



**Base Realignment and Closure  
Program Management Office West  
1455 Frazee Road, Suite 900  
San Diego, CA 92108-4310**

**FINAL  
DEMOLITION WORK PLAN  
October 27, 2006**

**BUILDING 157  
HUNTERS POINT SHIPYARD  
SAN FRANCISCO, CALIFORNIA**

Base Realignment and Closure  
Program Management Office West  
1455 Frazee Road, Suite 900  
San Diego, CA 92108-4310

CONTRACT NO. N62473-06-D-2201  
CTO No. 0006

**FINAL**  
**DEMOLITION WORK PLAN**  
**October 27, 2006**

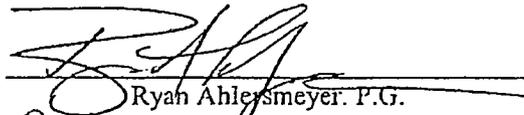
**BUILDING 157**  
**PARCEL B, HUNTERS POINT SHIPYARD**  
**SAN FRANCISCO, CALIFORNIA**

**DCN: ECSD-RACIV-06-0302**

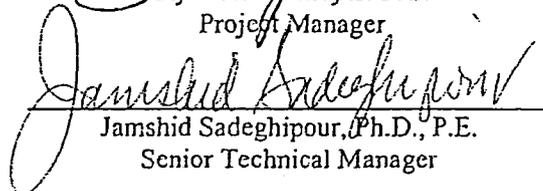
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TRANSMITTAL/DELIVERABLE RECEIPT

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TO: Contracting Officer
Naval Facilities Engineering Command, SW
Ms. Beatrice Appling, AQE.BA
Building 127, Room 108
1220 Pacific Highway
San Diego, CA 92132-5190

DATE: 10/30/06
CTO: 0006
LOCATION: Hunters Point

FROM: Neil Hart, Program Manager

DESCRIPTION: Final Demolition Work Plan, October 27, 2006
Building 157

TYPE: Contract/Deliverable, CTO Deliverable, Notification, Other

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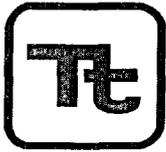
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TETRA TECH EC, INC.

October 30, 2006  
FWSD-RAC-06-0302  
5.0

Base Realignment and Closure  
Program Management Office West  
Attn: Ralph Pearce  
1455 Frazee Road, Suite 900  
Mission Valley, CA 92108

**SUBJECT: FINAL DEMOLITION WORK PLAN, BUILDING 157, HUNTERS  
POINT SHIPYARD, SAN FRANCISCO, CALIFORNIA**

Reference: Contract N68711-98-D-5713, Environmental Remedial Action Contract  
For Sites Southern California, Arizona, New Mexico, and Southern  
Nevada

Dear Ralph Pearce,

Enclosed is the Final Demolition Work Plan, Building 157, Hunters Point Shipyard, San Francisco, California dated October 27, 2006. If you have any questions or require additional information, please contact me at (619) 471-3544.

Sincerely,

Ryan Ahlersmeyer  
Project Manager

Enclosures: Final Demolition Work Plan, Building 157

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- Appendix B Contractor Quality Control Plan Definable Features of Work

## ABBREVIATIONS AND ACRONYMS

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter
ACM	asbestos-containing material
AHA	Activity Hazard Analysis
ANSI	American National Standards Institute
BAAQMD	Bay Area Air Quality Management District
Caltrans	California Department of Transportation
CIH	Certified Industrial Hygienist
CQC	Contractor Quality Control
CSO	Caretaker Site Office
CTO	Contract Task Order
DON	Department of the Navy
HPS	Hunters Point Shipyard
HRA	Historical Radiological Assessment
NAVSEA	Naval Sea Systems Command
OSHA	Occupational Safety and Health Administration
PPE	personal protective equipment
QAO	Quality Assurance Officer
QC	Quality Control
RASO	Radiological Affairs Support Office
ROICC	Resident Officer in Charge of Construction
RPM	Remedial Project Manager
SHSS	Site Health and Safety Specialist
SWDIV	Southwest Division Naval Facilities Engineering Command
TCP	Traffic Control Plan
TtEC	Tetra Tech EC, Inc.

## 1.0 INTRODUCTION

This Demolition Work Plan identifies and describes the demolition activities that will be performed at Building 157 located within Parcel B at Hunters Point Shipyard (HPS), San Francisco, California (Figure 1-1). The Department of the Navy (DON), Southwest Division Naval Facilities Engineering Command (SWDIV), is directing the demolition of Building 157 to support the completion of radiological final status survey activities for unconditional release and to complete the excavation and removal of storm water and sewer pipe that may be radiologically impacted within Parcel B. This work is being performed under Contract Task Order (CTO) No. 006, issued under the SWDIV Remedial Action Contract N62473-06-D-2201.

Tetra Tech EC, Inc. (TtEC) personnel will manage the demolition activities for Building 157. The Final Health and Safety Plan for the Base-Wide Storm Drain and Sanitary Sewer Removal (TtEC, 2006) and the Final Parcel B Contractor Quality Control Plan (TtEC, 2006) provided in the Final Project Work Plan (TtEC, 2006) are incorporated into this Demolition Work Plan by reference. A Small Building Demolition Activity Hazard Analysis (AHA) is provided in Appendix A and the Contractor Quality Control (CQC) Plan Definable Features of Work for this project is included in Appendix B. The project organization chart (Figure 1-2) is provided in Appendix B.

