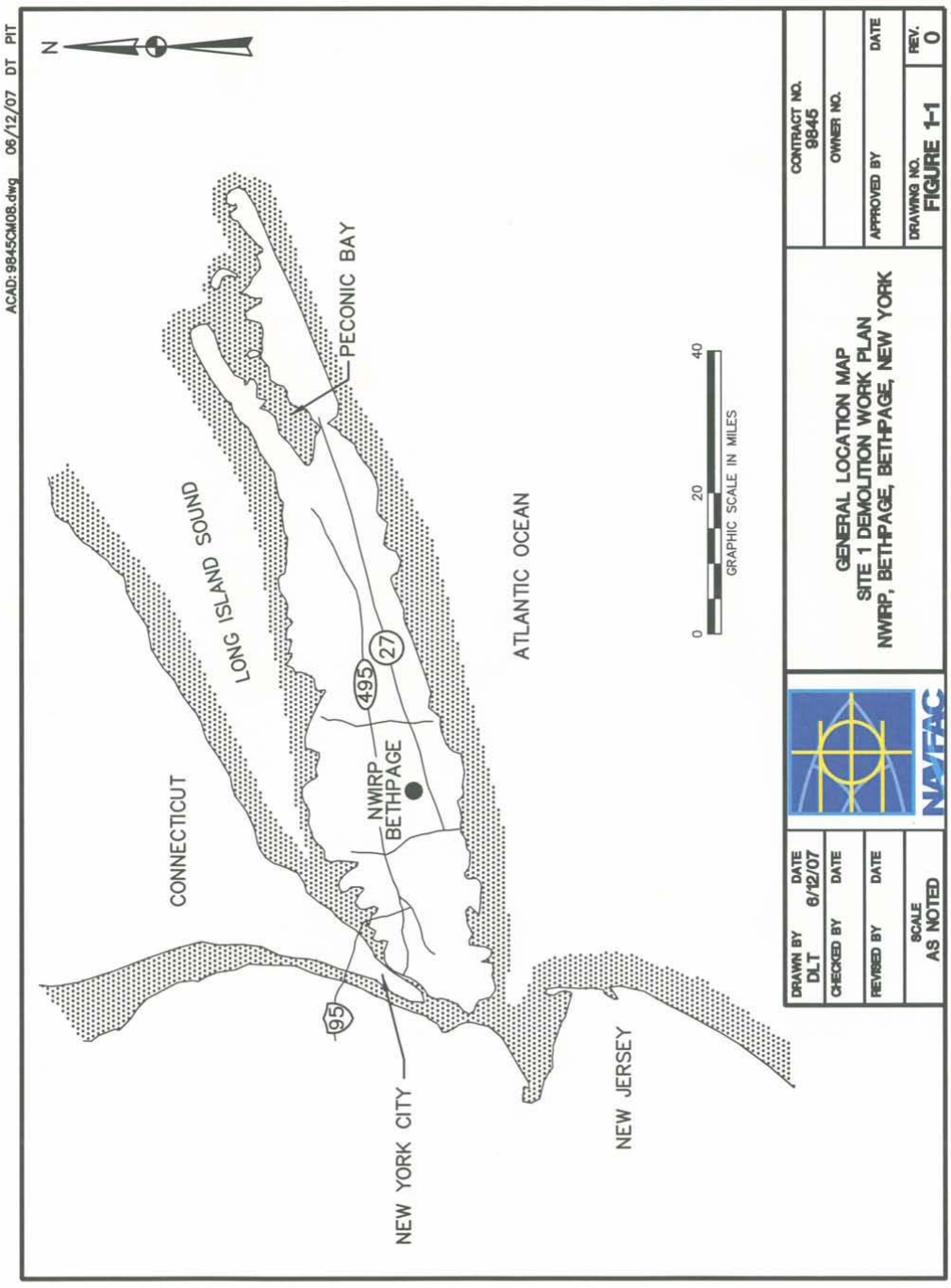


Figure 2. NWIRP IRP Site 1, Current Condition

Figure 3. NWIRP IRP Site 1 Location Map

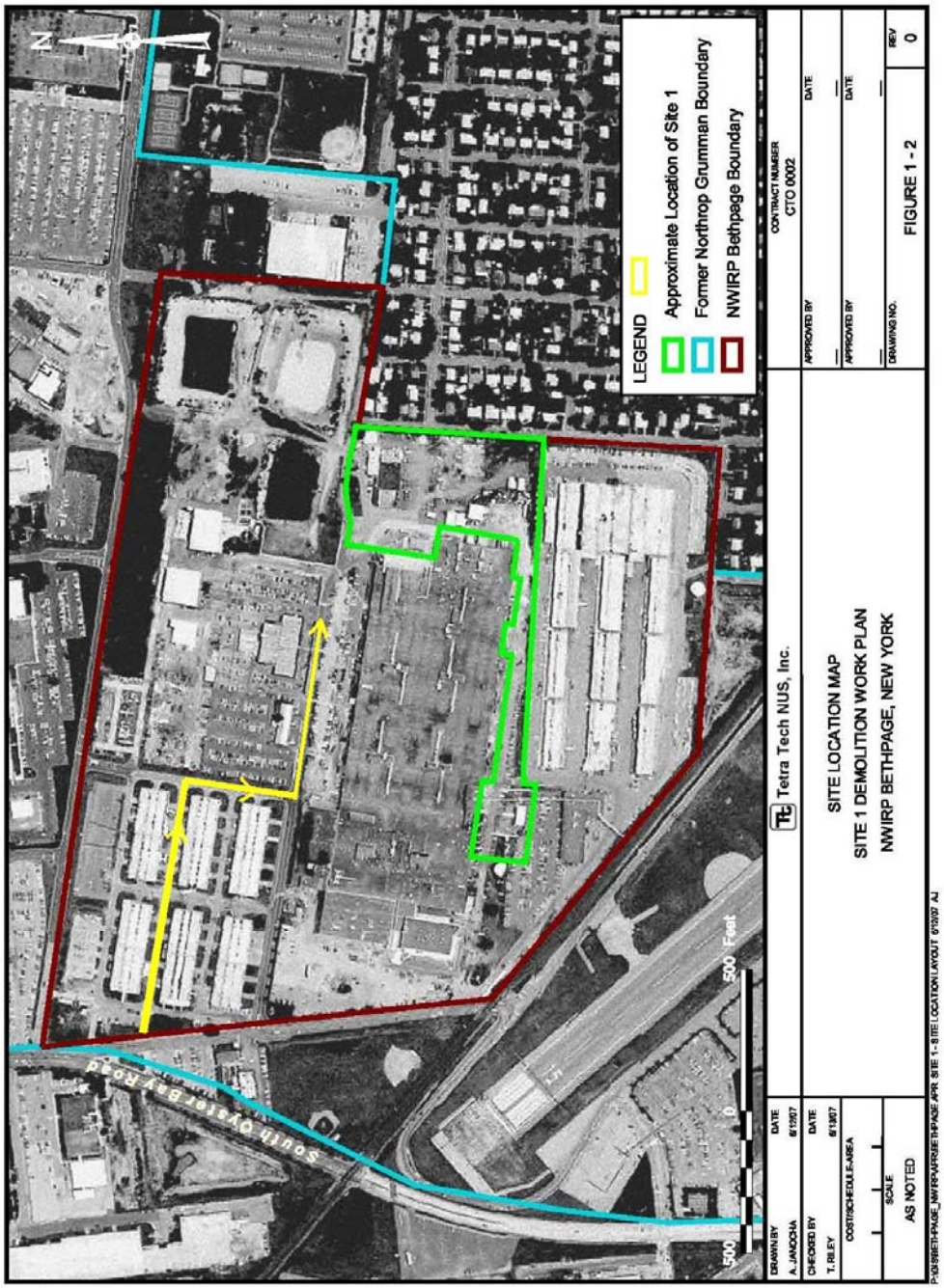


Figure 4. PCB Contamination 0-2 feet below Ground Surface

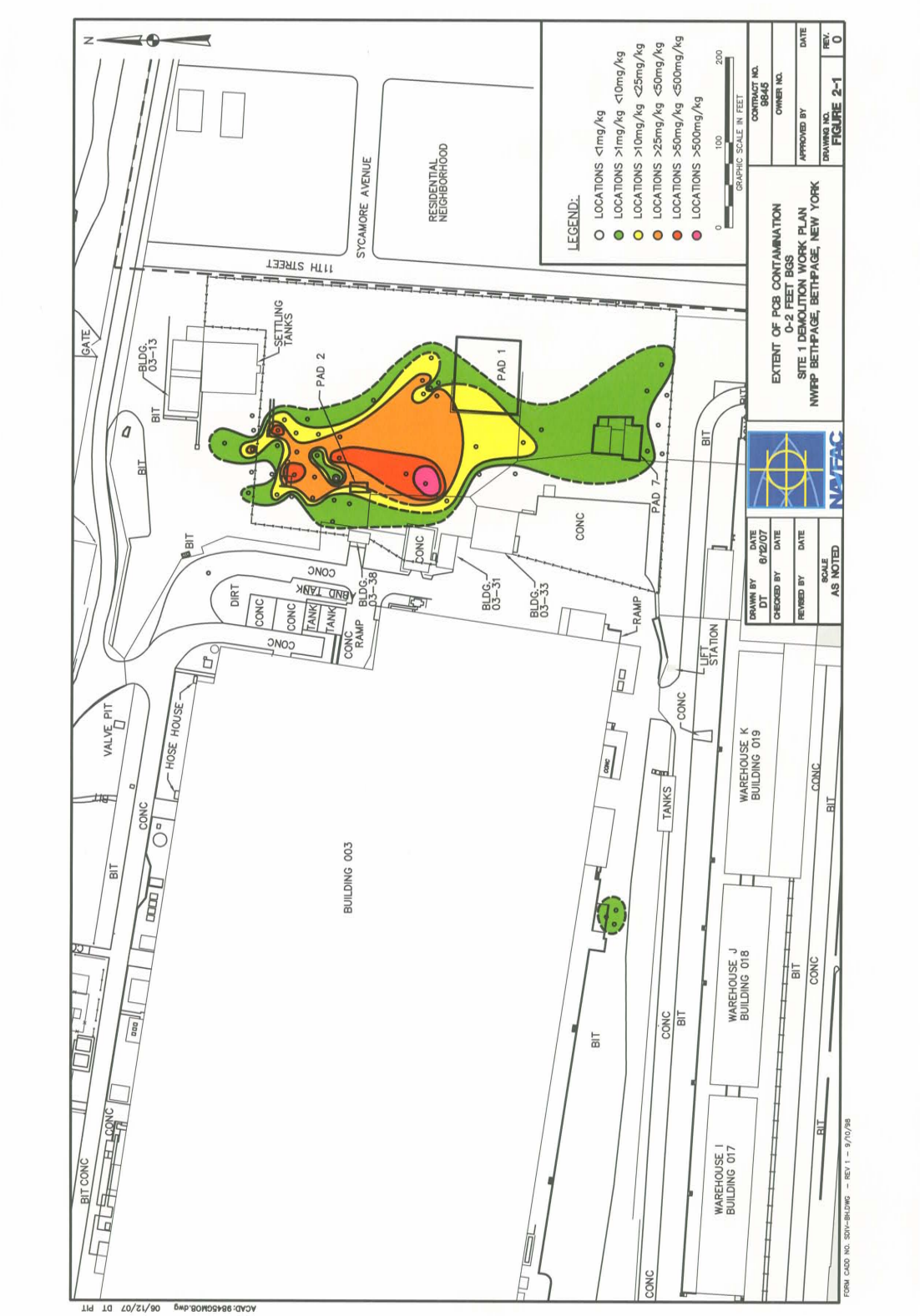


Figure 5. PCB Contamination 2-15 feet Below Ground Surface

Figure 6. Chromium Contamination, Surface Soils

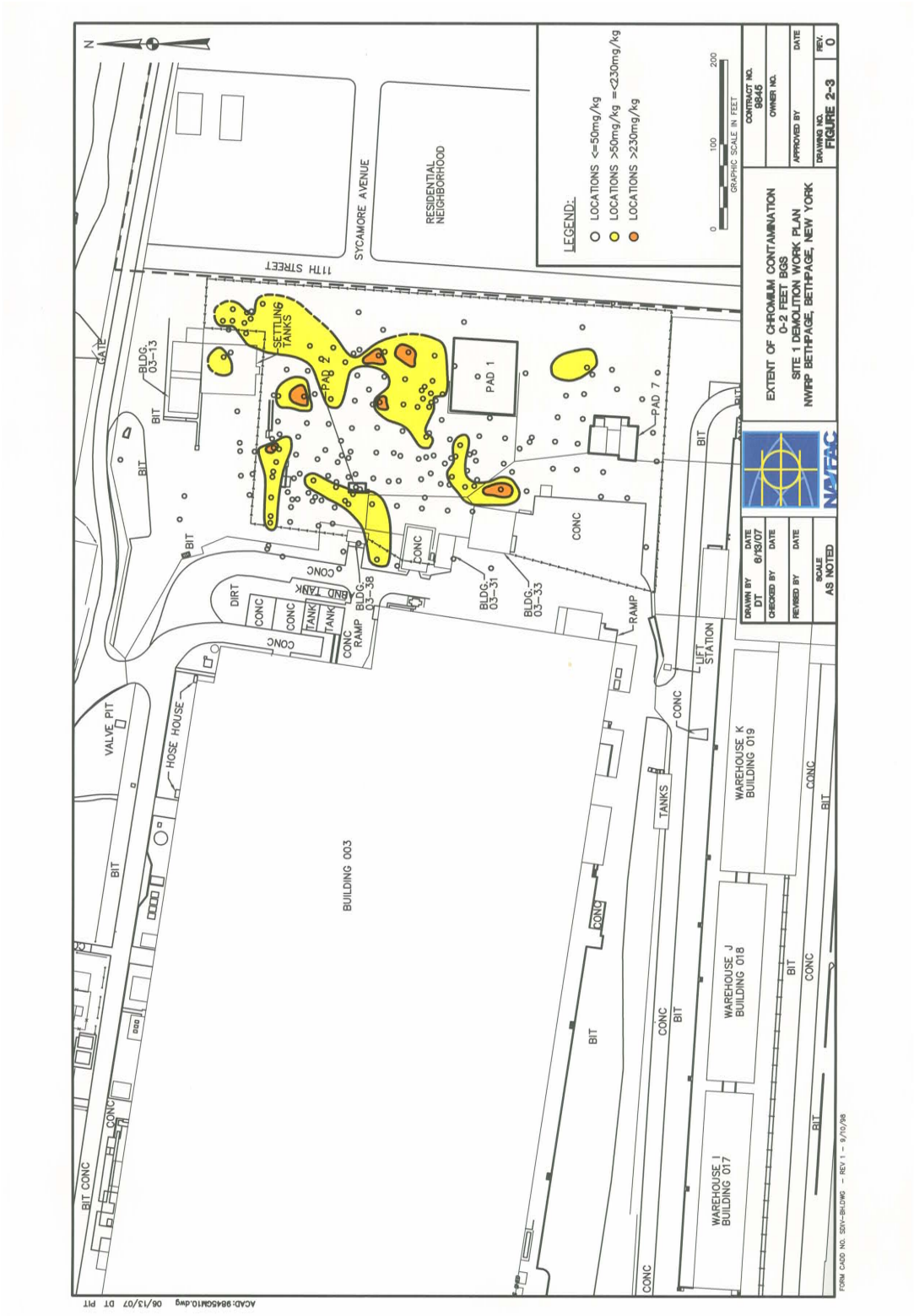


Figure 7. Cadmium Contamination, Surface Soils

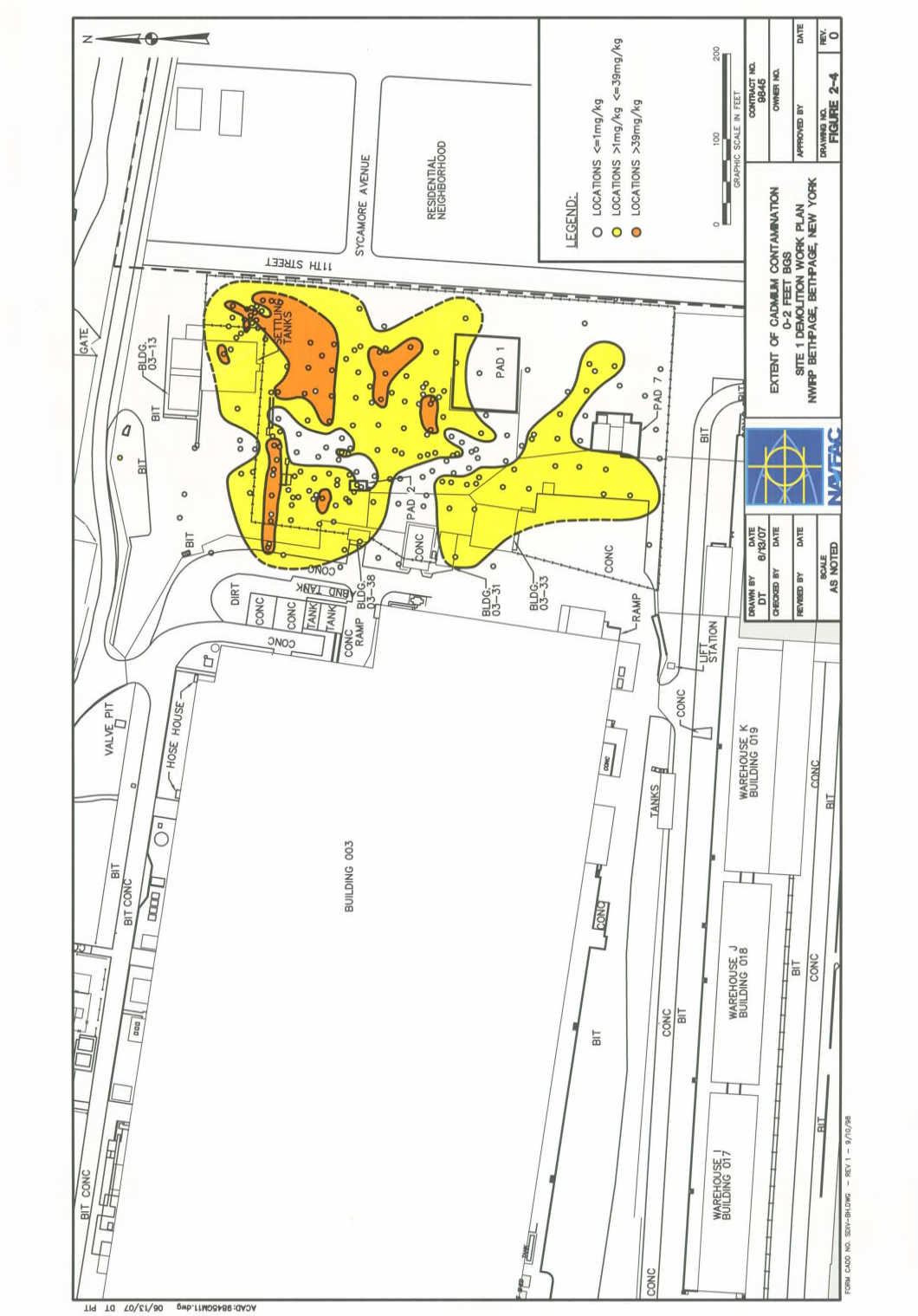
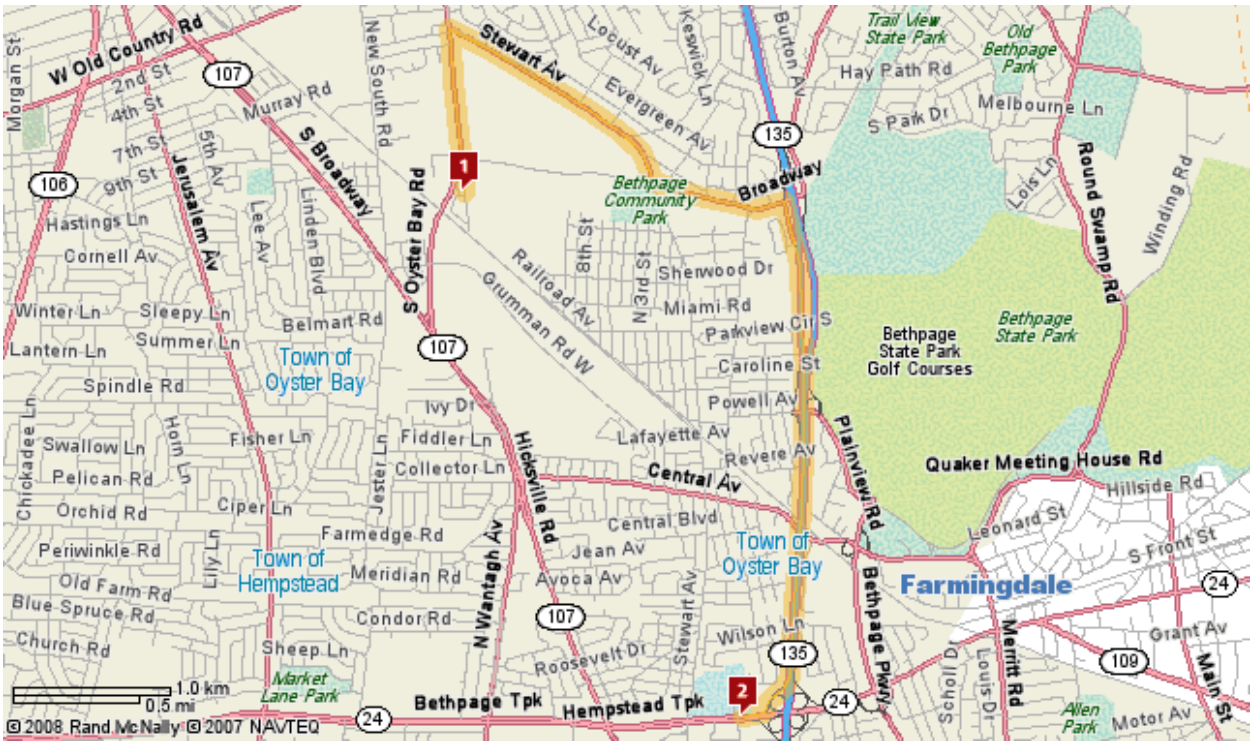


FIGURE **8**: **EMERGENCY HOSPITAL ROUTE MAP**



Driving Directions from NWIRP Bethpage, New York to New Island Hospital:

1. Starting at 999 South Oyster Bay Road
2. Turn Right onto Stewart Avenue – Go 1.0 miles
3. Bear Left onto Cherry Avenue – Go 0.4 miles
4. Bear Left onto Broadway – Go 0.2 miles
5. Turn Right onto Plainview Road – Go 0.3 miles
6. Continue onto RT-135 (Ralph J. Marino Expwy) – Go 1.6 Miles
7. Take Exit 7W (RT-24 W) on right – Go 0.2 miles
8. Bear Right onto RT-24 W (Hempstead Tpk) – Go <0.1 miles
9. Arrive at 4295 Hempstead Turnpike, Bethpage NY – New Island Hospital.

Hospital Address: New Island Hospital
4295 Hempstead Turnpike, Bethpage, NY 11714

Hospital Phone: **(516) 579-6000**

APPENDIX A

SSHP FORMS

AIR MONITORING LOG

Project Name: _____

Project Location: _____

Date: _____

Conducted By: _____

Page Number: _____

Time	Location	_____ (____)	_____ (____)	_____ (____)	_____ (____)	_____ (____)

LEGEND:

VOC: Volatile organic compound
PID: Photoionization detector
mg/m^3: Milligrams per cubic meter
ppm: Parts per million

CERTIFICATE OF WORKER AND VISITOR ACKNOWLEDGMENT

Name: _____

Organization: _____

Project Name: _____

Project Location: _____

