**Technical Response to  
PANHES-22-P-0000 003493 RFP - Pacific Region MATOC,   
for abatement and demolition services at NASA at   
Santa Susana Field Laboratory (SSFL), Ventura County, CA**

Submitted on: 08-August-2022 12:00 local time

Submitted to: Reneda.d.kelley@usace.army.mil | Darrell.d.walker@usace.army.mil | FRPProposalsInboxhnc@usace.army.mil

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**All Phase Services, Inc.**

**POC Name: \_\_\_\_\_\_\_\_\_\_\_ / title  
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**Cover Letter**

**Include***: the offeror will provide a signed cover letter with the total price of the project, (including demolition, and abatement, if necessary)*

**Include**: Attachment B - Summary Spreadsheet; All Phase-HAzMat Demo ACM Tables-FY22 SSFL.xlsx; All Phase-Waste Management Report-FY22 SSFL.xlsx; All Phase-Project Plan-FY22 SSFL.xlsx

08-August-2022

To:  
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Mr. Walker:

All Phase Services, Inc. is pleased to submit this proposal in response to the PANHES-22-P-0000 003493 RFP - Pacific Region MATOC, for abatement and demolition services at NASA at   
Santa Susana Field Laboratory (SSFL), Ventura County, CA. Our proposal conforms to the instructions and requirements of the solicitation and addresses the Task Order PWS. We acknowledge receipt of associated maps and Site Survey Report, Q&As, and postings on the AMRDEC-SAFE site, as well as the RFP, including all amendments up to received 05-August-2022. All Phase takes no exceptions to the terms, conditions, and provisions contained therein. Furthermore, we make no assumptions within this proposal that are intended to offset any risk onto the Government.

Our proposed contract value for the base bid is $\_\_\_\_\_\_\_\_\_\_\_; we show price breakouts for both demolition and abatement in our cost summary sheets. A cost summary sheet is also included for Options ($\_\_\_\_\_\_\_\_\_). We will meet the minimum 60% landfill diversion goal for this task order.

Eric Newman, Pre-Construction Manager of All Phase Services, Inc. will be the point of contact for this proposal with full authority to negotiate and sign the contract resulting from this procurement on All Phase’s behalf, with contact information provided, below. Sal Rabah, President of All Phase, will be the alternate POC.

Respectfully,

/S/

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*Required Clause Regarding Site Investigation and Conditions Affecting the Work*:

The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to:

(1) Conditions bearing upon transportation, disposal, handling, and storage of materials;

(2) The availability of labor, water, electric power, and roads;

(3) Uncertainties of weather, river stages, tides, or similar physical conditions at the site;

(4) The conformation and conditions of the ground; and

(5) The character of equipment and facilities needed preliminary to and during work performance.

(a) The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.

(b) The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Government. Nor does the Government assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

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# Technical Approach

All Phase Services, Inc. (“All Phase”) submits this technical proposal in response to the task order Request for Proposal (RFP) under the Facilities Reduction Program. All Phase is a specialist demolition company, with over a decade of federal construction and demolition project experience. All Phase will self-perform all work required for this task order. We identify various specialists, vendors, and waste handlers who are available to assist in this effort. We have assimilated the FY18 NASA-SSFL Phase IV PWS and all other work scope documents to understand the abatement task in terms of hazardous material sources and difficulty per location (Table 1). From the site visit and Pre-Demolition Survey Reports, we expect we may encounter Asbestos Containing Material (ACM) in structures from various sources including flooring/roofing/windows, TS, joint compound, transite, insulation, paneling, gaskets, electrical wire, caulks, and sealants. ACM removal associated with joint compound, TSI, window glazing, transite, caulk, roofing, and ACM paneling is projected to be moderately difficult. All ACM noted in the RFP will be abated by All Phase prior to demolition. Unanticipated ACM encountered during contract work activities will be cause for immediate work cessation and notification the the Government for further direction. The survey materials provided indicates Other Regulated Materials (ORM). All Phase will prepare any final drawings or building maps showing locations of ACM and ORM needed to meet regulatory requirements. See the attached spreadsheet (***All Phase-HAzMat Demo ACM Tables-FY22 SSFL.xlsx***).

## Table: Assumptions and Exceptions

| **Assumption** | **Deviations/Exceptions** |
| --- | --- |
| **Approach to demolition of structures:** | We assume $\_.00 per SF for equivalent ACM/ORM/LBP abatement; otherwise, no exceptions are taken. |
| **Milestones and schedule:** | No exceptions are taken |
| **Applicable regulations:** | No exceptions are taken |
| **Other assumptions:** | No exceptions are taken |

Manpower and PCM sampling needs are estimated in ***Table: Demolition & Site Restoration-Man Power & Equipment Distribution***; this table only lists structures shown to contain ACM in the pre-demolition reports. The abatement team will consist of a supervisor and a crew of trained abatement workers. This team will systematically move from structure to structure removing hazardous materials and enabling subsequent site preparation and demolition.

## Table: Demolition Labor & Equipment Distribution

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Bldg. No | Program Manager | Project Manager | Safety Engineer | Admin | Safety Engineer | Super | Operators | Laborer | Exc/UP 80#clas | Exc/B&T 100# | Loader 3 CY | Skid Steer | Attach (Hammer) | Shear | Truck | Water Truck | TCLP  Sampling |
|  | HR | HR | HR | HR | HR | HR | HR | HR | HR | HR | HR | HR | HR | HR | HR | HR | EA |
| Bldg. 787 | 22 | 1459 | 398 | 569 | 262 | 2708 | 3364 | 4485 | 251 | 502 | 251 | 251 | 251 | 502 | 4648 | 1507 | 3 |
| Liquid Nitrogen Tank V-100 | 9 | 597 | 163 | 243 | 112 | 1156 | 1436 | 1915 | 107 | 107 | 107 | 107 | 107 | 107 | 1472 | 643 | 1 |

According to OSHA, labor for wrecking and demolition work falls under the *Special Trade Contractors* category — and All Phase brings expertise in concrete breaking, demolition of buildings and other structures, dismantling steel tanks, and other expertise in the wrecking of structures. To make this project a success, All Phase recognizes that keeping costs under control during demolition is as essential as during construction. Our Project Manager (PM) is dedicated to cost control and budgeting, and will work closely with the government to make sure we delivery the results needed, on schedule. Part of our budgeting includes a contingency plan to cover any unforeseen costs. For example, if the building’s septic system is going to be used for reconstruction, it must be functional. But older pipes and plumbing can rust, age, and deteriorate, and even cause explosions and flooding, and as a result, cause us to incur unexpected project costs.