Building 157 was identified as a radiologically impacted structure according to the *Historical Radiological Assessment* (HRA), Volume II (Naval Sea Systems Command [NAVSEA], 2004) report. A scoping survey was conducted on the structure in July 2006. Based on the scoping survey results, no radiological impacts above the release criteria were identified. Upon concurrence of the Radiological Affairs Support Office (RASO) with the results of the scoping survey, Building 157 and its concrete pad foundation will be demolished. These demolition activities will not require the implementation of radiological controls. Following the demolition and removal of the structure and concrete foundation, the Building 157 footprint and surrounding four meters outside of the footprint will be radiologically surveyed.

### 1.1 SCOPE OF WORK

Pre-demolition activities including notifications and procurement will be performed prior to any intrusive field work. Field personnel and equipment will be mobilized to the site once all appropriate pre-demolition activities have been completed. The major field activities associated with the demolition of Building 157 include temporary fence installation, ambient air monitoring, geophysical survey and decommissioning of utilities, preparation for demolition, demolition, and waste transportation and disposal. Once demolition activities are completed, project equipment and personnel will be demobilized from Building 157.

Post-demolition radiological survey activities will be performed on the building footprint and within meters of the building footprint in conformance with the *Final Task-Specific Plan for the Building 157 Scoping Survey* dated May 17, 2006. Storm/sanitary pipeline excavation activities will be initiated in the vicinity of the former Building 157 footprint once the scoping survey activities are completed and the area released.

## 1.2 SITE DESCRIPTION

Building 157 is located northwest of Building 140 and south of India Basin within Parcel B. It is a corrugated metal, wood-framed structure approximately 40 feet by 140 feet in size on a concrete foundation. Building 157 was identified as a radiologically-impacted structure. The isotopes of concern identified included cesium-137, radium-226, and cobalt-60. The HRA (NAVSEA, 2004) states that Building 157 stored general radioactive material and was utilized as the shipyard industrial laboratory, non-destructive testing area, sound laboratory, metals testing center (radiography), and as a metal shop. The building currently is vacant.

Asbestos-containing material (ACM) was identified in Building 157, but was abated by a licensed asbestos abatement contractor in August 2006. Chipped and peeling paint on the structure's surfaces has been identified as a potentially lead-based coating material.

## 1.3 DEMOLITION WORK PLAN ORGANIZATION

This Demolition Work Plan is structured to provide information on the major aspects of the planned demolition activities. The remainder of this Demolition Work Plan consists of a description of the different tasks associated with implementation of the demolition activities (Section 2.0), a Traffic Control Plan (TCP) (Section 3.0), and a list of references (Section 4.0). This document is supported by two appendices including a Small Building Demolition AHA associated with the field activities (Appendix A) and the CQC Plan Definable Features of Work (Appendix B) for the demolition activities.

## 2.0 DEMOLITION ACTIVITIES

This section describes the activities and procedures for the demolition of Building 157. The planned activities include:

- Notifications
- Temporary fence installation
- Ambient air monitoring
- Geophysical survey and decommissioning of utilities
- Pre-demolition activities
- Demolition
- Waste transportation and disposal

### 2.1 NOTIFICATIONS

Prior to demolition, TtEC will obtain the necessary authorization from the HPS Caretaker Site Office (CSO) for completing the demolition of Building 157. TtEC will notify the DON Remedial Project Manager (RPM) and appropriate HPS security and fire department personnel of the demolition of Building 157 and the planned schedule for mobilization. Advance notification of demolition plans, the project schedule, and the names and phone numbers of responsible project staff will be provided to the Resident Officer in Charge of Construction (ROICC), CSO, and HPS security and fire department personnel.

No demolition permit will be required from the Bay Area Air Quality Management District (BAAQMD) prior to beginning the field activities.

### 2.2 TEMPORARY FENCE INSTALLATION

Building 157 will be fenced prior to initiating demolition activities at a sufficient distance to provide protection to India Basin and to minimize the potential for injury, as appropriate. The temporary fencing will be installed for the duration of the demolition activities. The fence panels will be installed and securely fastened together; however, no security screening will be used due to concerns related to fence stability in high wind conditions.

### 2.3 DECOMMISSIONING OF UTILITIES

Electrical power to Parcel B was de-energized in July 2006 and is unlikely to be re-energized prior to the demolition of Building 157. Any active gas or water lines or any other utility lines identified leading to the structure during the geophysical survey will be terminated, vented, and capped prior to initiating demolition activities.

## 2.4 AMBIENT AIR MONITORING

Building 157 is painted inside and outside with a paint that may contain lead at elevated concentrations. Dusts created during demolition activities may contain concentrations of lead that could exceed the Occupational Safety and Health Administration (OSHA) action level for lead exposure (30 micrograms per cubic meter [ $\mu\text{g}/\text{m}^3$ ]). To protect the health and safety of project personnel and the public, ambient air monitoring will be performed and dust control measures will be implemented during building demolition activities.

Air samples collected will be analyzed within a 24-hour turnaround time. If analytical results indicate exceedances of the BAAQMD Regulation 11, Rule 1 standard of  $1 \mu\text{g}/\text{m}^3$  for lead, work will be suspended until the source of the emissions, if originating from the project activities, is identified and controlled. Wetting and other dust suppression measures will be applied as necessary to prevent visible emissions.

