

# HEALTH AND SAFETY PLAN

*Project*

## STUDEBAKER AREA "A" DEMOLITION PHASE IV

*Prepared for*

**Dore and Associates Contracting  
900 Harry S. Truman Parkway  
Bay City, MI 48706-4171  
(989) 684-8358**

*Date:*

**February 14, 2011**



A handwritten signature in blue ink, appearing to read "John T. Blosky".

John T. Blosky  
CHMM #7844

*Prepared by:*

### **AMERECO, INCORPORATED CONSULTING ENGINEERS**

204 E. Jefferson Street  
Valparaiso, Indiana 46383  
[www.amerecoeng.com](http://www.amerecoeng.com)

## Table of Contents

1.0	Organization Structure	1-1
1.1	Roles & Responsibilities	1-1
1.2	Identification of Other Site Contractors	1-2
1.3	Other local/State/Federal Agency Representatives	1-3
2.0	Job Hazard Analysis	2-1
2.1	Site History	2-1
2.2	Job Hazard Analysis	2-1
2.3	Employee Notification of Hazards & Overall Site Information Program	2-12
3.0	Site Control	3-1
3.1	Site Map	3-1
3.2	Site Access	3-1
3.3	Site Security	3-1
3.4	Site Work Zones	3-1
3.5	Buddy System	3-3
3.6	Site Communications	3-4
3.7	Emergency Medical Assistance	3-4
4.0	Training Programs	4-1
4.1a	Training Elements to be Covered for Site Workers	4-1
4.1b	Site-Specific Briefings for Visitors	4-1
4.1c	HASP Information and Site-Specific Briefings for Workers	4-1
4.2	Initial Training	4-2
4.3	Management & Supervisor Training	4-2
4.4	Qualifications of Trainers	4-2
4.5	Training Certification	4-2
4.6	Emergency Response	4-2

## Table of Contents

4.7	Refresher Training	4-2
4.8	Equivalent Training	4-2
4.9	Training Records	4-2
5.0	Medical Surveillance	5-1
5.1	Site Medical Surveillance Program	5-1
5.2	Communication Between the Site, Physicians & Workers	5-1
5.3	Medical Recordkeeping Procedures	5-1
5.4	Program Review	5-2
6.0	Personal Protective Equipment	6-1
6.1	PPE Selection Criteria	6-1
6.2	Use of PPE	6-1
6.3	Training	6-4
6.4	Respiratory Protection	6-4
6.5	Hearing Conservation	6-4
6.6	PPE Maintenance Storage	6-4
6.7	Evaluation of PPE Program	6-4
7.0	Exposure Monitoring	7-1
7.1	Air Monitoring	7-1
7.2	Surface Sampling	7-2
7.3	Equipment Calibration and Maintenance	7-2
7.4	Handling and Maintenance of Monitoring Data	7-2
7.5	Noise Monitoring	7-3
8.0	Thermal Stress Prevention Program	8-1
9.0	Spill Containment Program	9-1
10.0	Decontamination	10-1
10.1	Site Decontamination Facilities	10-1

## Table of Contents

10.2	Decontamination Procedures for Personnel & PPE	10-1
10.3	Decontamination Procedures for Equipment	10-3
10.4	Monitoring the Effectiveness of Decontamination Procedures	10-3
11.0	Emergency Response Plan	11-1
11.1	Pre-emergency Planning	11-1
11.2	On-site Emergency Response Equipment	11-1
11.3	Emergency Planning Maps	11-2
11.4	Roles & Responsibilities for Onsite & Offsite Personnel	11-2
11.5	Emergency Alerting & Evacuation	11-2
11.6	Emergency Response	11-2
11.7	Emergency Medical Treatment and First Aid	11-3
11.8	Emergency Response Critique and Plan Updates	11-3
11.9	Emergency Response Training	11-3
12.0	Standard Operating Procedures (SOPs)	12-1
13.0	Permit-Required Confined Spaces	13-1
13.1	Identification and Evaluation of Permit Spaces	13-1
14.0	Hot Work	14-1
14.1	Designated Areas and Other Hot Work Locations	14-1
14.2	Hot Work Permit	14-1
14.3	Fire Watch	14-1
14.4	Hot Work SOPs	14-1
15.0	Hazardous Energy Control or Lockout/Tagout Program	15-1

# Table of Contents

## Tables

1-2	Other Site Contractors and Subcontractors	1-2
2-2	Site-Specific Job Hazard Analysis	2-2
3-6	Site Communication – Hand Signals	3-4
4-1a	Other Training for Site Workers	4-1
6-2a	Site-Specific PPE Ensembles	6-2
7-1	Task-Specific Air Monitoring Procedures	7-1
7-4	Laboratory Information	7-2
10-2a	Level A Decontamination Procedures	10-3
11-1	Potenital Site Emergencies	11-1
11-2	Emergency Equipment and Emergency PPE	11-1
11-5	Employee Alarm Systems	11-2
11-4	Emergency Contact Information	11-4

## Figures

## **Table of Contents**

1-1	Organization Chart	1-4
3-1	Map of Site Boundaries, Work Zones & Entry/Exit Points	3-5
10-1	Location of Site Decontamination Facilities	10-2
11-3a	Emergency Planning Map	11-5
11-3b	Driving Route to Emergency Medical Assistance	11-6

### **Appendix**

Asbestos Abatement Plan	Appendix A
Underground Storage Tank Removal Procedures	Appendix B
Spills and Leaks Procedures for Containment, Cleanup & Removal	Appendix C
Waste Storage & Labeling Procedures	Appendix D

## 1.0 ORGANIZATIONAL STRUCTURE

(in compliance with 29 CFR 1910.120(b)(2))

This chapter of the Health and Safety Plan describes lines of authority, responsibility, and communication as they pertain to health and safety functions at this site. The purpose of this chapter is to identify the personnel who impact the development and implementation of the site health and safety plan and to describe their roles and responsibilities. This chapter also identifies other contractors and subcontractors involved in work operations and establishes the lines of communication among them for safety and health matters.

The organizational structure of this site's safety and health program is consistent with OSHA requirements in 29 CFR 1910.120(b)(2) and provides the following site-specific information:

- \* the general supervisor who has the responsibility and authority to direct all hazardous waste operations
- \* the site safety and health officer who has the responsibility and authority to develop and implement this HASP and verify compliance
- \* other personnel needed for hazardous waste operations and emergency response and their general functions and responsibilities
- \* the lines of authority, responsibility, and communication for safety and health functions

This section is reviewed and updated as necessary to reflect the current organizational structure at this site.

### 1.1 Roles and Responsibilities

All personnel and visitors on this site must comply with the requirements of this HASP. The specific responsibilities and authority of management, safety and health, and other personnel on this site are detailed in the following paragraphs. A site organizational chart illustrating the hierarchy of personnel and lines of communication within this company and with additional contractors on site is found in Figure 1-1.

#### Project Manager (PM)

The Project Manager (PM) for this site is Jeff Teagarden. The PM has responsibility and authority to direct all work operations. The PM coordinates safety and health functions with the Site Safety and Health Officer (SSHO), has the authority to oversee and monitor the performance of the SSHO, and bears ultimate responsibility for the proper implementation of this HASP. The specific duties of the PM are:

Preparing and coordinating the site work plan; providing site supervisor(s) with work assignments and overseeing their performance; coordinating safety and health efforts with the SSHO; ensuring effective emergency response through coordination with the Emergency Response Coordinator (ERC); serving as primary site liaison with public agencies and officials and site contractors.

#### Site Safety and Health Officer (SSHO)

The Site Safety and Health Officer (SSHO) for this site is Jeff Teagarden. The SSHO has full responsibility and authority to develop and implement this HASP and to verify compliance. The SSHO reports to the Project Manager. The SSHO is on site or readily accessible to the site during all work operations and has the authority to halt site work if unsafe conditions are detected. The specific responsibilities of the SSHO are:

Managing the safety and health functions on this site; serving as the site's point of contact for safety and health matters; ensuring site monitoring, worker training, and effective selection and use of PPE; assessing site conditions for unsafe acts and conditions and providing corrective action; assisting the preparation and review of this HASP; maintaining effective safety and health records as described in this HASP; coordinating with the Emergency Response Coordinator (ERC), Site Supervisor(s), and others as necessary for safety and health efforts.

#### Site Supervisor

The Site Supervisor for this site is Jeff Teagarden. The Site Supervisor is responsible for field operations and reports to the Project Manager (PM). The Site Supervisor ensures the implementation of the HASP requirements and procedures in the field. The specific responsibilities of the Site Supervisor are:

Executing the work plan and schedule as detailed by the PM; coordination with the Site Safety and Health Officer (SSHO) on safety and health; ensuring site work compliance with the requirements of this HASP.

## Decontamination Manager

The Decontamination Manager for this site is Jeff Teagarden. The Decontamination Manager is responsible for decontamination procedures, equipment, and supplies. The Decontamination Manager ensures the implementation of the HASP requirements and procedures for decontamination when exiting the field. The specific responsibilities of the Decontamination Manager are:

Setting up decontamination lines and the solutions appropriate for the type of chemical contamination on site; controlling the decontamination of all equipment, personnel and samples from the contaminated areas; assisting in disposal of contaminated clothing and materials; ensuring all required equipment is available and in working order; and providing for collection, storage and disposal of waste.

### 1.2 Identification of Other Site Contractors

The other contractors and subcontractors on this site who could be affected by the tasks and operations associated with this workplan and HASP are listed in Table 1-2 below.

**Table 1-2 Other Site Contractors and Subcontractors**

<b>Company</b>	<b>Function</b>
Amereco Engineering	Environmental Consultant
Weaver Boos Consultants	Environmental Consultant

Safety and health lines of communication with these contractors are illustrated in Figure 1-1.



### **1.3 Other local/State/Federal Agency Representatives and Their Roles Responsibilities**

#### **EPA Representative**

The EPA Representative for this site is Jon Peterson. Serving either in the capacity as On-Scene Coordinator (OSC), Remedial Project Manager (RPM), or Site Inspection Officer (SIO), the EPA Representative is responsible for overall project administration and contractor oversight. As part of that oversight function, EPA will ensure that project plans meet OSHA requirements at a minimum, and that the health and safety of all site personnel is a primary concern. As an OSC or RPM, EPA serves in the capacity of site supervisor.

Region 5 Office  
US EPA Region 5  
77 West Jackson Blvd.  
Chicago, IL 60604  
(312) 353-1264  
(800) 621-8431

#### **OSHA Representative**

The OSHA Representative for this site is not available. The OSHA Representative can serve a variety of functions with the primary responsibility of protecting the health and safety of site workers through on-site consultation, on-site technical assistance, and enforcement of OSHA standards. The OSHA Representative may also coordinate with other Federal, State, and local governmental organizations and provide advice and consultation on worker health and safety regulations.

IOSHA  
402 W. Washington St.  
Room W-195  
Indianapolis, IN 46204  
(313) 233-5159

#### **IDEM Representative**

The IDEM Representative for this site is Kyle Hendrix.  
Indiana Brownfields Program  
100 N. Senate Avenue Room 1275  
Indianapolis, IN 46204  
317-232-4402

**Figure 1-1 Organizational Chart**

Insert the site organizational chart here, showing S&H lines of authority and communication among site contractors.

**Organizational Chart**

COMPANY	CONTACT	PHONE NUMBER
Dore & Associates Health & Safety Prime Safety Coordinator	Jeff Teagarden	(813) 220-7044
Amereco Engineering Health & Safety Regional H&S/CHMM	John Blosky	(219) 405-2075

## 2.0 JOB HAZARD ANALYSIS

(in compliance with 29 CFR 1910.120(b)(4)(ii)(A), and 1910.120(i))

This chapter of the HASP describes the safety and health hazards associated with site work and the control measures selected to protect workers. The purpose of a job hazard analysis (JHA) is to identify and quantify the health and safety hazards associated with each site task and operation, and to evaluate the risks to workers. Using this information, appropriate control methods are selected to eliminate the identified risks if possible, or to effectively control them. The control methods are documented in each task-specific JHA. The information contained in this chapter is essential to effective preparation of all other chapters of the HASP. This section of the HASP includes:

- \* a site description
- \* job hazard analysis
- \* hazardous substance information
- \* employee notification of hazards

The person responsible for ongoing job hazard analysis at this site is Jeff Teagarden.

### 2.1 Site History

The following text describes the site and its conditions as they relate to the need to perform hazardous substance clean-up operations.