We are also tasking a Quality Control Manager (QCM) and a Site Safety Engineer to work alongside our PM and crew. With dedicated experts assigned to these roles, All Phase is ensuring top level performance as we meet the government’s requirements.

At All Phase, we put safety first. It is crucial to keep our workers safe during this demolition projects, as the site will have excavators, cranes, and other heavy equipment in proximity. There will be dangerous hydraulic, pneumatic and electric tools, as well as manual ones such as saws-alls and sledgehammers, so All Phase’s safety training for our staff is critical to minimize risk of injury. These tools produce debris, and they’re dirty, loud, and riddled with trip or other bodily injury hazards.

All Phase recognizes that careful personnel selection, team training, and safety oversight can go a long way in reducing incident rates. We provide a full-time safety oversight expert, for example, help ensure that workers are performing their jobs safely and efficiently. The person in this role also keeps track of incidents, hosts “toolbox talks,” and provide one-on-one consultation for our team, concerning safety.

**Regulations and Permitting**: All Phase Superintendents and workers will have their state accreditations in order to work on this project. All Phase will coordinate removal and disposal of all regulated materials with the state Environmental and Natural Resources Division. All Phase will submit a Notice of Intent (NOI) to the proper authority for a Construction Storm Water Permit and comply with all applicable requirements, as needed. If necessary, we will engage a Qualified Stormwater Designer (*Ms. Charlotte Hedlund, PG, QSD of H2E Consulting*) to ensure that all SWPPP and National Pollutant Discharge Elimination System (NPDES) permit requirements are in compliance. A copy of the signed permit will be furnished to DPW-ENRD. We will coordinate our SWPPP and Storm Water Best Management Practices with DPW-ENRD. The California Department of Environmental Protection will have jurisdiction over asbestos abatement on this task order.

In accord with the general requirements and EM385-1-1, an engineering survey will be performed by *Roger C. Emerton (PE #MF1299)*. The engineer will stamp the Demolition PMP to satisfy this requirement. The PMP will incorporate information from the pre-proposal conference, site visits, pre-demolition environmental surveys, and other documents as appropriate, in order to address the specific needs of this task order. Initial PMPs will be developed within the time allotted by the PWS schedule. All Phase project personnel will attend an on-board review if needed, and be prepared to address, resolve, and incorporate all comments at this meeting. A Final PMP will be provided, generally within 5 working days or as per the project schedule. All Phase will highlight all revisions made in response to comments so that such changes can easily be tracked throughout the project. We will insert a “Changes List” at the front of the document for each re-submittal.

# Project Planning

This project involves All Phase coordinating personnel, equipment, and other resources to get this demolition process completed. In our experience, this results in inevitable complexities throughout the project, so we know it is crucial to have a well-orchestrated plan in place to coordinate the different aspects. Our project planning approach is based on a traditional “waterfall” approach: we set clear milestones between each task, with set due dates, deliverables, and client expectations organized on a clear timeline, as shown in the GANTT provided as an appendix. The All Phase project planning approach is based on the concept that the demolition process should flow like an actual waterfall, i.e., each stage and phase will be completed in its entirety before moving on to the next one. For instance, all the requirements for clearing the building must be completed first before beginning the first demolition phase.

We produce a draft Project Management Plan (PMP) that the government will review; once approved, All Phase will declare the NPT met, and begin work. As part of the PMP, we will also provide a Risk Management Plan (RMP) and a Quality Control Plan (QCP).

The RMP identifies who may be harmed or what the impact on the project progress could be; it determines how many risks may arise if a problem occurs. This lets All Phase decide what control measures need to be in place to prevent or solve the problem. Assessment determines if any risks remain. The QCP will delineate our 100% inspection mode for quality assessment. The QCP is project-specific, and describes the activities, standards, tools and processes necessary to achieve quality in the demolition of facilities as described in the PWS.

Should the unforeseen happen, All Phase will adapt work schedules and processes to meet changing conditions based on the government’s needs, site condition problems, weather delays, etc.

The All Phase project planning approach is superior as it enables our team to focus on each aspect of the demolition project — giving their undivided attention, means we can ensure high-quality work at each stage, verified by our Quality Control Manager (QCM).

# Project Coordination

***Coordination***: During the course of the project, All Phase will keep the CO/COTR informed via weekly and monthly progress meetings and reports summarizing progress against schedule, significant events, waste volume and disposition, etc. We will use the Quality Control System (QCS) module of the Resident Management System to record, maintain, and submit required information throughout the task order period. All Phase will also interact with base personnel during weekly quality inspections. Following is a discussion of specific coordination items.

***Traffic and Work Hours***: Haul routes will be identified/approved by the appropriate regulatory agency and the government after award and prior to mobilization.

***Staging***: We will confirm the precise locations for staging with on-site personnel.

***Utilities***: All Phase will be responsible for all utility disconnects and coordinate all utility cutting and capping with the appropriate local authority, 10 days in advance of milestone dates posted in the demolition schedule. These milestones will be documented within the PMP schedule as part of the NTP, and will be validated with the Installation at the project Kick-Off Meeting.

We note that none of the utilities are privatized and there will be no disconnection fees. The government will provide water and electricity to All Phase at no cost. Location and elevation of utility lines and caps will be documented on the as-built-drawings and submitted to the COR at project close out. There is no requirement for GPS location of utility caps for this project. We will designate the monitoring wells, and maintain a high visibility perimeter fence to ensure the wells remain unmolested.

***Controlled Materials***: ACM and other controlled materials will be handled in accordance with all federal, state, and local regulations. All work will be coordinated with the state Environmental Management Division Asbestos Coordinator and in accordance with an Asbestos Management Plan. Prior to transport of any controlled materials, the state authority will be presented a manifest for approval.

***Ordnance Explosive Safety Support***: An explosives safety submission (ESS) is not required.

***Startup***: Upon award, All Phase will immediately start coordinating all submittals and arranging storage areas on base for abatement equipment & materials, fuel tank(s) with a spill pan, equipment lay down areas, and asbestos container locations. We will submit all 10-day notifications according to the progress work schedule. There is no Dig Permit required for Hawthorne. There is a Hot Work Permit required through Hawthorne Fire Department. We will implement proper storm water & erosion control protective measures and maintain a clean job site. All interior equipment and machinery will be removed. Exterior pole mounted lights and other equipment that hinders demolition or constitutes a safety hazard will also be removed.