The TtEC Site Health and Safety Specialist (SHSS) will conduct personal air sampling on at least one laborer or other TtEC person on the ground during building demolition activities to determine the level of lead in the breathing zone of the workers, if any.

## 2.5 PREPARATION FOR DEMOLITION

Loose paint chips will be brushed from Building 157 and the residue will be collected for proper disposal. In addition, the interior drywall material, light fixtures, and other appurtenances will be removed as necessary for debris segregation and disposal.

## 2.6 DEMOLITION

Building 157 is located in an area where Parcel B storm and sanitary sewer excavation work has been conducted. The open trench lines are situated within a radiologically-controlled area on the east side of the structure. It is unclear whether or not backfilling of the Parcel B excavations will occur prior to the demolition of the structure. Due to these open excavations, demolition of the Building 157 structure will be performed beginning on the north end of the structure and working inward toward the southern end of the building. Heavy equipment and field personnel will avoid encroaching upon the open excavation trench area.

Building 157 will be demolished via controlled mechanical methods using an excavator equipped with shears and a debris shield on the front and top of the excavator cab. Following initiation of dust control measures, the operator will remove the building in sections beginning with the roof of each section. The excavator will work from the top down and inward toward each overhead I-beam beginning on the north side of the structure. Once the building sections are cut and removed, the I-beams will be cut using the shears. Following the removal of the Building 157 structure, its concrete slab foundation will be demolished using an excavator equipped with a

hammer or other appropriate equipment. The debris removed during demolition activities will be segregated to the extent practicable, and stockpiled as discussed in Section 2.7.

Demolition activities will proceed in accordance with the methods outlined in the National Association of Demolition Contractors *Demolition Safety Manual* (1981) and American National Standards Institute (ANSI) A10.6, Safety Requirements for Demolition Operations.

### **2.6.1 Dust Control**

Dust control measures will be implemented throughout the demolition activities for Building 157. Dust control measures will consist of misting using an appropriately equipped water truck to keep the demolition debris moist. Demolition activities will be temporarily halted should visible dust be released into the air. Demolition work will be terminated during high wind conditions.

Water runoff from dust suppression activities will be minimized to the extent practicable. Sandbags will be used to divert flow and prevent runoff water from discharging into adjacent storm drains or into India Basin. Collected runoff water will be containerized, sampled, and disposed of properly.

### **2.6.2 Stockpiling**

Once the loose paint chips are removed from the structure, the remaining building materials will be considered non-hazardous and may be stockpiled within the fenced structure or direct loaded into trucks for storage in a nearby construction stockpile. Based on the available type and quantity of construction debris, the material will be disposed of properly as discussed in Section 2.7. Following removal of the demolition debris from the area, the remaining paint chips, dirt, and small pieces of debris will be collected and disposed of properly.

## **2.7 WASTE TRANSPORTATION AND DISPOSAL**

Construction debris generated as a result of demolition activities will be temporarily stored within the fenced area around the building footprint or in the Parcel B construction stockpile area prior to off-site disposal. Construction debris will not be stockpiled within the Parcel B storm/sanitary sewer pipe excavation area and will remain outside of the radiological control area. If appropriate, the debris may be direct loaded onto trucks for transportation to an approved landfill. Waste debris generated as a result of the demolition of Building 157 shall be controlled and managed in accordance with the Waste Management Plan included in the *Final Project Work Plan*, Base-wide Storm Drain and Sanitary Sewer Removal (TtEC, 2006b), which is incorporated into this Work Plan by reference.

## 3.0 TRAFFIC CONTROL PLAN

This TCP provides guidelines and addresses measures to be implemented for vehicular traffic control during the demolition of Building 157.

### 3.1 TRAFFIC SAFETY MEASURES

TtEC will install and maintain temporary fencing, barricades, and other facilities for traffic control to ensure the safety of construction and facility personnel as well as tenants during the demolition of Building 157. In addition, the fencing surrounding the Parcel B storm/sewer pipe radiologically-controlled area will be maintained and traffic associated with the Building 157 demolition activities will be prevented from entering the controlled area on the east side of the structure. Road closures are not expected during the demolition activities.

Access to roadways and around the work area will be maintained during demolition activities. Dust abatement measures will be applied as necessary to the on-site roads used by construction vehicles for alleviation or prevention of dust nuisance.

No materials or equipment will be stored where they may interfere with the safe passage of on-site facility personnel and tenants. In addition, TtEC personnel and its subcontractors will adhere to all facility speed limit requirements.

### 3.2 TRAFFIC CONTROLS

Traffic controls will be used to minimize impacts to construction and demolition traffic flows. Traffic controls may include but may not be limited to the following:

- Maintenance of construction and demolition traffic flow in the vicinity of Building 157, the Parcel B sewer/storm pipe excavation areas, the soil/construction debris stockpile area, and the Radiological Screening Yard.
- A fenced area around Building 157 to provide a barricade between the work site and the storm and sanitary sewer removal construction vehicle traffic traveling between the excavation sites and the Radiological Screening Yard with sufficient area for the demolition equipment and personnel.
- Cones, flags, signs, and other traffic control measures will be used, as needed.
- Clear access points will be maintained at the project entrance to allow for efficient movement of demolition-related traffic and to expedite the entry and exit of vehicles and equipment in and out of the site.
- An adequate turning radius will be provided in the project area.
- Sufficient area will be provided for parking all vehicles during construction, including space for haul trucks.