There are two buildings associated with this Health and Safety Plan. One is the previous engineering building #92 and the other is the foundry plant #85. Both buildings are currently vacant and in deteriorated condition. At the time of the Phase I ESA report conducted by Hull & Associates, Inc., dated July 2009, approximately 20 percent of Building #85 was utilized used by UP&V for storage of piping materials and office space. Building #92 was last used as the Studebaker Museum until it was moved to a new location. Both buildings contain friable asbestos materials in poor condition. Building #85 also contains several transformer rooms with possible PCB contamination.

The sources used to provide the above description include:

Phase I Site Assessment

---

### 2.2 Job Hazard Analysis

Each site-specific JHA appears on a separate copy of Table 2-2. Each JHA lists a task or operation required during site clean-up and the location(s) where that task or operation is performed. A single JHA may be used for a task/operation performed in multiple locations if the hazards, potential exposures, and controls are the same in each location.

Each JHA lists the chemical hazards associated with that task and their known or anticipated airborne concentrations during performance of the task. Each JHA also identifies anticipated physical and biological hazards and potential exposure levels or the likelihood of exposure. The final section of each JHA lists the control measures implemented to protect employees from exposure to the identified hazards. The information provided here is designed to satisfy the job hazard analysis requirements of 1910.120(b)(4)(ii)(A) and the workplace hazard assessment requirements of 1910.132(d).

Health hazard information for all chemical substance identified in site JHAs appears in hazard data sheets attached to this chapter.

Jeff Teagarden modifies site-specific JHAs and the accompanying data sheets when:

- \* the scope of work is changed by adding, eliminating, or modifying tasks
- \* new methods of performing site tasks are selected
- \* observation of the performance of site tasks results in a revised characterization of the hazards
- \* new chemical, biological, or physical hazards are identified
- \* exposure data indicate changes in the concentration and/or likelihood of exposure
- \* new/different control measures are selected

When JHAs are modified, related provisions in other chapters of this HASP are modified as needed.

**Table 2-2: Site-Specific Job Hazard Analysis**

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Active Cleanup		Air sampling/monitoring	Asbestos Air Monitoring (OSHA)
Date(s) this JHA Conducted 01/25/2011	Employee Certifying this JHA		Signature
	Print Name Jeff Teagarden		
Chemical Hazards			
Chemical Name	Source	Concentration	Exposure Limit
ASBESTOS, ALL FORMS		f/cc	0.1 f/cc REL-TWA NIOSH
* Chemicals added by user			
Physical Hazards			
Name of Physical Hazard	Source	Exposure Level/Potential	Exposure Limit
Structural Integrity		Likely	N/A
Slips/Trips/Falls		Likely	N/A
Control Measures Used			
Level of PPE:			
PPE Upgrade: No Data Entered			
PPE Downgrade: No Data Entered			

**Table 2-2: Site-Specific Job Hazard Analysis**

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Active Cleanup		Perimeter monitoring	Noise Monitoring
Date(s) this JHA Conducted	Employee Certifying this JHA		
	Print Name Jeff Teagarden		Signature
Control Measures Used			
Level of PPE:			
PPE Upgrade: No Data Entered			
PPE Downgrade: No Data Entered			

**Table 2-2: Site-Specific Job Hazard Analysis**

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Active Cleanup		Air sampling/monitoring	Lead Air Monitoring (OSHA)
Date(s) this JHA Conducted 01/25/2011	Employee Certifying this JHA		
	Print Name Jeff Teagarden		Signature
Chemical Hazards			
Chemical Name	Source	Concentration	Exposure Limit
LEAD (INORGANIC, DUSTS & FUMES), as Pb		ppm	0.05 ppm PEL-TWA OSHA
* Chemicals added by user			
Physical Hazards			
Name of Physical Hazard	Source	Exposure Level/Potential	Exposure Limit
Slips/Trips/Falls		Likely	N/A
Structural Integrity		Likely	N/A
Control Measures Used			
Level of PPE: C	Respirator Cartridge/Canister: Particulates: HEPA		
	Service Life:		
PPE Upgrade: No Data Entered			
PPE Downgrade: No Data Entered			

Table 2-2: Site-Specific Job Hazard Analysis			
Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Active Cleanup		Demolition of buildings	All Site Improvements
Date(s) this JHA Conducted 01/25/2011	Employee Certifying this JHA		Signature
	Print Name Jeff Teagarden		
Chemical Hazards			
Chemical Name	Source	Concentration	Exposure Limit
No Chemical Hazards			
* Chemicals added by user			
Physical Hazards			
Name of Physical Hazard	Source	Exposure Level/ Potential	Exposure Limit
Cold Weather Operations		Likely	N/A
Earth Moving Equipment Operations		Likely	N/A
Excavation/Trenching Operations		Likely	N/A
Hand Tool Use		Likely	N/A
Heavy Equipment Operation		Likely	N/A
Slips/Trips/Falls		Likely	N/A
Poor Housekeeping		Likely	N/A
Welding/Cutting/Burning Operations		Likely	N/A
NOISE (SOUND PRESSURE LEVEL), dBA	Equipment	120 dBA	85 dBA TWA NIOSH

**Control Measures Used**

Level of PPE: D

Respirator Cartridge/Canister: Not Applicable

Service Life: Not Applicable

PPE Upgrade: No Data Entered

PPE Downgrade: No Data Entered



**Table 2-2: Site-Specific Job Hazard Analysis**

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed	
Active Cleanup		Disposal sampling	Contaminated Media	
Date(s) this JHA Conducted 01/25/2011	Employee Certifying this JHA			Signature
	Print Name Jeff Teagarden			
Chemical Hazards				
Chemical Name	Source	Concentration	Exposure Limit	
Heavy Metals				
* Chemicals added by user				
Control Measures Used				
Level of PPE: C		Respirator Cartridge/Canister: Particulates: HEPA		
		Service Life:		
PPE Upgrade: No Data Entered				
PPE Downgrade: No Data Entered				

**Table 2-2: Site-Specific Job Hazard Analysis**

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Active Cleanup		Dust control	Application of Water
Date(s) this JHA Conducted	Employee Certifying this JHA		
	Print Name Jeff Teagarden	Signature	

Physical Hazards			
Name of Physical Hazard	Source	Exposure Level/Potential	Exposure Limit
Demolition Operations		Likely	N/A
Excavation/Trenching Operations		Likely	N/A
Earth Moving Equipment Operations		Likely	N/A
Heavy Equipment Operation		Likely	N/A
Motion of Machinery (Struck by hazards)		Likely	N/A
Slips/Trips/Falls		Likely	N/A
Structural Integrity		Likely	N/A

**Control Measures Used**

Level of PPE: D	Respirator Cartridge/Canister: Not Applicable
	Service Life: Not Applicable
PPE Upgrade: No Data Entered	
PPE Downgrade: No Data Entered	

**Table 2-2: Site-Specific Job Hazard Analysis**

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Active Cleanup		Mobilization: rubble collection/disposal	

Date(s) this JHA Conducted	Employee Certifying this JHA	
	Print Name Jeff Teagarden	Signature

**Physical Hazards**

Name of Physical Hazard	Source	Exposure Level/Potential	Exposure Limit
Demolition Operations		Likely	N/A
Earth Moving Equipment Operations		Likely	N/A
NOISE (SOUND PRESSURE LEVEL), dBA		120 dBA	85 dBA TWA NIOSH
Heavy Equipment Operation		Likely	N/A
Slips/Trips/Falls		Likely	N/A
Structural Integrity		Likely	N/A

**Control Measures Used**

Level of PPE:	
PPE Upgrade: No Data Entered	
PPE Downgrade: No Data Entered	

**Table 2-2: Site-Specific Job Hazard Analysis**

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed	
Active Cleanup		Soil excavation		
Date(s) this JHA Conducted	Employee Certifying this JHA			Signature
	Print Name Jeff Teagarden			
Physical Hazards				
Name of Physical Hazard	Source	Exposure Level/ Potential	Exposure Limit	
Earth Moving Equipment Operations		Likely	N/A	
Heavy Equipment Operation		Likely	N/A	
Slips/Trips/Falls		Likely	N/A	
Control Measures Used				
Level of PPE:				
PPE Upgrade: No Data Entered				
PPE Downgrade: No Data Entered				

**Table 2-2: Site-Specific Job Hazard Analysis**

Operational Phase	Phase No	Task/Operation	Location Where Task/Operation Performed
Active Cleanup		Test pit excavation	

Date(s) this JHA Conducted	Employee Certifying this JHA	
	Print Name Jeff Teagarden	Signature

Physical Hazards			
Name of Physical Hazard	Source	Exposure Level/ Potential	Exposure Limit
Earth Moving Equipment Operations		Likely	N/A
Excavation/Trenching Operations		Likely	N/A

**Control Measures Used**

Level of PPE:	
PPE Upgrade: No Data Entered	
PPE Downgrade: No Data Entered	

### **2.3 Employee Notification of Hazards and Overall Site Information Program**

The information in the JHAs and the attached data sheets is made available to all employees who could be affected by it prior to the time they begin their work activities. Modifications to JHAs and the accompanying data sheets are communicated during routine briefings.

Consistent with paragraph (i) of HAZWOPER, we also inform other contractors and subcontractors about the nature and level of hazardous substances at this site, and the likely degree of exposure to workers who participate in site operations.

The person responsible for providing site information, this HASP, and any modifications to the HASP to other contractors and subcontractors working on this site is: Jeff Teagarden

**CHEMICAL IDENTIFICATION**

Chemical Name: ASBESTOS, ALL FORMS

CAS #: 1332-21-4

UN No: NA

Formula: Hydrated mineral silicates

Synonyms: Actinolite, Actinolite asbestos, Amosite (cummingtonite-grunerite), Anthophyllite, Anthophyllite asbestos, Chrysotile, Crocidolite (Riebeckite), Tremolite, Tremolite asbestos

**PHYSICAL PROPERTIES**

Physical Description: White or greenish (chrysotile), blue (crocidolite), or gray-green (amosite) fibrous, odorless solids.

BP: Decomposes	MW: Varies	LEL: NA	NFPA Fire Rating: NA
MLT: 1112°F (Decomposes)	VP: 0 mmHg (approx)	UEL: NA	NFPA Health Rating: NA
Fl.P: NA	VD: NA		NFPA Reactivity Rating: NA
Sp. Gr.: NA	IP: NA		NFPA Sp. Inst.: NA

**EXPOSURE GUIDELINES**

OSHA	NIOSH	ACGIH	Related Information
PEL-TWA ppm: NA	REL-TWA ppm: NA	TLV-TWA ppm: NA	AIHA Emergency Response Planning Guidelines (ERPGs)EPRG-1/EPRG-2/EPRG-3: NA
PEL-TWA mg/m3: NA	REL-TWA mg/m3: NA	TLV-TWA mg/m3: NA	
PEL-STEL ppm: NA	REL-STEL ppm: NA	TLV-STEL ppm: NA	
PEL-STEL mg/m3: NA	REL-STEL mg/m3: NA	TLV-STEL mg/m3: NA	
PEL-C ppm: NA	REL-C ppm: NA	TLV-C ppm: NA	
PEL-C mg/m3: NA	REL-C mg/m3: NA	TLV-C mg/m3: NA	
Skin Notation: <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Notes: TWA = 0.1 f/cc, STEL = 1 f/cc (30 MINUTES); SEE 29 CFR 1910.1001	Notes: TWA = 0.1 f/cc AS DETERMINED BY A 400-LITER AIR SAMPLE COLLECTED OVER 100 MINUTES (NIOSH ANALYTICAL METHOD #7400); CARCINOGEN (Ca). USE 29 CFR 1910.1001	Notes: TWA = 0.1 f/cc, RESPIRABLE FIBERS: LENGTH > 5u; ASPECT RATIO >= 3:1	Carcinogen Classifications: IARC-1, NIOSH-Ca, NTP-K, OSHA-Ca, TLV-A1, EPA-A

IDLH Notes: Ca

IDLH ppm: NA

IDLH mg/m3: NA

**HEALTH INFORMATION**

Symptoms: dyspnea; interstitial fibrosis; restricted pulmonary functioning; finger clubbing; (carcinogenic)

Health Effects: cancer; asbestosis

Target Organ: respiratory system, eyes

**EMERGENCY RESPONSE INFORMATION**

First Aid: Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical.