Our QCM will perform a walk through survey of the buildings (with an AHERA-certified, state-accredited asbestos inspector, if necessary) prior to demolition to assure the identified ACM has been removed and during demolition to inspect for previously unidentified ACM. If unexpected suspect ACM is encountered during demolition, work will cease and immediate notification will be given to the government, and local COE representative for further direction. Once targeted facilities and structures have been fully deactivated and all hazardous materials removed, the structures will be collapsed using a demolition excavator equipped with bucket and thumb and hammer breaker and a skid steer loader.

All Phase will coordinate with base shops for utilizing water with Reduced Pressure Backflow Devices for dust suppression from fire hydrants available in the demolition area (we note this is a major concern of base personnel). Since hydrants may not be readily available at all locations, we will have trucks ready to transport water as needed. All concrete will be removed to a minimum depth of 4 ft. Slabs more than 4-ft below grade will be perforated and the depression backfilled with crushed concrete to enable good drainage. We will remove all ancillary items associated with facilities to be demolished to a distance of 15 feet on either side of the subject building or as called out in the Site Visit notes or otherwise instructed by the CO. Such items belonging to a private utility will be removed by that utility prior to the start of demolition. Any excavated areas left open shall be cordoned off, and demarcated.

All Phase will regulate traffic for trucks exiting the sites, if required. We will orient all drivers on the procedures for proper Trip Ticket record keeping. Off-site vehicle tracking of dirt, soils, and sediments and the generation of dust shall be minimized or eliminated to the maximum extent practical. The stone construction entrance and exit are the BMPs for minimizing off-site tracking of soils. Under conditions where soils have high moisture content, it may be necessary to build a wash area to remove solids from vehicles leaving the project site.

***Reporting***: All Phase will submit a status report via e-mail every week to the Government Project Manager by close of business on the first working day of each week. We will also submit a monthly Progress Report not later than the tenth day of the month.

***Close-out***: All Phase will submit an electronic closeout package (final report) no later than 20 working days after completion of project (following DID FRP-12-001 format). This report will contain a detailed description of work performed, lessons learned, and a summary of quantity and type of debris materials recycled, salvaged, reused, and disposed.

**Stage 1: Hazardous Materials Diagnosis**. There’s nothing like being elbow-deep in a demolition project and finding asbestos, lead paint, or some other HBM at the site. Regulated abatement is required if HBMs are discovered during a demo — and that can completely bust a budget if you didn’t plan for it. The best way to avoid surprises is to arrange a thorough building inspection, including sampling for HBMs. We have reviewed the assessment report, but, immediately after NTP, we will conduct an inspection ahead of the building demolition project. This will ensure the health and safety of all involved at the site; should we identify any issues, work will be preceded by a thorough decontamination to ensure that no harmful or noxious materials will be released into the environment when the deconstruction takes place. The health of workers, the public and the surrounding ecosystems are of primary concern for All Phase.

Before starting any demolition work, it is important that a hazardous materials expert (asbestos, lead, mold, etc.) performs a diagnostic of all materials that should be removed before demolition. When possible, decontamination can take place immediately after the diagnosis, but since materials containing harmful products are sometimes difficult to access, it will generally follow the clearing (a step discussed later in the text).

**Stage 2: Organization And Planning of the Demolition**. In order for the demolition of the buildings go smoothly, we will draft a Project Management Plan (PMP) for the government’s review. This is carefully planned. Our demolition experts will conduct a structural analysis of the building to provide the answers needed to ensure the PMP is comprehensive. For example, demolishing a building with a party wall may require extra precautions to preserve the integrity of the surrounding buildings.

***Site Security***: This preliminary analysis will determine demolition sequencing and the specifics of equipment to be used in order to proceed in the safest and most efficient way possible. Moreover, this analysis will allow our experts to identify any elements that require special attention — as well as any adjacent structures or site-specific components, such as the monitoring wells, that must be preserved during the clearing. For this project, properly placarded 6-ft chain link fencing with secured gates may be required due to the potential proximity to pedestrian traffic. Properly placarded construction fencing is acceptable at all target structures. Barricades will also be placed at all entrances to the site. Appropriate signage will be installed to assure that site access is limited. Signage will be installed at each of the buildings during remediation to identify the process occurring inside and to limit access.

**Stage 3: Clearing The Building To Be Demolished**. During a demolition, not all the materials removed will go to the same place. Naturally, much of the waste will be sent to the landfill, but some will be recycled or reused. We understand the importance of sorting the materials after a demolition — and that’s why clearing will be an on-going effort throughout the project. In simple terms, clearing consists of removing all installations or materials from the structure that are recyclable or reusable and are not part of a load-bearing element to avoid impairing the stability of the building to be demolished. We distinguish the main demolition structure “types” and indicate how difficult we anticipate the required effort will be; see

## Table: Demolition structure types and projected difficultyImage

See the attached spreadsheet (***All Phase-HAzMat Demo ACM Tables-FY22 SSFL.xlsx***).

The base bid targets represent the key structures, which consist of an assortment of mostly wooden, but also CMU/brick, concrete, and metal structures. These features will be the most time consuming to demolish. All of the work can be accomplished using an 80K# class excavator with various attachments and skid steers. We anticipate little hand work will be required; none of these demolition tasks should prove unusual or difficult.

Manpower and Equipment: Effort required to salvage and recycle usable materials and demolish and restore the site is summarized in the attached spreadsheet (***All Phase-HAzMat Demo ACM Tables-FY22 SSFL.xlsx***). The table also includes major equipment usage per location and TCLP sampling needs. Demolition will be accomplished by machine operators plus laborers. This work crew will systematically demolish facilities per the work schedule in the attached spreadsheet (***All Phase-Project Schedule-FY22 SSFL.xlsx***). Heavy equipment needs will include a 80K# class demolition excavator, skid steers, and various trucks.

**Stage 4: Building Decontamination**. This step is a follow-up to the diagnosis made at the beginning of the project. During this stage, all hazardous materials will be removed from the structure. For example, if asbestos has been found in the insulation materials, asbestos removal will be required before demolition. We have reviewed the assessments provided by the government, and do not anticipate any significant decontamination efforts will be required.

Following decontamination, we will enlist our hazardous waster expert to determine that no contaminants remain in the air or in the materials on the work site. Otherwise, the demolition process will be suspended until this situation is corrected.

**Stage 5: Building Demolition**. Using the equipment identified, our team will execute the demolition of the remaining parts of the building. Depending on the planning and organization of previous steps, the deconstruction will be done with an excavator or other heavy equipment.