The contract for the above indicated project requires the following: That you be provided with formal and site-specific training on the applicable aspects of the Site Safety and Health Plan (SSHP); that you be supplied with proper personal protective equipment (PPE) including respirators and that you be trained in its use; that you receive a medical examination to evaluate your physical capacity to perform your assigned work tasks, under the environmental conditions expected, while wearing the required PPE. These are to be done at no cost to you. By signing this certification, you are acknowledging that your employer has met these obligations to you.

I HAVE REVIEWED, UNDERSTAND, AND AGREE TO FOLLOW THE SSHP FOR THIS SITE.

_____

Signature / Date

FORMAL TRAINING: I have completed the following formal hazardous waste operations (HazWOPER) training courses that meet OSHA requirements:

____ 40-Hour HazWOPER Worker (date completed): _____
____ 8-Hour HazWOPER Supervisor (date completed): _____
____ 8-Hour HazWOPER Refresher (date completed): _____

SITE-SPECIFIC TRAINING: I have been provided and have completed the site-specific training required by this Contract. Name of the Site Safety and Health Officer (SSHO) who conducted the training: _____

RESPIRATORY PROTECTION AND RESPIRATOR FIT-TEST TRAINING: I have been trained in accordance with the criteria in the [Contractors] [Employers] respiratory protection program. I have been trained in proper work procedures, use and limitations of the respirator(s) that I will wear. I have been trained in and will abide by the facial hair policy. I have been trained in the proper selection, fit, use, care, cleaning, maintenance, and storage of respirator(s) that I will wear. I have been fit-tested in accordance with criteria in the [Contractors] ([Employers] respirator program and have received a satisfactory fit. [I have been assigned my individual respirator.] I have been taught how to properly perform a positive and negative pressure user seal check upon donning a negative pressure respirator each time: Initial: _____