Breathing: If a person breaths large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 1997)

Reactivity: This compound is incompatible with the following:None reported (NIOSH, 1997)

Nonfire Spill Response: Keep material out of water sources and sewers. Land spill: Cover solids with a plastic sheet to prevent dissolving in rain or fire fighting water. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Water spill: Use natural barriers or oil spill control booms to limit spill travel. ( AAR, 1999)

Fire Response: Extinguish fire using agent suitable for type of surrounding fire. (Material itself does not burn or burns with difficulty.) Keep run-off water out of sewers and water sources. ( AAR, 1999)

**CHEMICAL IDENTIFICATION**

Chemical Name: LEAD (INORGANIC, DUSTS &amp; FUMES), as Pb

CAS #: 7439-92-1

UN No: NA

Formula: Pb

Synonyms: Lead metal, Plumbum

**PHYSICAL PROPERTIES**

Physical Description: A heavy, ductile, soft, gray solid.

BP: 3164°F	MW: 207.2	LEL: NA	NFPA Fire Rating: NA
MLT: 621°F	VP: 0 mmHg (approx)	UEL: NA	NFPA Health Rating: NA
Fl.P: NA	VD: NA		NFPA Reactivity Rating: NA
Sp. Gr.: 11.34	IP: NA		NFPA Sp. Inst.: NA

**EXPOSURE GUIDELINES**

OSHA	NIOSH	ACGIH	Related Information
PEL-TWA ppm: NA	REL-TWA ppm: NA	TLV-TWA ppm: NA	AIHA Emergency Response Planning Guidelines (ERPGs)EPRG-1/EPRG-2/EPRG-3: NA  Carcinogen Classifications: TLV-A3*, EPA-B2, NTP-R, IARC-2A* *inorganic compounds
PEL-TWA mg/m3: 0.05	REL-TWA mg/m3: 0.1	TLV-TWA mg/m3: 0.05	
PEL-STEL ppm: NA	REL-STEL ppm: NA	TLV-STEL ppm: NA	
PEL-STEL mg/m3: NA	REL-STEL mg/m3: NA	TLV-STEL mg/m3: NA	
PEL-C ppm: NA	REL-C ppm: NA	TLV-C ppm: NA	
PEL-C mg/m3: NA	REL-C mg/m3: NA	TLV-C mg/m3: NA	
Skin Notation: <input type="checkbox"/>			
Notes: SEE 29 CFR 1910.1025	Notes: AIR CONCENTRATIONS SHOULD BE MAINTAINED SO THAT WORKER BLOOD LEAD REMAINS BELOW 0.06 mg Pb/100 g WHOLE BLOOD	Notes: BEI	

IDLH Notes: NA

IDLH ppm: NA

IDLH mg/m3: 100

**HEALTH INFORMATION**

Symptoms: weakness, lassitude; insomnia; facial pallor; eye irritation; anorexia, low-weight, malnutrition; constipation; abdominal pain; colic; hypotension, anemia; gingival lead line; tremors, paralysis of wrist, ankles; encephalopathy; neuropathy

Health Effects: cumulative blood effects; cumulative neurologic effects; reproductive hazards

Target Organ: eyes, gastrointestinal tract, central nervous system, kidneys, blood, gingival tissue

**EMERGENCY RESPONSE INFORMATION**

First Aid: EYES: First check the victim for contact lenses and remove if present. Flush victim's eyes with water or normal saline solution for 20 to 30 minutes while simultaneously calling a hospital or poison control center. Do not put any ointments, oils, or medication in the victim's eyes without specific instructions from a physician. IMMEDIATELY transport the victim after flushing eyes to a hospital even if no symptoms (such as redness or irritation) develop. SKIN: IMMEDIATELY flood affected skin with water while removing and isolating all contaminated clothing. Gently wash all affected skin areas thoroughly with soap and water. If symptoms such as redness or irritation develop, IMMEDIATELY call a physician and be prepared to transport the victim to a hospital for treatment. INHALATION: IMMEDIATELY leave the contaminated area; take deep breaths of fresh air. IMMEDIATELY call a physician and be prepared to transport the victim to a hospital even if no symptoms (such as wheezing, coughing, shortness of Breathing, or burning in the mouth, throat, or chest) develop. Provide proper respiratory protection to rescuers entering an unknown atmosphere. Whenever possible, Self-Contained Breathing Apparatus (SCBA) should be used; if not available, use a level of protection greater than or equal to that advised under Protective Clothing. INGESTION: Some heavy metals are VERY TOXIC POISONS, especially if their salts are very soluble in water (e.g., lead, chromium, mercury, bismuth, osmium, and arsenic). IMMEDIATELY call a hospital or poison control center and locate



activated charcoal, egg whites, or milk in case the medical advisor recommends administering one of them. Also locate Ipecac syrup or a glass of salt water in case the medical advisor recommends inducing vomiting. Usually, this is NOT RECOMMENDED outside of a physician's care. If advice from a physician is not readily available and the victim is conscious and not convulsing, give the victim a glass of activated charcoal slurry in water or, if this is not available, a glass of milk, or beaten egg whites and IMMEDIATELY transport victim to a hospital. If the victim is convulsing or unconscious, do not give anything by mouth, assure that the victim's airway is open and lay the victim on his/her side with the Headache lower than the body. DO NOT INDUCE VOMITING. IMMEDIATELY transport the victim to a hospital. OTHER: Since this chemical is a known or suspected carcinogen you should contact a physician for advice regarding the possible long term health effects and potential recommendation for medical monitoring. Recommendations from the physician will depend upon the specific compound, its chemical, physical and toxicity properties, the exposure level, length of exposure, and the route of exposure. (NTP, 1992)

Reactivity: CHEMICAL PROFILE: In the presence of carbon, the combination of chlorine trifluoride with aluminum, copper, lead, magnesium, silver, tin, or zinc results in a violent reaction (Mellor 2, Supp. 1: 1956). A solution of sodium azide in copper pipe with lead joints formed copper and lead azide, both are detonating compounds (Klotz 1973). (REACTIVITY, 1999)

Nonfire Spill Response: STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)

Fire Response: Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam, or Halon extinguisher. (NTP, 1992)

### 3.0 SITE CONTROL

(in compliance with 29 CFR 1910.120(b)(4)(ii)(F) and 29 CFR 1910.120(d))

This site control program is designed to reduce the spread of hazardous substances from contaminated areas to clean areas, to identify and isolate contaminated areas of the site, to facilitate emergency evacuation and medical care, to prevent unauthorized entry to the site, and to deter vandalism and theft.

The site control program includes the elements specified in 29 CFR 1910.120(d) and provides the following site-specific information:

- \* a site map, indicating site perimeter and work zones
- \* site access procedures
- \* site security
- \* site work zones including standard operating procedures
- \* use of the buddy system
- \* both internal (on-site) and external communications

Jeff Teagarden is responsible for evaluating site conditions and for verifying that the site control program functions effectively. The site control program is updated regularly to reflect current site conditions, work operations, and procedures.

#### 3.1 Site Map

A map of this site, showing site boundaries, designated work zones, and points of entry and exit is provided in Figure 3-1, at the end of this chapter.

#### 3.2 Site Access

Access to this site is restricted to reduce the potential for exposure to its safety and health hazards. During hours of site operation, site entry and exit is authorized only at the point(s) identified in Figure 3-1. Entry and exit at these points is controlled by the following: Fencing. When the site is not operating, access to the site is controlled by the following: Fencing.

Visitors to the site register with Jeff Teagarden, and are escorted at all times. Visitors are expected to comply with the requirements of this HASP. Visitors who want to enter contaminated areas of the site must provide documentation that they have the required training and medical evaluation and must receive a site-specific briefing about protecting themselves from site hazards, recognizing site zones demarcations, and following emergency evacuation procedures. PPE for visitors is provided by Jeff Teagarden.

#### 3.3 Site Security

Security at this site is maintained during both working hours and non-working hours to prevent unauthorized entry; removal of contaminated material from the exclusion zone; exposure of unauthorized, unprotected people to site hazards; and increased hazards due to vandalism and theft.

##### Security During Working Hours

Jeff Teagarden is responsible for establishing and maintaining site security during working hours. This site takes the following measures for security during working hours:

1. Security is maintained in the Support Zone and at Access Control Points to ensure only authorized entrants access the site.
2. A fence or other physical barrier is erected around the perimeter of the site to prevent unauthorized entry or exit.
3. Signs have been posted around the perimeter of the site to warn of the site dangers and prohibition of unauthorized entry.
4. Site personnel patrol the perimeter of the site.

##### Security During Non-working Hours

Jeff Teagarden is responsible for establishing and maintaining site security during non-working hours. The following measures have been taken for security during non-working hours:

1. A local police department is used for site surveillance.
2. All doors to buildings and/or trailers are locked and equipment is secured.

#### 3.4 Site Work Zones

This site is divided into three (3) major zones, described below and shown in Figure 3-1. These zones are characterized by presence or absence of biological and chemical hazards and the activities performed within them.

Zone boundaries are clearly marked at all times and the flow of personnel among the zones is controlled.

The site is monitored for changing conditions that may warrant adjustment of zone boundaries. Zone boundaries are adjusted as necessary to protect personnel and clean areas. Whenever boundaries are adjusted, zone markings are also changed and workers are immediately notified of the change.

The following criteria were considered in establishing the site work zones:

1. Required clean-up activities.
2. Sampling results for air and surface contaminants.
3. Air dispersion calculations.
4. Potential for fire.
5. Physical, chemical, toxicological, and other characteristics of substances present.
6. Physical and topographical features of the site.
7. Weather conditions, particularly the direction of prevailing winds relative to the locations of the support zone and other uncontaminated areas onsite.

### **Exclusion Zone**

The Exclusion Zone is the area where hazardous substance is known or suspected to be present and pose the greatest potential for exposure. Remediation operations (site clean-up) are performed in the Exclusion Zone. At this site, the Exclusion Zone boundaries are marked with the following: Signs, Ropes and Flags

Personnel and equipment will enter and exit the Exclusion Zone from the designated access points in the Contamination Reduction Zone (CRZ), shown in Figure 3-1.

Personnel in the Exclusion Zone will adhere to the following SOPs:

#### *Exclusion Zone (ExZ) SOPs*

---

1. Check in and out of this zone at the designated access point(s).
  2. Use the buddy system at all times.
  3. Wear the PPE required for this zone (see PPE section of this HASP).
  4. Perform air monitoring as required for this zone (see Exposure Monitoring section of this HASP).
  5. Alert supervisor to signs of changing or unanticipated hazards.
  6. No horseplay.
  7. Monitor self and buddy for PPE rips, tears, and/or damage.
  8. Use monitoring equipment and tools that are safe for the working environment.
  9. Use ground-fault circuit interrupters (GFCIs) when necessary to prevent electric shock.
  10. Use three-wire grounded extension cords for portable electric tools and appliances.
  11. Keep loose-fitting clothing or loose long hair away from moving machinery.
  12. Use signaling to direct heavy equipment operating in tight quarters.
  13. Lower all blades and buckets to the ground and set parking brakes before shutting off vehicles.
  14. Never exceed the rated load capacity of a vehicle.
- 

### **Contamination Reduction Zone (CRZ)**

The CRZ is located between the Exclusion Zone and the Support Zone (clean zone). Its primary purpose is for decontamination of workers and equipment. The CRZ also serves as a buffer between the Exclusion Zone and Support Zone, to limit the potential for contamination to spread to the Support Zone and outlying areas. At this site, the CRZ boundaries are marked with Signs and ropes.

Based on monitoring results, the CRZ boundaries may be adjusted to ensure that the Support Zone remains uncontaminated.

Workers and equipment exit the Exclusion Zone through the designated access point(s) into the CRZ. Workers and equipment are then decontaminated in the CRZ, according to the procedures specified in the Decontamination section of this HASP. Workers and equipment then exit the CRZ into the Support Zone through the designated access points, shown in Figure 3-1.

If necessary, emergency decontamination procedures are implemented. Emergency decontamination procedures are described in the site's emergency response program.

Personnel in the CRZ will adhere to the following SOPs:

*Contamination Reduction Zone (CRZ) SOPs*

---

1. Check in and out of this zone at the designated access point(s).
  2. Wear the PPE required for this zone (see PPE section of this HASP).
  3. Perform air and surface sampling as required for this zone (see Exposure Monitoring section of this HASP).
  4. Use monitoring equipment and tools that are safe for the working environment.
  5. No smoking, eating, or drinking.
  6. No matches, lighters, or open flame.
  7. Monitor self and buddy for signs of heat or cold stress or chemical overexposure.
  8. Alert supervisor to signs of changing or unanticipated hazards.
  9. No horseplay.
  10. Monitor self and buddy for PPE rips, tears, and/or damage.
- 

### **Support Zone**

The Support Zone is the clean area of the site, beyond the outer boundary of the CRZ. There should be no contamination in this zone. Administrative, clerical, and other support functions are based in the Support Zone.