- Close coordination will be maintained between the DON and other facility contractors to ensure safety and to minimize impacts to other activities within HPS.

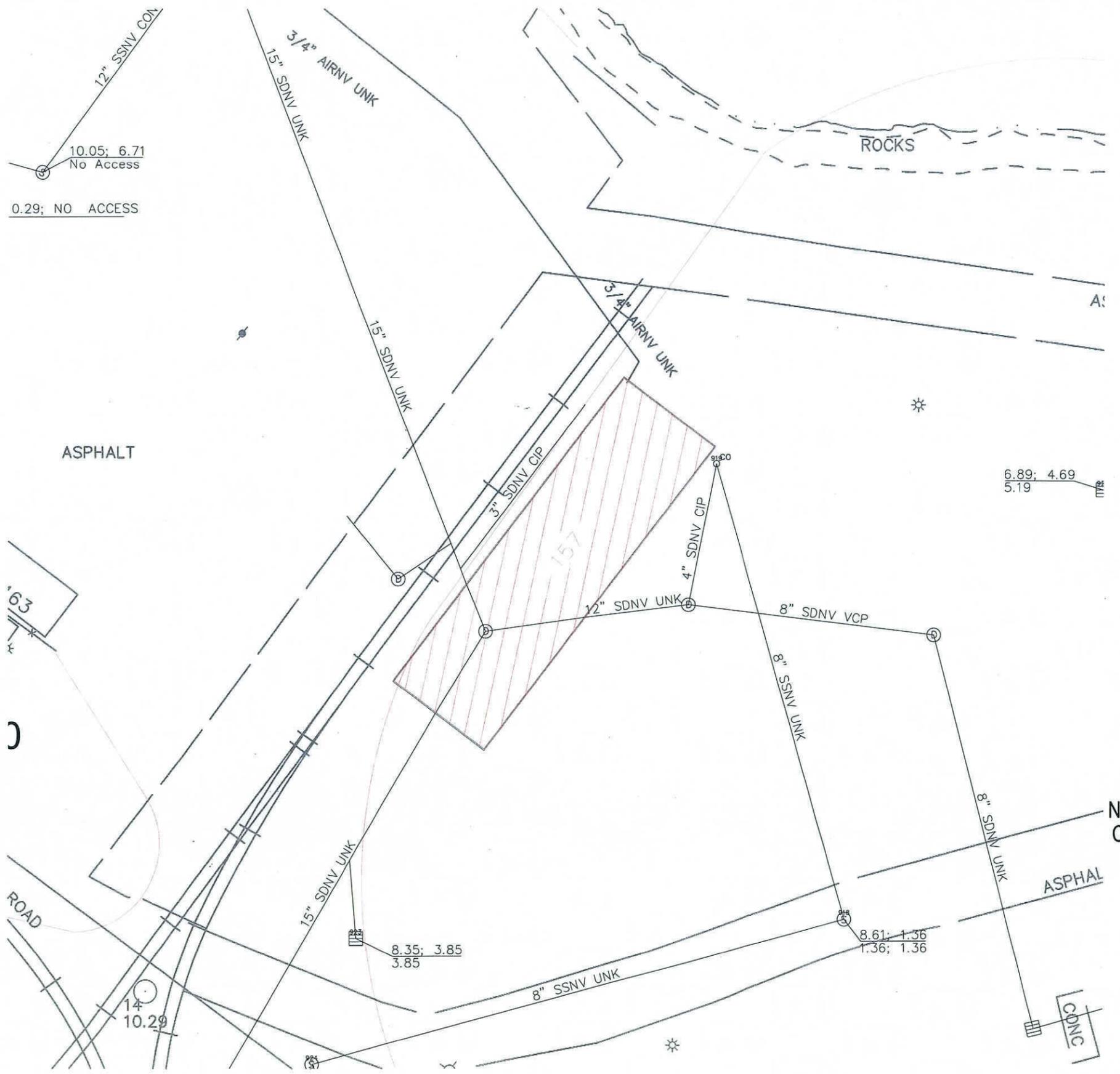
All traffic control activities shall conform to the applicable specifications of the *State of California Manual of Traffic Controls for Construction and Maintenance Work Zones* (California Department of Transportation [Caltrans], 1996).

## 4.0 REFERENCES

- California Department of Transportation (CalTrans). 1996. *State of California Manual of Traffic Controls for Construction and Maintenance Work Zones*.
- Naval Sea Systems Command. 2004. *Historical Radiological Assessment, Volume II*.
- National Association of Demolition Contractors. 1981. *Demolition Safety Manual*.
- PRC Environmental Management, Inc. 1996. *Basewide Environmental Baseline Survey for Engineering Field Activity West, Hunters Point Annex*.
- Tetra Tech EC, Inc. (TtEC). 2006a. *Final Parcel B Design Plan*. Storm Drain and Sanitary Sewer Removal, Parcel B, Hunters Point Shipyard, San Francisco, California. April.
- \_\_\_\_\_. 2006b. *Final Project Work Plan*. Base-wide Storm Drain and Sanitary Sewer Removal, Hunters Point Shipyard, San Francisco, California. April.
- \_\_\_\_\_. 2006c. *Final Task-Specific Plan for the Building 157 Scoping Survey*. Hunters Point Shipyard, San Francisco, California. May 17.