MEDICAL EXAMINATION: I have had a medical examination within the last twelve months that was paid for by my employer. The examination included a health history, pulmonary function test, and may have included an evaluation of a chest X-ray. A physician made determinations regarding my physical capacity to perform work tasks on the project while wearing PPE including a respirator. I was personally provided a copy and informed of the results of that examination. My employers industrial hygienist evaluated the medical certification provided by the physician and checked the following information.

Date of Medical Exam: _____
Physician Determined: _____ No limitations to performing the required work tasks
_____ Physical limitations to performing required work tasks identified

[Employee] [Visitor] Printed Name / Signature / Date: _____

Contractor SSHO Printed Name / Signature / Date: _____

EQUIPMENT DECONTAMINATION LOG

Date / Day: _____

Project Name: _____

Project Location: _____

Equipment Type: _____

Mfr / Model: _____

Item	Inspection Description	Clean	Not Clean	N/A
1	Tires / Rims, outside			
2	Tires / Rims, inside			
3	Buckets / Blades			
4	Rippers / Other			
5	Cross-members			
6	Undercarriage			
7	Tracks			
8	Drive carriage			
9	Drip pans			
10	Brush guards			
11	Belly pans			
12	Scraper can interior			
13	Truck beds			
14	Frames			
15	Engine compartment			
16	Cab			

Equipment Use:

Decontamination Description:

I certify that I have inspected the equipment indicated above and have observed that visible material has been removed from the equipment.