Air and surface monitoring are conducted in the Support Zone as needed to ensure that it remains uncontaminated. If contamination is detected, zone boundaries are adjusted until corrective action is taken and monitoring results indicate that this zone is again uncontaminated.

Within the Support Zone, personnel will adhere to the following SOPs:

*Support Zone (SZ) SOPs*

---

1. Check in and out of this zone at the designated site access point(s).
  2. Alert supervisor to signs of changing or unanticipated hazards.
  3. No horseplay.
  4. Perform air and surface sampling as required for this zone (see Exposure Monitoring section of this HASP).
- 

### **3.5 Buddy System**

While working in the Exclusion Zone, site workers use the buddy system. The buddy system means that personnel work in pairs and stay in close visual contact to be able to observe one another and summon rapid assistance in case of an emergency. The responsibilities of workers using the buddy system include:

- \* remaining in close visual contact with partner,
- \* providing partner with assistance as needed or requested,
- \* observing partner for signs of heat stress or other difficulties,
- \* periodically checking the integrity of partner's PPE, and
- \* notifying the site manager or other site personnel if emergency assistance is needed.

### **3.6 Site Communications**

The following communication equipment is used to support on-site communications:

In addition, site personnel are trained to recognize and use hand signals when visual contact is possible but noise or PPE inhibit voice communication. These hand signals are listed below in Table 3-6

**Table 3-6 Site Communication - Hand Signals**

<b>Signal</b>	<b>Meaning</b>
Clutching throat	Out of air/cannot breathe
Thumbs down	No
Thumbs up	OK/understood
Both arms waving upright above head	Need assistance/send support
Stand with hands on waist or grab partner's wrist	Exit immediately

### **3.7 Emergency Medical Assistance**

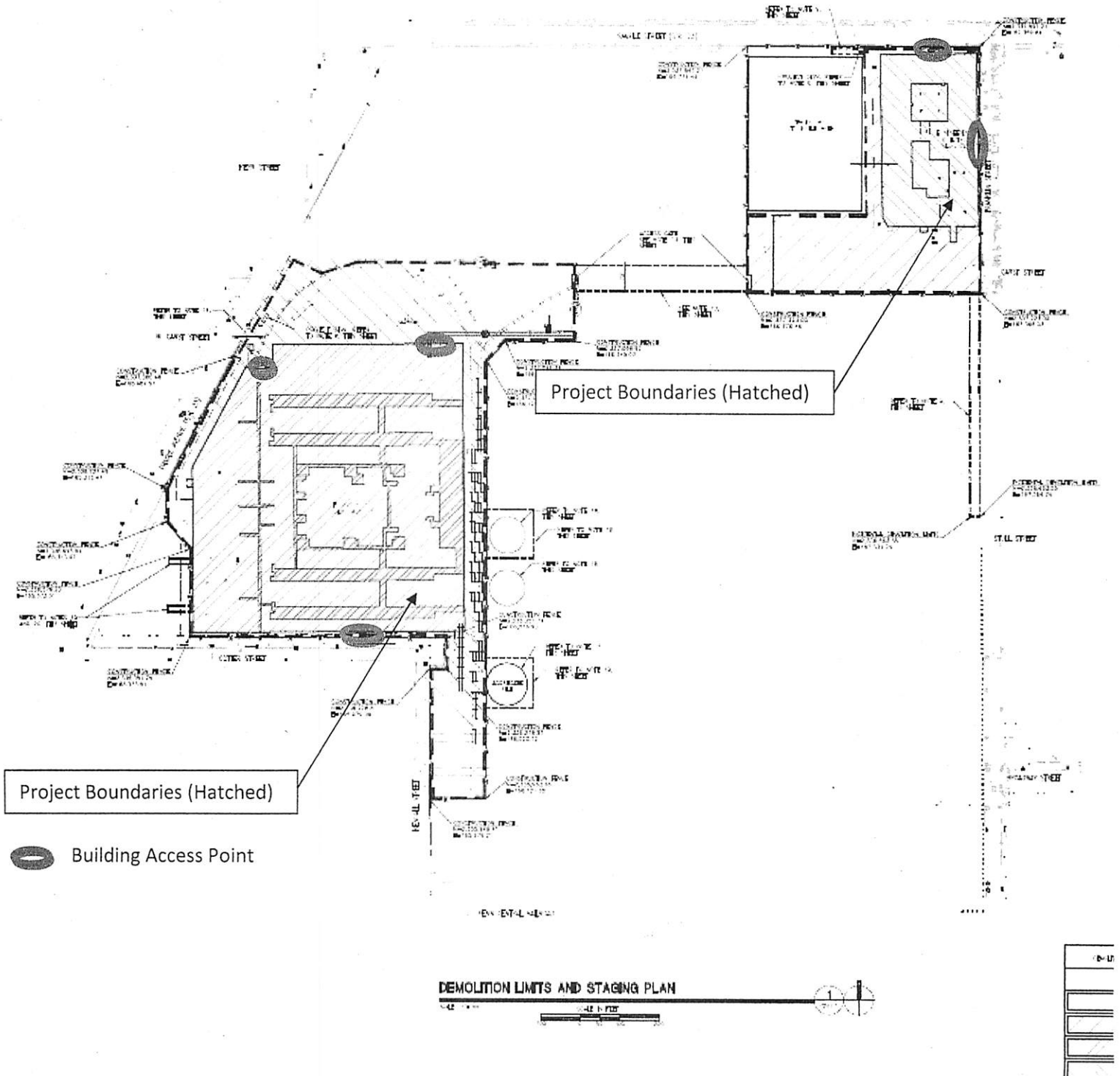
The nearest emergency medical assistance selected to support this site is:

Organization: Memorial Hospital  
Contact: Memorial Hospital  
Address/Location: 615 North Michigan, South Bend, IN  
Telephone: 5746471000

A map to this facility is located in the Emergency Response chapter of this HASP, Figure 11-3b.

# Figure 3-1 Map of Site Boundaries, Work Zones, and Entry/Exit Points

Insert site map with zone boundaries and access points here.



## 4.0 TRAINING PROGRAM

(in compliance with 29 CFR 1910.120(e))

The site training program is designed to ensure that workers receive the training they need to work safely on this site. Site safety and health training requirements are based on the job hazard assessments contained in Chapter 2 of this HASP and relevant OSHA requirements. At this site, Jeff Teagarden oversees the implementation of this training program and is responsible for ensuring that employees are adequately and currently trained for all tasks they are asked to perform. Employees who have not been trained to a level required by their job function and responsibility are not permitted to participate in or supervise field activities.

This training program is consistent with the requirements of 29 CFR 1910.120(e) and addresses the following site-specific information:

- \* training for site workers
- \* site briefings for visitors and workers
- \* initial HAZWOPER training (40 or 24 hr)
- \* supervised field experience
- \* management and supervisor training
- \* qualification of trainers
- \* training certification
- \* emergency response training ##
- \* refresher training
- \* equivalent training
- \* training records

## Emergency response training is addressed in HASP Chapter 11, Emergency Response Plan.

### 4.1a Training Elements to be Covered for Site Workers:

- names of personnel and alternates responsible for site safety and health
- safety, health and other hazards present on the site
- use of PPE
- work practices by which the employee can minimize risks from hazards
- safe use of engineering controls and equipment on the site
- medical surveillance requirements detailed in Chapter 5 of this HASP
- decontamination procedures detailed in Chapter 10 of this HASP
- the emergency response plan detailed in Chapter 11 of this HASP
- confined space entry procedures detailed in Chapter 13 of this HASP
- the spill containment program detailed in Chapter 9 of this HASP
- the site control plan detailed in Chapter 3 of this HASP

Other training received by workers that is in addition to required training elements described above is detailed below in the following table (Table 4-1a):

**Table 4-1a. Other Training for Site Workers**

Lead in accordance with 29 CFR 1910.1025

Asbestos in accordance with 29 CFR 1910.1001

Working safely around heavy equipment

Respirator use, in accordance with 29 CFR 1910.134

Trenching and excavations, in accordance with 29 CFR 1926.651

### 4.1b Site-Specific Briefings for Visitors

A site-specific briefing is provided to all site visitors who enter this site beyond the site entry point.

For visitors, the site-specific briefing provides information about site hazards, the site lay-out including work zones and places of refuge, the emergency alarm system and emergency evacuation procedures, and other pertinent safety and health requirements as appropriate.

### 4.1c HASP Information and Site-Specific Briefings for Workers

Site personnel review this HASP and are provided a site-specific briefing prior to the commencement of work to ensure that employees are familiar with this HASP and the information and requirements it contains. Additional briefings are provided as necessary to notify employees of any changes to this HASP as a result of information gathered during ongoing site characterization and analysis. Conditions for which we schedule additional briefings include, but are not limited to: changes in site conditions, changes in the work schedule/plan, newly discovered hazards, and incidents occurring during site work.

## 4.2 Initial Training

Initial training requirements are based on a worker's potential for exposure and compliance with the requirements of 29 CFR 1910.120(e)(3).

Personnel at this site must successfully complete 40-hour initial HAZWOPER training consistent with the requirements of 29 CFR 1910.120(e)(3)(i) in order to work in contaminated areas. In addition, such personnel provide documentation of having received 3 days of supervised field experience applicable to this site, or receive three days of supervised field experience at this site.

## 4.3 Management and Supervisor Training

On-site managers and supervisors who are directly responsible for or who supervise workers engaged in hazardous waste operations receive, in addition to the appropriate level of worker HAZWOPER training described above, 8 additional hours of specialized supervisory training, in compliance with 29 CFR 1910.120(e)(4).

Training received by managers and supervisors is summarized below in the following table (Table 4-3):

## 4.4 Qualification of Trainers

Only instructors qualified in accordance with 29 CFR 1910.120(e)(5) are used to train workers for this site. Qualified instructors have either completed a training program for teaching the subjects they are expected to teach or have the academic credentials and instructional experience necessary for teaching the subjects.

## 4.5 Training Certification

Employees and supervisors that receive and complete the necessary training and field experience are certified when they complete the necessary training. A written certificate is given to each person so certified. Any person who has not been so certified or who does not meet the requirements of equivalent training is prohibited from engaging in hazardous waste operations on this site.

## 4.6 Emergency Response

Emergency response training is addressed in Chapter 11 of this HASP, Emergency Response Plan.

## 4.7 Refresher Training

All workers on this site including managers and supervisors receive annual HAZWOPER refresher training consistent with the requirements of 29 CFR 1910.120(e)(8). The following table (Table 4-7) details refresher training:

## 4.8 Equivalent Training

## 4.9 Training Records

This site maintains written certification of the successful completion of applicable training requirements for each worker. Training records are maintained up-to-date and are retained onsite at the following location: Job Site Trailer. Written certificates have been given to each person so certified. Additionally, an employee sign off sheet indicating that each worker has received a copy of this HASP and understands its contents is stored at the same location.



## 5.0 MEDICAL SURVEILLANCE

(in compliance with 29 CFR 1910.120(f) and other substance-specific medical surveillance requirements found in 29 CFR 1910.1001-1052)

The medical surveillance section of the Health and Safety Plan describes how worker health status is monitored at this site. Medical surveillance is used when there is the potential for worker exposure to hazardous substance at levels above OSHA permissible exposure limits or other published limits. The purpose of a medical surveillance program is to medically monitor worker health to ensure that personnel are not adversely affected by site hazards. The provisions for medical surveillance at this site are based on the site characterization and job hazard analysis found in Chapter 2 of this HASP and are consistent with OSHA requirements in 29 CFR 1910.120(f) and the following substance-specific requirements: LEAD (INORGANIC, DUSTS & FUMES), as Pb (1910.1025, 1926.62), ASBESTOS, ALL FORMS (1910.1001, 1926.1101).

The medical surveillance program is consistent with 29 CFR 1910.120(f) and addresses the following information:

- \* provisions of the site medical surveillance program
- \* communication between the site, physicians, and workers
- \* medical recordkeeping procedures

The person with responsibility for ensuring this program is implemented and maintained is Jeff Teagarden.