## Table: Structures

***These atypical structures which may require specialized demolition methods or ACM/ORM abatement with unusual conditions or quantities***

| **Structure** | **Specialized Methods** |
| --- | --- |
| Building |  |
| Tank |  |

**Stage 6: Cleaning The Site**. After the heavy equipment has passed through, there will be a lot of debris on the demolition site. This is the time to separate the structural elements that can be recycled from the waste and to send the latter to a waste management facility. As the last piece of foundation is pulled up, we don’t let complacency set in during cleanup. Our experienced excavators specialize in safely operating heavy equipment around people, in tight spaces, near underground utilities, and on different terrain.

Site restoration is scheduled to take place in \_\_\_\_\_\_\_\_. We will coordinate with the government to access fill material needed for this project. Fill and topsoil will be sourced/imported from an appropriate distributor, if needed. Clean 2” minus concrete will be acceptable as fill. Soils will be blended and graded to match the surrounding area with positive drainage and no ponding of water. Soil erosion blankets will be used on steep grades to meet state requirements at all times.

Our approach to disposal of site materials is three-fold: Salvage and donate first. Recycle second. For All Phase, sending refuse to the landfill is a last resort. We are recommending a Selective Demolition approach, as this is a more eco-conscious method. Think of this as a deconstruction because we will retain the structure while removing specific sections in a staged approach. Deconstruction works well by promoting reuse and recycling and reducing the demolition’s overall environmental impact. Our primary heavy equipment for this will be with an excavator, using attachments such as shears, crushers, and hydraulic hammers.

Before we wrap up the project, we will take down all temporary fencing and signage and properly dispose of it. If necessary, we will clean up the parking lot used, fix potholes, and repaint lines. Following this last step, our PM and QAM will ensure the demolition site is clean and free of debris to avoid accidents and make sure that the land is ready for a new project. We will conduct a walk-through with the government to ensure project close-out can proceed.

# On-Site Management

At All Phase, we recognize that on-site management requires a chain of different tasks and responsibilities which are followed with great precision in order for the demolition project to be delivered according to the PMP. This on-site PM expands, updates and adapts the PMP in conjunction with the All Phase team as necessary to reflect further information, the government’s detailed specifications or changed circumstances. When appropriate, the PM will make proposals for the acceleration of all or part of any demolition work package or task elements to achieve the target dates of the project.

On-site, the PM will effectively manage operatives, plant, equipment, services and office facilities, and may approve, on the advice of the All Phase team on the site, changes to tasking to improve safety and efficiency. The PM will establish all base line data which may be required for the execution of any works, and generally co-ordinate any further setting out carried out by the workforce. The on-site PM will establish and effectively manage task execution and final acceptance procedures, and monitor their implementation. The PM will instruct any subcontractors regarding required documentation to be handed over in order to ensure timely completion of the demolition. The PM is full-time on site as the deconstruction manager. Everything at this stage focuses on the successful delivery of the demolition of the buildings in conjunction with our targets for quality, schedule, cost, and safety.

# Logistics

All Phase provides demolition of all types of buildings and structures, as well as recycling and removal of construction debris. We have all the necessary demolition equipment at our disposal to be able to demolish the largest buildings or structures. The work is performed and supervised under the guidance of professionals, thus ensuring excellent quality and timeliness.

## Table:  All Phase consultants, vendors, and waste handlers

|  |  |  |
| --- | --- | --- |
| Expertise | Company | Location |
| **Demolition** | [INSERT] | [INSERT] |
| **CA State SWPPP – Qualified Stormwater Designer** | H2E Consulting | San Francisco, CA |
| **State of California Certified Biologist** | Jacobs Engineering Group, Inc. | Pasadena, CA |
| **CIH** | [INSERT] | [INSERT] |
| **Safety equipment** | Needham | Framingham, MA |
| **Refrigerant recovery** | Rapid Recovery | Nationwide |
| **Landfill**  C&D | Simi Valley Landfill | Simi Valley, CA |
| **Landfill**  friable + non-friable asbestos | Azusa Landfill  Simi Valley Landfill | Azusa, CA  Simi Valley, CA |
| **Concrete and Asphalt Recycling** | Waste Management | Simi Valley, CA |
| **Universal Wastes** | Veolia ES Technical Solutions | Nationwide |
| **Metals Salvage** | ACE Recycling & Scrap Metals  Max Scrap Metals & Recycling | Chatsworth, CA  Chatsworth, CA |
| **Topsoil / Backfill** | Santa Barbara Sand and Topsoil | Santa Barbara, CA |

## Table: Types and numbers of pieces of equipment

| **Equipment** | **Quantity** |
| --- | --- |
| Loader 3 CY | 1 |
| Exc/UP 80#clas | 1 |
| Exc/B&T 100# | 1 |
| Skid Steer | 1 |
| Attach (hammer) | 1 |
| Shear | 1 |
| Truck | 1 |
| Water Truck | 1 |

## Table: Staffing plan

| **Personnel Role/Position** | **Dual-Hatting?** | **Subcontractor?** |
| --- | --- | --- |
| **PM/SUPER 1 (key)** | No | No |
| **PM/SUPER 2 (key)** | No | No |
| **Equipment Operator 1** | No | No |
| **Equipment Operator 2** | No |  |
| **Laborer** | No | No |
| **Admin** | No | No |
| **QAM** | Yes | No |
| **Safety Engineer** | Yes | No |

## Waste Diversion and Recycling

All Phase’s intent is to maximize the economic recycling of materials. This maximizes our return on scrap value and minimizes the waste stream of materials that will go to landfill. All Phase is fastidious in its implementation of the 3R’s:

* + REDUCE: Make every effort to minimize the amount of waste generated
  + REUSE: Segregate items that can potentially be reused
  + RECYCLE: Segregate recyclable items and place them in appropriate containers

We will either crush and reuse concrete on-site or export it to Hawthorne Wholesale Gravel for recycling. Other items that we typically attempt to recycle are windows, doors, appliances, equipment, fencing, and asphalt. All steel, copper, and aluminum will be separated by classification, sized, and placed in containers for delivery to Hawthorne Recycling in Hawthorne, NV. All refrigerants will be recovered by Rapid Recovery. We will submit proof of recycling in monthly and final reports.

We estimate that 60% of the demolition waste material by weight can be recycled as tabulated in the attached spreadsheet. This should meet the minimum diversion goal for this task order. We project a $\_\_\_\_\_\_\_\_ salvage credit for scrapped metal of all types to the Government.