Inspected By: _____

Signature: _____

Date: _____

FIRST-AID TREATMENT LOG

Project Name: _____

Project Location: _____

Date	Name	Description of First-Aid Treatment Rendered	First-Aid Kit Supplies Used

HAZARDOUS SUBSTANCE INVENTORY LIST

MSDS on File	Product Name	Manufacturer	Location and Container Type

HEAVY EQUIPMENT INSPECTION REPORT

Date / Day: _____

Project Name: _____

Project Location: _____

Equipment Type: _____

Mfr / Model: _____

Inspection Description	Checked	Observations (readings, levels, condition, damage, repairs needed)
General appearance		
Hour meter reading		
Engine operation / check belts		
Engine oil / water level		
Transmission oil level		
Hydraulic / misc. oil level		
Brake operation / fluid level		
Grease		
Batteries		
Fuel level (gas / diesel)		
Hoses & fittings (air, hydraulic…)		
Operation / controls		
Tires / tracks		
Cab (mirrors, seatbelt, glass, horn, turn signals, lights, wipers)		
Back-up lights and alarm		
Fire extinguisher condition		
Coupling devices and connectors		
Exhaust system		
Blade / boom / bucket		
Frame, ladders and walkway		
Steering		

Defects and Repairs Needed / Comments:

Inspected By: Signature:

POST AT JOB SITE

Incident Reporting and Investigation Procedures Posting

(Injury/Property Damage/Liability Exposure/Spills/Fires/Serious Near Miss Incidents)

Notify the Site Supervisor or Site Safety and Health Officer (SSHO) immediately of injuries, property damage, liability exposure, spills, fires, and serious near miss incidents. The Site Supervisor or his/her representative shall:

- Take care of injured personnel immediately
- Secure remaining dangerous conditions to prevent accidents and additional damage
- Secure the incident scene to preserve information
- Identify employees involved in the incident and witnesses and obtain initial information
- Notify the Project Manager (PM), Corporate Health and Safety Manager (CSHM), and Corporate Risk Manager (RM) about the incident and receive further instructions. **Notify as soon as possible and no later than 2 hours of the incident**
- Initiate fact finding. Investigate the site, interview witnesses, and document circumstances and facts. Complete preliminary documentation forms. Depending upon incident severity and complexity, fact finding may involve other investigators determined by the CSHM
- Complete required EFS forms: Incident Statement by Employee, Incident Statement by Witness, Incident Report by Supervisor, Injury and Illness Report, Vehicle Accident Report, and/or Property Damage, Loss and General Liability Report. Submit all forms (if a form is not applicable write N/A on the form)
- **Submit completed forms to the CSHM and PM within 24 hours of an incident and immediately forward additional information as it becomes available**.

NOTE: Accidents resulting in a fatality or multiple hospitalizations require reporting to the nearest OSHA office within 8 hours (1-800-321-OSHA). This report shall be made by the CSHM. A written report shall follow that provides OSHA with all details of the accident required by 29 CFR 1904.8. Any equipment, material, or related evidence that might help in an investigation must not be moved except to prevent further accidents. The CSHM will record injuries on the OSHA 300 log.

INCIDENT REPORTING CONTACT INFORMATION:

PM: Gregory Birch - Office (610) 840-9200 – Fax (610) 431-2852 – Cell (302) 373-5724
CSHM: David Jones – Office (610) 840-9200 – Fax (610) 431-2852

FAILURE OF AN EFS EMPLOYEE TO PROMPTLY REPORT A SAFETY INCIDENT OR FAILURE TO PRESERVE AN ACCIDENT SCENE UNTIL AN INVESTIGATION IS COMPLETED, IS GROUNDS FOR DISCIPLINARY ACTION.

INCIDENT REPORT BY SUPERVISOR

Date / Time of Incident:
Project Name / Project No.:
Client Name / Location:
Specific Location of Incident:
Employees Involved in Incident (if applicable):
Detailed Description of Incident:
Primary Cause of Incident:
Contributing Cause(s) of Incident:
Recommendation for Preventing Such Incidents in the Future:
Supervisor Name (print):
Signature:
Date:

INCIDENT STATEMENT BY EMPLOYEE

Employee Name:
Date / Time of Incident:
Project Name / Project No.:
Client Name / Location:
Specific Location of Incident:
Describe What You Were Doing Just Before the Incident:
Detailed Description of How the Incident Occurred:
Names of Witnesses:
Other Relevant Information:
How Can the Likelihood of this Happening Again Be Reduced:
Employee Name (print):
Signature:
Date:

INCIDENT STATEMENT BY WITNESS

Witness Name / Address / Telephone:
Employer / Telephone:
Date / Time of Incident:
Project Name / Project No.:
Client / Location:
Specific Location of Incident:
DETAILED DESCRIPTION OF INCIDENT BASED ON PERSONAL OBSERVATION
Describe where you were and what you were doing just before the incident:
Describe any injuries:
Describe any property damaged:
Describe what was the apparent nature of the injury and/or damage:
Describe what personnel and/or equipment were involved:
Describe what caused the injury and/or damage:
Describe the sequence of events:
List any observed unsafe acts or conditions:
Names of other witnesses:
Other relevant information:
Witness Name (print):
Signature:
Date:

INJURY AND ILLNESS REPORT

Injured Employee Name:	Date / Time of Injury:
Social Security Number:	Date of Birth / Age:
Sex: M ☐ F ☐ # of Dependents:	Date of Hire:
Job Title:	Pay Rate:
Home Address:	Home Telephone:
EFS Home Office:	Injury on EFS Premises: Yes☐ No☐
Client / Location:	Injury on Client Premises: Yes☐ No☐
Specific Accident Location:	
Nature of Injury:	
Exact Body Part Injured:	
Medical Attention: None ☐ First Aid ☐ Paramedics ☐ Doctor ☐ Hospital ER ☐ Overnight ☐	
Medical Attention Description:	
Hospital / Doctor Name / Telephone:	
Hospital / Doctor Address:	
Date / Time Injury Reported: By Whom:	
Time employee began work:	Avg. # of hours worked per week:
Did employee leave work: Yes ☐ No ☐ When:	
Has employee returned to work: Yes ☐ No ☐ When: Note: Employee must present a return to work release from examining physician before return to work	
Did employee have a work activity restriction: Yes ☐ No ☐ Describe:	Dates restricted:
Did employee miss a regularly scheduled work shift: Yes☐ No☐	Dates missed:
Injury Incident Description:	
What actions have been taken to prevent recurrence:	
What was the employee doing just before the incident occurred?	
Witness Name:	Telephone:
Address:	Statement Attached: Yes ☐ No ☐
INVESTIGATION AND REVIEW (Report to CSHM within 2 hours of injury)	
Completed by Name (print) / Signature / Date:	
Title / Phone:	
Site Supervisor Name (print) / Signature / Date:	
Project Manager Name (print) / Signature / Date:	
CSHM Name (print) / Signature / Date:	
Attached to this report: ☐ Incident Statement by Employee ☐ Incident Report by Supervisor ☐ Incident Statement by Witness ☐ Photographs ☐ Maps/Sketches ☐ Other _____	
(Section to be completed by a EFS Safety Team Representative) EFS Case #: D/D:	

PROPERTY DAMAGE, LOSS, AND GENERAL LIABILITY REPORT

Project Name / Project No.:
Project Location:
Project Manager / Supervisor:
Date / Time of Damage or Loss:
Description / Identification of damaged or lost property:
Location of damaged or lost property (before loss):
Detailed description of how the damage or loss occurred:
Cause and corrective action recommended to prevent recurrence:
OWNER
Owner of damaged or lost property Name / Telephone:
Address:
Employer Name and Address:
WITNESS
Witness Name / Telephone:
Witness Address:
Employer Name and Address:
WITNESS
Witness Name / Telephone:
Witness Address:
Employer Name and Address:
REPAIR COST
Repair or Replacement Cost:
Attachments: [ ] Photographs [ ] Police Report [ ] Incident Statement by Witness [ ] Incident Report by Supervisor [ ] Incident Statement by Employee [ ] Injury Report
Supervisor Name (print):
Signature:
Date:

SAFETY INSPECTION REPORT

Date / Day: _____

Project Name: _____

Project Location: _____

Work Description: _____

Comments: _____

OBSERVATIONS

Safety Conditions Requiring Corrective Action	Corrective Action, Assignment, and Completion Date

Project Manager: _____

Safety Inspector: _____

Distribution: _____

SITE CONTROL LOG

Date: _____

Project Name: _____

Project Location: _____

Time		Name	Organization
In	**Out**		

SITE SAFETY AND HEALTH PLAN DISTRIBUTION TO SUBCONTRACTOR

A copy of the EFS Site Safety and Health Plan for the site is being provided to subcontractors who may be affected by activities covered under the scope of this plan. Distribution of the Site Safety and Health Plan to subcontractor firms and their designated contact person is with the understanding that subcontractor personnel involved in this project will review this document, abide by its provisions, and comply with OSHA, and other applicable health and safety rules and regulations for work on site.