### 5.1 Site Medical Surveillance Program

Medical surveillance requirements are based on a worker's potential for exposure as determined by the site characterization and job hazard analysis documented in Chapter 2 of this HASP and on compliance with the requirements of 29 CFR 1910.120(f)(2).

### 5.2 Communication Between the Site, Physicians, and Workers

The medical facility providing medical monitoring and overexposure examinations required by personnel at this site is:

Name: Memorial Hospital

Location: 615 North Michigan, South Bend, IN

Phone: 5746471000

The licensed attending physician for this site is:

Name:

Phone:

The site has provided information about site hazards and potential exposure levels, work activities, and PPE requirements, and other information as required by OSHA in 29 CFR 1910.120(f)(6) to the above-mentioned facility and physician. The site will also make this information available to site personnel and/or their personal physicians.

A physician's written opinion of the results of these examinations is required for each worker and a copy is maintained on site. The contents of the written opinion is limited to:

- \* a statement of the worker's health status in relation to his or her job duties and a description of any detected medical condition that could put the worker at increased risk.
- \* notation of any recommended limitations in work activity or PPE use.
- \* confirmation that the physician has informed the employee of the examination results and any further examination or treatment required.

### 5.3 Medical Recordkeeping Procedures

(in compliance with 29 CFR 1910.120(f)(8) and 1910.1020)

Corporate medical recordkeeping procedures are consistent with the requirements of 29 CFR 1910.1020 and are described in the company's overall safety and health program. A copy of that program is available at Job

Site Name: Studebaker Area A - Phase

5 - 1 of 2

Date of Program: 01/25/2011

Site Trailer.

The following items are maintained in worker medical records:

#### **5.4 Program Review**

- \* review of accident and injury records and medical records to determine whether the causes of accidents and illness are promptly investigated and whether corrective measures are taken wherever possible,
- \* evaluation of the appropriateness of required medical tests on the basis of site exposures, and
- \* review of emergency treatment procedures and emergency contacts list to ensure they are site-specific, effective, and current.

## 6.0 PERSONAL PROTECTIVE EQUIPMENT

(in compliance with 29 CFR 1910.120(b)(4)(ii)(C) and 29 CFR 1910.120(g))

This chapter of the HASP describes how personal protective equipment (PPE) is used to protect against employee exposures to hazardous substances and hazardous conditions on this site. Exposure hazards from the decontamination process are also considered. The following topics are addressed in this chapter:

- \* PPE selection criteria
- \* Site-specific PPE ensembles
- \* Criteria for PPE upgrades and downgrades
- \* Procedures for determining work duration
- \* Training in use of PPE
- \* Respiratory protection
- \* Hearing conservation
- \* PPE maintenance & storage
- \* Evaluation of this program

The person with the overall responsibility for the PPE program is Jeff Teagarden.

### 6.1 PPE Selection Criteria

Site safety and health hazards are eliminated or reduced to the greatest extent possible through engineering controls and work practices. Where hazards are still present, a combination of engineering controls, work practices, and PPE are used to protect employees.

An initial level of PPE is assigned to each task to provide an adequate barrier to exposure hazards. Initial PPE ensembles are selected based on the anticipated route(s) of entry of the hazardous substances on site and their concentration. Ensemble materials are selected using permeation data supplied by individual manufacturers. Materials providing the greatest duration of protection have been chosen. Tear and seam strength of the PPE are also considered to ensure ensemble durability while work is performed. When necessary, multiple layers of protection are used to accommodate the range of hazards that may be encountered. Where possible, employees are provided with a range of component sizes to ensure properly fitted PPE.

The following criteria are used in selecting PPE levels at this site.

#### Use of Level C Protection

Employees use Level C protection during tasks that have or potentially have the following characteristics:

- \* Liquid splashes, atmospheric conditions, or other direct contact with hazardous substances exist or are likely but will not adversely affect or be absorbed through exposed skin.
- \* The atmosphere contains hazardous substances at concentrations which can be adequately controlled using an available air-purifying respirator and cartridge/canister.
- \* IDLH conditions are not present.
- \* The atmosphere contains between 19.5 and 23.5% oxygen.

In accordance with 29 CFR 1910.134(d)(3)(iii)(B)(2), a cartridge/canister change schedule has been determined. Cartridges and canisters used with air-purifying respirators on this site are replaced when any of the following occurs:

- \* a NIOSH-approved end of service life indicator (ESLI) is activated,
- \* the service life identified in this HASP has passed (see JHAs for service life determinations)
- \* inhalation is restricted

#### Use of Level D Protection

Employees use Level D protection during tasks that have the following characteristics:

- \* The atmosphere contains no known or suspected hazardous substances at concentrations that meet or exceed the published exposure limit.
- \* Contact with hazardous levels of any chemicals through splashes, immersion, or by other means will not occur.
- \* There is no potential for unexpected inhalation or contact with hazardous levels of any chemical.

### 6.2 Use of PPE

Site-specific PPE ensembles and materials are identified below in Table 6-2a. These ensembles are consistent with Appendix B of 29 CFR 1910.120. PPE is used in accordance with manufacturers' recommendations.

Table 6-2a Site-Specific PPE Ensembles

Equipment	Model	Material	Employee Purchased
<b>Level C</b>			
Respiratory Protection: Half-face air purifying	N/A	N/A	
Escape Mask: N/A			

Table 6-2a Site-Specific PPE Ensembles

Equipment	Model	Material	Employee Purchased
<u>Level D</u>			
Escape Mask: N/A			
Boots, outer, chemical-resistant (disposable)			No
Safety glasses			No
Hard hat			No
Gloves			No

## Criteria for PPE Upgrades and Downgrades

Task-specific criteria for PPE upgrades and downgrades are used at this site. If the need for a PPE upgrade or downgrade is anticipated for a task or operation, the action level(s) and/or conditions that result in a PPE upgrade or downgrade are described on the Job Hazard Analysis form (JHA) in Chapter 2 of this HASP. Since PPE is primarily used as a barrier to hazardous substance exposure, airborne concentrations are monitored routinely, in accordance with Chapter 7, Exposure Monitoring.

Jeff Teagarden has the authority to upgrade or downgrade PPE in a timely manner to respond to changing site conditions and to protect employee health and safety. Routine evaluation of the effectiveness of the PPE program is conducted as identified in Section 6.7 below.

## Procedures for Determining Work Duration

Jeff Teagarden identifies task-specific work duration based on the following:

- Physiological requirements of the task

- PPE level for the task

- Ambient temperature and humidity

Employees are informed about task-specific work duration by the SSHO, during pre-shift meetings for all employees entering contaminated areas

Work duration is consistent with the requirements outlined in Chapter 8, Thermal Stress and the respiratory protection capacity for the assigned PPE. Work duration is continuously re-evaluated in response to changes in working conditions.

### **6.3 Training**

Employees receive general training regarding proper selection, use and inspection of PPE during initial HAZWOPER training (or equivalent) and subsequent refresher training. Site-specific PPE requirements, including task-specific PPE, ensemble components, cartridge/canister service times, and inspection and maintenance procedures are communicated as identified in Chapter 4, Training.

### **6.4 Respiratory Protection**

The type of respiratory protection used on site are identified in Table 6-2a. Respiratory protection is selected, fitted, used, stored and maintained in accordance with the Respiratory Protection Program. A copy of the Respiratory Protection Program is located in/at [fill in location entered on Form 2 of Chapter 6, next to last entry]. The written Respiratory Protection Program is consistent with the other requirements of this HASP.

### **6.5 Hearing Conservation**

Employees must use hearing protection when noise exposures equal or exceed an 8-hour time-weighted average sound level of 85 dBA. Where noise exposure meets or exceeds this level, noise is listed as a physical hazard in the JHA for the tasks/operation, and hearing protection is included as one of the control measures (PPE). Employees required to use hearing protection participate in a Hearing Conservation Program.

Currently, no site tasks have noise exposure that equals or exceeds the 85 dBA limit.

### **6.6 PPE Maintenance Storage**

In order to ensure that PPE continues to provide the anticipated protection, this site uses specific procedures for PPE inspection, cleaning, maintenance, and storage. Adherence to these procedures is tracked with written inspection records.

### **6.7 Evaluation of PPE Program**

Evaluation of the effectiveness of site PPE selections occurs throughout site activities in response employee exposure monitoring results and employee feedback. Surface samples are collected from the inside surfaces of used PPE to ensure that the equipment provides an adequate barrier throughout the work shift. Surface monitoring procedures are described in Chapter 7 of this HASP, Exposure Monitoring.

Jeff Teagarden is responsible for modifying initially selected PPE. Affected employees are immediately informed about these modifications and are provided with additional training if necessary. The JHAs in Chapter 2 of the HASP are also updated as needed to reflect current information about job hazards and selected controls.



## 7.0 EXPOSURE MONITORING

(in compliance with 29 CFR 1910.120(b)(4)(ii)(E) and 29 CFR 1910.120(h))

This chapter of the HASP describes how employee exposures to hazardous substances are monitored. This chapter provides site-specific information about:

- \* air monitoring procedures,
- \* surface sampling procedures,
- \* equipment calibration and maintenance, and
- \* the handling and management of monitoring data.

Jeff Teagarden is responsible for implementing site exposure monitoring procedures.

The following personnel are qualified to use the air monitoring instruments at this site and to interpret monitoring results:

### Monitoring Instrument

John Blosky

.....  
Matt Rugg

.....  
Steven Travis

.....  
Zach Heine

The following personnel are qualified to conduct surface sampling at this site and to interpret surface sampling results:

John Blosky

Zack Heine

Steven Travis

Matt Rugg

## 7.1 Air Monitoring

Employee exposures to airborne hazardous substances are fully characterized throughout site operations to ensure that exposure controls are effectively chosen and modified as needed on a timely basis. The approach to air monitoring is consistent with OSHA requirements in HAZWOPER and includes:

- \* initial monitoring prior to the beginning of site activities to identify conditions that may cause death or serious harm and to permit preliminary selection of site controls,
- \* personal monitoring after site activities begin so that employee exposures are quantified and fully characterized, and
- \* periodic monitoring throughout site operations when conditions and employee exposures may change rapidly. This can include, but is not limited to, the following situations
  - commencement of work on another portion of the site,
  - exposure to or handling of contaminants/hazards not previously identified,
  - commencement of a new task/operation,
  - change in environmental conditions, and
  - commencement of task/operation that is likely to increase airborne concentrations of hazardous substances.

Air monitoring is conducted using direct-reading instruments and by collecting and analyzing personal samples. Consistent with HAZWOPER, personal air samples are collected in the breathing zones of employees expected to have the highest exposure during the task or operation being evaluated. If exposures for these employees exceed the exposure limits, additional samples are collected in the breathing zones of all employees likely to have similar exposures. Full-shift and short-term samples are collected, providing quantitative results that can be compared to OSHA Permissible Exposure Limits and other published exposure limits. In addition, the results of lab-analyzed samples are correlated with direct-reading monitoring results to ensure that direct-reading results are interpreted correctly.

Table 7-1, Task-Specific Air Monitoring Procedures, summarizes the air monitoring procedures for this site based on tasks and operations conducted here. This table includes action levels and required actions we have established based on the direct-reading instruments we use and the contaminants we measure.

This site contains contaminants addressed in one or more of OSHA's substance-specific standards, specifically ASBESTOS, ALL FORMS; LEAD (INORGANIC, DUSTS & FUMES), as Pb. Site monitoring procedures comply with OSHA's substance-specific requirements as well as those of HAZWOPER.

**Table 7-1: Task-Specific Air Monitoring Procedures**

Task/Operation: Air sampling/monitoring



Monitored Hazard: ASBESTOS, ALL FORMS

Exposure Limit: 0.1 f/cc REL-TWA NIOSH

Lab-Analyzed Sampling

Sample Type: Area  
Location(s): Asbestos Air Monitoring (OSHA)  
Method: NIOSH Method 7400  
Equipment: Personal sampling pumps  
Frequency: Baseline  
Analyte: fiber

Real-Time Monitoring

Sample Type: Area  
Location(s): Asbestos Air Monitoring (OSHA)  
Equipment: Microscope  
Response Factor:  
Frequency:  
Action Level:  
Required Action:

Sample Type: Personal  
Location(s): Asbestos Air Monitoring (OSHA)  
Method: NIOSH Method 7400  
Equipment: Personal sampling pumps  
Frequency: Baseline  
Analyte: fiber

Sample Type: Personal  
Location(s): Asbestos Air Monitoring (OSHA)  
Equipment: Microscope  
Response Factor:  
Frequency:  
Action Level:  
Required Action:

**7.2 Surface Sampling**

Surface sampling is used as needed in contaminated areas to evaluate potential employee exposures. Surface sampling is used in the CRZ and SZ to evaluate the effectiveness of decontamination methods and exposure controls, including hygiene practices, and to ensure that zone boundaries accurately reflect the presence or absence of contamination. Surface sample locations, methods, and permissible contamination limits are listed in Table 7-2.