## Table: Expected materials for diversion / rates and materials to be disposed at landfill

| **Material/Type to be diverted/recycled** | **Destination** | **Original Estimated (pounds)** |
| --- | --- | --- |
| Asphalt | Recycle | - |
| C&D | Landfill | 5,970,000 |
| Concrete | Crusher/Recycle | - |
| Metals - all types | Recycle | 12,400,000 |

See the attached spreadsheet, ***AllPhase-Waste Management Report-FY22 SSFL.xlsx***, detailing expected materials for diversion / rates. We will comply with the requirement to provide a waste management and diversion plan as required by the PWS. All concrete, brick, and masonry will be separated from the C&D debris. Disposal will be a last resort only when recycling is not economically practical. All abatement and demolition materials will be exported off site to the appropriate waste management landfills. Construction and Demolition (C&D) debris will not contain hazardous waste/materials but may contain non-friable asbestos. All friable asbestos will be bagged. We will report all debris that is either recycled or disposed of using the appropriate Debris Recovery Form. Copies of the forms and all supporting manifests and weight tickets will be provided to the government.

## Abatement and Disposal of Other Regulated Materials

Other regulated materials (ORM) will be removed first. Any household hazardous substances encountered (cleaning, automotive, paints, etc.) will be collected, and stored at a centralized location for collection, packaging, and proper disposition. We do not expect to encounter unusual forms of contamination in this task order such as unexploded ordnance and laboratory biological and chemical wastes, but All Phase does have experience dealing with such hazardous materials.

Other hazardous / controlled materials identified in the Pre-Demolition Report include various kinds of fluorescent bulbs, PCB-containing ballasts, smoke detectors, and emergency exit signs. All Phase will remove these materials per universal waste rules for disposal and recycling by \_\_\_\_\_\_\_\_\_\_\_\_. All Freon will be recovered by \_\_\_\_\_\_\_\_\_\_ (franchise will be a small business). Demolition debris will be checked by TCLP for lead content to determine whether any debris needs to go to a special landfill.

# Safety Approach

The Site Safety and Health Officer (SSHO) will have overall responsibility for implementation of the All Phase Safety Program. The SSHO (dual-hatted as QCM) will be on-site during all field work activities. The CIH role, if needed, will be filled by Daniel Chute, CIH, CSP, and President of Atrium Environmental Health and Safety Services (a small business). All Phase has pre-qualified Atrium to provide CIH expertise and any other special safety and environmental assessment/management that may be required for the Hawthorne Army Depot FRP task order.

Accident Prevention Plan and Activity Hazard Analysis: All Phase will develop a site-specific health and safety plan embracing accident prevention and identifying potential job site hazards. At the initial site mobilization and prior to starting any work in a given area, the Project Manager, Abatement and Demolition Superintendents, and SSHO (and IHT if needed) will make an initial walk through, and identify all potential physical hazards prior to mobilizing our work force. Where necessary, hazards will be mitigated through barrier tape, signs, lighting, or physical barriers. In particular, All Phase will develop as part of our APP, specific requirements for any “lift plans” needed to remove vessels, towers, equipment, trusses, or other items that require use of a crane or other lifting device. A specific hazard analysis for each location/type of lift will be provided. Our preliminary activity hazard analysis based on our general methods, procedures, and equipment is presented in the following table.

## Table: Preliminary activity hazard analysis

| **Hazard or Risk** | **Mitigation Methods** |
| --- | --- |
| **Falls from elevated work areas** | All elevated work will adhere to a 100% tie off policy. All leading edges will be barricaded. All workers will be trained in proper tie off procedures and usage of boom lifts. |
| **Falling debris** | Ensure all areas being demolished are cordoned off with proper danger signs to restrict access to others. Elevated items will be dismantled using controlled lifts and lower structures will be demolished using shears and pulverizers. In all cases, a regulated area will be established that prohibits any persons from entering any potential fall zone. Workers will maintain clear space around their work area; If you must enter another worker’s area, alert him prior to entering. Hard hats will be worn; steel toe boots meeting ANSI Standard Z41 will be worn. |
| **Machine tip over** | Cranes, excavators and boom lifts will be utilized. Do not operate equipment on grades that exceed manufacturer's recommendations. All machines shall be operated on compacted ground. Crane mats will be used where applicable. Never overload or exceed the capacity of any crane or boom lift. Crane picks shall be pre-engineered. Operators shall wear seat belts when operating equipment. |
| **Equipment hazards** | All ground personnel will stay out of the swing radius; eye contact with operators will be made before approaching equipment. Equipment will not be approached on blind sides. All ground personnel will stay clear of all suspended loads. All equipment will have guards, canopies or grills to protect from flying objects. Spill and absorbent materials will be readily available; drip pans, polyethylene sheeting or other means will be used for secondary containment. |
| **Electrocution** | Prior to the commencement of work in an area or building, all conduits and equipment shall be identified and tested. Utilities that must remain live during work shall be marked and protected as required. Utilities that are to be disconnected shall be “air-gapped” prior to demolition and dismantling. Equipment will be equipped with GFCI. All equipment will stay a minimum of 15 feet from energized electrical lines (50kV). This distance will increase .4 inches for each 1kV above 50 kV. |
| **Fire** | Removal of combustible materials shall be performed prior to any hot work in any area. Charged fire hoses and fire extinguishers shall be available at all active work areas. No lines shall be torch cut without first cold cutting the end and inspecting it. ABC type fire extinguishers shall be readily available. No smoking in work area. |
| **Slips, trips and falls** | Housekeeping will be performed on a daily basis. Do not allow debris to be scattered on the work site. No running or walking on debris piles. Clean up any liquid spills immediately. Guard rails on platforms 6’ and higher; safety harness when working on roof tops or fixed ladders. |
| **Burns from torch work** | Torch cutters and helpers will wear full protective clothing during torch work including face shields. |
| **Eye injuries** | Safety glasses are the standard minimum eye protection for all work. Upgrade to full face shield for torch cutting or concrete chipping or sawing. |
| **Hearing injuries** | Hearing protection will be worn with a noise reduction rating  capable of maintaining personal exposure below 85 dB(A) (ear muffs  or plugs). SSHO will determine the need for hearing protection. All equipment will be equipped with manufacturer's required mufflers. Ear plugs will be required by those working in close proximity to machines or using other equipment that creates a noise hazard. |
| **Asbestos Exposure** | Adequate Personal Protective Equipment (PPE) including Tyvex body suits and respirators. Wet methods of removal. Notifications/Warning signs shall be posted at all accesses to job Sites. Good housekeeping and hygiene practices. Medical surveillance. Monitoring of air quality within the project location and personal exposure. |
| **Being run over by trucks or equipment** | Trucks and heavy equipment will be utilized regularly. The maximum speed will be 5 mph. All workers will wear reflective vests for greater visibility. Never work or walk behind an active machine. Spotters will be used when backing up vehicles, loading and unloading backhoe from vehicle and when moving equipment.All equipment will be equipped with backup alarms. Drivers will keep all workers on foot in sight at all times, if you lose sight of someone, Stop! |
| **Overexertion** | Site personnel will be instructed on proper lifting techniques. Mechanical devices shall be used to reduce manual handling of materials. Team lifting should be utilized if mechanical devices are not available. Instruct personnel on proper body mechanics. Do not twist at the waist, do not bend, twist, and lift at the same time. Individual lifting is limited to 40 lbs. Loads over 40 lbs require help from a machine. |
| **Heat Exhaustion** | Drink water; Establish work-rest cycles (short and frequent are more beneficial than long and seldom); Identify a shaded, cool rest area; Rotate personnel, alternate job functions. |
| **Frost Bite** | Site personnel will be instructed to wear an inner wicking layer, a middle insulating layer and an outer wind- and water-resistant layer for both upper and lower body. Stay hydrated. Stop and warm your feet or hands if they start to feel numb; this is an early warning of frostbite. |
| **Premature structure collapse** | Work plans for the various structures will have detailed step by step procedures and sequencing for the dismantlement. All work plans shall be adhered to and work will be continually inspected by the on-site competent person to continually assess the stability of the structure. |
| **Pinch/Cut/Smash** | Cut resistant Kevlar work gloves will be worn when dealing with sharp objects. All hand and power tools will be maintained in safe condition. Guards will be kept in place while using hand and power tools. |