Date	Name	Signature	Organization

TAILGATE SAFETY MEETING RECORD

Date / Day:	**Time:**
Project Name:	**Project No.:**
Client:	**Location:**
Specific Location:	
Work Description:	
Comments:	
SAFETY TOPICS PRESENTED	
Protective Clothing / Equipment:	
Chemical Hazards:	
Physical Hazards:	
Emergency Procedures:	
Emergency Hospital:	
Hospital Telephone:	
Hospital Directions:	
Special Equipment:	
Other:	
SAFETY MEETING ATTENDEES	
Name Printed / Initial	**Name Printed / Initial**
1.	**6.**
2.	**7.**
3.	**8.**
4.	**9.**
5.	**10.**
Meeting conducted by (print name / signature):	

APPENDIX B
EMERGENCY CONTACT LIST

EMERGENCY CONTACT LIST

Paramedics/Ambulance – Emergency	9-1-1
Fire Department – Emergency	9-1-1
Police – Emergency	9-1-1
Emergency Hospital (New Island Hospital) 4295 Hempstead Turnpike Bethpage, NY 11714	(516) 579-6000
National Response Center	(800) 424-8802
CHEMTREC (Chemical Transportation Emergency Center)	(800) 424-9300
Miss Utility	(800) 282-8555
NAVFAC MIDLANT Contracting Officer's Representative (Ms. Lora Fly)	Office: (757) 444-0781 Fax: (757) 444-8281
Navy NWIRP Bethpage Point Of Contact (Mr. Al Taormina)	Office: (516) 346-0344 Cell: (516) 702-5861
ECOR Federal Services, Inc. 21 South High Street, 2nd Floor, West Chester, PA 19382	Office: (484) 887-7510 FAX: (484) 887-7517
EFS Project Manager (Gregory Birch)	Office: (610) 840-9200 Cell: (302) 373-5724
EFS Project Superintendent (John Hudacek)	Office: (610) 840-9200 Cell: (516) 449-6578
EFS Site Safety and Health Officer (John Hudacek)	Office: (610) 840-9200 Cell: (516) 449-6578
EFS Corporate Safety and Health Manager David Jones, CIH	Office: (610) 840-9200 Cell:
Concentra Occupational Physician 5080 Spectrum Drive Addison, TX 75001	Office: (800) 232-3550 Fax:
Subcontractor:	Office: Cell:
Subcontractor:	Office: Cell:
Subcontractor:	Office: Cell:
Subcontractor:	Office: Cell:

EVACUATION ASSEMBLY INFORMATION

Evacuation Alarm	EFS vehicle horn or air horn (single long sound)
On site Assembly Area	Adjacent to the EFS site vehicle.
Off Site Assembly Area	To Be Determined (TBD) by SSHO:

APPENDIX C
ACTIVITY HAZARD ANALYSIS

ACTIVITY HAZARD ANALYSIS

ACTIVITY: MOBILIZATION AND SITE PREPARATION	
Prepared By: David Jones, CIH **Date: 1/05/09**	**Reviewed By: John Hudacek**
WORK TASK	**POTENTIAL HAZARDS**
Mobilization and Site Preparation: -Mobilize personnel and equipment -Delineate work zones -Mark work areas -Install construction safety fence -Clear and grub work areas -Place erosion controls (silt fence) -Conduct utility clearance -Complete other site preparation tasks.	**Chemical hazards**: No anticipated exposure to site contaminants during this activity. **Biological hazards**: Potential contact with poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. **Physical Hazards**: Potential exposure to physical hazards: Fire protection; underground and overhead utilities; heavy equipment operation; vehicle and equipment traffic; material handling; tools, machinery, and equipment use; electrical equipment; noise exposure; heat stress; cold stress; chain saw operation; tree removal operations; wood chipper operation; inclement weather and adverse environmental conditions; miscellaneous physical hazards. **SEE RECOMMENDED HAZARD CONTROLS BELOW**.
RECOMMENDED HAZARD CONTROLS	
Chemical Hazards: No anticipated exposure to site contaminants during this activity. Use prescribed PPE (Use Level D protection for mobilization and site preparation activities.)	
Biological Hazards: Biological hazards will be present in work areas. Avoid contact with, poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. Wear sleeved shirts and pants. Apply repellant containing 20% - 30% DEET if needed.	
Fire Protection: Gasoline and diesel fuel will be used for vehicles, heavy equipment, and machinery operation. Have fire extinguishers. Allow smoking only in designated areas. Use OSHA-approved metal dispenser cans for flammable liquids. Use bonding and grounding for combustible liquid transfer.	
Underground and Overhead Utilities: Underground and/or overhead utilities may be present. Conduct utility clearance before subsurface work. Survey for overhead utilities before bringing equipment with high extensions into a work area. Do not operate equipment within 10 feet of overhead lines.	
Heavy Equipment Operation: Heavy equipment will be mobilized and inspected before site work. Heavy equipment will be used during clearing, grubbing and tree removal. Inspect heavy equipment. Check backup alarms. Survey for utilities. Have ground personnel wear high-visibility safety vests. Maintain positive contact between operator and ground personnel. Use hand signals. Do not cross path of moving equipment or walk behind equipment. Keep out of heavy equipment operating area when possible. Require operators to look before backing.	
Vehicle and Equipment Traffic: Concurrent use of heavy equipment, vehicles, and ground personnel will occur during site work. Establish traffic control procedures. Have workers wear high-visibility safety vests in traffic areas. Have workers look where they walk to avoid moving vehicles and equipment. Maintain eye contact with equipment operators. Use traffic control devices. Use spotters for backing into tight work areas.	
Material Handling: Material handling involving lifting and carrying will be required during site work. Wear work gloves when handling materials. Watch for items that can cut, puncture, pinch, or crush. Use proper lifting technique. Size up load, get help for heavy or awkward items, get good grasp on object to be lifted, keep load close to body, keep back straight, lift with legs not with back, and do not twist when lifting. Review material handling procedures during safety meetings.	
Tools, Machinery and Equipment Use: Hand and power tools may be used. Use proper tool for the job. Use GFCIs for power tool operation. Use safety glasses. Do not use damaged tools. Properly secure materials when working on them. Make sure area is adequately clear when using equipment. Inspect electrical cords.	

ACTIVITY HAZARD ANALYSIS

ACTIVITY: MOBILIZATION AND SITE PREPARATION		
Electrical Equipment: Generators may be used to provide electrical power. Use GFCIs for portable electrical equipment. Inspect electrical extension cords for damage and ground plugs. Keep electrical equipment/cords away from water and fuel containers. Use electrical lockout/tagout procedures.		
Noise Exposure: Noise exposure above 85 dBA is expected when working near or operating machinery and equipment. Wear earplugs for protection when operating or working near noisy equipment.		
Heat Stress: Heat stress may occur when elevated ambient temperatures, moderate to heavy workloads, and/or use of impermeable protective clothing occur. Adjust work-rest schedules. Work at a steady pace. Drink fluids. Take rest breaks and use shaded rest area. Know signs and symptoms of heat stress and treatment. Monitor for heat stress.		
Chain Saw Operation: Chain saws will be used. Safety procedures for proper use of this equipment will be required.		
Inclement Weather and Adverse Environmental Conditions: Inclement weather conditions such as strong winds, heavy rain, or lightning, may occur during outdoor operations. Suspend outdoor operations during inclement weather or when other adverse environmental conditions exist.		
Miscellaneous Physical Hazards: General safety hazards will be present during all site tasks. Use PPE for head, eye, hand, foot, and body protection. Follow safe work practices. Watch for slip, trip, and fall hazards from uneven, wet, slippery ground surfaces. Keep ground areas clear of tripping hazards such as hoses, cords, boxes, and debris. Maintain good housekeeping. Look where walking. Maintain balance. Maintain three-point contact when stepping off equipment. Use short steps when walking on slippery surfaces. Communicate general safety information during safety meetings.		
PPE: Use prescribed levels of protection described in the PPE section of the SSHP for the applicable work task. Level D protection consists of: Hardhat, steel-toed boots, work gloves, safety glasses, high-visibility safety vest (if vehicle or equipment traffic), and earplugs (if noise present.) Modified Level D protection consists of: Level D protection equipment plus chemical protective clothing (protective suit, gloves, and boots or boot covers.) Level C protection consists of: Modified Level D protection equipment plus an APR (with OV/AG/P-100 HEPA filter cartridge.)		
Site Emergencies: Preparation for site emergencies is always a requirement for site work. Set up emergency communications. Prepare emergency supplies. Post emergency contact and hospital route information. Maintain emergency phone list/hospital location/route map on site. Have first-aid kit, fire extinguisher, and safety supplies available. Have cell phones available. Designate evacuation location and emergency signals. See the "Emergency Response Plan" section of SSHP.		
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
Hand and power tools; Heavy equipment; Chain saw; Generator	Safety inspection; Heavy equipment inspection	Site orientation briefing and SSHP review; HazWOPER training; First-aid/CPR training