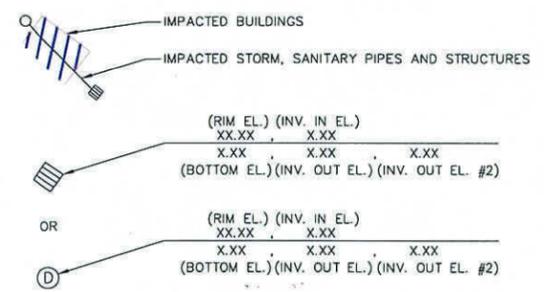
## FIGURES

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 DCN: CTO: 006  
 APPROVED BY: WD  
 CHECKED BY:  
 DRAWN BY: AEC DATE: 6/28/2006 REV:  
 DATE: 6/28/2006



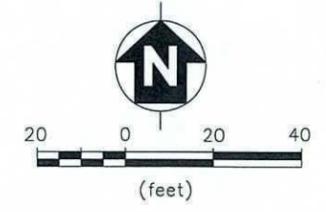
LEGEND

- SSNV - SANITARY SEWER LINE
- SDNV - STORM DRAIN LINE
- UNK - UNKNOWN
- VCP - VITRIFIED CLAY PIPE
- CIP - CAST IRON PIPE
- CONC - CONCRETE
- ABAND - ABANDON
- PRF - PERFORATED
- CMP - CORRUGATED METAL PIPE
- FM - FORCE MAIN
- RCP - REINFORCED CONCRETE PIPE
- PVC - POLYVINYL CHLORIDE



DATUM:  
 HORIZONTAL: BASED ON NAD 27 CALIFORNIA COORDINATE SYSTEM, ZONE 3.  
 CGF = 0.999286.  
 VERTICAL: BASED ON 1929 NGVD.  
 STATION BOUNDARY WAS DETERMINED FROM NAVFAC DWG. NOS. 1045757, 1045758, 1045759.

NOT ISSUED FOR CONSTRUCTION



PARCEL B IMPACTED BUILDINGS, SITES, SANITARY AND STORM DRAIN SEWER SYSTEMS BUILDING 157 LOCATION MAP

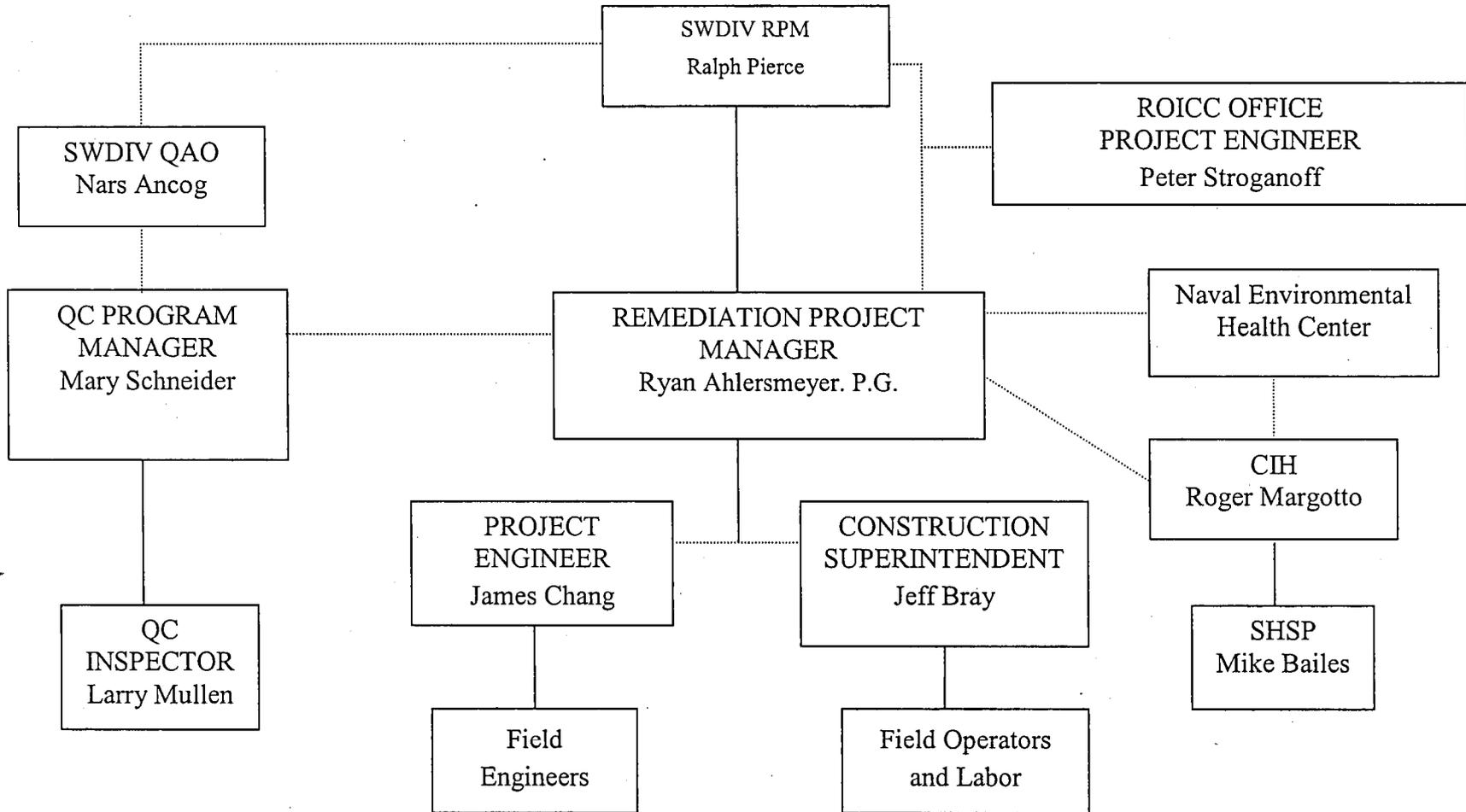
HUNTERS POINT SHIPYARD-SAN FRANCISCO, CA