***General Site Safety Approach***: First Aid kits will be located at all projects sites. All superintendents and foremen will be provided with cell phones with all emergency phone numbers pre-programmed. At the end of every day we will lock all containers, entrances to decontamination units, fuel storage tanks, equipment, and vehicles. We will turn off all water and electrical connections overnight. We will use safety training videos weekly that are produced by the National Demolition Association. All employees will be required to sign off on their understanding of the content of the safety training. Prior to commencing any abatement, we will submit a 10-working day asbestos notification to the Nevada Department of Environmental Protection. We will make sure all abatement workers’ medical records, refresher training, EPA Training certificates, fitness tests, and certificate of worker acknowledgements are up to date. All demolition areas will be cordoned off with properly placarded chain link or construction fencing. Barricades will also be placed at all entrances to the site. Hard hats, safety shoes, and safety glasses must be worn by all within demarcated work areas. Fire extinguishers will be readily available at all building sites during abatement and demolition. A spill kit will also be available wherever equipment containing hazardous fluids will be operating. Tag out/Lock out procedures will be used and enforced whenever necessary.

***Safety Training***: All Phase employees are given an orientation program on Health and Safety Hazards associated with their particular aspect of employment. All employees are also given specific training as to hazardous materials that may be encountered, applicable regulations, and protective clothing and equipment that may be required. This training may be administered by the SSHO or outside experts. Employees are briefed on the acceptable methods of handling such materials. Selected personnel will be trained and qualified in the movement of hazardous materials. There will be a continuous training program, instituted by the SSHO to ensure all personnel are constantly aware of existing safety and health hazards and any and all new hazards and/or methods of handling. The Job-Site Superintendent will also conduct a 5-minute “tool box” safety meeting each week during which hazards specific to their operation will be discussed.

***Equipment Safety***: We ensure that all operating equipment and tools have guards that meet the requirements stipulated by Army safety regulations. The CQC Officer will designate two individuals to maintain an “Inspection and Maintenance Schedule” for such equipment and ensure prompt action or repair of all violations. We have found that even when OSHA safeguards are in place, hazards can still exist because of the use of unusual equipment combinations or site conditions. As a result, we encourage proactive assessment of site-specific conditions and activities to determine the best procedures and over-and-above safeguards necessary to ensure safe operation.

***Safety Inspections***: The Job-Site Superintendent will make a daily informal safety inspection of work areas and equipment. Any violations will be corrected immediately, or reported to the Program Manager and COR for necessary action. Compliance in the use of personal protective clothing and equipment is included in the daily inspection. The SSHO will conduct a formal monthly Safety and Health Survey. This will include: Inspecting, locating, and correcting all unsafe conditions; Ensuring that all signs, traffic markings, equipment, machinery, are marked and painted to identify use and hazard. Colors and marking will conform with OSHA regulations.

The SSHO will ensure that a Safety Engineering Study is made prior to changing or modifying any operating process or installing new machinery. The purpose is to protect all employees who may be affected and to protect the environment against potential hazards.

Monitoring: Monitoring is an essential part of correct demolition practice and protection of workers and the public. Personnel monitoring via air sampling will be routinely conducted during all asbestos abatement through final clearance monitoring. Respiratory protection will be via Powered Air Purifying Respirator (PAPR) until a NEA has been established. If torch cutting of lead painted material or concrete crushing is scheduled, air samples will be taken for lead and silica. Workplace noise will be monitored with a dosimeter.

Accident Reporting and Record Keeping: On the job site, our Job-Site Superintendent will be responsible for recording and reporting all accident exposure and experience, including sub-contractors, incidental to the work. At a minimum, these records will include exposure work-hours and a log of occupational injuries and illnesses in accordance with OSHA and Army requirements. All injuries and diagnosed occupational illnesses that result in a lost work day or fatality will be reported to the designated authority. On the job site, we will keep records of any employee exposed to toxic materials and/or harmful physical agents. We will also notify the COR and the employee of any excessive exposure and the hazard control measures that will be taken. In the event of an accident, the following procedures will be followed:

* + The employee (or co-worker) will immediately notify the All Phase Job-Site Superintendent or Program Manager who will in turn notify the COR and CO
  + Employee or co-worker will be transported to nearest physician/medical facility
  + The Job-Site Superintendent will complete DD form 689 (Individual Sick Slip) at the time of reporting (this will be sent to our physician for processing).
  + If the employee is unable to return to work, the Job-Site Superintendent will complete the appropriate accident form (Report of Accident) in triplicate (the original and first copy will be forwarded to the Project Office)

Accident, injury, death, or property damage will be reported in writing to the COR within 24 hours. Details will include: (1) names of person/persons involved, (2) statements of those involved, and (3) statements of witnesses.