ACTIVITY HAZARD ANALYSIS

ACTIVITY: SAMPLING	
Prepared By: David Jones, CIH **Date: 01/05/09**	**Reviewed By: John Hudacek**
WORK TASK	**POTENTIAL HAZARDS**
Sampling: -Collect and analyze waste characterization samples for construction debris disposal	**Chemical hazards**: Potential exposure to site contaminants during this activity. **Biological hazards**: Potential exposure to poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. **Physical Hazards**: Potential exposure to physical hazards: Underground utilities; Material handling; tools, machinery, and equipment use; heat stress; inclement weather and adverse environmental conditions; miscellaneous physical hazards. **SEE RECOMMENDED HAZARD CONTROLS BELOW.**
RECOMMENDED HAZARD CONTROLS	
Chemical Hazards: Minor potential for exposure to contaminants during this activity. Use prescribed PPE (Use Modified Level D or Level D protection for sampling.) Avoid contact with contaminated surfaces whenever possible and use prescribed decontamination measures.	
Biological Hazards: Biological hazards will be present in work areas. Avoid contact with, poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. Wear sleeved shirts and pants. Apply repellant containing 20% - 30% DEET if needed.	
Underground and Overhead Utilities: Underground and/or overhead utilities may be present. Conduct utility clearance before subsurface work. Survey for overhead utilities before bringing equipment with high extensions into a work area. Do not operate equipment within 10 feet of overhead lines.	
Material Handling: Material handling involving lifting and carrying will be required during site work. Wear work gloves when handling materials. Watch for items that can cut, puncture, pinch, or crush. Use proper lifting technique. Size up load, get help for heavy or awkward items, get good grasp on object to be lifted, keep load close to body, keep back straight, lift with legs not with back, and do not twist when lifting. Review material handling procedures during safety meetings.	
Tools, Machinery and Equipment Use: Hand and power tools may be used. Use proper tool for the job. Use GFCIs for power tool operation. Use safety glasses. Do not use damaged tools. Properly secure materials when working on them. Make sure area is adequately clear when using equipment. Inspect electrical cords.	
Heat Stress: Heat stress may occur when elevated ambient temperatures, moderate to heavy workloads, and/or use of impermeable protective clothing occur. Adjust work-rest schedules. Work at a steady pace. Drink fluids. Take rest breaks and use shaded rest area. Know signs and symptoms of heat stress and treatment. Monitor for heat stress.	
Inclement Weather and Adverse Environmental Conditions: Inclement weather conditions such as strong winds, heavy rain or lightning, may occur during outdoor operations. Suspend outdoor operations during inclement weather or when other adverse environmental conditions exist.	
Miscellaneous Physical Hazards: General safety hazards will be present during all site tasks. Use PPE for head, eye, hand, foot, and body protection. Follow safe work practices. Watch for slip, trip, and fall hazards from uneven, wet, slippery ground surfaces. Keep ground areas clear of tripping hazards such as hoses, cords, boxes, and debris. Maintain good housekeeping. Look where walking. Maintain balance. Maintain three-point contact when stepping off equipment. Use short steps when walking on slippery surfaces. Communicate general safety information during safety meetings.	

ACTIVITY HAZARD ANALYSIS

ACTIVITY: SAMPLING		
PPE: Use prescribed levels of protection described in the PPE section of the SSHP for the applicable work task. Level D protection consists of: Hardhat, steel-toed boots, work gloves, safety glasses, high-visibility safety vest (if vehicle or equipment traffic), and earplugs (if noise present.) Modified Level D protection consists of: Level D protection equipment plus chemical protective clothing (protective suit, gloves, and boots or boot covers.) Level C protection consists of: Modified Level D protection equipment plus an APR (with OV/AG/P-100 HEPA filter cartridge.)		
Site Emergencies: Preparation for site emergencies is always a requirement for site work. Set up emergency communications. Prepare emergency supplies. Post emergency contact and hospital route information. Maintain emergency phone list/hospital location/route map on site. Have first-aid kit, fire extinguisher, and safety supplies available. Have cell phones available. Designate evacuation location and emergency signals. See the "Emergency Response Plan" section of SSHP.		
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
Sampling tools	Safety inspection	Site orientation briefing and SSHP review; HazWOPER training; First-aid/CPR training

ACTIVITY HAZARD ANALYSIS

ACTIVITY: WELL ABANDONMENT	
Analyzed By / Date: David Jones, CIH **Date: 01/05/09**	**Reviewed By: John Hudacek**
WORK TASK	**POTENTIAL HAZARDS**
Well Abandonment: -Well Abandonment	**Chemical hazards:** Minor potential for exposure to hydrocarbon contaminants. **Biological hazards:** Potential exposure to poisonous plants, snakes, spiders, rodents, insects, ticks, and mosquitoes. **Physical Hazards**: Potential exposure to physical hazards: Fire protection and hot work; underground and overhead utilities; heavy equipment operation; excavation and trench safety; vehicle and equipment traffic; material handling; tools, machinery, and equipment use; electrical equipment and lockout/tagout; noise exposure; heat/cold stress; ladder safety; drill rig safety; elevated work locations and fall protection; drum handling; compressed gas cylinders; hoisting and rigging; power saw operation; inclement weather and adverse environmental conditions; miscellaneous physical hazards. **SEE RECOMMENDED HAZARD CONTROLS BELOW.**
RECOMMENDED HAZARD CONTROLS	
Chemical Hazards: Fuel contaminants may be present; however, a limited chemical contact hazard from soil or groundwater is expected. Conduct monitoring as described in the "Exposure Monitoring" section of the SSHP. Use prescribed levels of protection described in the PPE section of the SSHP for the applicable work task. Properly don and doff protective clothing. Avoid contact with contaminated surfaces whenever possible. Use prescribed decontamination measures.	
Biological Hazards: Biological hazards will be present in work areas. Avoid contact with, poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. Wear sleeved shirts and pants. Apply repellant containing 20% - 30% DEET if needed.	
Fire Protection and Hot Work: Soil contaminants may emit combustible vapors. Gasoline and diesel fuel will be used for vehicles, heavy equipment, and machinery operation. Hot work may be needed. Conduct air monitoring for VOCs. Require fire extinguishers for each site location. Allow smoking only in designated areas. Use hot work safety procedures, hot work permit, and fire watch for hot work. OSHA-approved metal safety cans, painted red with a yellow stripe, that have self-closing lids and flame arrestors must be used to store small quantities of flammable liquids. Hot work is prohibited in areas where flammable materials, equipment containing flammable materials, and air emissions from contaminated soil may be present.	
Underground and Overhead Utilities: Underground and/or overhead utilities may be present. Complete subsurface utility clearance before work. Check for underground utilities before excavation. Survey for overhead utilities before bringing equipment with high extensions (heavy equipment, drill rig, crane) into a work area. Do not operate equipment within 10 feet of overhead lines.	
Heavy Equipment Operation: Heavy equipment will be used to dig trenches and perform other earthwork. Inspect heavy equipment daily and document. Check operation of backup alarms. Survey area for utilities. Have ground personnel wear high-visibility safety vests with reflective striping. Maintain positive contact between operator and ground personnel at all times. Use hand signals. Do not cross path of moving equipment or cross behind equipment. Position ground personnel out of the swing radius of operating heavy equipment when possible. Do not walk underneath loaded buckets. Require equipment operators to look before backing. Maintain dust control. Place bucket on the ground for equipment shut down.	

ACTIVITY HAZARD ANALYSIS

ACTIVITY: WELL ABANDONMENT
Excavation and Trench Safety: Certain excavation operations may require personnel entry into trenches or excavations. Complete excavation entry operations according to OSHA requirements if entry into trenches 4 feet or more in depth or excavations 5 feet or more in depth. Check for underground utilities before excavation. Survey for overhead utilities before bringing equipment with high extensions (heavy equipment) into a work area. Do not operate equipment within 10 feet of overhead lines. For excavation entry operations, have a "Competent Person" supervise operations, conduct daily inspections, and implement protective systems for excavation operations (sloping, benching, shielding, and/or shoring) if soils are not sufficiently stable.
Vehicle and Equipment Traffic: Concurrent use of heavy equipment, vehicles, and ground personnel will occur. Establish traffic control procedures when there is vehicle, heavy equipment, and/or pedestrian traffic present. Have workers wear high-visibility safety vests with reflective striping when working near traffic areas. Advise workers to look carefully where they walk to avoid vehicles and moving equipment. Maintain eye contact with heavy equipment operators. Use traffic control devices as needed. Use spotters if needed for backing of equipment and vehicles into tight work areas.
Material Handling: Material handling involving lifting, and carrying will be required. Wear work gloves when handling materials. Watch for items that can cut, puncture, pinch, or crush. Use proper lifting technique. Size up load, get help for heavy or awkward items, get good grasp on object to be lifted, keep load close to body, keep back straight, lift with legs not with back, and do not twist when lifting. Review material handling procedures during safety meetings.
Tools, Machinery and Equipment Use: Hand and power tools may be used. Use the proper tool for the job. Use GFCIs for power tool operation. Use safety glasses. Do not use damaged tools. Properly secure materials when working on them. Make sure area is adequately clear when using equipment. Inspect electrical cords.
Electrical Equipment and Lockout/Tagout: Generators may be used to provide electrical power. Use GFCIs for portable electrical equipment. Inspect electrical extension cords for damage and ground plugs. Keep electrical equipment/cords away from water and fuel materials. Use lockout/tagout procedures.
Noise Exposure: Noise exposure above 85 dBA when working near or operating machinery or equipment. Monitor for noise levels. Wear earplugs for protection.
Heat Stress: Heat stress may occur when elevated ambient temperatures, moderate to heavy workloads, and/or use of impermeable protective clothing occur. Adjust work-rest schedules as needed; work at a steady pace; drink fluids; take rest breaks and use shaded rest area; know the signs and symptoms of heat exposure and emergency treatment.
Ladder Safety: Ladders may be needed to access work areas. Do not stand on top two rungs of a ladder. Do not use metal ladders around electrical equipment. Have ladder extend at least 3 feet above elevated landings. Do not lean outward from ladder. Tie off extension ladders to secure.
Drill Rig Safety: Drill rig equipment will be used for well installation. Check for above and below ground utilities before drilling. Do not operate drill rig within 10 feet of overhead lines. Inspect drilling equipment and test drill rig kill switch. Establish communication system between driller, helper, and others. Use proper handling and lifting techniques for material handling.
Elevated Work Locations and Fall Protection: Work at elevated locations may occur if access to the drill rig mast is needed. Personal fall arrest systems (full body harness, shock-absorbing lanyard, anchorage point) will be used for fall protection for work where there is a fall hazard of 6 feet or more.
Compressed Gas Cylinder Safety: Compressed gas cylinders may be needed if hot work is conducted. Make sure cylinder valves are securely closed and leak-free when not in use. Move gas cylinders with caps installed. Store cylinders upright and secure with rope or chain.
Forklift Operation: A forklift may be used to load and off load materials. Inspect forklifts daily. Check for operational backup alarm. Use experienced operator. Travel at safe speeds and look for ground personnel. Maintain eye contact with operator. Do not cross the path of an operating forklift.