TETRA TECH EC, INC.  
 FIGURE 1-1

FIGURE 1-2

BUILDING 157  
PROJECT ORGANIZATION CHART



**APPENDIX A**  
**SMALL BUILDING DEMOLITION**  
**ACTIVITY HAZARD ANALYSIS**

**CTO-6 AHA**

Activity: Building Demolition

Analyzed By/Date: Sam Engelhard, CSP 6/19/06

Reviewed By: Roger Margotto, CIH

Principal Steps	Potential Hazards	Recommended Controls
Demolition of small buildings and structures.	Heavy equipment.	<ul style="list-style-type: none"> <li>• All heavy equipment shall be inspected before use.</li> <li>• Only trained, experienced operators shall operate equipment.</li> <li>• Review demolition plan with all workers.</li> <li>• Follow procedures and recommendations of National Association of Demolition Contractors Demolition Safety Manual and ANSI A10.6 "Safety Requirements for Demolition Operations."</li> <li>• All ground personnel shall be prohibited from working in heavy equipment areas.</li> <li>• Personnel will not work under any portion of heavy equipment including buckets or booms.</li> <li>• Operators will not swing booms, buckets, grapplers or any other portion of the heavy equipment over any person on the ground.</li> <li>• All heavy equipment shall be equipped with roll-over protection systems (ROPS) and back-up alarms.</li> </ul>
	Strains from moving equipment	<ul style="list-style-type: none"> <li>• Use proper lifting techniques such as keeping back straight, lift with legs, limit twisting, get help in moving bulky/heavy loads, and use mechanical equipment to move materials and equipment.</li> <li>• Any equipment removed from building prior to demolition must be inspected to insure that the equipment can be safely moved and that every effort is made to use mechanical devices.</li> </ul>
	Potential contact with energized lines, disruption of gas or water lines, if present.	<ul style="list-style-type: none"> <li>• Inspect the area for any signs of utility lines.</li> <li>• Ensure that site drawings have been reviewed and that USA has been called.</li> <li>• Ensure that all lines are de-energized and/or disconnected before beginning demolition process.</li> </ul>
	Potential contact with MEC or radioactive point sources.	<ul style="list-style-type: none"> <li>• Ensure area has been inspected and surveyed before beginning demolition.</li> <li>• Follow work plans to ensure that area is cleared of any MEC or radioactive point sources.</li> </ul>
	Potential exposure to chemical contaminants, Biological Hazards, or material associated with buildings such as asbestos or lead-based paint.	<ul style="list-style-type: none"> <li>• Ensure that all asbestos containing material, if present, is removed by a licensed contractor prior to demolition.</li> <li>• Wear required PPE to minimize exposure to contaminants.</li> <li>• Use dust control techniques.</li> <li>• Neutralize bio-hazards (ie. Bird and/or mouse droppings) by soaking with 10% bleach solution. Allow at least 2 hours after solution application before bio-mass removal.</li> </ul>

### CTO-6 AHA

Activity: Building Demolition

Analyzed By/Date: Sam Engelhard, CSP 6/19/06

Reviewed By: Roger Margotto, CIH

Principal Steps	Potential Hazards	Recommended Controls
Demolition of small buildings and structures (continued)	Personnel working too close to structure may be hit by debris.	<ul style="list-style-type: none"> <li>• Establish the clear zone in which no workers or people will be within while the heavy equipment removes or knocks down the building.</li> <li>• Ensure that demolition of the building does not cause nearby sidewalks to be affected that in turn could cause material to fall on personnel near the building on the opposite side (the "civilian" side of the fence)</li> <li>• Use demolition techniques that minimize the amount of material that falls at one time, so that all material that is removed is removed in a controlled manner and lands or is placed into the intended area.</li> <li>• When moving material from one area to another insure that entire path is clear of any personnel that could be injured by debris that may fall from the heavy equipment (fall out of a bucket or a grappler).</li> </ul>
	Personnel working in area of debris after structure is knocked down could be injured by the debris	<ul style="list-style-type: none"> <li>• Personnel should not work on or near debris.</li> <li>• If debris requires closer inspection, the selected item to be inspected will be removed from other debris by use of heavy equipment and placed in an area free of the other debris.</li> </ul>
	Dust from demolition	<ul style="list-style-type: none"> <li>• Remove structure and debris in a manner to minimize release of dust.</li> <li>• Use dust suppression such as water sprays to keep dust levels down.</li> </ul>
Loading trucks or containers with debris	Personnel working too close to structure may be hit by debris.	<ul style="list-style-type: none"> <li>• When moving material from the area to the truck or container insure that entire path is clear of any personnel that could be injured by debris that may fall from the heavy equipment (fall out of a bucket or a grappler).</li> <li>• Personnel will not stand near area where debris is placed.</li> <li>• If trucks are used, truck drivers will remain in the cabs of their vehicles while the truck is loaded only if the truck is equipped with Falling Object Protective System (FOPS). If truck does not have FOPS, the driver will secure the truck (set brakes) and leave the area of the truck while the truck is being loaded.</li> </ul>
	Dust from debris	<ul style="list-style-type: none"> <li>• Place material as close to the truck bed as possible to avoid any drop of debris that could cause dust to generate.</li> <li>• Use dust suppression such as water spray; however, use care since workers will enter the area once the truck is loaded and the wet surfaces may now present a slip hazard.</li> <li>• Cover debris as appropriate to prevent releases</li> </ul>