# Preliminary Schedule

As described, All Phase will execute the project using an abatement crew of with a supervisor, laborers, and a demolition crew (consisting of a supervisor, machine operators, and laborers). There is no stated order of priority in the PWS. Following a project startup phase, the bid structures targeted will be systematically abated and demolished in the order shown in the schedule, beginning on \_\_\_\_\_\_\_\_\_\_. The total Abatement / Demo work phase will consume \_\_\_\_ work days. Site restoration will commence after all structures have been demolished starting on \_\_\_\_\_\_\_ (\_\_ work days allotted). Demobilization will begin on \_\_\_\_\_\_\_ and the final report will be delivered to the government by \_\_\_\_\_\_. After review and re-submittal, the project will close-out on \_\_\_\_\_\_\_.

By closely reviewing the master schedule on a weekly basis, All Phase will anticipate impacts caused by owner changes, unforeseen site conditions, weather, etc. We have the ability to create fragnets to predict the direct impact certain events may have on the schedule, whether these are positive or negative. If we foresee a potential slippage in the schedule, we can remedy the situation by increasing the length of our workdays, adding workdays, or adding extra work shifts if permitted by the government and the project installation. By relying on the total quality management process of our QCP and tightly monitoring our schedule, we will be proactive in avoiding or minimizing project delays as opposed to reacting once the delay has already occurred.

***Unforeseen Conditions and Change Orders:*** -Unforeseen conditions may arise at FRP demolition-sites owing to undiscovered presence of hazardous materials, contaminated soils, safety issues with proposed demolition strategy, issues with recycling/waste disposal, approval of stormwater and erosion measures, presence of wildlife, etc. To mitigate these risks, All Phase maintains close working relationships with qualified experts in the areas of SWPPP, wildlife, industrial hygiene, and handling of UXO (see the list of our subcontractors and vendors). Our project team will coordinate closely with these experts whenever needed and regularly update the COR on any findings that pertain to unforeseen work conditions. We will factor permitting, wildlife and archeological concerns, etc., into our pre-demo surveys, inspections, and schedules as thoroughly as possible.

If our senior management team has agreed that a Change Order is appropriate, the Project Manager will manage the information needed for submitting a change order request. The All Phase President will be involved in the process to ensure the company’s most accurate price estimate for the Change Order. Based on our extensive experience with FRP task orders, All Phase often declines to proceed with a formal submittal for Change Orders that can be self-performed at a cost of less than $15K. Exercising this option is a good business decision when it avoids significant work stoppages, schedule delays, and/or extra costs.

# Annex: Abatement and Disposal of Asbestos Containing Material

When asbestos is present in building construction material, the most fundamental abatement requirements are to (1) remove ALL regulated asbestos containing materials prior to demolition; (2) properly protect the workers and the immediate environment from any exposure to Asbestos Containing Materials (ACM); and (3) package, transport, and dispose of all ACM properly. Common sources of asbestos containing materials in FRP projects include pipe and boiler insulation, joint compound, transite, caulking, glazing, roofing tars, flashing, mastic, and floor tiles. Fully meeting not only Federal but also State and Installation-specific requirements is essential to correct performance of all Task Orders. We will meet all requirements of the Nevada Department of Environmental Protection which may involve additional regulatory procedures.

To protect workers and occupants in the vicinity of the sites scheduled for deconstruction, we use the most stringent methodologies for the abatement and disposal of ACM. This ensures the safety of workers and residents and proper tracking of the location of all ACM. Following is a summary of the specific methodologies we will employ to abate asbestos at Hawthorne Army Depot.

Asbestos abatement will require special containment equipment including personnel and waste decontamination chambers, water filtering equipment to 20 micron and 5 micron before disposal, HEPA filtered vacuums, HEPA equipped negative air units, airless sprayers, manometers for recording pressure differential, electrical generators, and personal air sampling equipment. All Phase maintains newer abatement equipment and has next-day access to abatement material and equipment through our supplier, \_\_\_\_\_\_\_\_ (a small business). We will request a 6-hour turnaround time from our laboratory for all al air test results to minimize delays. Upon passing a final visual inspection and air clearance testing, then the building will be cleared for demolition.

**Full enclosure method for friable materials** (e.g. pipe insulation, floor tile, and mastic, joint compound, tank insulation, boiler and duct insulation): These materials will be removed as OSHA Class I. All critical openings such as windows, doors, vents, etc. will be sealed with two layers of 6-mil poly and duct tape. All walls floors and ceilings will be sealed with two layers of 6-mil plastic to create a full containment, only exposing the materials scheduled for abatement. Decontamination chambers with showers for personnel and waste will be erected at the entrance to work areas. HEPA Air filtration units will be utilized to ensure and maintain negative air pressure in the work area during abatement.

**Glove bag method for friable materials**: Materials such as pipe insulation and pipe fittings will also be removed as OSHA Class I in areas with less than 260 linear feet of ACM. A 20-foot Control Area extending around the work area (where feasible) will be barricaded-off and signs posted. Working in two-man teams, workers will attach the glove bag to the pipe to be abated. One worker will continuously mist the pipe with amended water while the second worker removes the pipe insulation and places it into the bottom of the glove bag.

The abated pipe will be wiped down and the interior of the bag cleaned so that all the waste is in the bottom of the bag. The Glove Bag will be twisted and duct tape secured over the twist point. The bag will be removed from the pipe and placed into a second six-mil appropriately labeled waste bag. This process will be continued until all asbestos has been removed. The abated pipe will be lightly misted with an EPA approved removal encapsulant to permanently bind any remaining microscopic fibers.

**Method for Category II non-friable materials** (e.g. window glazing, door caulking, gaskets, expansion joint caulking): These materials will be removed as OSHA Class II. A 20-ft Control Area extending around work (where feasible) will be barricaded-off and signs will be posted in all areas that can be visible or have possible access. Roofing material as well as material above the worker’s reach will be accessed in compliance with the industry Fall Protection Guide. A Fall Protection survey will be completed by the Safety Engineer and a Fall Protection & Prevention plan created for the site specific fall hazards. All materials will be adequately wet and kept wet during removal. Materials will be removed intact if feasible. Pieces will be cut into manageable sections after wetting. Materials will be wrapped or bagged and then sealed within the work area, then carried, labeled and placed in the appropriate ACM waste container. Worker decontamination will be achieved utilizing a Remote Decontamination facility placed near the work area.

**Method for Category I non-friable materials including flooring and roofing**: Category I non-friable materials will be demolished with the building, under wet demolition methods, and taken to the landfill as ACM-containing C&D debris only if permissible by law and Installation regulations. All ACM on concrete to be recycled will be abated prior to demolition.