ACTIVITY HAZARD ANALYSIS

ACTIVITY: WELL ABANDONMENT		
Hoisting and Rigging: Hoisting and rigging may be needed for hoisting of materials. Require that operators know capacities and operating characteristics and limits of equipment. Know weight of load and do not load beyond mfr. load rating. Inspect slings and other hoisting and rigging equipment for damage before and during use. Use tag lines. Use standard hand signals or verbal commands from a signal person. Do not allow loads above personnel. Do not allow persons in the swing radius of rotating equipment.		
Power Saw Operation: Power saw equipment may be used. Use eye and face protection. Ensure that operators know the proper operation of the saw. Do not allow saws to be operated with one hand or used at a height above chest level. Keep work areas clear of unnecessary personnel.		
Inclement Weather and Adverse Environmental Conditions: Inclement weather conditions such as strong winds, heavy rain or lightning, and snow may occur during outdoor operations. Suspend outdoor operations during inclement weather or when other adverse environmental conditions exist.		
Miscellaneous Physical Hazards: General safety hazards will be present during all site tasks. Use PPE for head, eye, hand, foot, and body protection. Follow safe work practices. Watch for slip, trip, and fall hazards from uneven, wet, slippery ground surfaces. Keep ground areas clear of tripping hazards such as hoses, cords, boxes, and debris. Maintain good housekeeping. Look where walking. Maintain balance. Maintain three-point contact when stepping off equipment. Use short steps when walking on slippery surfaces. Communicate general safety information during safety meetings.		
Site Emergencies: Preparation for site emergencies is always a requirement for site work. Set-up emergency communications. Prepare emergency supplies. Post emergency contact and hospital route information. Maintain emergency phone list/hospital location/route map on site. Have first-aid kit, fire extinguisher, and safety supplies available. Have cell phones available. Designate evacuation location and emergency signals. See the "Emergency Response Plan" section of SSHP.		
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
Drill rig; Forklift; Heavy equipment; Hand and power tools; Power saw; Generator	Safety inspection; Drill rig inspection; Heavy equipment inspection; Forklift inspection	Site orientation briefing and SSHP review; HazWOPER training; First-aid/CPR training

ACTIVITY HAZARD ANALYSIS

ACTIVITY: DEMOLITION OF STRUCTURES (Buildings, Concrete Pads, Steel Sheet Wall)	
Prepared By: David Jones, CIH **Date: 01/05/09**	**Reviewed By: John Hudacek**
WORK TASK	**POTENTIAL HAZARDS**
Demolition of Buildings, Concrete Pads, and Steel Sheet Wall: - Remove hazardous building materials from building 03-13 - Demolish buildings 03-13, 03- , 03- , and 03- - Demolish 7 concrete pads and building foundations - Demolish steel sheet wall - Demolish settling tank at 03-13 - Transport and dispose of all waste - Perform general cleaning using a pressure washer	**Chemical hazards**: Potential exposure to site contaminants during this activity. Hazardous building materials (ACM, Lead) **Biological hazards**: Potential exposure to poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. **Physical Hazards**: Potential exposure to physical hazards: Fire protection; underground and overhead utilities; heavy equipment operation; material handling; tools, machinery, and equipment use; electrical equipment; noise exposure; heat stress; cold stress; permit-required confined space; ladder safety; vacuum truck operation; pressure washer operation; torch cutting; inclement weather and adverse environmental conditions; miscellaneous physical hazards. **SEE RECOMMENDED HAZARD CONTROLS BELOW.**
RECOMMENDED HAZARD CONTROLS	
Chemical Hazards: Potential for exposure to site contaminants during this activity. Conduct monitoring as described in the "Exposure Monitoring" section of the SSHP. Use prescribed PPE (Use Level C protection during work inside of pit and Modified Level D protection if downgrade acceptable.) Avoid contact with contaminated surfaces whenever possible and use prescribed decontamination measures.	
Biological Hazards: Biological hazards will be present in work areas. Avoid contact with, poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. Wear sleeved shirts and pants. Apply repellant containing 20% - 30% DEET if needed.	
Fire Protection: Gasoline and diesel fuel will be used for vehicles, heavy equipment, and machinery operation. Have fire extinguishers. Allow smoking only in designated areas. Use OSHA-approved metal dispenser cans for flammable liquids. Use bonding and grounding for combustible liquid transfer.	
Underground and Overhead Utilities: Underground and/or overhead utilities may be present. Conduct utility clearance before subsurface work. Survey for overhead utilities before bringing equipment with high extensions into a work area. Do not operate equipment within 10 feet of overhead lines.	
Heavy Equipment Operation: Heavy equipment may be used to remove sediment from pits. Inspect heavy equipment. Check backup alarms. Survey for utilities. Have ground personnel wear high-visibility safety vests. Maintain positive contact between operator and ground personnel. Use hand signals. Do not cross path of moving equipment or walk behind equipment. Keep out of heavy equipment operating area when possible. Require operators to look before backing.	
Material Handling: Material handling involving lifting and carrying will be required during site work. Wear work gloves when handling materials. Watch for items that can cut, puncture, pinch, or crush. Use proper lifting technique. Size up load, get help for heavy or awkward items, get good grasp on object to be lifted, keep load close to body, keep back straight, lift with legs not with back, and do not twist when lifting. Review material handling procedures during safety meetings.	
Tools, Machinery and Equipment Use: Hand and power tools may be used. Use proper tool for the job. Use GFCIs for power tool operation. Use safety glasses. Do not use damaged tools. Properly secure materials when working on them. Make sure area is adequately clear when using equipment. Inspect electrical cords.	