## CTO-6 AHA

Activity: Building DemolitionAnalyzed By/Date: Sam Engelhard, CSP 6/19/06Reviewed By: Roger Margotto, CIH

Principal Steps	Potential Hazards	Recommended Controls
Demolition and Removal of Concrete and Asphalt	Contact with underground utilities could cause injury to worker and damage to property or equipment.	<ul style="list-style-type: none"> <li>• Physically verify the location and depth of existing utilities prior to starting excavation through geophysical and utility survey.</li> <li>• Protect all existing utilities during excavation.</li> <li>• Perform excavation within 4 feet of existing utilities by hand and/or non-aggressive methods.</li> <li>• Protect all underground utilities as soil is removed around or under the utility line, if excavation must be done around a utility line.</li> </ul>
	Contact with overhead utilities, could cause injury to worker and damage to property or equipment.	<ul style="list-style-type: none"> <li>• Ensure that area has been surveyed and that boom will not contact overhead lines (15-foot clearance minimum required).</li> </ul>
	Employees could be struck by concrete as it is being broken up.	<ul style="list-style-type: none"> <li>• All employees must wear high-visibility shirts or vests. All ground workers must maintain eye contact with operator of equipment.</li> </ul>
	Breaker attachment could be improperly installed and inadvertently fall off or cause injury or damage.	<ul style="list-style-type: none"> <li>• Ensure that breaker attachment is the equipment manufacturer-approved attachment.</li> <li>• Ensure that all retention pins are properly seated and engaged and that all hydraulic hoses are connected properly.</li> </ul>
	Employees could be exposed to dust.	<ul style="list-style-type: none"> <li>• Use dust control methods such as spraying area with a fine mist of water. Wear dust masks as needed.</li> </ul>
	Noise from heavy equipment could cause hearing loss.	<ul style="list-style-type: none"> <li>• Wear hearing protection.</li> </ul>
	Debris can snag on clothing or equipment or can cause cuts and abrasions to workers. Rebar can cut and puncture.	<ul style="list-style-type: none"> <li>• Wear leather work gloves while handling debris.</li> <li>• Avoid contact with debris by avoiding entangled debris and keeping as much distance as possible from the debris.</li> <li>• Do not manually lift debris that is more than 30 pounds.</li> <li>• Avoid rebar.</li> <li>• Never work above protruding rebar.</li> </ul>

### CTO-6 AHA

Activity: Building Demolition

Analyzed By/Date: Sam Engelhard, CSP 6/19/06

Reviewed By: Roger Margotto, CIH

Principal Steps	Potential Hazards	Recommended Controls
Demolition and Removal of Concrete and Asphalt (continued)	Truckers and ground workers could be struck by load as it is loaded.	<ul style="list-style-type: none"> <li>• Prohibit truck drivers from standing near trucks as they are being loaded.</li> <li>• Prohibit truck drivers from sitting in the cab of trucks as they are being loaded, unless the truck is equipped with a cab protector (FOPS).</li> <li>• Load trucks so that dust generation is minimal by dropping the load as close as possible to the top of the truck.</li> <li>• Use dust control measures.</li> </ul>
	Trucks entering streets and highway with loads could get dust and debris on roads.	<ul style="list-style-type: none"> <li>• Brush off trucks before they enter a paved road.</li> <li>• Tarp truck or load truck in such a manner to prevent dirt and dust from getting onto paved roads and to ensure that debris will not come off the truck as the material is transported.</li> </ul>

Equipment to be Used	Inspection Requirements	Training Requirements
Hand tools, power tools, and heavy equipment	Daily or before use	<ul style="list-style-type: none"> <li>• Only trained equipment operators may operate heavy equipment; only DMV-licensed personnel will operate trucks.</li> <li>• Specific training on the use cutting equipment is required.</li> <li>• Specific training is required on rigging if chains, wire ropes, or slings are used.</li> </ul>

**Notes:**

- CIH - Certified Industrial Hygienist
- dBa - decibels, A- scale
- DMV - Department of Motor Vehicles
- EHS - Environmental Health and Safety
- ESS - Environmental Safety Supervisor
- FOPS - falling object protective system
- HASP - Health and Safety Plan
- LEL - Lower Explosive Limit
- MSDS - Material Safety Data Sheet
- PESM - Project Environmental and Safety Manager
- PPE - personal protective equipment
- USA - Underground Services Alert