Surface concentrations in excess of the established limits may result in adjustments of PPE, decontamination procedures, site zone boundaries, and other exposure controls. Jeff Teagarden is responsible for evaluating surface sampling results and determining corrective actions if sample results indicate contaminant levels in excess of permissible surface concentration.

**7.3 Equipment Calibration and Maintenance**

Table 7-3 lists the specific monitoring instruments and the calibration procedures used on this site. Instruments are calibrated and maintained according to the manufacturers' recommendations. Copies of the manufacturers' recommendations and instrument calibration and maintenance records are maintained in the following location(s): Job Site Trailer.

**7.4 Handling and Maintenance of Monitoring Data**

Procedures for collecting, handling, and shipping laboratory samples are included Chapter 12, Standard Operating Practices and in the sampling methods identified in Table 7-1. Documentation procedures for analytical results and direct-reading monitoring data are also addressed in Chapter 12. Samples are shipped to and analyzed by the laboratories listed in Table 7-4 below:

**Table 7-4 Laboratory Information**

Analyte(s)

Asbestos Air Samples

Laboratory Name: Amereco Engineering  
Addresses: 204 E Jefferson Street  
Valparaiso IN, 46383  
Telephone: (219) 531-0531  
Laboratory Contact: John Blosky

Laboratory results are available within 1 days of sample collection. Employees may review general air and surface monitoring results and may obtain copies of their personal monitoring results. Results from lab-analyzed samples are stored on site in/at: Job Site Trailer. Direct-reading monitoring results are documented and stored in/at: Job Site Trailer.

Employees who participated in an air monitoring event receive written notification of their respective personal exposures within 2 working days of receipt of results. Jeff Teagarden is responsible for providing employees with copies of their exposure monitoring results and helping them understand the information.

## **7.5 Noise Monitoring**

As indicated in the JHAs for this site, employees may be exposed to sound levels that meet or exceed 85 dBA while conducting certain tasks/operations. Consequently, noise monitoring is conducted in accordance with the Hearing Conservation Program, located in/at Job Site Trailer.

## **8.0 THERMAL STRESS PREVENTION PROGRAM**

(in compliance with 29 CFR 1910.120(h))

Workers on this site are not exposed to environmental conditions such as temperature, humidity, air movement, and work conditions such as the use of PPE that could cause either heat stress or cold stress related illnesses or injuries.

## **9.0 SPILL CONTAINMENT PROGRAM**

(in compliance with 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii))

This chapter of the Health and Safety Plan describes the potential for hazardous substance spills at this site and procedures for controlling and containing such spills. The purpose of this chapter of the Plan is to ensure that spill containment planning is conducted and appropriate control measures are established.

The spill containment program is consistent with OSHA requirements in 29 CFR 1910.120(b)(4)(ii)(J) and (j)(1)(viii) and addresses the following site-specific information:

- \* potential hazardous substance spills and available controls
  - \* initial notification and response
  - \* spill evaluation and response
  - \* post-spill evaluation
- 

0

## 10.0 DECONTAMINATION

(in compliance with 29 CFR 1910.120(b)(4)(ii)(G) and 1910.120(k))

The decontamination section of the Health and Safety Plan describes how personnel and equipment are decontaminated when they leave the Exclusion Zone. This section also describes how residual waste from decontamination processes is disposed. The site decontamination procedures are designed to achieve an orderly, controlled removal or neutralization of contaminants that may accumulate on personnel or equipment. These procedures minimize worker contact with contaminants and protect against the transfer of contaminants to clean areas of the site and off-site. They also extend the useful life of PPE by reducing the amount of time that contaminants contact and can permeate PPE surfaces. The decontamination procedures described below are designed to meet the requirements of 1910.120(k) and include site-specific information about:

- \* the location and type of site decontamination facilities
- \* general and specific decontamination procedures for personnel and PPE
- \* general and specific decontamination procedures for equipment
- \* disposal of residual waste from decontamination
- \* decontamination equipment and solvents
- \* monitoring the effectiveness of decontamination procedures

Emergency decontamination procedures are detailed in the Emergency Response section of this HASP.

Jeff Teagarden oversees implementation of site decontamination procedures and is responsible for ensuring their effectiveness.

### 10.1 Site Decontamination Facilities

Decontamination on this site is conducted in the contamination reduction zone (CRZ). The CRZ acts as a buffer between the hot-zone and the support zone. The location and design of decontamination stations minimize the spread of contamination beyond these stations. Separate facilities are used for personnel and for equipment. The location of these facilities is marked on Figure 10-1.

### 10.2 Decontamination Procedures for Personnel and PPE

Decontamination procedures on this site are designed for the level of PPE used. Site-specific procedures for personnel and PPE decontamination minimize the potential for hazardous skin or inhalation exposure and to avoid cross-contamination and chemical incompatibilities.

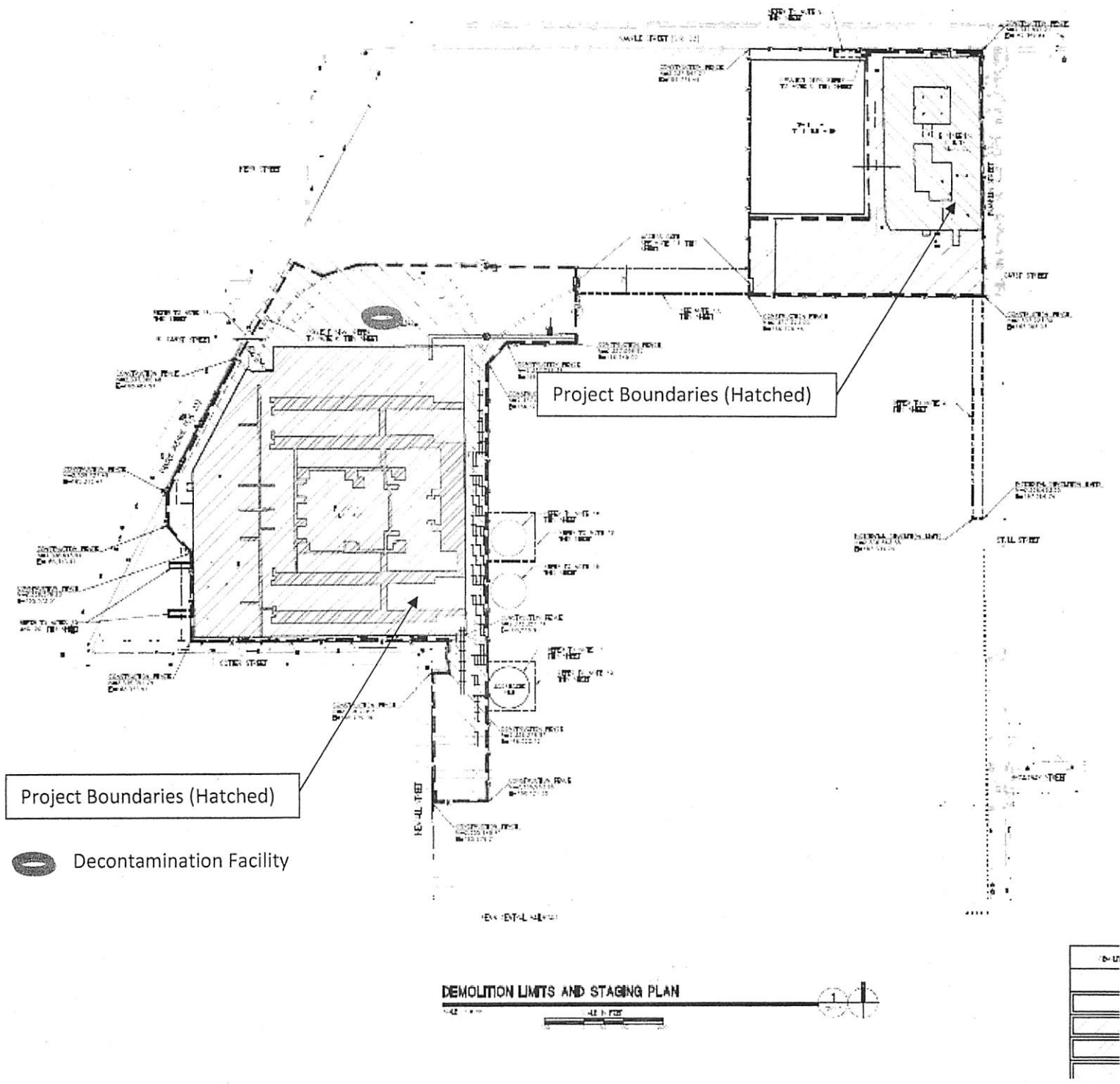
Based on the nature of the hazards and/or duration of work, showers and changing rooms consistent with the requirements of 29 CFR 1910.141 are provided for workers.

The following are general decontamination procedures established and implemented at this site. More specific procedures for personnel and PPE decontamination are provided in Table 10-2.

1. Decontamination is required for all workers exiting a contaminated area. Personnel may re-enter the Support Zone only after undergoing the decontamination procedures described below in the next section.
2. Protective clothing is decontaminated, cleaned, laundered, maintained and/or replaced as needed to ensure its effectiveness.
3. PPE used at this site that requires maintenance or parts replacement is decontaminated prior to repairs or service.
4. PPE used at this site is decontaminated or prepared for disposal on the premises. Personnel who handle contaminated equipment have been trained in the proper means to do so to avoid hazardous exposure.
5. This site uses an off-site laundry for decontamination of PPE. The site has informed that facility of the hazards associated with contaminated PPE from this site.
6. The site requires and trains workers that if their permeable clothing is splashed or becomes wetted with a hazardous substance, they will immediately exit the work zone, perform applicable decontamination procedures, shower, and change into uncontaminated clothing.
7. Procedures for disposal of decontamination waste meet applicable local, State, and Federal regulations.

Figure 10-1 Location of Site Decontamination Facilities

Insert a map marking the location of decontamination facilities here.



Tables 10-2a and -2b lists site-specific procedures for personnel decontamination and handling of personnel decontamination waste.

**Table 10-2a Level A Decontamination Procedures**

Station No.	Station Procedure	Equipment/Decon Solution
1	Field wash	Shower facilities

### 10.3 Decontamination Procedures for Equipment

All tools, equipment, and machinery from the Exclusion Zone or CRZ are decontaminated in the CRZ prior to removal to the Support Zone. Equipment decontamination procedures are designed to minimize the potential for hazardous skin or inhalation exposure and to avoid cross-contamination and chemical incompatibilities.

### 10.4 Monitoring the Effectiveness of Decontamination Procedures

Visual examination and sampling are used to evaluate the effectiveness of decontamination procedures, in compliance with 29 CFR 1910.120(k)(2)(iv). Visual examination is used to ensure that procedures are implemented as described and that they appear to control the spread of contaminants under changing site conditions. Visual examination is also used to inspect for signs of residual contamination or for contaminant permeation of PPE.

Sampling, both air sampling and surface sampling, are used to verify the effectiveness of decontamination. Air samples are taken in the clean zone to ensure that airborne contaminants have not spread to clean areas of the site. Surface samples are taken from the inside surfaces of PPE, from decontaminated heavy equipment, and from surfaces within clean areas of the site to ensure that site decontamination and control procedures are performing as anticipated. The type and frequency of air and surface sampling used to ensure the effectiveness of decontamination procedures are detailed in the Exposure Monitoring section of this HASP.

Results of the inspections of decontamination procedures and documentation of any action taken to correct deficiencies are recorded and stored at Job Site Trailer .

Personnel who work in contaminated areas of the site, either the Contamination Reduction Zone (CRZ) or the Exclusion Zone, are trained in the principles and practices of decontamination described in this section of the HASP and in related SOPs. If site procedures are changed as a results of inspection and monitoring, all affected employees are notified of these changes.