ACTIVITY HAZARD ANALYSIS

ACTIVITY: DEMOLITION OF STRUCTURES (Buildings, Concrete Pads, Steel Sheet Wall)
Electrical Equipment: Generators may be used to provide electrical power. Use GFCIs for portable electrical equipment. Inspect electrical extension cords for damage and ground plugs. Keep electrical equipment/cords away from water and fuel containers. Use electrical lockout/tagout procedures.
Noise Exposure: Noise exposure above 85 dBA is expected when working near or operating machinery and equipment. Wear earplugs for protection when operating or working near noisy equipment.
Heat Stress: Heat stress may occur when elevated ambient temperatures, moderate to heavy workloads, and/or use of impermeable protective clothing occur. Adjust work-rest schedules. Work at a steady pace. Drink fluids. Take rest breaks and use shaded rest area. Know signs and symptoms of heat stress and treatment. Monitor for heat stress.
Permit Required Confined Spaces: Pit entry is considered to be a permit-required confined space entry activity. Personnel entry into confined spaces may occur during site work. Personnel are prohibited from entering a confined space unless: the space has been tested, a qualified "Entry Supervisor" has approved the space for entry, and a confined space entry permit has been issued. Confined space entries must be performed in accordance with OSHA "Permit-Required Confined Space" regulations.
Ladder Safety: Ladders may be needed to access work areas. Do not stand on top two rungs of a ladder. Do not use metal ladders around electrical equipment. Have ladder extend at least 3 feet above landing. Do not lean outward from ladder. Tie off extension ladders to secure.
Vacuum Truck Operation: A vacuum truck may be used to pump out sediment. Use PPE especially gloves and splash protection; use proper technique in handling hoses; ground vacuum truck during transfer of flammable or combustible liquids to prevent discharge of static electricity sparks; use hose on pump exhaust and direct away from the work area as needed; clear hoses and use bucket to prevent spills when disconnecting hoses.
Pressure Washer Operation: Pressure washer equipment may be used for cleaning. Use gloves, face, foot, and eye protection and wear splash resistant clothing during pressure washer operation; keep area clear when washing; do not clean boots with pressure washer; watch for slippery surfaces and handling of slippery materials; have fire extinguisher and emergency eyewash supplies immediately available.
Torch Cutting: Torches may be used for demolition where it is safe and expedient. Wear proper flame retardant clothing, darkened eye protection, and a half or full face respirator at all times with operating a torch. Make sure bottled gas is properly secured and stored. Inspect all gas lines, valves, and torches prior to use. Always have a fire watch assigned to torch cutting during, and for not less than thirty minutes after completion of cutting activities. Make sure area is restricted with barricades or other measure to unauthorized personnel. If torch cutting is performed in an enclosed area, proper ventilation must be attained. Attain proper site and\or ECOR Hot Work Permit
Inclement Weather and Adverse Environmental Conditions: Inclement weather conditions such as strong winds, heavy rain or lightning, may occur during outdoor operations. Suspend outdoor operations during inclement weather or when other adverse environmental conditions exist.
Miscellaneous Physical Hazards: General safety hazards will be present during all site tasks. Use PPE for head, eye, hand, foot, and body protection. Follow safe work practices. Watch for slip, trip, and fall hazards from uneven, wet, slippery ground surfaces. Keep ground areas clear of tripping hazards such as hoses, cords, boxes, and debris. Maintain good housekeeping. Look where walking. Maintain balance. Maintain three-point contact when stepping off equipment. Use short steps when walking on slippery surfaces. Communicate general safety information during safety meetings.
PPE: Use prescribed levels of protection described in the PPE section of the SSHP for the applicable work task. Level D protection consists of: Hardhat, steel-toed boots, work gloves, safety glasses, high-visibility safety vest (if vehicle or equipment traffic), and earplugs (if noise present.) Modified Level D protection consists of: Level D protection equipment plus chemical protective clothing (protective suit, gloves, and boots or boot covers.) Level C protection consists of: Modified Level D protection equipment plus an APR (with OV/AG/P-100 HEPA filter cartridge.)

ACTIVITY HAZARD ANALYSIS

ACTIVITY: DEMOLITION OF STRUCTURES (Buildings, Concrete Pads, Steel Sheet Wall)		
Site Emergencies: Preparation for site emergencies is always a requirement for site work. Set up emergency communications. Prepare emergency supplies. Post emergency contact and hospital route information. Maintain emergency phone list/hospital location/route map on site. Have first-aid kit, fire extinguisher, and safety supplies available. Have cell phones available. Designate evacuation location and emergency signals. See the "Emergency Response Plan" section of SSHP.		
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
Heavy equipment; Small Equipment; Pressure washer, Torches	Safety inspection; Heavy equipment inspection; Confined space entry permit (settling tank); Hot Work Permit	Site orientation briefing and SSHP review; HazWOPER training; Confined space training; First-aid/CPR training

ACTIVITY HAZARD ANALYSIS

ACTIVITY: SITE RESTORATION AND DEMOBILIZATION	
Prepared By: David Jones, CIH **Date: 01/05/09**	**Reviewed By: John Hudacek**
WORK TASK	**POTENTIAL HAZARDS**
Site Restoration and Demobilization: - Backfill excavated areas - Compact backfilled soil - Grade areas - Seed areas - Compete other site restoration tasks - Decontaminate equipment - Demobilize personnel and equipment.	**Chemical hazards**: Potential for exposure to site contaminants during decontamination of equipment. **Biological hazards**: Potential exposure to poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. **Physical Hazards**: Potential exposure to physical hazards: Fire protection; underground and overhead utilities; heavy equipment operation; vehicle and equipment traffic; material handling; tools, machinery, and equipment use; electrical equipment; noise exposure; heat stress; cold stress; pressure washer operation; inclement weather and adverse environmental conditions; miscellaneous physical hazards. **SEE RECOMMENDED HAZARD CONTROLS BELOW**.
RECOMMENDED HAZARD CONTROLS	
Chemical Hazards: Potential for exposure to contaminants during equipment decontamination. Use prescribed PPE (Use Level D protection for site restoration and demobilization. Use Modified Level D protection for equipment decontamination as needed.) Avoid contact with contaminated surfaces whenever possible and use prescribed decontamination measures.	
Biological Hazards: Biological hazards will be present in work areas. Avoid contact with, poisonous plants, snakes, spiders, ants, bees, ticks, rodents, and mosquitoes. Wear sleeved shirts and pants. Apply repellant containing 20% - 30% DEET if needed.	
Fire Protection: Gasoline and diesel fuel will be used for vehicles, heavy equipment, and machinery operation. Have fire extinguishers. Allow smoking only in designated areas. Use OSHA-approved metal dispenser cans for flammable liquids. Use bonding and grounding for combustible liquid transfer.	
Underground and Overhead Utilities: Underground and/or overhead utilities may be present. Conduct utility clearance before subsurface work. Survey for overhead utilities before bringing equipment with high extensions into a work area. Do not operate equipment within 10 feet of overhead lines.	
Heavy Equipment Operation: Heavy equipment will be used to perform earthwork activities. Inspect heavy equipment. Check backup alarms. Survey for utilities. Have ground personnel wear high-visibility safety vests. Maintain positive contact between operator and ground personnel. Use hand signals. Do not cross path of moving equipment or walk behind equipment. Keep out of heavy equipment operating area when possible. Require operators to look before backing.	
Vehicle and Equipment Traffic: Concurrent use of heavy equipment, vehicles, and ground personnel will occur during site work. Establish traffic control procedures. Have workers wear high-visibility safety vests in traffic areas. Have workers look where they walk to avoid moving vehicles and equipment. Maintain eye contact with equipment operators. Use traffic control devices. Use spotters for backing into tight work areas.	
Material Handling: Material handling involving lifting and carrying will be required during site work. Wear work gloves when handling materials. Watch for items that can cut, puncture, pinch, or crush. Use proper lifting technique. Size up load, get help for heavy or awkward items, get good grasp on object to be lifted, keep load close to body, keep back straight, lift with legs not with back, and do not twist when lifting. Review material handling procedures during safety meetings.	
Tools, Machinery and Equipment Use: Hand and power tools may be used. Use proper tool for the job. Use GFCIs for power tool operation. Use safety glasses. Do not use damaged tools. Properly secure materials when working on them. Make sure area is adequately clear when using equipment. Inspect electrical cords.	

ACTIVITY HAZARD ANALYSIS

ACTIVITY: SITE RESTORATION AND DEMOBILIZATION		
Electrical Equipment: Generators may be used to provide electrical power. Use GFCIs for portable electrical equipment. Inspect electrical extension cords for damage and ground plugs. Keep electrical equipment/cords away from water and fuel containers. Use electrical lockout/Tagout procedures.		
Noise Exposure: Noise exposure above 85 dBA is expected when working near or operating machinery and equipment. Wear earplugs for protection when operating or working near noisy equipment.		
Heat Stress: Heat stress may occur when elevated ambient temperatures, moderate to heavy workloads, and/or use of impermeable protective clothing occur. Adjust work-rest schedules. Work at a steady pace. Drink fluids. Take rest breaks and use shaded rest area. Know signs and symptoms of heat stress and treatment. Monitor for heat stress.		
Pressure Washer Operation: Pressure washer equipment may be used for equipment decontamination. Use gloves, face, and eye protection during pressure washer operation. Keep area clear when washing. Do not clean boots with pressure washer. Watch for slippery surfaces and handling of slippery materials. Have fire extinguisher and emergency eyewash supplies immediately available.		
Inclement Weather and Adverse Environmental Conditions: Inclement weather conditions such as strong winds, heavy rain, or lightning, may occur during outdoor operations. Suspend outdoor operations during inclement weather or when other adverse environmental conditions exist.		
Miscellaneous Physical Hazards: General safety hazards will be present during all site tasks. Use PPE for head, eye, hand, foot, and body protection. Follow safe work practices. Watch for slip, trip, and fall hazards from uneven, wet, slippery ground surfaces. Keep ground areas clear of tripping hazards such as hoses, cords, boxes, and debris. Maintain good housekeeping. Look where walking. Maintain balance. Maintain three-point contact when stepping off equipment. Use short steps when walking on slippery surfaces. Communicate general safety information during safety meetings.		
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Site Emergencies: Preparation for site emergencies is always a requirement for site work. Set up emergency communications. Prepare emergency supplies. Post emergency contact and hospital route information. Maintain emergency phone list/hospital location/route map on site. Have first-aid kit, fire extinguisher, and safety supplies available. Have cell phones available. Designate evacuation location and emergency signals. See the "Emergency Response Plan" section of SSHP.		
EQUIPMENT TO BE USED	**INSPECTION REQUIREMENTS**	**TRAINING REQUIREMENTS**
Heavy equipment; Compactor; Water truck; Pressure washer	Safety inspection; Heavy equipment inspection; Equipment decontamination release inspection	Site orientation briefing and SSHP review; HazWOPER training (equipment decontamination); First-aid/CPR training