**Decontamination Unit**: The decontamination station is designed to allow passage to and from the work area during removal operations with no leakage of asbestos fibers outside the contained work area. The unit consists of a clean room, wash room, and equipment room separated by airlocks. The airlocks are formed by overlapping three sheets of polyethylene at the exit of each room, and three sheets at the entrance to the next room with 2-3 feet of space between barriers.

**Clean Room**: No asbestos contaminated items will enter this room. Workers use this area to suit up, store street clothes, and put on respiratory protection before they enter the work area, and to dress in clean clothes after washing.

**Shower Room**: Workers pass through the shower room on their way to the removal area, and use the shower area on their way out after leaving their contaminated clothing in the equipment room. Wastewater will be collected and treated as asbestos containing material or filtered through a 5 micron filter before disposal into the sanitary sewer. State and local requirements on methods of wastewater disposal vary. All Phase will follow all local and state specifications for handling wastewater.

**Equipment Room**: This is a contaminated area where equipment, boots, hard hats, goggles, and contaminated work clothes are stored. Workers place disposable clothing such as coveralls, boots, and hoods in bins before leaving this area for the wash room. Respirators are worn until workers enter the wash room and these are then thoroughly soaked with water. The equipment room may require clean up several times daily to prevent asbestos materials from being tracked into the wash room and clean room.

**Description of Protective Equipment**: Disposal clothing will consist of full body polypropylene coveralls with attached head and foot covers for all workers in the work area for the duration of the work. The respiratory protection will be MSHA/NIOSH approved half-face negative air respirators with type A cartridges during the set-up of the work areas and PAPR full face respirators with type A cartridges during bulk removal and final cleaning or until a Negative Exposure Assessment (NEA) is established. A sufficient amount of this protective gear will be present not only for All Phase employees, but for authorized visitors as well. In addition to the coveralls described above, rubber boots and gloves will also be provided to the workers. The rubber boots provide the worker with a non-skid sole to prevent slipping inside the work area, but also prevents deterioration of the coveralls’ preformed bootie after extended use. The rubber boots will be removed in the work area prior to entering the dirty room of the decontamination chamber, thus leaving much if not all of the contaminants in the work area instead of tracking them into the "dirty room". Once these boots are in the work area, they can be reused simply by washing in the work area and re-applying over the employee's new coveralls. After the work area has passed a visual inspection, the boots will be decontaminated.

**Initial Exposure Assessment**: We will ensure that all work operations stated here are covered by OSHA 29 CFR 1926.1101 (f) (2) and that a "competent person" conducts an exposure assessment immediately before or at the initiation of the operation to ascertain expected exposures during that operation or workplace. The assessment must be completed in time to comply with requirements which are triggered by exposure data or the lack of a "negative exposure assessment," and to provide information necessary to assure that all control systems planned are appropriate for that operation and will work properly.

**Basis of Initial Exposure Assessment**: Unless a negative exposure assessment has been made, the initial exposure assessment will, if feasible, be based on personal OSHA monitoring conducted. The assessment will take into consideration monitoring results and all observations, information, or calculations which indicate employee exposure to asbestos, including any previous monitoring conducted in the workplace, or operations of the employer that indicate levels of airborne asbestos likely to be encountered on the job. For Class I asbestos work, until the employer conducts exposure monitoring and documents that employees on that job will not be exposed in excess of the PELs, or otherwise makes a negative exposure assessment, we will presume that employees are exposed in excess of the TWA and excursion limit.

**Cleanup during Gross Removal**: Cleaning of the work area will begin shortly after workers start removing the asbestos-containing material from the substrate. A floor support crew will be responsible for bagging the material soon after it is removed, while it is still damp. The material is to be collected from the floor with squeegees, plastic shovels, or other appropriate tools and placed in 6 mil labeled bags for disposal.

**Perform Final Wipe Down of Equipment**: After the work crew has completed re-cleaning of the areas noted on the inspection, the equipment should be thoroughly cleaned (gross contamination was removed earlier). Equipment should be wet-wiped or tack ragged, washed off in the shower at the waste load-out area, wrapped in poly, or placed in plastic bags. Equipment that is not needed for completion of the project should be removed from the work area. The negative air filtration units will remain in place and operate for the remainder of the cleanup operation until clearance samples are collected.

**Visual Inspection of all Surface Areas**: After all tasks have been accomplished, a thorough visual inspection of the area should be conducted by an All Phase supervisor and the Industrial Hygiene Technician (IHT) on-site. The inspector and the supervisor will check for visual contamination on the substrate from which the asbestos containing material has been removed, on ledges, on tops of doors, indented corners and other areas that might "catch" falling material or contain residual material.

**Encapsulation Methods**: The containment barrier and all surfaces inside must pass visual inspection before applying the sealant to all surfaces within. All workers performing encapsulation will wear disposable protective clothing and respirators for asbestos because the area is treated as contaminated. The encapsulant, when required, will be applied using a low pressure airless sprayer. All Phase will submit the material safety data sheets (MSDS) for approval.

**Final Clearance Monitoring**: The asbestos supervisor will conduct final visuals for all non-friable ACM. The on-site IHT will conduct final air sampling for all friable material. When the air sampling results indicate the airborne fiber concentration meets the criteria for clearance, the containment and decontamination chambers will be dismantled.

**Training & Medical Surveillance**: All Phase workers and supervisors who will be performing asbestos abatement have been trained according to proposed EPA regulations listed in CFR 40, Part 763, Sub-part E, and Appendix C. All asbestos abatement workers and supervisors have received both classroom and practical training in the proper set-up, removal, clean-up, and disposal of asbestos materials. All workers and supervisors who are to perform asbestos removal work will receive an initial medical evaluation prior to beginning work. Each employee is then re-evaluated annually to make sure they are physically able to wear a respirator and work in this trade. Testing performed on each employee includes: pulmonary function test, general physical, and x-ray examinations. Records are documented in the employees file for 30 years.

**Asbestos Disposition**: Any potentially friable asbestos-containing materials must be kept wet in order to keep fibers from becoming airborne. All ACM waste will be placed in approved, marked containers (e.g. smaller amounts in special sealable plastic bags; large amounts sealed inside plastic 55-gallon drums made for this purpose or other approved containers). C&D debris may include nonfriable asbestos. A completed Waste Manifest identifying the Generator, Contractor, and Landfill Operator will be created.

# Annex: MSProject Plan