## 11.0 EMERGENCY RESPONSE PLAN

(in compliance with 29 CFR 1910.120(l) and 1910.120(b)(4)(ii)(H))

This is the site-specific emergency response plan. This chapter of the Health and Safety Plan describes potential emergencies at this site, procedures for responding to those emergencies, roles and responsibilities during emergency response, and training that workers must receive in order to follow emergency procedures. This plan also describes the provisions this site has made to coordinate its emergency response planning with other contractors on site and with off-site emergency response organizations.

This emergency response plan is consistent with the requirements of 29 CFR 1910.120(l) and provides the following site-specific information:

- \* pre-emergency planning
- \* personnel roles, lines of authority, and communication
- \* emergency recognition and prevention
- \* safe distances and places of refuge
- \* site security and control
- \* evacuation routes and procedures
- \* decontamination procedures
- \* emergency medical treatment and first aid
- \* emergency alerting and response procedures
- \* critique of response and follow-up
- \* PPE and emergency equipment

During the development of this emergency response plan, local, state, and federal agency disaster, fire, and emergency response organizations were consulted to ensure that this plan is compatible and integrated with the plans of those organizations. Documentation of the dates of these consultations and the names of individuals contacted is kept at Job Site Trailer.

### 11.1 Pre-emergency Planning

This site has been evaluated for potential emergency occurrences, based on site hazards, the tasks within the work plan, the site topography, and prevailing weather conditions. The results of that evaluation are shown in Table 11-1 below.

**Table 11-1 Potential Site Emergencies**

Type of Emergency	Source of Emergency	Location of Source
Tornado	Weather	Tunnels
PPE failure	Improper PPE	Job Site Trailer

### 11.2 On-Site Emergency Response Equipment

Emergency procedures may require specialized equipment to facilitate worker rescue, contamination control and reduction, or post-emergency clean-up. Emergency response equipment stocked on this site is listed in Table 11-2. The equipment inventory and storage locations are based on the potential emergencies described in Table 11-1. This equipment inventory is designed to meet on-site emergency response needs and any specialized equipment needs that off-site responders might require because of the hazards at this site but not ordinarily stocked.

Any additional PPE required and stocked for emergency response is also listed in Table 11-2 below. During an emergency, the Emergency Response Coordinator is responsible for specifying the level of PPE required for emergency response. At a minimum, personal protective equipment used by emergency responders will comply with Chapter 6, Personal Protective Equipment, of this HASP.

Emergency response equipment is inspected at regular intervals and maintained in good working order. The equipment inventory is replenished as necessary to maintain response capabilities.

**Table 11-2 Emergency Equipment and Emergency PPE**

Emergency Equipment	Specific Type	Quantity Stocked	Location Stored
First aid kit			Job Site Trailer
Fire extinguisher			Work Site Trailer and Various Locations
Emergency PPE	Specific Type	Quantity Stocked	Location Stored
Tyvek suit, coated			Job Site Trailer
Respirators w/ appropriate cartridges			Job Site Trailer

### 11.3 Emergency Planning Maps

Figure 11-3a provides a map of the site with key on-site emergency planning information clearly marked. Emergency evacuation route(s), places of refuge, assembly point(s), and the locations of key site emergency equipment are identified on this map. Site zone boundaries are shown to alert responders to known areas of contamination. Major topographical features and the direction of prevailing winds/weather conditions that could affect emergency response planning are also marked on this map. Figure 11-3a is posted at site entry points and at locations throughout the work site.

Figure 11-3b indicates the route to the nearest emergency medical assistance. Figure 11-3b is posted at the following locations:

Job Site Trailer

### 11.4 Roles and Responsibilities for On-Site and Off-Site Personnel

Jeff Teagarden is responsible for implementing the emergency response plan and coordinates emergency response activities on this site. He/she provides specific direction for emergency action based upon information available regarding the incident and response capabilities and initiates emergency procedures, including protection of the public and notification of appropriate authorities.

In the event of an emergency, site personnel are evacuated and do not participate in emergency response activities. As a result, this emergency response plan is designed to comply with 29 CFR 1910.38. The on-site personnel and their alternates responsible for coordinating site evacuation efforts are listed in Table 11-4. The emergency response coordinator or one of his/her alternates is on site whenever work operations are underway.

The site relies upon the off-site emergency response organizations listed in the Emergency Contact Information, Table 11-4, to respond to site emergencies. These organizations have been provided a copy of the site HASP, have been thoroughly briefed on site operations, hazards, and potential emergencies; have participated in a site walk-through if necessary; and are appropriately trained, staffed, and equipped to provide emergency response to this site. These organizations are contacted at least semi-annually or when changes in operations or hazards occur on site to verify the accuracy of phone numbers and contact names and to ensure that current points of contact are aware of site operations and hazards.

### 11.5 Emergency Alerting and Evacuation

Upon discovering an emergency situation, personnel notify Jeff Teagarden, who will evaluate available information and initiate response. Site workers are alerted to emergencies through the use of an employee alarm system. The employee alarm systems at this site are listed in Table 11-5.

**Table 11-5 Employee Alarm Systems**

Type of Alarm	Location	How Alarm is Used
Site personnel	Job Site Trailer	

This alarm system meets the requirements of 29 CFR 1910.165 and is tested (frequency) under normal site operating conditions to ensure that it is in good working order and can effectively alert all persons on-site. A log of alarm tests is kept by Jeff Teagarden.

If evacuation notice is given, site workers leave the worksite with their respective buddies, if possible, by way of the nearest exit. Emergency decontamination procedures detailed in Chapter 10 of this HASP are followed to the extent practical without compromising the safety and health of site personnel.

Appropriate primary and alternate evacuation routes and assembly areas have been identified and are shown on the Emergency Response Map Fig 11-3a. The routes and assembly area will be determined by conditions at the time of the evacuation based on wind direction, the location of the hazard source, and other factors as determined by rehearsals and inputs from emergency response organizations.

Wind direction indicators are located so that workers can determine a safe up wind or cross wind evacuation route and assembly area if not informed by the emergency response coordinator at the time the evacuation alarm sounds.

Personnel exiting the site gather at a designated assembly point. To determine that everyone has successfully exited the site, personnel will be accounted for at the assembly site. If any worker cannot be accounted for, notification is given to Jeff Teagarden so that appropriate action can be initiated.

Contractors and subcontractors on this site have coordinated their emergency response plans to ensure that these plans are compatible and that source(s) of potential emergencies are recognized, alarm systems are clearly understood, and evacuation routes are accessible to all personnel relying upon them.

### 11.6 Emergency Response

When the Emergency Response Coordinator determines that outside assistance is required, the applicable off-site organization shown in Table 11-4 is contacted. The Emergency Response Coordinator provides relevant information to the responding organizations, including hazards associated with the emergency incident, potential containment problems, and missing site personnel.

### **11.7 Emergency Medical Treatment and First Aid**

This site does not use train or assign site personnel to provide first aid.

Personnel who require medical care and/or who are transferred to a medical facility are accompanied by MSDSs and other applicable hazard data to apprise caregivers of the chemicals and hazards to which the victim has been potentially exposed. The emergency medical care facility for this site is Memorial Hospital. The route to the facility is shown in Figure 11-3b.

### **11.8 Emergency Response Critique and Plan Updates**

After every emergency incident or evacuation of this site, Jeff Teagarden will evaluate the quality and safety of response activities. Any deficiencies in response actions will be included in a specific follow-up plan and corrected.

### **11.9 Emergency Response Training**

All persons who enter this worksite, including visitors, receive a site-specific briefing about anticipated emergency situations and the emergency procedures.

This site relies on off-site organizations for emergency response (see Table 11-4), the training of personnel in those off-site organizations has been evaluated and is deemed adequate for response to this site.

Site personnel are trained to evacuate in a safe and orderly manner in accordance with 29 CFR 1910.38. Workers do not participate in emergency response rehearsals at this site.

**Table 11-4 - Emergency Contact Information**

The list of telephone numbers below are the emergency contact numbers for this site. These emergency numbers are verified to be accurate, working numbers. Site personnel are trained and rehearsed in site-specific emergency calling procedures. A copy of this contact information is posted at the following locations:

Job Site Trailer

**SITE PERSONNEL**

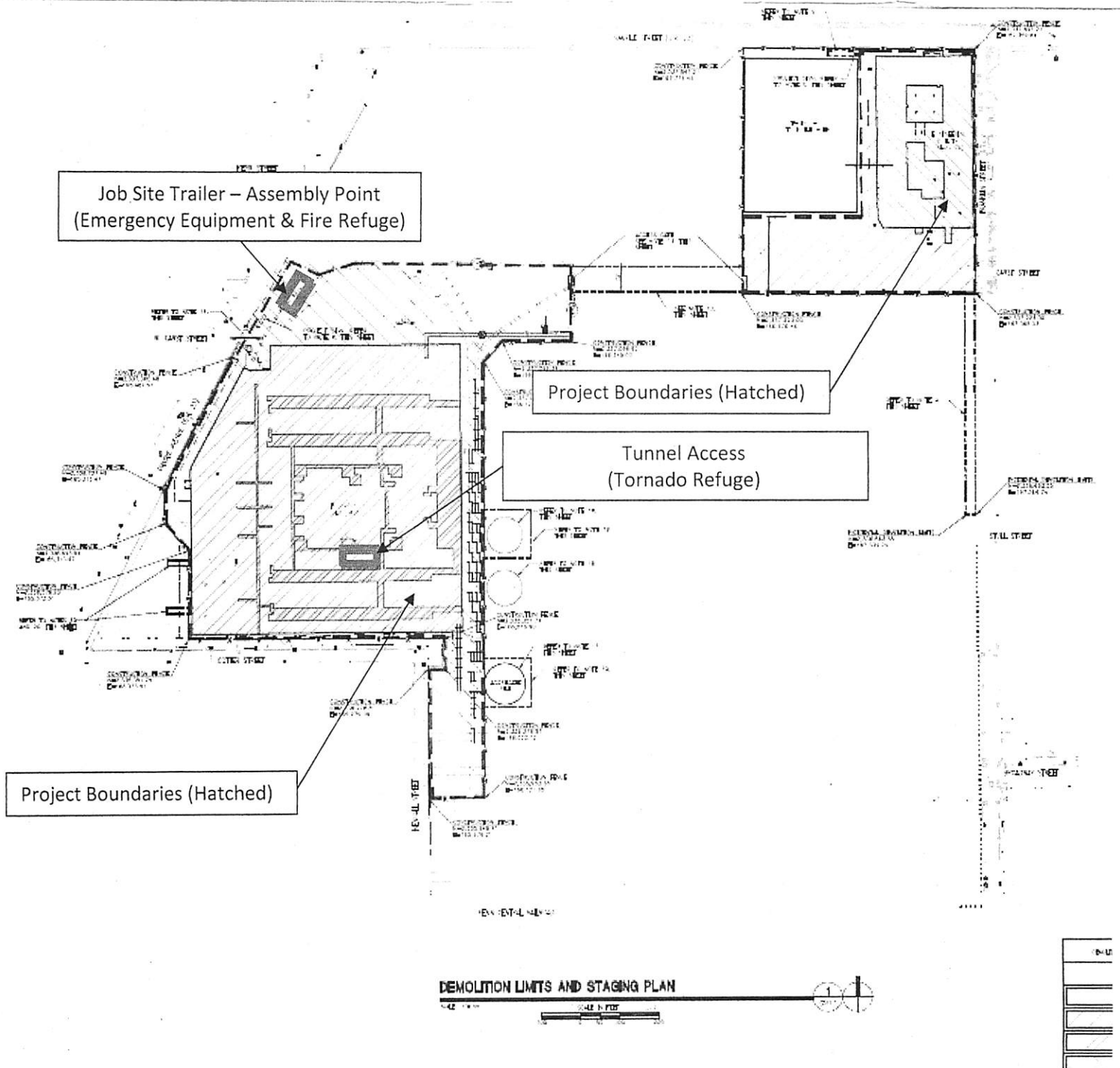
Title	Contact	Telephone
Project Manager (PM)	Jeff Teagarden	8132207044
Site Safety and Health Officer (SSHO)	Jeff Teagarden	8132207044
Site Supervisor	Jeff Teagarden	8132207044
Subcontractor: Amereco Engineering		

**OUTSIDE ASSISTANCE**

Agency	Contact	Address/Location	Telephone
Ambulance/EMS	911	615 North Michigan, South Bend, IN	911
Police	911		574-2359201
Fire	911		574-2359255
National Response Center			800-424-8802
State Police			911
Local Emergency Response Agency			
Emergency Medical Assistance	Memorial Hospital	615 North Michigan, South Bend, IN	5746471000
Poison Control Center			
Secondary Medical Facility	Med Point Urgent Care Center	1815 East Ireland Rd, South Bend, IN	5746471750
Poison Control Center			8002221222
State Authority			
Center for Disease Control			4046335313
Chemtrec			800-424-9300
Amereco Engineering	John Blosky	204 E Jefferson St, Valparaiso, IN	2195310531
Dore & Associates	Jeff Teagarden		8132207044
Dore & Associates	Dan Dore		9894503188
Project Architect - Primary	Zack Bergman	DLZ, Indiana	5744857387
Project Architect - Secondary	Andy Leberis	DLZ, Indiana	5745143713
Environmental Engineer	Ed Stefanek	Weaver Boos Consultants, LLC	5743020614
Owner - City of South Bend	Troy Villa	City of South Bend	5743870181
Gas Company	NIPSCO		8004647726
Electric Company	Indiana Michigan Power		5742361646
Water Company	South Bend Water Works		5742359236

Figure 11-3a Emergency Planning Map

Insert emergency planning map here.