**APPENDIX B**

**CONTRACTOR QUALITY CONTROL PLAN**  
**DEFINABLE FEATURES OF WORK**

## APPENDIX B

## DEFINABLE FEATURES OF WORK

ACTIVITY	PREPARATORY	DONE	INITIAL	DONE	FOLLOW-UP	DONE
Temporary fence installation	<ul style="list-style-type: none"> <li>• Verify that the RPM and CSO have been notified.</li> <li>• Review fence installation specifications.</li> <li>• Review SHSP and AHA(s).</li> </ul>		<ul style="list-style-type: none"> <li>• Inspect fence installation activity to ensure compliance with specifications.</li> </ul>		<ul style="list-style-type: none"> <li>• Continue inspection of installation activities.</li> </ul>	
Decommissioning of utilities	<ul style="list-style-type: none"> <li>• Verify that the RPM and CSO have been notified.</li> <li>• Verify that PG&amp;E has been notified.</li> <li>• Review procedures with workers.</li> <li>• Verify that gas and water lines have been turned off.</li> <li>• Verify that telephone service has been disconnected.</li> <li>• Verify that electrical lines are de-energized.</li> <li>• Review SHSP and AHA(s).</li> </ul>		<ul style="list-style-type: none"> <li>• Inspect decommissioning activities.</li> <li>• Verify that site activities are being photographed.</li> <li>• Verify that water lines are capped.</li> </ul>		<ul style="list-style-type: none"> <li>• Continue inspection of decommissioning activities.</li> <li>• Verify that water lines are capped.</li> </ul>	
Demolition	<ul style="list-style-type: none"> <li>• Verify that the RPM, CSO, HPS security and HSP Fire Department have been notified.</li> <li>• Verify that demolition plan, schedule, names, and telephone numbers of responsible project staff have been given to the RPM, CSO, HPS security and the HPS Fire Department.</li> <li>• Verify that background air monitoring data have been collected.</li> <li>• Review Work Plan, SHSP and AHA(s).</li> <li>• Review dust control procedure.</li> <li>• Review stockpiling procedure.</li> <li>• Review demolition safety procedure.</li> <li>• Review traffic control procedure.</li> </ul>		<ul style="list-style-type: none"> <li>• Inspect demolition activities.</li> <li>• Inspect dust control.</li> <li>• Verify that site activities are being photographed.</li> <li>• Inspect traffic control activities.</li> <li>• Verify that air monitoring data are being collected in accordance with the plan.</li> <li>• Verify that demolition safety procedure is being followed.</li> <li>• Verify field documentation requirements.</li> </ul>		<ul style="list-style-type: none"> <li>• Continue inspection of demolition activities.</li> <li>• Verify that site activities are being photographed.</li> <li>• Inspect traffic control activities.</li> <li>• Verify that air monitoring data are being collected in accordance with the plan.</li> <li>• Verify that demolition safety procedure is being followed.</li> <li>• Verify that equipment and tool decontamination is conducted prior to demobilization.</li> <li>• Inspect field documentation.</li> </ul>	

**APPENDIX B**

**DEFINABLE FEATURES OF WORK**

ACTIVITY	PREPARATORY	DONE	INITIAL	DONE	FOLLOW-UP	DONE
Remove Loose Paint Chips	<ul style="list-style-type: none"> <li>• Verify that the appropriate tools and equipment is available.</li> <li>• Verify that PPE is available and meet requirements of the SHSP.</li> </ul>		<ul style="list-style-type: none"> <li>• Verify that site activities are being photographed.</li> </ul>		<ul style="list-style-type: none"> <li>• Verify that site activities are being photographed.</li> </ul>	
Disposal/Transport packaging	<ul style="list-style-type: none"> <li>• Verify that the RPM and CSO have been notified.</li> <li>• Ensure that transport personnel are qualified and know the procedures.</li> <li>• Verify that the material is being transported to a TtEC-approved TSDF.</li> <li>• Confirm that the approved disposal facility or landfill is prepared to receive the material.</li> <li>• Review AHAs.</li> <li>• Verify that PPE is available and meets requirements of the SHSP.</li> </ul>		<ul style="list-style-type: none"> <li>• Ensure that the proper profiles and manifests are generated and signed.</li> <li>• Verify that the materials are being transported to an approved facility.</li> <li>• Verify compliance SHSP and task AHAs.</li> <li>• Verify that site activities are being photographed.</li> </ul>		<ul style="list-style-type: none"> <li>• Verify waste receipt and proper disposal at correct location.</li> <li>• File completed transport records with appropriate personnel.</li> <li>• Verify that site activities are being photographed.</li> </ul>	

*Abbreviations and Acronyms:*

- ACM – asbestos-containing materials
- AHA – Activity Hazard Analysis
- CSO – Caretaker Site Office
- HPS – Hunters Point Shipyard
- PG&E – Pacific Gas and Electric Company
- PPE – personal protective equipment
- RPM – Remedial Project Manager
- SHSP – Site-Specific Health and Safety Plan
- TSDF – treatment, storage, and disposal facility
- TtEC – Tetra Tech EC, Inc.