**Figure 11-3b Driving Route to Emergency Medical Assistance**

Insert map of driving route to Emergency Medical Assistance.

**Trip to:**  
 615 N Michigan St  
 South Bend, IN 46601-1033  
 2.06 miles  
 5 minutes



A	1107 Prairie Ave South Bend, IN 46601-2843	Miles Per Section	Miles Driven
●	1. Start out going NORTH on PRAIRIE AVE / IN-23 toward GARST ST.	Go 0.1 Mi	0.1 mi
➔	2. Take the 1st RIGHT onto W SAMPLE ST / IN-23. <i>If you are on CHAPIN ST and reach UNITED DR you've gone about 0.1 miles too far</i>	Go 0.6 Mi	0.7 mi
➔	3. Turn LEFT onto S MICHIGAN ST / US-31-BR N / IN-933 N. Continue to follow US-31-BR N / IN-933 N. <i>US-31-BR N is just past S MAIN ST</i>	Go 1.4 Mi	2.1 mi
●	4. 615 N MICHIGAN ST is on the LEFT. <i>Your destination is just past NAVARRE PL If you reach E BARTLETT ST you've gone a little too far</i>	Go 0.01 Mi	2.1 mi
B	615 N Michigan St South Bend, IN 46601-1033	2.1 mi	2.1 mi



## **12.0 Standard Operating Procedures (SOPs)**

(in compliance with 29 CFR 1910.120(b)(1)(ii))

Work at this site will be conducted in accordance with the following SOPs, which have been attached for reference.

1. Asbestos Abatement Plan
2. Waste Storage and Labeling Procedures
3. Underground Storage Tank Removal Procedures
4. Spill and Leaks Procedures For Containment, Cleanup and Removal

## 13.0 PERMIT-REQUIRED CONFINED SPACES

(in compliance with 29 CFR 1910.120(b)(4)(ii)(I) and 1910.146)

This section of the Health and Safety Plan represents the site-specific written confined space entry program. The purpose of this section of the Health and Safety Plan is to identify all permit-required confined spaces (permit spaces) on site and to describe the procedures that have been developed and implemented to ensure worker safety and health in permit-required confined spaces. In compliance with the requirements of 29 CFR 1910.120(b)(4)(ii)(I), this section of the HASP is included even when no permit-required confined spaces are present on site in order to indicate that a site-specific evaluation for permit spaces has been made.

This permit-required confined space program (permit space program) includes the elements specified in 29 CFR 1910.146 and provides the following site-specific information:

- \* identification and evaluation of permit spaces
- \* measures to prevent unauthorized entry
- \* entry permit system
- \* entry equipment and personal protective equipment
- \* entry procedures
- \* permit spaces training
- \* rescue and emergency procedures
- \* employee participation

The person with overall responsibility for the permit space program is Jeff Teagarden. The permit space program is modified to reflect changing site conditions or work operations. This program is reviewed if any of the following conditions occur:

- \* occurrence of unauthorized entry of a permit space
- \* discovery of a permit space hazard not covered by the permit
- \* detection of a condition prohibited by the permit
- \* occurrence of a injury or near-miss during entry
- \* change in the use or configuration of a confined space
- \* employee complaints of permit space program ineffectiveness

Additionally, we conduct an annual review of all entries. If no entries were made into a permit space, then no annual review is performed.

### 13.1 Identification and Evaluation of Permit Spaces

Jeff Teagarden carefully evaluated this site on 01/20/2011 and determined that there are permit spaces on this site. A copy of the evaluation is kept in the following location: Job Site Trailer. However, our workers do not enter permit spaces and we take measures to prevent our workers, including contractors, from entering them. These preventive measures include: Fences; Signs.

If there are changes in the use or configuration of non-permit confined spaces that may increase the hazards to entrants, we re-evaluate the space and, if necessary, re-classify it as permit space.

We use the following methods to inform all workers, including contractors, of the location and hazards of permit spaces: Signs.



## 14.0 HOT WORK

(in compliance with 29 CFR 1910.252(a))

This chapter of the Health and Safety Plan addresses site welding operations. The purpose of this chapter is to establish procedures that protect workers from safety and health hazards associated with these operations.

The hot work section of this HASP is consistent with the requirements of 29 CFR 1910.252(a) and addresses the following site-specific information:

- \* designated areas and other hot work locations
- \* hot work permits
- \* fire watch
- \* hot work SOPs

The person with responsibility for implementing this plan and authorizing cutting and welding operations is Jeff Teagarden.

### 14.1 Designated Areas and Other Hot Work Locations

Whenever possible, welding and cutting on this site are performed in designated areas that have been made fire safe. The designated areas on this site are:

#### Designated Welding and Cutting Areas

Cutting or welding in undesignated areas is only done after a hot work permit has been obtained, as detailed in Section 14.2. Cutting and welding operations are prohibited at all times in the following locations:

#### Areas Where Welding and Cutting is Prohibited

### 14.2 Hot Work Permit

A written hot work authorization is required and issued prior to any welding or cutting operation outside the designated areas. The hot work permit is authorized only after the area is inspected by the authorizing company personnel.

The hot work permit will be conspicuously posted in the area where the welding or cutting is being performed. On the permit, the authorizing worker will note any necessary precautions for the specific cutting or welding operation, including but not limited to: fire watch; guarding; and fire extinguishing equipment. (a sample permit is included with this module)

### 14.3 Fire Watch

Fire watch is required by the hot work permit when any of the following conditions exists:

- \* potential for development of other than a minor fire
- \* appreciable combustible material, in building construction or contents, within 35 feet
- \* appreciable quantities of combustibles are greater than 35 feet away, but easily combustible
- \* wall or floor openings within 35 feet expose combustible material in adjacent areas including concealed spaces in walls or floors
- \* combustible materials are adjacent to the opposite side of a metal partition, wall, ceiling, or roof and are likely to be ignited by heat conduction or radiation

Fire watchers are equipped with fire extinguishing equipment as specified on the permit. They are trained in the use, operation, and limitations of the fire extinguishing equipment and familiar with emergency alerting procedures in the event of a fire. If a fire is discovered in an area under watch by the fire watcher, then he/she extinguishes the fire with the extinguishing equipment when obviously in the capacity of the equipment, or otherwise sounds the alarm. Fire watch is maintained for not less than ½ hour after the completion of the welding or cutting to detect and extinguish possible smoldering fires.

### 14.4 Hot Work SOPs

The following standard operation procedures (SOPS) are followed for all hot work on this site:

1. Cutting and welding is performed only by suitably trained workers.
2. Site subcontractors who may perform hot work or who work in proximity to hot work operations are advised about the location of flammable materials or hazardous conditions.
3. Combustibles are removed from the area or protected where the work cannot be moved to designated fire safe areas.

4. Openings or cracks in flooring or walls, open doorways, and open or broken windows are effectively closed or precautions taken to protect readily combustible material onto which sparks or slag may drop.
5. Suitable fire extinguishing equipment is maintained and ready for use at all welding or cutting operations.
6. Combustible materials are cleared within a minimum radius of 35 feet around welding or cutting operations or, where it is not possible to clear the area, the combustibles are protected with appropriate covers or shields.
7. Where floors or surrounding ground are wetted, arc welding or cutting equipment operators wear appropriate PPE in accordance with 29 CFR 1910 Subpart I (Personal Protective Equipment).
8. Jeff Teagarden has the authority and responsibility to interrupt other site operations that might expose combustibles to ignition during cutting and welding.
9. Hot work is not performed on drums, barrels, tanks, or other containers until they have been thoroughly cleaned and it is determined that hot work operations on the vessel will not produce flammable or toxic vapors.
10. Pipelines or connections to drums or other containers are disconnected or blanked prior to hot work.
11. All hollow spaces, cavities, and containers are thoroughly vented, and preferably purged with inert gas, to allow escape of air or gases prior to any preheating, cutting, or welding.
12. Confined spaces: where arc welding is performed, all electrodes are removed from holders, the holders are carefully located to prevent accidental contact, and the power source to the machine is disconnected when work is suspended for any substantial period of time, such as during lunch hour or overnight.
13. Confined spaces: torch valves shall be closed and the gas supply to the torch positively shut off at some point outside the confined space on all gas welding or cutting equipment when the torch is not to be used for a substantial period of time, such as during lunch hour or overnight.

# HOT WORK PERMIT

(MUST BE CONSPICUOUSLY POSTED WHERE HOT WORK IS BEING PERFORMED)

**Part 1-Information**

Issue Date: \_\_\_\_\_

Date Work to be Performed: Start: \_\_\_\_\_ Finish (permit terminated): \_\_\_\_\_

Performed by: \_\_\_\_\_

Work Area: \_\_\_\_\_

Object to be Worked On: \_\_\_\_\_

**Part 2-Approval Required (for 1, 2, and 3, mark Yes, No, or NA) \***

If working on or in:

1-Metal partition, wall, ceiling covered by combustible material?

Yes    No


2-Pipes, in contact with combustible material?

3-Explosive area?

**\*If any of these conditions exist (marked "yes") a permit will not be issued without being reviewed**

**and approved by \_\_\_\_\_ (Required signature below)**

**Part 3-Required Conditions\*\* (Circle all conditions that must be met)**

PROTECTIVE ACTION	PROTECTIVE EQUIPMENT
Specific Risk Assessment Required	Goggles / visor / welding screen
Fire or spark barrier	Apron / fireproof clothing
Cover hot surfaces	Welding gloves / gauntlets / other: _____
Move movable fire hazards, specifically _____	Wellingtons      Knee pads
Erect screen on barrier	Ear protection: Ear muffs / Ear plugs
Restrict Access	B.A.: SCBA / Long Breather
Wet the ground	Respirator: Type: _____
Ensure adequate ventilation	Cartridge: _____
Provide adequate supports	Local Exhaust Ventilation
Cover exposed drain/floor or wall cracks	Extinguisher / Fire blanket
Fire watch (must remain on duty during duration of permit plus 30 minutes)	Personal flammable gas monitor
Issue additional permit(s): _____	

Other precautions: \_\_\_\_\_

**\*\*Permit will not be issued until these conditions are met.**

Signatures:

Originating Employee: \_\_\_\_\_

Date: \_\_\_\_\_

Director: \_\_\_\_\_

Date: \_\_\_\_\_

Part 2 Approval: \_\_\_\_\_

Date: \_\_\_\_\_

## 15.0 Energy Control or Lockout/Tagout Program

(in compliance with 29 CFR 1910.147)

This section of the Health and Safety Plan represents the site-specific hazardous energy control program. The purpose of this section of the Health and Safety Plan is to identify all machine and equipment repair and maintenance activities that require LOTO procedures under 1910.147.

This site was carefully evaluated by Jeff Teagarden on 01/25/2011 and it was determined that LOTO procedures are not necessary for any machines or equipment to protect site employees from hazardous energy. This section of the HASP is included even when the employer is not covered by 1910.147 in order to indicate that a site-specific evaluation for the control of hazardous energy has been made.

[NOTE: The employer may want to indicate the specific reason they are not covered by the LOTO standard, especially in cases where repair and maintenance of machines or equipment on the site is necessary. If an employer is exempt because of normal production operations (1910.147(a)(2)(ii)), hot tap operations (1910.147(a)(2)(iii)(B)), or other reasons, he/she should note the reason for the LOTO exemption.]